# 11n Wireless Broadband Router

## **User's Manual**

**APRIL 2011** 

#### FCC Warning

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

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

**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 a minimum distance of about eight inches (20cm) between the radiator and your body. This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter. IEEE802.11b or 802.11g operation of this product in the USA is firmware-limited to channels 1 through 11.

#### Notice

Changes or modifications to the equipment, which are not approved by the party responsible for compliance could affect the user's authority to operate the equipment. Company has an on-going policy of upgrading its products and it may be possible that information in this document is not up-to-date. Please check with your local distributors for the latest information.

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Revision History Revision

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#### 1. Introduction

This Wireless Broadband Router complies with IEEE 802.11n, and provides faster and farther range than 802.11g while being backward compatible with 802.11g and 802.11b mode. This router uses advanced broadband router chipset and wireless LAN chipset solution to let you enjoy high-speed Wired and Wireless connection. Simply connect this device to a Cable or DSL modem and then you can share your high-speed Internet access with multiple PCs at your home with or without wires. It creates a secure Wired and Wireless network for you to share photos, files, video, music, printer and network storage. WR750R provides maximum transfer rate up to 150Mbps and supports WEP, WPA, WPA2, WPS, 802.1x high-level WLAN security features that guarantee the best security for users.

This product is made in ISO9001 approved factory and complies with FCC part 15 regulations and CE approval.

#### 1.1 Features

- Up to 150 Mbps data transfer rates at 802.11n (Wireless)
- Backward compatible with IEEE 802.11b/g
- Built-in 4 port 10/100 Ethernet switch with auto speed sensing
- Supports NAT, NAPT, DHCP Server/Client
- Supports VPN pass through IPSec, PPTP, L2TP
- Supports Virtual Server / Port Trigger
- Supports Virtual DMZ Host, DNS Proxy, DDNS, UPnP
- Supports 64/128-bit WEP Data Encryption
- Supports WPA / WPA2 / WPS / 802.1x Authentication
- Supports WDS (Wireless Distribution System) mode
- Supports MAC Filter, Client Filter, URL/IP Filter
- Supports Auto-crossover (MDI/MID-X) function
- Supports software upgrade through Web
- Friendly web-based GUI Configuration and Management
- •

#### **1.2 Specifications**

	300 Mbps (802.11n mode)
Data Transfer Rates	54Mbps (802.11g mode)
	11Mbps (802.11b mode)

	IEEE 802.11b / 802.11g / 802.11n (Wireless)			
Standard	IEEE 802.3, IEEE 802.3u, IEEE 802.3x Full Duplex Flow			
	Control (Wired)			
Operating Radius	100M Indoor, 400M Outdoor			
Internet Access	Connect to Broadband (Cable or xDSL) modem or			
Internet Access	Ethernet backbone for Internet Surfing			
WAN Connection	Dynamic IP, Static IP, PPPoE, PPTP, L2TP			
	NAT (Network Address Translation)			
	NAPT (Network Address and Port Translation)			
	DHCP (Dynamic Host Configuration Protocol)			
	Server/Client			
	Support VPN pass through – IPSec, PPTP, L2TP			
ID Monogoment	Support Virtual server / Port Trigger			
IP Management	Support Virtual DMZ host			
	Support DNS Proxy			
	Support Dynamic DNS			
	Support UPnP (Internet Gate Device)			
	Support 64/128-bit WEP Data Encryption			
	Support WPA, WPA2 (802.11i) security			
	Support MAC ACL (MAC Access Control List)			
	Support WDS (Wireless Distribution System)			
security	Support WPS (Wi-Fi Protected Setup).			
	Support PAP / CHAP / MS-CHAP / MS-CHAPv2			
	authentication			
	Support 802.1x RADIUS Server			
	Support MAC filter			
	Support IP filter			
Firewall	Support URL blocking			
Firewall	Support NAT Protection			
	Support Hacker pattern filter (Port Scan , Land attack,			
	DOSetc)			
	Web-based GUI Configuration / Management			
	Telnet remote management / Web Remote Login			
	from WAN.			
wanagement	Software Upgrade through Web			
	Support NTP update.			
	Support System Log			

	Support Configuration setting Backup/Restore/Reset		
	Default		
Interface	LAN x 4, WAN x 1, USB2.0		
LED Indicators	POWER, STATUS, LAN x 4, WAN x 1, WLAN x 1		
Antenna	1 Antennas		
Wireless Frequency	2.4000~2.4835GHz		
Output Power	15 dBm		
	IEEE 802.11b : -88 dBm (Typical), IEEE 802.11g : -70dBm		
Pocoivor Sonsitivity	(Typical)		
Receiver sensitivity	IEEE 802.11n: 20Mhz -68dBm ; 40Mhz -65dBm		
	(Typical)		
Transmit Output Power	· 11b : 18±1 dBm, 11g : 15±1 dBm , 11n : 15±1 dBm		
Power	DC 5V, 2A		
Operating			
Temperature	0 C ~ 40 C		
Humidity	5 % ~ 95 % (non-condensing)		
Storage Temperature	0°C ~ 70°C		
Supported OS	Windows 98SE, ME, 2000, XP, Vista, Win7, Mac and		
	Linux		
Regulations	FCC, CE		
<b>RoHS</b> Compliant	RoHS Compliant		

#### 1.3 Package Contents

- One Wireless AP Router with 2 antennas
- One External Power Adapter
- One CD-ROM (user's manual)
- One RJ-45 Ethernet Cable

#### 1.4 System Requirements

- Computers with an installed Ethernet adapter.
- Valid Internet Access account and Ethernet based DSL or Cable modem.
- 10/100Base-T Ethernet cable with RJ-45 connector.
- TCP/IP protocol must be installed on all PCs.
- System with MS Internet Explorer ver. 5.0 or later, or Netscape Navigator ver. 4.7 or later.

#### 1.5 LEDs Indication & Connectors of Wireless Router <u>Front Panel LEDs Indication</u>

ڻ ل	o 🕈 🕈	$\begin{bmatrix} & LAN \\ 1 & 2 \\ 2 & 3 \\ 4 \end{bmatrix}$	
LED	Light Status	Description	
PWR	On	Wireless Router is powered on.	
	Off	Wireless Router is powered off.	
	On (Steady Green)	Reset: When the router is resenting the	
		configuration, the light will steady on	
Status	Slow Blinking	Slow Blinking Status: System is up and ready.	
	Flashing	WPS: When the router is connecting a pc of	
		wireless adapter with WPS function.	
WAN	On	WAN port is successfully connected	
	Blinking Data is being sent or received.		
WLAN	Slow Blinking	WLAN is successfully connected.	
	Blinking Data is being sent or received.		
LAN	On	On LAN port is successfully connected.	
(1, 2, 3, 4)	Blinking Data is being sent or received.		

#### **Back Panel Connectors**



Button/Port	Description
Reset	Reset configurations to default. You would use the reset button only
	when a program error has caused your Wireless AP router to hang.
	Press the button and hold after 6 seconds.
WPS	Click WPS button 1 to 3 seconds while you are connecting a PC of
	wireless adapter with WPS function (you must enable WPS' PBC
	function).
LAN	Ethernet RJ-45 connector, connect to PC with a RJ-45 Ethernet cable.
(1x, 2x, 3x, 4x)	
WAN	Ethernet RJ-45 connector, connect to WAN access device, such as the

	Cable modem or ADSL modem.	
DC-IN	Power connector, connect to the power adapter (DC-5V, 2A)	
	packaged with the AP router.	
USB	Connect the 3G/3.5G USB device to USB Port.	
	The 3G/3.5G USB port locates at right-side of the wireless router.	

#### **1.6 Installation Instruction**

- 1) Power off 802.11n AP Router and DSL/Cable modem.
- 2) Connect computer to the LAN port on the Wireless Router with Ethernet cable.
- 3) Connect the DSL or Cable modem to the WAN port on the Wireless Router with Ethernet cable.
- 4) Power on DSL or Cable modem first, then connect power adapter to the power jack on the rear panel of Wireless Router and plug the power cable into an outlet.
- 5) Check LEDs.
  - a) Once power on Wireless Router, Power LED should be on.
  - b) LAN LED should be on for each active LAN connection.
  - c) The WAN LED should be on when the DSL or cable modem is connected.

### Warning: Only use the power adapter is provided from this package, use other power adapter may cause hardware damage

#### 2. PC Configuration

To communicate and configure 802.11n AP router, the PC on your LAN must install TCP/IP protocol. Make sure the TCP/IP protocol of the PC is configured for Obtain IP address from DHCP and is connected to LAN (Ethernet) port of the AP router. In doing so, the PC obtains an IP address of 192.168.1.1 from 802.11n AP router.

The 802.11n AP router assumes an IP address of 192.168.1.1 without network connectivity. This IP address is used for communicating with the 802.11n AP router via the web UI or Telnet, with the PC connected to the LAN port.

The 802.11n AP router assumes a DHCP IP address on the WAN side if connected to the network. In this case user can communicate with the same IP address 192.168.1.1 with PC connected to the LAN port. PC in the network can communicate with the DHCP IP address allocated to 802.11n router.

#### 2.1 TCP/IP Networking Setup

#### Checking TCP/IP Settings for Windows 9x/Me

a) Select "Start → Control Panel → Network", the window below will appear,

Network ?>				
Configuration   Identification   Access Control				
,				
The following <u>n</u> etwork components are installed:				
Client for Microsoft Networks				
📇 Microsoft Family Logon				
Big Dial-Up Adapter				
SIS 900-Based PCI Fast Ethernet Adapter				
TCP/IP -> Dial-Up Adapter     TCP/IP -> SiS 900.Based PCI Fast Ethernet Adapter				
Add Remove Properties				
Primary Network Logon:				
Microsoft Family Logon				
Eile and Print Sharing				
Description				
TCP/IP is the protocol you use to connect to the Internet and wide-area networks.				
OK Cancel				

b) Click "Properties", the window below will appear and then click "IP Address" tab,

CP/IP Properties				?>
Bindings	) Adv	/anced	N	letBIOS
DNS Configuration	Gateway	WINS Con	figuration	IP Address
An IP address can be automatically assigned to this computer. If your network does not automatically assign IP addresses, ask your network administrator for an address, and then type it in the space below.				
Obtain an IP	address au	tomatically		
C Specify an IP	address:-			
JP Address:				
S <u>u</u> bnet Mas	k:			
			_	

- If you decide to use DHCP, select "Obtain an IP address automatically", then click "OK" to confirm your settings. Once you restart your system, Wireless Router will obtain an IP address for this system.
- If you decide to use fixed IP address for your system, select "Specify an IP address", and make sure that IP Address and Subnet Mask are correct.

c) Select "Gateway" tab and enter correct gateway address in "New gateway" field, then click "Add",

TCP/IP Properties		? ×
Bindings DNS Configuration	Advanced Gateway WINS Conf	NetBIOS iguration IP Address
The first gateway ir The address order machines are used	n the Installed Gateway li in the list will be the orde	st will be the default. r in which these
<u>N</u> ew gateway:	. <u>A</u> do	1
Installed gateway	s: <u>H</u> emo	ve
		( Cancel

d) Select "DNS Configuration" tab and make sure select "Enable DNS", enter the DNS address provides from your ISP in the "DNS Server Search Order" field, then click "Add",

TCP/IP Properties		<u>? ×</u>
Bindings DNS Configuration	Advanced Gateway WINS (	NetBIOS Configuration IP Address
• Disable DNS		
Host:	Domai	in:
DNS Server Sea	ch Order	<u>A</u> dd <u>R</u> emove
Domain Suffix Se	arch Order	A <u>d</u> d Re <u>m</u> ove
		OK Cancel

#### Checking TCI/IP Setting for Windows NT4.0

a) Select "Control Panel → Network", window below will appear, click
 "Protocols" tab then select "TCP/IP protocol",

Network			? X
Identification Ser	vices Protocols	Adapters Binding	38
<u>N</u> etwork Protoco	ls:		
NetBEUI Pro	otocol VSPX Compatible	Transnort	
WLink Net	BIOS	riansport	
TCP/IP Prot	ocol		
<u>A</u> dd	<u>R</u> emove	Properties	∐pdate
- Description:			
Transport Conti area network p	rol Protocol/Intern rotocol that provid	et Protocol. The defa les communication a	ault wide
diverse intercor	nnected networks		
			Cawaal
		UN	Lancel

**b)** Click "Properties", window below will appear.

Microsoft TCP/IP Pro	perties			? X
IP Address DNS	WINS Addres:	s│DHCP Re	lay   Routing	
An IP address can b by a DHCP server. I ask your network add the space below.	e automatical  f your network ministrator for	y assigned to : does not ha an address, a	this network o ve a DHCP se and then type it	ard rver, in
Ada <u>p</u> ter:				
PCI Fast Ethernet A	dapter			•
Obtain an IP a C Specify an IP a	ddress from a address	DHCP serve	ſ	
IP Address:				
S <u>u</u> bnet Mask:			]	
Default <u>G</u> ateway:			J	
			Advance	ed]
	OK	Cano	el A	pply

- Select the network card on your system from "Adapter" field.
- If you decide to use IP address from Wireless Router, select "Obtain an IP address from a DHCP server".

- If you decide to use the IP address you are desired, select "Specify an IP address". Make sure enter correct addresses in "IP Address" and "Subnet Mask" fields.
- You must set Wireless Router's IP address as "Default Gateway".

c) To enter DNS address is provided from your ISP. Select "DNS" tab, click "Add" under "DNS Service Search Order" list, then enter DNS Server IP address in "TCP/IP DNS Server" window and click "Add".

Microsoft TCP/IP Properties
IP Address DNS WINS Address DHCP Relay Routing
Domain Name System (DNS)
Host Name: Domain
DNS Service Search Order
Down-L
Add Edit. Hemove
TCP/IP DNS Server
DNS Server: Add Cp1
Cancel Down+
OK Cancel Apply

#### Checking TCP/IP Settings for Windows 2000

a) Select "Start  $\rightarrow$  Control Panel  $\rightarrow$  Network and Dial-up Connection" and right click "Local Area Connection" then click "Properties",

Local Area Connection	Properties	? ×
General		
Connect using:		
💷 SiS 900-Based	PCI Fast Ethernet Ada	oter
·		Configure
Components checked	are used by this conne	ection:
<ul> <li>✓</li></ul>	osoft Networks r Sharing for Microsoft col (TCP/IP)	Networks
Install	<u>U</u> ninstall	Properties
Description Transmission Contro wide area network across diverse inter Sho <u>w</u> icon in taskt	ol Protocol/Internet Pro protocol that provides o connected networks. bar when connected	tocol. The default communication
		DK Cancel

**b)** Select the "Internet Protocol (TCP/IP)" for the network card on your system, then click "Properties", window below will appear.

Internet Protocol (TCP/IP) Properties	? X
General	
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.	n
Obtain an IP address automatically	
Use the following IP address:	
[P address:	
Sybnet mask:	
Default gateway:	
Obtain DNS server address automatically	
────────────────────────────────────	
Preferred DNS server:	
Alternate DNS server:	
Ad <u>v</u> anced.	
OK Car	ncel

- If you decide to use IP address from Wireless Router, select "Obtain an IP address automatically".
- If you decide to use the IP address you are desired, select "Use the following IP address". Make sure enter correct addresses in "IP Address" and "Subnet Mask" fields.
- You must set Wireless Router's IP address as "Default Gateway".
- If the DNS Server fields are empty, select "Use the following DNS server addresses" and enter the DNS address is provided by your ISP, then click "OK".

#### Checking TCP/IP Settings for Windows XP

a) Click "Start", select "Control Panel → Network Connection" and right click
 "Local Area Connection" then select "Properties", window below will appear.

🕹 Local Area Connection Properties 🛛 🔹 💽
General Authentication Advanced
Connect using:
B SiS 900-Based PCI Fast Ethernet Adapter
<u>C</u> onfigure
This connection uses the following items:
Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.
Sho <u>w</u> icon in notification area when connected
OK Cancel

**b)** Select "Internet Protocol (TCP/IP)" then click "Properties", window below will appear.

Internet Protocol (TCP/IP) Prop	erties 🛛 🖓 🔀
General Alternate Configuration	
You can get IP settings assigned auto this capability. Otherwise, you need to the appropriate IP settings.	omatically if your network supports ask your network administrator for
Obtain an IP address automatica	ally.
Use the following IP address: —	
IP address:	
S <u>u</u> bnet mask:	
Default gateway:	· · ·
⊙ O <u>b</u> tain DNS server address auto	matically
OUse the following DNS server ac	Idresses:
Preferred DNS server:	
Alternate DNS server:	· · ·
	Ad <u>v</u> anced
	OK Cancel

- If you decide to use IP address from Wireless Router, select "Obtain an IP address automatically".
- If you decide to use the IP address you are desired, select "Use the following IP address". Make sure enter correct addresses in "IP Address" and "Subnet Mask" fields.
- You must set Wireless Router's IP address as "Default Gateway".
- If the DNS Server fields are empty, select "Use the following DNS server addresses" and enter the DNS address is provided by your ISP, then click "OK".

#### Checking TCP/IP Settings for Windows Vista

a) Click "Start"  $\rightarrow$  "Control Panel  $\rightarrow$  "Manage Network Connections" and right click "Local Area Connection" then select "Properties", window below will appear.

	ng	
Connect using:		
Realtek RT	FL8139/810x Family Fast Eth	ernet NIC
		Configure
This connection u	uses the following items:	
Client for	Microsoft Networks	
🗹 📙 QoS Pac	cket Scheduler	
File and	Printer Sharing for Microsoft	Networks
Internet I	Protocol Version 6 (TCP/IPv	6)
<ul> <li>✓ ▲ Internet I</li> <li>✓ Internet I</li> </ul>	Protocol Version 6 (TCP/IPv Protocol Version 4 (TCP/IPv	6) (4)
<ul> <li>Internet I</li> <li>Internet I</li> <li>Internet I</li> <li>Internet I</li> </ul>	Protocol Version 6 (TCP/IPv Protocol Version 4 (TCP/IPv er Topology Discovery Map	6) 4) ber I/O Driver
<ul> <li>✓ Internet</li> <li>✓ Internet</li> <li>✓ Internet</li> <li>✓ Link-Lay</li> <li>✓ Link-Lay</li> </ul>	Protocol Version 6 (TCP/IPv Protocol Version 4 (TCP/IPv er Topology Discovery Mapp er Topology Discovery Resp	6) 4) ber I/O Driver bonder
✓ Internet	Protocol Version 6 (TCP/IPv Protocol Version 4 (TCP/IPv er Topology Discovery Mapp er Topology Discovery Resp	6) (4) Der I/O Driver vonder
✓ Internet     ✓ Internet     ✓ Internet     ✓    ✓ Internet     ✓    ✓ Internet     ✓    ✓ Ink-Lay      ✓    ✓    ✓ Ink-Lay      ✓     ✓     ✓     ✓     ✓     ✓	Protocol Version 6 (TCP/IPv Protocol Version 4 (TCP/IPv er Topology Discovery Mapp er Topology Discovery Resp Uninstall	6) 4) ber I/O Driver wonder Properties
<ul> <li>✓ A Internet</li> <li>✓ Internet</li> <li>✓ Link-Laye</li> <li>✓ A Link-Laye</li> <li>✓ Install</li> <li>Description</li> </ul>	Protocol Version 6 (TCP/IPv Protocol Version 4 (TCP/IPv er Topology Discovery Mapş er Topology Discovery Resp Uninstall	6) 4) ber I/O Driver bonder Properties
<ul> <li>✓ ▲ Internet I</li> <li>✓ ▲ Internet</li> <li>✓ ▲ Link-Laye</li> <li>✓ ▲ Link-Laye</li> <li>✓ ▲ Link-Laye</li> <li>Install</li> <li>Description</li> <li>Transmission C</li> </ul>	Protocol Version 6 (TCP/IPv Protocol Version 4 (TCP/IPv er Topology Discovery Mapp er Topology Discovery Resp Uninstall iontrol Protocol/Internet Prot	6) 4) ber I/O Driver bonder Properties ocol. The default
<ul> <li>✓ ▲ Internet I</li> <li>✓ ▲ Internet</li> <li>✓ ▲ Internet</li> <li>✓ ▲ Link-Laye</li> <li>✓ ▲ Link-Laye</li> <li>✓ ▲ Link-Laye</li> <li>✓ ■ Link</li></ul>	Protocol Version 6 (TCP/IPv Protocol Version 4 (TCP/IPv er Topology Discovery Mapp er Topology Discovery Resp Uninstall iontrol Protocol/Internet Prot rork protocol that provides co interconnected networks	6) 4) ber I/O Driver bonder Properties ocol. The default ommunication
<ul> <li>✓ ▲ Internet I</li> <li>✓ ▲ Internet</li> <li>✓ ▲ Internet</li> <li>✓ ▲ Link-Lay</li> <li>✓ ▲ Link-Lay</li> <li>✓ ■ Link-Lay</li> <li>✓</li></ul>	Protocol Version 6 (TCP/IPv Protocol Version 4 (TCP/IPv er Topology Discovery Mapp er Topology Discovery Resp Uninstall iontrol Protocol/Internet Prot rork protocol that provides co interconnected networks.	6) 4) ber I/O Driver bonder Properties ocol. The default ommunication

**b)** Select "Internet Protocol (TCP/IP)" then click "Properties", window below will appear.

	Alternate Configuration				
You car this cap for the	n get IP settings assigned a ability. Otherwise, you nee appropriate IP settings.	utomatically if ed to ask your	your n netwoi	etwork s ′k admini	supports istrator
<u>o</u>	otain an IP address automa	tically			
- O U <u>s</u>	e the following IP address:				
IP ac	ldress:	1) = ¥0	ě.	+	
S <u>u</u> br	iet mask:				
Defa	ult gateway:				1
() ()	otain DNS server address a	utomatically			
O Us	e the following DNS server	addresses:			
Prefe	erred DNS server:	0.70	14.1	14	
<u>A</u> lter	nate DNS server:				
				<b></b>	
				Adva	anced

- If you decide to use IP address from Wireless Router, select "Obtain an IP address automatically".
- If you decide to use the IP address you are desired, select "Use the following IP address". Make sure enter correct addresses in "IP Address" and "Subnet Mask" fields.
- You must set Wireless Router's IP address as "Default Gateway".
- If the DNS Server fields are empty, select "Use the following DNS server addresses" and enter the DNS address is provided by your ISP, then click "OK".

#### Checking TCP/IP Settings for Windows 7

a) Click "Start" → "Control Panel" → Double-click Network and Sharing Center
 icon → Select "Local Area Connection #". (Local network your ADSL hooked
 up with) → Select "Properties" → Select "Internet Protocol Version 4
 (TCP/IPv4)" then click "Properties"

Networking	Sharing		
Connect using	g:		
Realtel	k USB Remo	te NDIS Device	
This connecti	ion uses the	following items:	Configure
🗹 📲 Clier	nt for Microso	ft Networks	
	Packet Sch	eduler having for Missour	A Naturalia
	net Protocol	Version 6 (TCP/I	Pv6)
🗹 📥 Inter	net Protocol	Version 4 (TCP/I	Pv4)
	-Layer Topol	ogy Discovery Ma	apper I/O Driver
🗹 🚣 Link	-Layer Topol -Layer Topol	ogy Discovery Ma ogy Discovery Re	apper I/O Driver esponder
	-Layer Topol -Layer Topol	ogy Discovery Ma ogy Discovery Re Uninstall	spper I/O Driver sponder Properties
Link	-Layer Topol -Layer Topol	ogy Discovery Ma ogy Discovery Re Uninstall	apper I/O Driver esponder P <u>r</u> operties
Link     Link     Link     Link     Loscription     Transmissi     wide area a     across dive	-Layer Topol -Layer Topol 	ogy Discovery Ma ogy Discovery Re <u>U</u> ninstall otocol/Internet Pr ocol that provides nected networks.	Properties Properties rotocol. The default

Configure IP address Automatically:

b) Select "Obtain an IP address automatically" and "Obtain DNS server address automatically" Click "OK" to finish the configuration.

eneral	Alternate Configuration				
You car this cap for the	n get IP settings assigned a pability. Otherwise, you nee appropriate IP settings.	utomatically ed to ask you	f your r netw	network ork admi	supports nistrator
<u>o</u>	otain an IP address automa	tically			
- 🔘 Us	e the following IP address:	-			
IP ac	ddress:				
Sybr	net mask:				
Defa	ult gateway:		- 24		
O O O	ptain DNS server address and the following DNS server erred DNS server: mate DNS server:	utomatically addresses: ,		*	
V	alidate settings upon exit			Ad	vanced

#### Configure IP Address Manually:

c) Select "Use the following IP address" and "Use the following DNS server addresses".

eneral	
You can get IP settings assigned this capability. Otherwise, you n for the appropriate IP settings.	automatically if your network supports eed to ask your network administrator
Obtain an IP address auton	natically
Output Description (Output Description)	35:
IP address:	192.168.1.10
S <u>u</u> bnet mask:	255 . 255 . 255 . 0
Default gateway:	192.168.1.1
Obtain DNS server address	automatically
Output the following DNS served as a served of the serv	er addresses:
Preferred DNS server:	195.68.1.1
Alternate DNS server:	
🔲 Validate settings upon exit	Ad <u>v</u> anced

IP address: Fill in IP address 192.168.1.x (x is a number between 2 to 254). Subnet mask: Default value is 255.255.255.0. Default gateway: Default value is 192.168.1.1. Preferred DNS server: Fill in preferred DNS server IP address. Alternate DNS server: Fill in alternate DNS server IP address.

- If you decide to use IP address from Wireless Router, select "Obtain an IP address automatically".
- If you decide to use the IP address you are desired, select "Use the following IP address". Make sure enter correct addresses in "IP Address" and "Subnet Mask" fields.
- You must set Wireless Router's IP address as "Default Gateway".
- If the DNS Server fields are empty, select "Use the following DNS server addresses" and enter the DNS address is provided by your ISP, then click "OK".

You can use ping command under DOS prompt to check if you have setup TCP/IP protocol correctly and if your computer has successfully connected to this router.

1) Type ping 192.168.1.1 under DOS prompt and the following messages will appear:



If the communication link between your computer and router is not setup correctly, after you type ping 192.168.1.1 under DOS prompt following messages will appear:

Pinging 192.168.1.1 with 32 bytes of data: Request timed out. Request timed out.

Request timed out.

This failure might be caused by cable issue or something wrong in configuration procedure.

#### 3. Configure Wireless Router via Web Based Utility

The Wireless Router implements a Web server allowing user configure this device via the web based Utility. This Utility provides comprehensive system management scheme, including system configuration, performance monitoring, system maintenance and administration.

#### 3.1 Access Web Based Configuration Utility

To access the Web-Based Configuration Utility, you have to launch your Internet Browser. (MS IE 6.0 or later, Netscape Navigator 4.7 or later).

**Step1:** Enter Wireless Router's default IP address as <u>http://192.168.1.1</u> in the Address field then press Enter.

Home Page - Windows Internet Explorer		- 0 %
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Step2: Login dialog box will appear, enter admin as Administrator Name and1234 as default Administrator Password, and then click "OK" to accessConfiguration Utility.

The server 192.168.1.1 at Wireless Access Point requires a username password. Warning: This server is requesting that your username and passwor sent in an insecure manner (basic authentication without a secure connection).	and
Warning: This server is requesting that your username and passwor sent in an insecure manner (basic authentication without a secure connection).	
	d be
admin	
Remember my credentials	

Step3: After log in, you can see the Main menu as below.



#### 3.2 Setup Wizard

This page guides you to configure wireless broadband router for first time.



#### 3.2.1 Operation Mode

This page followed by Setup Wizard page to define the operation mode.



#### 3.2.2 Time Zone Setting

This page is used to enable and configure NTP client.

C Realtek WLAN AP Webserver - Windows Internet Explorer
O ▼ Inttp://192.168.1.1/home.asp     ▼
COAHEAD   Site contents:   Setup Wizard   Operation Mode   Wireless   TCP/IP Settings   Firewall   Qos   Route Setup   Management   Logout     Imme Zone   Seter:   (GMT+08:00)Taipei   Seter:   1925:41:41 - North America     Cancel
Done 😝 Internet   Protected Mode: On 4 🙀 👻 🔩 100% 👻

#### 3.2.3 LAN Interface Setup

This page is used to configure local area network IP address and subnet mask.



#### 3.2.4 WAN Interface Setup

This page is used to configure WAN access type

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Realtek WLAN AP Webserver		🟠 🕶 🔝 🔻 🖃 🖶 🕶 <u>P</u> age 🕶	<u>S</u> afety ▼ T <u>o</u> ols ▼ @ ▼
GOAHEAD GOAHEAD Site contents: Setup Wizard Operation Mode Wireless TCP/IP Settings Firewall QoS Route Setup Management Logout	VebServer 4. WAN Inte This page is used to cor WAN port of your Acce DHCP, PPPoE, PPTP or I WAN Access Type:	rface Setup figure the parameters for Internet network which co ses Point. Here you may change the access method to L2TP by click the item value of WAN Access type. DHCP Client Static IP DHCP Client PPPoE PPTP L2TP USB3G Cancel < <bat< th=""><th>ennects to the to static IP,</th></bat<>	ennects to the to static IP,
Done		Internet   Protected Mode: On	

3.2.5 Wireless Basic Settings

This page is used to configure basic wireless parameters like Band, Mode, Network Type SSID, Channel Number, Enable Mac Clone(Single Ethernet Client).



#### 3.2.6 Wireless Security Setup

This page is used to configure wireless security.



#### 3.3 Operation Mode

This page is used to configure which mode wireless broadband router acts.



**Gateway:** Traditional gateway configuration. It always connects internet via ADSL/Cable Modem. LAN interface, WAN interface, Wireless interface, NAT and Firewall modules are applied to this mode.

**Bridge:** Each interface (LAN, WAN and Wireless) regards as bridge. NAT, Firewall and all routers' functions are not supported.

**Wireless ISP:** Switch Wireless interface to WAN port and all Ethernet ports in bridge mode. Wireless interface can do all routers' functions.

**Apply Changes:** Click the Apply Changes button to complete the new configuration setting.

**Reset:** Click the Reset button to abort change and recover the previous configuration setting.

#### 3.4 Wireless

#### 3.4.1 Basic Settings

This page is used to configure the parameters for wireless LAN clients that may connect to your Broadband Router. Here you may change wireless encryption settings as well as wireless network parameters.

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G I	NebServer					
OAHEAD						
Site contents:	Wireless Ba	sic Settings				
Setup Wizard	This page is used to c	onfigure the parameters for wireless LAN clients which may connect to				
Wireless	your Access Point. He network parameters.	re you may change wireless encryption settings as well as wireless				
Basic Settings	-					
Security	Disable Wireles	s LAN Interface				
Access Control	Band:	2.4 GHz (B+G+N) ▼				
Site Survey	Mode:	AP - Multiple AP				
WPS Schedule	Network Type:	Infrastructure +				
TCP/IP Settings	SSID:	default				
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Route Setup	Control Sidehand:					
Management Logout	Channel Number:	6 <b>•</b>				
	Country	ETSI				
	country.	Router will be reboot if you change the country setting.				
	Broadcast SSID:	Enabled -				
	WMM:	Enabled -				
	Data Rate:	Auto 👻				
	Associated Clients:	Show Active Clients				
	Enable Mac Clo	ne (Single Ethernet Client)				
	Enable Universa	al Repeater Mode (Acting as AP and client simultaneouly)				
	SSID of Extended Inte	erface: 802.11bgn-SSID-Repeater1				

**Disable Wireless LAN Interface:** Click on to disable the wireless LAN data transmission.

**Band:** This is the range of frequencies the gateway will use to communicate with your wireless devices. As you're looking for products in stores or on the Internet, you might notice that you can choose equipment that supports six different wireless networking technologies: 2.4 GHz(B), 2.4 GHz(G), 2.4 GHz

**Mode:** Click to select the WLAN AP / Client / WDS / AP+WDS wireless mode. Default set to AP mode.

**Network Type:** While Mode is selected to be Client. Click to select the network type infrastructure or Ad hoc.

**SSID:** Specify the network name. Each Wireless LAN network uses a unique Network Name to identify the network. This name is called the Service Set

Identifier (SSID). When you set up your wireless adapter, you specify the SSID. If you want to connect to an existing network, you must use the make up your own name and use it on each computer. The name can be up to 32 characters long and contain letters and numbers.

Channel Width: There have 2 options – 20MHZ and 40 MHZ [N band only]. Control Sideband: Specify if the extension channel should be in the Upper or Lower sideband [N band only].

Channel Number: Sets the channel on which the gateway operates.

Broadcast SSID: Click to enable or disable the SSID broadcast function.

WMM: Click Enabled/Disabled to init WMM feature.

**Data Rate:** Select the transmission data rate from pull-down menu. Data rate can be auto-select, 1M to 54Mbps or MCS.

**Associated Clients:** This table shows MAC address, transmission, reception packet counters and encrypted status for each associated wireless clients.

Enable Mac Clone (Single Ethernet Client): Take Laptop NIC MAC address as wireless client

MAC address. [Client Mode only]

Enable Universal Repeater Mode (Acting as AP and Client simultaneously): Click to enable Universal Repeater Mode.

**SSID of Extended Interface:** Assign SSID when enables Universal Repeater Mode.

#### 3.4.2 Advanced Settings

These settings are only for more technically advanced users who have a sufficient knowledge about wireless LAN. These settings should not be changed unless you know what effect the changes will have on your WLAN Broadband Router.

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	MabSortion	
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DAHEAD	Winelson Adm	an and Sattings
Site contents:	wireless Adv	anced Settings
Operation Mode	These settings are only for	r more technically advanced users who have a sufficient knowledge
Basic Settings	about wireless LAN. Thes changes will have on you	e settings should not be changed unless you know what effect the r Access Point.
Advanced Settings		
Security	Fragment Threshold:	2346 (256-2346)
WDS settings	RTS Threshold:	2347 (0-2347)
Site Survey	Beacon Interval:	100 (20-1024 ms)
Schedule	Preamble Type:	Long Preamble     Short Preamble
TCP/IP Settings	LAPP:	Enabled      Disabled
Firewall	Protection:	© Enabled       O Disabled
Route Setup	Aggregation:	Enabled
Management	Short GI:	Enabled
Logour	WLAN Partition:	Enabled Obisabled
	STBC:	Enabled   Disabled
	20/40MHz Coexist:	C Enabled O Disabled
	<b>RF Output Power:</b>	● 100% ○ 70% ○ 50% ○ 35% ○ 15%
	Analy Observed	Death
	Apply Changes	Reset

**Fragment Threshold:** Fragmentation Threshold sets the frame size of incoming messages (ranging from 256 to 2346 bytes) used as fragmentation boundary. If the frame size is too big, the heavy interference affects transmission reliability. If the frame size is too small, it decreases transmission efficiency. Default setting is 2346.

**RTS Threshold:** Lower the signal RTS (Request To Send) to promote the transmission efficiency in condition of noisy environment or too many clients. Default setting is 2347.

**Beacon Interval:** Beacon Interval means the period of time between one beacon and the next one. The default value is 100 (the unit is millisecond, or 1/1000 second). Lower the Beacon Interval to improve transmission performance in unstable environment or for roaming clients, but it will be power consuming.

**Preamble type:** Preamble is the first sub field of PPDU, which is the appropriate frame format for transmission to PHY (Physical layer). There are two options, Short Preamble and Long Preamble.

**IAPP:** Click to enable or disable the IAPP function.

Protection: Protect 802.11n user priority.

Aggregation: Click to enable or disable the Aggregation function.

**Short GI:** Using a short (400ns) guard interval can increase throughput. However, it can also increase error rate in some installations, due to increased sensitivity to radio-frequency reflections

WLAN Partition: Click to enable or disable the WLAN Partition function.

**STBC:** Click to enable or disable the STBC function.

20/40MHz Coexist: Click to enable or disable the Coexist function.

RF Output Power: To adjust transmission power level.

#### 3.4.3 Security

This page allows you setup the wireless security. Turn on WEP, WPA, WPA2 by using encryption keys could prevent any unauthorized access to your wireless network.



Select SSID: Select the SSID from multiple APs.

**Encryption:** Select the encryption supported over wireless access. The encryption method can be None, WEP, WPA, WPA2 or WPA-Mixed.

**Use 802.1x Authentication:** While Encryption is selected to be WEP. Click the check box to enable IEEE 802.1x authentication function.

Authentication Type: Click to select the authentication type in Open System,

Shared Key or Auto selection.

**Key Length:** Select the WEP shared secret key length from pull-down menu. The length can be chose between 64-bit and 128-bit (known as "WEP2") keys. The WEP key is composed of initialization vector (24 bits) and secret key (40-bit or 104-bit).

**Key Format:** Select the WEP shared secret key format from pull-down menu. The format can be chose between plant text (ASCII) and hexadecimal (HEX) code.

Encryption Key: Secret key of WEP security encryption function.

**WPA Authentication Mode:** While Encryption is selected to be WPA. Click to select the WPA Authentication Mode with Enterprise (RADIUS) or Personal (Pre-Shared Key).

WPA Cipher Suite: Select the Cipher Suite for WPA encryption.

WPA2 Cipher Suite: Select the Cipher Suite for WPA2 encryption.

**Pre-Shared Key Format:** While Encryption is selected to be WPA. Select the Pre-shared key format from the pull-down menu. The format can be Passphrase or Hex (64 characters). [WPA, Personal(Pre-Shared Key) only]

Pre-Shared Key: Fill in the key value. [WPA, Personal(Pre-Shared Key) only]

**Enable Pre-Authentication:** Click to enable Pre-Authentication. [WPA2/WPA2 Mixed only, Enterprise only]

Authentication RADIUS Server: Set the IP address, port and login password information of authentication RADIUS sever.

#### 3.4.4 Access Control

If you enable wireless access control, only those clients whose wireless MAC addresses are in the access control list will be able to connect to your Access Point. When this option is enabled, no wireless clients will be able to connect if the list contains no entries.

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GOAHEAD GOAHEAD Site contents: Setup Wizard Operation Mode Basic Settings Advanced Settings Advanced Settings Security Access Control WDS settings Site Survey WPS Schedule TCP/IP Settings Firewall QoS Route Setup Management Logout	VebServer Wireless Access If you choose 'Allowed Listed', o access control list will be able to selected, these wireless clients of Wireless Access Control Mode: MAC Address: Apply Changes Re Current Access Control List: MAC Address Delete Selected	Control  Ny those clients whose wireless MAC addresses are in connect to your Access Point. When Deny Listed is n the list will not be able to connect the Access Point.  Disable Comment:  Select  Comment:  Delete All Reset	the
Done		Internet   Protected Mode: On	🚡 🔹 🔍 100% 💌

Wireless Access Control Mode: Click the Disabled, *Allow Listed* or *Deny Listed* of drop down menu choose wireless access control mode. This is a security control function; only those clients registered in the access control list can link to this WLAN Broadband Router.

**MAC Address:** Fill in the MAC address of client to register this WLAN Broadband Router access capability.

Comment: Fill in the comment tag for the registered client.

**Current Access Control List:** It shows the registered clients that are allowed to link to this WLAN Broadband Router.

**Delete Selected:** Click to delete the selected clients that will be access right removed from this WLAN Broadband Router.

**Delete All:** Click to delete all the registered clients from the access allowed list. **Reset:** Click the Reset button to abort change and recover the previous configuration setting.

#### 3.4.5 WDS Setting

Wireless Distribution System uses wireless media to communicate with other APs, like the Ethernet does. To do this, you must set these APs in the same channel and set MAC address of other AP that you want to communicate with in the table and then enable the WDS.

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GOAHEAD Site contents: Setup Wizard Operation Mode Basic Settings Advanced Settings Security Access Control WDS settings Site Survey WDS Ste Survey Ste Survey WDS Ste Survey Ste Survey St	WDS Solution Wireless District Ethermet does, of other APs with the second state of th	ettings ibution Syst To do this, which you wa TDS Auto =	em uses wirel you must set ant to commu	less med these A nicate w	a to communicat Ps in the same ch th in the table an the table and et Security	e with other APs annel and set M d then enable th Show Statis	, like the AC address e WDS.	
	Current WDS MAC A Delete S	AP List: Address elected	Tx Rate	(Mbps) All	Comme	nt Select		Þ

Enable WDS: Click the check box to enable wireless distribution system.

**MAC Address:** Fill in the MAC address of AP to register the wireless distribution system access capability.

Data Rate: Select the transmission data rate from pull-down menu.

Data rate: can be auto-select, 1M to 54Mbps or MCS.

**Comment:** Fill in the comment tag for the registered AP.

**Apply Changes:** Click the Apply Changes button to complete the new configuration setting.

**Reset:** Click the Reset button to abort change and recover the previous configuration setting.

**Set Security:** Click button to configure wireless security like WEP(64bits), WEP(128bits), WPA(TKIP), WPA2(AES) or None

Show Statistics: It shows the TX, RX packets, rate statistics.

**Delete Selected:** Click to delete the selected clients that will be access right removed from this WLAN Broadband Router.

**Delete All:** Click to delete all the registered clients from the access allowed list. **Reset:** Click the Reset button to abort change and recover the previous configuration setting.
# 3.4.6 Site Survey

This page is used to view or configure other APs near yours.

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Site contents: Setup Wizard Operation Mode Basic Settings Advanced Settings Security Access Control	Wireless Site This page provides tool to you could choose to conn Site Survey	Survey escan the wireless eect it manually wh	network. If a en client mo	any Access de is enable	Point or IBSS is f d.	found,	
WDS settings	SSID	BSSID	Channel	Туре	Encrypt	Signal	
WPS Schedule	192.168.3.X	00:06:4f:8c:cf:91	11 (B+G+N)	AP	WPA2-PSK	38	
TCP/IP Settings	qqqqqqq	00:06:4f:6f:90:0e	6 (B+G+N)	AP	WPA2-PSK	36	
QoS	RTL8186-default	00:e0:4c:81:86:86	1 (B+G)	AP	no	30	
Route Setup	Kevin-WLAN	00:02:72:70:e6:11	11 (B+G)	AP	no	26	
Logout	lab	00:16:01:a1:f6:b7	1 (B+G+N)	AP	WPA- PSK/WPA2- PSK	24	
	Pronets Wireless	00:06:4f:7a:c8:15	6 (B+G+N)	AP	WPA- PSK/WPA2- PSK	24	
	001D73C64348_G	00:1d:73:c6:43:4c	11 (B+G)	AP	WPA2-PSK	18	
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Done		😜 Internet   P	rotected Mod	de: On	4	- 🔍 100	% 👻

SSID: It shows the SSID of AP.

**BSSID:** It shows BSSID of AP.

Channel: It show the current channel of AP occupied.

Type: It show which type AP acts.

Encrypt: It shows the encryption status.

Signal: It shows the power level of current AP.

**Refresh:** Click the Refresh button to re-scan site survey on the screen.

Connect: Click the Connect button to establish connection

### 3.4.7 WPS

This page allows you to change the setting for WPS (Wi-Fi Protected Setup). Using this feature could let your wireless client atomically synchronize its setting and connect to the Access Point in a minute without any hassle.

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GOAHEAD Site contents: Setup Wizard Operation Mode Basic Settings Advanced Settings Security Access Control	Wi-Fi Protected S This page allows you to change the feature could let your wireless clin Access Point in a minute without	Setup the setting for WPS (Wi-Fi Protected Setup). Using this ent automically syncronize its setting and connect to th any hassle.	i 1e
<ul> <li>WDS settings</li> <li>Site Survey</li> <li>WPS</li> <li>Schedule</li> <li>TCP/IP Settings</li> </ul>	Apply Changes Row	© Configured © UnConfigured Reset to UnConfigured	
Firewall GoS	Self-PIN Number:	86502993	
Route Setup Management	Pusn Button Configuration: Client PIN Number:	Start PIN	

**Disable WPS:** Click on to disable the Wi-Fi Protected Setup function.

WPS Status: Show WPS status is Configured or UnConfigured.

**Self-PIN Number:** Fill in the PIN Number of AP to register the wireless distribution system access capability.

**Push Button Configuration:** The Start PBC button provides tool to scan the wireless network. If any Access Point or IBSS is found, you could connect it automatically when client join PBC mode.

**Apply Changes:** Click the Apply Changes button to complete the new configuration setting.

**Reset:** Click the Reset button to abort change and recover the previous configuration setting.

**Current Key Info:** Authentication-It shows the Authentication is opened or closed. Encryption-It shows the Encryption mode. Key-It shows the Encryption key.

Client PIN Number: Fill in the Client PIN Number from your Client sites.

### 3.4.8 Schedule

This page allows you setup the wireless schedule rule. Please do not forget to configure system time before enable this feature.

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	App	ly Changes	Reset		

# 3.5 TCP/IP Settings

# 3.5.1 LAN Interface

This page is used to configure the parameters for local area network that connects to the LAN ports of your WLAN Broadband Router. Here you may change the setting for IP address, subnet mask, DHCP, etc.

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G	WebServer	
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Site contents:	LAN Interfac	e Setup
Setup Wizard	This page is used to confi	mus the promotion for least are noticed, which compare to the
Wireless	LAN port of your Access I	Point. Here you may change the setting for IP addresss, subnet
TCP/IP Settings	mask, DHCP, etc	
WAN Interface	IP Address.	192 168 1 1
Firewall	Subnet Magle	
Route Setup	Defent Caterrow	200.200
Management	Duce.	Sec
Eugodi	DHCP:	
	DHCP Client Range:	192.168.1.100 - 192.168.1.200 Snow Client
	Static DHCP:	Set Static DHCP
	Domain Name:	3G Router
	802.1d Spanning Tree:	Disabled 👻
	Clone MAC Address:	0000000000
	Apply Changes	Reset

**IP Address:** Fill in the IP address of LAN interfaces of this WLAN Access Point.

**Subnet Mask:** Fill in the subnet mask of LAN interfaces of this WLAN Access Point.

**Default Gateway:** Fill in the default gateway for LAN interfaces out going data packets.

**DHCP:** Click to select Disabled, Client or Server in different operation mode of wireless Access Point.

**DHCP Client Range:** Fill in the start IP address and end IP address to allocate a range of IP addresses; client with DHCP function set will be assigned an IP address from the range.

**Show Client:** Click to open the Active DHCP Client Table window that shows the active clients with their assigned IP address, MAC address and time expired information. [Server mode only]

Static DHCP: Select enable or disable the Static DHCP function from pull-down menu. [Server mode only]

Set Static DHCP: Manual setup Static DHCP IP address for specific MAC address. [Server mode only]

**Domain Name:** Assign Domain Name and dispatch to DHCP clients. It is optional field.

**802.1d Spanning Tree:** Select enable or disable the IEEE 802.1d Spanning Tree function from pull-down menu.

**Clone MAC Address:** Fill in the MAC address that is the MAC address to be cloned.

### 3.5.1.1 Static DHCP Setup

This page allows you reserve IP address and assign the same IP address to the network device with the specified MAC address any time it requests an IP address. This is almost the same as when a device has a static IP address except that the device must still request an IP address from the DHCP server.



**IP Address:** If you select the Set Static DHCP on LAN interface, fill in the IP address for it.

**MAC Address:** If you select the Set Static DHCP on LAN interface, fill in the MAC address for it.

Comment: Fill in the comment tag for the registered Static DHCP.

Static DHCP List: It shows IP Address MAC Address from the Static DHCP.

**Delete Selected:** Click to delete the selected clients that will be removed from the Static DHCP list.

**Delete All:** Click to delete all the registered clients from the Static DHCP list. **Reset:** Click the Reset button to abort change and recover the previous configuration setting.

### 3.5.2 WAN Interface

This page is used to configure the parameters for wide area network that connects to the WAN port of your WLAN Broadband Router. Here you may change the access method to Static IP, DHCP, PPPoE or PPTP by click the item value of **WAN Access Type**.

# [Static IP]

C Realtek WLAN AP Webserver - Windows Internet Explorer									l		x
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G WebServer											
GOAHEAD								8			
Setup Wizard	ice Setup										
Operation Mode     This page is used to con     Wireless     Operating     TOPAP Settings     Topap Settings	figure the parame you may change value of WAN A	eters for Inter the access n Access type.	net network tethod to sta	which c tic IP, D	onnect: HCP, P	s to the V PPoE, PF	VAN j PTP, U	port of SB3G			
CAN Interface     WAN Interface     WAN Interface     WAN Access Type:     Prifiltering	Static IP										
IP Filtering IP Address:	172.1.1.1										
MAC Filtering Subnet Mask:	255.255.255	.0									
URL Filtering Default Gateway:	172.1.1.254										
MTU Size:	1500	(1400-150	) bytes)								
QoS DNS 1:											
Management DNS 2:											
Logout DNS 3:											
Clone MAC Address:	0000000000	00									
Enable uPNP											
Inable IGMP Prox	y										
Enable Ping Acces	s on WAN	ġ.									
Enable Web Server	Access on WAP	N									
V Enable PPTP nass	through on VPN	connection									
V Enable L2TP pass	through on VPN	connection									
🔲 Enable IPv6 pass th	rough on VPN c	onnection									
Apply Changes	Reset										
Done			Intern	et   Prot	ected N	Aode: On			•	€ 100%	•

**Static IP:** Click to select Static IP support on WAN interface. There are IP address, subnet mask and default gateway settings need to be done.

**IP Address:** If you select the Static IP support on WAN interface, fill in the IP address for it.

**Subnet Mask:** If you select the Static IP support on WAN interface, fill in the subnet mask for it.

**Default Gateway:** If you select the Static IP support on WAN interface, fill in the default gateway for WAN interface out going data packets.

MTU Size: Fill in the mtu size of MTU Size. The default value is 1400.

DNS 1: Fill in the IP address of Domain Name Server 1.

DNS 2: Fill in the IP address of Domain Name Server 2.

DNS 3: Fill in the IP address of Domain Name Server 3.

**Clone MAC Address:** Fill in the MAC address that is the MAC address to be cloned.

Enable uPNP: Click the checkbox to enable uPNP function.

Enable IGMP Proxy: Click the checkbox to enable IGMP Proxy.

**Enable Ping Access on WAN:** Click the checkbox to enable WAN ICMP response.

**Enable Web Server Access on WAN:** Click the checkbox to enable web configuration from WAN side.

Enable IPsec pass through on VPN connection: Click the checkbox to enable IPSec packet pass through.

Enable PPTP pass through on VPN connection: Click the checkbox to enable PPTP packet pass through.

Enable L2TP pass through on VPN connection: Click the checkbox to enable L2TP packet pass through.

Apply Changes: Click the *Apply Changes* button to complete the new configuration setting.

**Reset:** Click the *Reset* button to abort change and recover the previous configuration setting.

## [DHCP Client]

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G V	VehServer			
	VEDUCIVEI			
Site contents	WAN Interfa	ce Setup		
Setup Wizard		<b>-</b>		
Wireless	This page is used to con your Access Point. Here	figure the parameters fo you may change the ac	r Internet network which connects to the cess method to static IP, DHCP, PPPoE, 1	WAN port of PPTP, USB3G
TCP/IP Settings	or L2TP by click the item	value of WAN Access	type.	
WAN Interface	WAN Assess Tomas			
Firewall	WAN Access Type:	DHCP Client		
IP Filtering	Host Name:	3G Router		
MAC Filtering	MTU Size:	1492 (140	00-1492 bytes)	
URL Filtering	Attain DNS Automa	tically		
	Set DNS Manually			
QoS	DNS 1:			
Route Setup	DNS 2:			
	DNS 3:			
	Clone MAC Address:	000000000000		
	Enable uPNP			
	Enable IGMP Proxy	r		
	Enable Ping Access	s on WAN		
	Enable Web Server	Access on WAN		
	Enable IPsec pass t	hrough on VPN connec	tion	
	Enable PPTP pass	through on VPN conne	ction	
	Enable L2TP pass t	hrough on VPN connec	ction .	
	Enable IPv6 pass th	rough on VPN connect	10 <b>n</b>	
	Apply Changes	Reset		

**DHCP Client:** Click to select DHCP support on WAN interface for IP address assigned automatically from a DHCP server.

Host Name: Fill in the host name of Host Name. The default value is empty.

MTU Size: Fill in the mtu size of MTU Size. The default value is 1400.

Attain DNS Automatically: Click to select getting DNS address for *DHCP* support. Please select *Set DNS Manually* if the *DHCP* support is selected.

Set DNS Manually: Click to select getting DNS address for DHCP support.

DNS 1: Fill in the IP address of Domain Name Server 1.

DNS 2: Fill in the IP address of Domain Name Server 2.

DNS 3: Fill in the IP address of Domain Name Server 3.

**Clone MAC Address:** Fill in the MAC address that is the MAC address to be cloned.

Enable uPNP: Click the checkbox to enable uPNP function.

Enable IGMP Proxy: Click the checkbox to enable IGMP Proxy.

Enable Ping Access on WAN: Click the checkbox to enable WAN ICMP

#### response.

**Enable Web Server Access on WAN:** Click the checkbox to enable web configuration from WAN side.

**Enable IPsec pass through on VPN connection:** Click the checkbox to enable IPSec packet pass through.

**Enable PPTP pass through on VPN connection:** Click the checkbox to enable PPTP packet pass through.

Enable L2TP pass through on VPN connection: Click the checkbox to enable L2TP packet pass through.

Apply Changes: Click the *Apply Changes* button to complete the new configuration setting.

**Reset:** Click the *Reset* button to abort change and recover the previous configuration setting.

### [PPPoE]

**PPPoE:** Click to select PPPoE support on WAN interface. There are user name, password, connection type and idle time settings need to be done.

**User Name:** If you select the PPPoE support on WAN interface, fill in the user name and password to login the PPPoE server.

**Password:** If you select the PPPoE support on WAN interface, fill in the user name and password to login the PPPoE server.

**Service Name:** Fill in the service name of Service Name. The default value is empty.

**Connection Type:** Select the connection type from pull-down menu. There are *Continuous, Connect on Demand* and *Manual* three types to select.

- Continuous connection type means to setup the connection through PPPoE protocol whenever this WLAN AP Router is powered on.
- Connect on Demand connection type means to setup the connection through PPPoE protocol whenever you send the data packets out through the WAN interface; there are a watchdog implemented to close the PPPoE connection while there are no data sent out longer than the idle time set.
- Manual connection type means to setup the connection through the PPPoE protocol by clicking the Connect button manually, and clicking the Disconnect button manually.

**Idle Time:** If you select the *PPPoE* and *Connect on Demand* connection type, fill in the idle time for auto-disconnect function. Value can be between 1 and 1000 minutes.

MTU Size: Fill in the MTU size of MTU Size. The default value is 1400.

Attain DNS Automatically: Click to select getting DNS address for *DHCP* support. Please select *Set DNS Manually* if the *DHCP* support is selected.

Set DNS Manually: Click to select getting DNS address for DHCP support.

DNS 1: Fill in the IP address of Domain Name Server 1.

DNS 2: Fill in the IP address of Domain Name Server 2.

DNS 3: Fill in the IP address of Domain Name Server 3.

**Clone MAC Address:** Fill in the MAC address that is the MAC address to be cloned.

Enable uPNP: Click the checkbox to enable uPNP function.

Enable IGMP Proxy: Click the checkbox to enable IGMP Proxy.

**Enable Ping Access on WAN:** Click the checkbox to enable WAN ICMP response.

**Enable Web Server Access on WAN:** Click the checkbox to enable web configuration from WAN side.

**Enable IPsec pass through on VPN connection**: Click the checkbox to enable IPSec packet pass through.

**Enable PPTP pass through on VPN connection:** Click the checkbox to enable PPTP packet pass through.

**Enable L2TP pass through on VPN connection:** Click the checkbox to enable L2TP packet pass through.

Apply Changes: Click the *Apply Changes* button to complete the new configuration setting.

**Reset:** Click the *Reset* button to abort change and recover the previous configuration setting.

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G V	VebServer			
GOAHEAD	reboerver			
Site contents:	WAN Interfa	ice Setu	р	
Setup Wizard	This page is used to see	tion we the new	-	af.
Wireless	your Access Point. Here	you may chai	ge the access method to static IP, DHCP, PPPoE, PPTP, USB30	3
LAN Interface	or L21P by click the item	a value of WA	Access type.	
WAN Interface	WAN Access Type:	PPP <sub>0</sub> E	•	
Port Filtering	User Name:			
MAC Filtering	Password:	1		
URL Filtering	Service Name:			
	Connection Type:	Continuou	Connect Disconnect	
QoS	Idle Time:	5	(1-1000 minutes)	
Route Setup	MTU Size:	1452	(1360-1492 bytes)	
Logout	C Attain DNS Automa	atically		
	Set DNS Manually			
	DNS 1:		1	
	DNS 2:			
	DNS 3:			
	Clone MAC Address:	0000000	0000	
	Enable uPNP			
	Enable IGMP Prox	y.		
	Enable Ping Acces	ss on WAN		
	Enable Web Server	r Access on W	AN	
	<ul> <li>Enable IPsec pass</li> <li>Fnable PPTP pass</li> </ul>	through on V	N connection	
	Enable L2TP pass	through on V	N connection	
	Enable IPv6 pass th	hrough on VP	connection	

# [PPTP]

**PPTP:** Allow user to make a tunnel with remote site directly to secure the data transmission among the connection. User can use embedded PPTP client supported by this router to make a VPN connection.

Get the WAN IP Automatically: Click to select PPTP Dynamic support on WAN interface for IP address assigned automatically from a PPTP server.

**IP Address**: If you select the PPTP support on WAN interface, fill in the IP address for it.

**Subnet Mask:** If you select the PPTP support on WAN interface, fill in the subnet mask for it.

Gateway: If you select the Static PPTP support on WAN interface, fill in the

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Realtek WLAN AP Webserver		🚹 🔻 🔝 👻 🖃 🖶 Page 👻 Safety 👻 Tools 👻	0
G	NebServer		
O AUFLID	Neboei vei		
Site contents	WAN Interf	ace Setup	
Setup Wizard			
Operation Mode	This page is used to co your Access Point. Her	nfigure the parameters for Internet network which connects to the WAN port of re you may change the access method to static IP, DHCP, PPPoE, PPTP, USB3G	
TCP/IP Settings	or L2TP by click the iter	m value of WAN Access type.	
LAN Interface			
Firewall	WAN Access Type:	PPTP -	
Port Filtering	IP Address:	172.1.1.2	
MAC Filtering	Subnet Mask:	255.255.255.0	
Port Forwarding	Server IP Address:	172.1.1.1	
URL Filtering	User Name:		
VLAN	Basamanda		
QoS Bouto Sotup	Tassword.	Course Discourse	
Management	Connection Type:	Continuous - Connect Disconnect	
Logout	Idle Time:	5 (1-1000 minutes)	
	MTU Size:	1460 (1400-1460 bytes)	
	Request MPPE En	ncryption 🔲 Request MPPC Compression	
	C Attain DNS Autom	atically	
	Set DNS Manually		
	Set DNS Manually DNS 1:		
	Set DNS Manually DNS 1: DNS 2:		
	Set DNS Manually DNS 1: DNS 2: DNS 3:		
	Set DNS Manually DNS 1: DNS 2: DNS 3: Clone MAC Address:		
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	<ul> <li>Set DNS Manually DNS 1: DNS 2: DNS 3:</li> <li>Clone MAC Address:</li> <li>Enable uPNP</li> <li>Enable uCMP Pro</li> </ul>	0000000000	
	<ul> <li>Set DNS Manually DNS 1: DNS 2: DNS 3:</li> <li>Clone MAC Address:</li> <li>Enable uPNP</li> <li>Enable IGMP Pro</li> <li>Enable IGMP Pro</li> <li>Enable Ping Acce</li> </ul>	xy sss on WAN	
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	<ul> <li>Set DNS Manually DNS 1: DNS 2: DNS 3:</li> <li>Clone MAC Address:</li> <li>Enable uPNP</li> <li>Enable IGMP Pro</li> <li>Enable Fing Acce</li> <li>Enable Web Serve</li> <li>Enable IPsec pass</li> <li>Enable PTP pass</li> <li>Enable L2TP pass</li> </ul>	xy ess on WAN er Access on WAN e through on VPN connection s through on VPN connection s through on VPN connection	

Server IP Address : Enter the IP address of the PPTP Server.

**Server Domain Name:** Assign Domain Name and dispatch to PPTP servers. It is optional field.

**User Name:** If you select the PPTP support on WAN interface, fill in the user name and password to login the PPTP server.

**Password:** you select the PPTP support on WAN interface, fill in the user name and password to login the PPTP server.

MTU Size: Fill in the mtu size of MTU Size. The default value is 1400.

**Request MPPE Encryption:** Click the checkbox to enable request MPPE encryption.

Attain DNS Automatically: Click to select getting DNS address for *PPTP* support. Please select *Set DNS Manually* if the *PPTP* support is selected.

Set DNS Manually: Click to select getting DNS address for PPTP support.

DNS 1: Fill in the IP address of Domain Name Server 1.

DNS 2: Fill in the IP address of Domain Name Server 2.

DNS 3: Fill in the IP address of Domain Name Server 3.

**Clone MAC Address:** Fill in the MAC address that is the MAC address to be cloned.

Enable uPNP: Click the checkbox to enable uPNP function.

Enable IGMP Proxy: Click the checkbox to enable IGMP Proxy.

**Enable Ping Access on WAN:** Click the checkbox to enable WAN ICMP response.

**Enable Web Server Access on WAN:** Click the checkbox to enable web configuration from WAN side.

**Enable IPsec pass through on VPN connection:** Click the checkbox to enable IPSec packet pass through.

Enable PPTP pass through on VPN connection: Click the checkbox to enable PPTP packet pass through.

**Enable L2TP pass through on VPN connection:** Click the checkbox to enable L2TP packet pass through.

Apply Changes: Click the *Apply Changes* button to complete the new configuration setting.

**Reset:** Click the *Reset* button to abort change and recover the previous configuration setting.

**Note:** PPTP Gateway Your ISP will provide you with the Gateway IP Address. If your LAN has a PPTP gateway, then enter that PPTP gateway IP address here. If you do not have PPTP gateway then enter the ISP's Gateway IP address above.

### [L2TP]

**L2TP:** Allow user to make a tunnel with remote site directly to secure the data transmission among the connection. User can use embedded L2TP client supported by this router to make a VPN connection.

Get the WAN IP Automatically: Click to select L2TP Dynamic support on WAN interface for IP address assigned automatically from a PPTP server.

**IP Address**: If you select the L2TP support on WAN interface, fill in the IP address for it.

Subnet Mask: If you select the L2TP support on WAN interface, fill in the subnet

mask for it.

**Gateway:** If you select the Static L2TP support on WAN interface, fill in the gateway for WAN interface out going data packets.

Server IP Address: Enter the IP address of the L2TP Server.

**Server Domain Name:** Assign Domain Name and dispatch to L2TP servers. It is optional field.

**User Name:** If you select the L2TP support on WAN interface, fill in the user name and password to login the PPTP server.

**Password:** you select the L2TP support on WAN interface; fill in the user name and password to login the PPTP server.



MTU Size: Fill in the MTU size of MTU Size. The default value is 1400.

**Request MPPE Encryption:** Click the checkbox to enable request MPPE encryption.

Attain DNS Automatically: Click to select getting DNS address for L27P support. Please select *Set DNS Manually* if the *L2TP* support is selected.

Set DNS Manually: Click to select getting DNS address for L2TP support.

DNS 1: Fill in the IP address of Domain Name Server 1.

DNS 2: Fill in the IP address of Domain Name Server 2.

DNS 3: Fill in the IP address of Domain Name Server 3.

**Clone MAC Address:** Fill in the MAC address that is the MAC address to be cloned.

Enable uPNP: Click the checkbox to enable uPNP function.

Enable IGMP Proxy: Click the checkbox to enable IGMP Proxy.

**Enable Ping Access on WAN:** Click the checkbox to enable WAN ICMP response.

**Enable Web Server Access on WAN:** Click the checkbox to enable web configuration from WAN side.

**Enable IPsec pass through on VPN connection:** Click the checkbox to enable IPSec packet pass through.

**Enable PPTP pass through on VPN connection:** Click the checkbox to enable PPTP packet pass through.

Enable L2TP pass through on VPN connection: Click the checkbox to enable L2TP packet pass through.

Apply Changes: Click the *Apply Changes* button to complete the new configuration setting.

**Reset:** Click the *Reset* button to abort change and recover the previous configuration setting.

### [USB3G]

**USB3G** : This page is used to configure the parameters for Internet network which connects to the WAN port of your Access Point.

**User Name:** If you select the USB3G support on WAN interface, fill in the user name and password to login the USB3G server.

**Password:** If you select the USB3G support on WAN interface, fill in the user name and password to login the USB3G server.

**Connection Type:** Select the connection type from pull-down menu. There are *Continuous, Connect on Demand* and *Manual* three types to select.

Continuous connection type means to setup the connection through USB3G protocol whenever this WLAN

AP Router is powered on.

- Connect on Demand connection type means to setup the connection through USB3G protocol whenever you send the data packets out through the WAN interface; there are a watchdog implemented to close the USB3G connection while there are no data sent out longer than the idle time set.
- Manual connection type means to setup the connection through the USB3G protocol by clicking the Connect button manually, and clicking the Disconnect button manually.

**Idle Time:** If you select the USB3G and *Connect on Demand* connection type, fill in the idle time for auto-disconnect function. Value can be between 1 and 1000 minutes.

MTU Size: Fill in the MTU size of MTU Size. The default value is 1490.

Attain DNS Automatically: Click to select getting DNS address for *DHCP* support. Please select *Set DNS Manually* if the *DHCP* support is selected.

**Set DNS Manually:** Click to select getting DNS address for *DHCP* support.

DNS 1: Fill in the IP address of Domain Name Server 1.

DNS 2: Fill in the IP address of Domain Name Server 2.

DNS 3: Fill in the IP address of Domain Name Server 3.

**Clone MAC Address:** Fill in the MAC address that is the MAC address to be cloned.

Enable uPNP: Click the checkbox to enable uPNP function.

Enable IGMP Proxy: Click the checkbox to enable IGMP Proxy.

**Enable Ping Access on WAN:** Click the checkbox to enable WAN ICMP response.

**Enable Web Server Access on WAN:** Click the checkbox to enable web configuration from WAN side.

**Enable IPsec pass through on VPN connection:** Click the checkbox to enable IPSec packet pass through.

**Enable PPTP pass through on VPN connection:** Click the checkbox to enable PPTP packet pass through.

**Enable L2TP pass through on VPN connection:** Click the checkbox to enable L2TP packet pass through.

Apply Changes: Click the *Apply Changes* button to complete the new configuration setting.

Reset: Click the Reset button to abort change and recover the previous

### configuration setting.

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Realtek WLAN AP Webserver		🔄 🔻 🔝 👻 🖃 🖶 🛛 Page 👻 Safety 👻 Tools 🔹	• @•
	VobSorvor		
V	vebserver		
GOAHEAD	WAN Interfe	aca Satur	
Setup Wizard	WAIVIIIteria	ice setup	
Operation Mode     Wireless	This page is used to cor	figure the parameters for Internet network which connects to the WAN port of	
TCP/IP Settings	or L2TP by click the iten	value of WAN Access type.	
WAN Interface			
🗢 🔁 Firewall	WAN Access Type:	USB3G 👻	
Port Filtering	User Name:		
MAC Filtering	Password:		
URL Filtering	PIN:		
DMZ	APN:	internet	
QoS	Dial Number:	*99#	
Route Setup	Connection Type:	Continuous - Connect Disconnect	
	Idle Time:	5 (1-1000 minutes)	
	MTU Size:	1490 (1420-1490 bytes)	- MI
	Attain DNS Automa	stically	
	Set DNS Manually		
	DNS 1:		
	DNS 2:		
	DNS 3:		
	Clone MAC Address:	0000000000	
	Enable uPNP		
	Enable IGMP Prox	ÿ	
	Enable Ping Acces	s on WAN	
	Enable Web Serve	r Access on WAN	
	Enable IPsec pass	through on VPN connection	
	Enable PPTP pass	through on VPN connection	
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# 3.6 Firewall

## 3.6.1 Port Filtering

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

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Realtek WLAN AP Webserver	🔄 👻 🗟 👻 🖻 🖉 Bage 🕶 Safety 🕶 Tools 🕶 🔞	•
GOAHEAD	WebServer	
Site contents: Setup Wizard Operation Mode Wireless TCP/IP Settings Port Filtering NAC Filtering Port Forwarding URL Filtering DMZ VLAN QoS	Port Filtering         Enable Port Filtering         Port Range:       Protocol:         Both       Comment:         Apply Changes       Reset	
Management	Port Range     Protocol     Comment     Select       Delete Selected     Delete All     Reset	
	😜 Internet   Protected Mode: On 🦓 👻 🍕 100% 👻	art

Enable Port Filtering: Click to enable the port filtering security function.

**Port Range/Protocol/Comments:** To restrict data transmission from the local network on certain ports, fill in the range of start-port and end-port, and the protocol, also put your comments on it. The *Protocol* can be TCP, UDP or Both. *Comments* let you know about whys to restrict data from the ports.

### 3.6.2 IP Filtering

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

🖉 Realtek WLAN AP Webserver - V	Windows Internet Explorer
C 🗢 🗢 http://192.168.1.	1/home.asp 🔹 😽 🗙 🧖 Live Search 🖉 🤉
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Realtek WLAN AP Webserver	🚹 🔻 🔝 👻 🖃 🗮 👻 <u>P</u> age 🔻 Safety 🕶 Tools 🕶 🔞 💌
GOAHEAD	WebServer
Site contents: Setup Wizard Operation Mode Wireless TCP/IP Settings Port Filtering Frond Port Filtering Port Forwarding Fort Filtering DMZ VLAN QoS Route Setup Management Logout	IP Filtering         Inable IP Filtering         Loal IP Address:       Protocol:         Both       Comment:         Apply Changes       Reset         Delete Selected       Delete All
	😜 Internet   Protected Mode: On 🦷 👻 🍕 100% 👻

Enable IP Filtering: Click to enable the IP filtering security function.

Local IP Address/Protocol/Comments: To restrict data transmission from local network on certain IP addresses, fill in the IP address and the protocol; also put your comments on it. The *Protocol* can be TCP, UDP or Both. *Comments* let you know about whys to restrict data from the IP address.

## 3.6.3 MAC Filtering

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

Realtek WLAN AP Webserver - W	findows Internet Explorer	<b>- 0 X</b>
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🙀 Favorites 🛛 😭 🔊 Suggested	Sites 🔻 🙋 Web Slice Gallery 👻	
Realtek WLAN AP Webserver	📩 🔻 🖾 👻 🖃 📥 👻 <u>P</u> age 🔻 Safety 🕶	T <u>o</u> ols ▼
GOAHEAD Site contents: Setup Wizard Operation Mode Wireless TCP/IP Settings Port Filtering Port Filtering Port Forwarding DMZ VLAN QoS Route Setup Management Logout	WebServer         MAC Filtering         Entries in this table are used to restrict certain types of data packets from your local network to Internet through the Gateway. Use of such filters can be helpful in securing or restricting your local network.         Enable MAC Filtering         MAC Address:       Comment:         Apply Changes       Reset         Current Filter Table:       MAC Address         Delete Selected       Delete All	
Done	😜 Internet   Protected Mode: On 🦛 👻	€ 100% 🔻 🔐

Enable MAC Filtering: Click to enable the MAC filtering security function.

**MAC Address/Comments:** To restrict data transmission from local network on certain MAC addresses, fill in the MAC address and your comments on it. *Comments* let you know about whys to restrict data from the MAC address.

### 3.6.4 Port Forwarding

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



Enable Port Forwarding: Click to enable the Port Forwarding security function. Local IP Address/Protocol/Port Range/Comment: To forward data packets coming from WAN to a specific IP address that hosted in local network behind the NAT firewall, fill in the IP address, protocol, port range and your comments. The *Protocol* can be TCP, UDP or Both. The *Port Range* is for data transmission. *Comments* let you know about whys to allow data packets forward to the IP address and port number.

# 3.6.5 URL Filter

URL Filtering is used to restrict users to access specific websites in internet.

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Realtek WLAN AP Webserver	🛐 🔻 🖾 👻 🖻 age 🔻 Safety 🕶	T <u>o</u> ols ▼	•
GOAHEAD	WebServer		
Site contents: Setup Wizard Operation Mode Wireless TCP/IP Settings Port Filtering MAC Filtering URL Filtering DURL Filtering	URL Filtering URL filter is used to deny LAN users from accessing the internet. Block those URLs which contain keywords listed below.  Enable URL Filtering URL Address: Apply Changes Reset	-	
QoS Route Setup Management	Current Filter Table: URL Address Select Delete Selected Delete All Reset	I	
≝ Logout			

**Enable URL Filtering:** Click to enable the URL Filtering function. **URL Address:** Add one URL address.

## 3.6.6 DMZ

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



Enable DMZ: Click to enable the DMZ function.

**DMZ Host IP Address:** To support DMZ in your firewall design, fill in the IP address of DMZ host that can be access from the WAN interface.

# 3.6.7 VLAN

Enter in below table are used to configure VLAN settings. VLANs are created to provide the segmentation services traditionally provided by routers. VLANs address issue such as scalability, security, and network management.

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ite contents:	VLA	N Settings					
Operation Mode	Entries it	below table are used to confi	g vlan settings	VLANs a	re created to pro	vide the	
Wireless TCP/IP Settings	segment	ation services traditionally pro	vided by routers	VLANS	address issues	such as scalab	ility,
Frewall	security,	and network management.					
Port Filtering IP Filtering	🔲 Ena	ble VLAN					
MAC Filtering	Enable	Ethernet/Wireless	WAN/LAN	Tag	VID(1-4090)	Priority	CFI
URL Filtering		Ethernet Port1	LAN		0	0 -	
VLAN		Ethemet Port2	LAN		0	0 -	
QoS Route Setup		Ethernet Port3	LAN	- Constant	0	0 -	
Management		Ethernet Port4	LAN		0	0 -	
Logout		Wireless 1 Primary AP	LAN		0	0 -	
		Virtual AP1	LAN		0	0 -	
		Virtual AP2	LAN		0	0 -	
		Virtual AP3	LAN		0	0 -	
		Virtual AP4	LAN		0	0 -	
		Ethernet Port5	WAN		0	0 -	
	Appl	y Changes Reset					

# 3.7 QoS

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

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Site contents:	OoS					
Setup Wizard	KORAL CONTRACTOR					
Operation Mode	Entries in this table improve your or	nline gaming experience by ensuring that your ga	me traffic is			
TCP/IP Settings	phondzed over other network traine	, such as FIF of web.				
Firewall	Enable QoS					
Route Setup	Automatic Uplink Speed					
Management	Manual Uplink Speed (Kbps): 512					
	Automatic Downlink Speed					
	Manual Downlink Speed (Kbps): 🗅	12				
	QoS Rule Setting:					
	Address Type:	◎ IP ● MAC				
	Local IP Address:	-				
	MAC Address:					
	Mode:	Guaranteed minimum bandwidth 👻				
	Uplink Bandwidth (Kbps):					
	Downlink Bandwidth (Kbps):					
	Comment:					
	Apply Changes Rese	at				
	Current QoS Rules Table:					
	Local IP Address MAC Address	Mode Uplink Downlink Bandwidth Bandwidth Commer	it Select			
	Delete Selected Del	ete All Reset				

How to setup your QoS:

- 1. In **QoS** Setup Section, **Enable QoS** feature.
- 2. Choose Uplink & Downlink Speed: "Automatic" or "Manual"
- 3. Select Address Type: "IP" or "Address"
- Configure QoS Rules Mode("Guaranteed Minimum bandwidth" & "Restricted Maximum bandwidth"), Uplink/Downlink Bandwidth, Comment.
- 5. Click "Apply Changes" to save QoS configurations.

# 3.8 Route Setup

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

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G	WebServer
GOAHEAD	
Site contents:	Routing Setup
Operation Mode	This page is used to setup dynamic routing protocol or edit static route entry.
TCP/IP Settings	Enable Dynamic Route
	NAT: <ul> <li>Enabled</li> <li>Disabled</li> </ul>
Route Setup	Transmit:      O Disabled      RIP 1      RIP 2
	Receive:      O Disabled      RIP 1      RIP 2
	Apply Changes Reset
	Enable Static Route
	IP Address:
	Subnet Mask:
	Gateway:
	Metric:
	Interface:
	Apply Changes Reset Show Route Table
	Static Route Table:
	Destination IP Netmask Gateway Metric Interface Select
	Delete Selected Delete All Reset
	😌 Internet   Protected Mode: On 🏼 🍕 🔻 🍕 100% 👻

### [Dynamic Route]

Dynamic routing is a technique developed to automatically adjust routing tables in the event of network failures. The most common dynamic routing protocols is RIP (Routing Information Protocol), which is very common on small networks.

### [Static Route]

It menu allows you to define your own static routes for network traffic. Follow the instructions below to define a static router:

1. Enter the target IP address in the textbox near 'IP Address'.

2. Enter the subnet mask in the textbox near 'Subnet Mask'.

3. Enter the gateway IP address in the textbox near 'Gateway'.

4. Enter the number of 'hops' in the textbox near '**Metric**' (normally you can set the value to '0').

- 5. Select the correct port type in the dropdown box near 'Interface'.
- 6. Click the 'Apply Changes' button to add the route.

## 3.9 Management

### 3.9.1 Status

This page shows the current status and some basic settings of the device, includes system, wireless, Ethernet LAN and WAN configuration information.



### [System]

Uptime: It shows the duration since WLAN AP Router is powered on.

Firmware version: It shows the firmware version of WLAN AP Router.

### [Wireless configuration]

Mode: It shows wireless operation mode

Band: It shows the current wireless operating frequency.

SSID: It shows the SSID of this WLAN AP Router. The SSID is the unique name of

WLAN AP Router and shared among its service area, so all device sat tempts to join the same wireless network can identify it.

Channel Number: It shows the wireless channel connected currently. Encryption: It shows the status of encryption function.

Associated Clients: It shows the number of connected clients (or stations, PCs). BSSID: It shows the BSSID address of the WLAN AP Router BSSID is a six-byte address.

### [LAN configuration]

IP Address: It shows the IP address of LAN interfaces of WLAN AP Router.

Subnet Mask: It shows the IP subnet mask of LAN interfaces of WLAN AP Router. Default Gateway: It shows the default gateway setting for LAN interfaces outgoing data packets.

DHCP Server: It shows the DHCP server is enabled or not.

MAC Address: It shows the MAC address of LAN interfaces of WLAN AP Router. [WAN configuration]

Attain IP Protocol: It shows how the WLAN AP Router gets the IP address. The IP address can be set manually to a fixed one or set dynamically by DHCP server or attain IP by PPPoE / PPTP connection.

IP Address: It shows the IP address of WAN interface of WLAN AP Router.Subnet Mask: It shows the IP subnet mask of WAN interface of WLAN AP Router.Default Gateway: It shows the default gateway setting for WAN interface outgoing data packets.

MAC Address: It shows the MAC address of WAN interface of WLAN AP Router.

# 3.9.2 Statistics

This page shows the packet counters for transmission and reception regarding to wireless, Ethernet LAN and Ethernet WAN networks.



### [Wireless LAN]

*Sent Packets:* It shows the statistic count of sent packets on the wireless LAN interface.

*Received Packets:* It shows the statistic count of received packets on the wireless LAN interface.

### [Ethernet LAN]

*Sent Packets:* It shows the statistic count of sent packets on the Ethernet LAN interface.

*Received Packets:* It shows the statistic count of received packets on the Ethernet LAN interface.

### [Ethernet WAN]

*Sent Packets:* It shows the statistic count of sent packets on the Ethernet WAN interface.

*Received Packets:* It shows the statistic count of received packets on the Ethernet WAN interface.

**Refresh:** Click the refresh the statistic counters on the screen.

# 3.9.3 DDNS

This page is used to configure Dynamic DNS service to have DNS with dynamic IP address.

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GOAHEAD	Drugonia DI	NC Cotting		
Setup Wizard Operation Mode Wireless Frewall CP/IP Settings Frewall Status Status Status DDNS Denial-of-Service Logout Logout Save/Reload Setting	Dynamic DNS is a serv (an URL) to go with th Enable DDNS Service Provider : Domain Name : User Name/Email: Password/Key: Note: For IZO, you can hav For DynDNS, you can Apply Change	DynDNS - host dyndns.org	with a valid, unchanging, internet dom ing) IP-address.	iain name
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Enable DDNS: Click the checkbox to enable DDNS service.

Service Provider: Click the drop down menu to pickup the right provider.

**Domain Name:** To configure the Domain Name.

User Name/Email: Configure User Name, Email.

Password/Key: Configure Password, Key.

# 3.9.4 Time Zone Setting

Click the Reset button to abort change and recover the previous configuration setting.

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GOAHEAD	Time Zana	Catting							
SITE CONTENTS:	Time Zone	Setting							
Operation Mode	You can maintain th	e system time by synch	onizing with	a public time	server ove	er the			
Vireless	Internet.								
Firewall									
	Current Time :	Yr 2011 Mon 1	Day 3	<b>Hr</b> 14	Mn 23	Sec 53			
		Copy Computer	Time						
Status	Time Zone Select :	(GMT+08:00)Taipei							
DDNS		and an an an an and a second sec							
Time Zone Setting	Enable NTP cl	ient update							
Denial-of-Service	Automatically	Adjust Daylight Saving	de Anno sin a						
Upgrade Firmware	NIF server :	I92.5.41.41 - INO	nn America	Ŧ					
Save/Reload Setting		0	(Manual	IP Setting)					
Password	Apply Change	Basat Ba	frach						
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Current Time: It shows the current time.

Time Zone Select: Click the time zone in your country.

Enable NTP client update: Click the checkbox to enable NTP client update.

NTP Server: Click select default or input NTP server IP address.

Apply Change: Click the *Apply Changes* button to save and enable NTP client service.

**Reset**: Click the *Reset* button to abort change and recover the previous configuration setting.

Refresh: Click the refresh the current time shown on the screen.

### 3.9.5 Denial-of-Service

This page is used to enable and setup protection to prevent attack by hacker's program. It provides more security for users.

Enable DoS Prevention: Click the checkbox to enable DoS prevention.

Whole System Flood / Per-Source IP Flood...: Enable and setup prevention in details.

Select ALL: Click the checkbox to enable all prevention items.

Clear ALL: Click the checkbox to disable all prevention items.

Apply Changes: Click the Apply Changes button to save above settings.

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GOAHEAD				
Site contents:	Denial of Service			
Operation Mode	A "denial-of-service" (DoS) attack is chara	acterized by an	explicit attempt by hackers to preve	nt
Wireless	legitimate users of a service from using the	at service.		
Firewall				
QoS	Enable DoS Prevention			
Route Setup	Whole System Flood: SYN	0	Packets/Second	
Status	Whole System Flood: FIN	٥	Packets/Second	
- Statistics	Whole System Flood: UDP	0	Packets/Second	
DDNS	Whole System Flood: ICMP	0	Packets/Second	
Denial-of-Service	Per-Source IP Flood: SVN	0	Packate/Second	
Log	Bay Same ID Flack FIN	0	Delet /Com	
Save/Reload Setting		0	Packets/Second	
Password	Per-Source IP Flood: UDP	0	Packets/Second	
E Logout	Per-Source IP Flood: ICMP	0	Packets/Second	
	TCP/UDP PortScan	Low -	Sensitivity	
	ICMP Smurf			
	IP Land			
	IP Spoof			
	IP TearDrop			
	PingOiDeath			
	TCP Scan			
	UDP EchoChargen			
	Select ALL Clear ALL			
	Enable Source IP Blocking	0	Block time (sec)	
	Apply Changes			

# 3.9.6 Log

This page is used to configure the remote log server and shown the current log.

Enable Log: Click the checkbox to enable log.
System all: Show all log of wireless broadband router.
Wireless: Only show wireless log
DoS: Only show Denial-of-Service log
Enable Remote Log: Click the checkbox to enable remote log service.
Log Server IP Address: Input the remote log IP address.
Apply Changes: Click the Apply Changes button to save above settings.
Refresh: Click the refresh the log shown on the screen.

### Clear: Clear log display screen.

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GOAHEAD Site contents: Setup Wizard Operation Mode Wireless TCP/IP Settings Firewall QoS Route Setup Status Statistics DDNS Time Zone Setting Denial-of-Service Log Upgrade Firmware Save/Reload Setting Desword Logout	VebServer System Log Enable Log System all Enable Remote Log Apply Changes	ote log server and show the system lo	≥g. □ DoS	• Safety • Tools • O •
		🙆 Inte	ernet I Protected Mode: On	
Done		<b>W</b> Inte	incert forced model off	10070

# 3.9.7 Upgrade Firmware

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



**Select File:** Click the *Browse* button to select the new version of web firmware image file.

**Upload:** Click the **Upload** button to update the selected web firmware image to the WLAN Broadband Router.

**Reset:** Click the *Reset* button to abort change and recover the previous configuration setting.

# 3.9.8 Save/Reload Setting

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



**Save Settings to File:** Click the Save button to download the configuration parameters to your personal computer.

**Load Settings from File:** Click the Browse button to select the configuration files then click the Upload button to update the selected configuration to the WLAN Broadband Router.

**Reset Settings to Default:** Click the Reset button to reset the configuration parameter to factory defaults.

### 3.9.9 Password

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

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GOAHEAD			
<ul> <li>Site contents:</li> <li>Setup Wizard</li> <li>Operation Mode</li> <li>Wireless</li> <li>TCP/IP Settings</li> </ul>	Password Setu This page is used to set the name and password will dis	e account to access the web server of Access Point.	Empty user
Firewall QoS	User Name:		
Route Setup	New Password:		
Status	Confirmed Password:		
DDNS Time Zone Setting Denial-of-Service Log Upgrade Firmware Save/Reload Setting Password Logout	Apply Changes	Reset	
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User Name: Fill in the user name for web management login control.

New Password: Fill in the password for web management login control.

**Confirmed Password:** Because of the password input is invisible, fill in the password again for confirming purpose.

**Apply Changes:** Clear the User Name and Password fields to empty, means to apply no web management login control. Click the Apply Changes button to complete the new configuration setting.

**Reset:** Click the Reset button to abort change and recover the previous configuration setting.