User's Manual

Version: 2.1

Wireless LAN Broadband Router

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Revision History

DATEREVISION2003/7/16First release2003/7/22Release 1.1; add information about time required on boot-up sequence.2003/7/24Release 1.2; modify the boot-up sequence notice in chapter 12003/8/4Release 2.0; add configuration examples2003/9/5Release 2.1; support multi-language including English, German and
Spanish, change to DC v7.5 power supply

Terminology

American National Standards Institute
Access Point
Complementary Code Keying
Carrier Sense Multiple Access/ Collision Avoidance
Carrier Sense Multiple Access/ Collision Detection
Dynamic Host Configuration Protocol
Direct Sequence Spread Spectrum
Federal Communications Commission
File Transfer Protocol
Institute of Electrical and Electronic Engineers
Internet Protocol
Industrial, Scientific and Medical
Local Area Network
Media Access Control
Network Address Translation
Network Termination
Power Spectral Density
Radio Frequency
Signal to Noise Ratio
Service Set Identification
Transmission Control Protocol
Trivial File Transfer Protocol
Wired Equivalent Privacy
Wireless Local Area Network

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1 Introduction

The Wireless LAN Broadband Router is an affordable IEEE 802.11b wireless LAN broadband router solution; setting SOHO and enterprise standard for high performance, secure, manageable and reliable WLAN.

This document describes the steps required for the initial IP address assign and other WLAN router configuration. The description includes the implementation of the above steps.

Notice: It will take about 25 seconds to complete the boot up sequence after powered on the WLAN Broadband Router; all LEDs are blank while booting except the Power LED, and after that the WLAN Activity LED will be flashing to show the WLAN interface is enabled and working now.

1.1 Package contents

The package of the WLAN Broadband Router includes the following items,

- ✓ The WLAN Broadband Router
- \checkmark The AC to DC power adapter
- \checkmark The Documentation CD

1.2 Product Specifications

-				
Product Name	WLAN Broadband Router			
Standard	801.11b(Wireless), 802.3(10BaseT), 802.3u(100BaseT)			
Data Transfer Rate	11Mbps(Wireless), 100Mbps(Ethernet)			
Modulation Method	DBPSK/ DQPSK/ CCK			
Frequency Band	2.4GHz – 2.497GJz ISM Band, DSSS			
RF Output Power	< 17 dBm			
Receiver Sensitivity	11Mbps better than 8% PER @ -80 dBm			
Operation Range	30 to 300 meters (depend on surrounding)			
Antenna	External Antenna			
LED	Power, Active (WLAN), Act/Link (Ethernet)			
Security	64 bit/ 128 bit WEP, port filtering, IP filtering, MAC			
filtering, port forwarding and DMZ hosting				
LAN interface One 10/100BaseT with RJ45 connector (WAN)				
	Four 10/100BaseT with RJ45 connectors (LAN)			
Power Consumption	7.5V DC Power Adapter			

Dimension	160 x 110 x 35 mm
Operating Temperature	$0-50^{\circ}$ C ambient temperature
Storage Temperature	-20 - 70°C ambient temperature
Humidity	5 to 90 % maximum (non-condensing)

1.3 Product Features

- Complies with IEEE 802.11b standard for 2.4GHz Wireless LAN.
- Supports 11Mbps data transfer rate with automatic fallback to 5.5M, 2M and 1Mbps.
- Supports bridging, routing functions between wireless and wired Ethernet interfaces.
- Supports 64-bit and 128-bit WEP encryption/decryption function to protect the wireless data transmission.
- Supports IEEE 802.3x full duplex flow control on 10/100M Ethernet interface.
- Supports DHCP server to provide clients auto IP addresses assignment.
- Supports DHCP client for Ethernet WAN interface auto IP address assignment.
- Supports static and dynamic IP routing.
- Supports PPPoE on Ethernet WAN interface.
- Supports clone MAC address function.
- Supports firewall security with port filtering, IP filtering, MAC filtering, port forwarding, trigger port and DMZ hosting functions.
- Supports WEB based management and configuration.

1.4 Front Panel Description



	Fi	gure	1	-WL	AN	Broa	dban	d R	outer	Front	Pane	ł
--	----	------	---	-----	----	------	------	-----	-------	-------	------	---

LED Indicator	State	Description
1. Power LED	On	The WLAN Broadband Router is powered on.
	Off	The WLAN Broadband Router is powered off.

2. WLAN Activity LED	Flashing	Data is transmitting or receiving on the antenna.
	Off	No data is transmitting or receiving on the antenna.
3. WAN ACT LED	Flashing	Data is transmitting or receiving on the WAN interface.
	Off	No data is transmitting or receiving on the WAN
		interface.
4. WAN 10/100M LED	On	Connection speed is 100Mbps on WAN interface.
	Off	Connection speed is 10Mbps on WAN interface.
5. LAN ACT LED	Flashing	Data is transmitting or receiving on the LAN interface.
	Off	No data is transmitting or receiving on the LAN
		interface.
6. LAN 10/100M LED	On	Connection speed is 100Mbps on LAN interface.
	Off	Connection speed is 10Mbps on LAN interface.

1.5 Rear Panel Description





Description
The RJ-45 socket allows WAN connection through a Category 5 cable.
Support auto-sensing on 10/100M speed and half/ full duplex; comply with
IEEE 802.3/ 802.3u respectively.
The RJ-45 sockets allow LAN connection through Category 5 cables.
Support auto-sensing on 10/100M speed and half/ full duplex; comply with
IEEE 802.3/ 802.3u respectively.

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3. Power	The power jack allows an external DC +7.5 V power supply connection.
	The external AC to DC adaptor provide adaptive power requirement to the
	WLAN Broadband Router.
4. Antenna	The Wireless LAN Antenna.

2 Installation

2.1 Hardware Installation

Step One: Place the Wireless LAN Broadband Router to the best optimum transmission location.

The best transmission location for your WLAN Broadband Router is usually at the geographic center of your wireless network, with line of sign to all of your mobile stations.

Step Two: Connect the WLAN Broadband Router to your wired network.

Connect the Ethernet WAN interface of WLAN Broadband Router by category 5 Ethernet cable to your switch/ hub/ xDSL modem or cable modem. A straight-through Ethernet cable with appropriate cable length is needed.

Step Three: Supply DC power to the WLAN Broadband Router. Use only the AC/DC power adapter supplied with the WLAN Broadband Router; it may occur damage by using a different type of power adapter.

The hardware installation finished.

2.2 Software Installation

There are no software drivers, patches or utilities installation needed, but only the configuration setting. Please refer to chapter 3 for software configuration.

3 Software configuration

There are web based management and configuration functions allowing you to have the jobs done easily.

The WLAN Broadband Router is delivered with the following factory default parameters on the Ethernet LAN interfaces.

Default IP Address: **192.168.1.254** Default IP subnet mask: **255.255.255.0** WEB login User Name: *<empty>* WEB login Password: *<empty>*

- 3.1 Prepare your PC to configure the WLAN Broadband Router For OS of Microsoft Windows 95/ 98/ Me:
 - Click the *Start* button and select *Settings*, then click *Control Panel*. The *Control Panel* window will appear.
 Note: Windows Me users may not see the Network control panel. If so, *select* View all Control Panel options on the left side of the window
 - 2. Move mouse and double-click the right button on *Network* icon. The *Network* window will appear.
 - 3. Check the installed list of *Network Components*. If TCP/IP is not installed, click the *Add* button to install it; otherwise go to step 6.
 - 4. Select *Protocol* in the *Network Component Type* dialog box and click *Add* button.
 - Select *TCP/IP* in *Microsoft* of *Select Network Protocol* dialog box then click OK button to install the TCP/IP protocol, it may need the Microsoft Windows CD to complete the installation. Close and go back to *Network* dialog box after the TCP/IP installation.
 - 6. Select *TCP/IP* and click the *properties* button on the *Network* dialog box.
 - 7. Select *Specify an IP address* and type in values as following example.
 - ✓ IP Address: 192.168.1.1, any IP address within 192.168.1.1 to 192.168.1.253 is good to connect the Wireless LAN Access Point.
 - ✓ IP Subnet Mask: 255.255.255.0
 - 8. Click OK and reboot your PC after completes the IP parameters setting.

For OS of Microsoft Windows 2000, XP:

Click the *Start* button and select *Settings*, then click *Control Panel*. The *Control Panel* window will appear.

- Move mouse and double-click the right button on *Network and Dial-up Connections* icon. Move mouse and double-click the *Local Area Connection* icon. The *Local Area Connection* window will appear. Click *Properties* button in the *Local Area Connection* window.
- 3. Check the installed list of *Network Components*. If TCP/IP is not installed, click the *Add* button to install it; otherwise go to step 6.
- 4. Select *Protocol* in the *Network Component Type* dialog box and click *Add* button.
- Select *TCP/IP* in *Microsoft* of *Select Network Protocol* dialog box then click OK button to install the TCP/IP protocol, it may need the Microsoft Windows CD to complete the installation. Close and go back to *Network* dialog box after the TCP/IP installation.
- 6. Select *TCP/IP* and click the *properties* button on the *Network* dialog box.
- 7. Select *Specify an IP address* and type in values as following example.
 - ✓ IP Address: 192.168.1.1, any IP address within 192.168.1.1 to 192.168.1.253 is good to connect the Wireless LAN Access Point.
 - ✓ IP Subnet Mask: 255.255.255.0
- 8. Click OK to completes the IP parameters setting.

For OS of Microsoft Windows NT:

- Click the *Start* button and select *Settings*, then click *Control Panel*. The *Control Panel* window will appear.
- 2. Move mouse and double-click the right button on *Network* icon. The *Network* window will appear. Click *Protocol* tab from the *Network* window.
- 3. Check the installed list of *Network Protocol* window. If TCP/IP is not installed, click the *Add* button to install it; otherwise go to step 6.
- 4. Select *Protocol* in the *Network Component Type* dialog box and click *Add* button.
- Select *TCP/IP* in *Microsoft* of *Select Network Protocol* dialog box then click OK button to install the TCP/IP protocol, it may need the Microsoft Windows CD to complete the installation. Close and go back to *Network* dialog box after the TCP/IP installation.
- 6. Select *TCP/IP* and click the *properties* button on the *Network* dialog box.
- 7. Select *Specify an IP address* and type in values as following example.
 - ✓ IP Address: 192.168.1.1, any IP address within 192.168.1.1 to 192.168.1.253 is good to connect the Wireless LAN Access Point.
 - ✓ IP Subnet Mask: 255.255.255.0
- 8. Click OK to completes the IP parameters setting.

3.2 Connect to the WLAN Broadband Router

Open a WEB browser, i.e. Microsoft Internet Explore, then enter 192.168.1.254 on the URL to connect the WLAN Broadband Router.

- 3.3 Management and configuration on the WLAN Broadband Router
 - 3.3.1 Status

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

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dress 🙆 http://192.168.1.254/home.	asp		👻 🛃 Go 🛛 Links 👌
	WLAN Broa	dband Router	
Site contents:	WLAN Broad	dband Router Status	-
 TCP/IP Settings Firewall Statistics 	System	tent status and some oasic settings of the device.	
📑 Upgrade Firmware	Alias Name	WLAN Broadband Router	
📲 Save/Reload Settings	Uptime	0day:0h:1m:26s	
Password	Firmware Version	v0.1	
	Wireless Configuration		
	SSID	RTL8181-Router	
	Channel Number	11	
	WEP	Disabled	
	Associated Clients	0	
	BSSID	00:50:4c:81:81:21	
	LAN Configuration		
	IP Address	192.168.1.254	-
	Subnet Mask	255.255.255.0	
	Default Gateway	192.168.1.254	
	DHCP Server	Enabled	
	DHCP Server MAC Address	Enabled 00:e0:4c:81:81:21	

Screenshot - Status-1

WLAN Broadband Router - Micro	osoft Internet Explorer		<u>_8</u> ×
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	WLAN Broa	dband Router	
	Alias Name	WI AN Broadband Router	
Site contents:	Intime	Dday Ob:1m:26s	-
- Status	Firmware Version	vf) 1	
TOD/ID Settings	Wireless Configuration		
- TCP/IP Settings	SSID	RTL\$181-Router	
Statistics	Channel Number	11	
- Upgrade Firmware	WEP	Disabled	
Save/Reload Settings	Associated Clients	0	
Password	BSSID	00:50:4c:81:81:21	
	LAN Configuration	E Carlos de	
	IP Address	192.168.1.254	
	Subnet Mask	255.255.255.0	
	Default Gateway	192.168.1.254	
	DHCP Server	Enabled	
	MAC Address	00:e0:4c:81:81:21	
	WAN Configuration		
	Attain IP Protocol	Getting IP from DHCP server	
	IP Address	0.0.0	
	Subnet Mask	0.0.0	
	Default Gateway	0.0.0	
	MAC Address	00:e0:4c:81:81:22	

<u>Screenshot – Status-2</u>

Item	Description		
<u>System</u>			
Alias Name	It shows the alias name of this WLAN Broadband		
	Router.		
Uptime	It shows the duration since WLAN Broadband Router is		
	powered on.		
Firmware version	It shows the firmware version of WLAN Broadband		
	Router.		
Wireless configuration			
SSID	It shows the SSID of this WLAN Broadband Router.		
	The SSID is the unique name of WLAN Broadband		
	Router and shared among its service area, so all devices		
	attempts to join the same wireless network can identify it.		
Channel Number	It shows the wireless channel connected currently.		
WEP	It shows the status of WEP encryption function.		
Associated Clients	It shows the number of connected clients (or stations,		
	PCs).		
BSSID	It shows the BSSID address of the WLAN Broadband		
	Router. BSSID is a six-byte address.		

LAN configuration		
IP Address	It shows the IP address of LAN interfaces of WLAN	
	Broadband Router.	
Subnet Mask	It shows the IP subnet mask of LAN interfaces of WLAN	
	Broadband 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	
	Broadband Router.	
WAN configuration		
Attain IP Protocol	It shows how the WLAN Broadband 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 connection.	
IP Address	It shows the IP address of WAN interface of WLAN	
	Broadband Router.	
Subnet Mask	It shows the IP subnet mask of WAN interface of WLAN	
	Broadband 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	
	Broadband Router.	

3.3.2 Wireless 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.

WLAN Broadband Router - Micros File Edit View Eavorites Tools	soft Internet Explorer Help		
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Address Address Address	asp.	▼ B 60	Links »
	WLAN Brod	adband Router	
	Wireless Ba	sic Settings	
Wireless Basic Settings Advanced Settings	This page is used to co your Access Point. Her network parameters.	onfigure the parameters for wireless LAN clients which may connect to re you may change wireless encryption settings as well as wireless	
Control	Alias Name:	WLAN Broadband Router	
Statistics	Disable Wireles:		
Upgrade Firmware Save/Reload Settings	Channel Number:		
Password	Associated Clients:	Show Active Clients	
	Apply Changes	Reset	
e)		🖉 Internet	

Screenshot - Wireless Basic Settings

Item	Description		
Alias Name	It is the alias name of this WLAN Broadband Router. The		
	alias name can be 32 characters long.		
Disable Wireless LAN	Tick on to disable the wireless LAN data transmission.		
Interface			
SSID	It is the wireless network name. The SSID can be 32		
	bytes long.		
Channel Number	Select the wireless communication channel from		
	pull-down menu.		
Associated Clients	Click the Show Active Clients button to open Active		
	Wireless Client Table that shows the MAC address,		
	transmit-packet, receive-packet and transmission-rate for		
	each associated wireless client.		
Apply Changes	Click the <i>Apply Changes</i> button to complete the new		
	configuration setting.		
Reset	Click the <i>Reset</i> button to abort change and recover the		
	previous configuration setting.		

3.3.3 Wireless 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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WL	AN Broadband Router	
	reless Advanced Settings	
Advanced Settings Change	settings are only for more technically advanced users who have a suffici wireless LAN. These settings should not be changed unless you know w es will have on your Access Point.	ent knowledge hat effect the
Access Control Author	entication Type: C Open System C Shared Key © Auto	
Statistics RTS	Threshold: 2347 (0-2347)	
Save/Reload Settings Beach	on Interval: 100 (20-1024 ms) Rate: Auto	
Prea	mble Type: © Long Preamble C Short Preamble	
Broa	dcast SSID: © Enabled C Disabled	
A	pply Changes Reset	
Done		👌 Internet

Screenshot - Wireless Advanced Settings

Item	Description	
Authentication Type	Click to select the authentication type in <i>Open System</i> ,	
	Shared Key or Auto selection.	
Fragment Threshold	Set the data packet fragmentation threshold, value can be	
	written between 256 and 2346 bytes. Refer to 4.10 What	
	is Fragment Threshold?	
RTS Threshold	Set the RTS Threshold, value can be written between 0	
	and 2347 bytes. Refer to 4.11 What is RTS (Request To	
	Send) Threshold?	
Beacon Interval	Set the Beacon Interval, value can be written between 20	
	and 1024 ms.	
	Refer to 4.12 What is Beacon Interval?	
Data Rate	Select the transmission data rate from pull-down menu.	
	Data rate can be auto-select, 11M, 5.5M, 2M or 1Mbps.	
Preamble Type	Click to select the Long Preamble or Short Preamble	
	support on the wireless data packet transmission. Refer to	

	4.13 What is Preamble Type?
Broadcast SSID	Click to enable or disable the SSID broadcast function.
	Refer to <u>4.14 What is SSID Broadcast?</u>
Apply Changes	Click the <i>Apply Changes</i> button to complete the new
	configuration setting.
Reset	Click the <i>Reset</i> button to abort change and recover the
	previous configuration setting.

3.3.4 Wireless Security Setup

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

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File Edit View Favorites Tools	Help	1
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Address 🚳 http://192.168.1.254/home	,asp 🗾 🔁 Go) Links »
	WLAN Broadband Router	
✓ Site contents:	Wireless Security Setup	
Witeless Basic Settings Advanced Settings	This page allows you setup the WEP security. Turn on WEP by using Encryption Keys could prevent any unauthorized access to your wireless network.	
Security	✓ Enable WEP Security	
TCP/IP Settings	Key Length: 128-bit	
	Key Format: Hex (26 characters)	
Upgrade Firmware	Default Tx Key: Key 1 💌	
Password	Encryption Key 1:	
	Encryption Key 2:	
	Encryption Key 3:	
	Encryption Key 4:	
	Apply Changes Reset	
e .	💿 🖉 👔 Internet	

<u>Screenshot – Wireless Security Setup</u>

Click the check box to enable WEP security function.			
hat is WEP?			
P shared secret key length from pull-down			
gth can be chose between 64-bit and			
n as "WEP2") keys.			
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.		
Default Tx Key	Set the default secret key for WEP security function.		
	Value can be chose between 1 and 4.		
Encryption Key 1	Secret key 1 of WEP security encryption function.		
Encryption Key 2	Secret key 2 of WEP security encryption function.		
Encryption Key 3	Secret key 3 of WEP security encryption function.		
Encryption Key 4	Secret key 4 of WEP security encryption function.		
Apply Changes	Click the <i>Apply Changes</i> button to complete the new		
	configuration setting.		
Reset	Click the <i>Reset</i> button to abort change and recover the		
	previous configuration setting.		

WEP encryption key (secret key) length:

Length Format	64-bit	128-bit
ASCII	5 characters	13 characters
HEX	10 hexadecimal codes	26 hexadecimal codes

3.3.5 Wireless 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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Address 🙆 http://192.168.1.254/home	asp		▼ →	Go Links »
	WLAN Broadband	l Router		
➡ Site contents: ■ Status	Wireless Access Co	ntrol		
Basic Settings	If you enable wireless access control, in the access control list will be able t enabled, no wireless clients will be ab	only those clients whose v o connect to your Access I le to connect if the list cont	vireless MAC addresses are Point. When this option is tains no entries.	-21
Access Control	Enable Wireless Access Contro	i:		
Statistics	MAC Address:	Comment:		
Password	Apply Changes Reset			
	Current Access Control List:			
	MAC Address	Comment	Select	
	00:20:ed:81:02:45	Eric's NB		
	00:20:ed:81:65:76	Jason's PC		
	Delete Selected Delet	e All Reset		
Done			🔹 🚺 🔮 Internet	

Screenshot - Wireless Access Control

Item	Description
Enable WEP Security	Click the check box to enable wireless access control.
	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 comments for the registered client.
Apply Changes	Click the Apply Changes button to register the client to
	new configuration setting.
Reset	Click the <i>Reset</i> button to abort change and recover the
	previous configuration setting.
Current Access	It shows the registered clients that are allowed to link to
Control List	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 <i>Reset</i> button to abort change and recover the

previous configuration setting.

3.3.6 LAN Interface Setup

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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	WLAN Broad	lband Router	
✓ Site contents: ✓ Status	LAN Interface	e Setup	
 Wireless Basic Settings Advanced Settings Security 	This page is used to config LAN port of your Access I mask, DHCP, etc	gure the parameters for local area network which connects to the Point. Here you may change the setting for IP addresss, subnet	
Access Control	IP Address:	192.168.1.254	
UAN Interface	Subnet Mask: Default Gateway:	255.255.255.0	
Statistics	DHCP Server:	Enabled 💌	
Save/Reload Settings	DHCP Client Range:	192.168.1.100 - 192.168.1.200 Show Client	
Password	802.1d Spanning Tree:	Disabled 🗾	
	Clone MAC Address:	0000000000	
	Apply Changes	Reset	
ê		🖉 Internet	

Screenshot - LAN Interface Setup

Item	Description
IP Address	Fill in the IP address of LAN interfaces of this WLAN
	Broadband Router.
Subnet Mask	Fill in the subnet mask of LAN interfaces of this WLAN
	Broadband Router.
Default Gateway	Fill in the default gateway for LAN interfaces out going
	data packets.
DHCP Server	Select to enable or disable the DHCP server function on
	LAN interfaces from pull-down menu.
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.
802.1d Spanning Tree	Select to 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.
	Clone MAC address is designed for your special
	application that request the clients to register to a server
	machine with one identified MAC address.
	Since that all the clients will communicate outside world
	through the WLAN Broadband Router, so have the
	cloned MAC address set on the WLAN Broadband
	Router will solve the issue.
Apply Changes	Click the <i>Apply Changes</i> button to complete the new
	configuration setting.
Reset	Click the <i>Reset</i> button to abort change and recover the
	previous configuration setting.

3.3.7 WAN Interface Setup

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 setting for IP address, PPPoE and DNS, etc.

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	WLAN Bro	adband R	outer		
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Site contents:	WAN Interf	ace Setup			4
<u>li</u> Status 					
Basic Settings	This page is used to co your Access Point. Her	onfigure the paramete re you may change th	ers for Internet network w he setting for IP addresss	hich connects to the WA , PPPoE, DNS, etc	N port of
- 🧧 Advanced Settings	-	, , ,			
Security	Attain IP Automat	tically (DHCP)			
TCP//P Settings	C Fixed IP				
LAN Interface		lanan			
LAN Interface	IP Address:				
LAN Interface WAN Interface	IP Address: Subnet Mask:	0.0.0.0			
LAN Interface WAN Interface Firewall Statistics	IP Address: Subnet Mask: Default Gateway:	0.0.0.0			
LAN Interface WAN Interface Firewall Statistics Upgrade Firmware Save/Reload Settings Pacoword	IP Address: Subnet Mask: Default Gateway: C PPPoE	0.0.0.0			_
LAN Interface WAN Interface Firewall Upgrade Firmware Save/Reload Settings Password	IP Address: Subnet Mask: Default Gateway: C PPPoE User Name:	0.0.0.0			
 LAN Interface WAN Interface Firewall Statistics Upgrade Firmware Save/Reload Settings Password 	IP Address: Subnet Mask: Default Gateway: © PPPoE User Name: Password:	0.0.0.0			
 LAN Interface WAN Interface Firewall Statistics Upgrade Firmware Save/Reload Settings Password 	IP Address: Subnet Mask: Default Gateway: C PPPoE User Name: Password: Connection Type:	0.0.0.0 0.0.0.0	Connect	Disconnect	
LAN Interface WAN Interface Firewall Statistics Upgrade Firmware Save/Reload Settings Password	IP Address: Subnet Mask: Default Gateway: C PPPoE User Name: Password: Connection Type: Idle Time:	0.0.0.0 0.0.0.0	Connect (1-1000 minutes)	Disconnect	

Screenshot – WAN Interface Setup - 1

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Status	C PPPoE							
- 🔄 Wireless Basis Settings	User Name:							
Advanced Settings	Password:							
Security	Connection Type:	Continuc	ius	-	Connect	Disconnect		
	Idle Time:	5		(1-10	00 minutes)			
WAN Interface 	• Attain DNS Autom	atically						
Statistics	C Set DNS Manually	R	00					
Save/Reload Settings	DNS 1:							
Password	DNS 2:							
	DNS 3:		_					
	Clone MAC Address		00000000	0000				
	Apply Changes	Rese	t					

Screenshot – WAN Interface Setup - 2

Item	Description
Attain IP	Click to select DHCP support on WAN interface for IP
Automatically (DHCP)	address assigned automatically from a DHCP server.

Fixed IP	Click to select fixed 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 fixed IP support on WAN interface, fill
	in the IP address for it.
Subnet Mask	If you select the fixed IP support on WAN interface, fill
	in the subnet mask for it.
Default Gateway	If you select the fixed IP support on WAN interface, fill
	in the default gateway for WAN interface out going data
	packets.
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.
Connection Type	Select the connection type from pull-down menu. There
	are <i>Continuous</i> , <i>Connect on Demand</i> and <i>Manual</i> three
	types to select.
	Continuous connection type means to setup the
	connection through PPPoE protocol whenever this
	WLAN Broadband 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 <i>Disconnect</i> 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.
Attain DNS	Click to select getting DNS address for DHCP, PPPoE

Automatically	support. Please select Set DNS Manually if the Fixed IP
	support is selected.
Set DNS Manually	Click to select getting DNS address for <i>Fixed IP</i> 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.
Apply Changes	Click the <i>Apply Changes</i> button to complete the new
	configuration setting.
Reset	Click the <i>Reset</i> button to abort change and recover the
	previous configuration setting.

3.3.8 Firewall - 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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Address () http://192.168.1.254/home	.asp			💌 🛃 Go	Links »
	WLAN Broad	band Route	er		
	Port Filtering				
Wireless Basic Settings Advanced Settings Security	Entries in this table are use to Internet through the Gat your local network.	d to restrict certain type: eway. Use of such filters	s of data packets from you can be helpful in securing	r local network g or restricting	
→ Access Control → TCP/IP Settings → LAN Interface	Enable Port Filtering Port Range:	Protocol: Both	Comment:]	
Port Filtering	Apply Changes	Reset			
MAC Filtering	Current Filter Table:				
Port Forwarding	Port Range	Protocol	Comment	Select	
DMZ	10002-10006	TCP	ERP		
Upgrade Firmware Save/Reload Settings Password	Delete Selected	Delete All F	teset		
e Done				🔮 Internet	

Screenshot - Firewall - Port Filtering

Item	Description
Enable Port Filtering	Click to enable the port filtering security function.
Port Range	To restrict data transmission from the local network on

Protocol	certain ports, fill in the range of start-port and end-port,		
Comments	and the protocol, also put your comments on it.		
	The <i>Protocol</i> can be TCP, UDP or Both.		
	Comments let you know about whys to restrict data from		
	the ports.		
Apply Changes	Click the Apply Changes button to register the ports to		
	port filtering list.		
Reset	Click the <i>Reset</i> button to abort change and recover the		
	previous configuration setting.		
Delete Selected	Click to delete the selected port range that will be		
	removed from the port-filtering list.		
Delete All	Click to delete all the registered entries from the		
	port-filtering list.		
Reset	Click the <i>Reset</i> button to abort change and recover the		
	previous configuration setting.		

3.3.9 Firewall - 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.



Screenshot - Firewall - IP Filtering

Item	Description
Enable IP Filtering	Click to enable the IP filtering security function.
Local IP Address	To restrict data transmission from local network on
Protocol	certain IP addresses, fill in the IP address and the
Comments	protocol, also put your comments on it.
	The <i>Protocol</i> can be TCP, UDP or Both.
	Comments let you know about whys to restrict data from
	the IP address.
Apply Changes	Click the Apply Changes button to register the IP address
	to IP filtering list.
Reset	Click the <i>Reset</i> button to abort change and recover the
	previous configuration setting.
Delete Selected	Click to delete the selected IP address that will be
	removed from the IP-filtering list.
Delete All	Click to delete all the registered entries from the
	IP-filtering list.
Reset	Click the <i>Reset</i> button to abort change and recover the
	previous configuration setting.

3.3.10 Firewall - 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.

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ddress 🗿 http://192.168.1.254/home	e.asp		💌 🛃 Go 🛛 Links 🌺
	WLAN Broadband Ro	outer	
Site contents: Status	MAC Filtering		
Wireless Basic Settings Advanced Settings Security	Entries in this table are used to restrict certa to Internet through the Gateway. Use of suc your local network.	in types of data packets from you: h filters can be helpful in securing	local network or restricting
Access Control	Enable MAC Filtering		
Port Filtering Port Filtering Brittering MAC Filtering	MAC Address: Com	nent:	
DMZ	Current Filter Table:		
- 📑 Statistics	MAC Address	Comment	Select
Upgrade Firmware	00:20:ed:00:98:78	DUT-1	
Password	Delete Selected Delete All	Reset	
Dope			Totavnat
- Done			1 memor

Screenshot - Firewall - MAC Filtering

Item	Description		
Enable MAC Filtering	Click to enable the MAC filtering security function.		
MAC Address	To restrict data transmission from local network on		
Comments	certain MAC addresses, fill in the MAC address and your		
	comments on it.		
	<i>Comments</i> let you know about whys to restrict data from		
	the MAC address.		
Apply Changes	Click the <i>Apply Changes</i> button to register the MAC		
	address to MAC filtering list.		
Reset	Click the <i>Reset</i> button to abort change and recover the		
	previous configuration setting.		
Delete Selected	Click to delete the selected MAC address that will be		
	removed from the MAC-filtering list.		
Delete All	Click to delete all the registered entries from the		
	MAC-filtering list.		
Reset	Click the <i>Reset</i> button to abort change and recover the		
	previous configuration setting.		

3.3.11 Firewall - 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.

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🗲 Site contents: 📲 Status	Port Forwar	ding				
Wireless Basic Settings Advanced Settings Security	Entries in this table allo machine behind the NA server like a web server firewall.	w you to automati AT firewall. These : r or mail server on '	cally redirect comm settings are only ne the private local net	ion network servi cessary if you wi twork behind you	ces to a specific sh to host some s r Gateway's NAT	ort of
Coress Control TCP/IP Settings Foress1 Der Filtering MAC Filtering MAC Filtering Der Forwarding DMZ Statistics Upgrade Firmware	✓ Enable Port Forward Port	Protocol:	Both 💌 Port Rang	;e:	Comment:	
	Apply Changes	Reset				
Save/Reload Settings	Current Port Forwardi	ng Table:	Port Dawge	Commont	Salact	
Password	192.168.1.10	TCP+UDP	88	server-1		
	Delete Selected	Delete A	II Reset			
e Done					🔮 Internet	

Screenshot - Firewall - Port Forwarding

Item	Description
Enable Port	Click to enable the Port Forwarding security function.
Forwarding	
IP Address	To forward data packets coming from WAN to a specific
Protocol	IP address that hosted in local network behind the NAT
Port Range	firewall, fill in the IP address, protocol, port range and
Comment	your comments.
	The <i>Protocol</i> can be TCP, UDP or Both.
	The <i>Port Range</i> for data transmission.
	Comments let you know about whys to allow data
	packets forward to the IP address and port number.
Apply Changes	Click the Apply Changes button to register the IP address
	and port number to Port forwarding list.
Reset	Click the <i>Reset</i> button to abort change and recover the
	previous configuration setting.

Delete Selected	Click to delete the selected IP address and port number
	that will be removed from the port-forwarding list.
Delete All	Click to delete all the registered entries from the
	port-forwarding list.
Reset	Click the <i>Reset</i> button to abort change and recover the
	previous configuration setting.

3.3.12 Firewall - 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.



Screenshot - Firewall - DMZ

Item	Description
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.
Apply Changes	Click the <i>Apply Changes</i> button to register the IP address

	of DMZ host.
Reset	Click the <i>Reset</i> button to abort change and recover the
	previous configuration setting.

3.3.13 Statistics

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

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Address Address Address Address	asp			💌 🄁 Go	Links »
	WLAN Bro	oadband Ro	uter		
 Site contents: Status Wireless Basic Settings Advanced Settings 	Statistics This page shows the and Ethernet network	packet counters for transr IS.	nission and receptior	1 regarding to wireless	
Access Control		Sent Packets	21		
- ICP/IP Settings	WIREless LAIN	Received Packets	0		
Port Filtering	Educated AN	Sent Packets	420		
IP Filtering	Linernet LAIN	Received Packets	359		
MAC Filtering	Ethomat WAN	Sent Packets	21		
	Enernet WAIN	Received Packets	0		
Statistics Upgrade Firmware Save/Reload Settings Password	Refresh				
Ē				🚺 🚺 👔 Internet	

Screenshot - Statistics

Item	Description
Wireless LAN	It shows the statistic count of sent packets on the wireless
Sent Packets	LAN interface.
Wireless LAN	It shows the statistic count of received packets on the
Received Packets	wireless LAN interface.
Ethernet LAN	It shows the statistic count of sent packets on the
Sent Packets	Ethernet LAN interface.
Ethernet LAN	It shows the statistic count of received packets on the
Received Packets	Ethernet LAN interface.
Ethernet WAN	It shows the statistic count of sent packets on the
Sent Packets	Ethernet WAN interface.

Ethernet WAN	It shows the statistic count of received packets on the
Received Packets	Ethernet WAN interface.
Refresh	Click the refresh the statistic counters on the screen.

3.3.14 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.

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Address Address Address Address	e.asp 🗾 🔁 Go	Links »
	WLAN Broadband Router	
Site contents: Status Wireless Advanced Settings Security Access Control TCP/IP Settings IP Filtering IP Filtering Port Filtering Statistics Upgrade Firmware Sawe/Reload Settings Password	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: Virmware/wenpages-gv Browse Upload Reset	
🛃 Done	🔰 👘 Internet	

Screenshot – Upgrade Firmware

Item	Description
Select File	Click the <i>Browse</i> 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 <i>Reset</i> button to abort change and recover the
	previous configuration setting.

3.3.15 Save/ Reload Settings

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.

File Edit View Favorites Tools	Help				
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Address 🙆 http://192.168.1.254/home	asp				🔁 Go 🛛 Links 🂙
Site contents: Status Wireless Basic Settings Security Access Control TCP/IP Settings Port Filtering Port Filtering Port Filtering Port Filtering Port Forwarding DAZ Statistics Upgrade Firmware	WLAN Broadb Save/Reload Set This page allows you save cu was saved previously. Beside Save Settings to File: Load Settings to File: Reset Settings to Default:	ttings rrent settings to a fi s, you could reset t Save /config/config-gw Reset	te or reload the s he current config v.bin E	ettings from the file whit pration to factory defau prowse	2h t.
Password					
e)				👔 🚺 👔 Intern	iet

Screenshot - Save/Reload Settings

Item	Description
Save Settings to File	Click the <i>Save</i> button to download the configuration
	parameters to your personal computer.
Load Settings from	Click the <i>Browse</i> button to select the configuration files
File	then click the Upload button to update the selected
	configuration to the WLAN Broadband Router.
Reset Settings to	Click the <i>Reset</i> button to reset the configuration
Default	parameter to factory defaults.

3.3.16 Password Setup

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

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Address 🕘 http://192.168.1.254/hom	e.asp		💌 🛃 Go 🛛 Links »
	WLAN Broa	dband Router	
ቛ Site contents: ■ Status	Password Set	up	
→ ₩ireless → ∰ Basic Settings → ∰ Advanced Settings	This page is used to set t name and password will o	he account to access the web server of Access Point. F lisable the protection.	Empty user
Access Control	User Name:	craig	
Port Filtering	New Password: Confirmed Password:	•••••	
MAC Filtering Port Forwarding Statistics Userodo Eirmunno	Apply Changes	Reset	
Save/Reload Settings Password			
e)			🔮 Internet

Screenshot – Password Setup

Item	Description	
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 the password input is invisible, so please fill in	
	the password again for confirmation purpose.	
Apply Changes	Clear the User Name and Password fields to empty,	
	means to apply no web management login control.	
	Click the <i>Apply Changes</i> button to complete the new	
	configuration setting.	
Reset	Click the <i>Reset</i> button to abort change and recover the	
	previous configuration setting.	

4 Frequently Asked Questions (FAQ)

4.1 What and how to find my PC's IP and MAC address?

IP address is the identifier for a computer or device on a TCP/IP network. Networks using the TCP/IP protocol route messages based on the IP address of the destination. The format of an IP address is a 32-bit numeric address written as four numbers separated by periods. Each number can be zero to 255. For example, 191.168.1.254 could be an IP address.

The MAC (Media Access Control) address is your computer's unique hardware number. (On an Ethernet LAN, it's the same as your Ethernet address.) When you're connected to the Internet from your computer (or host as the Internet protocol thinks of it), a correspondence table relates your IP address to your computer's physical (MAC) address on the LAN.

To find your PC's IP and MAC address,

- \checkmark Open the Command program in the Microsoft Windows.
- ✓ Yype in *ipconfig /all* then press the *Enter* button.
- Your PC's IP address is the one entitled IP Address and your PC's MAC address is the one entitled Physical Address.

4.2 What is Wireless LAN?

A wireless LAN (WLAN) is a network that allows access to Internet without the need for any wired connections to the user's machine.

4.3 What are ISM bands?

ISM stands for Industrial, Scientific and Medical; radio frequency bands that the Federal Communications Commission (FCC) authorized for wireless LANs. The ISM bands are located at 915 +/- 13 MHz, 2450 +/- 50 MHz and 5800 +/- 75 MHz.

4.4 How does wireless networking work?

The 802.11 standard define two modes: infrastructure mode and ad hoc mode. In infrastructure mode, the wireless network consists of at least one access point connected to the wired network infrastructure and a set of wireless end stations. This configuration is called a Basic Service Set (BSS). An Extended Service Set (ESS) is a set of two or more BSSs forming a single subnetwork. Since most corporate WLANs require access

to the wired LAN for services (file servers, printers, Internet links) they will operate in infrastructure mode.



Example 1: wireless Infrastructure Mode

Ad hoc mode (also called peer-to-peer mode or an Independent Basic Service Set, or IBSS) is simply a set of 802.11 wireless stations that communicate directly with one another without using an access point or any connection to a wired network. This mode is useful for quickly and easily setting up a wireless network anywhere that a wireless infrastructure does not exist or is not required for services, such as a hotel room, convention center, or airport, or where access to the wired network is barred (such as for consultants at a client site).



Example 2: wireless Ad Hoc Mode

4.5 What is BSSID?

A six-byte address that distinguishes a particular a particular access point from others. Also know as just SSID. Serves as a network ID or name.

4.6 What is ESSID?

The Extended Service Set ID (ESSID) is the name of the network you want to access. It is used to identify different wireless networks.

- 4.7 What are potential factors that may causes interference? Factors of interference:
 - > Obstacles: walls, ceilings, furniture... etc.
 - > Building Materials: metal door, aluminum studs.
 - > Electrical devices: microwaves, monitors and electrical motors.

Solutions to overcome the interferences:

- ✓ Minimizing the number of walls and ceilings.
- \checkmark Position the WLAN antenna for best reception.
- ✓ Keep WLAN devices away from other electrical devices, eg: microwaves, monitors, electric motors, ... etc.
- ✓ Add additional WLAN Access Points if necessary.

4.8 What are the Open System and Shared Key authentications?

IEEE 802.11 supports two subtypes of network authentication services: open system and shared key. Under open system authentication, any wireless station can request authentication. The station that needs to authenticate with another wireless station sends an authentication management frame that contains the identity of the sending station. The receiving station then returns a frame that indicates whether it recognizes the sending station. Under shared key authentication, each wireless station is assumed to have received a secret shared key over a secure channel that is independent from the 802.11 wireless network communications channel.

4.9 What is WEP?

An optional IEEE 802.11 function that offers frame transmission privacy similar to a wired network. The Wired Equivalent Privacy generates secret shared encryption keys that both source and destination stations can use to alert frame bits to avoid disclosure to eavesdroppers.

WEP relies on a secret key that is shared between a mobile station (e.g. a laptop with a wireless Ethernet card) and an access point (i.e. a base station). The secret key is used to encrypt packets before they are transmitted, and an integrity check is used to ensure that packets are not modified in transit.

4.10 What is Fragment Threshold?

The proposed protocol uses the frame fragmentation mechanism defined in IEEE 802.11 to achieve parallel transmissions. A large data frame is fragmented into several

fragments each of size equal to fragment threshold. By tuning the fragment threshold value, we can get varying fragment sizes. The determination of an efficient fragment threshold is an important issue in this scheme. If the fragment threshold is small, the overlap part of the master and parallel transmissions is large. This means the spatial reuse ratio of parallel transmissions is high. In contrast, with a large fragment threshold, the overlap is small and the spatial reuse ratio is low. However high fragment threshold leads to low fragment overhead. Hence there is a trade-off between spatial re-use and fragment overhead.

Fragment threshold is the maximum packet size used for fragmentation. Packets larger than the size programmed in this field will be fragmented.

If you find that your corrupted packets or asymmetric packet reception (all send packets, for example). You may want to try lowering your fragmentation threshold. This will cause packets to be broken into smaller fragments. These small fragments, if corrupted, can be resent faster than a larger fragment. Fragmentation increases overhead, so you'll want to keep this value as close to the maximum value as possible.

4.11 What is RTS (Request To Send) Threshold?

The RTS threshold is the packet size at which packet transmission is governed by the RTS/CTS transaction. The IEEE 802.11-1997 standard allows for short packets to be transmitted without RTS/CTS transactions. Each station can have a different RTS threshold. RTS/CTS is used when the data packet size exceeds the defined RTS threshold. With the CSMA/CA transmission mechanism, the transmitting station sends out an RTS packet to the receiving station, and waits for the receiving station to send back a CTS (Clear to Send) packet before sending the actual packet data.

This setting is useful for networks with many clients. With many clients, and a high network load, there will be many more collisions. By lowering the RTS threshold, there may be fewer collisions, and performance should improve. Basically, with a faster RTS threshold, the system can recover from problems faster. RTS packets consume valuable bandwidth, however, so setting this value too low will limit performance.

4.12 What is Beacon Interval?

In addition to data frames that carry information from higher layers, 802.11 includes management and control frames that support data transfer. The beacon frame, which is a type of management frame, provides the "heartbeat" of a wireless LAN, enabling

stations to establish and maintain communications in an orderly fashion.

Beacon Interval represents the amount of time between beacon transmissions. Before a station enters power save mode, the station needs the beacon interval to know when to wake up to receive the beacon (and learn whether there are buffered frames at the access point).

4.13 What is Preamble Type?

There are two preamble types defined in IEEE 802.11 specification. A long preamble basically gives the decoder more time to process the preamble. All 802.11 devices support a long preamble. The short preamble is designed to improve efficiency (for example, for VoIP systems). The difference between the two is in the Synchronization field. The long preamble is 128 bits, and the short is 56 bits.

4.14 What is SSID Broadcast?

Broadcast of SSID is done in access points by the beacon. This announces your access point (including various bits of information about it) to the wireless world around it. By disabling that feature, the SSID configured in the client must match the SSID of the access point.

Some wireless devices don't work properly if SSID isn't broadcast (for example the D-link DWL-120 USB 802.11b adapter). Generally if your client hardware supports operation with SSID disabled, it's not a bad idea to run that way to enhance network security. However it's no replacement for WEP, MAC filtering or other protections.

5 Configuration Examples

5.1 Example One – PPPoE on the WAN

Sales division of Company ABC likes to establish a WLAN network to support mobile communication on sales' Notebook PCs. MIS engineer collects information and plans the WLAN Broadband Router implementation by the following configuration.

WA	N configuration:		
	PPPoE		
	User Name	H890123456	
	Password	PW192867543210	
LAI	N configuration		
	IP Address	192.168.1.254	
	Subnet Mask	255.255.255.0	
	Default Gateway	0.0.0.0	
	DHCP Client Range	192.168.1.100 - 192.168.1.131	
WL	AN configuration		
	SSID	SDWLAN	
	Channel Number	1	



Figure 3 - Configuration Example One - PPPoE on the WAN

Configure the WAN interface:



Press

Apply Changes

button to confirm the configuration setting.

Configure the LAN interface:

Open LAN Interface Setup page, enter the IP Address "192.168.1.254", Subnet Mask "255.255.255.0", Default Gateway "0.0.0.0", enable DHCP Server, DHCP client range "192.168.1.100" to "192.168.1.131".



Press

Apply Changes

button to confirm the configuration setting.

Version: 2.1

Configure the WLAN interface:



5.2 Example Two – Fixed IP on the WAN

Company ABC likes to establish a WLAN network to support mobile communication on all employees' Notebook PCs. MIS engineer collects information and plans the WLAN Broadband Router implementation by the following configuration.

WAN configuration:

Fixed IP			
IP Address	192.168.2.254		
Subnet Mask	255.255.255.0		
Default Gateway	192.168.2.10		
DNS Address	168.95.1.1		

LAN configuration

	IP Address	192.168.1.254		
	Subnet Mask	255.255.255.0		
	Default Gateway	192.168.2.254		
	DHCP Client Range	192.168.1.100 - 192.168.1.131		
r				

WLAN configuration

SSID	MyWLAN
Channel Number	6



Figure 4 - Configuration Example Two - Fixed IP on the WAN

Configure the WAN interface:



Press

Press

Apply Changes

button to confirm the configuration setting.

Configure the LAN interface:

Open LAN Interface Setup page, enter the IP Address "192.168.1.254", Subnet Mask "255.255.255.0", Default Gateway "192.168.2.254", enable DHCP Server, DHCP client range "192.168.1.100" to "192.168.1.131".



Apply Changes button to confirm the configuration setting.

Version: 2.1

Configure the WLAN interface:

20		
Open WLAN Interface	WILAN Broadband Router - Microsoft Internet Explorer File Edit View Favorites Tools Help	<u>_8 ×</u>
Setup page, enter the	Stack Source Source<	▼ 🛃 Go Links ≫
SSID "MyWLAN",	WLAN Broadband Router	
Channel Number " 6 ".	Site contents: Status Minerse Advanced Settings Advanced Settings Save/Reload Settings Save/Reload Settings Advanced Settings Advanced Settings Save/Reload Settings Advanced Settings Save/Reload Settings Advanced Settings Advanced Settings Advanced Settings Advanced Settings Advanced Settings Advanced Settings Advanced Settings Advanced Settings Save/Reload Settings Advanced Settings Adv	may connect to las wireless
		1 Allerier
Press Apply Changes	button to confirm the configuration setting.	