

D-Link Quick Installation Guide

This product can be set up using any current web browser, i.e., Internet Explorer 6x.

D-Link DFL-1500
Firewall/VPN
Router



Before You Begin

It's best to use a computer with an Ethernet adapter for configuring the DFL-1500. The default IP address for the DFL-1500 is **192.168.1.254** (LAN1 at the port number 3) with a Subnet Mask of **255.255.255.0**. You will need to assign your computer a Static IP address within the same range as the DFL-1500's IP address, say 192.168.1.2 to configure the DFL-1500. **See the Appendix if you need assistance in assigning a Static IP address for your network adapter.**

Check Your Package Contents

These are the items included with your DFL-1500 V.A1 purchase:



• DFL-1500 VPN/Firewall Router



• CD-ROM (containing Manual and Warranty)



• Console Cable (baud rate 9600)



• Ethernet Cable (RJ45)



• Power Cord

ENGLISH

If any of the above items are missing, please contact your reseller.

Device default value

You should have an Internet account already set up and have been given most of the following information as the following table. Fill out this table when you edit the web configuration of DFL-1500.

Items		Default value	New value
Password:		admin	
WAN1 (Port 1)	Fixed IP	IP Address	_____
		Subnet Mask	_____
		Gateway IP	_____
		Primary DNS	_____
		Secondary DNS	_____
	PPPoE	PPPoE Username	_____
		PPPoE Password	_____
DHCP			
WAN2 (Port 2)	Fixed IP	IP Address	_____
		Subnet Mask	_____
		Gateway IP	_____
		Primary DNS	_____
		Secondary DNS	_____
	PPPoE	PPPoE Username	_____
		PPPoE Password	_____
DHCP			
DMZ1(Port 3)	IP Address	10.1.1.254	_____
	IP Subnet Mask	255.255.255.0	_____
LAN1(Port 4)	IP Address	192.168.1.254	_____
	IP Subnet Mask	255.255.255.0	_____
LAN2(Port 5)	IP Address	192.168.2.254	_____
	IP Subnet Mask	255.255.255.0	_____

System Architecture

DFL-1500 is an integrated solution that can provide enterprises the maximum security and the best resource utilization. It contains stateful inspection Firewall, NAT, VPN, Intrusion Detection System, Dynamic Routing, Content Filtering, Bandwidth Management, WAN load balancer, Anti-Virus, in a single box. It also features high performance accelerator and wire-speed VPN encryption/decryption. It is the most cost-effective solution for enterprise.

Organization_1

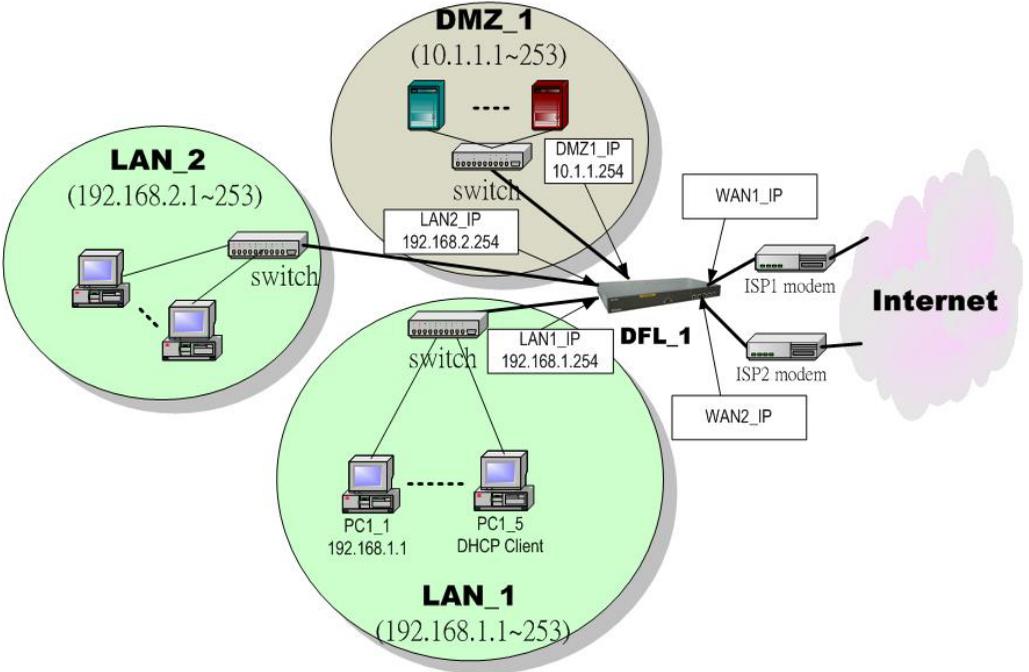


Figure 1 DFL-1500 default topology and port value settings.

1

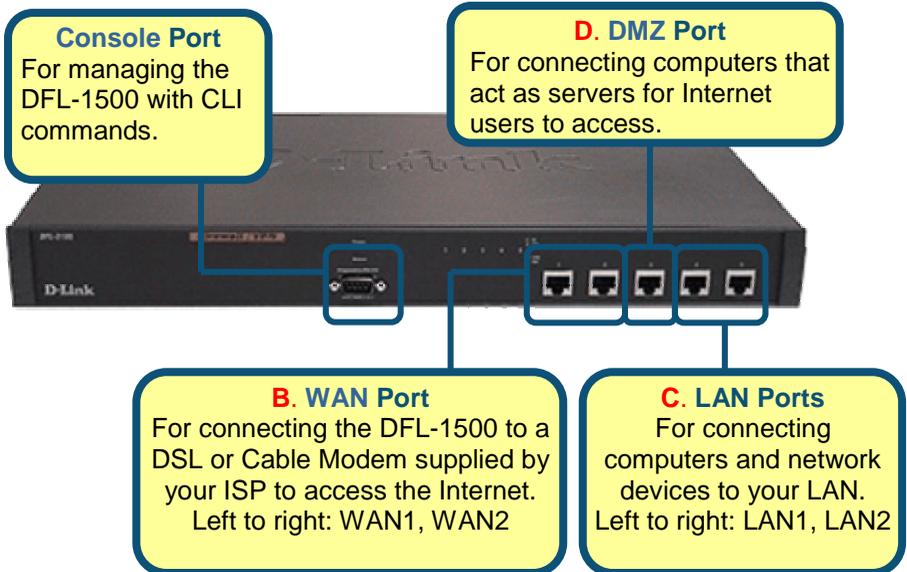
Connecting the DFL-1500

- A. First, connect the power cord to the **Power Socket** at the back panel of the DFL-1500 and then plug the other end of the power adapter to a wall outlet or power strip. Press the switch to ON position. The Power LED will turn **ON** to indicate proper operation.

A. Power Socket



- B. Using an Ethernet cable, insert one end of the cable to the **WAN port** on the front panel of the DFL-1500 and the other end of the cable to a DSL / Cable modem or other internet access devices.
- C. Computers with an Ethernet adapter can be directly connected to any of the **LAN ports** using a **cross-over** Ethernet cable.
- D. Computers that act as servers to provide Internet services should be connected to the **DMZ port** using an Ethernet Cable.

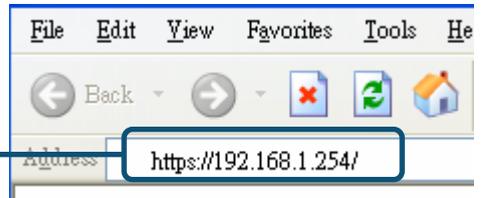


2

Using the Setup Wizard

A computer on your LAN1 must be assigned an IP address and subnet mask from the same range as the IP address and subnet mask assigned to the DFL-1500 in order to be able to make an HTTPS connection using a web browser. The DFL-1500 is assigned an IP address of 192.168.1.254 with a subnet mask of 255.255.255.0 by default. The computer that will be used to configure the DFL-1500 must be assigned an IP address between 192.168.1.1 and 192.168.1.253 with a subnet mask of 255.255.255.0 to be able to connect to the DFL-1500. This address range can be changed later. There are instructions in the DFL-1500 User's Guide, if you do not know how to set the IP address and subnet mask for your computer.

Open your Web browser and type "**http://192.168.1.254:8080**" or "**https://192.168.1.254**" into the URL address box. Then press the Enter or Return key.



<p>Step 1 - Login</p> <p>Type "admin" in the account field, "admin" in the Password field and click Login.</p>	A screenshot of the D-Link DFL-1500 Firewall/VPN Router login page. The page has a blue header with the D-Link logo and the text 'DFL-1500 Firewall/VPN Router'. Below the header is a white login form with two input fields and a 'Please LOG IN first.' button. A mouse cursor is pointing at the button.
<p>Step 2 - Run Setup Wizard</p> <p>Click the Run Setup Wizard.</p>	<p>After login to DFL-1500 web configurator BASIC SETUP > Wizard</p> <p>Welcome to the DFL-1500 Web-Based Configurator !</p> <p>Basic Setup Connect to the Internet and configure your Intranet using the Setup Wizard (WAN, LAN and DMZ settings and DHCP Server settings).</p> <p>System Tools Perform firmware upgrade, backup and restore settings to and from local hard drive, load default settings and reboot your VPN router.</p> <p>Help Get help about your VPN router.</p> <p>Setup Wizard A step-by-step setup wizard will guide you to configure your VPN router to connect to your ISP (Internet Service Provider).</p> <p>Run Setup Wizard</p>

Step 3 - System Name

Enter the Host Name and the Domain Name, followed by clicking the Next.

BASIC SETUP > Wizard

System Name: WAN1 IP System Status

Host Name: DFL-1

Domain Name: dlink.com

Next

Step 4 - WAN Connectivity

To setup the first WAN link, make WAN1 as the Default WAN link (Gateway/DNS). Choose the type of IP Address Assignment provided by your ISP to access the Internet. Here we have four types to select. This will determine how the IP address of WAN1 is obtained. Click Next to proceed.

BASIC SETUP > Wizard > Next

System Name: WAN1 IP System Status

IP Address Assignment: Get IP Automatically (DHCP)

Default WAN link: Get IP Automatically (DHCP)

IP Address: 61.2.1.1

Gateway IP: 61.2.1.254

DNS IP Address

Primary DNS: 168.95.1.1

Secondary DNS: 0.0.0.0

Routing Protocol: None

OSPF Area ID:

Back Next

Step 4.a — DHCP client

If Get IP Automatically (DHCP) is selected, DFL-1500 will request for IP address, netmask, and DNS servers from your ISP. You can use your preferred DNS by clicking the DNS IP Address and then completing the Primary DNS and Secondary DNS server IP addresses. Click Next to proceed.

BASIC SETUP > Wizard > Next > DHCP

System Name: WAN1 IP System Status

IP Address Assignment: Get IP Automatically (DHCP)

Default WAN link: Gateway/DNS

Get DNS Automatically

DNS IP Address

Primary DNS: 168.95.1.1

Secondary DNS: 0.0.0.0

Routing Protocol: None

OSPF Area ID:

Back Next

Step 4.b — Fixed IP

If Fixed IP Address is selected, enter the ISP-given IP Address, Subnet Mask, Gateway IP, Primary DNS and Secondary DNS IP. Click Next to proceed.

BASIC SETUP > Wizard > Next > Fixed IP

System Name: WAN1 IP System Status

Address Assignment: Fixed IP Address

Default WAN link: Gateway/DNS

IP Address: 61.2.1.1 Subnet Mask: 255.255.255.0

Gateway IP: 61.2.1.254

DNS IP Address

Primary DNS: 168.95.1.1

Secondary DNS: 0.0.0.0

Routing Protocol: None

OSPF Area ID:

Back Next

Step 4.c — PPPoE client

If PPP over Ethernet is selected, enter the ISP-given User Name, Password and the optional Service Name. Click Next to proceed.

BASIC SETUP > Wizard > Next > PPPoE

System Name: WAN1 IP System Status

IP Address Assignment: PPP over Ethernet

Default WAN link (Gateway DNS)

Service Name: _____ (Optional)

User Name: 12345678@hinet.net

Password:

Get DNS Automatically (DHCP)

DNS IP Address

Primary DNS: 0.0.0.0

Secondary DNS: 0.0.0.0

Disconnected

Connect Disconnect

Back Next

Step 5 - System Status

Here we select PPPoE method in WAN1 port. Then the DFL-1500 provides a short summary of the system. Please check if anything mentioned above is properly set into the system. Click Finish to close the wizard.

BASIC SETUP > Wizard > Next > Next

System Name: DFL-1.dlink.com

Firmware Version: NetOS Ver1.400B (DLINK) #0: Thu Sep 4 05:13:24 CST 2003

Default gateway: 61.216.123.254

Primary DNS: 168.95.192.1

Secondary DNS: 168.95.1.1

Port1: WAN1 (PPPoE) [Default] Subnet Mask: 255.0.0.0

IP Address: 61.216.123.205

Port2: WAN2 (Not initialized)

IP Address: not set

Port3: DMZ1

IP Address: 10.1.1.254 Subnet Mask: 255.255.255.0

Port4: LAN1

IP Address: 192.168.1.254 Subnet Mask: 255.255.255.0

Port5: LAN2

IP Address: 192.168.2.254 Subnet Mask: 255.255.255.0

Back Finish

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Basic Setup

Setting up a VPN and configuring the Firewall on the DFL-1500 requires a deeper understanding of the protocols and security features of the DFL-1500 than can be presented here. If you need additional information about setting up a VPN or configuring the Firewall, please consult your *DFL-1500 User's Guide* or your Network Administrator.

Please Note:

Each configuration page has buttons on the bottom labeled **Apply** and **Reset**. When you configure any page, you must press the **Apply** button to make the configuration effective. You **CANNOT** configure multiple pages, and then press **Apply**. Each page must have the configuration information 'applied' before going on to the next page.

WAN Settings

The WAN Settings page allows you to modify the protocol that the DFL-1500 will use to connect to your ISP and obtain the necessary network address information.

The usage of these pages is essentially the same as those introduced in the wizard pages. The ISP Settings page allows you to modify the way that the DFL-1500 obtains its network settings from your Internet Service Provider (ISP). The entry fields on the page will change depending upon which of the following options you choose: **Fixed IP Address**, **Get IP Automatically**, and **PPPoE**.

1. Fixed IP Address

If your ISP has assigned you an IP address that will never change, choose this option. When this option is chosen, the following fields appear to allow you to enter the network address information. The example shows that the ISP assigns an IP **61.2.1.1**, a netmask **255.255.255.0**, a default gateway **61.2.1.254**, and DNS (**168.95.1.1**).

WAN1 IP **WAN2 IP** IP Alias

IP Address Assignment Fixed IP Address

Default WAN link (Gateway/DNS)

IP Address Subnet Mask

Gateway IP

DNS IP Address

Primary DNS

Secondary DNS

Routing Protocol

OSPF Area ID

2. Get IP Automatically

If your ISP uses the Dynamic Host Configuration Protocol (DHCP) to assign an IP address, subnet mask, default gateway and DNS addresses, choose this option.

WAN1 IP **WAN2 IP** IP Alias

IP Address Assignment Get IP Automatically (DHCP)

Default WAN link (Gateway/DNS)

Get DNS Automatically

DNS IP Address

Primary DNS

Secondary DNS

Routing Protocol

OSPF Area ID

3. PPPoE

If your ISP uses Point-to-Point Protocol over Ethernet (PPPoE), choose this option. When this option is chosen, the following fields appear to allow you to enter the network address information:

The screenshot shows a configuration window with three tabs: 'WAN1 IP', 'WAN2 IP', and 'IP Alias'. The 'WAN2 IP' tab is selected. The 'IP Address Assignment' dropdown is set to 'PPP over Ethernet'. A checkbox labeled 'Default WAN link (Gateway/DNS)' is checked. Below this, there are input fields for 'Service Name' (with '(Optional)' text), 'User Name' (containing '123456@hinet.net'), and 'Password' (masked with dots). Underneath are radio buttons for 'Get DNS Automatically' (selected) and 'DNS IP Address'. Below these are 'Primary DNS' and 'Secondary DNS' input fields, both containing '0.0.0.0'. At the bottom, there is a 'Disconnected' status indicator, 'Connect' and 'Disconnect' buttons, and 'Apply' and 'Reset' buttons.

To simplify the initial settings of the DFL-1500, the Network Address Translation is automatically configured if the NAT Basic mode is selected. Then the DFL-1500 will let all private-IP traffic from the subnets of LAN/DMZ ports to access the Internet using the global IP address assigned by the ISP.

LAN Settings

The LAN Settings page allows you to modify the IP address and subnet mask that will identify the DFL-1500 on your LAN. This is the IP address you will enter in the URL field of your web browser to connect to the DFL-1500. It is also the IP address that all of the computers and devices on your LAN will use as their Default Gateway.

The screenshot shows the LAN Settings page with three tabs: LAN1 Status, LAN2 Status, and IP Alias. The LAN1 Status tab is selected. The page is divided into two main sections: LAN1 TCP/IP and DHCP Setup. In the LAN1 TCP/IP section, the IP Address is set to 192.168.1.254 and the IP Subnet Mask is set to 255.255.255.0. The DHCP Setup section has the 'Enable DHCP Server' checkbox checked. Below this, the IP Pool Starting Address is 192.168.1.100, Pool Size is 20, Primary DNS Server is 192.168.1.254, Secondary DNS Server is 0.0.0.0, and Lease time(sec) is 7200. At the bottom, the Routing Protocol is set to 'None' and the OSPF Area ID is empty. There are 'Apply' and 'Reset' buttons at the bottom of the form.

IP Address – this is the IP address that will be assigned to the LAN port. The default is **192.168.1.254** with a subnet mask of 255.255.255.0.

IP Subnet Mask – this is the subnet mask corresponding to the LAN port's IP address, above. The default is 255.255.255.0.

The IP address assigned to the DFL-1500 here, must be on the same subnet (be within the same IP address range) specified on the **DHCP Servers**. The DHCP Server fields allow you to configure the DFL-1500 to be a DHCP Server on your LAN. The DFL-1500 can then automatically assign IP addresses, subnet masks, default gateway and DNS server addresses to computers on your LAN. The computers on your LAN must have a DHCP client enabled to get their network address information from the DFL-1500.

IP Pool Starting Address – the first IP address of the range from which the DFL-1500 will assign to each of the computers on your LAN.

Pool Size – the number of IP addresses which the DFL-1500 will assign to the computers on you LAN.

DMZ Settings

The DFL-1500 has one **DMZ** port for connecting servers that are exposed to the public Internet for accesses. The **DMZ** port is assigned an IP address of **10.1.1.254** with a subnet mask of 255.255.255.0 by default. Note that the DMZ IP address is on the **10.1.1.x** subnet while the LAN ports are on the **192.168.1.x** subnet by default.

DMZ1 Status IP Alias

DMZ1 TCP/IP

IP Address 10.1.1.254 IP Subnet Mask 255.255.255.0

DHCP Setup

Enable DHCP Server

IP Pool Starting Address 10.1.1.1

Pool Size 20

Primary DNS Server 10.1.1.254

Secondary DNS Server 0.0.0.0

Lease time(sec) 7200

Routing Protocol None

OSPF Area ID

Apply Reset

IP Address – this is the IP address that will be assigned to the DMZ port. The default is **10.1.1.254** with a subnet mask of 255.255.255.0.

IP Subnet Mask – this is the subnet mask corresponding to the DMZ port’s IP address, above. The default is 255.255.255.0.

The IP address assigned to the DFL-1500 here, must be on the same subnet (be within the same IP address range) specified on the **DHCP Servers**. The DHCP Server fields allow you to configure the DFL-1500 to be a DHCP Server on your DMZ. The DFL-1500 can then automatically assign IP addresses, subnet masks, default gateway and DNS server addresses to computers on your DMZ. The computers on your DMZ must have a DHCP client enabled to get their network address information from the DFL-1500.

IP Pool Starting Address – the first IP address of the range from which the DFL-1500 will assign to each of the computers on your DMZ.

Pool Size – the number of IP addresses which the DFL-1500 will assign to the computers on you DMZ.

Virtual Server Settings

Virtual Servers are computers connected using the **DMZ** port. They act as servers to provide services to your LAN ports or other Internet users on the WAN ports. The Virtual Server setting page maps one global IP address – an IP address that is valid on the Internet, usually assigned by your ISP – to one local IP address from the IP address range assigned to the DFL-1500's **DMZ** port. The default DMZ IP address is **10.1.1.254**, so the servers' IP must range from **10.1.1.1** to **10.1.1.253**, with a subnet mask of 255.255.255.0.

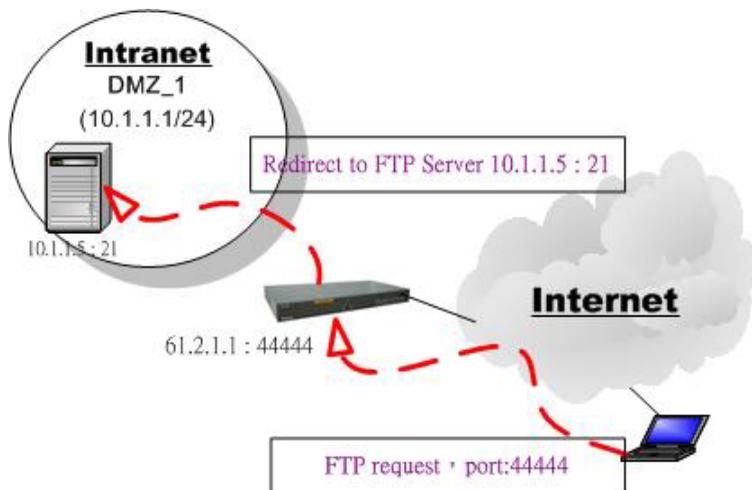


Figure 2 Internet host connects to the Virtual Server behind DFL-1500.

As the above Figure 2 illustrated, the server 10.1.1.5 provides FTP service and is located on the DMZ region behind DFL-1500. By this way, DFL-1500 will act as a Virtual Server role which redirects the packets to the real server 10.1.1.5. And you can announce to the internet users that the ftp server ip/port is 61.2.1.1/44444. So, all of the internet users can connect the 61.2.1.1/44444 to get ftp service.

An example virtual server: Customize the rule name as the ftpServer. For any packets with its destination IP equaling to the WAN1 IP (61.2.1.1) and destination port equaling to 44444, ask DFL-1500 to translate the packet's destination IP/port into 10.1.1.5/21. Check the Passive FTP at this port to maximize the compatibility of the FTP protocol. This is useful if you want to provide connectivity to passive FTP clients. For passive FTP clients, the server will return them the private IP address and the port number for them to connect back to do data transmissions. Since the private IP from them cannot be routed to our zone, the data connections would fail. After enabling this feature, the DFL-1500 will translate the private IP/port into an IP/port of its own. Thus the problem is gracefully solved. Click Apply to proceed.

Status	NAT Rules	NAT Sessions	Virtual Servers	Server Sessions
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Virtual Server->Edit Rules->Insert

Insert a new LAN/WAN-to-DMZ Virtual Server rule

Status

Activate this rule

Rule name: ftpServer

Condition

Dest. IP: 61.2.1.1 Netmask: 255.255.255.255

Service: TCP

Type: Single Range

Dest. Port: 44444 Passive FTP client?

to: 0

Well known port: DNS (53)

Action

Translated dest. IP: 10.1.1.5

Translated dest. port: 21 (0 means that DFL-1500 will not change the port number.)

Dest. IP– an unique, global IP address that is valid in the Internet. This will be one of the IP addresses assigned by your ISP, or the single IP address assigned by your ISP, if your ISP assigns you only one IP address. Use Netmask to specify a range of the dest. IP (see the example above).

Service – TCP or UDP or Any of them. Choose a port number (range) to explicitly indicate which application traffic to redirect.

Translated Destination IP – the IP address of the computer that will act as a server for this application you are setting up.

APPENDIX

To assign a Static IP address to the Ethernet adapter, please do the following steps. The examples below are using a DFE-530TX+ in Microsoft Windows XP, and Mac OS X.

Note: Screens in other Operating Systems will look a bit different, but the steps are the same.

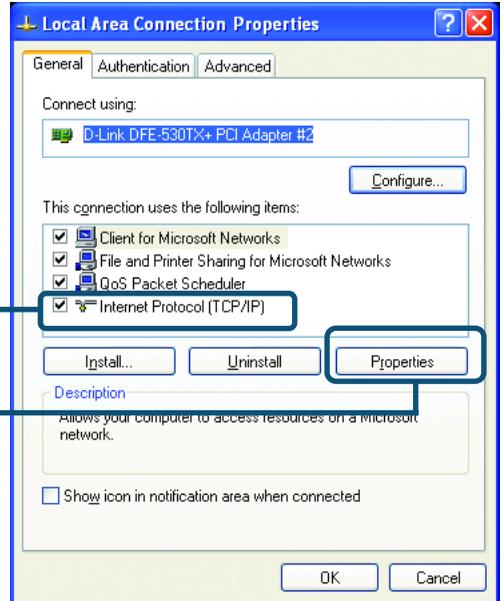


For **Microsoft Windows XP:**

Go to **Start > right click on My Network Places > select Properties > Double-click on the Network Connection** associated with the Ethernet adapter (i.e., D-Link DFE-530TX+).

Click **Internet Protocol (TCP/IP)**

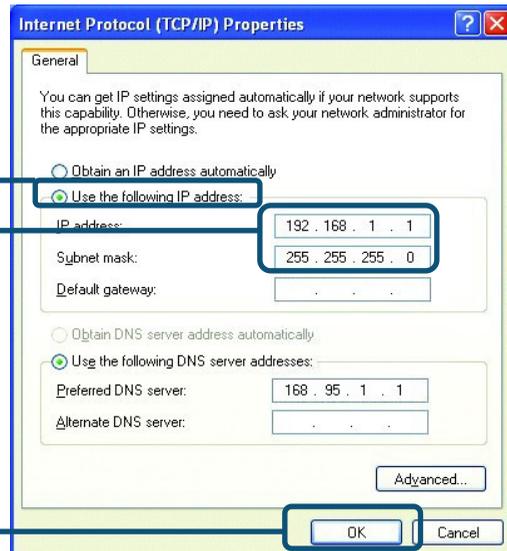
Click **Properties**



Select **Use the following IP address**

Enter the following:
IP address: **192.168.1.1**
Subnet mask: **255.255.255.0**

Click **OK**



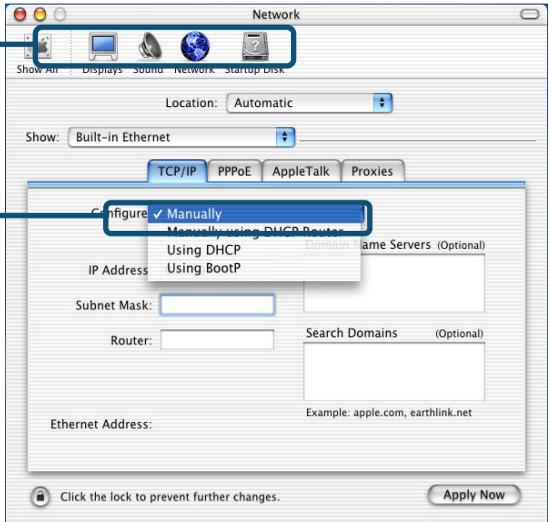
Setting a Static IP address for Apple Macintosh OS X:

Go to the **Apple Menu** and **Select System Preferences**.

Click on **Network**



Select **Built-in Ethernet** in the Show pull-down menu

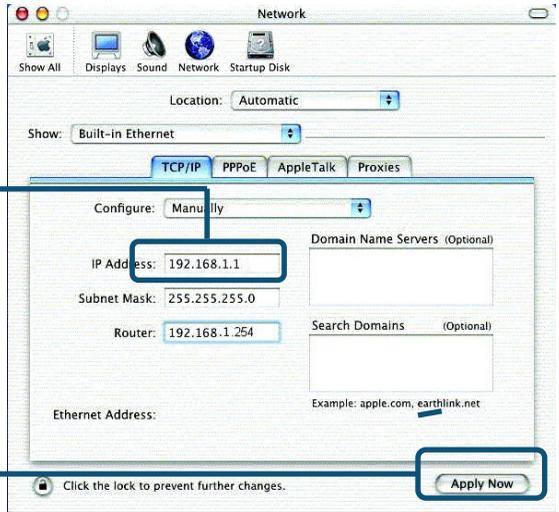


Select **Manually** in the Configure pull-down menu

Enter the following:
IP address: **192.168.1.1**
Subnet mask: **255.255.255.0**

Enter the IP address information,
the Subnet Mask and the
Router's IP address.

Click on
Apply Now



NOTES

Technical Support

Software updates and documentation are available on the **D-Link** website.

D-Link provides free technical support for customers within the United States for the duration of the warranty period on this product.

U.S. customers can contact **D-Link** technical support through our web site or by phone.

D-Link Technical Support over the Telephone:

(877) 453-5465

24 hours a day, seven days a week

D-Link Technical Support over the Internet:

<http://support.dlink.com>

email: support@dlink.com

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