IEEE802.11n Wireless Lan Router

WLN-2229

User's Guide

Federal Communication Commission Interference Statement

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

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

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

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

IMPORTANT NOTE:

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

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

The availability of some specific channels and/or operational frequency bands are country dependent and are firmware programmed at the factory to match the intended destination. The firmware setting is not accessible by the end user.

For Taiwan 警語:

經型式認證合格之低功率射頻電機,非經許可,公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之 特性及功能。

低功率射頻電機之使用不得影響飛航安全及干擾合法通信;經發現有干擾現象時,應立即停用,並改善至無干擾時方 得繼續使用。前項合法通信,指依電信法規定作業之無線電通信。低功率射頻電機須忍受合法通信或工業、科學及醫 療用電波輻射性電機設備之干擾。

Europe – EU Declaration of Conformity

This device complies with the essential requirements of the R&TTE Directive 1999/5/EC. The following test methods have been applied in order to prove presumption of conformity with the essential requirements of the R&TTE Directive 1999/5/EC:

EN 60950-1: 2006+A11: 2009+A1:2010+A12:2011

Safety of Information Technology Equipment

EN 50385: 2002

Product standard to demonstrate the compliance of radio base stations and fixed terminal stations for wireless telecommunication systems with the basic restrictions or the reference levels related to human exposure to radio frequency electromagnetic fields (110MHz - 40 GHz) - General public

EN 300 328 V1.7.1 (2006-10)

Electromagnetic compatibility and Radio spectrum Matters (ERM); Wideband transmission systems; Data transmission equipment operating in the 2,4 GHz ISM band and using wide band modulation techniques; Harmonized EN covering essential requirements under article 3.2 of the R&TTE Directive

EN 301 489-1 V1.8.1 (2008-04)

Electromagnetic compatibility and Radio Spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements

EN 301 489-17 V2.1.1 (2009-05)

Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 17: Specific conditions for 2,4 GHz wideband transmission systems and 5 GHz high performance RLAN equipment

This device is a 2.4 GHz wideband transmission system (transceiver), intended for use in all EU member states and EFTA countries, except in France and Italy where restrictive use applies.

In Italy the end-user should apply for a license at the national spectrum authorities in order to obtain authorization to use the device for setting up outdoor radio links and/or for supplying public access to telecommunications and/or network services.

This device may not be used for setting up outdoor radio links in France and in some areas the RF output power may be limited to 10 mW EIRP in the frequency range of 2454 - 2483.5 MHz. For detailed information the end-user should contact the national spectrum authority in France.

CE

Česky [Czech]	[<i>Jméno výrobce</i>] tímto prohlašuje, že tento [<i>typ zařízení</i>] je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 1999/5/ES.
da Dansk [Danish]	Undertegnede [fabrikantens navn] erklærer herved, at følgende udstyr [udstyrets typebetegnelse] overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.
de Deutsch [German]	Hiermit erklärt [Name des Herstellers], dass sich das Gerät [Gerätetyp] in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EG befindet.
et Eesti [Estonian]	Käesolevaga kinnitab [tootja nimi = name of manufacturer] seadme [seadme tüüp = type of equipment] vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
en English	Hereby, [name of manufacturer], declares that this [type of equipment] is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
Español [Spanish]	Por medio de la presente [nombre del fabricante] declara que el [clase de equipo] cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.
ε Ι. Ελληνική [Greek]	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ [name of manufacturer] ΔΗΛΩΝΕΙ ΟΤΙ [type of equipment] ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕΚ.
fr Français [French]	Par la présente [nom du fabricant] déclare que l'appareil [type d'appareil] est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.
it Italiano [Italian]	Con la presente [nome del costruttore] dichiara che questo [tipo di apparecchio] è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.
Latviski [Latvian]	Ar šo [name of manufacturer / izgatavotāja nosaukums] deklarē, ka [type of equipment / iekārtas tips] atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.
Lietuvių [Lithuanian]	Šiuo [manufacturer name] deklaruoja, kad šis [equipment type] atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.
[Dutch] Nederlands	Hierbij verklaart [naam van de fabrikant] dat het toestel [type van toestel] in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.
mt Malti [Maltese]	Hawnhekk, <i>[isem tal-manifattur]</i> , jiddikjara li dan <i>[il-mudel tal-prodott]</i> jikkonforma mal-htigijiet essenzjali u ma provvedimenti ohrajn relevanti li hemm fid-Dirrettiva 1999/5/EC.
hu Magyar [Hungarian]	Alulírott, [gyártó neve] nyilatkozom, hogy a [típus] megfelel a vonatkozó alapvető követelményeknek és az 1999/5/EC irányelv egyéb előírásainak.
Pl. Polski [Polish]	Niniejszym [nazwa producenta] oświadcza, że [nazwa wyrobu] jest zgodny z zasadniczymi wymogami oraz pozostałymi stosownymi postanowieniami Dyrektywy 1999/5/EC.
[Portuguese] Português	[Nome do fabricante] declara que este [tipo de equipamento] está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.
[Slovenian] Slovensko	[Ime proizvajalca] izjavlja, da je ta [tip opreme] v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES.
Slovensky [Slovak]	[Meno výrobcu] týmto vyhlasuje, že [typ zariadenia] spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.
fi Suomi [Finnish]	[Valmistaja = manufacturer] vakuuttaa täten että [type of equipment = laitteen tyyppimerkintä] tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
Svenska [Swedish]	Härmed intygar [företag] att denna [utrustningstyp] står I överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.

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ABOUT THIS GUIDE

Congratulations on your purchase of this IEEE 802.11b/g/n Wireless Broadband Router. This integrated access device combines Internet gateway functions with wireless LAN and Fast Ethernet switch. It provides a complete solution for Internet surfing and office resource sharing, and it is easy to configure and operate for every user.

Purpose

This manual discusses how to install the IEEE 802.11b/g/n Wireless Broadband Router.

Terms/Usage

In this guide, the term "the WLAN Router" refers to your IEEE 802.11b/g/n Wireless Broadband Router.

Overview of this User's Guide

Introduction. Describes the IEEE 802.11b/g/n Wireless Broadband Router and its features.

Unpacking and Setup. Helps you get started with the basic installation of the IEEE 802.11b/g/n Wireless Broadband Router.

Identifying External Components. Describes the front panel, rear panel and LED indicators of the IEEE 802.11b/g/n Wireless Broadband Router.

Connecting the WLAN Router. Tells how you can connect the IEEE 802.11b/g/n Wireless Broadband Router to your xDSL/Cable Modem.

Technical Specifications. Lists the technical (general, physical and environmental, performance and Routers settings) specifications of the IEEE 802.11b/g/n Wireless Broadband Router.

INTRODUCTION

With the explosive growth of the Internet, accessing information and services at any time, day or night has become a standard requirement for most people. The era of the standalone PC is waning. Networking technology is moving out of the exclusive domain of corporations and into homes with at least two computers.

This integrated access device combines Internet gateway functions with wireless LAN and Fast Ethernet switch. Designed for the business and home, it saves you the cost of installing a separate modem and ISP line for each computer, while providing ready connection for the users, with or without the network wires.

Broadband network access is also gaining ground. However, allowing more than two computers to access the Internet at the same time means less affordable, higher costs. Thus, there is a need to share one public IP address over a single Internet connection to link the home with the Internet.

The scarcity of IP addresses and using a shared Internet connection through an Internet sharing device can solve high network access costs. All linked computers can make full use of broadband capabilities over such a device.

This device not only comes equipped with a wide range of features, but also can be installed and configured right out of the box. This device supports a simple local area network and Internet access share, offering great cost savings.

The local area network connects home computers while also allowing any of the computers to access the Internet, share resources, or play online games—the basis of the family computing lifestyle.

Applications:

Broadband Internet access:

Several computers can share one high-speed broadband connection through wireless or wired (WLAN, LAN and WAN-Internet).

Resource sharing:

Share resources such as printers, scanners and other peripherals.

File sharing:

Exchange data, messages, and distribute files thus making good use of hard disk space.

Online gaming:

Through the local area network, online gaming and e-commerce services can be easily setup.

Firewall:

A built-in firewall function — for security and anti-hacking systems.

Supported Features:

- High speed data transfer rate
- > NAT for sharing 1 IP address to all LAN/WLAN users.
- > PPPoE and PPTP protocol for Dial-Up ADSL.
- ▶ 64/128 bit WEP Encryption
- ▶ WPA-PSK, WPA2-PSK, WPA, WPA2 security
- DHCP Server / Client.
- ➢ UPnP (Universal Plug and Play).
- WPS (Wi-Fi Protected Setup)
- Virtual Server mapping.
- ➢ MAC filtering.
- Protocol/IP filtering
- Domain/URL filtering
- > DDNS
- Upgradeable firmware for future function.
- Simple installation using Setup Wizard.
- Easy configuration via Web Browser.

UNPACKING AND SETUP

This chapter provides unpacking and setup information for the IEEE 802.11b/g/n Wireless Broadband Router.

Unpacking

Open the box of the WLAN Router and carefully unpack it. The box should contain the following items:

- One IEEE 802.11b/g/n Wireless Broadband Router
- One CD contain User's Guide
- Two 2dBi gain dipole antenna
- One external power adapter

If any item is found missing or damaged, please contact your local reseller for replacement.

Setup

The setup of the WLAN Router can be performed properly using the following methods:

- The power outlet should be within 1.82 meters (6 feet) of the Broadband Router.
- Visually inspect the DC power jack and make sure that it is fully secured to the power adapter.
- Make sure that there is proper heat dissipation and adequate ventilation around the Broadband Router. Do not place heavy objects on the Broadband Router.
- Fix the direction of the antennas. Try to place the Wireless Router in a position that can best cover your wireless network. Normally, the higher you place the antenna, the better the performance will be. The antenna's position enhances the receiving sensitivity.

HARDWARE INSTALLATION

Front Panel

POWER

This indicator lights green when the hub is receives power, otherwise it is off.

WAN (Link/ACT)

The indicators light green when the WAN port is connected to a xDSL/Cable modem successfully.

The indicators blink green while the WAN port was transmitting or receiving data from the xDSL/Cable modem.

WLAN (ACT)

This indicator lights green when there are wireless devices connected and transmitting data to the WLAN Router.

LAN (Link/ACT)

These indicators light green when the LAN ports were connected successfully. These indicators blinking green while the LAN ports were accessing data.

Rear Panel

Antenna

There is one 2dBi gain antennas on the rear panel for wireless connection.

LAN (1-4)

Four RJ-45 10/100Mbps Auto-MDIX ports for connecting to either 10Mbps or 100Mbps Ethernet connections.

WAN

In the four port broadband Router, there is an RJ-45 10/100Mbps Auto-MDIX port for the WAN that connects to the xDSL/Cable modem for Internet connectivity.

POWER

Plug the power adapter to this power jack

RESET

Use a pin-shaped item to push to reset this device to factory default settings. It will be a useful tool when the manager forgot the password to login, and needs to restore the device back to default settings.

Side Panel

The figure below shows the side panel of the IEEE 802.11b/g/n Wireless Broadband Router.



Side Panel

WPS

Push this button to execute the Wi-Fi Protected Setup process.

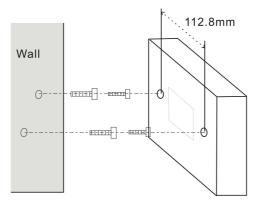
Horizontal putting (with rubber feet)

It is possible to set up on the desk etc. by installing the rubber feet in the rubber

foot putting position of the bottom of the main body.

- The screw and the wall hanging (With the screw set for the wall hanging)

It is possible to set up on the wall by using the screw set for the wall hanging



* When you set it up in the vertical such as walls, please set it up so that network port may become bottom.

- The magnet and the wall hanging (With the magnet)

By using the magnet set, it is possible to be installed to furniture made of steel. By using with rubber feet, magnetism becomes stronger.

HARDWARE CONNECTIONS

Connecting the WLAN Router

- 1. Plug in one end of the network cable to the WAN port of the WLAN Router.
- 2. Plug in the other end of the network cable to the Ethernet port of the xDSL or Cable modem.
- 3. Use another network cable to connect to the Ethernet card on the computer system; the other end of the cable connects to the LAN port of the WLAN Router. Since the IEEE 802.11b/g/n Wireless Broadband Router has four ports, you can connect up to four computers directly to the unit. Then you do not have to buy a switch to connect these computers since one WLAN Router functions both as a connection-sharing unit and as a switch.

Check the installation

The control LEDs of the WLAN Router are clearly visible and the status of the network link can be seen instantly:

- 1. With the power source on, once the device is connected to the broadband modem, the Power, System, LAN, WLAN and WAN port LEDs of the WLAN Router will light up indicating a normal status.
- 2. When the WAN Port is connected to the ADSL/Cable modem, the WAN LED will light up.
- 3. When the LAN Port is connected to the computer system, the LAN LED will light up.

PC NETWORK TCP/IP SETTING

The network TCP/IP settings differ based on the computer's operating system (Win95/98/ME/NT/2000/XP) and are as follows.

Windows 95/98/ME

- 1. Click on the "Network neighborhood" icon found on the desktop.
- 2. Click the right mouse button and a context menu will be show.
- 3. Select "**Properties**" to enter the TCP/IP setting screen.
- 4. Select "Obtain an IP address automatically" on the "IP address" field.

Bindings	Advanced	NetBIOS
	Gateway WINS Co	
If your network do	be automatically assign es not automatically ass nistrator for an address,	ign IP addresses, ask
Obtain an IP Specify an IF	address automatically address:	
JP Address:	10.1.1	. 11
S <u>u</u> bnet Mas	k 255.255.2 5	5.0

5. Select "**Disable DNS**" in the "**DNS**" field.

Bindings		anced			etBIOS
VS Configuration	Gateway	WINS	6 Configu	aration	IP Addres
Disable DNS					
C Enable DNS					
Host XX	(i	Dom	iain: 🗖		
Theore Jack		9,20			
DNS Server Search	ch Order –				<u></u>
			A	dd	
168.95.192.1		_	Ber	nove	i
203.66.99.251			12.93	1100100	1.
Domain Sulfix Sea	arch Order	-			2
			A	dđ	ļ.
1		_	Rep	liove	1
		-163			

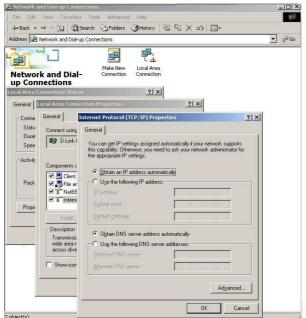
6. Select "None" for the "Gateway address" field.

	Proper	ties						2
	ndings onfigural	tion 0	Ac iateway	lvance WIN	and a second second		NetBIO n IP A	
The	irst gate address ines are	order in						
Ē	w gatew		6100		Add			
	alled ga	teways:			<u>H</u> emo	/e]		
								8

Windows 2000

Double click on the "**My Computer**" icon on the desktop. When "**My Computer**" window opens, open the "**Control Panel**" and then open the "**Network dialup connection**" applet. Double click on the "Local area network connection" icon. Select "Properties" to enter the TCP/IP setting window.

- 1. In the "Local area network status" window, click on "Properties."
- 2. In the "Local area network connection" window, first select TCP/IP setting and then select "Properties."
- 3. Set both "IP address" and "DNS" to Automatic configuration.



Windows XP / Vista

Point the cursor and click the right button on the "My Network Place" icon. Select "properties" to enter the TCP/IP setting window.

- 1. Set "IP address" to "Obtain an IP address automatically."
- 2. Set "DNS" to "Obtain DNS server address automatically."

ieneral	Alternate Configuration	3	20028		- 12	
this cap	n get IP settings assigned a bability. Otherwise, you nee propriate IP settings.					
<u>o o</u> l	btain an IP address automa	atically				
OU	se the following IP address:					
IP a	idress:	6	10	- 11	- 12	
Subi	net mask:		(0)	10	-	
Defa	ult gateway:	[<u>N</u>	8	
0	<u>b</u> tain DNS server address a	automatica	Ŋ.			
OU	se the following DNS serve	r addresse	es:			
Prefe	erred DNS server.				10	
Alter	nate DNS server.		12	- 27	- 25	
					Ady	vanced

CONFIGURATION

First make sure that the network connections are functioning normally.

This WLAN Router can be configured using Internet Explorer 5.0 or newer web browser versions.

Login to the WLAN Router through Wireless LAN

Before configuring the WLAN Router through WLAN, make sure that the SSID, Channel and the WEP is set properly.

The default setting of the WLAN Router that you will use:

- ✓ SSID: N Router
- ✓ Channel: 6
- ✓ Security: disable

Login to the WLAN Router

Before you configure this device, note that when the WLAN Router, make sure the host PC must be set on the **IP subnet** that can be accessed by the xDSL/Cable modem. For example, when the default network address of the xDSL/Cable modem Ethernet interface is 192.168.1.x, then the host PC should be set at 192.168.1.xxx (where xxx is a number between 2 and 254), and the default subnet mask is 255.255.255.0.

Using the Web Browser

- 1. Open Internet Explorer 5.0 or above Internet browser.
- 2. Enter IP address <u>http://192.168.1.1</u> (the factory-default IP address setting) to the URL web address location.

🕘 http://192.168.1.1/

3. When the following dialog box appears, enter the user name and password to login to the main configuration window, the default username and password is *"admin"*.



Setup Wizard

Setup wizard is provided as part of the web configuration utility. User can simply follow the step-by-step process to get the wireless Router configuration ready to run in 6 easy steps by clicking on` the "Wizard" button on the function menu. The following screen will appear. Please click "Next" to continue.



Step 1: Set your new password

Setting the new admin password of the WLAN Router. Please click "Next" to continue.



Step 2: Choose time zone

Select the time zone from the drop down list. Please click "Next" to continue.



Step 3: Set LAN connection and DHCP server

Set user's IP address and mask. The default IP is 192.168.1.1. If the user chooses to enable DHCP, please click "Enable". DHCP enabled is able to automatically assign IP addresses. Please assign the range of IP addresses in the fields of "Range start" and "Range end". Please click "Next" to continue.



Step 4: Set Internet connection

The WLAN Router will attempt to auto detect your Internet Connection.

Obtain IP automatically (DHCP client):



If the user has enabled DHCP server, choose "Obtain IP automatically (DHCP client)" to have the WLAN Router assign IP addresses automatically.

Set Dynar	nic IF	9 Addres		weico	me to S	etup	wizard
				_	_	_	_
If your ISP r please ente address of y Host Name :	r it in. /our E	The Clon thernet ac	e MAC A	ddress bu	tton is usec	l to copy	the MAC nue.
Host Name : MAC :		- 98	- 76	- ab	- cd	- ef	(optiona
		Clone MA	-101	•	Post Con		
					0		
					BACK	NEXT	EXIT

Fixed IP Address:



If the Internet Service Provider (ISP) assigns a fixed IP address, choose this option and enter the assigned WAN IP Address, WAN Subnet Mask, WAN Gateway Address and DNS Server Addresses for the WLAN Router.

	e vere er	10			
Enter in the static IP informat continue.	on provided ti	o you by you	r ISP, C	lick Next	: to
WAN IP Address : 0.0.).0				
WAN Subnet Mask : 0.0.).0				
WAN Gateway Address : 0.0.).0				
DNS Server Address 1 : 0.0.).0				
DNS Server Address 2 : 0.0.).0				

<u>PPPOE</u>



PPPoE to obtain IP automatically:

Set PPPoE Client		
The service name is optic continue.	nal but may be required by your ISP.	Click Next t
	⊙ Obtain IP Automatically ◯ Spe	ecify IP
User Name :		
Passward :	******	
Verify Password :	******	
IP Address :	0.0.0	
Service Name :		(optional)

If connected to the Internet using a PPPoE (Dial-up xDSL) connection, and the ISP provides a User Name and Password, then choose this option and enter the required information.

PPPoE with a Specify IP address:

Set PPPoE Client		
	onal but may be required by your ISI	P. Click Next to
continue.		
	O Obtain IP Automatically 💽 S	pecify IP
User Name :		
Passward :	******	••
Verify Password :	******	e -
IP Address :	0.0.0.0	
Service Name :		(optional)

If connected to the Internet using a PPPoE (Dial-up xDSL) connection, and the ISP provides a User Name, Password and a Fixed IP Address, choose this option and enter the required information.

PPTP:



If connected to the Internet using a PPTP xDSL connection, enter your IP, Subnet Mask, Gateway, Server IP, PPTP Account and PPTP Password.

Set PPTP Client				
Please set you PPTP Clien	opener og konstruer i sære G		ntinue.	
0	Dynamic IP	O Static IP		
IP Address : 0	0.0.0			
Subnet Mask : 0	0.0.0			
Gateway : 0	0.0.0			
Server IP / Name :				
PPTP Account :				
PPTP Password : •		•••••		
Verify Password : •	• • • • • • • • • • • •			

<u>L2TP:</u>



If connected to the Internet using a L2TP (Dial-up xDSL) connection and the ISP provides a Server IP, Account and Password information, choose this option and enter the required information.

Set L2TP Client			
Please set you L2TP CI	ient data then press N	ext to continue.	
	💿 Dynamic IP 🔘	Static IP	
IP Address	: 0.0.0		
Subnet Mask	: 0.0.0.0		
Gateway	: 0.0.0.0		
Server IP / Name	:		
L2TP Account			
L2TP Password			
Verify Password			

Big Pond Cable(Australia):



If your ISP is Big Pond Cable, the ISP will provide a User Name, Password, Authentication Server and Login Server IP (Optional). Choose this option and enter the required information.

Set BigPond		
Please set you BigPond	data then press Next to continue.	
User Name :		
Passward :	••••••	
Verify Password :	**********************	
Server IP / Name :		
Auth Server :	sm-server	

Step 5: Set Wireless LAN connection

Click "Enable" to enable Wireless LAN. If user enables the Wireless LAN, type the SSID in the text box and select a communications channel. The SSID and channel must be the same as wireless devices attempting to connect to the WLAN Router.

(When in FCC domain, you could chose ch1~ch11; in ETSI domain, you could chose ch1~ch13)

	Welco	me to Se	etup W	'izard
Set Wireless Connection				
Wireless : ④ Enabled C SSID : N Router Channel : 6 💽) Disabled			
		BACK	NEXT	EXIT

Step 6: Setup completed

The Setup wizard is now completed. The new settings will be effective after the WLAN Router restarts. Please click "Restart" to reboot the WLAN Router. If user does not want to make any changes, please click "Exit" to quit without any changes. User also can save the settings and restart Wireless Router by Click "Restart" button.



WAN Setting

This function enables users to set up the WLAN Router WAN connection, specify the IP address for the WAN, add DNS numbers, and enter the MAC address.

Connection Type: Select the connection type, either DHCP client, Fixed IP or PPPoE, PPTP, L2TP or BigPond from the drop-down list.

DHCP Client or Fixed IP

If user has enabled DHCP server, choose "Obtain IP automatically (DHCP client)" to have the router assign IP addresses automatically.

	IEEE802.11n Wireless LAN Rou
WAN	Connection Type
Connection Type Dynamic DNS	Connection Type : DHCP Client or Fixed IP
Wireless	WAN IP Address : 💿 Obtain IP Automatically 🔘 Specify IP
LAN	IP Address : 0000
Access Control	Subnet Mask : 0.0.0.0
System	Gateway : 0000
Wizard	DNS1: 0.0.0.0
	DNS 2: 0.0.0
	Clone MAC Address :
	00 - 98 - 76 - ab - cd - ef Clone MAC Address

WAN IP Address: Select whether user wants to specify an IP address manually, or want DHCP to obtain an IP address automatically. When Specify IP is selected, type the IP address, subnet mask, and default gateway in the text boxes. User's ISP will provide with this information.

IP Address: For the Specify mode, enter the specific IP address that provided by your ISP.

Subnet Mask: For the Specify mode, enter the specific subnet mask that provided by your ISP.

Gateway: For the Specify mode, enter the specific gateway IP address that provided by your ISP.

DNS 1/2: Manually specific DNS server IP address. For the Obtain IP Automatically mode, leave 0.0.0.0 hear, the DHCP server will provides DNS server automatically.

Clone MAC Address: If your ISP requires you to enter a specific MAC address, please enter it in. The Clone MAC Address button is used to copy the MAC address of your Ethernet adapter to the Router.

<u>PPPoE with Obtain IP Automatically</u>

If connected to the Internet using a PPPoE (Dial-up xDSL) Modem, the ISP will provide a Password and User Name, and then the ISP uses PPPoE. Choose this option and enter the required information.

	IEEE802.11n Wireless LAN Router
WAN	Connection Type
Connection Type Dynamic DNS	Connection Type : PPPoE
Wireless	WAN IP Address : 💿 Obtain IP Automatically
LAN	Specify IP 0.0.0.0
Access Control	Service Name :
System	User Name :
Wizard	Password :
	Verify Password :
	MAC Address : Clone MAC Address (optional)
	DNS : Primary 0.0.0.0 Secondary 0.0.0.0 (optional)
	Auto-reconnect : 🔿 Always On 🛇 Manual 💿 Connect-on Demand
	Idle Time Out : 5 Minutes
	MTU: 1492

<u>PPPoE with Specify IP</u>

If connected to the Internet using a PPPoE (Dial-up xDSL) Modem, the ISP will provide a Password, User Name and a Specify IP Address, choose this option and enter the required information.

	IEEE802.11n Wireless LAN Route
WAN	Connection Type
Connection Type Dynamic DNS	Connection Type : PPPoE
Wireless	WAN IP Address : 🔘 Obtain IP Automatically
LAN	Specify IP 0.0.0.0
Access Control	Service Name :
System	User Name :
Wizard	Password : •••••••••••••••••••••••••••••••••••
	MAC Address : Clone MAC Address (optional)
	DNS : Primary 0.0.0.0 Secondary 0.0.0.0 (optional)
	Auto-reconnect : 🔘 Always On 🛇 Manual 💿 Connect-on Demand
	Idle Time Out : 5 Minutes MTU : 1492

PPTP/L2TP with Obtain IP Automatically

If connected to the Internet using a PPTP/L2TP (Dial-up xDSL) connection, enter the your Server IP, PPTP/L2TP Account and PPTP/L2TP Password, if your ISP has provided you with a DNS IP address, enter it in the DNS field, otherwise, leave it zero.

	IEEE802.11n Wireless LAN Route	r	IEEE802.11n Wireless LAN
/AN	Connection Type	WAN	Connection Type
onnection Type lynamic DNS	Connection Type : PPTP	Connection Type Dynamic DNS	Connection Type : L2TP
fireless	WAN IP Address : O Obtain IP Automatically O Specify IP	Wireless	WAN IP Address : Obtain IP Automatically O Specify IP
AN	IP Address : 0.0.0.0	LAN	IP Address: 0.0.0.0
ccess Control	Subnet Mask : 0.0.0	Access Control	Subnet Mask: 0.0.0.0
ystem	Gateway: 00000 DNS: 00000	System	Gateway: 0.0.0.0 DNS: 0.0.0
fizard		Wizard	
	Server IP/Name :	1	Server IP/Name :
	PPTP Account :		L2TP Account :
	PPTP Password :		L2TP Password :
	Verify Password:		Verify Password :
	Auto-reconnect ; O Always On O Manual 💿 Connect-on Demand		Auto-reconnect : O Always On O Manual Connect-on Demand
	Idle Time Out : 5 Minutes		Idle Time Out : 5 Minutes
	MTU: 1400		MTU: 1400

PPTP/L2TP with Specify IP

If connected to the Internet using a PPTP/L2TP (Dial-up xDSL) connection, enter the your IP Address, Subnet Mask, Gateway IP address, DNS IP address, Server IP address, PPTP Account and PPTP Password.

	IEEE802.11n Wireless LAN Router		IEEE802.11n Wireless LAN Ro
WAN	Connection Type	WAN	Connection Type
Connection Type Dynamic DNS	Connection Type : PPTP	Connection Type Dynamic DNS	Connection Type : L2TP
Wireless	WAN IP Address : O Obtain IP Automatically 🛞 Specify IP	Wireless	WAN IP Address : O Obtain IP Automatically OSpecify IP
LAN	IP Address : 0.0.0.0	LAN	IP Address : 0.0.0.0
Access Control	Subnet Mask : 0.0.0	Access Control	Subnet Mask : 0.0.0.0
System	Gateway: 0.0.0.0 DNS: 0.0.0	System	Gateway: 0.0.0.0 DNS: 0.0.0.0
Nizard		Wizard	Dito . 0.0,0,0
	Server IP/Name :	1	Server IP/Name :
	PPTP Account :		L2TP Account :
	PPTP Password :		L2TP Password :
	Verify Password :		Verify Password :
	Auto-reconnect : O Always On O Manual 💿 Connect-on Demand		Auto-reconnect: O Always On O Manual Connect-on Demand
	Idle Time Out : 5 Minutes		Idle Time Out : 5 Minutes
	MTU: 1400		MTU : 1400

BigPond Cable

If your ISP is Big Pond Cable, the ISP will provide a User Name, Password, Authentication Server and Login Server IP (Optional). Choose this option and enter the required information.

	IEEE802.11n Wireless LAN Rout
	IEEE802.1111 WITEIESS LAIN ROUL
WAN	Connection Type
Connection Type Dynamic DNS	Connection Type : BigPond Cable
Wireless	User Name :
LAN	Passward :
Access Control	Verify Password :
System	Server IP/Name : (optional)
Wizard	Auth Server: sm-server
	Clone MAC Address
	00 - 98 - 76 - ab - cd - ef Clone MAC Address
	Cancel Apply

Dynamic DNS:

This synchronizes the DDNS server with your current Public IP address when you are online. First, you need to register your preferred DNS with the DDNS provider. Then, please selected one of DDNS server than fill the related information in the below fields: Host Name, User Name and Password.

		IEEE802.11n Wireless LAN Ro
WAN	Dynamic DNS	
Connection Type	DDNS :	C Enabled O Disabled
Dynamic DNS		
Wireless	DDNS Server Selection List : Host Name :	DynDns.org
LAN	User Name :	
Access Control	Password :	
System		
Wizard		Cancel V App

Wireless setting

This section enables user to set wireless communications parameters for the router's wireless LAN feature.

Basic

This page allow user to enable and disable the wireless LAN function, create a SSID, and select the channel for wireless communications.

		IEEE802.11n Wireless LAN Rou
WAN	Basic	
Wireless	Wireless :	Enabled O Disabled
Basic	SSID :	N Router
Security	SSID Broadcast :	
Advanced WiFi Protected Setup	Channel :	6 💟 (Domain :FCC)
AN	802.11 Mode :	Mixed 802.11n, 802.11g and 802.11b
Access Control	Channel Width :	Auto 20/40 MHz
System		

Enable/Disable: Enables or disables wireless LAN via the WLAN Router.

SSID: Type an SSID in the text box. The SSID of any wireless device must match the SSID typed here in order for the wireless device to access the LAN and WAN via the WLAN Router.

Channel: Select a transmission channel for wireless communications. The channel of any wireless device must match the channel selected here in order for the wireless device to access the LAN and WAN via the WLAN Router.(When in FCC domain, you could chose ch1~ch11; in ETSI domain, you could chose ch1~ch13) **802.11 Mode:** Select one of the following:

- •802.11b only Select if you are using 802.11b wireless clients only.
- •802.11g only Select if you are using 802.11g wireless clients only.
- •802.11n only Select if you are using 802.11n wireless clients only.
- •Mixed 802.11b and 802.11g Select if you are using both 802.11b and 802.11n wireless clients.
- •Mixed 802.11n, 802.11b, and 802.11g Select if you are using a mix of 802.11n, 11g, and 11b wireless clients.

Channel Width: Select the Channel Width:

- •Auto 20/40 This is the default setting. Select if you are using both 802.11n and non-802.11n wireless devices.
- •20MHz Select if you are not using any 802.11n wireless clients.

SSID Broadcast: While SSID Broadcast is enabled, all wireless clients will be able to view the WLAN Router's SSID. For security purposes, users may want to disable SSID Broadcast to ensure only authorized clients have access.

Security

This function enables user to set authentication type for secure wireless communications. Open System allows public access to the router via wireless communications. Shared Key requires the user to set a WEP key to exchange data with other wireless clients that have the same WEP key. This router also supports WPA, WPA2 and WPA-PSK, WPA2-PSK.

		IEEE802.11r	Wireless LAN Router
WAN	Security		
Wireless	Authentication Type :	Disable 💟	
Basic		Disable WEP	
Security		WPA WPA2	
Advanced		WPA-AUTO	
WiFi Protected Setup			Cancel 🕢 Apply
LAN			Cancel Apply
Access Control			
System			
Wizard			

Authentication Type: The authentication type default is set to open system. There are four options: Disabled, WEP, WPA, WPA2 and WPA-Auto.



	IEEE802.11n Wireless LAN Rou
WAN	Security
Wireless	Authentication Type : WEP
Basic	
Security	WEP : Open System Shared Key
Advanced	
WiFi Protected Setup	WEP Key Format : HEX 🐷
LAN	WEP Key Length : 64-bit
Access Control	WEP Key 1 : 💿 000000000
	WEP Key 2 : O 000000000
System	WEP Key 3 : O 000000000
Wizard	
	WEP Key 4 : O 000000000

WEP: Open System and Shared Key requires the user to set a WEP key to exchange data with other wireless clients that have the same WEP key.

WEP Key Format: Select the key format from the drop-down list HEX or ASCII.

WEP Key Length: Select the level of encryption from the drop-down list. The WLAN Router supports, 64 and 128-bit encryption.

WEP Key 1 ~ 4: Enables users to create up to 4 different WEP keys. Manually enter a set of values for each key. Select a key to use by clicking the radio button next to the key. Click "Clear" to erase key values.

WPA	/ WPA2/ WPA-Aut	o Secu	irity		
	IEEE802.11n Wireless LAN Router		IEEE802.11n Wireless LAN Router		IEEE802.11n Wireless LAN Router
WAN	Security	WAN	Security	WAN	Security
Wireless Basic	Authentication Type : WPA	Wireless Basic	Authentication Type: WPA2	Wireless Basic	Authentication Type : WPA-AUTO
Security Advanced WFI Protected Setup	Encryption Type :	Security Advanced WiFi Protected Setup	Encryption Type : TKIP O AES O Auto PSK/EAP: PSK/EAP	Security Advanced WFI Protected Setup	Encryption Type : TKIP © AES © Auto PSK / EAP : O PSK EAP
LAN	Radius Server 1 IP Address : 0.0.0.0	LAN	Radius Sever 1 IP Address: 0000	LAN	Radius Server 1 IP Address : 0.0.0.0
Access Control	Port 1812 Shared Scret	Access Control	Port : 1812	Access Control	Port: 1812 Shared Secret:
System Wizard	Padios Server 2 IP Address : 00.0.0 Padios Server 2 IP Address : 00.0.0 Padios Server : 1912 Shawed Secret :	System Wizard	Radus Server 2. IP Address : 0000 Pert : 1912 Daved Server :	System Wizard	Redux Server 2 (IP Addens): 0.0.0.0 Port: 1812 Shared Secret:
	Scarcel Appy		Cancer Aboy		S Cances Apply

If WPA, WPA2 or WPA-Auto EAP is selected, the above screen is shown. Please set the length of the encryption key and the parameters for the RADIUS server.

Cipher Type: Select the cipher type for TKIP or AES encryption, Selected Auto for auto detects the cipher type.

RADIUS Server:

- 1. Enter the IP address, Port used and Shared Secret by the Primary Radius Server.
- 2. Enter the IP address, Port used and Shared Secret by the Secondary Radius Server. (optional)

WPA-PSK / WPA2-PSK Security

If WPA, WPA2 or WPA-Auto PSK is selected.



Cipher Type: Select the cipher type for TKIP or AES encryption, Selected Auto for auto detects the cipher type.

Passphrase: The length should be 8 characters at least.

Advanced

This function enables user to configure advanced wireless functions.

			IEEE802.11n Wireless LAN Rout
WAN	Advanced		
Wireless	Beacon Interval :	100	(defaule : 100 msec , range : 25 ~ 1000)
Basic	RTS Threshold :	2346	(defaule: 2346, range: 256 ~ 2346)
Security	Fragmentation Threshold :	2346	(defaule: 2346, range: 1500 ~ 2346)
Advanced WiFi Protected Setup	DTIM Interval :	1	(default: 1, range: 1 ~ 255)
LAN	<u>.</u>		
Access Control			Cancel 😡 Apply
System			
Wizard			

Beacon Interval: Type the beacon interval in the text box. User can specify a value from 25 to 1000. The default beacon interval is 100.

RTS Threshold: Type the RTS (Request-To-Send) threshold in the text box. This value stabilizes data flow. If data flow is irregular, choose values between 256 and 2346 until data flow is normalized.

Fragmentation Threshold: Type the fragmentation threshold in the text box. If packet transfer error rates are high, choose values between 1500 and 2346 until packet transfer rates are minimized. (NOTE: set this fragmentation threshold value may diminish system performance.)

DTIM Interval: Type a DTIM (Delivery Traffic Indication Message) interval in the text box. User can specify a value between 1 and 255. The default value is 1.

Wi-Fi Protected Setup

This screen enables users to configure the Wi-Fi Protected Setup function.

		IEEE802.	.11n Wireless LAN Router
WAN	Wi-Fi Protected Set	tup	
Wireless	WPS		
Basic Security Advanced WiFi Protected Setup LAN Access Control	Status : Self-PIN Number : Client PIN Number	 Enabled Disabled UnConfigured Cor 12593743 Start PIN 	
System Wizard	Push Button Config	uration	
	Authentication	Encryption	Кеу
	Disabled	None	1

WPS: Enable or Disable the WPS (Wi-Fi Protected Setup) function

Status: Display the state (Un-configured State/Configured State) information of WPS.

Self-PIN Number: Display the default PIN number of WLAN Router.

Client PIN Number: Type Client PIN number the client uses to negotiate with WLAN Router via WPS protocol. It is only used when users want their station to join Router's network.

Push Button Configuration: Clicking the *Start PBC* button will invoke the Push Button Configuration (PBC) method of WPS. It is only used when WLAN Router acts as a Registrar.

LAN Setting

The function enables user to configure the LAN port IP address & DHCP Server.

Basic

This page leads to set LAN port properties, such as the host name, IP address, and subnet mask.

		IEEE802.111	n Wireless LAN Router
WAN	Basic		
Wireless	Host Name :	N Router	
LAN	IP Address :	192.168.1.1	
Basic	Subnet Mask :	255.255.255.0	
DHCP			
Access Control			
System			Cancel Apply
Wizard			

Host Name: Type the host name in the text box. The host name is required by some ISPs. The default host name is "N Router"

IP Address: This is the IP address of the router. The default IP address is 192.168.1.1.

Subnet Mask: Type the subnet mask for the router in the text box. The default subnet mask is 255.255.255.0.

DHCP

			302.11n Wire	ICSS LAN N
/AN	DHCP			
lireless	DHCP Server :	⊙ Enable ○ D	isable	
AN	DHCP Server Start IP :	192.168.1.100		
Basic	DHCP Server End IP :	192.168.1.199		
DHCP	Lease Time :	10080 (minu	tes)	
Access Control				
System	Add Static DHCP	-		
		O Enable O D	isable	
Wizard	Name :			
	MAC address :		•	
	IP address :			
	Static DHCP List			
	Host Name	IP Address	MAC Address	
	Dynamic DHCP List			
	Host Name	IP Address	MAC Address	Expired Time

DHCP Server: Enables the DHCP server to allow the router to automatically assign IP addresses to devices connecting to the LAN. DHCP is enabled by default.

DHCP Server Start IP: Type an IP address to serve as the start of the IP range that DHCP will use to assign IP addresses to all LAN devices connected to the router.

DHCP Server End IP: Type an IP address to serve as the end of the IP range that DHCP will use to assign IP addresses to all LAN devices connected to the router.

Lease Time: The lease time specifies the amount of connection time a network user be allowed with their current dynamic IP address.

Add Static DHCP: Selected Enable the Static DHCP allows you to assign a static IP address to the PC that has the IP address and MAC address mapping set in the Static DHCP List.

Static DHCP List: The static DHCP mapping will list in the table, providing the Host Name, MAC Address and IP Address.

Dynamic DHCP List: All dynamic DHCP client computers are listed in the table and providing the Host name, IP address, and MAC address and Expired Time of the client.

Access Control Setting

This access control enables you to define access restrictions, set up protocol and IP filters, create virtual servers, define access for special applications such as games, and set firewall rules.

<u>Filter</u>

Using filter to deny or allow the users to access. Five types of filters to select: MAC, IP Filter, URL blocking, Domain blocking and Protocol filter.

MAC Filters

	IEFE80	2.11n Wireless LAN Rou
AN	Filters	
ireless	Filters are used to allow or deny LAN use	ers from accessing the Internet.
AN	MAC Filters	
	 Domain/URL Blockir 	ng
cess Control	O Protocol/IP Filters	
ilter	and and	
irtual Server pecial AP	MAC Filter	
MZ	Oisabled	
irewall Settings	O Only allow computers with MAC address list	ed below to access the network
/stem	O Only deny computers with MAC address liste	ed below to access the network
	Appl	ly.
izard		
	MAC Table	
	Name :	
	MAC Address :	
		Add Update Delete Clear
		[] [about [and]

MAC Filter: Enables you to allow or deny Internet access to users within the LAN based upon the MAC address of their network interface. Click the radio button next to Disabled to disable the MAC filter.

Disable: Disable the MAC filter function.

Allow: Only allow computers with MAC address listed in the MAC Table.

Deny: Computers in the MAC Table are denied Internet access.

MAC Table: Use this section to create a user profile which Internet access is denied or allowed. The user profiles are listed in the table at the bottom of the page.

(Note: Click anywhere in the item. Once the line is selected, the fields automatically load the item's parameters, which you can edit.)

Name: Type the name of the user to be permitted/denied access.

MAC Address: Type the MAC address of the user's network interface.

Add: Click to add the user to the list at the bottom of the page.

Update: Click to update information for the user, if you have changed any of the fields.

Delete: Select a user from the table at the bottom of the list and click to remove the user profile.

Clear: Click to erase all fields and enter new information.

The maximum number of MAC address that can be made in the Filters page is 25 entries. User can browse through the MAC address saved by selecting the MAC Filter List.

Domain/ URL Blocking

You could enable Domain/URL blocking to deny the users from accessing the specified Domain/URL. Add those specified Domain/URL in the text box.

	IEEE802.11n Wireless LAN Router
WAN	Filters
Wireless	Filters are used to allow or deny LAN users from accessing the Internet.
LAN	MAC Filters Domain/URL Blocking
Access Control	O Protocol/IP Filters
Filter Virtual Server Special AP DMZ Firewall Settings System Wizard	Domain/URL Blocking Disabled Allow users to access all domains list. Deny users to access all domains list.
	Domains/URL List Block those URLs which contain keywords listed below. Delete Add Cancel

Disable: Disable the Domain/URL Blocking function.

Allow: Allow users to access all domains in the "Domains List".

Deny: Deny users to access all domains in the "Domains List".

Blocked/Permitted Domains/URL: List domains you will Blocked or Permitted.

Apply: Click to add domain to the Blocked/Permitted Domains/URL list.

Delete: Select a Domain/URL from the table at the bottom of the list and click Delete to remove the Domain/URL.

Add: Click to Add button to add domain to the Domains list.

Cancel: Click the *Cancel* button to erase all fields and enter new information.

Protocol/IP Filters

This protocol filter enables you to allow and deny access based upon a communications protocol list you create. The protocol filter profiles are listed in the table at the bottom of the page.

Note: When selecting items in the table at the bottom, click anywhere in the item. The line is selected, and the fields automatically load the item's parameters, which you can edit.

			IEEE802	.11n Wireless LAN R
WAN	Filters			
Wireless	Filters are used to Internet.	allow or de	ny LAN user	s from accessing the
LAN	0	MAC Filter	3	
	0	Domain/UF	L Blocking	
Access Control		Protocol/IP	ese, acres so that the	
Filter	V	FIOLOCUME	Filters	
Virtual Server Special AP DMZ Firewall Settings		O Enable	O Disabled	
System	Name :	1-		
	Protocol :	TCP		
Wizard	Port :		4	
	IP Range :			
				Add Update Delete Clear
	Name	Protocol	Port	IP Range
	Filter FTP	Any	20-21	0.0.0.0-0.0.0.0
		Any	80-80	0.0.0.0-0.0.0.0
	Filter HTTPS	Any	443-443	0.0.0.0-0.0.0.0
	Filter DNS	Any	53-53	0.0.0.0-0.0.0.0

Enable: Click to enable or disable the IP address filter.

Name: Type the name of the user to be denied access.

Protocol: Select a protocol (TCP or UDP) to use for the virtual server.

Port: Type the port range of the protocol.

IP Range: Type the IP range. IP addresses falling between this value and the Range End are not allowed to access the Internet.

Add: Click to add the IP range to the table at the bottom of the screen.

Update: Click to update information for the range if you have selected a list item and have made changes.

Delete: Select a list item and click Delete to remove the item from the list.

Clear: Click the *Clear* button to erase all fields and enter new information.

Virtual Server

This screen enables users to create a virtual server via the WLAN Router. If the WLAN Router is set as a virtual server, remote users requesting Web or FTP services through the WAN are directed to local servers in the LAN. The WLAN Router redirects the request via the protocol and port numbers to the correct LAN server. The Virtual Sever profiles are listed in the table at the bottom of the page.

Note: When selecting items in the table at the bottom, click anywhere in the item. The line is selected, and the fields automatically load the item's parameters, which user can edit.

		IEEE802.11n	Wireless LAN Rout
WAN	Virtual Server		
Wireless	Enabled : 🔘 Enabled	Oisabled	
LAN	Name :		
	Protocol : TCP 🔄		
Access Control	Private Port :		
Filter	Public Port :		
Virtual Server			
Special AP	LAN Server :		
DMZ			
Firewall Settings	Add Update Delete	Clear	
System			
Wizard	Name	Protocol	LAN Server
	Virtual Server FTP	TCP 21/21	0.0.0.0
	Virtual Server HTTP	TCP 80/80	0.0.0.0

Enable: Click to enable or disable the virtual server.

Name: Type a descriptive name for the virtual server.

Protocol: Select a protocol (TCP or UDP) to use for the virtual server.

Private Port: Type the port number of the computer on the LAN that is being used to act as a virtual server.

Public Port: Type the port number on the WAN that will be used to provide access to the virtual server.

LAN Server: Type the LAN IP address that will be assigned to the virtual server.

Add: Click to add the virtual server to the table at the bottom of the screen.

Update: Click to update information for the virtual server if the user has selected a listed item and has made changes.

Delete: Select a listed item and click "Delete" to remove the item from the list.

Clear: Click the *Clear* button to erase all fields and enter new information.

Special AP

This screen enables users to specify special applications, such as games which require multiple connections that are blocked by NAT. The special applications profiles are listed in the table at the bottom of the page.

Note: When selecting items in the table at the bottom, click anywhere in the item. The line is selected, and the fields automatically load the item's parameters, which user can edit.

		IEEE80	2.11n Wireless LAN Rout
WAN	Special AP		
Wireless	Enabled : C	Enabled 💿 Disabled	
LAN	Name :		
Access Control	Trigger		
Filter	Protocol : T	CP 🔽	
Virtual Server	Port Range :		
Special AP DMZ Firewall Settings	Incoming		
System	Protocol : T	CP 🔽	
Wizard	Port :		
	Add Update	Delete Clear	
	Name	Trigger Port Range	Incoming Port
	🔲 Battle.net	Any 6112-6112	Any 6112
	🔲 Dialpad	Any 7175-7175	Any 51200-51201,51210

Enable: Click to enable or disable the application profile. When enabled, users will be able to connect to the application via the WLAN Router's WAN connection. Click "Disabled" on a profile to prevent users from accessing the application on the WAN connection.

Name: Type a descriptive name for the application.

Trigger: Defines the outgoing communication that determines whether the user has legitimate access to the application.

- **Protocol:** Select the protocol (TCP, UDP, or ICMP) that can be used to access the application.
- **Port Range:** Type the port range that can be used to access the application in the text boxes.

Incoming: Defines which incoming communications users are permitted to connect with.

- **Protocol:** Select the protocol (TCP, UDP, or ICMP) that can be used by the incoming communication.
- **Port:** Type the port number that can be used for the incoming communication.

Add: Click to add the special application profile to the table at the bottom of the screen.

Update: Click to update information for the special application if user have selected a list item and have made changes.

Delete: Select a list item and click Delete to remove the item from the list.

Clear: Click the *Clear* button to erase all fields and enter new information.

DMZ

This screen enables users to create a DMZ for those computers that cannot access Internet applications properly through the WLAN Router and associated security settings.

Note: Any clients added to the DMZ exposes the clients to security risks such as viruses and unauthorized access.

	IEEE802.11n Wireless LAN Router
WAN	DMZ
Wireless	Enabled : O Enabled 💿 Disabled
LAN	DMZ Host IP: 0.0.0.0
Access Control	
Filter	
Virtual Server	
Special AP	
DMZ	
Firewall Settings	
System	
Wizard	

Enable: Click to enable or disable the DMZ.

DMZ Host IP: Type a host IP address for the DMZ. The computer with this IP address acts as a DMZ host with unlimited Internet access.

Apply: Click to save the settings.

Firewall settings



A firewall protects your network from the outside world, this screen enables users to setup the simple firewall function on the wireless router.

Endpoint Independent: Any incoming traffic sent to an open port will be forwarded to the application that opened the port.

Address Restricted: Incoming traffic must match the IP address of the outgoing connection.

Address And Port Restriction: Incoming traffic must match the IP address and port of the outgoing connection

System Setting

This system setting enables users to change password, set the device time, view the device information, restart the system, save and load different settings as profiles, restore factory default settings, upgrade the firmware, and ping remote IP addresses....etc.

Password

This function enables users to set administrative and user passwords. These passwords are used to gain access to the WLAN Router interface.

	IEEE802.11n Wireless LAN Ro	uter
		GUCT
WAN	Password	
Wireless	Administrator (The login name is "admin")	
LAN	New Password :	
Access Control	Confirm Password :	
	User (The login name is "user")	
System	New Password :	
Password	NEW Fasswurd .	
Time	Confirm Password :	
Device Information		
Log		-
Log Setting	🔀 Cancel 🛛 🐼 Apply	e
Statistic		
Restart		
Firmware		
Configuration		
UPnP		
Ping Test		
Remote Management		
Wizard		

Administrator: Type the password the Administrator will use to log into the system. The password must be typed again for confirmation. The Administrator can also authorize users the ability to configure the WLAN Router.

User: Type the password the User will use to log in to the system. The password must be typed again for confirmation.

<u>Time</u>

This function enables users to set the time and date for the WLAN Router's realtime clock, select properly time zone, and enable or disable daylight saving.

	IEEE802.11n Wireless LAN Rou
WAN	Time
Wireless	Local Time : May/7/2008 1:4:12
LAN	Time Zone : (GMT-08:00) Pacific Time (US & Canada)
Access Control	Time Setting
System	Synchronize the Clock with NTP Server : Manual Solution
Password	NTP Server : (default)
Time	
Device Information	Manually Date and Time Setting
Log	2008 👿 Month May 💟 Day 07 💟 Hour 01 💟 Minute 04 💟 Second 12 💟
Log Setting	
Statistic	Set Time
Restart	
Firmware	Daylight Saving
Configuration	Daylight
UPnP	Saving : Enabled 💿 Disabled
Ping Test	Start Mar 👻 3rd 💌 Sun 👻
Remote Management	
Wizard	End Nov 💉 2nd 📉 Sun 💌

Local Time: Displays the local time and date.

Time Zone: Select the time zone from the drop-down list.

Synchronize the clock with NTP Server: Enable or disable the WLAN Router automatically adjust the system time from NTP Server.

Automatic: Automatically adjust the system time from NTP Server.

Manual: Manually adjust the system time when you press the *Set Time* button.

NTP server: The Simple Network Time Protocol (SNTP) server allows the WLAN Router to synchronize the system clock to the global Internet through the SNTP Server. Specify the NTP domain name or IP address in the text box.

Manually Date and Time Setting: Manually setting the WLAN Router system time, press the *Set Time* button to update the system time.

Daylight Saving: Enables users to enable or disable daylight saving time. When enabled, select the start and end date for daylight saving time.

Device Information

This function enables users to view the WLAN Router's WAN, Wireless, LAN and System configurations.

		IEEE802.11n Wireless LAN Ro
WAN	Device Information	
Wireless	WAN	
	MAC Address :	00:98:76:ab:cd:ef
LAN	Connection Type :	DHCP Client Disconnected
Access Control	Connection Type .	DHCP Release DHCP Renew
	IP Address :	0.0.0
System	Subnet Mask :	0.0.0.0
Password	Default Gateway :	0.0.0
Time	DNS :	
Device Information		
Log	Wireless	
Log Setting	Connection :	Enabled
Statistic		N Router
Restart Firmware	Channel :	
Configuration	Authentication Type :	
UPnP	Wireless Client List :	Disable
Ping Test	Witeless Client List .	
Remote Management		MAC Address
Wizard		
	LAN	
	MAC Address :	00:98:76:ab:cd:ee
	IP Address :	192.168.1.1
	Subnet Mask :	255.255.255.0

WAN: This section displays the WAN interface configuration including the MAC address, Connection status, DHCP client status, IP address, Subnet mask, Default gateway, and DNS.

Wireless: This section displays the wireless configuration information, including the MAC address, the Connection status, SSID, Channel and Authentication type.

LAN: This section displays the LAN interface configuration including the MAC address, IP Address, Subnet Mask, and DHCP Server Status. Click "DHCP Table" to view a list of client stations currently connected to the WLAN Router LAN interface.

Click "*DHCP Release*" to release all IP addresses assigned to client stations connected to the WAN via the WLAN Router. Click "*DHCP Renew*" to reassign IP addresses to client stations connected to the WAN.

Log

This function enables users to view a running log of Router system statistics, events, and activities. The log displays up to 200 entries. Older entries are overwritten by new entries.

			EE802.11n Wireless LAN Route
WAN	Log		
Wireless	First Page	Last Page Prev	rious Page Next Page Clear Log
LAN	Refresh		
Access Control	Time	Туре	Message
System	May 6 16:20:00	info	Sending discover DNS started
Password Time Device Information Log Log Setting Statistic Restart Firmware Configuration UPnP Ping Test Remote Management	May 6 16:20:00 May 6 16:20:04 May 6 16:20:04 May 6 16:20:04 May 6 16:20:01 May 6 16:20:01	info info info info info	device_lan_ip=192.168.1.1 , device_lan_subnet_mask=255.255.255.0 DHCP server start. Sending discover DHCP client start. [Initialized, firmware version: 1.00]

The Log screen commands are as follows:

Click "First Page" to view the first page of the log

Click "Last Page" to view the final page of the log

Click "*Previous Page*" to view the page just before the current page

Click "Next Page" to view the page just after the current page

Click "*Clear Log*" to delete the contents of the log and begin a new log

Click "*Refresh*" to renew log statistics

Time: Displays the time and date that the log entry was created.

Message: Displays summary information about the log entry.

Log Setting

		IEEE802.11n Wireless LAN	Rout
WAN	Log Setting		
Wireless	SMTP Authentication :	○ Enabled Disabled	
LAN	SMTP Account : SMTP Password :		
Access Control	SMTP Server :		
System	From Email Address :		
Password	To Email Address :		
Time			
Device Information		Email Log Now	
Log			
Log Setting	Log Type		
Statistic		System Activity	
Restart			
Firmware		Debug Information	
Configuration		Attacks	
UPnP		Dropped Packets	
Ping Test			
Remote Management		Notice	

This function enables users to set Router Log parameters.

SMTP Authentication: Selected the Enabled if the SMTP server need for authentication, fill in account name and password in SMTP Account field and SMTP Password field.

SMTP Account: If the SMTP Authentication enabled, fill in the SMTP account name here.

SMTP Password: If the SMTP Authentication enabled, fill in the password of the SMTP account here.

SMTP Server: Type your SMTP server address here.

From/To Email Address: Type an email address for the log to be sent to. Click *"Email Log Now"* to immediately send the current log.

Syslog Server: Type the IP address of the Syslog Server if user wants the WLAN Router to listen and receive incoming Syslog messages.

Log Type: Enables users to select what items will be included in the log:

System Activity: Displays information related to WLAN Router operation.

Debug Information: Displays information related to errors and system malfunctions.

Attacks: Displays information about any malicious activity on the network.

Dropped Packets: Displays information about packets that have not been transferred successfully.

Notice: Displays important notices by the system administrator.

<u>Statistic</u>

This function displays a table that shows the rate of packet transmission via the WLAN Router's LAN, WAN and Wireless ports (in bytes per second).

		IEEE8U.	z.rin wire	ess LAN Rou
WAN	Statistic			
Wireless	TUtilization (bytes)	LAN	WAN	Wireless
LAN	Send Receive	30017Packets 2525Packets	0Packets 0Packets	0Packets 0Packets
Access Control	Receive	ZOZOFACKELS	UFACKEIS	UFACKELS
System		Rese	at	
Password				
Time				
Device Information				
Log				
Log Setting				
Statistic				
Restart				
Firmware				
Configuration				
UPnP				
Ping Test				
Remote Management				
Wizard				

Click "Reset" to erase all statistics and begin logging statistics again.

<u>Restart</u>

Click "*Restart*" to restart the system in the event the system is not performing correctly.

	IEEE802.11n
	IEEE0UZ.1111
AN Restart	
ireless	Restart
	Restart
N .	
cess Control	
rstem	
assword	
me	
evice Information	
pg	
og Setting	
tatistic	
estart	
rmware	
nfiguration	
ιP	
Test	
mote Management	

Firmware

This function enables users to keep the WLAN Router firmware up to date.

	IEEE802.11n Wireless LAN Route
WAN	Firmware
Wireless	Firmware Version : 1.00 , Tue, 06 May 2008
LAN	Upgrade Firmware
Access Control	Browser
System	
Password	Upgrade
Time	
Device Information	
Log	
Log Setting	
Statistic	
Restart	
Firmware	
Configuration	
UPnP	
Ping Test	
Remote Management	
Wizard	

Please follow the below instructions:

Download the latest firmware from the manufacturer's Web site, and save it to disk. Click **"Browse"** and go to the location of the downloaded firmware file. Select the file and click **"Upgrade"** to update the firmware to the latest release.

Configuration

This function enables users to save settings as a profile and load profiles for different circumstances. User can also load the factory default settings, and run a setup wizard to configure the WLAN Router and Router interface.

	IEEE802.11n Wireless LAN Router
WAN	Configuration
V MAIN	Configuration
Wireless	Save Settings
LAN	Save
Access Control	Load Settings Browser
System	Load
Password	
Time	
Device Information	Restore Factory Default Settings
Log	Restore
Log Setting	
Statistic	
Restart	
Firmware	
Configuration	
UPnP	
Ping Test	
Remote Management	
Wizard	

<u>UPnP</u>

This function enables users to enable or disable the UPnP function on the WLAN Router.

	IEEE802.11n Wireless LAN Router
WAN	UPnP
Wireless	UPnP : 💿 Enable 🔘 Disable
LAN	
Access Control	Cancel Apply
System	
Password	
Time	
Device Information	
Log	
Log Setting	
Statistic	
Restart	
Firmware	
Configuration	
UPnP	
Ping Test	
Remote Management	
Wizard	

UPnP: Select to enable or disable the UPnP function on the WLAN Router. UPnP is short for Universal Plug and Play that is a networking architecture that provides compatibility among networking equipment, software, and peripherals. The WLAN Router is an UPnP-enabled Router and will only work with other UPnP devices/software. If user does not want to use the UPnP functionality, select "Disabled" to disable it.

Ping Test

The ping test enables users to determine whether an IP address or host is present on the Internet. Type the host name or IP address in the text box and click Ping button to start the Ping test.

		IEEE802.11n Wireless LAN R
WAN	Ping Test	
Wireless	Host Name or IP address	Ping
LAN		
Access Control		
System		
Password		
Time		
Device Information		
Log		
Log Setting Statistic		
Restart		
Firmware		
Configuration		
UPnP		
Ping Test		
Remote Management		
Wizard		

Remote Management

This function enables users to set up remote management. Using remote management, the WLAN Router can be configured through the WAN via a Web browser. A user name and password are required to perform remote management.

	IEEE802.11n Wireless LAN Route
WAN	Remote Management
Wireless	нттр
LAN	O Enable O Disable
Access Control	IP Address : From * To
System	
Password	Allow to Ping WAN port
Time	Enable O Disable
Device Information	
Log	PPTP : Enabled Disabled
Log Setting	L2TP: Enabled Disabled
Statistic	
Restart =	IPSec 🔅 💿 Enabled 🔘 Disabled
Firmware	IDENT: O Stealth 💿 Closed
Configuration UPnP	
Ping Test	
Remote Management	Cancel Apply
Wizard	Cancer V Appry

HTTP: Enables users to set up HTTP access for port number, and Remote IP Range for remote management.

IP Address: Remote IP Range, to type a range of Router IP addresses that can be pinged from remote locations

Allow to Ping WAN Port: Enables users to allow to ping WAN Port.

PPTP: Enables users to set up PPTP access for remote management.

L2TP: Enables users to set up L2TP access for remote management.

IPSec: Enables users to set up IPSec access for remote management.

IDENT: Default is stealth. This enables users to set port 113 stealth.

TECHNICAL SPECIFICATIONS

General			
Standards	IEEE 802.3u 100BASE-TX Fast Ethernet		
	IEEE 802.11n 2.0; IEEE 802.11g; IEEE 802.11b		
Protocol	CSMA/CA with ACK		
Radio Technology	DSSS/OFDM		
Data Transfer Rate	802.11n mode: up to 150Mbps (auto sense)		
	802.11g mode: up to 54Mbps (auto sense)		
	802.11b mode: up to 11Mbps (auto sense)		
	Ethernet: 10Mbps (half duplex), 20Mbps (full-duplex)		
Boogiyor Songitivity	Fast Ethernet: 100Mbps (half duplex), 200Mbps (full- duplex)		
Receiver Sensitivity	802.11n: -62dBm typical @ 300Mbps 802.11g: -68dBm typical @ 54Mbps		
	802.11b: -85dBm typical @ 11Mbps		
TX Power	802.11b 15dBm (average power)		
	802.11g 17dBm (average power)		
	802.11n 18dBm (average power)		
Network Cables	10BASE-T: 2-pair UTP Cat. 3,4,5 (100 m), EIA/TIA- 568 100-		
	ohm STP (100 m)		
	100BASE-TX: 2-pair UTP Cat. 5 (100 m), EIA/TIA-568 100-		
	ohm STP (100 m)		
Frequency Range	2412 ~ 2484 MHz ISM band		
Modulation Schemes	DBPSK/DQPSK/CCK/OFDM		
Security	64/128-bits WEP Encryption; WPA, WPA-PSK, WPA2, WPA2-PSK		
Channels	1~11 Channels (US/NCC) 1~13 Channels (EU)		
Number of Ports	LAN: 4 x 10/100Mbps Auto-MDIX Fast Ethernet port		
	WAN: 1 x 10/100Mbps Auto-MDIX Fast Ethernet port		
	Physical and Environmental		
DC inputs	5VDC/1A		
Power Consumption	3.0W (Max)		
Temperature	Operating: 0° C ~ 40° C, Storage: -10° ~ 70° C		
Humidity	Operating: 10% ~ 90%, Storage: 5% ~ 90%		
Dimensions	147 x 115 x 35 mm (W x D x H) without Antenna		
EMI:	FCC Class B, CE Mark B		