D-Link®

User Manual

Dual-Band 11AC ADSL2+ Four Port Wirless Router

DSL-2877AL

Table of Contents

Product Overview

Package Contents

This product should contain all of the below mentioned items within its packaging:

- One DSL-2877AL Modem Router
- One Power Adapter
- One CD containing the User Manual
- One telephone cable (RJ-11)
- One Ethernet cable (RJ-45)
- One External Splitter
- One QIG
- One GPL
- One Warranty guide
- One Customer Flyer

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

Note: Using a power supply with a different voltage rating than the one included with the DSL-2877AL will cause damage to this product and void the warranty for this product.

System Requirements

Network Requirements:	• Ethernet Adapter at 10/100Mbps. • Wireless Adapter with IEEE 802.11N, 802.11a,802.11b/g and 802.11ac Protocols.
Web User Interface Requirements:	• Windows®, Macintosh, or Linux-based Operating System. • Internet Browser like Internet Explorer 7 or higher, Firefox 3.5 or higher, Safari 4 or higher, or Chrome 8 or higher.
Internet Requirements:	• DSL Internet Connection Service from an ISP.

Power Usage

This device is an Energy Related Product (ErP) with High Network Availability (HiNA), and automatically switches to a power-saving Network Standby mode within 1 minute of no packets being transmitted. It can also be turned off through a power switch to save energy when it is not needed.
Network Standby: 4 watts
Switched Off: 0.2 watts

Features

- **Faster Wireless Networking** - The DSL-2877AL provides up to 300Mbps* for the 2.4GHz band and 433Mbps* for the 5GHz band wireless connection with other 802.11n and 802.11ac wireless clients capability allows users to participate in real-time activities online, such as video streaming, online gaming, and real-time audio.

- **Compatible with 802.11b and 802.11g Devices** - The DSL-2877AL is still fully compatible with the IEEE 802.11b and IEEE 802.11g standards, so it can connect with existing 802.11b and 802.11g PCI, USB and Cardbus adapters.

- **DHCP Support** - Dynamic Host Configuration Protocol automatically and dynamically assigns all LAN IP settings to each host on your network. This eliminates the need to reconfigure every host whenever changes in network topology occur.

- **Network Address Translation (NAT)** - For small office environments, the DSL-2877AL allows multiple users on the LAN to access the Internet concurrently through a single Internet account. This provides Internet access to everyone in the office for the price of a single user. NAT improves network security in effect by hiding the private network behind one global and visible IP address. NAT address mapping can also be used to link two IP domains via a LAN-to-LAN connection.

- **High Performance** - Very high rates of data transfer are possible with the router.

- **Full Network Management** - The DSL-2877AL incorporates SNMP (Simple Network Management Protocol) support for web-based management and text-based network management via a Telnet connection.

- **Easy Installation** - The DSL-2877AL uses a web-based graphical user interface program for convenient management access and easy set up. Any common web browsing software can be used to manage this router.

∗   Maximum wireless signal rate derived from IEEE standard 802.11n specifications. Actual data throughput will vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, and network overhead, lower actual data throughput rate. Environmental factors will adversely affect wireless signal range.

Hardware Overview

Front Panel

Number	Description
Power	A steady green light indicates the unit is powered on. When the device is powered off this remains dark. During the Power-On Self-Test this light will be red. If this light remains red after the POST, a malfunction has occurred.
DSL	A blinking green light indicates a valid DSL connection. This will be steady light after the DSL negotiation process has been settled.
Internet	Steady green light indicates a successful Internet connection. Steady red light indicates failed Internet connection. Dark if no WAN protocol is configured.
LAN4-1	A solid light indicates a valid link on startup. This light will blink when there is activity currently pas sing through the Ethernet port. A green light will be illuminated for a 10/100Mbps connection.
2.4GHz	Steady green light indicates the 2.4GHz WLAN is available.
5GHz	Steady green light indicates the 5GHz WLAN is available.
WPS	The light will flash while a WPS connection is being established. The light will light solid for 5 seconds if a successful WPS connection has been made. This is also the WPS button used to initiate the push-button WPS connection.
USB1	Steady green light indicates a successful USB connection. Dark if no USB device is connected.

Rear Panel

Number	Description
1	**DSL Port** - Use the DSL cable to connect to your telephone line (RJ-11 port).
2	**Ethernet Ports** - Use the Ethernet ports to connect the router to your Ethernet LAN or Ethernet devices.
3	**Reset Button** - Press and hold the button about 3 seconds to restore the device to its original factory default settings.
4	**Power Receptor** - Interface that connects to the power adapter of 12V DC, 1.5A.
5	**2.4GHz Wireless On/Off Switch Button / WPS** - Press the button to enable 2.4G/5GHz WLAN for 0-5 seconds, press the button to enable WPS for 5-10 seconds.
6	**5GHz Wireless On/Off Switch Button / WPS** - Press the button to enable 2.4G/5GHz WLAN for 0-5 seconds, press the button to enable WPS for 5-10 seconds.
7	**USB1 Port** - Use the USB port to connect your USB device.
8	**Power Button** - Push in to power-on the router. Push again to power-off the router.

Basic Installation

This section will walk you through the installation process. Placement of the router is very important. Do not place the router in an enclosed area such as a closet, cabinet, or in the attic or garage.

Before You Begin

Please read and make sure you understand all the prerequisites for proper installation of your new router. Have all the necessary information and equipment on hand before beginning the installation.

Installation Notes

In order to establish a connection to the Internet it will be necessary to provide information to the router that will be stored in its memory. For some users, only their account information (Username and Password) is required. For others, various parameters that control and define the Internet connection will be required.

Operating Systems

The DSL-2877AL uses an HTML-based web interface for setup and management. The Web configuration manager may be accessed using any operating system capable of running web browser software, including Windows®, Macintosh, and Linux-based Operating Systems.

Web Browser

Any common Web browser can be used to configure the router using the Web configuration management software. The program is designed to work best with more recently released browsers such as Internet Explorer 7 or higher, Firefox 3.5 or higher, Safari 4 or higher, or Chrome 8 or higher.. The Web browser must have JavaScript enabled. JavaScript is enabled by default on many browsers. Make sure JavaScript has not been disabled by other software (such as virus protection or web user security packages) that may be running on your computer.

Ethernet Port (NIC Adapter)

Any computer that uses the router must be able to connect to it through one of the Ethernet ports on the router. This connection is an Ethernet connection and therefore requires that your computer be equipped with an Ethernet port as well. Most notebook computers are now sold with an Ethernet port already installed. Likewise, most fully assembled desktop computers come with an Ethernet adapter as standard equipment. If your computer does not have an Ethernet port, you must install an Ethernet NIC adapter before you can use the router. If you must install an adapter, follow the installation instructions that come with the Ethernet NIC adapter.

Additional Software

It may be necessary to install software on your computer that enables the computer to access the Internet. Additional software must be installed if you are using the device a simple bridge. For a bridged connection, the information needed to make and maintain the Internet connection is stored on another computer or gateway device, not in the router itself.

If your ADSL service is delivered through a PPPoE or PPPoA connection, the information needed to establsh and maintain the Internet connection can be stored in the router. In this case, it is not necessary to install software on your computer. It may however be necessary to change some settings in the device, including account information used to identify and verify the connection.

All connections to the Internet require a unique global IP address. For bridged connections, the global IP settings must reside in a TCP/IP enabled device on the LAN side of the bridge, such as a PC, a server, a gateway device such as a router or similar firewall hardware. The IP address can be assigned in a number of ways. Your network service provider will give you instructions about any additional connection software or NIC configuration that may be required.

Information you will need from your service provider

Username

This is the Username used to log on to your service provider's network. Your service provider uses this to identify your account.

Password

This is the Password used, in conjunction with the Username above, to log on to your service provider's network. This is used to verify the identity of your account.

WAN Setting / Connection Type

These settings describe the method your service provider uses to transport data between the Internet and your computer. Most users will use the default settings. You may need to specify one of the following WAN Setting and Connection Type configurations (Connection Type settings listed in parenthesis):

- Dynamic IP Address (1483 Routed IP LLC or 1483 Routed IP VC-Mux)
- PPPoE/PPPoA (PPPoE LLC, PPPoE VC-Mux, PPPoA LLC or PPPoA VC-Mux)
- IPoA (1483 Routed IP LLC or 1483 Routed IP VC-Mux)
- Bridge Mode (1483 Bridged IP LLC or 1483 Bridged IP VC Mux)

Modulation Type

ADSL uses various standardized modulation techniques to transmit data over the allotted signal frequencies. Some users may need to change the type of modulation used for their service. The default DSL modulation (Autosense) used for the router automatically detects all types of ADSL, ADSL2, and ADSL2+ modulation.

Security Protocol

This is the method your service provider will use to verify your Username and Password when you log on to their network. Your router supports the PAP and CHAP protocols.

VPI

Most users will not be required to change this setting. The Virtual Path Identifier (VPI) is used in conjunction with the Virtual Channel Identifier (VCI) to identify the data path between your service provider's network and your computer. If you are setting up the router for multiple virtual connections, you will need to configure the VPI and VCI as instructed by your service provider for the additional connections. This setting can be changed in the WAN Settings window of the web management interface.

VCI

Most users will not be required to change this setting. The Virtual Channel Identifier (VCI) used in conjunction with the VPI to identify the data path between your service provider's network and your computer. If you are setting up the router for multiple virtual connections, you will need to configure the VPI and VCI as instructed by your service provider for the additional connections. This setting can be changed in the WAN Settings window of the web management interface.

Information you will need about this Router

Username

This is the Username needed access the router's web management interface. When you attempt to connect to the device through a web browser you will be prompted to enter this Username. The default Username for the router is "**admin**".

Password

This is the Password you will be prompted to enter when you access the router's web management interface. The default Password is "**admin**".

LAN IP Addresses for the DSL-2877AL

This is the IP address you will enter into the Address field of your web browser to access the router's configuration Graphical User Interface (GUI) using a web browser. The default IP address is **192.168.1.1**. This may be changed to suit any IP address scheme the user desires. This address will be the base IP address used for DHCP service on the LAN when DHCP is enabled.

LAN Subnet Mask for the DSL-2877AL

This is the subnet mask used by the DSL-2877AL, and will be used throughout your LAN. The default subnet mask is **255.255.255.0**. This can be changed later.

Information you will need about your LAN or computer

Ethernet NIC

If your computer has an Ethernet NIC, you can connect the DSL-2877AL to this Ethernet port using an Ethernet cable. You can also use the Ethernet ports on the DSL-2877AL to connect to other computer or Ethernet devices.

DHCP Client status

Your DSL-2877AL router is configured, by default, to be a DHCP server. This means that it can assign an IP address, subnet mask, and a default gateway address to computers on your LAN. The default range of IP addresses the DSL-2877AL will assign are from **192.168.1.2 to 192.168.1.254**. Your computer (or computers) needs to be configured to obtain an IP address automatically (that is, they need to be configured as DHCP clients.)

Once you have the above information, you are ready to setup and configure your DSL-2877AL router.

Device Installation

The DSL-2877AL connects two separate physical interfaces, an ADSL (WAN) and four Ethernet (LAN) interface. Place the router in a location where it can be connected to the various devices as well as to a power source. The router should not be located where it will be exposed to moisture or excessive heat. Make sure the cables and power cord are placed safely out of the way so they do not create a tripping hazard. As with any electrical appliance, observe common sense safety procedures.

The router can be placed on a shelf or desktop, ideally you should be able to see the LED indicators on the front if you need to view them for troubleshooting.

Power on Router

The router must be used with the power adapter included with the device.
1. Insert the AC Power Adapter cord into the power receptacle located on the rear panel of the router and plug the adapter into a suitable nearby power source.
2. Press the Power button into the on position. You should see the Power LED indicator light up and remain lit.
3. If the Ethernet port is connected to a working device, check the Ethernet LED indicators to make sure the connection is valid. The router will attempt to establish the DSL connection, if the DSL line is connected and the router is properly configured this should light up after several seconds. If this is the first time installing the device, some settings may need to be changed before the router can establish a connection.

Factory Reset Button

The router may be reset to the original factory default settings by using a ballpoint pen or paperclip to gently push down the reset button in the following sequence:
1. Hold the reset button about 3 seconds after the router power on and release the reset button.

Remember that this will wipe out any settings stored in flash memory including user account information and LAN IP settings. The device settings will be restored to the factory default IP address **192.168.1.1** and the subnet mask is **255.255.255.0.** The default management username is "**admin**" and the default password is "**admin**".

Network Connections

<u>Connect ADSL Line</u>

Use the DSL cable included with the router to connect it to a telephone wall socket or receptacle. Plug one end of the cable into the ADSL port (RJ-11 receptacle) on the rear panel of the router and insert the other end into the RJ-11 wall socket. If you are using a low pass filter device, follow the instructions included with the device or given to you by your service provider. The ADSL connection represents the WAN interface, the connection to the Internet. It is the physical link to the service provider's network backbone and ultimately to the Internet.

<u>Connect Router to Ethernet</u>

The router may be connected to a single computer or Ethernet device through the Ethernet ports on the rear panel. Any connection to an Ethernet concentrating device such as a switch or hub must operate at a speed of 10/100/1000Mbps. When connecting the router to any Ethernet device that is capable of operating at speeds higher than 10Mbps, be sure that the device has auto-negotiation (NWay) enabled for the connecting port. Use standard twisted-pair cable with RJ-45 connectors. The RJ-45 ports on the router are a crossed port (MDI-X). Follow standard Ethernet guidelines when deciding what type of cable to use to make this connection. When connecting the router directly to a PC or server use a normal straight-through cable. You should use a crossed cable when connecting the router to a normal (MDI-X) port on a switch or hub. Use a normal straight-through cable when connecting it to an uplink (MDI-II) port on a hub or switch. The rules governing Ethernet cable lengths apply to the LAN to router connection. Be sure that the cable connecting the LAN to the router does not exceed 100 meters.

<u>Computer to Router Connection</u>

You can connect the router directly to an Ethernet adapter card (NIC) installed on a PC using the Ethernet cable provided.

PC Network Configuration

Each network interface on the PC should either be configured with a statically defined IP address and DNS address, or be instructed to automatically obtain an IP address using the network DHCP server. DSL router provides a DHCP server on its LAN and it is recommended to configure your LAN to automatically obtain its IP address and DNS server IP address.

The configuration principle is identical but should be carried out differently on each operating system.

The following displays the TCP/IP Properties dialog box on Windows 7.

TCP/IP configuration steps for Windows Vista&7 are as follows:

Step1   Click on windows key+ R key on the keyboard at the same time.

Step2   Type ncpa.cpl in the box, then press OK.

Step3   Select the local area connection, right click it and select Properties.

Step4   Select Internet Protocol Version 4(TCP/IPv4), double click it or click Properties.

Step5   There are two ways to configure the TCP/IP Properties, Assigned by DHCP server automatically or manually.

1. **Assigned by DHCP server**

Select Obtain an IP address automatically and Obtain DNS server address automatically. If necessary, then click OK to save the settings.

2. **Assigned manually**

1) Select Use the following IP address, type IP address, subnet mask and default gateway IP address into it.

If the router's LAN IP address is 192.168.1.1, please type in IP address 192.168.1.x (x is from 2 to 253), subnet mask 255.255.255.0, and default gateway 192.168.1.1.

2)   Select Use the following DNS server addresses, as shown in the following figure. And then type the DNS server IP address, which should be provided by your ISP. If necessary, then click OK to save the settings.

Step6   Click OK to save and apply your settings.

DHCP Conditional Option

Accessing the Internet

Network Starter

By default, the wireless network of the wireless router is enabled. If you use a wireless network adapter, do as follows to establish the connection:

1. Turn on the Router. The WLAN is enabled by default.
2. Enable the wireless network adapter on your PC and ensure that the **Wireless Zero Configuration** tool is available. Right-click the **Wireless Network Connection** icon and choose **View Available Wireless Networks** from the menu.

3. In the **Wireless Network Connection** page, click **Refresh network list** and the network list is refreshed. Select the SSID of the router.
4. Click **Connect**, enter the username and password in the pop-up window and start connecting.

Accessing the Internet via PPP Dial-Up Built in Your Computer

This method is generally used when the Router is worked as a bridge. If you select this method for accessing the network, you need to install and configure the dial-up software on your computer. In addition, you need to perform dial-up operations on your computer upon each startup. To configure the Router and your computer for the network access, do as follow:

1. Log in the Web configuration page of the router (Refer to **Connect to the Router**).

2. Run **Wizard**. 2877AL adds ISP List to input VPI and VCI automatically for users(You also can input VPI and VCI provided by your ISP directly, don't care about ISP), set Country to India, choose the Internet Service Provider(ISP), and set the working mode of the router to **Bridged**.

3. To create a dial-up connection, do as follow: (taking the Windows XP operating system as an example).

   1) Choose Start > All Programs > Accessories > Communications > Network Connections.

   2) Click Create a new connection in Network Tasks to display the New Connection Wizard window, and then click Next.

   3) Select Connect to the Internet, and then click Next.

   4) Select Set up my connection manually, and then click Next.

   5) Select Connect using a broadband connection that requires a user name and password, and then click Next.

   6) Enter the Name (as desired) of the dial-up connection in ISP Name, and then click Next.

   7) Select Anyone's use or my use only, and then click Next.

   8) Enter the user name and password used for the dial-up connection provided by the ISP (network operator), and then click Next.

   9) Select Add a shortcut to this connection to my desktop, and then click Finish.

   10) An icon for the dial-up connection is displayed on the desktop of your computer.

   11) To access the internet, double-click the icon, and then click Connect in the displayed dialog box

Getting Started

This section will show you how to set up and configure your new D-Link router using the Web-based configuration utility.

How to connect to the Web User Interface

Connect to the Router

To configure the WAN connection used by the router it is first necessary to communicate with the router through its management interface, which is HTML-based and can be accessed using a web browser. The easiest way to make sure your computer has the correct IP settings is to configure it to use the DHCP server in the router.

To access the web user interface, open a web-browser such as Internet Explorer and enter the IP address of the router (**192.168.1.1**) into the address bar and press the *Enter* key on your keyboard.

Type "**admin**" in the User Name field and "**admin**" in the Password field, and click the **Login** button to proceed. If you get a *Page Cannot be Displayed* error, please refer to the Troubleshooting section for more information.

Select Remember my login info. on this computer, you only need to enter the password once for the first time loging.

Web User Interface Configuration

After successfully logging into the Web User Interface, the following page will be displayed. This page is divided into clickable components that make the configuration of this device easier and more understandable.

The top menu lists out the Categories available for configuration. The categories available to configure on this device are **Setup**, **Advanced**, **Management**, **Status** and **Help**.

The left menu lists out the **Pages** available, for each individual category, for configuration. In this example, we observe the pages available in the **Setup** category. The pages available here are **Wizard**, **Internet Setup**, **2.4G Wireless**, **5G Wireless** **Local Network**, **Local IPv6 Network**, **Time and Date**,and **Logout**.

Product Page: DSL-2877AL	Firmware Version:IN_1.00

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DSL-2877AL	SETUP	ADVANCED	MANAGEMENT	STATUS	HELP

Wizard	**SETTING UP YOUR INTERNET**
Internet Setup	There are two ways to set up your Internet connection. You can use the Web-based Internet Connection Setup Wizard or you can manually configure the connection.
2.4G Wireless	
5G Wireless	Please make sure you have your ISP's connection settings first if you choose manual setup.
Local Network	**INTERNET CONNECTION WIZARD**
Local IPv6 Network	You can use this wizard for assistance and quick connection of your new Router to the Internet. You will be presented with step-by-step instructions in order to get your Internet connection up and running. Click the button below to begin.
Time and Date	
Logout	Setup Wizard
	Note: Before launching the wizard, please ensure you have correctly followed the steps outlined in the Quick Installation Guide included with the router.

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Setup

The **Setup** category is designed to assist the user with essential configurations, concerning the initial setup of this product.

The following pages can be found in the **Setup** category.

- Wizard - On this page we can configure services using D-Link setup wizard.
- Internet Setup - On this page we can configure services related to the Internet connectivity of this product.
- 2.4G Wireless/5G Wireless - On this page we can configure services related to the 2.4G/5G Wireless connectivity of this product.
- Local Network - On this page we can configure the Local Area Network (LAN).
- Local IPv6 Network - On this page we can configure the Local IPv6 Network.
- Time and Date - On this page we can configure services related to time and date of this product.
- Logout - On this page we can logout from the web UI.

Wizard

To access the **Wizard** page, click on the **Setup** menu link at the top, and then click on the **Wizard** menu link on the left.

On this page the user can easily configure some essential settings available on this router by following a step-by-step wizard.

Product Page: DSL-2877AL	Firmware Version:IN_1.00

D-Link

DSL-2877AL	SETUP	ADVANCED	MANAGEMENT	STATUS	HELP

Wizard	**SETTING UP YOUR INTERNET**
Internet Setup	There are two ways to set up your Internet connection. You can use the Web-based Internet Connection Setup Wizard or you can manually configure the connection.
2.4G Wireless	Please make sure you have your ISP's connection settings first if you choose manual setup.
5G Wireless	
Local Network	**INTERNET CONNECTION WIZARD**
Local IPv6 Network	You can use this wizard for assistance and quick connection of your new Router to the Internet. You will be presented with step-by-step instructions in order to get your Internet connection up and running. Click the button below to begin.
Time and Date	
Logout	Setup Wizard
	Note: Before launching the wizard, please ensure you have correctly followed the steps outlined in the Quick Installation Guide included with the router.

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Click on the **Setup Wizard** button to initiate the setup wizard.

INTERNET CONNECTION WIZARD

You can use this wizard for assistance and quick connection of your new Router to the Internet. You will be presented with step-by-step instructions in order to get your Internet connection up and running. Click the button below to begin.

Setup Wizard

Note: Before launching the wizard, please ensure you have correctly followed the steps outlined in the Quick Installation Guide included with the router.

Welcome to the Setup Wizard

This wizard will guide user through a step-by-step wizard, divided into 4 steps, to configure this router and to connect to the Internet.

Click the **Next** button to continue to the next page.

Click the **Cancel** button to discard the changes made and return to the main page.

WELCOME TO SETUP WIZARD

This wizard will guide you through a step-by-step process to configure your new router and connect to the Internet.

- Step 1 :Set Time and Date
- Step 2 :Setup Internet Connection
- Step 3 :Configure Wireless Network
- Step 4 :Completed and Quit

[Next] [Cancel]

Step 1: Set the time and date

In this step the user can configure the time zone settings that will be used by this router.

Click the **Back** button to discard the changes made and return to the previous page.

Click the **Next** button to continue to the next page..

Click the **Cancel** button to discard the changes made and return to the main page.

STEP 1: SET TIME AND DATE › 2 › 3 › 4

The Time Configuration option allows you to configure, update, and maintain the correct time on the internal system clock. From this section you can set the time zone that you are in and set the NTP (Network Time Protocol) Server. Daylight Saving can also be configured to automatically adjust the time when needed.

TIME SETTING

☑ Automatically synchronize with Internet time servers

1st NTP time server : europe.pool.ntp.org

2nd NTP time server :

TIME CONFIGURATION

Time Zone : (GMT+01:00) Amsterdam, Berlin, Rome, Stockholm, Vienna, Paris ▼

☑ Enable Daylight Saving

Daylight Saving Start : 2012 Year 03 Mon 11 Day 02 Hour 00 Min 00 Sec

Daylight Saving End : 2012 Year 11 Mon 04 Day 02 Hour 00 Min 00 Sec

[Back] [Next] [Cancel]

Step 2: Setup Internet Connection

In this step, the user can configure the Internet connection settings used by this router.

We set the parameters of this page based on PPPoE protocol as example.

1.Select Country as India.

2.Select Internet Service Provider as your Internet Service Provider

3.Select DSL in WAN Mode drop-down list as defaults.

4.Setect ATM in DSL Mode drop-down list as defaults.

5.Set the protocol to be PPPoE.

6.Enter the VPI and VCI provided by your ISP.

7.Enter the Username and Password provided by your ISP.

8.Re-enter the password for confirmation.

STEP 2: SETUP INTERNET CONNECTION › 3 › 4

Please select your ISP (Internet Service Provider) from the list below.

Country : India

Internet Service Provider : Airtel(PPPoE)

WAN Mode : DSL

DSL Mode : ATM

Protocol : PPPoE

Encapsulation Mode : LLC

VPI : 1 (0-255)

VCI : 32 (32-65535)

Search Available PVC : Scan

PPPOE/PPPOA

Please enter your Username and Password as provided by your ISP (Internet Service Provider). Please enter the information exactly as shown taking note of upper and lower cases. Click "Next" to continue.

Username : test

Password : ●●●●

Confirm Password : ●●●●

Back   Next   Cancel

Click the **Back** button to discard the changes made and return to the previous page.

Click the **Next** button to continue to the next page..

Click the **Cancel** button to discard the changes made and return to the main page.

Step 3: Configure Wireless Network

In this step, the user can configure the 2.4G and 5G Wireless Network.

Configure 2.4G Wireless Network

Step1   Check Enable Your Wireless Network.

Step2   Set the SSID for your wireless network, you can also keep it as default.

Step3   Choose to display or hide your wireless network.

-        **Visible**: Your wireless network can be detected.

-        **Invisible**: You wireless network cannot be detected. Wireless clients needs to enter the SSID and password manually to join this wireless network.

Step4   The default security level of wireless network is None. Choose an encryption mode for the wireless network. It is recommended to choose WPA /WPA2-PSK.

Step5   5.Enter a new password in WPA /WPA2 Pre-Shared Key

Click the **Back** button to discard the changes made and return to the previous page.

Click the **Next** button to continue to the next page..

Click the **Cancel** button to discard the changes made and return to the main page.

Configure 5G Wireless Network

You can configure the 5G wireless network in this page. For the settings on this page, refer to step 5 configuring the 2.4G wireless network.

Click the **Back** button to discard the changes made and return to the previous page.

Click the **Next** button to continue to the next page.

Click the **Cancel** button to discard the changes made and return to the main page.

STEP 3: CONFIGURE 2.4G WIRELESS NETWORK › 4

Your wireless network is enabled by default. You can simply uncheck it to disable it and click "Next" to skip configuration of wireless network.

Enable Your Wireless Network : ☑

Your wireless network needs a name so it can be easily recognized by wireless clients. For security purposes, it is highly recommended to change the pre-configured network name.

Wireless Network Name (SSID) : D-Link DSL-2877AL

Select "Visible" to publish your wireless network and SSID can be found by wireless clients, or select "Invisible" to hide your wireless network so that users need to manually enter SSID in order to connect to your wireless network.

Visibility Status : ⦿ Visible ○ Invisible

In order to protect your network from hackers and unauthorized users, it is highly recommended you choose one of the following wireless network security settings.

None	*Security Level*		*Best*
⦿ None	○ WEP	○ WPA/WPA2-PSK	○ WPA2-PSK

Security Mode: None
Select this option if you do not want to activate any security features.

Step 4: Configure Wireless Network

You can view the information summary of 2877AL. If all parameters are properly set, click Finish to complete the Wizard. Click Back to modify the settings.

Click the **Back** button to discard the changes made and return to the previous page.

Click the **Finish** button to complete the Wizard.

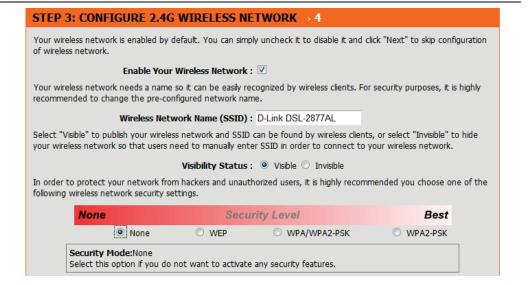Click the **Cancel** button to discard the changes made and return to the main page.

STEP 4: SAVE AND APPLY CHANGES

Setup complete. Click "Back" to review or modify settings.

If your Internet connection does not work, you can try the Setup Wizard again with alternative settings or use Manual Setup instead if you have your Internet connection details as provided by your ISP.

Below is a detailed summary of your settings. Please print this page out, or write the information on a piece of paper, so you can configure the correct settings on your wireless client adapters.

Time Settings :	1
NTP Server 1 :	europe.pool.ntp.org
NTP Server 2 :	N/A
Time Zone :	CET
Daylight Saving Time :	1
VPI / VCI :	1/32
Protocol :	PPPoE
Connection Type :	LLC
802.1Q VLAN ID :	N/A
Priority :	N/A
Username :	test
Password :	****
SSID (2.4G):	D-Link DSL-2877AL
Visibility Status :	Visible
Encryption :	WPA2-PSK
Pre-Shared Key :	123456789
WEP Key :	N/A
SSID (5G) :	D-Link DSL-2877AL_5G
Visibility Status (5G) :	Visible
Encryption (5G) :	WPA2-PSK
Pre-Shared Key (5G) :	123456789
WEP Key (5G) :	N/A

Back   Finish   Cancel

Internet Setup

To access the **Internet Setup** page, click on the **Setup** menu link at the top, and then click on the **Internet Setup** menu link on the left.

You can manually configure the connection from this page. Please make sure you have your ISP's connection settings first if you manually configure the connection.

Click **Add** to add a PVC

DSL Mode Configuration

DSL Mode：ATM

ATM PVC Configuration

VPI: Enter the correct Virtual Path Identifier (VPI) value for your ISP here.

VCI: Enter the correct Virtual Channel Identifier (VCI) value for your ISP here.

Service Category: Select the service category; it includes **UBR without PCR**, **UBR with PCR**, **CBR**, **Non Realtime VBR**, **Realtime VBR**.

Connection Type

Protocol: PPPoE,**PPPoA**,**MEA**,**IPoA**,**Bridge**.

Encapsulation Mode: Select the appropriate **Encapsulation Mode** to use here. Options to choose from are **VC-Mux** and **LLC.**

Service Category: Select the service category; it includes **UBR without PCR**, **UBR with PCR**, **CBR**, **Non Realtime VBR**, **Realtime VBR**.

802.1Q VLAN ID: Enter the VLAN ID if required by your ISP.

IP Protocol: Select the IP version to configure. It includes IPv4, IPv6 and Both.(it is not necessary to choose when Protocol is selected to be Bridge)

Network Address Translation Settings

Enable NAT：Enable or disable **NAT** function.

NAT Type：includes Symmentric Nat, Full Cone Nat.

Enable Service：Enable or disable **Service**.

NETWORK ADDRESS TRANSLATION SETTINGS

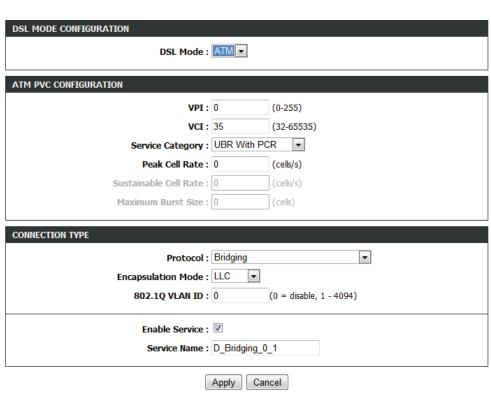|	
Enable NAT :	☑
NAT Type :	Symmetric Nat ▼
Enable Service :	☑
Service Name :	D_IPoA_0_1

Apply   Cancel

WAN - PPPoA/PPPoE

When you select **PPPoA/PPPoE** protocol in Connection Type, the right page will appear.

PPP USERNAME AND PASSWORD

PPP Username :	
PPP Password :	
Confirm PPP Password :	
Authentication Method :	AUTO ▼
Dial-up mode :	AlwaysOn ▼
Inactivity Timeout :	100 (Minuter 1~1092)
MRU Size :	1492 (V4:576~1492 V6:1280~1492)
MTU Size :	1492 (V4:576~1492 V6:1280~1492)
Keep Alive :	☑
Lcp Echo Interval (sec) :	30
Lcp Echo Failure :	5
Use Static IP Address :	☐
IP Address :	

PPP Username: The correct user name provided by your ISP.

PPP Password: The correct password provided by your ISP.

Confirm PPP Password: Enter the confirm password.

Authentication Method: To authenticate whether the PPP username and password are correct. The value can be **AUTO**, **PAP**, **CHAP** or **MS-CHAP**. Usually, you can select AUTO.

Dial-up mode: AlwaysOn: If you select it, the system automatically establishes a connection. If the network is disconnected because of external factors when you are using the Internet access service, the system tries connection every certain time (for example, 10 seconds) until the connection is established. If you pay for Internet access in the monthly fee mode, you are recommended to use this connection mode.

☐ **OnDemand**: If you select it, the system automatically establishes a connection when a network access request from the LAN is received. If no network access request is sent from the LAN within the set time of Idle Timeout, the system automatically interrupts the connection. If you pay for Internet access by time, you are recommended to use this connection mode, which effectively saves the expense of Internet access.

☐ **Manual**: If you select it, you need to manually set dialup connection after startup.

MRU Size / MTU Size: You can keep it as default.

MTU Size: Enable or disable PPPoE pass through function.

Use Static IP Address: f this function is disabled, the modem obtains an IP address assigned by an uplink equipment such as BAS, through PPPoE dial-up. If this function is enabled, the modem uses this IP address as the WAN IP address.

WAN - MER

Choose Protocol to be **MAC Encapsulation Routing (MER)**, and the right page appears.You can do nothing in WAN IP SETTINGS to use **Dynamic IP Address**.You also can use static IP Address.

WAN IP Address: Enter the WAN IP address provided by the ISP.

WAN Subnet Mask: Enter the WAN subnet mask provided by the ISP. It varies depending on the network type. It is usually 255.255.255.0.

Default Gateway: Enter the IP address of the gateway provided by the ISP. It is the IP address used for connecting to the ISP.

Preferred DNS Server: Enter the IP address of the primary DNS server if necessary.

Alternate DNS Server: if the ISP provides another DNS server, enter the IP address of that DNS server.

WAN - IPoA

Choose Protocol to be **IP** over **ATM** (**IPoA**), and the right page appears.**Wan IP Settings** is same with MER.

CONNECTION TYPE

Protocol :	MAC Encapsulation Routing (MER) ▼
WAN Service Type :	Internet ▼
Encapsulation Mode :	LLC ▼
802.1Q VLAN ID :	0 (0 = disable, 1 - 4094)
IP Protocol :	IPv4 ▼

WAN IP SETTINGS

☐ Use the following address :	
WAN IP Address :	
WAN Subnet Mask :	
Default gateway :	
Preferred DNS server :	
Alternate DNS server :	

CONNECTION TYPE

Protocol :	IP over ATM (IPoA) ▼
WAN Service Type :	Internet ▼
Encapsulation Mode :	LLC ▼
IP Protocol :	IPv4 ▼

WAN IP SETTINGS

WAN IP Address :	
WAN Subnet Mask :	
Default gateway :	
Preferred DNS server :	
Alternate DNS server :	

2.4G Wireless / 5G Wireless

To access the **2.4G Wireless / 5G Wireless** page, click on the **Setup** menu link at the top, and then click on the **2.4G Wireless / 5G Wireless** menu link on the left.
The configuration of **2.4G Wireless** is the same as **5G Wireless**'s.

On this page the user can configure services related to the Wireless Setup connectivity of this product.

Services available for configuration are the following:
- Wireless Basic
- Wireless Security

Wireless Basic

Click the **Wireless Basic** button to redirect to the right page.
To configure this page, do as follow:

Step1   Select **Enable Wireless**.

Step2   In **SSID** textbox, enter a name for your wireless network. You can also keep it as defaults.

Step3   Configure **Visibility Status.**

☐   Select **Visible**, your SSID can be detected by wireless clients automatically.

☐   Select **Invisible**, the SSID cannot be detected by wireless clients

Step4   In Country drop-down list, select the country you locate.

Step5   In 802.11 Mode drop-down list, keep it as defaults.

Step6   In Band Width drop-down list, select 20/40M.

Step7   In Wireless Channel, keep it as defaults.

Step8   After setting, click Apply to save the settings.

Wireless Security

Click **Wireless Security**. The page shown in the right figure appears. Wireless security is vital to your network to protect the wireless communication among wireless stations, access points and wired network.

The default security mode is **None**. If the security mode is set to None, your wireless network can be connected by all wireless clients that can detect the SSID of this network.

If the Security Mode is set to **WPA2 only** or **WPA/WPA2** Mixed, the right page appears.

Step1 Configure the Wireless Security Mode to be **WPA2 only**.(if you want to select **WPA/WPA2 Mixed** mode,you can refer to the following **2.4G Advanced Wireless>Security Settings** step2 to step7).

Step2 **Personal**: set the pre-shared key (password of your wireless network) in the Pre-Shared Key field.

☐ **Enterprise**: enter the port, IP address, and password of the Radius server. The wireless clients are required to enter the username and password provided by the Radius server.

Step3 In the **Encryption Mode** drop-down list, select **TKIP+AES**.

Step4 Set the **Group Key Update Interval**. For higher security, WPA2 only password is updated periodically. This value is the update interval of the WPA2 only password. You can keep it as default.

Step5 In **Pre-Shared Key textbox**, set the password for the 2.4G wireless network.

Local Network

To access the **Local Network** page, click on the **Setup** menu link at the top, and then click on the **Local Network** menu link on the left.

On this page we can configure services related to the Local Area Network connectivity of this product.

To configure the **local network** of **2877AL**, do as follow:

Step1   In the **Router IP Address** textbox, enter the IP address of LAN interface. The default IP address is 192.168.1.1. The Router IP address is the URL address for loging in the Web configuration page.

Step2   Enter the **Subnet Mask** of LAN interface. If the Router IP address is 192.168.1.1, the range of subnet mask is from 255.255.0.0 - 255.255.255.254.

Step3   In the **Domain Name** textbox, set a domain name. If you leave it blank, a domain name assigned by DHCP from the ISP is used.

Step4   Select Configure **the second IP Address** and Subnet Mask for LAN. It enables the secondary LAN IP address for your router. It will be used when your primary router IP address is in the same network segment with other LANs. The Secondary router IP address must be in the different network segment from the primary one.

Step5   Enter the secondary router IP address and subnet mask.

Step6   Configure **DHCP Server**.

☐   **Enable DHCP Server:** Enable the router to assign IP addresses, IP default gateway and DNS Servers to the host.

        DHCP IP Address Range: It specifies the first IP address in the IP address pool. The router assigns IP address that base on the IP pool range to the host.

        DHCP Lease Time: The lease time determines the period that the host retains the assigned IP addresses before the IP addresses change.

        Enable DHCP Relay: Enable the message to transmit between clients in different network segment.

Step7   Click Apply to make the settings take effect.

The **DHCP CLIENT CLASS LIST** shown in the right figure appears, referred to option 60 for lanside which assigned some special address that we set to device classified by operation system.

Step1 Click Add, the following figure appears.

Step2 Set Client Class Name(the connecting devce class, such as STB, Camera, Phone.).

Step3 Set Min and Max IP address, the address pool for the client class.

Step4 Set DNS Address, you can input the CPE address.

DHCP CLIENT CLASS LIST			
Client Class	Min Address	Max Address	DNS Address

Add Edit Delete

ADD DHCP CLIENT CLASS(OPTIONAL)	
Client Class Name :	Camera
Min IP Address :	192.168.1.10
Max IP Address :	192.168.1.20
DNS Address :	192.168.1.1

Apply Cancel

The **DHCP Conditional Option** is used to config for option 240 to 245. We only can config it if there are some exist entry for **DHCP CLIENT CLASS LIST**.

Step1 Click Add, the following figure appears.

Step2 Check **Conditional option Enable**.

Step3 Set the value of **Conditional Option Client Class** that is the value of Client Class Name in **DHCP Conditional Option**.

Step4 Set the value of **Conditional Option Tag** to the one of 240-245.

Step5 Set **Conditional Option Value** to be carried by CPE, which can be freely defined.

DHCP CONDITIONAL OPTION			
Status	Client Class Name	Option Code	Option Value

Add Edit Delete

ADD DHCP OPTION(OPTIONAL)	
Conditional Option Enable :	☐
Conditional Option Client Class :	
Conditional Option Tag :	
Conditional Option Value :	

Apply Cancel

The **DHCP RESERVATIONS LIST** shown in the following figure appears. It used to reserve a fixed IP address within IP address range for a specified PC. So the DHCP Server will assign that fixed IP address to the specified PC all the time.

Step1 Click **Add**, the following figure appears.

Step2 Select **Enable** to enable this DHCP IP address reservation.

Step3 In the **Computer Name** textbox, input the specified computer name.

Step4 In the **IP Address** textbox, input an IP address to be assigned to this specified PC. Note: the IP Address must be within the DHCP IP address range.

Step5 In the **MAC address** textbox, input the MAC address of the specified PC.

DHCP RESERVATIONS LIST			
Status	Computer Name	MAC Address	IP Address

Add Edit Delete

ADD DHCP RESERVATION (OPTIONAL)	
Enable :	☐
Computer Name :	
IP Address :	
MAC Address :	

Apply Cancel

Local IPv6 Network

To access the **Local IPv6 Network** page, click on the **Setup** menu link at the top, and then click on the **Local IPv6 Network** menu link on the left.

On this page we can configure the **Local IPv6 Network** settings of this product.

IPv6 Address: The address through which PCs access the gateway.

Enable RADVD: Choose to enable or disable router advertisement (**RADVD**) service.

Enable DHCPv6 Server: Choose to enable or disable DHCPv6 service.

LAN address config mode: Set the mode address obtaining mode of LAN PCs. You may choose **Stateless** or Statefull.

- **Stateless:** a host uses the IPv6 prefix (the subnet address) advertised by a router and interface ID maked by the MAC address to generate an IPv6 address.
- **Stateful:** IP address assignment through a DHCPv6 server.In the mode,you need config Start/End Interface ID,DHCPv6 Lease Time,DHCPv6 valid time.

Start/End Interface ID: The address pool using DHCPv6 for address assignment under statefull mode.

DHCPv6 Lease Time: The address lease time using DHCPv6 for address assignment under statefull mode.

DHCPv6 Valid Time: The address valid lifetime using DHCPv6 for address assignment under statefull mode.

Get prefix from WAN: Use the site prefix obtained at the WAN side as the prefix to issue.
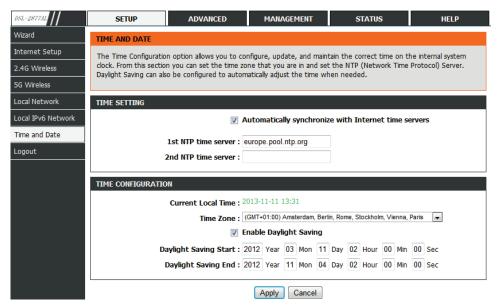
Manual: Manually add a site prefix.

Time and Date

To access the **Time and Date** page, click on the **Setup** menu link at the top, and then click on the **Time and Date** menu link on the left.

In the **Time and Date** page, you can configure, update, and maintain the correct time on the internal system clock. You can set the time zone that you are in and the network time protocol (NTP) server. You can also configure daylight saving to automatically adjust the time when needed.

Select Automatically synchronize with Internet time servers.

Enter the specific time server and select the **time zone** from the corresponding drop-down lists.

Select **Enable Daylight Saving** if necessary. Set the daylight as you want.

Click Apply to save the settings.

	SETUP	ADVANCED	MANAGEMENT	STATUS	HELP

DSL-2877AL

Wizard

Internet Setup

2.4G Wireless

5G Wireless

Local Network

Local IPv6 Network

Time and Date

Logout

TIME AND DATE

The Time Configuration option allows you to configure, update, and maintain the correct time on the internal system clock. From this section you can set the time zone that you are in and set the NTP (Network Time Protocol) Server. Daylight Saving can also be configured to automatically adjust the time when needed.

TIME SETTING

☑ **Automatically synchronize with Internet time servers**

1st NTP time server : europe.pool.ntp.org

2nd NTP time server :

TIME CONFIGURATION

Current Local Time : 2013-11-11 13:31

Time Zone : (GMT+01:00) Amsterdam, Berlin, Rome, Stockholm, Vienna, Paris

☑ **Enable Daylight Saving**

Daylight Saving Start : 2012 Year 03 Mon 11 Day 02 Hour 00 Min 00 Sec

Daylight Saving End : 2012 Year 11 Mon 04 Day 02 Hour 00 Min 00 Sec

Apply Cancel

Logout

To access the **Logout** page, click on the **Setup** menu link at the top, and then click on the **Logout** menu link on the left.

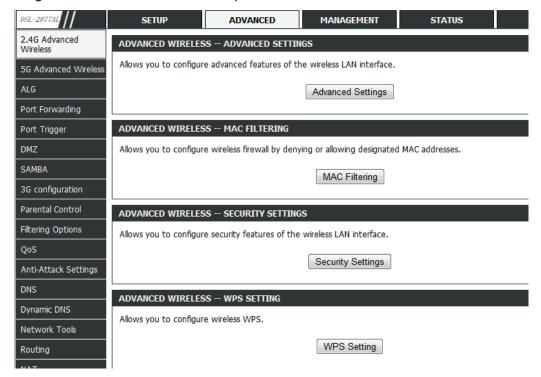On this page we can log out of the configuration page.
I

LOGOUT

Logging out will return to the login page.

Logout

Advanced

The **Advanced** is designed to assist the user with more advanced configurations, concerning the other features found on this product.

The following pages can be found in the **Advanced**:

- 2.4G Advanced Wireless / 5G Advanced Wireless - On the two page the user can configure advanced services related to the Wireless connectivity of this product. Services available for configuration are **Advanced Settings**, **MAC Filtering**, **Security Settings** and **WPS Setting**.
- ALG - On this page the user can configure Application Level Gateway. of this product.
- Port Forwarding - On this page the user can configure services related to the port forwarding feature of this product.
- Port Trigger - On this page the user can configure services related to the port trigger feature of this product.
- DMZ - On this page the user can configure services related to the dmz feature of this product.
- SAMBA - On this page the user can configure services related to the samba feature of this product.
- Parental Control - On this page the user can configure services related to the parental control feature of this product. Services available for configuration are **Website Filter** and **MAC Filter**.
- Filtering Options - On this page the user can configure services related to the filtering options feature of this product. Services available for configuration are **IPv4 Filtering** and **IPv6 Filtering**.
- QOS - On this page the user can configure services related to the QOS feature of this product.
- Anti-Attack Settings - On this page the user can configure services related to the Anti-Attack Settings feature of this product.
- DNS - On this page the user can configure services related to the DNS feature of this product.
- DynamicDNS - On this page the user can configure services related to the DynamicDNS feature of this product.
- Network Tools - On this page the user can configure services related to the Network Tools available on this product. Services available for configuration are **Port Mapping**, **IGMP Proxy**, **IGMP Snooping**, **MLD Configuration**, **UPnP** and **DSL**.
- Routing - On this page the user can configure services related to the Routing

feature of this product. Services available for configuration are **Static Route**, **IPv6 Static Route**, **Policy Route**, **RIP Settings**, **RIPng Settings**.

- NAT - On this page the user can configure services related to the NAT feature of this product.

- FTPD Setting - On this page the user can configure services related to the FTPD Setting feature of this product.

- FTPD Acount - On this page the user can configure services related to the FTPD Account feature of this product.

- Logout - On this page the user can logout to return to the login page.

2.4G Advanced Wireless / 5G Advanced Wireless

To access the **2.4G/5G Advanced Wireless** page, click on the **Advanced** menu link at the top, and then click on the **2.4G Advanced Wireless / 5G Advanced Wireless** menu link on the left.The configuration of 2.4G and 5G are same, so we take 2.4G Advanced Wireless for example.

On this page the user can configure advanced services related to the Wireless connectivity of this product.

Services available for configuration are the following:

- [Advanced Settings](#)
- [MAC Filtering](#)
- [Security Settings](#)
- [WPS Settings](#)
- [WDS Setting](#)

 Advanced Settings

The page shown in the right figure appears. In this page, you can configure guest wireless networks.

Wireless Network Name (SSID): The Wireless Network Name is a unique name that identifies a network. All devices on a network must share the same wireless network name in order to communicate on the network. If you decide to change the wireless network name from the default setting, enter your new wireless network name in this field.

Visibility Status:

☐   Select Visible, your SSID can be detected by wireless clients automatically.

☐   Select Invisible, the SSID cannot be detected by wireless clients.

User Isolation:

    On:The devices of connecting the SSID can't access with each other.

    Off:The devices of connecting the SSID can access with each other.

The router supports multiple SSID. The settings in this page are only for more technically advanced users who have sufficient knowledge about wireless LAN. Do not change these settings unless you know the effect of changes on the device.

Click Apply to save the settings.

WIRELESS ENABLE	
Enable Wireless :	☑

ADVANCED WIRELESS SETTINGS		
Transmit Power :	100% ▼	
Beacon Period :	100	(20 ~ 1023)
RTS Threshold :	2346	(1 ~ 2347)
Fragmentation Threshold :	2346	(256 ~ 2346)
DTIM Interval :	10	(1 ~ 255)
Preamble Type :	long ▼	

SSID		
SSID :	D-Link DSL-2877AL	
Visibility Status :	⦿ Visible ○ Invisible	
User Isolation :	Off ▼	
Disable WMM Advertise :	On ▼	
Max Clients :	32	(1 ~ 32)

GUEST/VIRTUAL ACCESS POINT-1		
Enable :	☐	
Guest SSID :	D-Link DSL-2877AL_Gues	
Visibility Status :	⦿ Visible ○ Invisible	
User Isolation :	On ▼	
Disable WMM Advertise :	On ▼	
Max Clients :	32	(1 ~ 32)

GUEST/VIRTUAL ACCESS POINT-2	

MAC Filtering

This page is used to permit or block access to this router from host with MAC address contained in the **Access Control List**..

Step1   Choose the Wireless SSID to be configured.

Step2   Set the Access Control Mode, and click Submit.

☐   Disable: Disable the function of access control.

☐   Allow: Allow the specified wireless clients to connect the 2.4G wireless network of the 2877AL.

☐   Deny: Block the specified wireless clients to connect the 2.4G wireless network of the 2877AL.

Step3   Click Add. The page shown as the following figure appears.

Step4   Enter the MAC address of the PC to be filtered.

Step5   Enter the comment.

Step6   Click Apply to take the settings into effect.

Security Settings

In this page, you can set the security for the 2.4G wireless network of the 2877AL.

Step1   In the Select **SSID** drop-down list, select a SSID to be configured. For example: D-Link DSL-2877AL.

Step2   In the Work Mode drop-down list, select a security encryption mode for the 2.4G wireless network. It is recommended to select **WPA/WPA2 Mixed**. You'll see the following figure.

Step3   Configure the Work mode to be **WPA/WPA2 Mixed**.

☐   **Personal:** set the pre-shared key (password of your wireless network) in the Pre-Shared Key field.

☐   **Enterprise:** enter the port, IP address, and password of the Radius server. The wireless clients are required to enter the username and password provided by the Radius server.

Step4   In the **Encryption Mode** drop-down list, select TKIP+AES.

Step5   Set the Group Key Update Interval. For higher security, **WPA/WPA2 Mixed** password is updated periodically. This value is the update interval of the **WPA/WPA2 Mixed** password. You can keep it as default.

Step6   In **Pre-Shared Key** textbox, set the password for the 2.4G wireless network.

Step7   After setting, click **Submit** to take the settings into effect.The SSID is name of your WLAN. Try to avoid using standard term, e.g. WLAN, as SSID.

WPS Settings

This page is used to configure WPS settings.

Wireless SSID: The name of your wireless network.

Enabled WPS: To enable WPS function and be able to set the following settings.

Device PIN: Generate pin code.

Push Button: Press the button, the CPE will connect the station automaticlly.

Input Station PIN: You need to enter a pin which the Enrollee generated. Press the button to connect the other with the pin..

WPS

The WPS condition must be WPA-PSK or WPA2-PSK security mode , and the SSID should be broadcasted.

Wireless SSID : D-Link DSL-2877AL ▼

WI-FI PROTECTED SETUP CONFIG

☑ Enabled WPS

Device PIN : 39171993 [New PIN]

Generate Pin Status: [PIN]

Push Button : [PBC]

Input Station PIN : [   ] [PIN]

WPS Session Status :

[Apply] [Cancel]

WDS Settings

This page is used to configure WDS settings.

WIRELESS WDS SETTINGS

WDS Mode : ◯ Activated ⦿ Disactivated

WIRELESS MAC ADDRESS

WDS Peer Mac #1 : [   ]

WDS Peer Mac #2 : [   ]

WDS Peer Mac #3 : [   ]

WDS Peer Mac #4 : [   ]

[Save] [Cancel]

ALG

To access the **ALG** page, click on the **Advanced** menu link at the top, and then click on the **ALG** menu link on the left.

Port Forwarding

To access the **Port Forwarding** page, click on the **Advanced** menu link at the top, and then click on the **Port Forwarding** menu link on the left.

This function is used to open ports in your device and re-direct data through those ports to a single PC on your network (WAN-to-LAN traffic). It allows remote users to access services on your LAN, such as FTP for file transfers or SMTP and POP3 for e-mail. The device accepts remote requests for these services at your global IP address. It uses the specified TCP or UDP protocol and port number, and redirects these requests to the server on your LAN with the LAN IP address you specify. Note that the specified private IP address must be within the available range of the subnet where the device is in.

Click **Add** button and the right page appears.

Enter an IP address in the Server IP Address field, to appoint the corresponding PC to receive forwarded packets.

The Ports show the ports that you want to open on the device. The TCP/UDP means the protocol type of the opened ports.

Click **Apply** to save the settings.

Port Trigger

To access the **Port Trigger** page, click on the **Advanced** menu link at the top, and then click on the **Port Trigger** menu link on the left.

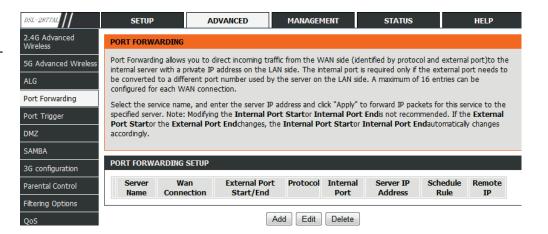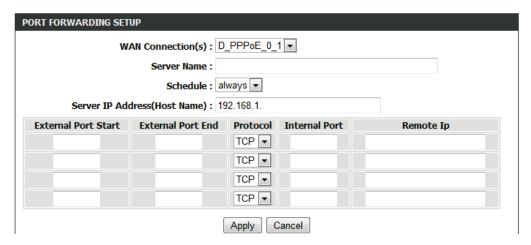Port Trigger let the device to open TCP or UDP port to access the connection from remote host when the specified port has been opened by lanside connection according to the rule. Usually the port which has been opened is different from the port which will be opened by the device.

PORT TRIGGER

Port Trigger let the device to open TCP or UDP port to access the connection from remote host when the specified port has been opened by lanside connection according to the rule. Usually the port which has been opened is different from the port which will be opened by the device. A maximum of 32 entries can be configured.

Select the service name, and fill the blanks of trigger port and new opened port. Rule can be enable or disable separately.

Enable Port Trigger ☑

Apply   Cancel

PORT TRIGGER SETUP

Service Name	Trigger Protocol	Trigger Port Range	Open Protocol	Open Port Range	status

Add   Edit   Delete

Click **Add** button.

Enter Service Name, choose Rule status, set the range of your trigger port and trigger Protocol, set the range of your Open Port and Open Protocol.

Click **Apply** to save the settings.

PORT TRIGGER SETUP

Remaining number of entries that can be configured: 32

Service Name :

Rule status : Enable ▼

Trigger Port Start	Trigger Port End	Trigger Protocol	Open Port Start	Open Port End	Open Protocol
		TCP ▼			TCP ▼

Apply   Cancel

DMZ

To access the **DMZ** page, click on the **Advanced** menu link at the top, and then click on the **DMZ** menu link on the left.

On this page the user can configure services related to the DMZ feature of this product.

DMZ is the abbreviation of the Demilitarized Zone. Since some applications are not compatible with NAT, the device supports the use of a DMZ IP address for a single host on the LAN. This IP address is not protected by NAT and it is visible to agents on the Internet with the correct type of software. Note that any client PC in the DMZ is exposed to various types of security risks. If you use the DMZ, take measures (such as client-based virus protection) to protect the remaining client PCs on your LAN from possible contamination through DMZ.

WAN Connection: Select the interface for the DMZ function.

Enable DMZ: Enable or disable the DMZ function.

DMZ Host IP Address: Enter the internal IP address for the DMZ function.

SAMBA

To access the **SAMBA** page, click on the **Advanced** menu link at the top, and then click on the **SAMBA** menu link on the left.

SAMBA enables the workstation in the network to share the USB flash disk connected to the 2877AL.

On this page the user can configure services related to the **SAMBA** feature of this product.

Enable SAMBA: Select the check box to enable the samba service.

Workgroup: Enter the name of your local area network (LAN).

Netbios Name: Enter your netbios name which is an identifier used by netbios services running on a computer.

New SMB password: Enter your samba password for user root.

Retype new SMB password: Reconfirm your samba password here.

Enable USB Storage: Select the check box to support USB storage.

Enable Anonymous Access: Select the check box to allow anonymous users access.

Parental Control

To access the **Parental Control** page, click on the **Advanced** menu link at the top, and then click on the **Parental Control** menu link on the left.

On this page the user can configure services related to the **Parental Control** feature of this product.

This page provides two useful tools for restricting the Internet access. **Websites Filter** allows you to quickly create a list of all websites that you wish to stop users from accessing. **MAC Filter** allows you to control when clients or PCs connected to the device are allowed to access the Internet.

Services available for configuration are the following:

- Website Filter
- MAC Filter

Website Filter

In the above page, click Website Filter button and the right page appears.

In the page, you can choose **Access Control Mode** and click **Apply** button to scan **website filter list** of the deny mode or allow mode you set.

Step1 Set the Access Control Mode.

☐   Deny: Block the access to that website.

☐   Allow: Only allowed the access to that website.

Step2 Click Add.

WEBSITE FILTER

Create a list of websites that you would like the devices on your network to be allowed or denied access to.

WEBSITE FILTER

Access Control Mode : Deny ▾

Apply   Cancel

WEBSITE FILTER LIST

URL	Schedule

Add   Edit   Delete

Step3 Enter the website in the URL field.

Step4 Select the corresponding time and days.

Step5 Click Apply.

WEBSITE FILTER

Access Control Mode : Allow ▾

WEBSITE FILTER LIST

URL	Schedule

Add   Edit   Delete

ADD SCHEDULE RULE

URL : http://

Day(s) : ⦿ All Week ◯ Select Day(s)

☑ Sun ☑ Mon ☑ Tue ☑ Wed

☑ Thu ☑ Fri ☑ Sat

All Day - 24 hrs : ☑

Start Time : 00 : 00 (hour:minute, 24 hour time)

End Time : 00 : 00 (hour:minute, 24 hour time)

Apply   Cancel

MAC Filter

In the **Parental Control** page, click MAC Filter button to go into MAC Filter page. Choose **BLACK_LIST** or **WHITE_LIST** and then click **Add**.

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BLOCK MAC ADDRESS

Time of Day Restrictions -- A maximum of 16 entries can be configured

This page adds a time of day restriction to a special LAN device connected to the router. The "Current PC's MAC Address" a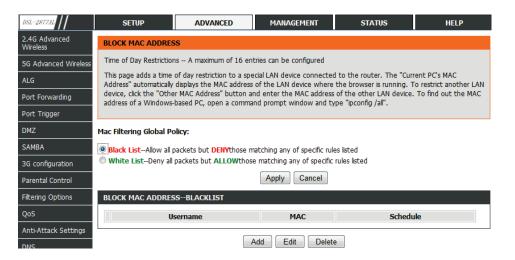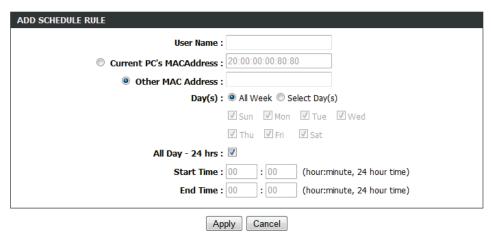utomatically displays the MAC address of the LAN device where the browser is running. To restrict another LAN device, click the "Other MAC Address" button and enter the MAC address of the other LAN device. To find out the MAC address of a Windows-based PC, open a command prompt window and type "ipconfig /all".

Mac Filtering Global Policy:

◉ Black List--Allow all packets but **DENY** those matching any of specific rules listed

○ White List--Deny all packets but **ALLOW** those matching any of specific rules listed

[Apply] [Cancel]

BLOCK MAC ADDRESS--BLACKLIST

Username	MAC	Schedule

[Add] [Edit] [Delete]

Left navigation menu:
- 2.4G Advanced Wireless
- 5G Advanced Wireless
- ALG
- Port Forwarding
- Port Trigger
- DMZ
- SAMBA
- 3G configuration
- Parental Control
- Filtering Options
- QoS
- Anti-Attack Settings
- DNS

Enter the Use Name and MAC address and select the corresponding time and days. Click **Apply** to add the MAC address.

ADD SCHEDULE RULE

User Name : [   ]

○ Current PC's MACAddress : [20:00:00:00:80:80]

◉ Other MAC Address : [   ]

Day(s) : ◉ All Week ○ Select Day(s)

☑ Sun ☑ Mon ☑ Tue ☑ Wed

☑ Thu ☑ Fri ☑ Sat

All Day - 24 hrs : ☑

Start Time : [00] : [00] (hour:minute, 24 hour time)

End Time : [00] : [00] (hour:minute, 24 hour time)

[Apply] [Cancel]

Filter Options

To access the **Filtering Options** page, click on the **Advanced** menu link at the top, and then click on the **Filtering Options** menu link on the left.

On this page the user can configure services related to the **Filtering Options** feature of this product.

This page provides two useful tools for restricting the Internet access. **Websites Filter** allows you to quickly create a list of all websites that you wish to stop users from accessing. **MAC Filter** allows you to control when clients or PCs connected to the device are allowed to access the Internet.

Services available for configuration are the following:

- IPv4 Filtering
- IPv6 Filtering

IPv4 Filtering

In this page, you may configure IPv4 firewall function.

Step1 Select Enable IP Filter.

Step2 Set the Security Level.

Low: the filter mode will be set to Black at both directions.

Middle: the filter mode will be set to White at WAN→LAN direction, Black at LAN→WAN direction.
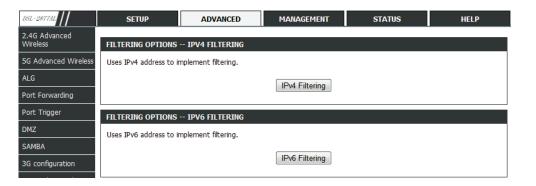
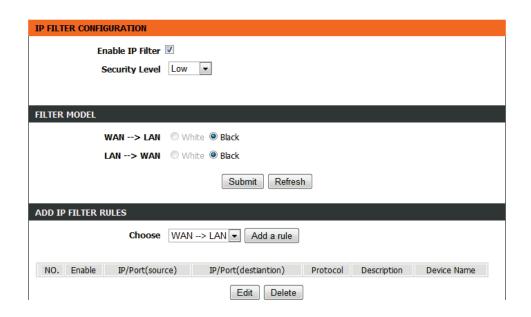High: the filter mode will be set to White at both directions.

Step3 Choose the filter model and click Add a rule. There are two Filter Models: WAN→LAN and LAN→WAN.

WAN→LAN: The data transmission direction is from WAN to LAN.

LAN→WAN: The data transmission direction is from LAN to WAN.

Step4   In the Connection drop-down list, select the connection you are using.

Click Enable.

Step5   In Protocol drop-down list, select the connection protocol according to the connection you are using.

Step6   In Source IP and Source Mask and Source Port textbox, input the corresponding information of the sending interface.
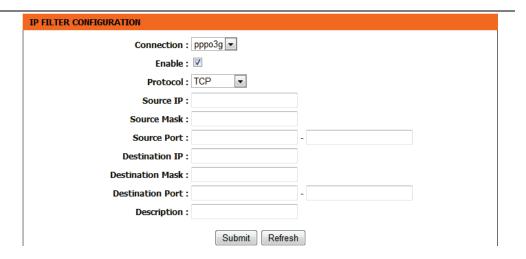
Step7   In Destination IP and Destination Mask and Destination Port textbox, input the corresponding information of the receiving interface.
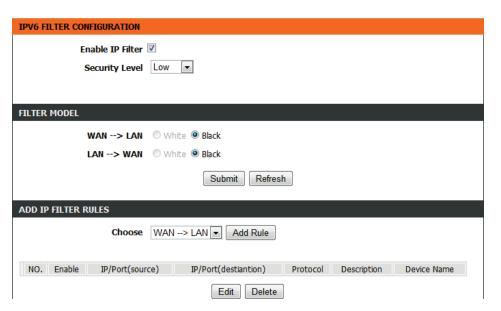
Step8   In the Description textbox, set a name for this filter rule.

Step9   After setting, click Submit.

IP FILTER CONFIGURATION

Connection : pppo3g
Enable : ☑
Protocol : TCP
Source IP :
Source Mask :
Source Port :   -
Destination IP :
Destination Mask :
Destination Port :   -
Description :

Submit   Refresh

IPv6 Filtering

In this page, you may configure IPv6 firewall function.

IPV6 FILTER CONFIGURATION

Enable IP Filter ☑
Security Level Low

FILTER MODEL

WAN --> LAN   ○ White ◉ Black
LAN --> WAN   ○ White ◉ Black

Submit   Refresh

ADD IP FILTER RULES

Choose   WAN --> LAN   Add Rule

NO.	Enable	IP/Port(source)	IP/Port(destiantion)	Protocol	Description	Device Name

Edit   Delete

QOS

To access the **QOS** page, click on the **Advanced** menu link at the top, and then click on the **QOS** menu link on the left.

On this page the user can configure services related to the QOS feature of this product.

Quality of Service is a feature that allows you to allocate or guarantee the throughput or speed of Internet for certain computers.

QoS: Choose the box to enable the QOS.

Direction: Choose **Upstream** queue or **Downstream** queue.

Queue Enable: Tick in the box to enable queue.

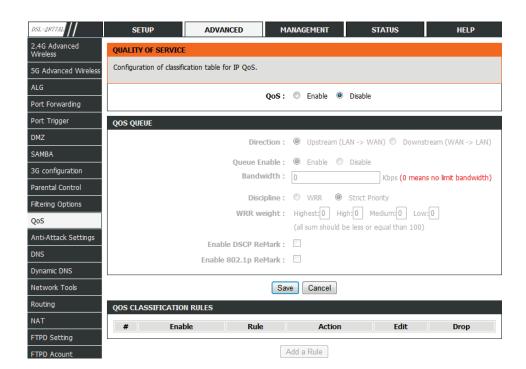**Bandwidth:** Total bandwidth for upstream flow.

Discipline: Discipline type of QOS.

WRR weight: When Discipline was chosen to WRR, you can config WRR.

Enable DSCP Mark: You may tick in the box to permit DSCP Mark.

Enable 802.1P Mark: You may tick in the box to permit 802.1P Mark.

After setting the parameters, click Save to save the QOS configuration.

In this page, click **Add** Rule. The page shown in the figure appears on the right. You can configure **QoS** queue rule.

In the page, you can configure QoS queue rule.

Classify Type: Set the QoS rule type as **Upstream Flow Classification**.

Actions: Select **Enable** to enable this QoS rule.

Physical Ports: Based on the Classify Type, choose a WAN/LAN interface.

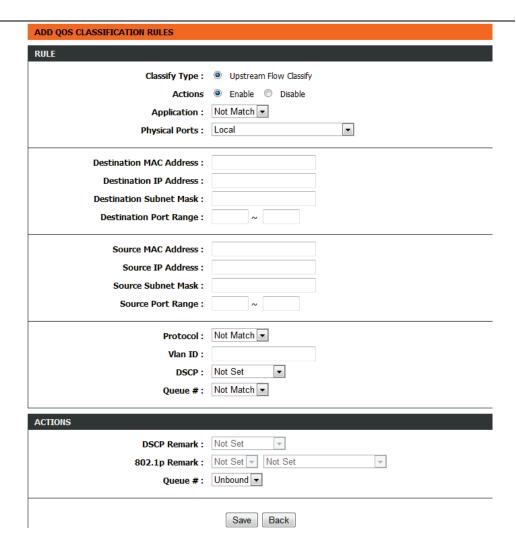**Source/ Destination port range:** Input a source port range and a destination port. range. For example, input a UDP/TCP port range.

Protocol: Choose a protocol type matching with the QoS rule.

DSCP: Choose a matched DSCP type.

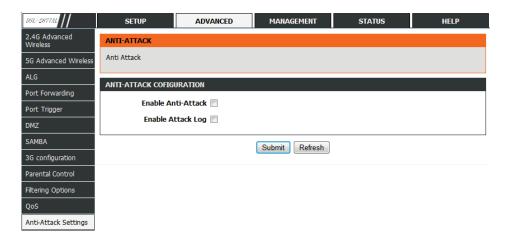**802.1P:** Choose a matched 802.1P VLAN priority.

After setting, click **Save** to save the settings.

ADD QOS CLASSIFICATION RULES

RULE

Classify Type :	⦿ Upstream Flow Classify
Actions	⦿ Enable ○ Disable
Application :	Not Match ▾
Physical Ports :	Local ▾

Destination MAC Address :	
Destination IP Address :	
Destination Subnet Mask :	
Destination Port Range :	~

Source MAC Address :	
Source IP Address :	
Source Subnet Mask :	
Source Port Range :	~

Protocol :	Not Match ▾
Vlan ID :	
DSCP :	Not Set ▾
Queue # :	Not Match ▾

ACTIONS

DSCP Remark :	Not Set ▾
802.1p Remark :	Not Set ▾ Not Set ▾
Queue # :	Unbound ▾

Save   Back

Anti-Attack Settings

To access the **Firewall** page, click on the **Advanced** menu link at the top, and then click on the **Firewall** menu link on the left.

On this page the user can configure services related to the Firewall feature of this product.

Select **Enable Anti-Attack**, the page shown in the right figure appears.

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

Port scan protection is designed to block attempts to discover vulnerable ports or services that might be exploited in an attack from the WAN.

Click Submit to save the settings.

ANTI-ATTACK COFIGURATION

Enable Anti-Attack ☑
Enable Attack Log ☐

INDIVIDUAL PROTECTION SWITCH

☑ Enable SYN Attack Protection,Max SYN Connections Per Second:

50 (Peer/Second)

☑ Enable Attack Protection Function of Fragglen

☑ Enable Attack Protection Function of Echo Chargen

☑ Enable Attack Protection Function of IP Land

☑ Enable Protection of Anti PortScan

ANTI INVALID PACKETS SWITCH

☑ TCP Flags: Set "SYN FIN"

☑ TCP Flags: Set "SYN RST"

☑ TCP Flags: Set "FIN RST"

☑ TCP Flags: Unset "ACK", Set "FIN"

☑ TCP Flags: Unset "ACK", Set "PSH"

☑ TCP Flags: Unset "ACK", Set "URG"

☑ TCP Flags: Unset "SYN ACK FIN RST URG PSH"

☑ TCP Flags: Set "SYN ACK FIN RST URG PSH"

☑ TCP Flags: Unset "PSH", Set "SYN ACK FIN RST URG"

☑ TCP Flags: Unset "SYN ACK RST URG PSH", Set "FIN"

☑ TCP Flags: Unset "SYN ACK RST", Set "FIN URG PSH"
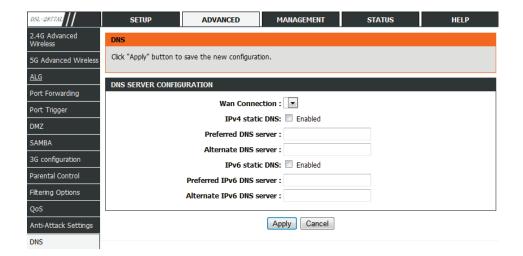
[Submit] [Refresh]

DNS

To access the **DNS** page, click on the **Advanced** menu link at the top, and then click on the **DNS** menu link on the left.

On this page the user can configure services related to the Firewall feature of this product.

Domain name system (**DNS**) is an Internet service that translates domain names into IP addresses. Because domain names are alphabetic, they are easier to remember. The Internet, however, is actually based on IP addresses. Each time you use a domain name, a DNS service must translate the name into the corresponding IP address. For example, the domain name www.example.com might be translated to 198.105.232.4.

The DNS system is, in fact, its own network. If one DNS server does not know how to translate a particular domain name, it asks another one, and so on, until the correct IP address is returned.

If you are using the device for DHCP service on the LAN or using DNS servers on the ISP network, select IPv4 static DNS and enter these IP addresses in the available entry fields for the preferred DNS server and the alternate DNS server.

Click Apply to save the settings.

Dynamic DNS

To access the **Dynamic DNS** page, click on the **Advanced** menu link at the top, and then click on the **Dynamic DNS** menu link on the left.

On this page the user can configure services related to the Dynamic DNS feature of this product.

he device supports dynamic domain name service (DDNS). The dynamic DNS service allows a dynamic public IP address to be associated with a static host name in any of the many domains, and allows access to a specified host from various locations on the Internet. Click a hyperlinked URL in the form of hostname.dyndns.org and allow remote access to a host. Many ISPs assign public IP addresses using DHCP, so locating a specific host on the LAN using the standard DNS is difficult. For example, if you are running a public web server or VPN server on your LAN, DDNS ensures that the host can be located from the Internet even if the public IP address changes. DDNS requires that an account be set up with one of the supported DDNS service providers (DyndDNS.org or dlinkddns.com).
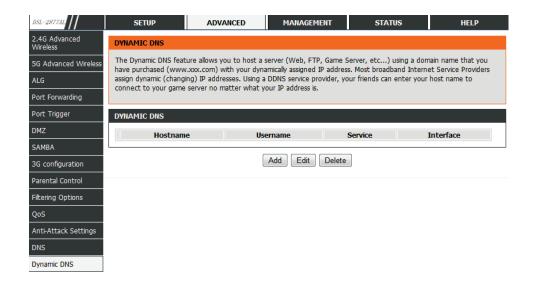
Click **Add** to add dynamic DNS. The page shown in the right figure appears.I

DDNS provider: Select one of the DDNS registration organizations from the down-list drop.

Host Name: Enter the host name that you registered with your DDNS service provider.

Username: Enter the user name for your DDNS account.

Password: Enter the password for your DDNS account.

Click **Apply** to save the settings.

Network Tools

To access the **Network Tools** page, click on the **Advanced** menu link at the top, and then click on the **Network Tools** menu link on the left.

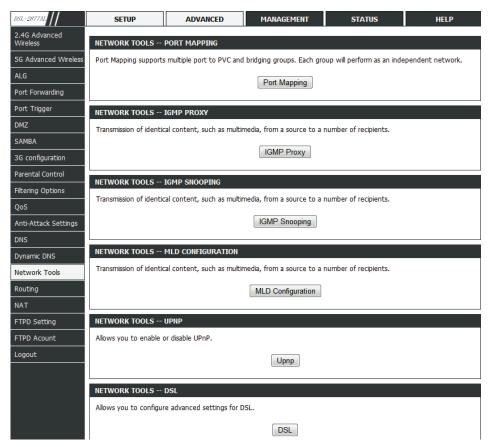On this page we can use various Network tools to set up and administer the network.

Services available for configuration are the following:

- [Port Mapping](#)
- [IGMP Proxy](#)
- [IGMP Snooping](#)
- [MLD Configuration](#)
- [Upnp](#)
- [DSL](#)

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FTPD Acount
Logout

NETWORK TOOLS -- PORT MAPPING

Port Mapping supports multiple port to PVC and bridging groups. Each group will perform as an independent network.

Port Mapping

NETWORK TOOLS -- IGMP PROXY

Transmission of identical content, such as multimedia, from a source to a number of recipients.

IGMP Proxy

NETWORK TOOLS -- IGMP SNOOPING

Transmission of identical content, such as multimedia, from a source to a number of recipients.

IGMP Snooping

NETWORK TOOLS -- MLD CONFIGURATION

Transmission of identical content, such as multimedia, from a source to a number of recipients.

MLD Configuration

NETWORK TOOLS -- UPNP

Allows you to enable or disable UPnP.

Upnp

NETWORK TOOLS -- DSL

Allows you to configure advanced settings for DSL.

DSL

Port Mapping

In this page, you can bind the WAN interface and the LAN interface to the same group.
Click **Add** to add port mapping.

PORT MAPPING SETUP

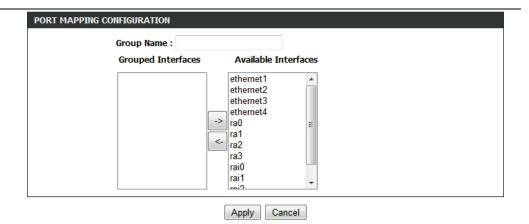|	Group Name	Interfaces
☐	Lan1	ethernet1,ethernet2,ethernet3,ethernet4,ra0,ra1,ra2,ra3,rai0,rai1,ra...

Add   Edit   Delete

The procedure for creating a mapping group is as follows:
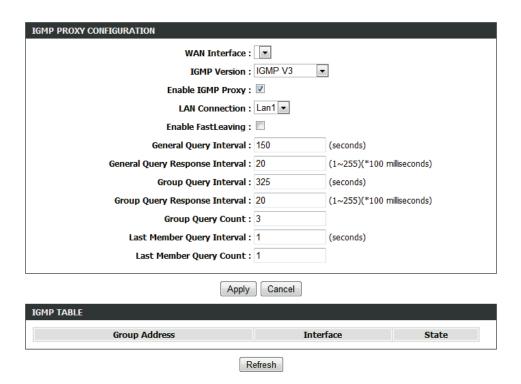
Step1   Enter the group name.

Step2   Select interfaces from the Available Interface list and click the <- arrow button to add them to the grouped interface list, in order to create the required mapping of the ports. The group name must be unique.

Step3   Click Apply to save the settings.

PORT MAPPING CONFIGURATION

Group Name :

Grouped Interfaces   Available Interfaces

ethernet1
ethernet2
ethernet3
ethernet4
->   ra0
ra1
<-   ra2
ra3
rai0
rai1

Apply   Cancel

IGMP Proxy

IGMP proxy enables the system to issue IGMP host messages on behalf of hosts that the system discovered through standard IGMP interfaces. The system acts as a proxy for its hosts after you enable it.

IGMP PROXY CONFIGURATION

WAN Interface :

IGMP Version : IGMP V3

Enable IGMP Proxy : ☑

LAN Connection : Lan1

Enable FastLeaving : ☐

General Query Interval : 150   (seconds)

General Query Response Interval : 20   (1~255)(*100 milliseconds)

Group Query Interval : 325   (seconds)

Group Query Response Interval : 20   (1~255)(*100 milliseconds)

Group Query Count : 3

Last Member Query Interval : 1   (seconds)

Last Member Query Count : 1

Apply   Cancel

IGMP TABLE

Group Address	Interface	State

Refresh

IGMP Snooping

When IGMP Snooping is enabled, the multicast data transmits through the specific LAN port which has received the request report.

IGMP

Transmission of identical content, such as multimedia, from a source to a number of recipients.

IGMP SETUP

Enabled : ☐
Last Member Query Interval : 200000
Host Timeout : 3000000
Mrouter Timeout : 1
Leave Timeout : 0
Max Groups : 100

Apply   Cancel

MLD Configuration

Enable MLD proxy and choose WAN connection if you wan to use the function, and Enable Mld Snooping if necessary.

MLD SETTINGS

This section allows you to configure the MLD Setup settings of your Router . Please note that this section is optional and you should not need to change any of the settings here to get your network up and running.

MLD PROXY

☐ Enable Mld Proxy
WAN Connection : [▼]
Enable FastLeaving : ☐
Query Interval : 125   (s)
Query Response Interval: 100   (1/10s)
Last Member Query Interval : 1   (1/10s)

MLD SNOOPING

☐ Enable Mld Snooping

Apply   Cancel

UPnP

In this page, you can configure universal plug and play (UPnP). The system acts as a daemon after you enable UPnP.

UPnP is used for popular audio visual software. It allows automatic discovery of your device in the network. If you are concerned about UPnP security, you can disable it. Block ICMP ping should be enabled so that the device does not respond to malicious Internet requests.

Check the box to Enable UPnP if you wan to use the UPnP function.

UPNP

Universal Plug and Play (UPnP) supports peer-to-peer Plug and Play functionality for network devices.

UPNP SETUP

☑ **Enable UPnP**

Apply   Cancel

DSL

In this page, it is recommended to keep it as defaults. The device negotiates the modulation mode with DSLAM.

Click **Apply** to save the settings.

DSL SETTINGS

This page is used to configure the DSL settings of your DSL router. You need to disable DSL before you change the DSL mode.

DSL SETTINGS

xDSL Mode : Auto Sync-Up ▼

xDSL Type : ANNEX A/I/J/L/M ▼

Apply

Routing

To access the **Routing** page, click on the **Advanced** menu link at the top, and then click on the **Routing** menu link on the left.

On this page we can use various **Routing** to set up and administer the network.

Services available for configuration are the following:

- Static Route
- IPv6 Static Route
- Policy Route
- RIP Settings
- RIPng Settings

Static Route

This page is used to configure the routing information. In this page, you can add or delete IP routes.

Click **Add** to add a static route.

Destination Network Address: The destination IP address of the route.

Subnet Mask: The subnet mask of the destination IP address.

Use Gateway IP Address: The gateway IP address of the route.

Use Interface: The interface name of the static route.
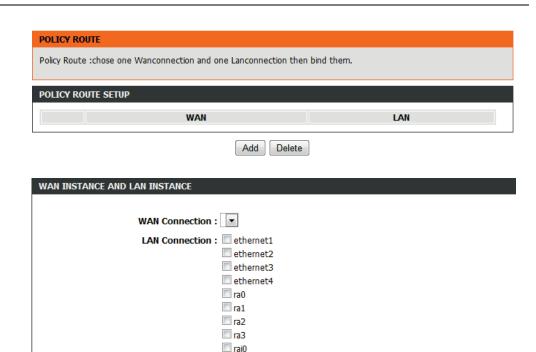

Click **Apply** to save the settings.

IPv6 Static Route

This page is used to configure the routing information. In this page, you can add or delete IP routes.

Click **Add** to add a static route.

Destination Network Address: The destination IP address of the static route.

Use Gateway IP Address: The gateway IP address of the static route.

Use Interface: The interface name of the static route.

Click Apply to save the settings.

Policy Route

The policy route binds one WAN connection and one LAN interface.

POLICY ROUTE

Policy Route :chose one Wanconnection and one Lanconnection then bind them.

POLICY ROUTE SETUP

	WAN	LAN

Add   Delete

Click **add**, the page shown in the right figure appears. Choose one WAN connection and at least one LAN connection to bind together, and then click **Apply** to finish the settings.

WAN INSTANCE AND LAN INSTANCE

WAN Connection : [▼]

LAN Connection : ☐ ethernet1
☐ ethernet2
☐ ethernet3
☐ ethernet4
☐ ra0
☐ ra1
☐ ra2
☐ ra3
☐ rai0
☐ rai1
☐ rai2
☐ rai3

Apply   Cancel

RIP

This page is used to select the interfaces on your device that use RIP and the version of the protocol used.

If you are using this device as a RIP-enabled device to communicate with others using the routing information protocol, enable RIP and click **Apply** to save the settings.
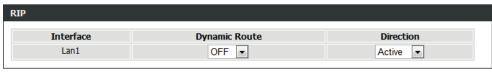
RIP CONFIGURATION

To activate RIP for the device, select the "Enabled" checkbox for Global RIP Mode. To configure an individual interface, select the desired RIP version and operation, followed by placing a check in the "Enabled" checkbox for the interface. Click the "Apply" button to save the configuration, and to start or stop RIP based on the Global RIP Mode selected.

RIP

Interface	Dynamic Route	Direction
Lan1	OFF ▾	Active ▾

Apply   Cancel

RIPng

In this page, you may choose an interface and active RIPng for it.

Click **Apply** to save the settings.

RIPNG CONFIGURATION

To activate RIPng for the interface, place a check in the "Enabled" checkbox for the interface. Click the "Apply" button to save the configuration, and to start or stop RIPng based on the configuration.
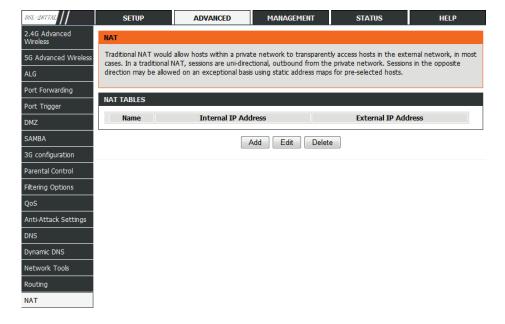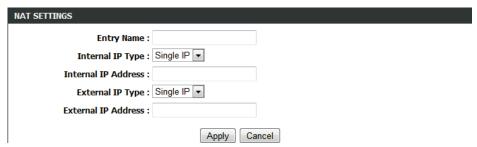
RIPNG

Interface	VPI/VCI	Enabled

Apply   Cancel

NAT

To access the **NAT** page, click on the **Advanced** menu link at the top, and then click on the **NAT** menu link on the left.

On this page the user can configure services related to the **NAT** feature of this product.

Traditional NAT would allow hosts within a private network to transparently access hosts in the external network, in most cases. In a traditional NAT, sessions are uni-directional, outbound from the private network. Sessions in the opposite direction may be allowed on an exceptional basis using static address maps for pre-selected hosts.

In this page, you are allowed to add, edit or remove a virtual server entry.

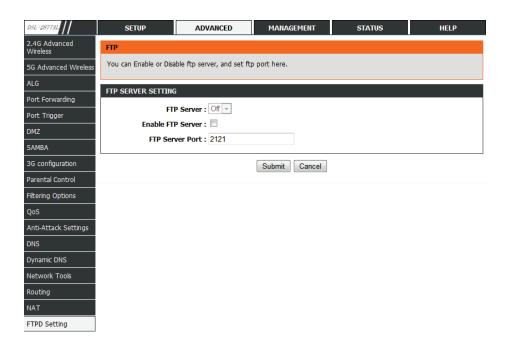Click **Add** to add an NAT server.

FTPD Setting

To access the **FTPD Setting** page, click on the **Advanced** menu link at the top, and then click on the **FTPD Setting** menu link on the left.
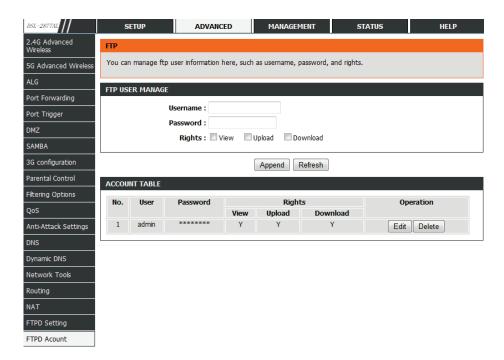
On this page the user can configure services related to the FTPD Setting feature of this product.

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| DNS |
| Dynamic DNS |
| Network Tools |
| Routing |
| NAT |
| FTPD Setting |

FTP

You can Enable or Disable ftp server, and set ftp port here.

FTP SERVER SETTING

FTP Server : Off

Enable FTP Server : ☐

FTP Server Port : 2121

Submit Cancel

FTPD Account

To access the **FTPD Account** page, click on the **Advanced** menu link at the top, and then click on the **FTPD Account** menu link on the left.

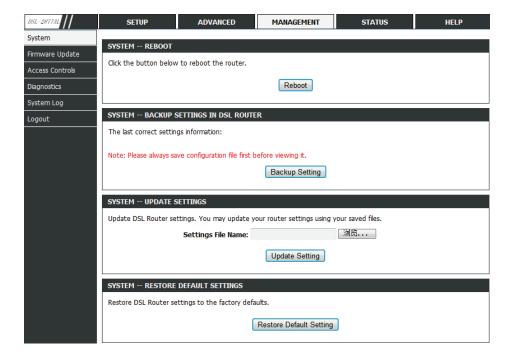On this page the user can configure services related to the FTPD Account of this product.

Logout

To access the **Logout** page, click on the **Advanced** menu link at the top, and then click on the **Logout** menu link on the left.

On this page the user can configure services related to the Logout of this product.

LOGOUT

Logging out will return to the login page.

Logout

Management

The **Management** is designed to assist the user with **Management** configurations for this product.

The following pages can be found in the **Management** menu:

- [System] - On this page the user can configure services related to the System feature of this product.
- [Firmware Update] - On this page the user can update software.
- [Access Controls] - On this page the user can configure services related to Access Controls feature of this product.
- [Diagnostics] - On this page the user can configure services related to the diagnostics feature of this product.
- [System Log] - On this page the user can configure system log.
- [Logout] - On this page the user can logout to return to the login page.

System

To access the **System** page, click on the **Management** menu link at the top, and then click on the **System** menu link on the left.

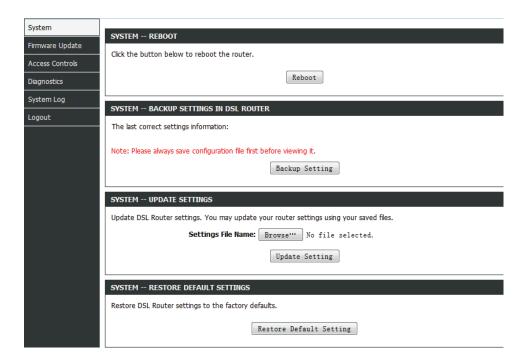On this page we can configure the System settings of this router.

In this page, you can reboot device, back up the current settings to a file, update settings from the file saved previously and restore the factory defaults.

Reboot: Click this button to reboot the device.

Backup Setting: Click this button to save the settings to the local hard drive. Select a location on your computer to back up the file. You can name the configuration file.

Update setting: Click Browse to select the configuration file of device and then click Update Settings to begin updating the device configuration.

Restore Default Setting: Click this button to reset the device to default settings.

Firmware Update

To access the **Firmware Update** page, click on the **Management** menu link at the top, and then click on the **Firmware Update** menu link on the left.

On this page you can upgrade the firmware of the device.

To update the firmware, take the following steps.

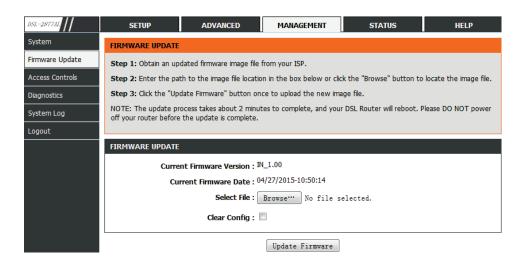**Step1**   Click Browse…to find the file.

Step2   Select Click Config.

Step3   Click Update Firmware to copy the file.

The device loads the file and reboots automatically.

Note:

Do not turn off your device or press the Reset button while an operation in this page is in progress.

Access Controls

To access the **Access Controls** page, click on the **Management** menu link at the top, and then click on the **Access Controls** menu link on the left.
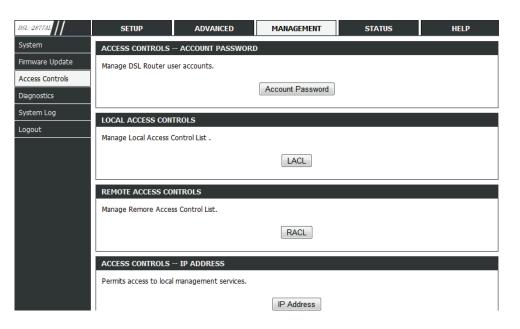
Services available for configuration are the following:
- [Account Password](#)
- [LACL](#)
- [RACL](#)
- [IP Address](#)

Account Password

The page shown in the right figure appears. In this page, you can change the password of the user and set time for automatic logout.

You should change the default password to secure your network. Ensure that you remember the new password or write it down and keep it in a safe and separate location for future reference. If you forget the password, you need to reset the device to the factory default settings and all configuration settings of the device are lost.

Enter the current and new passwords and confirm the new password to change the password. Click **Apply** to apply the settings.

Local Access Control

In this page, you can enable or disable the services for lanside. For example, if telnet service is enabled and port is 23, the lanside host can access the device by telnet through port 23. Normally, you need not change the settings.

Select the management services that you want to enable or disable on the LAN or WAN interface. Click **Apply** to apply the settings.

Note:

If you disable HTTP service, you cannot access the configuration page of the device any more.

LOCAL ACCESS CONTROL

You can set a service control list (SCL) to enable or disable services from being used.

LOCAL ACCESS CONTROL -- SERVICES

Enable Local Access : ☑

Choose A Connection : Lan1 ▼

IPV4 ACL

Service	Enable	Source IP	Source Mask	Protocol	Port
FTP	☐	0.0.0.0	0.0.0.0	TCP	21
HTTP	☑	0.0.0.0	0.0.0.0	TCP	80
ICMP	☑	0.0.0.0	0.0.0.0	ICMP	-
SNMP	☐	0.0.0.0	0.0.0.0	UDP	161
SSH	☐	0.0.0.0	0.0.0.0	TCP	22
TELNET	☐	0.0.0.0	0.0.0.0	TCP	23
TFTP	☐	0.0.0.0	0.0.0.0	UDP	69
DNS	☑	0.0.0.0	0.0.0.0	UDP	53

Submit   Refresh

Remote Access Control

This page allows you to enable or disable WAN management services.

REMOTE ACCESS CONTROL

You can set a service control list (SCL) to enable or disable services from being used.

REMOTE ACCESS CONTROL -- SERVICES

Choose A Connection D_PPPoE_0_1 ▼

IPV4 ACL

Service	Enable	Source IP	Source Mask	Protocol	Destination Port
ICMP	☐	0.0.0.0	0.0.0.0	ICMP	0
FTP	☐	0.0.0.0	0.0.0.0	TCP	2121
HTTP	☐	0.0.0.0	0.0.0.0	TCP	8080
SSH	☐	0.0.0.0	0.0.0.0	TCP	22
TELNET	☐	0.0.0.0	0.0.0.0	TCP	23
TFTP	☐	0.0.0.0	0.0.0.0	UDP	69
DNS	☐	0.0.0.0	0.0.0.0	UDP	53

Submit   Refresh

IP Address

In this page, you can configure the IP address for access control list (ACL). If ACL is enabled, only devices with the specified IP addresses can access the device.

Click **Add** button to add an IP address to the IP list.
Note:
If you enable the ACL, ensure that IP address of the host is in the ACL list.

IP ADDRESS

The IP Address Access Control mode, if enabled, permits access to local management services from IP addresses contained in the Access Control List. If the Access Control mode is disabled, the system will not validate IP adresses for incoming packets. The services are the system applications listed in the Service Control List.

Enter the IP address of the management station permitted to access the local management services, and click "Apply".
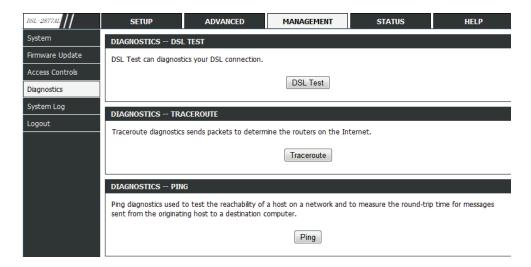
ACCESS CONTROL -- IP ADDRESSES

☐ **Enable Access Control Mode**

	IP

Add   Delete

Diagnosis

To access the **Diagnosis** page, click on the **Management** menu link at the top, and then click on the **Diagnosis** menu link on the left.

Services available for configuration are the following:

- [DSL Test](#)
- [Traceroute](#)
- [Ping](#)

DSL Test

In this page, you can test your DSL connection.

Click **Run Diagnostic Tests**.

After testing, the right figure appears.

Traceroute

In this page, you can determine the routers on the Internet by sending packets.

TRACEROUTE DIAGNOSIS

Traceroute diagnostics sends packets to determine the routers on the Internet.

Protocol : IPV4

Host : 8.8.8.8

Max TTL : 30 (1-64)

Wait times : 5000 (>1ms)

Traceroute | Stop

RESULT

Ping

In this page, you can ping the host on the Internet by sending packets.

PING DIAGNOSIS

Ping diagnostics used to test the reachability of a host on a network and to measure the round-trip time for messages sent from the originating host to a destination computer.

Protocol : IPV4

Host : 8.8.8.8

Number of retries : 5

Timeout : 1

Packet Size : 56

WAN Connection : D_PPPoE_0_1

Ping...

RESULT

System Log

To access the **System Log** page, click on the **Management** menu link at the top, and then click on the **System Log** menu link on the left.

This page displays event log data in the chronological manner. You can read the event log from the local host or send it to a system log server. Available event severity levels are as follows: Emergency, Alert, Critical, Error, Warning, Notice, Informational and Debugging. In this page, you can enable or disable the system log function.

To log the events, take the following steps.

Step1   Select Enable Log check box.

Step2   Select the display mode from the Mode drop-down list.

Step3   Enter the Server IP Address and Server UDP Port if the Mode is set to Both or Remote.

Step4   Click Apply to apply the settings.

Step5   Click View System Log to view the detail information of system log.

Logout

To access the **Logout** page, click on the **Management** menu link at the top, and then click on the **Logout** menu link on the left.

In this page, you can log out of the configuration page.

Status

The **Status** is designed to assist the user with information display pages, concerning the configuration and behavior of this product.

The following pages can be found in the **Status**:

- Device Info - On this page we can view device info about this router.
- Wireless Clients - On this page we can view wireless clients.
- DHCP Clients - On this page we can view dhcp clients.
- Logs - On this page we can view logs of this router.
- Statistics - On this page we can view statistics data about this router.
- Route Info - On this page we can view route info about this router.
- Logout - On this page we can logout to return to the login page.

Device Info

To access the **Device Info** page, click on the **Status** menu link at the top, and then click on the **Device Info** menu link on the left.

This page displays the current information for the device.

In this section, we can view system info and internet info about this router.

SYSTEM INFO	
Modem Name :	DSL-2877AL
Serial Number :	001ee39f652b
Time and Date :	2013-11-11 13:12
HardwareVersion :	T1
Firmware Version :	IN_1.00
System Up Time :	01:02:18

INTERNET INFO

Internet Connection Status : [▼]

IP Protocol: [▼]

Internet Connection Status:	
Wan service type:	
IP Address:	
Sub Mask:	
Default Gateway:	
DNS Server:	
Status :	N/A
Address/PrefixLength :	N/A
GateWay :	N/A
Prefix Info :	N/A
DNS Server:	N/A

Enabled WAN Connections :

VPI/VCI	Service Name	Protocol	IGMP

In this section, we can view wireless info and storage device information.

WIRELESS INFO

Select Wireless : D-Link DSL-2877AL ▼

MAC Address:	00:1E:E3:9F:65:34
Status:	Enable
Network Name (SSID):	D-Link DSL-2877AL
Visibility:	Visible
Security Mode:	None

STORAGE DEVICE INFORMATION

MAC Address:	00:1E:E3:9F:65:2B
IP Address:	192.168.1.1
Subnet Mask:	255.255.255.0
DHCP Server:	Enable

STORAGE DEVICE INFORMATION

Volumename	FileSystem	Total Space (MB)	Used Space (MB)

Wireless Clients

To access the **Wireless Clients** page, click on the **Status** menu link at the top, and then click on the **Wireless Clients** menu link on the left.

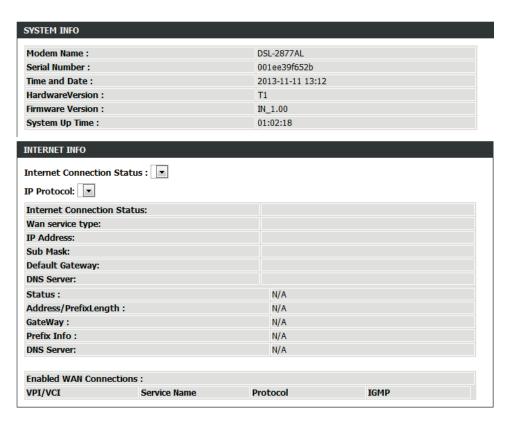In this page, we can view authenticated wireless stations and their status.
.

DHCP Clients

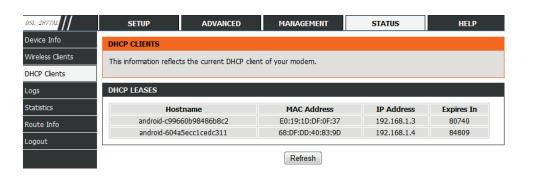To access the **DHCP Clients** page, click on the **Status** menu link at the top, and then click on the **DHCP Clients** menu link on the left.
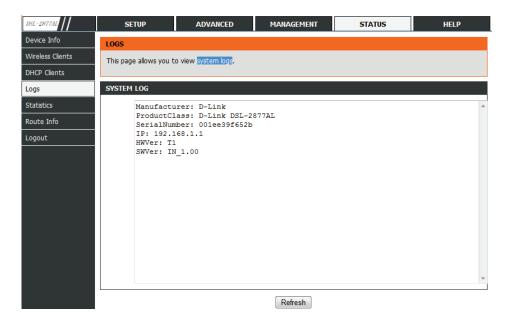
In this page, we can view the current DHCP client of your modem.

Logs

To access the **Logs** page, click on the **Status** menu link at the top, and then click on the **Logs** menu link on the left.

In this page, we can view the system logs.

`

Statistics

To access the **Statistics** page, click on the **Status** menu link at the top, and then click on the **Statistics** menu link on the left.

The Statistics page displays all of the LAN, WAN, Wireless packet transmit and receive statistics and DSL statistics.

Device Info	
Wireless Clients	
DHCP Clients	
Logs	
Statistics	
Route Info	
Logout	

DEVICE INFO

This information reflects the current status of your all connection.

LOCAL NETWORK & WIRELESS

Interface	Received				Transmitted			
	Bytes	Pkts	Errs	Rx drop	Bytes	Pkts	Errs	Tx drop
LAN3	749679	5217	0	0	1667018	6639	0	0
D-Link DSL-2877AL	19147	206	0	0	12070	107	0	0
D-Link DSL-2877AL_5G	0	0	0	0	0	0	0	0

INTERNET

Service	VPI/VCI	Protocol	Received				Transmitted			
			Bytes	Pkts	Errs	Drops	Bytes	Pkts	Errs	Drops

ADSL

Status:	Disabled
Mode:	N/A
Traffic Type:	N/A
Line Coding:	N/A
Up Time:	N/A

	Downstream	Upstream
SNR Margin (0.1dB):	N/A	N/A
Attenuation (0.1dB):	N/A	N/A
Output Power (dBm):	N/A	N/A
Attainable Rate (Kbps):	N/A	N/A
Rate (Kbps):	N/A	N/A
D (interleave depth):	N/A	N/A
Delay (msec):	N/A	N/A
Data Counter:	N/A [Clear]	N/A [Clear]
HEC Errors:	N/A	N/A
OCD Errors:	N/A	N/A
LCD Errors:	N/A	N/A
CRC Errors:	N/A	N/A
FEC Errors:	N/A	N/A
Total ES	N/A	N/A

Route Info

To access the **Router Info** page, click on the **Status** menu link at the top, and then click on the **Router Info** menu link on the left.
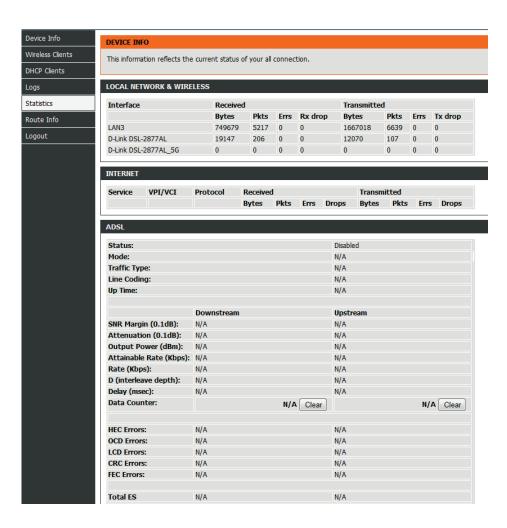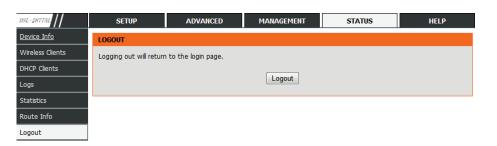
In this page, we can view the route info your router.

| Device Info |
| Wireless Clients |
| DHCP Clients |
| Logs |
| Statistics |
| Route Info |
| Logout |

DEVICE INFO

This information reflects the current status of your all connection.

LOCAL NETWORK & WIRELESS

Interface	Received				Transmitted			
	Bytes	Pkts	Errs	Rx drop	Bytes	Pkts	Errs	Tx drop
LAN3	749679	5217	0	0	1667018	6639	0	0
D-Link DSL-2877AL	19147	206	0	0	12070	107	0	0
D-Link DSL-2877AL_5G	0	0	0	0	0	0	0	0

INTERNET

Service	VPI/VCI	Protocol	Received				Transmitted			
			Bytes	Pkts	Errs	Drops	Bytes	Pkts	Errs	Drops

ADSL

Status:	Disabled
Mode:	N/A
Traffic Type:	N/A
Line Coding:	N/A
Up Time:	N/A

	Downstream	Upstream
SNR Margin (0.1dB):	N/A	N/A
Attenuation (0.1dB):	N/A	N/A
Output Power (dBm):	N/A	N/A
Attainable Rate (Kbps):	N/A	N/A
Rate (Kbps):	N/A	N/A
D (interleave depth):	N/A	N/A
Delay (msec):	N/A	N/A
Data Counter:	N/A [Clear]	N/A [Clear]
HEC Errors:	N/A	N/A
OCD Errors:	N/A	N/A
LCD Errors:	N/A	N/A
CRC Errors:	N/A	N/A
FEC Errors:	N/A	N/A
Total ES	N/A	N/A

Logout

To access the **Logout** page, click on the **Status** menu link at the top, and then click on the **Logout** menu link on the left.

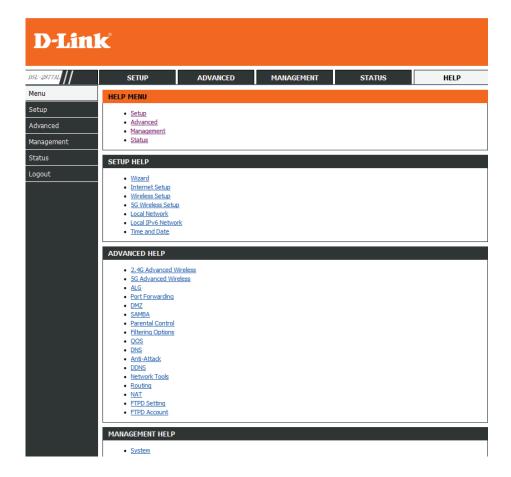We can return to the login page by clicking logout button in this page.

Help

The menu **Help** is designed to assist the user with helpful information about every topic found on the web user interface of this product.

The following pages can be found in the menu **Help**:

- **Menu** - On this page the user can navigate easily to any page throughout the menu structure to access help information.
- **Setup** - On this page the user can read more about topics discussed in the menu Setup.
- **Advanced** - On this page the user can read more about topics discussed in the menu Advanced.
- **Management** - On this page the user can read more about topics discussed in the menu Management.
- **Status** - On this page the user can read more about topics discussed in the menu Status.

Knowledge Base

Networking Basics

Check your IP address

After you installed your new network or wireless adapter, by default, the TCP/IP settings should be set to obtain an IP address automatically from a DHCP server. By default the DHCP server option on your router is enabled.
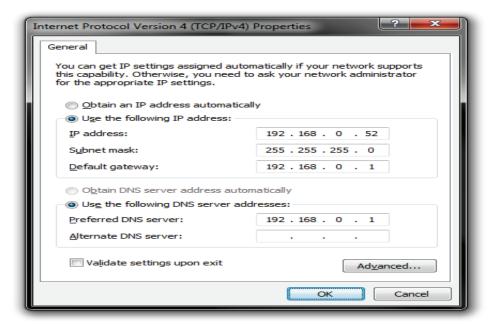
To verify your IP address, please follow the steps below:

- Click on the Windows **Start** button and open the **Run** application.

- In the **Open** box type *cmd* and click **OK**.

- At the command prompt, type in the command *ipconfig* and press **Enter**. This will display the **IP address**, **Subnet Mask**, and the **Default Gateway** of your adapter. If the address is *0.0.0.0*, it means that your network adapter did not receive an IP address from the DHCP server. Check your adapter installation, security settings, and the settings on your router. Some firewall software programs may block a DHCP request on newly installed adapters.

Statically Assign an IP address

If you are not using a DHCP capable gateway/router, or you need to assign a static IP address, please follow the steps below:

- Click on the Windows **Start** button and navigate to the **Control Panel** > **Network and Sharing Center** and click on the **Change Adapter Settings** option on the left panel.
- Right-click on the **Local Area Connection**, which represents your network adapter, and selects **Properties**.
- Select the **Internet Protocol Version 4 (TCP/IPv4)** option and click on the **Properties** button.
- Select **Use the following IP address** and enter an IP address that is on the same subnet as your router. For example: If your router is running on the IP address of **192.168.1.1**, use any IP address from **192.168.1.2** to **192.168.69.254**. Use the Subnet Mask of **255.255.255.0**. Set Default Gateway the same as the LAN IP address of your router. Set Preferred DNS server IP address the same as the LAN IP address of your router. The Secondary DNS is not needed at this stage.
- Click the **OK** button twice to return to the **Network Connections** window.

Wireless Basics

Wireless products are based on industry standards to provide easy-to-use and compatible high-speed wireless connectivity within your home, business or public access wireless networks. Strictly adhering to the IEEE standard, the wireless family of products will allow you to securely access the data you want, when and where you want it. You will be able to enjoy the freedom that wireless networking delivers.

A wireless local area network (WLAN) is a cellular computer network that transmits and receives data with radio signals instead of wires. Wireless LANs are used increasingly in both home and office environments, and public areas such as airports, coffee shops and universities. Innovative ways to utilize WLAN technology are helping people to work and communicate more efficiently. Increased mobility and the absence of cabling and other fixed infrastructure have proven to be beneficial for many users.

Wireless users can use the same applications they use on a wired network. Wireless adapter cards used on laptop and desktop systems support the same protocols as Ethernet adapter cards.

Under many circumstances, it may be desirable for mobile network devices to link to a conventional Ethernet LAN in order to use servers, printers or an Internet connection supplied through the wired LAN. A Wireless Router is a device used to provide this link.

What is Wireless?

Wireless or Wi-Fi technology is another way of connecting your computer to the network without using wires. Wi-Fi uses radio frequency to connect wirelessly, so you have the freedom to connect computers anywhere in your home or office network.

How does Wireless work?

Wireless works similar to how cordless phone work, through radio signals to transmit data from one point A to point B. But wireless technology has restrictions as to how you can access the network. You must be within the wireless network range area to be able to connect your computer. There are two different types of wireless networks Wireless Local Area Network (WLAN), and Wireless Personal Area Network (WPAN).

Wireless Local Area Network (WLAN)

In a wireless local area network, a device called an Access Point (AP) connects computers to the network. The access point has a small antenna attached to it, which allows it to transmit data back and forth over radio signals. With an indoor access point as seen in the picture, the signal can travel up to 300 feet. With an outdoor access point the signal can reach out up to 30 miles to serve places like manufacturing plants, industrial locations, college and high school campuses, airports, golf courses, and many other outdoor venues.

Wireless Personal Area Network (WPAN)

Bluetooth is the industry standard wireless technology used for WPAN. Bluetooth devices in WPAN operate in a range up to 30 feet away. Compared to WLAN the speed and wireless operation range are both less than WLAN, but in return it doesn't use nearly as much power which makes it ideal for personal devices, such as mobile phones, PDAs, headphones, laptops, speakers, and other devices that operate on batteries.

Who uses wireless?

Wireless technology has become so popular in recent years that almost everyone is using it, whether it's for home, office, business, we have a wireless solution for it.

Home

- Gives everyone at home broadband access.
- Surf the web, check email, instant message, etc…
- Gets rid of the cables around the house.
- Simple and easy to use.

Small Office and Home Office

- Stay on top of everything at home as you would at office.
- Remotely access your office network from home.
- Share Internet connection and printer with multiple computers.
- No need to dedicate office space.

Where is wireless used?

Wireless technology is expanding everywhere not just at home or office. People like the freedom of mobility and it's becoming so popular that more and more public facilities now provide wireless access to attract people. The wireless connection in public places is usually called "hotspots".

Using a Wireless Cardbus Adapter with your laptop, you can access the hotspot to connect to Internet from remote locations like: Airports, Hotels, Coffee Shops, Libraries, Restaurants, and Convention Centers.

Wireless network is easy to setup, but if you're installing it for the first time it could be quite a task not knowing where to start. That's why we've put together a few setup steps and tips to help you through the process of setting up a wireless network.

Tips

Here are a few things to keep in mind, when you install a wireless network.

Centralize your router or Access Point

Make sure you place the router/access point in a centralized location within your network for the best performance. Try to place the router/access point as high as possible in the room, so the signal gets dispersed throughout your home. If you have a two-story home, you may need a repeater to boost the signal to extend the range.

Eliminate Interference

Place home appliances such as cordless telephones, microwaves, and televisions as far away as possible from the router/access point. This would significantly reduce any interference that the appliances might cause since they operate on same frequency.

Security

Don't let your next-door neighbors or intruders connect to your wireless network. Secure your wireless network by turning on the WPA or WEP security feature on the router. Refer to product manual for detail information on how to set it up.

Wireless Security

This section will show you the different levels of security you can use to protect your data from intruders. The router offers wireless security options like WPA/WPA2 PSK/EAP.

WPA (Wi-Fi Protected Access) is a Wi-Fi standard that was designed to improve the security features of WEP (Wired Equivalent Privacy).

The 2 major improvements over WEP:

- Improved data encryption through the Temporal Key Integrity Protocol (TKIP). TKIP scrambles the keys using a hashing algorithm and, by adding an integrity-checking feature, ensures that the keys haven't been tampered with. WPA2 is based on 802.11i and uses Advanced Encryption Standard (AES) instead of TKIP.
- User authentication, which is generally missing in WEP, through the extensible authentication protocol (EAP). WEP regulates access to a wireless network based on a computer's hardware-specific MAC address, which is relatively simple to be sniffed out and stolen. EAP is built on a more secure public-key encryption system to ensure that only authorized network users can access the network.

WPA-PSK/WPA2-PSK uses a passphrase or key to authenticate your wireless connection. The key is an alpha-numeric password between 8 and 63 characters long. The password can include symbols (!?*&_) and spaces. This key must be the exact same key entered on your wireless router or access point.

WPA/WPA2 incorporates user authentication through the Extensible Authentication Protocol (EAP). EAP is built on a more secure public key encryption system to ensure that only authorized network users can access the network.

Frequently Asked Questions

What can I do if my Router is not working correctly?

There are a few quick steps you can take to try and resolve any issues:

- Check that all the cables are firmly connected at both ends.
- Check that all the corresponding LED indicators are on, especially the Power, DSL, and LAN LED indicators. For more information about LED indicators refer to the Front Panel on page 3.
- Ensure that the settings on the WAN Service page in the Web User Interface are the same as the settings that have been provided to you by your ISP. For more information refer to Internet Setup on page 34.

Why can't I get an Internet connection?

For ADSL ISP users, please contact your ISP to make sure the service has been enabled/connected by your ISP and that your ISP username and password are correct.

What can I do if I forgot my web UI login password?

If you forgot your password, you must reset your router. Unfortunately this process will change all your settings back to the factory defaults.

To reset the router, locate the reset button (hole) on the rear panel of the unit. With the router powered on, use a paperclip to hold the button down for 10-15 seconds. Release the button and the router will go through its reboot process. Wait about 30 seconds to access the router. The default IP address is **192.168.1.1**. When logging in, the username is '**admin**' and the password is '**admin'**.