

NETOPIA™ ROUTER

Getting Started User Guide

Installationsanleitung

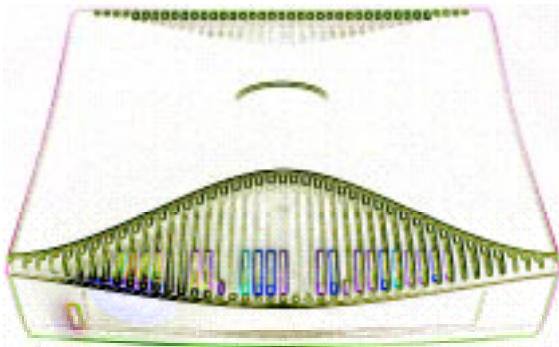
Guía de iniciación del usuario

Manuel de l'utilisateur : pour commencer

Manuale dell'utente

Introducerende gebruikershandleiding

Användarhandbok - Så här börjar du



Netopia R-Series Routers

netopia®

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Part Number

For additional copies of this manual, order Netopia part number 6160014-00-01

INTRODUCTION

The Netopia™ Router is designed to be easy to connect, configure, and use. Netopia and your ISP together make it even easier for you to get your router set up and connected to the Internet in a few minutes.

Once you've connected your router to your computer and to your telecommunications line and installed a web browser, you're ready to run the Netopia SmartStart Wizard.

Advanced users can find detailed documentation of advanced configuration options on the Netopia CD in the documentation folio accompanying your Netopia Router.

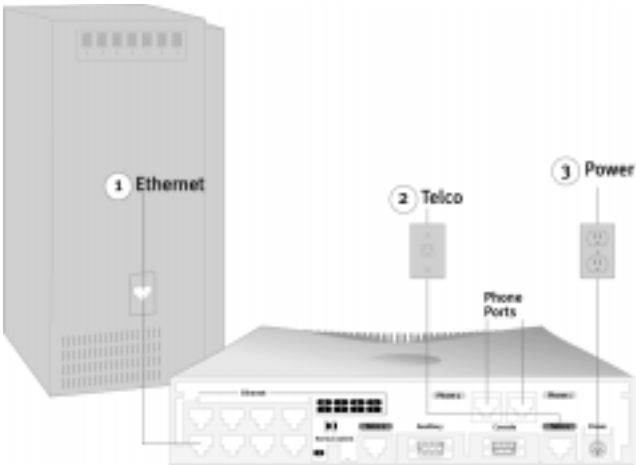
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- "Before running SmartStart" on page 5
- "Setting up your Router with the SmartStart Wizard" on page 6
- "Sharing the Connection" on page 10

MAKING THE PHYSICAL CONNECTIONS

Identify the connectors and switches on the back panel and attach the necessary Netopia Router cables.

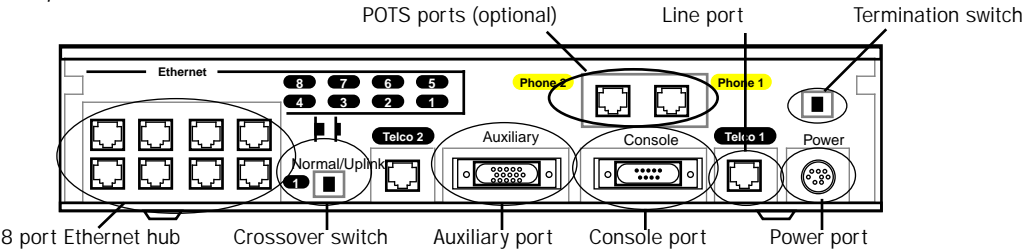


1. Connect one of the RJ-45 cables to any of the Ethernet ports on the router.
(If you are connecting the router to an existing Ethernet hub, use Ethernet port #1 on the router and set the crossover switch to the **Uplink** position.)
 2. Connect one end of one of the RJ-45 cables to the "Telco 1" port, and the other end to your ISDN line outlet. (The "Telco 2" port is reserved for future use.)
 3. Connect the mini-DIN8 connector from the Power Adapter to the Power port, and plug the other end into an electrical outlet.
- You should now have: the power adapter plugged in; the Ethernet cable connected between the router and your computer; and the telephone cables connected between the router and the ISDN line jack.

NETOPIA ROUTER BACK PANEL PORTS

The figure below displays the back of the Netopia Router.

Netopia Router back panel



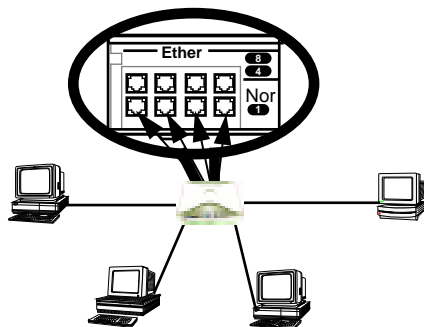
The following table describes all the Netopia Router back panel ports.

Port	Description
Power port	A mini-DIN8 power adapter cable connection.
Line port	An RJ-45 jack labelled "Telco1" for your WAN connection. (The "Telco 2" port is reserved for future use.)
Console port	A DE-9 console port for a direct serial connection to the console screens. You can use this if you are an experienced user. See the on-line <i>User's Reference Guide</i> on your Netopia CD.
Auxiliary port	An HD-15 auxiliary port for attaching an external modem or the optional AppleTalk kit or the optional Analog Dial-in kit (for RAS).

Port	Description
Crossover switch	A crossover switch with Normal and Uplink positions. If you use Ethernet Port #1 for a direct Ethernet connection between a computer and the router, set the switch to the Normal position. If you are connecting the router to an Ethernet hub, use Ethernet port #1 on the router and set the switch to the Uplink position.
8-port Ethernet hub	Eight Ethernet jacks. You will use one of these to connect to the Netopia Router for configuration. For a new installation with SmartStart, use the Ethernet connection. You can either connect your computer directly to any of the Ethernet ports on the router, or connect both your computer and the router to an existing Ethernet hub on your LAN. Alternatively, you can use the console connection with a terminal emulator application and a direct serial connection, or Telnet via Ethernet, to run console-based management. See the on-line <i>User's Reference Guide</i> on your Netopia CD.
S/T Termination switch	Netopia Router S/T models also provide an S/T termination switch. The S/T termination switch on the Netopia Router back panel must be enabled to terminate the S/T bus. To enable this parameter, the switch must be toggled to the left, which is the default setting.
2 Phone ports (POTS models only)	Netopia Router models that support SmartPhone™ provide two RJ-11 telephone jacks for connecting analog devices, such as a telephone, facsimile machine, or modem.

CONNECTING TO YOUR NETWORK

The Netopia Router in a 10Base-T network



To connect your 10Base-T network to the Netopia Router through an Ethernet port, use a 10Base-T cable with RJ-45 connectors.

If you have more than eight devices to connect, you can attach additional devices using either a 10Base-T hub or an EtherWave daisy chain, or some combination of both.

If you add devices connected through a hub, connect the hub to Ethernet port number 1 on the Netopia Router and set the Normal/Uplink switch to Uplink.

BEFORE RUNNING SMARTSTART

The SmartStart Wizard will help you set up the router and let other users on the local area network (LAN) share the Internet connection. The SmartStart Wizard walks you through a series of questions and based on your responses automatically configures the router for connecting your LAN to the Internet or to your remote corporate network.

The SmartStart Wizard will:

- automatically check your Windows 95, 98, or NT PC's TCP/IP configuration to be sure you can accept a dynamically assigned IP address, and change it for you if it is not set for dynamic addressing
- check the physical connection from your computer to your router without your having to enter an IP address
- assign an IP address to your router
- allow you to enter your dial-up telephone numbers or other information
- dial up and test your connection to your chosen ISP or other remote site

Be sure you have connected the cables and power source as described in "Making the Physical Connections" on page 4.

Before you launch the SmartStart application, make sure your computer meets the following requirements:

	PC	Macintosh
System software	Windows 95, 98, or NT operating system	MacOS 7.5 or later
Connectivity software	TCP/IP must be installed and properly configured. See "Configuring TCP/IP on Windows 95, 98, or NT computers" on page 10	MacTCP or Open Transport TCP/IP must be installed and properly configured. See "Configuring TCP/IP on Macintosh computers" on page 11.
Connectivity hardware	Ethernet card or transceiver (10Base-T)	Either a built-in or third-party Ethernet card or transceiver (10Base-T)
Browser software	Netscape Communicator™ or Microsoft Internet Explorer, included on the Netopia CD. Required for web-based registration and web-based monitoring.	

Notes:

- The computer running SmartStart must be on the same Ethernet cable segment as the Netopia Router. Repeaters, such as 10Base-T hubs between your computer and the Netopia Router, are acceptable, but devices such as switches or other routers are not.
- SmartStart for the PC will offer to set your TCP/IP control panel to "Obtain an IP address automatically" if it is not already set this way. This will require you to reboot your computer. If you have a specified IP address configured in the computer, use the SmartStart advanced configuration option (see "Advanced option" on page 9) to change your Netopia default IP address (192.168.1.1). You should make a note of it before running SmartStart, in case you do not want to use the dynamic addressing features built in to the Netopia Router and need to restore the fixed IP address.

SETTING UP YOUR ROUTER WITH THE SMARTSTART WIZARD

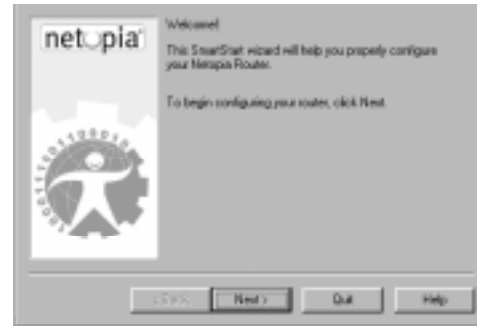
The SmartStart Wizard is tailored for your computer platform, but it works the same way on either a PC or a Macintosh. Insert the Netopia CD or diskette (if that is what was supplied to you), and in the desktop navigation screen that appears, launch the SmartStart Wizard application.

The SmartStart Wizard presents a series of screens to guide you through the preliminary configuration of a Netopia Router. It will then create a connection profile in your Netopia Router using the information you supply to it.

Welcome screen. The first screen welcomes you to the SmartStart Wizard configuration utility.

Click the Next button after you have responded to the interactive prompts in each screen.

The Help button will display useful information to assist you in responding to the interactive prompts.



Easy or Advanced options screen. You can choose either Easy or Advanced setup.

- If you choose Easy, SmartStart automatically uses the preconfigured IP addressing setup built into your router. This is the best choice if you are creating a new network or don't already have an IP addressing scheme on your new network.

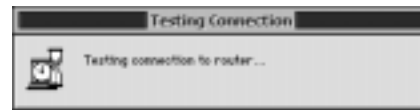
If you choose Easy, you will see a Connection Test screen like the one shown on page 6 while SmartStart checks the connection to your router.

- If you choose Advanced, skip to page 9 now. The SmartStart Wizard displays the Router IP Address screen shown on page 9, in which you can choose ways to modify your router's IP address.



EASY OPTION

Connection Test screen. SmartStart tests the connection between your computer and the router. While it is testing the connection, a progress indicator screen is displayed and the router's Ethernet LEDs flash.



When the test succeeds, SmartStart indicates success and presents the Connection Profile screen shown on page 8.

If the test fails, the wizard displays an error screen. If the test fails, check the following:

- Check your cable connections. Be sure you have connected the router and the computer properly, using the correct cables. Refer to "Making the Physical Connections" on page 4.
- Make sure the router is turned on and that there is an Ethernet connection between your computer and the router.
- Check the TCP/IP control panel settings to be sure that automatic IP Addressing (Windows) or DHCP (Macintosh) is selected. If you are using a Windows PC, SmartStart will automatically detect a static IP address and offer to configure the computer for automatic addressing. On a Macintosh computer, you must manually set the TCP/IP Control Panel to DHCP. See "Configuring TCP/IP on Macintosh computers" on page 11. If you currently use a static IP address outside the 192.168.1.x network, and want to continue using it, use the Advanced option to assign the router an IP address in your target IP range. See "Advanced option" on page 9.
On a Windows 95 or 98 system, SmartStart will automatically disable DNS. On a Windows NT system you will need to click the DNS Configuration tab on the TCP/IP properties display and then manually disable DNS. See "Configuring TCP/IP on Windows 95, 98, or NT computers" on page 10.
- If all of the above steps fail to resolve the problem, reset the router to its factory default settings and rerun SmartStart. See the on-line *User's Reference Guide* on the Netopia CD for instructions.
- If you are configuring an ISDN router, you may see the ISDN Switch Type screen shown below, displaying the possible switch types available for your region. This screen may not appear, if there is only one switch type in use in your region or you are using a customized version of SmartStart.

ISDN Switch Type screen. If you have an ISDN router, the ISDN Switch Type screen appears.

Select one of the supported ISDN switch types for your ISDN line. Your telephone company should have provided this information when your ISDN line was installed.

When you have done this, click Next.

Note: The switch types listed are different for different regions. If your region has only one switch type, this screen may not appear. In that case, skip to the Manual or Automated Connection Profile screen below.

You may see an additional screen associated with ISDN and POTS, depending on your configuration.

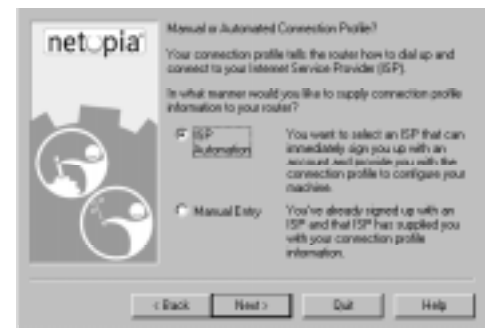


- You will see the Manual or Automated Connection Profile screen shown below.

Manual or Automated Connection Profile screen. The SmartStart Wizard asks you to select a method of creating a connection profile. The connection profile tells your router how to communicate with your ISP or other remote site, such as your corporate office. You can select either ISP Automation or Manual Entry.

Options are explained below.

Make your selection and click Next.



If you select ISP Automation, SmartStart offers you the option of choosing one of several Netopia ISP partners that support the Netopia Router. You then see the Internet Service Provider Selection screen shown on page 7.

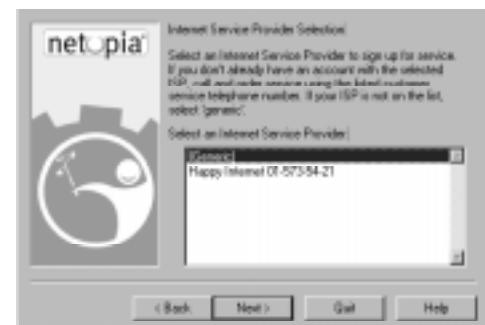
If you select Manual Entry, you must be prepared with the following information. You must enter:

- Your dial-up number, sometimes referred to as an ISP POP number
- Your Login name and Password. (These are case-sensitive.)
- Any PBX phone system dialing prefix (such as "9" for an outside line)
- Your PPP authentication method. Options are: PAP (Password Authentication Protocol), CHAP (Challenge Handshake Authentication Protocol), or None. Most ISPs use PAP; this is the default.
- A Domain Name Server (DNS); this entry must be an IP address in dotted decimal format. (for example, 192.168.4.10, not "joe.isp.com")
- Optionally, an alternate DNS if your ISP provided one

If you select Manual Entry, the Connection Profile screen shown on page 8 appears.

Internet Service Provider Selection screen. Select an ISP from the list of Netopia ISP partners who have provided information for automatic setup. Choose Generic ISP if your ISP is not included on the list. If you don't already have an account with the selected ISP, call and order service using the listed customer service telephone number, if provided.

When you have done this, click Next.



- Most ISPs will provide you with information for you to enter in the Connection Profile screen (shown below). Generally, they will provide you with:

- Your dial-up number, sometimes referred to as an ISP POP number
- Your Login name and Password. (These are case-sensitive.)

Note: Your ISP may provide you with additional values such as "Remote IP Gateway" or "Subnet Mask." These entries are not required for the SmartStart Wizard to configure your router.

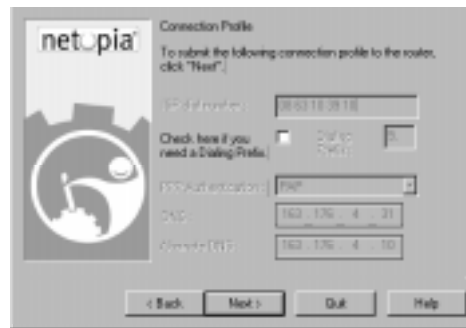
If you have a PBX phone system, you may need a dialing prefix (such as "9" for an outside line). You will enter that information in the Connection Profile screen shown below.

Connection Profile screen. Your ISP-supplied configuration information may be displayed in grayed-out fields that you do not have to change. All fields must be filled in except the Alternate DNS field if your ISP does not provide one.

If you have a PBX system, you may need a dialing prefix (such as "9" for an outside line). Enter that information here.

When you have done this, click Next.

The Name and Password screen (shown below) appears; this is where you enter the username and password for your connection to your ISP.



The Connection Profile screen features the Netopia logo and a gear icon. The text reads: "Connection Profile" and "To submit the following connection profile to the router, click 'Next!'". It includes fields for "ISP dial number" (0521182818), a checkbox for "Check here if you need a Dialing Prefix" (unchecked), "Dialing Prefix" (9), "ISP Authentication" (PPP), "DNS" (162.176.4.31), and "Alternate DNS" (162.176.4.30). Navigation buttons at the bottom are "< Back", "Next >", "Quit", and "Help".

Name and Password screen. Enter the username and password that identifies you to your ISP.

When you have done this, click Next.

The SmartStart Wizard then posts your connection profile information to your router.

Now the Connection Profile Test screen (shown below) appears. It allows you to test your connection to your ISP using the connection profile you have just created.



The Name and Password screen features the Netopia logo and a gear icon. The text reads: "Name and Password" and "For connecting to your Internet account, you have been given a username and password. Please enter them below." It includes fields for "Username" (mroty) and "Password" (mca). Navigation buttons at the bottom are "< Back", "Next >", "Quit", and "Help".

Connection Profile Test screen. SmartStart tests your connection profile by attempting to connect to your ISP.

To test the connection profile with your ISP, click Next.

While the test is running, SmartStart reports its progress in a brief succession of dialog boxes as described below.

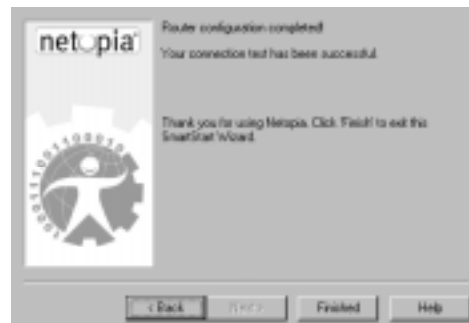
Available Line Test Progress screen. SmartStart tests to see if the router can place calls on your telephone line. While it is testing the connection, a dialog box is displayed and the LEDs flash.

Connection Test Progress screen. SmartStart displays a dialog box showing you that your connection profile is being tested. If this test fails, check the physical connections between the computer, the router, and the wall jack or jacks. Check for errors in any manual entries you made during the configuration process.



The Connection Profile Test screen features the Netopia logo and a gear icon. The text reads: "Connection Profile Test" and "A connection profile for your Internet Service Provider has been installed in the router. This profile will be used from now on to connect to the Internet." It also states: "Next is a connection test of this profile." Navigation buttons at the bottom are "< Back", "Next >", "Quit", and "Help".

Final screen. When the connection tests successfully, SmartStart displays a screen telling you that your configuration is now complete.



The Final screen features the Netopia logo and a gear icon. The text reads: "Router configuration completed" and "Your connection test has been successful." It also states: "Thank you for using Netopia. Click 'Finish' to exit the SmartStart Wizard." Navigation buttons at the bottom are "< Back", "Next >", "Finished", and "Help".

In most cases, this SmartStart configuration is all that you need to get your router up and running and connected to the Internet. However, you may want to take advantage of additional features or special configuration options available through the console-based configuration interface. For detailed instructions, see the on-line *User's Reference Guide* on your Netopia CD.

ADVANCED OPTION

Router IP Address screen. If you selected the Advanced option in the Easy or Advanced options screen, SmartStart asks you to choose between entering the router's current IP address and assigning a new IP address to the router.

If the router has already been assigned an IP address, select the first radio button. If you do this, the Known IP Address screen appears (see the next screen below.)

If you want to reconfigure the router with a new IP address and subnet mask, typically to match the IP addresses currently used on your network, select the second radio button. If you do this, the New IP Address screen appears (see the second screen below.)

When you have done this, click Next.



Known IP Address screen. SmartStart displays a recommended address for the router based on the IP address of the computer.

If you know the router has an IP address different from the default value, enter it now. Otherwise, accept the recommended address.

When you have done this, click Next.

SmartStart tests the connection to your router.

SmartStart then returns you to the Connection Profile screen shown on page 8.



New IP Address screen. If you want to change the router's IP address, you enter the new IP address, the subnet mask, and the router's serial number in this screen. Remember, the serial number is on the bottom of the router. It is also found in your documentation folio.

Note: Forcing a new IP address may turn off the Netopia Router's IP address serving capabilities, if you assign an IP address and subnet mask outside the router's current IP address serving pool. The Netopia Router does not allow an invalid address to be served. Use this option with caution.

When you have done this, click Next.

SmartStart forces the new IP address into the router, tests the connection, and then resets the router.

SmartStart then returns you to the Connection Profile screen shown on page 8.



SHARING THE CONNECTION

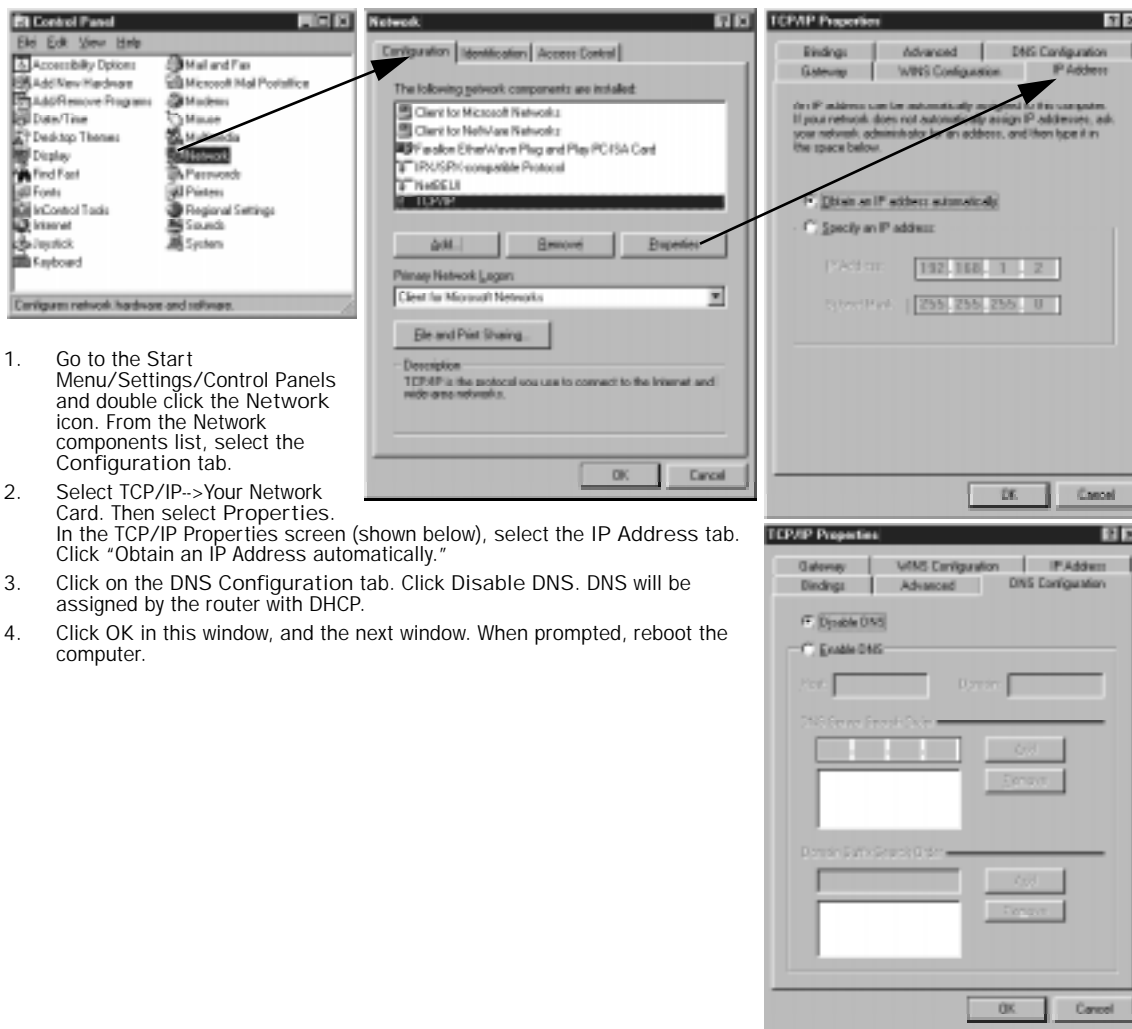
CONFIGURING TCP/IP ON WINDOWS 95, 98, OR NT COMPUTERS

Configuring TCP/IP on a Windows computer requires the following:

- An Ethernet card (also known as a network adapter)
- The TCP/IP protocol must be “bound” to the adapter or card

DYNAMIC CONFIGURATION (RECOMMENDED)

If you configure your Netopia Router using SmartStart, you can accept the dynamic IP address assigned by your router. The Dynamic Host Configuration Protocol (DHCP) server, which enables dynamic addressing, is enabled by default in the router. If your PC is not set for dynamic addressing, SmartStart will offer to do this for you when you launch it. In that case, you will have to restart your PC and relaunch SmartStart. If you configure your PC for dynamic addressing in advance, SmartStart need only be launched once. To configure your PC for dynamic addressing do the following:



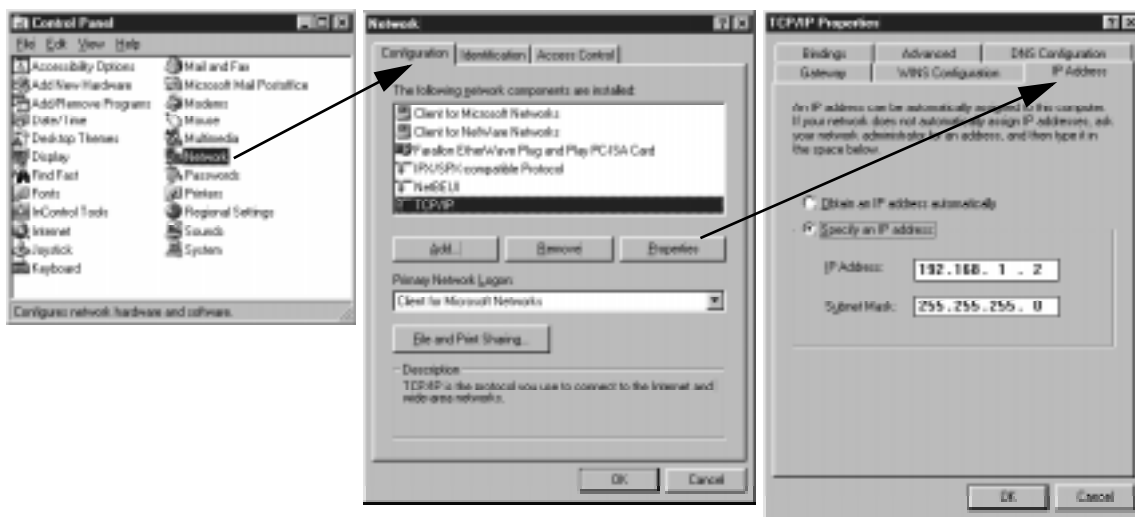
1. Go to the Start Menu/Settings/Control Panels and double click the Network icon. From the Network components list, select the Configuration tab.
2. Select TCP/IP->Your Network Card. Then select Properties. In the TCP/IP Properties screen (shown below), select the IP Address tab. Click “Obtain an IP Address automatically.”
3. Click on the DNS Configuration tab. Click Disable DNS. DNS will be assigned by the router with DHCP.
4. Click OK in this window, and the next window. When prompted, reboot the computer.

Note: You can also use these instructions to configure other computers on your network to accept IP addresses served by the Netopia Router.

STATIC CONFIGURATION (OPTIONAL)

If you are manually configuring your computer on the Local Area Network for a fixed or static IP address, perform the following:

1. Go to Start Menu/Settings/Control Panels and double click the Network icon. From the Network components list, select the Configuration tab.
2. Select TCP/IP->Your Network Card. Then select Properties. In the TCP/IP Properties screen (shown below), select the IP Address tab. Click "Specify an IP Address."
Enter the following:
IP Address: 192.168.1.2
Subnet Mask: 255.255.255.0, or for 12-user models, 255.255.255.240
This address is an example of one that can be used to configure the router with the Easy option in the SmartStart Wizard.



3. Click on the Gateway tab (shown below). Under "New gateway," enter 192.168.1.1. Click Add. This is the Netopia Router's pre-assigned IP address.



Click on the DNS Configuration tab. Click Enable DNS. Enter the following information:

Host: Type the name you want to give to this computer.

Domain: Type your domain name. If you don't have a domain name, type your ISP's domain name; for example, your ISP.com.

DNS Server Search Order: Type the primary DNS IP address given to you by your ISP. Click Add. Repeat this process for the secondary DNS.

Domain Suffix Search Order: Enter the same domain name you entered above.



4. Click OK in this window, and the next window. When prompted, reboot the computer.

Note: You can also use these instructions to configure other computers on your network with manual or static IP addresses. Be sure each computer on your network has its own IP address.

CONFIGURING TCP/IP ON MACINTOSH COMPUTERS

The following is a quick guide to configuring TCP/IP for MacOS computers. Configuring TCP/IP in a Macintosh computer requires the following:

- You must have either Open Transport or Classic Networking (MacTCP) installed.

Note: If you want to use the Dynamic Host Configuration Protocol (DHCP) server built into your Netopia Router to assign IP addresses to your Macintoshes, you must be running Open Transport, standard in MacOS 8, and optional for MacOS 7.5 and above. You can have your Netopia Router dynamically assign IP addresses using MacTCP; however, to do so requires that the optional AppleTalk kit be installed which can only be done after the router is configured.

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■ You must have built-in Ethernet or a third-party Ethernet card and its associated drivers installed in your Macintosh.

DYNAMIC CONFIGURATION (RECOMMENDED)

If you configure your Netopia Router using SmartStart, you can accept the dynamic IP address assigned by your router. The Dynamic Host Configuration Protocol (DHCP), which enables dynamic addressing, is enabled by default in the router. To configure your Macintosh computer for dynamic addressing do the following:

- 1. Go to the Apple menu. Select Control Panels and then TCP/IP.
- 2. With the TCP/IP window open, go to the Edit menu and select User Mode. Choose Basic and click OK.
- 3. In the TCP/IP window, select "Connect via: Ethernet" and "Configure: Using DHCP Server."

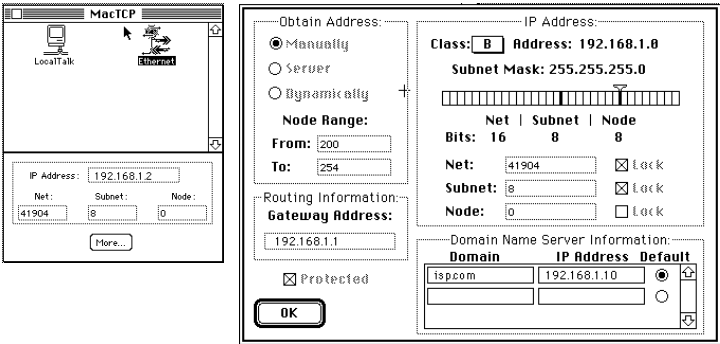


Note: You can also use these instructions to configure other computers on your network to accept IP addresses served by the Netopia Router.

STATIC CONFIGURATION (OPTIONAL)

If you are manually configuring the computer on your Local Area Network for a fixed or static IP address, perform the following:

- 1. Go to the Apple menu. Select Control Panels and then TCP/IP or MacTCP.
 - 2. With the TCP/IP window open, go to the Edit menu and select User Mode. Choose Advanced and click OK.
- Or, in the MacTCP window, select Ethernet and click the More button.



- 3. In the TCP/IP window or in the MacTCP/More window, select or type information into the fields as shown in the following table.

Option:	Select/Type:
Connect via:	Ethernet
Configure:	Manually
IP Address:	192.168.1.2
Subnet mask:	255.255.255.0, or for 12-user models, 255.255.255.240
Router address:	192.168.1.1
Name server address:	Enter the primary and secondary name server addresses given to you by your ISP
Implicit Search Path: Starting domain name:	Enter your domain name; if you do not have a domain name, enter the domain name of your ISP

- 4. Close the TCP/IP or MacTCP control panel and save the settings.
 - 5. If you are using MacTCP, you must restart the computer. If you are using Open Transport, you do not need to restart.
- These are the only fields you need to modify in this screen.

Note: You can also use these instructions to configure other computers on your network with manual or static IP addresses. Be sure each computer on your network has its own IP address.