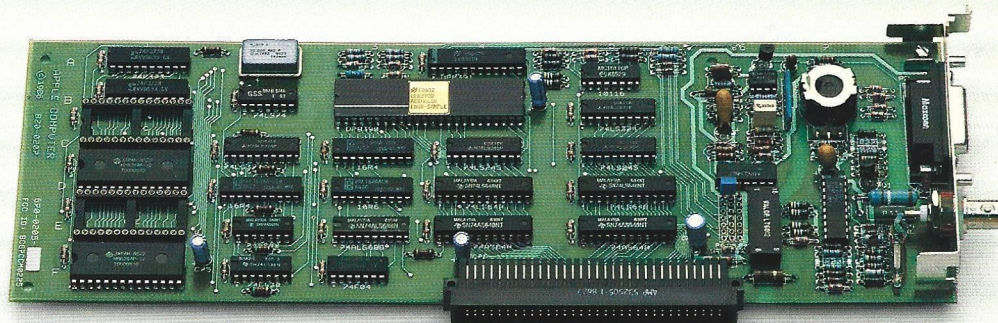




Macintosh™

EtherTalk™ Interface Card



Macintosh II

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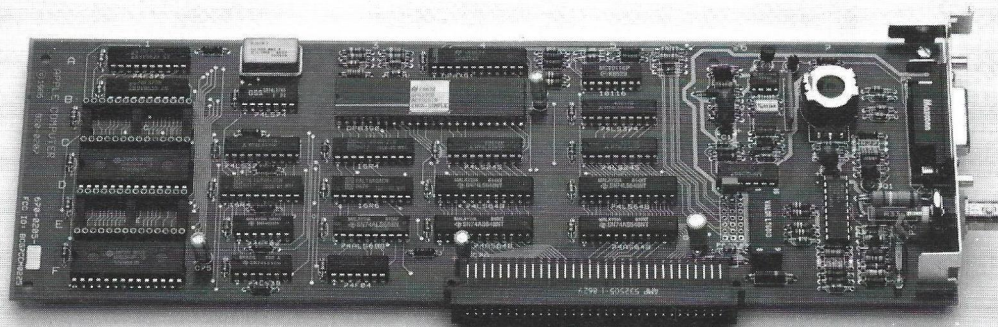
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This equipment generates, uses, and can radiate radio-frequency energy, and if not installed and used in accordance with the instructions in this manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the users, at their own expense, will be required to take whatever measures may be required to correct the interference.



Macintosh™ EtherTalk™ Interface Card



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Radio and television interference

The equipment described in this manual generates and uses radio-frequency energy. If it is not installed and used properly—that is, in strict accordance with our instructions—it may cause interference with radio and television reception.

This equipment has been tested and complies with the limits for a Class A computing device in accordance with the specifications in Subpart J of Part 15 of FCC rules. These rules are designed to provide reasonable protection against such interference in a commercial environment.

You can determine whether your computer is causing interference by turning it off. If the interference stops, it was probably caused by the computer or its peripheral devices.

If your computer does cause interference to radio or television reception, you can try to correct the interference by using one or more of the following measures:

- ☐ Turn the television or radio antenna until the interference stops.
- ☐ Move the computer to one side or the other of the television or radio.
- ☐ Move the computer farther away from the television or radio.
- ☐ Plug the computer into an outlet that is on a different circuit than the television or radio. (That is, make certain the computer and the radio or television set are on circuits controlled by different circuit breakers or fuses.)
- ☐ Consider installing a rooftop television antenna with a coaxial cable lead-in between the antenna and television set.

If necessary, consult your authorized Apple dealer or an experienced radio/television technician for additional suggestions. You may find helpful the following booklet, prepared by the Federal Communications Commission: "How to Identify and Resolve Radio-TV Interference Problems." This booklet is available from the U.S. Government Printing Office, Washington, DC 20402.

Important

This product was FCC-verified under test conditions that included use of shielded cables and connectors between system components according to IEEE Specification 802.3. It is important that you use shielded cables and connectors to reduce the possibility of causing interference to radios, television sets, and other electronic devices. Proper cables can be purchased from commercial sources. For non-Apple peripheral devices, contact the manufacturer or dealer for assistance.



Macintosh™

EtherTalk Interface Card

Ethernet is a system for local communication between computing systems. An Ethernet network uses coaxial cables to carry variable length data packets among computers and computer peripherals such as file storage devices, printers, and communications equipment.

Your EtherTalk™ Interface Card lets you connect your Macintosh™ II computer to an **Ethernet** network.

When the EtherTalk Interface Card is installed and connected to the Ethernet cable, you can use the A/UX™ operating system on your Macintosh II computer to send and receive files over the Ethernet network.

❖ *Everything else stays the same:* Installing the card and connecting to the Ethernet network does not affect any of the other ways you normally use your computer.

Getting started

This guide explains how to install and connect the EtherTalk Interface Card. It does not explain how to set up or use an Ethernet network.

To learn about using the Ethernet network, consult your A/UX user's guide.

What you need to install the card

You need to know whether your system uses thin or thick Ethernet cables. The card can be used with either kind of cable, but not with both at the same time.

You need the following equipment to install your EtherTalk Interface Card:

- ☐ Macintosh II computer
- ☐ EtherTalk Interface Card and accessory bag
- ☐ small Phillips-head screwdriver
- ☐ small flat-head screwdriver (for thick Ethernet cable)

Identifying the cable

Thin and thick Ethernet cables have different connectors, as shown in Figure 1.

Warning

It is important to use cables built to the IEEE 802.3 standard to avoid radio and television interference.

BNC T-connector for thin
Ethernet cable

DB-15 connector for thick
Ethernet cable

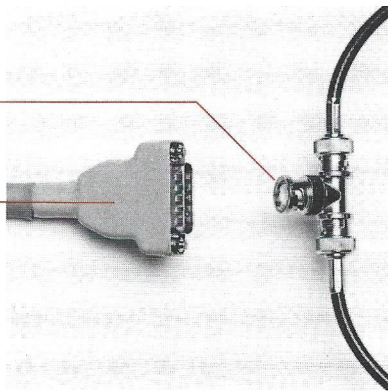


Figure 1
Connectors for thick and thin Ethernet cables

- Thick Ethernet cable uses DB-15 connectors—flat connectors with 15 pins. The main cable is usually installed in the ceiling; each workstation connects to its own “drop cable.”
- Thin Ethernet cable uses cylindrical connectors called BNC connectors. Each workstation connects directly to the main cable at one of the T-shaped BNC connectors placed along the cable.

Unpacking the card

Keep the card in its protective, anti-static bag until you're ready to install it. When you take the card out of its bag, hold it by the edges, not by the components. Be sure not to touch the gold pins on the bottom edge of the card.

Preparing the card

Your card has connectors for both thin and thick Ethernet, but only one connector can be activated at a time. A setting on the card determines which will be activated.

Important

The card is preset for thick Ethernet cable. If you use thick cable, you don't have to change anything and you can skip the rest of this section.

If you're using thin Ethernet cable, you have to move a jumper on the card to change the setting.

Here's how you prepare the card for thin Ethernet cable.

1. Locate the jumper.

The jumper is a small plastic box on the card. The jumper covers two pins and another pin shows to the right. (See Figure 2.)

2. Remove the jumper.

Place the card on a flat surface. Then, holding the card by its edges, gently pull the jumper off the pins.

3. Replace the jumper so a pin shows to the left.

Put the jumper back on so it matches the setting for thin Ethernet cable that's shown in the inset in Figure 2.

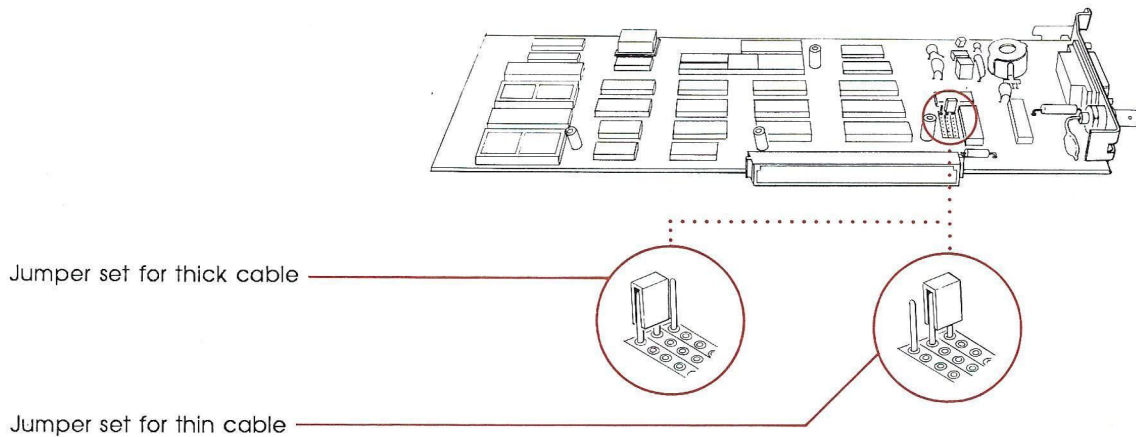


Figure 2
Move the jumper to change the setting

Installing your card

When the jumper is in the correct position, you can install the card in your Macintosh II computer.

Follow these steps to install the card. You'll need the Phillips-head screwdriver.

1. Make sure the power is off.

Warning

Make sure that the power to all of your computer equipment is turned off, but leave the power cords plugged into a grounded outlet. This keeps your computer system safely grounded.

Check the power indicator light on the front of the computer to make sure the power is off. If the power has been on, wait at least five minutes before continuing, to allow the power supply case inside the computer to cool down.

2. Remove the computer's lid.

- Using a Phillips-head screwdriver, remove the security screw at the top center of the computer's rear panel.
- Wrap your fingers around the rear corners of the case, as shown in Figure 3.
- Press on the lid latches with your index fingers while you lift up the back of the lid.
- When you feel it release, lift the lid off the case and put it aside.

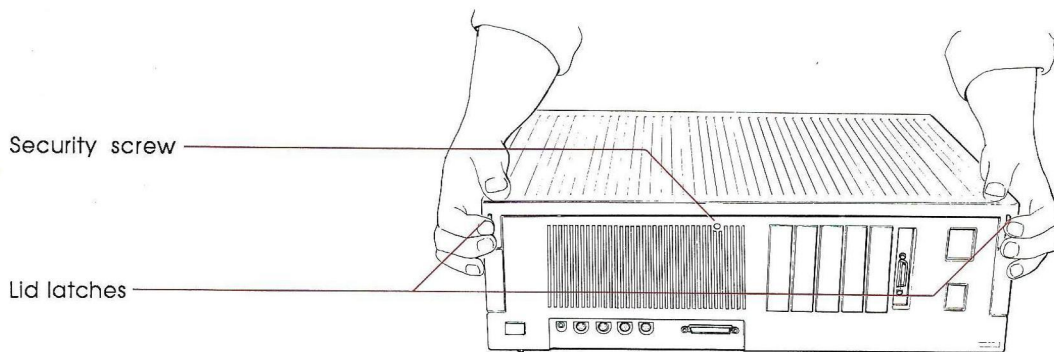


Figure 3
Remove the lid

3. Touch the metal part of the power supply case. (See Figure 4.)

Warning Remember, the power supply can get very hot in normal use. If the computer has been on, be sure you wait at least five minutes for the case to cool down before you touch it.

Touching the power supply case discharges any static electricity that may have built up on your clothes or body.

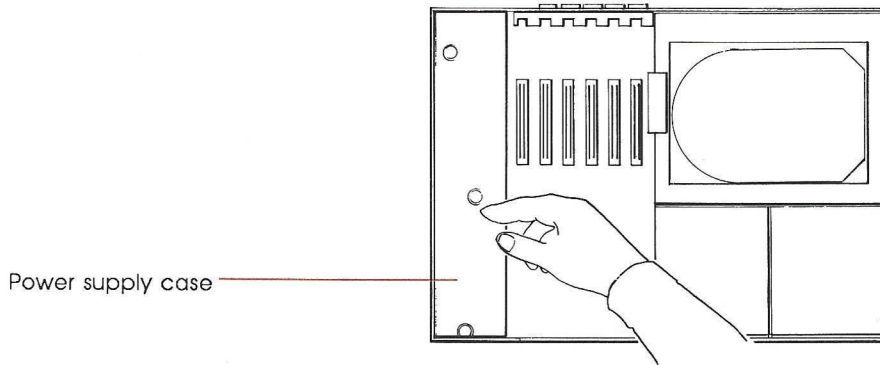


Figure 4
Touch the power supply case

4. Decide which expansion slot you are going to use and locate the expansion cover shield that's directly behind it.

The expansion slots are the narrow plastic strips near the back of the computer. (See Figure 5.) You can install the EtherTalk Interface Card in any slot.

❖ *Tip:* Install the card in a slot where the outside cables are least likely to interfere with other cables.

5. Remove the expansion cover shield that's behind the expansion slot you intend to use.

Lift up the shield until it's free of the guide and pin. Save the shield; you have to put it back if you take the card out of the slot.

❖ *Note:* The card has an attached shield that replaces the shield you just removed.

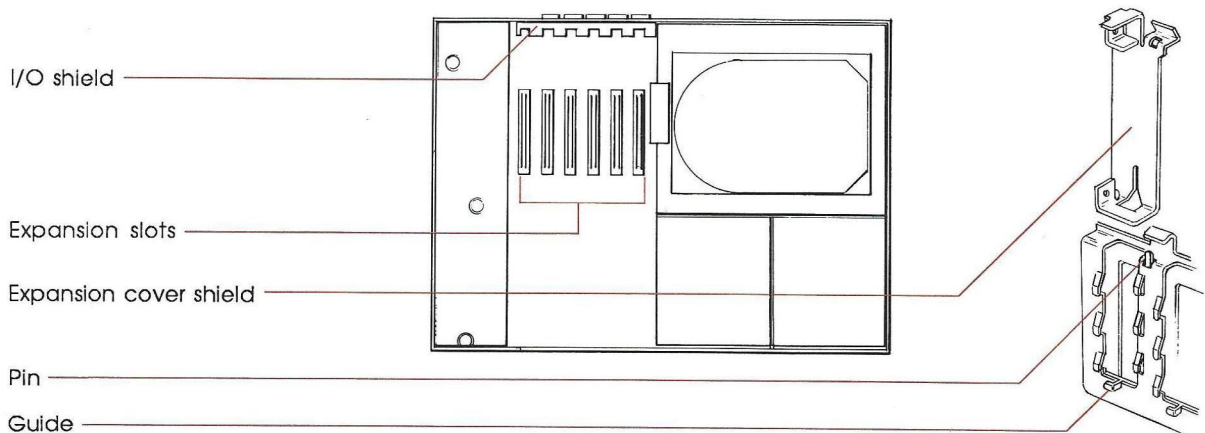


Figure 5

The expansion slots and expansion cover shield

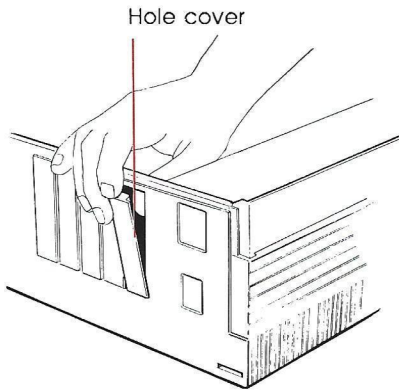


Figure 6
Remove the hole cover

6. Push out the hole cover that lines up with the slot you plan to use.

- a. Grasp the cover with your thumb inside of the computer and your fingers outside.
- b. Push the cover out with your thumb and set it aside. (See Figure 6.)

7. Insert the card into the expansion slot.

- a. Pick up the card by the top of the metal bracket and the top of the card's other end. (Be careful not to touch the pins on the bottom of the card.)
- b. The shield on the back of the card attaches to the inside of the back panel in the same way as the shield you removed in step 5. Align the card so that the guide is through the lower slot in the shield on the back of the card and the pin sticks up slightly through the hole at the top of the shield. (See Figure 7.)

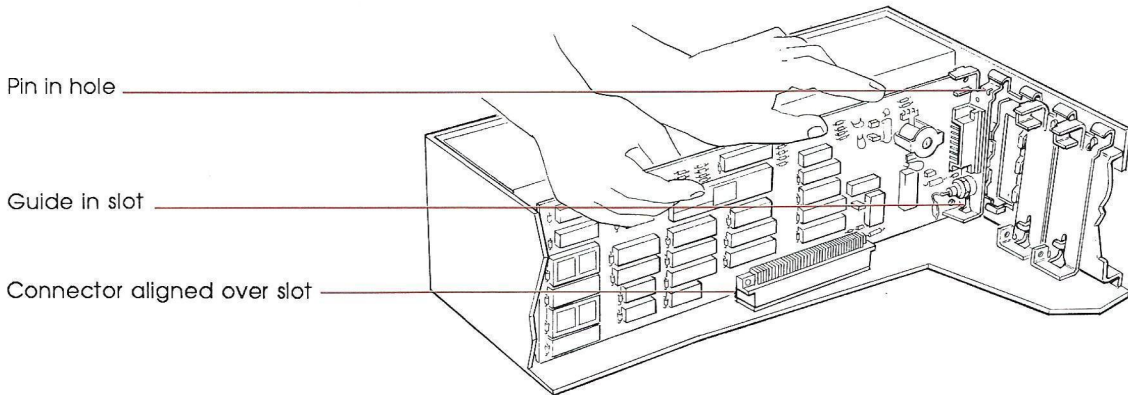


Figure 7
Align the card

- c. Align the connector on the bottom of the card directly over the slot.
- d. Place one hand on the top of the card, directly over the connector area, and then push down firmly until the connector is fully seated.

Warning

Don't force the card. If you meet a lot of resistance, pull the card out and try again.

Don't wiggle the card from side to side when you insert it. Wiggling the card puts unnecessary stress on the card and slot.

You can test to see if the card is properly connected by lifting the card gently. If it resists and stays in place, it's connected.

8. Replace the computer's lid.

- a. Tip the front of the lid down so that it catches the three hooks under the lid in the front of the computer's case. (See Figure 8.)
- b. Lower the back of the lid onto the case until the rear latches snap into place.
- c. Replace and tighten the security screw.

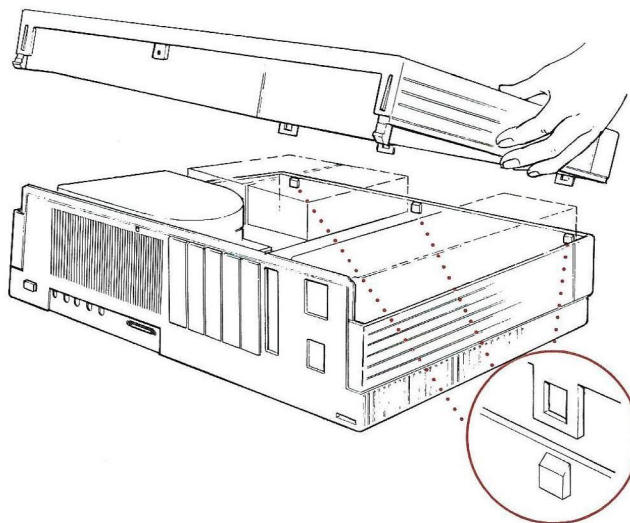


Figure 8
Replace the lid

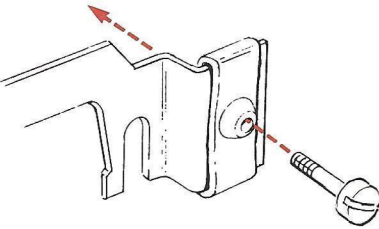
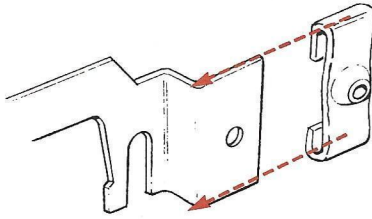


Figure 9
Assemble the locking bracket

Connecting to the network cable

If the appropriate Ethernet connector is available, you can make the final connections. If you have thick Ethernet cable, you'll need a flat-head screwdriver and the brackets and screws that are in the accessory bag.

Connecting thick Ethernet cable

You connect your computer to a cable that is connected to the main Ethernet cable.

1. Find the cable that's been assigned to your computer.
2. Assemble the locking bracket, as shown in Figure 9.

Give the screws a few turns so they don't fall out when you move the bracket.

3. Slide the bracket onto the connector on the cable.
(See Figure 10.)

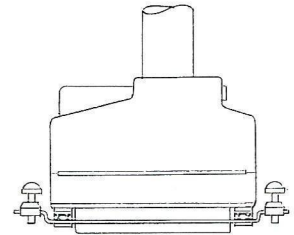
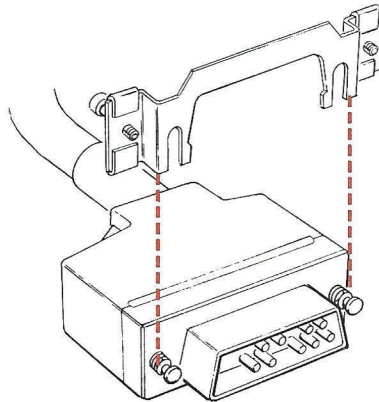


Figure 10
Slide the bracket onto the connector

4. Plug the bracketed connector into the connector on the card and secure the screws.

The connectors should be completely joined before you tighten the screws. (See Figure 11.)

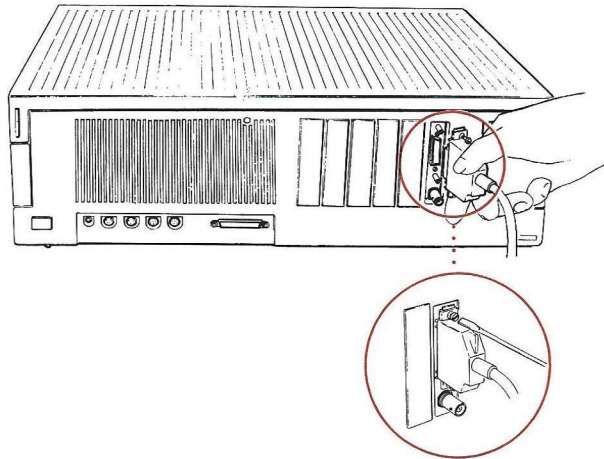


Figure 11
Tighten the screws on the bracket

Connecting thin Ethernet cable

You connect your computer to a T-shaped BNC connector on the Ethernet cable.

1. Find the connector that's been assigned to your computer.

❖ *Note:* If there's no connector on the cable, the network administrator can install the one that's included in the accessory bag.

2. Plug the open end of the T-connector into the round connector on the card. (See Figure 12.)

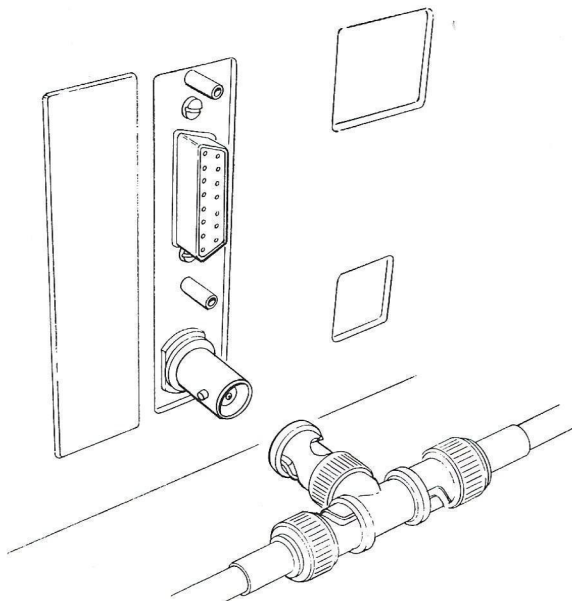


Figure 12
Connect to the card

3. Twist the cylinder to secure the connection.

After you join the connectors, give the barrel of the T-connector a one-quarter turn to the right to secure it. Once the connectors are secured, you can turn the T if you need to move the Ethernet cables out of the way of other cables.

Checking your card installation

Here's how you can check to make sure the card is installed properly.

1. **Turn on your computer, start up the A/UX operating system, and log in.**
2. **At the system prompt, type `checkinstall ethertalk` and press Return.**

❖ *Note:* Be sure to type it exactly as it appears here.

3. **Read the message.**

If you see `ethertalk card installed`, the card has been installed correctly and you can start to use it.

If you see `ethertalk card is not installed`, see the next section on troubleshooting.

Troubleshooting

This section lists some common problems and suggests how to correct them.

Nothing shows on the screen

If nothing at all shows on your monitor, check the cables. Thick Ethernet cable is easy to confuse with the monitor cable because they both use DB-15 connectors. Make sure you've plugged the correct cable into the correct card.

Doesn't pass checkinstall

If your card does not pass the checkinstall test, repeat the installation process. Turn off your computer, unplug the cable to disconnect the computer from the network, and remove the card from your computer.

Make sure the jumper is in the correct position. Then install the card again, being careful to press it firmly into the expansion slot.

If your card fails the test again, a sophisticated diagnostic test is available. Contact your network administrator or your Apple sales representative for information and instructions.

Passes checkinstall but won't work

If your card passes the checkinstall test, but you can't use it, the jumper may not be set correctly for your kind of cable.

If the jumper is set for thin Ethernet cable, a red LED (light emitting diode) on the card goes on when you turn on the power to your computer. You can see the LED by looking through the lower screw hole of the thick Ethernet connector on the card. (See Figure 13.)

There is no corresponding LED for thick Ethernet cable. You have to remove the card and look at the jumper to check the setting.

If the settings are correct but your card still doesn't work, a sophisticated diagnostic test is available. Contact your network administrator or your Apple sales representative for information and instructions.

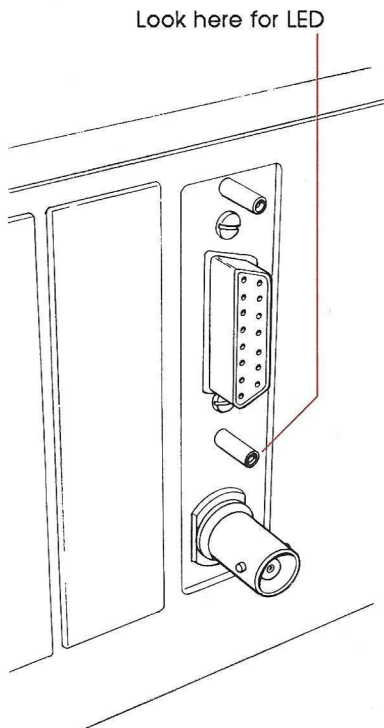


Figure 13
Look for the LED

Moving your computer

From time to time you may need to move your computer and disconnect it from the network. All you have to do is turn off the computer and then unplug the connector cable from the card.

❖ *Note:* Leaving the network cable unconnected will not affect the network operations.

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