

Installation & Quickstart

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Additional User Upgrades

Your VICOM Internet Gateway software license allows you to use it for the licensed number of concurrent users.

Licenses for additional concurrent users are available. Prices and ordering information can be found at the Vicom Technology Web Site at:

<http://www.vicomtech.com/>

Alternatively, please email **sales@vicomtech.com** or use the other contact information provided at the front of this Guide.

1

Introduction

About this Guide

This Guide provides a quick introduction to the basic capabilities of the VICOM Internet Gateway, and describes how to install and configure it to access the Internet.

Follow the instructions in this Guide to Register and Personalize your Gateway, to run the Auto-Setup process, and to set up your Client computers to connect to the Internet.

If you are using a modem or ISDN connection to the Internet, driven by the Apple Modem Tool, the Auto-Setup sequence should take you to the stage where you can use the Gateway to connect to the Internet. If you are using another connection method such as cable modem, a Service Provider's router, or an ISDN card Comms Toolbox driver, then this Guide includes information on making "Manual Additions" to the configuration to handle these cases.

The Guide summarizes the following subjects:

- Hardware, software and network requirements
- Information required from your Internet Service Provider
- Gateway software installation
- Setting up the Gateway and its Clients
- Running and testing the Gateway

The User Guide provides more details on these topics, and covers all the advanced features of the Gateway.

About the VICOM Internet Gateway

The VICOM Internet Gateway is a TCP/IP software router application that runs on a single Macintosh and interconnects local and wide area networks of computers to each other and to the Internet. It uses a Network Address Translation Proxy system to connect a private TCP/IP network to the public Internet. This allows multiple "client" computers to share a single Internet connection, and a single IP address, simultaneously.

A modem or ISDN connection to the Internet using PPP or SLIP protocol is dialed automatically on demand, and disconnected when no longer in use. The private network can use Ethernet, Token Ring or AppleTalk (via LocalTalk, Apple Remote Access or AppleTalk routing).

The Network Address Translation Proxy feature on the Internet connection ports provides an effective Firewall, preventing any unwanted intrusion into your private network from the public Internet.

For a basic Internet Access configuration, the Gateway configures itself and your Client machines automatically. Comprehensive configuration and monitoring options are accessed using a familiar Macintosh user interface.

About Gateway Ports

You configure a Gateway Port for each network connected to it. Each Gateway Port is linked to a physical device, such as a modem or an Ethernet card, and each has its own IP network address.

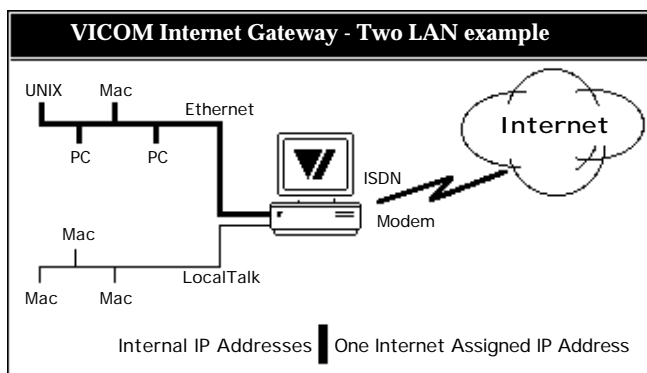
The following port types are currently supported:

- Ethernet port: each port requires its own Ethernet card. Built-in Ethernet is treated the same as an Ethernet card. There can be more than one port of this type.
- Token Ring port: each port requires its own Token Ring card. There can be more than one port of this type.
- Macintosh IP port: this type of port uses the built-in AppleTalk software. The AppleTalk protocol is set up using the “Network” control panel, or the “AppleTalk” control panel in Open Transport. There can be only one port of this type; however, if using EtherTalk you can share the Ethernet card with an Ethernet Gateway port.
- Comms Toolbox PPP/SLIP port: each port requires its own serial port and modem (or ISDN adapter). There can be more than one port of this type.

Here are some typical examples:

To set up the Gateway to connect an Ethernet network to the Internet using PPP dial-up, two ports are required: an Ethernet port and an Comms Toolbox PPP port.

In general, when a network is attached to the Gateway, computers on that network should be able to access all other computers on the other networks attached to the Gateway and vice-versa. However, computers on the Internet can not access Gateway clients on your local network unless the Gateway is configured specifically to do so.



The diagram above illustrates how the Gateway is able to connect an Ethernet network and a LocalTalk network to the Internet using PPP. Three ports are required: an Ethernet port, a LocalTalk (MacIP) port and an Comms Toolbox PPP port.

What do you need?

To use the VICOM Internet Gateway you need an account with an Internet Service Provider. The equipment and information you require in order to connect will depend on the kind of service you choose. The service may be:

- A dial-up service for which you are responsible for providing a suitable modem and any routing facilities required at your premises. This is the most common type of service at the time of writing.
In this case you need to obtain, from your Service Provider, all the information specified in the next Section.
- A dial-up, leased line or cable service, for which the Service Provider installs connection and routing equipment at your premises. You then connect your Ethernet network directly to the Service Provider's equipment.
In this case your Service Provider should tell you the IP addresses for your LAN connection, and their Domain Name Server.
In some cases you may also be expected to provide other items, such as a primary Domain Name Server or a mail server. It is beyond the scope of the Gateway documentation to cover the provision of these functions, but you should refer to Chapter 9 on Inbound Mapping for information on how to make them accessible through the Gateway.

If you are required to provide the connection equipment, you should select the fastest modem or ISDN facility you can, as this will minimize the delays for users accessing web and FTP sites. The Gateway supports modems and external ISDN Terminal Adapters via the Macintosh serial interface ports, using the Apple Modem Tool software which is supplied with the Gateway. You must ensure that the cable you use to connect your Macintosh to the modem is a high speed serial cable supporting hardware handshaking.

Various internal ISDN cards are also supported via the Comms Toolbox connection software provided by the card manufacturers. At the time of writing, Vicom Technology has tested the Gateway with cards made by Sagem, Hermstedt and SCii.

If your Internet service is provided through an ethernet interface, for example via a cable modem or a router, the Gateway machine requires a separate Ethernet interface for this connection. This may be the built-in Ethernet interface on the Macintosh, or a plug-in Ethernet adapter card.

One or more local area network (LAN) connections are required on the Gateway Macintosh for the Client computers. These may use any combination of the built-in Ethernet or LocalTalk interfaces, and plug-in Ethernet or Token Ring adapter cards. You require one network interface for each LAN segment you wish to connect.

The Gateway supports Ethernet and Token Ring adapters on Nubus or PCI machines. PCI Ethernet adapters may operate at the 100 MBit/sec fast Ethernet standard. This enables the Gateway to work as an IP bridge between 10 MBit/sec and 100 MBit/sec cables.

You may use the Gateway as a Remote Access Server, allowing users to dial into your network to access the internal network servers or to connect through to the Internet. For this purpose you can add modems or ISDN adapters, using multi-port serial cards to augment the two Macintosh built-in serial ports if necessary.

The Gateway can be configured with up to eight ports in all. The Gateway Macintosh itself will count as one port if it runs TCP/IP applications, leaving seven ports for any combination of local or remote connections. For complex configurations requiring more ports than this, several Gateway or SoftRouter systems can be set up to partition the functions.

The VICOM Internet Gateway runs on any Macintosh system with the following minimum specification:

- A Macintosh with at least a 68020 processor and a 13" monitor. (See also the notes below)
- At least 2.5 MBytes available memory
- At least 1.5 MByte available disk space
- System Software version 7.0 or later

Notes on CPU requirements:

- 1 To achieve optimum throughput with an external ISDN terminal adapter, a Macintosh with a high speed serial port is recommended. These are built-in on Quadra AV and PowerPC models. On lower specification systems a high speed port can be provided using a plug-in serial card.
- 2 If you plan to use LocalTalk cable to connect the clients to the Gateway, the minimum recommended system is a Mac IIci or equivalent.

Additional notes on performance considerations are provided in the User Guide.

Information Required from Your Internet Service Provider

To use the Gateway for connection to the Internet, you need an account with an Internet Service Provider. This section lists the information you will need if you choose a dial-up account.

If your Macintosh has previously been set up to dial into your account using MacPPP or FreePPP, the Gateway will read the existing settings during its configuration process. If this is not the case, make sure you obtain the following information from your Internet Service Provider:

- Protocol used for connection (SLIP or PPP)
- Whether the account is configured for static or dynamic IP addressing
- For static addressing, the assigned Internet IP address. An IP address is normally stated as a four-number sequence, such as 198.45.123.25
- The IP address of the Internet Access Provider's Domain Name Server (also known as DNS).
- The telephone number to access the account
- The user name and password for your account
- The login protocol used by the Service Provider. This may be PAP or a scripted sequence of prompts and responses.
- For scripted connection you need to know the prompts and responses. For example:

| | | |
|--------|------------------|---|
| prompt | Login: | respond with account user name |
| prompt | Password: | respond with account password |
| prompt | Protocol: | respond with protocol type, such as SLIP or PPP |

2

Gateway Installation

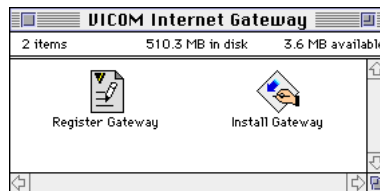
Registering your Gateway

By registering as a VICOM Internet Gateway owner on-line at the VICOM web site below, you will be able to access our Support services, and we can keep you up to date on our product developments.

<http://www.vicomtech.com/register.html>

The Gateway software must also be personalized before it can be installed. Note that you do not need to personalize demonstration versions.

Put the VICOM Internet Gateway diskette into your Macintosh.



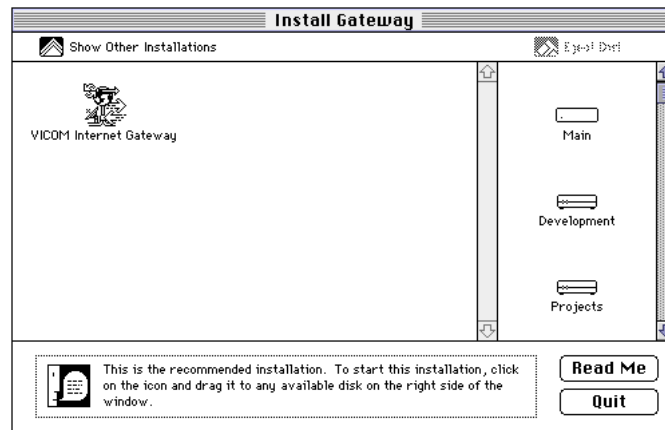
Double-click **Register Gateway** and, the following window is displayed:

A screenshot of a "Personalize Your Gateway" window. The window has a title bar and a header area with the VICOM logo and "VICOM Internet Gateway". The main content area contains the text "Please personalize your VICOM Internet Gateway." followed by three input fields labeled "Name:", "Organisation:", and "Serial Number:". Below these fields is a line of text: "You can register online at: <http://www.vicomtech.com/register.html>". At the bottom of the window are two buttons: "Don't Personalize" and "Personalize".

Enter your name, organization and the Gateway serial number given in your registration document, and click on the **Personalize** button.

Installing the Gateway

To install the Gateway, double-click on the “Install Gateway” icon. After an introductory screen the following window is displayed:



The PowerPC native version of the software requires Open Transport system software. If you are using MacTCP on a PowerPC then you must install the 680x0 version. Switch to this option by clicking "Show Other Installations" at the top of the screen.

Drag the “VICOM Internet Gateway” icon to the icon for your Startup Disk on the right. This will create a folder on the disk called “VICOM Internet Gateway”, and install the following files:

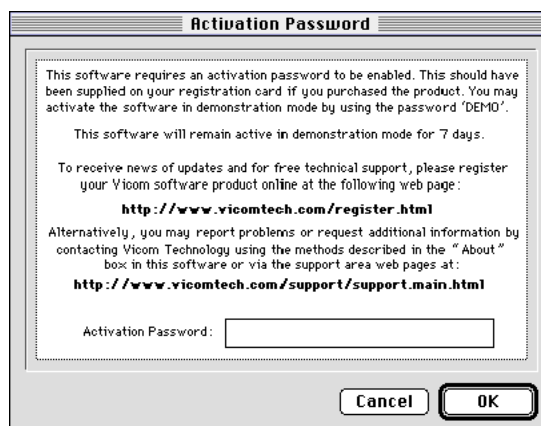
- “VICOM Internet Gateway” - the Gateway application.
- One or more ReadMe files providing supplementary information about the version you have installed.
- An empty "DHCP Clients" file. This is a text file in which you can assign user names to machine addresses.
- “Apple Modem Tool” - this file is put in the Extensions folder in your System Folder, and is used to make Modem PPP and SLIP connections to the Internet or to support dial-in users.
- "-Gateway-" - this file is also put in the “Extensions” folder, and enables TCP/IP client or server applications to be used on the Gateway Macintosh.

Entering the Activation Password

Double-click the VICOM Internet Gateway icon to start the application.

The first time you open the Gateway it will prompt for an activation password. If you are installing a licensed copy of the product the password is printed on your registration document. If you are installing a demonstration version, use “DEMO” as the activation password.

Please note that the password is case sensitive, and ensure that you enter the password exactly as it appears on your registration document.



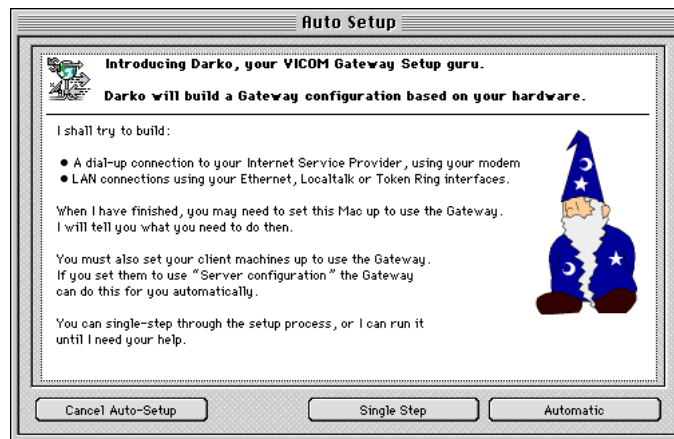
3

Auto-Setup

Configuring the Gateway

When first opened, the Gateway attempts to configure itself automatically, based on the configuration of your computer. You can also run this Auto-Setup sequence manually at any time.

Darko, the Gateway Guru, will guide you through the process.



There are two ways in which you can run the configuration.

'Single Step' will allow you to read and acknowledge each stage of the configuration as it progresses.

'Automatic' will build the configuration without interaction, only prompting you for key questions, which are explained further in this Guide. We recommend that for first installations the Automatic button is selected. Darko will stop and wait when he needs your answers.

Whenever a 'Cancel' button is displayed you can click on it to leave the automatic setup process, and use the manual editing options instead.

Step 1 - Building a PPP Port

First, Darko will try to build a PPP port. This is used to dial your Internet Service Provider using your modem or ISDN adapter.

Darko will look for a MacPPP or FreePPP Preferences file, and will import the information about its most recently used configuration. If he can't find a suitable preferences file, Darko will ask you to fill in the following screen.



All the information requested should have been supplied to you by your Internet Service provider. Read "Information Required from Your Internet Service Provider" for more details. When you have completed the above screen select "Create PPP Port" to proceed with the configuration.

If you do not intend to use a PPP dial-up modem connection you should click the "No PPP Port" button at this point. You may want to do this because your Internet connection is via Ethernet, or will use the SLIP protocol, or if you have a plug-in ISDN card. In these cases you can continue the Auto Setup process and then configure your Internet configuration manually. See "Manual Additions" later in this Guide for more details of this step.

Step 2 - Building an Ethernet Port

Next Darko will try to build an Ethernet port for your local clients. If he finds an Ethernet interface in your computer Darko will assign it a network address. A built-in Ethernet interface will be used if found. Otherwise the first plug-in adapter will be configured.

Step 3 - Building a MacIP Port

Darko will then ask you whether you wish to build a MacIP port.

MacIP allows TCP/IP packets to be carried over an AppleTalk network to reach the Gateway. It can be used if you have clients who are attached to the Gateway using LocalTalk cabling, or for users connecting via Apple Remote Access or through one or more routers which only support AppleTalk.



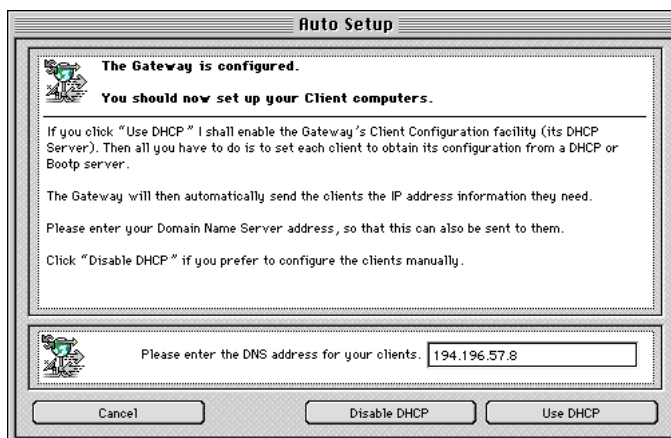
If you have clients who wish to connect to the Gateway using an AppleTalk network, select 'Use MacIP'. If this is not the case select 'No MacIP Port'. A MacIP port uses memory and slows down some Gateway functions, so do not set one up if you don't need it.

Step 4 - Enabling DHCP

The Gateway includes a function called DHCP (Dynamic Host Configuration Protocol) that can send TCP/IP configuration information automatically to the clients on an Ethernet network. This saves having to configure them manually, but the Gateway needs to know what Domain Name Server address to send them.

To use the DHCP function, type the DNS address into the field provided, and select 'Use DHCP'. You should have received the DNS address information from your Internet Service Provider.

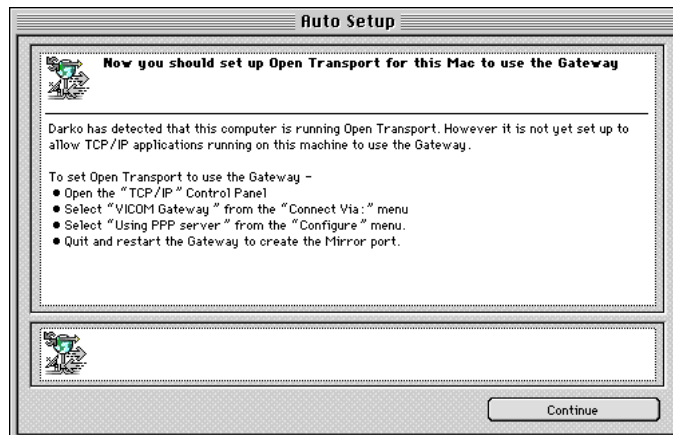
It is strongly recommended that you use DHCP to simplify network address administration. However, if you prefer to set up your client machines manually then select "Disable DHCP". You should only select this option if you operate an existing DHCP server in your network, or if the clients are already configured with IP addresses.



Step 5 - Mirroring MacTCP & Open Transport

Next, Darko will build a Mirror port, to enable TCP/IP applications to be used on the Gateway machine. If you are using MacTCP on this machine, this will be done automatically and all you have to do to enable this feature is to restart your machine, which Darko will inform you about.

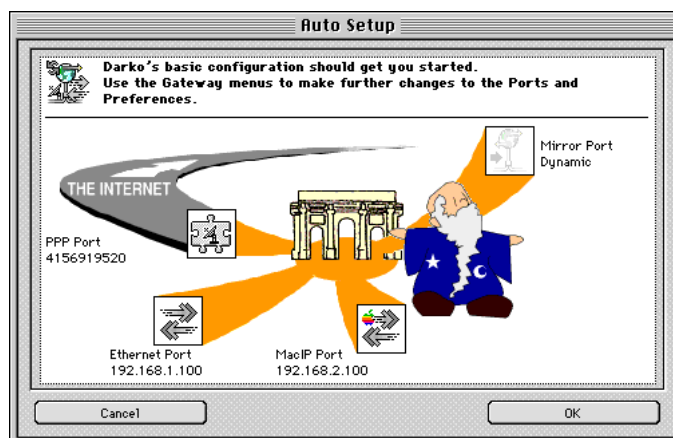
However if you are using Open Transport you will need to change its configuration by using the TCP/IP control panel. The changes are described in the following screen.



In either case you should ensure that the correct DNS address is configured in the Control Panel.

Step 6 Completed Auto-Setup

Darko will now show you the finished configuration.

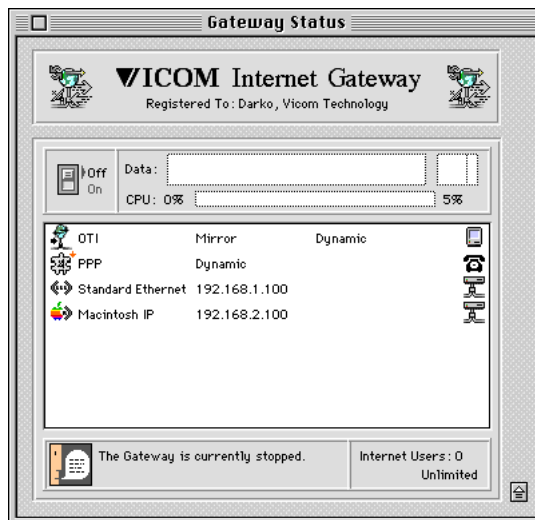


If you click OK, the Gateway Status Window will appear.

If you click Cancel the new configuration will be discarded and the Gateway will revert to its previous state. If this is the first time the Gateway has run then the Status Window will appear, but the Port List will be empty.

You can repeat the Auto-Setup process at any time when the Gateway is operational by selecting "Auto Configure" in the Edit pull-down menu.

The Gateway Status window should look something like this:



The window lists a number of Ports. The first is the Mirror Port which allows applications running on the Gateway Macintosh to use TCP/IP services. The second is the Internet dial-up Port, if it was built. The rest are one or more local network Ports for your Client machines.

4

Manual Additions and Testing

Manual Additions

If your Internet connection uses the Apple Modem Tool to control a modem or an external ISDN adapter, then the configuration should now be ready to use. In this case you can skip this Section and move straight to "Checking your Gateway Setup".

However, you may want to use a method other than the Apple Modem Tool to connect to the Internet. Other connection options include Ethernet, provided by a cable modem or your Service Provider's router, or a plug-in ISDN card with its own Comms Toolbox driver.

In these cases you should manually create and edit an appropriate Port.. The necessary steps are summarized below. Full details of the manual Port configuration options are provided in Chapter 6 of the User Guide, "Customizing the Gateway".

For an Ethernet connection

- If you are using a plug-in Ethernet card for the Internet connection, install the hardware and software, following the manufacturer's instructions.
- Select "New Port" in the "Gateway" pull-down menu to open the Edit Port Settings window.
- Check the Static Address check box and type in the IP address that your Internet Service Provider has given you.
- In the "Method" pop-up menu, select the Ethernet adaptor that you will use to connect to the Internet.
- In the "Type" pop-up menu, select "Internet Proxy - Directly Attached".
- Click "OK" to close the Edit Port Settings window and to save this Port configuration.
- Select "Preferences" in the Edit pull-down menu, and select "Routing" in the Preferences window pop-up menu. Type the IP address of the Service Provider's Internet router in the "Default Gateway" field.
- Close the Preferences window.

For an ISDN plug-in card

- Install the card and its Comms Toolbox software, following the manufacturer's instructions.
- Select "New Port" in the "Gateway" pull-down menu to open the Edit Port Settings window.
- If your Internet Service Provider has given you a Static IP address, check the "Static Address" box and type in the IP address that your Internet Service Provider has given you.
- Select "PPP" in the "Method" pop-up menu, .
- Select "Internet Proxy - Dial Out" in the "Type" pop-up menu.
- Click on the "Tool Setup" button on the right of the window to open the Comms Toolbox setup window.
- Select the appropriate Method in the pop-up menu at the top of this window, which will then change to display the protocol configuration options for your card.
- For a Sagem Planet ISDN card, select "Planet PPP" as the protocol. For other cards select "HDLC". Other settings should be generally in accordance with the guidance provided with your card and the software.
- Close the Comms Toolbox window and then click "OK" to close the Edit Port Settings window and to save this Port configuration.

Checking your Gateway Setup

To test the configuration it is suggested that you now try to connect to the Internet from the Gateway machine.

If your connection to the Internet is via an Ethernet Port you should now be able to access it using a Web browser on the Gateway machine.

If your connection is via a dial-up modem or ISDN Port, use the following procedure to test it:

- Make sure that the modem or terminal adapter is correctly connected to the Gateway Macintosh and to the phone socket, and is switched on.
- Turn the Gateway on by clicking the On/Off switch or by selecting "Start Gateway" in the Gateway menu.
- Select the 'PPP' port by clicking on it once.
- Choose the 'Connect' option from the Gateway menu.
- If all is well the modem will dial and in due course you will see the 'Connected' message appear in the status window.
- If your connection fails, check that the correct entries have been made for your modem or ISDN adapter, telephone number, and login details. Refer to "Tracing Ports" in User Guide Chapter 13, Troubleshooting, for help in finding the problem.
- If you discover an incorrect entry you can run the Auto-Setup sequence again by selecting "Auto Configure" in the Edit menu. Alternatively, refer to User Guide Chapter 6, Customization, for instructions on making manual modifications.
- Once you have connected to the Internet, launch a Web browser on the Gateway Macintosh, such as Netscape Navigator, Microsoft Internet Explorer or CyberDog, and try to display a Web page. If this fails you may have entered an incorrect DNS address. See "Pinging Hosts" in User Guide Chapter 13, Troubleshooting, for help in finding the problem.
- Disconnect from the Internet using the "Disconnect" menu option, and then automatically reconnect by trying to display a new WWW page.
- The final step is to configure the Client computers to use the Gateway, and check that they can also cause it to reconnect and display WWW pages. This procedure is summarised below.

Please note that your Gateway license may restrict the number of client computers that can connect to the Internet through the Gateway at any time.

5

Configuring Clients

Configuring your Client computers

Each Client computer on your local network should be set up to use the Gateway to connect to the Internet. The simplest way to set up your clients is to enable the DHCP Server function of the Gateway. Then the clients can all be set to obtain their address details from the Server. PCs, UNIX systems and Macintoshes have different set up systems, but all offer a way to use a DHCP or BOOTP server.

Example instructions for the most common Client operating systems are provided in detail in Chapter 3 of the User Guide, "Setting Up Local Gateway Clients".

The Next Steps

Congratulations. You have completed the Installation and Setup of a TCP/IP router, and you can now use your Gateway to save you cost and time as you share your Internet connection.

The Gateway provides a wealth of advanced features for extending your network facilities. These are covered in the User Guide in two phases, corresponding to the Basic and Advanced User Modes of the Gateway.

The first Chapters in the User Guide cover the installation and configuration process in more detail, with more on Client configuration, remote access and operational features. They include information on the following subjects:

- The System and Network Requirements for Gateway configurations.
- Installing and Configuring the Gateway and its Clients for basic Internet access.
- Operating and Customizing the Gateway using its Basic User Mode facilities.
- Providing secure dial-in remote access to your LAN.

The later Chapters explain how you can use the Gateway's Advanced Mode facilities to:

- Control user access to the Gateway and to public network locations.
- Manage inbound connections through the Firewall to internal servers.
- Monitor and log user activity.
- Customize the built-in DHCP Server to support multiple LAN segments, and fixed addresses.
- Configure manual routing tables to inter work with other Gateways and routers in a multi-segment intranet.

Other Internet Products Available from Vicom Technology.

VICOM SurfDoubler



The home and small office version of the VICOM Internet Gateway. Ideal for the two-computer family, or the small branch office, SurfDoubler provides PPP dial-out access to the Internet or to your Head Office Gateway, and supports two simultaneous users on an Ethernet or LocalTalk LAN.

VICOM FTP Client Pro



Transfer files to and from Internet sites using VICOM FTP Client Pro. In addition to supporting many different computer types found on the Internet, the VICOM FTP Client Pro is fully recordable by AppleScript. You can record scripts that automate many repetitive transfer functions, such as updating the files on your own web site.

VICOM MultiTerm for Internet



A bundle of specially selected products for Macintosh and Windows users. Products include VICOM Terminal Emulation and Netscape Navigator, that provide many of the required tasks that you might want to perform on the Internet.

VICOM Terminal Emulation gives you fully featured scriptable Telnet and FTP access to hosts, while Netscape Navigator gives you Web, Mail and Gopher access to sites around the world.

<http://www.vicomtech.com>
