



# **4 Port Gigabit Enhanced Router/Switch (P/N DA1054)**

Owner's Manual

1308144 REV. C



## FCC Certifications

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

You can try to correct the interference by one or more of the following measures:

- ♦ Reorient the receiving radio or TV antenna where this may be done safely.
- ♦ To the extent possible, relocate the radio, TV or other receiver away from the Router/Switch.
- ♦ Plug the Router/Switch into a different power outlet so that the Router/Switch and the receiver are on different branch circuits.

If necessary, you should consult the place of purchase or an experienced radio/television technician for additional suggestions.

## CE Mark Warning

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

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Specifications are subject to change without prior notification.

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# 1.0 Introduction

The Legrand 4 Port Gigabit Enhanced Router/Switch (P/N DA1054) is a flexible hardware configurable switch/router product designed to be used as a router with an integrated 4-port Gigabit Ethernet switch, or as a 5-port Gigabit Ethernet switch for use with a 3<sup>rd</sup> party external router. It is the perfect solution to connect a small group of PCs to a high-speed broadband Internet connection (see **Figure 1**). Up to 253 users can have high-speed Internet access simultaneously via one single IP address (Internet account) of the Cable/xDSL modem.

With its built in NAT technology, this product also serves as an Internet firewall, protecting your network from being accessed by outside users. All incoming data packets are monitored and filtered. The Router can also be configured with Client Filtering, to filter internal users' access to the Internet. The built-in 4-port Gigabit Ethernet Switch lets users plug the network cable into the device without buying additional Hub/Switch.

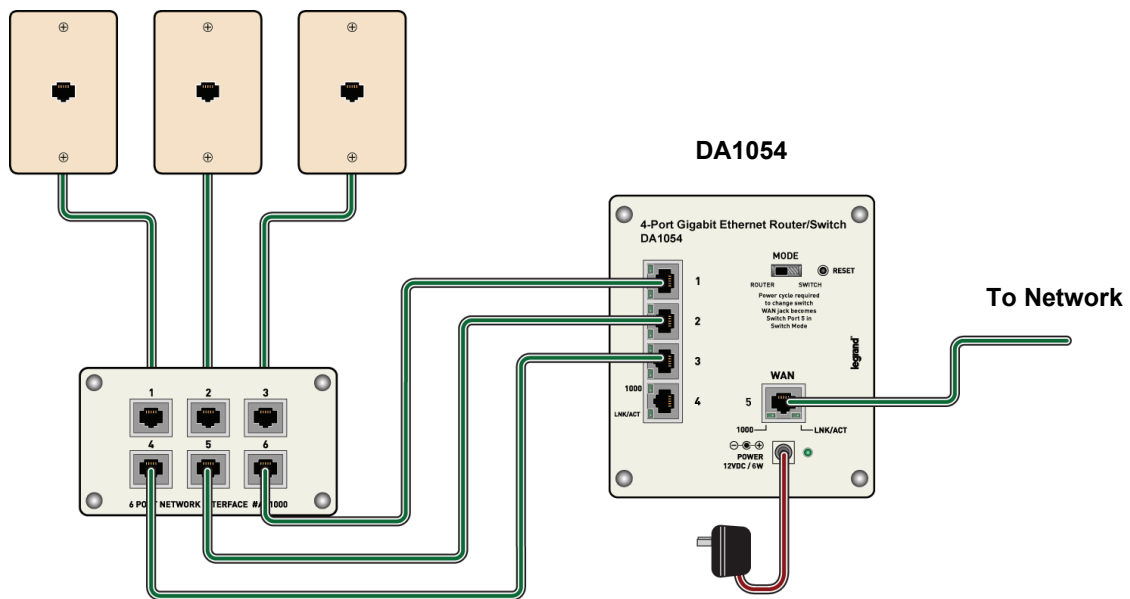


Figure 1

**NOTE: Legrand Unity systems need to be upgraded to firmware release 2.2.x or later to properly function with this router.**

# 1.1 Features

## ■ Internet Access Features

- ♦ **All Gigabit Ports Support.** Auto-negotiation, auto MDI/MDI-X Ethernet ports. DA1054 eliminates most cabling inconvenience. One WAN port, 10/100/1000Base-T is connected to your DSL or Cable modem. The other 4 LAN ports, 10/100/1000Base-T are used to connect to local LAN.
- ♦ **Shared Internet Access.** All users on the LAN can access the Internet through the DA1054 using only a single external IP Address. The local (invalid) IP Addresses are hidden from external sources. This process is called NAT (Network Address Translation).
- ♦ **Fixed, PPPoE, Dynamic, and Direct Connection Support.** Various WAN connections are supported by DA1054.

## ■ Advanced Internet Functions

- ♦ **Internet Communication Applications.** DA1054 supports Internet communication applications, such as interactive Games, Telephony, and Conferencing applications, which are often difficult to use when behind a Firewall
- ♦ **Special Internet Applications.** Using non-standard connections or port numbers are normally blocked by the Firewall. The ability to define and allow such applications is provided, to enable such applications to be used normally.
- ♦ **Virtual Servers Support.** This feature allows Internet users to access Internet servers on your LAN. The required setup is quick and easy.
- ♦ **DMZ. Support.** DA1054 can translate public IP addresses to private IP address to allow unrestricted 2-way communication with Servers or individual users on the Internet. This provides the most flexibility to run programs, which are incompatible with Firewalls.
- ♦ **URL Filter.** Keyword based URL Filter to block access to undesirable Web sites by LAN users.
- ♦ **Firewall.** It supports Stateful Packet Inspection firewall for DoS (Denial of Service) attacks.
- ♦ **Dynamic DNS Support.** When used with the Virtual Servers feature, allows users to connect to Servers on your LAN using a Domain Name, even if you have a dynamic IP address which changes every time you connect.
- ♦ **VPN Pass through Support.** PCs with VPN (Virtual Private Networking) software using PPTP, L2TP and IPSec are transparently supported - no configuration is required.
- ♦ **Access Control.** Using the Access Control feature, you can assign LAN users to different groups, and determine which Internet services are available to each group.
- ♦ **Password protected Configuration.** Optional password protection is provided to prevent unauthorized users from modifying the configuration data and settings.

## ■ LAN Features

- ♦ **DHCP Server Support.** Dynamic Host Configuration Protocol provides a dynamic IP address to PCs and other devices upon request. DA1054 can act as a DHCP Server for devices on your local LAN and WLAN.
- ♦ **PC database.** LAN users can be added manually or discovered automatically by DA1054, through this built-in user database, administrators are able to have a centralized networking management.
- ♦ **Routing.** LANs containing one or more segments are supported via RIP1 (Routing Information Protocol) support and built-in static routing table.

## ■ Configuration & Management

- ♦ **Easy Setup.** Built-In configuration wizard helps users to complete network installation in a very short time via standard Internet browsers such as Microsoft Internet Explorer, Firefox, Chrome...etc.
- ♦ **Remote Management.** DA1054 can be managed from any PC on LAN or via Internet anywhere around the world.
- ♦ **UPnP Support.** UPnP (Universal Plug and Play) allows automatic discovery and configuration of the DA1054. UPnP is by supported by Windows ME, XP, or later.
- ♦ **Logs.** It provides system log and security log, and log can be saved or mail to a specific account.
- ♦ **Configuration File Upload/Download.** Save (download) the configuration data from the Broadband Router to your PC and restore (upload) a previously-saved configuration file to the Broadband Router.

## 1.2 Minimum Requirements

- One External xDSL or FIOS or Cable modem with an Ethernet port (RJ-45)
- Network Interface Card (NIC) for each Personal Computer (PC)
- PCs with a Web-Browser (Internet Explorer 7.0 or higher, or Firefox 3.6 or higher)

## 1.3 Detailed Physical Description

### Router/Switch Module Connection Area

**Figure 2** shows the Router/Switch connection area including:

DC Input connector – from power supply

WAN (Internet) Port – 8 position RJ-45 jack (to Cable, FIOS or DSL modem)

Local Switch Ports – 8 position RJ-45 jacks (from outlets in rooms)

Routing Switch – Disconnects router from 4-port switch when an external router is used and converts WAN port to 5<sup>th</sup> switch port (power re-cycle required).

Reset Button - A button press cycles the power, while a ten (10) second press and hold resets the Router/Switch unit to the factory default settings. This clears all user settings, including User Name, Password, IP Address, and Subnet Mask.

**NOTE: Refer to Section IV Configuration for instructions on re-configuring the Router/Switch.**

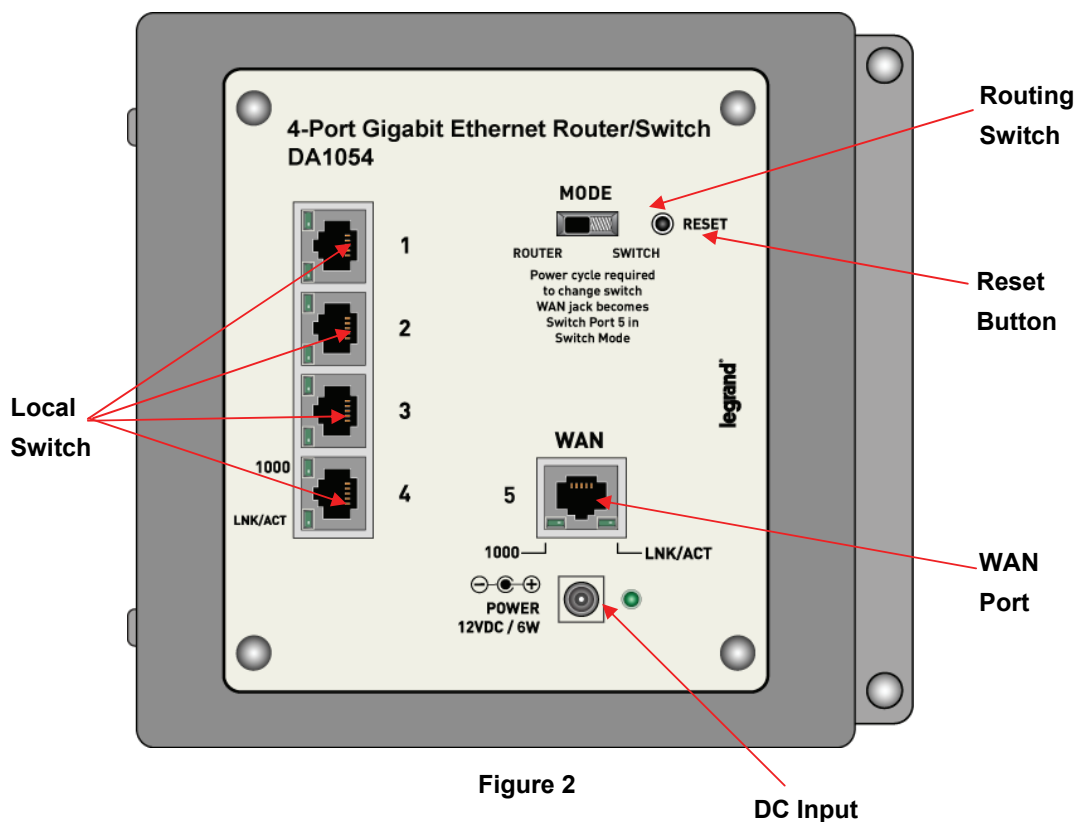


Figure 2

### Router/Switch Status LEDs next to each RJ45 connector(see Figure 2)

**Power** – On solid green when power is supplied.

#### Link/Act and 1000 Local Port and WAN Port LEDs

**Link/Act** – On solid green indicates functional LAN or WAN link through the port with the attached device. Off means no LAN or WAN connection.

**1000** – On solid green indicates port is operating at 1000 Mbps. Off indicates otherwise.

## 1.4 Installation

The DA1054 4 Port Router/Switch is best installed during new construction in two steps; at “rough-in” after the Electricians are done, but prior to drywall being installed, and at “trim-out” after the drywall is installed and painted. These steps are detailed below:

### A. “Rough-in” steps:

1. A single dedicated Cat 5e/6 should be run in the walls from the structured wiring enclosure location in the home where the 4 Port Router/Switch will be installed to each outlet location in the rooms where Internet service is required (leave extra cable at both ends).

**NOTE: Run Cat 5e/6 cable at least 12” from electrical cabling (preferably in a separate stud cavity) and cross electrical cables at a 90° angle. Use loose Velcro-style cable ties for bundling. If stapling is required, use specialty staples to avoid compressing the cable.**

2. At the selected outlet locations, a single gang box or low voltage bracket should be installed, with the extra Cat 5e/6 cable in the box, or attached in such a way that it may be fished out after the drywall is installed.

### B. “Trim-out” steps:

1. The Cat 5e/6 that was secured at each of the outlets should be pulled out and terminated with a 110 punchdown tool on an RJ45 insert and attached to a wallplate, which is then installed in the single gang box or low voltage bracket.
2. In the structured wiring enclosure the Cat 5e from the outlets may be terminated with a 110 punchdown tool onto a Legrand Network Interface Module or with RJ-45 plugs, using a tool such as our EZ RJ45 Modular Plug Hand Toll (P/N 364555-01) for direct connection to the DA1054 4 Port Gigabit Router/Switch.
3. The 4 Port Gigabit Router/Switch is installed in the structured wiring enclosure by slipping the tabs into the square holes, and using the push pin in a round hole to secure the router.
4. If the outlet cables were punched down at a Network Interface Module, Cat 5e/6 patch cables (available separately) are then connected from the 6 Port Network Interface Module to the input ports on the 4-Port Gigabit Router/Switch.
5. An additional Cat 5e/6 patch cable is then connected from the network (WAN) port of the 4 Port Gigabit Router/Switch to the Cable Modem or DSL Modem housed in the structured wiring enclosure and make sure the routing switch is in the “On” position.

6. The 4 Port Gigabit Router/Switch is powered with an AC to DC adapter which also needs to be plugged in to an AC source.

7. Follow the steps in the next two sections for configuring the router.

**NOTE: Use proper tools and standard TIA 568A rules to prep and terminate the Cat 5e/6 cable, such as a Cat 5 Cable Stripper, an RJ45 Crimp Tool and a 110 Punchdown Tool.**

## 1.5 Initial Configuration

The DA1054 4 Port Gigabit Router/Switch is typically configured in one of two ways; (1) From a portable PC connected through one of the Local Switch Ports on the Router/Switch Module in the enclosure, or (2) From a PC in one of the rooms of the house, connected through an outlet in the room to the enclosure where it is patched to (or directly connected to) one of the Local Switch Ports (see **Figure 3**). In either case, the PC must have an Ethernet Network Interface Card to communicate with the Router/Switch.

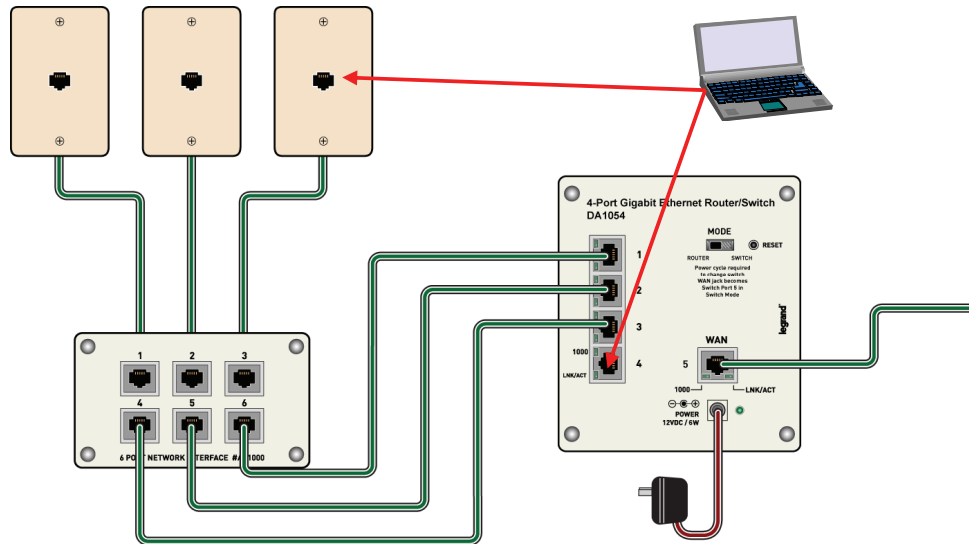


Figure 3

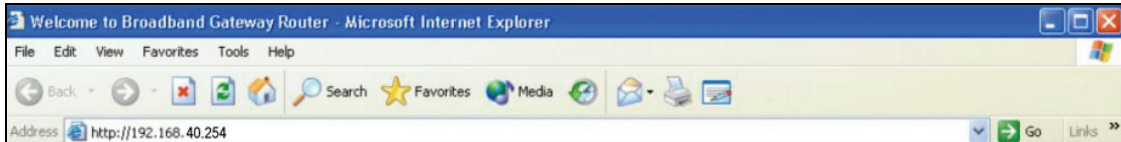
### A. Configuring a Network Interface Card to talk to the Router/Switch

**NOTE:** The steps below assume that your PC's network interface card is set to DHCP, or in other words, to obtain IP addressing automatically. The steps also assume that the 4 Port Gigabit Router/Switch is set to its default settings and that all the cables previously discussed are properly connected. It is also possible to perform these steps by configuring your computer (with installed Ethernet Network Interface Card) to talk to the Router/Switch on its specific IP subnetwork (192.168.40.xxx). The Router/Switch's default IP address in that subnetwork is 192.168.40.254, so your PC's Ethernet Card can be temporarily assigned an IP address, (like 192.168.40.10), on that same subnetwork to talk to and configure the Router/Switch. Giving the PC a specific IP address is also called assigning it a Static IP address, as compared to a Dynamic IP address that is typically assigned by a service provider when your PC's network interface card is configured for Dynamic Host Configuration Protocol (DHCP).

**NOTE:** Before doing any PC IP Address re-configuration, make sure you first write down all of the current IP settings. XP users can set “last known useable configuration” under System Accessories before re-configuring.

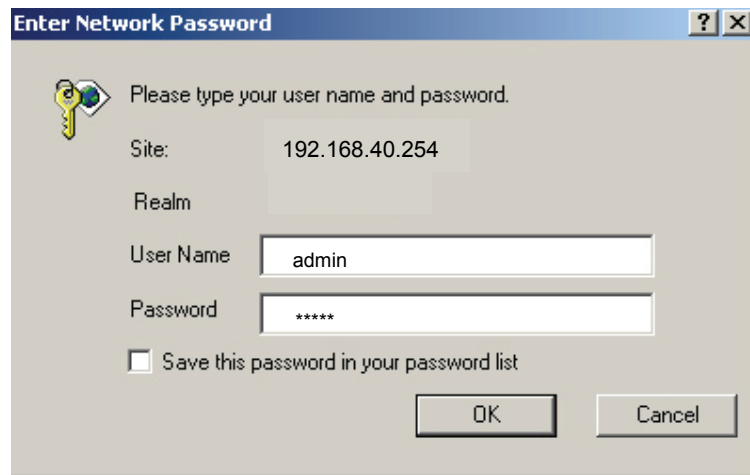
## **B. Logging on to the Router/Switch**

1. With your PC connected to one of the local ports on the Router/Switch and its front panel routing switch in the “On” position, open a browser and enter the Router/Switch’s default IP address (192.168.40.254), and click “Go” (see **Figure 4**) to get the login page.



**Figure 4**

2. To login, enter “admin” for the user name and password and just click **OK** (see **Figure 5**).



**Figure 5**

3. **Figure 6** shows the System Status screen that you will see once you have logged on. By clicking on the “Setup Wizard” selection in the upper left corner, the Setup Wizard will lead you step-by-step through the initial configuration of the Router.

**NOTE:** You can also manually configure the Router/Switch by clicking on a function listed on the left of the page such as “Operation Mode” or “Management” to change your User Name or Password, perform a firmware upgrade, restore factory defaults, or backup/restore system settings.



Gigabit Broadband Router

Site contents:

- Setup Wizard
- Operation Mode
- TCP/IP Settings
- Firewall
- QoS
- Route Setup
- Management
  - VLAN
  - Status
  - Statistics
  - DDNS
  - Time Zone Setting
  - Denial-of-Service
  - Log
  - Upgrade Firmware
  - Save/Reload Setting
  - Password
  - Logout

## Router Status

This page shows the current status and some basic settings of the device.

|                             |                                |
|-----------------------------|--------------------------------|
| <b>System</b>               |                                |
| Uptime                      | 0day:0h:5m:34s                 |
| Firmware Version            | v2.5_20120517                  |
| Build Time                  | Thu May 17 11:30:41 CST 2012   |
| <b>TCP/IP Configuration</b> |                                |
| Attain IP Protocol          | Fixed IP                       |
| IP Address                  | 192.168.1.254                  |
| Subnet Mask                 | 255.255.255.0                  |
| Default Gateway             | 192.168.1.254                  |
| DHCP Server                 | Enabled                        |
| MAC Address                 | 00:30:4f:aa:bb:cd              |
| <b>WAN Configuration</b>    |                                |
| Attain IP Protocol          | Getting IP from DHCP server... |
| IP Address                  | 0.0.0.0                        |
| Subnet Mask                 | 0.0.0.0                        |
| Default Gateway             | 0.0.0.0                        |
| MAC Address                 | 00:30:4f:aa:bb:cc              |

goahead  
**WEB SERVER**

Figure 6

To start Broadband router web configuration, you must have one of these web browsers installed on computer for management. Microsoft Internet Explorer 6.00 or higher with Java support

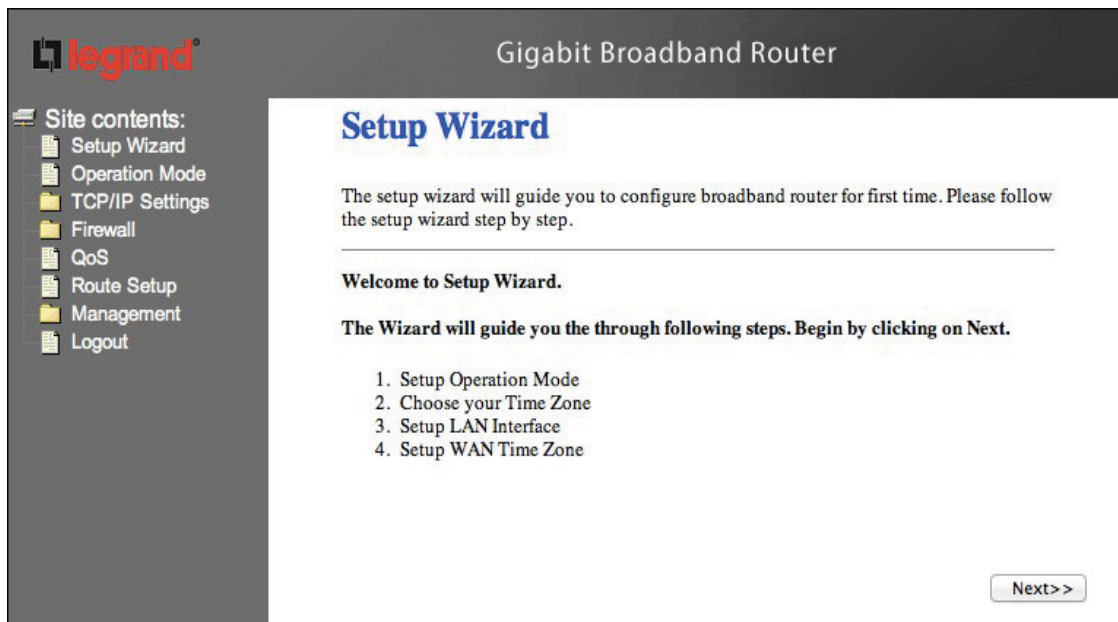
## 2.0 Network Settings

### 2.1 Quick Setup

The Broadband router integrates a web-based graphical user interface that can cover most configurations and machine status monitoring. Via standard web browser, you can configure and check machine status from anywhere around the world.

### 2.2 Setup Wizard

It is easy to configure and manage the Router with web browser. After successfully login, you can click **Setup Wizard** to quickly configure your Router.



## Step 1. Select the WAN Access Type

In this page, you can accord your network environment to select the Gateway mode or the Bridge mode.

The screenshot displays the web interface of a Legrand Gigabit Broadband Router. On the left is a navigation menu with the following items: Site contents, Setup Wizard, Operation Mode, TCP/IP Settings, Firewall, QoS, Route Setup, Management (highlighted), VLAN, Status, Statistics, DDNS, Time Zone Setting, Denial-of-Service, Log, Upgrade Firmware, Save/Reload Setting, Password, and Logout. The main content area is titled "Operation Mode" and includes a sub-header: "You can see different modes to LAN and WLAN interface for NAT and bridging function." Below this, there are two radio button options: "Gateway:" (selected) and "Bridge:". The "Gateway:" description states: "In this mode, the device is supposed to connect to internet via ADSL/Cable Modem. The NAT is enabled and PCs in four LAN ports share the same IP to ISP through WAN port. The connection type can be setup in WAN page by using PPPOE, DHCP client, PPTP client, L2TP client or static IP." The "Bridge:" description states: "In this mode, all ethernet ports and wireless interface are bridged together and NAT function is disabled. All the WAN related function and firewall are not supported." At the bottom right of the main area are three buttons: "Cancel", "<<Back", and "Next>>".

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### Operation Mode

You can see different modes to LAN and WLAN interface for NAT and bridging function.

☒ **Gateway:** In this mode, the device is supposed to connect to internet via ADSL/Cable Modem. The NAT is enabled and PCs in four LAN ports share the same IP to ISP through WAN port. The connection type can be setup in WAN page by using PPPOE, DHCP client, PPTP client, L2TP client or static IP.

☐ **Bridge:** In this mode, all ethernet ports and wireless interface are bridged together and NAT function is disabled. All the WAN related function and firewall are not supported.

Cancel <<Back Next>>

## Step 2. Choose the time zone

The Time Zone Settings allows your router to set up its Time Zone and Daylight Saving Time, these will affect functions such as Log entries and Firewall settings.

The screenshot shows the 'Time Zone Setting' page of a Legrand Gigabit Broadband Router. On the left is a 'Site contents' menu with options like Setup Wizard, Operation Mode, TCP/IP Settings, Firewall, QoS, Route Setup, Management (highlighted), VLAN, Status, Statistics, DDNS, Time Zone Setting, Denial-of-Service, Log, Upgrade Firmware, Save/Reload Setting, Password, and Logout. The main content area is titled 'Time Zone Setting' and includes a description: 'You can maintain the system time by synchronizing with a public time server over the Internet.' Below this are two unchecked checkboxes: 'Enable NTP client update' and 'Automatically Adjust Daylight Saving'. Further down, there are two dropdown menus: 'Time Zone Select' set to '(GMT)Greenwich Mean Time: Dublin, Edinburgh, Lisbon, London' and 'NTP server' set to '59.124.71.8 - pool.ntp.org'. At the bottom right are three buttons: 'Cancel', '<<Back', and 'Next>>'.

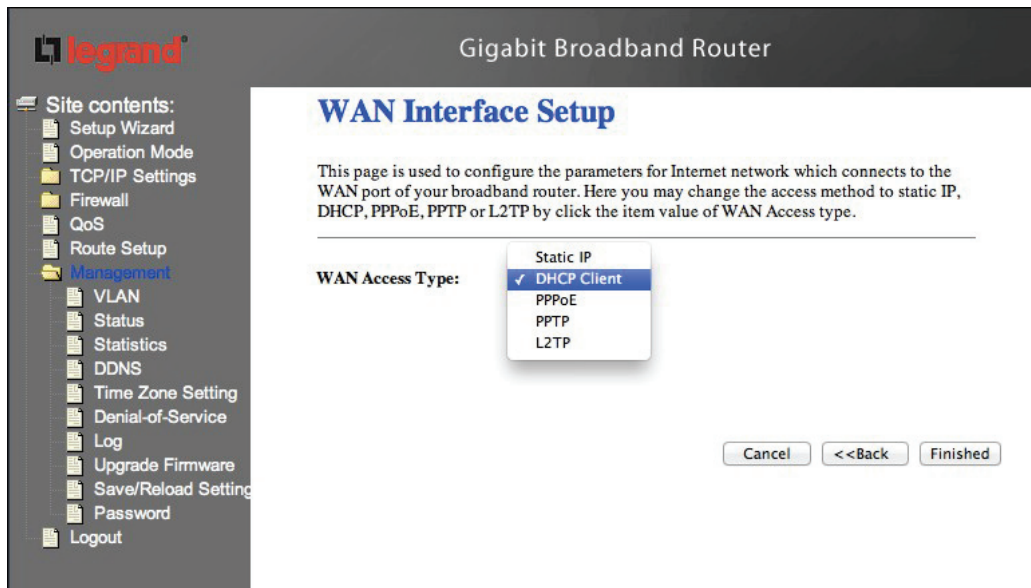
## Step 3. Setup LAN Interface

The default IP address and the subnet mask is **192.168.40.254** and **255.255.255.0**, you can change the parameter in this page.

The screenshot shows the 'LAN Interface Setup' page of a Legrand Gigabit Broadband Router. The left 'Site contents' menu is identical to the previous page, with 'Management' highlighted. The main content area is titled 'LAN Interface Setup' and includes a description: 'This page is used to configure the parameters for local area network which connects to the LAN port of your broadband router. Here you may change the setting for IP address, subnet mask, DHCP, etc..'. Below this are two input fields: 'IP Address' with the value '192.168.40.254' and 'Subnet Mask' with the value '255.255.255.0'. At the bottom right are three buttons: 'Cancel', '<<Back', and 'Next>>'.

#### Step 4. Setup WAN Interface

Enter the information for the selected WAN Access Type, and then click Next. If your access type is DHCP Client, then you can get the IP address from the ISP, so you do not need to enter the information like other modes.



#### Step 5. Click the Finished button. You will then see the Finish page as shown below.

The Router will reboot automatically to make your configuration to take effect and finish the **Setup**.



## 2.3 Network Operation Mode

You can setup different modes to WAN and LAN interface for NAT, Bridging.

The screenshot shows the web interface of a Legrand Gigabit Broadband Router. On the left is a sidebar menu with 'Site contents:' and a list of links: Setup Wizard, Operation Mode, TCP/IP Settings, Firewall, QoS, Route Setup, and Management. The main area is titled 'Operation Mode' and contains a sub-header 'You can setup different modes to LAN and WLAN interface for NAT and bridging function.' Below this, there are two radio button options: 'Gateway:' and 'Bridge:'. The 'Bridge:' option is selected. Each option has a descriptive text block. At the bottom of the main area are two buttons: 'Apply Change' and 'Reset'.

**legrand** Gigabit Broadband Router

### Operation Mode

You can setup different modes to LAN and WLAN interface for NAT and bridging function.

☐ **Gateway:** In this mode, the device is supposed to connect to internet via ADSL/Cable Modem. The NAT is enabled and PCs in LAN ports share the same IP to ISP through WAN port. The connection type can be setup in WAN page by using PPPOE, DHCP client, PPTP client, L2TP client or static IP.

☒ **Bridge:** In this mode, all ethernet ports are bridged and NAT function is disabled. All the WAN related function and firewall are not supported.

| Object  | Description                                                                                                                                                                                                                                                              |
|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Bridge  | In this mode, all Ethernet ports are bridged together and the client will connect to ISP access point. The NAT is enabled and PCs in Ethernet ports share the same IP to ISP through LAN.                                                                                |
| Gateway | In this mode, the device is supposed to connect to internet via ADSL/Cable Modem. The NAT is enabled and your PC in LAN port shares the same IP to ISP through WAN port. The connection type can be setup in WAN page by using Static, DHCP Client, PPPOE, PPTP or L2TP. |

## 2.3.1 TCP/IP Setting

This page allows you to change the parameter for LAN and WAN interface.

### 2.3.1.1 LAN Interface Setup

Choose menu “TCP/IP Settings→LAN Interface”, you can configure the parameters for local area network which connects to the LAN port of your Gateway. Here you may change the IP settings.

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### LAN Interface Setup

This page is used to configure the parameters for local area network which connects to the LAN port of your broadband router. Here you may change the setting for IP addresss, subnet mask, DHCP, etc..

|                       |                                                                                                                                    |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------|
| IP Address:           | <input type="text" value="192.168.1.254"/>                                                                                         |
| Subnet Mask:          | <input type="text" value="255.255.255.0"/>                                                                                         |
| Default Gateway:      | <input type="text" value="192.168.1.254"/>                                                                                         |
| DHCP:                 | <input type="button" value="Server"/>                                                                                              |
| DHCP Client Range:    | <input type="text" value="192.168.1.100"/> - <input type="text" value="192.168.1.200"/> <input type="button" value="Show Client"/> |
| DHCP Lease Time:      | <input type="text" value="6"/> (1 ~ 10080 minutes)                                                                                 |
| Static DHCP:          | <input type="button" value="Set Static DHCP"/>                                                                                     |
| Domain Name:          | <input type="text" value="Legrand"/>                                                                                               |
| 802.1d Spanning Tree: | <input type="button" value="Disabled"/>                                                                                            |
| Clone MAC Address:    | <input type="text" value="000000000000"/>                                                                                          |

| Object                | Description                                                                                                                                                                                                                                                                       |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IP Address            | LAN IP Address of the Access Point<br><b>Default :</b> 192.168.40.254                                                                                                                                                                                                             |
| Subnet Mask           | LAN mask of the Access Point<br><b>Default :</b> 255.255.255.0                                                                                                                                                                                                                    |
| Default Gateway       | Gateway IP Address<br><b>Default :</b> 192.168.40.254                                                                                                                                                                                                                             |
| DHCP Server           | You can select <b>Server</b> or <b>Disable</b> . If you select Disable, the DHCP service of LAN port is disabled.<br><b>Default :</b> Server                                                                                                                                      |
| DHCP Client Range     | The first and last IP address that DHCP server assigns.<br><b>Default :</b> 192.168.40.100 – 192.168.40.200                                                                                                                                                                       |
| Static DHCP           | It allows you reserve IP addresses, and assign the same IP address to the network device with the specified MAC address any time it requests an IP address<br><b>Default :</b> Disable                                                                                            |
| Domain Name           | Set three alternatives Domain Name Server for LAN interface.<br><b>Default :</b> Null                                                                                                                                                                                             |
| 802.11d Spanning Tree | Spanning Tree Protocol. You can select Enable or Disable.<br><b>Default :</b> Disable                                                                                                                                                                                             |
| Clone MAC Address     | Your ISP may require a particular MAC address in order for you to connect to the Internet. This MAC address is the PC's MAC address that your ISP had originally connected your Internet to. Type in this section to replace the WAN MAC address with the MAC address of that PC. |

### 2.3.1.2 WAN Interface Setup

Choose menu “**TCP/IP Settings**→**WAN Interface**”, you can configure the IP parameters of the WAN on the screen below when router mode is enabled.

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**WAN Interface Setup**

This page is used to configure the parameters for Internet network which connects to the WAN port of your broadband router. Here you may change the access method to static IP, DHCP, PPPoE, PPTP or L2TP by click the item value of WAN Access type.

WAN Access Type:

Host Name:

MTU Size:  (1400-1492 bytes)

Clone MAC Address:

☐ Enable uPNP

☒ Enable IGMP Proxy

☐ Enable Ping Access on WAN

☐ Enable Web Server Access on WAN

☒ Enable IPsec pass through on VPN connection

☒ Enable PPTP pass through on VPN connection

☒ Enable L2TP pass through on VPN connection

☐ Enable IPv6 pass through on VPN connection

☒ Attain DNS Automatically

☐ Set DNS Manually

DNS 1:

DNS 2:

DNS 3:

#### ■ DHCP Client

If your ISP provides the DHCP service, please choose **DHCP Client** type, and the Router will automatically obtain IP parameters from your ISP. You can see the page as follows.

The page includes the following fields:

| Object    | Description                                                                                                                                              |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Host Name | This option specifies the Host Name of the Router.                                                                                                       |
| MTU Size  | The default MTU (Maximum Transmission Unit) value is 1492 Bytes. It is not recommended that you change the default MTU Size unless required by your ISP. |

| Object                                      |                                                                                                                                                                                                                                                                                   | Object                                                                       |
|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| WAN Access Type                             | DHCP Client                                                                                                                                                                                                                                                                       | Connections which use dynamic IP address assignment "Typical".               |
|                                             | Static IP                                                                                                                                                                                                                                                                         | Connections which use static IP address assignment.                          |
|                                             | PPPoE                                                                                                                                                                                                                                                                             | Connections which use PPPoE that requires a user name and password.          |
|                                             | PPTP                                                                                                                                                                                                                                                                              | Connections which use a Point-to-Point Tunneling Protocol (PPTP) connection. |
|                                             | L2TP                                                                                                                                                                                                                                                                              | Connections which use a Layer2 Tunneling Protocol (L2TP) connection.         |
| Attain DNS Automatically                    | Select to attain DNS automatically from your ISP.                                                                                                                                                                                                                                 |                                                                              |
| Set DNS Manually                            | <p>Select to specify your own preferred DNS Server IP address.</p> <p>The DNS 2 or DNS 3 is optional. You can enter the secondary and the third DNS Server's IP address as an alternative of DNS 1.</p>                                                                           |                                                                              |
| Clone MAC Address                           | Your ISP may require a particular MAC address in order for you to connect to the Internet. This MAC address is the PC's MAC address that your ISP had originally connected your Internet to. Type in this section to replace the WAN MAC address with the MAC address of that PC. |                                                                              |
| Enable IGMP Proxy                           | Check to enable the <b>IGMP Proxy</b> function.                                                                                                                                                                                                                                   |                                                                              |
| Enable Ping Access on WAN                   | Check to enable the <b>Ping Access on WAN</b> function.                                                                                                                                                                                                                           |                                                                              |
| Enable Web Server Access on WAN             | Check to enable the <b>Web Server Access on WAN</b> function.                                                                                                                                                                                                                     |                                                                              |
| Enable IPsec pass through on VPN connection | Check to enable the <b>IPsec pass through on VPN connection</b> function.                                                                                                                                                                                                         |                                                                              |
| Enable PPTP pass through on VPN connection  | Check to enable the <b>PPTP pass through on VPN connection</b> function.                                                                                                                                                                                                          |                                                                              |
| Enable L2TP pass through on VPN connection  | Check to enable the <b>L2TP pass through on VPN connection</b> function.                                                                                                                                                                                                          |                                                                              |
| Enable IPv6 pass through on VPN connection  | Check to enable the <b>IPv6 pass through on VPN connection</b> function.                                                                                                                                                                                                          |                                                                              |
| Apply Changes                               | After completing the settings on this page, click <b>Apply changes</b> button to save the settings.                                                                                                                                                                               |                                                                              |
| Reset                                       | Click <b>Reset</b> to restore to default values.                                                                                                                                                                                                                                  |                                                                              |

## ■ Static IP

If your ISP provides a static or fixed IP Address, then you have to setup the IP address, Subnet Mask, Gateway and DNS setting. You can see the page as follows.

The screenshot shows the 'Gigabit Broadband Router' configuration interface. On the left is a 'Site contents' sidebar with links to Setup Wizard, Operation Mode, TCP/IP Settings (highlighted), LAN Interface, WAN Interface, Firewall, QoS, Route Setup, and Management. The main area is titled 'WAN Access Type: Static IP'. It contains several input fields: IP Address (10.1.1.224), Subnet Mask (255.255.255.0), Default Gateway (10.1.1.254), MTU Size (1500, with a note '(1400-1500 bytes)'), DNS 1 (8.8.8.8), DNS 2 (empty), and DNS 3 (empty). Below these is a 'Clone MAC Address' field with the value '000000000000'. A list of checkboxes follows, most of which are checked: 'Enable uPNP', 'Enable IGMP Proxy', 'Enable Ping Access on WAN', 'Enable Web Server Access on WAN', 'Enable IPsec pass through on VPN connection', 'Enable PPTP pass through on VPN connection', 'Enable L2TP pass through on VPN connection', and 'Enable IPv6 pass through on VPN connection' (which is unchecked). At the bottom are 'Apply Changes' and 'Reset' buttons.

The page includes the following fields:

| Object                   | Description                                                                                                                                                                                      |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>IP Address</b>        | Enter the IP address in dotted-decimal notation provided by your ISP.                                                                                                                            |
| <b>Subnet Mask</b>       | Enter the subnet Mask in dotted-decimal notation provided by your ISP, usually is 255.255.255.0                                                                                                  |
| <b>Default Gateway</b>   | (Optional) Enter the gateway IP address in dotted-decimal notation provided by your ISP.                                                                                                         |
| <b>MTU Size</b>          | The normal <b>MTU</b> (Maximum Transmission Unit) value for most Ethernet networks is 1500 Bytes. It is not recommended that you change the default <b>MTU Size</b> unless required by your ISP. |
| <b>DNS 1</b>             | Enter the DNS server IP address provided by your ISP, or you can specify your own preferred DNS server IP address.                                                                               |
| <b>DNS 2 &amp; DNS 3</b> | You can enter another DNS server's IP address as a backup. DNS 2 and 3 servers will be used when the DNS 1 server fails.                                                                         |

## ■ PPPoE

If your ISP provides a PPPoE connection, select **PPPoE** option. User has to setup the user name and password according to the ISP that provided the related information. You can see the page as follows.

**legrand** Gigabit Broadband Router

**WAN Interface Setup**

This page is used to configure the parameters for Internet network which connects to the WAN port of your Access Point. Here you may change the access method to static IP, DHCP, PPPoE, PPTP or L2TP by click the item value of WAN Access type.

**WAN Access Type:** PPPoE

**User Name:**

**Password:**

**Service Name:**

**Connection Type:** Continuous

**Idle Time:** 5 (1-1000 minutes)

**MTU Size:** 1452 (1360-1492 bytes)

☐ Attain DNS Automatically

☒ Set DNS Manually

**DNS 1:**

**DNS 2:**

**DNS 3:**

**Clone MAC Address:** 000000000000

☒ Enable IGMP Proxy

☐ Enable Ping Access on WAN

☐ Enable Web Server Access on WAN

☒ Enable IPsec pass through on VPN connection

☒ Enable PPTP pass through on VPN connection

☒ Enable L2TP pass through on VPN connection

☐ Enable IPv6 pass through on VPN connection

The page includes the following fields:

| Object                 | Description                                                                                                                                                                                                                                                 |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>User Name</b>       | Enter the User Name provided by your ISP. This field is case-sensitive.                                                                                                                                                                                     |
| <b>Password</b>        | Enter the Password provided by your ISP. This field is case-sensitive.                                                                                                                                                                                      |
| <b>Service Name</b>    | Enter the Internet service provider name in this field.                                                                                                                                                                                                     |
| <b>Connection Type</b> | Select the connection type <b>Continuous</b> , <b>Connect on Demand</b> or <b>Manual</b> from the drop-down menu. If selected <b>Manual</b> , user can click Connect button to make a connection.                                                           |
| <b>Idle Time</b>       | It represents that the device will idle after the minutes you set. The time must be set between 1~1000 minutes. Default value of idle time is 5 minutes. This function will be available when the Connection Type is selected to <b>Connect on Demand</b> . |
| <b>MTU Size</b>        | The default <b>MTU</b> (Maximum Transmission Unit) value is 1452 Bytes. It is not recommended that you change the default <b>MTU Size</b> unless required by your ISP.                                                                                      |

## ■ PPTP

If your ISP provides PPTP connection, please select **PPTP** option. And enter the following parameters. You can see the page as follows.

**WAN Interface Setup**

This page is used to configure the parameters for Internet network which connects to the WAN port of your Access Point. Here you may change the access method to static IP, DHCP, PPPoE, PPTP or L2TP by click the item value of WAN Access type.

WAN Access Type: **PPTP**

IP Address: 172.1.1.2

Subnet Mask: 255.255.255.0

Server IP Address: 172.1.1.1

User Name:

Password:

Connection Type: **Continuous** Connect Disconnect

Idle Time: 5 (1-1000 minutes)

MTU Size: 1460 (1400-1460 bytes)

☐ Request MPPE Encryption ☐ Request MPPE Compression

☐ Attain DNS Automatically

☒ Set DNS Manually

DNS 1:

DNS 2:

DNS 3:

Clone MAC Address: 000000000000

☒ Enable IGMP Proxy

☐ Enable Ping Access on WAN

☐ Enable Web Server Access on WAN

☒ Enable IPsec pass through on VPN connection

☒ Enable PPTP pass through on VPN connection

☒ Enable L2TP pass through on VPN connection

☐ Enable IPv6 pass through on VPN connection

Apply Changes Reset

The page includes the following fields:

| Object                   | Description                                                                                                                                                                                                                                                 |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>IP Address</b>        | Enter the IP address in dotted-decimal notation provided by your ISP.                                                                                                                                                                                       |
| <b>Subnet Mask</b>       | Enter the subnet Mask in dotted-decimal notation provided by your ISP, usually is 255.255.255.0                                                                                                                                                             |
| <b>Server IP Address</b> | Enter the PPTP Server IP address in dotted-decimal notation provided by your ISP.                                                                                                                                                                           |
| <b>User Name</b>         | Enter the User Name provided by your ISP. The Maximum input is 20 alphanumeric characters (case-sensitive).                                                                                                                                                 |
| <b>Password</b>          | Enter the Password provided by your ISP. The Maximum input is 32 alphanumeric characters (case-sensitive).                                                                                                                                                  |
| <b>Connection Type</b>   | Select the connection type <b>Continuous</b> , <b>Connect on Demand</b> or <b>Manual</b> from the drop-down menu. If selected <b>Manual</b> , user can click Connect button to make a connection.                                                           |
| <b>Idle Time</b>         | It represents that the device will idle after the minutes you set. The time must be set between 1~1000 minutes. Default value of idle time is 5 minutes. This function will be available when the Connection Type is selected to <b>Connect on Demand</b> . |
| <b>MTU Size</b>          | The default <b>MTU</b> (Maximum Transmission Unit) value is 1460 Bytes. It is not recommended that you change the default <b>MTU Size</b> unless required by your ISP.                                                                                      |

## ■ L2TP

If your ISP provides L2TP connection, please select **L2TP** option. And enter the following parameters. You can see the page as follows.

**legrand** Gigabit Broadband Router

**WAN Interface Setup**

This page is used to configure the parameters for Internet network which connects to the WAN port of your Access Point. Here you may change the access method to static IP, DHCP, PPPoE, PPTP or L2TP by click the item value of WAN Access type.

WAN Access Type:

IP Address:

Subnet Mask:

Server IP Address:

User Name:

Password:

Connection Type:

Idle Time:  (1-1000 minutes)

MTU Size:  (1400-1460 bytes)

☐ Attain DNS Automatically

☒ Set DNS Manually

DNS 1:

DNS 2:

DNS 3:

Clone MAC Address:

☒ Enable IGMP Proxy

☐ Enable Ping Access on WAN

☐ Enable Web Server Access on WAN

☒ Enable IPsec pass through on VPN connection

☒ Enable PPTP pass through on VPN connection

☒ Enable L2TP pass through on VPN connection

☐ Enable IPv6 pass through on VPN connection

The page includes the following fields:

| Object                   | Description                                                                                                                                                                                                                                                 |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>IP Address</b>        | Enter the IP address in dotted-decimal notation provided by your ISP.                                                                                                                                                                                       |
| <b>Subnet Mask</b>       | Enter the subnet Mask in dotted-decimal notation provided by your ISP, usually is 255.255.255.0                                                                                                                                                             |
| <b>Server IP Address</b> | Enter the L2TP Server IP address in dotted-decimal notation provided by your ISP.                                                                                                                                                                           |
| <b>User Name</b>         | Enter the User Name provided by your ISP. The Maximum input is 20 alphanumeric characters (case-sensitive).                                                                                                                                                 |
| <b>Password</b>          | Enter the Password provided by your ISP. The Maximum input is 32 alphanumeric characters (case-sensitive).                                                                                                                                                  |
| <b>Connection Type</b>   | Select the connection type <b>Continuous</b> , <b>Connect on Demand</b> or <b>Manual</b> from the drop-down menu. If selected <b>Manual</b> , user can click Connect button to make a connection.                                                           |
| <b>Idle Time</b>         | It represents that the device will idle after the minutes you set. The time must be set between 1~1000 minutes. Default value of idle time is 5 minutes. This function will be available when the Connection Type is selected to <b>Connect on Demand</b> . |
| <b>MTU Size</b>          | The default <b>MTU</b> (Maximum Transmission Unit) value is 1460 Bytes. It is not recommended that you change the default <b>MTU Size</b> unless required by your ISP.                                                                                      |

## 3.0 Advance Settings

### 3.1 Firewall

#### 3.1.1 Port Filtering

Entries in this table are used to restrict certain types of data packets from your local network to Internet through the Gateway. Use of such filters can be helpful in securing or restricting your local network.

**legrand** Gigabit Broadband Router

**Site contents:**

- Setup Wizard
- Operation Mode
- TCP/IP Settings
- Firewall
  - Port Filtering**
  - IP Filtering
  - MAC Filtering
  - Port Forwarding
  - URL Filtering
  - DMZ
- QoS
- Route Setup
- Management
  - VLAN
  - Status
  - Statistics
  - DDNS
  - Time Zone Setting

### Port Filtering

Entries in this table are used to restrict certain types of data packets from your local network to Internet through the Gateway. Use of such filters can be helpful in securing or restricting your local network.

☐ **Enable Port Filtering**

**Port Range:**  -  **Protocol:** Both **Comment:**

**Current Filter Table:**

| Port Range | Protocol | Comment | Select |
|------------|----------|---------|--------|
|------------|----------|---------|--------|

| Object                | Description                                                                                                                                                   |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Enable Port Filtering | Check to enable Port Filtering function.                                                                                                                      |
| Port Range            | Enter the beginning of the range of port numbers used by the service. If the service uses a single port number, enter it in both the start and finish fields. |
| Protocol              | Select the protocol (TCP, UDP or Both) used to the remote system or service.                                                                                  |
| Comment               | You may key in a description MAC address.                                                                                                                     |
| Apply Changes         | After completing the settings on this page, click Apply Changes button to save the settings.                                                                  |
| Reset                 | Click Reset button to restore to default values.                                                                                                              |
| Current Filter Table  | Shows the current Port Forwarding information.                                                                                                                |
| Delete Selected       | Click Delete Selected button to delete items which are selected.                                                                                              |
| Delete All            | Click Delete All button to delete all the items.                                                                                                              |
| Reset                 | Click Reset button to reset.                                                                                                                                  |

### 3.1.2 IP Filtering

Entries in this table are used to restrict certain types of data packets from your local network to Internet through the Gateway. Use of such IP filters can be helpful in securing or restricting your local network.

**legrand** Gigabit Broadband Router

**Site contents:**

- Setup Wizard
- Operation Mode
- TCP/IP Settings
- Firewall
  - Port Filtering
  - IP Filtering
  - MAC Filtering
  - Port Forwarding
  - URL Filtering
  - DMZ
- QoS
- Route Setup
- Management

## IP Filtering

Entries in this table are used to restrict certain types of data packets from your local network to Internet through the Gateway. Use of such filters can be helpful in securing or restricting your local network.

☐ **Enable IP Filtering**

Local IP Address:  Protocol:  Comment:

**Current Filter Table:**

| Local IP Address | Protocol | Comment | Select |
|------------------|----------|---------|--------|
|------------------|----------|---------|--------|

| Object               | Description                                                                                  |
|----------------------|----------------------------------------------------------------------------------------------|
| Enable IP Filtering  | Check to enable IP filtering function.                                                       |
| Local IP Address     | Enter the local computer's IP address.                                                       |
| Protocol             | Select the protocol (TCP, UDP or Both) used to the remote system or service.                 |
| Comment              | You may key in a description for the port range.                                             |
| Apply Changes        | After completing the settings on this page, click Apply Changes button to save the settings. |
| Reset                | Click Reset button to restore to default values.                                             |
| Current Filter Table | Shows the current IP filter information.                                                     |
| Delete Selected      | Click Delete Selected button to delete items which are selected.                             |
| Delete All           | Click Delete All button to delete all the items.                                             |
| Reset                | Click Reset button to rest.                                                                  |

### 3.1.3 MAC Filtering

Entries in this table are used to restrict certain types of data packets from your local network to Internet through the Gateway. Use of such filters can be helpful in securing or restricting your local network.

**legrand®** Gigabit Broadband Router

**MAC Filtering**

Entries in this table are used to restrict certain types of data packets from your local network to Internet through the Gateway. Use of such filters can be helpful in securing or restricting your local network.

☐ Enable MAC Filtering

MAC Address:  Comment:

**Current Filter Table:**

| MAC Address | Comment | Select |
|-------------|---------|--------|
|-------------|---------|--------|

| Object               | Description                                                                                  |
|----------------------|----------------------------------------------------------------------------------------------|
| Enable MAC Filtering | Check to enable MAC filtering function.                                                      |
| MAC Address          | Enter the client MAC address in the field.                                                   |
| Comment              | You may key in a description MAC address.                                                    |
| Apply Changes        | After completing the settings on this page, click Apply Changes button to save the settings. |
| Reset                | Click Reset button to restore to default values.                                             |
| Current Filter Table | Shows the current MAC filter information.                                                    |
| Deleted Selected     | Click Delete Selected button to delete items which are selected.                             |
| Deleted All          | Click Delete All button to delete all the items.                                             |
| Reset                | Click Reset button to rest.                                                                  |

### 3.1.4 Port Forwarding

Entries in this table allow you to automatically redirect common network services to a specific machine behind the NAT firewall. These settings are only necessary if you wish to host some sort of server like a web server or mail server on the private local network behind your Gateway's NAT firewall.

**legrand** Gigabit Broadband Router

## Port Forwarding

Entries in this table allow you to automatically redirect common network services to a specific machine behind the NAT firewall. These settings are only necessary if you wish to host some sort of server like a web server or mail server on the private local network behind your Gateway's NAT firewall.

☐ Enable Port Forwarding

IP Address:  Protocol:  Port Range:  -  Comment:

**Current Port Forwarding Table:**

| Local IP Address | Protocol | Port Range | Comment | Select |
|------------------|----------|------------|---------|--------|
|------------------|----------|------------|---------|--------|

| Object                        | Description                                                                                                                                                                             |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Enable Port Forwarding        | Check to enable Port Forwarding function.                                                                                                                                               |
| IP Address                    | Enter the IP address in the field.                                                                                                                                                      |
| Protocol                      | Select the protocol (TCP, UDP or Both) used to the remote system or service.                                                                                                            |
| Port Range                    | For TCP and UDP Services, enter the beginning of the range of port numbers used by the service. If the service uses a single port number, enter it in both the start and finish fields. |
| Comment                       | You may key in a description MAC address.                                                                                                                                               |
| Apply Changes                 | After completing the settings on this page, click Apply Changes button to save the settings.                                                                                            |
| Reset                         | Click Reset button to restore to default values.                                                                                                                                        |
| Current Port Forwarding Table | Shows the current Port Forwarding information.                                                                                                                                          |
| Delete Selected               | Click Delete Selected button to delete items which are selected.                                                                                                                        |
| Delete All                    | Click Delete All button to delete all the items.                                                                                                                                        |
| Reset                         | Click Reset button to rest.                                                                                                                                                             |

### 3.1.5 URL Filtering

URL filter is used to deny LAN users from accessing the internet. Block those URLs which contain keywords listed below.

**legrand®** Gigabit Broadband Router

**Site contents:**

- Setup Wizard
- Operation Mode
- TCP/IP Settings
- Firewall
  - Port Filtering
  - IP Filtering
  - MAC Filtering
  - Port Forwarding
  - URL Filtering**
  - DMZ
- QoS
- Route Setup
- Management
- VLAN
- Status
- Statistics
- DDNS

## URL Filtering

URL filter is used to deny LAN users from accessing the internet. Block those URLs which contain keywords listed below.

☐ **Enable URL Filtering**

**URL Address:**

**Current Filter Table:**

| URL Address | Select |
|-------------|--------|
|-------------|--------|

| Object               | Description                                                                                  |
|----------------------|----------------------------------------------------------------------------------------------|
| Enable URL Filtering | Check to enable URL filtering function.                                                      |
| URL Address          | Enter the URL address in the field.                                                          |
| Apply Changes        | After completing the settings on this page, click Apply Changes button to save the settings. |
| Reset                | Click Reset button to restore to default values.                                             |
| Current Filter Table | Shows the current URL address filter information.                                            |
| Delete Selected      | Click Delete All button to delete all the items.                                             |
| Reset                | Click Reset button to rest.                                                                  |

### 3.1.6 DMZ

A Demilitarized Zone is used to provide Internet services without sacrificing unauthorized access to its local private network. Typically, the DMZ host contains devices accessible to Internet traffic, such as Web (HTTP) servers, FTP servers, SMTP (e-mail) servers and DNS servers.

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**DMZ**

A Demilitarized Zone is used to provide Internet services without sacrificing unauthorized access to its local private network. Typically, the DMZ host contains devices accessible to Internet traffic, such as Web (HTTP) servers, FTP servers, SMTP (e-mail) servers and DNS servers.

☐ **Enable DMZ**

**DMZ Host IP Address:**

| Object                     | Description                                                                                                                                                                                                                                                             |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Enable DMZ</b>          | Check the box to enable DMZ function. If the DMZ Host Function is enabled, it means that you set up DMZ host at a particular computer to be exposed to the Internet so that some applications/software, especially Internet / online game can have two way connections. |
| <b>DMZ Host IP Address</b> | Enter the IP address of a particular host in your LAN which will receive all the packets originally going to the WAN port/Public IP address above.                                                                                                                      |
| <b>Apply Changes</b>       | After completing the settings on this page, click Apply Changes button to save the settings.                                                                                                                                                                            |
| <b>Reset</b>               | Click Reset button to restore to default values                                                                                                                                                                                                                         |

## 4.0 QoS

### 4.1 Enable QoS

Use this section to configure QoS. The QoS settings improve your online gaming experience by ensuring that your game traffic is prioritized over other network traffic, such as FTP or Web.

 Gigabit Broadband Router

Site contents:

- Setup Wizard
- Operation Mode
- TCP/IP Settings
- Firewall
  - Port Filtering
  - IP Filtering
  - MAC Filtering
  - Port Forwarding
  - URL Filtering
  - DMZ
- QoS
- Route Setup
- Management
  - VLAN
  - Status
  - Statistics
  - DDNS
  - Time Zone Setting
  - Denial-of-Service
  - Log
  - Upgrade Firmware
  - Save/Reload Setting
  - Password
- Logout

### QoS

Entries in this table improve your online gaming experience by ensuring that your game traffic is prioritized over other network traffic, such as FTP or Web.

☐ Enable QoS

☒ Automatic Uplink Speed

Manual Uplink Speed (Kbps):

☒ Automatic Downlink Speed

Manual Downlink Speed (Kbps):

#### QoS Rule Setting:

Address Type: ☒ IP ☐ MAC

Local IP Address:  -

MAC Address:

Mode:

Uplink Bandwidth (Kbps):

Downlink Bandwidth (Kbps):

Comment:

Current QoS Rules Table:

| Local IP Address | MAC Address | Mode | Uplink Bandwidth | Downlink Bandwidth | Comment | Select |
|------------------|-------------|------|------------------|--------------------|---------|--------|
|------------------|-------------|------|------------------|--------------------|---------|--------|

| Object                          | Description                                                            |
|---------------------------------|------------------------------------------------------------------------|
| Enable QoS                      | Check the box to enable the QoS function.                              |
| Automatic Uplink/Download Speed | Check the box to enable the automatic uplink/ download speed function. |
| Manual Uplink/Download Speed    | User can manually enter the uplink/ download speed in the blank field. |



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## 4.2 QoS Rule Setting

Administrator can setup a QoS rule for specific user depends on IP or MAC address.

| Object                    | Description                                                                                                                                   |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| Address Type              | Select IP or MAC address type.                                                                                                                |
| Local IP Address          | Depend on the address type that selected, user can enter the IP address or MAC address of client to set up the bandwidth of the transmission. |
| MAC Address               |                                                                                                                                               |
| Mode                      | Select Guaranteed minimum bandwidth or Restricted maximum bandwidth modes.                                                                    |
| Uplink Bandwidth (Kbps)   | Enter the Uplink Bandwidth (Kbps) in the column.                                                                                              |
| Downlink Bandwidth (Kbps) | Enter the Downlink Bandwidth (Kbps) in the column.                                                                                            |
| Comment                   | Enter the note for the setting.                                                                                                               |

## 5.0 Route Setup

### 5.1 Dynamic Route

Dynamic routing performs the same function as static routing except it is steadier. Dynamic routing allows routing tables in routers to change as the possible routes change. There are several protocols used to support dynamic routing including RIP and OSPF.

**legrand®** Gigabit Broadband Router

### Routing Setup

This page is used to setup dynamic routing protocol or edit static route entry.

☐ **Enable Dynamic Route**

NAT: ☒ Enabled ☐ Disabled

Transmit: ☒ Disabled ☐ RIP 1 ☐ RIP 2

Receive: ☒ Disabled ☐ RIP 1 ☐ RIP 2

☐ **Enable Static Route**

IP Address:

Subnet Mask:

Gateway:

Metric:

Interface:

**Static Route Table:**

| Destination IP Address | Netmask | Gateway | Metric | Interface | Select |
|------------------------|---------|---------|--------|-----------|--------|
|------------------------|---------|---------|--------|-----------|--------|

| Object               | Description                                                                   |
|----------------------|-------------------------------------------------------------------------------|
| Enable Dynamic Route | Check the box to enable the Dynamic Route function.                           |
| NAT                  | Network Address Translation (NAT) selects to enable or disable this function. |
| Transmit             | Select to enable or disable RIP protocol for transmit.                        |
| Receive              | Select to enable or disable RIP protocol for receive.                         |

## 5.2 Static Route

To set static routers, enter the settings including route IP address, route mask, route gateway and the route Interface from LAN or WAN.

| Object              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Enable Static Route | Check the box to enable the Static Route function.                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| IP Address          | Set up the IP address that would like to send the packets pass through.                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Subnet Mask         | Set up the Subnet Mask that would like to send the packets pass through.                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Gateway             | Set up the gateway that would like to send the packets pass through.                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Metric              | It is used by a router to make routing decisions.<br>The metrics used by a router to make routing decisions. It is typically one of many fields in a routing table. Router metrics can contain any number of values that help the router determine the best route among multiple routes to a destination. A router metric typically based on information like path length, bandwidth, load, hop count, path cost, delay, Maximum Transmission Unit (MTU), reliability and communications cost. |
| Interface           | Select the interface of the setting path.                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

## 6.0 Management

### 6.1. VLAN

By default, the VLAN setting is disabled, however, you can turn it on for purpose, or setup the port based priority base on the VLN setting here.

**legrand®** Gigabit Broadband Router

**VLAN Settings**

Entries in below table are used to config vlan settings. VLANs are created to provide the segmentation services traditionally provided by routers. VLANs address issues such as scalability, security, and network management.

☐ Enable VLAN

| Enable                   | Ethernet | Description | Tag                      | VID(1-4090) | Priority |
|--------------------------|----------|-------------|--------------------------|-------------|----------|
| <input type="checkbox"/> | LAN 1    |             | <input type="checkbox"/> | 3022        | 0 ÷      |
| <input type="checkbox"/> | LAN 2    |             | <input type="checkbox"/> | 3030        | 7 ÷      |
| <input type="checkbox"/> | LAN 3    |             | <input type="checkbox"/> | 500         | 0 ÷      |
| <input type="checkbox"/> | LAN 4    |             | <input type="checkbox"/> | 1           | 3 ÷      |

| Enable                   | Ethernet | Description | Tag                      | VID(1-4090) | Priority |
|--------------------------|----------|-------------|--------------------------|-------------|----------|
| <input type="checkbox"/> | WAN      |             | <input type="checkbox"/> | 1           | 0 ÷      |

| Object      | Description                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Enable VLAN | VLAN (Virtual Local Area Network) refers to a group of logically networked devices on one or more LANs that are configured so that they can communicate as if they were attached to the same wire, when in fact they are located on different LAN segments. Because VLANs are based on logical instead of physical connections, it is very flexible for user/host management.                                   |
| Tag         | Ports with tagging enabled will put the VID number, priority and other VLAN information into the header of all packets that flow into those ports. If a packet has previously been tagged, the port will not alter the packet, thus keeping the VLAN information intact. The VLAN information in the tag can then be used by other 802.1Q compliant devices on the network to make packet-forwarding decisions. |
| VID         | Provide a number between 1 and 4090 for VLAN. This will cause the router to send packets with VLAN tags. The switch connecting with the router must support VLAN IEEE802.1Q frames.                                                                                                                                                                                                                             |
| Priority    | The priority of the selected port.                                                                                                                                                                                                                                                                                                                                                                              |

## 6.2 Status

In this page can show the current status and some basic settings of the Access Point.

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Gigabit Broadband Router

Site contents:

Setup Wizard

Operation Mode

TCP/IP Settings

Firewall

QoS

Route Setup

Management

VLAN

Status

Statistics

DDNS

Time Zone Setting

Denial-of-Service

Log

Upgrade Firmware

Save/Reload Setting

Password

Logout

### Router Status

This page shows the current status and some basic settings of the device.

| System           |                              |
|------------------|------------------------------|
| Uptime           | 0day:0h:5m:34s               |
| Firmware Version | v2.5_20120517                |
| Build Time       | Thu May 17 11:30:41 CST 2012 |

| TCP/IP Configuration |                   |
|----------------------|-------------------|
| Attain IP Protocol   | Fixed IP          |
| IP Address           | 192.168.1.254     |
| Subnet Mask          | 255.255.255.0     |
| Default Gateway      | 192.168.1.254     |
| DHCP Server          | Enabled           |
| MAC Address          | 00:30:4f:aa:bb:cd |

| WAN Configuration  |                                |
|--------------------|--------------------------------|
| Attain IP Protocol | Getting IP from DHCP server... |
| IP Address         | 0.0.0.0                        |
| Subnet Mask        | 0.0.0.0                        |
| Default Gateway    | 0.0.0.0                        |
| MAC Address        | 00:30:4f:aa:bb:cc              |

goahead

WEB SERVER

# 6.3 Statistics

This page shows the packet counters for transmission and reception regarding to Ethernet networks.



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Gigabit Broadband Router

Statistics

This page shows the packet counters for transmission and reception regarding to Ethernet networks.

|              |                  |      |
|--------------|------------------|------|
| Ethernet LAN | Sent Packets     | 1024 |
|              | Received Packets | 1238 |
| Ethernet WAN | Sent Packets     | 0    |
|              | Received Packets | 0    |

Refresh

## 6.4 DDNS

Choose menu “**Dynamic DNS**”, and you can configure the Dynamic DNS function when enabled router mode.

The Router offers the **DDNS** (Dynamic Domain Name System) feature, which allows the hosting of a website, FTP server, or e-mail server with a fixed domain name (named by yourself) and a dynamic IP address, and then your friends can connect to your server by entering your domain name no matter what your IP address is. Before using this feature, you need to sign up for DDNS service providers such as [www.comexe.cn](http://www.comexe.cn), [www.dyndns.org](http://www.dyndns.org), or [www.no-ip.com](http://www.no-ip.com). The Dynamic DNS client service provider will give you a password or key.

**legrand** Gigabit Broadband Router

**Dynamic DNS Setting**

Dynamic DNS is a service, that provides you with a valid, unchanging, internet domain name (an URL) to go with that (possibly everchanging) IP-address.

☐ Enable DDNS

Service Provider : DynDNS

Domain Name : host.dyndns.org

User Name/Email:

Password/Key:

*Note:*  
For TZO, you can have a 30 days free trial [here](#) or manage your TZO account in [control panel](#)  
For DynDNS, you can create your DynDNS account [here](#)

Apply Change Reset

To set up for DDNS, follow these instructions:

- Step 1.** Check **Enable DDNS**.
- Step 2.** Select the **Service Provider** from the drop-down menu.
- Step 3.** Type the **Domain Name** received from your dynamic DNS service provider.
- Step 4.** Type the **User Name/Email** for your DDNS account.
- Step 5.** Type the **Password/Key** for your DDNS account.
- Step 6.** Click the **Apply Change** button to apply the settings.

## 6.5 Time Zone Setting

You can maintain the system time by synchronizing with a public time server over the Internet.

**legrand®** Gigabit Broadband Router

### Time Zone Setting

You can maintain the system time by synchronizing with a public time server over the Internet.

Current Time : Yr 2012 Mon 5 Day 22 Hr 20 Mn 6 Sec 19

Copy Computer Time

Time Zone Select : (GMT-05:00)Eastern Time (US & Canada)

☒ Enable NTP client update

☒ Automatically Adjust Daylight Saving

NTP server : 192.5.41.41 - North America (Manual IP Setting)

Apply Change Reset Refresh

| Object                   | Description                                                                                                                         |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Current Time             | Input current time manually.                                                                                                        |
| Time Zone Select         | Select local time zone according to location.                                                                                       |
| Enable NTP client update | Check to enable NTP update. Once this function is enabled, Broadband router will automatically update current time from NTP server. |
| NTP server               | User may select prefer NTP sever or input address of NTP server manually.                                                           |

## 6.6 Denial-of-Service

DoS (Denial of Service) attacks can flood your Internet connection with invalid packets and connection requests, using so much bandwidth and so many resources that Internet access becomes unavailable. The Router incorporates protection against DoS attacks. This screen allows you to configure DoS protection.

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Save/Reload Setting

Password

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Denial of Service

A "denial-of-service" (DoS) attack is characterized by an explicit attempt by hackers to prevent legitimate users of a service from using that service.

☐ Enable DoS Prevention

☐ Whole System Flood: SYN

0

Packets/Second

☐ Whole System Flood: FIN

0

Packets/Second

☐ Whole System Flood: UDP

0

Packets/Second

☐ Whole System Flood: ICMP

0

Packets/Second

☐ Per-Source IP Flood: SYN

0

Packets/Second

☐ Per-Source IP Flood: FIN

0

Packets/Second

☐ Per-Source IP Flood: UDP

0

Packets/Second

☐ Per-Source IP Flood: ICMP

0

Packets/Second

☐ TCP/UDP PortScan

Low

Sensitivity

☐ ICMP Smurf

☐ IP Land

☐ IP Spoof

☐ IP TearDrop

☐ PingOfDeath

☐ TCP Scan

☐ TCP SynWithData

☐ UDP Bomb

☐ UDP EchoChargen

Select ALL

Clear ALL

☐ Enable Source IP Blocking

0

Block time (sec)

Apply Changes

## 6.7 Log

This page can be used to set remote log server and show the system log.

The screenshot shows the 'System Log' configuration page of a Legrand Gigabit Broadband Router. On the left is a sidebar with a 'Site contents' menu listing various configuration options like Setup Wizard, Operation Mode, TCP/IP Settings, Firewall, QoS, Route Setup, Management, VLAN, Status, Statistics, DDNS, Time Zone Setting, Denial-of-Service, Log, Upgrade Firmware, Save/Reload Setting, Password, and Logout. The main area is titled 'System Log' and contains the instruction: 'This page can be used to set remote log server and show the system log.' Below this, there are configuration options: 'Enable Log' (checked), 'system all' (checked), 'DoS' (unchecked), and 'Enable Remote Log' (unchecked). A text field for 'Log Server IP Address' is present. An 'Apply Changes' button is below these options. A log window shows a series of system messages with timestamps, including 'klogd started: BusyBox v1.13.4', 'Probing RTL8186 10/100 NIC', and 'eth0 added' through 'eth4 added'. At the bottom are 'Refresh' and 'Clear' buttons.

| Object                | Description                                               |
|-----------------------|-----------------------------------------------------------|
| Enable Log            | Check to enable log function.                             |
| System all            | Activates all logging functions.                          |
| DoS                   | Only logs related to the DoS protection will be recorded. |
| Enable Remote Log     | Only logs related to the Remote control will be recorded. |
| Log Server IP Address | Only logs related to the server will be recorded.         |

## 6.8 Upgrade Firmware

This page allows you upgrade the Broadband router firmware to new version. Please note, do not power off the device during the upload because it may crash the system.

**legrand** Gigabit Broadband Router

**Upgrade Firmware**

This page allows you upgrade the broadband router firmware to new version. Please note, do not power off the device during the upload because it may crash the system.

**Firmware Version:** v2.5\_20120517

**Select File:**  no file selected

| Object           | Description                                                                                                                                                            |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Firmware Version | The current version is shown in this field.                                                                                                                            |
| Select File      | Browse and select file you want to upgrade and press Upload to perform upgrade.<br><b>Please wait till on screen shows related information after upgrade finished.</b> |
| Upload           | Click the <b>Upload</b> button to perform the upgrade process.                                                                                                         |
| Reset            | Click <b>Reset</b> will clean all current configurations and return to default values.                                                                                 |

## 6.9 Save / Reload Settings

This page allows you save current settings to a file or reload the settings from the file which was saved previously. Besides, you could reset the current configuration to factory default.

**legrand** Gigabit Broadband Router

**Save/Reload Settings**

This page allows you save current settings to a file or reload the settings from the file which was saved previously. Besides, you could reset the current configuration to factory default.

**Save Settings to File:**

**Load Settings from File:**  no file selected

**Reset Settings to Default:**

| Object                    | Description                                                     |
|---------------------------|-----------------------------------------------------------------|
| Save Settings to File     | Save current settings to a file.                                |
| Load Settings from File   | Browse a file and upload to reload settings.                    |
| Reset Settings to Default | Click <b>Reset</b> button to restore to factory default values. |

## 6.10 Password Setup

This page is used to set the account to access the web server of Access Point. Empty user name and password will disable the protection.

**legrand** Gigabit Broadband Router

**Site contents:**

- Setup Wizard
- Operation Mode
- TCP/IP Settings
- Firewall
- QoS
- Route Setup
- Management**
- VLAN
- Status
- Statistics
- DDNS
- Time Zone Setting
- Denial-of-Service
- Log
- Upgrade Firmware
- Save/Reload Setting
- Password**
- Logout

### Password Setup

This page is used to set the account to access the web server of broadband router. Empty user name and password will disable the protection.

User Name:

New Password:

Confirmed Password:

| Object             | Description                   |
|--------------------|-------------------------------|
| User Name          | Enter user name.              |
| New Password       | Input password for this user. |
| Confirmed Password | Confirm password again.       |

# Appendix A Frequently Asked Questions List

If your Broadband routers not functioning properly, you can refer to this chapter first for sample troubleshooting before contacting your dealer. This can save your time and effort but if the symptoms persist, please consult your dealer.

---

## Q1: I forget my Broadband router login username and / or password

### A1:

- 1.) Restore Broadband router to its factory default settings by pressing the “Reset” button which is at the side panel of the device for 5 seconds or more.

# Appendix B Broadband Router Specifications

|                                       |            |                                                                                                             |
|---------------------------------------|------------|-------------------------------------------------------------------------------------------------------------|
| <b>Product</b>                        |            | Internet Gigabit Broadband Router                                                                           |
| <b>Model</b>                          |            | DA1054                                                                                                      |
| <b>Hardware</b>                       |            |                                                                                                             |
| <b>Standard</b>                       |            | IEEE 802.3, IEEE 802.3u 10/100/1000Base-TX standard                                                         |
| <b>Ports</b>                          | <b>WAN</b> | 1 x 10/100/1000 Base-TX ,Auto-Negotiation, Auto MDI/MDI-X                                                   |
|                                       | <b>LAN</b> | 4 x 10/100/1000 Base-TX ,Auto-Negotiation, Auto MDI/MDI-X                                                   |
| <b>LED Indicators</b>                 |            | PWR, WAN, LAN1-4                                                                                            |
| <b>Button</b>                         |            | 1 x RESET button                                                                                            |
| <b>Software</b>                       |            |                                                                                                             |
| <b>Protocols and Features</b>         |            | TCP/IP, UDP/RTP/RTCP, HTTP, ICMP, ARP, DNS, DHCP, NTP/SNTP                                                  |
| <b>Network Feature</b>                |            | Router and Bridge mode                                                                                      |
|                                       |            | Static Routing and RIPv1/2                                                                                  |
|                                       |            | DMZ and Port Forwarding(Virtual Server)                                                                     |
|                                       |            | QoS (Bandwidth limit by IP or MAC)                                                                          |
|                                       |            | IGMP v1/v2                                                                                                  |
|                                       |            | VLAN                                                                                                        |
|                                       |            | SNTP                                                                                                        |
|                                       |            | DHCP Server / Client                                                                                        |
| <b>VPN pass-through</b>               |            | UPnP and DDNS                                                                                               |
| <b>Security</b>                       |            | IPSec / PPTP / L2TP VPN Pass-Through                                                                        |
| <b>Configuration &amp; Management</b> |            | Built-in NAT Firewall                                                                                       |
|                                       |            | Client / URL / MAC Filtering                                                                                |
|                                       |            | Password protection for system management                                                                   |
| <b>Environment Specification</b>      |            | Web-Based Graphical User Interface                                                                          |
|                                       |            | Remote management over the IP Network                                                                       |
|                                       |            | Web-Based firmware upgrade                                                                                  |
|                                       |            | Backup and Restore Configuration file                                                                       |
| <b>Dimension (W x D x H)</b>          |            |                                                                                                             |
| <b>Operating Environment</b>          |            | Operating: 0~50 degree C, 5%~ 90% (non-condensing),<br><br>Storage: -10~70 degree C, 0~95% (non-condensing) |
| <b>Power Requirement</b>              |            | 12V DC, 1A                                                                                                  |
| <b>EMC/EMI</b>                        |            |                                                                                                             |

## Appendix C Glossary of Terms

**Default Gateway (Router):** Every non-router IP device needs to configure a default gateway's IP address. When the device sends out an IP packet, if the destination is not on the same network, the device has to send the packet to its default gateway, which will then send it out towards the destination.

**DHCP:** Dynamic Host Configuration Protocol. This protocol automatically gives every computer on your home network an IP address.

**DNS Server IP Address:** DNS stands for Domain Name System, which allows Internet servers to have a domain name (such as [www.Broadbandrouter.com](http://www.Broadbandrouter.com)) and one or more IP addresses (such as 192.34.45.8). A DNS server keeps a database of Internet servers and their respective domain names and IP addresses, so that when a domain name is requested (as in typing "[www.legrand.us/onq](http://www.legrand.us/onq)" into your Internet browser), the user is sent to the proper IP address. The DNS server IP address used by the computers on your home network is the location of the DNS server your ISP has assigned to you.

**DSL Modem:** DSL stands for Digital Subscriber Line. A DSL modem uses your existing phone lines to transmit data at high speeds.

**Ethernet:** A standard for computer networks. Ethernet networks are connected by special cables and hubs, and move data around at up to 10/100 million bits per second (Mbps).

**Idle Timeout:** Idle Timeout is designed so that after there is no traffic to the Internet for a preconfigured amount of time, the connection will automatically be disconnected.

**IP Address and Network (Subnet) Mask:** IP stands for Internet Protocol. An IP address consists of a series of four numbers separated by periods, that identifies a single, unique Internet computer host in an IP network. Example: 192.168.0.1. It consists of 2 portions: the IP network address, and the host identifier. The IP address is a 32-bit binary pattern, which can be represented as four cascaded decimal numbers separated by "aaa.aaa.aaa.aaa", where each "aaa" can be anything from 000 to 255, or as four cascaded binary numbers separated by "bbbbbbbb.bbbbbbbb.bbbbbbbb.bbbbbbbb", where each "b" can either be 0 or 1. A network mask is also a 32-bit binary pattern, and consists of consecutive leading 1's followed by consecutive trailing 0's, such as 11111111.11111111.11111111.00000000. Therefore sometimes a network mask can also be described simply as "x" number of leading 1's. When both are represented side by side in their binary forms, all bits in the IP address that correspond to 1's in the network mask become part of the IP network address, and the remaining bits correspond to the host ID. For example, if the IP address for a device is, in its binary form, 11011001.10110000.10010000.00000111, and if its network mask is, 11111111.11111111.11110000.00000000

It means the device's network address is 11011001.10110000.10010000.00000000, and its host ID is, 00000000.00000000.00000000.00000111. This is a convenient and efficient method for routers to route IP packets to their destination.

**ISP Gateway Address:** (see ISP for definition). The ISP Gateway Address is an IP address for the Internet router located at the ISP's office.

**ISP:** Internet Service Provider. An ISP is a business that provides connectivity to the Internet for individuals and other businesses or organizations.

**LAN:** Local Area Network. A LAN is a group of computers and devices connected together in a relatively small area (such as a house or an office). Your home network is considered a LAN.

**MAC Address:** MAC stands for Media Access Control. A MAC address is the hardware address of a device connected to a network. The MAC address is a unique identifier for a device with an Ethernet interface. It is comprised of two parts: 3 bytes of data that corresponds to the Manufacturer ID (unique for each manufacturer), plus 3 bytes that are often used as the product's serial number.

**NAT:** Network Address Translation. This process allows all of the computers on your home network to use one IP address. Using the DA1004's NAT capability, you can access the Internet from any computer on your home network without having to purchase more IP addresses from your ISP.

**Port:** Network Clients (LAN PC) uses port numbers to distinguish one network application/protocol over another. Below is a list of common applications and protocol/port numbers:

| Application | Protocol | Port Number |
|-------------|----------|-------------|
| Telnet      | TCP      | 23          |
| FTP         | TCP      | 21          |
| SMTP        | TCP      | 25          |
| POP3        | TCP      | 110         |
| H.323       | TCP      | 1720        |
| SNMP        | UCP      | 161         |
| SNMP Trap   | UDP      | 162         |
| HTTP        | TCP      | 80          |
| PPTP        | TCP      | 1723        |
| PC Anywhere | TCP      | 5631        |
| PC Anywhere | UDP      | 5632        |

**PPPoE:** Point-to-Point Protocol over Ethernet. Point-to-Point Protocol is a secure data transmission method originally created for dial-up connections; PPPoE is for Ethernet connections. PPPoE relies on two widely accepted standards, Ethernet and the Point-to-Point Protocol. It is a communications protocol for transmitting information over Ethernet between different manufacturers

**Protocol:** A protocol is a set of rules for interaction agreed upon between multiple parties so that when they interface with each other based on such a protocol, the interpretation of their behavior is well defined and can be made objectively, without confusion or misunderstanding.

**Router:** A router is an intelligent network device that forwards packets between different networks based on network layer address information such as IP addresses.

**Subnet Mask:** A subnet mask, which may be a part of the TCP/IP information provided by your ISP, is a set of four numbers (e.g. 255.255.255.0) configured like an IP address. It is used to create IP address numbers used only within a particular network (as opposed to valid IP address numbers recognized by the Internet, which must be assigned by InterNIC).

**TCP/IP, UDP:** Transmission Control Protocol/Internet Protocol (TCP/IP) and Unreliable Datagram Protocol (UDP). TCP/IP is the standard protocol for data transmission over the Internet. Both TCP and UDP are transport layer protocol. TCP performs proper error detection and error recovery, and thus is reliable. UDP on the other hand is not reliable. They both run on top of the IP (Internet Protocol), a network layer protocol.

**WAN:** Wide Area Network. A network that connects computers located in geographically separate areas (e.g. different buildings, cities, countries). The Internet is a wide area network.

**Web-based management Graphical User Interface (GUI):** Many devices support a graphical user interface that is based on the web browser. This means the user can use the familiar Netscape or Microsoft Internet Explorer to Control/configure or monitor the device being managed.