AsantéFAST™ 10/100

Fast Ethernet Adapter for NuBus
Installation Guide

ASANTÉ

AsantéFAST™ 10/100

Fast Ethernet Adapter for NuBus
Installation Guide

Table of Contents

ASANTÉ

1

Introduction

Product Description

The AsantéFAST 10/100 adapter for NuBus gives you all-in-one compatibility with 10BASE-T and 100BASE-TX Ethernet networks for Macintosh computers with NuBus slots. It's ideal for resource intensive database, multimedia, pre-press, and mission-critical applications.

Install the AsantéFAST 10/100 adapter on your existing 10Mbps (10BASE-T) network to take advantage of high-performance Ethernet networking right from the start. Then, when it's time to switch to 100Mbps (100BASE-TX), simply plug the cable into an AsantéFAST 100 hub or other 100BASE-TX compliant hub and your adapter is ready to run at the 100Mbps speed. The adapter automatically connects at the correct speed. A single RJ-45 port and driver support both 10 and 100Mbps operation.

Using NWay™ auto-negotiation, the adapter will sense the hub-speed and configure the adapter accordingly. For added ease of use, the AsantéFAST 10/100 adapter has 4 LED lights for instant troubleshooting.

Features

The AsantéFAST 10/100 adapter features are:

❏ Easily visible LEDs indicate 10Mbps operation, 100Mbps operation, Link integrity and Data traffic.

❏ National Semiconductor's NWay™ auto-negotiation feature determines 10Mbps or 100Mbps operation.

❏ 100% compliant with IEEE 802.3 10BASE-T and 802.3u 100BASE-TX Ethernet standards.

❏ Single RJ-45 port.

❏ SNMP agent software included.

❏ Supports all major network operating systems for the Macintosh.

❏ Jumperless and switchless operation.

ASANTÉ

Package Contents

Before going any further, please make sure that you have the following items in this package:

- ❏ **AsantéFAST 10/100 adapter for NuBus**
- ❏ **Installation Guide (this manual)**
- ❏ **Release Notes**
- ❏ **Registration Card**
- ❏ **Installer Disk which includes the following software:**
    - ❏ **EtherTalk device driver for all popular network operating systems**
    - ❏ **Diagnostic software**

2

Installing the AsantéFAST 10/100 Adapter for NuBus

Installing the Adapter

The following instructions explain how to install the AsantéFAST 10/100 adapter.

     ∆   Note:You do not need to set any jumpers or switches on the adapter.

1   Turn the power off and remove the computer cover.

     ⇨   Important:A network adapter is sensitive to static elec-tricity and must be handled carefully. If you do not han-dle the adapter properly you can damage it and/or your system.

2   Align the adapter's edge connector with a NuBus slot.

3   Push the adapter down into the slot until the adapter locks into place as shown below.

AsantéFAST 10/100
NuBus adapter

Expansion slot
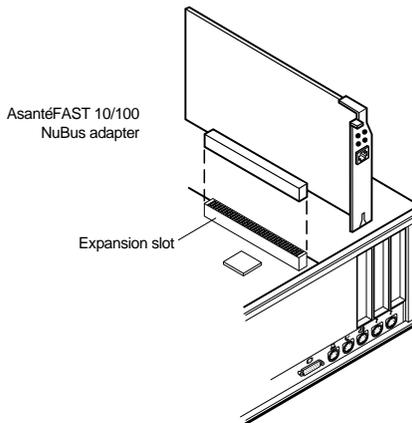
4   Replace the computer cover.

5 Plug the RJ45 connector on one end of your UTP network cable into the adapter's RJ45 port.

➥ **Important:** Connection to a 100BASE-TX hub for 100Mbps operation requires a Category 5 unshielded twisted-pair (UTP) network cable.

➥ **Important:** Connection to a 10BASE-T hub for 10Mbps operation requires a Category 3 or 5 unshielded twisted pair (UTP) network cable.

6 Plug the other end of your UTP network cable into the network hub or wall socket.

7 Turn the computer power on.

Configuring the Adapter

There are no switches or jumpers on the AsantéFAST 10/100 adapter to set.

Configuring 10Mbps or 100Mbps Operation

The AsantéFAST 10/100 adapter supports National Semiconductor's NWay™ auto-negotiation feature. NWay auto-negotiation allows the connected devices to automatically configure to the highest performance capability.

This means that during power up the adapter will automatically connect at the appropriate speed (10Mbps or 100Mbps) *without user intervention*.

If you are initially planning to use the adapter to run at 10Mbps speed, when you are ready to upgrade to 100Mbps (100BASE-TX), it will not be necessary to modify any settings. The same driver can be used in both 10Mbps or 100Mbps speed.

Another benefit of NWay auto-negotiation is that a connection will not occur without a common mode of operation between connecting devices. This preserves network integrity and minimizes network downtime.

Testing the Adapter

Conducting a test is recommended after performing a first time installation of the adapter. Successful test performance ensures that the adapter is operating properly. A diagnostic program for testing the adapter is included on the Installer Disk. This program runs a number of tests and indicates the results.

Please refer to *Chapter 4* for instructions on how to use the diagnostic program.

3

Installing the Network Driver

Network Operating Systems Supported

After installing and testing the AsantéFAST 10/100 adapter, you are ready to install the network driver and work with your network operating system.

Network operating systems and protocols that are supported by the Asanté-FAST 10/100 adapter are:

❏ Apple System 7 or higher

❏ AppleShare

❏ Novell NetWare for Macintosh

❏ DEC Pathworks

❏ AppleTalk

❏ MacTCP

Δ Note: The same installed driver can be used for 10Mbps or 100Mbps operation.

ASANTÉ

Installing the EtherTalk Driver

An Installer Disk is included with each adapter. This disk contains Asanté's EtherTalk driver, and diagnostic software. Asanté's EtherTalk device driver allows AppleTalk to communicate with the adapter.

Two Types of Software Installations

The Installer program provides two types of installations–an Easy Install or a Customize Install. You should be experienced in network administration to perform the Customize Install.

For detailed information about each installation, click Help in the Installer screen to display a help screen.

The following table explains which installation to choose:

Choose	When you want to....
Easy Install	• Install the EtherTalk driver only.
Customize Install	• Install or remove the EtherTalk driver. • Install or remove MacTCP and SNMP MacAgent.

To remove the driver or software, select the item and hold down the option key and the Install button will become a Remove button.

To Perform an Easy Install

1 Insert the Installer Disk into the drive.

◆ Caution: Before you install Asanté's EtherTalk driver, disable all extensions and virus detection programs, then restart your Macintosh while holding down the Shift key.

2 Double-click the Installer icon and click OK when the Installer banner appears.

The Easy Install dialog box appears as shown on the following page.

Δ Note: To properly install the EtherTalk driver, you must use the Installer program. Do not drag the files from the disk to the System Folder.

Easy Install

Click Install to place
- **AsantéFAST 10/100 NuBus D**

on the hard disk named
▭ **Power Mac**

3   Click Install.

The Installer program examines your Macintosh and installs the EtherTalk driver. The system informs you when the installation is completed and prompts you to click Restart.

4   Click Restart.

To Perform a Customize Install

Customize Install enables you to install the SNMP MacAgent and/or MacTCP software onto your Macintosh.

       ∆   Note: Only experienced Macintosh users should per-
            form a customized installation.

1   Insert the Installer Disk into the floppy drive.

       ◆   Caution: Before you install Asanté's EtherTalk software,
            disable all extensions and virus detection programs, then
            restart your Macintosh while holding down the Shift key.

2   Double-click the Installer icon and click OK when the Installer banner appears.

The Easy Install dialog box appears as shown above.

Δ   Note:To properly install the EtherTalk driver, you must use the Installer program. Do not drag the files from the disk to the System Folder.

3   Click Customize.

A dialogue box appears with a list of software options.

> Click the items you want to select;
> Shift-click to select multiple items.
>
> AsantéFAST 10/100 NuBus Driver
> SNMP MacAgent for system 7
> MacTCP Version 1.1.1 for system 7
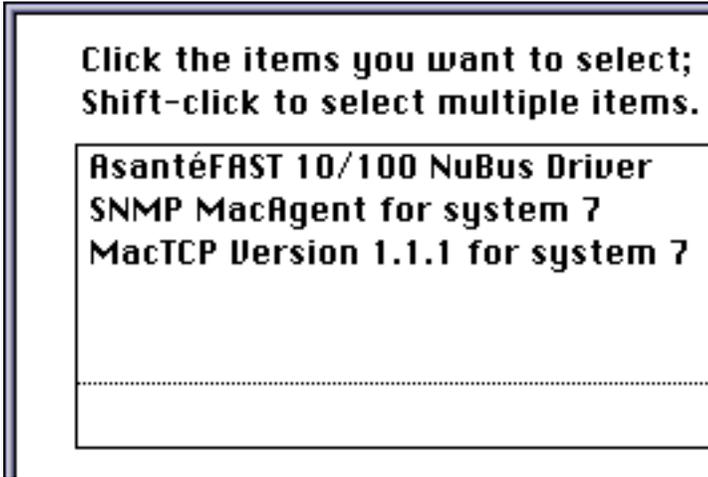
4   Select the appropriate software option. Use Shift-click to select multiple options.

5   Click Install.

The system informs you when the installation is completed and prompts you to click Restart.

6   Click Restart.

Accessing Network Services

To make the connection between your Macintosh and the Ethernet network, you need the following:

❏ AppleTalk must be active in the Chooser dialog box

❏ EtherTalk must be active in the Network control panel

The EtherTalk driver enables AppleTalk to interact with the AsantéFAST 10/100 adapter and make a connection.

1 Select Chooser from the Apple menu.

The Chooser dialog box displays the icons for all available device options and the AppleTalk zones you set up.
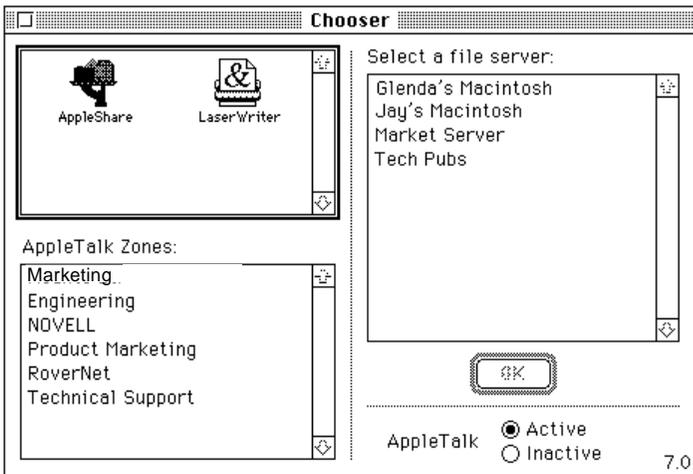
2 Make sure AppleTalk is active.

Click the Active button if AppleTalk is not active.

3 Close the Chooser.

4 Select Control Panels from the Apple menu.

5 Open the Network control panel.

The Network window contains two types of network icons, Built-in LocalTalk and EtherTalk.
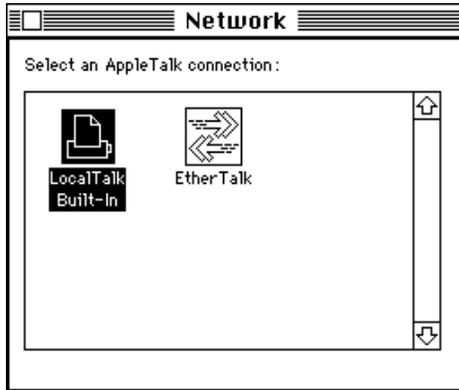
6 Select EtherTalk by clicking on the EtherTalk icon in the Network control panel.

A dialog box appears prompting you to confirm your selection.

7 Click OK to confirm your selection.

Δ Note: If you have more than one network card installed, each card appears as a separate icon, labeled by a slot number.

8 Close the Network control panel.

Your connection to Ethernet remains active until you switch to LocalTalk, disconnect the cable, or remove the AsantéFAST 10/100 adapter.

9 Open Chooser and select a network resource, such as AppleShare or another network service to verify your network connection.

4

Troubleshooting

LED Indicators

Overview
The figure below shows four LED indicators that illustrate the presence of Link Integrity, Data Traffic, 100Mbps operation and 10Mbps operation for installation verification and diagnostic purposes.

10Mbps LED (Amber) ⟶   ⟵ 100Mbps LED (Green)
TX LED (Amber) ⟶   ⟵ LI LED (Green)

ASANTÉ
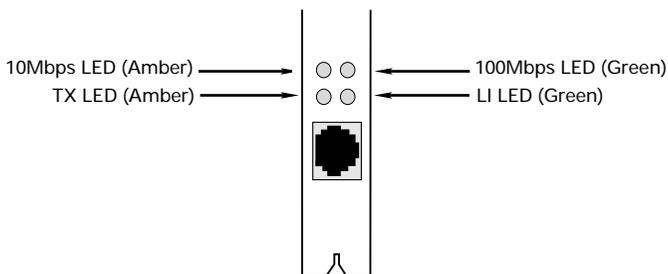
Link Integrity LED

The green Link Integrity (LI) LED indicates whether the network link is established. If link integrity is not detected, there is a link failure and the LI LED will be off. The transmit and receive functions of the adapter also will be disabled.

State	Description
On	• Link integrity is detected
Off	• No unshielded twisted-pair cable is connected • No power source to hub • Unshielded twisted-pair cable is faulty • Unshielded twisted-pair wire exceeds the recommended length

Data Traffic LED

The amber Data Traffic (TX) LED indicates the activity (transmit data) status of the AsantéFAST10/100 adapter controller board. The LED should blink when data packets are being transmitted from the adapter.

State	Description
Blinking	• Data packets being transmitted
Off	• Power off • No data packets being transmitted

100Mbps Operation LED

The green 100Mbps (100) LED indicates the configuration of the adapter for 100Mbps (100BASE-TX) operation.

State	Description
On	• Configured for 100Mbps operation.
Off	• Not configured for 100Mbps operation.

10Mbps Operation LED

The amber 10Mbps (10) LED indicates the configuration of the adapter for 10Mbps (10BASE-T) operation.

State	Description
On	• Configured for 10Mbps operation.
Off	• Not configured for 10Mbps operation.

> Δ   **Note: When the computer powers up the 10Mbps Operation LED light comes on as the default. Once the device driver has been loaded into memory and the appropriate network speed is automatically detected, the 10 or 100 Mbps LED will be lit.**

Using the TroubleShooter Program

The TroubleShooter diagnostic program is provided on the Installer Disk together with the EtherTalk driver. TroubleShooter helps you isolate and evaluate problems on your adapter by running diagnostic tests. It also provides configuration information about the Macintosh and the adapter, such as the Ethernet node address.

The TroubleShooter diagnostic program reinitializes and reconfigures your Ethernet connection. Therefore, before you run TroubleShooter, you should:

❑ Save all open files and close all active applications
❑ Log out of any active network services

Setting Up TroubleShooter Diagnostics

Before you run TroubleShooter Diagnostics, please do the following:

1 Drag any remote volumes into the trash.

2 Change from EtherTalk to LocalTalk by clicking the LocalTalk icon in the Network Control panel.

3 If using System 7 or higher, turn off virtual memory.

4 Disable virus software, extensions, and INITs. (You can disable extensions and INITs by holding down the Shift key at startup.)

5 Restart your Macintosh by holding down the Shift key at startup.

Running TroubleShooter Default Diagnostics

1 Insert the Installer disk into the drive.

2 Open the disk's directory window and the Net Utils Folder.

3 Double-click the TroubleShooter 10/100 NB icon to start the program.

4 Click OK when the TroubleShooter banner appears.

TroubleShooter warns you to change your AppleTalk connection:

> **Running Asanté TroubleShoote**
> **your Ethernet adapter. Before**
> **make sure that the LocalTalk I**
> **to the Apple Control Panels, de**
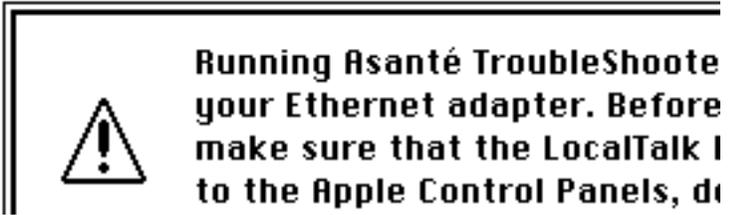
If you need to make this change, click Quit, make the change,
and restart TroubleShooter.

When you click OK, TroubleShooter loads and automatically runs
the following three default tests.

❏ **Memory buffer test**

Writes to and reads from the packet buffer RAM to verify
its addressability and operation.

❏ **Network interface controller (NIC) test**

Writes to and reads from the controller register to verify
its operation.

❏ **Ping-Pong test**

Transmits and receives special packets to verify commu-
nication with other Macintoshes on the network.

If the Ping-Pong test fails, check your connectors and
cables. (It's also possible that there's no other Macintosh
on the network with which to communicate.)

TroubleShooter opens the TroubleShooter dialog box (see
below) and displays the results of the above three default tests.

Asanté Troubl

TEST	☒ **Memory Buffer Te**
STOP	☒ **Network Interfac**
HELP	☐ **Loopback Test**
QUIT	☒ **Ping-Pong Test**

SLOT ☐ **Bandwidth Utiliza**

Memory Test Passed
NIC Test Passed
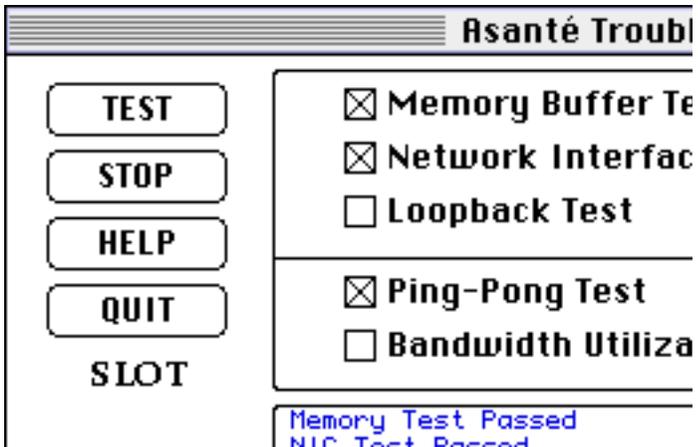
Running Other Diagnostic Tests

In addition to the three default tests, TroubleShooter offers the Loopback Test and the Bandwidth Utilization Test to validate operation of the network interface card.

Running the Loopback Test

The Loopback Test verifies the operation of major components of the interface circuitry, the interface card and the serial network interface by transmitting and receiving special packets.

To run the Loopback Test, perform the following steps:

1 Run the Default Diagnostics tests as explained above in "Running TroubleShooter Default Diagnostics" on page 4-4.

2 With the TroubleShooter dialog box on your screen, click the Loopback Test checkbox to select the test.

3 Click TEST to start the Loopback Test.
   The result of the Loopback Test is displayed in the Trouble-Shooter dialog box.

Running the Bandwidth Utilization Test

The Bandwidth Utilization Test calculates the total bandwidth utilization of the network.

1 Run the Default Diagnostics tests as explained previously in "Running TroubleShooter Default Diagnostics" on page 4-4.

2 With the TroubleShooter dialog box on your screen, click the Bandwidth Utilization checkbox to select the test.

3 Click TEST to start the test.
   Data is collected from the moment you click TEST.

4 Press any key on the keyboard to stop the test.
   The performance statistics are displayed in the TroubleShooter dialog box.

If a Test Fails

If a test fails, TroubleShooter displays an error message in the main dialog box. The error message generally consists of three parts:

- ❏ The name of the diagnostic test
- ❏ *Failed* (e.g. Memory Test Failed)
- ❏ A possible reason for the failure

Check the connections from your Macintosh to the UTP Ethernet cable, and repeat the tests.

If the test fails repeatedly, make a note of the error message, quit the TroubleShooter diagnostics, and contact Technical Support as suggested in *Appendix B*.

Obtaining System Configuration Information

TroubleShooter provides configuration information about your Macintosh and your AsantéFAST 10/100 adapter.

The File menu in the TroubleShooter program provides the configuration information in two menu items–Get System Information and Get Adapter Information. The following information is displayed when you use any one of these two menu items:

Menu	Displays
Get System Information	• System software version number • Machine type • Memory size • ROM version number • Installed AppleTalk version
Get Adapter Information	• Expansion slot used • Card type • Card's 48-bit Ethernet address • Card's buffer size • Asanté driver version

Quitting TroubleShooter Diagnostics

To quit TroubleShooter, click the QUIT button in the TroubleShooter dialog box.

Restarting Network Services

To restart network services after using the TroubleShooter diagnostic program, perform the following steps:

1 Restart your Macintosh (normally).

2 Activate AppleTalk in the Chooser.

3 Select EtherTalk in the Network control panel.

4 Go to the Chooser and mount a remote volume or file server.

Using the ADLS Program

To run the Asanté Driver Local Statistics (ADLS) program on your Macintosh in order to display the configuration information on the adapter, perform the following steps.

1 Insert the Installer Disk into the drive and double-click the disk icon to open it.

2 Double-click the Net Utils Folder icon.

3 Double-click the ADLS 10/100 NB icon to start the program.
   The ADLS window appears showing the following adapter configuration information: driver version, slot number, adapter type, AppleTalk version, transmit status and receive status.

4 Verify the configuration information on the adapter.

5 Select Quit from the menu bar to close the ADLS program.

5

Asanté SNMP MacAgent

Overview

Asanté SNMP MacAgent provides hardware and software information from a Macintosh to an Asanté network management station running AsantéView Network Management Software. It works in conjunction with Apple's MacTCP software. The SNMP MacAgent is a system extension under System 7 and can be installed on any Macintosh on the network.

Asanté SNMP MacAgent is tailored for Asanté adapter cards; therefore, it provides more extensive SNMP object information than for non-Asanté cards.

Asanté SNMP MacAgent and MacTCP are included with your Asanté Installer Disk.

∆ Note: MacTCP is Apple Computer's TCP/IP software. It provides the transport mechanism for accessing the information provided by the Asanté SNMP MacAgent.

TCP/IP Protocol Stack

TCP/IP refers to a collection of network protocols that support host to host communication. The TCP/IP protocol family is an industry standard developed by the United States Department of Defense.

IP Addressing

To connect to an IP network you must obtain an IP address, which identifies an individual node in a TCP/IP network. IP addresses can be officially assigned by the Internet committee for world-wide access over the Internet, or by your network administrator for communication over a local TCP/IP network. It is the responsibility of the network administrator to assign IP addresses. You must have an IP address before you install SNMP MacAgent and MacTCP.

ASANTÉ

Requirements

The requirements for the Asanté SNMP Agent are:

Workstation	Network Management Station
SNMP MacAgent and	AsantéView In-Band or
MacTCP	A generic SNMP Management console with MIB compiler and/or MIB browser and Asanté SNMP MacAgent MIB

AsantéView In-Band Network Management Software

AsantéView is network management software used to manage Asanté intelligent Ethernet hubs and bridges. It allows network managers to monitor Ethernet networks using the SNMP protocol.

AsantéView provides detailed information about Macintoshes that have Asanté's SNMP MacAgent installed as well as information about other SNMP devices on the network. The SNMP MacAgent can be accessed using AsantéView In-Band software. The term in-band means network management packets travel over the same wire as other network traffic.

Accessing Asanté MacAgent MIB

If you don't have AsantéView, it is still possible to manage the SNMP MacAgent. You must obtain Asanté's SNMP MacAgent MIB, a text file available on Asanté's FTP server via the Internet.

The file can be obtained from the /snmp directory using "anonymous" as the log in to: ftp.asante.com. The SNMP MacAgent MIB text file is also available via our Bulletin Board Service at (408) 432-1416.

Asanté SNMP MacAgent and the TCP/IP Protocol

The Asanté SNMP MacAgent loads into RAM when the Macintosh is turned on. It uses the TCP/IP protocol, made available through MacTCP, as a transport mechanism for the SNMP information.

When the Macintosh is polled by AsantéView or a Generic SNMP management console, Asanté SNMP MacAgent forwards information about the Macintosh's network connection and other vital statistics.

SNMP MacAgent forwards four types of information about the station:

❏ **Station Profile, including station hardware components, system and memory**

❏ **Station Slot Table, identifying the network interface cards installed**

❏ **Station Activity, transmission statistics for the network interface card**

∆ **Note: The Macintosh must be equipped with an Asanté card and the Asanté EtherTalk driver to receive Station Activity information.**

❏ **Station Applications, a listing of resident applications for software resource management**

In addition, the SNMP MacAgent alerts the network management system when the station is restarted.

Installing the SNMP MacAgent

To install and configure the Asanté SNMP MacAgent on the workstation, perform the following steps:

1 Insert the Installer Disk into the drive.

2 Double-click the Installer icon and click OK when the Installer banner appears. The Easy Install dialog box appears.

3 Click Customize. The Customize Install dialog box appears.

```
Click the items you want to select;
Shift-click to select multiple items.

┌─────────────────────────────────┐  ┌──────────┐
│ AsantéFAST 10/100 NuBus Driver  │  │ Install  │
│ SNMP MacAgent for system 7      │  └──────────┘
│ MacTCP Version 1.1.1 for system 7│
│                                 │     ⊂ Power Mac
│                                 │  ┌──────────┐
│                                 │  │Eject Disk│
└─────────────────────────────────┘  └──────────┘
                                     ┌──────────┐
                                     │Switch Disk│
                                     └──────────┘

                                     ┌───────────┐
                                     │Easy Install│
                                     └───────────┘
                                     ┌──────────┐
                                     │   Quit   │
                                     └──────────┘
```
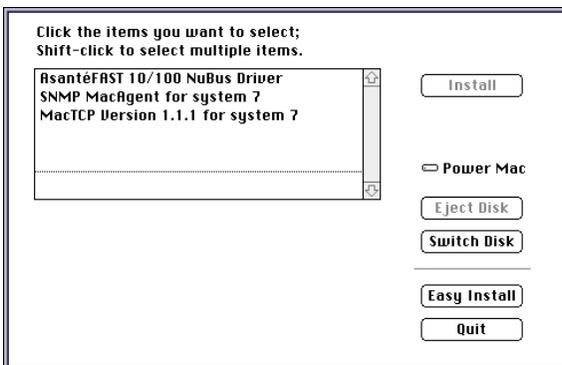
4 Select SNMP MacAgent.

5 Select MacTCP while pressing down the Shift key.

6 Click Install.

7 Restart your Macintosh.

Configuring MacTCP

To configure MacTCP, perform the following steps:

1 Select Control Panels from the Apple menu.

2 Double-click the MacTCP icon. The MacTCP Configuration
screen appears.
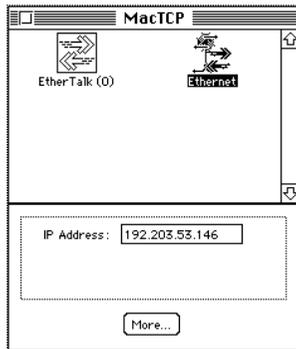
Δ Note: To configure MacTCP, see the MacTCP Adminis-
trator's Guide. This guide is included with the Asanté-
View documentation.

3 Double-click More... and select Manually. This allows you to man-
ually enter your IP address.

4 Close the MacTCP control panel.

Δ Note: If you have any questions about your MacTCP
or SNMP configuration, contact your network adminis-
trator. It is important that the network administrator
be aware of any changes on the IP network.

Configuring SNMP MacAgent

To configure SNMP MacAgent, perform the following steps:

1   Select Control Panels from the Apple menu.

2   Double-click the SNMP MacAgent control panel. The SNMP MacAgent Configuration screen appears.

```
┌─────────────────────────────────────┐
│ ▤□▤▤▤▤  SNMP MacAgent  ▤▤▤▤▤        │
│  ┌──┐                                │
│  │▣▣│▯  SNMP MacAgent                │
│  └──┘   Copyright 1992, Asanté       │
│         Technologies Inc.            │
│  System Contact:   │Asante Developer││
│  System Location:  │Engineering     ││
│  System Name:      │agent           ││
│  Read-Community:   │public          ││
│  Write-Community:  │private         ││
│  Trap-Community:   │public          ││
│  Trap IP Address:  │0.0.0.0         ││
│  Authentication Trap: ◉ On   ○ Off  │
│  SNMP Agent:          ◉ On   ○ Off  │
└─────────────────────────────────────┘
```

3   Enter the configuration parameters (see the next section for parameter descriptions).

4   Restart your Macintosh.

Asanté SNMP Configuration Parameters

System Contact
The person who should be contacted regarding this workstation.

System Location
The physical location of the workstation.

System Name
A local alias describing this station.

Read-community

Enter public (default), allowing the Asanté network management sta-tion to query SNMP MacAgent and get information about the station.

Write-community

Enter private (default). This allows the Asanté network management station to query SNMP MacAgent remotely.

∆ Note: The defaults for Read-community and Write-commu-nity should be used unless you are told otherwise by your network administrator.

Trap-community

Enter public. (Trap is the SNMP term for alarm or alert.) Public is usually the default for the SNMP configuration. However, if there is any question, please contact your network administrator. SNMP MacAgent sends traps to the Asanté network management station for two events: restarting your Macintosh and authentication violation.

Trap IP Address

The IP address to which the workstation sends traps. This is usually the Asanté management station IP address.

Authentication Trap (On/Off)

This is ON by default. This station sends a trap to the Asanté manage-ment station if accessed by an SNMP management console with the wrong read or write community string.

SNMP Agent (On/Off)

This is also ON by default. If SNMP Agent is OFF, the agent does not send information to the Asanté management station.

A

Specifications

Systems Supported

❏ Power Macintoshes, Quadras, Centris, and Mac IIs with NuBus Slots

Interface Connections

❏ Single RJ-45 (Using NWay™, auto-negotiate 10BASE-T or 100BASE-TX operation)

Bus Supported

❏ NuBus

LAN Drivers Available

❏ EtherTalk Driver

Network Operating Systems (NOS) Supported

❏ Apple System 7 or higher, AppleShare, Novell NetWare for Macintosh, DEC Pathworks, AppleTalk, and MacTCP

LEDs

❏ 4 LEDs indicate link integrity, data traffic, 10Mbps operation, and 100Mbps operation

100BASE-TX Link Specifications

❏ Cable: 2 pairs of Category 5 unshielded twisted pair or shielded twisted pair (ISO 11801 or ANSI/EIA/TIA 568A)
❏ Connector: RJ-45 (ISO 8877)
❏ Maximum Length: 100 m (328 ft.) computer to wiring closet. Maximum network diameter 205 m (672 ft.) without bridging or routing

10BASE-T Link Specifications

❏ Cable: 2 pairs of Category 3, 4, or 5 unshielded twisted pair

ASANTÉ

Power Requirements
- ❑   +5 volts @ 0.8 Amp. maximum

Environmental Conditions
- ❑   Temperature: 0^oC to 50^oC
- ❑   Relative Humidity: 5% to 85% non-condensing

Standards Compliance
- ❑   IEEE 802.3u 100BASE-TX
- ❑   IEEE 802.3 10BASE-T
- ❑   FCC Part 15J Class A

B

Technical Support

Contacting Technical Support

If you're having trouble or if a test has failed repeatedly, call your network administrator or Asanté Technical Support.

To contact Asanté Technical Support:

Telephone	(800) 622-7464
	(408) 435-0706
Fax	(408) 432-6018
Fax-Back	(800) 741-8607
	(408) 954-8607
Bulletin Board Service (BBS)	(408) 432-1416
ARA BBS (guest log in)	(408) 894-0765
AppleLink mail/BBS	ASANTE.TECH
FTP Archive	ftp.asante.com
Internet mail	support@asante.com
Worldwide Web Site	http://www.asante.com

Technical Support Hours

6:-00 AM to 6:00 PM Pacific Standard Time USA, Monday-Friday.

ASANTÉ

ASANTÉ