



Apple Ethernet CS AAUI Card  
User's Guide

### **FCC statement**

This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the Federal Communications Commission (FCC) rules. These limits are designed to provide reasonable protection against such 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 instructions in this manual, may cause interference to radio communications. Operation of this equipment in a residential area is likely to cause interference, in which case the user, at the user's own expense, will be required to correct the interference.

**IMPORTANT** Changes or modifications to this product are not authorized by Apple Computer, Inc., and could void the FCC certification and negate your authority to operate the product. This product was tested for FCC compliance under conditions that included the use of shielded cables and connectors between system components. 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. For Apple peripheral devices, you can obtain the proper shielded cables through an Apple-authorized dealer. For non-Apple peripheral devices, contact the manufacturer or dealer for assistance.

### **DOC statement**

#### *DOC Class A Compliance*

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the radio interference regulations of the Canadian Department of Communications.

#### *Observation des normes—Classe A*

Le présent appareil numérique n'émet pas de bruits radio-électriques dépassant les limites applicables aux appareils numériques de la Classe A prescrites dans les règlements sur le brouillage radioélectrique édictés par le Ministère des Communications du Canada.

### **VCCI statement**

情報処理装置等電波障害自主規制について

この装置は、第一情報装置（商工業地域において使用されるべき情報装置）で商工業地域での電波障害防止を目的とした情報処理装置等電波障害自主規制協議会（VCCI）基準に適合しております。

従って、住宅地域又はその隣接した地域で使用すると、ラジオ、テレビジョン受信機等に受信障害を与えることがあります。

取扱説明書に従って正しい取り扱いをして下さい。

This manual is copyrighted by Apple or by Apple's suppliers, with all rights reserved. Under the copyright laws, this manual may not be copied, in whole or in part, without the written consent of Apple Computer, Inc. This exception does not allow copies to be made for others, whether or not sold, but all of the material purchased may be sold, given, or lent to another person. Under the law, copying includes translating into another language.

The Apple logo is a registered trademark of Apple Computer, Inc. Use of the "keyboard" Apple logo (Option-Shift-K) for commercial purposes without the prior written consent of Apple may constitute trademark infringement and unfair competition in violation of federal and state laws.

Every effort has been made to ensure that the information in this manual is accurate. Apple is not responsible for printing or clerical errors.

© Apple Computer, Inc., 1994  
20525 Mariani Avenue  
Cupertino, CA 95014-6299  
(408) 996-1010

Apple, the Apple logo, AppleTalk, EtherTalk, LocalTalk, and Macintosh are trademarks of Apple Computer, Inc., registered in the United States and other countries.

Simultaneously published in the United States and Canada.

Mention of third-party products is for informational purposes only and constitutes neither an endorsement nor a recommendation. Apple assumes no responsibility with regard to the performance or use of these products.

## Contents

- About this communications card / 2
- What's in the box / 2
- Installing and connecting your card / 3
- Installing EtherTalk software / 5
- Setting the Network control panel for EtherTalk / 7
- Changing your AppleTalk zone / 8
- Disconnecting and moving your computer / 8
- Troubleshooting / 9
- Specifications / 11
- For more information / 11

## About this communications card

The Apple Ethernet CS AAUI Card expands the communications capabilities of models of Macintosh computers that have a communications slot (CS). AAUI stands for Apple Attachment Unit Interface—Apple’s version of an industry-standard interface. The card is designed for networks that conform to the IEEE 802.3 standard for Ethernet. Using the Apple Ethernet CS AAUI Card and the appropriate transceiver, you can connect your Macintosh to a variety of network media: thick coaxial (“coax”), twisted-pair, thin coax, or fiber-optic.

To connect to an Ethernet network, you must also install EtherTalk software, which is included with the card. After you’ve added the card and installed EtherTalk software, you connect to your network by attaching an AAUI-compatible transceiver cable to the card’s AAUI port.

The Apple Ethernet CS AAUI Card works only with Macintosh System 7 or later. For best performance your system should have at least 4 megabytes (MB) of random-access memory.

## What’s in the box

- One Apple Ethernet CS AAUI Card  
*Note:* Keep the card inside its antistatic bag in the protective cardboard box until you’re ready to install it.
- One floppy disk containing EtherTalk software
- Warranty card
- User’s guide  
*Note:* You’ll need to obtain the specific transceiver and cable for your network separately. If you are not sure which transceiver you need, see your network administrator or support person, or contact the Apple Assistance Center at 800-SOS-APPL.

**WARNING** To avoid damage to the card and to your other computer equipment, be sure that you’ve turned off power to the computer before beginning installation procedures.

## Installing and connecting your card

1. **Follow the specific setup information that came with your Macintosh to open the back panel or lid, and locate the communications slot inside the computer.**

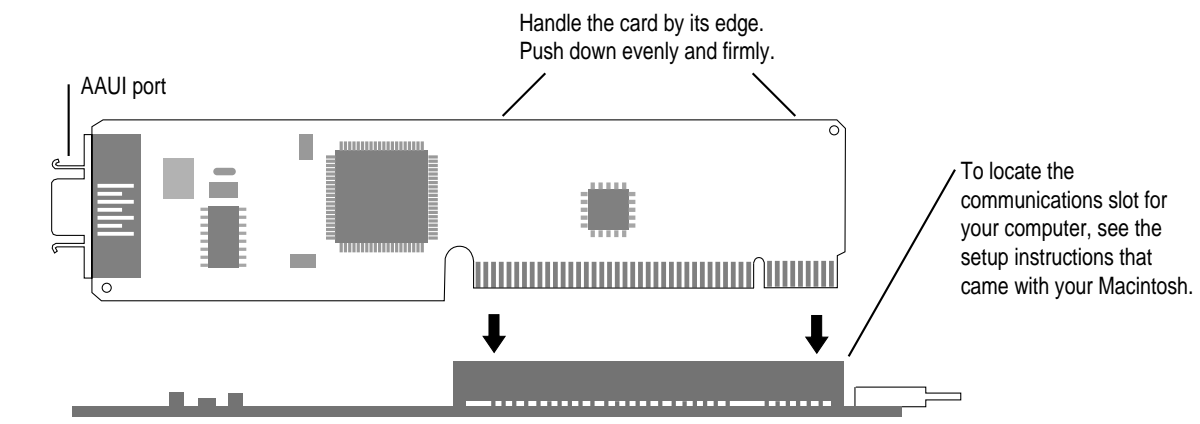
The material that comes with your Macintosh includes instructions to help you avoid damage to your computer's components when installing the card. Be sure you've shut down and turned off the power to your computer before starting the installation.

2. **Remove the card from its antistatic bag.**

Handle the card by its edges and avoid touching the components and connector as much as possible.

3. **Align the card over the communications slot and press down firmly and evenly on both ends until the card fits snugly into place.**

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

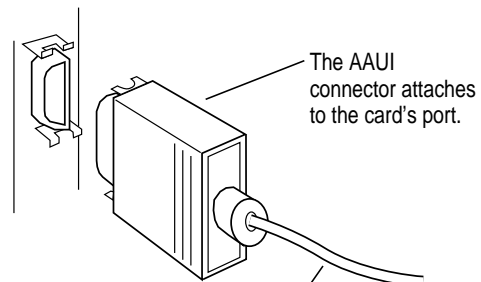


- 4. Follow the directions that came with your computer and replace the back panel or lid, and reattach any cables you removed earlier.**

Depending on the model you have, you will need to slide the logic board back into place, remove the communications port cover, replace a back panel, replace a lid, and so forth.

- 5. Plug the AAUI connector from your network transceiver cable into the AAUI port on your card.**

You need a specific AAUI-compatible transceiver for the kind of media used for your network: thick coax, twisted-pair, thin coax, or fiber-optic. The transceiver connects your computer to the main network cable.



The cable also connects to the appropriate AAUI-compatible transceiver for your network.

- 6. Turn on the computer's power switch and start up the computer.**

You've made all the necessary hardware connections. Next you'll install and set up your network communications software.

## Installing EtherTalk software

To install the correct version of EtherTalk software you need to use the Installer program on the *Network Software Installer* disk, version 1.4.2 or later, included with your card.

For safety, make sure that the Installer disk is locked before you use it. To lock a disk, slide the tab on the back side so that the square hole is open.

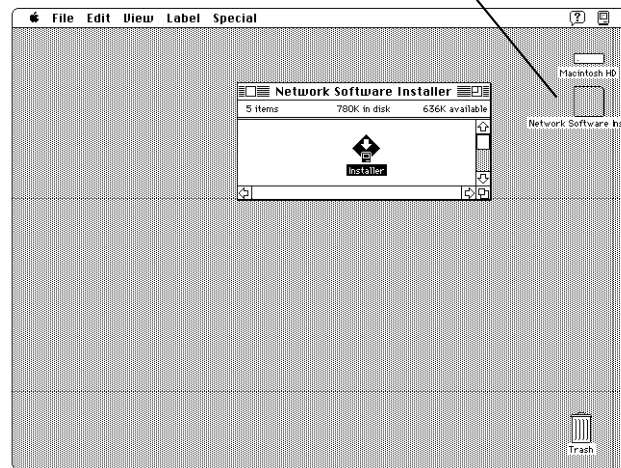
Save the Installer disk after installation in case your startup disk gets damaged and you need to reinstall EtherTalk software.

To install EtherTalk software:

1. **Insert the *Network Software Installer* disk in your Macintosh and double-click the disk's icon to open it.**

The Apple Ethernet CS AAUI Card requires the versions of software supplied on the *Network Software Installer* disk, version 1.4.2 or later.

Open the disk to find the Installer.

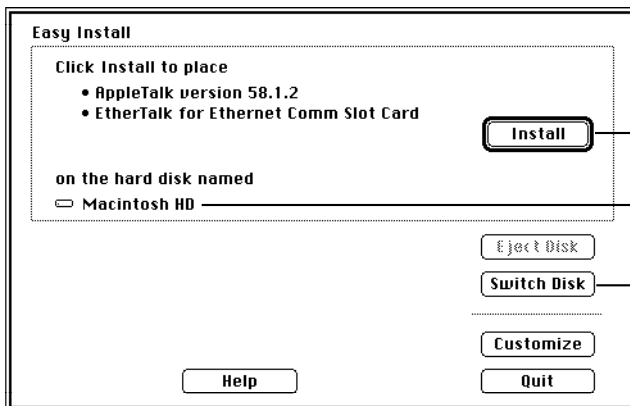


2. Open the Installer program, review the Welcome screen, and click OK.
3. Make sure that the disk indicated on the Installer's dialog box is your current startup disk, and click Install.

If you see a message indicating that the software cannot be installed while other programs are running, click Continue.

4. When you see a message reporting that the installation was successful, click Restart.

Before you can use services on an Ethernet network, you need to select the EtherTalk network connection for your startup disk. The next section shows how.



If the correct startup disk is indicated, click to begin the installation.

Name of the disk on which the software will be installed

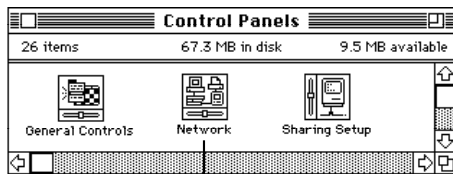
If another disk is currently selected, click this button until the name of your current startup disk appears.



## Setting the Network control panel for EtherTalk

A Macintosh computer's network connection is preset for LocalTalk. To connect to an Ethernet network instead, you need to change the setting in the Network control panel. Follow these steps:

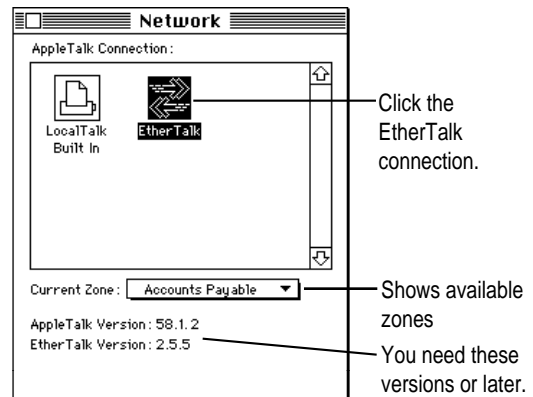
1. Choose Control Panels from the Apple (🍏) menu.
2. Open the Network control panel.



You set your network connection in the Network control panel.

3. Click the EtherTalk connection to select it.

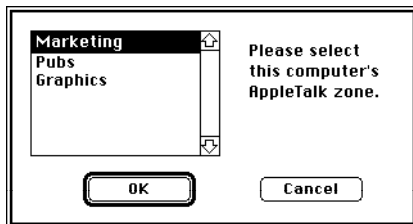
A message asks you to confirm the change of network connections. You may have more network connection choices than those shown in the following figure.



4. Click OK to confirm the change of networks.

**5. If you see the following dialog box, click OK.**

If you don't see a dialog box, skip to step 6.



If your network has been set up to allow you to choose a zone but you have not yet done so, the dialog box lists choices, with your designated zone selected. The zone you select determines the default location for any network services provided by your computer and listed in the Chooser (such as file sharing). Before you select a zone different than the one already highlighted, consult your network administrator.

**6. Close the Network control panel.**

You are now ready to use services available on your Ethernet network.

### **Changing your AppleTalk zone**

If you need to change zones in the future, just follow the steps described in the previous section. Remember, when you click the EtherTalk icon in the Network control panel, you see the list of available zones from which to choose.

### **Disconnecting and moving your computer**

To disconnect your computer from the network, shut down your system and unplug the cable from the AAUI port on the card.

If you plan to move your computer and reconnect to the network at a new location, notify your network administrator before you move.

## Troubleshooting

Following are guidelines for handling common problems. If these suggestions don't help you fix the problem, contact your network administrator.

**IMPORTANT** The first step in troubleshooting any problem with your network connection is to check each of the following items.

- The computer's power is on.
- The card is installed correctly.
- The AAUI-compatible transceiver is connected to your card correctly.
- The network cable is in good condition and attached to the AAUI-compatible transceiver correctly.
- Your Ethernet network is working properly—no one else is having problems with the network.

### **If the Network control panel icon is missing:**

The Network control panel may have been moved from the Control Panels folder. Look for it on your hard disk, drag it to the Control Panels folder, then restart your Macintosh.

Your EtherTalk software may not have been installed properly. If you can't find the Network control panel, you'll need to reinstall the network software according to the instructions in this guide.

### **If the EtherTalk icon doesn't appear in the Network control panel:**

There may have been a problem with the network software installation. Reinstall your network software according to the instructions in this guide.

### **If you can't select EtherTalk in the Network control panel:**

Be sure that the network cable is properly attached. If you are still unable to select EtherTalk, there may have been a problem with the network software installation. Reinstall your network software according to the instructions in this guide.

**If you don't see network services listed in the Chooser:**

Make sure your network connection is okay. Open the Network control panel and click EtherTalk. (If the Chooser is open, close and reopen it.)

If you can access some services but can't access a particular service (printing, for example), the device providing that service might be located in a different AppleTalk zone, or it might be malfunctioning, switched off, or disconnected from the network. There may also be a break somewhere in the network cables between your Macintosh and the missing service.

**If your system can't load EtherTalk at startup and reverts to LocalTalk:**

Your System file may be damaged or your EtherTalk installation was unsuccessful. Try reinstalling the network software.

**If the system won't let you change the network connection:**

You may be using essential services (such as file sharing) or applications that might prohibit the change. Quit the service named in the system's alert message and try switching the network connection again. You can also try quitting all application programs. If this doesn't work, and it's OK to disrupt services, shut down your Macintosh, using the Shut Down command. Restart the computer, change the network connection, and start the service or application again.

**If your card is defective or you have a problem with the installation and your network administrator cannot help:**

In the United States, contact the Apple Assistance Center at 800-SOS-APPL. In Canada call 1-800-263-3394. Outside the United States and Canada, contact your local Apple-authorized reseller.

## Specifications

Connector	Ethernet IEEE 802.3-compatible AAUI port
Ethernet transmit/receive data rate	10 megabits-per-second maximum
Power dissipation	Less than 1.5 watts, with an average of 1 watt
Environmental requirements	
Operating temperature:	50° to 104° F (10° to 40° C)
Humidity:	20% to 95% noncondensing
Ethernet controller	National Semiconductor DP83916 (SONIC-16)

## For more information

The following books from Apple Computer, published by Addison-Wesley, are available at computer bookstores.

*Understanding Computer Networks* gives an overview of networking basics.

*Planning and Managing AppleTalk Networks* provides comprehensive information on setting up, maintaining, and troubleshooting small- to medium-sized AppleTalk networks.

*Inside AppleTalk*, second edition, is the definitive technical guide to the protocol architecture of the AppleTalk network system.

030-5462-A