

# User Manual for User-friendly Firmware

## Nfiniti High Power Wireless N Router & Access Point

### WZR-HP-G300NH



[www.buffalotech.com](http://www.buffalotech.com)

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# Contents

<b>Chapter 1 Product Overview .....</b>	<b>5</b>
Features .....	5
Air Navigator CD Requirements .....	7
300 Mbps High Speed Mode.....	7
Package Contents.....	7
Hardware Overview.....	8
Front Panel LEDs.....	8
Back Panel.....	10
Bottom.....	12
Right Side .....	12
<b>Chapter 2 Placing Your AirStation .....</b>	<b>13</b>
Vertical Placement .....	13
Horizontal Placement.....	13
Wall-Mounting .....	14
<b>Chapter 3 Installation .....</b>	<b>15</b>
CD Setup.....	15
Manual Setup.....	15
<b>Chapter 4 Configuration .....</b>	<b>20</b>
How to Access the Web-Based Configuration Utility.....	20
Configuration Utility Menus in Router Mode.....	22
Configuration Utility Menus in Bridge Mode .....	24
Setup.....	26
Internet/LAN (LAN Config) .....	28
Internet (Router Mode only).....	28

PPPoE (Router Mode only).....	29
DDNS (Router Mode only) .....	32
VPN server (Router Mode Only).....	34
LAN .....	36
DHCP Lease (Router Mode only) .....	38
NAT (Router Mode only) .....	39
Route .....	40
Wireless Config.....	41
WPS.....	41
AOSS .....	42
Basic .....	44
Advanced .....	48
WMM.....	49
MAC Filter .....	51
Multicast Control .....	52
WDS.....	53
Security (Router Mode only) .....	55
Firewall (Router Mode only).....	55
IP Filter (Router Mode only).....	57
VPN Pass Through (Router Mode only) .....	58
LAN Config (QoS).....	59
Port Forwarding (Router Mode only).....	59
DMZ (Router Mode only) .....	61
UPnP (Router Mode only).....	62
QoS (Router Mode only).....	63
Movie Engine (QoS).....	65
NAS.....	67
Disk management.....	67
Shared Folder .....	69
User Management .....	71
Shared Service .....	72
Web Access .....	74
Media Server.....	76
BitTorrent.....	77

Admin Config.....	79
Name .....	79
Password .....	80
Time/Date .....	81
NTP .....	82
ECO .....	83
Access .....	85
Log.....	86
Save/Restore .....	87
Initialize/Restart .....	88
Update .....	89
Diagnostic .....	90
System Info .....	90
Logs .....	92
Packet Info.....	93
Client Monitor.....	94
Ping.....	95

## **Chapter 5 Connect to a Wireless Network ..... 96**

---

Automatic Secure Setup (AOSS/WPS).....	96
Windows 7/Vista (Client Manager V) .....	97
Windows XP (Client Manager 3).....	98
Other Devices (e.g. Game Console).....	99
Manual Setup .....	99
Windows 7 (WLAN AutoConfig).....	99
Windows Vista (WLAN AutoConfig) .....	100
Windows XP (Wireless Zero Configuration).....	103

## **Chapter 6 Trouble Shooting ..... 104**

---

Cannot connect to the Internet over wired connection.....	104
Cannot access the web-based configuration utility. ....	104
Cannot connect to the network wirelessly. ....	105

You forgot AirStation’s SSID, Encryption Key, or Password.... 105  
The link speed is slower than 300 Mbps (Maximum link speed is only 150Mbps)..... 105  
Other Tips..... 106

**Appendix A Specifications ..... 109**

**Appendix B Default Configuration Settings..... 111**

**Appendix C TCP/IP Settings in Windows..... 118**

**Appendix D Restoring the Default Configuration..... 121**

**Appendix E Shared Folders and the USB Port..... 122**

**Appendix F Regulatory Compliance Information ..... 124**

**Appendix G Environmental Information..... 130**

**Appendix H GPL Information ..... 131**

**Appendix I Warranty Information..... 132**

# Chapter 1 Product Overview

## Installing Your AirStation

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To install your AirStation, insert the software CD from your package into your computer and follow the directions on the screen. For more information about installation, turn to chapter 3 of this manual.

## Professional or User-friendly?

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This AirStation wireless router comes with two different firmware packages. You may use either the dd-wrt-based Professional firmware or the simple User-friendly firmware. By default, the Professional firmware is installed. Turn to page 26 for instructions on switching between the two firmware packages.

Note : Most of this manual documents the User-friendly firmware. For more information on the dd-wrt-based Professional firmware, consult the help files in its web-based configuration interface or go to [www.dd-wrt.com/wiki](http://www.dd-wrt.com/wiki).

## Features

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

With support for current Wireless-N, Wireless-G, and Wireless-B standards, the AirStation 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 300 Mbps data transmission.

### Support 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 AirStation is equipped with following security features:

- AOSS
- WPS
- WPA-PSK (TKIP/AES)
- WPA2-PSK(TKIP/AES)
- WPA/WPA2 mixed PSK

- WEP (128/64 bit)
- Privacy Separator
- MAC address access restriction
- Deny Any Connection/Stealth SSID
- Password protection for settings
- Firewall 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**

This unit can be easily configured from a web browser on your computer.

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

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

### **MovieEngine**

MovieEngine uses QoS to optimise your network for multimedia streaming. This can reduce jumps, distorted audio, and dropped frames while watching streamed video.

### **NAS (Network Attached Storage)**

Attach a USB hard drive to the AirStation and share it on the network as a NAS. All connected clients can access it.

### **Gigabit Ethernet**

This unit supports gigabit Ethernet, allowing transmission rates of up to a billion bits per second.

## Air Navigator CD Requirements

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The AirStation wireless router and access point works with most wired and wireless devices. However, the automatic installation program on the CD requires a connected Windows 7, Vista or XP computer to run. If you use the AirStation with a different operating system, you will have to configure your network settings manually from a browser window.

## 300 Mbps High Speed Mode

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300 Mbps is the link speed when using Wireless-N mode. It represents actual wireless data speeds, including overhead. Because the overhead is not available for user data transfer, usable wireless throughput will be substantially slower.

## Package Contents

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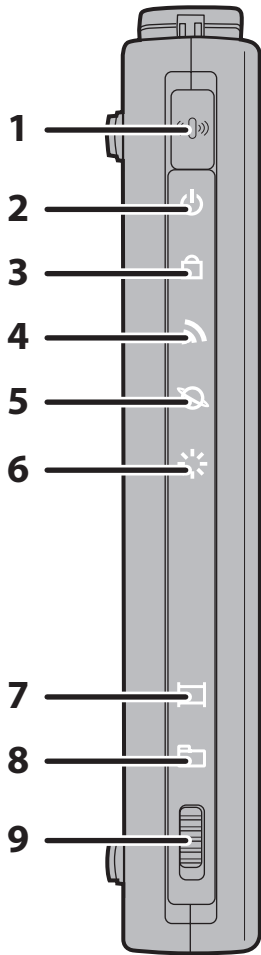
The following items are included in your AirStation package. If any of the items are missing, please contact your vender.

- WZR-HP-G300NH ..... 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 LEDs



### 1 AOSS Button

To initiate AOSS, hold down this button until the Security LED flashes (about 1 second). Then, push or click the AOSS button on your wireless client device to complete the connection. Both devices must be powered on for this to work.

### 2 Power LED (Green)

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

### 3 Security LED (Amber)

Indicates security status.

Off: AOSS or Encryption is not set.

On: AOSS/WPS activated; accessed to exchange security keys.  
Encryption has been set.

2 blinks: The unit is waiting for an AOSS or WPS security key.

Blinking: AOSS/WPS error; failed to exchange security keys.

Note: The Security LED is lit if an encryption key has been set.

### 4 Wireless LED (Green)

Indicates wireless LAN status.

On: Wireless LAN is transmitting.

Off: Wireless LAN is connected but not active.

### 5 Router LED (Green)

On: Router functionality is enabled.

Off: Router functionality is disabled.

- 6 Diag LED (Red)** This indicates the status of this unit depending on 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 * <sup>1</sup>	Flash ROM error	Cannot read or write to the flash memory.
3 blinks * <sup>1</sup>	Ethernet (wired) LAN error	Ethernet LAN controller is malfunctioning.
4 blinks * <sup>1</sup>	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 * <sup>2</sup>	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.

## 7 Movie Engine On LED (Blue)

- On: Movie Engine functionality is enabled.  
 Off: Movie Engine functionality is disabled.

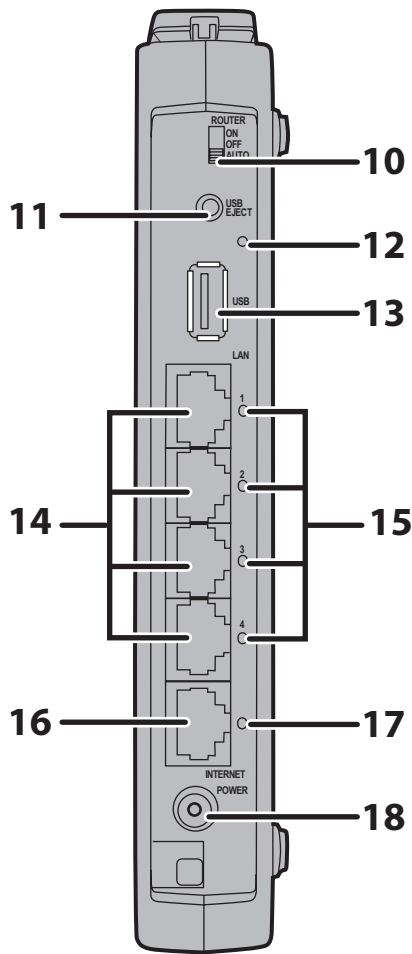
## 8 Movie Engine Off LED (Blue)

- On: Movie Engine functionality is disabled.  
 Off: Movie Engine functionality is enabled.

## 9 Movie Engine Switch

- Switches the movie engine function between enabled and disabled.  
 On: Movie Engine functionality is enabled.  
 Off: Movie Engine functionality is disabled.

## Back Panel



### 10 Router Switch

Switches router mode between enabled, disabled, and auto.

On: Router functionality is enabled (router mode).

Off: Router functionality 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.

### 11 USB Eject Button

To dismount a USB hard drive, hold down this button until the USB LED flashes (about 3 seconds). The USB drive can then be unplugged safely.

### 12 USB LED (Blue)

On: The USB disk is connected.

Flashing: The USB disk can be removed.

Off: The USB disk is not connected.

Note: Never disconnect the USB disk or turn off the unit, while the USB LED lights up.

### 13 USB Port

Connect the USB drive.

Note: Refer to the technical restriction on page 122.

### 14 LAN Port

Connect your computer, hub, or other Ethernet devices to these ports. This switching hub supports 10Mbps, 100Mbps, and 1000Mbps connections.

### 15 LAN LED (Green)

On: An Ethernet device is connected.

Flashing: An Ethernet device is communicating.

**16 Internet Port**      10Mbps, 100Mbps, and 1000Mbps connections are supported.  
Note: In bridge/AP mode (router switch off), the Internet port becomes a regular LAN port, for a total of 5 usable LAN ports.

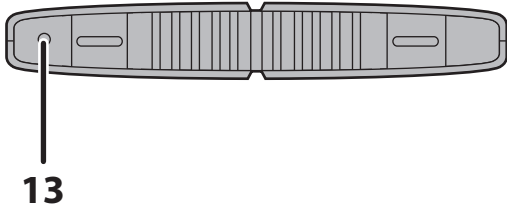
**17 Internet LED (Green)**

On:            The Internet port is connected.

Flashing:    The Internet port is transmitting data.

**18 DC Connector**      Connect the included AC adapter here.

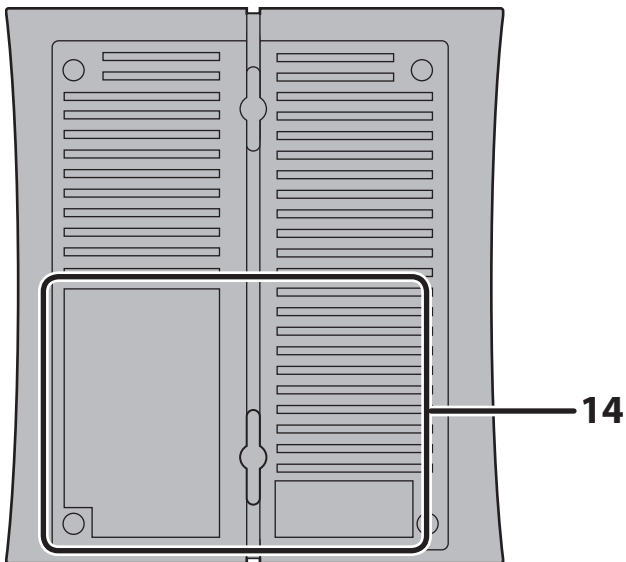
## Bottom



### 13 Reset Button

To reset all settings, hold down this button until the Diag LED comes on (about 3 seconds). Power must be on.

## 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.

### 14 Factory Default Settings

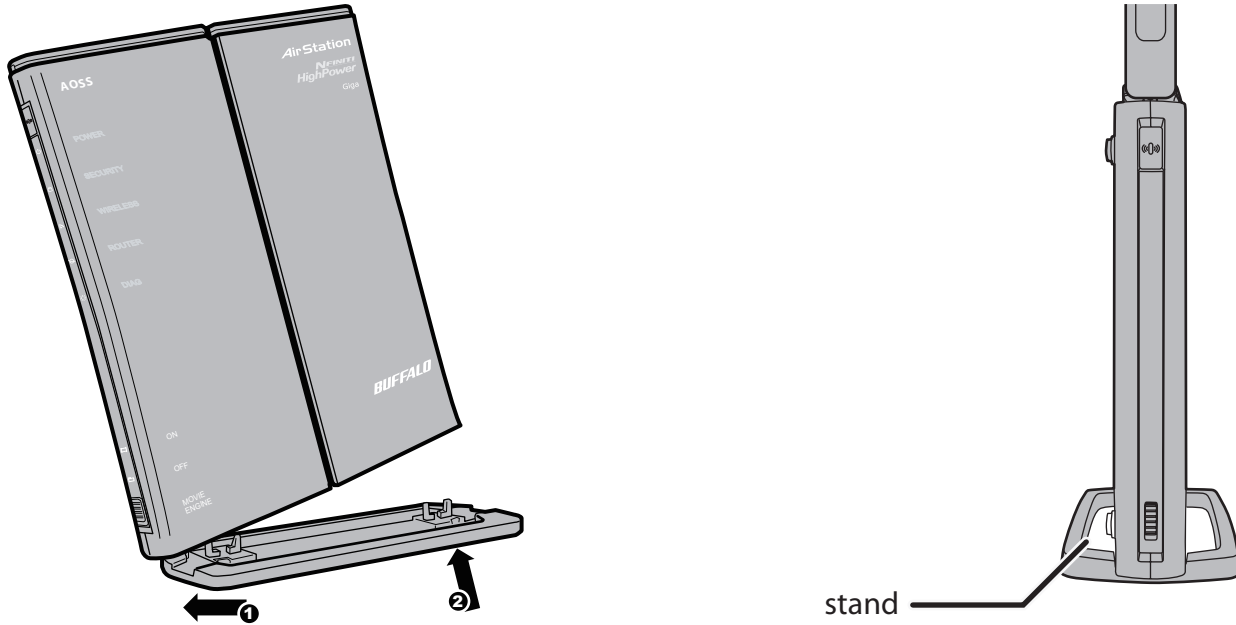
This sticker shows the AirStation's SSID, default encryption key, and WPS PIN code. Encryption key is blank if encryption is disabled in default settings.

# Chapter 2 Placing Your AirStation

## Vertical Placement

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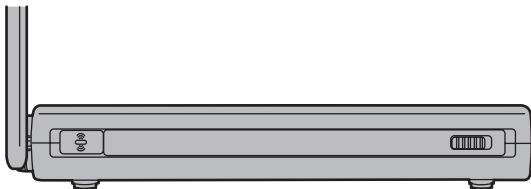
If the AirStation is to be placed vertically, attach the stand as shown.



## Horizontal Placement

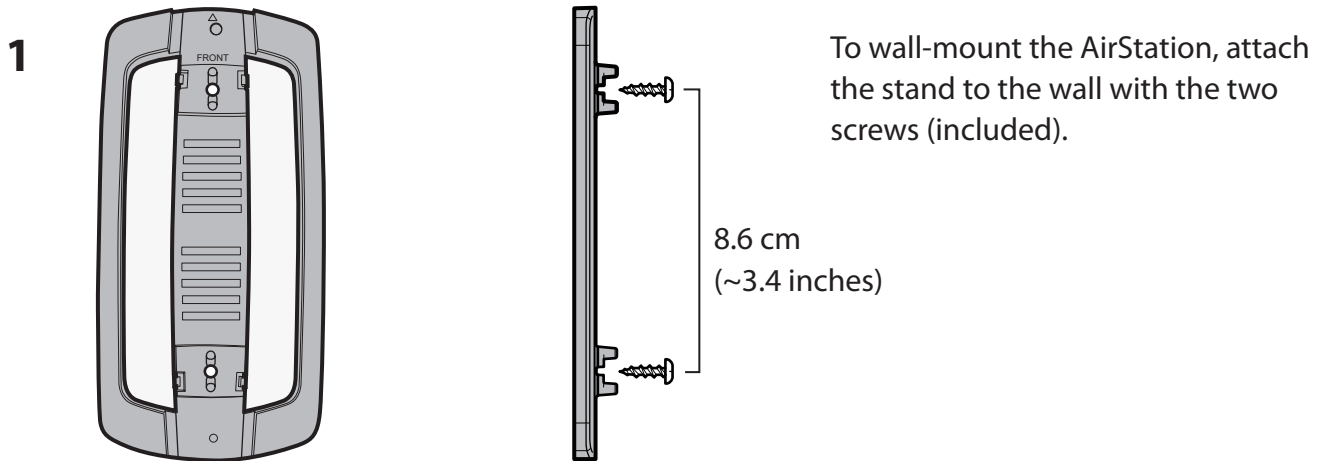
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The stand is not used if the AirStation is placed horizontally.

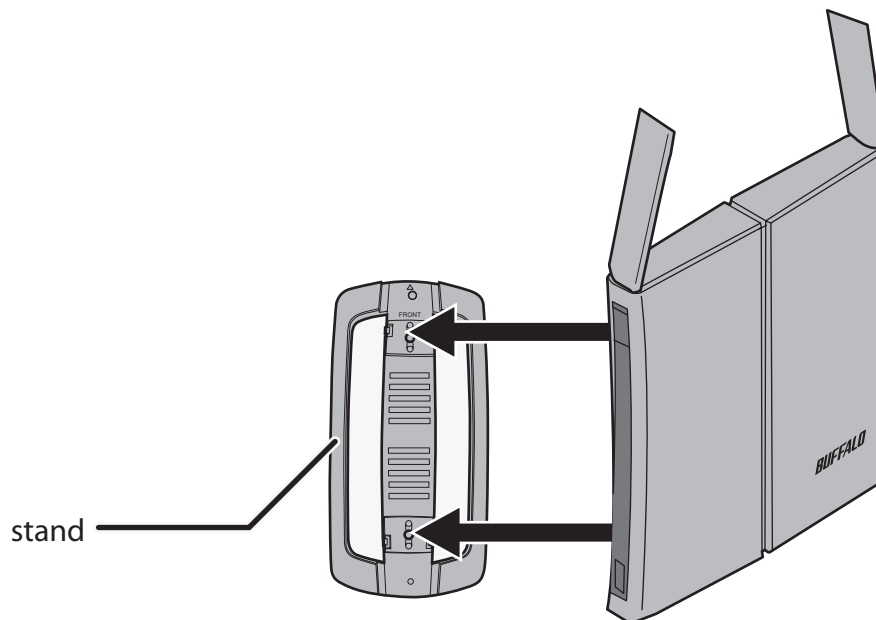


## Wall-Mounting

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**2** Snap the center of the AirStation to the stand as shown.



# Chapter 3 Installation

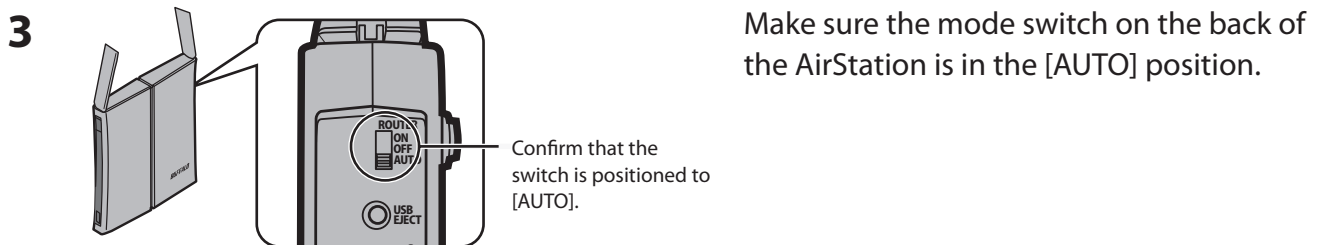
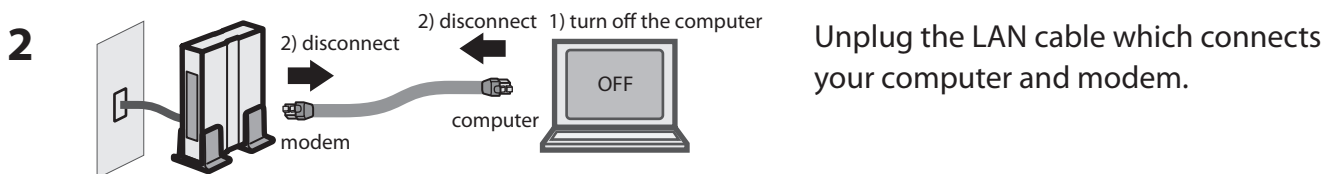
## CD Setup

The AirNavigator CD can step you through installing your AirStation. To step through the setup program, insert the CD into your Windows 7/Vista/XP PC and follow the instructions on the screen. If your computer uses a different operating system, use manual setup instead.

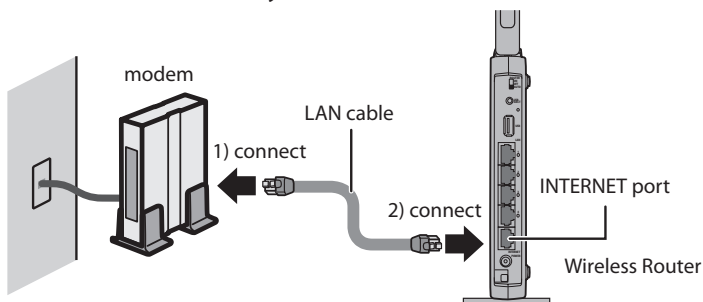
## Manual Setup

To configure your AirStation manually, follow the procedure below.

- 1 Turn off your computer and modem.

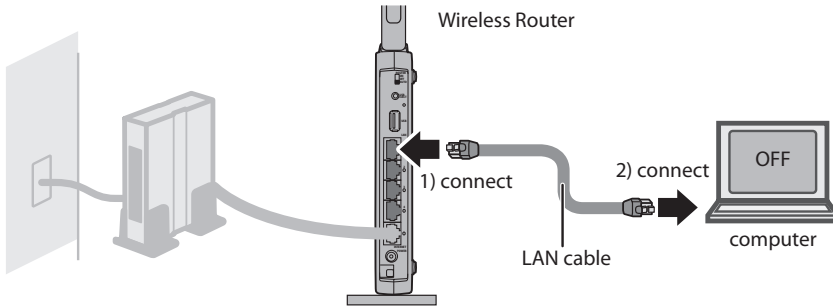


- 4 Plug one end of the LAN cable into your modem and the other side to the Internet port of the AirStation. Turn on your modem.

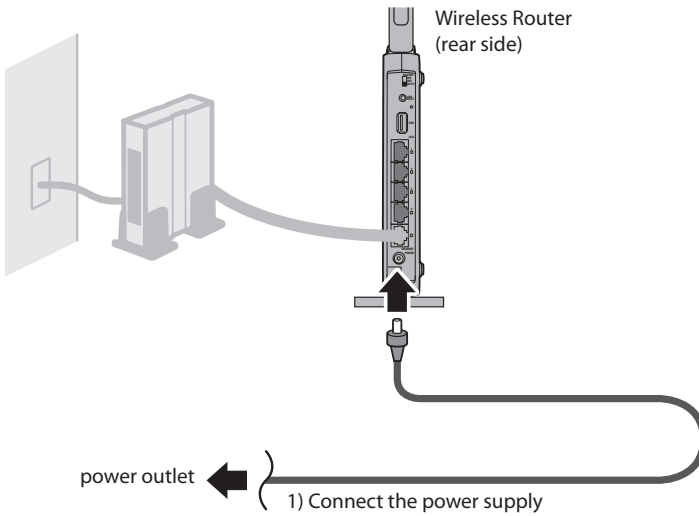




**5** Connect your computer to one of the AirStation's LAN ports with the LAN cable.



**6** Turn on the AirStation, wait one minute, and then turn on your computer.



**7** Once your computer has booted, 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.

For LED locations, refer to chapter 1.

**8** Launch a web browser. If the [home] setup 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]. Step through the wizard to complete setup.

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

## Firmware Differences

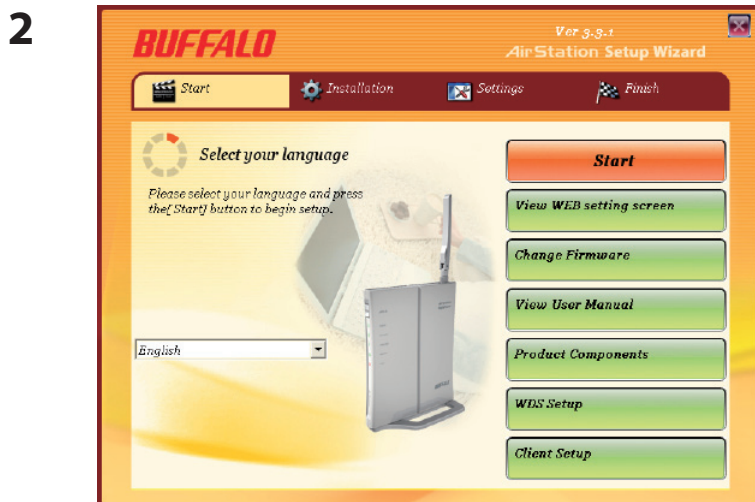
You can choose between two different firmwares for your AirStation. By default, the Professional firmware (DD-WRT) is installed. If you prefer, you may install the User-friendly firmware instead. The two firmwares have slightly different features, as shown in the chart below.

Function	Professional firmware (DD-WRT)	User-friendly firmware
Router switch function	—	✓
Default administrator name	root	root (fixed)
Default administrator password	admin	none
AOSS	✓	✓
WPS	—	✓
WDS	✓	✓

## Changing Firmware

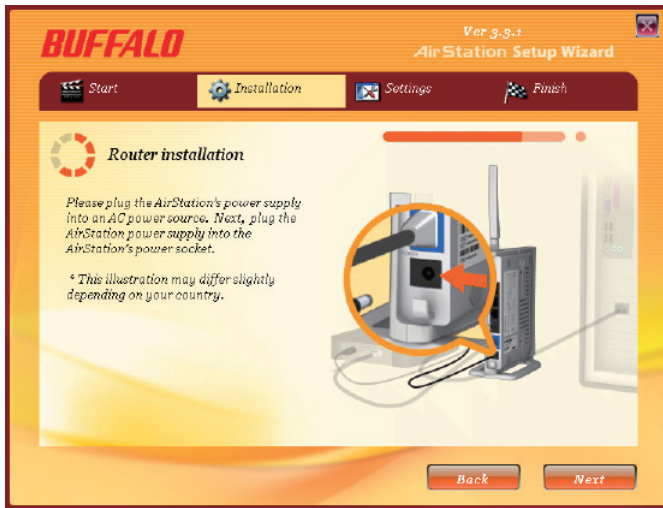
To change between the Professional firmware (DD-WRT) and the User-friendly firmware, follow the steps below.

- 1 Insert the AirNavigator CD into your computer. The setup wizard will automatically launch.  
Note: If the Setup Wizard does not launch, open the CD and double-click [ASSetWiz.exe] to launch manually.



Click [Change Firmware].

3



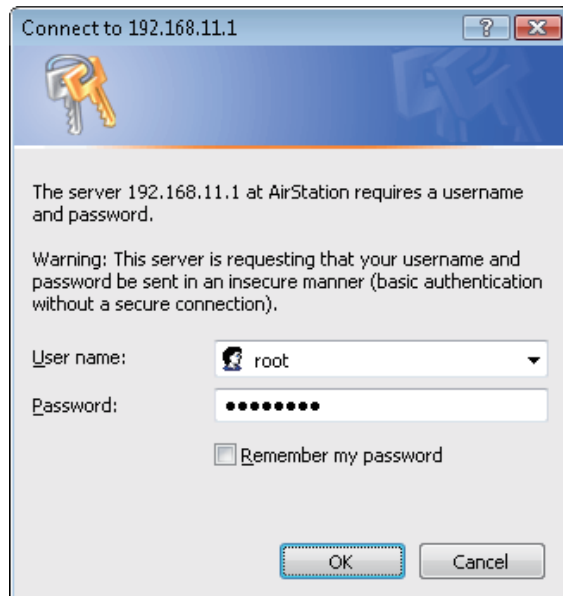
The procedure for wiring will be displayed. Step through the wizard to connect your AirStation.

4



When this screen is displayed, click [Change Firmware].

5



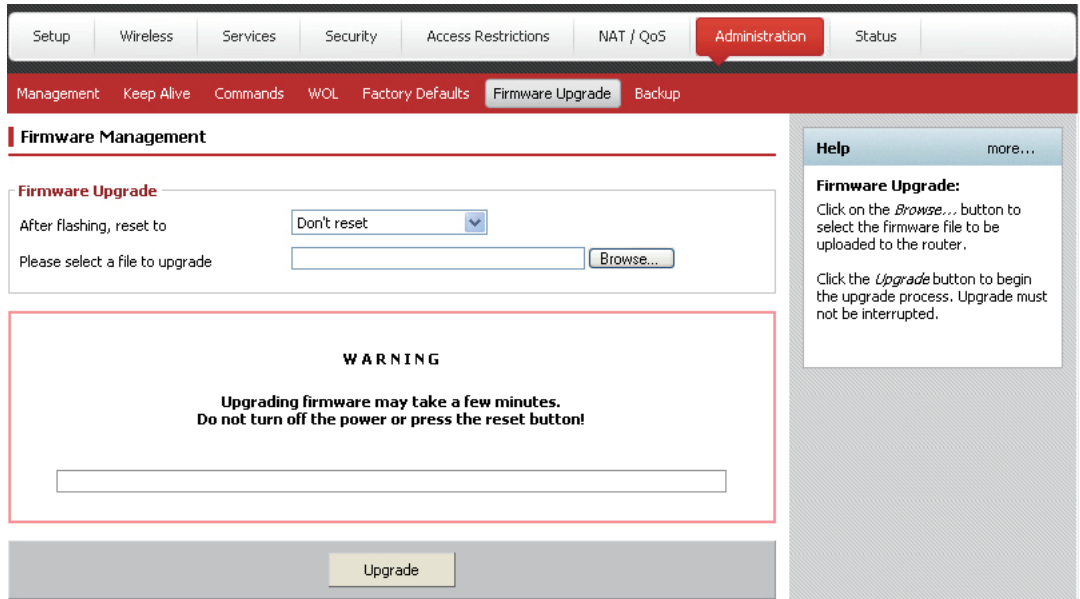
If requested, enter the AirStation's username and password.

Note: By default, the Professional firmware doesn't have a username and a password configured. Set them before you go to the next step.

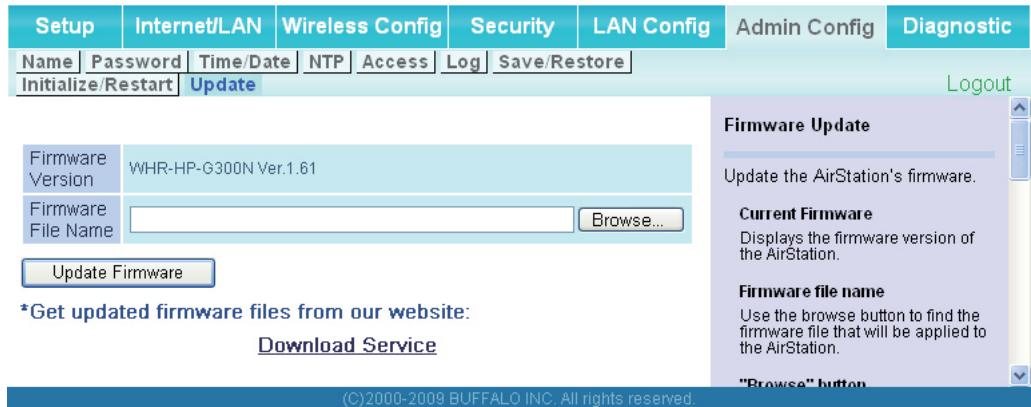
- When the following screen is displayed, make sure that the firmware file name is displayed, click [Update] or [Update Firmware], and follow the instructions on the screen.

Note: If the firmware name is not displayed on the screen, click [Browse...] and select the desired firmware. Firmware files are in the root directory on the AirNavigator CD.

**Professional firmware (DD-WRT) update screen:**



**User-friendly firmware update screen:**



## About this User Manual

This user manual is primarily for AirStations with the User-friendly firmware. For more information on the Professional firmware (DD-WRT), refer to the WZR-HP-G300NH Professional Firmware user manual or to [www.dd-wrt.com/wiki](http://www.dd-wrt.com/wiki).

# Chapter 4 Configuration

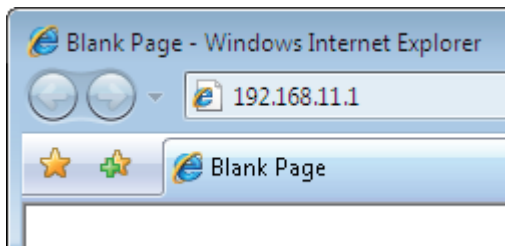
The web-based configuration tool lets you change advanced settings for the AirStation. Don't change these settings unless you know what you're doing.

## How to Access the Web-Based Configuration Utility

To configure the AirStation's advanced settings manually, log in to the web-based configuration utility as shown below.

**1** Launch a web browser.

**2**



Enter the AirStation'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 in bridge mode, then the AirStation's IP address was assigned by an external DHCP server.
  - If you changed the IP address of the AirStation, then use the new IP address.

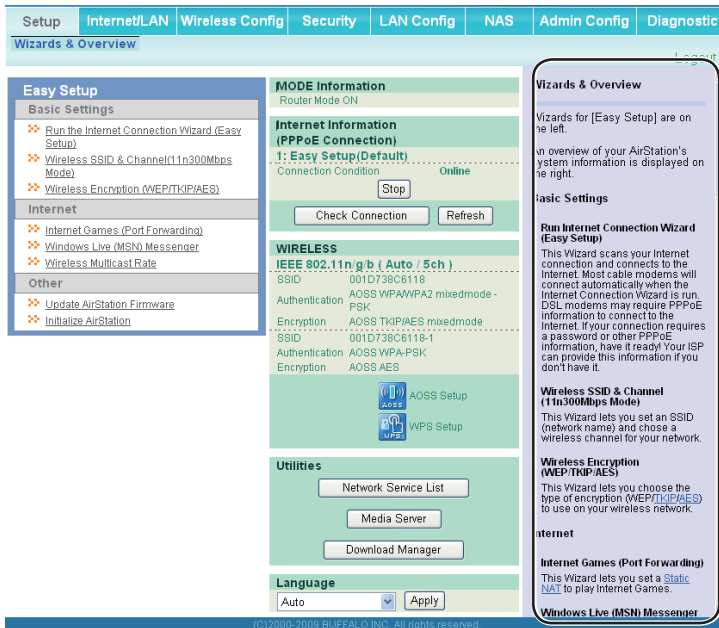
**3**



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 12) to initialize all settings. The password will then be blank. Note that all other settings will also revert to their default values.

4



This is the configuration utility, where most AirStation settings can be configured.

Help is always displayed on the right side of each screen. Refer to the Help screens for more information on using the configuration utility.

Note : This example, like others in this manual, shows the User-friendly firmware. The dd-wrt based Professional firmware is somewhat different. For more information on the Professional firmware, visit dd-wrt's website at [www.dd-wrt.com](http://www.dd-wrt.com).

## Configuration Utility Menus in Router Mode

The menu structure for the AirStation in router mode is as follows. Please refer to the pages listed at right for explanations of each item.

Main screen	Descriptions	Page
<b>Internet/LAN</b>		
Internet	Configure Internet side port and settings.	Page 28
PPPoE	PPPoE settings (DSL login).	Page 29
DDNS	DNS settings.	Page 32
VPN Server	VPN server settings.	Page 33
LAN	LAN side port configuration.	Page 36
DHCP Lease	DHCP lease settings.	Page 38
NAT	Network address translation settings, used to connect LAN side devices to the Internet.	Page 39
Route	Configure the AirStation's IP communication route.	Page 40
<b>Wireless Config</b>		
WPS	WPS settings and status.	Page 41
AOSS	AOSS (AirStation One-touch Secure System) settings and status.	Page 42
Basic	Configure basic wireless settings.	Page 44
Advanced	Configure advanced wireless settings.	Page 48
WMM	Set priorities for Wireless Multimedia Extensions (Wi-Fi Multimedia).	Page 49
MAC Filter	Limit access to specific devices.	Page 51
Multicast Control	Configure limits on sending unnecessary multicast packets to the wireless LAN port.	Page 52
WDS	Configure communication among AirStation	Page 53
<b>Security</b>		
Firewall	Protect your computer from outside intruders.	Page 55
IP Filter	IP filters for packets passing through the LAN side and the Internet side.	Page 57
VPN Passthrough	Configure IPv6 passthrough, PPPoE passthrough, and PPTP passthrough.	Page 58
<b>LAN Config</b>		
Port Forwarding	Configure port translation and exceptions for games and other programs.	Page 59

DMZ	Configure a destination to transfer communication packets without a LAN side destination.	Page 61
UPnP	Configure UPnP (Universal Plug and Play).	Page 62
QoS	Configure priority for packets that require a guaranteed data flow.	Page 63
Movie Engine	Configure options for the Movie Engine feature.	Page 62
<b>NAS</b>		
Disk Management	View the status and configure of attached USB disks.	Page 67
Shared Folder	Set the USB disk to use as shared folders.	Page 69
User Management	Configure users to access shared folders.	Page 71
Shared Service	Configure shared folder access.	Page 72
Web Access	Configure Web Access.	Page 71
Media Server	Configure a Media Server.	Page 76
BitTorrent	Configure a BitTorrent client.	Page 77
<b>Admin Config</b>		
Name	Configure the AirStation's name.	Page 79
Password	Configure the AirStation's login password for access to the configuration utility.	Page 80
Time/Date	Configure the AirStation's internal clock.	Page 81
NTP	Configure the AirStation to synchronize with an NTP server to automatically set the AirStation's internal clock.	Page 82
ECO	Configure the AirStation's ECO Mode.	Page 83
Access	Configure access restrictions to the AirStation's configuration screens.	Page 85
Log	Configure a syslog server to manage the AirStation's logs.	Page 88
Save/Restore	Save or restore the AirStation's configuration from a configuration file.	Page 87
Initialize/Restart	Initialize the AirStation or reboot it.	Page 88
Update	Update the AirStation's firmware.	Page 89
<b>Diagnostic</b>		
System Info	View current system information for the AirStation.	Page 90
Logs	Check the AirStation's logs.	Page 92
Packet Info	View all packets transferred by the AirStation.	Page 93
Client Monitor	View all devices currently connected to the AirStation.	Page 94
Ping	Test the AirStation's connection to other devices on the network.	Page 95
<b>Logout</b>		
Click this to log out of the AirStation's configuration screens.		



## Configuration Utility Menus in Bridge Mode

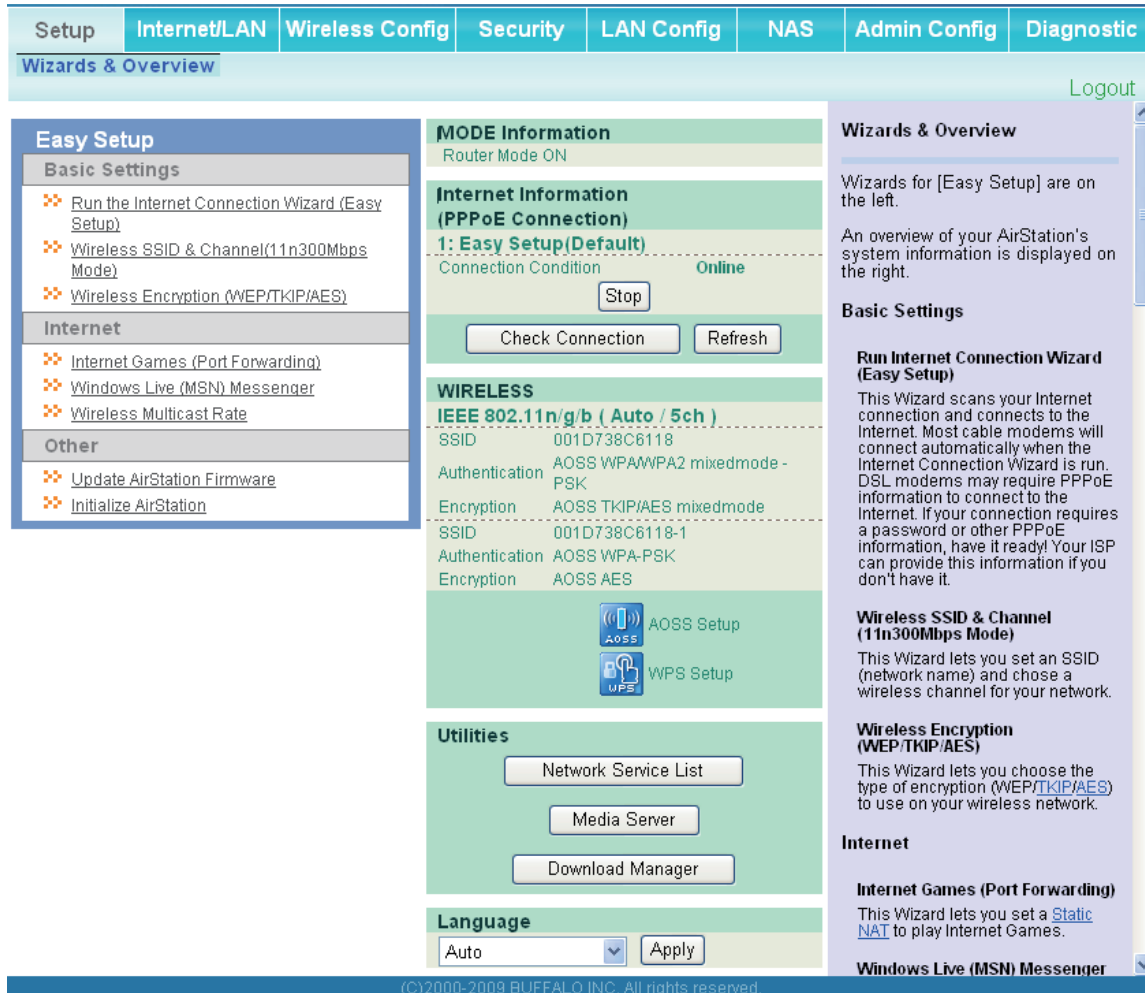
The menu structure in bridge mode is as follows. Please refer to the pages listed at right for explanations of each item.

Main screen	Descriptions	Page
<b>LAN Config</b>		
LAN	Configure LAN side ports and devices.	Page 36
Route	Configure the AirStation's IP communication route.	Page 40
<b>Wireless Config</b>		
WPS	WPS settings and status.	Page 41
AOSS	AOSS (AirStation One-touch Secure System) settings and status.	Page 42
Basic	Configure basic wireless settings.	Page 44
Advanced	Configure advanced wireless settings.	Page 48
WMM	Set priorities for Wireless Multimedia Extensions (Wi-Fi Multimedia).	Page 49
MAC Filter	Limit access to specific devices.	Page 51
Multicast Control	Configure limits on sending unnecessary multicast packets to the wireless LAN port.	Page 52
WDS	Configure communication among AirStation	Page 53
<b>QoS</b>		
Movie Engine	Configure options for the Movie Engine feature.	Page 65
<b>NAS</b>		
Disk Management	View the status and configure of attached USB disks.	Page 67
Shared Folder	Set the USB disk to use as shared folders.	Page 69
User Management	Configure the name to access shared folders.	Page 71
Shared Service	Configure the name to access shared folders.	Page 72
Web Access	Set to use the Web Access function.	Page 74
Media Server	Set to use the Media Server function.	Page 76
BitTorrent	Set to use the BitTorrent function.	Page 77
<b>Admin Config</b>		
Name	Configure the AirStation's name.	Page 79
Password	Configure the AirStation's login password for access to configuration screens.	Page 80
Time/Date	Configure the AirStation's internal clock.	Page 81

NTP	Configure the AirStation to synchronize with an NTP server to automatically set the AirStation's internal clock.	Page 82
ECO	Configure the AirStation's ECO Mode.	Page 83
Access	Configure access restrictions to the AirStation's configuration screens.	Page 85
Log	Check the AirStation's logs.	Page 86
Save/Restore	Save or restore the AirStation's configuration from a configuration file.	Page 87
Initialize/Restart	Initialize the AirStation or reboot it.	Page 88
Update	Update the AirStation's firmware.	Page 89
Diagnostic		
System Info	View current system information for the AirStation.	Page 90
Logs	Check the AirStation's logs.	Page 92
Packet Info	View all packets transferred by the AirStation.	Page 93
Client Monitor	View all devices currently connected to the AirStation.	Page 94
Ping	Test the AirStation's connection to other devices on the network.	Page 95
Logout		
Click this to log out of the AirStation's configuration screens.		

# Setup

Setup is the home page of the configuration utility. You can verify settings and the status of the AirStation here.



Parameter	Meaning
Internet/LAN (LAN Config)	Displays the configuration screen for the Internet port and LAN ports.
Wireless Config	Click this button to display the configuration screen for wireless settings.
Security	Click this button to display the configuration screen for security.
LAN Config	Click this button to display the configuration screen to open ports for games and applications.

---

<b>Parameter</b>	<b>Meaning</b>
NAS	Click this button to display the configuration screen for NAS settings.
Admin Config	Click this button to display the configuration screen for administration settings.
Diagnostic	Click this button to display the status of the AirStation.
Easy Setup	Enables you to easily configure the AirStation's network settings automatically.
Internet Information	Displays WAN-side system information for the AirStation.
Check Connection	Click this button to check if the AirStation is connected to the Internet properly.
Refresh	Click this button to refresh the current screen.
WIRELESS	Displays the current wireless settings.
AOSS Setup	Click this button to display the AOSS configuration screen.
WPS Setup	Click this button to display the WPS configuration screen.
Network Service List	Displays the list of the network devices for which information is provided from the network on the LAN-side.
Media Server	Displays the status of the media server.
Download List	Displays the list of BitTorrent files downloading.
Language	Enables you to select the language you use.
Logout	Log out from the configuration screen of the AirStation. If the AirStation does not communicate for 5 minutes, it will log out automatically.

---

# Internet/LAN (LAN Config)

## Internet (Router Mode only)

Configure a WAN-side port.

Setup | Internet/LAN | Wireless Config | Security | LAN Config | NAS | Admin Config | Diagnostic

Internet | PPPoE | DDNS | VPN Server | LAN | DHCP Lease | NAT | Route

Logout

As for the IP address acquisition method, "Perform Easy Setup (Internet Connection Wizard)" is set up.

To set up PPPoE, [click here](#).

---

**Advanced Settings**

Default Gateway	<input type="text"/>
Address of DNS Name Server	Primary: <input type="text"/>
	Secondary: <input type="text"/>
Internet MAC Address	<input checked="" type="radio"/> Use Default MAC Address(00:1D:73:8C:61:18) <input type="radio"/> Use this address <input type="text"/>
MTU Size of Internet Port	<input type="text" value="1500"/> Bytes

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**Internet Ethernet Settings**

Configuring your [Internet](#) side port:

Normally, you'll connect the [Internet](#) side port to an external network such as the internet.

**Method of Acquiring IP Address**

Select one of the following methods to acquire a [Internet port IP Address](#). Please ask your [Provider](#) for any other information about your line format. If you're not sure which method to choose, try selecting Easy Setup. You can confirm status of the current [Internet](#) side [IP Address](#) on the System Information screen. This setting can only be changed when the hardware mode switch on the AirStation is set to [ROUTER ON].

**Perform Easy Setup (Internet Connection Wizard)**

The Easy Setup scans your [Internet](#) connection and determines a new internet

Parameter	Meaning
Method of Acquiring IP Address	Specify how the WAN-side IP address is obtained.
Default Gateway	Configure 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	Configure the MTU value of the Internet port. Values of 578 to 1500 bytes may be entered.

## PPPoE (Router Mode only)

Configure PPPoE settings.

Parameter	Meaning
Default PPPoE Connection	If you have registered multiple connection destinations in the 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 settings.
IP Unnumbered PPPoE Connection	Select the destination from the PPPoE Connection List which is used when specifying [Use IP Unnumbered] in Method of Acquiring IP Address (page 28).
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	This is displayed when [Edit Connection List] is clicked.  <b>Name of Connection</b> Enter the name to identify the connected destination. You may enter up to 32 alphanumerical characters and symbols.  <b>User Name</b> Enter the user name specified by your ISP for PPPoE certification. You may enter up to 32 alphanumerical characters and symbols.  <b>Password</b> Enter the password specified by your ISP for PPPoE certification. You may enter up to 32 alphanumerical characters and symbols.  <b>Service Name</b> Fill in this field only if your ISP 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.  <b>Automatic disconnection</b> Set time to disconnect after communication is stopped when the connection method is set to [Connect on Demand] or [Manual]. 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 for PPPoE. Values of 578 to 1500 bytes may be entered..  <b>MRU Size</b> Configure MRU (Maximum Receive Unit) for PPPoE. Values of 578 to 1492 may be entered.

---

Parameter	Meaning
PPPoE Connection No. *-Add	<b>Keep Alive</b> If Keep Alive is enabled, then the AirStation will issue an LCP echo request once a minute in order to maintain the connection with the PPPoE. If the server does not respond for more than 6 minutes, the line is recognized as disconnected and the AirStation will terminate the connection. [Disabled] is the recommended setting.
Preferred Connections	Displays information you have set regarding to the connection destination route.
[Edit Preferred Connections]	Click to edit the connection destination route settings.
Preferred PPPoE Connection -Add	Click [Edit Preferred Connections] to display. <b>Name</b> The destination to connect by PPPoE if [Destination address] and [Source address] match. Select the destination registered to the PPPoE Connection List. <b>Destination address</b> When communicating to this address, the AirStation will communicate with [Name of Connection]. <b>Source address</b> When communicating from this address, the AirStation will communicate with [Name of Connection].

---



## DDNS (Router Mode only)

Configure Dynamic DNS settings. Many settings are only available when the appropriate Dynamic DNS service is enabled.

Dynamic DNS Service:

Current Dynamic DNS Information	
Internet Side IP Address	192.168.1.209
Domain Name	Disabled
Status	Disabled

**Dynamic DNS Settings**

Dynamic DNS Setup. Before configuring this settings, you need to sign up for a dynamic DNS service provider.

**Dynamic DNS Service**  
Select a dynamic DNS service provider. You can select "DynDNS" or "TZO".

- DynDNS
- TZO

The following values are different depending on your dynamic DNS service provider.

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

---

<b>Parameter</b>	<b>Meaning</b>
IP Address Update Period	Specifies the period to notify the dynamic DNS service provider of the current IP address. For DynDNS, set it between 0 and 35 days. For TZO, set it between 0 and 99 days. If 0 (zero) days 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	Display the status of dynamic DNS service.

---

## VPN server (Router Mode Only)

Configure the VPN server.

Setup	Internet/LAN	Wireless Config	Security	LAN Config	NAS	Admin Config	Diagnostic
Internet	PPPoE	DDNS	VPN Server	LAN	DHCP Lease	NAT	Route

[Logout](#)

**The LAN side IP address is set to 192.168.11.1.  
Therefore, a PC connected to BUFFALO's router may be unable to access to the PC on the LAN.  
The LAN side IP address and DHCP IP address pool should be changed.**

Auto Input	<input type="button" value="Generate Recommended IP Address"/>	
LAN Side IP Address	IP Address	<input type="text" value="192.168.11.1"/>
	Subnet Mask	<input type="text" value="255.255.255.0"/>
DHCP Server Function	<input checked="" type="checkbox"/> Enable	
DHCP IP Address Pool	<input type="text" value="192.168.11.2"/> for up to	<input type="text" value="64"/> Address(es)
PPTP Server Function	<input type="checkbox"/> Enable	
Authorization Type	<input type="text" value="MS-CHAPv2 (40/128-bit Encryption)"/>	

**[Advanced Settings]**

Server IP Address	<input checked="" type="radio"/> Auto	<input type="text"/>
	<input type="radio"/> Manual	<input type="text"/>
Client IP Address	<input checked="" type="radio"/> Auto	<input type="text"/> for up to 5 address(es)
	<input type="radio"/> Manual	<input type="text"/>
DNS Server IP Address	<input checked="" type="radio"/> LAN IP address of the AirStation	
	<input type="radio"/> Manual	<input type="text"/>
	<input type="radio"/> Do Not Specify	
WINS Server IP Address	<input type="text"/>	

---

**PPTP User List**

User Name	Connection Condition	IP Address	Operation
No registered users			

**VPN Server Settings**

By using the PPTP server function it is possible to access the AirStation from the Internet and the LAN from a Windows PPTP client.

**Note**  
If using GRE protocol (protocol no.47) and no.1732 TCP port filtering, then this function may not work correctly. Also, be aware that if a router on the Internet side has these protocols blocked, then this function cannot be used.

**Auto Input**  
Click this button to generate a random IP address with a small possibility of overlapping with IP addresses of other Buffalo routers.

**LAN Side IP Address**  
Configure the AirStation's LAN IP Address. The default is 192.168.11.1. If you want to connect the AirStation to an existing LAN, specify a unique, unused IP Address from the LAN's range of IP addresses.

**Subnet Mask**  
Select the AirStation's LAN side Subnet Mask. The default is 255.255.255.0. If you want to connect the AirStation to an existing LAN, specify the Subnet Mask the LAN uses.

**DHCP Server Function**  
Enable the DHCP Server here. The default is enabled. If there is another DHCP server on the network, one DHCP server must be disabled or the IP ranges must be changed to avoid conflicts caused by overlapping DHCP scopes. If DHCP Server is enabled, confirm DHCP IP Address Pool doesn't overlap existing IP Addresses in the LAN segment.

**DHCP IP Address Pool**  
This determines the IP Address range from which IP addresses will be distributed to DHCP clients (both wired and wireless). Enter the starting IP address and the number of connections to be allowed. The default start address

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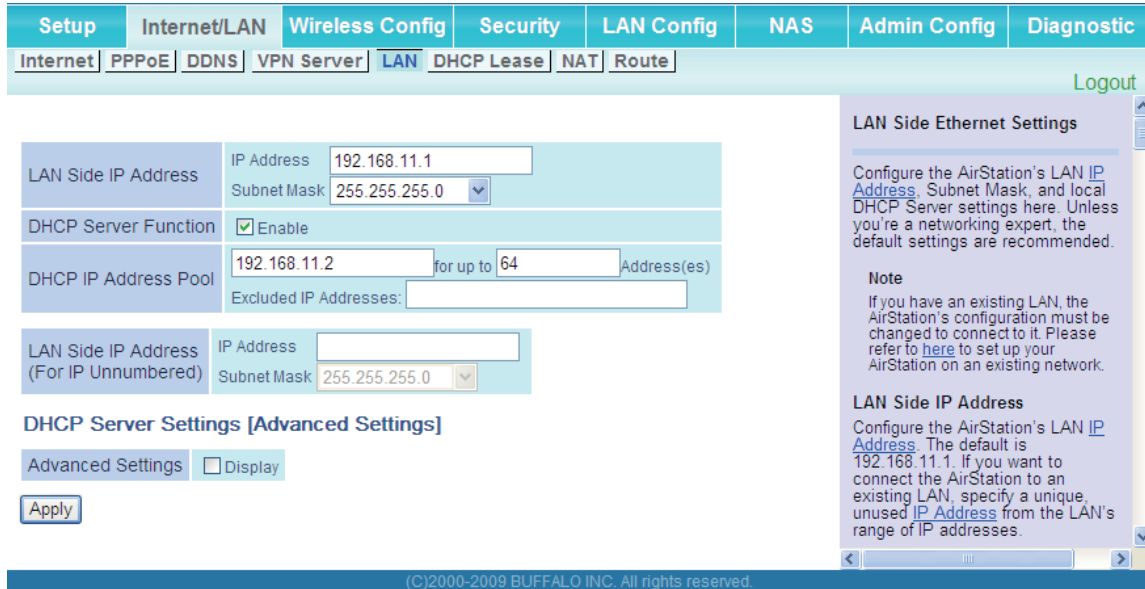
---

<b>Parameter</b>	<b>Meaning</b>
Auto Input	Click to generate a random IP address.
LAN Side IP Address	Set a LAN side IP address and subnet mask.
DHCP Server	Enable or disable the DHCP server, which assigns IP addresses automatically.
DHCP IP Address Pool	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.
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 IP address is assigned to the PPTP client.
PPTP User List	Displays the PPTP connection user information.

---

# LAN

Configure LAN-side settings.



Parameter	Meaning
LAN Side IP Address	By default, the LAN side IP address is 192.168.11.1 with subnet mask 255.255.255.0. You may change it here.
DHCP Server Function	Enable or disable the DHCP server, which assigns LAN-side IP addresses automatically.
DHCP IP Address Pool	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 (For IP Unnumbered)	Set an IP unnumbered LAN side IP address. Note: A PC with a normal LAN side IP address and a PC with an IP Unnumbered IP address cannot communicate each other.
Advanced Settings	Check [Display] to display DHCP server advanced settings options.
Lease Period	Set the effective period of an IP address assigned by the DHCP server. Up to 999 hours may be entered.
Default Gateway	Set the default gateway IP address for the DHCP server to issue to clients.

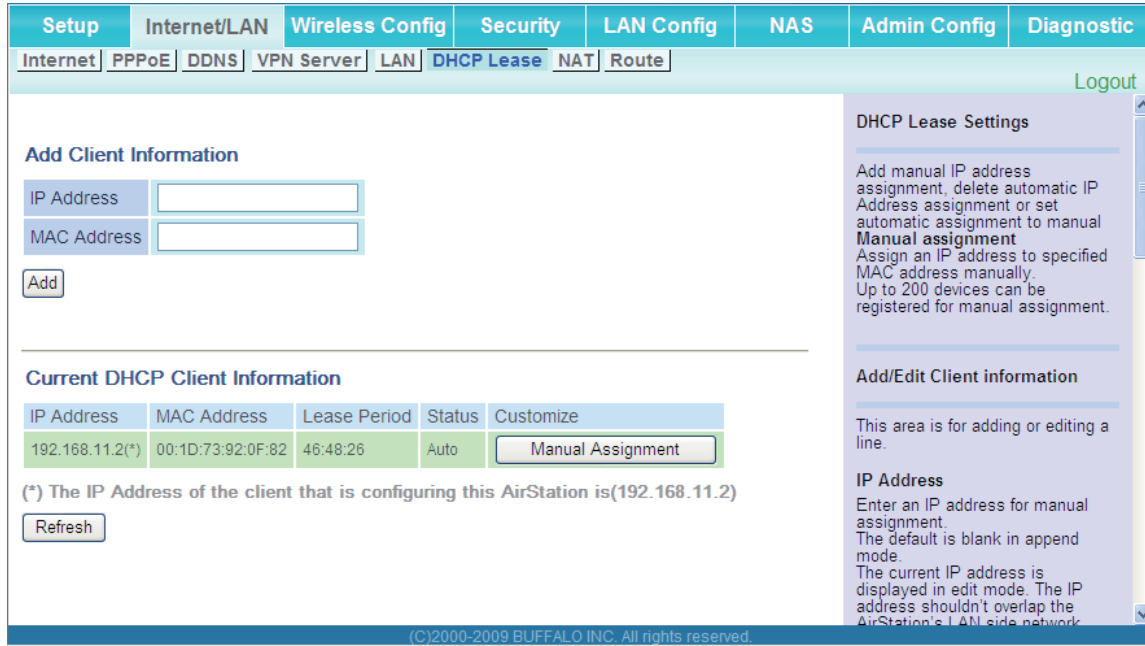
---

<b>Parameter</b>	<b>Meaning</b>
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)

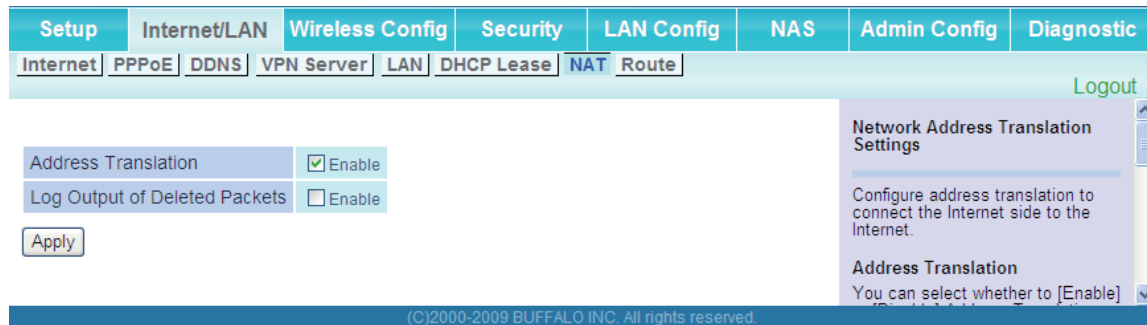
Configure DHCP Exceptions.



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 [Manual Assignment].

## NAT (Router Mode only)

Configure network address translation settings. This enables LAN-side devices to communicate with the Internet.

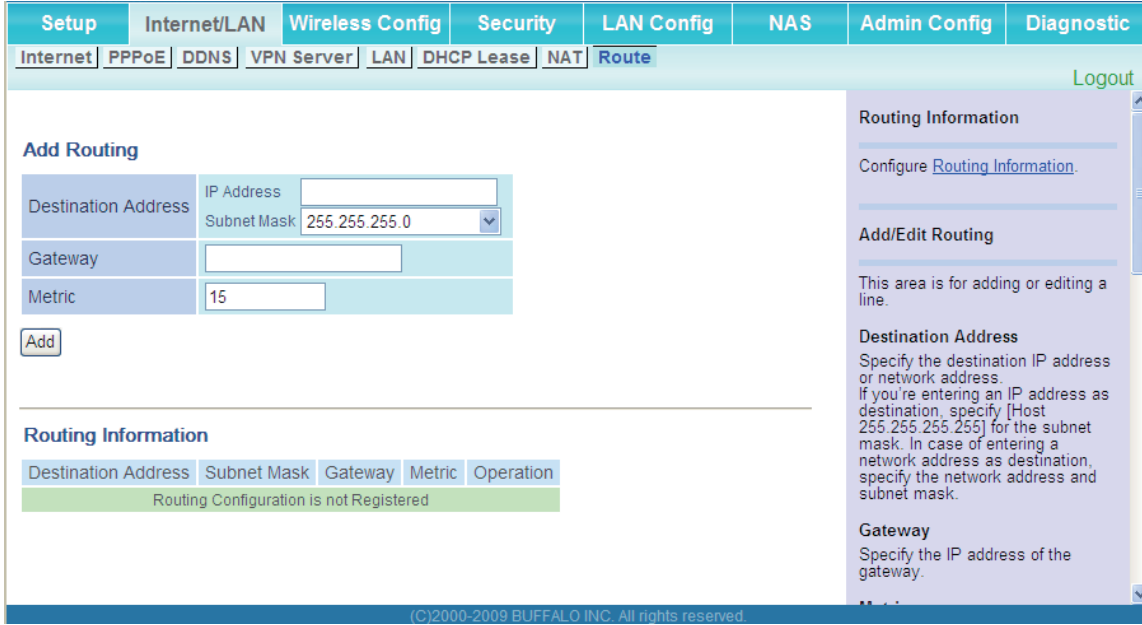


Parameter	Meaning
Address Translation	Enable to use Network Address Translation.
Log Output of Deleted Packets	Enable to log deleted packets (such as errors) during address translation.



## Route

Configure the AirStation’s IP communication route.

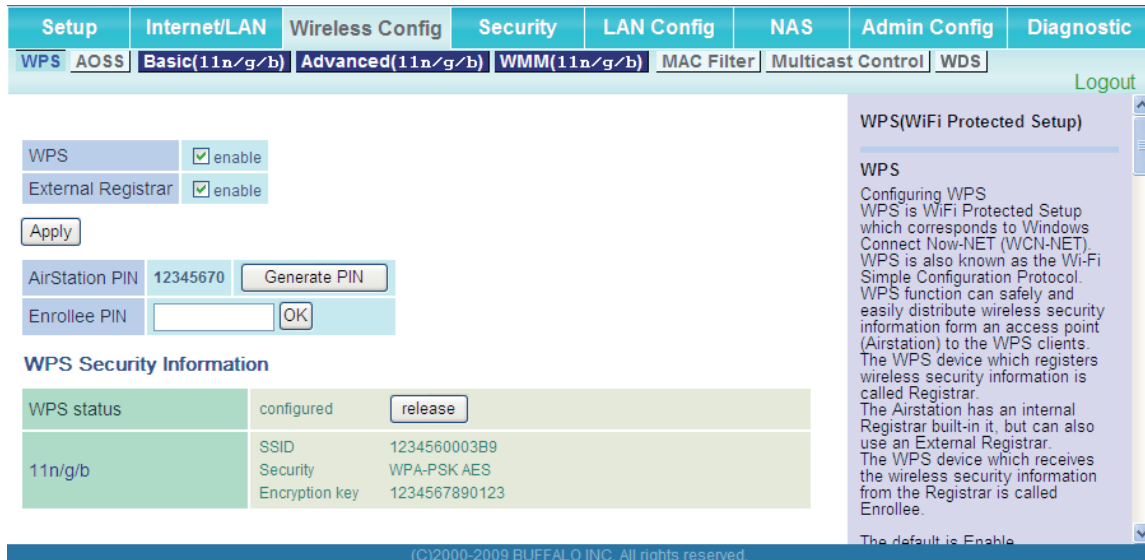


Parameter	Meaning
Destination Address	Adds a destination IP address and subnet mask to a routing table.
Gateway	Adds a gateway address to a routing table.
Metric	The metric is the maximum number of router hops a packet may take on the way to its destination address. Values between 1 and 15 may be entered.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

# Wireless Config

## WPS

WPS Status and Settings.



Setup | Internet/LAN | **Wireless Config** | Security | LAN Config | NAS | Admin Config | Diagnostic

WPS | AOSS | Basic(11n/g/b) | **Advanced(11n/g/b)** | WMM(11n/g/b) | MAC Filter | Multicast Control | WDS | Logout

WPS  enable  
 External Registrar  enable

Apply

AirStation PIN 12345670   
 Enrollee PIN

**WPS Security Information**

WPS status	configured	<input type="button" value="release"/>
11n/g/b	SSID	1234560003B9
	Security	WPA-PSK AES
	Encryption key	1234567890123

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### Parameter

### Meaning


WPS	Enable to use WPS automatic configuration.
External Registrar	Enable to accept the 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 [Generate PIN] 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 [configured] if all available wireless bands are configured. Displays [unconfigured] if at least one wireless band is unconfigured.

# AOSS

## AOSS Status and Settings.

Setup	Internet/LAN	Wireless Config	Security	LAN Config	NAS	Admin Config	Diagnostic
WPS	AOSS	Basic(11n/g/b)	Advanced(11n/g/b)	WMM(11n/g/b)	MAC Filter	Multicast Control	WDS

Logout



---

### AOSS Settings - Edit AOSS Client Information

Encryption Type of Exclusive SSID for WEP	802.11n/g/b	Stop
Encryption level expansion function	802.11n/g/b	Enabled
Dedicated WEP SSID isolation	802.11n/g/b	Disabled
When this function is enabled, clients connecting via WEP will		
Dedicated WEP for game consoles	802.11n/g/b	<input type="checkbox"/> Enable
AOSS Button on the AirStation Unit	<input checked="" type="checkbox"/> Enable	

### Current Encryption Information 802.11n/g/b

Encryption Type	WPA-PSK-AES (Now in use)		
SSID	001D738C6118-1		
Encryption key	a7iyry741w1sm		
Encryption Type	WPAWPA2-PSK-mixed (Now in use)		
SSID	001D738C6118		
Encryption key	a7iyry741w1sm		
Encryption Type	WEP128		
SSID	6E30CC9C3D87668B1DE009D5614D1E95		
Encryption key	614481CD72DB3AAAF32FC356C6	(Sending Key)	
	1872F3869E6916F395A111E24C		
	D3070B55D871311C292249E37D		
	A91E8EA2A31B0EB11AA36A3B84		
Encryption Type	WEP64		
SSID	0C09AA29624E480D34ABF8702D153B82		
Encryption key	F9DD71E867	(Sending Key)	
	70311BF41A		
	5DDA4F5DCE		
	73886A2B8C		

---

### AOSS Client Information


Client Information	MAC Address	Encryption Type	Wireless	Connection Setting
WLI-UC-G30xN	00:1D:73:92:0B:7F	WEP64/WEP128 WPA-PSK-TKIP/WPA-PSK-AES	802.11n/g/b	Allow

### AOSS Ethernet Converter Information


Client Information	MAC Address	Encryption Type
--------------------	-------------	-----------------

### AOSS (AirStation One-Touch Secure System)

AOSS is Buffalo's unique technology for quickly forming a secure wireless connection. You can see AOSS's configuration and status from this screen.

 **[Start AOSS] button**

Click this button to start AOSS. The AOSS button on top of the router works the same as this button. Refer to [How to use AOSS](#) for more details.

 **[Disable AOSS] button**

This button appears when AOSS is enabled. Click this button to disable AOSS. Connections to wireless clients will be terminated, AOSS Information removed, and Encryption Type reset to its default value, AES. Current Encryption Information will also be removed. Wireless Setting and Wireless Security are enabled in Advanced Settings when AOSS is disabled.

#### How to use AOSS

How to use AOSS:

**(1)First**  
Power on or reboot the AirStation and a wireless client that supports AOSS.

**(2)Press AOSS buttons**  
After rebooting, press both product's AOSS buttons, the router's first, then the client's. The AirStation and the wireless client will exchange security information to set up the most secure encryption type automatically and are ready to communicate.



**Note:**

- Once the AOSS button is pressed, other operations can't be started until AOSS is finished. If the AirStation can't find a wireless client after three minutes, the AirStation's status returns to its previous state.
- Up to 24 wireless clients may be connected through AOSS.
- By default, AOSS is functional but does not initiate a connection unless started manually by pushing the AOSS button, either here or on the top of the router.
- Use AirStation's System Information page to manually configure a wireless client that doesn't support AOSS.
- When wireless security is configured, it's security information is succeeded.

In the following cases, the setting of wireless security is not succeeded and AOSS returns error.

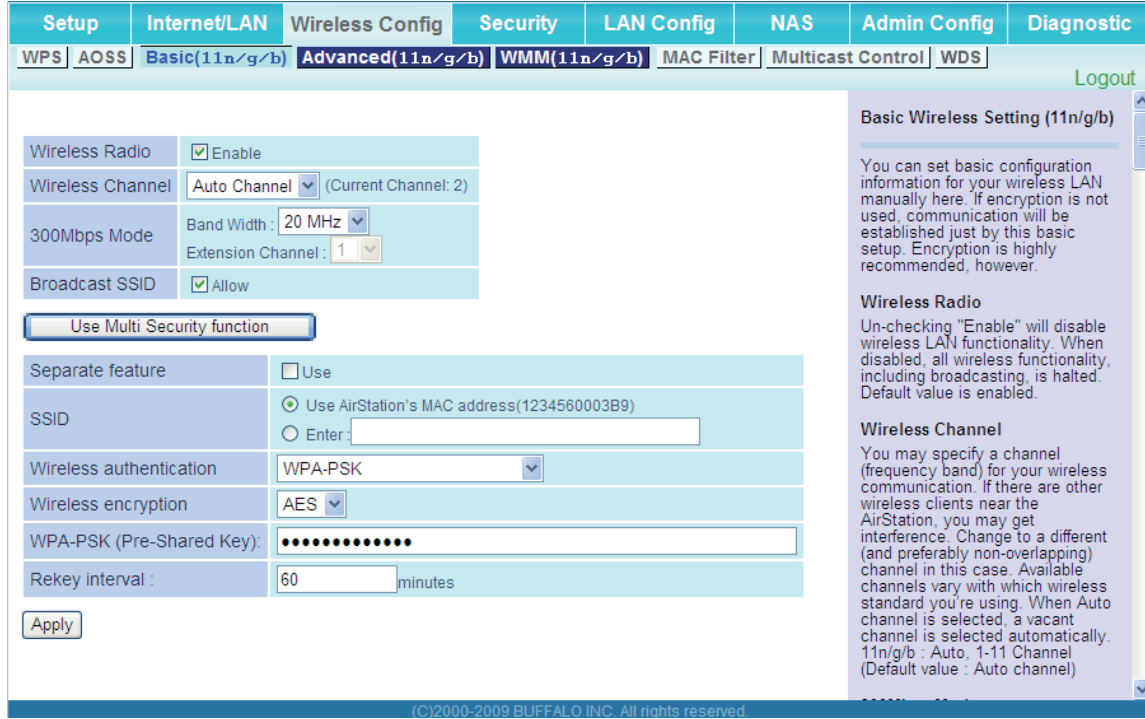
- Any blank is contained in SSID.
- WPA-PSK is input with 'hexadecimal 64 characters'.
- Any blank is contained in WPA-PSK.

In the following cases, the setting of wireless security is not succeeded and AOSS generates new encryption settings.

Parameter	Meaning
	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 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 [disabled] 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.
Dedicated WEP for game consoles	When enabled, the AirStation allows wireless devices to connect with 64 or 128 bit WEP.
AOSS Button on the AirStation Unit	Uncheck to disable the physical AOSS button on the AirStation.
Current Encryption Information * AOSS Connection only	Displays the encryption type, SSID, an encryption key configured by AOSS.
[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*	Displays AOSS clients connected to the AirStation and information of the devices which are wirelessly communicated.
AOSS Ethernet Converter Information* * Only displayed if there are AOSS Connections	Displays information about ethernet converters connected to the AirStation via AOSS.

## Basic

The screen to configure a basic wireless settings.



Parameter	Meaning
Wireless Radio	Determines whether 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. With Auto Channel selected, the AirStation will automatically use the best available channel.
300Mbps Mode	300 Mbps mode uses twice the normal frequency range, 40 MHz instead of 20 MHz. In uncongested areas this can increase performance. To use 300 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.

<b>Parameter</b>	<b>Meaning</b>
Broadcast SSID	If [Allow] is checked, then the AirStation will respond to SSID searches from wireless devices by broadcasting its SSID. If [Allow] is unchecked, then the AirStation ignores 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 [Separate] is enabled, wireless devices connected to the AirStation can communicate only with the Internet side, not with each other.
SSID	Set SSID using 1 - 32 alphanumeric characters.
Wireless authentication	Specifies an authentication method used when connecting to a wireless device.

Parameter	Meaning
Wireless encryption	<p>You may use any of the following types of encryption:</p> <p><b>No encryption</b> Data is transmitted without encryption. Avoid this option since any communication may be intercepted. [No encryption] can be selected only when [No authentication] is selected for Wireless authentication.</p> <p><b>WEP</b> WEP is a common encryption method supported by most devices. Use an encryption key to communicate with a wireless device. WEP can only be selected when [No authentication] is selected for Wireless authentication.</p> <p><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.</p> <p><b>AES</b> 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.</p> <p><b>TKIP/AES mixed mode</b> TKIP/AES mixed mode allows both TKIP and AES authentication and communication. TKIP/AES mixed mode can be selected only when WPA/WPA2 mixed mode - PSK is selected for Wireless authentication.</p>
WPA-PSK (Pre-Shared Key)	<p>A pre-shared key or passphrase is the [password] for your wireless connections. There are two different formats for a pre-shared key. Use 8 to 63 alphanumeric characters (case-sensitive) for an ASCII passphrase, or use 64 digits using 0 to 9 and a to f (not case-sensitive) for a hexadecimal passphrase..</p>
Rekey interval	<p>Set the update interval for the encryption key between 0 and 1440 (minutes).</p>

---

<b>Parameter</b>	<b>Meaning</b>
Set up WEP encryption key	A WEP encryption key (passphrase) may have any of four different formats. An ASCII passphrase may use either 5 or 13 alphanumeric characters (case-sensitive). A hexadecimal passphrase may use either 10 or 26 digits using 0 to 9 and a to f (not case-sensitive).

---



## Advanced

Configure advanced wireless settings.

Parameter	Meaning
Multicast Rate	Set the communication speed for multi-cast packets.
DTIM Period	Set the beacon responding interval (1 -255) for which the AirStation responds to a wireless device. This setting is effective only when power management is enabled for 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

Set priorities for specific communications.

Setup
Internet/LAN
Wireless Config
Security
LAN Config
NAS
Admin Config
Diagnostic

WPS
AOSS
Basic(11n/g/b)
Advanced(11n/g/b)
WMM(11n/g/b)
MAC Filter
Multicast Control
WDS
Logout

### WMM-EDCA Parameters

Priority	Parameter	For AP	For STA
AC_BK(Low)	CWmin:	15	15
	CWmax:	1023	1023
	AIFSN:	7	7
	TXOP Limit:	0	0
	Admission Control:	---	Disable
AC_BE(Normal)	CWmin:	15	15
	CWmax:	63	1023
	AIFSN:	3	3
	TXOP Limit:	0	0
	Admission Control:	---	Disable
AC_VI(High)	CWmin:	7	7
	CWmax:	15	15
	AIFSN:	1	2
	TXOP Limit:	94	94
	Admission Control:	---	Disable
AC_VO(Highest)	CWmin:	3	3
	CWmax:	7	7
	AIFSN:	1	2
	TXOP Limit:	47	47
	Admission Control:	---	Disable

#### WMM Settings (11n/g/b)

Prioritized AirStation communication for specific transactions. This settings provides some real time communication, which can help improve the quality of VOIP or other streaming protocols.

---

#### WMM-EDCA Parameters

It is usually not necessary to change this value.

**Priority**  
The priority is ranked (Highest)8 : (High)4 : (Normal)2 : (Low)1 for each packet.

**Parameter**

**CWmin, CWmax**  
The maximum and minimum value for the contention window. The contention window is used to control the frame collision avoidance system in IEEE802.11. Values that can be inputted: 1-32767.

**AIFSN**  
Interval of the sending frame. The unit defines a time-slot (similar to the window value of CWmin, CWmax). Lower values define a higher priority as the back-off algorithm starts earlier. Values that can be inputted: 1-15.

**TXOP Limit**  
The time for the queue to obtain send priority. The minimum value is 32ms. Large values can send more frames at a time. However, latency may increase. Only one frame is transferred at the time when the TXOP Limit is 0. Values that can be inputted: 0-256.

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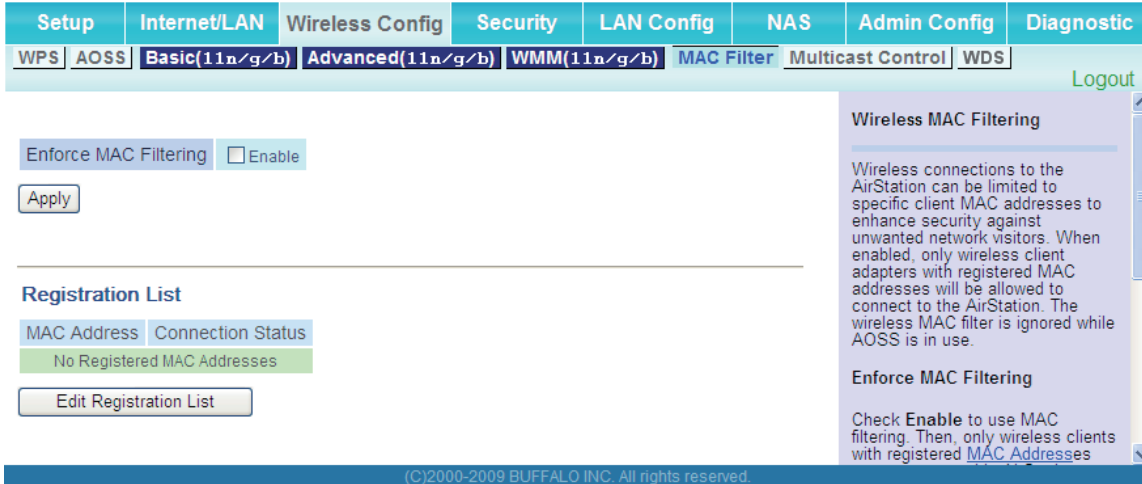
---

Parameter	Meaning
WMM-EDCA Parameters	<p data-bbox="641 321 1442 394">You don't usually need to change these settings. Using the default settings is recommended.</p> <p data-bbox="641 422 740 453"><b>Priority</b></p> <p data-bbox="662 457 1446 600">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.</p> <p data-bbox="641 627 846 659"><b>CWmin, CWmax</b></p> <p data-bbox="662 663 1446 846">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.</p> <p data-bbox="641 873 721 905"><b>AIFSN</b></p> <p data-bbox="662 909 1446 1052">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.</p> <p data-bbox="641 1079 786 1110"><b>TXOP Limit</b></p> <p data-bbox="662 1115 1446 1297">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 queue may interfere with other packet transmissions. If TXOP Limit is set to 0 (zero), only one frame can be sent per right to send.</p> <p data-bbox="641 1325 878 1356"><b>Admission Control</b></p> <p data-bbox="662 1360 1446 1467">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.</p>

---

## MAC Filter

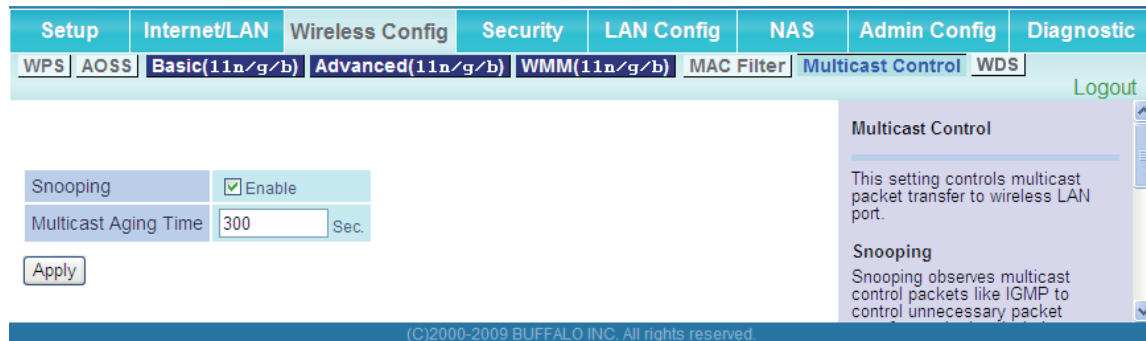
Restrict access to specific wireless devices.



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 to add a wireless device to the list of permitted devices.
MAC Addresses to be Registered	Enter a MAC address of a wireless device to permit to connect to the AirStation. Click [Register] 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

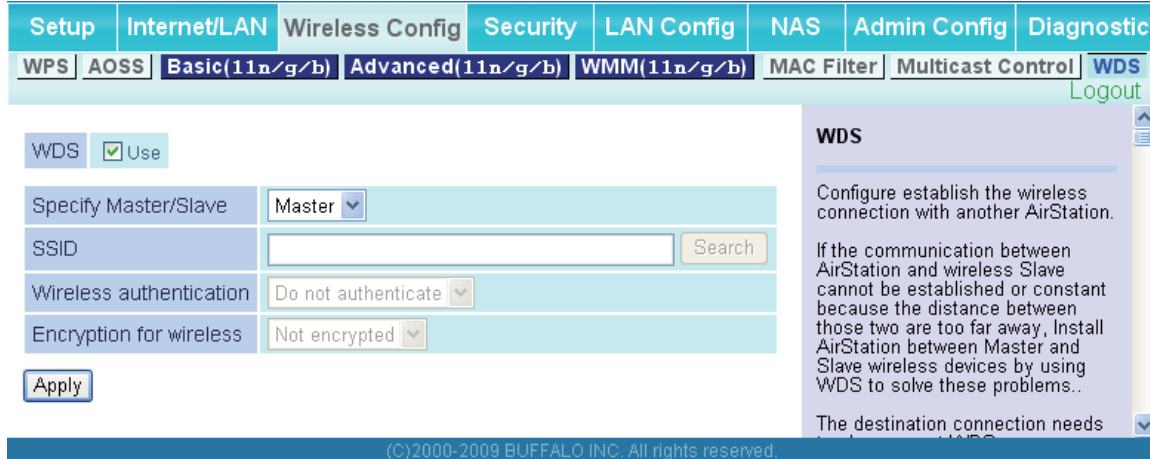
Configure restrictions on unnecessary multicast packets sent to the wireless LAN port.



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 bigger than the IGMP/MLD query interval.

## WDS

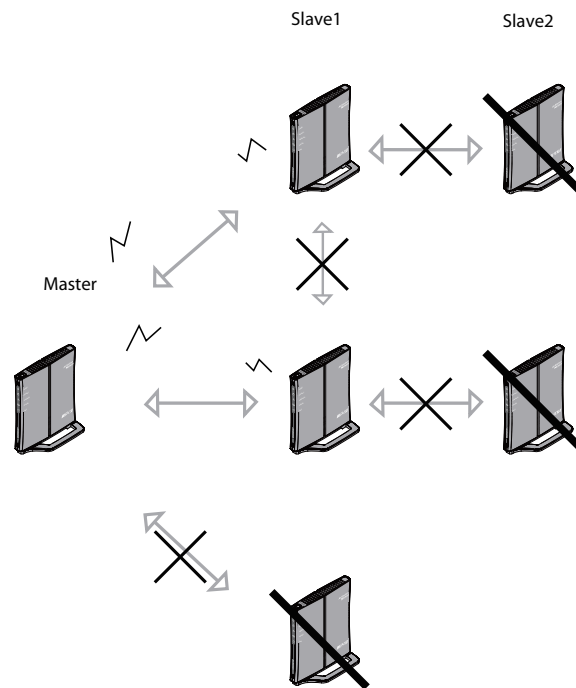
WDS bridging allows communication between AirStations.



Parameter	Meaning
WDS	Check to use WDS bridging.
Specify Master/Slave	Define this AirStation's role in a WDS bridge. <p><b>Master</b> This AirStation will be the master in a WDS bridge. It will have the Internet connection, and other AirStations in the bridge will be connected through this AirStation.</p> <p><b>Slave</b> Slave AirStations are connected to the master AirStation.</p> <p><b>Auto</b> 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.</p>

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)

Configure the AirStation's firewall.

Setup Internet/LAN Wireless Config **Security** LAN Config NAS Admin Config Diagnostic

Firewall IP Filter VPN Pass Through Logout

Log Output  Enable

Enable	Basic Rules	Number of Packets
<input type="checkbox"/>	Prohibit NBT and Microsoft-DS Routing	0
<input checked="" type="checkbox"/>	Reject IDENT Requests	0
<input checked="" type="checkbox"/>	Block Ping from Internet	0

Apply

Firewall

Limits the type of packets allowed to pass between the Internet and LAN. When packets reach the AirStation, the firewall evaluates the packets, and forwards packets that don't match any filter to their destination. The Firewall blocks unnecessary packets from the Internet side and prevents leaking secure information from the LAN side.

Log Output

Checking this box will record

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#### 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 this is enabled, you cannot use these protocols between the LAN and WAN sides of the router. You can configure this with PPPoE if you select [Use PPPoE Client] or [Use IP Unnumbered] in Method of Acquiring IP address (on page 28), or if Easy Setup identified a PPPoE connection during setup.



---

Parameter	Meaning
	<p data-bbox="641 321 932 352"><b>Reject IDENT Requests</b></p> <p data-bbox="662 359 1458 611">Enabling this option will answer IDENT requests from the Internet side with corresponding rejection packets. Enable this option if you experienced slow transfer speeds for network applications such as sending mail, using ftp, or browsing. If you have configured transfer of IDENT requests to the LAN side computer in the address translation settings (DMZ or TCP port:113), then that setting has higher priority, and overrides this setting.</p> <p data-bbox="641 642 959 674"><b>Block Ping from Internet</b></p> <p data-bbox="662 680 1458 858">If this is enabled, the AirStation will not respond to pings from the Internet (WAN) side. You can configure this with PPPoE if you select [Use PPPoE Client] or [Use IP Unnumbered] in Method of Acquiring IP address (page 28), or if Easy Setup identified a PPPoE connection during setup.</p>

---

## IP Filter (Router Mode only)

Edit IP filters.

Setup Internet/LAN Wireless Config Security LAN Config NAS Admin Config Diagnostic

Firewall IP Filter VPN Pass Through Logout

Log Output  Enable

Apply

**Add IP Address Based Filter**

Operation: Ignored

Direction: Internet→LAN

IP Address: Source Address: [ ] → Destination: [ ]

Protocol:  All  ICMP  Manual  TCP/UDP

Protocol Number: [ ]

TCP Port Manual Setting Specification method

Port Number: [ ]

Add Rule

**IP Filter Information**

Operation	Direction	Source Address Destination Address	Protocol	Count	Customize
The IP Filter has not been configured yet					

**IP Filter Settings**

Limits the type of packets allowed to pass between the Internet and LAN. The maximum number of rules is 32. If the packet meets one of the monitoring conditions (see below) before it is routed, the specified action will be taken. If multiple conditions (see below) are met, the appropriate action will be performed once the packet meets the condition.

**Log Output**

Checking this box will record IP filtering information to a log. If Operation is Accepted, log output is disabled. The default is Disabled.

**Add/Edit IP Address Based Filter**

This area is for adding or editing a line.

**Operation**

Select the action to be performed on packets that meet filter criteria

**Ignored**  
Stop the packet and do not route it.

**Rejected**  
Return the rejected packet to the point of origin.

**Accepted**  
Pass the packet through. The default is [Ignored].

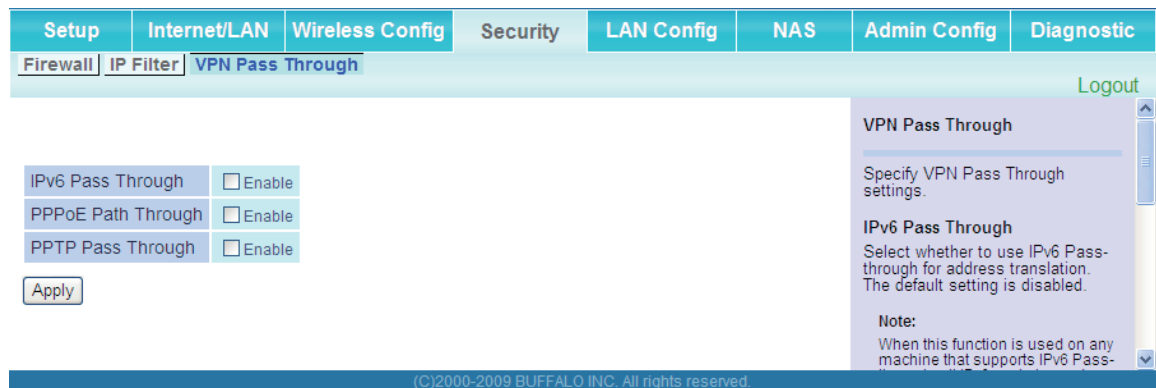
Direction

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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.



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 (QoS)

## Port Forwarding (Router Mode only)

Configure port translation.

Setup	Internet/LAN	Wireless Config	Security	LAN Config	NAS	Admin Config	Diagnostic										
Port Forwarding <a href="#">DMZ</a> <a href="#">UPnP</a> <a href="#">QoS</a> <a href="#">Movie Engine</a> <span style="float: right;">Logout</span>																	
<h3>Add Port Forwarding</h3> <table border="1"> <tr> <td>Group</td> <td>New Group <input type="button" value="v"/> Group Name: <input type="text"/></td> </tr> <tr> <td>Internet Side IP Address</td> <td>AirStation's Internet IP Address <input type="button" value="v"/> Manual IP Address: <input type="text"/></td> </tr> <tr> <td>Protocol</td> <td> <input type="radio"/> All  <input type="radio"/> ICMP  <input type="radio"/> Manual Protocol Number: <input type="text"/>  <input checked="" type="radio"/> TCP/UDP TCP Port Manual Setup <input type="button" value="v"/> Specification Method            Port Number: <input type="text"/> </td> </tr> <tr> <td>LAN Side IP Address</td> <td>192.168.11.2</td> </tr> <tr> <td>LAN Side Port</td> <td>TCP/UDP Port: <input type="text"/></td> </tr> </table> <input type="button" value="Add"/>								Group	New Group <input type="button" value="v"/> Group Name: <input type="text"/>	Internet Side IP Address	AirStation's Internet IP Address <input type="button" value="v"/> Manual IP Address: <input type="text"/>	Protocol	<input type="radio"/> All <input type="radio"/> ICMP <input type="radio"/> Manual Protocol Number: <input type="text"/> <input checked="" type="radio"/> TCP/UDP TCP Port Manual Setup <input type="button" value="v"/> Specification Method Port Number: <input type="text"/>	LAN Side IP Address	192.168.11.2	LAN Side Port	TCP/UDP Port: <input type="text"/>
Group	New Group <input type="button" value="v"/> Group Name: <input type="text"/>																
Internet Side IP Address	AirStation's Internet IP Address <input type="button" value="v"/> Manual IP Address: <input type="text"/>																
Protocol	<input type="radio"/> All <input type="radio"/> ICMP <input type="radio"/> Manual Protocol Number: <input type="text"/> <input checked="" type="radio"/> TCP/UDP TCP Port Manual Setup <input type="button" value="v"/> Specification Method Port Number: <input type="text"/>																
LAN Side IP Address	192.168.11.2																
LAN Side Port	TCP/UDP Port: <input type="text"/>																
<h3>Port Forwarding Registration Information</h3> <table border="1"> <thead> <tr> <th>Group</th> <th>Internet Side IP Address LAN Side IP Address</th> <th>Protocol LAN Side Port</th> <th>Customize</th> </tr> </thead> <tbody> <tr> <td colspan="4" style="text-align: center;">Port Forwarding has not been set up yet</td> </tr> </tbody> </table>								Group	Internet Side IP Address LAN Side IP Address	Protocol LAN Side Port	Customize	Port Forwarding has not been set up yet					
Group	Internet Side IP Address LAN Side IP Address	Protocol LAN Side Port	Customize														
Port Forwarding has not been set up yet																	
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**Port Forwarding Settings**

Although the AirStation performs Address Translation only for communication which is started from the LAN side, certain applications, such as network games, require that you allow communications from the Internet (the Internet) side via (Static NAT). Edit the rules for communicating from outside the internal network to the LAN side network device(Static NAT) carefully, consulting your internet game's documentation as necessary. Up to 32 rules can be registered.

**Add/Edit Port Forwarding**

You can add new port forwarding information and edit existing information.

**Group**

You can give a name (group name) to configured Static NATs and give multiple Static NATs one name and manage them together. By giving names to groups, you can [Enable] or [Disable] each separately. To add a Static NAT rule to existing group, select the group from the drop-down box and choose [Add].

### Parameter

### Meaning

Group	Specify a group name for a new rule to belong to. Select [New Group] 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.

---

<b>Parameter</b>	<b>Meaning</b>
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 to.



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 UPnP (Universal Plug and Play).



---

Parameter	Meaning
UPnP	Enable or disable Universal Plug and Play (UPnP) functionality.

---

## QoS (Router Mode only)

Configure the priority of packets sent to the Internet.

QoS for transmission to the Internet  Enable

Upload bandwidth  kbps

No.	Enable	application name	protocol	destination port	priority
1	<input type="checkbox"/>	VoIP	UDP		high
2	<input type="checkbox"/>	ssh	TCP	22	medium
3	<input type="checkbox"/>	telnet	TCP	23	medium
4	<input type="checkbox"/>	ftp	TCP	21	low
5	<input type="checkbox"/>		TCP		low
6	<input type="checkbox"/>		TCP		low
7	<input type="checkbox"/>		TCP		low
8	<input type="checkbox"/>		TCP		low

Apply

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**QoS Setting**

QoS is a technology to use the bandwidth on the network more effectively. When two or more packets arrive at the same time, the packet with higher priority is processed first. This can be used to give priority to communications that require real time processing, such as VOIP.

**QoS for transmission to the Internet**

If checked, this gives priority to packets being transmitted to the Internet. When enabled, you will be able to add four levels of increased priority for specific applications. By default, this is disabled.

**Uplink Bandwidth**

Specify the bandwidth transferred from this unit to the Internet in kbps. The real uplink bandwidth should be entered. If a bandwidth value larger than the real line speed is entered, the uplink bandwidth will be limited by the line speed. If a smaller bandwidth value is entered, the maximum line speed cannot be used.

### Parameter

### Meaning

QoS for transmission to the Internet	Determine whether or not to prioritize packets sent to the Internet. Check this box to enable QoS.
Upload bandwidth	Specify the upstream bandwidth in kbps from the AirStation to the internet side. Set the actual value for the upstream bandwidth.
Enable	Enable or disable this entry.
application name	Enter an application name. Names may use up to 32 alphanumeric characters, double or single tick marks ("), quotation marks ("), and semicolons (;).
protocol	Select either TCP or UDP.
destination Port	Specify a destination port with the value of 1 - 65535. If this field is empty, a random port is selected.



---

<b>Parameter</b>	<b>Meaning</b>
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.

---

# Movie Engine

Configure Movie Engine options.

Setup
Internet/LAN
Wireless Config
Security
LAN Config
NAS
Admin Config
Diagnostic

Port Forwarding
DMZ
UPnP
QoS
Movie Engine
Logout

**\* This setting is enabled when the "Movie Engine" switch on the main unit is set to "ON".**

Movie Engine switch status ON

---

### Packet Control Setting

IPv6 Pass Through	<input checked="" type="checkbox"/> Use	
Multicast Rate	11 Mbps	
Multicast Control	Snooping Function	<input checked="" type="checkbox"/> Use
	Aging Time	300 Seconds
	Change Priority	VI (priority)
TCP Rwin Size Limit	Size Limit	<input type="checkbox"/> Limit
	Maximum Rwin Size	65536 bytes

---

### Wireless Priority Control Rules

No.	MAC Address	IP address	Protocol	Port Number	Priority
Wireless priority control rules not registered.					

---

### Transmission Rate Limit

Priority	Transmission Rate	Number of Retries
BackGround	No Limits	No Limits
BestEffort	No Limits	No Limits
Voice	No Limits	No Limits
Video	No Limits	No Limits

### Movie Engine

Details the configuration options for the Movie Engine feature. When Movie Engine switch is ON position, this router optimizes packet transfer of video or audio data. This page configures video or audio data processing in specific when Movie Engine switch is ON position.

#### Movie Engine Status

Display the status (ON/OFF) of the Movie Engine switch on the main unit. The Movie engine feature is enabled when the switch is ON.

---

#### Packet Control Setting

##### IPv6 Pass Through

Enable IPv6 Pass Through when the Movie Engine switch is ON. The router transfers IPv6 packets between the Internet and LAN. The factory default setting is [Enabled].  
\* This function is only enabled when the AirStation is in Router mode.

##### Multicast Rate

Configure Multicast Control when the Movie Engine switch is ON. The factory default setting is [11 Mbps].

##### Multicast Control

Multicast control setting when the Movie Engine switch is ON.

##### Snooping Function

Enable the Multicast Snooping function. Checking Use when the Movie Engine switch is ON will force Multicast control. The factory default setting is [Use].

##### Aging Time

The Aging Time for Multicast Snooping feature. This setting range is 1-3600 seconds. The factory default setting is [300]

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---

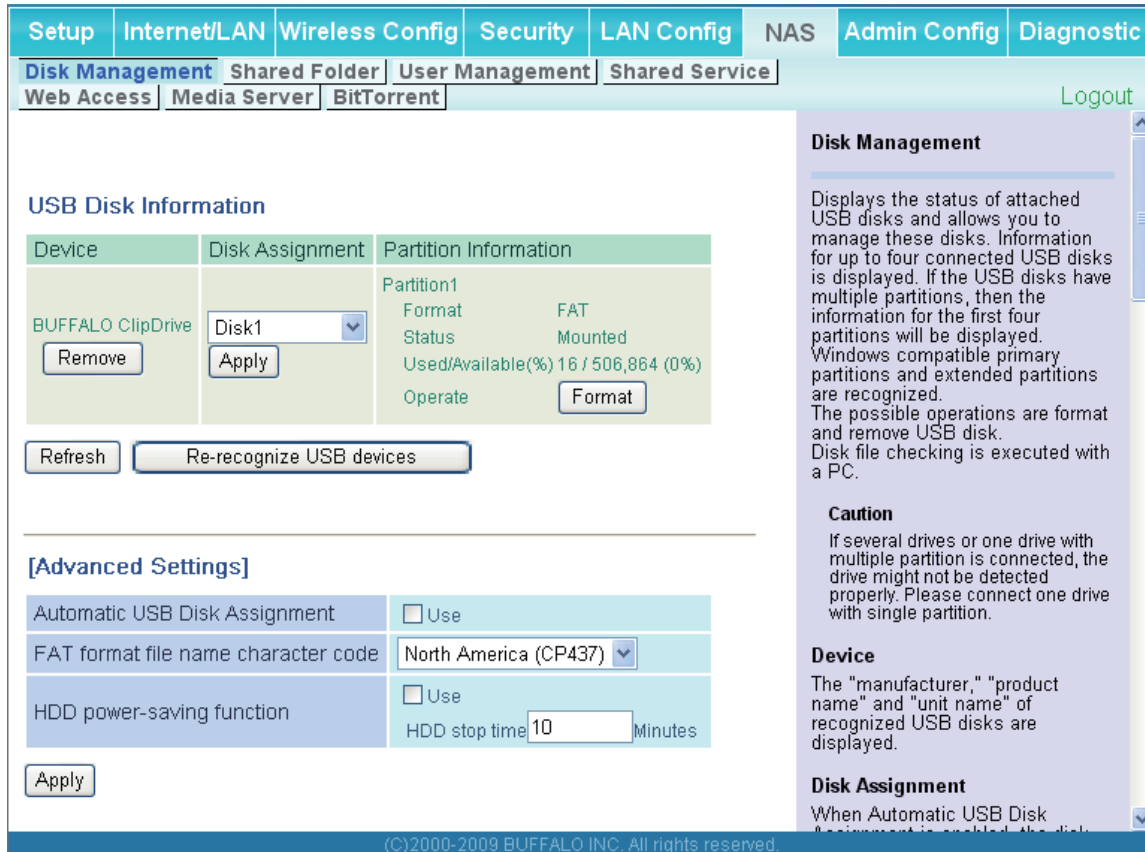
<b>Parameter</b>	<b>Meaning</b>
Movie Engine switch status	Display the status of the Movie Engine switch.
IPv6 Pass Through	Set to enable the IPv6 Pass Through.
Multicast Rate	Select the rate of the Multicast Control.
Multicast Control	Set the Multicast Control setting to on.
TCP Rwin Size Limit	Configure TCP packets Rwin size limitation to pass AirStation's wireless LAN.
Wireless Priority Control Rules	Display the list of rules controls the priority pass through of packets in the AirStation wireless LAN.
Transmission Rate Limit	Select the transmission limit to prevent transmission rate fall down.
Number of Retries	Select limit number of retries.

---

# NAS

## Disk management

View the status of and configure attached USB hard disks.



Parameter	Meaning
Device	Displays information for attached USB disks. Disks are removed when [Remove] in the Device column is clicked.
Disk Assignment	A disk number will be automatically assigned to the disk or you can choose a number. Select a disk number, or select [Do not assign], and then click [Apply] to assign a disk number.
Partition Information	Displays the partition information for the selected USB disk. Click [Format] to format the disk. Note: formatting a disk will erase all information from it.
Re-recognize USB devices	Click this to re-scan for connected USB disks.

---

<b>Parameter</b>	<b>Meaning</b>
Automatic USB Disk Assignment	Check [Use] to automatically select an attached USB hard disk. The entire drive will be used as the shared folder. To configure your disk and share manually, uncheck [Use]. [Use] is selected by default.
FAT format file name character code	Select the file name character code used for FAT formatting.
HDD power-saving function	Set the HDD power saving function.
HDD stop time	Select a time duration after which to stop the HDD.

---

# Shared Folder

Configure a USB hard disk for use with shared folders.

Setup
Internet/LAN
Wireless Config
Security
LAN Config
NAS
Admin Config
Diagnostic

Disk Management
Shared Folder
User Management
Shared Service

[Logout](#)

### Add new shared folder

Shared Folder Name

(Enter manually) ▾

Shared Folder Description

Select	Disk Partition Area	Format	Used/Available(%)
<input checked="" type="radio"/>	Disk1/Partition1	FAT	16 / 506,864 (0%)

Disclosed to

Win/MacOS(Samba)
  Web Access
  Media Server
  BitTorrent

Access Limits

Limits ▾

Read/Write	Read-only	No access
BUFFALO	User-A User-B User-C	guest

Web Access

Access Limits

Add

---

### Shared Folder Registration Information

No.	Shared Folder Name	Shared Folder Information	Operation
1	Music	Disk Partition Area: Disk1/Partition1 Shared Folder Description: Music Folder Disclosed to: Win/MacOS(Samba) Access Limits: Limits Read/Write: BUFFALO,User-A,User-B,User-C Read-only: guest Web Access: Access Limits	<span style="border: 1px solid #ccc; padding: 2px 5px; margin-bottom: 5px;">Edit</span> <span style="border: 1px solid #ccc; padding: 2px 5px;">Delete</span>

**Shared Folder Management Settings**

**Shared Folder Name**  
Folder names displayed when sharing folders. Up to 18 8-bit characters can be input. Characters from various countries and the symbols "-" and "." can be used in addition to 8-bit alphanumeric characters. Numbers and symbols cannot be input as the first character. The maximum number of characters that can be input is limited to the maximum bytes that can be accepted under UTF-8 encoding. Numbers and symbols cannot be used as the first character. Warning: Please do not change the name of an existing shared folder. The existing folder name will change to the new name, however, the original folder name will remain as a non-shared folder. If characters from several languages are used, they may become corrupt when changing language settings. Up to 16 shared folder names can be registered.

You may select a folder that can be registered as a shared folder on the USB disk from the drop-down list. When [root folder] is selected, the whole USB disk will be configured as a shared folder and will be named as follows: diskX\_ptY (X:disk number, Y:partition number). This shared folder name cannot be changed. The default setting is [Enter manually].

**Shared Folder Description**  
Folder description displayed

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Parameter	Meaning
Shared Folder Name*	Enter a name for the shared folder. Up to 18 alphanumeric characters, space, hyphens (-), and underscores (_) may be used.
Shared Folder Description*	Enter a description of the shared folder (optional). Up to 75 alphanumeric characters, space, hyphens (-), and underscores (_) may be used.
Disk Partition Area*	Displays the partition area, format type, and the capacity of the USB disk.
Disclosed to*	Check the functionality that you want to support. Win/Mac OS (Samba NAS), Web Access, Media Server, and/or BitTorrent may be checked. Only one folder may be chosen for either Media Server or BitTorrent functionality.
Access Limits	If access limits are enabled, use the arrows to move highlighted users between the columns for [Read/Write], [Read-only] or [No access] privileges.
Web Access	You may also select to enforce access limits on users accessing through Web Access by checking the Access Limits checkbox. Users will have the same access levels as assigned above. If Access Limits is not checked, then all users accessing the shared folder via Web Access will have [Read only] access..
Shared Folder Registration Information*	Displays information about the shared folder.

\* These parameters are displayed when [Automatic USB Disk Assignment] (page 68) is not set to [Use]:

The following settings are used for [Shared Folder] when [Disk Management] is activated.

- All folders: [Access Limits] settings in effect.
- Shared Folder/ Web Access: All folders are shared.
- Media Server/BitTorrent: The first folder is shared.

## User Management

This screen lets you add users to the access list with the ability to access shared folders.

**Add User**

User Name

Password  (confirmation)

User Description

**Current Users**

No.	User Name	User Description	Operation
--	guest	Built-in account for guest access to the system	----
1	John	office	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
2	Mike	home	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
3	Robin	guest room	<input type="button" value="Edit"/> <input type="button" value="Delete"/>

**User Management**

**User Name**  
Set the user names that will have access to shared folders. From 1 to 20 8-bit alphanumeric characters. "." " " and " " can be used. Symbols cannot be used as the first character. The maximum number of users that can be registered is 16.

**Password**  
Set the password necessary to access shared folders. From 1 to 20 8-bit alphanumeric characters. "." and " " can be used. "." cannot be used as the first character. For Windows 98SE, 98 and 95, up to 14 8-bit alphanumeric characters can be used. For Mac OS, up to eight 8-bit alphanumeric characters can be used. There is a possibility that shared folders will become inaccessible.

**User Description**  
Set user description. Up to 75 8-bit characters can be input. Characters from various countries, 8-bit spaces, and the symbols "." and " " can be used in addition to 8-bit alphanumeric characters. The maximum number of characters that can be input is limited to the maximum bytes that can be

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### Parameter

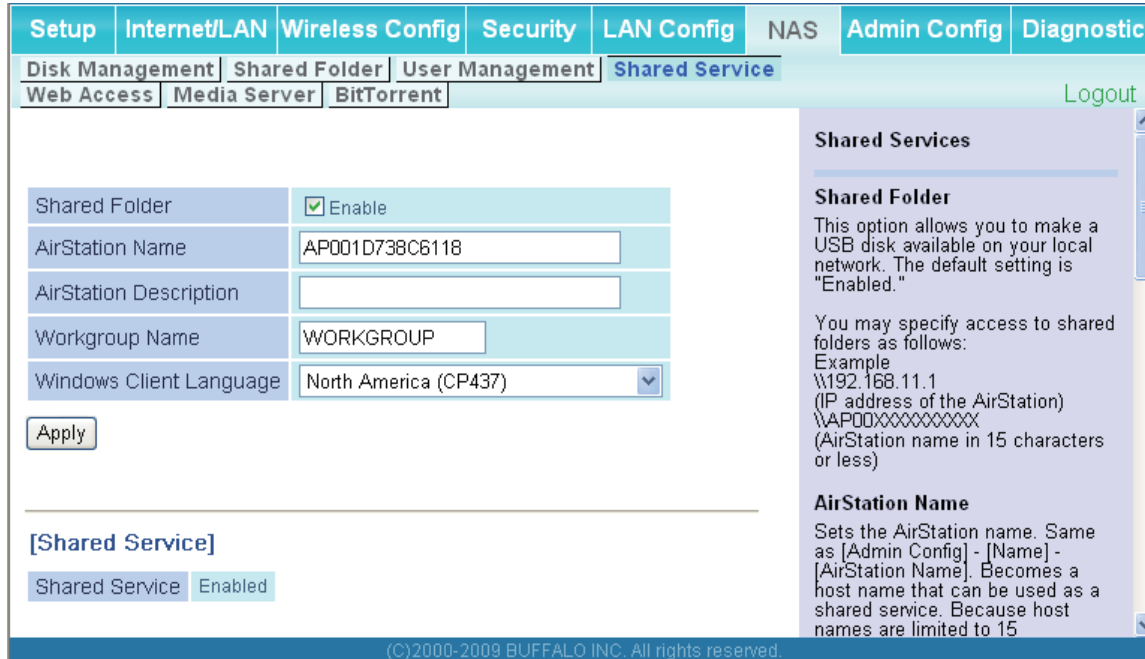
### Meaning

User Name	Enter the name of a user to be given access to the shared folder. Up to 20 alphanumeric characters, space, hyphens (-), and underscores (_) may be used for each user. Up to 16 users may be entered.
Password	Enter the user's password. Use of the same password that they use to log into their computer is recommended. Up to 20 alphanumeric characters, space, hyphens (-), and underscores (_) may be used. For Windows 98SE/98/95 users, up to 14 alphanumeric characters may be used. Mac OS users may use up to 8 alphanumeric characters. If you enter a longer password than your users can use, then they will not be able to access the share.
User Description	Describe the user (optional). Up to 75 alphanumeric characters, space, hyphens (-), and underscores (_) may be used.
Current Users	Lists current users, including [guest]. [guest] is a built-in account that cannot be changed or deleted.



## Shared Service

Assign AirStation and workgroup names to access shared folders.



Parameter	Meaning
Shared Folder	Enable to make a USB disk available on your local network.
AirStation name	Rename your AirStation if desired. Up to 15 alphanumeric characters, space, and hyphens (-), may be used. The AirStation name is also used as the host name that will be used with the shared service. The shared service may not be available you use over 15 alphanumeric characters in your AirStation's name.
AirStation Description	Describe the AirStation (optional). Up to 48 alphanumeric characters, space, hyphens (-), and underscores ( ) may be used.
Workgroup name	Enter your workgroup name. Up to 15 alphanumeric characters, space, hyphens (-), underscores ( ) and period (.) may be used.
Windows Client Language	Select the language to be used by the Windows client.

---

<b>Parameter</b>	<b>Meaning</b>
Shared Service	Displays the status of the USB disk that is to be used with the shared service.

---

## Web Access

The screen to set to use the Web Access function.

Parameter	Value
Web Access	<input checked="" type="checkbox"/> Enable
Web Access Display Language	English
HTTPS/SSL Encryption	<input type="checkbox"/> Enable
Web Access External Port	Auto Port Number: 30424
DNS Service Host Name	Use BuffaloNAS.com registration function BuffaloNAS.com name: buffalo_name BuffaloNAS.com key: buffalo_key

[Web Access Status]	
Web Access	Enabled
External Port Status	Registered
BuffaloNAS.com	Registered

### Parameter

### Meaning

Web Access	Check [Enable] to use Web Access.
Web Access Display Language	Set the language to be used with Web Access.
HTTPS/SSL Encryption	Check [Enable] to use SSL encryption for protected data transfer.
Web Access External Port	Automatically sets the external port used for Web access. To select the port manually, select [Manual].
DNS Service Host Name	Sets the DNS Service Host Name when the Web access function is activated. Select [Use BuffaloNAS.com registration function] to use the Web access function easily. You'll have to configure a [BuffaloNAS.com name] and [BuffaloNAS.com key] to use BuffaloNAS.com. Up to 3-20 alphanumeric characters, space, hyphens (-), underscores (_) and period (.), may be used in the BuffaloNAS.com name. Up to 3-20 alphanumeric characters, space, hyphens (-), underscores (_) and period (.), may be used in the BuffaloNAS.com key. Note: The registered name is deleted from the server if the AirStation is disconnected from power, even for a moment.

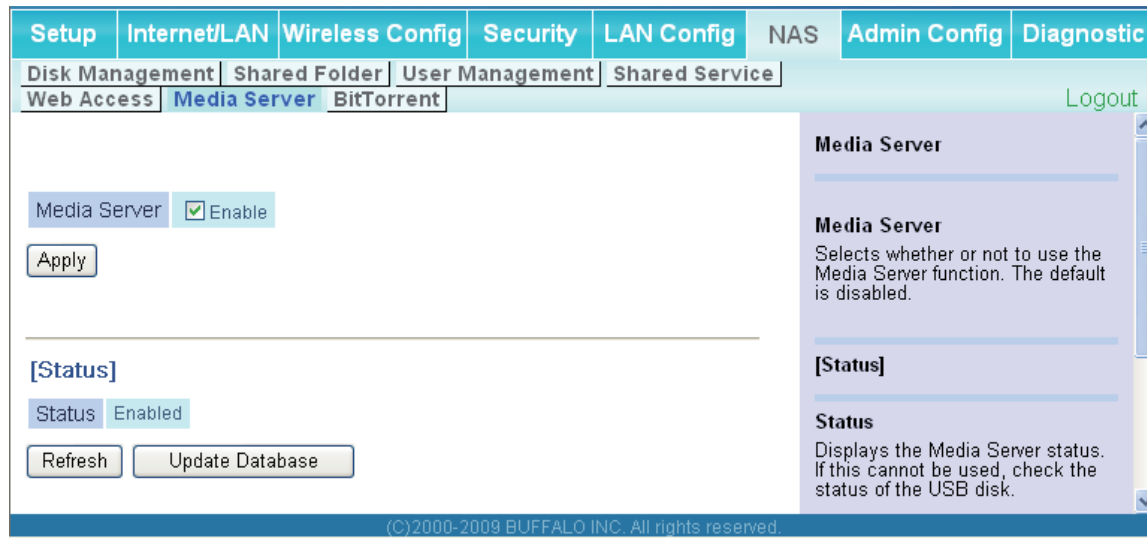
---

<b>Parameter</b>	<b>Meaning</b>
Web Access	Displays the status of web access.
External Port Status	Display the status of the external port.
BuffaloNAS.com	Display the status of BuffaloNAS.com.

---

## Media Server

Media Server settings.



Parameter	Meaning
Media Server	Enable to use the media server.
Status	Displays the status of the media server.

## BitTorrent

Configure the BitTorrent client.

Setup | Internet/LAN | Wireless Config | Security | LAN Config | NAS | Admin Config | Diagnostic

Disk Management | Shared Folder | User Management | Shared Service | Web Access | Media Server | **BitTorrent** | Logout

BitTorrent Function  Enable

External Port Number: Auto (dropdown), Port Number: 31761

**[Advanced Settings]**

Bandwidth Restriction  Enable

Maximum Download Speed: 1000 KB/s

Maximum Upload Speed: 200 KB/s

Apply

Download Manager | Delete BitTorrent information

**[BitTorrent Status]**

BitTorrent Status	Enable
BitTorrent External Port Status	Registered

**BitTorrent**

**BitTorrent Function**  
Allows you to enable/disable the BitTorrent function. The default setting is disabled. You can get downloaded BitTorrent files via shared folder or Web Access function. Please configure the folder setting from "Disclosed to" of "Shared Folder" page. Downloaded files are stored in bittorrent folder on the USB disk. Automatic USB Disk Assignment is set to [Use] : disk1\_pt1/bittorrent. Automatic USB Disk Assignment is set to [Do not use] : shared folder name/bittorrent.

BitTorrent function makes throughput or setting page response be slow. In this case formatting USB disk by XFS improves this symptom.

**External Port Number**  
Specify the external port number for BitTorrent. The default is [Auto] and the value is [9002].

**Auto**  
Set up the port number for BitTorrent automatically. Under Router Mode ON, this port is used for WAN side transfer setting.

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### Parameter

### Meaning

BitTorrent Function

Enable to use the BitTorrent client. If the BitTorrent client is enabled, overall communication performance may decrease and the reactions to setting screens slow down. If that happens, reformat the USB disk with XFS. This may reverse the performance slowdown.

External Port Number

Select the external port number.

<b>Parameter</b>	<b>Meaning</b>
Bandwidth Restriction	Set a bandwidth limit for BitTorrent.
[Download Manager]	Displays the BitTorrent download manager screen. Add a torrent and then click [Add] to download the file(s).
[Delete BitTorrent information]	Deletes all files, including the torrent files and files which are currently downloading. The downloaded file is not deleted.
BitTorrent Status	Display the status of the BitTorrent client.
BitTorrent External Port Status	Display the external port status of the BitTorrent client.

Access here to download the latest BitTorrent client for PC.  
<http://www.bittorrent.com/>

# Admin Config

## Name

Configure basic AirStation's settings.

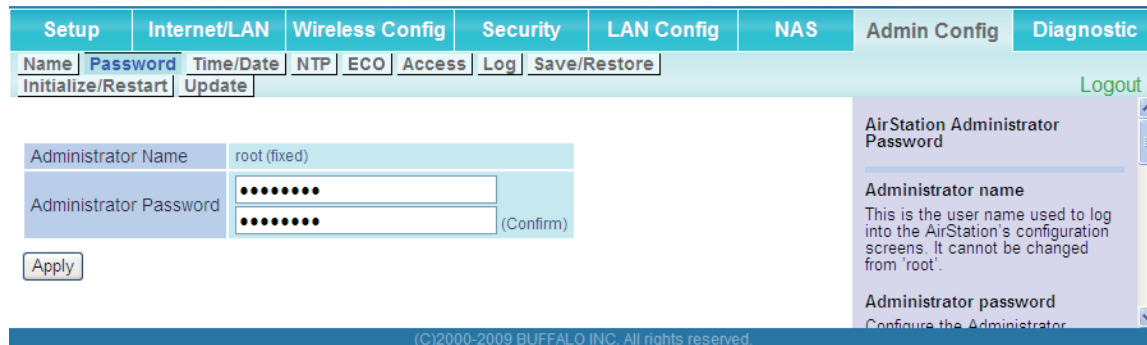
The screenshot shows the Admin Config page for an AirStation. The top navigation bar includes tabs for Setup, Internet/LAN, Wireless Config, Security, LAN Config, NAS, Admin Config (selected), and Diagnostic. Below the navigation bar, there are sub-tabs: Name, Password, Time/Date, NTP, ECO, Access, Log, Save/Restore, and Logout. The main content area is titled 'AirStation Name' and contains a text input field with the value 'AP1234560003B9'. Below the input field is a checkbox labeled 'List Network Services' which is checked and labeled 'Enable'. An 'Apply' button is located at the bottom left of the form. A help box on the right side of the page provides additional information: 'AirStation Name' can be used to assign a specific descriptive name for the AirStation. The name may be up to 64 alphanumeric characters in length, and '-' are allowed, but a '-' may not be the first or last character in the name. By default, the name is 'AP1234560003B9'. At the bottom of the page, there is a copyright notice: '(C)2000-2009 BUFFALO INC. All rights reserved.'

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



## Password

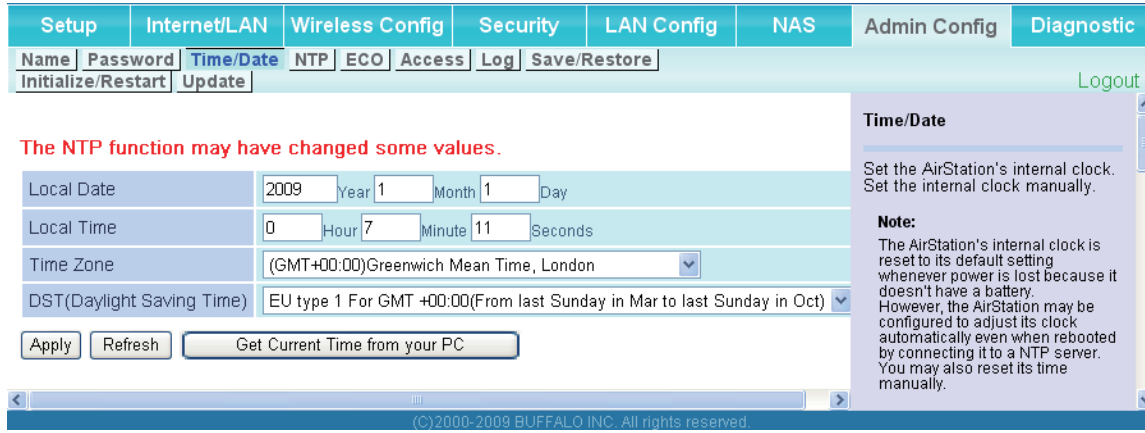
Configure the password to log in to the AirStation's configuration screen.



Parameter	Meaning
Administrator Name	The Administrator name is used to log in to the AirStation's configuration utility. This name is fixed as [root].
Administrator Password	The password is required to log in. It may contain up to 8 alphanumeric characters and underscores (_).

## Time/Date

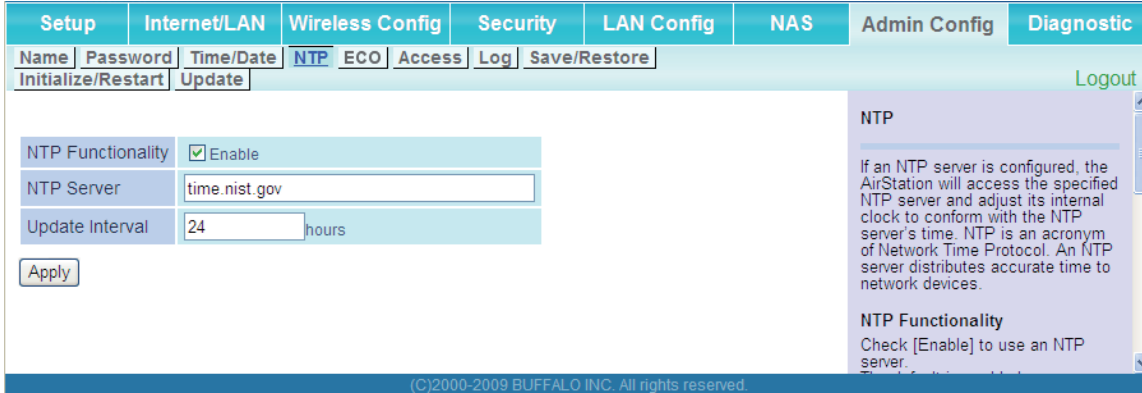
Configure the AirStation's internal clock.



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.
DST(Daylight Saving Time)	You may configure the AirStation to use DST(Daylight Saving Time). Select appropriate time according to your local time, and it changes time when DST starts it and also returns it automatically when DST finishes .

## NTP

Configure an NTP server to automatically synchronise the AirStation’s internal clock.



Parameter	Meaning
NTP Functionality	Enable to use an NTP server. The default is Enabled.
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. The default is [time.nist.gov].
Update Interval	How often will the AirStation check the NTP server for the correct time? Intervals of 1 - 24 hours may be set. The default is 24 hours.

# ECO

Configure Eco mode from this screen.

Setup	Internet/LAN	Wireless Config	Security	LAN Config	NAS	Admin Config	Diagnostic
-------	--------------	-----------------	----------	------------	-----	--------------	------------

Name	Password	Time/Date	NTP	ECO	Access	Log	Save/Restore	Initialize/Restart	Update	Logout
------	----------	-----------	-----	-----	--------	-----	--------------	--------------------	--------	--------

Schedule feature  Enable

---

### Weekly schedule

	00	02	04	06	08	10	12	14	16	18	20	22
Sun												
Mon												
Tue												
Wed												
Thu												
Fri												
Sat												

Normal
  Sleep
  User Define

Operational Mode	Normal
Start time	0:00
End time	0:30
The day of week	<input checked="" type="checkbox"/> Sun <input type="checkbox"/> Mon <input type="checkbox"/> Tue <input type="checkbox"/> Wed <input type="checkbox"/> Thu <input type="checkbox"/> Fri <input type="checkbox"/> Sat

---

### User Define Mode Settings

LED	Off
Wired LAN	ECO (Slow operation)
Wireless LAN	Off

### ECO

Configure ECO Mode. Enabling ECO Mode will put it in energy save operation according to Weekly schedule.

**Schedule feature**  
 Selecting "Enable" will enable ECO Mode and change the operation mode according to Weekly schedule. The default value is "Enable".

**Note:**

- The Operational Mode is changed even during communicating at the time set in the weekly schedule. Please note that communication may be disconnected in such a case.
- AOSS does not work during ECO mode if the Operational Mode is not "normal".
- Pressing and holding AOSS button on the main unit while the Operational Mode is not Normal can temporarily recover it to "Normal".

### Weekly schedule

Register Weekly schedule. If you want to change the Operational Mode you have registered, overwrite a period of time you want to change in the new Operational Mode.

**Register schedule**

**Operational Mode**  
 Select the Operational Mode. The default value is "Normal".

**Normal**  
 Does not perform energy saving operation.

**Sleep**  
 Perform following the energy saving operation.  
 \* Turn off LED  
 \* Stop wired LAN  
 \* Stop wireless LAN

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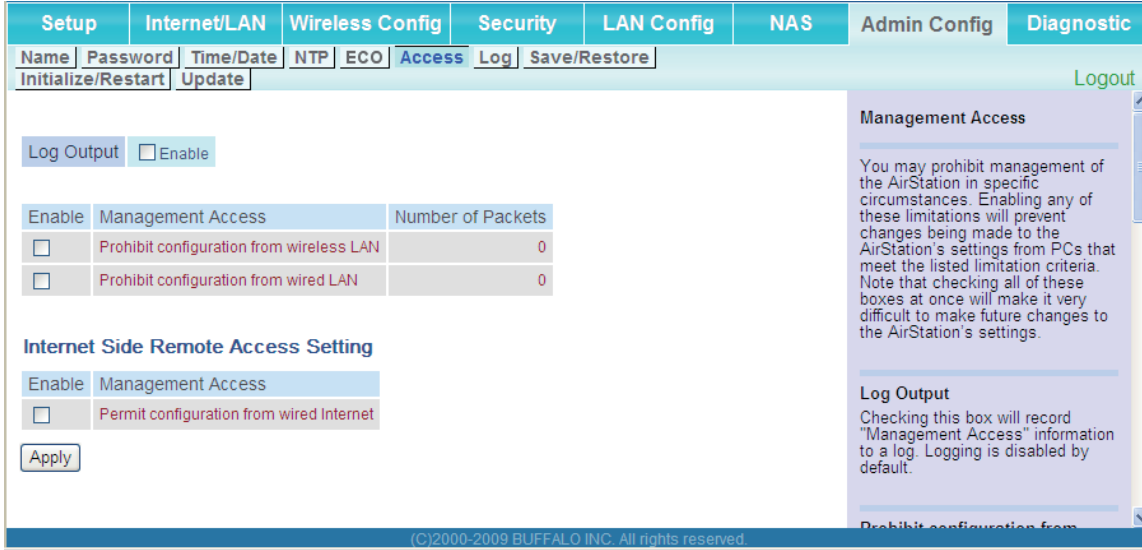
---

<b>Parameter</b>	<b>Meaning</b>
Schedule feature	Enable to schedule Eco mode. <b>Note:</b> If Schedule is enabled, AOSS will only function while the AirStation is in Normal Operating Mode.
Weekly schedule	Graphically displays the configured schedule.
Register schedule	Configure operational mode for time periods in the weekly schedule. If User Defined mode is chosen, configure it below.
User Define Mode	Individual power saving elements may be configured individually for User Defined mode.

---

## Access

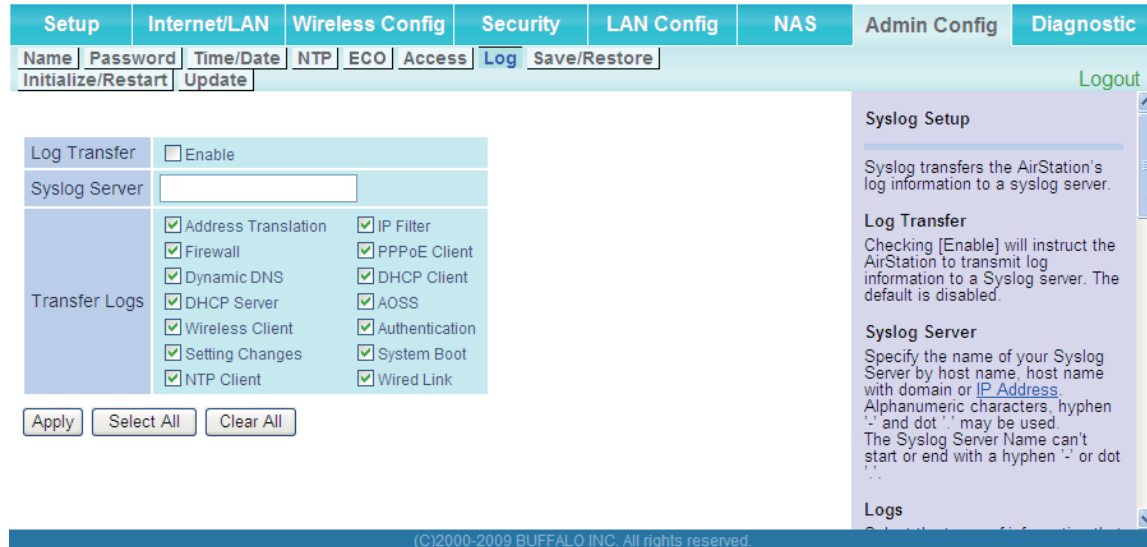
Restrict access to the AirStation’s settings screens.



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 WAN (Internet) side.
Permitted IP address	Displayed only if Internet side configuration is enabled. Enter the IP address of a device that is permitted to configure the AirStation remotely from the WAN (Internet) side.
Permitted Port	Displayed only if Internet side configuration is enabled. Set a port number (1 - 65535) to configure the AirStation from the WAN (Internet) side.

# Log

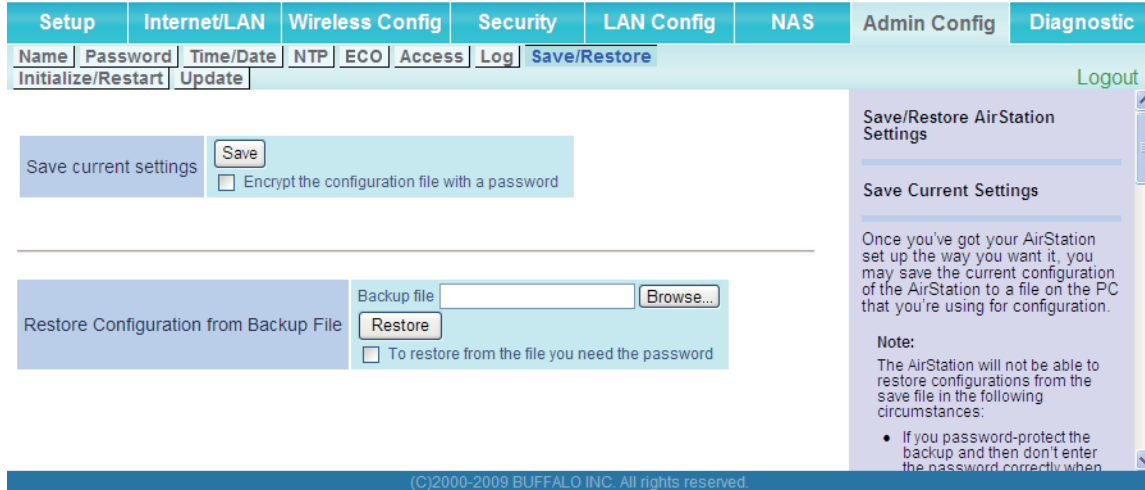
Transfer the AirStation's logs to a syslog server.



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

Save AirStation settings as a file, and restore from them later.



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 [Browse...] button, navigating to the configuration file, and then clicking Restore. If the configuration file was password protected, then put a check next to [To restore from the file you need the password], enter the password, and click [Open].



## Initialize/Restart

Initialize or restart the AirStation.



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.

The screenshot displays the 'Firmware Update' section of the AirStation's web management interface. The top navigation bar includes tabs for 'Setup', 'Internet/LAN', 'Wireless Config', 'Security', 'LAN Config', 'NAS', 'Admin Config', and 'Diagnostic'. Below this, a secondary row of tabs includes 'Name', 'Password', 'Time/Date', 'NTP', 'ECO', 'Access', 'Log', 'Save/Restore', and 'Initialize/Restart', with 'Update' selected. The main content area shows the current firmware version as 'WZR-HP-G300NH Ver.1.71'. Two update methods are available: 'Specify Local File' (selected with a radio button) and 'Automatic Update (On Line Version Up)'. A text input field for 'Firmware File Name' is accompanied by a 'Browse...' button. An 'Update Firmware' button is located below the input field. A sidebar on the right provides detailed instructions for each update method. At the bottom of the page, there is a link to 'Download Service' and a copyright notice for Buffalo Inc.

Parameter	Meaning
Firmware Version	Displays the current firmware version of the AirStation.
Update method	<p><b>Specify Local File</b> Updates the firmware stored on your computer.</p> <p><b>Automatic Update (On Line Version Up)</b> Automatically updates the latest firmware that is available online.</p>
Firmware File Name	Click [Browse...] to specify a firmware file and click [Update Firmware.] You don't need to specify the firmware location if selecting [Automatic Update].

# Diagnostic

## System Info

View system information for the AirStation.

Setup	Internet/LAN	Wireless Config	Security	LAN Config	NAS	Admin Config	Diagnostic																																
<a href="#">System Info</a>   <a href="#">Logs</a>   <a href="#">Packet Info</a>   <a href="#">Client Monitor</a>   <a href="#">Ping</a>							Logout																																
<table border="1"> <tr><td>Model</td><td>WZR-HP-G300NH</td></tr> <tr><td>AirStation Name</td><td>AP1234560003B9</td></tr> <tr><td>Mode Switch Status</td><td>Router Mode ON</td></tr> <tr><td>Operational Mode</td><td>Router Mode ON</td></tr> <tr><td>Movie Engine Status</td><td>OFF</td></tr> </table>		Model	WZR-HP-G300NH	AirStation Name	AP1234560003B9	Mode Switch Status	Router Mode ON	Operational Mode	Router Mode ON	Movie Engine Status	OFF	<table border="1"> <tr> <td rowspan="10">Internet</td> <td>Method of Acquiring IP Address</td> <td>Auto Detect Mode - DHCP</td> </tr> <tr> <td>Connection Status</td> <td>Communicating</td> </tr> <tr> <td>Operation</td> <td><input type="button" value="Release"/> <input type="button" value="Renew"/></td> </tr> <tr> <td>IP Address</td> <td>222.14.100.85</td> </tr> <tr> <td>PPP Server IP</td> <td>222.4.71.203</td> </tr> <tr> <td>DNS1(Primary)</td> <td>210.196.3.183 (Auto)</td> </tr> <tr> <td>DNS2(Secondary)</td> <td>210.141.112.163 (Auto)</td> </tr> <tr> <td>MTU Size</td> <td>1454</td> </tr> <tr> <td>Wired Link</td> <td>1000Base-TX (Full-duplex)</td> </tr> <tr> <td>MAC Address</td> <td>12:34:56:00:03:B9</td> </tr> </table>					Internet	Method of Acquiring IP Address	Auto Detect Mode - DHCP	Connection Status	Communicating	Operation	<input type="button" value="Release"/> <input type="button" value="Renew"/>	IP Address	222.14.100.85	PPP Server IP	222.4.71.203	DNS1(Primary)	210.196.3.183 (Auto)	DNS2(Secondary)	210.141.112.163 (Auto)	MTU Size	1454	Wired Link	1000Base-TX (Full-duplex)	MAC Address	12:34:56:00:03:B9	<p><b>System Information</b></p> <p>Display the AirStation's main settings.</p> <p><b>Model</b> Displays the model name and firmware version of the AirStation.</p> <p><b>AirStation Name</b> Displays the AirStation's host name.</p> <p><b>Status of the hardware mode switch</b> Displays the status of the ROUTER switch.</p> <p><b>Operational Mode</b> Displays the current mode of operation.</p> <p><b>Movie Engine Status</b> Displays the status of the Movie Engine switch.</p> <p><b>Internet</b> AirStation's <a href="#">Internet port</a> side information.</p> <p><b>Method of Acquiring IP Address</b> Acquiring a Internet IP address.</p> <p><b>Name of the Connection</b> The name of the PPPoE connection specified in the configuration.</p> <p><b>Connection Status</b> Displays the current Internet side status.</p> <p><b>Operational Mode</b> The Operational Mode will show if any DHCP or PPPoE configuration is active. If DHCP is in use, the following commands can be executed.</p> <ul style="list-style-type: none"> <li>• [Release] : Releases the IP address assigned by the DHCP Server.</li> <li>• [Renew] : Renews the IP address from the DHCP Server.</li> </ul> <p>The following commands can be executed when using PPPoE.</p>	
Model	WZR-HP-G300NH																																						
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<table border="1"> <tr><td rowspan="4">LAN</td><td>IP Address</td><td>192.168.11.1</td></tr> <tr><td>Subnet Mask</td><td>255.255.255.0</td></tr> <tr><td>DHCP Server</td><td>Enabled</td></tr> <tr><td>MAC Address</td><td>12:34:56:00:03:B9</td></tr> </table>		LAN	IP Address	192.168.11.1	Subnet Mask	255.255.255.0	DHCP Server	Enabled	MAC Address	12:34:56:00:03:B9																													
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<table border="1"> <tr><td rowspan="8">Wireless(802.11n/g/b)</td><td>Wireless Status</td><td>Enabled</td></tr> <tr><td>SSID</td><td>1234560003B9</td></tr> <tr><td>Authentication</td><td>WPA-PSK</td></tr> <tr><td>Encryption</td><td>AES</td></tr> <tr><td>Broadcast SSID</td><td>Enable</td></tr> <tr><td>Privacy Separator</td><td>Disable</td></tr> <tr><td>Wireless Channel</td><td>2 (Auto)</td></tr> <tr><td>300Mbps Mode</td><td>20 MHz</td></tr> <tr><td>MAC Address</td><td>12:34:56:00:03:B9</td></tr> </table>		Wireless(802.11n/g/b)	Wireless Status	Enabled	SSID	1234560003B9	Authentication	WPA-PSK	Encryption	AES	Broadcast SSID	Enable	Privacy Separator	Disable	Wireless Channel	2 (Auto)	300Mbps Mode	20 MHz	MAC Address	12:34:56:00:03:B9																			
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<table border="1"> <tr><td>USB disk</td><td>Not connected</td></tr> <tr><td>Shared Folder Function</td><td>Use</td></tr> </table>		USB disk	Not connected	Shared Folder Function	Use																																		
USB disk	Not connected																																						
Shared Folder Function	Use																																						

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<b>Parameter</b>	<b>Meaning</b>
Model	Displays the product name of the AirStation and the firmware version.
AirStation Name	Displays the AirStation 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.
Movie Engine Status	Displays the current Movie Engine Status.
Internet	Displays the information about the Internet port.
LAN	Displays the information about the LAN port.
Wireless	Displays the wireless status.
NAS	Displays the information about USB disk.

---

# Logs

The AirStation's logs are recorded here.

**Display log info**

<input checked="" type="checkbox"/> Address Translation	<input checked="" type="checkbox"/> IP Filter
<input checked="" type="checkbox"/> Firewall	<input checked="" type="checkbox"/> PPPoE Client
<input checked="" type="checkbox"/> Dynamic DNS	<input checked="" type="checkbox"/> DHCP Client
<input checked="" type="checkbox"/> DHCP Server	<input checked="" type="checkbox"/> AOSS
<input checked="" type="checkbox"/> Wireless Client	<input checked="" type="checkbox"/> Authentication
<input checked="" type="checkbox"/> Setting Changes	<input checked="" type="checkbox"/> System Boot
<input checked="" type="checkbox"/> NTP Client	<input checked="" type="checkbox"/> Wired Link

Display    Select All    Clear All

**Logs**

Save to file logfile.log.    Delete

Date Time	Type	Log Content
2009/06/10 05:34:05	AUTH	wl0: AUTH: WPA/WPA2 - Group Key handshake successful: 00:1d:73:92:0f:8:
2009/06/10 05:34:05	AUTH	ath0: STA 00:1d:73:92:0f:82 WPA: group key handshake completed (WPA)
2009/06/10 05:34:05	AUTH	wl0: AUTH: Updating group key
2009/06/10 04:35:52	NAT	ip_nat_pptp version 3.0 loaded
2009/06/10 04:35:52	NAT	ip_conntrack_pptp version 3.1 loaded
2009/06/10 04:35:50	NAT	ip_conntrack_pptp version 3.1 unloaded
2009/06/10 04:35:50	NAT	ip_nat_pptp version 3.0 unloaded
2009/06/10 04:35:49	DHCPS	max_leases value (256) not sane, setting to 64 instead
2009/06/10 04:35:49	DHCPS	udhcpd (v0.9.9-pre) started
2009/06/10 04:35:46	DHCPC	Info : LEASETIME(86400) , RENEWALTIME(43200) , REBINDTIME(75600)
2009/06/10 04:35:46	DHCPC	Info : DHCPNAME =
2009/06/10 04:35:46	DHCPC	Info : DHCPHADDR = 00:1B:C0:35:7B:0B
2009/06/10 04:35:46	DHCPC	Info : DHCPCHADDR = 12:34:56:00:03:B9
2009/06/10 04:35:46	DHCPC	Info : DHCPPIADDR = 0.0.0.0
2009/06/10 04:35:46	DHCPC	Info : DHCPGIADDR = 0.0.0.0
2009/06/10 04:35:46	DHCPC	Info : DHCPID = 192.168.1.2
2009/06/10 04:35:46	DHCPC	Info : DNS[2] = 192.168.1.10
2009/06/10 04:35:46	DHCPC	Info : DNS[1] = 192.168.1.8

**Display log info**

Select the types of information that should be logged by the AirStation. The default is All. The following items can be selected:

- Address Translation
- IP Filter
- Firewall(Includes discarded IP Masquerade packets)
- PPPoE Client(Internet side)
- Dynamic DNS(Internet side)
- DHCP Client (Internet side)
- DHCP Server(LAN side)
- AOSS
- Wireless Client(Start/stop and client connection)
- Authentication
- Setting Changes
- System Boot
- NTP Client
- Wired Link (Internet/LAN)

**Chart of TYPE names**

LOG INFO	TYPE
Address Translation	NAT
IP Filter	FILTER
Firewall	FIREWALL
PPPoE Client	PPPOE
Dynamic DNS	DDNS
DHCP Client	DHCPC
DHCP Server	DHCPS
AOSS	AOSS
Wireless Client	WIRELESS
Authentication	AUTH
Setting Changes	CONFIGURE

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**Parameter**

**Meaning**

Display log info

Choose the types of logs to display.

Logs

Displays the log information recorded in the AirStation.

## Packet Info

View packet transfer information.

The screenshot shows a web interface with a navigation menu at the top containing: Setup, Internet/LAN, Wireless Config, Security, LAN Config, NAS, Admin Config, Diagnostic. Below the menu are sub-links: System Info, Logs, Packet Info (selected), Client Monitor, Ping, and a Logout button.

The main content area features a table with the following data:

Interface	Sent		Received	
	Normal	Errors	Normal	Errors
Wired LAN	40512	0	20962	0
Wired Internet	27968	0	93112	0
Wireless LAN (802.11n/g/b)	9736	0	8457	0

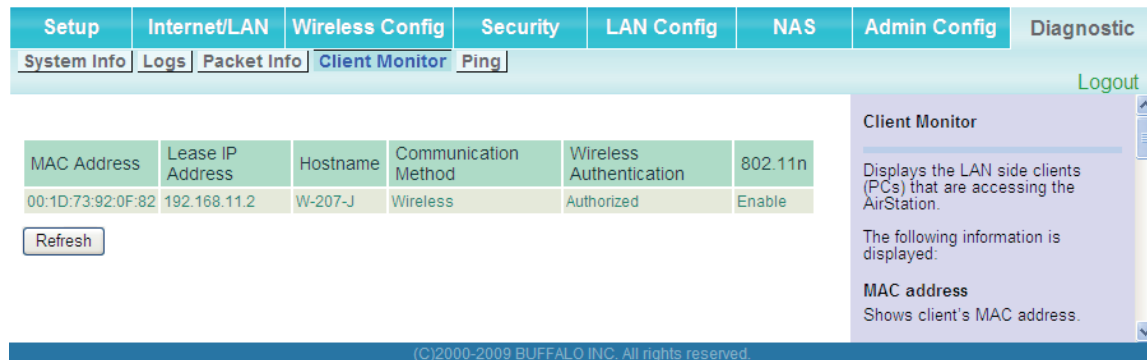
Below the table is a Refresh button. To the right is a sidebar titled "Packet Traffic Information" containing explanatory text and a Refresh button description.

At the bottom of the interface, a copyright notice reads: (C)2000-2009 BUFFALO INC. All rights 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 packets 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 shows devices that are connected to the AirStation.



MAC Address	Lease IP Address	Hostname	Communication Method	Wireless Authentication	802.11n
00:1D:73:92:0F:82	192.168.11.2	W-207-J	Wireless	Authorized	Enable

Refresh

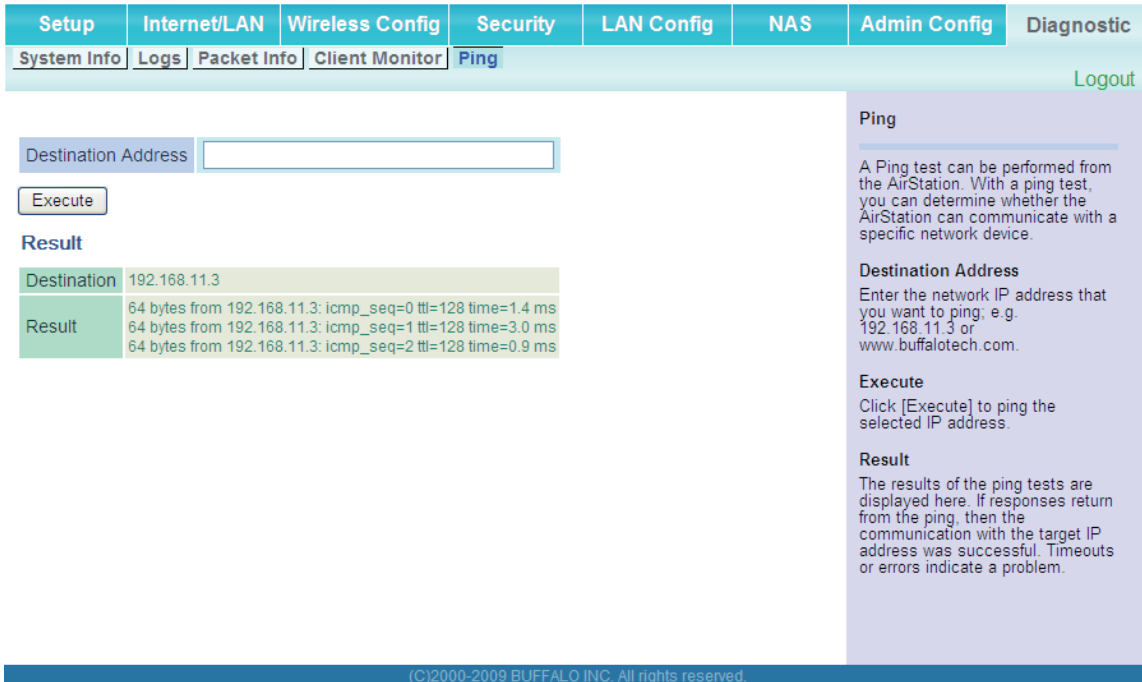
Client Monitor  
Displays the LAN side clients (PCs) that are accessing the AirStation.  
The following information is displayed:  
**MAC address**  
Shows client's MAC address.

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Parameter	Meaning
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.



The screenshot shows the web interface for the Ping test. At the top, there is a navigation menu with tabs for Setup, Internet/LAN, Wireless Config, Security, LAN Config, NAS, Admin Config, and Diagnostic. The Diagnostic tab is active, and the Ping sub-tab is selected. Below the navigation menu, there is a 'Logout' link. The main content area is divided into two sections. On the left, there is a 'Destination Address' input field, an 'Execute' button, and a 'Result' section. The 'Result' section displays three successful ping results for the IP address 192.168.11.3. On the right, there is a detailed explanation of the Ping test, including instructions for entering the destination address and interpreting the results. At the bottom of the interface, there is a footer that reads '(C)2000-2009 BUFFALO INC. All rights reserved.'

Parameter	Meaning
Destination Address	Enter an IP address or a host name of the device for which you try to verify the connection, and click [Execute]. The result will be displayed in the [Result] field.

Note : Examples in this manual show the [User-friendly] firmware. The dd-wrt based Professional firmware is somewhat different. For more information on the Professional firmware, visit dd-wrt's website at [www.dd-wrt.com](http://www.dd-wrt.com).



# Chapter 5 Connect to a Wireless Network

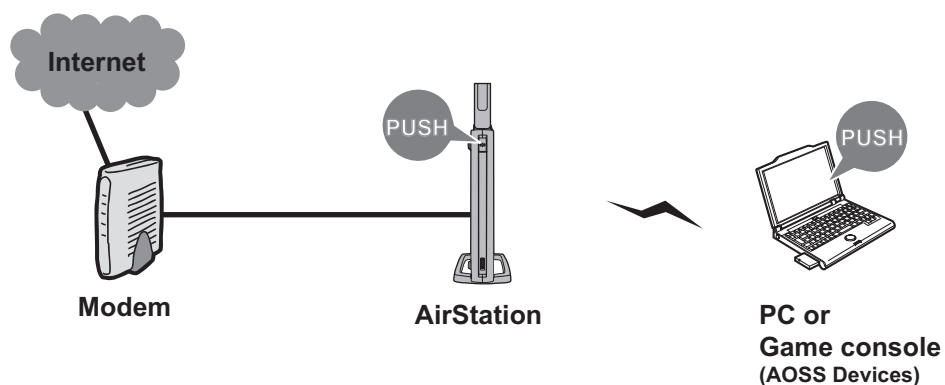
## Automatic Secure Setup (AOSS/WPS)

---

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.

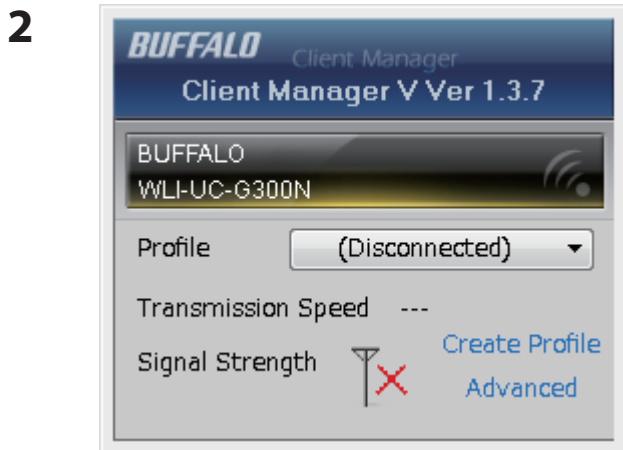


- Before using AOSS or WPS to connect to a Buffalo wireless client, install Client Manager software from the included AirNavigator CD. Consult your wireless client's documentation for more information.
- Buffalo's Client Manager software can be used with the wireless LAN devices built into your computer.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

## Windows 7/Vista (Client Manager V)

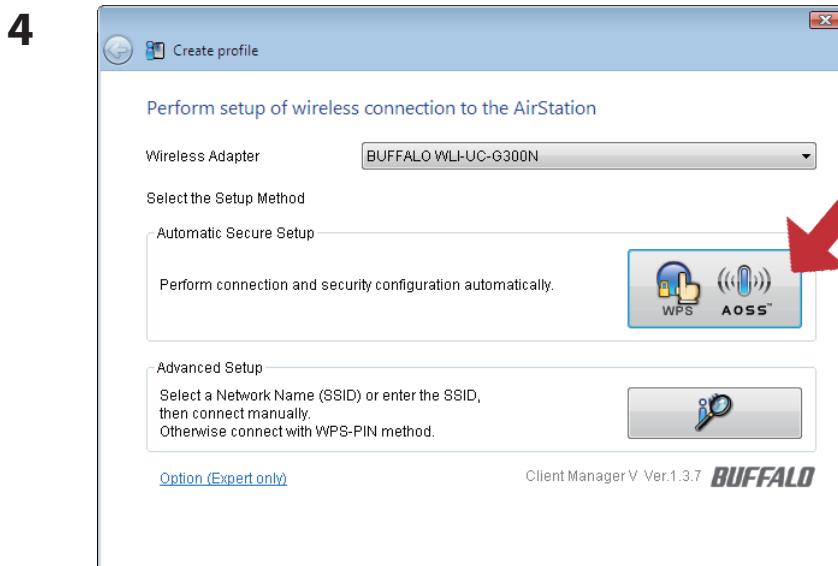
If you are using Windows 7/Vista, use the included Client Manager V software to connect wirelessly with AOSS/WPS.

1 Click the icon  in the system tray.



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

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




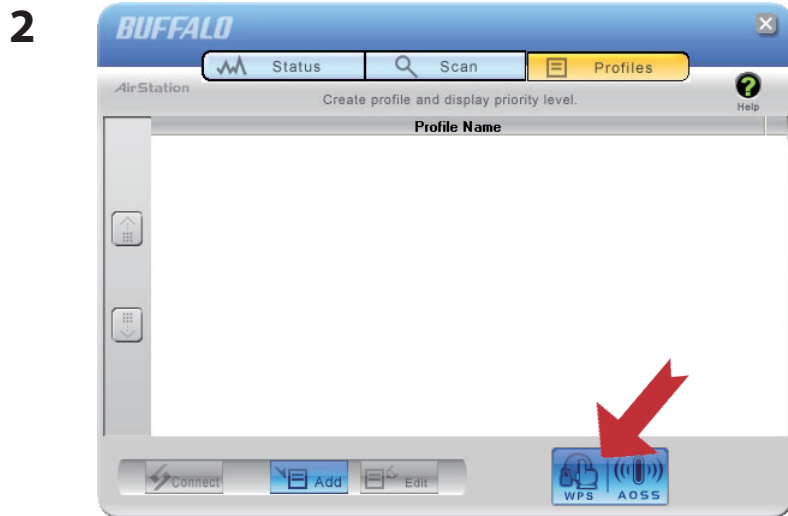
Click the [WPS AOSS] button.

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].



Click the [WPS AOSS] button.

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

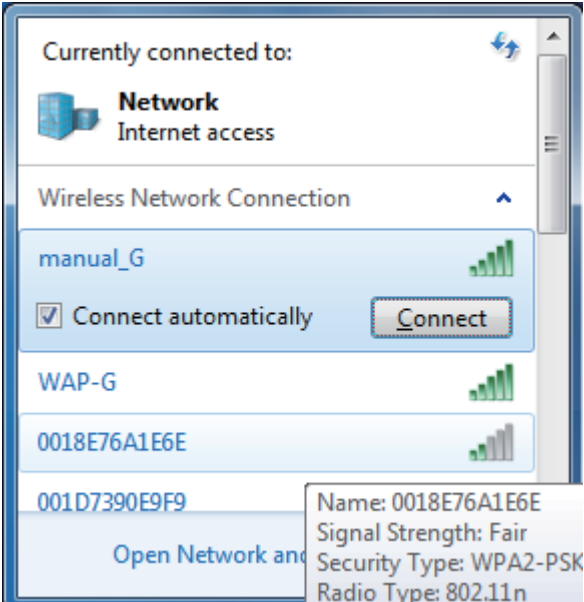
---

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.

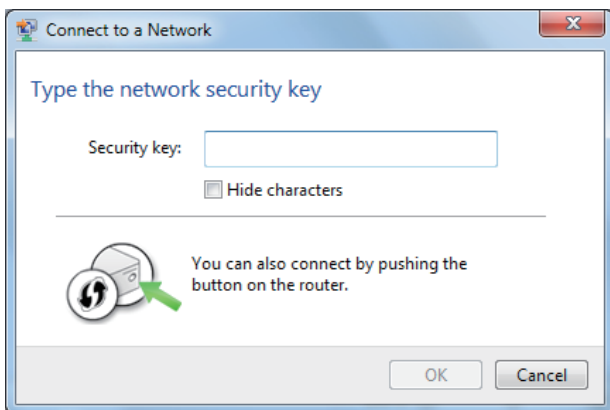
### Windows 7 (WLAN AutoConfig)

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

- 1 Click on the network icon  in the system tray.

- 2  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.

3



Enter the encryption key and click [OK].

## Windows Vista (WLAN AutoConfig)

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

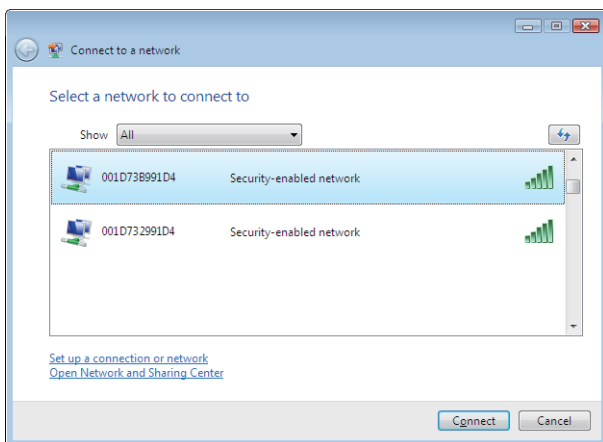
1

Right-click on the wireless network icon  in the system

2

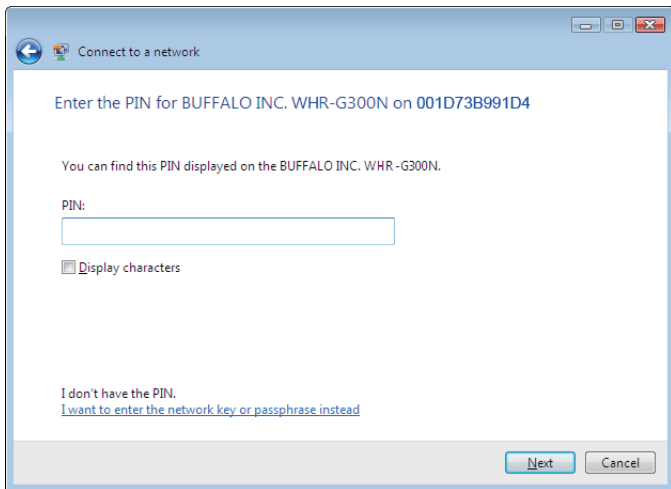
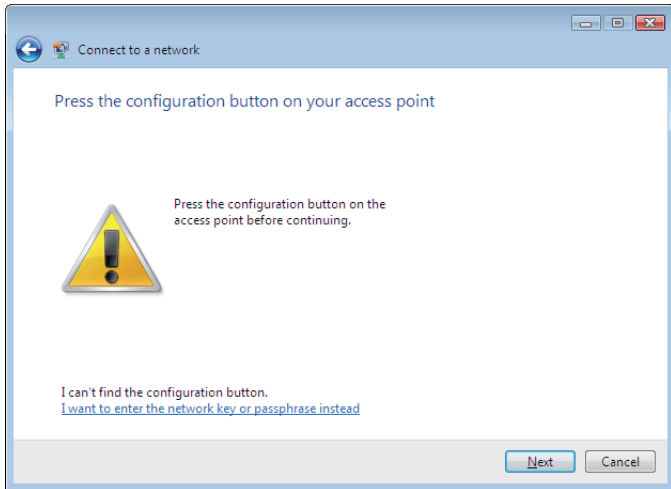
Click [Connect to a network].

3

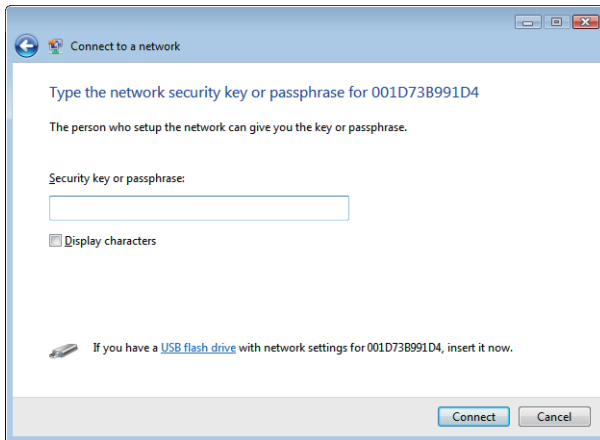


When the screen at left is displayed, select the network to connect to and click [Connect].

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



4




Enter the encryption key and click [Connect].

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.

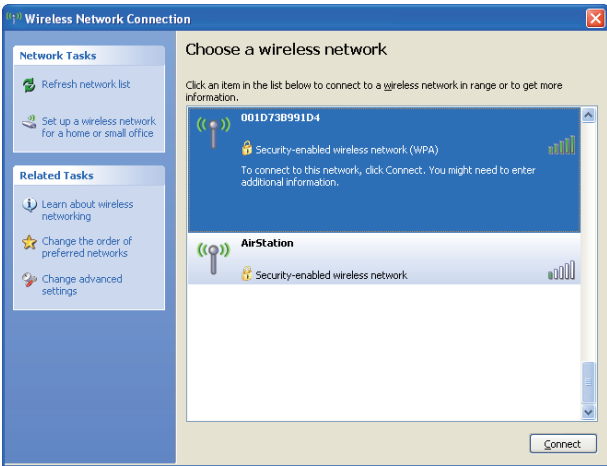
## Windows XP (Wireless Zero Configuration)

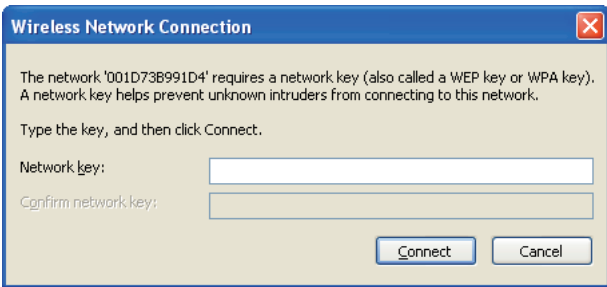
Windows XP includes a built-in utility to connect to your AirStation.

**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].

**3**  Select the network to connect to and click [Connect].

**4**  Enter the encryption key (twice) and click [Connect].

Follow the instructions displayed on the screen to finish configuration.



# Chapter 6 Trouble Shooting

## **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 is 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 3 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 in the address bar. Hit the Enter key. You will be prompted to log in. Enter "root" for the username and leave the password box 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 connection drops 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 connect your computer directly to the modem with an Ethernet cable. Power on the modem and wait one minute. Power on the computer and again check for an Internet connection.

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 Buffalo Technology's 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](http://www.buffalotech.com)***

# Appendix A Specifications

<b>Wireless LAN Interface</b>	
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 BW (LongGI) 130, 117, 104, 78, 52, 39, 26, 13Mbps (2 stream) 65, 58.5, 52, 39, 26, 19.5, 13, 6.5Mbps (1 stream) (ShortGI) 130, 115.5, 86.6, 57.7, 43.3, 28.8, 14.4Mbps (2 stream) 65, 72.2, 57.8, 43.3, 28.9, 21.7, 14.4, 6.5Mbps (1 stream) 40MHz BW (LongGI) 270, 243, 216, 162, 108, 81, 54, 27Mbps (2 stream) 135, 121.5, 108, 61, 54, 40.5, 27, 13.5Mbps (1 stream) (ShortGI) 300, 270, 240, 180, 120, 90, 60, 30Mbps (2 stream) 150, 135, 120, 90, 60, 45, 30, 15Mbps (1 stream)
Access Mode	Infrastructure Mode
Security	AOSS, WPA2-PSK (TKIP/AES), WPA/WPA2 mixed PSK, WPA-PSK (TKIP/AES), 128/64bit WEP, Mac Address Filter
<b>Wired LAN Interface</b>	
Standard Compliance	IEEE802.3u (100BASE-TX), IEEE802.3 (10BASE-T)
Transmission Rate	10 / 100 / 1000 Mbps
Transmission Encoding	1000BASE-T 4DPAM5, 100BASE-TX 4B5B/MLT-3, 10BASE-T Manchester Coding
Access Method	CSMA/CD
Speed and Flow Control	10/100/1000 Mbps, Auto Sensing, Auto MDIX
Number of LAN Ports	4
LAN Port Connector	RJ-45
<b>USB Interface</b>	
Interface	USB 2.0
Connector Type	Type A (plug)

Compliance	5.0 V 500 mA (Max. 1000 mA)
<b>Other</b>	
Power Supply	External AC 100-240 V Universal, 50/60 Hz
Power Consumption	About 14.0 W (Max)
Dimensions	165 mm x 158 mm x 30 mm (6.5" x 6.2" x 1.2")
Weight	338 g (12 oz.) (not including the stand)
Operating Environment	0 - 40° C (32 - 104° F), 20 - 80% (non-condensing)

# Appendix B Default Configuration Settings

Feature	Parameter	Default Setting
Internet (Router Mode only)	Method of Acquiring IP Address	Perform Easy Setup (Internet Connection Wizard)
	Default Gateway	none
	Address of DNS Name Server	none
	Internet MAC Address	Use Default MAC Address
	MTU Size of Internet Port	1500 Bytes
PPPoE (Router Mode only)	Default PPPoE Connection	No Active Session
	IP Unnumbered PPPoE Connection	No Active Session
	PPPoE Connection List	none
	Preferred Connections	none
DDNS (Router Mode only)	Dynamic DNS Service	Disabled
	Current Dynamic DNS Information	none
VPN Server (Router Mode only)	LAN Side IP Address	192.168.11.1(255.255.255.0)
	DHCP Server Function	Enabled
	DHCP IP Address Pool	192.168.11.2 for up to 64 Address(es)
	PPTP Server Function	Disabled
	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



Feature	Parameter	Default Setting
LAN	LAN Side IP Address	Router Mode (Router Switch AUTO/ON): 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
	DHCP Server Function (Router Mode only)	Enabled
	DHCP IP Address Pool (Router Mode only)	192.168.11.2 for up to 64 Addresses
	LAN Side IP Address (IP Unnumbered) (Router Mode only)	none
	Lease Period (Router Mode only)	48Hours
	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
NAT (Router Mode only)	Address Translation	Enabled
	Log Output of Deleted Packets	Disabled
Route	Routing Information	none

Feature	Parameter	Default Setting
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: configured SSID: AirStation's MAC Address Security: WPA/WPA2 mixedmode - PSK TKIP/AES mixedmode Encryption key: A 13-digit random value or disabled. (Printed on the label of the AirStation if enabled.)
AOSS	Encryption Type of Exclusive SSID for WEP	None
	Encryption level expansion function	Enabled
	Dedicated WEP SSID isolation	Disabled
	Dedicated WEP for game consoles	Enabled
	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	Use AirStation's MAC address
	Wireless authentication	WPA/WPA2 mixedmode - PSK, or no authentication
	Wireless encryption	TKIP/AES mixedmode, or no encryption
	WPA-PSK (Pre-Shared Key)	A 13-digit random value or disabled (Printed on the label of the AirStation if enabled.)
	Rekey interval	60 minutes
Advanced	Multicast Rate	Auto
	DTIM Period	1
	Privacy Separator	Disabled

Feature	Parameter	Default Setting		
WMM	WMM-EDCA Parameters (Priority AC_BK (Low) )		For AP	For STA
		CWmin	15	15
		CWmax	1023	1023
		AIFSN	7	7
		TXOP Limit	0	0
		Admission Control	-----	Disabled
	WMM-EDCA Parameters (Priority AC_BE (Normal) )		For AP	For STA
		CWmin	15	15
		CWmax	63	1023
		AIFSN	3	3
		TXOP Limit	0	0
		Admission Control	-----	Disabled
	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	-----	Disabled
	WMM-EDCA Parameters (Priority AC_VO (Highest) )		For AP	For STA
		CWmin	3	3
CWmax		7	7	
AIFSN		1	2	
TXOP Limit		47	47	
Admission Control		-----	Disabled	
MAC Filter	Enforce MAC Filter	Disabled		
	Registration List	none		
Multicast Control	Snooping	Enabled		
	Multicast Aging Time	300 Sec.		
WDS	WDS	Use		
	Specify Master/Slave	Master		
Firewall (Router Mode only)	Log Output	Disabled		
	Basic Rules	Prohibit NBT and Microsoft-DS Routing	Disabled	
		Reject IDENT Requests	Enabled	
		Block Ping from Internet	Enabled	

Feature	Parameter	Default Setting
IP Filter (Router Mode only)	Log Output	Disabled
	IP Filter Information	none
VPN Pass Through (Router Mode only)	IPv6 Pass Through	Disabled
	PPPoE Pass Through	Disabled
	PPTP Pass Through	Enabled
Port Forwarding (Router Mode only)	Port Forwarding Registration Information	none
DMZ (Router Mode only)	IP Address of DMZ	none
UPnP (Router Mode only)	UPnP	Enabled
QoS (Router Mode only)	QoS for transmission to the Internet	Disabled
Movie Engine	Movie Engine switch status	OFF
	IPv6 Pass Through	Use
	Multicast Rate	11 Mbps
	Multicast Control	Snooping Function Use Aging Time Seconds 300 Seconds Change Priority VI (priority)
	TCP Rwin Size Limit	Size Limit No limit Maximum Rwin Size 65536 bytes
	Wireless Priority Control Rules	None
	Transmission Rate Limit	No Limits
Disk Management	Automatic USB Disk Assignment	Use
	FAT format file name character code	North America (CP437)
	HDD power-saving function	Not used HDD stop time 10 Minutes
Shared Folder	Access Limits	No Limits (Read/Write)
	Web Access	Use Access Limits
User Management	Current Users	guest

Feature	Parameter	Default Setting
Shared Service	Shared Folder	Enabled
	AirStation Name	AP + AirStation's MAC Address
	AirStation Description	None
	Workgroup Name	WORKGROUP
	Windows Client Language	North America (CP437)
	Shared Service	None
Web Access	Web Access	Disabled
	Web Access Display Language	English
	HTTPS/SSL Encryption	Disabled
	Web Access External Port	Auto (Port Number:9000)
	DNS Service Host Name	Use BuffaloNAS.com registration function
	Web Access status	None
Media Server	Media Server	Disabled
	Status	None
BitTorrent	BitTorrent Function	Disabled
	External Port Number	Auto (Port Number: 9002)
	Bandwidth Restriction	Enabled Maximum Download Speed 1000kB/s Maximum Upload Speed 200kB/s
	BitTorrent Status	None
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, or (GMT+00:00) Greenwich Mean Time, London
	DST(Daylight Saving Time)	USA (From Second Sunday in Mar to first Sunday in Nov), or disabled
NTP	NTP Functionality	Enabled
	NTP Server	time.nist.gov
	Update Interval	24 hours

Feature	Parameter	Default Setting
ECO	schedule Feature	Disabled
	Register schedule	Operational Mode: Normal Start time: 0:00 End time: 0:30 The day of week: none
	User Define Mode	LED: Off Wired LAN: ECO (Slow operation) Wireless LAN: Off
Access	Log Output	Disable
	Limitation Item	Prohibit configuration from wireless LAN Disabled Prohibit configuration from wired LAN Disabled Permit configuration from wired Internet Disabled
Log	Log Transfer	Disabled
	Syslog Server	none
	Transfer Logs	Router Mode: Address Translation, IP Filter, Firewall, PPPoE Client, 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, Authentication, Setting Changes, System Boot, NTP Client, and Wired Link

# Appendix C TCP/IP Settings in Windows

## Windows 7

---

To configure TCP/IP in 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 configure TCP/IP in 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].



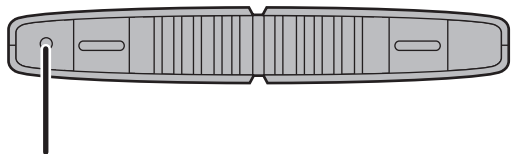
## Windows XP

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To configure TCP/IP in 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



With the AirStation powered on, hold down this button for 3 seconds to return it to factory default settings.

# Appendix E Shared Folders and the USB Port

There are several restrictions on using the AirStation's USB port:

- Bus-powered hard drives are not supported. Always use the hard drive's AC adapter.
- When using two-byte characters (such as Japanese), keep folder and file names within 80 characters (160 bytes). You may not be able to copy a folder or a file whose name length is more than 80 characters.
- The AirStation doesn't support hidden or read-only attributes for files and folders.
- When using access restrictions, you can register up to 16 users for the AirStation.
- Please note that you are not allowed to use any of the following words as a user or group name: adm, administrator, all, bin, daemon, disk, ftp, guest, halt, hdusers, kmen, lp, mail, man, news, nobody, nogroup, none, operator, root, shadow, shutdown, sshd, sync, sys, ttyusers, utmp, uucp, www.
- Please note that you are not allowed to use any of the following words as a shared folder name: global, homes, printers, bittorrent, disk1\_pt1, disk1\_pt2, disk1\_pt3, disk1\_pt4, disk2\_pt1, disk2\_pt2, disk2\_pt3, disk2\_pt4, disk3\_pt1, disk3\_pt2, disk3\_pt3, disk3\_pt4, disk4\_pt1, disk4\_pt2, disk4\_pt3, disk4\_pt4.
- If shared folder names, work group names and file names contain any of the following characters, you may not access data or manipulate files on the AirStation properly. In such a case, use a different character.
- If a file created on a Macintosh contains any of the following characters, it will not be displayed correctly under Windows OS. Also, you cannot copy or properly display a file when connecting via SMB from Mac OS X if it contains any of these characters:  
`? [ ] / \ = + < > ; : " , | *`
- Cancelling or aborting a file copy may leave the file incomplete, and you may no longer be able to delete the incomplete file. This can also happen during a power outage or if the LAN cable is suddenly disconnected. If it happens, restart the AirStation, delete the file, and try copying the file again.
- Use the same user name and password for the AirStation as the user's Windows login. If they are different, the user may not be able to access shared folders with access restrictions on the AirStation.
- Date and Time stamps stored on the USB hard disk may be updated by the OS accessing the AirStation. File creation or access dates may not be maintained.

- The web-based configuration interface shows the size of hard drives in gigabytes (1,000,000,000 bytes); Windows drive properties shows hard drive sizes in gibibytes (1,073,741,824 bytes). The Windows value will be a smaller number.
- If you have logged in using a “guest” account from Windows 7, Vista, XP or 2000, access restrictions may not work properly. A “guest” account already exists on the AirStation by factory default.
- If you access a shared folder from a Macintosh computer, additional Mac OS X information files may be automatically generated. Do not delete these files from a Windows computer. Otherwise, you may no longer be able to access folders from a Macintosh.
- The following device types may be connected to the AirStation’s USB connector: USB hard disks, USB memory, and USB card readers. Card readers with 5 or more slots are not supported. USB devices such as a digital cameras, CD/DVD drives, USB hubs, mice, and keyboards are not supported.
- Encrypted USB hard drives are not supported.
- Only one single drive may be connected to the AirStation’s USB port at a time. Drives manufactured by other companies besides Buffalo Technology are not supported.
- If your hard disk has an auto power mode switch, move the switch to “manual” or “on”. Leaving the switch set to “auto” may result in unpredictable behavior.
- Up to 4 partitions can be recognized on a USB hard disk.
- The following file systems are supported for USB hard disks: FAT12, FAT16, FAT32, and XFS.

# Appendix F 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.

## **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.

## **Europe – EU Declaration of Conformity**

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

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.



### Česky[Czech]

Buffalo Technology Inc. tímto prohlašuje, že tento AirStation WZR-HP-G300NH 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 WZR-HP-G300NH 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 WZR-HP-G300NH 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 WZR-HP-G300NH vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.

### English

Hereby, Buffalo Technology Inc. declares that this AirStation WZR-HP-G300NH 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 WZR-HP-G300NH 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 WZR-HP-G300NH 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 WZR-HP-G300NH 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 WZR-HP-G300NH 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 WZR-HP-G300NH atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.

Lietuvių[Lithuanian]

Šiuo Buffalo Technology Inc. deklaruoja, kad šis AirStation WZR-HP-G300NH atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.

Nederlands[Dutch]

Hierbij verklaart Buffalo Technology Inc. dat het toestel AirStation WZR-HP-G300NH 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 WZR-HP-G300NH jikkonforma mal-ħtiġijiet essenzjali u ma provvedimenti oħrajn rilevanti li hemm fid-Dirrettiva 1999/5/EC.

Magyar[Hungarian]

Alulírott, Buffalo Technology Inc. nyilatkozom, hogy a AirStation WZR-HP-G300NH megfelel a vonatkozó alapvető követelményeknek és az 1999/5/EC irányelv egyéb előírásainak.

Polski[Polish]

Niniejszym, Buffalo Technology Inc. , deklaruję, że AirStation WZR-HP-G300NH spełnia wymagania zasadnicze oraz stosowne postanowienia zawarte Dyrektywie 1999/5/EC.

Português[Portuguese]

Buffalo Technology Inc. declara que este AirStation WZR-HP-G300NH está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.



Slovensko[Slovenian]

Buffalo Technology Inc. izjavlja, da je ta AirStation WZR-HP-G300NH v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES.

Slovensky[Slovak]

Buffalo Technology Inc. týmto vyhlasuje, že AirStation WZR-HP-G300NH spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.

Suomi[Finnish]

Buffalo Technology Inc. vakuuttaa täten että AirStation WZR-HP-G300NH 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 WZR-HP-G300NH står i överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.

## **Taiwan:**

SAR compliance has been established in typical laptop computer(s) with CardBus slot, and product could be used in typical laptop computer with CardBus slot. Other application like handheld PC or similar device has not been verified, may not comply with related RF exposure rules, and such use shall be prohibited.

## **Safety**

This equipment is designed with the utmost care for the safety of those who install and use it. However, special attention must be paid to the dangers of electric shock and static electricity when working with electrical equipment. All guidelines of this manual and of the computer manufacturer must therefore be allowed at all times to ensure the safe use of the equipment.

## 來自台灣 **NCC** 的警告

### 第十二條：

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。

### 第十四條：

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。

이 기기는 가정용으로 전자파적합등록을 한 기기로서 주거지역에서는 물론 모든 지역에서 사용할 수 있습니다.

해당 무선설비는 전파혼신 가능성이 있으므로 인명안전과 관련된 서비스는 할 수 없음

# Appendix G 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 H GPL Information

The source code for Buffalo products that use GPL code is available at <http://opensource.buffalo.jp/>.

# Appendix I 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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