D-Link®
Building Networks for People

Manual

Version 1.00

DI-LB604

Load Balancing Router

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Package Contents

- CAT-5 Ethernet Cable (All the DI-LB604's Ethernet ports are Auto-MDIX)
- Power Adapter (5.0V, 2A)
- CD-ROM with Software and Manual
- Quick Installation Guide

Note: Using a power supply with a different voltage than the one included with your product will cause damage and void the warranty for this product.

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

Minimum System Requirements

- Ethernet-Based Cable or DSL Modem
- Computers with Windows, Macintosh, or Linux-based operating systems with an installed Ethernet adapter and CD-ROM Drive
- Internet Explorer Version 6.0 or Netscape Navigator Version 7.0 and Above

Introduction

The D-Link Express EtherNetwork DI-LB604 is a 4-port Ethernet Broadband Router. The D-Link DI-LB604 enables users to quickly and easily share a high speed Internet connection. The D-Link DI-LB604 also incorporates many advanced features, traditionally found in more expensive routers.

After completing the steps outlined in the Quick Installation Guide (included in your package) you will have the ability to share a single Internet connection as well as sharing information and resources such as files and printers.

The DI-LB604 is compatible with most popular operating systems, including Macintosh, Linux and Windows, and can be integrated into an existing network. This Manual is designed to help you connect the D-Link Express EtherNetwork DI-LB604 to a high speed Internet connection and 4 Ethernet PC connections.

This manual provides a quick introduction to Broadband Router Technology, Firewalls, and Local Area Networking. Please take a moment to read through this manual and get acquainted these various technologies.

Features and Benefits

- Connects multiple computers to a Broadband (Cable or DSL) modem to share the Internet connection.
- Allows you to quickly and easily share an Internet connection with multiple computers and devices.
- Supports multiple and concurrent IPSec and PPTP pass-through sessions, so multiple users behind the DI-LB604 can access corporate networks through various VPN clients more securely.
- The Web-Based user interface displays a number of advanced network management features including:
- Easily applied content filtering based on MAC Address, IP Address, URL and/or Domain Name.
- These filters can also be scheduled to be active on certain days or for a duration of hours or minutes.
- NAT allows you to share a single IP Address and protects you from outside intruders gaining access to your private network.
- All of the networked computers can retrieve TCP/IP settings automatically from the DI-LB604.
- DI-LB604 is configurable through any network computer's web browser using Netscape or Internet Explorer.
- Allows you to assign different access rights for different users.
- Enables you to expose WWW, FTP and other services on your LAN to be accessible to Internet users.
- Special applications requiring multiple connections, like Internet gaming, video conferencing, Internet telephony and so on. The DI-LB604 can sense the application type and open a multi-port tunnel for it.
- Allows a networked computer to be fully exposed to the Internet. This function is used when the Special Application feature is insufficient to allow an application to function correctly.

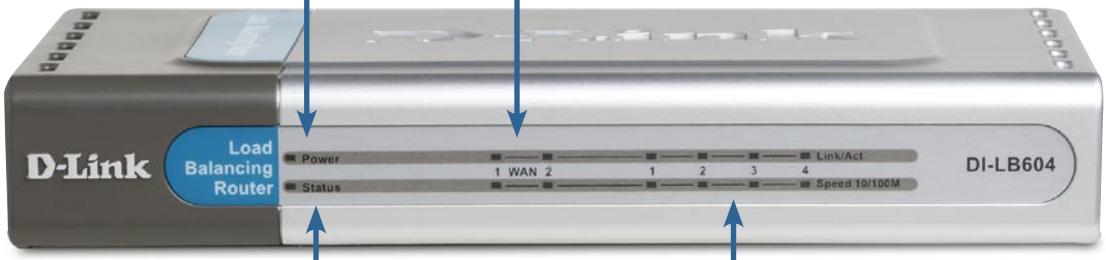
Hardware Overview

Connections

LEDs

WAN LEDs
A solid light indicates a connection on the WAN port. These LEDs blink during data transmission.

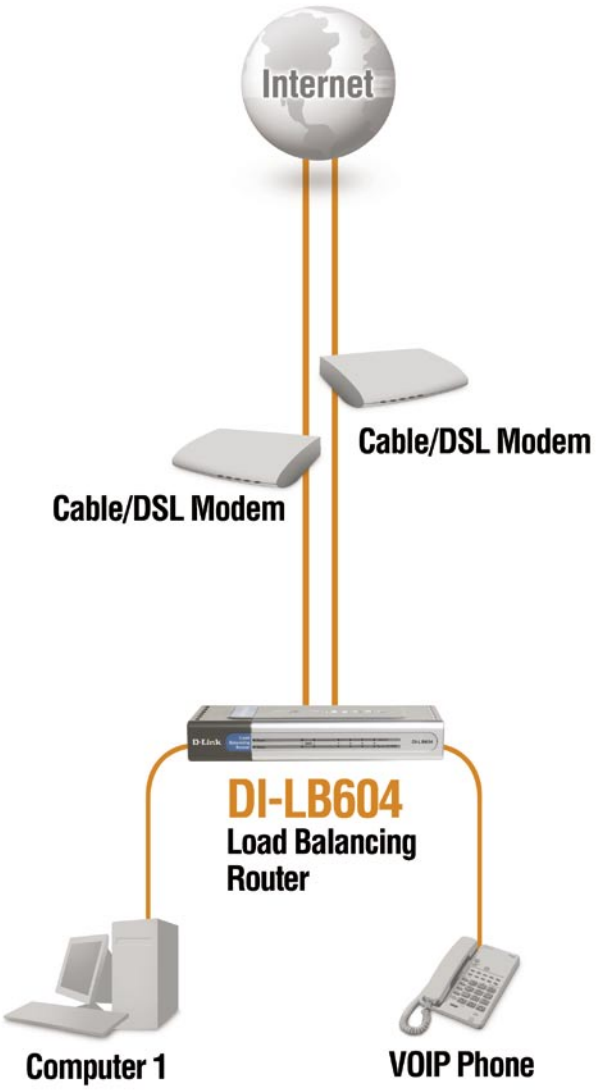
Power LED
A solid light indicates a proper connection to the proper power supply.



Local Network LEDs
A solid light on each port indicates a connection to an Ethernet enabled computer. These LEDs blink during data transmission.

Status LED
This LED will be off to indicate proper operation and it will blink during data transmission.

Getting Started



Using the Configuration Menu

Whenever you want to configure your DI-LB604, you can access the Configuration Menu by opening the Web-browser and typing in the IP Address of the DI-LB604. The DI-LB604's default IP Address is shown below:

- Open the Web browser.
- Type in the **IP Address** of the Router (http://192.168.0.1).

Note: if you have changed the default IP Address assigned to the DI-LB604, make sure to enter the correct IP Address.

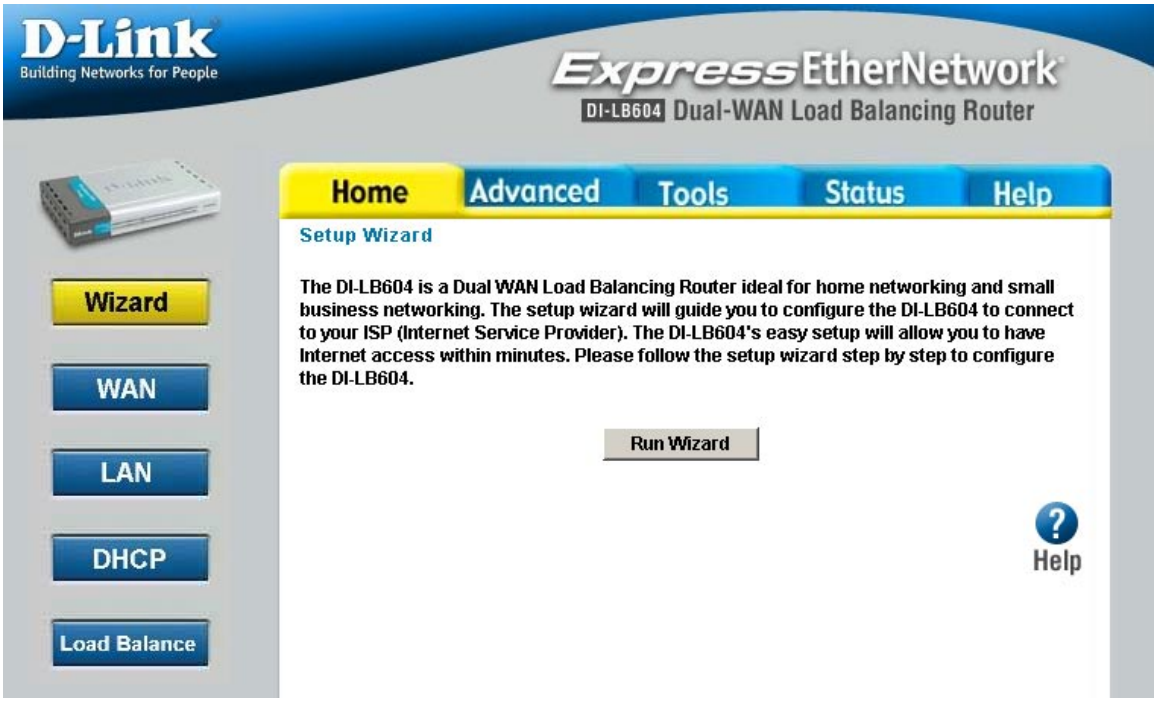
- Type "**admin**" for the User Name.
- Leave the **Password** blank.
- Click Ok.

Home

The Home tab provides the following configuration options: Wizard, WAN, LAN, DHCP and Load Balance

Wizard

The Home>Wizard screen will appear. Please refer to the *Quick Installation Guide* for more information regarding the Setup Wizard.



Home > Wizard

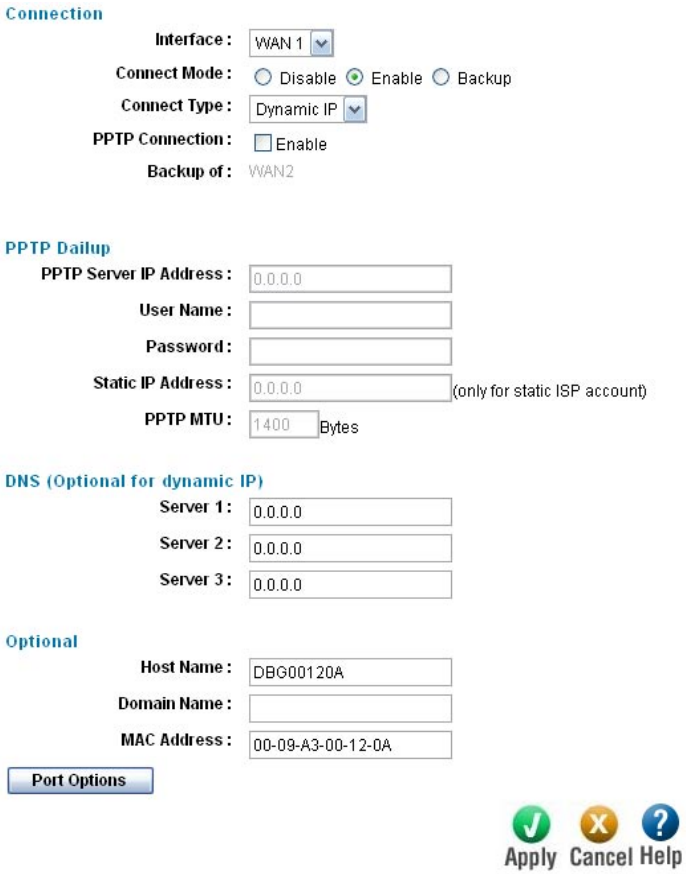
These buttons appear on most of the configuration screens in this section. Please click on the appropriate button at the bottom of each screen after you have made a configuration change.

Apply — Clicking **Apply** will save changes made to the page

Cancel — Clicking **Cancel** will clear changes made to the page

Help — Clicking **Help** will bring up helpful information regarding the page

WAN



Home > WAN

Connection

Connection Mode: There are three connection modes for each WAN port, Enable, Disable and Backup. Set to Disable if there is no modem connected to the WAN port. If both WAN ports are used, one is set to Enable and the other is set to Backup, the backup line will automatically be used when the other line is disconnected.

Static IP: Select this if you want to specify a fixed IP address for the WAN port.

Dynamic IP: Select this if you want the WAN port to get its IP address from a DHCP server.

PPPoE: Select this if you want the WAN port to get its IP address from a PPPoE server.

PPTP Connection: To enable or disable PPTP connection on the WAN port.

Backup of: To indicate which WAN port to be the backup of current port.

Address Information

Address Information: If you choose the connection type Static IP, then you have to fill in the information, IP address, Subnet Mask, and Gateway, provided by your ISP.

PPTP Dialup

Username / Password: These 2 fields must be completed if you are using PPPoE or PPTP dialup. If you are using PPTP dialup, remember you must select Static IP or Dynamic IP on Connection Type setup.

DNS

DNS (Domain Name Server): There are three entries available. It is necessary for those who are using static IP connected to the Internet. It is optional for those who are using dynamic IP or PPPoE.

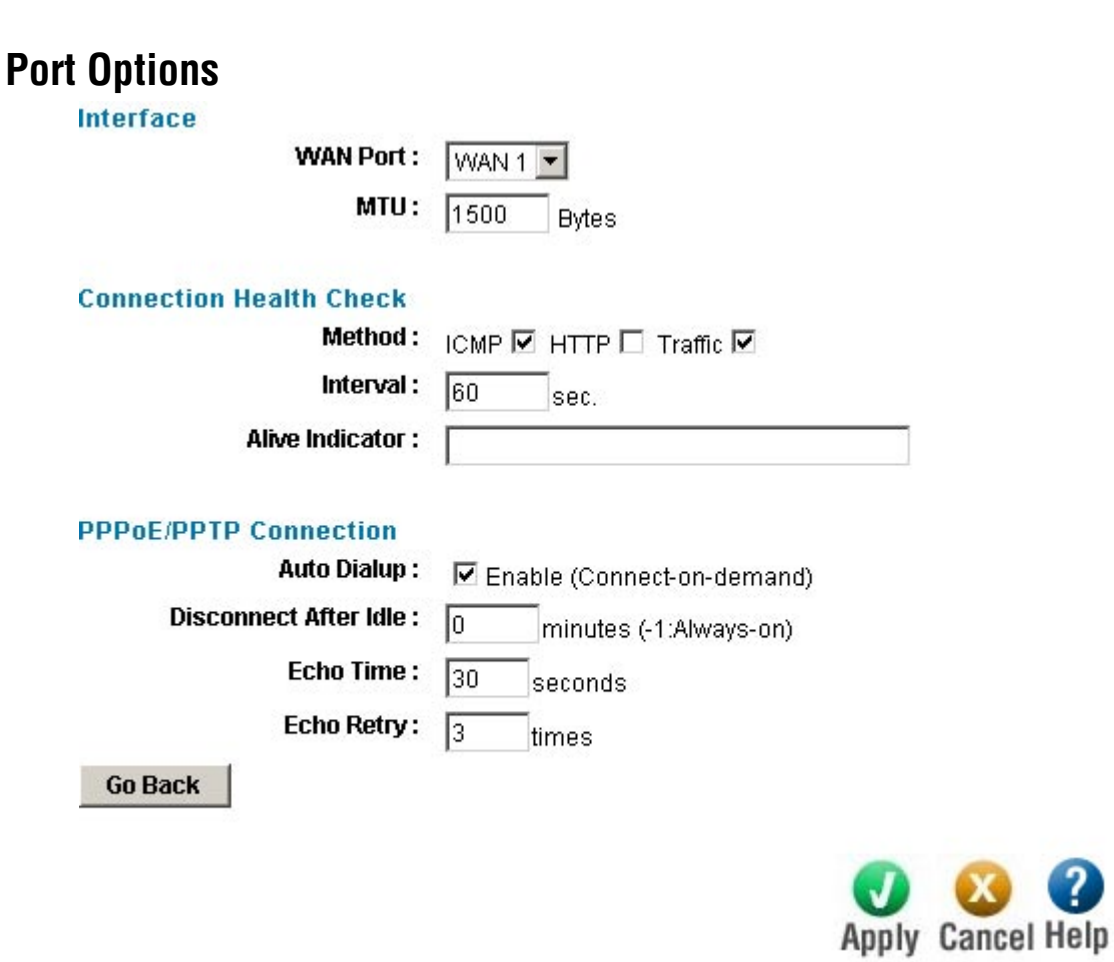
Optional

Optional: If you still have trouble of connecting to the Internet, you may need to fill in this optional information. This information is most often used by Cable Modem services.

Host Name: The name of this device.

Domain Name: The specific name of this device on the Internet.

MAC Address: There is one default MAC Address for each WAN port of this device and it can be changed by user if necessary. (Cable Modem User may need this)



Home > WAN > Port Options

Interface

WAN Port: Select the WAN port that you would like these port options to apply to.

MTU: The largest amount of data that can be transferred across a given physical network.

Connection Health Check

Connection Health Check: There are three methods, **ICMP**, **HTTP** and **Traffic**, provided for device to check if WAN interfaces are connected to internet or not. A successful response of either method means that the connection is OK. If the choosen method fails, the connection is considered to be down.

Method:

ICMP:

The health checking is performed by sending an ICMP echo request packet to the specific destination.

The specific destination ("Alive Indicator") could be either :
1. if the input box is filled (NAME or IP address): the host is used.
2. if the input box is left blank: gateway of wan interface will be used.

If one ICMP echo reply packet from Alive Indicator or gateway is received, the connection is considered OK. If there are no response received after 4 tries, the connection is considered to be down.

HTTP:

The device gets a TCP connection with the Alive Indicator first. Then the device sends HTTP HEAD packet to the Alive Indicator. If any HTTP DATA from the Alive Indicator is received, the connection is considered OK. If there are no response received after 5 tries, the connection is considered to be down.

Traffic:

If there is no traffic on the WAN port in the Interval time, the connection is considered to be down.

Interval: The period to check if the WAN port is alive or not.

Alive Indicator: This is used for the ICMP or HTTP methods to determine if your Internet connection is active or not.(You can either fill-out the IP address or host name)

PPPoE / PPTP Connection

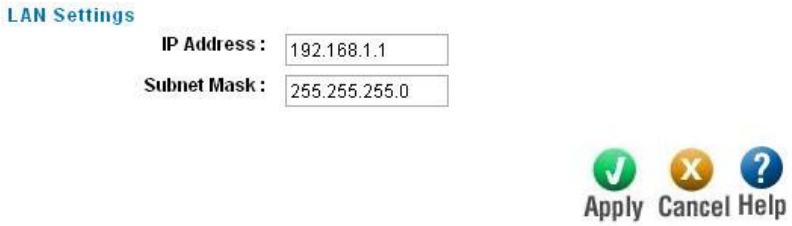
Auto Dialup: To enable or disable auto dialup for a PPPoE/PPTP connection. If you decide not to use auto dialup or auto disconnect, then you have to connect/disconnect manually.

Disconnect After Idle: The amount of time the router will wait before it disconnects if there is no traffic on the connection. Enter -1 to keep the connection always alive. Enter 0 to enable 'dial on demand by trigger'.

EchoTime: To determine how often an Echo request is sent to the PPPoE server. Normally, leave this setting as its default value.

Echo Retry: To determine the most times that the Echo request is allowed to be sent to the PPPoE server until getting a response. Normally, leave this setting as its default.

LAN



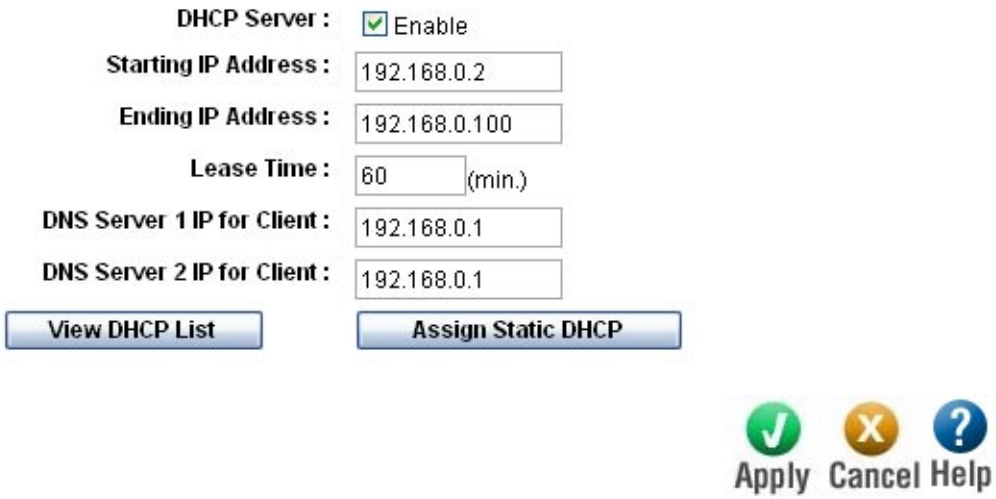
Home > LAN

LAN Settings

IP Address: This is the LAN IP address for this broadband router unit. Other computers on this LAN will see it as their gateway.

Subnet Mask: The subnet mask address must be the same as PCs onyour LAN. The default subnet mask address is 255.255.255.0

DHCP



Home > DHCP

DHCP Server

DHCP Server: To activate DHCP Server function. If you have another DHCP server available on your network or your LAN IP are static, you should disable the DHCP Server function.

Starting IP Address: The Starting of the IP address range that will be leased to DHCP clients in device's LAN side.

Ending IP Address: The Ending of the IP address range that will be leased to DHCP clients in device's LAN side.

Lease Time:	The amount of time for a DHCP server leased a IP address to a client.
DNS Server 1 IP for Client:	The IP address of the first default DNS server for the client requsting DHCP.
DNS Server 2 IP for Client:	The IP address of the second default DNS server for the client requsting DHCP.
View DHCP List:	This button is linked to the page DHCP client List.
Setting Static DHCP:	Click here to configure static DHCP.

DHCP Client List

DHCP Client List

Help

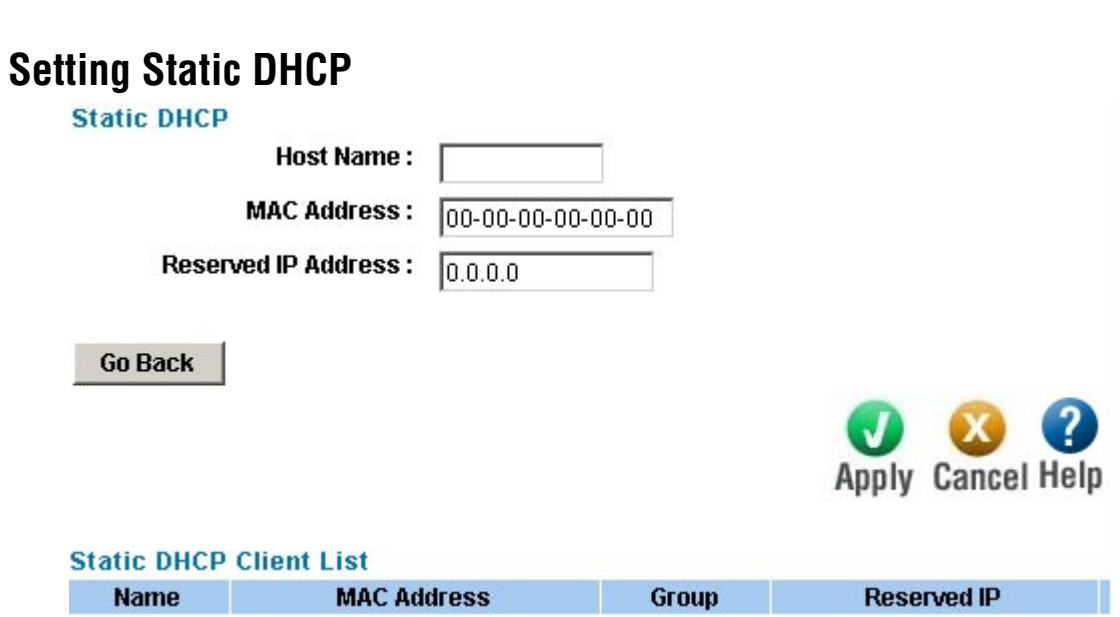
Prev Page | Refresh | Next Page | Go Back

Host Name	IP Address	MAC Address	Type	Status	Time Left
msimaster	192.168.1.7	00-11-09-2A-94-11	Dynamic	Leased	15m:3s
amd64sim	192.168.1.6	00-50-BA-88-AF-CB	Dynamic	Leased	36m:9s
DHCP Free Entry					
97					

Home > DHCP > View DHCP List

DHCP Client List Help

DHCP Client List:	Lists the information about the hosts which have obtained an IP address from this router's DHCP server.



Home > DHCP > Setting Static DHCP

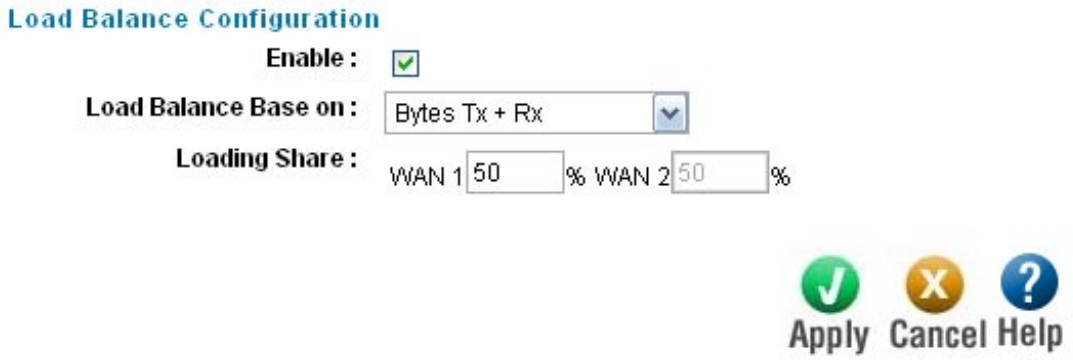
Static DHCP

Host Name: This should be your computer name.

MAC Address: This is your computer's network adapter address. You can find this address by typing ipconfig /all under the command prompt mode of window NT /2000/XP, or winipcfg under window/95/98/Me's command prompt mode.

Reserved IP Address: The IP address you wish to assign to this host.

Load Balance



Home > Load Balance

Load Balance Configuration

Load Balance: To determine how the traffic is shared among the WAN ports.

Enable: This will allow you enable or disable the load balance feature.

Load Balance Base on: Select the desired option to measure traffic.

Loading Share: Enter the desired percent of traffic load for each WAN port.

NAT Statistics

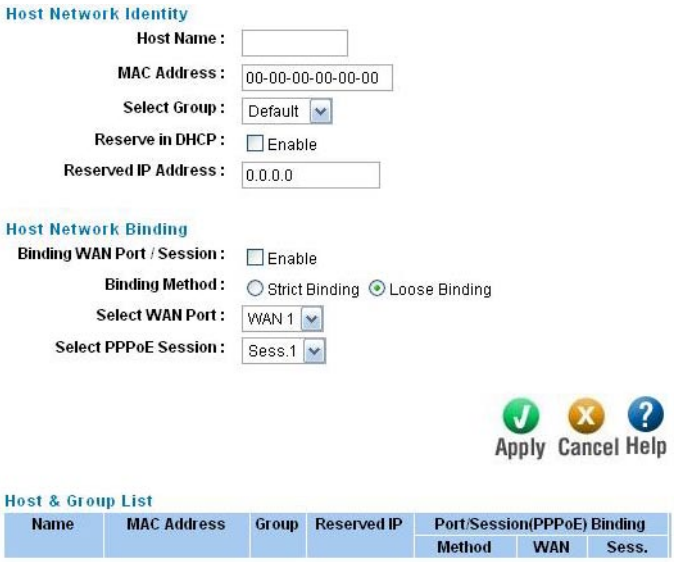
NAT Statistics: The traffic statistics on NAT for WAN ports.

Interface Statistics: The traffic statistics on WAN ports.

Advanced

The Advanced tab provides the following configuration options: Host IP, Static Routing, Virtual Server, Applications, Multi DMZ, Filters, QoS and NAT.

Host IP



Advanced > Host IP

Host IP

Host IP: The main purpose of this section is to define hosts on your LAN, and assign them to groups. Groups are used by the Access Filter and Block URL features. You can also bind multiple PPPoE sessions to individual hosts on the LAN.

Host Network Identity

Host Name: This should be your computer name.

MAC Address: This is your computer's network adapter address. You can find this address by typing ipconfig /all under the command prompt mode of window NT /2000/XP, or winipcfg under window/95/98/Me's command prompt mode.

Select Group: Select a group to assign the host to.

Reserved IP Address: The IP address you wish to assign to this host.

Host Network binding

Host Network binding: This is used only if you have multiple PPPoE sessions. Use this to ensure that a particular host always uses the same PPPoE session.

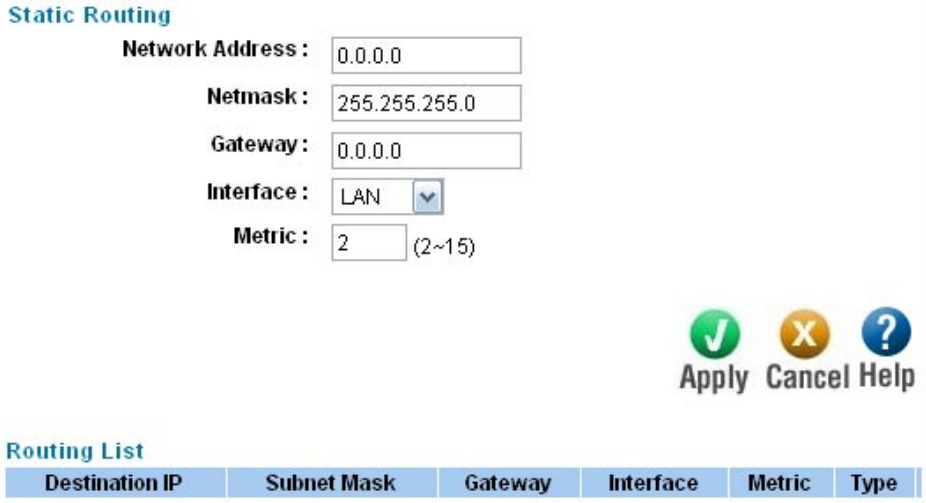
Strict Binding: Only the bound interface is allowed to send packets for the specified host. If the bound interface is not available, no packet from the specified host can be sent.

Loose Binding: In normal case, the packets from the specified host will be sent via the bound interface. If the bound interface is not available, the other interfaces are alternative.

Host & Group List

Host & Group List: All the host entries you have made will be listed here.

Static Routing



Advanced > Static Routing

Static Routing

Static Routing: If there is more than one router on a network, this Routing table must be configured because the router needs to know what packet goes to which router. A routing table entry is required for each LAN segment on the network.

Network Address: Network Address is the address of the destination network segment.

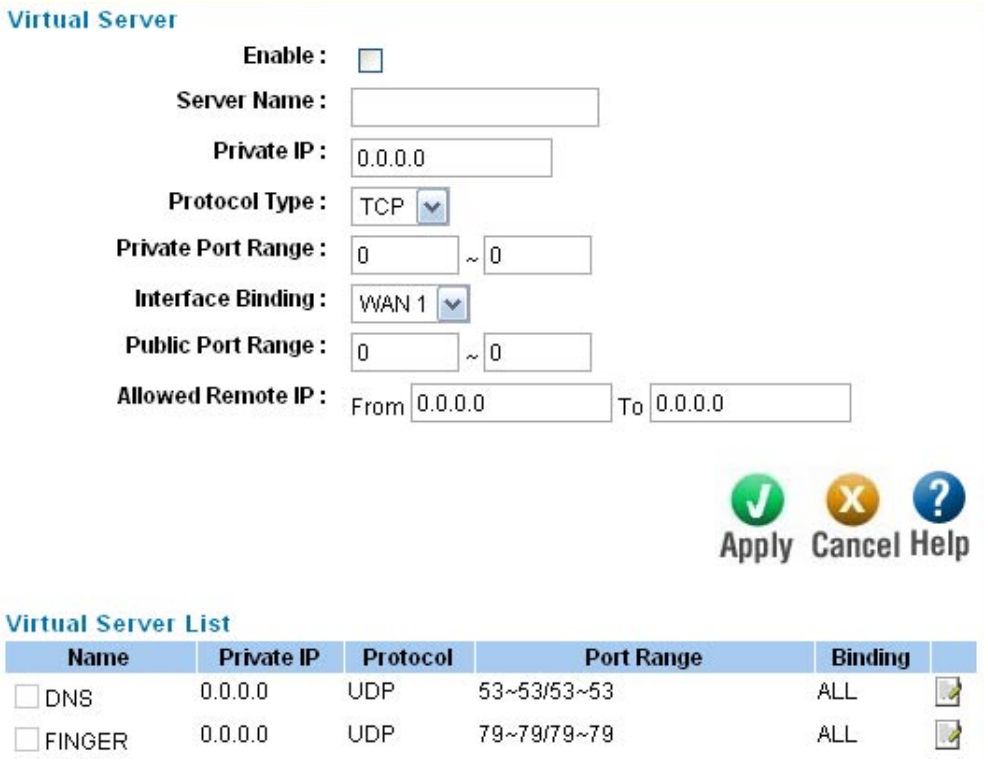
Netmask: The subnet mask used to select the bits from an IP Address that corresponds to the subnet.

Gateway: The IP router that the packets destined to the Network Address will be forwarded to.

Interface: The device's port that the packets destined to the Network Address will be passed through.

Metric: The number of routers that must be traversed to reach the destination network segment.

Virtual Server



Advanced > Virtual Server

Virtual Server

Virtual Server: This feature allows the servers (web server, mail server, FTP server, DNS, ... etc) on your LAN to be accessed from the Internet.

Enable: To activate or deactivate current entry.

Server Name: An unique name to identify the virtual server.

Private IP: Enter the IP address of the server on the device's LAN side. The hosts used as Virtual Servers should have a static IP address or a reserved IP address.

Protocol Type: Select the protocol (either TCP or UDP) used by the server software.

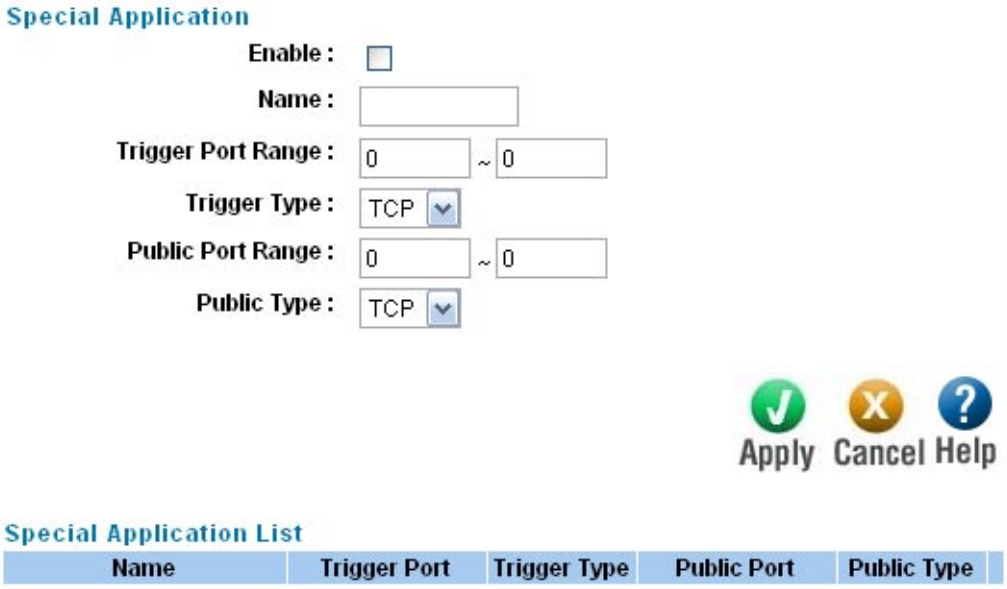
Private Port Range: The range of port numbers used by the server. If only one port number is used, fill the same number in both starting and ending fields.

Interface Binding: The WAN port that the virtual server is bound to.

Public Port Range: The range of port numbers for users in public to access the virtual server. If only one port number is used, fill the same number in both starting and ending fields.

Allowed Remote IP: The range of IP addresses that are allowed to access the virtual server.

Applications



Advanced > Applications

Special Application

Special Application: There are many special network applications that normally do not work behind a firewall. Due to network security considerations, only a few ports are open. Traffic using other ports is blocked. Here, you can choose to open other ports and allow the traffic which uses those ports.

Special Application Configuration

Special Application Configuration: This section lets you enter the configuration data for the special application.

Enable: To activate or deactivate current entry.

Name: The name to identify the Special Application.

Trigger Port Range: The port number range to trigger the Special Application.

Trigger Type: The protocol to trigger the Special Application.

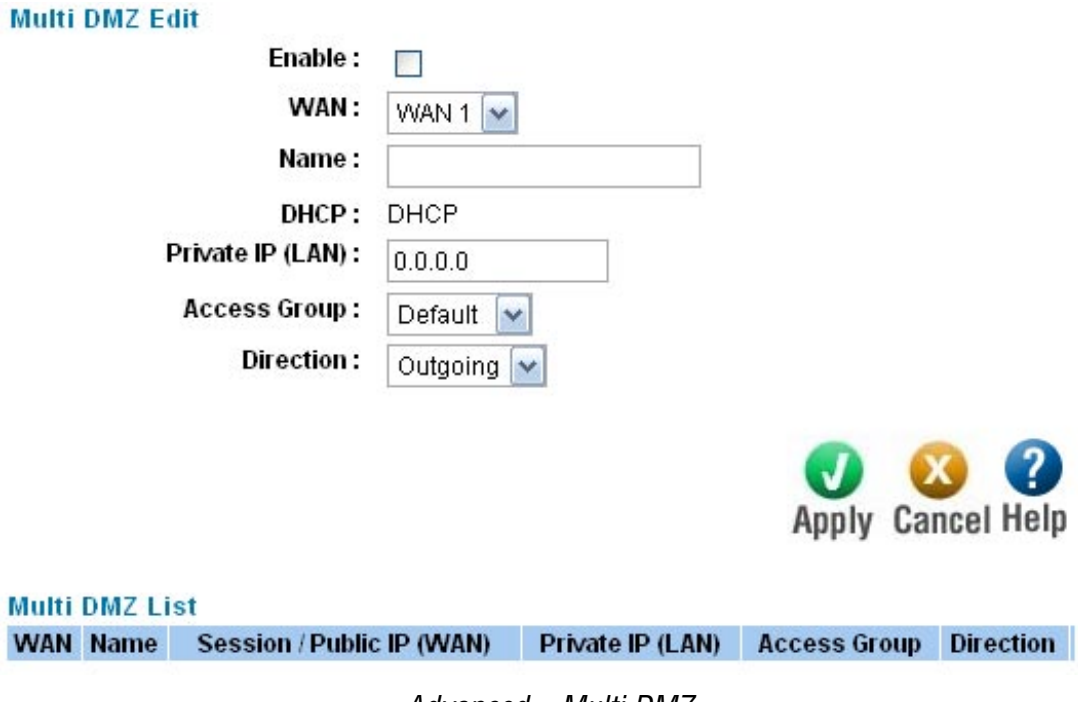
Public Port Range: The port range used in the connection from the Special Application server.

Public Type: The protocol used in the connection from the Special Application server.

Special Application List

Special Application List: Lists all the entries that have been created.

Multi-DMZ



Advanced > Multi DMZ

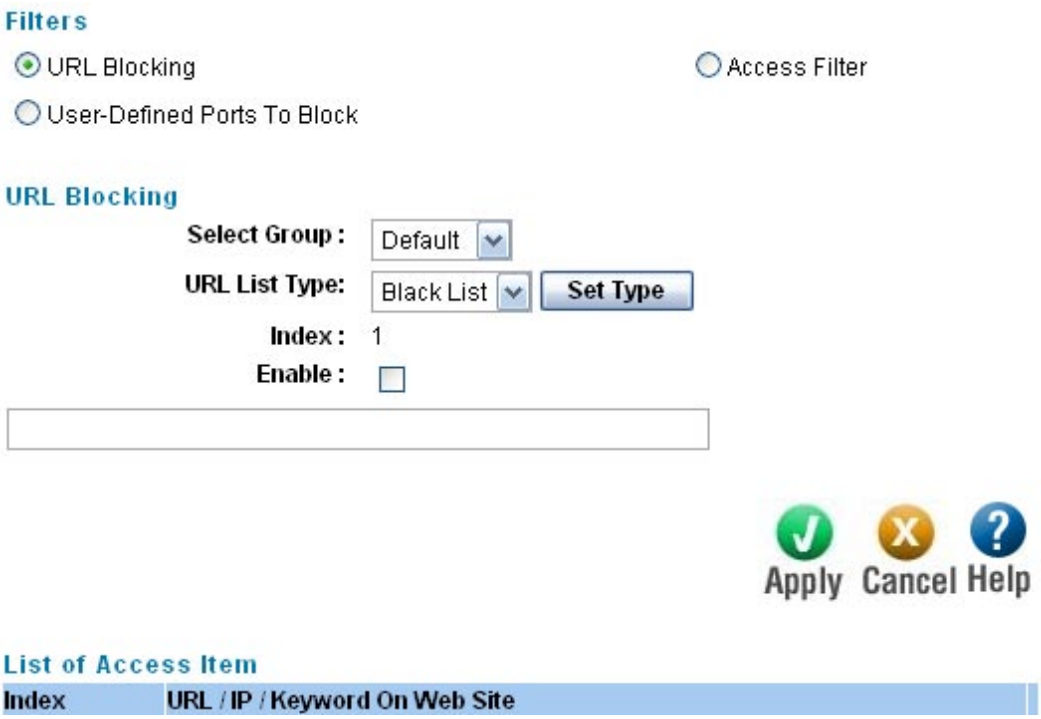
Multi DMZ

Multi DMZ (De-Militarized Zone): This special function allows multiple Hosts on your LAN to be exposed to the Internet without any restrictions. This is useful for some network games, net meeting, or special applications. In order to enable these functions, you have to map one LAN IP address to one WAN IP address. However, because of the security risk, you should activate these functions only if they are necessary.

Enable: To activate or deactivate current DMZ entry.

WAN:	The WAN port applied for current DMZ entry.
Name:	To identify current DMZ entry.
PPPoE Sess:	The PPPoE session that current DMZ entry is bound to.
Private IP (LAN):	The IP address of the server in DMZ.
Access Group:	To specify which Access Group will be applied. Each Access Group has its own access rules.
Direction:	To specify that the Access Group will be applied in which way.

Filters



Advanced > Filters

URL Blocking

URL Blocking:	If the URL, IP address or keyword entered here is found in the web page access packet from LAN users, the web page access will be blocked. You can have different restrictions for different groups. (Use the Host IP screen to assign Hosts to groups.)

Access Filters

Access Filters:	To control the Internet access by LAN users.

Select One Group:	The Group that current rule is applied to.
No Filtering:	To allow all Internet access to LAN users.
Allow Selected Access only:	To apply the rules defined in User-Defined Ports To Filter.
Block All Access:	To prohibit all Internet access to LAN users.
Block Selected Items:	To apply the rules defined in User-Defined Ports To Block.

ICMP Filters

ICMP Filters:	To limit the ICMP activities initialized from LAN.
Block Selected Packet Types:	To prohibit the selected types of ICMP packets from the LAN to be passed through the device.
Packet Types:	The types of the ICMP packets that could be blocked.

User-defined Ports To Filter

User-defined Ports To Block:	This lets you define custom ports to be filtered.
Enable:	To activate or deactivate current rule.
Name:	A unique name to identify current rule.
Protocol Type:	The protocol to be blocked.
Port No. Range:	The port number range to be blocked. (for TCP and UDP only) If only one port number is used, enter the same port number in both fields.

Advanced > QoS

QoS Setup

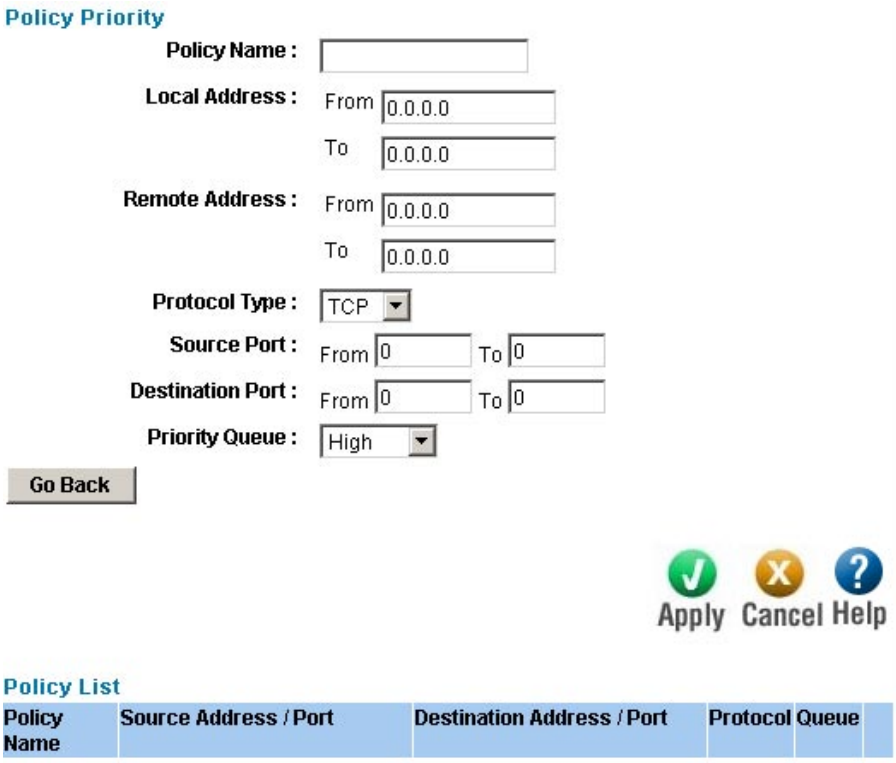
Enable QoS: Users can choose to Enable QoS (Quality of Service). If set to "enable" QoS, the QoS will allow higher priority packets to pass through the device.

Queuing Method: The methods for managing your queue. "Priority Queuing" is one of the first queuing variations to be widely implemented. This is based on the concept that certain types of traffic can be identified and shuffled to the front of the output queue so that some traffic is always transmitted ahead of other types of traffic.

Process TOS Field: An 8 bits field in the IP packet header designed to contain values indicating how each packet should be handled in the network. If you choose "enable" then it will enable this function to process the IP Type of Service field.

Overwrite Policy Priority: Choose "Yes" to enable the IP packet TOS field priority to overwrite the priority defined in the policy configuration.

QoS Set Policy

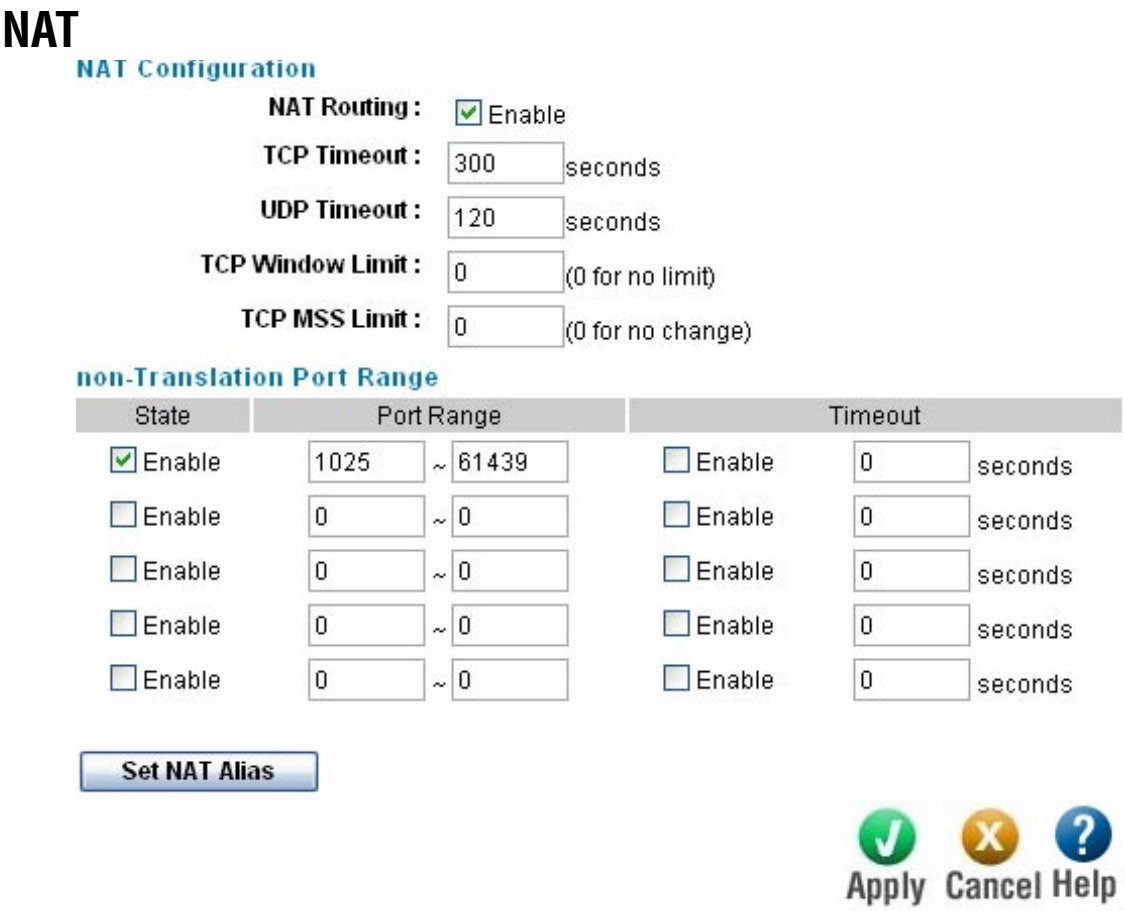


Advanced > QoS > Set Policy

Setting the QoS policy can assign received packets a higher/lower priority (based on your configuration) to pass through this device. You can define some policies which classify received packets based on local/remote IP addresses, ports and protocol type. This feature is useful when the WAN link is very busy or congested or when using special applications that need real time services such as Internet phone, video conference...etc.

QoS Policy

Policy Name:	The friendly name of a policy which is used to classify the received packets based on the following rules.
Local/Remote Address:	Specify a packet based on local/remote IP address. By default, the address is 0.0.0.0 which represents all IP Addresses. Port and Protocol Type define all packets for special applications.
Protocol Type:	This field is defined for which type of packet. It has some values such as IP, TCP and UDP.
Source/ Destination Port:	Specify the port number ranges if TCP or UDP protocol is selected.
Priority Queue:	This device supports four queues. When a packet meets a policy rule requirement, it will be put into the responding queue. Otherwise it is assigned the lowest priority to pass through.



Advanced > Nat

NAT Configuration:

NAT Routing: To enable or disable NAT routing by checking or unchecking the checkbox. If you disable NAT routing, this device will act as a Bridge or Static Router. Most features, including Load Balance, will be unavailable. If some packets whose port number cannot be translated for special applications, you must input value in port range for Disable Port Translation.

TCP Timeout: During the time that TCP expects to receive the acknowledgement from the destination.

UDP Timeout: During the time that UDP expects to receive the acknowledgement from the destination.

TCP Window Limit: The maxmimum number of outstanding packets before TCP receiving an acknowledgement.

TCP MSS Limit: The largest amount of data that can be transmitted in one TCP packet.

NAT Port Options

Port Range:	The Source Port Number Range for TCP and UDP protocol.
Non-Port-Translation:	To keep the source port number unchanged for TCP/UDP sessions on the specified Port Range. Some special applications do not allow the source port number to be translated.
Specific TCP / UDP Timeout:	To define specific Timeout for TCP/UDP sessions on the specified Port Range.

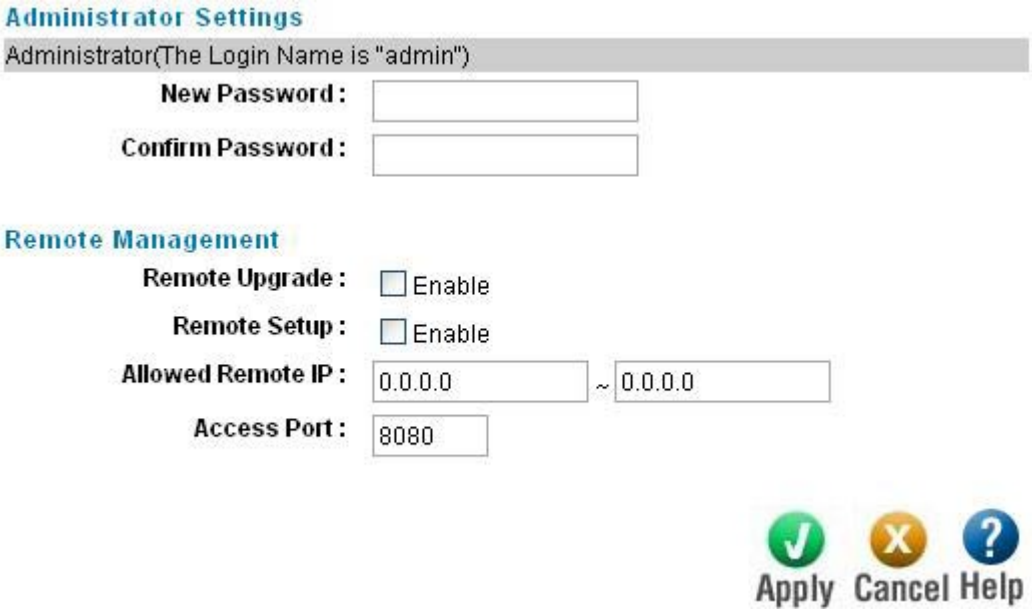
Set NAT Alias

Set NAT Alias:	The link to NAT Alias setting page.
NAT Alias:	For each alias entry , the Wan IP acts as an alias IP of the host with Local Lan IP to internet via the specified WAN port for the specified Protocol packets. i.e. 1-1 NAT.
Enable:	To activate or deactivate current entry.
Local Lan IP:	The IP address of the host in LAN that wants to use the specific WAN IP as its source IP.
Wan IP:	The IP address used as the source IP of the packets out from the specified host.
Protocol:	The protocol that current rule is applied for.
WAN:	The WAN port that current rule is applied for.
Back:	The link to NAT Configuration page.

Tools

The Tools tab provides the following options: Admin, Time, System, Firmware, Email Alert, SNMP, DDNS, UPNP and Misc.

Admin



Tools > Admin

Administrator Settings

New Password / Confirm Password: This administrator password protects the configuration for this broadband router. It is recommended that you set a password to prevent other people change the router's configuration.

Remote Management

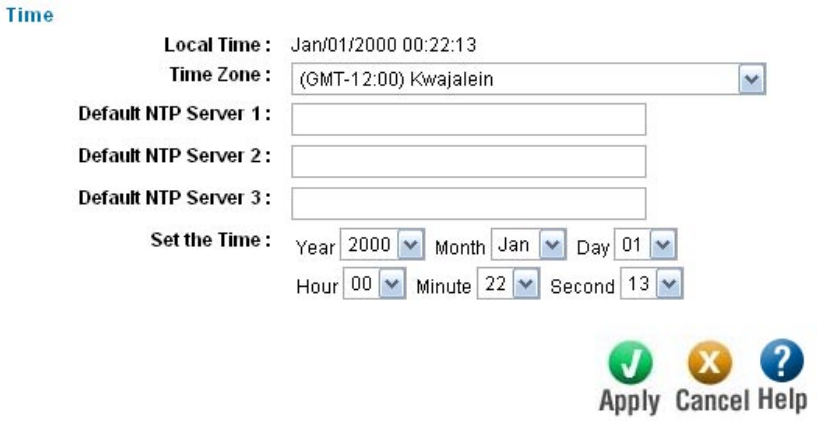
Remote Upgrade: To allow or disallow users to upgrade the firmware of the device through the web page remotely.

Remote Setup: To allow or disallow users to setup the configuration of the device through the web page remotely.

Allowed Remote IP: Only the requests from the hosts that its IP address is within the range of the Allowed Remote IP are allowed to Upgrade or Setup remotely.

Access Port: The specific port number used for users to Upgrade or Setup the device remotely.

Time

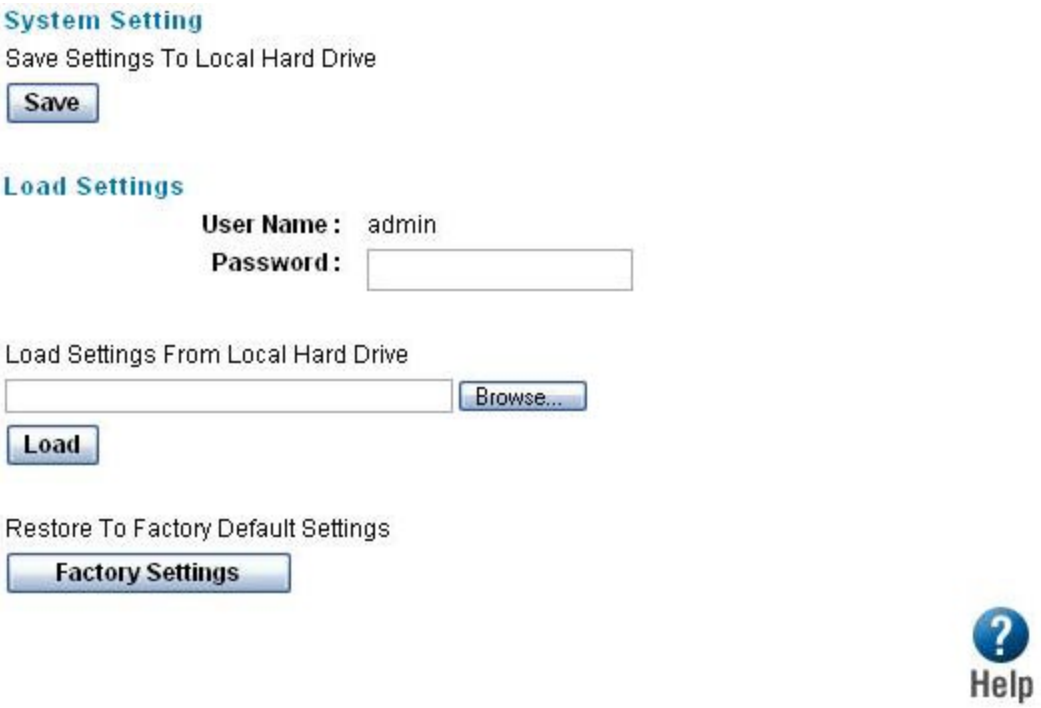


NTP Configuration

Time Zone: To specify one time zone from the time zone list that lists all time differences between GMT and each local time zone.

NTP Servers: Up to 3 NTP servers can be used for the device to receive the time and date in Greenwich Mean Time (GMT), you can enter its IP or Domain address here.

System



Tools > System

System Setting

Save Settings To Local Hard Drive: You can save current system configuration as a text file on a local hard disk, and then use the saved configuration file to upgrade another device later.

Load Settings

Load Settings: You can Load the Settings through this web page.(If you are using remote Load, you have to enable "Remote Upgrade" and "Remote Setup" from the Admin page first).

User Name / Password: Enter a password which will be used to login to the router.

Load Settings From Local Hard Drive: Select the configuration file from local hard disk.

Restore To Factory Default Settings: To restore the factory settings to system configuration.

Firmware

Tools > Firmware

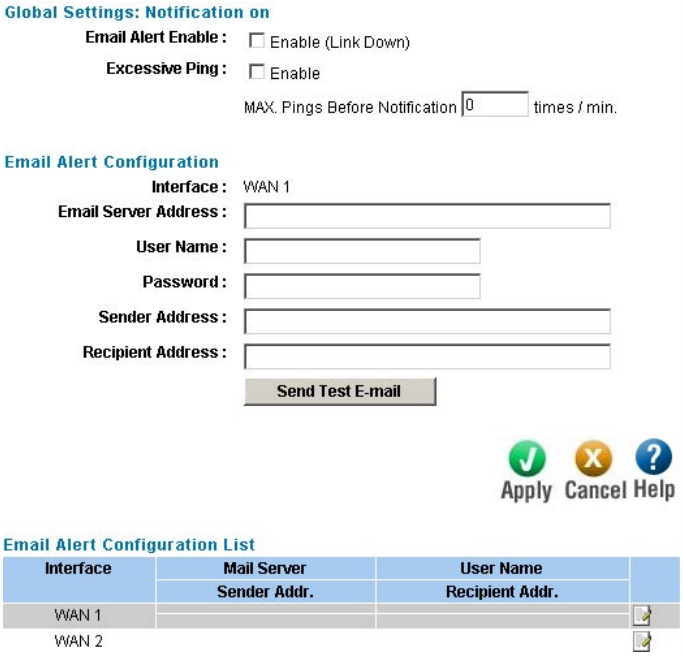
Upgrade Firmware

Upgrade Firmware: You can upgrade new firmware through this web page.(If you are using remote upgrade, you have to enable "Remote Upgrade" and "Remote Setup" from the Admin page first).

User Name / Password: The password will be authenticated for firmware upgrade.

Upgrade Software From Local Hard Drive: Select the firmware file from local hard disk.

Email Alert



Tools > Email Alert

Global Settings Notification on

Email Alert Enable: To enable or disable the Email Alert in case that one of the WAN ports is disconnected.

Excessive Ping: This function is useful to prevent ICMP packets attacks, from WAN or LAN, on the device. It will drop the packets if the ping times are excessive the threshold value Max. Pings Before Notification. And it will send e-mail to notify the administrator if Email Alert is enabled.

Email Alert Configuration

Email Alert Configuration: The purpose of email alert is when any of WAN ports is disconnected or malfunction, it will send an email message to inform of the recipient.

Email (SMTP) Server Address: The e-mail server address (ex. mail.yourdomain.com)

User Name: The user name of the e-mail address used for authentication.

Password: The password of the e-mail address used for authentication.

Sender Address: The email address of the sender.

Recipient Address: The email address of the receiver.

Send Test E-mail: Click this button will send a test e-mail in order to verify the settings are correct.

SNMP

Tools >SNMP

SNMP (Simple Network Management Protocol)

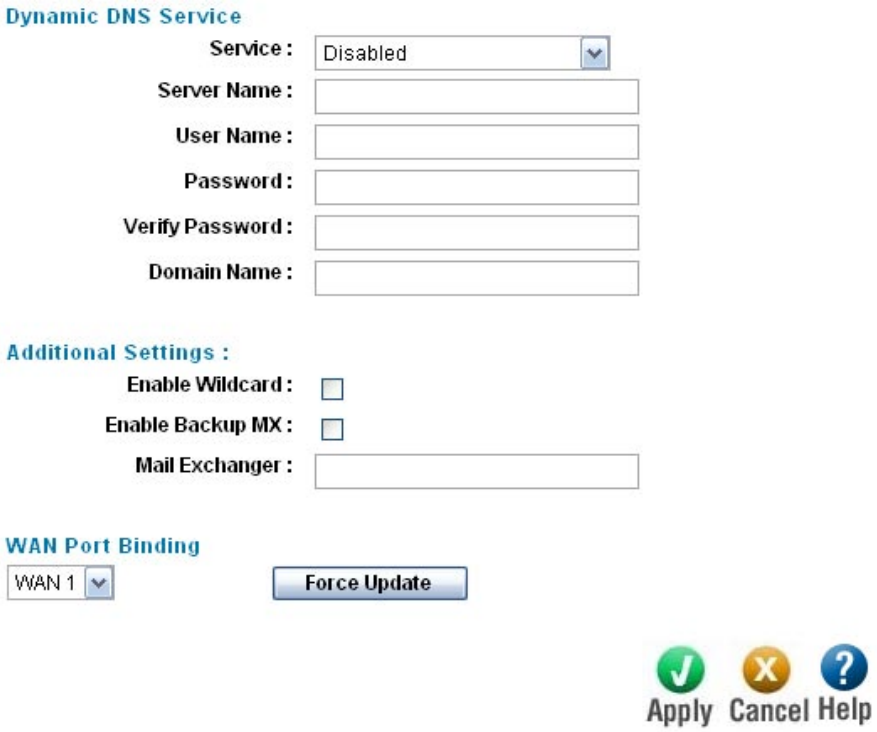
SNMP: This page only useful if you an SNMP program which you can use to access the Router and receive the trap alerts.

System Information: This is the system information which will identify this device.

Community: It is a relationship between an SNMP agent and a set of SNMP managers that defines authentication, access control, and proxy characteristics.

Trap Targets: Up to three IP address can be entered. Trap information will be sent to these addresses.

DDNS



Tools > DDNS

Dynamic DNS

Dynamic DNS: This is a technology that people can use to connect to your router using a domain name, instead of an IP address, even if you have a dynamic IP address from your ISP(instead of a static IP address).

Dynamic DNS Service

Service: To specify the service provider.

Server Name: The name of the DDNS server.

User Name: The username to login to the DDNS server.

Password: The password to login to the DDNS server.

Verify Password: Re-enter the password to prevent the typing error.

Domain Name: The complete hostname to be updated.

Additional Settings

Enable Wildcard: If enabled, all subdomains of your domain name maps to your current IP address. If disabled, no subdomains of your domain name have an IP address.

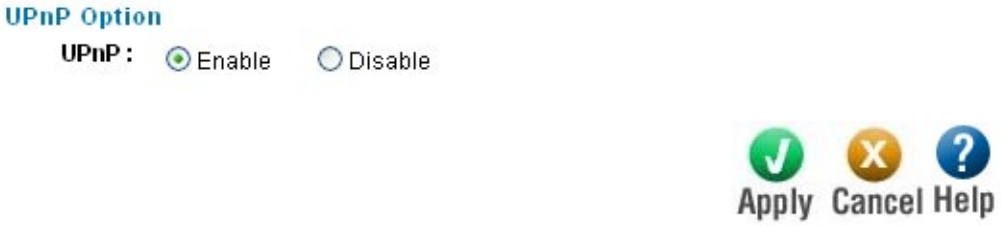
Enable Backup MX: Enable Backup to allow the use of Mail Exchanger.

Mail Exchanger: Define mail exchanger for the domain name. If omitted, the mail exchanger will be set to the domain name.

WAN Port Binding

WAN Port Binding: If bound on the WAN port, the domain name will be mapped to the IP address of the WAN port.

UPnP



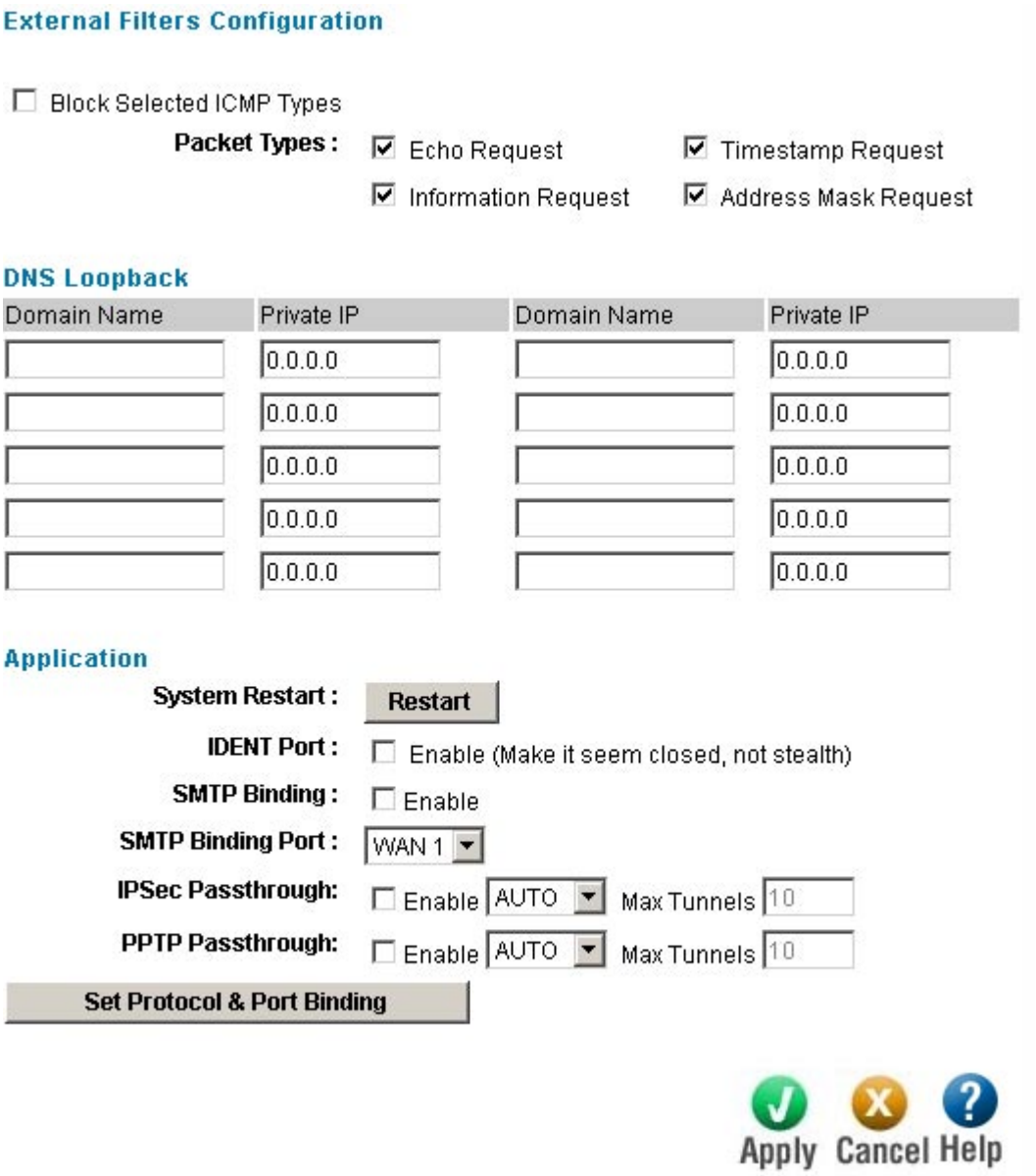
Tools >UPnP

UPnP Option

UPnP Option: With UPnP (Universal Plug & Play) function, it can easily setup and configure an entire network, enable discovery and control of networked devices and services.

UPnP Port Mapping List: You can set the dynamic port mappings to Internet gateway via UPnP on Windows XP. This will allow you make a connection between applications and the defined device.

Misc.



Tools >Misc

External Filters Configuration

External Filters Configuration: To limit the packets passing through the device from WAN side to LAN side.

IDENT Port: This port provides a means to determine the identity of a user on a particular TCP connection. By defult, the device is stealth for this port. Enable to make this port closed, not stealth.

Block Selected ICMP Types: To prohibit the selected types of ICMP packets from WAN to be passed through the device.

Packet Types:	The types of the ICMP packets that could be blocked.

System Restart

System Restart:	The link to the page to restart system.

DNS Loopback

DNS Loopback:	If there is any domain in your private network. You can setup the mapping table of Domain Name & Private IP for DNS query.

Interface Binding

SMTP Binding:	To determine if the SMTP packets are bound on the WAN port.
SMTP Binding Port:	To specify the WAN port that your SMTP traffic is only transmitted on. It could be that you have two accounts from two different ISP. It is best to use only one.
IP Sec/PPTP:	Enable this to allow UPN connections from PCs on the LAN to senders.

Set Protocol & Port Binding

Set Protocol & Port Binding:	To determine if the SMTP packets are bound on the WAN port.

Protocol & Port Binding

Protocol & Port Binding:	It is very like SMTP binding, but you must setup extra data like Protocol & Port Range. If all the checking items are met, the packet will be bound on the specified WAN port.
Enable:	To activate or deactivate current rule.
Source IP:	The IP address that the packet's source IP will be checked against.
Dest. IP / IP Address:	The specific IP range that the packet's destination IP will be checked against. There are two forms of Dest. IP: If Subnet is selected, the fields IP Address and Subnet Mask need to be filled. If IP Range is selected, the fields From and To need to be filled.
Protocol:	The protocol that the packet's protocol will be checked against.
Port Range:	The specific port number range that the packet's destination port number will be checked against.
WAN:	The specific WAN port that the packet will be bound on if all the checking items are met.

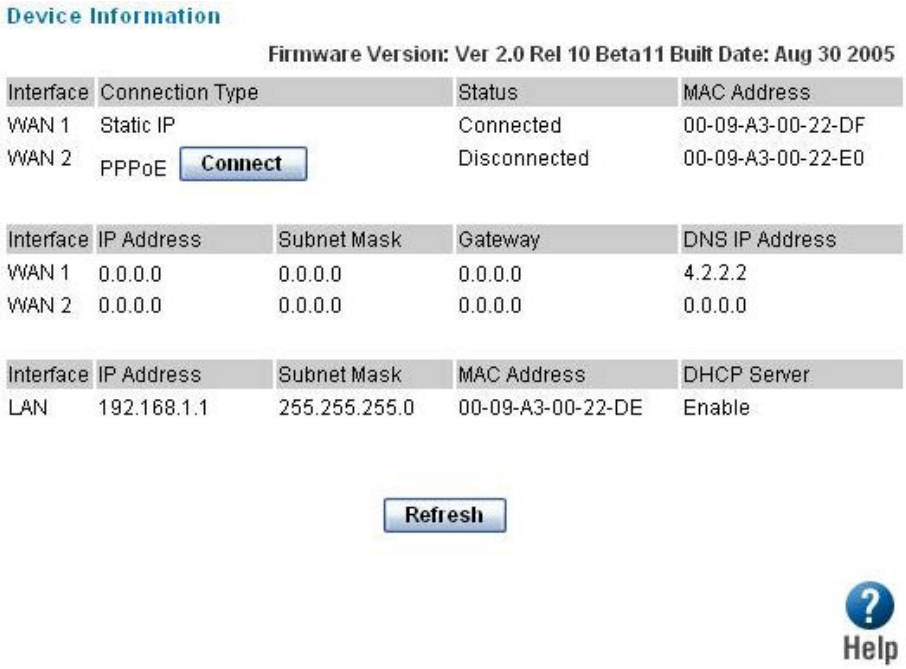
Back

Back:	The link to the main page of Advanced Feature.

Status

The Status tab provides the following options: Device Info, Log, and Stats

Device Info



Status > Device Information

Device Information

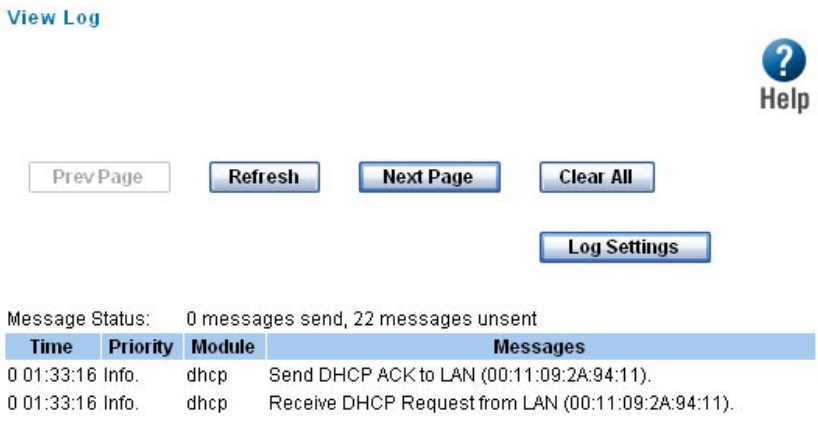
Device Information:

This page describes the device's interfaces (WAN ports and LAN port) settings and status.

•Connect/Disconnect: Connect or disconnect PPPoE session immediately.

•Force Renew: Renew DHCP lease immediately.

Log

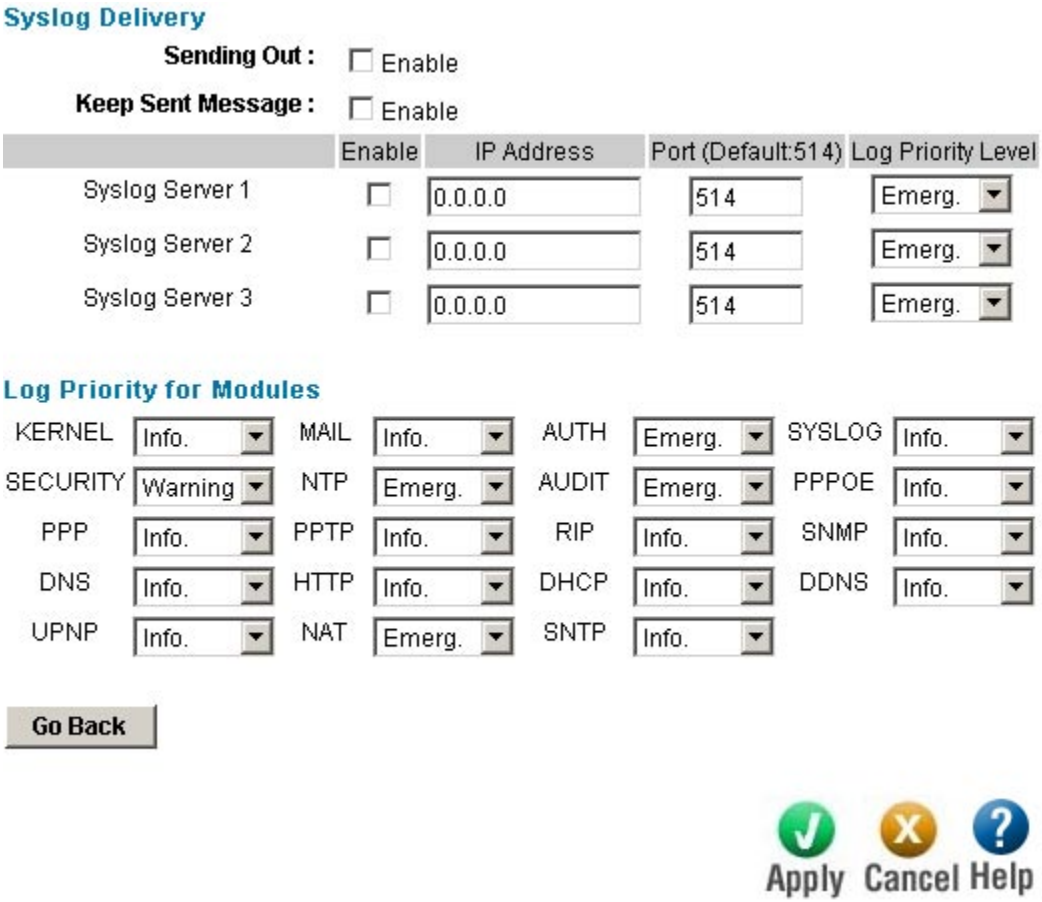


Status > Log

View Log

View Log: The device keeps a running log of events and activities occurring on the device. The log will display up to 100 recent logs. Newer log activities will overwrite the older logs. When the device is rebooted, the logs are automatically cleared.

Log Settings



Status > Log > Log Settings

Syslog Delivery

Sending Out: If checked, device will send syslog messages to other machine (log servers). Note: Even you uncheck it, the system will generate log messages.

Keep Sent Messages: If checked, the sent messages will be kept on device, otherwise the sent message will be deleted.

Syslog Servers:

•IP Address:
Up to 3 syslog servers can be used.

•Enable:
If checked, the log message will be sent to the server.
You can disable or enable each server temporarily.

•Port:
If your syslog server does not use the default port (514), change it.

•Log Priority Level:
The messages are grouped into 8 priority levels, from Emergency to Debug. The lower level it is, the fewer messages it will generate. Emergency is the lowest priority level, and Debug is the highest one. So set priority to Debug will send all generated messages.

Log Priority for Modules

Log Priority for Modules: This feature displays and controls current log priority for each module. For a module with different priorities, the different level of messages will be generated in Syslog. The lower level of log priority for module is, the more messages will be generated. DEBUG is the lowest level of log priority.

Message Status: Messages sent will be kept only when "Keep Sent Messages" checked. Currently we keep last 100 messages in RAM area, reboot or power-off will clear them.

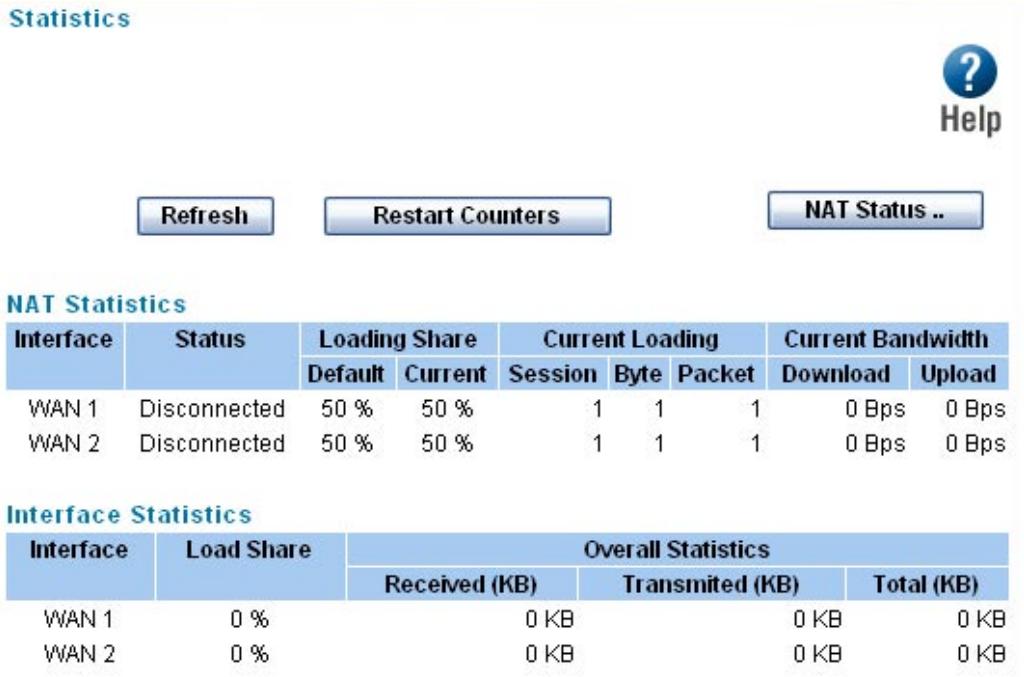
•Clear All: Use this button to clear all unsent messages.

•Submit: It will validate the new settings.

•Reset: It will reserve current settings in flash.

•View Syslog: It will display current messages in Syslog.

Stats



Status > Statistics

Refresh

Refresh: Get the newest statistics data.

Restart Counters

Restart Counters: Clear all the statistics counters to 0.

Check NAT Detail: The link to NAT Status page.

NAT Statistics

Connection Status: Check if WAN1 and WAN2 ports are connected or disconnected.

Default Loading Share: Display the default traffic loading between WAN1 and WAN2 ports.

Current Loading Share: Display current traffic loading between WAN1 and WAN2 ports.

Current Loading: The number of sessions, Bytes and Packets currently being processed on each port.

Current bandwidth: Current Download and Upload speeds on each WAN port.

Interface Statistics

Interface Statistics: This section displays cumulative statistics.

Load Share: Current traffic loading in percent, including the traffic for device itself, on each WAN port.

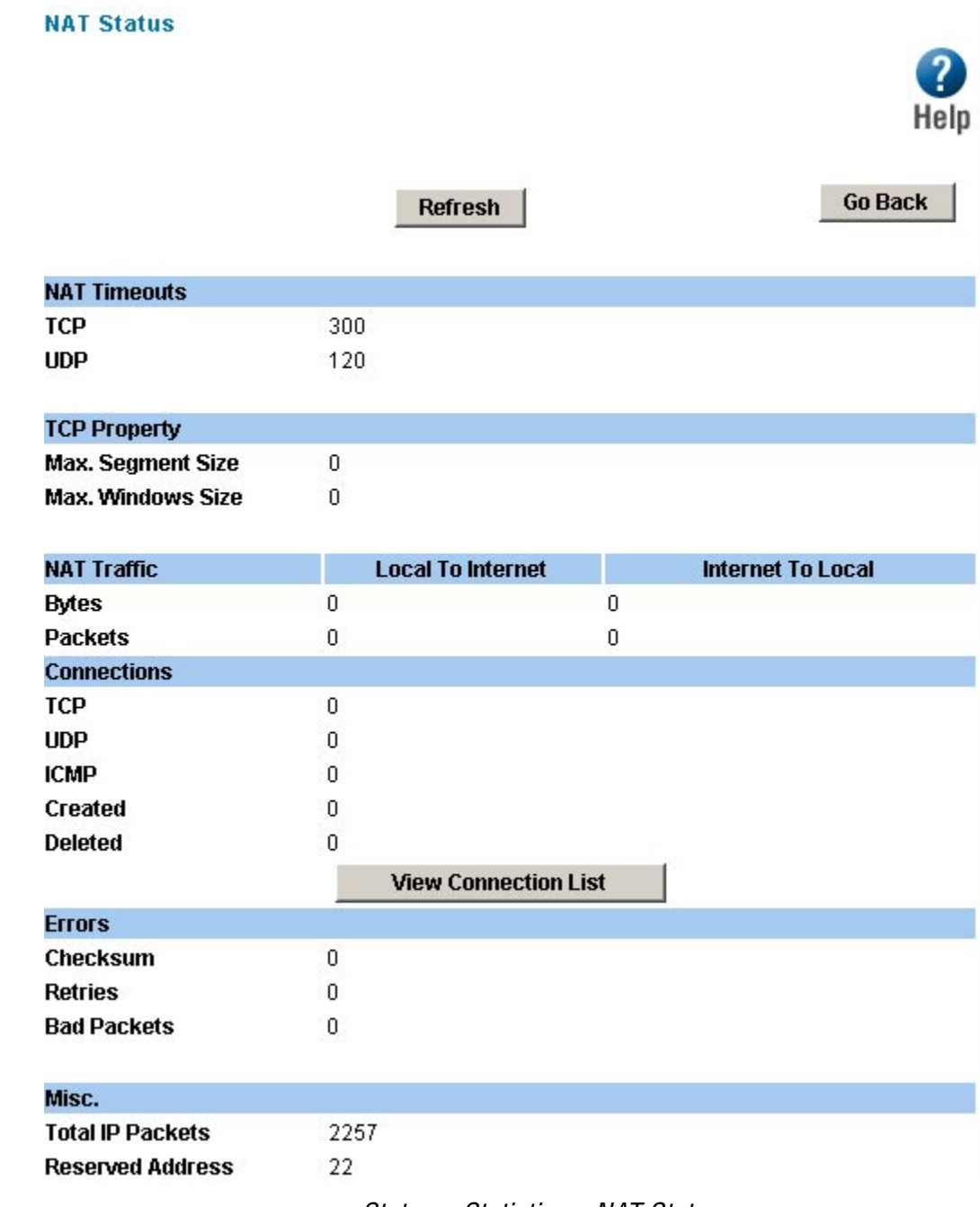
Overall Statistics:

•Received:
Current incoming traffic loading in KByte, including the traffic for device itself, on each WAN port.

•Transmited:
Current outgoing traffic loading in KByte, including the traffic for device itself, on each WAN port.

•Total:
Current traffic loading in KByte, including the traffic for device itself, on each WAN port.

NAT Status



Status > Statistics > NAT Status

NAT Status

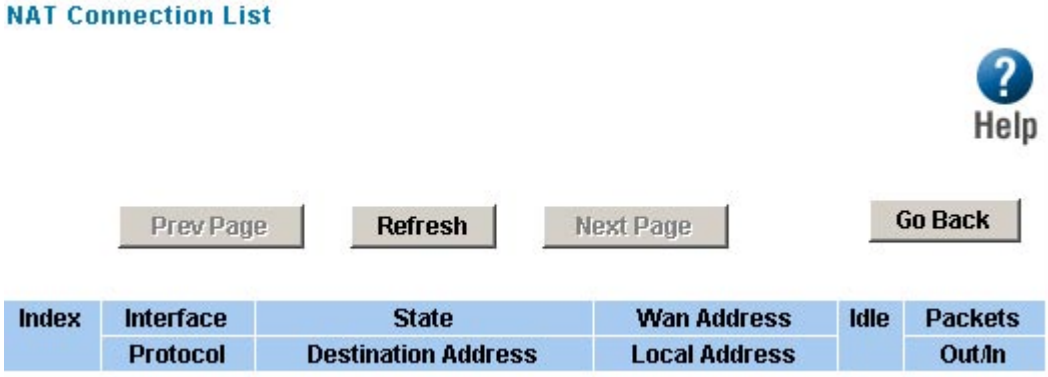
Refresh: Get the newest status information.

View Connection List: The link to NAT Connection List page.

NAT Timeouts: This displays the current timeout values for TCP and UDP connections.

TCP Property:	This displays the MSS (Maximum Segment Size) and Maximum Windows size for TCP packets.
NAT Traffic:	This section displays statistics for both outgoing (LAN to Internet) and Incoming (Internet to Local) traffic.
Connections:	This displays the current number of active connections. For further details, click the View Connection list button.
Errors:	Statistics are displayed for Checksum errors, number of retries, and number of bad packets.
Misc:	This displays the total IP packets and reserved address.
NAT Connection List:	To display the information and status of all the entries in NAT table.

NAT Connection List



Status > Statistics > NAT Status > View Connection List

Troubleshooting

This Chapter provides solutions to problems that can occur during the installation and operation of the DI-LB604 QoS Router. We cover various aspects of the network setup, including the network adapters. Please read the following if you are having problems.

Note: It is recommended that you use an Ethernet connection to ***configure the DI-LB604 QoS Router***.

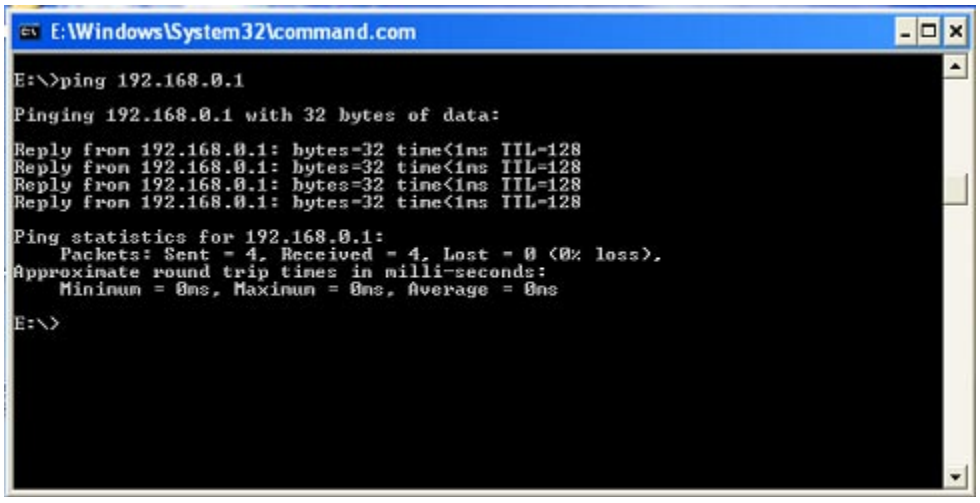
The computer used to configure the DI-LB604 cannot access the Configuration menu.

- Check that the **Ethernet LED** on the DI-LB604 is **ON**. If the **LED** is not **ON**, check that the cable for the Ethernet connection is securely inserted.
- Check that the Ethernet Adapter is working properly. Please see item 3 (***Check that the drivers for the network adapters are installed properly***) in this **Troubleshooting** section to check that the drivers are loaded properly.
- Check that the **IP Address** is in the same range and subnet as the DI-LB604. Please see ***Checking the IP Address in Windows XP*** in the **Networking Basics** section of this manual.

Note: The IP Address of the DI-LB604 is 192.168.0.1. All the computers on the network must have a unique IP Address in the same range, e.g., 192.168.0.x. Any computers that have identical IP Addresses will not be visible on the network. They must all have the same subnet mask, e.g., 255.255.255.0.

- Do a **Ping test** to make sure that the DI-LB604 is responding. Go to **Start**>**Run**>Type **Command**>Type **ping 192.168.0.1.** A successful ping will show four replies.

Note: If you have changed the default IP Address, make sure to ping the correct IP Address assigned to the DI-LB604.



To hard-reset the DI-LB604 to Factory Default Settings, please do the following:

- Locate the **Reset** button on the back of the DI-LB604.
- Use a paper clip to press the **Reset** button.
- Hold for about 10 seconds and then release.
- After the DI-LB604 reboots (this may take a few minutes) it will be reset to the factory **Default** settings.

Resetting the DI-LB604 to Factory Default Settings

After you have tried other methods for troubleshooting your network, you may choose to **Reset** the DI-LB604 to the factory default settings.

Technical Specifications

VPN Pass Through/ Multi-Sessions

- PPTP
- IPSec

Device Management

- Web-Based- Internet Explorer v6 or later; Netscape Navigator v7 or later; or other Java-enabled browsers
- DHCP Server and Client

Advanced Firewall Features

- NAT with VPN Passthrough (Network Address Translation)
- MAC Filtering
- URL Filtering
- Scheduling

Operating Temperature

- 32ºF to 131ºF (0ºC to 55ºC)

Humidity:

- 95% maximum (non-condensing)

Safety and Emissions:

- FCC

LEDs:

- Power
- Status
- LAN (10/100)
- WAN

Physical Dimensions:

- L = 7.56 inches (192mm)
- W = 4.65 inches (118mm)
- H = 1.22 inches (31mm)

Power Input:

- Ext. Power Supply DC 5V, 3A

Weight:

- 10.8 oz. (0.3kg)

Warranty:

- 1 year

Frequently Asked Questions

1 Why can't I access the Web-based configuration?

When entering the IP Address of the DI-LB604 (192.168.0.1), you are not connecting to the Internet or have to be connected to the Internet. The device has the utility built-in to a ROM chip in the device itself. Your computer must be on the same IP subnet to connect to the web-based utility.

To resolve difficulties accessing a Web utility, please follow the steps below.

Step 1: Verify physical connectivity by checking for solid link lights on the device. If you do not get a solid link light, try using a different cable or connect to a different port on the device if possible. If the computer is turned off, the link light may not be on.

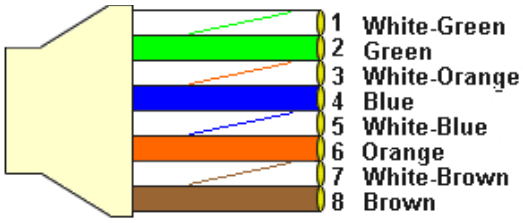
What type of cable should I be using?

The following connections require a Crossover Cable:
Computer to Computer
Computer to Uplink Port
Computer to Access Point
Computer to Print Server
Computer/XBOX/PS2 to DWL-810
Computer/XBOX/PS2 to DWL-900AP+
Uplink Port to Uplink Port (hub/switch)
Normal Port to Normal Port (hub/switch)

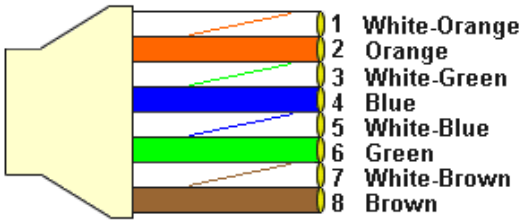
The following connections require a Straight-through Cable:
Computer to Residential Gateway/Router
Computer to Normal Port (hub/switch)
Access Point to Normal Port (hub/switch)
Print Server to Normal Port (hub/switch)
Uplink Port to Normal Port (hub/switch)

Rule of Thumb:
"If there is a link light, the cable is right."

What´s the difference between a crossover cable and a straight-through cable?
The wiring in crossover and straight-through cables are different. The two types of cable have different purposes for different LAN configurations. EIA/TIA 568A/568B define the wiring standards and allow for two different wiring color codes as illustrated in the following diagram.



568A CABLE END



568B CABLE END

*The wires with colored backgrounds may have white stripes and may be denoted that way in diagrams found elsewhere.

How to tell straight-through cable from a crossover cable:

The main way to tell the difference between the two cable types is to compare the wiring order on the ends of the cable. If the wiring is the same on both sides, it is straight-through cable. If one side has opposite wiring, it is a crossover cable.

All you need to remember to properly configure the cables is the pinout order of the two cable ends and the following rules:

A straight-through cable has identical ends. A crossover cable has different ends.

It makes no functional difference which standard you follow for straight-through cable ends, as long as both ends are the same. You can start a crossover cable with either standard as long as the other end is the other standard. It makes no functional difference which end is which. The order in which you pin the cable is important. Using a pattern other than what is specified in the above diagram could cause connection problems.

When to use a crossover cable and when to use a straight-through cable:
Computer to Computer – Crossover

Computer to an normal port on a Hub/Switch – Straight-through

Computer to an uplink port on a Hub/Switch - Crossover

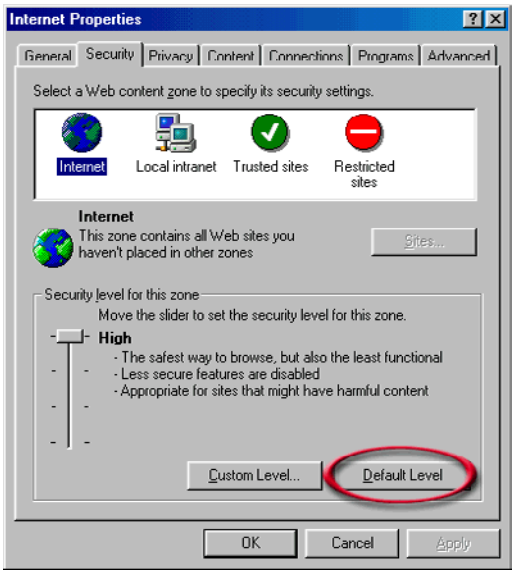
Hub/Switch uplink port to another Hub/Switch uplink port – Crossover

Hub/Switch uplink port to another Hub/Switch normal port - Straight-through

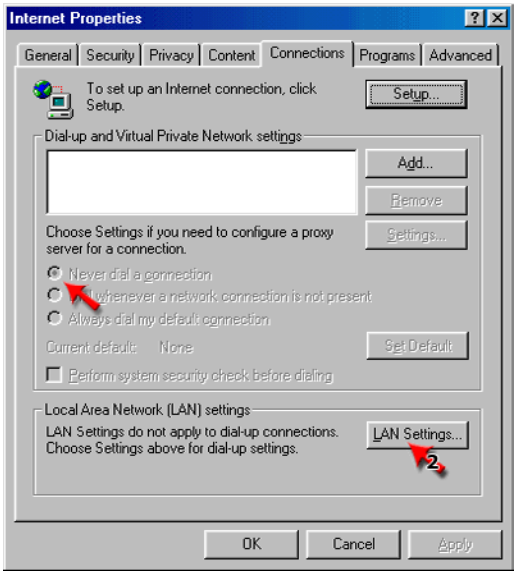
Step 2: Disable any Internet security software running on the computer. Software firewalls like Zone Alarm, Black Ice, Sygate, Norton Personal Firewall, etc. might block access to the configuration pages. Check the help files included with your firewall software for more information on disabling or configuring it.

Step 3: Configure your Internet settings.

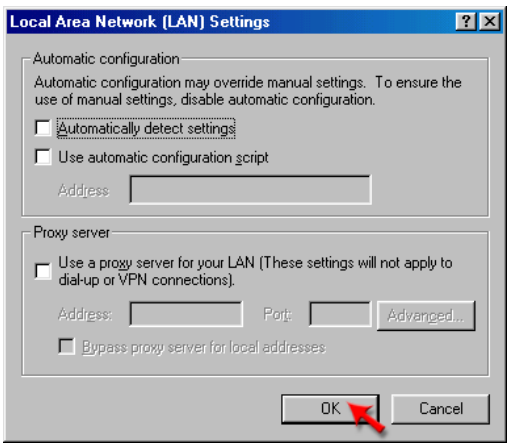
- Go to **Start>Settings>Control Panel**. Double click the **Internet Options** Icon. From the **Security** tab, click the button to restore the settings to their defaults.



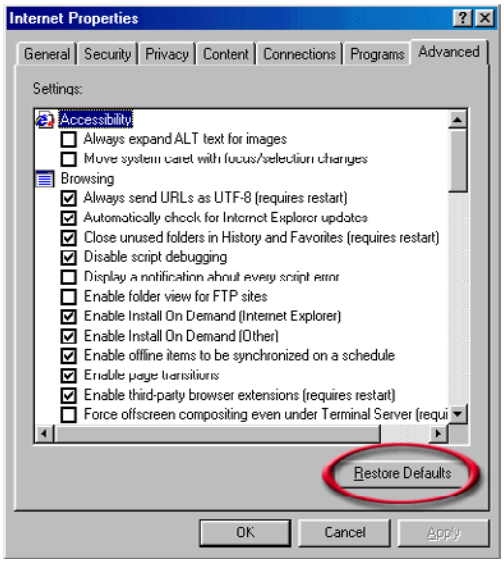
- Click to the **Connection** tab and set the dial-up option to **Never Dial a Connection**. Click the **LAN Settings** button.



- Nothing should be checked. Click **OK**.



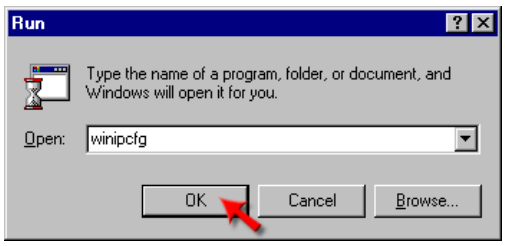
- Go to the **Advanced** tab and click the button to restore these settings to their defaults.
- Click **OK**. Go to the desktop and close any open windows.



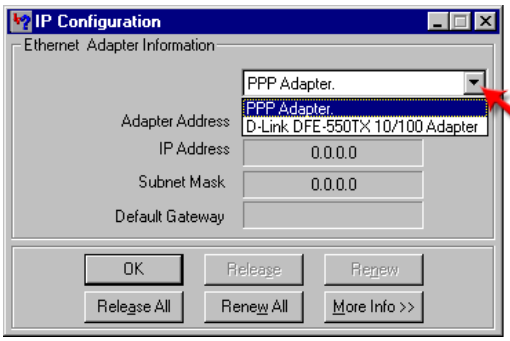
Step 4: Check your IP Address. Your computer must have an IP Address in the same range of the device you are attempting to configure. Most D-Link devices use the 192.168.0.X range.

How can I find my IP Address in Windows 95, 98, or ME?

- Click on **Start**, then click on **Run**.
- The Run Dialogue Box will appear. Type **winipcfg** in the window as shown then click **OK**.



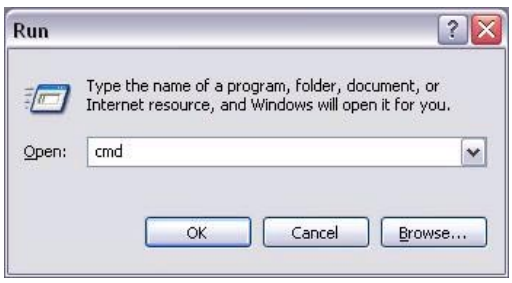
- The **IP Configuration** window will appear, displaying your **Ethernet Adapter Information**.
- Select your adapter from the drop down menu.
- If you do not see your adapter in the drop down menu, your adapter is not properly installed.



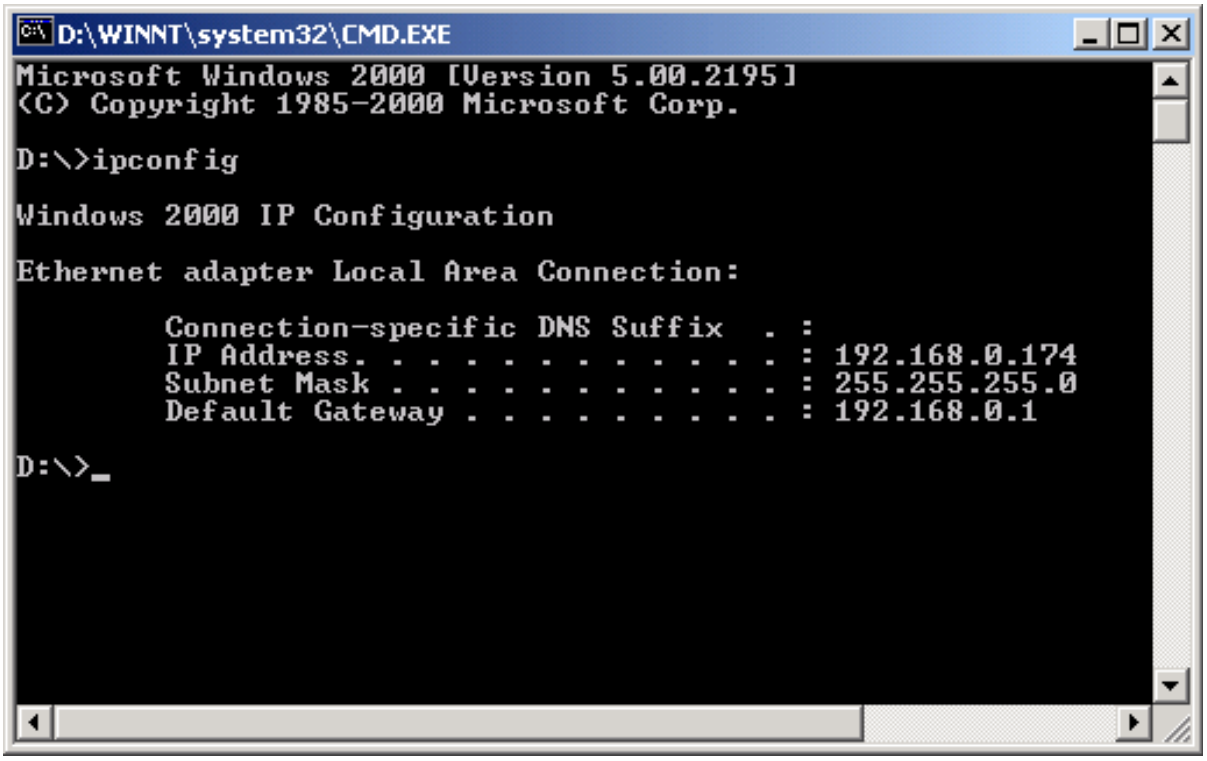
- After selecting your adapter, it will display your IP Address, subnet mask, and default gateway.
- Click **OK** to close the IP Configuration window.

How can I find my IP Address in Windows 2000/XP?

- Click on **Start** and select **Run**.
- Type **cmd** then click **OK**.



- From the Command Prompt, enter **ipconfig**. It will return your IP Address, subnet mask, and default gateway.

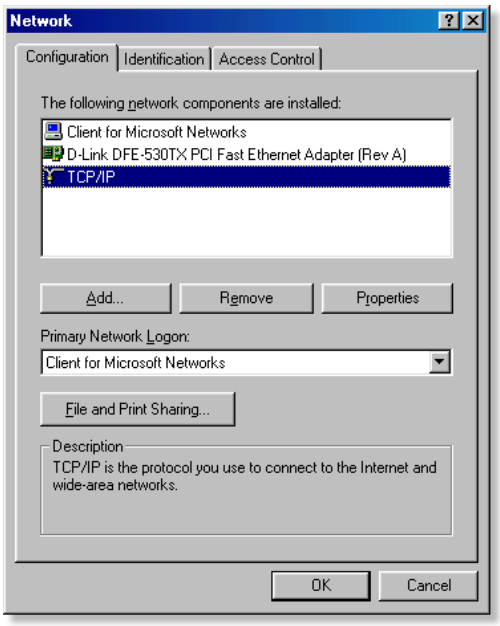


- Type **exit** to close the command prompt.

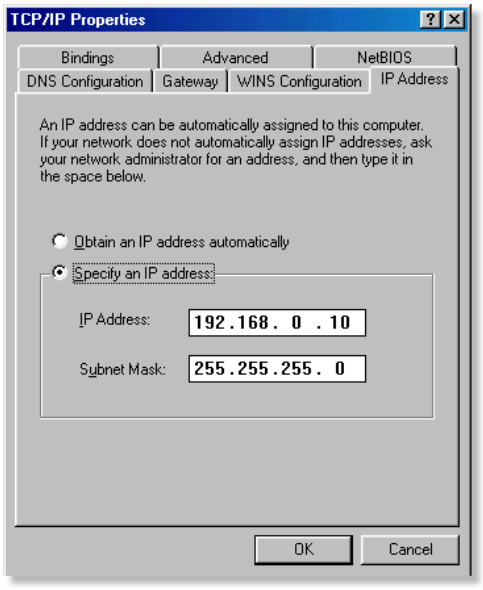
Make sure you take note of your computer´s Default Gateway IP Address. The Default Gateway is the IP Address of the D-Link router. By default, it should be 192.168.0.1

How can I assign a Static IP Address in Windows 98/Me?

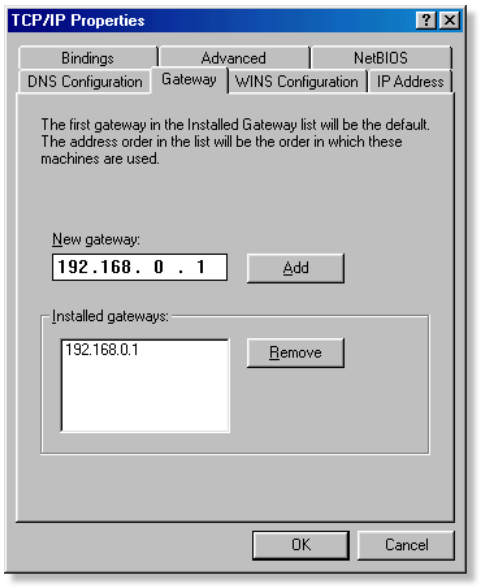
- From the desktop, right-click on the **Network Neigborhood** icon (Win ME - My Network Places) and select **Properties**.
- Highlight **TCP/IP** and click the **Properties** button. If you have more than 1 adapter, then there will be a TCP/IP "Binding" for each adapter. Highlight **TCP/IP > (your network adapter)** and then click **Properties**.



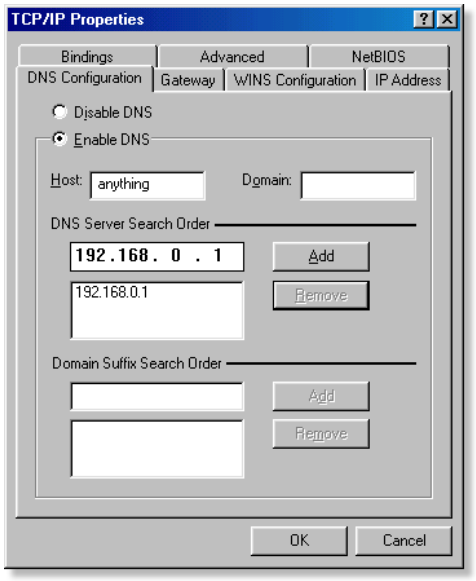
- Click **Specify an IP Address**.
- Enter in an IP Address that is on the same subnet as the LAN IP Address on your router. Example: If the router´s LAN IP Address is 192.168.0.1, make your IP Address 192.168.0.X where X is between 2-99. Make sure that the number you choose is not in use on the network.



- Click on the **Gateway** tab.
- Enter the LAN IP Address of your router here (192.168.0.1).
- Click **Add** when finished.



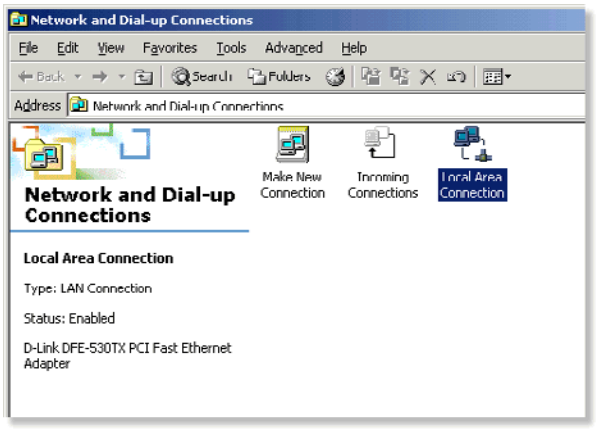
- Click on the **DNS Configuration** tab.
- Click **Enable DNS**. Type in a **Host** (can be any word). Under DNS server search order, enter the LAN IP Address of your router (192.168.0.1). Click **Add**.



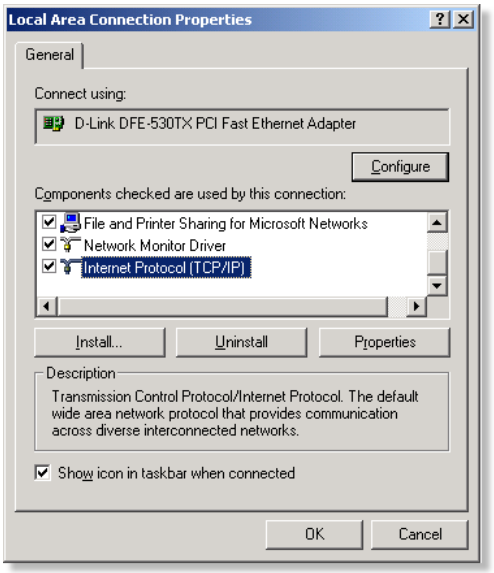
- Click **OK** twice.
- When prompted to reboot your computer, click **Yes**. After you reboot, the computer will now have a static, private IP Address.

How can I assign a Static IP Address in Windows 2000?

- Right-click on **My Network Places** and select **Properties**.
- Right-click on the **Local Area Connection** which represents your network card and select **Properties**.

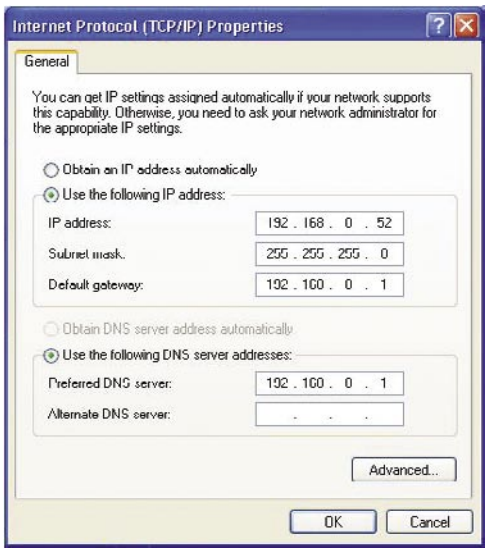


- Highlight **Internet Protocol (TCP/IP)** and click **Properties.**



- Click **Use the following IP Address** and enter an IP Address that is on the same subnet as the LAN IP Address on your router. Example: If the router´s LAN IP Address is 192.168.0.1, make your IP Address 192.168.0.X where X = 2-99. Make sure that the number you choose is not in use on the network.
- Set **the Default Gateway** to be the same as the LAN IP Address of your router (192.168.0.1).
- Set **the Primary DNS** to be the same as the LAN IP address of your router (192.168.0.1).

- **The Secondary DNS** is not needed or enter a DNS server from your ISP.
- Click **OK** twice. You may be asked if you want to reboot your computer. Click **Yes**.



How can I assign a Static IP Address in Windows XP?

- Click on **Start > Control Panel > Network and Internet Connections > Network connections**.
- See the second step for assigning a static IP address in Windows 2000 and continue from there.

Step 5: Access the Web management. Open your Web browser and enter the IP Address of your D-Link device in the address bar. This should open the login page for the Web management. Follow instructions to login and complete the configuration.

2 How can I setup my router to work with a Cable modem connection?

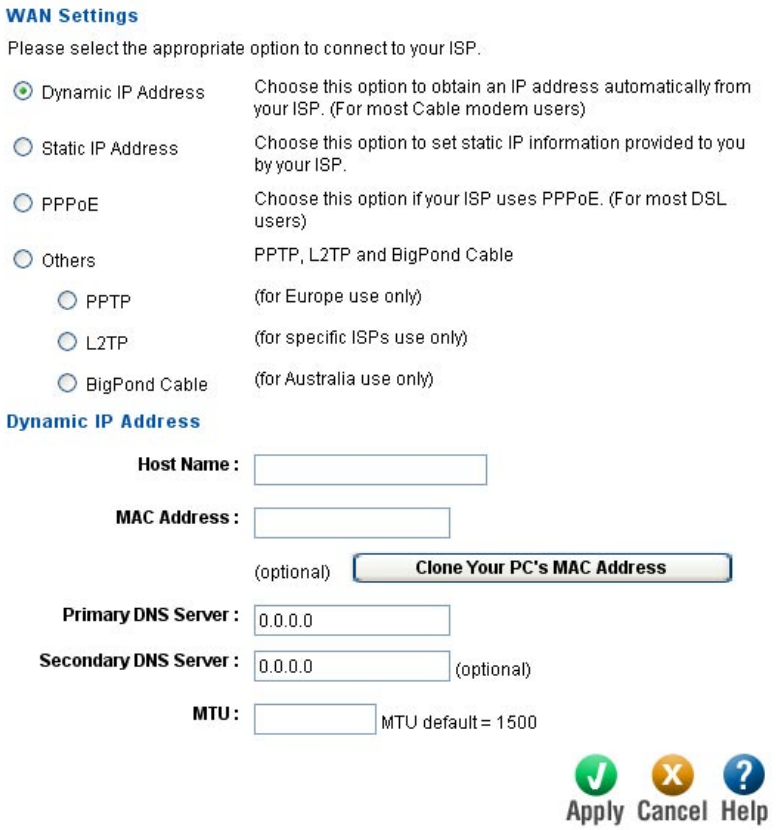
Dynamic Cable connection

(IE AT&T-BI, Cox, Adelphia, Rogers, Roadrunner, Charter, and Comcast).

Note: Please configure the router with the computer that was last connected directly to the cable modem.

Step 1: Log into the web based configuration by typing in the IP Address of the router (default:192.168.0.1) in your web browser. The username is **admin** (all lowercase) and the password is **blank** (nothing).

Step 2: Click the **Home** tab and click the **WAN** button. Dynamic IP Address is the default value, however, if Dynamic IP Address is not selected as the WAN type, select Dynamic IP Address by clicking on the radio button. Click on **Apply** and then **Continue** to save the changes.



Step 3: Power cycle the cable modem and router.

Turn the cable modem off (first) . Turn the router off Leave them off for 2 minutes.** Turn the cable modem on (first). Wait until you get a solid cable light on the cable modem. Turn the router on. Wait 30 seconds.

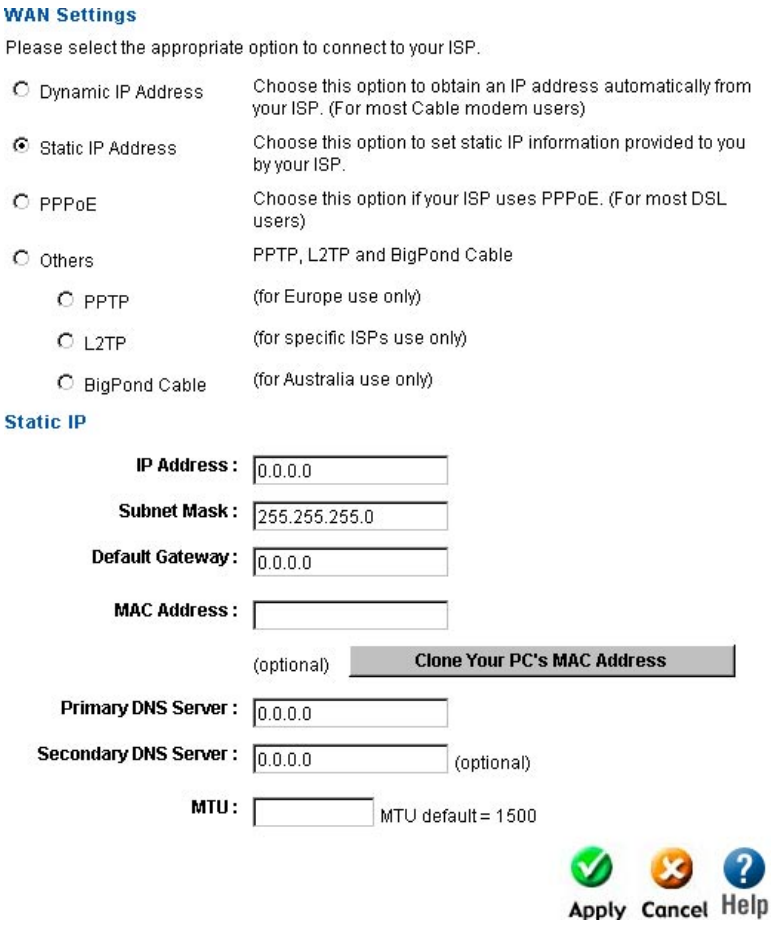
** If you have a Motorola (Surf Board) modem, leave off for at least 5 minutes.

Step 4: Follow step 1 again and log back into the web configuration. Click the **Status** tab and click the **Device Info** button. If you do not already have a public IP Address under the **WAN** heading, click on the **DHCP Renew** and **Continue** buttons.

Static Cable Connection

Step 1: Log into the web based configuration by typing in the IP Address of the router (default:192.168.0.1) in your web browser. The username is **admin** (all lowercase) and the password is **blank** (nothing).

Step 2: Click the **Home** tab and click the **WAN** button. Select **Static IP Address** and enter your static settings obtained from the ISP in the fields provided. If you do not know your settings, you must contact your ISP.



Step 3: Click on **Apply** and then click **Continue** to save the changes.

Step 4: Click the **Status** tab and click the **Device Info** button. Your IP Address information will be displayed under the **WAN** heading.

3 How can I setup my router to work with DSL or any PPPoE connection?

Make sure you disable or uninstall any PPPoE software such as WinPoet or Enternet 300 from your computer or you will not be able to connect to the Internet.

Step 1: Upgrade Firmware if needed.

(Please visit the D-Link tech support website at: http://support.dlink.com for the latest firmware upgrade information.)

Step 2: Take a paperclip and perform a hard reset. With the unit on, use a paperclip and hold down the reset button on the back of the unit for 10 seconds. Release it and the router will recycle, the lights will blink, and then stabilize.

Step 3: After the router stabilizes, open your browser and enter 192.168.0.1 into the address window and hit the **Enter** key. When the password dialog box appears, enter the username **admin** and leave the password blank. Click **OK**.

If the password dialog box does not come up repeat **Step 2**.

Note: Do not run Wizard.

Step 4: Click on the **WAN** tab on left-hand side of the screen. Select **PPPoE**.

Step 5: Select **Dynamic PPPoE** (unless your ISP supplied you with a static IP Address).

Step 6: In the username field enter **ELN/username@earthlink.net** and your password, where username is your own username.

For SBC Global users, enter **username@sbcglobal.net**.

For Ameritech users, enter **username@ameritech.net**.

For BellSouth users, enter **username@bellsouth.net**.

For Mindspring users, enter **username@mindspring.com.**

For most other ISPs, enter **username**.

Step 7: Maximum Idle Time should be set to zero. Set **MTU** to 1492, unless specified by your ISP, and set **Autoreconnect** to **Enabled**.

Note: If you experience problems accessing certain websites and/or email issues, please set the MTU to a lower number such as 1472, 1452, etc. Contact your ISP for more information and the proper MTU setting for your connection.

Step 8: Click **Apply**. When prompted, click **Continue**. Once the screen refreshes, unplug the power to the D-Link router.

Step 9: Turn off your DSL modem for 2-3 minutes. Turn back on. Once the modem has established a link to your ISP, plug the power back into the D-Link router. Wait about 30 seconds and log back into the router.

Step 10: Click on the **Status** tab in the web configuration where you can view the device info. Under **WAN**, click **Connect**. Click **Continue** when prompted. You should now see that the device info will show an IP Address, verifying that the device has connected to a server and has been assigned an IP Address.

4 Can I use my D-Link Broadband Router to share my Internet connection provided by AOL DSL Plus?

In most cases yes. AOL DSL+ may use PPPoE for authentication bypassing the client software. If this is the case, then our routers will work with this service. Please contact AOL if you are not sure.

To set up your router:

Step 1: Log into the web-based configuration (192.168.0.1) and configure the WAN side to use PPPoE.

Step 2: Enter your screen name followed by @aol.com for the user name. Enter your AOL password in the password box.

Step 3: You will have to set the MTU to 1400. AOL DSL does not allow for anything higher than 1400.

Step 4: Apply settings.

Step 5: Recycle the power to the modem for 1 minute and then recycle power to the router. Allow 1 to 2 minutes to connect.

If you connect to the Internet with a different internet service provider and want to use the AOL software, you can do that without configuring the router's firewall settings. You need to configure the AOL software to connect using TCP/IP.

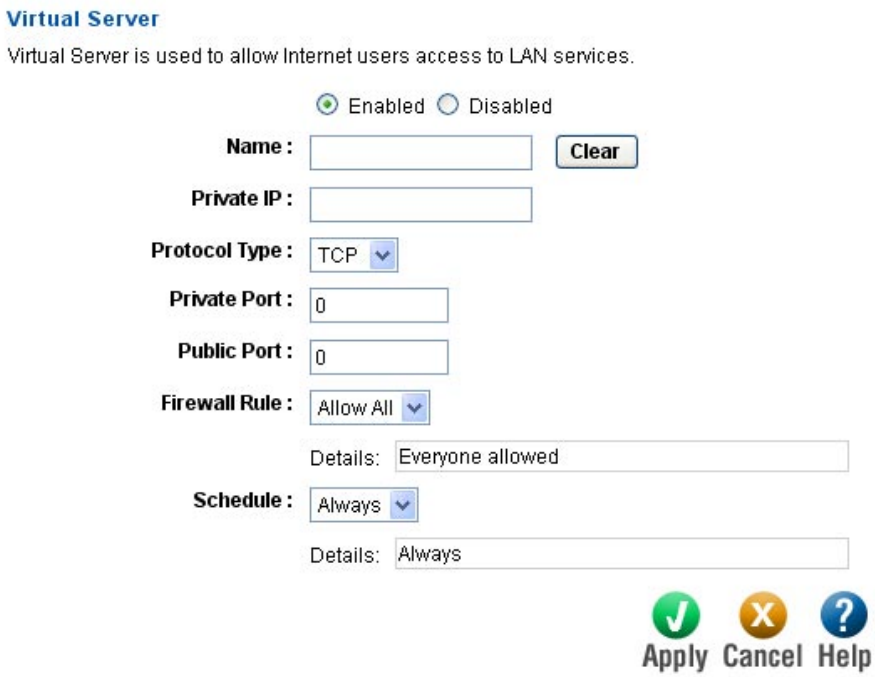
Go to http://www.aol.com for more specific configuration information of their software.

5 How do I open ports on my router?

To allow traffic from the internet to enter your local network, you will need to open up ports or the router will block the request.

Step 1: Open your web browser and enter the IP Address of your D-Link router (192.168.0.1). Enter username (admin) and your password (blank by default).

Step 2: Click on **Advanced** on top and then click **Virtual Server** on the left side.



Step 3: Check **Enabled** to activate entry.

Step 4: Enter a name for your virtual server entry.

Step 5: Next to **Private IP**, enter the IP Address of the computer on your local network that you want to allow the incoming service to.

Step 6: Choose **Protocol Type** - either TCP or UDP.

Step 7: Enter the port information next to **Private Port** and **Public Port**. The private and public ports are usually the same. The public port is the port seen from the WAN side, and the private port is the port being used by the application on the computer within your local network.

Step 8: Enter the **Schedule** information.

Step 9: Click **Apply** and then click **Continue**.

Note: Make sure DMZ host is disabled. If DMZ is enabled, it will disable all Virtual Server entries.

Because our routers use NAT (Network Address Translation), you can only open a specific port to one computer at a time. For example: If you have 2 web servers on your network, you cannot open port 80 to both computers. You will need to configure 1 of the web servers to use port 81. Now you can open port 80 to the first computer and then open port 81 to the other computer.

6 What is DMZ?

Demilitarized Zone:

In computer networks, a DMZ (demilitarized zone) is a computer host or small network inserted as a neutral zone between a company´s private network and the outside public network. It prevents outside users from getting direct access to a server that has company data. (The term comes from the geographic buffer zone that was set up between North Korea and South Korea following the UN police action in the early 1950s.) A DMZ is an optional and more secure approach to a firewall and effectively acts as a proxy server as well.

In a typical DMZ configuration for a small company, a separate computer (or host in network terms) receives requests from users within the private network for access to Web sites or other companies accessible on the public network. The DMZ host then initiates sessions for these requests on the public network. However, the DMZ host is not able to initiate a session back into the private network. It can only forward packets that have already been requested.

Users of the public network outside the company can access only the DMZ host. The DMZ may typically also have the company´s Web pages so these could be served to the outside world. However, the DMZ provides access to no other company data. In the event that an outside user penetrated the DMZ hosts security, the Web pages might be corrupted but no other company information would be exposed. D-Link, a leading maker of routers, is one company that sells products designed for setting up a DMZ

7 How do I configure the DMZ Host?

The DMZ feature allows you to forward all incoming ports to one computer on the local network. The DMZ, or Demilitarized Zone, will allow the specified computer to be exposed to the Internet. DMZ is useful when a certain application or game does not work through the firewall. The computer that is configured for DMZ will be completely vulnerable on the Internet, so it is suggested that you try opening ports from the Virtual Server or Firewall settings before using DMZ.

Step 1: Find the IP address of the computer you want to use as the DMZ host.

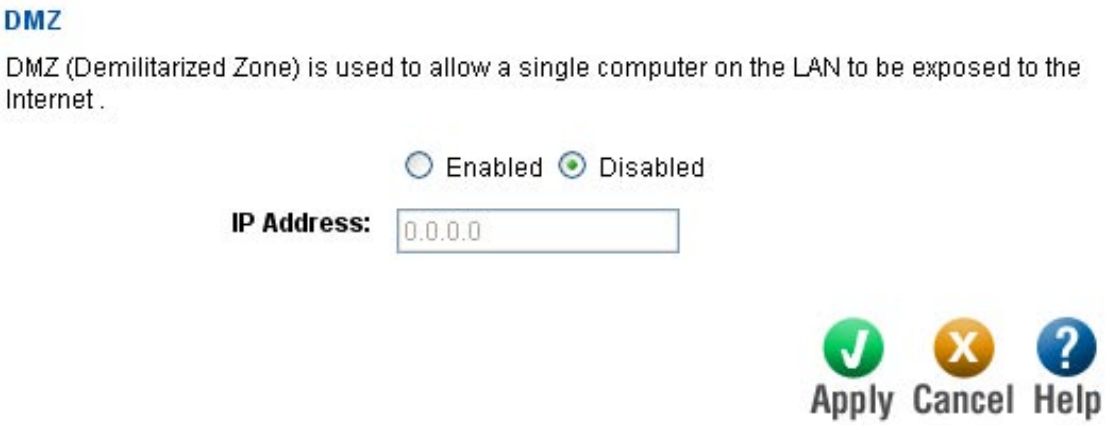
To find out how to locate the IP Address of the computer in Windows XP/2000/Me/9x or Macintosh operating systems please refer to Step 4 of the first question in this section (Frequently Asked Questions).

Step 2: Log into the web based configuration of the router by typing in the IP Address of the router (default:192.168.0.1) in your web browser. The username is **admin** (all lowercase) and the password is **blank** (nothing)

Step 3: Click the **Advanced** tab and then click on the **DMZ** button. Select **Enable** and type in the IP Address you found in step 1.

Step 4: Click **Apply** and then **Continue** to save the changes.

Note: When DMZ is enabled, Virtual Server settings will still be effective. Remember, you cannot forward the same port to multiple IP Addresses, so the Virtual Server settings will take priority over DMZ settings.

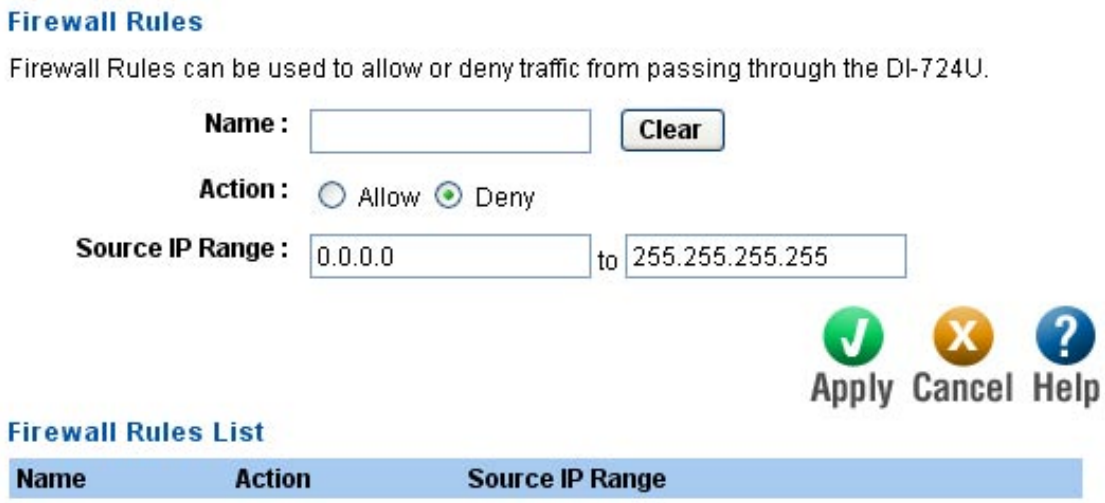


8 How do I open a range of ports on my DI-LB604 using Firewall rules?

Step 1: Access the router's Web configuration by entering the router's IP Address in your Web browser. The default IP Address is **192.168.0.1**. Login using your password. The default username is **"admin"** and the password is blank.

If you are having difficulty accessing Web management, please see the first question in this section.

Step 2: From the Web management Home page, click the **Advanced** tab then click the **Firewall** button.



Step 3: Click on **Enabled** and type in a name for the new rule.

Step 4: Choose **WAN** as the **Source** and enter a range of IP Addresses out on the internet that you would like this rule applied to. If you would like this rule to allow all internet users to be able to access these ports, then put an **Asterisk** in the first box and leave the second box empty.

Step 5: Select **LAN** as the **Destination** and enter the IP Address of the computer on your local network that you want to allow the incoming service to. This will not work with a range of IP Addresses.

Step 6: Enter the port or range of ports that are required to be open for the incoming service.

Step 7: Click **Apply** and then click **Continue**.

Note: Make sure DMZ host is disabled.

Because our routers use NAT (Network Address Translation), you can only open a specific port to one computer at a time. For example: If you have 2 web servers on your network, you cannot open port 80 to both computers. You will need to configure 1 of the web servers to use port 81. Now you can open port 80 to the first computer and then open port 81 to the other computer.

9 What are virtual servers?

A Virtual Server is defined as a service port, and all requests to this port will be redirected to the computer specified by the server IP. For example, if you have an FTP Server (port 21) at 192.168.0.5, a Web server (port 80) at 192.168.0.6, and a VPN server at 192.168.0.7, then you need to specify the following virtual server mapping table:

Server Port	Server IP	Enable
21	192.168.0.5	X
80	192.168.0.6	X
1723	192.168.0.7	X

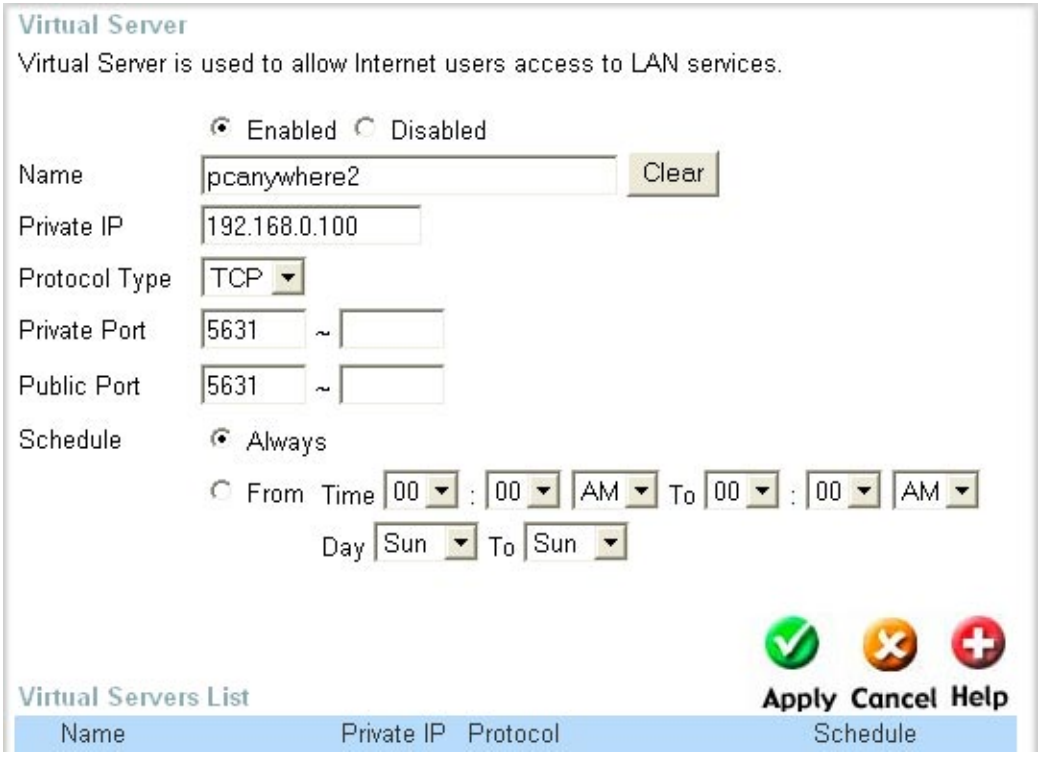
10 How do I use *PC Anywhere* with my DI-LB604 router?

You will need to open 2 ports in the Virtual Server section of your D-Link router.

Step 1: Open your web browser and enter the IP Address of the router (192.168.0.1).

Step 2: Click on **Advanced** at the top and then click **Virtual Server** on the left side.

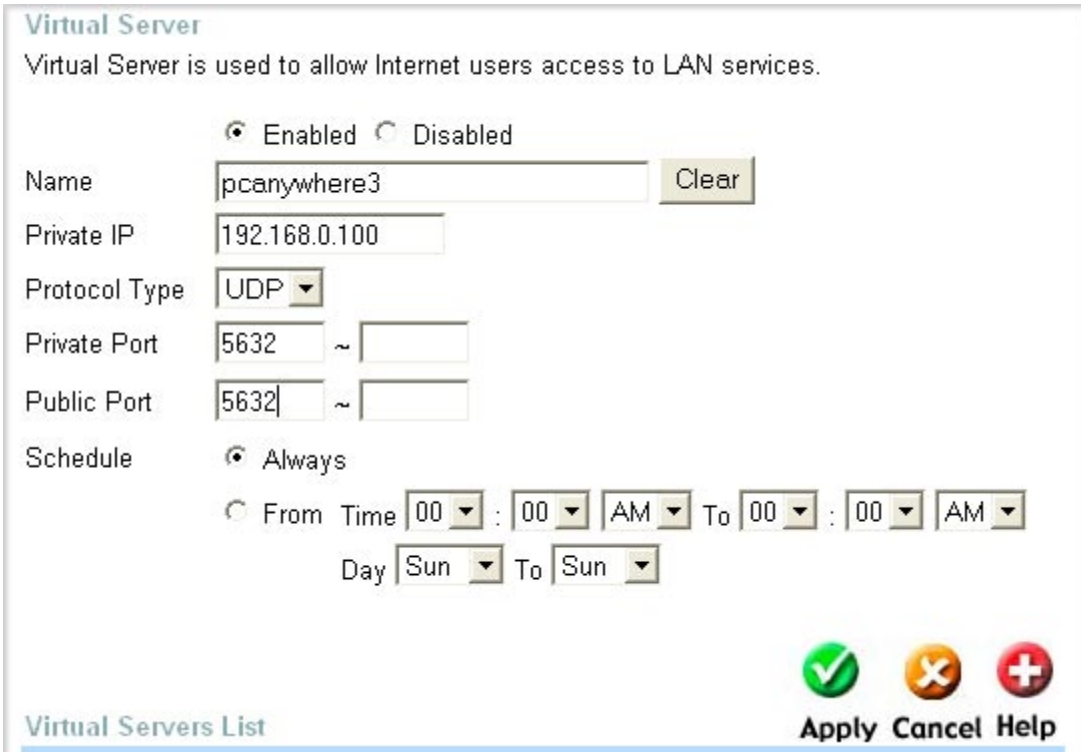
Step 3: Enter the information as seen below. The **Private IP** is the IP Address of the computer on your local network that you want to connect to.



Step 4: The first entry will read as shown above.

Step 5: Click **Apply** and then click **Continue**.

Step 6: Create a second entry as shown below:



Step 7: Click **Apply** and then click **Continue**.

Step 8: Run *PCAnywhere* from the remote site and use the WAN IP Address of the router, not your computer´s IP Address.

11 How can I use *eDonkey* behind my D-Link Router?

You must open ports on your router to allow incoming traffic while using *eDonkey.*

eDonkey uses three ports (4 if using CLI):

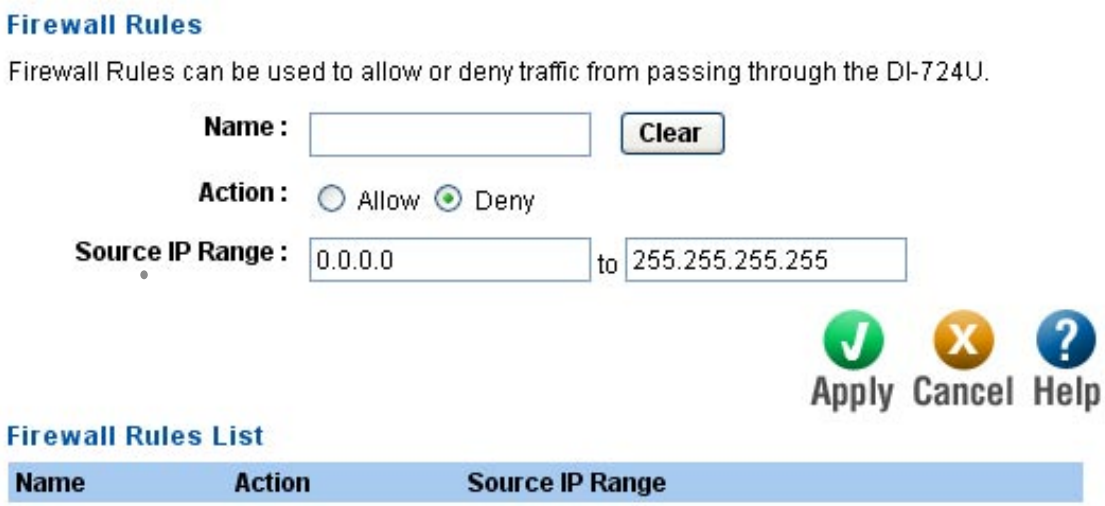
4661 (TCP) To connect with a server

4662 (TCP) To connect with other clients

4665 (UDP) To communicate with servers other than the one you are connected to. 4663 (TCP) *Used with the command line (CLI) client when it is configured to allow remote connections. This is the case when using a Graphical Interface (such as the Java Interface) with the client.

Step 1: Open your web browser and enter the IP Address of your router (192.168.0.1). Enter username (admin) and your password (leave blank).

Step 2: Click on **Advanced** and then click **Firewall**.



Step 3: Create a new firewall rule:

Click **Enabled**. Enter a name (edonkey). Click **Allow**. Next to Source, select **WAN** under interface. In the first box, enter an *****. Leave the second box empty. Next to Destination, select **LAN** under interface. Enter the IP Address of the computer you are running eDonkey from. Leave the second box empty. Under Protocol, select *****. In the port range boxes, enter **4661** in the first box and then **4665** in the second box. Click **Always** or set a schedule.

Step 4: Click **Apply** and then **Continue**.

12 How do I configure my router for KaZaA and Grokster?

The following is for KaZaA, Grokster, and others using the FastTrack P2P file sharing system.

In most cases, you do not have to configure anything on the router or on the Kazaa software. If you are having problems, please follow steps below:

Step 1: Enter the IP Address of your router in a web browser (192.168.0.1).

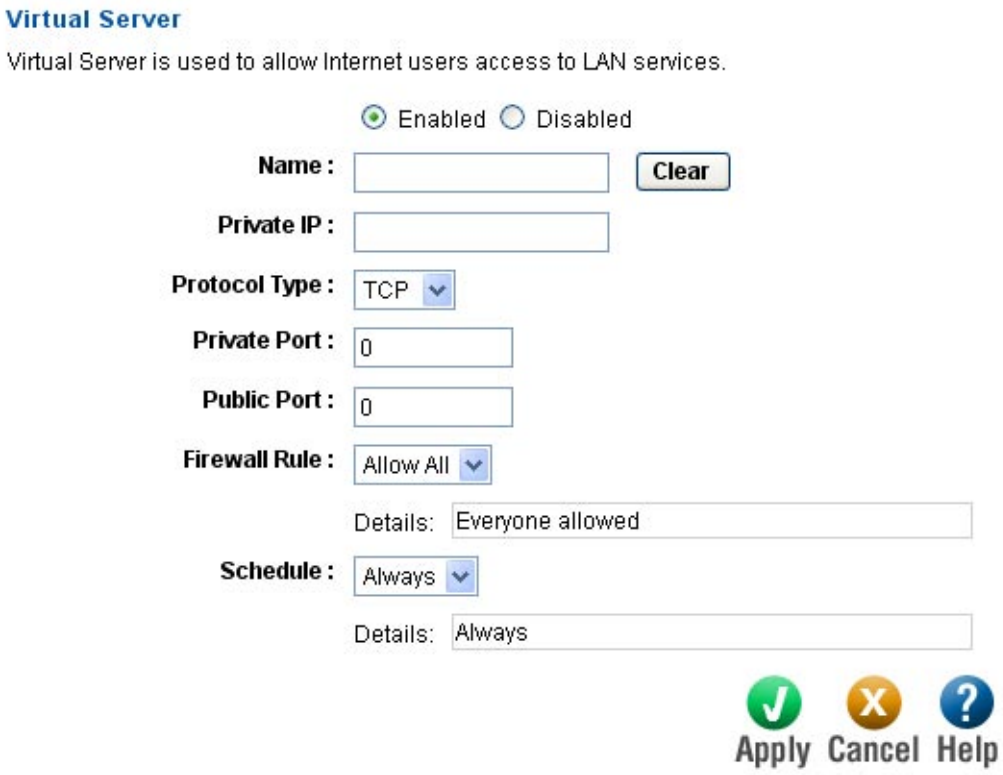
Step 2: Enter your username (admin) and your password (blank by default).

Step 3: Click on Advanced and then click Virtual Server.

Step 4: Click Enabled and then enter a Name (kazaa for example).

Step 5: Enter the IP Address of the computer you are running KaZaA from in the Private IP box. Select TCP for the Protocol Type.

Step 6: Enter 1214 in the Private and Public Port boxes. Click Always under schedule or set a time range. Click Apply.



Make sure that you did not enable proxy/firewall in the KaZaA software.

13 How do I configure my router to play Warcraft 3?

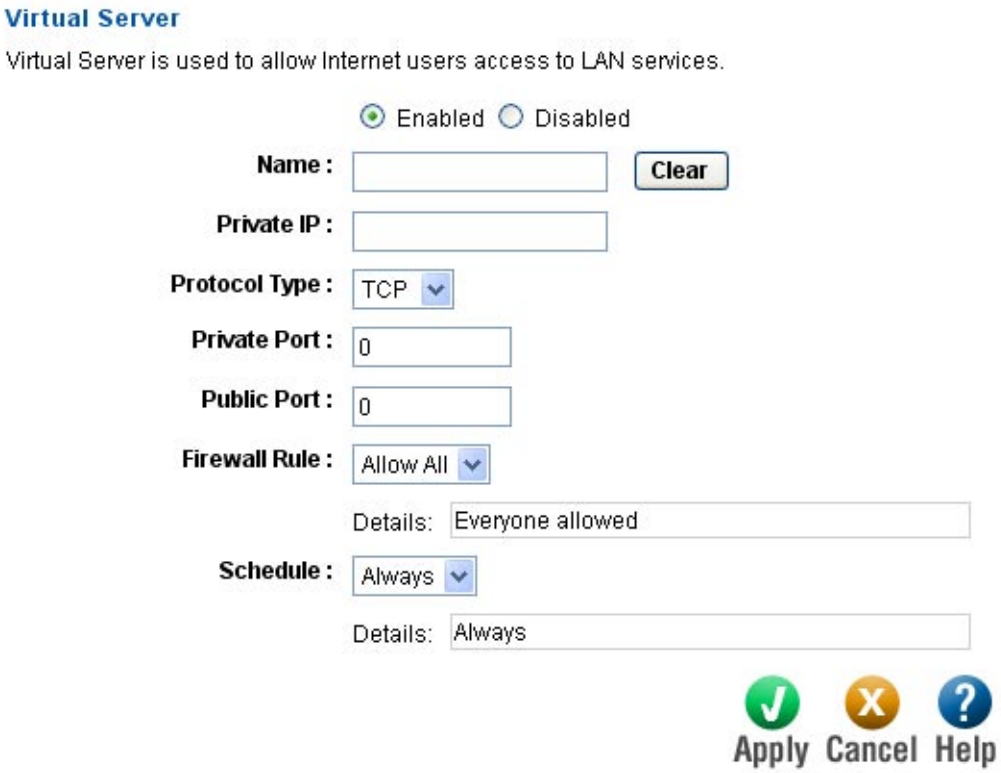
You must open ports on your router to allow incoming traffic while hosting a game in Warcraft 3. To play a game, you do not have to configure your router.

Warcraft 3 (Battlenet) uses port 6112.

Step 1: Open your web browser and enter the IP Address of your router (192.168.0.1). Enter username (admin) and your password (leave blank).

Step 2: Click on **Advanced** and then click **Virtual Server**.

Step 3: Create a new entry: Click **Enabled**. Enter a name (warcraft3). Private IP - Enter the IP Address of the computer you want to host the game. Select **TCP** for Protocol Type Enter **6112** for both Private Port and Public Port Click **Always** or set a schedule.



Step 4 Click **Apply** and then **Continue**.

Note: In order to host a Warcraft 3 game, you need to be able to accept both types of traffic on the computer that is running this game. To ensure this, please repeat steps 1-4 and this time make sure to select **UDP** for Protocol Type.

Note: If you want multiple computers from you LAN to play in the same game that you are hosting, then repeat the steps above and enter the IP Addresses of the other computers. You will need to change ports. Computer #2 can use port 6113, computer #3 can use 6114, and so on.

You will need to change the port information within the Warcraft 3 software for computers #2 and up.

Configure the Game Port information on each computer:

Start Warcraft 3 on each computer, click **Options** > **Gameplay**. Scroll down and you should see **Game Port**. Enter the port number as you entered in the above steps.

14 How do I use NetMeeting with my D-Link Router?

Unlike most TCP/IP applications, NetMeeting uses **DYNAMIC PORTS** instead of STATIC PORTS. That means that each NetMeeting connection is somewhat different than the last. For instance, the HTTP web site application uses port 80. NetMeeting can use any of over 60,000 different ports.

All broadband routers using (only) standard NAT and all internet sharing programs like Microsoft ICS that use (only) standard NAT will NOT work with NetMeeting or other h.323 software packages.

The solution is to put the router in DMZ.

Note: A few hardware manufacturers have taken it on themselves to actually provide H.323 compatibility. This is not an easy task since the router must search each incoming packet for signs that it might be a netmeeting packet. This is a whole lot more work than a router normally does and may actually be a **weak point in the firewall**. D-Link is not one of the manufacturers.

To read more on this visit http://www.HomenetHelp.com.

15 What is NAT?

NAT stands for **Network Address Translator**. It is proposed and described in RFC-1631 and is used for solving the IP Address depletion problem. Basically, each NAT box has a table consisting of pairs of local IP Addresses and globally unique addresses, by which the box can "translate" the local IP Addresses to global address and vice versa. Simply put, it is a method of connecting multiple computers to the Internet (or any other IP network) using one IP Address.

D-Link´s broadband routers (ie: DI-LB604) support NAT. With proper configuration, multiple users can access the Internet using a single account via the NAT device.

For more information on RFC-1631: The IP Network Address Translator (NAT), visit http://www.faqs.org/rfcs/rfc1631.html.

Appendix

Securing Your Network

1. **Change Admin Password**

Changing the password to access your new router is the first step in securing your network. This can done through the Wizard or on the Admin Page of the Tools tab. There is no password by default and hackers will know this when trying to access your network. Make sure that the password you choose is not commonly known or something that is easy to guess such as your last name or your pet's name. Try using a combination of letters and numbers to deter intruders from hacking into your network. Your private information should be kept private.

2. **Change your SSID**
3. **Enable WEP and WPA**
4. **Change the default LAN IP address**

Change the default LAN IP address from 192.168.0.1 to an alternate IP address. There are 3 ranges of IP addresses that have been reserved for use on Private Networks.

10.0.0.0 - 10.255.255.255 (10.0.0.0/8)

172.16.0.0 - 172.31.255.255 (172.16.0.0/12)

192.168.0.0 - 192.168.255.255 (192.168.0.0/16)

D-Link routers use 192.168.0.1 as their default LAN IP address. Choosing an alternate IP address lessens the probability of an intruders knowing what IP network your devices are on.

5. **Set up MAC Filtering**

Each networking device (router, network card, etc) on a network contains a unique hexadecimal number that identifies that specific product. This number is referred to as a MAC address. MAC filtering allows you to create a list of the MAC address of each device on your network and only allows these specific devices to associate with your network. With this feature enabled, devices attempting to connect to your network with a MAC address that is not in the list you created, will be denied access.

Glossary

A

Access Control List - ACL. Database of network devices that are allowed to access resources on the network.

Access Point - AP. Device that allows wireless clients to connect to it and access the network

Ad-hoc network - Peer-to-Peer network between wireless clients

Address Resolution Protocol - ARP. Used to map MAC addresses to IP addresses so that conversions can be made in both directions.

ADSL - Asymmetric Digital Subscriber Line

Advanced Encryption Standard - AES. Government encryption standard

Alphanumeric - Characters A-Z and 0-9

Antenna - Used to transmit and receive RF signals.

AppleTalk – A set of Local Area Network protocols developed by Apple for their computer systems

AppleTalk Address Resolution Protocol – AARP. Used to map the MAC addresses of Apple computers to their AppleTalk network addresses, so that conversions can be made in both directions.

Application layer - 7th Layer of the OSI model. Provides services to applications to ensure that they can communicate properly with other applications on a network.

ASCII - American Standard Code for Information Interchange. This system of characters is most commonly used for text files

Attenuation – The loss in strength of digital an analog signals. The loss is greater when the signal is being transmitted over long distances.

Authentication –To provide credentials, like a Password, in order to verify that the person or device is really who they are claiming to be

Automatic Private IP Addressing - APIPA. An IP address that a Windows computer will assign itself when it is configured to obtain an IP address automatically but no DHCP server is available on the network

B

Backward Compatible - The ability for new devices to communicate and interact with older legacy devices to guarantee interoperability

Bandwidth - The maximum amount of bytes or bits per second that can be transmitted to and from a network device

Basic Input/Output System – BIOS. A program that the processor of a computer uses to startup the system once it is turned on

Baud – Data transmission speed

Bit rate – The amount of bits that pass in given amount of time

bit/sec – bits per second

BOOTP – Bootstrap Protocol. Allows for computers to be booted up and given an IP address with no user intervention

Bottleneck – A time during processes when something causes the process to slowdown or stop all together

Broadband – A wide band of frequencies available for transmitting data

Broadcast – Transmitting data in all directions at once

Browser – A program that allows you to access resources on the web and provides them to you graphically

C

Cable modem – A device that allows you to connect a computer up to a coaxial cable and receive Internet access from your Cable provider

CardBus – A newer version of the PC Card or PCMCIA interface. It supports a 32-bit data path, DMA, and consumes less voltage

Carrier Sense Multiple Access/Collision Avoidance – CSMA/CA

Carrier Sense Multiple Access/Collision Detect – CSMA/CD

CAT 5 – Category 5. Used for 10/100 Mbps or 1Gbps Ethernet connections

Client – A program or user that requests data from a server

Collision – When do two devices on the same Ethernet network try and transmit data at the exact same time.

Cookie – Information that is stored on the hard drive of your computer that holds your preferences to the site that gave your computer the cookie

CSMA/CA – Carrier Sense Multiple Access/Collision Avoidance

CSMA/CD – Carrier Sense Multiple Access/Collision Detection

D

Data – Information that has been translated into binary do that it can be processed or moved to another device

Data Encryption Standard – Uses a randomly selected 56-bit key that must be known by both the sender and the receiver when information is exchanged

Data-Link layer – The second layer of the OSI model. Controls the movement of data on the physical link of a network

Database – Organizes information so that it can be managed updated, as well as easily accessed by users or applications

DB-25 – A 25 ping male connector for attaching External modems or RS-232 serial devices

DB-9 – A 9 pin connector for RS-232 connections

dBd - decibels related to dipole antenna

dBi - decibels relative to isotropic radiator

dBm - decibels relative to one milliwatt

Decrypt – To unscramble an encrypted message back into plain text

Default – A predetermined value or setting that is used by a program when no user input has been entered for this value or setting

Demilitarized zone – DMZ. A single computer or group of computers that can be accessed by both users on the Internet as well as users on the Local Network, but that is not protected by the same security as the Local Network.

DHCP – Dynamic Host Configuration Protocol. Used to automatically assign IP addresses from a predefined pool of addresses to computers or devices that requests them

Digital certificate – An electronic method of providing credentials to a server in order to have access to it or a network

Direct Sequence Spread Spectrum – DSSS. Modulation technique used by 802.11b wireless devices

DNS – Domain Name System. Translates Domain Names to IP addresses

DOCSIS – Data Over Cable Service Interface Specifications. The standard interface for cable modems

Domain name – A name that is associated with an IP address

Download – To send a request from one computer to another and have the file transmitted back to the requesting computer

DSL – Digital Subscriber Line. High bandwidth Internet connection over telephone lines

Duplex – Sending and Receiving data transmissions at the sane time

Dynamic DNS service – DDNS is provided by companies to allow users with Dynamic IP addresses to obtain a Domain Name that will always by linked to their changing IP address. The IP address is updated by either client software running on a computer or by a router that supports DDNS, whenever the IP address changes.

Dynamic IP address – IP address that is assigned by a DHCP server and that may change. Cable Internet providers usually use this method to assign IP addresses to their customers.

E

EAP – Extensible Authentication Protocol

Email – Electronic Mail is a computer-stored message that is transmitted over the Internet

Encryption – Converting data into cyphertext so that it cannot be easily read

Enterprise – Large organizations that use computers

Ethernet – The most widely used technology for Local Area Networks.

F

Fiber optic – A way of sending data through light impulses over glass or plastic wire or fiber

File server – A computer on a network that stores data so that the other computers on the network can all access it

File sharing – Allowing data from computers on a network to be accessed by other computers on the network will different levels of access rights

Firewall – A device that protects resources of the Local Area Network from unauthorized users outside of the local network

Firmware – Programming that is inserted into a hardware device that tells it how to function

Fragmentation – Breaking up data into smaller pieces to make it easier to store

FTP – File Transfer Protocol. Easiest way to transfer files between computers on the Internet

Full-duplex – Sending and Receiving data at the same time

G

Gain – The amount an amplifier boosts the wireless signal

Gateway – A device that connects your network to another, like the internet

Gbps – Gigabits per second

Gigabit Ethernet – Transmission technology that provides a data rate of 1 billion bits per second

Graphical user interface – GUI

H

H.323 – A standard that provides consistency of voice and video transmissions and compatibility for videoconferencing devices

Half-duplex – Data cannot be transmitted and received at the same time

Hashing – Transforming a string of characters into a shorter string with a predefined length

Hexadecimal – Characters 0-9 and A-F

HomePNA – Networking over telephone lines

HomeRF – Networking standard that combines 802.11b and DECT (digital Enhanced Cordless Telecommunication) that provides speeds up to 1.6 Mbps and a distance of 150 ft using a Frequency Hopping transmission method

Hop – The action of data packets being transmitted from one router to another

Host – Computer on a network

HTTP – Hypertext Transfer Protocol is used to transfer files from HTTP servers (web servers) to HTTP clients (web browsers)

HTTPS – HTTP over SSL is used to encrypt and decrypt HTTP transmissions

Hub – A networking device that connects multiple devices together

I

ICMP – Internet Control Message Protocol

IEEE – Institute of Electrical and Electronics Engineers

IETF – Internet Engineering Task Force

IGMP – Internet Group Management Protocol is used to make sure that computers can report their multicast group membership to adjacent routers

IIS – Internet Information Server is a WEB server and FTP server provided by Microsoft

IKE – Internet Key Exchange is used to ensure security for VPN connections

Infrastructure – In terms of a wireless network, this is when wireless clients use an Access Point to gain access to the network

Internet – A system of worldwide networks which use TCP/IP to allow for resources to be accessed from computers around the world

Internet Explorer – A World Wide Web browser created and provided by Microsoft

Internet Protocol – The method of transferring data from one computer to another on the Internet

Internet Protocol Security – IPsec provides security at the packet processing layer of network communication

Internet Service Provider – An ISP provides access to the Internet to individuals or companies

Interoperability – The ability for products to interact with other products without much customer interaction

Intranet – A private network

Intrusion Detection – A type of security that scans a network to detect attacks coming from inside and outside of the network

IP – Internet Protocol

IP address – A 32-bit number, when talking about Internet Protocol Version 4, that identifies each computer that transmits data on the Internet or on an Intranet

IPsec – Internet Protocol Security

IPv6 – Internet Protocol Version 6 uses 128-bit addresses and was developed to solve the problem that we face of running out of IP version 4 addresses

IPX – Internetwork Packet Exchange is a networking protocol developed by Novell to enable their Netware clients and servers to communicate

ISP – Internet Service Provider

J

Java – A programming language used to create programs and applets for web pages

K

Kbps – Kilobits per second

Kbyte - Kilobyte

Kerberos – A method of securing and authenticating requests for services on a network

L

LAN – Local Area Network

Latency – The amount of time that it takes a packet to get from the one point to another on a network. Also referred to as delay

LED - Light Emitting Diode

Legacy – Older devices or technology

Local Area Network – A group of computers in a building that usually access files from a server

M

MAC address – A unique hardware address for devices on a Local Area Network

MDI – Medium Dependent Interface is an Ethernet port for a connection to a straight-through cable

MDIX - Medium Dependent Interface Crossover, is an Ethernet port for a connection to a crossover cable

Megabit - Mb

Megabyte - MB

Megabits per second - Mbps

MIB – Management Information Base is a set of objects that can be managed by using SNMP

MIMO – Multiple-in Multiple-out

Modem – A device that Modulates digital signals from a computer to an analog signal in order to transmit the signal over phone lines. It also Demodulates the analog signals coming from the phone lines to digital signals for your computer

MPPE – Microsoft Point-to-Point Encryption is used to secure data transmissions over PPTP connections

MTU – Maximum Transmission Unit is the largest packet that can be transmitted on a packet-based network like the Internet

Multicast – Sending data from one device to many devices on a network

N

NAT – Network Address Translation allows many private IP addresses to connect to the Internet, or another network, through one IP address

NetBEUI – NetBIOS Extended User Interface is a Local Area Network communication protocol. This is an updated version of NetBIOS

NetBIOS – Network Basic Input/Output System

Netmask – Determines what portion of an IP address designates the Network and which part designates the Host

NetWare – A Server Software developed by Novell

Network Interface Card – A card installed in a computer or built onto the motherboard that allows the computer to connect to a network

Network layer – The third layer of the OSI model which handles the routing of traffic on a network

Network Time Protocol – Used to synchronize the time of all the computers in a network

NIC – Network Interface Card

NTP – Network Time Protocol

O

OFDM – Orthogonal Frequency-Division Multiplexing is the modulation technique for both 802.11a and 802.11g

OSI – Open Systems Interconnection is the reference model for how data should travel between two devices on a network

OSPF – Open Shortest Path First is a routing protocol that is used more than RIP in larger scale networks because only changes to the routing table are sent to all the other routers in the network as opposed to sending the entire routing table at a regular interval, which is how RIP functions

P

Password - A sequence of characters that is used to authenticate requests to resources on a network

Personal Area Network – The interconnection of networking devices within a range of 10 meters

Physical layer – The first layer of the OSI model. Provides the hardware means of transmitting electrical signals on a data carrier

PoE – Power over Ethernet is the means of transmitting electricity over the unused pairs in a category 5 Ethernet cable

POP 3 – Post Office Protocol 3 is used for receiving email

PPP – Point-to-Point Protocol is used for two computers to communicate with each over a serial interface, like a phone line

PPPoE – Point-to-Point Protocol over Ethernet is used to connect multiple computers to a remote server over Ethernet

PPTP – Point-to-Point Tunneling Protocol is used for creating VPN tunnels over the Internet between two networks

Preamble – Used to synchronize communication timing between devices on a network

Q

QoS – Quality of Service

R

RADIUS – Remote Authentication Dial-In User Service allows for remote users to dial into a central server and be authenticated in order to access resources on a network

Rendezvous – Apple's version of UPnP, which allows for devices on a network to discover each other and be connected without the need to configure any settings

Repeater – Retransmits the signal of an Access Point in order to extend it's coverage

RIP – Routing Information Protocol is used to synchronize the routing table of all the routers on a network

RJ-11 – The most commonly used connection method for telephones

RJ-45 - The most commonly used connection method for Ethernet

RS-232C – The interface for serial communication between computers and other related devices

RSA – Algorithm used for encryption and authentication

S

Samba – A freeware program that allows for resources to be shared on a network. Mainly used in Unix based Operating Systems

Server – A computer on a network that provides services and resources to other computers on the network

Session key – An encryption and decryption key that is generated for every communication session between two computers

Session layer – The fifth layer of the OSI model which coordinates the connection and communication between applications on both ends

Simple Mail Transfer Protocol – Used for sending and receiving email

Simple Network Management Protocol – Governs the management and monitoring of network devices

SMTP – Simple Mail Transfer Protocol

SNMP – Simple Network Management Protocol

SOHO – Small Office/Home Office

SPI – Stateful Packet Inspection

SSH – Secure Shell is a command line interface that allows for secure connections to remote computers

SSID – Service Set Identifier is a name for a wireless network

Stateful inspection – A feature of a firewall that monitors outgoing and incoming traffic to make sure that only valid responses to outgoing requests for incoming packets are allowed to pass though the firewall

Subnet mask – Determines what portion of an IP address designates the Network and which part designates the Host

T

TCP – Transmission Control Protocol

TCP/IP – Transmission Control Protocol/Internet Protocol

TFTP – Trivial File Transfer Protocol is a utility used for transferring files that is simpler to use than FTP but with less features

Throughput – The amount of data that can be transferred in a given time period

Traceroute – A utility displays the routes between you computer and specific destination

U

UDP – User Datagram Protocol

UNC – Universal Naming Convention allows for shares on computers to be identified without having to know what storage device it's on

Unicast – Communication between a single sender and receiver

Universal Plug and Play – A standard that allows network devices to discover each other and configure themselves to be a part of the network

UPnP – Universal Plug and Play

URL – Uniform Resource Locator is a unique address for files accessible on the Internet

UTP – Unshielded Twisted Pair

V

Virtual LAN -

Virtual Private Network – A secure tunnel over the Internet to connect remote offices or users to their company's network

VLAN – Virtual LAN

Voice over IP – Sending voice information over the Internet as opposed to the PSTN

VoIP – Voice over IP

W

Wake on LAN – Allows you to power up a computer though it's Network Interface Card

WAN – Wide Area Network

Web browser – A utility that allows you to view content and interact will all of the information on the World Wide Web

WEP – Wired Equivalent Privacy is security for wireless networks that is supposed to be comparable to that of a wired network

Wi-Fi – Wireless Fidelity

Wi-Fi Protected Access – An updated version of security for wireless networks that provides authentication as well as encryption

Wide Area Network - A network spanning a large geographical area or consisting of more than one LAN.

Wireless ISP – A company that provides a broadband Internet connection over a wireless connection

Wireless LAN – Connecting to a Local Area Network over one of the 802.11 wireless standards

WISP – Wireless Internet Service Provider

WLAN – Wireless Local Area Network

Y

Yagi antenna – A directional antenna used to concentrate wireless signals on a specific location

Contacting Technical Support

You can find software updates and user documentation on the D-Link website.

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

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

Tech Support for customers within the United States:

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

Tech Support for customers within Canada:

D-Link Technical Support over the Telephone:

(800) 361-5265

Monday to Friday 7:30AM to 9:00PM EST

D-Link Technical Support over the Internet:

http://support.dlink.ca

email:support@dlink.ca

When contacting technical support, please provide the following information:

- *Serial number of the unit*
- *Model number or product name*
- *Software type and version number*

Warranty

Subject to the terms and conditions set forth herein, D-Link Systems, Inc. ("D-Link") provides this Limited warranty for its product only to the person or entity that originally purchased the product from:

- D-Link or its authorized reseller or distributor and
- Products purchased and delivered within the fifty states of the United States, the District of Columbia, U.S. Possessions or Protectorates, U.S. Military Installations, addresses with an APO or FPO.

Limited Warranty: D-Link warrants that the hardware portion of the D-Link products described below will be free from material defects in workmanship and materials from the date of original retail purchase of the product, for the period set forth below applicable to the product type ("Warranty Period"), except as otherwise stated herein.

1-Year Limited Warranty for the Product(s) is defined as follows:

- Hardware (excluding power supplies and fans) One (1) Year
- Power Supplies and Fans One (1) Year
- Spare parts and spare kits Ninety (90) days

D-Link's sole obligation shall be to repair or replace the defective Hardware during the Warranty Period at no charge to the original owner or to refund at D-Link's sole discretion. Such repair or replacement will be rendered by D-Link at an Authorized D-Link Service Office. The replacement Hardware need not be new or have an identical make, model or part. D-Link may in its sole discretion replace the defective Hardware (or any part thereof) with any reconditioned product that D-Link reasonably determines is substantially equivalent (or superior) in all material respects to the defective Hardware. Repaired or replacement Hardware will be warranted for the remainder of the original Warranty Period from the date of original retail purchase. If a material defect is incapable of correction, or if D-Link determines in its sole discretion that it is not practical to repair or replace the defective Hardware, the price paid by the original purchaser for the defective Hardware will be refunded by D-Link upon return to D-Link of the defective Hardware. All Hardware (or part thereof) that is replaced by D-Link, or for which the purchase price is refunded, shall become the property of D-Link upon replacement or refund.

Limited Software Warranty: D-Link warrants that the software portion of the product ("Software") will substantially conform to D-Link's then current functional specifications for the Software, as set forth in the applicable documentation, from the date of original retail purchase of the Software for a period of ninety (90) days ("Warranty Period"), provided that the Software is properly installed on approved hardware and operated as contemplated in its documentation. D-Link further warrants that, during the Warranty Period, the magnetic media on which D-Link delivers the Software will be free of physical defects. D-Link's sole obligation shall be to replace the non-conforming Software (or defective media) with software that substantially conforms to D-Link's functional specifications for the Software or to refund at D-Link's sole discretion. Except as otherwise agreed by D-Link in writing, the replacement Software is provided only to the original licensee, and is subject to the terms and conditions of the license granted by D-Link for the Software. Software will be warranted for the remainder of the original Warranty Period from the date or original retail purchase. If a material non-conformance is incapable of correction, or if D-Link determines in its sole discretion that it is not practical to replace the non-conforming Software, the price paid by the original licensee for the non-conforming Software will be refunded by D-Link; provided that the non-conforming Software (and all copies thereof) is first returned to D-Link. The license granted respecting any Software for which a refund is given automatically terminates.

Non-Applicability of Warranty: The Limited Warranty provided hereunder for hardware and software of D-Link's products will not be applied to and does not cover any refurbished product and any product purchased through the inventory clearance or liquidation sale or other sales in which D-Link, the sellers, or the liquidators expressly disclaim their warranty obligation pertaining to the product and in that case, the product is being sold "As-Is" without any warranty whatsoever including, without limitation, the Limited

Warranty as described herein, notwithstanding anything stated herein to the contrary.

Submitting A Claim: The customer shall return the product to the original purchase point based on its return policy. In case the return policy period has expired and the product is within warranty, the customer shall submit a claim to D-Link as outlined below:

· The customer must submit with the product as part of the claim a written description of the Hardware defect or Software nonconformance in sufficient detail to allow D-Link to confirm the same.

· The original product owner must obtain a Return Material Authorization ("RMA") number from the Authorized D-Link Service Office and, if requested, provide written proof of purchase of the product (such as a copy of the dated purchase invoice for the product) before the warranty service is provided.

· After an RMA number is issued, the defective product must be packaged securely in the original or other suitable shipping package to ensure that it will not be damaged in transit, and the RMA number must be prominently marked on the outside of the package. Do not include any manuals or accessories in the shipping package. D-Link will only replace the defective portion of the Product and will not ship back any accessories.

· The customer is responsible for all in-bound shipping charges to D-Link. No Cash on Delivery ("COD") is allowed. Products sent COD will either be rejected by D-Link or become the property of D-Link. Products shall be fully insured by the customer. D-Link will not be held responsible for any packages that are lost in transit to D-Link. The repaired or replaced packages will be shipped to the customer via UPS Ground or any common carrier selected by D-Link, with shipping charges prepaid. Expedited shipping is available if shipping charges are prepaid by the customer and upon request.

· Return Merchandise Ship-To Address

USA: 17595 Mt. Herrmann, Fountain Valley, CA 92708

Canada: 2180 Winston Park Drive, Oakville, ON, L6H 5W1 (Visit http://www.dlink.ca for detailed warranty information within Canada)

D-Link may reject or return any product that is not packaged and shipped in strict compliance with the foregoing requirements, or for which an RMA number is not visible from the outside of the package. The product owner agrees to pay D-Link's reasonable handling and return shipping charges for any product that is not packaged and shipped in accordance with the foregoing requirements, or that is determined by D-Link not to be defective or non-conforming.

What Is Not Covered: This limited warranty provided by D-Link does not cover: Products, if in D-Link's judgment, have been subjected to abuse, accident, alteration, modification, tampering, negligence, misuse, faulty installation, lack of reasonable care, repair or service in any way that is not contemplated in the documentation for the product, or if the model or serial number has been altered, tampered with, defaced or removed; Initial installation, installation and removal of the product for repair, and shipping costs; Operational adjustments covered in the operating manual for the product, and normal maintenance; Damage that occurs in shipment, due to act of God, failures due to power surge, and cosmetic damage; Any hardware, software, firmware or other products or services provided by anyone other than D-Link; Products that have been purchased from inventory clearance or liquidation sales or other sales in which D-Link, the sellers, or the liquidators expressly disclaim their warranty obligation pertaining to the product. Repair by anyone other than D-Link or an Authorized D-Link Service Office will void this Warranty.

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CE Mark Warning: This is a Class B product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

FCC Statement: **This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communication. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures**:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Caution:

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

IMPORTANT NOTE:

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body. To maintain compliance with FCC RF exposure compliance requirements, please avoid direct contact to the transmitting antenna during transmitting.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

D-Link declares that the DI-LB604 (FCC ID: KA2DI634MA1) is limited in CH1~CH11 by specified firmware controlled in the USA.

For detailed warranty outside the United States, please contact corresponding local D-Link office.

Registration

Product registration is entirely voluntary and failure to complete or return this form will not diminish your warranty rights.

10/10/2005