ADE-4120

ADSL Firewall Router

User's Manual

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This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the instructions provided with the equipment, may cause interference to radio and TV communication. The equipment has been tested and found to comply with the limits for a Class A computing device in accordance with the specifications in Subpart B of Part 15 of FCC rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If you suspect this equipment is causing interference, turn your Ethernet Switch on and off while your radio or TV is showing interference, if the interference disappears when you turn your Ethernet Switch off and reappears when you turn it back on, there is interference being caused by the Ethernet Switch.

You can try to correct the interference by one or more of the following measures:
w   Reorient the receiving radio or TV antenna where this may be done safely.
w   To the extent possible, relocate the radio, TV or other receiver away from the Switch.
w   Plug the Ethernet Switch into a different power outlet so that the Switch and the receiver are on different branch circuits.
If necessary, you should consult the place of purchase or an experienced radio/television technician for additional suggestions.

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The is a class B device, In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

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Revision

User's Manual for PLANET ADSL Firewall Router:
Model: ADE-4120A/B
Rev: 1.0 (January 2004)
Part No.: EM-AD4120

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Chapter 1. Introduction

1.1 An Overview of the ADE-4120

The ADE-4120 ADSL Firewall Router provides office and residential users the ideal solution for securely sharing a high-speed ADSL broadband Internet connection on a 10/100Mbps Fast Ethernet backbone. It has built-in 4-port 10/100Mbps Ethernet switch for easily connecting to multiple PCs. They can support downstream transmission rates of up to 8Mbps and upstream transmission rates of up to 1Mbps. It is compliant with Multi-Mode standard (ANSI T1.413, Issue 2; G.dmt (G.992.1); G.lite (G992.2).

The products support PPPoA (RFC 2364 - PPP over ATM Adaptation Layer 5), RFC 1483 encapsulation over ATM (bridged or routed) and PPP over Ethernet (RFC 2516) to establish a connection with ISP. The products also support VC-based and LLC-based multiplexing.

They also serve as an Internet firewall, protecting your network from being accessed by outside users. Not only provide the natural firewall function (Network Address Translation, NAT), they also provide rich firewall features to secure a user's network. All incoming data packets are monitored and filtered per user's configuration. Besides, they can also be configured to block internal users from accessing to the Internet by user's IP or MAC address.

Furthermore, The PLANET ADE-4120 offers DDNS (Dynamic DNS) and Multiple NAT /DMZ functions which provide great convenience for user to build their own web/ftp server on private LAN.

1.2 Package Contents

1. One ADSL Firewall Router
2. One CD-ROM containing the on-line manual
3. One RJ-11 ADSL/telephone cable
4. One CAT-5 Ethernet cable
5. One AC-DC power adapter (output: 9V DC, min. 1.5A)
6. One Quick Installation Guide

1.3 ADE-4120 Features

ADE-4120 provides the following features:

ADSL Multi-Mode Standard: Supports downstream transmission rates of up to 8Mbps and upstream transmission rates of up to 1024Kbps. It is compliant with Multi-Mode standard (ANSI T1.413, Issue 2; G.dmt (G.992.1); G.lite (G992.2).

Fast Ethernet Switch: A 4-port 10/100Mbps fast Ethernet switch is supported in the

LAN site and automatic switching between MDI and MDI-X for 10Base-T and 100Base-TX ports is supported.

Multi-Protocol to Establish A Connection: Supports PPPoA (RFC 2364 - PPP over ATM Adaptation Layer 5), RFC 1483 encapsulation over ATM (bridged or routed) and PPP over Ethernet (RFC 2516) to establish a connection with the ISP. The product also supports VC-based and LLC-based multiplexing.

Network Address Translation (NAT): Allows multi-users to access outside resource such as Internet simultaneously with one IP address/one Internet access account.

Firewall: Supports SOHO firewall with NAT technology. The packet filtering is also supported for filter packets based on IP, MAC address and URL keywords.

Dynamic Domain Name System (DDNS): The Dynamic DNS service allows you to alias a dynamic IP address to a static hostname. This dynamic IP address is the WAN IP address. For example, to use the service, you must first apply an account from this free Web server http://www.dyndns.org/.

PPP over Ethernet (PPPoE): Provide embedded PPPoE client function to establish a connection. Users can get greater access speed without changing the operation concept, sharing the same ISP account and paying for one access account. No PPPoE client software is required for the local computer. The Always ON, Dial On Demand and auto disconnection (Idle Timer) functions are provided too.

Virtual Server & DMZ: Users can specify some services to be visible from outside users. The router can detect incoming service request and forward it to the specific local computer to handle it. A DMZ host setting is also provided to a local computer exposed to the outside network, Internet.

Rich Packet Filtering: Not only filters the packet based on IP / MAC addresses, but also based on Port numbers.

Dynamic Host Control Protocol (DHCP) client and server: In the WAN site, the DHCP client can get an IP address from the Internet Server Provider (ISP) automatically. In the LAN site, the DHCP server can allocate up to 253 client IP addresses and distribute them including IP address, subnet mask as well as DNS IP address to local computers. It provides an easy way to manage the local IP network.

Static and RIP1/2 Routing: Supports an easy static table or RIP1/2 routing protocol to support routing capability.

SNTP: An easy way to get the network real time information from an SNTP server.

Web based GUI: supports web based GUI for configuration and management. It is user-friendly with an on-line help, providing necessary information and assist user timing. It also supports remote management capability for remote users to configure and manage this product.

Rich management interfaces: Supports flexible management interfaces with local console port, LAN port, and WAN port. Users can use terminal application through console port to configure and manage the device, or Telnet and WEB GUI through LAN or WAN ports to configure and manage a device.

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1.4 ADE-4120 Application

Internet Connection with Firewall:

They are the perfect solution to connect a small group of PCs to a high-speed broadband Internet connection. Multi-users can have high-speed Internet access simultaneously. With their packet filter and access control function, the internal network is greatly secured.

Chapter 2. Using the Router

2.1 Cautions for using the ADE-4120

Do not place the ADE-4120 under high humidity and high temperature.

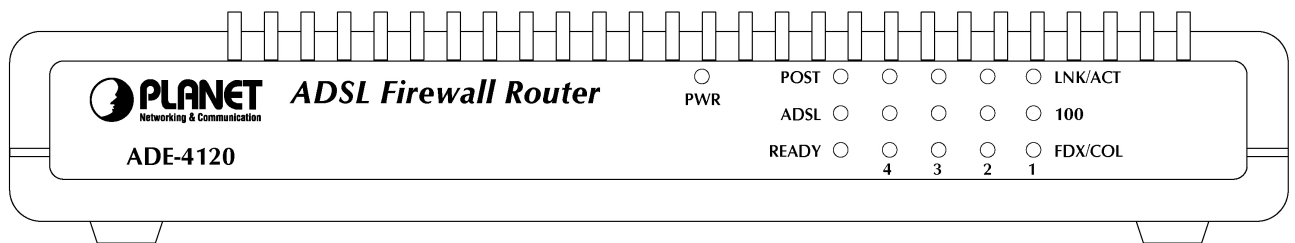*Do not use the same power source for ADE-4120 with other equipment.*

Do not open or repair the case yourself. If the ADE-4120 is too hot, turn off the power immediately and have a qualified serviceman repair it.

Place the ADE-4120 on a stable surface.

Only use the power adapter that comes with the package.
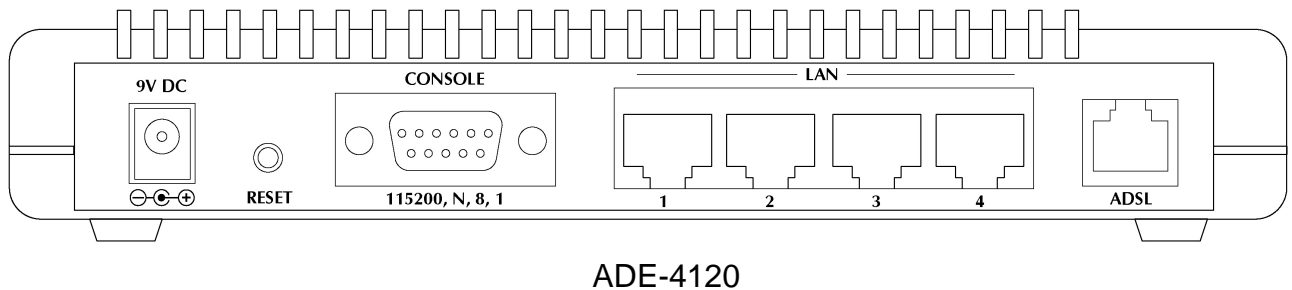
2.2 The Front Panel LEDs

ADE-4120

LED		Meaning
PWR		Lit when power ON
POST		Blinks when the device is booting
ADSL		Lit when successfully connected to an ADSL DSLAM
READY		Lit when the device is ready to use
LAN port 1 ~ 4	**LNK/ACT**	Lit when connected to Ethernet device
		Blinks when data transmit/received
	100	Lit when connected at 100Mbps speed
	FDX/COL	Lit when connected at Full Duplex and blinks when there is collision.

2.3 The Rear Ports

ADE-4120

Port	Meaning
ADSL	Connect the supplied RJ-11 cable to this port when connecting to the ADSL/telephone network.
CONSOLE	Connect a RS-232 cable to this port when connecting to a PC's RS-232 port (9-pin serial port).
LAN 1 — 4 (RJ-45 connector)	Connect an UTP Ethernet cable to one of the four LAN ports when connecting to a PC or an office/home network of 10Mbps or 100Mbps.
Reset	After the device is powered on, press it to reset the device or restore to factory default settings. The operation is as below: 0-4 seconds: reset the device 5 seconds or above: restore to factory default settings (this is used when you can not login to the router, e.g. forgot the password)
PWR	Connect the supplied power adapter to this jack.

2.4 Cabling

The most common problem is bad cabling or ADSL line. Make sure that all connected devices are turned on. On the front of the product is a bank of LEDs. As a first check, verify that the LAN Link and ADSL line LEDs are lit. If they are not, verify that you are using the proper cables.

Chapter 3. Configuration

The ADE-4120 can be configured with your Web browser. The web browser is included as a standard application in the following operation systems, UNIX, Linux, Mac OS, Windows 98/NT/2000/Me, etc. The product provides a very easy and user-friendly interface for configuration.

3.1 Before Configuration

This section describes the configuration required by LAN-attached PCs that communicate with the ADE-4120, either to configure the device, or for network access. These PCs must have an Ethernet interface installed properly, be connected to the ADE-4120 either directly or through an external repeater hub, and have TCP/IP installed and configured to obtain an IP address through a DHCP server or a fixed IP address that must be in the same subnet of the ADE-4120. The default IP address of the ADE-4120 is 192.168.1.254 and subnet mask is 255.255.255.0. The best and easy way is to configure the PC to get an IP address from the ADE-4120. Also make sure you have UNINSTALLED any kind of software firewall that can cause problems accessing the 192.168.1.254 IP address of the router.

Please follow the steps below for PC's network environment installation. First of all, please check your PC's network components. The TCP/IP protocol stack and Ethernet network adapter must be installed. If not, please refer to MS Windows related manuals.

NOTE: *Any TCP/IP capable workstation can be used to communicate with or through the ADE-4120 To configure other types of workstations, please consult the manufacturer's documentation.*

3.2 Connecting the ADE-4120

1. Connect the Router to a LAN (Local Area Network) and the ADSL/telephone network.

2. Power on the device

3. Make sure the PWR and READY LEDs are lit steady & LAN LED is lit.

4. Before proceeding to the next step, make sure you have **uninstalled** any software firewall.

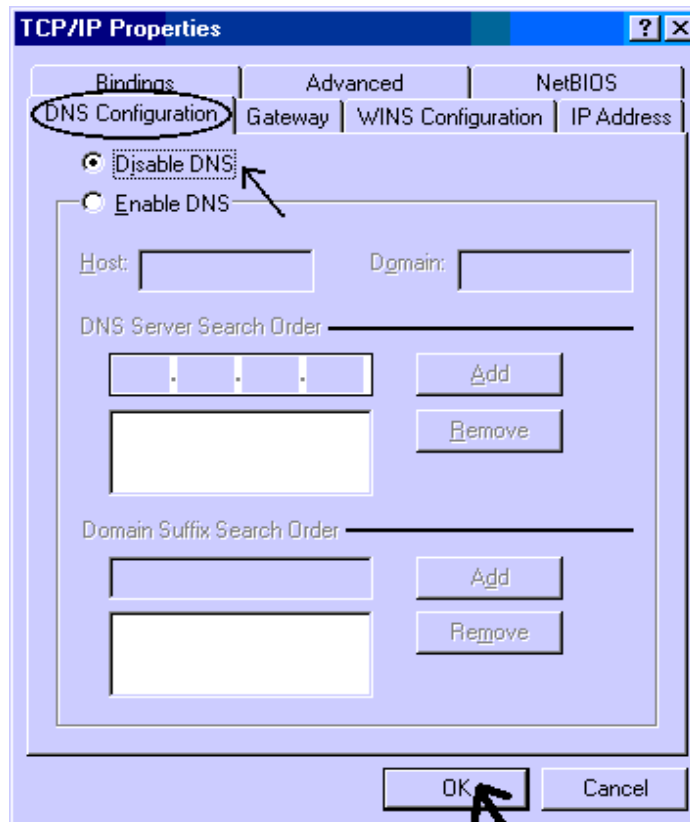## 3.3 Configuring PC in Windows

3.3.1 For Windows 98/ME

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1. Go to **Start / Settings / Control Panel**. In the Control Panel, double-click on **Network** and choose the **Configuration** tab.

2. Select **TCP / IP -> NE2000 Compatible**, or the name of any Network Interface Card (NIC) in your PC.

3. Click **Properties**.
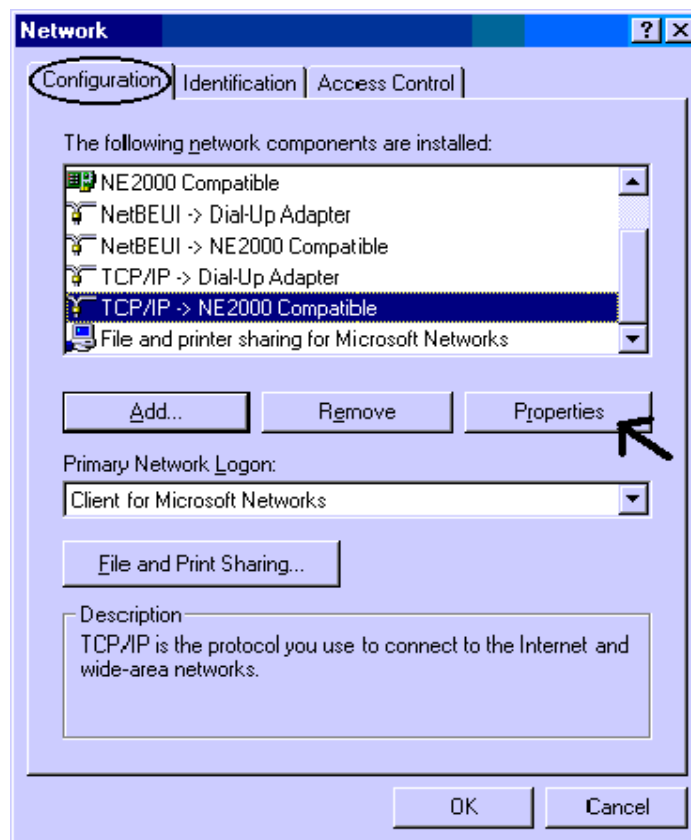
4. Select the **IP Address** tab. In this page, click the **Obtain an IP address automatically** radio button.
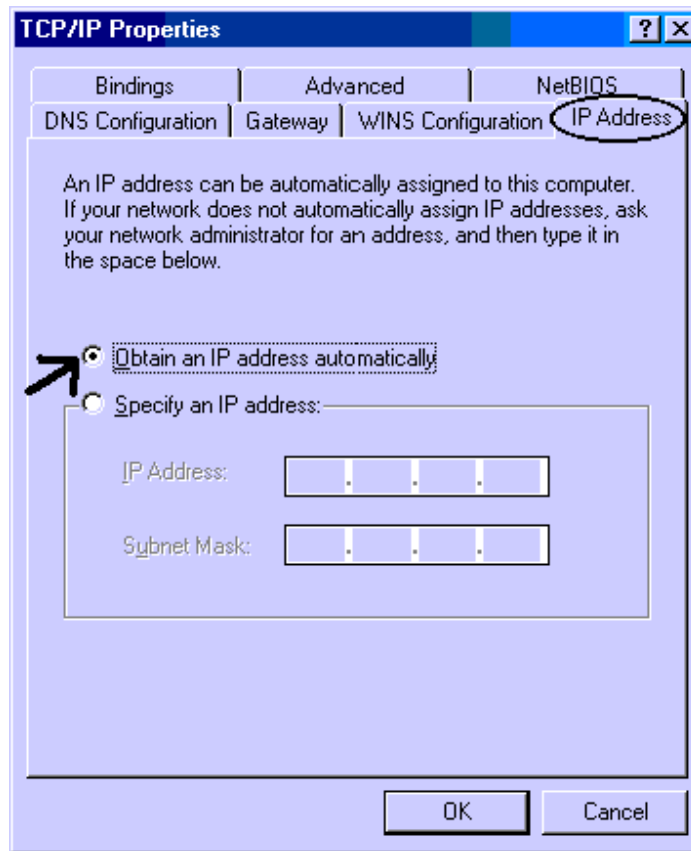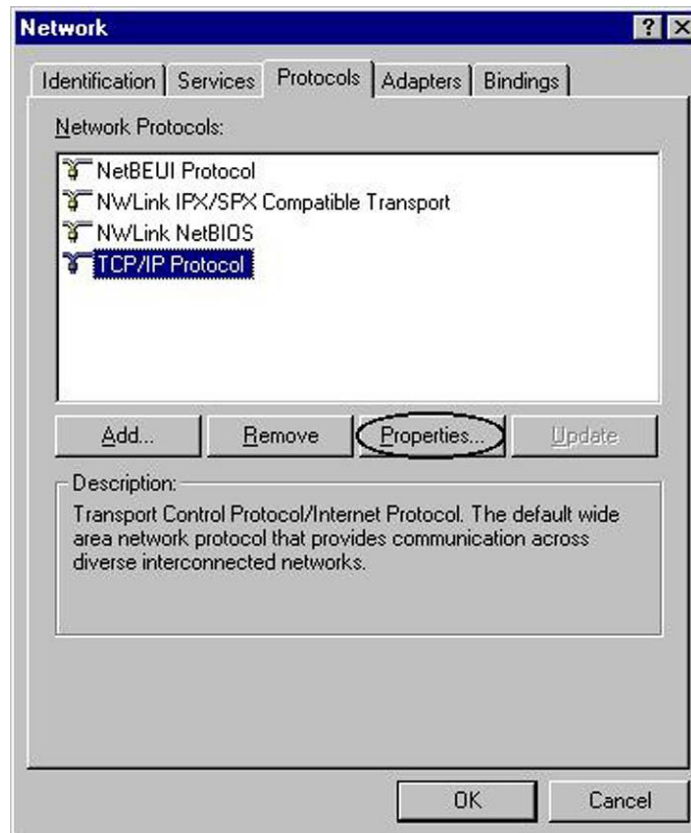
5. Then select the **DNS Configuration** tab.

6. Select the **Disable DNS** radio button and click **"OK"** to finish the configuration.

3.3.2 For Windows NT4.0

1. Go to **Start / Settings / Control Panel**. In the Control Panel, double-click on **Network** and choose the **Protocols** tab.

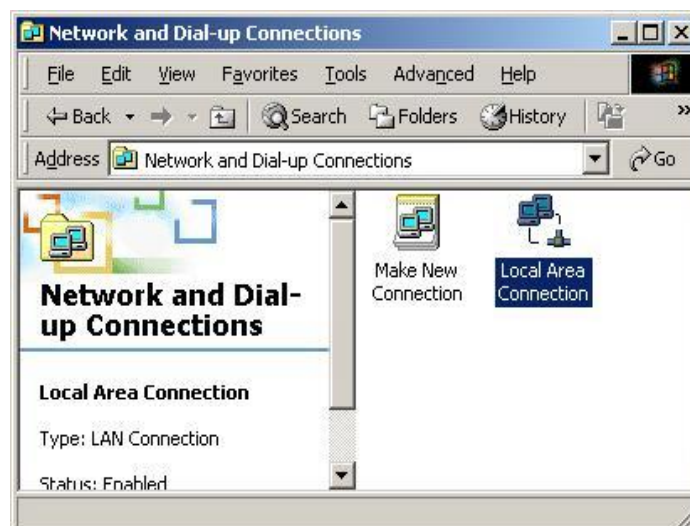2. Select **TCP/IP Protocol** and click **Properties**.

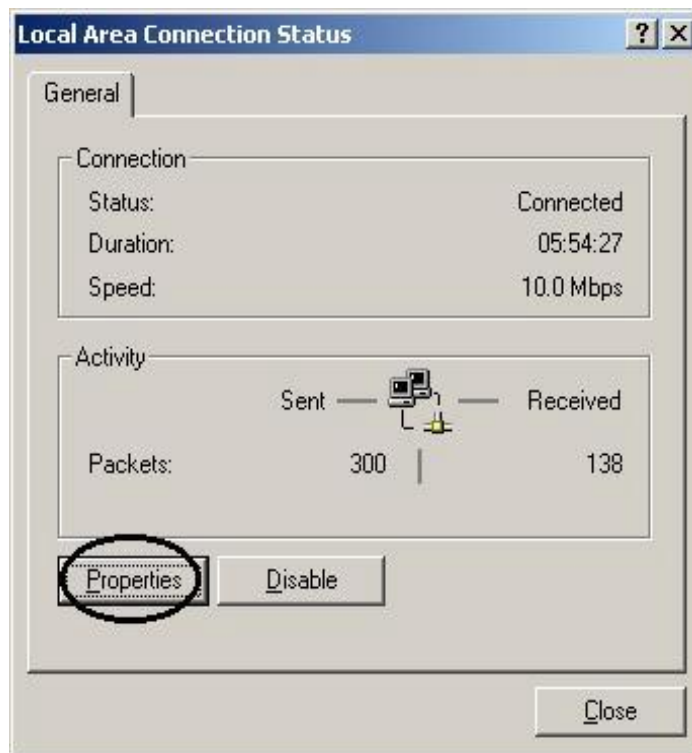3. Select the **Obtain an IP address from a DHCP server** radio button and click **OK**.
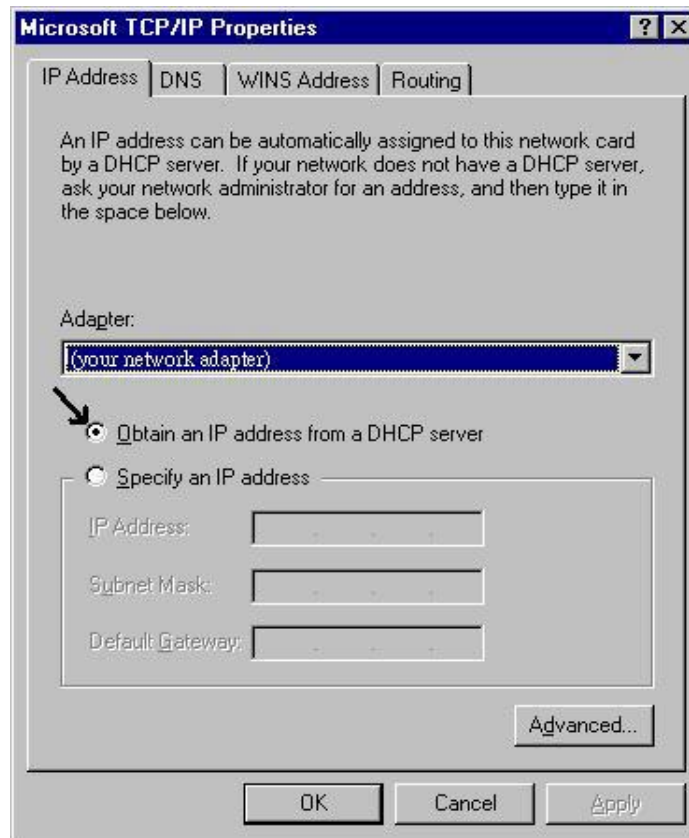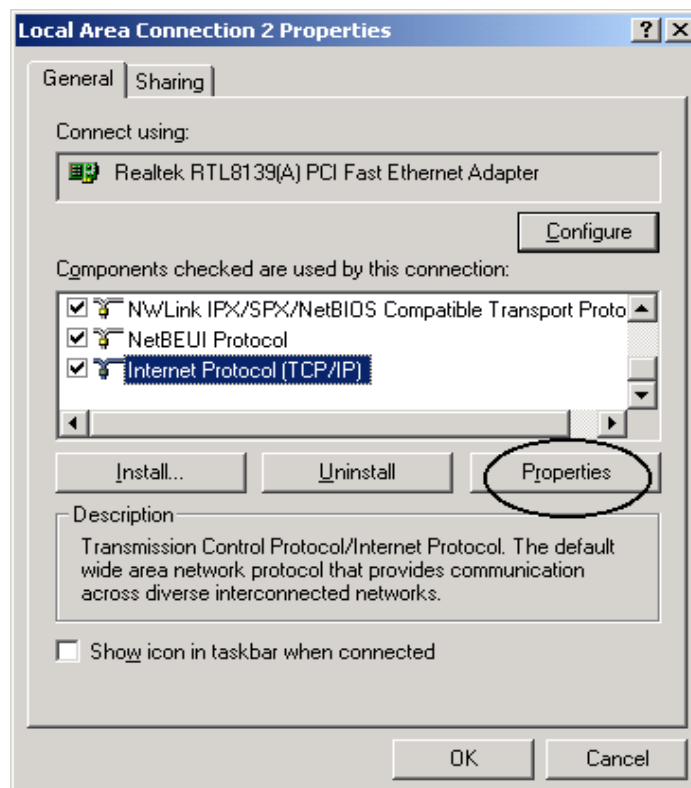
3.3.3 For Windows 2000

1. Go to **Start / Settings / Control Panel**. In the Control Panel, double-click on **Network and Dial-up Connections**.

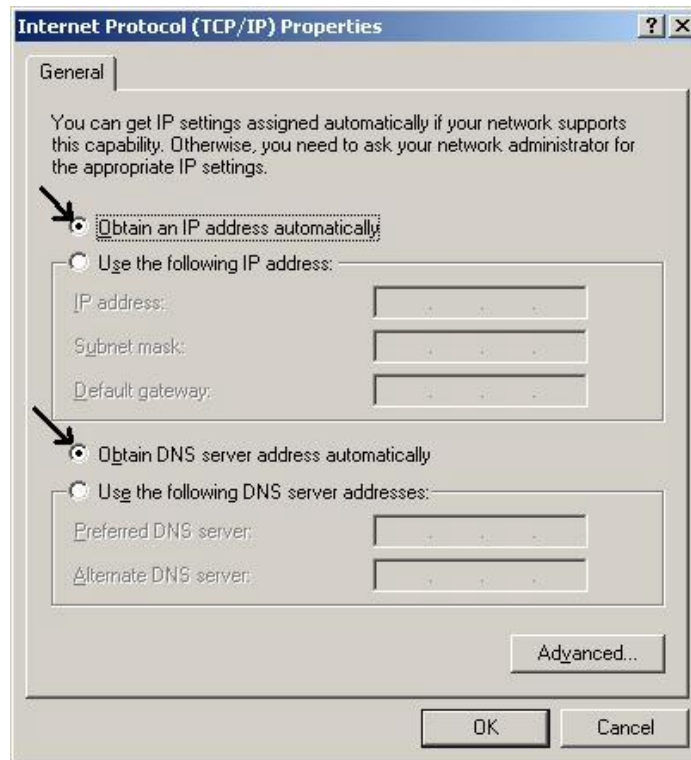2. Double-click **LAN Area Connection**.

3. In the **LAN Area Connection Status** window, click **Properties**.

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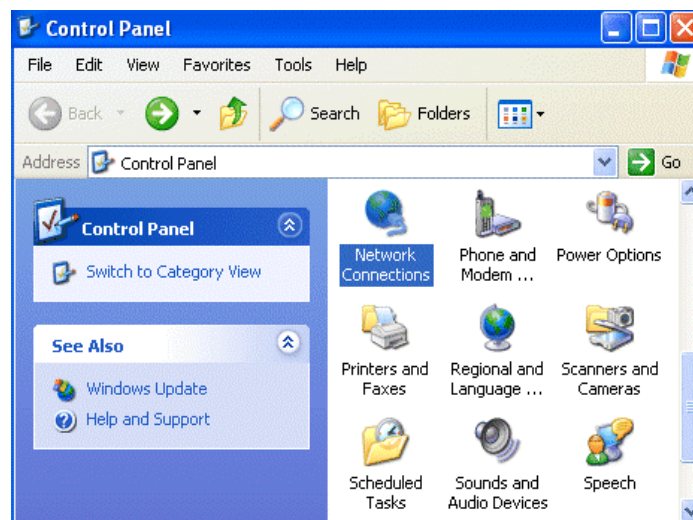4. Select **Internet Protocol (TCP/IP)** and click **Properties**.

5. Select the Obtain an IP address automatically and the Obtain DNS server address automatically radio buttons.
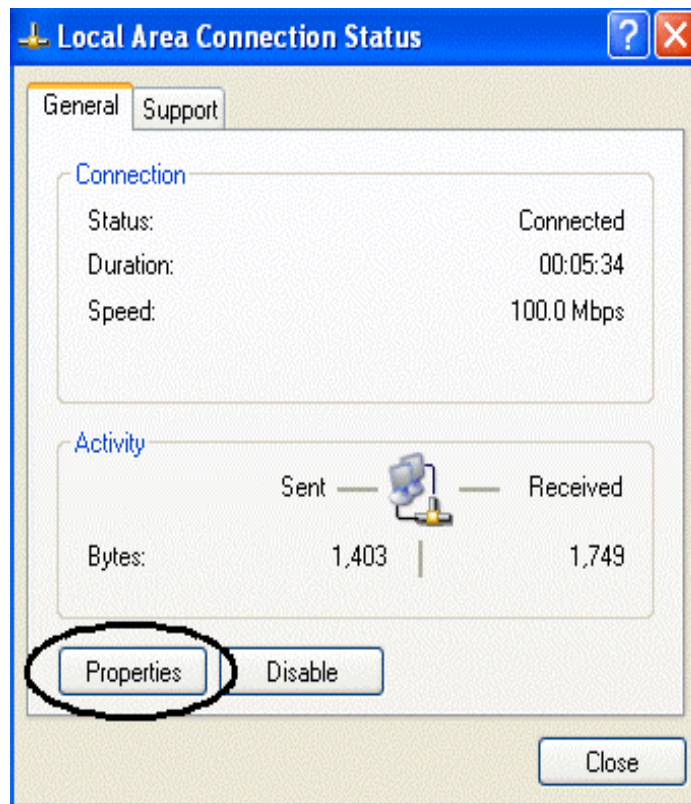
6. Click OK to finish the configuration.

3.3.4 For Windows XP

1. Go to Start / Control Panel (in Classic View). In the Control Panel, double-click on Network Connections.

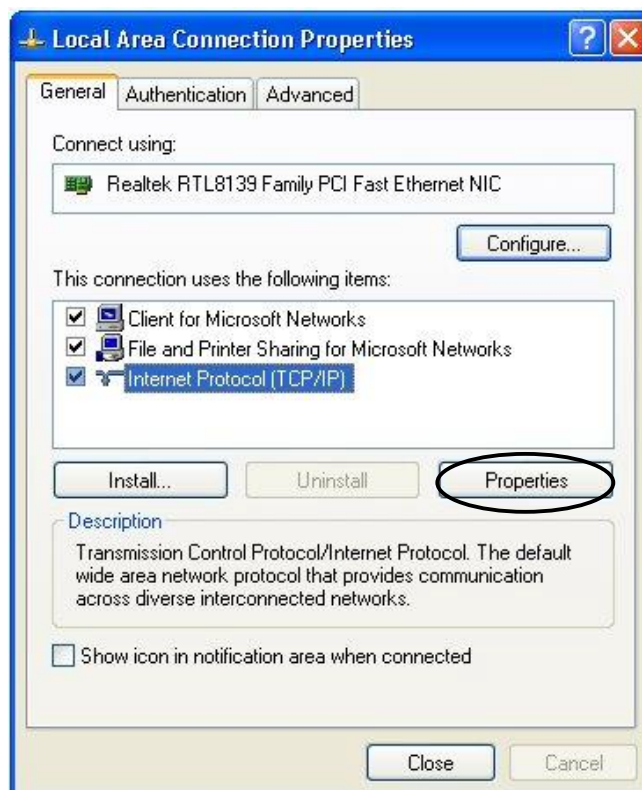2. Double-click Local Area Connection

3. In the **LAN Area Connection Status** window, click **Properties**.
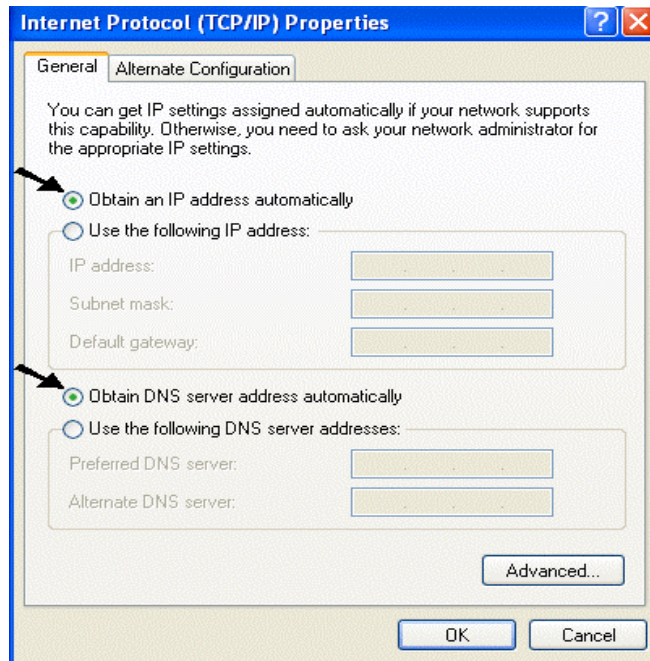
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4. Select Internet Protocol (TCP/IP) and click Properties.

5. Select the Obtain an IP address automatically and the Obtain DNS server address automatically radio buttons

6. Click OK to finish the configuration.

3.4 Factory Default Settings

Before configurating this ADE-4120, you need to know the following default settings.

1. Web Configurator

Does not require user name and password

2. Device IP Network settings in LAN site

IP Address : 192.168.1.254

Subnet Mask : 255.255.255.0

3. ISP setting in WAN side

Bridge (RFC1483 bridge)

4. DHCP server

DHCP server is enabled.

Start IP Address : 192.168.1.1

End IP Address : 192.168.1.100

3.4.1 Username and Password

The web interface does not require username and password by default. You can select "Basic" -> "User Profile" to enable the administrator authentication.

> ⚠️ *If you ever forget the password to log in, you may press the RESET button for more than 5 seconds to restore the factory default settings..*

3.4.2 LAN and WAN Port Addresses

The parameters of LAN and WAN ports are pre-set in the factory. The default values

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are shown below.

	LAN Port	WAN Port
IP address	192.168.1.254	The Bridge function is enabled by default.
Subnet Mask	255.255.255.0	
DHCP server function	Enabled	
IP addresses for distribution to PCs	100 IP addresses continuing from 192.168.1.1 through 192.168.1.100 (Actually, it can support up to 253 users.)	

3.5 Information from the ISP

Before configuring this device, you have to check with your ISP (Internet Service Provider) what kind of service is provided such as PPPoE, PPPoA, RFC1483, or DHCP client.

Gather the information as illustrated in the following table and keep it for reference.

Service Type	Need NAT / IP Sharing?	Mode Selection	Data needed
RFC1483 Routed and the static IP address	No	Router	wVPI/VCI of WAN wIP address /subnet mask of WAN wThe computers are set the fixed assigned IP address
RFC1483 Bridge mode plus PPPoE	No	Bridge	wVPI/VCI of WAN wPPPoE software installed on PC wuser's name & password for PPPoE
RFC1483 Routed and the global IP address	Yes	NAT	wVPI/VCI of WAN wIP address /subnet mask of WAN
RFC1483 Bridge and the global IP address	Yes	NAT2	wVPI/VCI of WAN wIP address /subnet mask /Gateway of WAN
RFC1483 Bridge mode plus PPPoE	Yes	PPPoE+NAT	wVPI/VCI of WAN wuser's name & password for PPPoE
RFC2364 mode	Yes	PPPoA+NAT	wVPI/VCI of WAN wuser's name & password for PPPoA
RFC1483Bridge & DHCP client	Yes	DHCPc + NAT	wVPI/VCI of WAN

3.6 Configuring with the Web Browser

Open the web browser, enter the local port IP address of this ADE-4120 , which defaults at **192.168.1.254**, and click "**Go**", you will get a function overview page when login successfully.

3.6.1 Home

At the "Home" function page, the top navigation pane provides links to the desired setup page. The left navigation pane provides the detail explanations of the available configuration of each option on the top pane. This page also provides icons for different language interfaces. Currently we support "English" and "German".

Please click on the desired item on top navigation pane to go to the function page.

3.6.2 Setup

Click on the Setup button on the top pane, you will go to the quick setup wizard page.
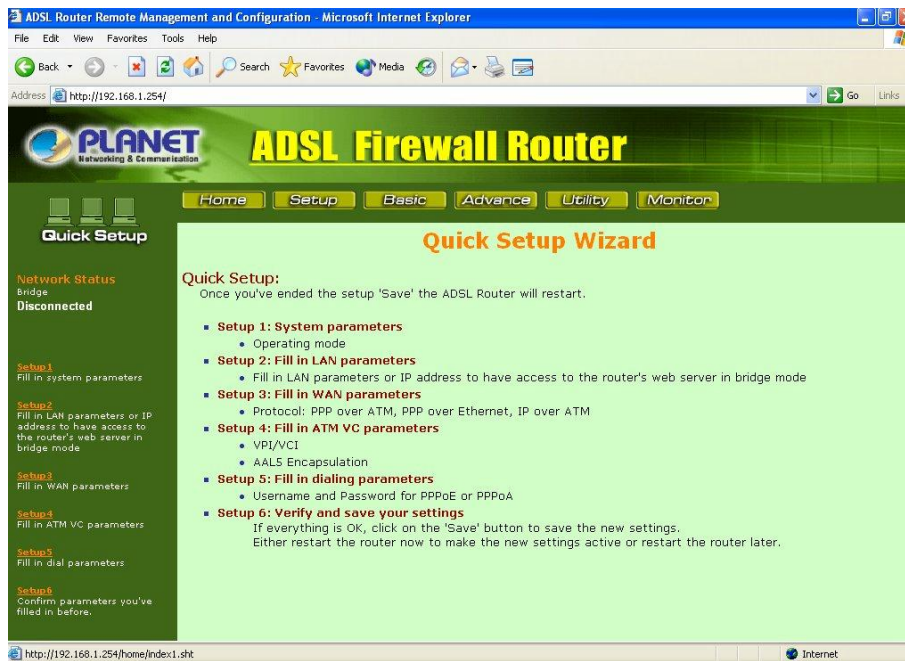
3.6.2.1 Setup 1 System parameters

Select the operating mode in Setup1 page of web configuration server as follows: You can get these modes from your ISP. Please check section 3.5 for detail. After you select the mode you want, please click "Next" to continue.

3.6.2.2 Setup 2 LAN parameters

Configure the following values into the ADSL Router's Setup page. Not everyone will require the following settings. Check with your ISP.

LAN IP Address and subnet mask: These values refer to the internal network you are

creating with your ADSL Router. Unless you have specific internal needs or in the router mode, there should be no reason to change these values.

Please check with your ISP to see if you need to enter Router & Domain Names to be viewed by your ISP's network. If you do, click on your Start button. Choose Control Panel, then double-click the Network icon. Choose the Identification tab. There will be a Computer Name and a Workgroup name displayed here. Enter the Computer Name into the Router Name box on the Setup Page, and enter the Workgroup name into the Domain Name box on the Setup Page.

After you complete the settings of this page, click "Next" to continue.

3.6.2.3 Setup 3 WAN parameters

These values refer to the outside network you connect to every time you access your Broadband Internet connection. Most ADSL ISPs assign their clients with a different IP address via PPPoE or PPPoA each time they log on. If this is the case with your ISP, you should set PPPoE+NAT or PPPoA+NAT mode at previous step 1. You can setup PPPoE or PPPoA activity time, the router will log off when the idle time up. Click "Next" to continue.

3.6.2.4 Setup 4 VC parameters

You should check with your ISP for VPI/VCI and AAL5 Encapsulation for ATM VC parameter. After you complete the settings of this page, click "Next" to continue.

3.6.2.5 Setup 5 Dial parameters

You should give user's name and password if you select PPPoE+NAT or PPPoA+NAT mode in step 1. If you select other mode, this page will not show. Click "Next" to continue.

3.6.2.6 Step 6 Confirm parameters

This page shows all the settings you have configured. Please click "Finish" button to complete your settings.

The "Save Configuration & Restart System" page is shown. Click "Save" to save the new configuration. The router will restart automatically.
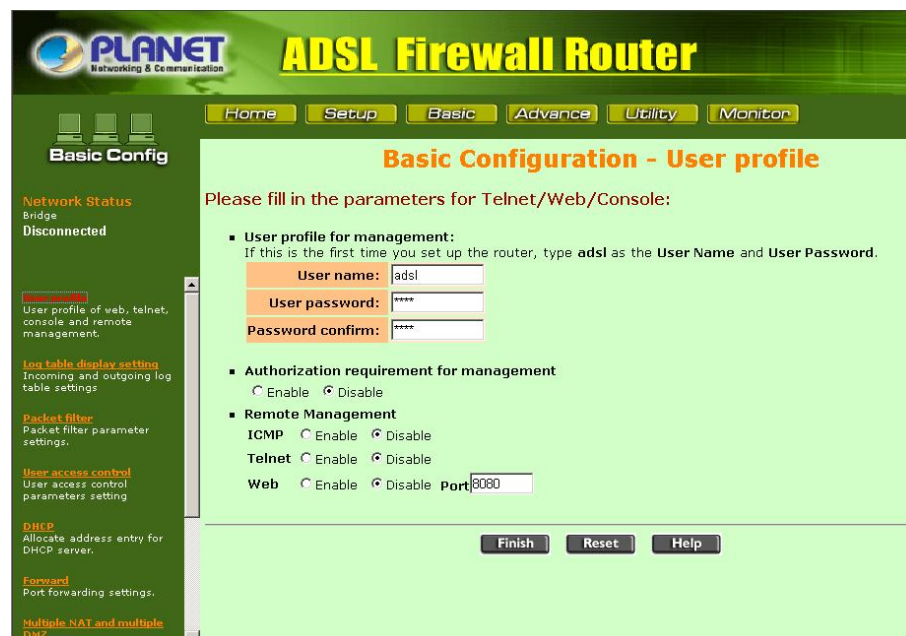
3.6.3 Basic

The basic configurations are listed these functions in common use for the ADSL Router system. Please link to the specific feature page to set these parameters.

3.6.3.1 User profile

This page allows you to set the Username and Password to prevent improper accessing from un-authorized users. It also allows you to enable or disable remote management.

3.6.3.2 Log table display setting

The packet log setting allows the display of the incoming and outgoing data on the MONITOR. Check the box to enable log table then you can find the record on the "Monitor".

3.6.3.3 Packet filter

The router provides two filter functions: LAN to WAN and WAN to LAN. Please click the function you need. If you select LAN to WAN, you can add the IP address, IP range, Port range, Mac address of the local PC to access the Internet. You can also use URL keywords to prevent accessing some website by local users. The WAN to LAN filter is to prevent some WAN side IP addresses to access your local PCs.

3.6.3.4 User access control

You can fill in the LAN IP address, MAC address and port range to limit the Internet access of the local user.

3.6.3.5 DHCP

DHCP (Dynamic Host Configuration Protocol) allows you to automatically assign IP addresses to client stations logging onto a TCP/IP network. It eliminates the need to manually assign permanent IP addresses. This ADSL router also allows host with fixed IP. You can key in the host MAC Address in the table below.

3.6.3.6 Forward

This page allows you to setup up the public services on your network. It provides three sub-functions: Virtual Server, Prot forwarding and Port Triggering.

3.6.3.6.1 Virtual Server

Please fill in the IP address and enable the server. The Preset Applications are among the most widely used Internet applications.
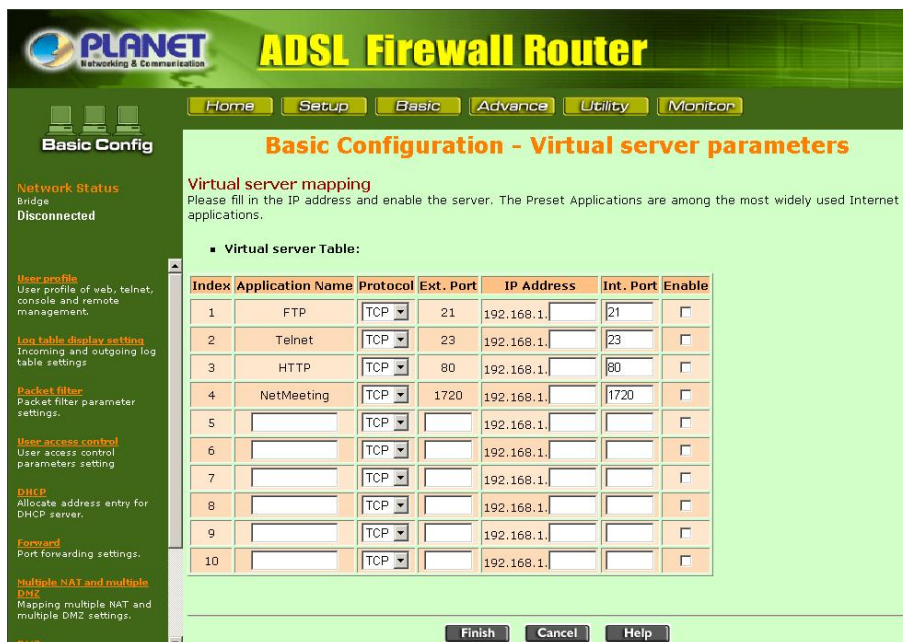
3.6.3.6.2 Port Forwarding

Please select the Network service protocol type, fill in the service parameters and enable this service. Click on the 'Finish' button to save and return to the previous page.

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3.6.3.6.3 Port Triggering

The Router will watch the outgoing data for specific port. If the PC behind the router sends the data witch is matching the 'Port Triggering table' through the router, the router will record it. When the requested incoming data returns, the router will send it to the PC by way of Port Triggering table rule.

3.6.3.7 Multiple NAT and Multiple DMZ

If your ADSL account within multi-real IP Addresses then Multi-Global IP mapping function is a useful feature for Internet application. The Multi-Global IP mapping function

helps you dividing the client PCs on the LAN into several groups and each group access Internet through one real IP Address. You also can set single local IP Address map to single Global IP Address. Thus it empowers the management and provides much wider application over ADSL line.
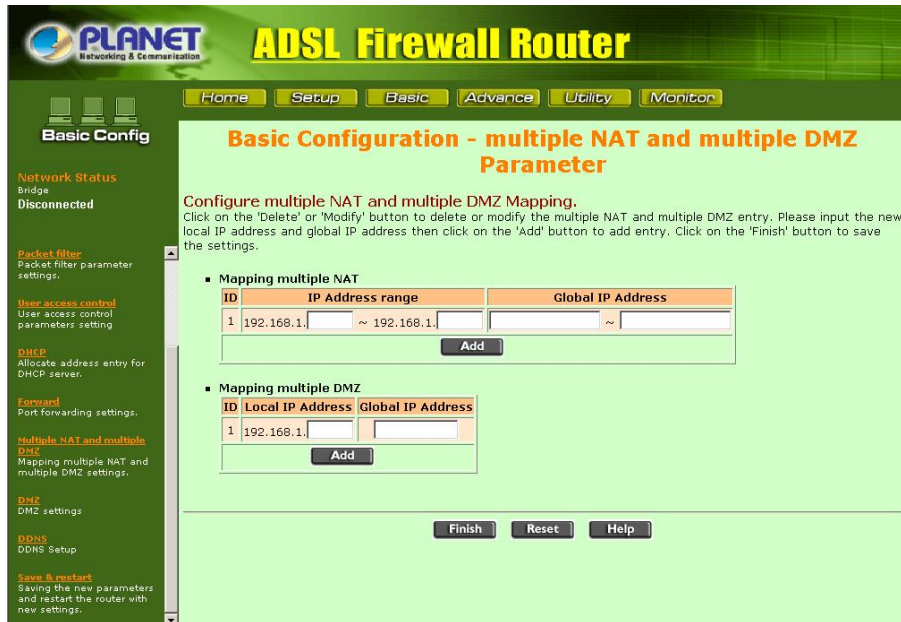
3.6.3.8 DMZ

You can set one DMZ host in the DMZ parameter to expose all ports of the internal user to the Internet.
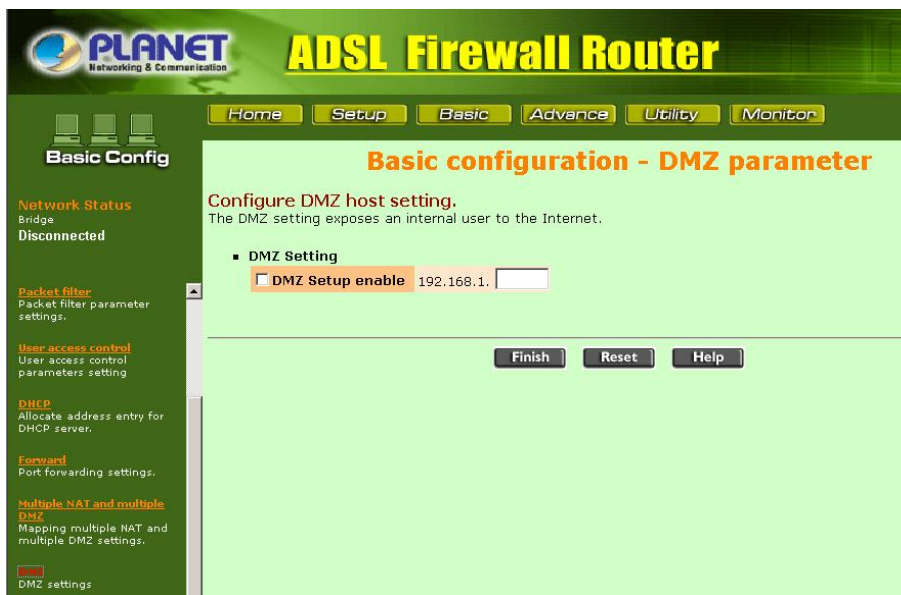
3.6.3.9 DDNS

DDNS(Dynamic DNS) service points a fixed hostname to a dynamic WAN IP address or static IP address, allowing your computer to be accessed from various locations on the Internet without knowing your current IP. With a DDNS connection you can host your own web site, email server, FTP site and more at your own location. The DDNS service is provided by DynDNS.org, you need to register a domain name in www.dyndns.org before configuring DDNS. The Router will check the domain name by asking the DNS every day by default, and every 28 days to updating to DDNS server.
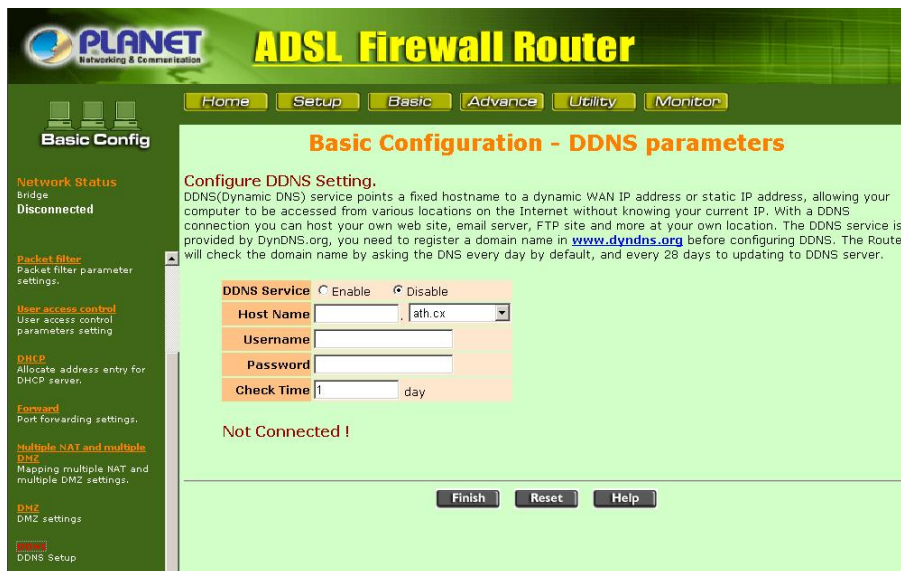
3.6.3.10 Save & Restart

This page offers you the opportunity to save new configurations and restart your router. To update the configuration, the server must be restarted. When you click on the 'Save' button, the router will restart and your browser session will be disconnected. It may appear that your browser session doesn't work. When the ADSL Router restarts after a few seconds, you can click on the 'Reload' button, or close your browser and then re-open it.

Please click on the 'save' button to save the new configuration, and the router will restart automatically.

3.6.4 Advance

This function allows you to make routing configuration.

3.6.4.1 Static route

You may set up a static route if you want to connect your router to more than one network. A static route is a pre-determined path that network information must reach a specific host or network.

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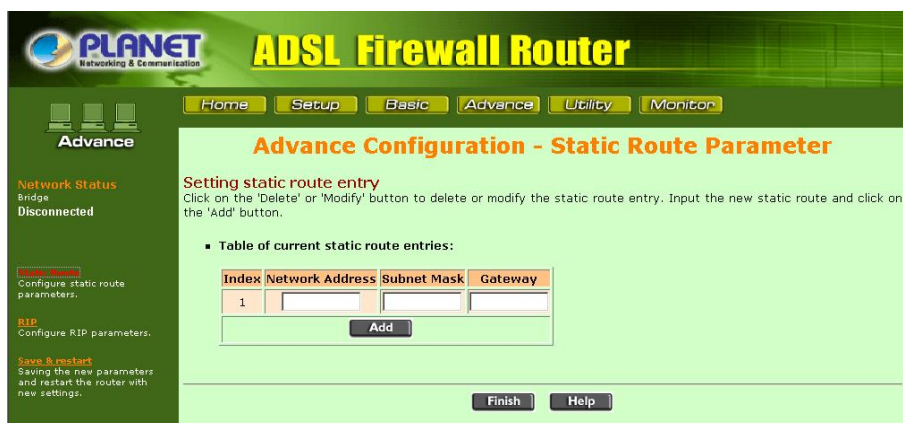
3.6.4.2 RIP

RIP (Routing Information Protoco allows a router to exchange routing information with other routers. The RIP Direction field controls the sending and receiving of RIP packets.

The RIP version field controls the format and the broadcasting method of the RIP packets that the Router sends (it recognizes both formats when receiving). RIP-1 is universally supported, but RIP-2 carries more information. RIP-1 is probably adequate for most networks, unless you have an unusual network topology.

3.6.4.3 Save & Restart

This page offers you the opportunity to save new configurations and restart your router. To update the configuration, the server must be restarted. When you click on the 'Save' button, the router will restart and your browser session will be disconnected. It may appear that your browser session doesn't work. When the ADSL Router restarts after a few seconds, you can click on the 'Reload' button, or close your browser and then re-open it.

Please click on the 'save' button to save the new configuration, and the router will restart automatically.

3.6.5 Utility

This function provides you the system information, status and firmware upgrade.
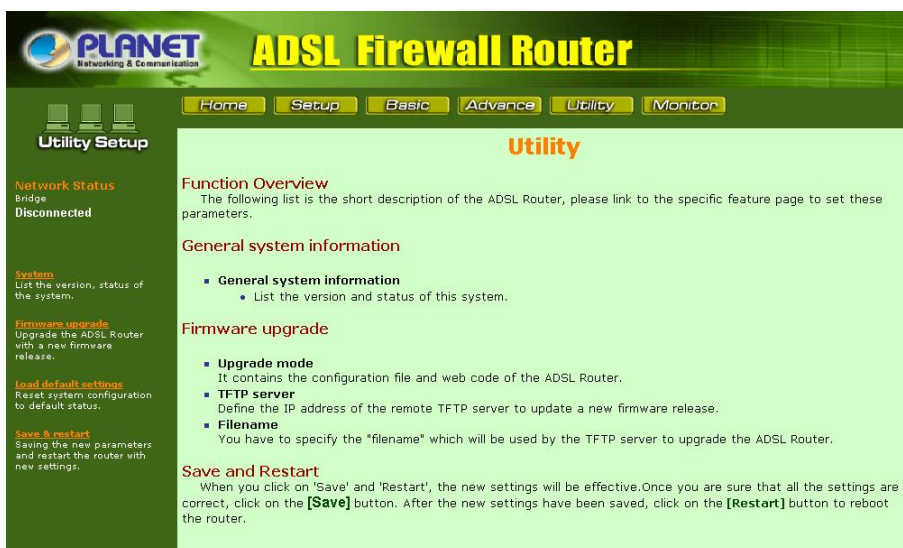
3.6.5.1 System

This page provides you the general system information including firmware version.

3.6.5.2 Firmware upgrade

This page allows you to upgrade the firmware through TFTP server. Please note that you have to setup a TFTP server first and store that firmware file on the TFTP server directory.

After you have clicked on the 'OK' button, please wait for a while during the transfer of the files. Please note that if you upgrade the "All images", it will take almost two minutes. The LED light will flash until the upgrade is finished. Please also never turn off or restart the ADSL Router during the upgrade status.

3.6.5.3 Load default settings

This page allows you to load the factory default settings. When you click on the 'OK' button, your ADSL Router will load the default settings and restart. When the ADSL

Router is restarted, your browser session will be disconnected. It may appear that your browser session doesn't work. When the ADSL Router restarts after a few seconds, you can input the default IP address (http://192.168.1.254) to open the web interface again.

3.6.5.4 Save & Restart

This page offers you the opportunity to save new configurations and restart your router. To update the configuration, the server must be restarted. When you click on the 'Save' button, the router will restart and your browser session will be disconnected. It may appear that your browser session doesn't work. When the ADSL Router restarts after a few seconds, you can click on the 'Reload' button, or close your browser and then re-open it.

Please click on the 'save' button to save the new configuration, and the router will restart automatically.


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3.6.6 Monitor

This function is used to monitor the Network status or the status of the ADSL Router. The available options depend on your operation mode. Click on the icon in the left window then the table will pop up.

Chapter 4. Troubleshooting

If the ADE-4120 ADSL Firewall Router is not functioning properly, you can refer first to this chapter for simple troubleshooting before contacting your service provider. This could save you time and effort but if the symptoms persist, then consult your service provider.

Problems Starting Up the ADE-4120

Problem	Corrective Action
None of the LEDs are on when you turn on the ADE-4120	Check the connection between the adapter and the ADE-4120 . If the error persists, you may have a hardware problem. In this case you should contact technical support.

Problems with the WAN Interface

Problem	Corrective Action
Initialization of the PVC connection failed.	Ensure that the cable is connected properly from the ADSL port to the wall jack. The ADSL LED on the front panel of the ADE-4120 should be on. Check that your VPI, VCI, type of encapsulation and type of multiplexing settings are the same as what you collected from your telephone company and ISP. Reboot the ADE-4120 . If you still have problems, you may need to verify these variables with the telephone company and/or ISP.

Problems with the LAN Interface

Problem	Corrective Action
Can't ping any station on the LAN.	Check the Ethernet LNK/ACT LEDs on the front panel. The LED should be on for a port that has a station connected. If it is off, check the cables between your ADE-4120 and the station. Make sure you have **uninstalled** any software firewall.
	Verify that the IP address and the subnet mask are consistent between the ADE-4120 and the workstations.

Appendix A. Specification

Product		ADSL Firewall Router
Model		ADE-4120A / ADE-4120B
Hardware		
Standard		ANSI T1.413 Issue 2 ITU G.992.1 (G.dmt) including - Annex A (ADSL over POTS for ADE-4120A) - Annex B (ADSL over ISDN for ADE-4120B) G.992.2 (G.lite) with fast retrain
Protocol		RFC 2364 - PPP over ATM (LLC/VCMUX) RFC 2516 - PPP over Ethernet (LLC/VCMUX) RFC 1577 - Classic IP over ATM (LLC/VCMUX) RFC 1483 - Bridged IP over ATM (LLC/VCMUX) RFC 1483 - Routed IP over ATM (LLC/VCMUX)
Interoperability		Interoperable with major DSLAM suppliers
Ports	LAN	4 (10Base-T/100Base-TX, Auto-Negotiation, Auto MDI/MDI-X)
	WAN	1 (RJ-11, 10/100Base-TX, Auto-Negotiation)
LED Indicators		PWR, SYS, ADSL, READY and LNK/ACT, 100, FDX/COL for LAN 1 to 4
Button		1 for reset/factory reset
Console		1 x RS-232 Console
Software		
Protocol		IP, NAT, ARP, ICMP, DHCP, PPPoE, PPPoA, RIP1/2
Security		Native NAT firewall, Enhanced packet filter, URL Filter, Virtual Server, DMZ
Management		Web browser management, telnet, console
Environment Specification		
Dimension (W x D x H)		184 mm x 143 mm x 35 mm
Power		9V DC, 1.5A
Power Consumption		Maximum 10W, 34 BTU
Temperature		0~40 degree C (operating), -10~70 degree C (storage)
Humidity		5%~ 95% (non-condensing)
Emission		EMI: FCC part 15, CE

Appendix B. FAQ and Product

Support

Most problems can be solved by using the *Troubleshooting* in Chapter 4 and the following FAQ. If you cannot resolve the problem, please contact the dealer where you purchased this product. For any other questions, please contact **PLANET** directly at the following email address: **support@planet.com.tw**. You can also download upgraded driver or software utilities for free from PLANET's website at **http://www.planet.com.tw**

What should I do when I forgot the user's name and password of management?
For security reason you should assign a password to protect your router against hacker attacks. When you forgot the user's name and password, you can do the procedure of Backup configuration file,

What is the maximum number of IP addresses that the ADSL Router will support?
The Router will support to 253 IP addresses with NAT mode.

Where is the ADSL Router installed on the network?
In a typical environment, the Router is installed between the ADSL line and the LAN.
Plug the ADSL Router into the ADSL line on the wall and Ethernet port on the Hub (switch or computer).

What is Network Address Translation and what is it used for?
Network Address Translation (NAT) translates multiple IP addresses on the private LAN to one public address that is sent out to the Internet. This adds a level of security since the address of a PC connected to the private LAN is never transmitted on the Internet. Furthermore, NAT allows the ADSL Router to be used with low cost Internet accounts which only one TCP/IP address is provided by the ISP.

The user may have many private addresses behind this single address provided by the ISP. Does the ADSL Router support any operating system other than Windows 95/98/2000/Me, or Windows NT?
Yes, it provides technical support for setup, configuration or trouble shooting of any non-windows operating systems.

How do I get Napster to work with the Router?
Napster is fully compatible with the Router and requires no special settings.

How can I not receive corrupted FTP downloads?
If you are experiencing corrupted files when you download a file with your FTP client, try using another FTP program.

Web page hangs, corrupt downloads, or nothing but junk characters is being displayed on the screen. What do I need to do?
Force your NIC to 10Mbps or half duplex mode, and turn off the "Auto-negotiate" feature of your NIC as a temporary measure. (Please look at the Network Control Panel, in your Ethernet Adapter's Advanced Properties tab.).

Does the ADSL Router support IPsec?
No, not currently.

Will the Router function in a Macintosh environment?
Yes.

With which type of firewall is the ADSL router equipped?
The ADSL Router uses NAT and TCP/IP port inspections.

Is the Router cross-platform compatible?
Any platform that supports Ethernet and TCP/IP is compatible with the Router.

Will the Router allow me to use my own public IPs and Domain, or do I have to use the IPs provided by the Router?
The Router mode allows for customization of your public IPs and Domain.

How can I check whether I have static DHCP IP Addresses?
Consult your ISP to confirm the information.

What is the default IP address of the router for LAN port?
The default IP address is 192.168.1.254 with subnet mask 255.255.255.0

Why does the router dial out for PPPoE or PPPoA mode very often?
Normally some of game, music or anti_virus program will send out packets that trigger the router to dial out, you can close these program. Or you can set the idle time to 0, then control to dial out manually.

Why can't I connect to the Web Configurator?

You can remove the proxy server settings in your web browser.

Why is that i can ping to outside hosts, but not access Internet websites?

Check the DNS server settings on your PC. You should get the DNS servers settings from your ISP. If your PC is running a DHCP client, remove any DNS IP address setting. As the router will assign the DNS settings to the DHCP-client-enabled PC.

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Appendix C Glossary

Address mask
A bit mask used to select bits from an Internet address for subnet addressing. The mask is 32 bits long and selects the network portion of the Internet address and one or more bits of the local portion. Sometimes called subnet mask.

AAL5
ATM Adaptation Layer - This layer maps higher layer user data into ATM cells, making the data suitable for transport through the ATM network.

ADSL
Asymmetric digital subscriber line

ATM
Asynchronous Transfer Mode - A cell-based data transfer technique in which channel demand determines packet allocation. ATM offers fast packet technology, real time, demand led switching for efficient use of network resources.

AWG
American Wire Gauge - The measurement of thickness of a wire

Bridge
A device connects two or more physical networks and forwards packets between them. Bridges can usually be made to filter packets, that is, to forward only certain traffic. Related devices are: repeaters which simply forward electrical signals from one cable to the other, and full-fledged routers which make routing decisions based on several criteria.

Broadband
Characteristic of any network multiplexes independent network carriers onto a single cable. Broadband technology allows several networks to coexist on one single cable; traffic from one network does not interfere with traffic from another. Broadcast A packet delivery system where a copy of a given packet is given to all hosts attached to the network. Example: Ethernet.

CO
Central Office. Refers to equipment located at a Telco or service provider's office.

CPE
Customer Premises Equipment located in a user's premises

DHCP (Dynamic Host Configuration Protocol)
DHCP is software that automatically assigns IP addresses to client stations logging onto a TCP/IP network. DHCP eliminates having to manually assign permanent IP addresses to

every device on your network. DHCP software typically runs in servers and is also found in network devices such as Routers.

DMT
Discrete Multi-Tone frequency signal modulation

Downstream rate
The line rate for return messages or data transfers from the network machine to the user's premises machine.

DSLAM
Digital Subscriber Line Access Multiplex

Dynamic IP Addresses
A dynamic IP address is an IP address that is automatically assigned to a client station (computer, printer, etc.) in a TCP/IP network. Dynamic IP addresses are typically assigned by a DHCP server, which can be a computer on the network or another piece of hardware, such as the Router. A dynamic IP address may change every time your computer connects to the network.

Encapsulation
The technique used by layered protocols in which a layer adds header information to the protocol data unit (PDU) from the layer above. As an example, in Internet terminology, a packet would contain a header from the physical layer, followed by a header from the network layer (IP), followed by a header from the transport layer (TCP), followed by the application protocol data.

Ethernet
One of the most common local area network (LAN) wiring schemes, Ethernet has a transmission rate of 10 Mbps.

FTP
File Transfer Protocol. The Internet protocol (and program) used to transfer files between hosts.

Hop count
A measure of distance between two points on the Internet. It is equivalent to the number of gateways that separate the source and destination.

HTML
Hypertext Markup Language - The page-coding language for the World Wide Web.

HTML browser
A browser used to traverse the Internet, such as Netscape or Microsoft Internet Explorer.

http
Hypertext Transfer Protocol - The protocol used to carry world-wide-web (www) traffic between a www browser computer and the www server being accessed.

ICMP
Internet Control Message Protocol - The protocol used to handle errors and control messages at the IP layer. ICMP is actually part of the IP protocol.

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Internet address
An IP address is assigned in blocks of numbers to user organizations accessing the Internet. These addresses are established by the United States Department of Defense's Network Information Center. Duplicate addresses can cause major problems on the network, but the NIC trusts organizations to use individual addresses responsibly. Each address is a 32-bit address in the form of x.x.x.x where x is an eight- bit number from 0 to 255. There are three classes: A, B and C, depending on how many computers on the site are likely to be connected.

Internet Protocol (IP)
The network layer protocol for the Internet protocol suite

IP address
The 32-bit address assigned to hosts that want to participate in a TCP/IP Internet.

ISP
Internet service provider - A company allows home and corporate users to connect to the Internet.

MAC
Media Access Control Layer - A sub-layer of the Data Link Layer (Layer 2) of the ISO OSI Model responsible for media control.

MIB
Management Information Base - A collection of objects can be accessed via a network management protocol, such as SNMP and CMIP (Common Management Information Protocol).

NAT
Network Address Translation - A proposal for IP address reuse, where the local IP address is mapped to a globally unique address.

NVT
Network Virtual Terminal

PAP
Password Authentication Protocol

PORT
The abstraction used by Internet transport protocols to distinguish among multiple simultaneous connections to a single destination host.

POTS
Plain Old Telephone Service - This is the term used to describe basic telephone service.

PPP
Point-to-Point-Protocol - The successor to SLIP, PPP provides router-to-router and host-to-network connections over both synchronous and asynchronous circuits.

PPPoE
PPP over Ethernet is a protocol for connecting remote hosts to the Internet over an always-

on connection by simulating a dial-up connection.

Remote server
A network computer allows a user to log on to the network from a distant location.

RFC
Request for Comments - Refers to documents published by the Internet Engineering Task Force (IETF) proposing standard protocols and procedures for the Internet. RFCs can be found at www.ietf.org..

Route
The path that network traffic takes from its source to its destination. The route a datagram may follow can include many gateways and many physical networks. In the Internet, each datagram is routed separately.

Router
A system responsible for making decisions about which of several paths network (or Internet) traffic will follow. To do this, it uses a routing protocol to gain information about the network and algorithms to choose the best route based on several criteria known as "routing metrics".

routing table
Information stored within a router that contains network path and status information. It is used to select the most appropriate route to forward information along.

Routing Information Protocol
Routers periodically exchange information with one another so that they can determine minimum distance paths between sources and destinations.

SNMP
Simple Network Management Protocol - The network management protocol of choice for TCP/IP-based Internet.

SOCKET
(1) The Berkeley UNIX mechanism for creating a virtual connection between processes.
(2) IBM term for software interfaces that allow two UNIX application programs to talk via TCP/IP protocols.

Spanning-Tree Bridge Protocol (STP)
Spanning-Tree Bridge Protocol (STP) - Part of an IEEE standard. A mechanism for detecting and preventing loops from occurring in a multi-bridged environment. When three or more LAN's segments are connected via bridges, a loop can occur. Because a bridge forwards all packets that are not recognized as being local, some packets can circulate for long periods of time, eventually degrading system performance. This algorithm ensures only one path connects any pair of stations, selecting one bridge as the 'root' bridge, with the highest priority one as identifier, from which all paths should radiate.

Spoofing
A method of fooling network end stations into believing that keep alive signals have come from and returned to the host. Polls are received and returned locally at either end

Static IP Addresses
A static IP address is an IP address permanently assigned to computer in a TCP/IP network. Static IP addresses are usually assigned to networked devices that are consistently

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accessed by multiple users, such as Server PCs, or printers. If you are using your Router to share your cable or DSL Internet connection, contact your ISP to see if they have assigned your home a static IP address. You will need that address during your Router's configuration.

Subnet
For routing purposes, IP networks can be divided into logical subnets by using a subnet mask. Values below those of the mask are valid addresses on the subnet.

TCP
Transmission Control Protocol - The major transport protocol in the Internet suite of protocols provides reliable, connection-oriented full-duplex streams.

TFTP
Trivial File Transfer Protocol - A simple file transfer protocol (a simplified version of FTP) that is often used to boot diskless workstations and other network devices such as routers over a network (typically a LAN).

Telnet
The virtual terminal protocol in the Internet suite of protocols - Allows users of one host to log into a remote host and act as normal terminal users of that host.

Transparent bridging
So named because the intelligence necessary to make relaying decisions exists in the bridge itself and is thus transparent to the communicating workstations. It involves frame forwarding, learning workstation addresses and ensuring no topology loops exist (in conjunction with the Spanning-Tree algorithm).

UDP
User Datagram Protocol - A connectionless transport protocol that runs on top of TCP/IP's IP. UDP, like TCP, uses IP for delivery; however, unlike TCP, UDP provides for exchange of datagrams without acknowledgments or guaranteed delivery. Best suited for small, independent requests, such as requesting a MIB value from an SNMP agent, in which first setting up a connection would take more time than sending the data.

UNI signaling
User Network Interface signaling for ATM communications.

Virtual Connection (VC)
A link that seems and behaves like a dedicated point-to-point line or a system that delivers packets in sequence, as happens on an actual point-to-point network. In reality, the data is delivered across a network via the most appropriate route. The sending and receiving devices do not have to be aware of the options and the route is chosen only when a message is sent. There is no pre-arrangement, so each virtual connection exists only for the duration of that one transmission.

WAN
Wide area network - A data communications network that spans any distance and is usually provided by a public carrier (such as a telephone company or service provider).

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