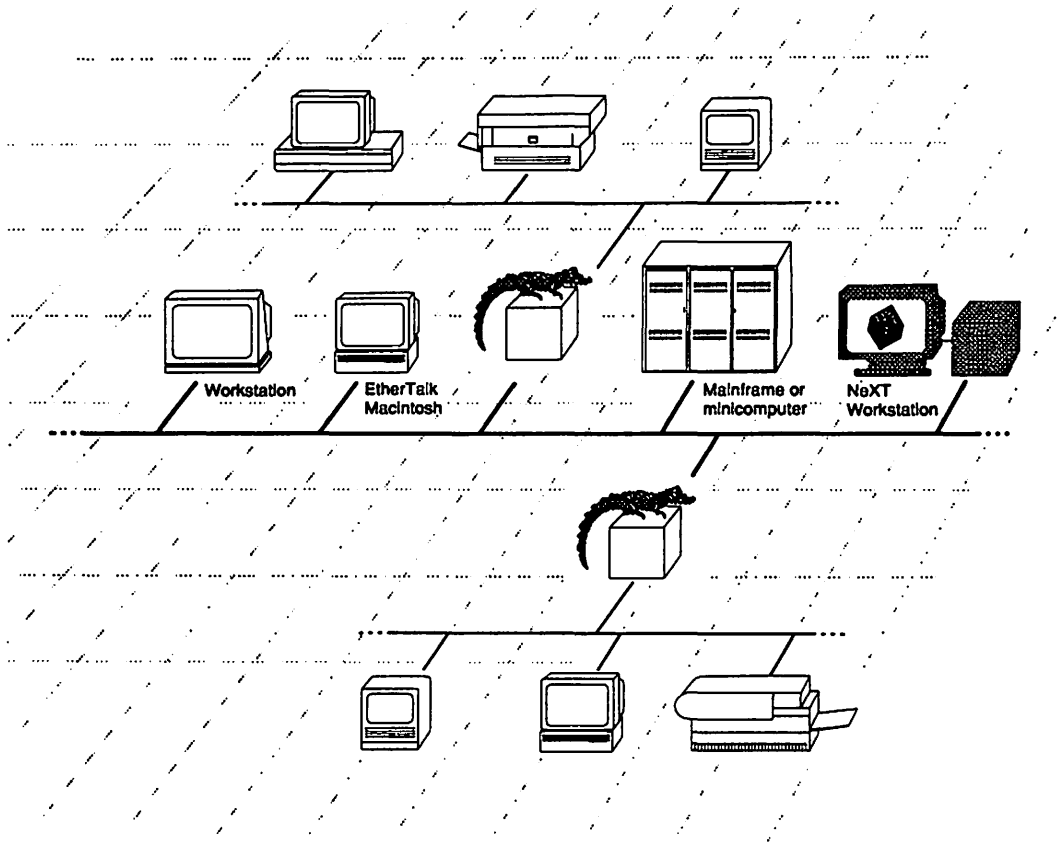
GatorBox®
User's Guide

Release 2.0 for the GatorBox and GatorBox CS

August 1991



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Release 2.0 for the GatorBox and GatorBox CS

August 1991

This manual describes the GatorShare, GatorSystem and GatorPrint software for the GatorBox family of network gateways. Changes to this manual will be distributed as document updates or new revisions.

Your comments about this manual are welcome. Use the forms at the back of the manual or address your comments to:

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Contents

About this manual

Chapter 1 – About the GatorBox

Chapter 2 – Getting Started

Chapter 3 – TCP/IP Services

Chapter 4 – AppleTalk Routing

Chapter 5 – DECnet Routing

Chapter 6 – GatorPrint Printing

Chapter 7 – GatorShare Servers

Chapter 8 – GatorBox Administration

Appendix A – Configuration Checklist

Appendix A – Filename Mapping Conversion

Figures

About this manual

This manual covers the installation, configuration, and administration of the GatorBox software (GatorSystem, GatorPrint, and GatorShare). The GatorBox software can run on the GatorBox, GatorBox CS, GatorMIM CS, and GatorBox CS/Rack hardware platforms. The material covered in each chapter is outlined below.

The term **GatorBox** is used to refer to all models of the GatorBox (GatorBox, GatorBox CS, GatorMIM CS and GatorBox CS/Rack). When it is necessary to distinguish between them, the model name will be used.

- **Chapter 1** presents an overview of the GatorBox hardware and software and describes GatorKeeper, the application you use to configure and manage the GatorBox.
- **Chapter 2** describes how to install and use GatorKeeper.
- **Chapter 3** describes how to configure and use your GatorBox for TCP/IP services, such as terminal emulation or NCSA Telnet.
- **Chapter 4** describes how to configure and use your GatorBox as an AppleTalk router.
- **Chapter 5** describes how to configure and use your GatorBox as a DECnet router.
- **Chapter 6** describes how to configure and use your GatorBox for UNIX-to-LocalTalk printing. You will receive this chapter if you purchase the GatorPrint or GatorShare software.
- **Chapter 7** describes how to configure and use your GatorBox for AppleShare-to-NFS file sharing. You will receive this chapter if you purchase the GatorShare software.

- **Chapter 8** describes the GatorKeeper tools you can use to monitor and administer your GatorBox once it has been configured.
- **Appendix A** provides a checklist of configuration information you need before you begin configuring your GatorBox.
- **Appendix B** provides information on how to convert files created using an earlier version of GatorShare to Release 2.0 filename mapping. You will receive this Appendix if you purchase the GatorShare software.

Who should read this manual

This manual is intended for network administrators responsible for setting up and maintaining the GatorBox software.

If you are unfamiliar with the concepts presented in this manual, refer to the *GatorBox Reference.*

Documentation conventions

This manual uses certain conventions in presenting information:

- **Menu commands and button names** appear in *italic sans serif* type face; for example:

  Choose *Save* from the File menu to save the GatorBox configuration information.

- **Computer display text** appears in `Courier` type face; for example:

  The syntax for the group file is:

```
sales:*:14:jane,sandy,kim,peter,josiah
other:*:16:
marketing:*:17:andy,chris,michael,karen
qa:*:99:james,harry,ellen
```

- **User-entered text** appears in **`bold Courier`**; for example:

```
zone=marketing
```

- The term **GatorBox** is used to refer to all models of the GatorBox (GatorBox, GatorBox CS, GatorMIM CS and GatorBox CS/Rack). When it is necessary to distinguish between them, the model name will be used.

Icon conventions

Icons are used for points of special interest as follows:

***A raised hand** indicates **Caution** information. You should not proceed until you read and understand the Caution message.*

An exclamation point indicates an Alert. It provides additional information that you may need before you proceed.

*A **talking head** indicates **Note** information. Notes provides additional or supplementary information about an activity or concept.*

A **book** indicates a **Cross-Reference**. Cross-references point to information in other manuals that may be useful to understanding an activity or concept.

An original GatorBox icon is a note that describes features or functionality specific to the original GatorBox.

Related Documentation

For information on setting up the GatorBox hardware, refer to the hardware manual that came with your hardware:

- *Setting Up Your GatorBox CS*
- *Setting Up Your GatorMIM CS*
- *Setting Up Your GatorBox CS/Rack*
- *Setting Up Your GatorBox*

If you need background and reference information, refer to the *GatorBox Reference.*

For information on troubleshooting and diagnostics, refer to the GatorBox troubleshooting guide, *GatorAid.*

If you need additional background information on Apple networking and TCP/IP, refer to the following documentation:

- *AppleTalk Network System Overview,* Apple Computer, Addison Wesley © 1989.
- *Inside AppleTalk* (2nd Edition), Sidhu, Andrews, and Oppenheimer, Addison Wesley © 1990.
- *Internetworking with TCP/IP Principles, Protocols, and Architecture* (2nd edition), Volumes I and II, Douglas Comer, Prentice Hall © 1991.

Cayman Technical Services

Cayman's Technical Services staff is experienced in the installation and use of the GatorBox hardware and software. If this manual does not answer your questions about the GatorBox, you can call Cayman's Technical Services staff at **(617) 494-1999** on all regular business days from 9:00 AM to 6:00 PM Eastern Time. You can also leave a message anytime by using one of the following addresses:

FAX:	(617) 494-5167
internet:	support@cayman.com
AppleLink:	CAYMAN.TECH

What you need to know before you start

You should be familiar with basic Macintosh operations, such as clicking, double-clicking, and dragging, and with the components of the Macintosh user interface, such as menus, windows, dialog boxes, buttons, radio buttons, and checkboxes.

If you are not familiar with Macintosh operations, review the documentation that came with your Macintosh.

You should also be familiar with AppleTalk and Ethernet networks in general and with your network topology in particular.

If you will be using the GatorBox for terminal emulation, print sharing, or file sharing, you need to be familiar with the appropriate UNIX files, commands, and protocols.

If you need more information about AppleTalk or Ethernet networks or the concepts behind GatorShare, GatorSystem, or GatorPrint, refer to the *GatorBox Reference* and to the documentation supplied with your network hardware and software.

Where to start

- Start by setting up the GatorBox hardware.

Refer to your hardware installation guide for instructions on setting up the hardware.

- Next, install the software following the instructions in Chapter 2 of this manual.

- Then configure the GatorBox and make any application-specific changes necessary.

  The procedure for configuring your GatorBox depends on the functions that you want the GatorBox to perform. **You only need to configure the GatorBox for the functions you want to perform.** For example, you do not need to set up TCP/IP options if you are only using AppleTalk routing.

  Application-specific changes vary depending on what functions you want to perform. For example, you need to edit the config.tel file if you are going to use NCSA Telnet.

  In each configuration chapter there is a section entitled *Minimum configuration settings*. That section provides the minimum steps necessary for you to complete to configure the GatorBox to accomplish certain tasks. For example, in Chapter 3 after completing the minimum configuration steps, you could use TCP/IP to run NCSA Telnet.

- Finally, when you have finished configuring your GatorBox, save the changes and then restart the GatorBox. Refer to *Restarting the GatorBox*, in Chapter 2 for instructions.

Chapter 1
About the GatorBox

What is the GatorBox?

What is the GatorBox software?

What is GatorKeeper?

Sample network topology

What is the GatorBox?

The GatorBox is an intelligent network gateway that connects a LocalTalk network with an Ethernet network. The functions that the GatorBox can perform depend on whether you are running GatorSystem, GatorPrint, or GatorShare.

The GatorBox comes in four models and each of which has its own icon:

The **original GatorBox** is a desktop model that comes with 1 MB of memory and requires an external power supply.

The **GatorBox CS** is a desktop model that comes with 2 MB of memory and uses an internal power supply.

The **GatorMIM CS** is a media interface module that fits in a Cabletron Multi-Media Access Center (MMAC™). The GatorMIM CS comes with 2 MB of memory.

The **GatorBox CS/Rack** is a rack-mountable version of the GatorBox CS. The rack version is designed to fit in all standard 19 inch racks. The GatorBox CS/Rack comes with 2 MB of memory.

What is the GatorBox software?

The software running in the GatorBox determines what services the GatorBox can provide. GatorSystem is the basic software package that is included with all the hardware platforms described above. GatorPrint and GatorShare software can be purchased to add more functionality. The features of each are described in the sections that follow.

Figure 1-1 illustrates the relationship between GatorSystem, GatorPrint, and GatorShare.

	GatorSystem	*GatorPrint*	*GatorShare*
TCP/IP services	✔	✔	✔
AppleTalk routing	✔	✔	✔
DECnet routing	✔	✔	✔
UNIX-to-LocalTalk printing		✔	✔
AppleShare-to-NFS file sharing			✔

Figure 1-1. GatorBox software

What is GatorSystem?

With the GatorSystem software installed, the GatorBox can provide:

- **AppleTalk routing** — As an AppleTalk router, the GatorBox lets a Macintosh on a LocalTalk network communicate with devices on an EtherTalk or a remote LocalTalk network.

- **TCP/IP gateway** — As a TCP/IP gateway, the GatorBox lets Macintoshes on LocalTalk networks access networks using TCP/IP protocols. The Macintosh, (with the appropriate software installed) can function as a terminal connected to a UNIX host, exchange electronic mail with UNIX users, and transfer files to and from UNIX computers.

- **DECnet routing** — As a DECnet router, the GatorBox lets Macintoshes on LocalTalk communicate with DECnet nodes on Ethernet.

What is GatorPrint?

With the GatorPrint software, the GatorBox acts as a print gateway, letting UNIX computers send print jobs to printers on AppleTalk networks.

What is GatorShare?

With the GatorShare software, the GatorBox acts as a file-sharing gateway, letting Macintoshes on LocalTalk or EtherTalk view and use NFS (Network File System) servers as though they were AppleShare file servers. Using an NFS server as an AppleShare server provides greatly expanded disk storage and file-sharing capability.

The GatorShare software also includes the GatorPrint software letting UNIX computers send print jobs to printers on AppleTalk networks.

What is GatorKeeper?

GatorKeeper is the Macintosh application you use to configure GatorBoxes. You run GatorKeeper to complete the configuration steps in the following chapters. For instructions on starting up and using GatorKeeper, refer to *Starting up GatorKeeper* and *Getting around in GatorKeeper* in Chapter 2, "Getting Started."

GatorKeeper also lets you administer and monitor GatorBoxes on your LocalTalk network and in other AppleTalk zones on your internet. For instructions on using GatorKeeper to monitor and administer your GatorBox, refer to Chapter 8, "GatorBox Administration."

Sample network topology

The sample network in Figure 1-2 gives you an idea of the types of devices and connections that may exist in an environment where you use your GatorBox. The sections that follow provide short examples of the functions GatorBoxes provide in this sample network.

Information in dialog boxes throughout this manual is based on this sample network. The examples in the *Before you begin* sections in each configuration chapter are also taken from this sample network.

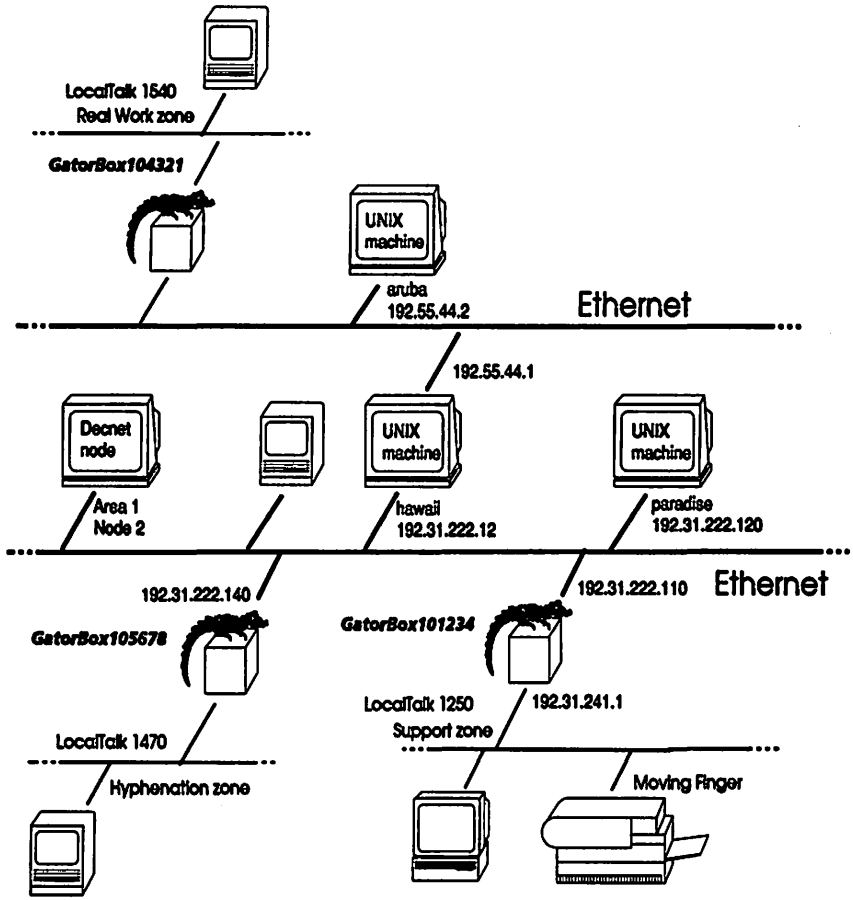

Figure 1-2. Sample network diagram

TCP/IP gateway

As a TCP/IP gateway, GatorBox 105678 lets Macintosh users on LocalTalk networks 1470 log on to aruba through a Telnet connection. Using ftp, the Macintosh users could then transfer files from their Macintosh to store on aruba or vice versa.

AppleTalk routing

As AppleTalk routers, the GatorBoxes let Macintosh users on LocalTalk network 1470 communicate with Macintosh devices on LocalTalk networks 1250 and 1540 and vice versa. For example, Macintosh users on 1470 could print to the LaserWriter on 1250. The Macintoshes on the Ethernet could also use services on the LocalTalk networks.

You can also configure the GatorBox to use AppleTalk tunnels to encapsulate AppleTalk packets inside of IP packets. For example, you could set up a tunnel between GatorBox 105678 and 104321. This would allow Macintosh users to communicate, but would keep the AppleTalk off the backbone.

DECnet routing

As a DECnet router, GatorBox 105678 lets Macintosh users on LocalTalk 1470 communicate with DECnet nodes on Ethernet using applications such as Digital's PATHWORKS.

Print gateway

As a print gateway, the GatorBox lets a user at UNIX workstations aruba, hawaii, or paradise print files on the LaserWriter on LocalTalk network 1250.

AppleShare-to-NFS file sharing

As a file sharing gateway, GatorBox 101234 lets Macintosh users on LocalTalk 1250 use hawaii or paradise as an AppleShare file server, as long as hawaii and paradise support NFS. From a Macintosh, you could mount a volume on hawaii or paradise on your desktop, and use it as though it were a volume on your own disk.

Chapter 2
Getting Started

Before you begin

What's on the disks

Copying the GatorBox software to your Macintosh

Copying NCSA Telnet to your Macintosh

Copying MacTCP Telnet to your Macintosh

Getting around in GatorKeeper

Starting up GatorKeeper

Restarting the GatorBox

Before you begin

Before you install GatorKeeper and the NCSA Telnet software, you should:

- Set up the GatorBox hardware and verify that it is connected to your LocalTalk and Ethernet networks correctly.

Refer to Chapter 2 in your hardware manual for installation instructions.

- If you are upgrading from GatorSystem to GatorPrint or GatorShare, copy the software to your Macintosh and then run GatorInstaller.

Refer to Chapter 3 in your hardware manual for instructions on running GatorInstaller.

If you are upgrading from GatorSystem to GatorPrint or GatorShare on an original GatorBox, you have to download the software. Refer to Chapter 3 in *Setting Up Your GatorBox* for downloading instructions.

- Complete and return the user registration card included in your software disk envelope.
- Verify that you have the correct System and Finder on your Macintosh start-up disk or hard disk. The GatorKeeper application requires Macintosh System version 6.0.2 (or later) and Finder version 6.1 (or later).
- Complete the Configuration Information Checklist in Appendix A.

What's on the disks

There are three disks in your GatorBox software package:

- The **Configuration** disk (Disk 1) for the GatorBox CS, GatorMIM CS, and GatorBox CS/Rack contains:
  - **GatorKeeper,** which is the GatorBox configuration application that runs on your Macintosh. You run GatorKeeper to configure and monitor the GatorBoxes on your internet.
  - **MacTCP folder**, which contains MacTCP and the hosts file.
  - **GatorInstaller,** which is the utility that installs the software image (GatorSystem CS, GatorPrint CS, or GatorShare CS) in the GatorBox CS family of products.

If you are using an original GatorBox, your disks will be stamped "For original GatorBox." The files are different from the files on the GatorBox CS disks, so if you are installing on both models, make sure you use disks that correspond to the GatorBox model.

- The **Configuration** disk (Disk 1) for the GatorBox contains:
  - **GatorKeeper,** which is the GatorBox configuration application that runs on your Macintosh. You run GatorKeeper to configure and monitor the GatorBoxes on your internet.
  - **GatorBox TFTP**, which is the file you install on a Macintosh on LocalTalk so the GatorBox can download even it GatorKeeper isn't running.
  - **GatorBox UDP-TFTP,** which is the file you install on a Macintosh on EtherTalk so the GatorBox can download even if GatorKeeper isn't running.
  - **MacTCP folder**, which contains MacTCP and the hosts file.

- The **Application** disk (Disk 2) contains **GatorSystem, GatorPrint,** or **GatorShare**, which is the software that runs in the GatorBox.

  The application software for the GatorBox CS product family has a "CS" at the end of the filename. For example, if you purchased GatorShare to run on a GatorBox CS, the disk would be labelled GatorShare CS Application.

- The **Network Applications** disk (Disk 3) contains:

  - **NCSA Telnet 2.4**, which is the application that allows you to make a Telnet connection from a Macintosh through the GatorBox to a UNIX machine.

  - **config.tel**, which is the NCSA Telnet configuration file where you specify host names, gateway address, IP addresses, and other NCSA Telnet parameters.

  - **bugs.2.4**, which is a file that lists known bugs for NCSA Telnet versions 2.0 through 2.4.

  - **Release notes.2.4**, which is a file that lists changes in version 2.4 of the NCSA Telnet software.

  - **UnStuffIt 1.5**, which is the application that allows you to uncompact the Telnet documentation and the MacTCP version of NCSA Telnet.

  - **Docs.sit**, which contains documentation and instructions for using NCSA Telnet. They are in a compacted format. You must run UnStuffIt first before you can read them. The documentation is in Microsoft Word™ 3.01 format.

  - **MacTCP.version.sit** which is the MacTCP version of NCSA Telnet. It is in a compacted form, so you need to run UnStuffIt first before you can use it.

Copying the GatorBox software to your Macintosh

1. **Create a new folder for the GatorBox software.**

   Enter a name for the new folder. It might be helpful to name the folder with the name of the software you're running, so you know what it contains for example, GatorSystem.

2. **Put the disk labeled *Configuration* (Disk 1) in the disk drive of your Macintosh.**

3. **Copy the files to the folder you created in Step 1.**

   You can run GatorKeeper from a Macintosh with dual floppy disk drives, but a hard disk is recommended.

   If you are using a GatorBox CS model, you can run GatorInstaller from a floppy disk, but it will run faster on your hard drive. For that reason, we suggest you copy it to your hard disk.

4. **Remove the Configuration disk from your disk drive.**

5. **Put the disk labeled *Application* (Disk 2) into your disk drive.**

6. **Copy the file to the folder you created in Step 1.**

Copying NCSA Telnet to your Macintosh

If you are going to use file sharing or terminal emulation functions, install the NCSA Telnet software using the steps below.

1. **Create a folder for your NCSA Telnet files.**

   You can create the folder on your Macintosh hard disk or on your application disk. Enter a name for the folder. It might be helpful to name it Telnet, so you know what it contains.

2. **Put the *Network Applications* disk (Disk 3) in the disk drive of your Macintosh.**

3. **Copy the *NCSA Telnet 2.4* and the *config.tel* files to the folder you created in step 1.**

   The config.tel and the NCSA Telnet 2.4 file must reside in the same folder for the NCSA Telnet application to work.

   You can also copy any other files you think you might want, for example the bugs 2.3 or Docs.sit files. If you copy the Docs file you will need to use UnStuffIt to uncompact it, so you may want to copy that as well (refer to *Using UnStuffIt,* page 2-5).

Copying MacTCP Telnet to your Macintosh

If you have MacTCP installed on your Macintosh, you should use the MacTCP version of the NCSA Telnet software.

Install the MacTCP Telnet software using the steps below.

1. **Create a folder for your MacTCP Telnet files.**

   You can create the folder on your Macintosh hard disk or on your application disk. Enter a name for the folder. It might be helpful to name it Telnet, so you know what it contains.

2. **Put the *Configuration* disk (Disk 1) in the disk drive of your Macintosh.**

3. **Copy the *MacTCP.version.sit, config.tel,* and *UnStuffIt 1.5* files to the folder you created in step 1.**

   The config.tel and the NCSA Telnet-MacTCP files must reside in the same folder for the NCSA Telnet application to work. The MacTCP file is in compacted form, so you need to run UnStuffI0, before you can use it.

Using UnStuffIt

Before you can use the MacTCP version of NCSA Telnet or read the Telnet documentation, you need to run UnStuffIt to uncompact the files.

1. **Double-click the UnStuffIt icon.**

2. **Select *Open Archive* from the File menu.**

3. **Click the name of the file you want to open, for example, Docs.sit.**

   A dialog box appears, listing the file and showing its size in both compacted and uncompacted format.

4. **Double-click the file name.**

   A dialog box appears asking where you want to put the file. Use the *Drive* button to choose the drive location where you want the file to reside. Put the file in the folder you created for the related application files.

5. **Click *Save* when you have selected the location.**

   UnStuffIt uncompacts the selected file and places it in the location you selected.

Getting around in GatorKeeper

You configure, administer, and monitor GatorBoxes using the GatorKeeper application. GatorKeeper functions like other Macintosh applications, using menus, windows, and icons. The GatorKeeper menu bar, GatorBoxes window, and Configuration Options window are the components of GatorKeeper that you will use most frequently. They are described in the sections that follow.

Figure 2-1 shows a sample Macintosh desktop with GatorKeeper running and the GatorBoxes window open.

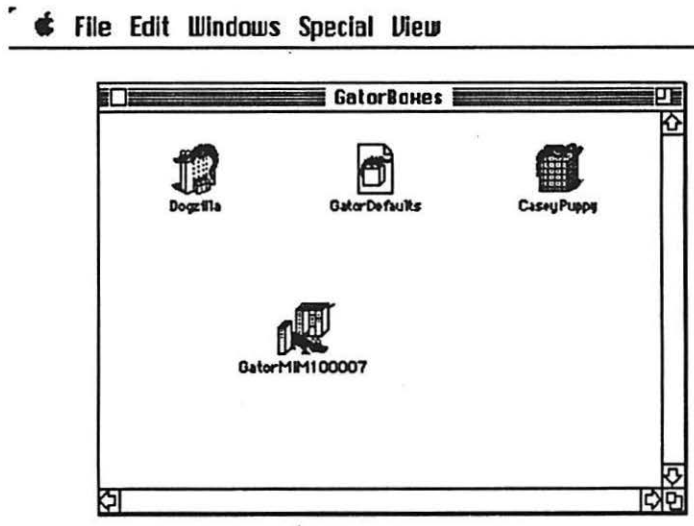

Figure 2-1. GatorKeeper window, menu bar, and icons

GatorKeeper menu bar

The GatorKeeper menu bar at the top of the Macintosh screen displays the titles of the GatorKeeper menus. Four menus ((Apple), File, Edit, and Windows) appear at all times when you are running GatorKeeper. The Special and View menus appear only when the GatorBoxes window is active.

If you are running GatorShare, the Server Access menu appears if the GatorShare Server window is active.

The structure for the GatorKeeper menu bar is presented in Figure 2-2.

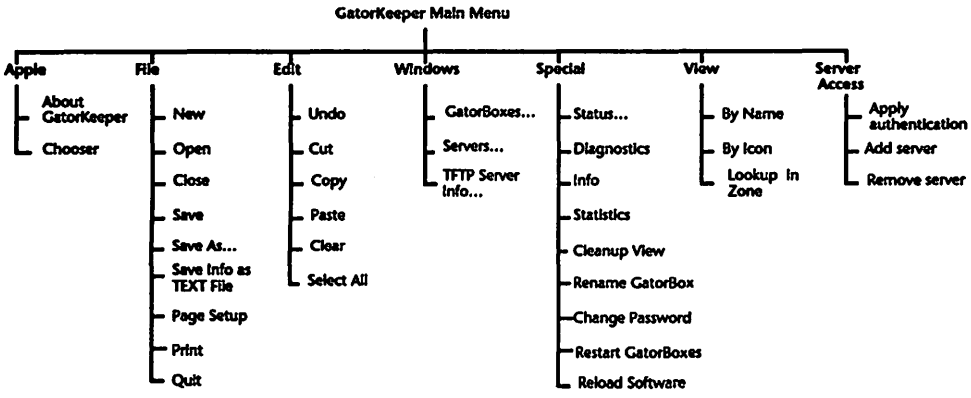

Figure 2-2. GatorKeeper menu structure (GatorShare)

Many of the menu commands have a keyboard equivalent, allowing you to use the Command key in combination with another key as a shortcut. For example, holding down the Command key and pressing *P* is the same as selecting *Print* from the File menu.

Some menu commands may be dimmed (displayed with gray letters instead of black letters in the menu). When a command is dimmed, you cannot use it or its keyboard equivalent. Dimmed commands often indicate that you need to supply more information for the command to be relevant. For example, the *Status* command in the GatorKeeper Special menu remains dimmed until you select a GatorBox icon.

GatorBoxes window

The GatorBoxes window, which is displayed when you select *GatorBoxes* from the *Windows* menu, displays the icon of each GatorBox in the specified AppleTalk zone. You use the icons in the GatorBoxes window to configure or monitor your GatorBoxes. For example, you obtain diagnostics information for a GatorBox by clicking its icon and choosing *Diagnostics* from the *Special* menu.

Figure 2-3 shows the icons for three different models of the GatorBox in the GatorBoxes window. CaseyPuppy is an original GatorBox, Dogzilla is a GatorBox CS, and GatorMIM10007 is a GatorMIM CS.

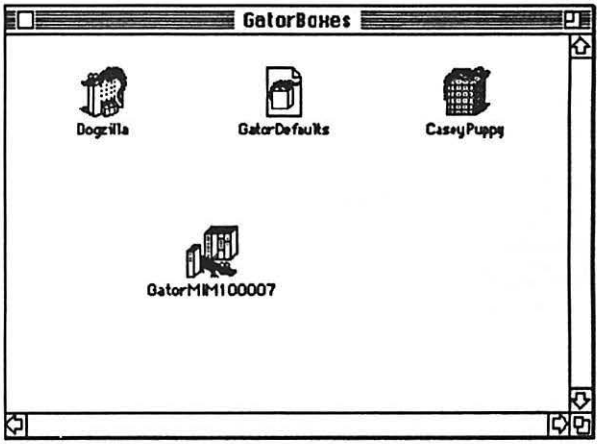

Figure 2-3. GatorBoxes window

Looking in remote zones

When you open GatorKeeper, the GatorBoxes window presents you with icons representing the GatorBoxes in your Macintosh's current zone. You can review configuration information about GatorBoxes in other LocalTalk zones by pulling down the View menu and selecting *Lookup in Zone* (Figure 2-4).

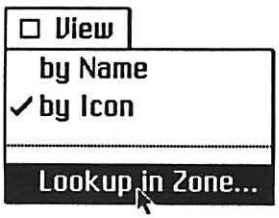

Figure 2-4. Lookup in remote zone

GatorKeeper displays the Select Zone dialog box (Figure 2-5).

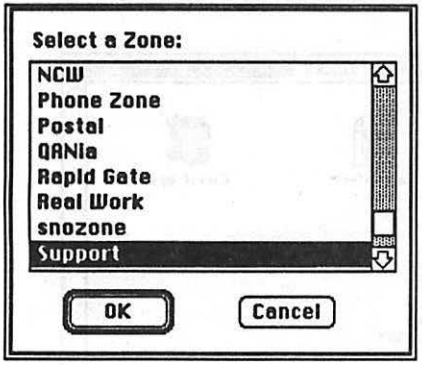

Figure 2-5. Select Zone dialog box

Click the name of an AppleTalk zone in which one or more GatorBoxes reside and click *OK*. GatorKeeper locates any GatorBoxes in that zone and displays their icon or name in the GatorBoxes window (Figure 2-6). The GatorBoxes window title indicates the name of the remote zone for which GatorBox icons are displayed.

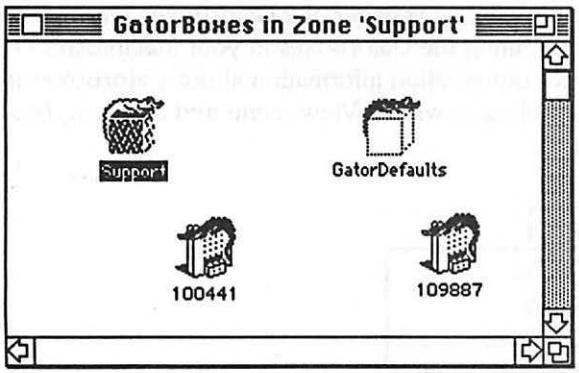

Figure 2-6. GatorBox icons from other zones

The lookup for GatorBoxes in a remote zone should take about 10-20 seconds. GatorKeeper adds icons to the window as additional GatorBoxes respond to queries from GatorKeeper.

Viewing GatorBoxes by name

The *View* menu lets you display your GatorBoxes by icon or by name. When you select *View by Name,* GatorKeeper presents an alphabetical list of the GatorBoxes it finds in the designated zone, along with the status of each GatorBox (Figure 2-7).

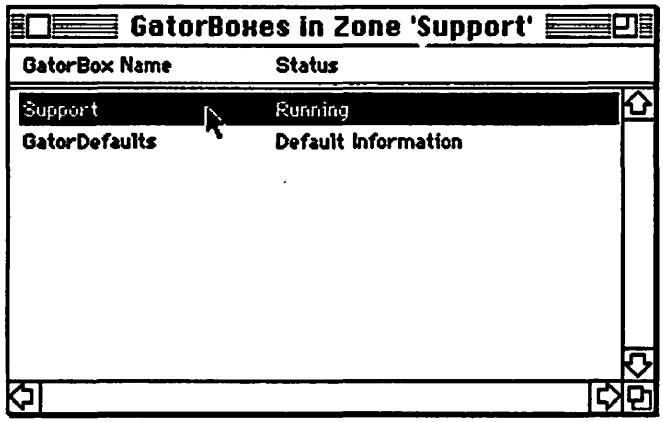

Figure 2-7. View By Name

Configuration Options window

The Configuration Options window (Figure 2-8) allows you to enter and modify the settings for your GatorBoxes. You access the Configuration Options window by double-clicking the icon of a GatorBox displayed in the GatorBoxes window. You can also access the Configuration Options window by clicking a GatorBox icon and choosing the *Open* command from the File menu. The Configuration Options window for a GatorBox displays the GatorBox name as its title.

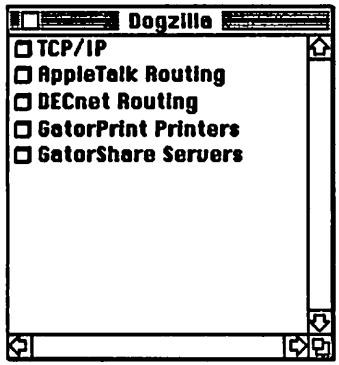

Figure 2-8. Configuration Options window

If you haven't purchased GatorPrint or GatorShare, you won't see GatorPrint Printers or GatorShare Servers in your Configuration Options window.

Starting up GatorKeeper

The first time you run GatorKeeper, you will be asked if you want to create the GatorDefaults and GatorDatabase files. You must create these two files. To start up GatorKeeper:

1. **Double-click the GatorKeeper icon.**

   GatorKeeper displays a dialog box asking if you want to create the GatorBox data files.

2. **Click** *Create GatorBox Data Files.*

Once these files have been created, you can configure your GatorBox. Remember that you only need to configure the GatorBox for the options you want to use.

- To configure your GatorBox for TCP/IP, refer to Chapter 3, "TCP/IP Services."

- To configure your GatorBox for AppleTalk Routing, refer to Chapter 4, "AppleTalk Routing." The GatorBox can be used as an AppleTalk router as soon as it is connected to the network, using the factory default settings.

For instructions on using your GatorBox as an AppleTalk router right out of the box, refer to *Running AppleTalk routing immediately* in Chapter 3 of your hardware manual.

- To configure your GatorBox for DECnet routing, refer to Chapter 5, "DECnet Routing."

- To configure your GatorBox for GatorPrint printing, refer to Chapter 6, "GatorPrint Printing."

- To configure your GatorBox for AppleShare to NFS file sharing, refer to Chapter 7, "GatorShare Servers."

It is a good idea to save the changes you make as you configure your GatorBox. As you finish each chapter, save the changes you just made. When you have finished configuring your GatorBox, you need to restart it before the changes will take effect. Refer to the next section for instructions.

Restarting the GatorBox

Whenever you change the configuration settings in your GatorBox, you must restart it in order for the settings to take effect. It's a good idea to save your changes before you restart your GatorBox. To save changes and restart your GatorBox:

1. **Click the icon of the GatorBox you want to restart in the GatorBoxes window.**
2. **Choose the *Save* command from the File menu.**
3. **Choose *Restart GatorBoxes* from the Special menu.**
4. **Click *OK* when the dialog box appears asking if you want to restart your GatorBox.**

Restarting the GatorBox loads the updated configuration settings into the GatorBox memory.

If you are using an original GatorBox, the *Restart GatorBoxes* command downloads only the configuration settings and does not download the operating system software. The *Reload Software* command downloads the system software as well as the configuration settings and will take longer to complete than the *Restart GatorBoxes* command.

Chapter 3
TCP/IP Services

About TCP/IP services

Sample TCP/IP configuration

Before you begin

Configuring your GatorBox for TCP/IP services

A TCP/IP services example — using NCSA Telnet

About TCP/IP services

TCP/IP services let Macintosh users on LocalTalk establish a connection and exchange data with TCP/IP-based computers through the GatorBox. By enabling the GatorBox's MacIP functions, you can encapsulate TCP/IP packets inside of AppleTalk packets to send to Macintoshes. Additionally, you can use the GatorBox TCP/IP services to work with other Macintosh-based applications such as X-Windows and electronic mail gateways.

You must configure your GatorBox for TCP/IP services before you can use UNIX-to-LocalTalk printing (described in Chapter 6) or AppleShare-to-NFS file sharing (described in Chapter 7).

GatorShare uses TCP/IP services to allow you to share files with UNIX machines. Other common applications that use TCP/IP services include:

- Cayman Systems' GatorMail
- Stanford University's SU-MacIP
- HyperFTP
- NCSA Telnet
- Novell's Host Access
- Apple's MacX
- InterCon's TCP/Connect II
- Any Apple MacTCP-based application

If you are not familiar with the TCP/IP services, refer to the *GatorBox Reference* for a conceptual overview and background material.

Sample TCP/IP configuration

The sample configuration in Figure 3-1 would allow Macintosh users on LocalTalk networks 1250, 1470, and 1540 to open an NCSA Telnet connection to aruba, hawaii, or paradise and transfer files to their Macintosh using ftp.

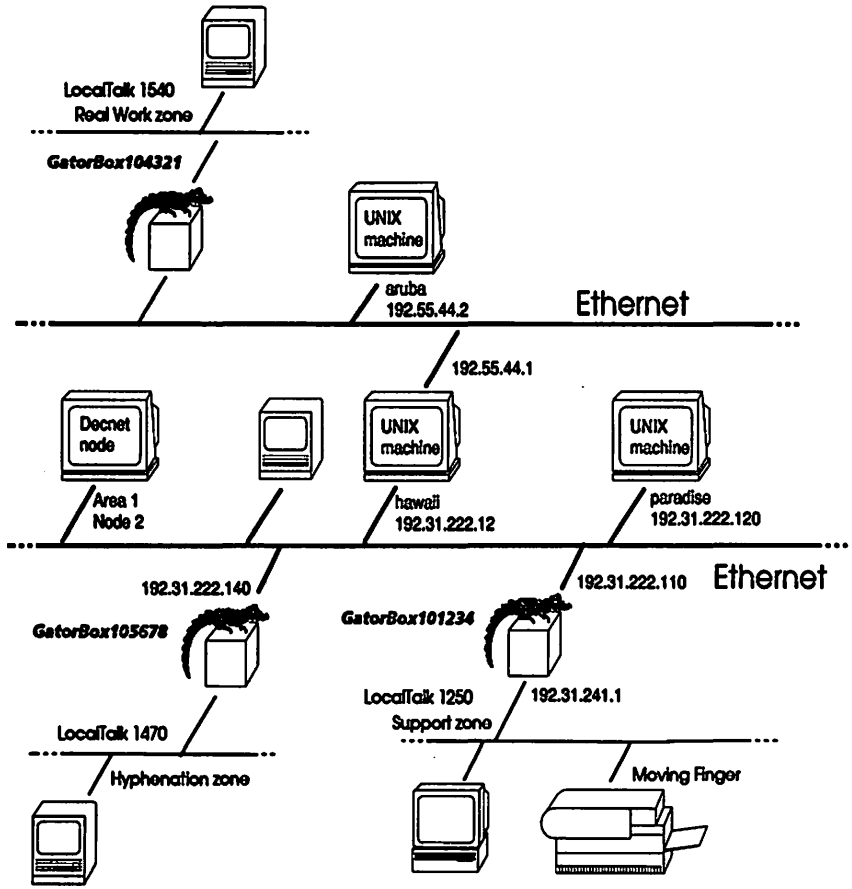

Figure 3-1. Sample TCP/IP network configuration

Before you begin

Before configuring your GatorBox, you must gather information about your TCP/IP network. If you filled out the information checklist form in Appendix A, you will already have most of the information you need. You also need to decide if you will be using IP subnetting or KIP style forwarding.

If you are not the Network Administrator, verify all of the addresses that you plan to use with the administrator. You can cause network problems if you use IP addresses that are already in use.

The addresses in parentheses come from the sample network shown on page 3-2. Hawaii is the default gateway. The GatorBox105678 is being configured for KIP forwarding.

- **GatorBox IP address** _____ (192.31.222.140)
- **Broadcast IP address** _____ (192.31.222.255)

Use the `netstat -i` *command on your UNIX host to identify your Ethernet interface. Then use the* `/usr/etc/ifconfig <interface>` *command to find the broadcast address, network number, and subnet mask. Refer to your UNIX system documentation for more information on using these or other UNIX commands.*

- **Default gateway address** _____ (192.31.222.12)
- **Subnet mask** _____ (255.255.255.0)
- **KIP forwarding** (not applicable if you are using IP subnetting)
  - First IP address in range _____ (192.31.222.141) (This is usually the first address after the GatorBox's address if it is available.)
  - Number of static addresses _____
  - Number of dynamic addresses_____

The range of IP addresses must be unique, they cannot be assigned to any other hosts, and they must exist on the same network as the GatorBox.

- **IP subnet** (not applicable if you are using KIP style forwarding)
  - LocalTalk IP address _____
  - Subnet mask _____
  - First IP address in range _____
    (This is usually the first address after the GatorBox's address if it is available.)
  - Number of dynamic addresses_____

Configuring your GatorBox for TCP/IP services

Instructions for configuring your GatorBox are provided in the sections that follow. Make sure you have collected all the information outlined in the section *Before you begin*. If you choose to, you can do a minimum configuration, following the steps outlined in the *Minimum configuration settings* section. This lets you configure the GatorBox for TCP/IP services without going through every field in every dialog box.

Minimum configuration settings

It is not necessary to go through every dialog box and fill in every field to set up TCP/IP services. You can do a minimum configuration and still be able to use TCP/IP services. Figure 3-2 shows the minimum steps you must complete for KIP forwarding or IP subnetting. KIP forwarding is generally simpler to configure than IP subnetting.

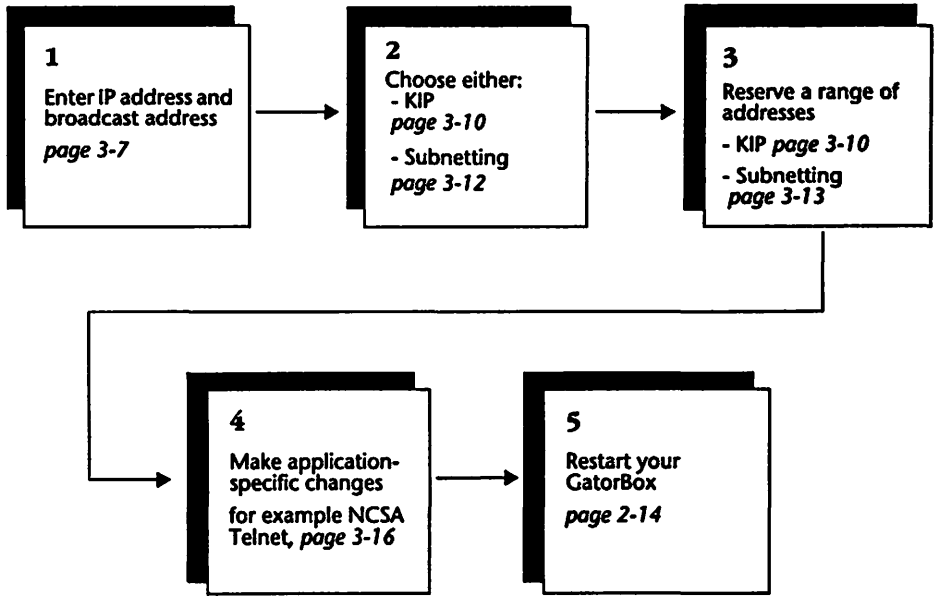

Figure 3-2. Minimum TCP/IP configuration settings

Entering TCP/IP parameters

Use the TCP/IP Parameters dialog box to specify basic information about your TCP/IP network.

1. **Turn on the GatorBox.**

2. **Double-click the GatorKeeper icon to start up GatorKeeper.**

3. **Double-click the icon or name of a GatorBox in the GatorBoxes window.**

   GatorKeeper displays the Configurations Options dialog box (Figure 3-3).

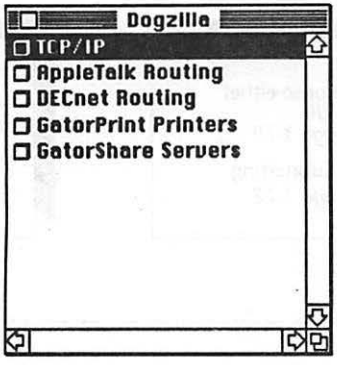

Figure 3-3. Configuration options window with TCP/IP selected

4. **Double-click *TCP/IP*.**

5. **Click the *TCP/IP Option On* radio button.**

   When you turn TCP/IP on, additional TCP/IP information fields are displayed (Figure 3-4).

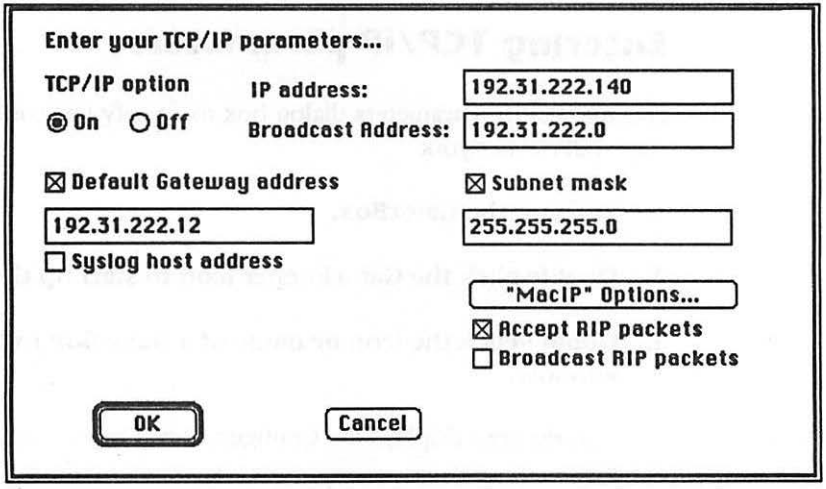

Figure 3-4. TCP/IP Parameters dialog box

Enter IP and broadcast addresses

6. **Enter the GatorBox's IP address in the *IP address* field.**

   The IP address identifies the GatorBox to other devices on the network. It must be a unique address on your network.

   You can verify that the address is not in use by issuing a `ping [IP address]` command from a UNIX host. If you receive an `[IP address] is alive` response, the address is already in use.

   If you are a Yellow Pages (NIS) user, verify that the IP address is not in use by using the `ypmatch` command (`ypmatch [IP address] hosts`).

7. **Enter the broadcast address in the *Broadcast Address* field.**

   The GatorBox uses its IP broadcast address to send broadcast messages from LocalTalk-based or EtherTalk-based computers to all hosts on your IP network.

If you are using an original GatorBox, the TCP/IP dialog box will have radio button options to select the type of Ethernet cable you will be using. *Thin wire* is the default. If you are going to be using transceiver cable, change the setting.

Go to:
KIP *page 3-10*
Subnetting *page 3-12*

You have completed the minimum configuration steps in this dialog box. Steps 8 through 16 are optional. You can now go on to either KIP style forwarding (*KIP style forwarding*, on page 3-10), or IP subnetting (*MacIP with subnetting*, on page 3-12). However, if you are using IP subnetting and your site uses RIP, we suggest that you go to Step 14 and turn on RIP (Routing Information Protocol).

8. **Click the *Default Gateway address* checkbox.**

   The *Default Gateway address* field appears.

9. **Enter the default gateway address in the *Default Gateway address* field.**

   The default gateway is the machine to which the GatorBox sends packets when it cannot otherwise resolve a network address.

10. If you want the GatorBox diagnostics to be written to a UNIX syslog file, click the *Syslog host address* checkbox.

Turning on the syslog host address option causes the GatorBox to write the diagnostics log to the syslog file on the UNIX machine whose address you enter.

For more information on the syslog file, refer to the UNIX man pages or your UNIX system documentation.

The logging level of the messages written to the syslog file is determined by what you set in the GatorKeeper diagnostic messages window. For instructions on changing the logging level of the diagnostic messages, refer to *Viewing GatorBox Diagnostics* on page 8-6.

If you have the diagnostic log written to the UNIX syslog file, the diagnostics will not appear in the GatorKeeper diagnostics message window. Turning on the syslog option increases the amount of network traffic the GatorBox handles and may adversely affect its performance.

11. If you turned on the syslog file option, enter the address of the UNIX host where the GatorBox will write the file.

The pop-up menu next to the address field indicates to the UNIX machine where the message came from. *User* is the default and indicates that the log was generated by a user process, in this case the GatorBox.

12. Click the *Subnet mask* checkbox.

The subnet mask field appears with a subnet mask derived from the GatorBox's IP address.

- **Class A networks**: 255.0.0.0
- **Class B networks**: 255.255.0.0
- **Class C networks**: 255.255.255.0

You can modify the subnet mask if you need to.

13. **Click the *Accept RIP packets* checkbox.**

    If RIP is used on your network, we suggest that you turn ***Accept RIP packets*** on. Turning RIP on will help optimize the routing of packets.

    If you specify that the GatorBox can **accept** RIP packets, the GatorBox will periodically update its routing table. This IP routing information is provided by other gateways on the GatorBox's Ethernet internet that also support RIP.

    If you specify that the GatorBox **cannot accept** RIP packets, the GatorBox has no way of dynamically updating its routing table. Consequently, all packets traveling through the GatorBox from the LocalTalk network to a remote Ethernet network would be directed to the default gateway specified for the GatorBox.

14. **If you are going to use IP subnetting, click the *Broadcast RIP packets* checkbox.**

    If you specify that the GatorBox can **broadcast** RIP packets, the GatorBox will periodically broadcast that it is the gateway to the LocalTalk network IP subnet. Broadcasting RIP packets is only useful if you turn on IP subnetting in the MacIP options.

    If you specify that the GatorBox **can accept but not broadcast** RIP packets, you must specify a route to the subnetted LocalTalk in the routing table of all IP routers and hosts on the Ethernet wire. You can add routes to a routing table with the `route add` command on most UNIX systems. Refer to *Adding the GatorBox to the routing table*, on page 3-18, for instructions on using the `route add` command.

Follow the instructions in the next section for setting up MacIP using KIP forwarding or IP subnetting.

Entering MacIP parameters

The way in which you set up the MacIP parameters for your GatorBox depends on whether the LocalTalk network behind the GatorBox is set up as a separate IP subnet. Subnetting provides you with more addresses without having to use up addresses on your backbone Ethernet. However,

KIP forwarding is generally simpler to configure. You may want to start with KIP when you first set up your GatorBox.

Directions for entering MacIP information with KIP style forwarding and for entering MacIP information with IP subnetting turned on, are provided in the sections that follow.

KIP style forwarding

To set up MacIP using KIP style forwarding (MacIP without subnetting):

1. **Click the *"MacIP Options"* button from the TCP/IP Parameters dialog box.**

   GatorKeeper displays the MacIP Options dialog box (Figure 3-5).

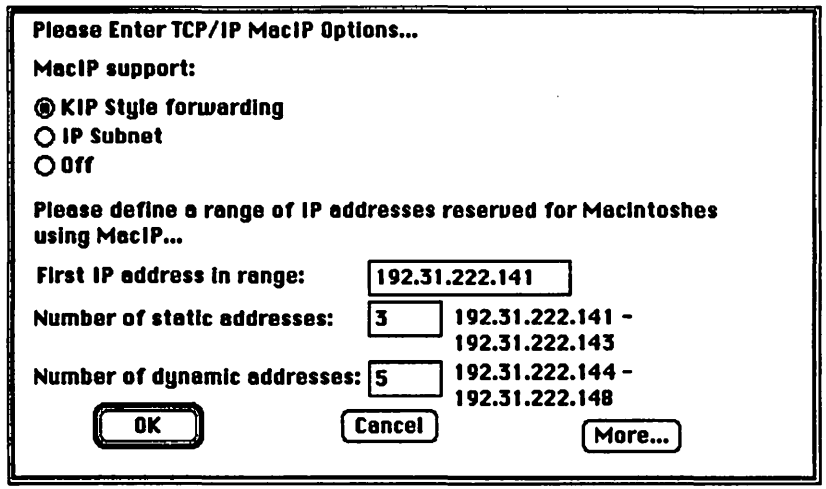

Figure 3-5. MacIP Options dialog box

KIP: Reserve a range of addresses

2. **Click the *KIP Style forwarding* radio button.**

3. **Enter the first IP address of the range to be reserved in the *First IP address in range* field.**

   This address must be an IP address not already in use on your IP network.

4. **Enter the number of addresses to be reserved for static addresses in the *Number of static addresses* field.**

   The addresses in the range that you reserve must not be in use elsewhere on your network. This range generally is the number of Macintoshes on your LocalTalk network that need to have a specific IP address assigned to them.

   GatorKeeper reserves the requested number of addresses, beginning with the first address you specify. GatorKeeper displays the range of reserved addresses to the right of the text entry field.

5. **Enter the number of addresses to be reserved for dynamic addresses in the *Number of dynamic addresses* field.**

   The addresses that you reserve in the dynamic range must not be in use elsewhere on your network. Once the static addresses have been assigned, GatorKeeper reserves the requested number of dynamic addresses, beginning with the first address after the static address range. GatorKeeper displays the range of reserved addresses to the right of the text entry field.

   Addresses in the dynamic range are assigned as needed to Macintoshes requesting an IP address.

The total number of reserved addresses, static and dynamic, must be less than 65.

6. **Click *OK*.**

Do not assign static IP addresses in your TCP/IP application that are within the dynamic address range. The GatorBox reserves the addresses in the dynamic range, and a manual assignment of an address in that range can result in two devices trying to use the same IP address and the failure of the TCP/IP services to work.

End of minimum KIP steps

You have completed the minimum configuration steps for KIP style forwarding. You can now go on to make application-specific changes. For example, if you are using NCSA Telnet, refer to *A TCP/IP services example — using NCSA Telnet*, on page 3-16. Once you have configured your GatorBox, you must restart it before the configuration settings take effect. Refer to *Restarting the GatorBox* on page 2-14.

MacIP with subnetting

Turning the LocalTalk network behind the GatorBox into an IP subnet frees up all the addresses on that subnet for LocalTalk devices. You won't see a static address range field, because all the addresses are available for use. Subnetting gives you more addresses without using up valuable addresses on the backbone.

If you use NCSA Telnet from a Macintosh on the LocalTalk subnet, you must specify the GatorBox as the gateway in your config.tel file. For instructions, refer to the section *Editing the config.tel file*, on page 3-17. If you are using MacTCP, specify the GatorBox as your gateway in the Control Panel.

When you use subnetting, you must let your UNIX machines know that the GatorBox is the gateway to the LocalTalk subnet. The simplest way to do that, is to turn on Accept and Broadcast RIP packets in the TCP/IP parameters dialog box.

If the UNIX machines you are connecting to do not use the RIP protocol, or you do not want to turn RIP on in the GatorBox, use the `route add` command to add the GatorBox to the UNIX machine's route table. For more information on the `route add` command, refer to *Adding the GatorBox to the routing table*, on page 3-18.

To set up MacIP with IP subnetting:

1. **Click the *"MacIP Options"* button from the TCP/IP Parameters dialog box.**

   GatorKeeper displays the MacIP Options dialog box.

IP subnet: Reserve a range of addresses

1. **Click the *IP Subnet* radio button.**

   GatorKeeper displays the *LocalTalk IP Address* and *Subnet Mask* fields in the MacIP Options dialog box (Figure 3-6).

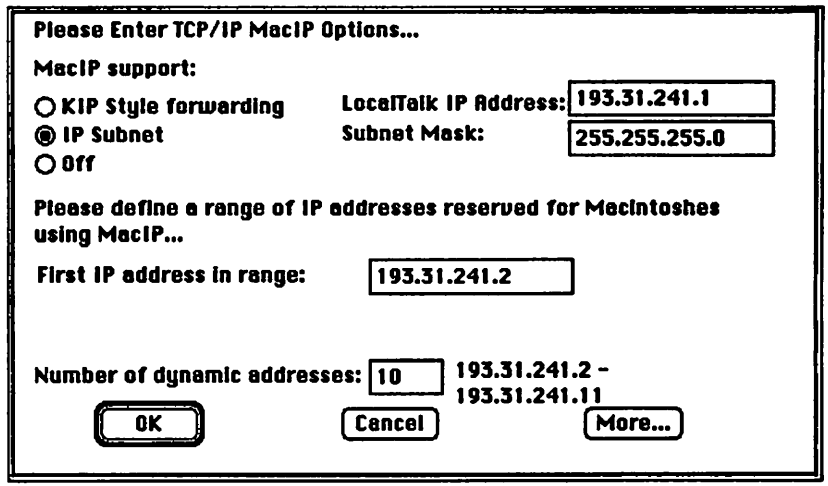

Figure 3-6. MacIP Options dialog box — IP Subnet selected

2. **Enter the GatorBox's LocalTalk IP address in the *LocalTalk IP Address* field.**

3. **Enter the subnet mask in the *Subnet Mask* field.**

4. **Enter the first IP address of the range to be reserved in the *First IP address in range* field.**

   This address must be an IP address not already in use on your IP network.

5. **Enter the number of addresses to be reserved for dynamic addresses in the *Number of dynamic addresses* field.**

   GatorKeeper displays the range of addresses to the right of the text entry field.

6. **Click *OK*.**

End of minimum subnetting steps

You have completed the minimum configuration steps for MacIP with subnetting. You can now go on to make application specific changes. For example, if you are using NCSA Telnet, refer to *A TCP/IP services example — using NCSA Telnet*, on page 3-16. When you have configured your

GatorBox, you have to restart it before the changes can take effect. Refer to *Restarting the GatorBox* on page 2-14.

Entering low-level parameters

Whether or not you need the low-level parameters depends on the applications you are using and the environment in which you are operating.

Situations where you may need to enter low-level parameters include:

- If you use applications that do not provide for name server configuration, such as Brown University's tn3270. The GatorBox can supply a default name server address for applications that need to resolve a name into an IP address.

- If you use applications designed for older versions of the Kinetics FastPath, use DDP style ARP. DDP ARP is very rarely used, so be sure you really need it before you choose this option.

- If you use multiple GatorBoxes or other routers configured for MacIP that have the same LocalTalk zone names, use *Restrict MacIP service to LocalTalk*.

To enter low-level MacIP options:

1. **Click the *MacIP Options* button in the TCP/IP dialog box.**

   GatorKeeper displays the MacIP Options dialog box.

2. **Click the *More* button at the bottom of the MacIP Options dialog box.**

   GatorKeeper displays the Additional TCP/IP MacIP Parameters dialog box (Figure 3-7).

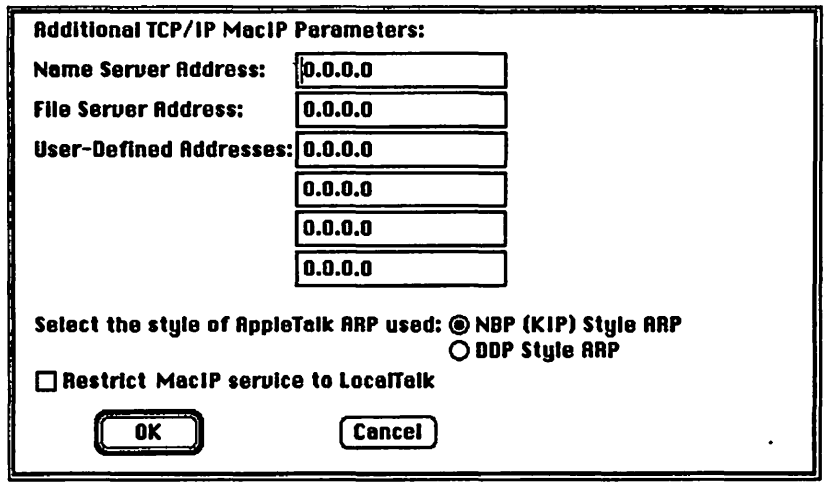

Figure 3-7. Additional TCP/IP MacIP Parameters dialog box

3. **Enter the IP address of your name server in the *Name Server Address* field.**

The File Server Address field and the four Other Addresses fields are not used by the GatorBox software. You can enter information in these fields if it is required by other applications.

4. **Select the AARP style by clicking on the appropriate radio button.**

   AppleTalk Address Resolution Protocols (AARPs) enable Macintoshes running MacIP to associate an IP address with an AppleTalk address. Choose either:

   - ▷ *NBP (KIP) Style ARP* if you want the GatorBox to offer MacIP support to all LocalTalk and EtherTalk networks within a given AppleTalk zone. The *NBP (KIP) Style ARP* radio button is the default.
   - ▷ *DDP Style ARP* if you use network applications designed to work with older versions of the FastPath

5. **Click the *Restrict MacIP service to LocalTalk* checkbox.**

   Restricting NBP Lookups allows multiple AppleTalk IP routers to provide MacIP services to LocalTalk networks with the same zone name.

6. **Click *OK*.**

A TCP/IP services example — using NCSA Telnet

Once you have configured your GatorBox for TCP/IP, you can use TCP/IP applications such as NCSA Telnet. The sections that follow provide steps to complete for typical uses of TCP/IP services with NCSA Telnet as an example. These steps are designed to be used by Macintoshes that are connected to the same LocalTalk network as the GatorBox.

The Network Applications disk (Disk 3) that contains the NCSA Telnet and MacTCP software also contains Telnet documentation if you need to refer to it.

Setting up your host for NCSA Telnet connections

Before you can begin using NCSA Telnet, you must:

- Edit the config.tel file on the Macintosh. The config.tel file lets the Macintosh know the names and IP addresses of hosts to which you will be opening Telnet connections.

- Let the UNIX machine know that the GatorBox is the gateway to the LocalTalk subnet, if you are using IP subnetting. You can do that in one of the following ways:

  - Configuring the GatorBox to broadcast RIP packets (refer to page 3-9).

  - Manually adding the GatorBox to the host's route table using the `route add` command.

Editing the config.tel file

The config.tel file lets the Macintosh running NCSA Telnet know the names and IP addresses of hosts to which you will be opening Telnet connections.

You should have the config.tel file in the same folder as the Telnet software. If you haven't copied it to the folder yet, follow the installation instructions in Chapter 2, then complete the steps that follow to edit the file.

You can edit config.tel using a text editor or word processor that can save files in text-only format (Teach Text, Microsoft Word, MacWrite). Lines that begin with a pound sign (#) are comment lines only and are not executable. To uncomment a line, remove the pound sign.

1. **Add `AppleTalk` to the `"hardware="` field.**

2. **Add the name of the LocalTalk zone in which your GatorBox resides in the `"zone="` field.**

   You only need a zone name if you have routing turned on and you have defined a zone name.

3. **Add your host names, IP addresses, and gateway name to the end of the file, for example:**

   ```
   name=hawaii; hostip=192.31.222.12;
   ```

4. **If you are using IP subnetting, you must add the GatorBox as the gateway entry.**

   The entry must include the GatorBox name, LocalTalk subnet address and gateway name, for example:

   ```
   name=GatorBox101234; hostip=192.31.241.1; gateway=1
   ```

   The gateway=1 entry is the first gateway the GatorBox will try if it cannot resolve a network address. It is the same as the default gateway, and if you entered it here and not in the Default Gateway address field in the TCP/IP dialog box, the GatorBox will still find it.

5. **Save the config.tel file and exit the text editor.**

   The config.tel file should now show up as a document from your text editor.

Adding the GatorBox to the routing table

If you are using subnetting and you cannot turn on *Broadcast RIP Packets* in the TCP/IP parameters dialog box, or if the host you are connecting to does not use the RIP protocol, you need to manually add the GatorBox's subnet to the host's routing table.

The host's routing table must be updated so the host can pass information back through the GatorBox to the Macintoshes on the subnet behind the GatorBox. The routing table includes the GatorBox's LocalTalk subnet and IP addresses. It also includes the number of other gateways it may have to go through to get to the GatorBox's subnet. This is called the hop count.

Complete the following steps to add a GatorBox to the host routing table. (These steps work on most UNIX systems. If you have problems, check with your network administrator or refer to your host system documentation.)

1. **Log in at your UNIX host machine.**

2. **To see the routing table, type:**

   ```
   netstat -r
   ```

3. **Add the GatorBox to the host's routing table by typing:**

   ```
   route add [LocalTalk subnet address] [GatorBox IP address]
   [hop count]
   ```

   The command to add GatorBox101234 from our example would look like:

   ```
   route add 192.31.241.0 192.31.222.110 1
   ```

4. **Type `netstat -r` again to make sure the route has been added.**

Using NCSA Telnet with dynamic addressing

Before you begin:

- Copy the NCSA Telnet files to your hard disk. (For instructions on copying the software, refer to *Copying NCSA Telnet to your Macintosh* on page 2-4).
- Configure the GatorBox for TCP/IP services:
  - Enter the GatorBox's IP and broadcast address (page 3-5).
  - Turn on KIP style forwarding in the MacIP options (page 3-10).
  - Reserve a range of dynamic addresses (page 3-10).
- Edit the config.tel file (for instructions on editing the config.tel file refer to *Editing the config.tel file*, on page 3-17).
- Make sure the GatorBox has a status of *Running*, refer to *Viewing the GatorBox Status* on page 8-1.

To use NCSA Telnet:

1. **Double-click the *NCSA Telnet 2.4* icon.**
2. **Choose *Assign Dynamically* in the dialog box that appears.**
3. **Enter (in hexadecimal) the same subnet mask you used in your GatorBox.**
   - **Class A networks**: 255.0.0.0 = ff000000
   - **Class B networks**: 255.255.0.0 = ffff0000
   - **Class C networks**: 255.255.255.0 = ffffff00
4. **Enter the IP address of the host to which you will connect most frequently in the *Default Host* field.**
5. **Click *OK*.**

The NCSA application pauses while it acquires its dynamic IP address from the GatorBox.

6. **Choose *Open Connection* from the File Menu.**

   You should see the IP address of the default host in the *Session Name* field. If you want to log on to a host other than the default, type its IP address in the *Session Name* field.

7. **Click *OK*.**

   A window opens with a prompt for your logon.

8. **Enter your UNIX logon and press *Return*.**

9. **Enter your password and press *Return*.**

The UNIX prompt now appears.

To end a NCSA Telnet session:

Type `logout` at the UNIX prompt.

Using NCSA Telnet and MacTCP with static addressing

Before you begin:

- Copy the MacTCP files to your System Folder. (For instructions on copying the software refer to *Copying MacTCP Telnet to your Macintosh* on page 2-5.)
- Configure the GatorBox for TCP/IP services:
  - Enter the GatorBox's IP and broadcast address (page 3-5).
  - Turn on KIP style forwarding in the MacIP options (page 3-10).
  - Reserve a range of static addresses (page 3-10).

- Edit the config.tel file (if you want to be able to use host names rather than entering IP addresses, add the host names, using step 3. in the *Editing the config.tel file* section.) This is an optional step.

- Make sure the GatorBox has a status of *Running*, refer to *Viewing the GatorBox Status* on page 8-1.

To use NCSA Telnet with MacTCP, first set up MacTCP and then make your Telnet connection.

Setting up MacTCP

To set up MacTCP:

1. **Select the *Control Panel* from the *Apple* menu.**

2. **Select *MacTCP* from the Control Panel.**

3. **Choose *LocalTalk*.**

   If AppleTalk Routing is turned on, a zone list appears. Select the zone where the GatorBox is located.

4. **Click the *More* button.**

5. **Click the *Manually* radio button.**

6. **Select the correct class of your network.**

7. **Enter your gateway address in the *Gateway address* field.**

   This only applies if you are going to be making a NCSA Telnet connection to a device that is not the same Ethernet as the GatorBox.

8. **Click *OK*.**

9. **Enter the IP address of your Macintosh.**

   The IP address must be within the static range you defined in the MacIP Options dialog box (refer to page 3-10).

10. **Close the Control Panel.**

11. **Reboot your Macintosh.**

Making your NCSA Telnet connection

1. **Double-click the *NCSA Telnet 2.4-MacTCP* icon.**

2. **Pull down the *File* menu and select *Open Connection*.**

   You should see the IP address of the default host in the *Session Name* field, if you defined a default host in the Configure Network dialog box. If you want to log on to a host other than the default, type its IP address in the *Session Name* field.

3. **Click *OK*.**

   A window opens with a prompt for your logon.

4. **Enter your UNIX logon and press *Return*.**

5. **Enter your password and press *Return*.**

The UNIX prompt now appears.

To end a NCSA Telnet session:

Type `logout` at the UNIX prompt.

Using NCSA Telnet with IP subnetting

Before you begin:

- Copy the NCSA Telnet 2.4 files to your hard disk. (For instructions on copying the software refer to *Copying NCSA Telnet to your Macintosh* on page 2-4).

- Configure the GatorBox for TCP/IP services:

  - Enter the GatorBox's IP address and subnet mask (page 3-5).

- ▷ Turn on IP subnetting in the MacIP options (page 3-12).
- ▷ Reserve a range of dynamic addresses (page 3-12).

- ▶ Edit the config.tel file. For instructions on editing the config.tel file, refer to *Editing the config.tel file*, on page 3-17.
- ▶ Turn on accept and broadcast RIP packets (page 3-9) or manually add the GatorBox to the host routing table (page 3-18).
- ▶ Make sure the GatorBox has a status of *Running*, refer to *Viewing the GatorBox Status* on page 8-1.

To use NCSA Telnet with IP subnetting:

1. **Double-click the *NCSA Telnet 2.4* icon.**
2. **Choose *Assign Dynamically* in the dialog box that appears.**
3. **Enter (in hexadecimal) the same subnet mask you used in your GatorBox.**
   - ▷ **Class A networks**: 255.0.0.0 = ff000000
   - ▷ **Class B networks**: 255.255.0.0 = ffff0000
   - ▷ **Class C networks**: 255.255.255.0 = ffffff00
4. **Enter the address of the host you will most frequently connect to in the *Default Host* field.**
5. **Click *OK*.**

   The NCSA application pauses while it acquires its dynamic IP address from the GatorBox.
6. **Choose *Open Connection* from the File Menu.**

   You should see the IP address of the default host in the *Session Name* field. If you want to log on to a host other than the default, type its IP address in the *Session Name* field.

7. **Click *OK*.**

   A window opens with a prompt for your logon.

8. **Enter your UNIX logon and press *Return*.**

9. **Enter your password and press *Return*.**

   The UNIX prompt now appears.

To end a NCSA Telnet session:

Type **logout** at the UNIX prompt.

Chapter 4
AppleTalk Routing

Your GatorBox is configured to be an AppleTalk router as soon as it is connected to your network. If you choose to use the defaults, you do not need to make any changes to the configuration settings. To see what the default settings are, refer to *Default settings for AppleTalk routing* on page 4-4.

If you are using an original GatorBox, you have to download the system software before you can begin routing. Refer to Chapter 3 in *Setting Up Your GatorBox* for downloading instructions.

AppleTalk routing guidelines

A router is a device connecting two or more physical networks. A router scans packets to determine which network they are intended for and forwards (routes) them from one network to the other when appropriate. Routers let you expand your internet beyond the size of a single network and improve network performance by isolating local traffic on each connected network.

LocalTalk and Ethernet network numbers and zone names should be assigned according to the logic of your network topology. For example, you may assign numbers according to your floor plan and names according to functional organizations within your company, such as Sales, Marketing or Engineering.

For an explanation of AppleTalk routing, refer to Chapter 4 in the *GatorBox Reference.*

Because a router connects two or more physical networks, networks on both sides of the router must agree on names and addresses they will be using. Use the following guidelines to avoid errors and problems on your network. Guidelines differ depending on whether you are setting up Phase 1, Phase 2, or both.

Phase 1 guidelines

- Each LocalTalk network must have a unique network number.
- Each EtherTalk network must have a unique network number.
- Although AppleTalk networks may share zones names, we suggest that you make zone names unique for each network.
- GatorBoxes and other routers on a LocalTalk or EtherTalk network must agree on the name and number of that network.

Phase 2 guidelines

- Each LocalTalk network must have a unique network number.
- The range of numbers assigned to each EtherTalk network must be unique and they cannot overlap with any other AppleTalk network numbers or range of numbers.
- GatorBoxes and other routers on the same network must agree on the range of network numbers and the list of zone names.

Mixed Phase 1 and Phase 2 guidelines

- The Phase 2 EtherTalk must have a range of one, (for example 3 to 3) and have only one zone name assigned to it.
- Each LocalTalk and EtherTalk network must have a unique network number.
- Although AppleTalk networks may share names, we suggest that you make zone names unique for each network.
- GatorBoxes and other routers on the same network must agree on the name and number of that network.

Sample AppleTalk routing configuration

Using the sample network below, if we were to configure GatorBox105678 for AppleTalk routing, Macintosh devices on LocalTalk 1470 could communicate with Macintosh devices on LocalTalk network 1250 and with Macintoshes on the Ethernet.

The information in parentheses in the section ***Before you begin*** comes from this example, as does the information you will see in the dialog boxes throughout this chapter.

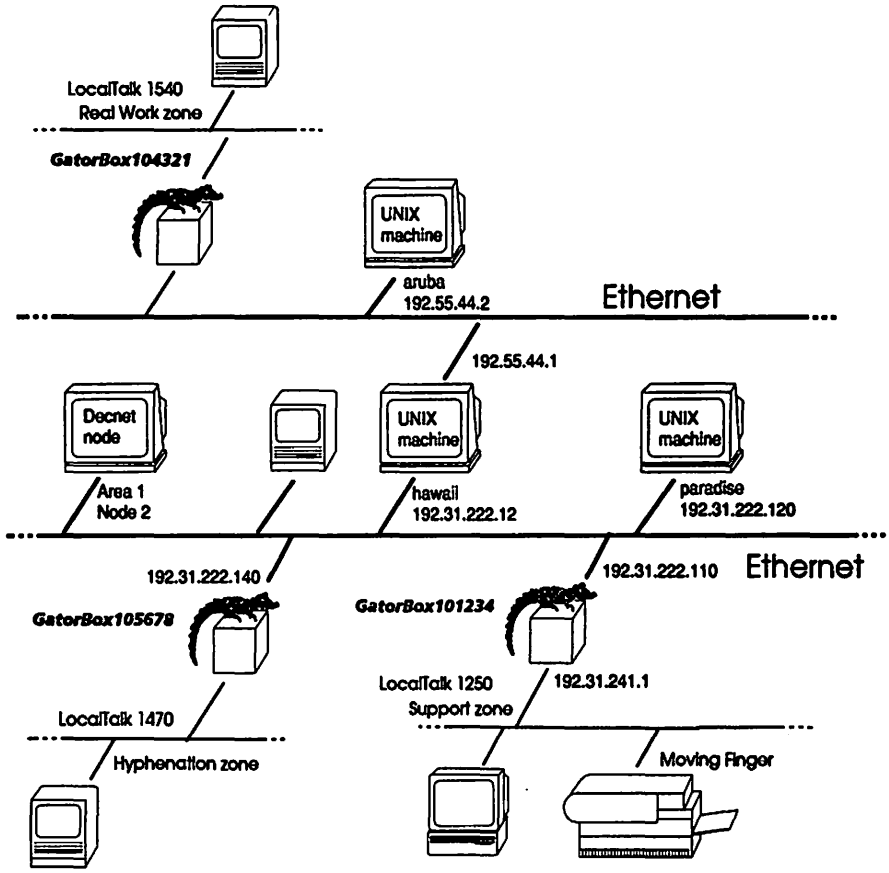

Figure 4-1. Sample network diagram

Default settings for AppleTalk routing

The GatorBox is configured to be an AppleTalk router as soon as it is connected to your network. You can use the default settings and skip the rest of the chapter. The default settings are listed in Figure 4-2.

Setting	*Default value*
LocalTalk Phase 2	On
Routing type	Soft seed port
Network number	Number based on GatorBox serial number
LocalTalk zone name	LocalTalk<serial number>
EtherTalk Phase 2	On
Routing type	Soft seed port
Network number range	2 to 2 (unextended Phase 2 EtherTalk)
Zone name	Phase 2 Zone

Figure 4-2. Default AppleTalk routing settings

Figure 4-3 shows the AppleTalk routing configuration dialog box with the AppleTalk routing defaults for the GatorBox105678.

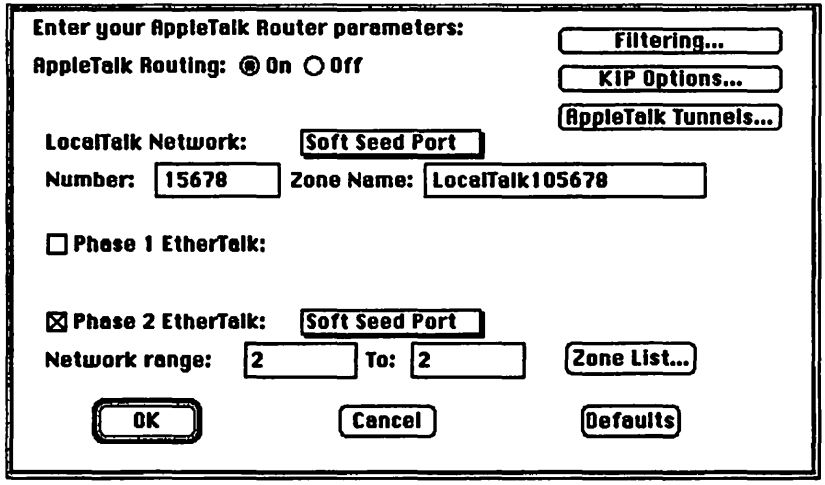

Figure 4-3. AppleTalk routing configuration dialog box with default settings

Before you begin

If you choose not to use the default settings, you need to gather the information listed below to configure your GatorBox for AppleTalk routing. You also need to decide if you are going to use EtherTalk Phase 1 or Phase 2 or both.

The information in parentheses in this section comes from the sample network shown in Figure 4-1 on page 4-3. GatorBox105678 is being configured for Phase 2. In addition we are setting up an AppleTalk tunnel from GatorBox105678 to GatorBox104321.

- **LocalTalk network number** _____ (1470)
- **LocalTalk zone name** _____ (Hyphenation)
- **Choose the routing type:**
  - Seed Port, Non Seed Port, or Soft Seed Port _____

Choose either EtherTalk Phase 1, Phase 2, or Phase 1 and 2:

- **Phase 1 EtherTalk**
  - Network number _____
  - Zone name _____
- **Phase 2 EtherTalk**
  - Network number range _____(22200) to _____ (22299)
  - Choose the routing type:

    Seed Port, Non Seed Port, or Soft Seed Port _____
  - Zone list _____ (Caribbean)
    _____ (EtherTalk)
    _____
    _____
- **Phase 1 and 2 EtherTalk**
  - Network number _____
  - Choose the routing type:

    Seed Port, Non Seed Port, or Soft Seed Port _____
  - Zone name _____
  - Network number range (must be a range of 1) _____to _____
  - Zone list _____
    _____
    _____
    _____

Configuring your GatorBox for AppleTalk routing

If you choose not to use the default settings, follow the instructions for configuring your GatorBox provided in the sections that follow. Make sure you have collected all the information outlined in the section ***Before you begin.*** If you choose to, you can do a minimum configuration, following the steps outlined in the ***Minimum configuration settings*** section. This allows you to set the GatorBox up as an AppleTalk router without going through every field in every dialog box.

Refer to Chapter 4 in the *GatorBox Reference* for a better understanding of AppleTalk routing.

Minimum configuration settings

It is not necessary to go through every dialog box and fill in every field to set up AppleTalk routing. Figure 4-4 shows the minimum steps you must complete to start AppleTalk routing if you don't want to use the defaults.

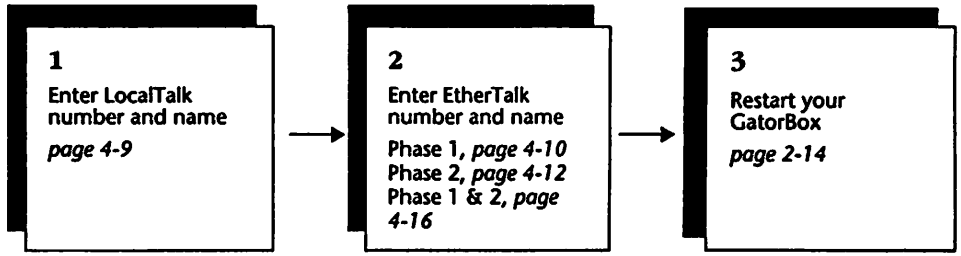

Figure 4-4. Minimum AppleTalk routing configuration settings

Configuring LocalTalk

The first step in setting up your GatorBox for AppleTalk routing is to configure the LocalTalk port. Complete the steps that follow to configure your GatorBox for LocalTalk:

1. **Double-click the GatorKeeper icon to start up GatorKeeper.**

2. **Double-click the name or icon of your GatorBox in the GatorBoxes window.**

   GatorKeeper displays the Configuration Options dialog box (Figure 4-5).

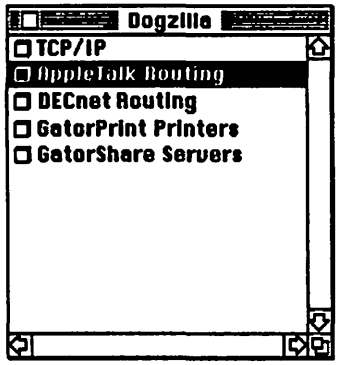

Figure 4-5. Configuration options window with AppleTalk Routing selected

3. **Double-click *AppleTalk Routing*.**

   GatorKeeper displays the AppleTalk routing dialog box (Figure 4-7).

4. **Click the *AppleTalk Routing On* radio button.**

   GatorKeeper displays the AppleTalk routing fields.

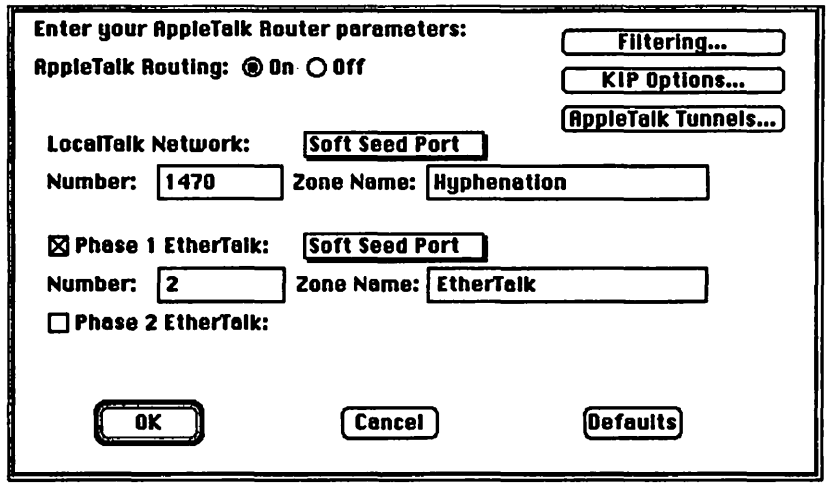

Figure 4-6. LocalTalk network routing information

LocalTalk number & name

5. **Enter the LocalTalk network number in the *LocalTalk Network Number* field.**

   This is the number of the LocalTalk network connected to the GatorBox. Values can be any number from 1 to 65366.

6. **Enter the zone name in the *LocalTalk Network Zone Name* field.**

   This is the zone name of the LocalTalk network connected to the GatorBox. Since an AppleTalk zone can be shared by two or more AppleTalk networks, you can assign the same zone name to more than one network if you want the services on those networks grouped together in the Chooser.

   Zone names can have up to 32 characters. If you enter a zone name that does not exist, you create a new zone.

If you rename the LocalTalk zone behind the GatorBox you must turn off the GatorBox for 2-3 minutes (15 minutes if you are using EtherTalk Phase 1) and then restart it. Failure to do so may cause other AppleTalk devices to ignore the LocalTalk network with the new zone name.

7. **Choose the LocalTalk routing type:**

   - ▷ *Soft seed* is the default. Soft seed means that you configure the GatorBox with network information. When the GatorBox comes up, it tries to get network information from another router. If the GatorBox doesn't find any other routers, it uses the network information as you configured it.

   - ▷ *Seed* means that the GatorBox uses the network information as you configured it.

   - ▷ *Non Seed* means you don't configure the GatorBox with network information. When the GatorBox comes up, it discovers the network information from another router on the network.

The next steps you use depend on whether you are going to configure your GatorBox for EtherTalk Phase 1, Phase 2, or Phase 1 and 2. Complete the steps for the EtherTalk Phase you have chosen.

If you are unsure which Phase to use, refer to Chapter 4 in the *GatorBox Reference* for an explanation of Phase 1 and Phase 2.

Configuring EtherTalk Phase 1

If you want your GatorBox to support just EtherTalk Phase 1:

1. **Click off the *Phase 2 EtherTalk* checkbox.**

2. **Click the *Phase 1 EtherTalk* checkbox.**

Phase 1 EtherTalk: number & name

3. **Enter the network number in the *Phase 1 EtherTalk Number* field.**

   This is the number assigned to the EtherTalk network connected to the GatorBox. The network number that you enter in this field must be used by all routers on your EtherTalk to identify your EtherTalk network. Your EtherTalk network number must be different than the network number of any AppleTalk network.

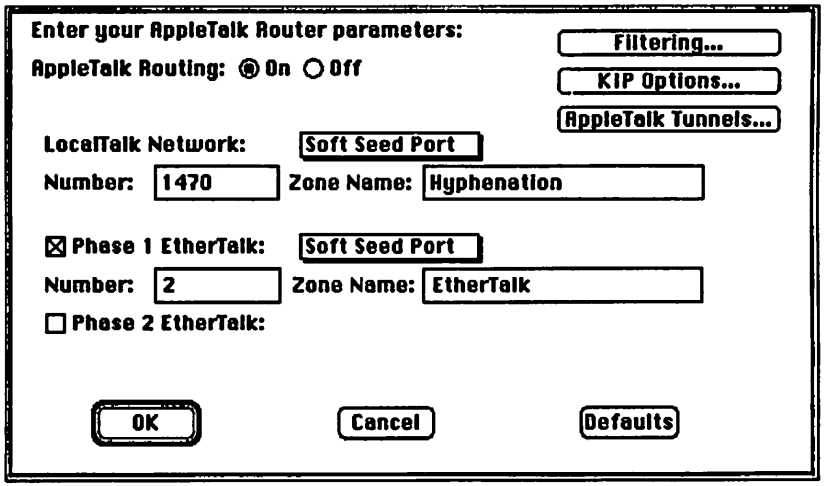

Figure 4-7. AppleTalk routing — Phase 1 EtherTalk

4. Enter the zone name in the *EtherTalk Zone Name* field.

This is the zone name assigned to the EtherTalk network connected to the GatorBox. The zone name that you enter in this field must be used by all routers on your EtherTalk to identify your Phase 1 EtherTalk network.

Zone names can have up to 32 characters.

5. Choose the EtherTalk routing type:

- *Soft seed* is the default. Soft seed means that you configure the GatorBox with network information. When the GatorBox comes up, it tries to get network information from another router. If the GatorBox doesn't find any other routers, it uses the network information as you configured it.

- *Seed* means that the GatorBox uses the network information as you configured it.

- *Non Seed* means you don't configure the GatorBox with network information. When the GatorBox comes up, it discovers the network information from another router on the network.

6. **Click *OK*.**

End of minimum Phase 1 routing steps

You have completed the minimum configuration steps for AppleTalk routing. If you have finished configuring your GatorBox, restart it so the changes will take effect. Refer to *Restarting the GatorBox* on page 2-14.

Configuring EtherTalk Phase 2

If you want your GatorBox to support just EtherTalk Phase 2:

Phase 2 EtherTalk: number & name

1. **Click the *Phase 2 EtherTalk* checkbox.**

   The routing type popup menu, *Network range* fields and the *Zone List* button appear in the dialog box (Figure 4-8).

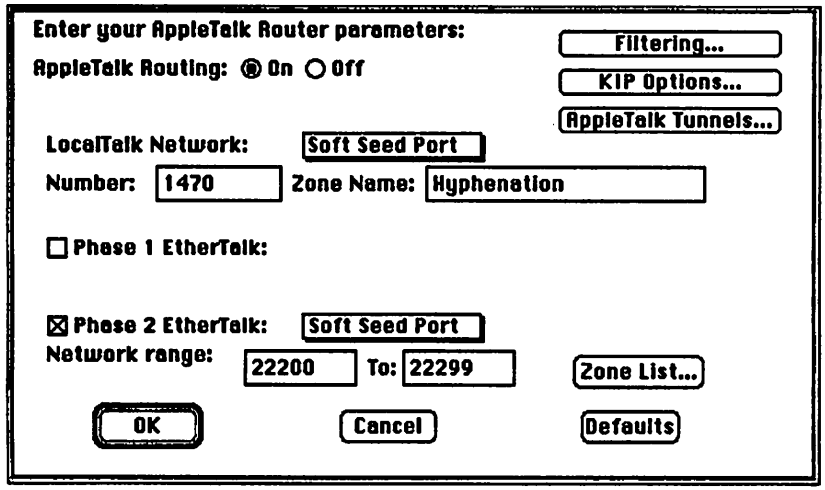

Figure 4-8. AppleTalk Configuration dialog box — Phase 2 EtherTalk

2. **Choose the EtherTalk routing type:**

   ▷ *Soft seed* is the default. Soft seed means that you configure the GatorBox with network information. When the GatorBox comes up, it tries to get network information from another router. If the GatorBox doesn't find any other routers, it uses the network information as you configured it.

- *Seed* means that the GatorBox uses the network information as you configured it.

- *Non Seed* means you don't configure the GatorBox with network information. When the GatorBox comes up, it discovers the network information from another router on the network.

3. **Enter the starting and ending numbers for the network range in the *Network range* fields.**

   This range must agree with the range used by other routers on the Phase 2 EtherTalk network. The network numbers of your Phase 2 EtherTalk networks must be different than the number of your LocalTalk networks.

   Since each AppleTalk Phase 2 network number can support a maximum of 254 nodes, you must enter a range broad enough to support all the Macintoshes you plan to place on EtherTalk. For example, if you have 2000 Macintoshes on EtherTalk and plan to add several hundred more, you could specify a range of 61 to 70, which would support 2540 Macintoshes.

4. **Click the *Zone List* button to access the Zone List dialog box (Figure 4-9).**

   You must define at least one zone name. The zone names you add must agree with those defined in other routers on your EtherTalk network.

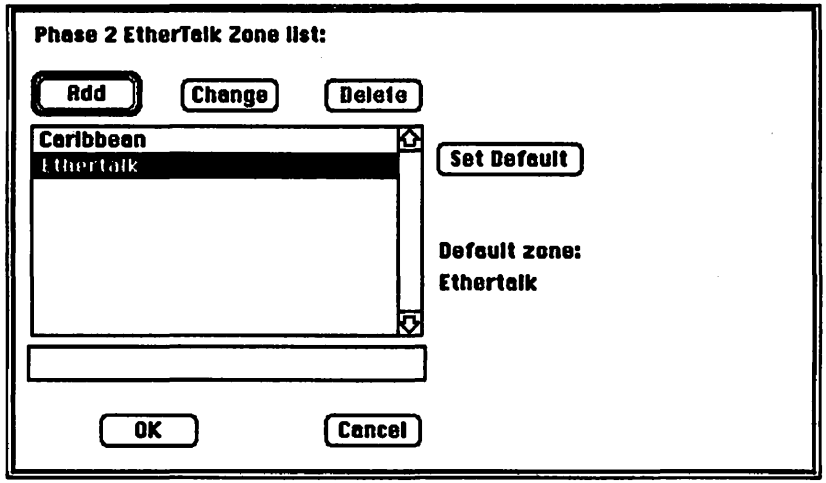

Figure 4-9. Zone List dialog box

5. **Specify the name of each AppleTalk zone you want to add to your zone list and click the *Add* button.**

   The first name you add will be the default zone unless you set another default. You can add as many as 32 zone names to the Phase 2 EtherTalk zone list.

   ▷ If you mistype a zone name, click the misspelled zone name, make corrections in the text box, and click the *Change* button.

   ▷ To remove a zone name from the list, select the zone name and click the *Delete* button.

   ▷ If you click the *Cancel* button, GatorKeeper deletes any changes you have made and closes the Zone List dialog box.

6. **To set or change the default zone setting, select a zone name and click the *Set Default* button.**

All EtherTalk routers must agree on the default zone and the names on the zone list.

7. **Click *OK* when you have finished entering zone names.**

   You will be returned to the AppleTalk Configuration dialog box.

8. **Click *OK*.**

End of minimum Phase 2 routing steps

You have completed the minimum configuration steps for AppleTalk routing. If you have finished configuring your GatorBox, restart it so the changes will take effect. Refer to *Restarting the GatorBox* on page 2-14.

Configuring EtherTalk Phase 1 and Phase 2

If you want your GatorBox to support both EtherTalk Phase 1 and Phase 2:

1. **Click the *Phase 1 EtherTalk* checkbox.**

Phase 1 & 2 EtherTalk: number & names

2. **Choose the EtherTalk routing type:**

   - ▷ *Soft seed* is the default. Soft seed means that you configure the GatorBox with network information. When the GatorBox comes up, it tries to get network information from another router. If the GatorBox doesn't find any other routers, it uses the network information as you configured it.

   - ▷ *Seed* means that the GatorBox uses the network information as you configured it.

   - ▷ *Non Seed* means you don't configure the GatorBox with network information. When the GatorBox comes up, it discovers the network information from another router on the network.

3. **Enter the network number in the *Phase 1 EtherTalk Number* field.**

   This is the number assigned to the EtherTalk network connected to the GatorBox.

4. **Enter the zone name in the *Phase 1 EtherTalk Zone Name* field.**

   This is the name assigned to the Phase 1 EtherTalk network connected to the GatorBox. Zone names can have up to 32 characters.

5. **Click the *Phase 2 EtherTalk* checkbox.**

   The routing type popup menu, *Network Range* fields and the *Zone List* button will appear in the dialog box (Figure 4-10).

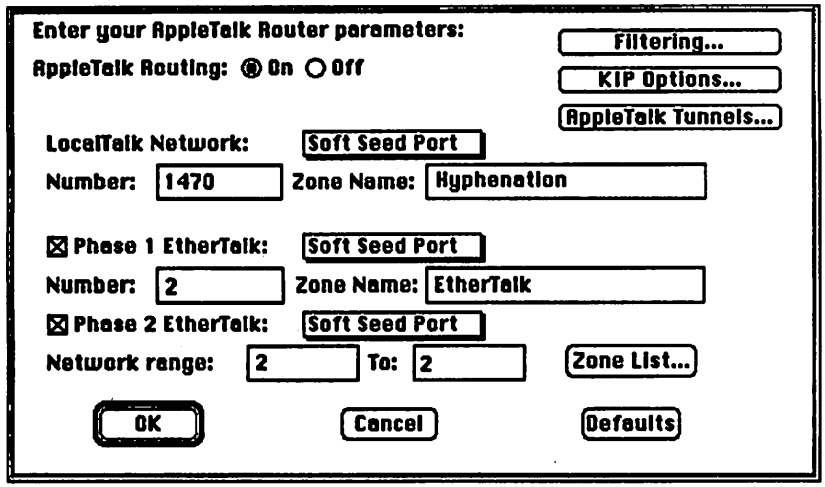

Figure 4-10. AppleTalk Configuration dialog box — EtherTalk Phase 1 and Phase 2

6. **Enter the starting and ending numbers for the network range in the *Network range* fields.**

   If Phase 1 and Phase 2 AppleTalk are both turned on, the Phase 2 network will be "advertised" to the Phase 1 network only if the start and end of the Phase 2 range are the same (for example, from 2 to 2). Consequently, if you want to run both Phase 1 and Phase 2, enter the same number in both fields of the Phase 2 network range. This will limit you to 254 nodes.

7. **Click the *Zone List* button to access the Zone List dialog box.**

   When Phase 1 and Phase 2 AppleTalk are both turned on, enter only one zone in the Phase 2 EtherTalk zone list.

8. **Specify the name of the AppleTalk zone you want to add to your zone list and click the *Add* button (Figure 4-9).**

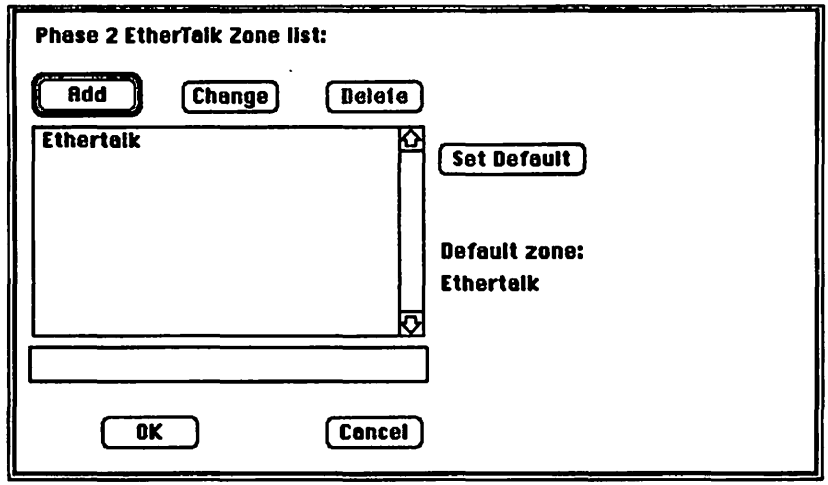

Figure 4-11. Zone List dialog box

- ▷ If you mistype a zone name, click the misspelled zone name, make corrections in the text box, and click the *Change* button.
- ▷ To remove a zone name from the list, select the zone name and click the *Delete* button.
- ▷ If you click the *Cancel* button, GatorKeeper deletes any changes you have made and closes the Zone List dialog box.

9. Click *OK*.

You will be returned to the AppleTalk Configuration dialog box.

10. Click *OK*.

End of minimum Phase 1 & 2 routing steps

You have completed the minimum configuration steps for Phase 1 and 2 AppleTalk routing. If you have finished configuring your GatorBox, restart it so the changes will take effect. Refer to *Restarting the GatorBox* on page 2-14.

Setting up an AppleTalk tunnel

You can create AppleTalk tunnels between two or more GatorBoxes to route AppleTalk packets through IP networks linked by IP routers. AppleTalk packets are encapsulated and sent as IP packets.

If you are uncertain about what AppleTalk tunnels are or whether you need to use them, refer to Chapter 4 in the *GatorBox Reference*.

To create an AppleTalk tunnel between two GatorBoxes, you must complete steps 1 through 4 for the GatorBox at each end of the tunnel:

1. **Click the *AppleTalk Tunnels* button in the AppleTalk Routing dialog box.**

   GatorKeeper displays the AppleTalk Tunnel dialog box (Figure 4-12).

   The *Route Type* popup menu specifies the type of route to be created. At present, only the *IP to GatorBox* menu selection is available. Other options are reserved for future development.

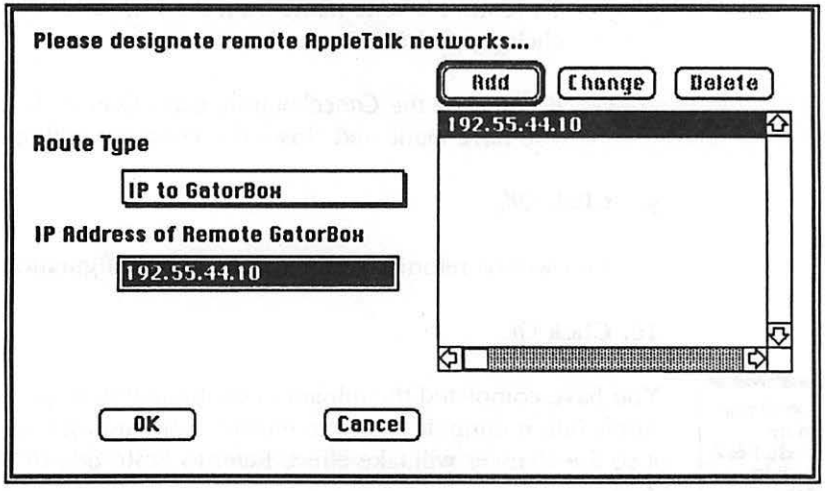

Figure 4-12. AppleTalk Tunnel dialog box

2. **Enter the IP address of the remote GatorBox.**

3. **Click *Add*.**

   You can enter up to 32 remote connection points, creating 32 tunnels from your GatorBox to other GatorBoxes.

4. **Click *OK*.**

If you have finished configuring your GatorBox, restart it so the changes will take effect. Refer to *Restarting the GatorBox* on page 2-14.

Connecting two AppleTalk networks by means of an AppleTalk tunnel may result in network numbering conflicts if networks on either side of the tunnel use the same number. You must coordinate network numbers for sites connected with AppleTalk tunnels to avoid number conflicts between networks in different locations.

Setting up network filtering

If you have set up an AppleTalk tunnel between two GatorBoxes, you can set up network filters to tell the GatorBox which remote AppleTalk networks are accessible to users behind the GatorBox. By implementing network filtering, you can restrict the remote networks (and zones) to which users have access.

1. **Click the *Filtering* button on the AppleTalk Routing dialog box.**

   GatorKeeper displays the Filter dialog box (Figure 4-13). The top portion of the dialog box is used to specify network filters.

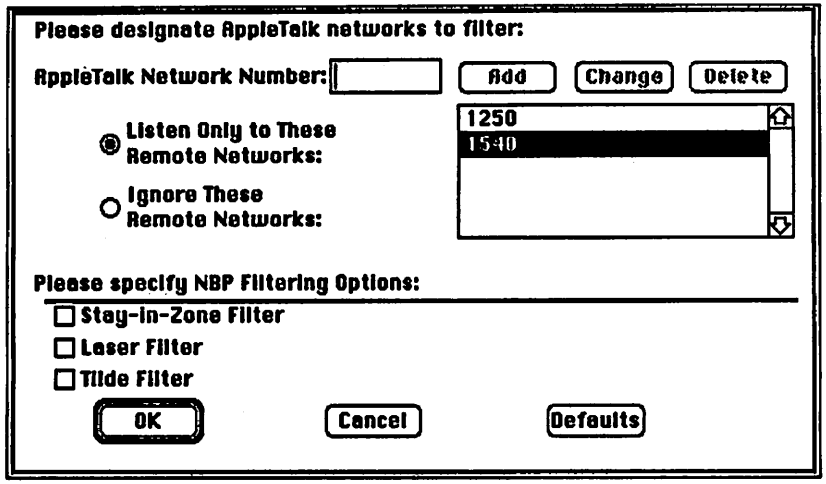

Figure 4-13. Filter dialog box

2. **Click either *Listen Only to These Remote Networks* or *Ignore These Remote Networks* radio button:**

   ▷ If you click the *Listen Only to These Remote Networks* radio button, only networks behind the tunnel that are identified in the scroll box will be known to routers and nodes on this side of the tunnel.

   ▷ If you click the *Ignore These Remote Networks* radio button, all networks on the other end of the tunnel except those identified in the scroll box will be known to routers and nodes on this side of the tunnel.

3. **Enter the number of the AppleTalk network that you are adding to the list in the *AppleTalk Network Number* field.**

   You can add as many as 32 network numbers to the filter list. To set up a Phase 2 EtherTalk network filter, enter the first number of the Phase 2 network range.

4. **Click the *Add* button.**

   ▷ If you mistype a network number, click the incorrect number in the scroll box, correct the number when it appears in the ***AppleTalk Network Number*** field, and click the ***Change*** button.

   ▷ If you want to remove a network number from the scroll box, click the number and click the ***Delete*** button.

5. **Click *OK*.**

If you have finished configuring your GatorBox, restart it so the changes will take effect. Refer to *Restarting the GatorBox* on page 2-14.

Specifying NBP filtering options

You can set up filters to restrict access to devices that appear in your Chooser. There are three types of filters:

- Stay-in-Zone filters
- Laser printer filters
- Tilde filters

Instructions for setting up each filter type are provided in the sections that follow.

Setting up Stay-in-Zone filtering

Stay-in-Zone filtering restricts users on the GatorBox's LocalTalk network to doing device lookups in their local zone. To set up Stay-in-Zone filtering for your GatorBox:

1. **Click the *Filtering* button in the AppleTalk Routing dialog box.**

   GatorKeeper displays the Filter dialog box (Figure 4-14).

2. **Click the *Stay-in-Zone* checkbox.**

3. **Click *OK*.**

If you have finished configuring your GatorBox, restart it so the changes will take effect. (Refer to *Restarting the GatorBox* on page 2-14.)

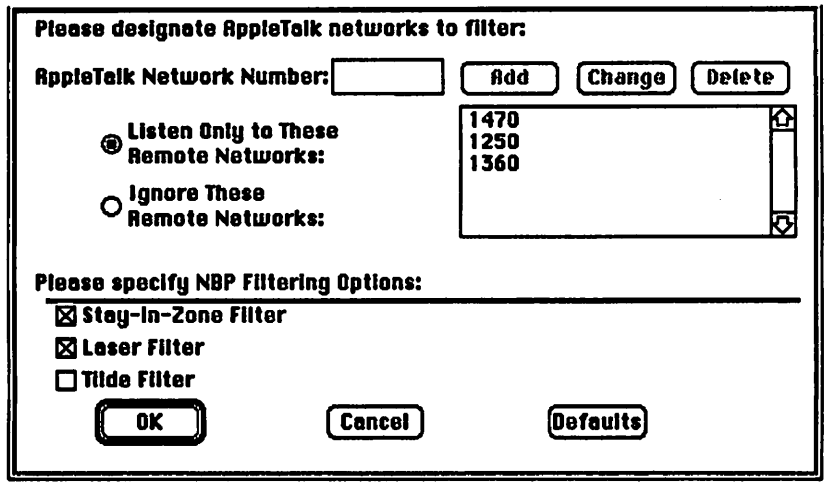

Figure 4-14. Filter dialog box

Setting up laser printer filtering

Laser filtering restricts users in other zones from seeing laser printers in the LocalTalk zone. To set up laser filtering for your GatorBox:

1. **Click the *Filtering* button in the AppleTalk Routing dialog box.**

   GatorKeeper displays the Filter dialog box (Figure 4-14, above).

2. **Click the *Laser Filter* checkbox.**

3. **Click *OK*.**

If you have finished configuring your GatorBox, restart it so the changes will take effect. Refer to *Restarting the GatorBox* on page 2-14.

Setting up tilde filtering

To use tilde filtering, you must add a tilde (~) to the end of a device name and restart the device to register its new name on the network. Tilde filtering restricts the access to these devices in the Chooser to the local zone. To set up tilde filtering:

1. **Click the *Filtering* button in the AppleTalk Routing dialog box.**

   GatorKeeper displays the Filter dialog box (Figure 4-14, above).

2. **Click the *Tilde Filter* checkbox.**

3. **Click *OK*.**

If you have finished configuring your GatorBox, restart it so the changes will take effect. Refer to *Restarting the GatorBox* on page 2-14.

Setting up KIP

The GatorBox supports the KIP protocols, which encapsulate AppleTalk packets within UDP/IP packets. UDP/IP encapsulation lets a Macintosh on LocalTalk or EtherTalk access IP-based computers that understand AppleTalk protocols. When KIP support is enabled, the GatorBox can support the Columbia AppleTalk Package (CAP) software.

You do not have to enable KIP to use GatorShare.

To configure the GatorBox to support KIP encapsulation:

1. **Click the *KIP Options* button in the AppleTalk Configuration dialog box.**

   GatorKeeper displays the KIP Options dialog box (Figure 4-15).

2. **Click the *KIP Support (UDP Encapsulation) On* radio button.**

   GatorKeeper displays the KIP information fields.

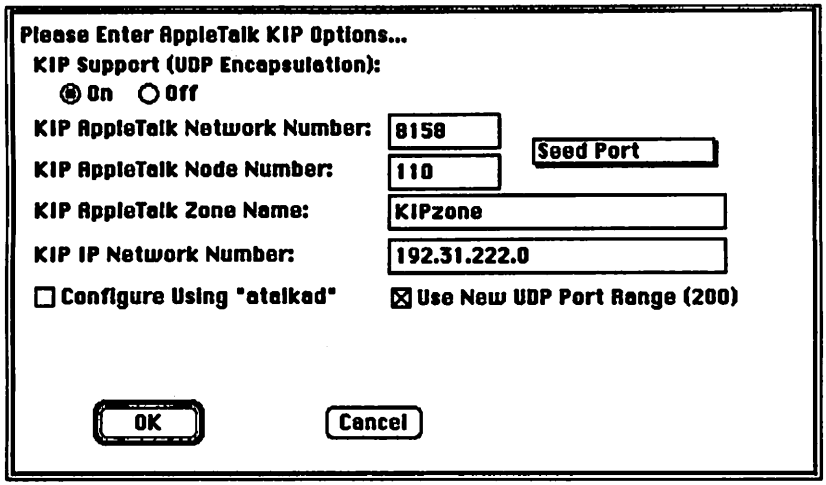

Figure 4-15. KIP Options dialog box

3. Choose either seed or nonseed routing.

- *Seed* means that the GatorBox uses the network information as you configured it.
- *Non Seed* means you don't configure the GatorBox with network information. When the GatorBox comes up, it discovers the network information from the atalkad server.

If you choose nonseed, you must enable atalkad, or you won't be able to proceed.

Figure 4-15 illustrates how you would complete the KIP Options dialog box to reflect the `atalk.local` file shown in Figure 4-16.

```
# mynet mynode myzone
31.222 11 KIPzone
# bridgenet bridgenode bridgeIP
31.222 110 192.31.222.110
```

Figure 4-16. Sample atalk.local file

4. **Enter the KIP network number in the *KIP AppleTalk network number* field.**

   The number you enter in this field must be different from the numbers you entered for your LocalTalk and EtherTalk networks.

   If you are using CAP, this should be the same number assigned to the `bridgenet` parameters in the `atalk.local` file on your CAP host.

   If your `atalk.local` file expresses the `bridgenet` number in dotted decimal notation, you must translate the dotted notation number into decimal format before entering it in the *KIP AppleTalk network number* field.

   To translate a dotted notation number, multiply the portion of the number preceding the decimal by 256 and add the portion of the number following the decimal. For example, the sample `atalk.local` file shown in Figure 4-16 specifies `31.222` as its `mynet` and `bridgenet` numbers. The decimal equivalent for `31.222` is (31 x 256) + 222, or 8158. Consequently, you would enter `8158` in the *KIP AppleTalk network number* field.

5. **Enter the KIP node number in the *KIP AppleTalk Node Number* field.**

   This is the number assigned to your GatorBox on the logical KIP AppleTalk network, and is the same as the last byte of the GatorBox IP address. If you are using CAP, the `bridgenode` parameter in the `atalk.local` file on your CAP host should use the same number.

6. **Enter the zone name in the *KIP AppleTalk Zone Name* field.**

   The zone name identifies the name of the KIP network. If you are using CAP, this should be the same name assigned to the `myzone` parameter in the `atalk.local` file on your CAP host.

7. **Enter the IP number in the *KIP IP Network Number* field.**

   The KIP IP network number identifies the IP network on which the CAP host resides. Note that the KIP IP network number does not correspond to any of the entries in the `atalk.local` file.

You should enter the KIP IP network number in class C notation. For example, if the IP address for your CAP host is 192.20.20.6, you would drop the last byte and enter 192.20.20.0.

8. **Click the *Use New UDP Port Range (200)* checkbox.**

   Early releases of KIP used a range of UDP ports, starting at 768, to map to the "well-known" DDP sockets. More recent releases of KIP use a range of ports assigned by the Network Information Center that begin at port 200.

If you are using CAP and you click the checkbox to use the new UDP port range, you must add the following lines to your `/etc/services` file and specify the new port range.

```
at-rtmp     201/udp     # AppleTalk Routing Maintenance
at-nbp      202/udp     # AppleTalk Name Binding
at-echo     204/udp     # AppleTalk Echo
at-zis      206/udp     # AppleTalk Zone Information
```

If you are using Yellow Pages (NIS), be sure to edit the `services` file on the Yellow Pages master server and then remake the services database. Change directory to `/etc/yp` (or `/var/yp`) and type `make services`.

9. **Click *OK* if you have finished entering the KIP parameters and are not using atalkad. If you are going to set up atalkad, go on to step 2 in the section *Setting up atalkad*.**

   You are returned to the AppleTalk router dialog box.

10. **Click *OK* in the AppleTalk router dialog box.**

If you have finished configuring your GatorBox, restart it so the changes will take effect. Refer to *Restarting the GatorBox* on page 2-14.

Setting up atalkad

To set up a GatorBox to use *atalkad*:

1. **Click the *KIP Options* button in the AppleTalk Routing dialog box.**

   GatorKeeper displays the KIP Options dialog box (Figure 4-15).

2. **Click the *Configure Using "atalkad"* checkbox.**

   The *"atalkad" Server Address* field appears.

3. **Enter the IP address of the atalkad server in the *"atalkad" Server Address* field.**

4. **Click *OK*.**

   You are returned to the AppleTalk router dialog box.

5. **Click *OK* in the AppleTalk router dialog box.**

Nonseed ports are affected when you are using atalkad and since soft seed ports are treated as nonseed ports when atalkad is enabled, they will also be affected. Seed ports are not altered when you are using atalkad.

If you have finished configuring your GatorBox, restart it so the changes will take effect. Refer to *Restarting the GatorBox* on page 2-14.

You need to update the following files on your UNIX host if you plan to use *atalkad* to download configuration information on the GatorBox:

- Update the `atalkatab` (AppleTalk administration database table) file with information about your internet.
- Add a line to the `/etc/rc.local` file to start *atalkad* whenever the UNIX host restarts.
- Update the `atalk.local` file with the AppleTalk address of the UNIX host and the AppleTalk address of the GatorBox (or other gateway).

Chapter 5
DECnet Routing

Sample DECnet configuration

Default settings for DECnet routing

Before you begin

Configuring your GatorBox for DECnet routing

This chapter describes how to configure your GatorBox to perform DECnet routing. DECnet routing allows Macintosh users on LocalTalk to communicate with DECnet nodes on Ethernet. The GatorBox functions according to the DECnet level 1 router specification. DECnet packets from Macintoshes are encapsulated in AppleTalk DDP packets and forwarded to DECnet nodes on Ethernet.

For a conceptual overview of how DECnet routing works, refer to Chapter 5 in the *GatorBox Reference*.

Sample DECnet configuration

In the sample configuration shown in Figure 5-1, GatorBox 105678 is configured for DECnet routing. Macintosh users on LocalTalk network 1470 can then communicate with the DECnet Node 2, on the Ethernet backbone.

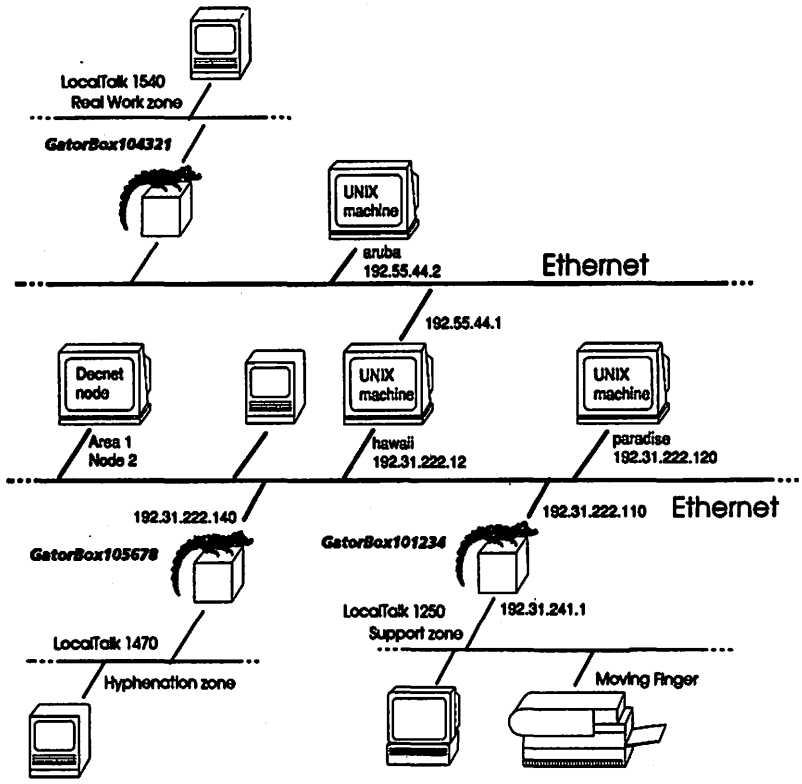

Figure 5-1. Sample DECnet network configuration

Default settings for DECnet routing

The GatorBox has default values in place when you turn on DECnet routing. We recommend that you use the defaults for the Hello Timer and the Routing Timer. The default settings are listed in Figure 5-2.

Setting	*Default value*
Area	1
Node	2
Hello Timer	30
Routing Timer	120

Figure 5-2. Default DECnet routing settings

Before you begin

Before you configure your GatorBox, you need to know in which area you are located. You also need to know your node number.

If you are not the Network Administrator, verify the area and node address that you plan to use with the administrator. You can cause network problems if you use addresses that have been assigned to other DECnet nodes.

Configuring your GatorBox for DECnet routing

Instructions for configuring your GatorBox are provided below. If you are configuring multiple GatorBoxes, you must change the default node number. You may also have to change the area number depending on your configuration. You can follow the steps outlined in the *Minimum configuration settings* section to modify the default settings. You don't have to make any changes on the VAX to enable DECnet routing in the GatorBox.

Minimum configuration settings

It's not necessary to go through every field in the DECnet Routing dialog box. You can do a minimum configuration and be able to route DECnet packets.

- If you are using the defaults, complete steps 1 through 4.
- If you need to change the area and node addresses, complete steps 1 through 6.
- If you are not using any of the defaults, complete all of the steps.

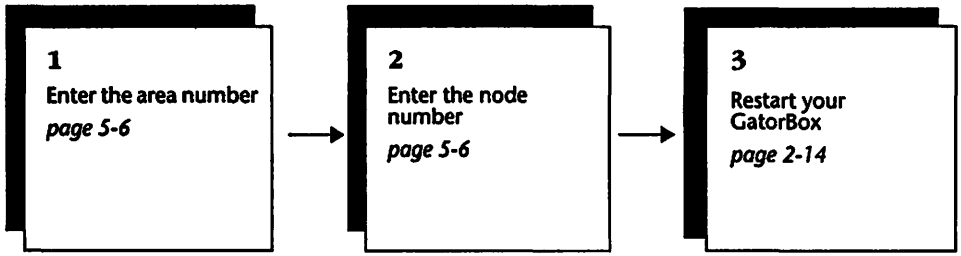

Figure 5-3. Minimum DECnet routing configuration settings

1. **Double-click the GatorKeeper icon to start up GatorKeeper.**
2. **Double-click your GatorBox icon in the GatorBoxes window.**

   GatorKeeper displays the Configuration Options window (Figure 5-4).

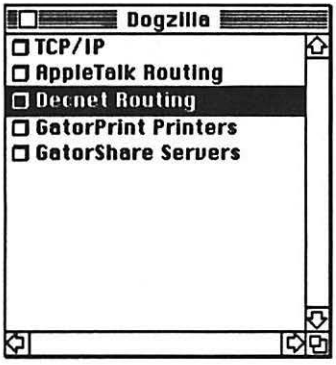

Figure 5-4. Configuration options window with DECnet Routing selected

3. **Double-click** *DECnet routing.*

GatorKeeper displays the DECnet Routing dialog box (Figure 5-5).

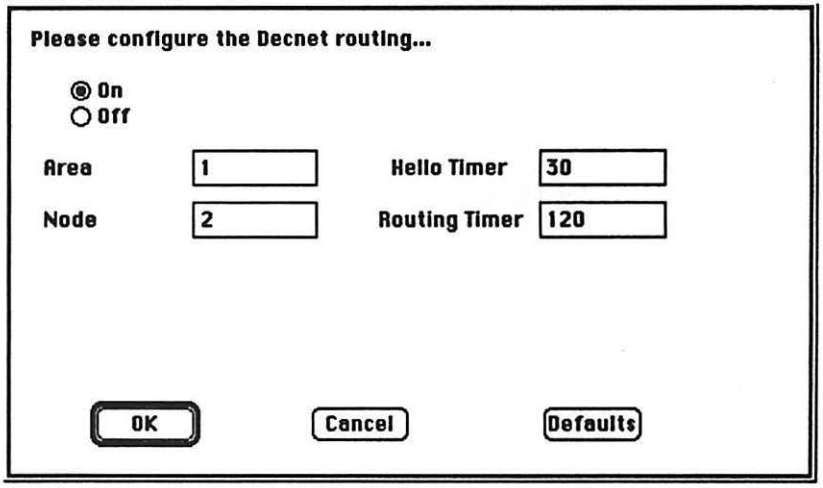

Figure 5-5. DECnet Routing dialog box

4. **Click the DECnet routing button *On*.**

5. **Enter your area number in the *Area* field.**

6. **Enter your node number in the *Node* field.**

   Each node number within an area must be unique.

End of minimum DECnet routing steps

You have completed the minimum configuration steps for DECnet routing. If you have finished configuring your GatorBox, restart it so the changes will take effect. Refer to *Restarting the GatorBox* on page 2-14.

7. **Enter a value between 1 and 8191 in the *Hello Timer* field.**

   The Hello Timer value is the interval, in seconds, between hello messages from end nodes and from other level 1 routers. **We recommend that you use the default value of 30.**

8. **Enter a value between 1 and 8191 in the *Routing Timer* field.**

   The Routing Timer value is the interval, in seconds, between messages sent to other level 1 routers on the network. **We recommend that you use the default value of 120.**

9. **Click *OK*.**

If you have finished configuring your GatorBox, restart it so the changes will take effect. Refer to *Restarting the GatorBox* on page 2-14.

Chapter 6
GatorPrint Printing

This chapter will be included with the software if you purchase GatorPrint or GatorShare.

Chapter 7
GatorShare Servers

This chapter will be included with the software if you purchase GatorShare.

Chapter 8
GatorBox Administration

Monitoring your GatorBox

Using the GatorDefaults file

Saving GatorBox information

Printing GatorBox information

Obtaining a crash signature

Clearing the GatorBox's configuration settings

Assigning a password to a GatorBox

Renaming a GatorBox

Obtaining GatorKeeper release information

Obtaining GatorBox software release information

If you need to call Cayman Technical Support

Monitoring your GatorBox

Monitoring your GatorBox involves checking its status, viewing statistics that show how much memory the GatorBox is using, looking at the diagnostics message log to view network traffic and status messages and using TELNET to query a GatorBox.

Viewing the GatorBox Status

You can use the Status window (Figure 8-1) to review the operating status of one or more selected GatorBoxes on your internet. To view the Status window:

1. **Double-click the GatorKeeper icon.**
2. **Click the GatorBox icon in the GatorBoxes window.**
3. **Choose the *Status* command from the Special menu.**

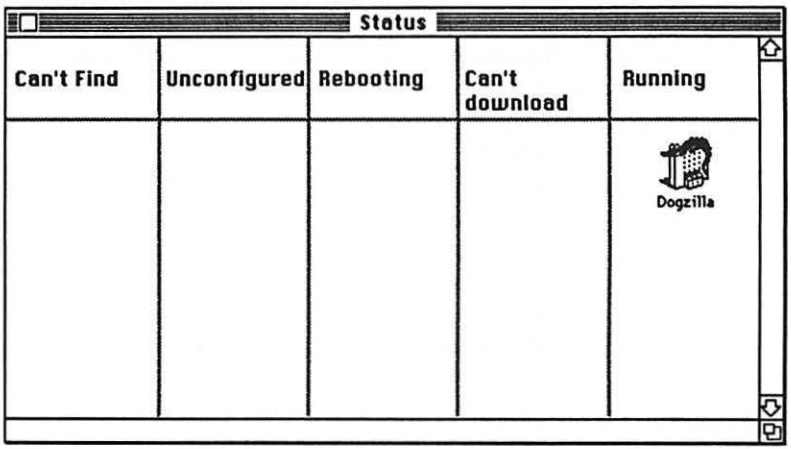

Figure 8-1. Status window

The Status window displays five columns:

- Can't Find
- Unconfigured
- Rebooting
- Can't download
- Running

The meaning of each column is described in the sections that follow.

Can't Find

Meaning:

GatorKeeper is unable to locate the GatorBox on the network.

What to do:

- Verify that the AppleTalk connector is inserted in to the printer port (not the modem port) of the Macintosh running GatorKeeper.
- Verify that the physical connection is okay by checking the LocalTalk connectors.
- Verify that AppleTalk is active in the Chooser.
- If the GatorBox is being restarted and AppleTalk routing was just turned on, restart the Macintosh to coordinate AppleTalk network information.
- Verify that no other LocalTalk network number is the same as this GatorBox's LocalTalk network number.
- If you have an Ethernet card installed in your Macintosh and you do not have AppleTalk routing enabled on the GatorBox, verify that the Network item in the Control Panel is set to *Built-in.*

Unconfigured

Meaning:

GatorBox has not yet been configured or its configuration settings have been cleared.

What to do:

Provide GatorKeeper with configuration information for the GatorBox following the instructions in this manual. If the GatorBox consistently comes up with a status of *Unconfigured*, contact Cayman Technical Services.

Rebooting

Meaning:

This is a normal state when a GatorBox first starts up. The GatorBox is either downloading its software or reloading its configuration settings.

What to do:

This is a normal state for the GatorBox when it reboots. Wait until the icon moves into another column to determine its state.

Can't Download

Can't Download only applies if you are using an original GatorBox.

Meaning:

The GatorBox is unable to download its software or its configuration settings.

What to do:

Verify that the download server is functioning and that the GatorBox software and configuration files are present. If that doesn't correct the problem, refer to the manual *Setting up Your GatorBox* for more information on downloading.

Running

Meaning:

GatorBox is functioning properly. If the GatorBox is a non seed router, it is possible that its status will show as running, but it won't be routing because it hasn't gotten seed information yet.

What to do:

No action is required.

Viewing GatorBox Statistics

The Statistics window (Figure 8-2) displays memory utilization and load information for a specified GatorBox. For example, the bar graph at the top of the window represents the amount of memory in use. This information is used primarily by Cayman's software engineering and technical support personnel.

To view the Statistics window for a GatorBox:

1. **Click the GatorBox icon in the GatorBoxes window.**

2. **Choose *Statistics* from the Special menu.**

   GatorKeeper displays the Statistics window (Figure 8-2).

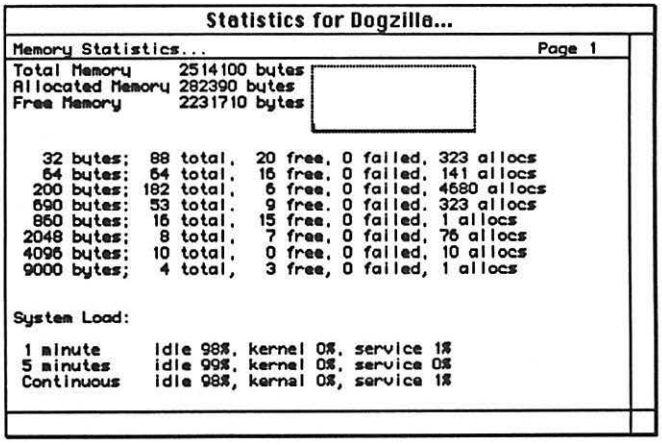

Figure 8-2. Statistics window

3. **Click on the word *Page* in the top right corner of the screen to display the second page of the Statistics window.**

   Page two of the statistics window shows the GatorBox's routing table (Figure 8-2).

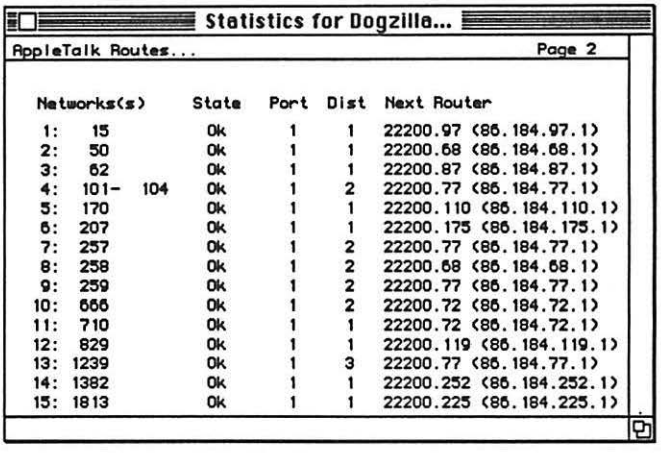

Figure 8-3. Statistics window - page 2

Refer to the GatorBox troubleshooting guide, *GatorAid* for more information about the routing tables.

Viewing GatorBox Diagnostics

The *Diagnostics* command opens the Diagnostic Messages window (Figure 8-4). The Diagnostic Messages window lets you monitor network activity encountered by a designated GatorBox. Diagnostic messages are retained when you close the Diagnostics Messages dialog box. As long as GatorKeeper is running, you can close and open the Diagnostics dialog box without interrupting the diagnostics log.

You have the option to configure the GatorBox to write the diagnostic messages to the syslog file on a UNIX machine instead of to the Diagnostics window. However, if you write to the syslog file, the messages will not be logged here. The logging level is still set in this window. For instructions on turning on the syslog option, refer to page 3-8.

Refer to the GatorBox troubleshooting guide *GatorAid* for a discussion of startup diagnostics.

The Diagnostic Messages window displays five levels of informational/error messages:

- **Low** — Low-level informational messages (L1) consist of trivial status messages generated by the GatorBox.
- **Medium** — Medium-level informational messages (L2) consist of status messages that may help monitor network traffic.
- **High** — High-level informational messages (L3) consist of status messages that may be of interest to a user but that do not represent error conditions.
- **Warnings** — Warning messages (L4) describe recoverable error conditions and useful operator information.
- **Failures** — Failure messages (L5) describe error conditions that may not be recoverable.

To view the Diagnostic Messages window:

1. **Click the GatorBox icon in the GatorBoxes window.**

2. **Choose *Diagnostics* from the Special menu.**

   GatorKeeper displays the Diagnostic Messages window (Figure 8-4).

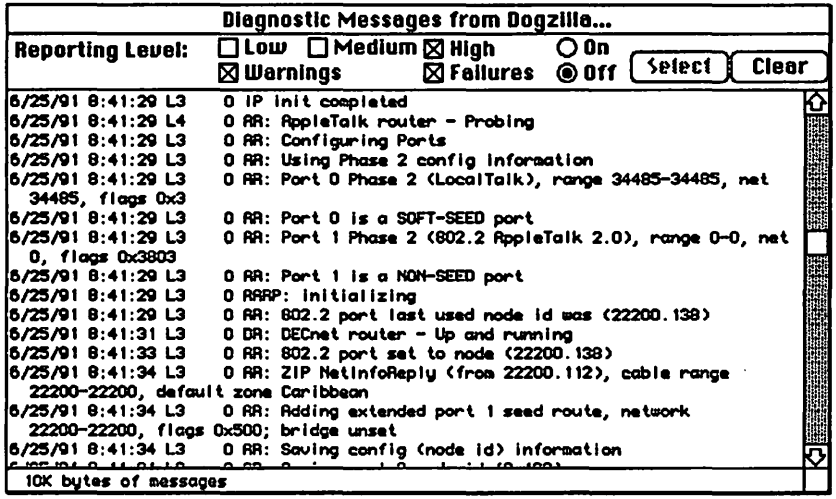

Figure 8-4. Diagnostic Messages window

3. **Click a checkbox at the top of the Diagnostic Messages window to specify the level of messages you want to display.**

   Selecting messages of one level automatically selects higher level messages as well. For example, if you select *High*, you will also see *Warnings* and *Failures*.

If you select *Medium* or *Low* level messages, you may slow the performance of the GatorBox. When the GatorBox is functioning correctly, there is no need to set the level lower than *High*.

4. **Click the *On* or *Off* radio button to control whether GatorKeeper updates the messages window.**

- ▷ When the *On* button is clicked, the Diagnostics window continues to scroll as new messages are received.

- ▷ When the *Off* button is clicked, the window is not updated and the messages do not scroll.

5. **Click *Clear* to erase all of the information from the screen and from the GatorBox's error log file.**

Using TELNET to query a GatorBox

You can TELNET to the GatorBox as a way of checking whether the box is running. To initiate a TELNET connection, type:

```
TELNET <GatorBoxIPaddress>
```

If you assigned a password to the GatorBox, you must enter the password before you can execute any TELNET commands.

Once the connection is open, specify the information you want to view. The TELNET syntax for querying a GatorBox is:

```
help    [show,status,quit, reset, reload, restart]
show    [ip [arp|routes]]
        [appletalk [arp|routes|zones|interfaces]]
        [share|decnet [nodes|circuits|status]]
        [alap|enet|log|crash|memory|dump]
status
quit
reset   [alap|enet]
restart
```

For example, to query a GatorBox about its routes, you would enter either:

```
show ip routes
```

or

```
show appletalk routes.
```

Other examples include:

- `show share` displays a list of GatorShare users and the volumes they have mounted
- `show alap` displays the ALAP (AppleTalk Link Access Protocol) statistics for the GatorBox
- `show log` displays the next 25 lines of the GatorBox diagnostics
- `show crash` displays information about the last GatorBox crash
- `show memory` displays memory usage information for the GatorBox
- `show enet` displays Ethernet driver statistics
- `reset alap` clears all alap statistics
- `restart` restarts the GatorBox

Using the GatorDefaults file

The GatorDefaults file stores a complete set of configuration settings for a GatorBox. You create the GatorDefaults file the first time you run GatorKeeper. Once you have created the GatorDefaults file, there are two ways to configure it:

- By entering settings for each field, as though it were an actual GatorBox. If you are configuring the file as if it were an actual GatorBox, use the instructions in the previous chapters of this manual.
- By copying the settings from an already configured GatorBox.

You can use the GatorDefaults file to store configuration settings while you test alternate settings for the GatorBox. If you wanted to restore the original settings, copy them back from the GatorDefaults file to the GatorBox.

Copying GatorBox settings to the GatorDefaults file

If you are copying the settings from a GatorBox to the GatorDefaults file, complete the steps below.

1. **Drag the GatorBox icon whose settings you want to use onto the GatorDefaults icon.**

2. **Select *Save* from the File menu.**

Using the GatorDefaults file to configure GatorBoxes

Once you have set up the GatorDefaults file, you can use it to configure new GatorBoxes rather than repeating the entire configuration process.

To use the GatorDefaults file to configure other GatorBoxes:

1. **Drag the GatorDefaults icon onto the icon of the GatorBox you want to configure.**

   GatorKeeper copies the complete set of configuration information from the GatorDefaults file to the selected GatorBox.

2. **Modify the configuration settings that are unique to the GatorBox.**

Settings unique to each GatorBox include the IP address, LocalTalk network number, MacIP range, and DECnet address. Modify the settings using the instructions in the previous chapters of this manual.

Saving GatorBox information

You can save information about your GatorBoxes to a text file by using the *Save Info as TEXT file* command in the GatorKeeper File menu. What information is saved depends on which window or dialog box is active.

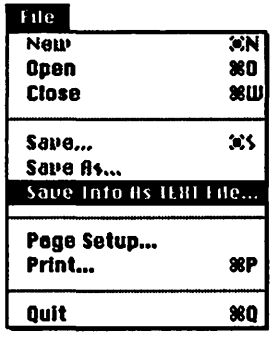

Figure 8-5. Save Info as Text File

If you select *Save Info as TEXT file*:

- While a GatorBox icon is selected, GatorKeeper saves a full description of the GatorBox configuration information.
- While the Diagnostics window for a GatorBox is active, GatorKeeper saves a file with the GatorBox's diagnostics information.
- While the Info window for a GatorBox is active, GatorKeeper saves a file with the GatorBox's firmware and software release levels, serial number, network address, and crash information (if available).

Printing GatorBox information

You can print information about your GatorBoxes to any AppleTalk printer by using the *Print* command in the GatorKeeper File menu.

If you select *Print*:

- While a GatorBox icon is selected, GatorKeeper prints a full description of the GatorBox's configuration.
- While the Diagnostics window for a GatorBox is active, GatorKeeper prints the GatorBox's diagnostics information.
- While the Info window for a GatorBox is active, GatorKeeper prints the GatorBox's firmware and software release levels, serial number, network address information, and crash information (if available).

You can use the *Page Setup* command (from the GatorKeeper File menu) to specify printer settings for your LaserWriter or ImageWriter, such as paper size, page format, and reduction ratio.

Obtaining a crash signature

A crash signature is a list of the GatorBox's registers and pointers that helps Cayman's engineers determine what the GatorBox was doing when it crashed. If your GatorBox crashes, obtain the crash signature and send it to Cayman Technical Support by FAX or electronic mail.

To obtain a crash signature:

1. **Run GatorKeeper.**
2. **Click the GatorBox icon in the GatorBoxes window.**
3. **Pull down the *Special* menu and choose *Info*.**

   GatorKeeper displays the *Information* window (Figure 8-6). If crash information for the GatorBox is available, you will see a message (*"GATORBOX HAS CRASH INFO"*) at the top of the Info window.

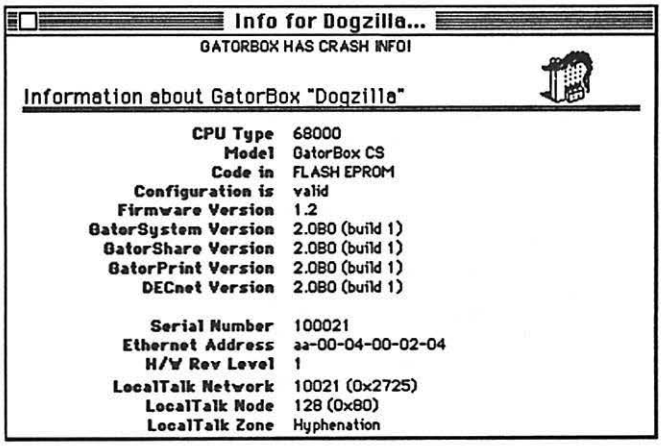

Figure 8-6. Information window

4. **Click the GatorBox icon in the upper right corner of the Information window.**

   GatorKeeper displays the crash signature (Figure 8-7), which represents the state of the GatorBox at the time of the crash.

5. **Save or print the crash signature by choosing *Save Info as TEXT file* or *Print* from the GatorKeeper File menu.**

   Send the crash signature to Cayman Technical Support by FAX or electronic mail. The address is listed in *If you need to call Cayman Technical Support,* page 8-19.

6. **To clear a crash signature, select *Clear* from the Edit menu.**

   Until a crash signature is cleared, any subsequent crashes would not leave a new signature and may go undetected.

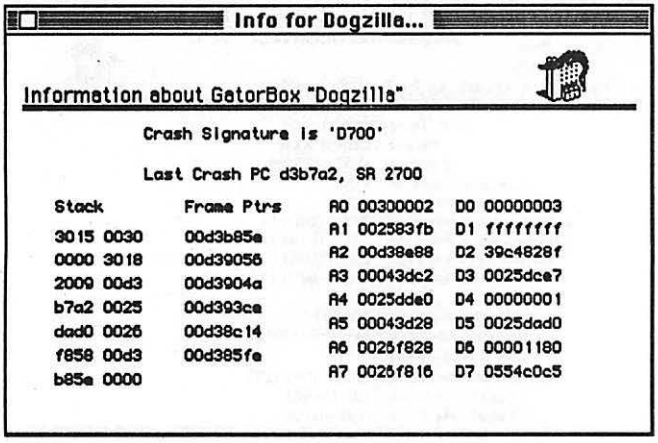

Figure 8-7. Crash signature

Clearing the GatorBox's configuration settings

To clear the software and configuration settings from a GatorBox:

1. **Run GatorKeeper and open the GatorBoxes window.**
2. **Click the icon of the GatorBox whose configuration settings you are clearing.**
3. **Choose the *Clear* command from the *Edit* menu.**

This clears all settings for the GatorBox and causes the GatorBox to restart and come up with a status of *Unconfigured.*

Assigning a password to a GatorBox

You can assign a password to a GatorBox to prevent unauthorized modification of the GatorBox configuration files. The password is in effect as soon as you assign it. You cannot get to any of the configuration dialog boxes or Telnet to the GatorBox without entering the password.

Adding a password

To assign a password to a GatorBox for the first time:

1. **Click the GatorBox icon in the GatorBoxes window.**
2. **Select *Change Password* from the Special menu.**

   GatorKeeper displays the New Password dialog box (Figure 8-8).

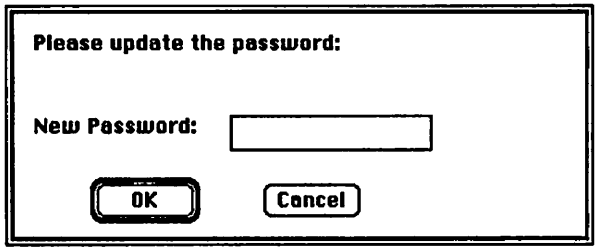

Figure 8-8. New Password dialog box

3. **Enter the password for the GatorBox in the *New Password* field.**
4. **Click *OK*.**

The password you enter in the New Password field becomes effective as soon as you click OK. You do not have to save your changes or restart a GatorBox to assign it a password. Make sure you type the password correctly. You cannot change or delete the password without re-entering it, once you click OK.

Changing or deleting a password

To change a password that has been assigned to a GatorBox:

1. **Select the GatorBox by clicking its icon in the GatorBoxes window.**

2. **Select *Change Password* from the *Special* menu.**

   GatorKeeper displays the Change Password dialog box (Figure 8-9).

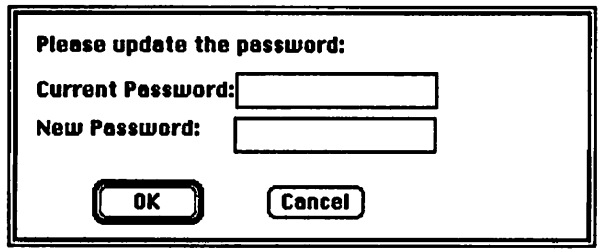

Figure 8-9. Change Password dialog box

3. **Enter the current GatorBox password in the *Current Password* field.**

4. **Enter the new GatorBox password in the *New Password* field.**

   To delete a password, leave the *New Password* field blank.

5. **Click *OK*.**

Renaming a GatorBox

Each GatorBox is assigned a name that includes its serial number, such as GatorBox100019, when it is shipped to you. This name can be seen in GatorKeeper after you connect and turn on the GatorBox.

Before you install the GatorBox, make sure the GatorBox's default name complies with the naming conventions for your network. Also make sure that the name and IP address of the GatorBox have been added to the `/etc/hosts` file of each IP host you want to make accessible for file sharing. Refer to *NFS file server requirements* on page 7-22 for instructions on editing the `hosts` file.

To rename the GatorBox:

1. **Click the GatorBox icon in the GatorBoxes window.**
2. **Choose the *Rename GatorBoxes* command from the GatorKeeper *Special* menu.**
3. **Enter the new name in the Rename GatorBox dialog box (Figure 8-10).**
4. **Click *OK*.**

   Renaming a GatorBox causes it to restart.

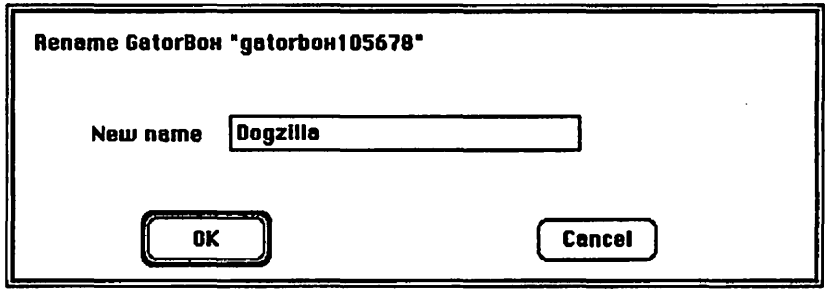

Figure 8-10. Rename GatorBox dialog box

Obtaining GatorKeeper release information

You can obtain information about the software release level for the version of GatorKeeper you are running by using the *About GatorKeeper* dialog box (Figure 8-11). To view the release information:

1. **Pull down the Apple menu.**
2. **Choose *About GatorKeeper.***

   The *About GatorKeeper* dialog box appears.

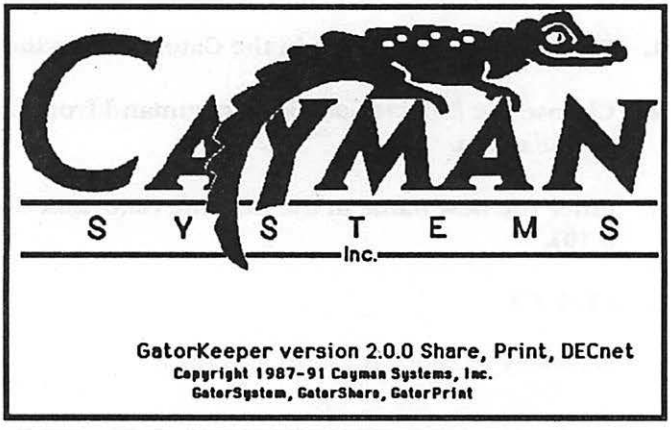

Figure 8-11. About GatorKeeper dialog box

Obtaining GatorBox software release information

The Info dialog box displays information about the GatorBox hardware, firmware, and software, such as the software release levels, and Ethernet hardware address. To view the Info dialog box:

1. **Pull down the *Special* menu with GatorKeeper running.**

2. **Choose *Info*.**

   The *Info* dialog box appears (Figure 8-12).

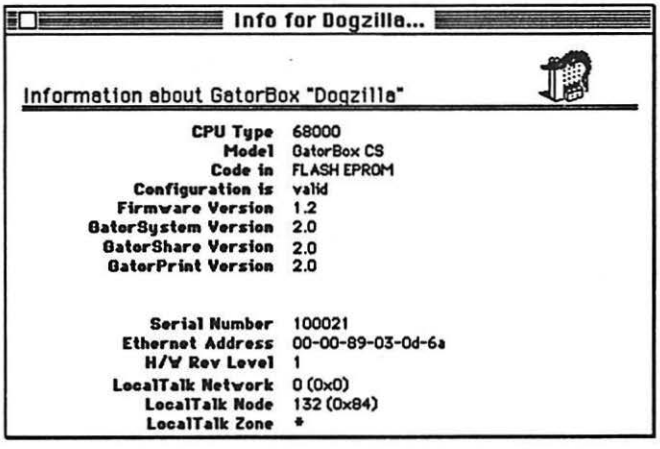

Figure 8-12. Info dialog box

If you need to call Cayman Technical Support

If you have a problem with your GatorBox and you need help from Cayman Technical Support, call us on all regular business days from 9:00 AM to 6:00 PM Eastern Time at:

Phone: **(617) 494-1999**

You can also reach us by:

FAX: (617) 494-5167
internet: support@cayman.com
AppleLink: CAYMAN.TECH

Before you call

Make sure you have the following information to give to the Cayman Support Engineer. They may ask you to fax some or all of the information to them.

- Print out your GatorBox configuration. Refer to *Printing GatorBox information,* page 8-12.
- Print out your GatorBox diagnostics while the problem is occurring if possible. Refer to *Viewing GatorBox Diagnostics,* page 8-6.
- If the GatorBox has crash information, print it out. Refer to *Printing GatorBox information,* page 8-12.
- Have your network diagram readily accessible.
- Know the release and version numbers for the software you are using.
  - GatorBox software: GatorShare, GatorPrint, or GatorSystem (*Obtaining GatorBox software release information,* page 8-18, *Obtaining GatorKeeper release information,* page 8-17)
  - Other software you may be using with the GatorBox: NFS server operating system, TOPs, etc.
- Know the GatorBox hardware model and the model numbers of any other hardware that you are using in conjunction with the GatorBox.
- Know the type of Macintosh you are using and the System version number.

Appendix A
Configuration Checklist

Configuration Information Checklist

TCP/IP Services

You need this information for each GatorBox you are going to configure:

GatorBox IP address _____
Broadcast IP address _____
Subnet mask _____
Default gateway address _____

KIP forwarding
First IP address in range _____
Number of static addresses _____
Number of dynamic addresses _____

IP subnet
LocalTalk IP address _____
Subnet mask _____
First IP address in range _____
Number of dynamic addresses _____

AppleTalk Routing

You need this information for each GatorBox you are going to configure:

LocalTalk zone number _____
LocalTalk zone name _____
LocalTalk routing type _____

Choose either Phase 1, 2, or 1 and 2

Phase 1 EtherTalk
EtherTalk routing type _____
Number _____
Zone name _____

Phase 2 EtherTalk
EtherTalk routing type _____
Network number range _____to_____
Zone list _____
_____
_____

Phase 1 and 2 EtherTalk
EtherTalk routing type _____
Number _____
Zone name _____
Network number range (must be range of 1) _____to_____
Zone list _____

DECnet

You need this information for each DECnet node you are going to configure:

Area ID _____

Node ID _____

GatorPrint

You need this information for each printer you are going to configure:

lpr name (you assign this name) _____

LocalTalk printer name
This is the name from the Chooser _____

LocalTalk printer type
(LaserWriter, ImageWriter) _____

Printer's LocalTalk zone name _____

GatorShare

You need this information for each server you are going to configure:

NFS Server name _____

NFS Server IP address _____

User authentication method (choose one)
Yellow Pages domain name _____
NFS user password file _____
NFS group file _____
pcnfsd

NFS Mount Point
optional (you can just use the default _____

AppleShare volume name _____

Configuration Information Checklist

TCP/IP Services

You need this information for each GatorBox you are going to configure:

GatorBox IP address _____
Broadcast IP address _____
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KIP forwarding
First IP address in range _____
Number of static addresses _____
Number of dynamic addresses _____

IP subnet
LocalTalk IP address _____
Subnet mask _____
First IP address in range _____
Number of dynamic addresses _____

AppleTalk Routing

You need this information for each GatorBox you are going to configure:

LocalTalk zone number _____
LocalTalk zone name _____
LocalTalk routing type _____

Choose either Phase 1, 2, or 1 and 2

Phase 1 EtherTalk
EtherTalk routing type _____
Number _____
Zone name _____

Phase 2 EtherTalk
EtherTalk routing type _____
Network number range _____ to _____
Zone list _____
_____
_____

Phase 1 and 2 EtherTalk
EtherTalk routing type _____
Number _____
Zone name _____
Network number range (must be range of 1) _____ to _____
Zone list _____

DECnet

You need this information for each DECnet node you are going to configure:

Area ID _____

Node ID _____

GatorPrint

You need this information for each printer you are going to configure:

lpr name (you assign this name) _____

LocalTalk printer name
This is the name from the Chooser _____

LocalTalk printer type
(LaserWriter, ImageWriter) _____

Printer's LocalTalk zone name _____

GatorShare

You need this information for each server you are going to configure:

NFS Server name _____

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Index

Symbols

A

B

C

D

E

G

I

K

M

N

P

Q

R

S

T

V

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   Product?
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Documentation

This manual was created using Microsoft Word and FrameMaker on a Macintosh SE/30 and a Macintosh IIci. Art was produced using Adobe Illustrator and Claris MacPaint. Proof pages were produced using an Apple Personal LaserWriter. Final pages were produced using a LaserMax 1000ks Personal Typesetter. Typefaces for this manual are Adobe Stone Sans, Garamond, Courier, and Universal News.

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