

# User Manual WHR-G300N V2

802.11b/g/n Wireless Router



www.buffalotech.com

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# Chapter 1 Product Overview

# **Features**

## Supports IEEE802.11n and IEEE802.11b/g

With support for Wireless-N, Wireless-G, and Wireless-B standards, the AirStations can transfer data to and from all standard 2.4 GHz wireless clients.

## **Dual speed mode**

Dual speed mode makes wireless transmission faster by using 2 channels, allowing 300Mbps transmission.

## Support for AOSS and WPS

Both AOSS (AirStation One-touch Secure System) and WPS (Wi-Fi Protected Setup) are supported. These automatic connection standards make connection with compatible wireless devices easier.

#### **Security Features**

The AirStations are equipped with the following security features:

- AOSS
- WPS
- WPA-PSK (TKIP/AES)
- WPA2-PSK(TKIP/AES)
- WPA/WPA2 mixed PSK
- WEP(128/64bit)
- Privacy Separator
- MAC address access restriction
- Deny Any Connection/SSID stealth feature
- Setting screen with password
- Firewall feature with easy rules

## **Automatic Channel Selection**

Monitors wireless interference and automatically assigns the clearest, best channel.

## Roaming

You can use multiple AirStations to cover a large area. Wireless clients can automatically switch AirStations for the best signal.

#### Initialization

To restore settings back to the factory defaults, hold down the Reset button on the bottom of the unit.

#### **Browser Based Administration**

These units can be easily configured from a web browser on your computer.

#### Auto Mode (Router/Bridge Automatic Recognition)

Auto mode detects whether your network has a router or not and automatically switches to the appropriate router or bridge mode. You can also manually switch between modes. (See page 10).

# Air Navigator CD Requirements

The AirStation wireless router and access point works with most wired and wireless devices. The automatic installation program on the CD requires Windows 7, Vista or XP to run. Client Manager software is included for Windows Vista and XP. The use of other operating systems may require that the AirStation be manually configured from a browser window.

## 300 Mbps High Speed Mode

With Wireless N connections, 300 Mbps is the maximum link speed for the WHR-G300N. The speed is for the total wireless data transferred including overhead. Because the overhead is not available for transfer of user data, the wireless throughput usable by the user will be substantially slower.

# Package Contents

The following items are included with your AirStation. If any of the items are missing, please contact your vender.

Main unit	1
AC adapter	1
Stand for vertical/wall-mounting	1
Screws for wall-mounting	2
LAN cable	1
Air Navigator CD	1
Quick Setup Guide	1

## **Hardware Overview**

## Front Panel LED's



## 1 Power LED (Green)

- On: The AC adapter is connected
- Off: The AC adapter is not connected

#### 2 Security LED (Amber)

Indicates security status.

- Off: Encryption is not set
- On: Encryption has been set

Double blink: The unit is waiting for an AOSS or WPS security key

Blinking: AOSS/WPS error; failed to exchange security keys Note: When the Security LED is lit, an encryption key has been set. Wireless clients will need the same key to connect.

#### 3 Wireless LED (Green)

Indicates wireless LAN status.

Blinking: Wireless LAN is transmitting

On: Wireless LAN is connected but not active

## 4 ROUTER LED (Green)

On:	Router functionality is enabled
Blinking:	Router functionality is disabled

## 5 DIAG LED (Red)

This indicates the status of the unit by the number of blinks per cycle. Note: When the unit is first turned on or restarted, the Diag LED will blink for almost a minute during boot. This is normal.

Diag LED status	Meaning	Status
2 blinks *1	Flash ROM error	Cannot read or write to the flash memory.
3 blinks *1	Ethernet (wired) LAN error	Ethernet LAN controller is malfunctioning.
4 blinks *1	Wireless LAN error	Wireless LAN controller is malfunctioning.
5 blinks	IP address setting error	Because the network addresses of both the Internet port (WAN port) and the LAN port are the same, it is not possible to establish communication. Change the LAN side IP address of this unit.
Continuously blinking *2	Updating the firmware Saving settings Initializing settings	Updating the firmware. Saving the settings. Initializing the settings.

\*1 Unplug the AC adapter from the wall socket, wait for a few seconds, and then plug it again. If the light still flashes, please contact technical support.

\*2 Never unplug the AC adapter while the Diag LED is blinking continuously.

## **Back Panel**



## **6** Router Switch

Switches router mode between enabled, disabled, and auto.

- On: Router is enabled (router mode).
- Off: Router is disabled (bridge/AP mode).
- Auto: This switches between modes automatically based on whether or not another router is detected on the Internet port. The default setting for this switch is Auto.

## 7 LAN LED (Green)

On: An Ethernet device is connected. Flashing: An Ethernet device is communicating.

## 8 LAN Port

Connect your computer, hub, or other Ethernet devices to these ports. This switching hub supports 10Mbps and 100Mbps connections.

## 9 Internet LED (Green)

On: The Internet (WAN) port is connected. Flashing: The Internet port is transmitting data.

**10 Internet Port** Connect your cable or DSL modem to this port. 10Mbps and 100Mbps connections are supported. In bridge/AP mode (router switch off), the Internet port becomes a regular LAN port, for a total of 5 usable LAN ports.

**11 DC Connector** Connect the included AC adapter.

## Тор



**12 AOSS Button** Hold down this button until the Security LED flashes (about 1 second), while the unit's power is on, initiates AOSS/WPS mode, allowing the unit to exchange security keys with AOSS or WPS compatible devices.

## Bottom



**13 RESET Button** Holding this button until the Diag LED comes on, while the unit's power is on, will initialize its settings.

## **Right Side**



Note: The right side of the unit may become hot. Please be careful not to place anything next to it that could be damaged by heat.

**15** Factory Default Settings

This sticker shows the AirStation's SSID, WPS PIN, and default encryption key. Encryption key is blank if the AirStation is not encrypted in default settings.

# Chapter 2 Placing Your AirStation

# **Vertical Placement**

To place unit vertically, refer to the following figure to place the vertical/wall-mounting stand.





# **Horizontal Placement**

Place the unit horizontally as the figure below.



# Wall-Mounting



# Chapter 3 Installation

# CD Setup

You can set up this unit with the included software CD. Insert the CD into your PC and follow the instructions on the screen.

\* CD Setup is supported for Windows 7/Vista/XP only.

## **Manual Setup**

To configure your AirStation manually, follow the procedure below.

1 Turn off your computer and modem.



Unplug the LAN cable that connects your computer and modem.

Make sure the mode switch on the back of the AirStation is in the "*AUTO*" position.

**4** Plug one end of the LAN cable into your modem and the other side to the Internet port of the AirStation. Turn on your modem.

positioned to "AUTO".



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**5** Connect you computer to one of the AirStation's LAN ports with the LAN cable. Turn on the AirStation, wait one minute, and then turn on your computer.



6 Confirm that the devices are connected correctly as shown below.



7 After a minute, the AirStation's LEDs should be lit as described below:

POWER	Green light on
WIRELESS	Green light on or blinking
ROUTER	Green light on or off depending on your network
DIAG	Off
LAN	Green light on or blinking
INTERNET	Green light on or blinking

Refer to page 8 and 10 for LED locations and other details.

8 Launch a web browser. If the "home" screen is displayed, setup is complete. If a user name and password screen is displayed, enter "*root*" (in lower case) for the user name, leave the password blank, and click "*OK*". Follow the instructions on the screen to complete setup.

You've completed initial setup of your AirStation. Refer to Chapter 4 for advanced settings.

# Chapter 4 Configuration

This chapter explains the advanced settings for the AirStation. To change advanced settings, use the AirStation's web-based configuration utility.

## How to Access the Web-Based Configuration Utility

To display the configuration of the AirStation, follow the procedure below.

#### 1 Launch a web browser.



Enter the router's LAN-side IP address in the address field, and press the "Enter" key.

Note: • The AirStation's default LAN-side IP address depends on the position of the mode switch. In router mode: 192.168.11.1

In bridge mode: 192.168.11.100(\*)

Note: If the router switch is set to "AUTO" and the unit is working in bridge mode, the AirStation's IP address is assigned to it by the external DHCP server.

• If you change the IP address of this unit, use the new IP address.

7		
The server 1 and passwor Warning: Thi password be without a ser	92.168.11.1 at AirStation i d. is server is requesting that i sent in an insecure manne cure connection).	requires a username your username and r (basic authenticatic
<u>U</u> ser name:	🖸 root	3
Password:	•••••	

When this screen appears, enter "root" (in lower case) for the user name and the password that you set during initial setup. Click "OK".

- Note: By default, the password is blank (not set).
  - If you forget your password, hold down the Reset button (page 11) to initialize all settings. The password will then be blank. Note that all other settings will also revert to their default values.



The configuration utility is displayed.

Help is always displayed on the right side of the configuration utility. Refer to the Help screens for more information on each page in the web-based configuration utilities.

# **Configuration Menu (Router Mode)**

In router mode, the AirStation's web-based configuration utility has the following menu screens. See the pages listed at right for more information about a menu screen.

Main screen	Descriptions	Page
Internet/LAN		
Internet	Configure Internet side port and settings	Page 26
PPPoE	PPPoE settings (DSL login)	Page 27
DDNS	DNS settings	Page 30
VPN Server	VPN server settings	Page 32
LAN	LAN side port and DHCP server configuration	Page 34
DHCP Lease	DHCP lease settings	Page 36
NAT	Network address translation settings, used to connect LAN side devices to the Internet	Page 37
Route	Configure the IP communication route that the AirStation uses	Page 38
Wireless Config		
WPS	WPS settings and status	Page 39
AOSS	AOSS (AirStation One-touch Secure System) settings and status	Page 40
Basic	Configure basic wireless settings	Page 42
Advanced	Configure advanced wireless settings	Page 46
WMM	Set priorities for Wireless Multimedia Extensions (Wi-Fi Multimedia)	Page 47
MAC Filter	Limit access to specific devices	Page 49
Multicast Control	Configure limits on sending unnecessary multicast packets to the wireless LAN port	Page 50
WDS	Configure communication among AirStation	Page 51
Security		
Firewall	Protect your computer from outside intruders	Page 53
IP Filter	Edit IP filters which relates to the packets passing through the LAN side and the Internet side	Page 55
VPN Pass Through	Configure IPv6 passthrough, PPPoE passthrough, and PPTP passthrough	Page 56

LAN Config			
Port Forwarding	Configure port translation and exceptions for games and other programs	Page 57	
DMZ	Configure a destination to transfer communication packets without a LAN side destination.	Page 58	
UPnP	Configure UPnP (Universal Plug and Play)	Page 59	
QoS	Configure priority for packets that require a certain data flow	Page 60	
Admin Config			
Name	Configure the AirStation's name	Page 61	
Password	Configure the AirStation's login password for access to configuration utilities	Page 62	
Time/Date	Configure the AirStation's internal clock	Page 63	
NTP	Configure the AirStation to synchronize with an NTP server to automatically set the AirStation's internal clock	Page 64	
Access	Configure access restrictions to the AirStation's configuration utilities	Page 65	
Log	Configure a syslog server to manage the AirStation's logs	Page 66	
Save/Restore	Save or restore the AirStation's configuration from a configuration file	Page 67	
Initialize/Restart	Initialize the AirStation or reboot it	Page 68	
Update	Update the AirStation's firmware	Page 69	
Diagnostic			
System Info	View current system information for the AirStation	Page 70	
Logs	Check the AirStation's logs	Page 72	
Packet Info	View all packets transferred by the AirStation	Page 73	
Client Monitor	View all devices currently connected to the AirStation	Page 74	
Ping	Test the AirStation's connection to other devices on the network	Page 75	
Logout			
Click this to log out of the AirStation's web-based configuration utility			

# **Configuration Menu (Bridge Mode)**

In bridge mode, the AirStation's web-based configuration utility has the following menu screens. See the pages listed at right for more information about a menu screen.

Main screen	Descriptions	Page	
LAN Config			
LAN	Configure LAN side ports and devices	Page 34	
Route	Configure the IP communication route that the AirStation uses	Page 38	
Wireless Config			
WPS	WPS settings and status	Page 39	
AOSS	AOSS (AirStation One-touch Secure System) settings and status	Page 40	
Basic	Configure basic wireless settings	Page 43	
Advanced	Configure advanced wireless settings	Page 46	
WMM	Set priorities for Wireless Multimedia Extensions (Wi-Fi Multimedia)	Page 47	
MAC Filter	Limit access to specific devices	Page 49	
Multicast Control	Configure limits on sending unnecessary multicast packets to the wireless LAN port	Page 50	
WDS	Configure communication among AirStation	Page 51	
Admin Config			
Name	Configure the AirStation's name	Page 61	
Password	Configure the AirStation's login password for access to configuration utilities	Page 62	
Time/Date	Configure the AirStation's internal clock	Page 63	
NTP	Configure the AirStation to synchronize with an NTP server to automatically set the AirStation's internal clock	Page 64	
Access	Configure access restrictions to the AirStation's configuration utilities	Page 65	
Log	Configure a syslog server to manage the AirStation's logs	Page 66	
Save/Restore	Save or restore the AirStation's configuration from a configuration file	Page 67	
Initialize/Restart	Initialize the AirStation or reboot it	Page 68	
Update	Update the AirStation's firmware	Page 69	
Diagnostic			
System Info	View current system information for the AirStation	Page 70	

Logs	Check the AirStation's logs	Page 72
Packet Info	View all packets transferred by the AirStation	Page 73
Client Monitor	View all devices currently connected to the AirStation	Page 74
Ping	Test the AirStation's connection to other devices on the network	Page 75
Logout		
Click this to log out of the AirStation's web-based configuration utility		

# Setup

The home page of the configuration utility.



Parameter	Meaning
Internet/LAN	Configure WAN side network settings.
Wireless Config	Configure wireless settings.
Security	Configure security settings.
LAN Config	Open ports for games and applications.
Admin Config	Open the Admin configuration screen.
Diagnostic	Gives information and tools for troubleshooting the network.

Parameter	Meaning
Easy Setup	Automatically configures the AirStation's internet connection.
Internet Information	Displays the current internet connection.
Check Connection	Checks if the AirStation is connected to the Internet properly.
Refresh	Click to refresh the display.
WIRELESS	Displays current wireless settings.
AOSS	Click to display the AOSS configuration screen.
WPS	Click to display the WPS configuration screen.
Network Service List	Shows a list of network services.
Language	Select the language you use.
Logout	Log out of the AirStation's web-based configuration utility. After 5 minutes of inactivity, the AirStation will log off automatically.

# Internet/LAN (LAN Config)

## Internet (Router Mode only)

The screen to configure a port of the Internet side.

Setup	Internet/LAN	Wireless Config	Security	LAN Config	Admin Config	Diagnostic	C
Internet P	PPOE DDNS VI	N Server LAN D	HCP Lease	NAT Route		Logou	ıt
					Internet Ethernet Se	ettings	^
As for the II "Perform Ea	P address acquisiti asy Setup (Internet	on method, Connection Wizard)	" is set up.		Configuring your <u>Inter</u>	net side port:	
To set up P	PPoE, <mark>click here</mark> .				Normally, you'll conn <u>Internet</u> side port to a network such as the	ect the in external internet.	
Advanced	Settings				Method of Acquiring Select one of the follo methods to acquire a	g IP Address owing Internet port	
Default Gat	teway				IP Address. Please a Provider for any other	isk your information	
Address of	DNS Name Server	Primary: Secondary:		]	about your line forma sure which method to selecting Easy Setup confirm status of the	t. If you're not o choose, try o. You can current	
Internet MA	C Address	<ul> <li>Use Default MAC</li> <li>Use this address</li> </ul>	Address(00:18:E	7:6A:1E:23)	Internet side IP Addre System Information s setting can only be c the hardware mode s	ess on the creen. This hanged when witch on the	
MTU Size o	f Internet Port	1500 Byte	s		AirSation is set to [R	OUTER ON].	
Apply					Perform Easy Setup Connection Wizard)	) (Internet	
					The Easy Setup sca Internet connection a	ns your and	¥

Parameter	Meaning
Method of Acquiring IP Address	Specifies how the current WAN side IP address was obtained.
Default Gateway	Specify an IP address for the default gateway.
Address of DNS Name Server	Specify an IP address for the DNS server.
Internet MAC Address	Configure the Internet side MAC address. Note: Configuring an improper MAC address may make the AirStation unusable. Change this setting at your own risk.
MTU size of Internet Port	Values between 578 to 1500 bytes may be entered.

## **PPPoE (Router Mode only)**

The screen to configure PPPoE settings.

Setup Internet/LAN Wireless Config Security LAN Config	Admin Config	Diagnostic
Internet PPPoE DDNS VPN Server LAN DHCP Lease NAT Route	1	Logout
		Logoui
	PPPoE Settings	
Default PPPoE Connection 1 : Easy Setup		
IP Unnumbered PPPoE Connection 1: Easy Satur	If PPPoE is specified Internet side configura	in the ation, you'll
	have more detailed se	etup options
Apply	the Internet side com	munication Setup
	[Internet Port], select	[PPPoE
	Unnumbered].	aect (Ose IP
PPPoE Connection List	Note:	
Number Name Status	If [Acquire IP addre: automatically from	ss DHCP serverl
1 Easy Setup Enable	or [Manual Setup] is Internet side comm	s set as the iunication
Edit Connection List	method, or if some PPPoE was detected	thing besides ed when (Easy
Edit of incerton Else	Setup] ran, it is not enter information o	necessary to n this page
Preferred Connections	(Even if it is set, it is Additionally when I	s not used.) Fasy Setupl is
No. Name Destination address Source address	executed, informati	on set on this ten
No Preferred Connections are Registered.		
Edit Brofowed Connections	Default PPPoE Con	nection
	registered to the PPF	s are <u>PoE</u>
	Destination List, the	destination 🛛 🗙

Parameter	Meaning
Default PPPoE Connection	If you have registered multiple connection destinations in PPPoE Connection List, connection destinations selected here have priority. You need to configure the route to which PPPoE is connected to if you don't use the default setting.
IP Unnumbered PPPoE Connection	Select the destination from the PPPoE Connection List which is used when specifying " <i>Use IP Unnumbered</i> " in Method of Acquiring IP Address (page 25).
PPPoE Connection List	Edit PPPoE destination. You can register up to 5 sessions.
"Edit Connection List"	Click this button to display the screen to edit the settings of destination.

Parameter	Meaning
PPPoE Connection No.*-Add	Click " <i>Edit Connection List</i> " to display. <b>Name of Connection</b> Enter a name to identify the connection. You may enter up to 32 alphanumerical characters and symbols.
	<b>User Name</b> Enter the user name specified by your provider for PPPoE. You may enter up to 32 alphanumerical characters and symbols.
	<b>Password</b> Enter the password specified by your provider for PPPoE. You may enter up to 32 alphanumerical characters and symbols.
	<b>Service Name</b> Fill in this field only when your provider specifies a Service Name. Leave blank otherwise. You may enter up to 32 alphanumerical characters and symbols.
	<b>Connection Type</b> Specifies the timing for the AirStation to connect to your provider.
	Automatic disconnection Set time to disconnect after communication is stopped when the connection method is set to " <i>Connect on Demand</i> " or " <i>Manual</i> ". You can enter up to 1440 minutes.
	<b>Authorization</b> Configure an authorization method with a provider.
	<b>MTU Size</b> Configure the MTU value between 578 and 1492 bytes.
	<b>MRU Size</b> Configure the MRU (Maximum Receive Unit) value between 578 and 1492 bytes.
Preferred Connections	Displays connections that you've added to the preferred connection list.
[Edit Preferred Connections]	Click this button to display the screen to edit the settings of connection destination route.

Parameter	Meaning
PPPoE Connection No. *-Add	Keep Alive If Keep Alive is enabled, the AirStation issues LCP echo requests to maintain the connection with the PPPoE server once a minute. If the server does not respond after 6 minutes, then the line is considered disconnected and the AirStation will terminate the connection. If your PPPoE connection is often disconnected, disable Keep Alive.
Preferred PPPoE Connection -Add	This is displayed when clicking "Edit Preferred Connections".
	<b>Name</b> The name of destination to connect by PPPoE if " <i>Destination address</i> " and " <i>Source address</i> " of the communication match. Select the destination registered to PPPoE Connection List.
	<b>Destination address</b> Destination address to communicate. When communicating to this destination address, the AirStation will communicate with <i>"Name of Connection."</i>
	<b>Source address</b> Source address to communicate. When communicating from this source address, the AirStation will communicate with " <i>Name of</i> <i>Connection</i> ."

## DDNS (Router Mode only)

Configure Dynamic DNS settings.

Setup Internet/L/	AN Wireless Config	Security	LAN Config	Admin Config	Diagnostic
Internet PPPoE DDN	VPN Server LAN	DHCP Lease	NAT Route		Logout
				Dynamic DNS Settir	ngs
Dynamic DNS Service	Disable 💌			Dynamic DNS Setup, Before configuring this you need to sign up fi DNS service provider.	s settings, or a dynamic
				Dynamic DNS Service Select a dynamic DNS service	
Current Dynamic DNS Information				provider. You can select "DynE	DNS" or
Internet Side IP Address	222.4.67.69			"TZO".	
Domain Name	Disabled			<ul> <li>DynDNS</li> </ul>	
Status	Disabled			• 120	
Refresh			2	The following values a depending on your dy service provider.	ne different namic DNS ❤

Parameter	Meaning
Dynamic DNS Service	Select a provider (DynDNS or TZO) for Dynamic DNS.
User Name * Only when DynDNS is selected	Enter the user name for the Dynamic DNS service. You may enter up to 64 alphanumerical characters and symbols.
Password * Only when DynDNS is selected	Enter the password for the Dynamic DNS service. You may enter up to 64 alphanumerical characters and symbols.
Host Name * Only when DynDNS is selected	Enter the host name for the Dynamic DNS service. You may enter up to 255 alphanumerical characters, hyphens, and periods.
Email Address * Only when selecting TZO	Enter the email address which is registered to the Dynamic DNS service. You may enter up to 64 alphanumerical characters and symbols.
TZO Key * Only when selecting TZO	Enter the TZO Key which is registered to the Dynamic DNS service. You may enter up to 64 alphanumerical characters and symbols.
Domain Name * Only when selecting TZO	Enter the domain name which is registered to the Dynamic DNS service. You may enter up to 255 alphanumerical characters, hyphens, and periods.

Parameter	Meaning
IP Address Update Period	Specifies the period to notify the dynamic DNS service provider of the current IP address. When DynDNS is selected, set it between 0 and 35 days. When TZO is selected, set it between 0 and 99 days. If 0 (zero) day is set, no periodic update is performed.
Internet Side IP Address	The WAN-side IP address of the AirStation's Internet port. This address is sent to the dynamic DNS service provider.
Domain Name	The domain name assigned by the dynamic DNS Service provider. The AirStation can be accessed from the Internet using this domain name.
Status	Displays the status of dynamic DNS service.

## VPN server (Router Mode Only)

Configure a VPN server.

Setup Internet	LAN Config	Admin Config	Diagnostic		
iternet PPPoE DDN	S VPN Server LAN DH	CP Lease NAT	Route	2	Logou
				VPN Server Setting	gs
he LAN side IP addro herefore, a PC conn ccess to the PC on t he LAN side IP addro	ess is set to 192.168.11 ected to BUFFALO's rou he LAN. ess and DHCP IP addres	.1. uter may be un ss pool should	able to be changed.	By using the PPTP it is possible to acco AirStation from the I LAN from a Window	server function ess the nternet and the s PPTP client.
Auto Input	Generate Recommen	ided IP Address		Note	
LAN Side IP Address 192.168.11.1 Subnet Mask 255.255.0			no.47) and no.1732 TCP port filtering, then this function may not work correctly.		
DHCP Server Function	Enable	Also, be aware that the Internet side ha	if a router on Is these		
DHCP IP Address Pool	192.168.11.2 for 1	up to 64	Address(es)	function cannot be	used.
				Auto Input	
PPTP Server Function         Enable           Authorization Type         MS-CHAPv2 (40/128-bit Encryption)			Click this button to generate a random IP address with a small possibility of overlapping with IP addresses of other Buffalo routers		
Advanced Settings]				I AN Side IP Addre	ee
Server IP Address Auto			Configure the AirStation's LAN I <u>F</u> Address. The default is 192.168.11.1. If you want to		
Client IP Address	ress O Auto O Manual for up to 5 address(es)			existing LAN, specif unused I <u>P Address</u> t range of IP addresse	on to an y a unique, from the LAN's as.
DNS Server IP Address  LAN IP address of the AirStation  Manual  Do Not Specify			Subnet Mask Select the AirStation's LAN side Subnet Mask. The default is 255 255 255 0. If you want to		
WINS Server IP Address	3 Server IP Address			connect the AirStation to an existing LAN, specify the Subnet	
MTU/MRU value	1396 Mask the				
1	- Inner in the second s			DHCP Server Fund	tion The second se
Арріу				default is enabled. If another DHCP serve network, one DHCP disabled or the IP ra	there is r on the server must be nges must be
PPTP User List			changed to avoid co by overlapping DHC	nflicts caused P scopes. If	
User Name Connection Condition IP Address Operation			DHCP Server is ena DHCP IP Address P overlap existing IP A	bled, confirm lool doesn't uddresses in	
Nor	egistered users			the LAN segment.	<u>uuress</u> es III
Edit User Information			DHCP IP Address F	Pool	
Refresh				This determines the range from which IP be distributed to DH (both wired and wire the starting IP addre	<u>IP Address</u> addresses will CP clients less). Enter ss and the

Parameter	Meaning			
Auto Input	Click to generate a random IP address.			
LAN Side IP Address	Set a LAN side IP address and subnet mask.			
DHCP Server	If enabled, the DHCP server will assign LAN-side IP addresses automatically.			
DHCP IP Address Pool	You may choose the range of IP addresses assigned by the DHCP server and select IP addresses to be excluded from that range. Values from 0-253 may be entered.			
PPTP Server	Enable to use a PPTP server.			
Authorization Type	Select the authentication method for PPTP connection.			
Server IP Address	Select the server IP address.			
Client IP Address	Select the IP address range.			
DNS Server IP Address	Set the DNS server IP address for the DHCP server to issue to clients.			
WINS Server IP Address	Set the WINS server IP address for the DHCP server to issue to clients.			
[Edit User Information]	Click to edit user information.			
User Name	Enter the user name to connect to the PPTP server. You may enter up to 16 alphanumerical characters and symbols.			
Password	Enter the password to connect to the PPTP server. You may enter up to 16 alphanumerical characters and symbols.			
Method of Acquiring IP Address	Select the method to be used to assign the client's IP address.			
PPTP User List	Displays the PPTP connection user information.			

## LAN

Configure LAN-side IP address settings.

Internet       PPPOE       DDNS       VPN Server       LAN       DHCP Lease       NAT       Route         LAN Side IP Address       IP Address       192.168.11.1	LAN Side Ethernet Configure the AirStar Address, Subnet Ma DHCP Server setting	Logout Settings	
LAN Side IP Address IP Address 192.168.11.1 Subnet Mask 255.255.0 DHCP Server Function Enable DHCP IP Address Pool Excluded IP Addresses: LAN Side IP Address IP Address (For IP Unnumbered) IP Address Subnet Mask 255.255.0 IP Address	LAN Side Ethernet Configure the AirStat Address, Subnet Ma DHCP Server setting	Settings	
LAN Side IP Address       192.168.11.1         Subnet Mask       255.255.0 ▼         DHCP Server Function       Image: Constraint of the server provided in the serv	Configure the AirStat <u>Address</u> , Subnet Ma DHCP Server setting	tion's LAN IP	
DHCP Server Function       Image: Enable       Image: Enable       Image: Enable         DHCP IP Address Pool       192.168.11.2       for up to 64       Address(es)         Excluded IP Addresses:       Excluded IP Addresses:       Image: Enable       Image: Enable         LAN Side IP Address       IP Address       Image: Enable       Image: Enable       Image: Enable         LAN Side IP Address       Image: Enable       Image: Enable       Image: Enable       Image: Enable         LAN Side IP Address       Image: Enable       Image: Enable       Image: Enable       Image: Enable         LAN Side IP Address       Image: Enable       Image: Enable       Image: Enable       Image: Enable       Image: Enable         LAN Side IP Address       Image: Enable       Image: Enable       Image: Enable       Image: Enable       Image: Enable       Image: Enable         LAN Side IP Address       Image: Enable       Ima	DITOR Derver setting	a hora Unloca	
DHCP IP Address Pool       192.168.11.2       for up to 64       Address(es)         Excluded IP Addresses:       Excluded IP Addresses:       Image: Constraint of the state of	Note If you have an existing LAN, the AirStation's configuration must be changed to connect to it. Please refer to here to set up your AirStation on an existing network.		
LAN Side IP Address [P Address Subnet Mask 255,255,255,0]			
DHCP Server Settings [Advanced Settings] Advanced Settings Display Apply			

Parameter	Meaning
LAN Side IP Address	Set a LAN side IP address and subnet mask.
DHCP Server Function (Router Mode only)	Enable or disable the DHCP server, which assigns IP addresses automatically.
DHCP IP Address Pool (Router Mode only)	Configure the range of IP addresses to be assigned by the DHCP server and IP addresses to be excluded from that range. Values from 0-253 may be entered.
LAN Side IP Address (IP Unnumbered) (Router Mode only)	Set a LAN side IP address for IP unnumbered. Note: A PC with a normal LAN side IP address and a PC with an LAN side IP address for IP Unnumbered cannot communicate each other.
Advanced Settings (Router Mode only)	Select Display to display the advanced settings options for the DHCP server.
Lease Period (Router Mode only)	Set the effective period of an IP address assigned by the DHCP server. Up to 999 hours may be entered.

Parameter	Meaning
Default Gateway (Router Mode only)	Set the default gateway IP address for the DHCP server to issue to clients.
DNS Servers (Router Mode only)	Set the DNS server IP address for the DHCP server to issue to clients.
WINS Server (Router Mode only)	Set the WINS server IP address for the DHCP server to issue to clients.
Domain Name (Router Mode only)	Set the domain name for the DHCP server to issue to clients. You may enter up to 127 alphanumerical characters, hyphens, and periods.
Default Gateway (Bridge Mode only)	Set the default gateway IP address.
DNS Server Address (Bridge Mode only)	Set the DNS server IP address.

## DHCP Lease (Router Mode only)

Configure DHCP leases.

Setup	Internet/LAN	Wireless Co	onfig	Security	LAN Config	Admin Config	Diagnostic
Internet PI	POE DDNS VP	N Server LA	N DHC	P Lease NA	T Route	4	Logout
Add Client Information					DHCP Lease Settings		
IP Address Add				Add manual IP address assignment, delete automatic IP Address assignment or set automatic assignment to manual <b>Manual assignment</b> Assign an IP address to specified MAC address manually. Up to 200 devices can be registered for manual assignment.			
Current DHCP Client Information					Add/Edit Client information		
IP Address	MAC Address	Lease Period	Status	Customize		This area is for addir	ng or editing a
192.168.11.3	00:1D:73:92:0B:7F	47:48:26	Auto	Manual A	ssignment	line.	3
(*) The IP Ao (192.168.11. Refresh	ldress of the clie 2)	nt that is confi	guring t	his AirStation	is	IP Address Enter an IP address assignment. The default is blank mode. The current IP addre displayed in edit mo	for manual in append ss is de. The IP

Parameter	Meaning		
IP Address	Enter an IP address to lease manually. The IP address should be from the same subnet as the DHCP scope, but not be within the range that DHCP is assigning to other devices.		
MAC Address	Enter the MAC address which identifies the client.		
Current DHCP Client Information	Displays information for current leases. An IP address which is leased automatically can be changed to be leased manually by clicking <i>"Manual Assignment"</i> .		
## NAT (Router Mode only)

NAT (network address translation) allows your private LAN side network devices to communicate with the Internet.

Setup Internet/LAN V	Vireless Config	Security	LAN Config	Admin Config	Diagnostic
Internet PPPoE DDNS VPM	N Server LAN D	HCP Lease	NAT Route	in a start a st	Logout
Address Translation	Fnable			Network Address Tr Settings	anslation
Log Output of Deleted Packets	Enable			Configure address tra connect the Internet s Internet.	nslation to side to the
COPPUS				Address Translation	·

Parameter	Meaning
Address Translation	Enable to use Network Address Translation.
Log Output of Deleted Packets	Enable to log deleted packets (such as errors) from address translation.

#### Route

Configure the AirStation s IP communication routes.

Setup Interne	t/LAN Wirel	ess Config	S	ecurity	LAN Config	Admin Config	Diagnostic	
Internet PPPoE D	DNS VPN Sei	ver LAN	DHC	P Lease	NAT Route	4	Logout	t
Add Douting						Routing Information	n	^
Add Routing						Configure Routing Inf	ormation.	
Destination Address	IP Address Subnet Mask 2	55.255.255.0		*		Add/Edit Routing		
Gateway						Sec. 1		
Metric	15					This area is for addin line.	g or editing a	
bbA						Destination Address	s	
Routing Informatio	n				<u></u> 23	Specify the destination or network address. If you're entering an 1 destination, specify [ 255.255.255.255] for mask in case of entering	on IP address P address as Host the subnet ering a	
Destination Address	Subnet Mask	Gateway I	Metric	Operation		network address as o specify the network a	destination,	
Routir	ng Configuration is	not Register	ed	1		subnet mask.		
						Gateway		¥

Parameter	Meaning
Destination Address	Adds a destination IP address and subnet mask to a routing table.
Gateway	Adds a gateway address to a routing table.
Metric	The metric is the maximum number of router hops a packet may take on the way to its destination address. Values between 1 and 15 may be entered. The default value is 15.
Routing Information	Manual entries will appear here after being added.

# **Wireless Config**

#### WPS

Configure WPS settings.

Setup	Internet/LAN	Wireless Config	Security	LAN Config	Admin Config	Diagnostic
NPS AOSS	Basic(11n/g/b) 4	dvanced(11n/g/b) \	WMM(11n/g/b)	MAC Filter Multi	cast Control WDS	Logout
					WPS(WiFi Prote	cted Setup)
WPS	🗹 enable				WPS	
External Regist	tran Request is reject	ed in AOSS mode			Configuring WPS	
Apply					WPS is WIFI Prot which correspond	s to Windows
and a second second second					Connect Now-NET WPS is also know	T (WCN-NET). whiles the Wi-Fi
AirStation PIN	12345670 Gener	ate PIN			Simple Configurat	ion Protocol.
Enrollee PIN	OK				easily distribute w	ireless security
WPS Securit	Information				(Airstation) to the	WPS clients.
THE D DECUIN	y unormation				wireless security	information is
WPS status	configured(AOSS)				The Airstation has	s an internal
	SSID 0	DISE76A1E23			Registrar built-in i use an External R	t, but can also legistrar
11n/g/b	Encryption key 1	PAWPA2 mixedmode - P5K 234567890123	TRIPIALS mixedmod	*1	The WPS device v the wireless secu	which receives rity information
	A REPUBLIC AND				from the Registrar Enrollee	r is called
					The default is Ena	ible
					Minaning	
					When the wirele	ss radio is
					disabled, WPS d	loes not work.
					External Registr	ar
				A REPORT OF A R	When WPS is us	ed configure-

Parameter	Meaning
WPS	Enable to use WPS automatic configuration.
External Registrar	Enable to accept external configure requests from other WPS devices. Note: External configure requests will not be accepted if AOSS is in use.
AirStation PIN	Displays the PIN code of the AirStation. Clicking <i>"Generate PIN"</i> will generate a new PIN code. This code can be entered into other wireless devices that support WPS.
Enrollee PIN	Enter the PIN code for the other wireless device and click "OK".
WPS status	Displays " <i>configured</i> " if all available wireless bands are configured. Displays " <i>unconfigured</i> " if at least one wireless band is unconfigured.

#### AOSS

Configure and use AirStation One-touch Secure System (AOSS).

Setup	Internet/LAN	Wireless Config	Security	LAN Config	Admin Config	Diagnostic
WPS AOSS	Basic(11n/g/b) Adv	inced(11n/g/b)	VMM(11n/g/	b) MAC Filter Multi	cast Control   WDS	Local
					AOSS (AirStation Secure System)	one-Touch
					AOSS is Buffalo's technology for qui secure wireless co	unique skly forming a
AOSS Set	tings - Edit AOSS Clien	t Information			can see AOSS's o status from this so	configuration and rean.
Encryption	Type of Excusive SSID for V	VEP 802 11rvig/to Sto	p 💌			
Encryption I	evel expansion function	002.11rVg/b End	bled 😁		Click this button to	start AOSS
Dedicated V	VEP SSID isolation	802.11r/g/b Dis (When this function	abled 😁	ents connecting via WEP wil	The AOSS button router works the s button. Refer to H	on top of the ame as this aw to use AOSS
AOSS Butto	n on the AirStation Unit	Enable			for more details.	
Current Er	cryption Information 80	)2.11n/g/b			Disable A0	SS] button
Encryption Type	WPA-PSK-AES (Now in use)				This button appea enabled. Click this disable AOSS. Co	s when AOSS is button to nnections to
SSID	0018E76A1E23-1		],		AOSS Information	Il be terminated, removed, and
Encryption key	1234567890123				Encryption Type n value, AES. Curren Information will also	eset to its default nt Encryption io be removed.
Encryption Type	WPAWPA2-PSK-mised (Now I	1 U SA)			Security are enable Settings when AO	ed in Advanced SS is disabled.
SSID	0018E76A1E23		]		Note:	
Encryption key	1234567090123				Once the AOS pressed, othe be started un	S button is ir operations can't ti AOSS is
Encryption	Type WEP128				finished. If the find a wireles	a AirStation can't a client after three
SSID	0018E76A1E23-3		1.		returns to its	previous state.
	1234567890123		Gending	1 Kents	<ul> <li>Up to 24 wire be connected</li> </ul>	tess clients may through AOSS.
	1234567890123		Contra la	101.7	<ul> <li>By default, AC but does not</li> </ul>	SS is functional initiate a
Encryption	1234567890123				connection un manually by p	ushing the AOSS
	1234567890123				of the router.	nere or un une top
Encryption	Type WEPS4				<ul> <li>Ose Airstatio Information p configure a w</li> </ul>	n's System age to manually valess client that
SID	0018E76A1E23-4				doesn't supp	ort AOSS.
	12345		(Sending	19090	configured, if	s security succeeded
Incombine 1	12345					
and Abron 1	12345				In the following ca	ses, the setting
	12345				succeeded and All	OSS returns
Random	KEY base Reset				Any blank is a	ontained in SSID
Apply					<ul> <li>WPA-PSK is i 'hexadecimal</li> <li>Any blank is o PSK.</li> </ul>	nput with 64 characters'. ontained in WPA-
AOSS Clie	nt Information				In the following ca of wireless securit	ses, the setting
Client Inform	nation MAC Address Er	crypton Type	Wireless	Connection Setting	new encryption se	ttings.
WU-UC-03bi	N 00107392087F WE	P64WEP128 A PSK-TKIPMPA-PSK-	ES 802.11n/pt	Allow	<ul> <li>Wireless Auf WPA2-PSK*,</li> </ul>	entication is
Edit A	OSS Client Information				If Wireless Author	zation is
AOSS Eth	ernet Converter Inform	ation			AOSS passes end	cryption key to
Client inform	nation MAC Address End	ryption Type			initial level to WP/	PSK/TRIP.
					4	

Parameter	Meaning
(((])) A055	Initiates AOSS automatic wireless configuration. Click this, then press or click the AOSS button on your AOSS-compatible wireless client. Repeat for additional AOSS clients.
	Click this button to disconnect all AOSS connections. Note: If AOSS connections are disconnected, the SSID and encryption keys will be restored to their most recent settings before using AOSS.
Encryption Type of Exclusive SSID for WEP	You may allow a separate SSID specifically for WEP connections. If <i>"disabled"</i> is selected, then clients will not be able to connect with WEP.
Encryption level expansion function	Expands security method from TKIP to WPA/WPA2-PSK-mixed mode.
Dedicated WEP SSID isolation	Set a separate SSID and network segment specifically for WEP connections. Devices connected with WEP will not be able to communicate with devices connected using AES/TKIP. All connected devices will be able to communicate with the internet.
AOSS Button on the AirStation Unit	Normally, pressing the physical AOSS button on the AirStation initiates AOSS. If this box is unchecked, it will not, and the button on this page will be the only way to initiate AOSS.
Current Encryption Information * AOSS Connection only	Displays the encryption type, SSID, and encryption key that AOSS has configured.
[Random]	Click to enter random values for SSID, encryption key, and other settings.
[KEY base]	Click to return the SSID, encryption key, and other wireless settings to the values on the case sticker.
[Reset]	Click to return the SSID, encryption key, and other wireless settings to their previous values.
AOSS Client Information* * AOSS Connection only	Displays basic information for AOSS clients connected to the AirStation.
AOSS Ethernet Converter Information* * AOSS Connection only	Displays basic information for Ethernet converters connected to the AirStation via AOSS.

### Basic

Configure basic wireless settings.

Setup	Internet/LA	Wireless Config	Security	LAN Config	Admin Config	Diagnostic	
WPS AOSS Bas	ic(11n/g/b)	Advanced(11n/g/b)	WMM(11n/g/b)	MAC Filter Multi	cast Control WDS	Logout	
					Basic Wireless	Setting (11n/g/b)	
Wireless Radio	🕑 Enable				You can get have	c configuration	
Wireless Channel	Auto Channel	👻 (Current Channel: 6)			information for yo	ur wireless LAN encryption is not	
300Mbps Mode	Band Width : 2 Extension Char	0 MHz 💌 mel : 1 💌			used, communica established just b setup. Encryption	ation will be by this basic n is highly bwever	
Broadcast SSID	Allow 🛛				Wireless Padio	500000	
Use Multi Sec	Use Multi Security function					able" will disable	
Separate feature	E	]Use			disabled, all wireless functionality, including broadcasting, is halted.		
SSID	(	) Use AirStation's MAC addre	ss(0018E76A1E23)		Default value is e	nabled.	
	0	) Enter:			Vou may chann	el a channal	
Wireless authentic	ation	/PA/WPA2 mixedmode - PS	sk 🛃		(frequency band)	for your wireless	
Wireless encryption TKIP/AES mixedmode					wireless clients n	ear the	
WPA-PSK (Pre-Shared Key):				interference. Cha	nge to a different		
Rekey interval : 60 minutes				channel in this ca channels vary wit	ase. Available h which wireless		
Apply					standard you <sup>2</sup> re u channel is select channel is select 11n/g/b : Auto, 1- (Default value : A	sing. When Auto ed, a vacant ed automatically. 11 Channel uto channel)	

Parameter	Meaning
Wireless Radio	Determines whether or not to allow wireless communication. If this is unchecked, then no wireless connections will be allowed.
Wireless Channel	Sets a channel (a range of frequencies) used for wireless connections. Channels 1-11 are available. If Auto Channel selected, the AirStation will automatically use the best available channel.
300Mbps Mode	300/150 Mbps mode uses twice the normal frequency range, 40 MHz instead of 20 MHz. In uncongested areas this can increase performance. To use 300/150 Mbps mode, set the Bandwidth to 40 MHz and choose an Extension Channel. Note: If using Auto Channel for the wireless channel, then the Extension Channel is set automatically.

Parameter	Meaning
Broadcast SSID	If " <i>Allow</i> " is checked, then the AirStation will respond to SSID searches from wireless devices by broadcasting its SSID. If " <i>Allow</i> " is unchecked, then the AirStation ignore SSID searches from wireless devices.
[Use Multi Security function] [Do not use Multi Security function]	Clicking "Use Multi Security function" will enable Multi Security, allowing the use of multiple SSIDs, each with different wireless security settings. Clicking "Do not use Multi Security function" will disable the Multi Security function. The AirStation will then allow one SSID and one type of wireless security.
	Note: When using Multi Security, you need to enable at least one of the following SSID1, SSID2, or SSID3.
SSID1	Multi Security SSID1 can use WPA-PSK-TKIP or WPA/WPA2-Mixed for wireless security.
SSID2	Multi Security SSID2 can use WPA-PSK-AES for wireless security.
SSID3	Multi Security SSID3 can use WEP for wireless security.
Separate feature	When " <i>Use</i> " is checked, wireless devices connected to the AirStation can communicate only with the Internet side, not with each other.
SSID	SSIDs may contain 1-32 alphanumeric characters.
Wireless authentication	Choose an authentication method for wireless connections.

Parameter	Meaning
Wireless encryption	Select a type of data encryption for wireless communication from the following options:
	<b>No encryption</b> Data is transmitted without encryption. Avoid this option since any communication may be intercepted. <i>"No encryption"</i> can be selected only when <i>"No authentication"</i> is selected for wireless authentication.
	<b>WEP</b> WEP is a common encryption method supported by most devices. It uses an encryption key. WEP can only be selected when " <i>No</i> <i>authentication</i> " is selected for wireless authentication.
	<b>TKIP</b> TKIP is an encryption method which is more secure than WEP, but slower. Use an pre-shared-key to communicate with a wireless device. TKIP can be selected only when WPA-PSK or WPA2-PSK is selected for wireless authentication.
	AES AES is more secure than TKIP, and faster. Use a pre-shared-key to communicate with a wireless device. AES can be selected only when WPA-PSK or WPA2-PSK is selected for wireless authentication.
	<b>TKIP/AES mixed mode</b> TKIP/AES mixed mode allows both TKIP and AES authentication. TKIP/AES mixed mode can be selected only when WPA/WPA2 mixed mode - PSK is selected for wireless authentication.
WPA-PSK (Pre-Shared Key)	There are two different ways to enter pre-shared keys. <i>Character</i> keys may contain between 8 and 63 case-sensitive alphanumeric characters. <i>Hexadecimal</i> keys contain exactly 64 characters. Only 0 - 9 and a - f (not case-sensitive) should be used in hexadecimal keys.
Rekey interval	The rekey interval determines how often an encryption key is updated. Values from 0 to 1440 minutes may be entered.
Setup WEP encryption key	There are two different ways to enter WEP encryption keys. <i>Character</i> keys may contain either 5 or 13 case-sensitive alphanumeric characters. <i>Hexadecimal</i> keys may contain either 10 or 26 digits. Only 0 - 9 and a - f (not case-sensitive) should be used in hexadecimal keys.

#### Advanced

Don't change advanced wireless settings unless you know what you're doing.



Parameter	Meaning
Multicast Rate	Set the communication speed of multi-cast packets.
DTIM Period	Set the interval (1 -255) for the beacon to respond to a wireless device. This setting is only effective when power management is enabled on the wireless device.
Privacy Separator	If enabled, the Privacy Separator blocks communication between wireless devices connected to the AirStation. Wireless devices will be able to connect to the Internet but not with each other. Devices that are connected to the AirStation with wired connections will still be able to connect to wireless devices normally.

#### WMM

Configure QoS priorities here.

Setup	Internet/LAN	Wi	reless Config	Security	LAN Config	A	dmin Config	Diagnostic	
WPS AOSS	Basic(11n/q/b)	Advan	ced(11n/q/b)	WMM(11n/g/b)	MAC Filter Multi	cast	Control WDS	10.000	
WMMEDCA	Parameters					~		Logou	1
Briority	Doramotor						WMM Settings (1	1n/g/b)	
Priority	P-drameter	For AP	ForSTA				Prioritized AirStati	00	
	CWmin:	15	15				communication for	specific	
	CWmaic	1023	1023				provides some rea	time	
AC_BK(Low)	AIFSN:	7	7				improve the quality	of VOIP or	
	TXOP Limit:	0	0				other streaming pr	otocols	-
	Admission Control:		Disable 💌						
		For AP	For STA				WMM EDCA Para	meters	-
	CWmin.	15	15				WMM Settings (1	In/g/b)	2
	CWmax.	63	1023				_		
AC_BE(Normal)	AIFEN:	3	3				Prioritized AirStati communication for	on specific	
	TXOP Limit	0	0				transactions. This	settings	
	Admission Control:		Disable 💌				communication, w	hich can help	
		ForAP	ForSTA				other streaming pr	otocols	
	CWmin:	7	7			1			
	CWmax	15	15				WMM.EDCA Para	meters	
AC_VI(High)	AIFSN:	1	2				Think to car I are	meters	
	TXOP Limit	94	94				It is usually not ne	cessary to	
	Admission Control.	144	Disable 🌱				change this value.		
		For AP	For STA				Priority		
	Civimin:	3	3				(High)4 : (Normal)2	ed (Highest)8 ? : (Low)1 for	
	CWmax.	7	Z				each packet.		
AC_VO(Highest)	AIFSN:	1	2				Parameter		
	TXOP Limit:	47	47				CWmin, CWmax	d minimum units	
	Admission Control:	·	Disable 💌				for the contention	window. The	
Apply						~	control the frame avoidance system Values that can b 32767.	collision n in IEEE802.11. e inputted: 1-	~

Parameter	Meaning
WMM-EDCA Parameters	You don't usually need to change these settings. Using the default settings is recommended.
	<b>Priority</b> The following priorities may be applied to individual transmission packets: (Highest) 8, (High) 4, (Normal) 2, and (Low) 1. From the queue, these packets are processed in order of priority.
	<b>CWmin, CWmax</b> The maximum and minimum value of the contention window. The contention window is used in the frame collision avoidance structure performed in IEEE802.11, and generally the smaller the value in the window, the higher the probability that the queue obtains the right to send.
	AIFSN The interval to send frames. The unit of the AIFSN is a slot, just as the window defined by CWmin and CWmax is. The smaller the interval of sending frames, the faster the algorithm can restart. As a result, the priority of the queue is higher.
	<b>TXOP Limit</b> The period of time that the queue can use after obtaining the right to send. The unit is 32 ms. The longer this time, the more frames can be sent per right to send. However, the que may interfere with other packet transmissions. If TXOP Limit is set to 0 (zero), only one frame can be sent per right to send.
	<b>Admission Control</b> Restricts new frames from interfering with a previous queue. New packets are prioritized lower until a queue of them is collected. As the new queue accumulates more packets, its priority increases.

#### **MAC Filter**

This screen lets you restrict wireless access to wireless devices with specific MAC addresses.

Setup	Internet/LAN	Wireless Config	Security	LAN Config	Admin Config	Diagnostic
WPS AOSS	asic(11n/g/b) A	vanced(11m/g/b)	WMM(11a/g/b)	MAC Filter Mult	icast Control   WDS	Logout
Enforce MAC Fi	itering Enable				Wireless MAC Fi Wireless connecti AirStation can be specific client MA enhance security unwanted network enabled, only wre enabled, only wre	hering imited to C addresses to against wistors. When less Clent cheed MAC
Registration L MAC Address No Registered Ed4 Registra	ist Connection Status d MAC Addresses tion List				adapters with regi adapters with regi connect to the Air wireless MAC filt AOSS is in use Enforce MAC Filt Check Enable to filtering. Then, only with registered MA can connect to the However, even if IE checked, MAC filt disabled in no MAC configured. The de MAC filtering is di Registration List The list of MAC Ai	alfowed to Station. The r is ignored while letting use MAC y wrolens clients of Addresses in ArStation. Enable is ening remains CAddresses are reault value for sabled

Parameter	Meaning
Enforce MAC Filtering	Enable to restrict wireless connections to devices with registered MAC addresses.
Registration List	Displays the MAC addresses of registered devices which are permitted to connect wirelessly.
[Edit Registration List]	Click this button to add a MAC address of a wireless device to the list of permitted devices.
MAC Addresses to be Registered	Enter a MAC address of a wireless device you permit to connect to the AirStation. Click " <i>Register</i> " to add that MAC address to the list.
List of all clients that are associated with this AirStation	Display the list of all MAC addresses of wireless devices connected to the AirStation.

#### **Multicast Control**

Restrict unnecessary multicast packets from wireless LAN ports.

Setup in	ternet/LAN	Wireless Config	Security	LAN Config	Admin Config	Diagnostic
WPS AOSS Basic	(11m/g/b) A	dvanced(11n/g/b)	WMM(11n/g/b)	MAC Filter Multi	cast Control WDS	Logout
					Multicast Control	
Snooping	Enable				This setting contro packet transfer to	ls multicast wireless LAN
Multicast Aging Time	300	Sec.			port.	
Αρρίγ					Shooping observer control packets lik control unnecessa transfer to wired a transfer to wired a transfer to wired a multicast Shoopin "Wired port contro performed when bi If your wineless cli multicast tunnel tr this unit uses tunn automatically to tr stream stability. Multicast Shoopin learning informatio configure the hold Enter bioger value IGMP/MLD query	a multicast e IGMP to ry packet divireless port, enable g foature. I is not idge mode is on, mits aupports ansfer mode, el transfer mode ansfer mode, el transfer mode ansfer multicast Time g feature keeps n. This setting ng lime rather than interval.

Parameter	Meaning
Snooping	If enabled, snooping supervises multicast administrative packets such as IGMP and restricts unnecessary multicast transfers to wired or wireless ports.
Multicast Aging Time	Set the time to hold the data from multicast snooping in the range of 1 to 3600 (seconds). Enter a value larger than the interval of a IGMP/MLD query.

### WDS

WDS bridging allows communication between AirStations.

Setup	Internet/LAN	Wireless Config	Security	LAN Config	Admin Config	Diagnostic
WPS AOSS Bas	ic(11n/g/b) A	dvanced(11n/g/b)	WMM(11n/g/b)	MAC Filter Multi	cast Control WDS	Logout
WDS Vse					WDS	^
Specify Master/Slav	ve Master 👻				Configure establis connection with a	h the wireless nother AirStation.
SSID			Search		If the communicat	tion between
Wireless authentication Do not authenticate					shed or constant	
Encryption for wireless Not encrypted 👻				far away, Install n Master and		
Apply					Slave wireless de WDS to solve the	vices by using se problems
		(C)2000-200	19 BUFFALO INC. All rid	ahts reserved.		10 Ad

Parameter	Meaning
WDS	Check to use WDS bridging.
Specify Master/Slave	Define this AirStation's role in a WDS bridge.
	Master This AirStation will the master in a WDS bridge. It will have the Internet connection, and other AirStations in the bridge will be connected through this AirStation. Slave
	Slave AirStations are connected to the master AirStation.
	Automatically switches between Master and Slave modes depending on the surrounding network. If an AirStation works as a router, it will automatically be set as a master. If the Airstation works as a bridge and a DHCP server exists in the network, it will automatically be set as a master . If the AirStation works as a bridge and no DHCP server is available, it will automatically be set as a slave.

Parameter	Meaning
SSID	Configure the Master Airstation's SSID.
[ Search ]	Click to search for other AirStations' SSIDs.
Wireless authentication	Configure authentication method for the master AirStation
Encryption for wireless	Choose encryption type for the master AirStation.
WPA-PSK (Pre Shared Key)	Set the master AirStation's Encryption key.

Notes: A master AirStation can communicate with two slaves only.

A slave AirStation cannot communicate with any AirStation other than its master.



# Security (Router Mode only)

Firewall (Router Mode only)

Setup	Internet/LAN	Wireless Config	Security	LAN Config	Admin Config	Diagnostic			
Firewall	Firewall IP Filter VPN Pass Through								
Log Out	put Enable				Firewall Limits the type of pac to pass between the t	kets allowed nternet and			
Enable	Basic Rules Number of Packets AirStation, the firewall evaluates								
	Prohibit NBT and Microsoft-DS Routing PPPoE1: Easy Setup Prohibit O the packets, and forwards packets that don't match any filter to their destination. The Firewall blocks								
	Reject IDENT Requests	ř.	0		Internet side and prevents leaking				
	Block Ping from Internet	t p Ignore	0	0 side.					
Apply	n				Log Output Checking this box wil Firewall information to The default setting is	l record o a log. disabled. 🗸 🗸			

Parameter	Meaning		
Log Output	Enable to output a log of firewall activity.		
Basic Rules	Enable to use any of the quick filters. Preconfigured quick filters include:		
	Prohibit NBT and Microsoft-DS Routing When enabled, this prevents Microsoft networking from communicating between the LAN side and the WAN side. You can configure this with PPPoE if you select "Use PPPoE Client" or "Use IP Unnumbered" in Method of Acquiring IP address, or if Easy Setup identified a PPPoE connection during setup.		

Parameter	Meaning
	<b>Reject IDENT Requests</b> Enabling this option will answer IDENT requests from the Internet side with corresponding rejection packets. Enable this option if you experience slow transfer speeds for network applications such as email, ftp, or browsing. If you have configured transfer of IDENT requests to the LAN side in the address translation settings (DMZ or TCP port:113), that setting has higher priority, and overrides this setting.
	<b>Block Ping from Internet</b> If this is enabled, the AirStation will not respond to pings from the Internet side. You can configure this with PPPoE if you select "Use PPPoE Client" or "Use IP Unnumbered" in Method of Acquiring IP address (page 25), or if Easy Setup identified a PPPoE connection during setup.

## IP Filter (Router Mode only)

Create and edit IP filters.

Setup	Internet/L/	AN Wireless Config	Security	LAN Config	Admin Config	Diagnostic
Firewall	P Filter VPN Pas	sThrough		62 ····································	1	Logout
					IP Filter Settings	^
Log Output	Enable				Limits the type of to pass between th LAN. The maximum nur 32. If the packet meet monitoring condition before it is routed, action will be take	packets allowed he Internet and hber of rules is sone of the ons (see below) the specified o If multiple
Add IP Add	dress Based Fil	ter			conditions (see be appropriate action	low) are met, the will be
Operation	Ignored 💌	7			the condition.	e packet meets
Direction	Internet→LAN ¥				Log Output	
IP Address	Source Address:	→ [	Destination:		Checking this box	will record IP
	O All				Operation is Acce	pted, log output
	OICMP				The default is Disa	bled.
Protocol	O Manual	Protocol Number:				
	⊙ TCP/UDP	TCP Port Manual Setting	Specification meth	od	Add/Edit IP Addr Filter	ess Based
Add Rule					This area is for add line.	ding or editing a
IP Filter In	formation				Operation Select the action t on packets that, meet filter criteria	o be performed
Operation	Direction Source Destin: The IP Filter	Address Protocol Co ation Address Protocol Co has not been configured yet	ount Customize		Ignored Stop the packet ar it. Rejected Return the rejected point of origin. Accepted	nd do not route d packet to the
		(C)2000-2009	BUFFALO INC. All n	ghts reserved.		

Parameter	Meaning
Log Output	If enabled, IP filter activity is saved to a log.
Operation	Specify how to process target packets.
Direction	Specify the transmission direction of target packets.
IP Address	Specify the sender's IP address and receiver's IP address of the target packets.
Protocol	Select a protocol for target transmission packet.
IP Filter Information	Display the list of IP filters which have been registered.

## VPN Pass Through (Router Mode only)

Configure IPv6 pass through, PPPoE pass through, and PPTP pass through.

Setup Internet	LAN Wire	ess Config	Security	LAN Config	Admin Config	Diagnostic
Firewall IP Filter	PN Pass Thr	bugh			2	Logout
					VPN Pass Through	
IPv6 Pass Through	Enable				Specify VPN Pass The settings.	nrough
PPPoE Path Through	Enable				IPv6 Pass Through	
PPTP Pass Through	🗹 Enable				Select whether to use	e IPv6 Pass-
Apply					The default setting is	disabled.
					Note:	~
		(C)2000-2009 F	LIFEAL O INC. A	I rights reserved		

Parameter	Meaning					
IPv6 Pass Through	Enable to use IPv6 Pass Through for address translation.					
PPPoE Pass Through	Enable to use PPPoE bridge. Using PPPoE bridge lets you automatically obtain an IP address from your provider using the PPPoE protocol from your computer connected to the LAN side because all PPPoE packets can pass through between the Internet and LAN.					
PPTP Pass Through	Enable to use PPTP Pass Through for address translation.					

# LAN Config (Router Mode only)

## Port Forwarding (Router Mode only)

#### Configure port translation.

Setup	Internet/	LAN W	ireless Config	Security	LAN Config	Admin Config	Diagnostic
Port Forwa	rding DMZ	UPnP	)oS				Logout
Add Port F	Forwarding					Port Forwarding S	ettings
Group		New Gro	up 👻 🛛 Group Name	e:		Address Translation communication which	only for th is started
Internet Sid	le IP Address	AirStation	n's Internet IP Addre Address:	:58	~	from the LAN side , applications, such a games, require that communications from	certain s network you allow n the <u>Internet</u>
		O AII O ICMP				(the Internet) side via Edit the rules for cor from outside the inter the LAN side networ	a ( <u>Static NAT</u> ). mmunicating mnal network to k device( <u>Static</u>
Protocol		⊙ Manua	DP Protocol Number	er: ual Setup 💌 Si	pecification Method	internet game's doci necessary. Up to 32 registered.	uning your umentation as rules can be
LAN Side IF	P Address	192.168.1	11.2			Add/Edit Port Forw	varding
LAN Side P	ort	TCP/UDP	Port:			You can add new po	urt forwarding
Add						information and edit information. Group	existing
Port Forw	arding Regi	stration l	nformation			to configured <u>Static</u> multiple <u>Static NAT</u> s and manage them to	NATs and give s one name
Group LA	ernet Side IP A N Side IP Addi Port Forwardii	Address F ress L ng has not b	Protocol AN Side Port been set up yet	stomize		By giving names to can [Enable] or [Dis separately. To add a <u>Static NAT</u> existing group, selec from the drop-down	groups, you able) each rule to ct the group box and
						choose [Add].	n select (New 🚩

Parameter	Meaning
Group	Specify a group name for a new rule to belong to. Select " <i>New Group</i> " and enter the new group name in the Group Name field to create a new group. A group name can include up to 16 alphanumeric letters.
Internet Side IP Address	Enter the Internet side IP address (before translation) for the port translation table entry.
Protocol	Select the Internet side protocol (before translation) for the port translation table entry.

Parameter	Meaning
LAN Side IP Address	Enter the LAN side IP address (after translation) for the port translation table entry.
LAN Side Port	Select the LAN side (after translation) port number (1 - 65535) for the port translation table entry.
Port Forwarding Registration Information	Shows current entries in the port translation table.

#### DMZ (Router Mode only)

Configure a destination to transfer communication packets without a LAN side destination.

Port Forwarding DMZ UPnP QoS		Logout
		Logout
(*) The IP Address of the client that is configuring this AirStation is [192.168.11.2] Apply	DMZ Settings IP Address of DMZ Specify the address of network device to whi communication packet transferred. When an entered for the DMZ, possible to access the that address from out	of a LAN side ich rejected ets are to be IP address is it becomes ne device at side the

Parameter	Meaning
IP Address of DMZ	Enter the IP address of the destination to which packets which are not routed by a port translation table are forwarded. Note: RIP protocol packets (UDP port number 520) will not be forwarded.

## UPnP (Router Mode only)

Configure Universal Plug and Play.

Port Forwarding DMZ UPnP QoS       Logout         UPnP ♥ Enable       UPnP Settings         Apply       Setting up the internet gateway function of UPnP: On a PC which supports UPnP (WindowsXP, etc.), The AirStation is automatically	Port Forwarding       DMZ       UPnP       QoS       Logout         UPnP       ✓ Enable       Setting up the internet gateway function of UPnP: On a PC which supports UPnP (WindowsXP, etc.), The AirStation is automatically recognized on the LAN as an (C)2000-2009 BUFFALO INC. All rights reserved.       COUNT	Setup Internet/LAN	Wireless Config	Security	LAN Config	Admin Config	Diagnostic
UPnP     ✓ Enable       Apply     ✓ Setting up the internet gateway function of UPnP: On a PC which supports UPnP (WindowsXP, etc.), The AirStation is automatically	UPnP       Image: Colored col	Port Forwarding DMZ UP	PnP QoS				Logout
UPnP     ✓ Enable     Setting up the internet gateway function of UPnP: On a PC which supports UPnP (WindowsXP, etc.), The AirStation is automatically	UPnP       ✓ Enable         Apply       Setting up the internet gateway function of UPnP: On a PC which supports UPnP (WindowsXP, etc.), The AirStation is automatically recognized on the LAN as an (C)2000-2009 BUFFALO INC. All rights reserved.					UPnP Settings	-
recognized on the LAN as an	(C)2000-2009 BUFFALO INC. All rights reserved.	UPnP CEnable				Setting up the interne function of UPnP: On supports UPnP (Wind The AirStation is auto recognized on the LA	t gateway a PC which dowsXP, etc.), matically N as an
Parameter Meaning							

## QoS (Router Mode only)

Configure the priority of packets sent to the Internet.

S	etup	Internet/LAN	Wireless Config	Secur	ity LA	N Cont	fig	Admin Config	Diagnostic	5
Port	Forward	ing DMZ UPnP	QoS						Logo	ut
								QoS Setting		^
QoS	) for trans	mission to the Interr	net 🔽 Enable					QoS is a technolog	y to use the	
Unio	ad bandı	width 1000	Khne					effectively. When two or more	packets arrive	
No	Enable	annlication name	proto	rol desti	nation nort	nriority		at the same time, the higher priority is pro This can be used to	ne packet with icessed first. i give priority to	
1		VolP	UDP	×		high	~	communications the time processing, su	at require real ich as VOIP.	
2		ssh	ТСР	22		medium	*	QoS for transmiss	ion to the	
3		telnet	ТСР	23		medium	*	If checked, this give	s priority to	
4		ftp	ТСР	✓ 21		low	~	Internet. When enal able to add four leve	oled, you will be als of increased	
5			ТСР	~		low	*	By default, this is d	applications. isabled.	
6			TCP	~		low	*	Uplink Bandwidth	9.	
7			TCP	*		low	~	from this unit to the	Ith transferred Internet in	
8			ТСР	<b>~</b>		low	~	kbps. The real uplink band be entered	Jwidth should	
Appl	ly							If a bandwidth value real line speed is er	larger than the tered, the	*
								Control Chandwidth wi	I he limited by	

Parameter	Meaning
QoS for transmission to the Internet	Enable to give priority to specific types of Internet traffic.
Upload bandwidth	Specify the upstream bandwidth in kbps from the AirStation to the internet side. Set the actual value for the upstream bandwidth.
Enable	Check to enable desired entries, then click [apply].
application name	Enter an application name. Names may use up to 32 alpha numerical characters, double or single tick marks ("'), quotation marks ("), and semicolons (;).
protocol	Select either TCP or UDP.

Parameter	Meaning
destination port	Specify a destination port with the value of 1 - 65535. If this field is empty, a random port is selected.
priority	Select high, medium or low. If packets do not qualify for classification as a type on the list, then their priority is treated as a level between medium and low.

## Admin Config

#### Name

Configure the AirStation's name.

Setup	Internet/LAN	Wireless Config	Security	LAN Config	Admin Config	Diagnostic
Name Password Time/Date NTP Access Log Save/Restore Initialize/Restart Update Logout						Logout
	11				AirStation Name	<u>^</u>
AirStation Name AP0018E76A1E23				AirStation Name		
List Networ	k Services 🛛 🗹 Ena	able			This can be used to a specific descriptive n AirStation.	assign a ame for the
Арріу					The AirStation name 64 alphanumeric cha	may be up to racters in

Parameter	Meaning
AirStation Name	Enter a name for the AirStation. Names may include up to 64 alphanumeric characters and hyphens (-).
List Network Services	Enable display the computers and devices on your network with their supported services

#### Password

Configure the login password for the AirStation's configuration utility.

Setup Internet/	AN Wireless Config	Security	LAN Config	Admin Config	Diagnostic
Name Password Time/Date NTP Access Log Save/Restore Initialize/Restart Update Logout					
Administrator Name	root (fixed)			AirStation Administ Password	trator
Administrator Password				Administrator name	
Apply (Confirm) Inits is the user name us into the AirStation's confirm screens. It cannot be characteristic from 'root'.		e used to log configuration e changed			
				Administrator passv	word 🐱

Parameter	Meaning
Administrator Name	"root" is the configuration utility's user name for login. This name is fixed.
Administrator Password	Enter a password for logging in to the AirStation's configuration utility. The password may contain up to 8 alphanumeric characters and underscores (_).

### Time/Date

Configure the AirStation's internal clock.

Course and the second course course and the course	Admin Config	Diagnostic
Name Password Time/Date NTP Access Log Save/Restore Initialize/Restart Update		Logout
The NTP function may have changed some values	Time/Date	<b>^</b>
Local Date 2009 Year 8 Month 25 Day	Set the AirStation's i Set the internal clock	nternal clock.
Local Time 23 Hour 56 Minute 18 Seconds	Note: The AirStation's inte	rnal clock is
Time Zone (GMT-06:00)Central Standard Time: CST	reset to its default s whenever power is	etting lost because it
Apply Refresh Get Current Time from your PC	However, the AirStat configured to adjust automatically even v	ny. tion may be tits clock when rebooted

Parameter	Meaning
Local Date	You may manually set the date of the AirStation's internal clock.
Local Time	You may manually set the time of the AirStation's internal clock.
Time Zone	Specify the time zone (offset of Greenwich Mean Time) of the AirStation's internal clock.

#### NTP

Configure the AirStation's internal clock to automatically synchronize with an NTP server.

Setup Inter	net/LAN	Wireless Config	Security	LAN Config	Admin Config	Diagnostic
Name Password Initialize/Restart	Time/Da Update	te NTP Access L	og Save/Re	store		Logout
					NTP	^
NTP Functionality	NTP Functionality Chable				infigured the	
NTP Server time.nist.gov AirStation will access the sp NTP server and adjust its in			s the specified			
Update Interval 24 hours clock to conform with the server's time. NTP is an		the NTP an acronym				
Apply					of Network Time Prot server distributes acc network devices.	ocol. An NTP surate time to
		(C)2000-2009 E	BUFFALO INC. AI	I rights reserved.		~

Parameter	Meaning
NTP Functionality	Enable to use an NTP server to automatically set the AirStation's internal clock.
NTP Server	Enter the name of the NTP server as a host name, host name with domain name, or IP address. Up to 255 alphanumeric characters, hyphens (-), and underscores (_) may be used.
Update Interval	How often should the AirStation submit a time request to the NTP server? Intervals of 1 - 24 hours may be set.

#### Access

You may restrict access to the AirStation's settings screens.

Setup	Internet/LAN Wireless Co	nfig Security	LAN Config	Admin Config	Diagnostic	
Name     Initialize	Name Password Time/Date NTP Access Log Save/Restore Initialize/Restart Update Logout					
Log Out	put Enable			Management Acces You may prohibit ma the AirStation in spec	nagement of	
Enable	Management Access	Number of Packets		circumstances. Enabling any of these limitations will prevent changes being made to the AirStation's settings from PCs that		
	Prohibit configuration from wireless LAN	0				
	Prohibit configuration from wired LAN	0		Note that checking all of these		
Internet	Side Remote Access Setting			difficult to make futur the AirStation's settir	e changes to ngs.	
Enable	Management Access			Log Output		
	Permit configuration from wired Internet			Checking this box wil	Il record	
Apply				to a log. Logging is d default.	isabled by	
	IPADDDE				~	

Parameter	Meaning
Log Output	Enabling outputs a log of changes to access settings.
Prohibit configuration from wireless LAN	If enabled, prevents access to settings screens from wirelessly connected devices (only wired devices may configure).
Prohibit configuration from wired LAN	If enabled, prevents access to settings screens from wired devices (only wirelessly connected devices may configure).
Permit configuration from wired Internet	If enabled, allows access to settings screens from network devices on the Internet side.
Permitted IP address	Displayed only if Internet side configuration is enabled. Enter the IP address of the device that is permitted to configure the AirStation remotely from the Internet side.
Permitted Port	Displayed only if Internet side configuration is enabled. Set a port number (1 - 65535) if configuring the AirStation from the Internet side.

### Log

You may use a syslog server to manage the AirStation's logs.

Setup I	nternet/LAN Wireles	s Config	Security	LAN Config	Admin Config	Diagnostic
Name Passy Initialize/Rest	vord Time/Date NTP tart Update	Access Lo	g Save/Re	store		Logout
					Syslog Setup	<u>^</u>
Log Transfer	Enable				Suclea transfore the	AirStation's
Syslog Server					log information to a s	yslog server.
Transfer Log:	<ul> <li>Address Translation</li> <li>Firewall</li> <li>Dynamic DNS</li> <li>DHCP Server</li> <li>Wireless Client</li> <li>Setting Changes</li> <li>NTP Client</li> </ul>	<ul> <li>IP Filter</li> <li>PPPoE Cli</li> <li>DHCP Clie</li> <li>AOSS</li> <li>Authentica</li> <li>System Bo</li> <li>Wired Link</li> </ul>	ent ent tion pot		Log Transfer Checking [Enable] wi AirStation to transmit information to a Sysl- default is disabled. Syslog Server Specify the name of Server by host name with domain or IP Ad	Il instruct the log og server. The your Syslog , host name dress.
Apply Sele	ct All Clear All				Alphanumeric charac ' and dot '.' may be The Syslog Server Na start or end with a hy	ters, hyphen used. ame can't phen '-' or dot 🛛 🗸

Parameter	Meaning
Log Transfer	Enable to send logs to a syslog server.
Syslog Server	Identify the syslog server by host name, host name with domain name, or IP address. You may enter up to 255 alphanumeric characters, hyphens (-), and underscores (_).
Transfer Logs	Choose which logs will be transferred to the syslog server.

#### Save/Restore

You may save your AirStation's settings as a file and restore settings from that file later.

Setup	Internet/LAN	Wireless Config	Security	LAN Config	Admin Config	Diagnostic
Name Passy Initialize/Res	vord Time/Date tart Update	NTP Access Log	Save/Restore	a.		Logout
Carlos actividad	Save				Save/Restore AirS Settings	tation
Save current	Encrypt	the configuration file with	n a password		Save Current Sett	ings
					Once you've got you set up the way you may save the curren	ur AirStation want it, you at configuration
Restore Conf	iguration from Backi	Backup file		Browse	that you're using for	configuration.
	igaracon nom baon	Enter pass	word		Note: The AirStation will	not be able to
		(C)2000-2009	I BUFFALO INC. All ri	ahts reserved.	save file in the follo	owing v

Parameter	Meaning
Save current settings	Clicking "Save" will save the current configuration of the AirStation to a file. If the "Encrypt the configuration file with a password" option is checked, then the configuration file will be password protected with the current Administrator Password.
Restore Configuration from Backup File	Restore the configuration of the AirStation from a saved configuration file by clicking the " <i>Browse</i> " button, navigating to the configuration file, and then clicking Restore. If the configuration file was password protected, then put a check next to " <i>To restore from the file you need the password</i> ", enter the password, and click " <i>Open</i> ".

### Initialize/Restart

Reboot or initialize the AirStation.

Setup	Internet/LAN	Wireless Config	Security	LAN Config	Admin Config	Diagnostic
Name Pas Initialize/R	ssword Time/Da estart Update	te NTP Access I	Log Save/Re	store		Logout
la contra de la co					Initialize/Restart	Â
Restart	his reboots your AirSl Restart Now	ation.			Restart	
					This reboots your Air	Station.
	142 - 224 - 24 - 24				Settings affected: Restarting will reset	the clock to
Initialize (	Initialize Now	AirStation to the factory de	efault settings.		default time.	
				-	Initialias	V
		(C)2000-2009 (	BUFFALO INC. AII	rights reserved.		

Parameter	Meaning
Restart	Click "Restart Now" to restart the AirStation.
Initialize	Click "Initialize Now" to initialize and restart the AirStation.

## Update

Update the AirStation's firmware.

Setup	Internet/LAN	Wireless Config	Security	LAN Config	Admin Config	Diagnostic
Name Pa Initialize/R	ssword Time/Da estart Update	te NTP Access I	Log] Save/Re	store		Logout
					Firmware Update	^
Firmware Version	WHR-G300N Ver.1.	61			Update the AirStation	n's firmware.
Firmware File Name				Browse	Current Firmware Displays the firmwa	re version of
Update f	Firmware				Firmware file name	
*Get upda	ited firmware file	es from our websit Iownload Service	te:		Use the browse but firmware file that wil the AirStation.	ion to find the I be applied to
				BUILTING CONTRACTOR	"Browse" button	~
		(C)2000-2009	BUFFALO INC. AI	l rights reserved.		

Parameter	Meaning
Firmware Version	Displays the current firmware version of the AirStation.
Firmware File Name	Click " <i>Browse</i> " and navigate to a firmware update file. Click " <i>Update Firmware</i> ."

## Diagnostic

### System Info

This screen displays the AirStation's system information.

Setup Internet/L	AN Wireless Co	nfig Security	LAN Config	Admin Config	Diagnostic		
System Info Logs Pa	cket Info Client M	onitor Ping		h.			
					Logout		
				System Information			
Model WHR-G300N Ver.1.61 (R3.01/B1.00) Display the AirStation's I settings							
AirStation Name	AP0018E76A1E23						
Mode Switch Status	Automatic Mode			Model Displays the model n	ama and		
Operational Mode	Router Mode ON			firmware version of the	e AirStation.		
	Method of Acquiring IP Address	Auto Detect Mode - PP	PoE	AirStation Name	ala haat		
	. <del></del>			name.	in s nost —		
	Name of Connection Connection Status	Easy Setup (Default C Online	onnection)	Status of the hardw switch	are mode		
	Operation	Stop		Displays the status o ROUTER switch.	f the		
Internet	PPP Server IP	222.4.07.09		Operational Mode			
	DNS1(Primary)	210.196.3.183 (Auto)		Displays the current r	mode of		
	DNS2(Secondary)	210.141.112.163 (Auto	o)	operation.			
	MTU Size	1454		Internet			
				AirStation's Internet p information.	i <u>ort</u> side		
	Wired Link	100Base-TX (Full-dup	lex)	Method of Acquiring	IP Address		
	MAC Address	00:18:E7:6A:1E:23		Acquiring a Internet I	P address.		
	IP Address	192.168.11.1		Name of the Connec	tion		
LAN	Subnet Mask	255.255.255.0		The name of the PPF	<sup>D</sup> 0E Lin the		
	MAC Address	00:18:E7:6A:1E:23		configuration.	ini uno		
	Wireless Status	Enabled		<b>Connection Status</b>			
	SSID	0018E76A1E23		Displays the current status	Internet side		
	Authentication	WPAWPA2 mixedmod	ie - PSK				
	Encryption	TKIP/AES mixedmode		The Operational Mode	te will show if		
Wireless(802.11n/g/b)	Broadcast SSID	Enable		any DHCP or PPPoE	configuration		
	Privacy Separator	Disable		following commands	s can be		
	Wireless Channel	11 (Auto)		<ul> <li>Release) · Release</li> </ul>	ases the IP		
	300Mbps Mode	20 MHz		address assigne	ed by the		
	MAC Address	00.10.E7.0A.1E.23		<ul> <li>[Renew] : Renew</li> </ul>	/s the IP		
				address from the Server.	DHCP		
Refresh				ana.000			
				The following comm	ands can be 🔜		

Parameter	Meaning
Model	Displays the product name of the AirStation and the firmware version.
AirStation Name	Displays the AirStation's Name.
Mode Switch Status	Displays the status of the mode switch on the back of the AirStation.
Operational Mode	Displays the current operational mode of the AirStation.
Internet	Displays the information about the Internet port.
LAN	Displays the information about the LAN port.
Wireless	Displays the wireless status.

#### Logs

Check the AirStation's logs.



Parameter	Meaning
Display log info	Choose the types of log information to display.
Save to file	Saves selected logs to the file logfile.log.

## Packet Info

Verify transferred packets.

Setup Internet/LAN	Wireless	Config	Secur	ity	LAN Config	Admin Config	Diagnostic		
System Info Logs Packet Info Client Monitor Ping									
						Packet Traffic Infor	mation		
	Sent		Received						
Interrace	Normal	Errors	Normal	Errors		The total numbers of packets ser and received by the AirStation a			
Wired Internet	3268	0	5529		D	well as the errors sending and			
Wired LAN	10423	0	6741		0	receiving, are displayed.			
PPPoE No.1: Easy Setup	3071	0	5370		D	[Refresh] button Displayed packet information is			
Wireless LAN (802.11n/g/b)	392	0	181		D	when this button is c	licked.		
Refresh									
	(C)	2000-200	9 BUFFALO I	NC. All r	ights reserved.				

Parameter	Meaning
Sent	Displays the number of packets sent to the Internet side of Ethernet, the LAN side of the Ethernet, and the LAN side of the wireless connection.
Received	Displays the number of packet received from the Internet side of Ethernet, the LAN side of the Ethernet, and the LAN side of the wireless connection.
# **Client Monitor**

This screen list connected devices.

Setup I	nternet/LAN	V Wirele	ss Config S	ecurity L	AN Config	Admin Config	Diagnostic
System Info Logs Packet Info Client Monitor Ping Logout						Logout	
						Client Monitor	
MAC Address	Lease IP Address	Hostname	Communication Method	Wireless Authentication	802.11n	Displays the LAN sid	de clients
00:11:09:5C:86:F1	-	7)	Wired	-	-	AirStation.	sing the
00:1D:73:92:0B:7F	192.168.11.3	pc-fujiwara	Wireless	Authorized	Enable	The following informa	tion is
Refresh Refresh MAC address Refresh				addroco 💌			
			(C)2000-2009 BUFF	ALO INC. All right	s reserved.		
Parameter			Mear	ning			

Client Monitor	Displays information ( MAC address, lease IP address, host name,
	communication method, wireless authentication and 802.11n) for
	devices that are connected to the AirStation.

# Ping

A Ping test checks whether the AirStation can communicate with a specific network device.

Setup	Internet/LAN	Wireless Config	Security	LAN Config	Admin Config	Diagnostic
System Info	Logs Packet	Info Client Monito	or Ping			l ogout
					Ping	Logoat
Destination Execute Result	Address			]	A Ping test can be pa the AirStation. With a you can determine w AirStation can comm specific network device	erformed from a ping test, hether the iunicate with a ce.
Destination	192.168.11.1				Destination Address	s
Result	64 bytes from 192. 64 bytes from 192. 64 bytes from 192.	168.11.1: icmp_seq=0 tt 168.11.1: icmp_seq=1 tt 168.11.1: icmp_seq=2 tt	l=64 time=0.4 ms l=64 time=0.2 ms l=64 time=0.2 ms		Enter the network IP you want to ping; e.g 192.168.11.3 or www.buffalotech.com	address that
					Execute	
		(C)2000-2009 (	BUFFALO INC. AI	l rights reserved.		

Parameter	Meaning
Destination Address	Enter an IP address or a host name for the target device and click " <i>Execute</i> ". The AirStation will attempt to communicate with that device and the result will be displayed in the " <i>Result</i> " field.

# Chapter 5 Connect to a Wireless Network

# Automatic Secure Setup (AOSS/WPS)

AOSS and WPS are systems which enable you to automatically configure wireless LAN settings. Just pressing the buttons will connect wireless devices and complete security settings. Easily connect to any wireless devices, computers, or game machines which support AOSS or WPS.



AOSS (AirStation One-Touch Secure System) was developed by Buffalo Technology. WPS was created by the Wi-Fi Alliance.



- Before using AOSS or WPS to connect to a Buffalo wireless client, install Client Manager software from the included AirNavigator CD. Consult your wireless client's documentation for more information.
- Buffalo's Client Manager software can be used with the wireless LAN devices built into your computer. However, it is not guaranteed to work with all wireless LAN devices available. Some wireless clients may require manual setup.

# Windows Vista (Client Manager V)

If you are using Windows Vista, use the included Client Manager V software to connect wirelessly with AOSS/WPS.



When the screen at left is displayed, click "Create Profile".

3 When the message "A Program needs your permission to continue" appears, click "Continue".



Follow any instructions displayed on the screen. When the Security LED on the front of the AirStation stops flashing and is lit steadily, the connection is complete.

# Windows XP (Client Manager 3)

If you are using Windows XP, use Client Manager 3 to connect wirelessly with AOSS/WPS.

**1** Right click on the **?** icon in the system tray, and select "*Profile*".



Follow any instructions displayed on the screen. When the Security LED on the front of the AirStation stops flashing and is lit steadily, the connection is complete.

# Other Devices (e.g. Game Console)

If you are using a game machine which supports AOSS or WPS, refer to that device's manual to initiate AOSS/WPS. When instructed, hold down the AOSS button on the AirStation for 1 second.

When the Security LED stops blinking and is lit steadily, the connection is complete.

# Manual Setup

1

You can also connect to the AirStation without installing Client Manager V or Client Manager 3 by using the utility built-in to Windows. The procedure varies depending on which version of Windows you are using.

in the system tray.

# Windows 7 (WLAN AutoConfig)

Click on the network icon

With Windows 7, use WLAN AutoConfig to connect to the AirStation.



Select the target AirStation's name and click "Connect". If you will be connecting to this device in the future, checking "Connect automatically" is recommended.

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Enter the encryption key and click "OK".

# Windows Vista (WLAN AutoConfig)

With Vista, use WLAN AutoConfig to connect to the AirStation.

- 1 Right click on the wireless network icon in the system tray.
- 2 Click "Connect to a network".





When the screen at left is displayed, select the network to connect to and click "*Connect*".

If the screen below is displayed, click "I want to enter the network key or passphrase instead". Otherwise, go to step 4.





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Step through the wizard to finish configuration. If the Set Network Location screen is displayed, select "Home", "Work", or "Public location" depending where you're using the AirStation.

# Windows XP (Wireless Zero Configuration)

Windows XP includes a built-in utility to connect to your AirStation.

- Note: If Client Manager 3 is installed on your computer, Wireless Zero Configuration is disabled. Uninstall Client Manager 3 to use Wireless Zero Configuration, or just use Client Manager 3 to connect to the AirStation.
- 1 Right click on the wireless network icon 🛃 displayed in the system tray.
- 2 Click "View Available Wireless Networks".



Select the network to connect to and click "Connect".

Enter the encryption key (twice) and click "Connect".

Follow the instructions displayed on the screen to finish configuration.

# Chapter 6 Troubleshooting

# Cannot connect to the Internet over wired connection.

- Make sure that your AirStation is plugged in!
- Check that the status LEDs of your AirStation are lit as below:

POWER	Green light is ON
WIRELESS	Green light is ON or flashing
ROUTER	Green light may be ON or OFF (depending on your environment)
DIAG	OFF
LAN	Green light is ON or flashing
INTERNET	Green light is ON or flashing

- Make sure that your computer is set to "obtain an IP address automatically" (see appendix C).
- Restart your AirStation.

# Cannot access the web-based configuration utility.

- See chapter 4 for instructions to open the AirStation's configuration utility.
- Enter the correct user name and password to login to the configuration screen. The factory defaults are "*root*" (in lower case) for the user name and a blank password (enter nothing). If you changed the password, enter the new password that you set.
- Verify that your web browser is not set to use proxies.
- Make sure that your computer is configured to "Obtain an IP Address Automatically" (see appendix C).
- Restart your AirStation.

# Cannot connect to the network wirelessly.

 Configure your wireless client with the same SSID, encryption type, and encryption key as set on the AirStation.

The factory defaults are:

SSID -	The AirStation's MAC address (printed on the label)
Encryption Type -	WPA/WPA2 mixed mode - PSK (Connect with either WPA-PSK TKIP or
	WPA2-PSK AES).
Encryption Key -	Printed on the label of the AirStation (if not, the AirStation is not
	encrypted in the default configuration.)

- Place your AirStation and wireless devices 2 10 feet apart.
- Restart your AirStation.

# You forgot AirStation's SSID, Encryption Key, or Password.

Hold down the Reset button on the base of your AirStation for 5 seconds to initialize its settings. All settings, including your password, SSID, and encryption key will be initialized to their defaults. The factory defaults are:

SSID -	The AirStation's MAC address (printed on the label)
Encryption Type -	WPA/WPA2 mixed mode - PSK (Connect with either WPA-PSK TKIP or WPA2-PSK AES).
Encryption Key -	Printed on the label of the AirStation (if not, the AirStation is not encrypted in the default configuration.)

# The link speed is slower than 300 Mbps (Maximum link speed is only 150Mbps).

By default, the AirStation's 300 Mbps mode is not enabled. You may enable it with the following procedure:

- 1. Open the configuration utility (chapter 4).
- 2. Click "Wireless SSID & Channel (11n 300Mbps Mode)" in Easy Setup.
- 3. Change the value in "300Mbps Mode" "Band Width" to 40 MHz and click "Apply".

If you still cannot connect at 300 Mbps, check the settings of your wireless client device.

# **Other Tips**

### Issue:

I reset my wireless router to factory settings and forgot how to log in to the configuration utility.

### Answer:

Open your browser and enter 192.168.11.1 as the browser address and hit Enter. You will be prompted to log in. Enter the user name as root and the password box is left empty (no password). Click "*OK*" to complete the login and the option to reset your password will be available on the first page.

### Issue:

How do I forward ports on my wireless router for my gaming console?

### Answer:

Log in to the router's configuration utility. From the home page, go to the Internet Game/ Port Mapping section. Enter the port that needs to be forwarded, and the IP address of the gaming console.

### Issue:

How do I enable or modify security encryption settings on the wireless router?

### Answer:

Log in to the configuration utility with your browser. Go to the Wireless Config tab and then select the Security tab. Buffalo recommends WPA for wireless encryption. The passphrase/key should be at least 8 characters in length.

### Issue:

How do I change my wireless router's broadcasted network name (SSID)?

### Answer:

Log in to the configuration utility. Go to the Wireless Config tab and then select the Basic tab if necessary. Find the settings area for SSID. Select the "*Use*" radio button and enter the name you

wish to use for your network in the text field provided. Click "*Apply*" to save the settings. Once the wireless router has rebooted, you will need to manually select the new network name for all wireless devices and enter your encryption key if necessary.

### Issue:

What can I do if my wireless connection drops randomly or seems slow?

### Answer:

There are many environmental factors that may cause this. First, ensure the issue is not range related by moving the wireless router and the client device closer together. If the the connection drops continue, continue, then range is probably not the issue.

Other 2.4 GHz devices such as microwaves, other wireless networks, and 2.4 GHz wireless phones may impact performance. Try a different wireless channel for your wireless router. Log in to the wireless router with your browser. Click on the Wireless Config tab and then the Basic tab. Wireless channels from 1 - 11 may be selected. Try the Auto-Channel option if available. Otherwise, manually select an alternate channel and click "*Apply*".

### Issue:

Though I am able to successfully make a connection with my wireless router, I am unable to access the Internet with my web browser.

### Answer:

First, power off the Cable or DSL modem, the wireless router, and your computer. Move the router's mode switch to the *on* position. Verify that the modem is connected to the wireless router with an Ethernet cable to the WAN port. Power on the modem and wait one minute. Power on the wireless router and wait another minute. Power on the computer. Open a browser on the computer and navigate to a familiar website to verify whether the Internet connection is functioning normally. If after these steps, an Internet connection is still unavailable, power off the Cable or DSL modem and computer again and directly connect your computer to the Cable or DSL modem with a cable between the computer and the port on the modem. Power on the modem and wait one minute. Power on the computer and the port on the modem.

If an Internet connection IS NOT available with a direct connection to the computer, please call the

Internet Service Provider who installed the modem.

If an Internet connection IS available with a direct connection to the computer, please call our customer support.

### Issue:

Where can I download the latest drivers, firmware and instructions for my Buffalo wireless products?

### Answer:

The latest drivers and firmware are available online at *www.buffalotech.com* 

# Appendix A Specifications

Wireless LAN Interface	
Standard Compliance	IEEE802.11b / IEEE802.11g / IEEE802.11n
Transmission Method	Direct Sequence Spread Spectrum (DSSS), OFDM, MIMO
Frequency Range	2,412 - 2,462MHz (Channels 1 - 11)
Transmission Rate	802.11b/g: 54, 48, 36, 24, 18, 12, 9, 6, 11, 5.5, 2, 1Mbps 802.11n 20MHz Channel (LongGl) 130/117/104/78/52/39/26/13Mbps (mcs15-8) (2stream) 65/58.5/52/39/26/19.5/13/6.5Mbps (mcs7-0) (1stream) 40MHz Channel (LongGl) 270.0/243.0/216.0/162.0/108.0/81.0/54.0/27.0Mbps (mcs15-8) (2streem) 135/121.5/108.0/81.0/54.0/40.5/27.0/13.5Mbps(mcs7-0) (1streem) (ShortGl) 300.0Mbps (mcs15) (2streem) 150.0Mbps (mcs7) (1streem)
Access Mode	Infrastructure Mode
Security	AOSS, WPA2-PSK (TKIP/AES), WPA/WPA2 mixed PSK, WPA-PSK (TKIP/AES), 128/64bit WEP, Mac Address Filter
Wired LAN Interface	
Standard Compliance	IEEE802.3u (100BASE-TX), IEEE802.3 (10BASE-T)
Transmission Rate	10 / 100Mbps
Transmission Encoding	100BASE-TX 4B5B/MLT-3, 10BASE-T Manchester Cording
Access Method	CSMA/CD
Speed and Flow Control	10/100, Auto Sensing, Auto MDIX
Number of LAN Ports	4
LAN Port Connector	RJ-45
Other	
Power Supply	External AC 100-240V Universal, 50/60Hz
Power Consumption	Approx. 6.4W (Max)
Dimensions	143mm x 127mm x 24mm (5.6 x 5.0 x 0.9 in.)
Weight	200g (7.1 oz. ) not included base
Operating Environment	0-40°C (32-104°F) , 20-80% (non-condensing)

# Appendix B Default Configuration Settings

Feature	Parameter	Default Setting	
Internet	Method of Acquiring IP Address	Easy Setup (Internet Connection Wizard)	
(Router Mode only)	Default Gateway	none	
	Address of DNS Name Server	none	
	Internet MAC Address	Use Default MAC Address	
	MTU Size of Internet Port	1500 Bytes	
PPPoE	Default PPPoE Connection	No Active Session	
(Router Mode only)	IP Unnumbered PPPoE Connection	No Active Session	
	PPPoE Connection List	none	
	Preferred Connections	none	
DDNS	Dynamic DNS Service	Disabled	
(Router Mode only)	Current Dynamic DNS Information	none	
VPN Server	LAN Side IP Address	192.168.11.1(255.255.255.0)	
(Router Mode only)	DHCP Server Function	Enabled	
	DHCP IP Address Pool	192.168.11.2 for up to 64 Address(es)	
	PPTP Server Function	Disable	
	Authorization Type	MS-CHAPv2 (40/128-bit Encryption)	
	Server IP Address	Auto	
	Client IP Address	Auto	
	DNS Server IP Address	LAN IP address of the AirStation	
	WINS Server IP Address	None	
	PPTP User List	None	
LAN	LAN Side IP Address	Router Mode: 192.168.11.1 (255.255.255.0)	
		Bridge Mode (Router Switch OFF): 192.168.11.100 (255.255.255.0)	
		Bridge Mode (Router Switch AUTO): Obtain automatically from DHCP Server	

Feature	Parameter	Default Setting	
	DHCP Server Function (Router Mode only)	Enabled	
	DHCP IP Address Pool (Router Mode only)	192.168.11.2 - 192.168.11.6	5
	LAN Side IP Address (IP Unnumbered) (Router Mode only)	none	
	Lease Period (Router Mode only)	48 Hours	
	Default Gateway (Router Mode only)	AirStation's IP Address	
	DNS Servers (Router Mode only)	AirStation's IP Address	
	WINZ Server (Router Mode only)	Do Not Specify	
	Domain Name (Router Mode only)	Assigned Domain Name	
	Default Gateway (Bridge Mode only)	none	
	DNS Server Address (Bridge Mode only)	none	
DHCP Lease (Router Mode only)	Current DHCP Client Information	none	
NAT	Address Translation	Enabled	
(Router Mode only)	Log Output of Deleted Packets	Disabled	
Route	Routing Information	none	
WPS	WPS	Enabled	
	External Registrar	Enabled	
	AirStation PIN	An 8-digit random value (Printed on the label of the AirStation)	
	WPS Security Information	WPS status:configurSSID:AirStaticSecurity:WPA-PSIauthentiEncryption key:A 13-dig	red on's MAC Address < AES, or no ication it random value or
		blank.	

Feature	Parameter	Default Setting			
AOSS	Encryption level expansion	Enabled			
	Dedicated WEP SSID isolation	Disabled			
	AOSS Button on the AirStation Unit	Enabled			
Basic	Wireless Radio	Enabled			
	Wireless Channel	Auto Channel			
	300Mbps Mode	Band Width: 20MHz Extension Channel: -			
	Broadcast SSID	Allow			
	Separate feature	not used			
	SSID	Configure AirStation's MA	C address		
	Wireless authentication	WPA/WPA2 mixedmode-F	PSK, or no aut	hentication	
	Wireless encryption	TKIP/AES mixedmode, or no encryption			
	WPA-PSK (Pre-Shared Key)	A 13-digit random value (Printed on the label of the AirStation) or blank			
	Rekey interval	60 minutes			
Advanced	Multicast Rate	Auto			
	DTIM Period	1			
	Privacy Separator	Disable			
WMM	WMM-EDCA Parameters		For AP	For STA	
	(Priority AC_BK (Low) )	CWmin	15	15	
		CWmax	1023	1023	
		AIFSN	7	7	
		TXOP Limit	0	0	
		Admission Control		Disable	
	WMM-EDCA Parameters		For AP	For STA	
	(Priority AC_BE (Normal))	CWmin	15	15	
		CWmax	63	1023	
		AIFSN	3	3	
		TXOP Limit	0	0	
		Admission Control		Disable	

Feature	Parameter	Default Setting				
	WMM-EDCA Parameters (Priority AC_VI (High) )		For AP	For STA		
		CWmin	7	7		
		CWmax	15	15		
		AIFSN	1	2		
		TXOP Limit	94	94		
		Admission Control		Disable		
	WMM-EDCA Parameters		For AP	For STA		
	(Priority AC_VO (Highest) )	CWmin	3	3		
		CWmax	7	7		
		AIFSN	1	2		
		TXOP Limit	47	47		
		Admission Control		Disable		
MAC Filter	Enforce MAC Filter	Disable				
	Registration List	none				
Multicast	Snooping	Enable				
Control	Multicast Aging Time	300 Sec.				
WDS	WDS	Use				
	Specify Master/Slave	Master				
Firewall	Log Output	Disable				
(Router Mode only)	Basic Rules	Prohibit NBT and Microsoft-DS Routing Disable		Disabled		
		Reject IDENT Requests		Enabled		
		Block Ping from Internet		Enabled		
IP Filter (Bouter Mode only)	Log Output	Disabled				
	IP Filter Information	none				
VPN Pass	IPv6 Pass Through	Enabled				
(Router Mode only)	PPPoE Pass Through	Disabled				
	PPTP Pass Through	Disabled				
Port Forwarding (Router Mode only)	Port Forwarding Registration Infor- mation	none				
DMZ (Router Mode only)	IP Address of DMZ	none				
UPnP (Router Mode only)	UPnP	Enabled				

Feature	Parameter	Default Setting
QoS (Router Mode only)	QoS for transmission to the Internet	Disabled
Name	AirStation Name	AP + AirStation's MAC Address
	List Network Services	Enabled
Password	Administrator Name	root (fixed)
	Administrator Password	none
Time/Date	Local Date	2009 Year 1 Month 1 Day
	Local Time	0 Hour 0 Minute 0 Seconds
	Time Zone	(GMT–06:00) Central Standard Time: CST
NTP	NTP Functionality	Enabled
	NTP Server	time.nist.gov
	Update Interval	24 hours
Access	Log Output	Disabled
	Access Limits	Prohibit configuration from wireless LAN Disabled
		Prohibit configuration from wired LAN Enabled
		Permit configuration from WAN Enabled
Log	Log Transfer	Disabled
	Syslog Server	none
	Transfer Logs	Router Mode: Address Translation, IP Filter, Firewall, PPPoE Cli- ent, Dynamic DNS, DHCP Client, DHCP Server, AOSS, Wireless Client, Authentication, Setting Changes, System Boot, NTP Client, and Wired Link
		Bridge Mode: IP Filter, DHCP Client, AOSS, Wireless Client, Au- thentication, Setting Changes, System Boot, NTP Client, and Wired Link

# Appendix C TCP/IP Settings in Windows

# Windows 7

To perform the settings for Windows 7, follow the procedure below.

- 1 Click Start > Control Panel > Network and Internet.
- **2** Double click "Network and Sharing Center".
- **3** Click *"Change Adapter Settings"* on the left side menu.
- **4** Right click on "Local Area Connection", then click "Properties".
- 5 If the message "Windows needs your permission to continue" appears, click "Continue".
- **6** Select "Internet Protocol Version 4 (TCP/IPv4)" then click "Properties".
- **7** Select "Obtain an IP address automatically" and "Obtain DNS server address automatically", then click "OK".
- **8** Click *"OK"*.

# Windows Vista

To perform the settings for Windows Vista, follow the procedure below.

- 1 Click Start > Settings > Control Panel.
- **2** Double click "Network and Sharing Center".
- **3** Click *"Manage network connections"* on the left side menu.
- **4** Right click on "Local Area Connection", then click "Properties".
- 5 When the message "Windows needs your permission to continue" appears, click "Continue".
- **6** Select "Internet Protocol Version 4 (TCP/IPv4)" then click "Properties".
- **7** Select "Obtain an IP address automatically" and "Obtain DNS server address automatically", then click "OK".
- 8 Click "Close".

# Windows XP

To perform the settings for Windows XP, follow the procedure below.

- 1 Click Start > Settings > Control Panel.
- **2** Double click "*Network*".
- **3** Right click on "Local Area Connection", then click "Properties".
- **4** Select "Internet Protocol (TCP/IP)", then click "Properties".
- **5** Select "Obtain an IP address automatically" and "Obtain DNS server address automatically", and then click "OK".
- **6** Click "Close".

# Appendix D Restoring the Default Configuration



Hold down this button for 5 seconds. The AirStation will be initialized.

# Appendix E Regulatory Compliance Information

# **Federal Communication Commission Interference Statement**

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

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

## **FCC Caution:**

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the 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 uncontrolled equipment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

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

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

For product available in the USA/Canada market, only channel 1~11 can be operated. Selection of other channels is not possible.

# **European Union Notice:**

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

- EN60950-1: 2006 Safety of Information Technology Equipment
- EN 50385: 2002

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

• EN 300 328 V1.7.1 (2006-10)

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

• EN 301 489-1 V1.8.1 (2008-04))

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

### •EN 301 489-17 V1.3.2 (2008-04)

Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 17: Specific conditions for 2,4 GHz wideband transmission systems, 5 GHz high performance RLAN equipment and 5,8GHz Broadband Data Transmitting Systems.

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

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

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

# **C €** 0560 **①**

### Česky[Czech]

Buffalo Technology Inc. tímto prohlašuje, že tento AirStation WHR-G300N je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 1999/5/ES.

### Dansk[Danish]

Undertegnede Buffalo Technology Inc. erklærer herved, at følgende udstyr AirStation WHR-G300N overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.

#### Deutsch[German]

Hiermit erklärt Buffalo Technology Inc. dass sich das Gerät AirStation WHR-G300N in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EG befindet.

#### Eesti[Estonian]

Käesolevaga kinnitab Buffalo Technology Inc. seadme AirStation WHR-G300N vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.

#### English

Hereby, Buffalo Technology Inc. declares that this AirStation WHR-G300N is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

#### Español[Spanish]

Por medio de la presente Buffalo Technology Inc. declara que el AirStation WHR-G300N cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.

#### Ελληνική[Greek]

ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ Buffalo Technology Inc. ΔΗΛΩΝΕΙ ΟΤΙ AirStation WHR-G300N ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕΚ.

#### Français[French]

Par la présente Buffalo Technology Inc. déclare que l'appareil AirStation WHR-G300N est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.

#### Italiano[Italian]

Con la presente Buffalo Technology Inc. dichiara che questo AirStation WHR-G300N è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.

#### Latviski[Latvian]

Ar šo Buffalo Technology Inc. deklarē, ka AirStation WHR-G300N atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.

### Lietuvių[Lithuanian]

Šiuo Buffalo Technology Inc. deklaruoja, kad šis AirStation WHR-G300N atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.

#### Nederlands[Dutch]

Hierbij verklaart Buffalo Technology Inc. dat het toestel AirStation WHR-G300N in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.

### Malti[Maltese]

Hawnhekk, Buffalo Technology Inc., jiddikjara li dan AirStation WHR-G300N jikkonforma mal-ħtiġijiet essenzjali u ma provvedimenti oħrajn relevanti li hemm fid-Dirrettiva 1999/5/EC.

#### Magyar[Hungarian]

Alulírott, Buffalo Technology Inc. nyilatkozom, hogy a AirStation WHR-G300N megfelel a vonatkozó alapvető követelményeknek és az 1999/5/EC irányelv egyéb előírásainak.

#### Polski[Polish]

Niniejszym, Buffalo Technology Inc., deklaruję, że AirStation WHR-G300N spełnia wymagania zasadnicze oraz stosowne postanowienia zawarte Dyrektywie 1999/5/EC.

#### Português[Portuguese]

Buffalo Technology Inc. declara que este AirStation WHR-G300N está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.

#### Slovensko[Slovenian]

Buffalo Technology Inc. izjavlja, da je ta AirStation WHR-G300N v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES.

#### Slovensky[Slovak]

Buffalo Technology Inc. týmto vyhlasuje, že AirStation WHR-G300N spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.

#### Suomi[Finnish]

Buffalo Technology Inc. vakuuttaa täten että AirStation WHR-G300N tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.

#### Svensk[Swedish]

Härmed intygar Buffalo Technology Inc. att denna AirStation WHR-G300N står I överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.

## **Industry Canada statement**

This device complies with RSS-210 of the Industry Canada 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: Radiation Exposure Statement:

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

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme á la norme NMB-003 du Canada.

For product available in the USA/Canada market, only channel 1~11 can be operated. Selection of other channels is not possible.

This device and its antenna(s) must not be co-located or operation in conjunction with any other antenna or transmitter.

To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p) is not more than that permitted for successful communication.

## 來自台灣 NCC 的警告

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

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

# Appendix F Environmental Information

- The equipment that you have purchased has required the extraction and use of natural resources for its production.
- The equipment may contain hazardous substances that could impact health and the environment.
- In order to avoid the dissemination of those substances in our environment and to diminish the pressure on the natural resources, we encourage you to use the appropriate take-back systems.
- The take-back systems will reuse or recycle most of the materials of your end life equipment in a sound way.
- The crossed-out wheeled bin symbol invites you to use those systems.



• If you need more information on the collection, reuse and recycling systems, please contact your local or regional waste administration.

# Appendix G GPL Information

Source code for Buffalo products that use GPL code is available at http://opensource.buffalo.jp/.

# Appendix H Warranty Information

Buffalo Technology (Buffalo Inc.) products come with a two-year limited warranty from the date of purchase. Buffalo Technology (Buffalo Inc.) warrants to the original purchaser the product; good operating condition for the warranty period. This warranty does not include non-Buffalo Technology (Buffalo Inc.) installed components. If the Buffalo product malfunctions during the warranty period, Buffalo Technology/(Buffalo Inc.) will, replace the unit, provided the unit has not been subjected to misuse, abuse, or non-Buffalo Technology/(Buffalo Inc.) authorized alteration, modifications or repair.

All expressed and implied warranties for the Buffalo Technology (Buffalo Inc) product line including, but not limited to, the warranties of merchantability and fitness of a particular purpose are limited in duration to the above period.

Under no circumstances shall Buffalo Technology/(Buffalo Inc.) be liable in any way to the user for damages, including any lost profits, lost savings or other incidental or consequential damages arising out of the use of, or inability to use the Buffalo products.

In no event shall Buffalo Technology/(Buffalo Inc.) liability exceed the price paid for the product from direct, indirect, special, incidental, or consequential damages resulting from the use of the product, its accompanying software, or its documentation. Buffalo Technology (Buffalo Inc.) does not offer refunds for any product.

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# Appendix I Contact Information

# **North America**

North American Technical Support by phone is available 24 hours a day, 7 days a week. (USA and Canada). **Toll-free:** (866) 752-6210 | **Email:** *info@buffalotech.com* 

**1011-Tree:** (866) / 52-6210 | **Email:** Info@buffdlotech.(

# Europe

Buffalo Technology provides technical support in English, German, French, Italian, and Spanish.

UK	0845 3511005	
Austria	08101 0251552	
Belgium	0787 99917	
Denmark	70150919	
Finland	010802812	
France	0811 650220	
Germany	01801 003757	
Ireland	1890 719901	
Italy	848 782113	
Netherlands	09000401256	
Norway	81000050	
Spain	9018 10750	
Sweden	0771404105	
Switzerland	0848 560374	
For all other regions please contact +353 61 704617		
www.buffalo-technology.com/contact		

# Asia Pacific

Australia	TEL: 1300 761 310
China	TEL: 86-800-820-8262
	e-mail: support@buffalo-china.com
Hong Kong	TEL: 852-2345-0005
	e-mail: support@hornington.com
India	TEL: 1-8004256210
	e-mail: csbuffalo@accelfrontline.in
Indonesia	TEL: 021-6231-2893
Malaysia	TEL: 03-5032-0138
	e-mail: buffalo@ecsm.com.my
Philippines	TEL: 2-688-3999
	e-mail: digisupport@msi-ecs.com.ph
Republic of Korea	TEL: 02-2057-2095
	e-mail: support@buffalotech.co.kr
Singapore	TEL: 65-6297-2085
	e-mail: buffalo@blumm.com
Taiwan	TEL: 0800-660-886
	e-mail: support@buffalo-tech.com.tw
Thailand	TEL: 02-716-6669
Other Areas	Please contact the shop or distributor where you purchased the unit, referring to the attached warranty card issued by the distributor.