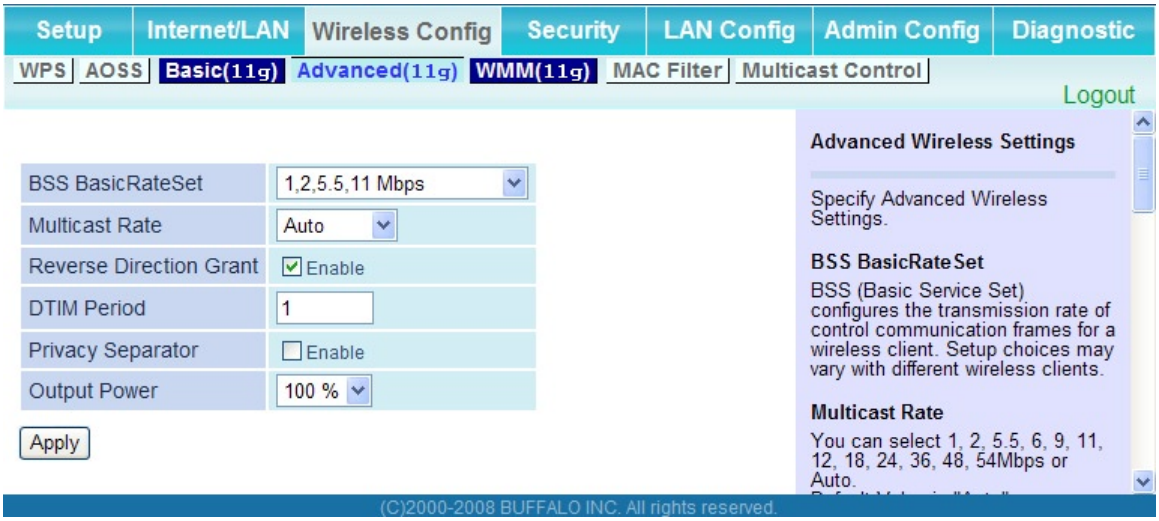
Advanced

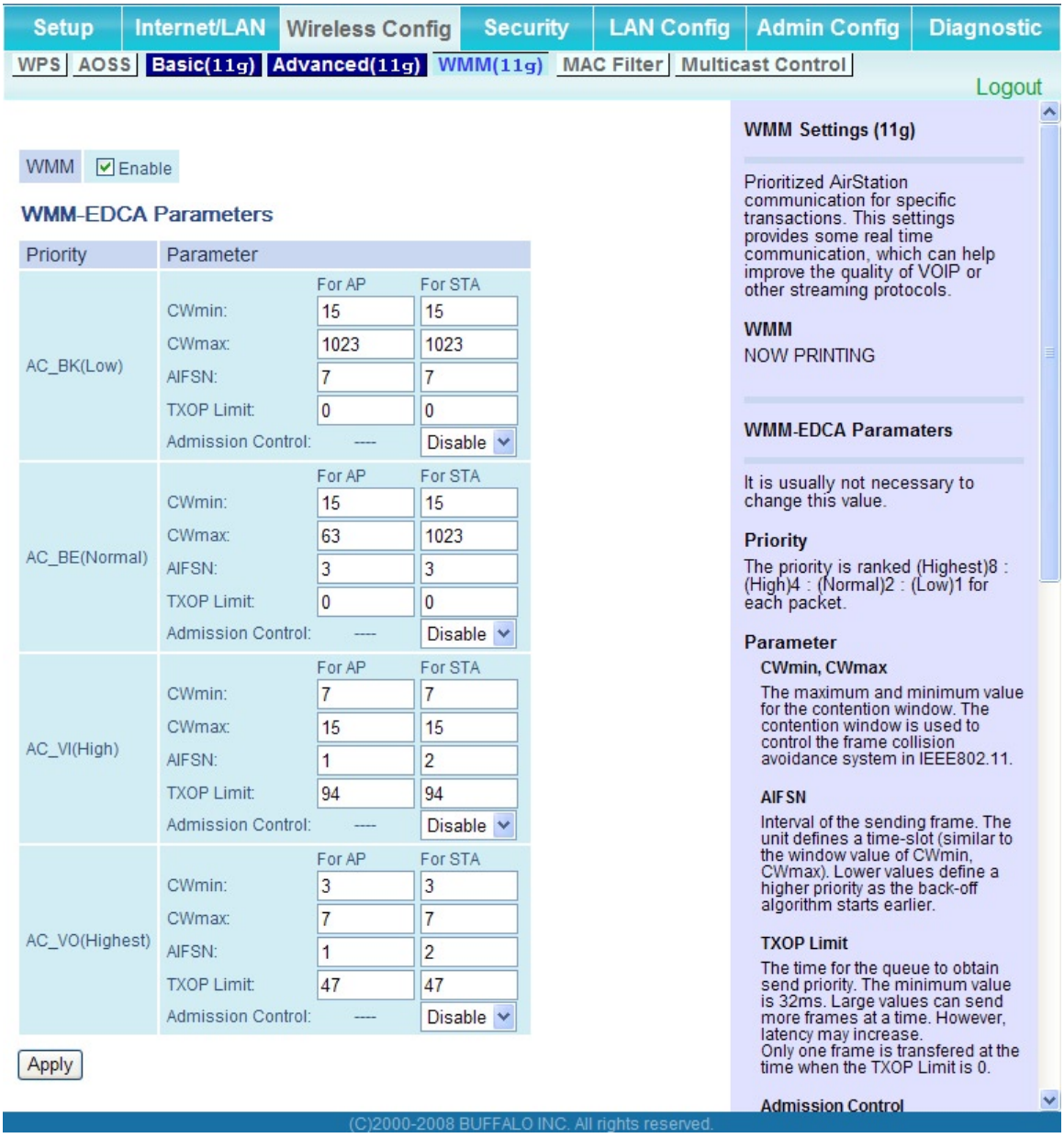
The screen to configure the advanced wireless settings.



Parameter	Meaning
BSS Basic Rate Set	Set the communication speeds of administrative and communication control frames of the AirStation and wireless devices.
Multicast Rate	Set the communication speed of multi-cast packets.
Reverse Direction Grant	For faster wireless communication, you may enable receiving packets while sending packets.
DTIM Period	Set the beacon responding interval (1 -255) which is notified to a wireless device. This setting is effective only when the power management feature is enabled on a 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.
Output Power	You may reduce the wireless radio power output. The power of a radio wave and the distance that that radio wave reaches are almost proportional, so if the output power is reduced, the distance that the signal reaches also becomes smaller.

WMM

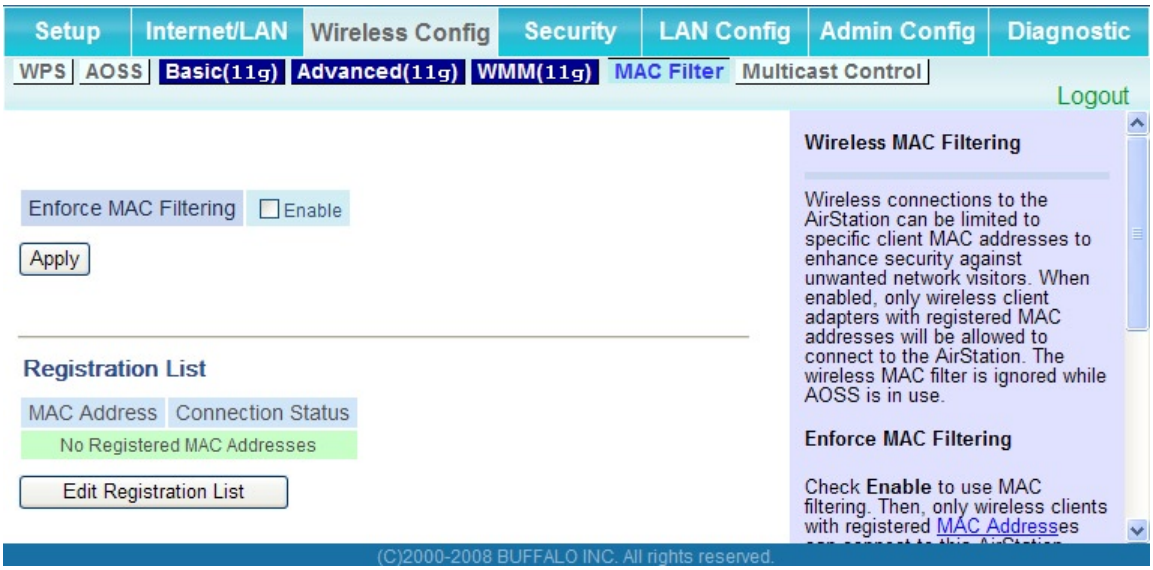
The screen to set the priorities for specific communications the AirStation performs.



Parameter	Meaning
WMM	WMM is a standard that includes basic Quality of Service (QoS) features for wireless networks. If disabled, QoS features will not be available.
WMM-EDCA Parameters	You don't usually need to change these settings. Using the default settings is recommended. **Priority** 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. **CWmin, CWmax** The maximum and minimum value of the contention window. The contention window is used in the frame collision avoidance structure performed in IEEE802.11, and generally the smaller the value in the window, the higher the probability that the queue obtains the right to send. **AIFSN** The interval to send frames. The unit of the AIFSN is a slot, just as the window defined by CWmin and CWmax is. The smaller the interval of sending frames, the faster the algorithm can restart. As a result, the priority of the queue is higher. **TXOP Limit** The period of time that the queue can use after obtaining the right to send. The unit is 32 ms. The longer this time, the more frames can be sent per right to send. However, the que may interfere with other packet transmissions. If TXOP Limit is set to 0 (zero), only one frame can be sent per right to send. **Admission Control** Restricts new frames from interfering with a previous queue. New packets are prioritized lower until a queue of them is collected. As the new queue accumulates more packets, its priority increases.

MAC Filter

The screen to configure the access restrictions from 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 this button to add a MAC address of a wireless device to the list of permitted devices.
MAC Addresses to be Registered	Enter a MAC address of a wireless device you permit to connect to the AirStation. Click "*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

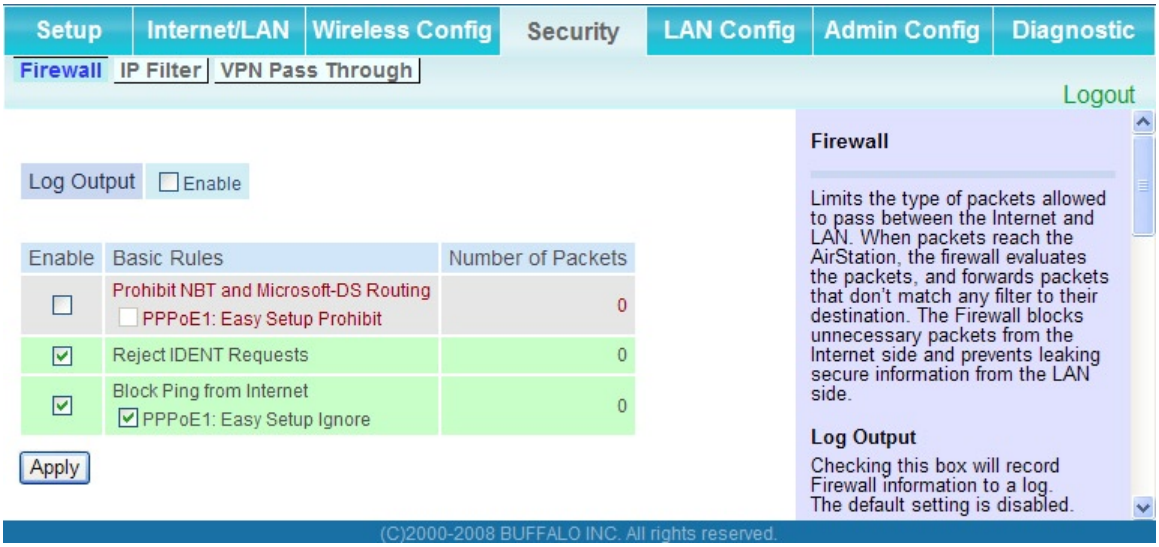
The screen to configure restrictions on unnecessary multicast packets sent to the wireless LAN port.

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). You need to enter a value which is bigger than the interval of a IGMP/MLD query.

Security (Router Mode only)

Firewall (Router Mode only)

The screen to configure firewall features of the AirStation.

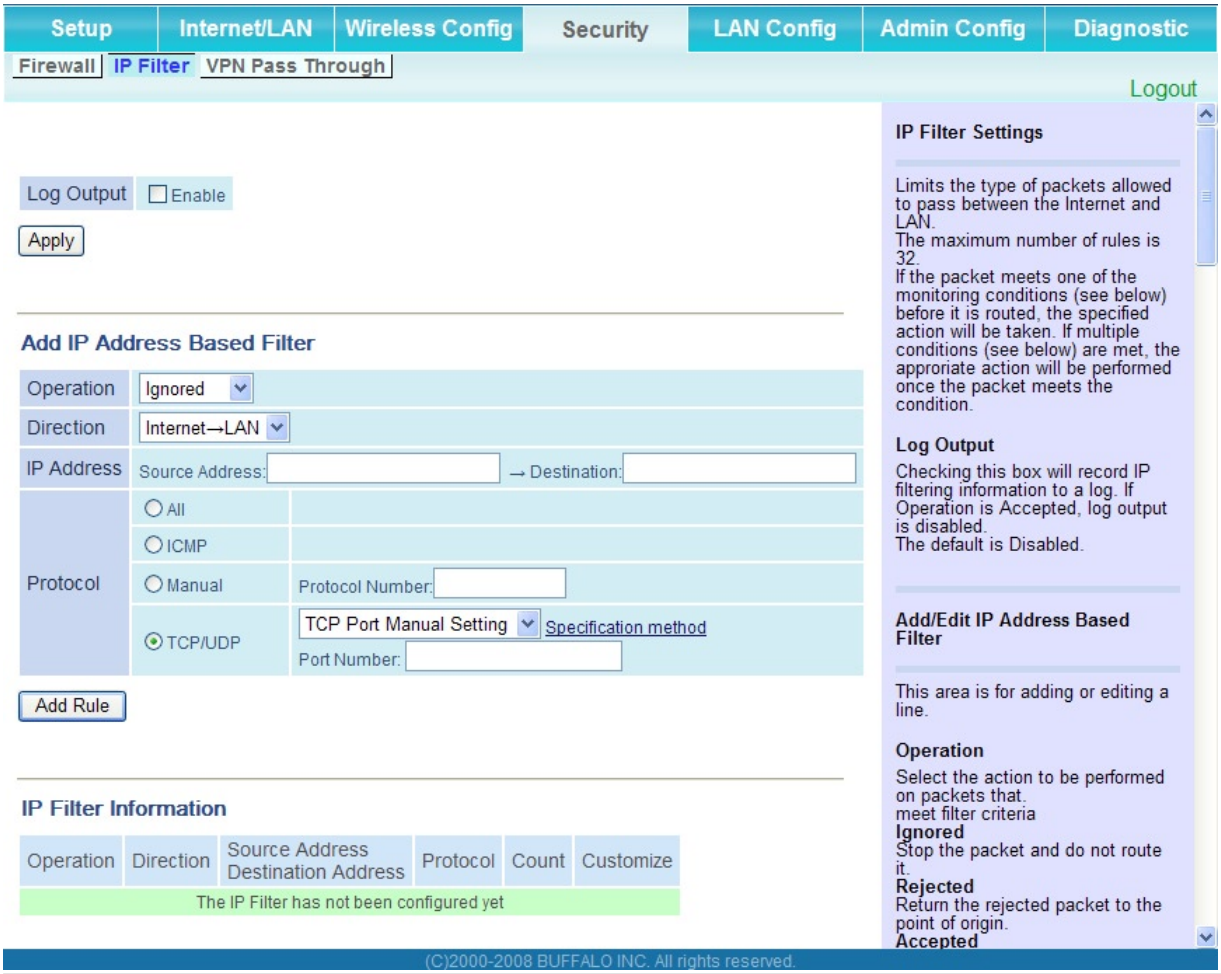


Parameter	Meaning
Log Output	Enable to output a log of firewall activity.
Basic Rules	Enable to use any of the quick filters. Preconfigured quick filters include: **Prohibit NBT and Microsoft-DS Routing** When this is enabled, you cannot use the Microsoft network feature from the Internet side to the LAN side and from the LAN side to the Internet. You can configure this with PPPoE if you select "*Use PPPoE Client*" or "*Use IP Unnumbered*" in Method of Acquiring IP address (on page 25), or if Easy Setup identified a PPPoE connection during setup.

Parameter	Meaning
	Reject IDENT Requests Enabling this option will answer IDENT requests from the Internet side with corresponding rejection packets. Enable this option if you experienced slower transfer speed for network application such as sending mail, using ftp or displaying on browser. If you have configured transfer of IDENT requests to the LAN side computer in the address translation settings (DMZ or TCP port:113), that setting has higher priority, and overrides this setting. **Block Ping from Internet** If this is enabled, the AirStation will not respond to pings from the Internet side. You can configure this with PPPoE if you select "*Use PPPoE Client*" or "*Use IP Unnumbered*" in Method of Acquiring IP address (page 25), or if Easy Setup identified a PPPoE connection during setup.

IP Filter (Router Mode only)

The screen to edit IP filters which relates to the packets passing through the LAN side and the Internet side.



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)

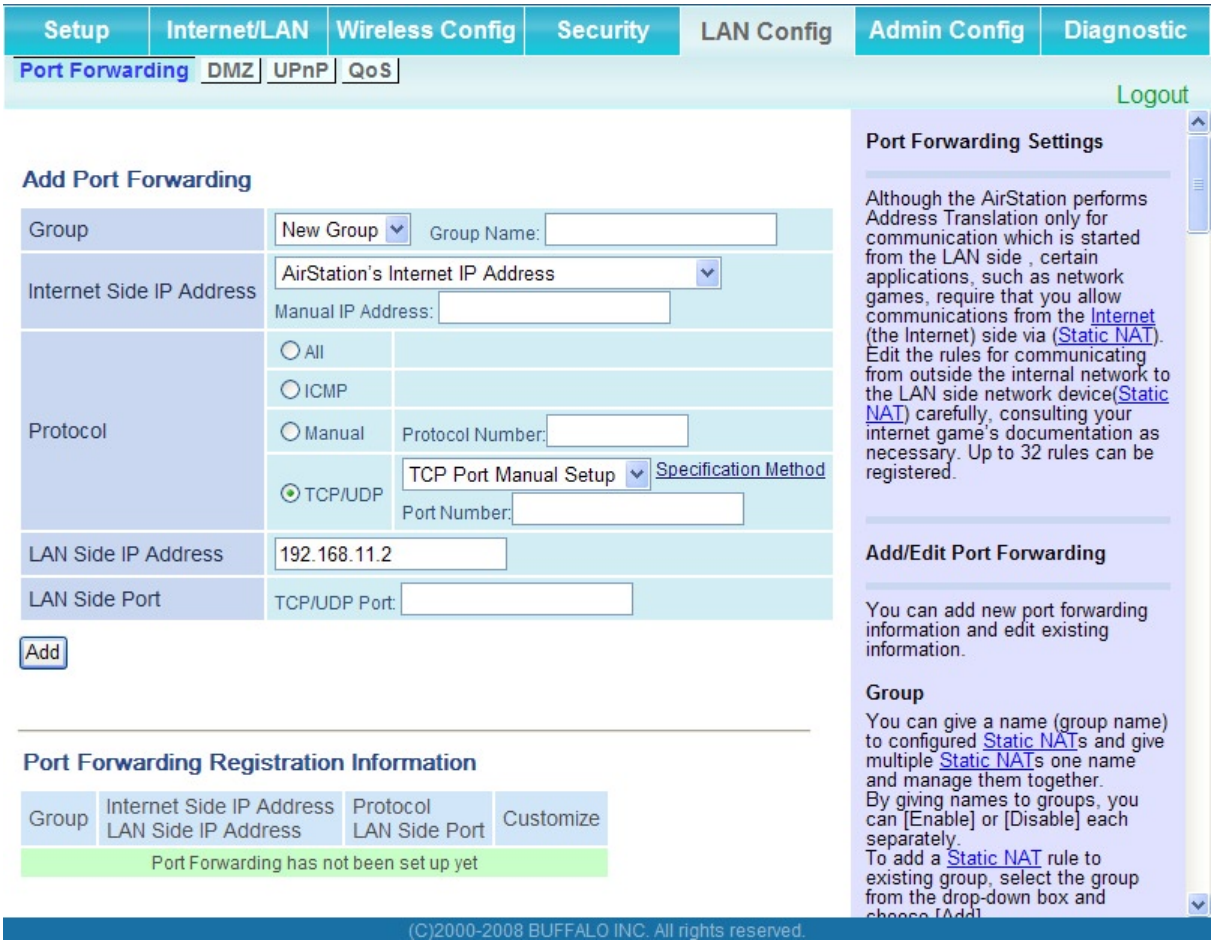
The screen to configure IPv6 pass through, PPPoE pass through, and PPTP pass through.

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 the PPTP Pass Through for address translation.

LAN Config (Router Mode only)

Port Forwarding (Router Mode only)

The screen to configure the port translation.

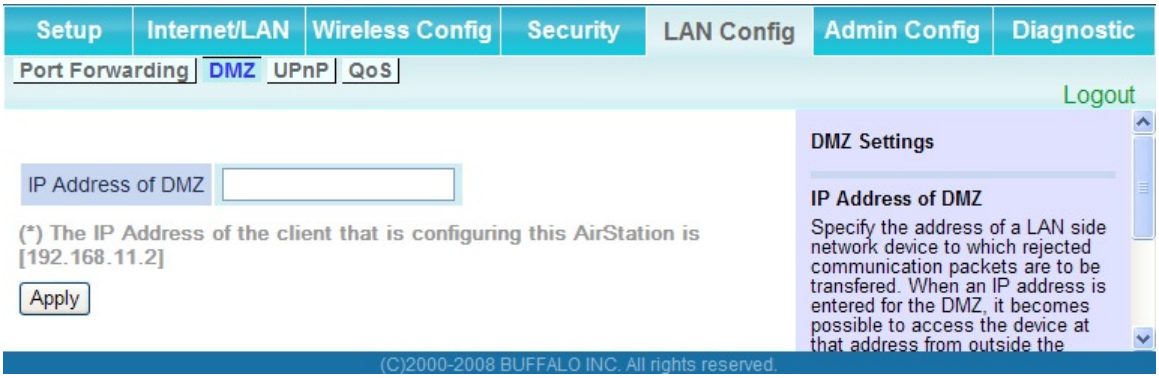


Parameter	Meaning
Group	Specify a group name for a new rule to belong to. Select "*New Group*" and enter the new group name in the Group Name field to create a new group. A group name can include up to 16 alphanumeric letters.
Internet Side IP Address	Enter the Internet side IP address (before translation)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

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

DMZ (Router Mode only)

The screen to configure a destination to transfer communication packets without a LAN side destination.



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.

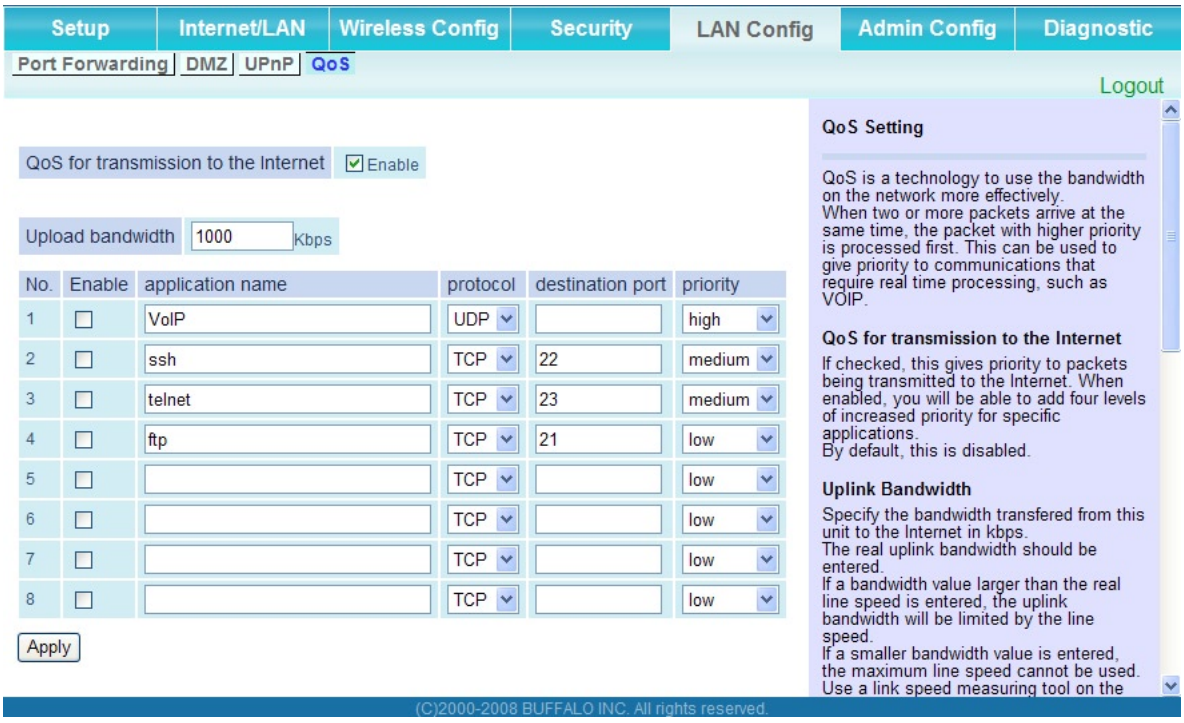
UPnP (Router Mode only)

The screen to configure UPnP (Universal Plug and Play).

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

QoS (Router Mode only)

The screen to configure the priority control of packets sent to the Internet.



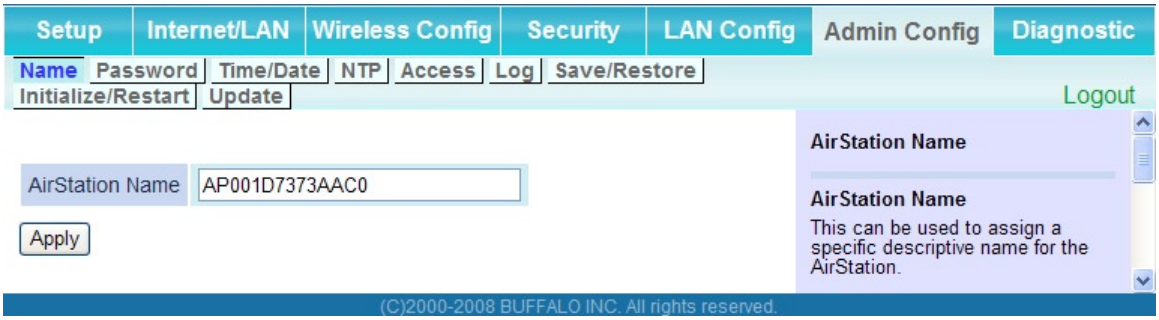
Parameter	Meaning
QoS for transmission to the Internet	Determine whether or not control the priority of packets to send to the Internet. Check this box to enable QoS.
Upload bandwidth	Specify the upstream bandwidth in kbps from the AirStation to the internet side. * Set the actual value for the upstream bandwidth.
Enable	Enable or disable this entry.
application name	Enter an application name. Names may use up to 32 alpha numerical characters, double or single tick marks ("'), quotation marks (“), and semicolons (;).
protocol	Select either TCP or UDP.

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

Admin Config

Name

The screen to configure the AirStation's name.



Parameter	Meaning
AirStation Name	Enter a name for the AirStation. Names may include up to 64 alpha-numeric characters and hyphens (-).

Password

The screen to configure the password to login to the configuration screen of the AirStation.

Parameter	Meaning
Administrator Name	The user name to log in to the configuration screen of the AirStation. This name is fixed as "*root*".
Administrator Password	The password to log in to the configuration screen of the AirStation. The password may contain up to 8 alphanumeric characters and underscores (_).

Time/Date

The screen to configure the internal clock in the AirStation.

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

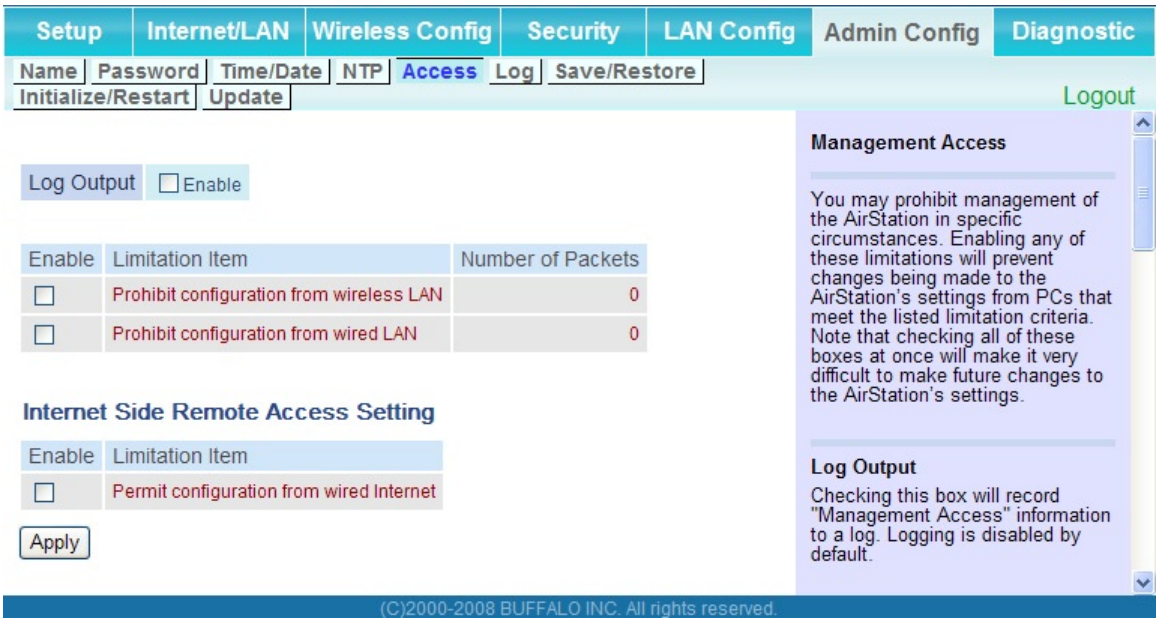
NTP

The screen to configure an NTP server to automatically synchronise the AirStation's internal clock.

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

Access

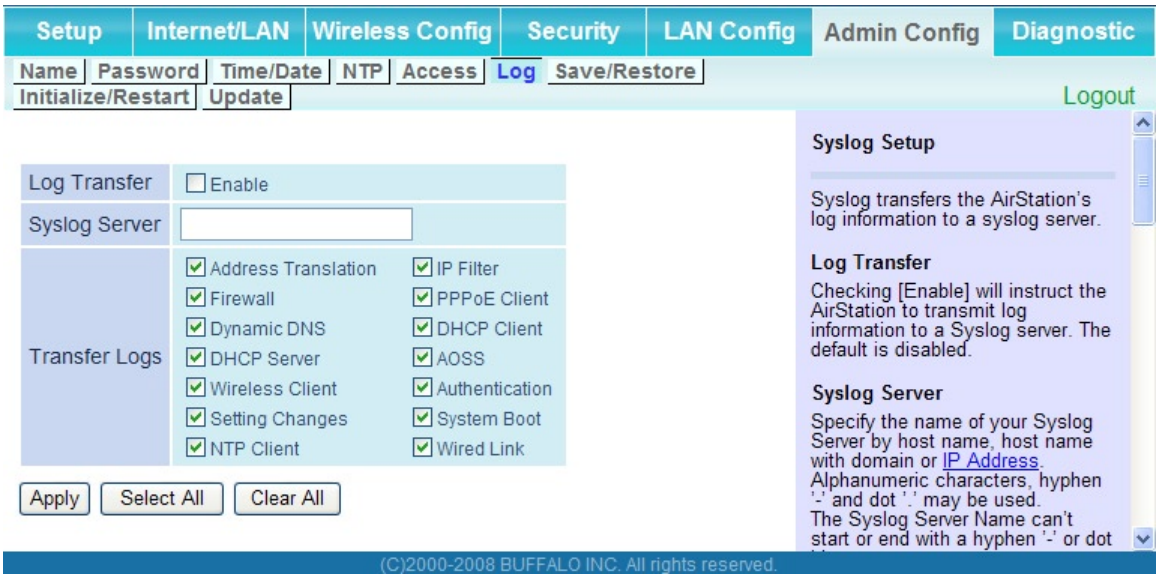
The screen to restrict access to the AirStation's settings screens.



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

Log

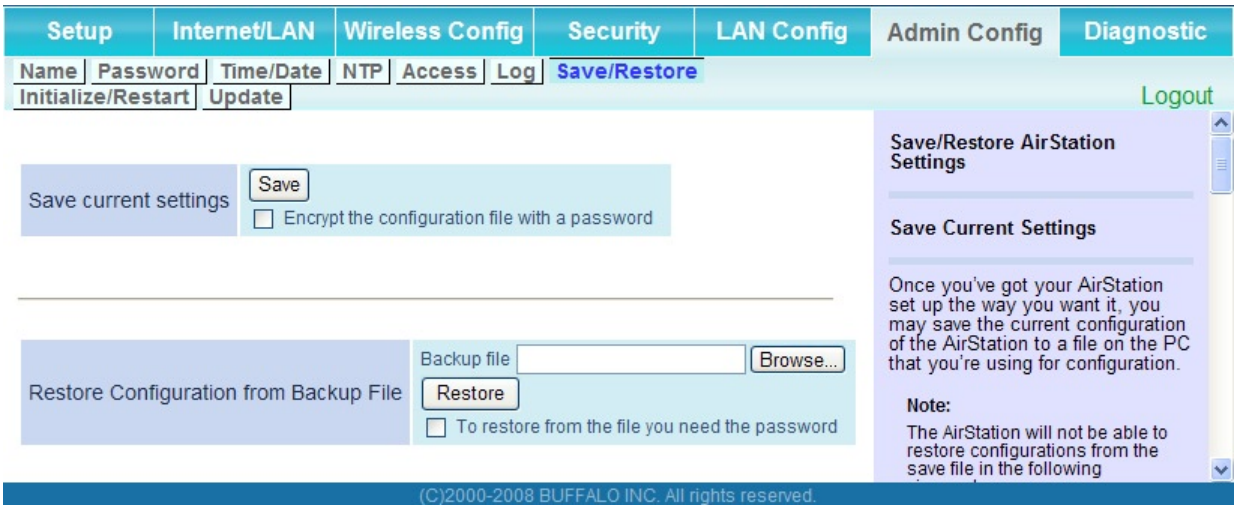
The screen to transfer the log information of the AirStation by the syslog.



Parameter	Meaning
Log Transfer	Enable to send logs to a syslog server.
Syslog Server	Indentify 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

The screen to save to or restore from an AirStation configuration file.



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 (page 57).
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

The screen to initialize and restore the AirStation.

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

Update

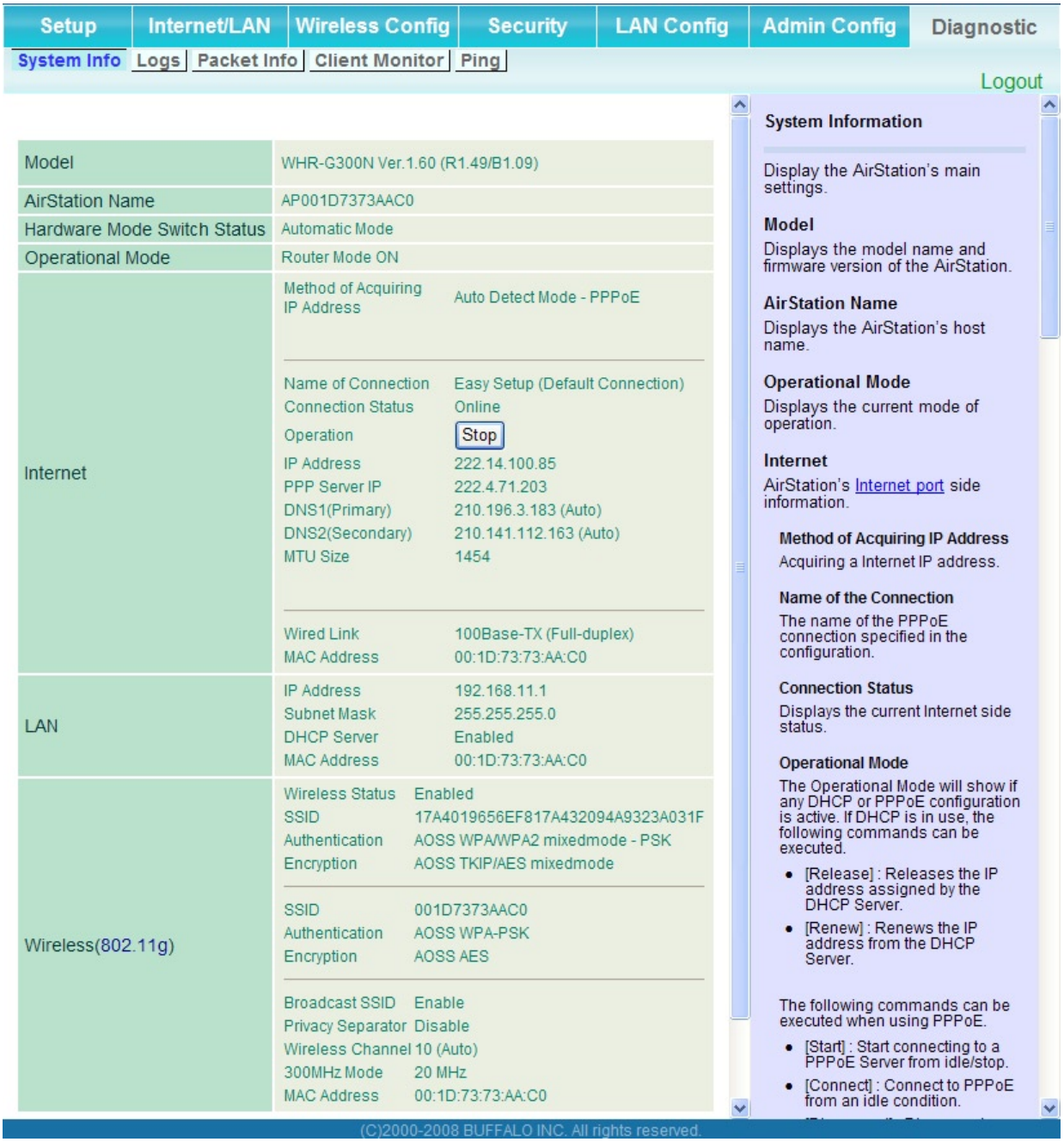
The screen to update the AirStation's firmware.

Parameter	Meaning
Firmware Version	Displays the current firmware version of the AirStation.
Firmware File Name	Click "*Browse*" to specify a firmware file and click "*Update Firmware*." This will update the firmware.

Diagnostic

System Info

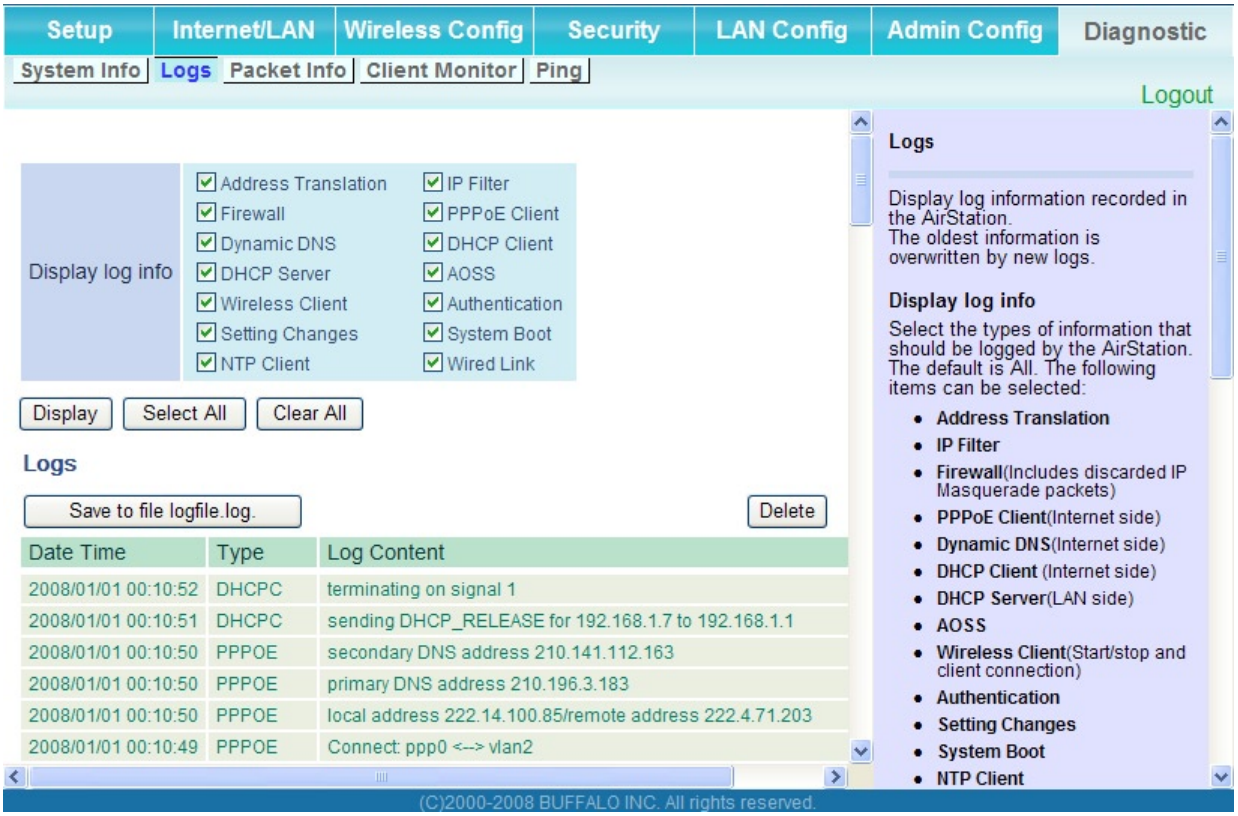
The screen to verify the system information of the AirStation.



Parameter	Meaning
Model	Displays the product name of the AirStation and the firmware version.
AirStation Name	Displays AirStation Name (refer to page 55).
Hardware Mode Switch Status	Displays the status of the mode switch on the back of the AirStation.
Operational Mode	Displays the current operational mode of the AirStation.
Internet	Displays the information about the Internet port.
LAN	Displays the information about the LAN port.
Wireless	Displays the wireless status.

Log

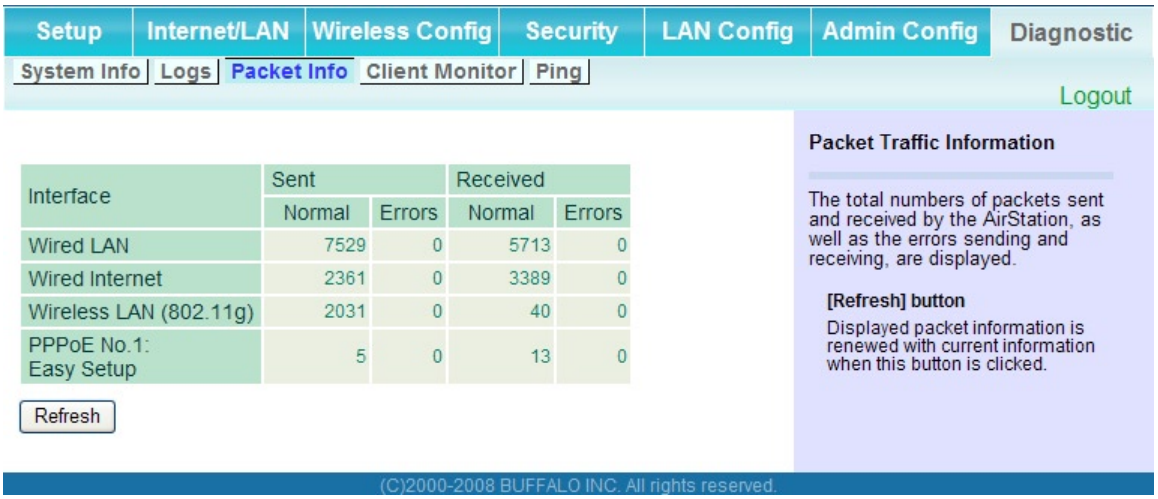
The screen to check log information recorded by the AirStation.



Parameter	Meaning
Display log info	Choose the types of log information to display.
Logs	Displays the log information recorded in the AirStation.

Packet Info

The screen to verify the total amount of packets the AirStation transfers.



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

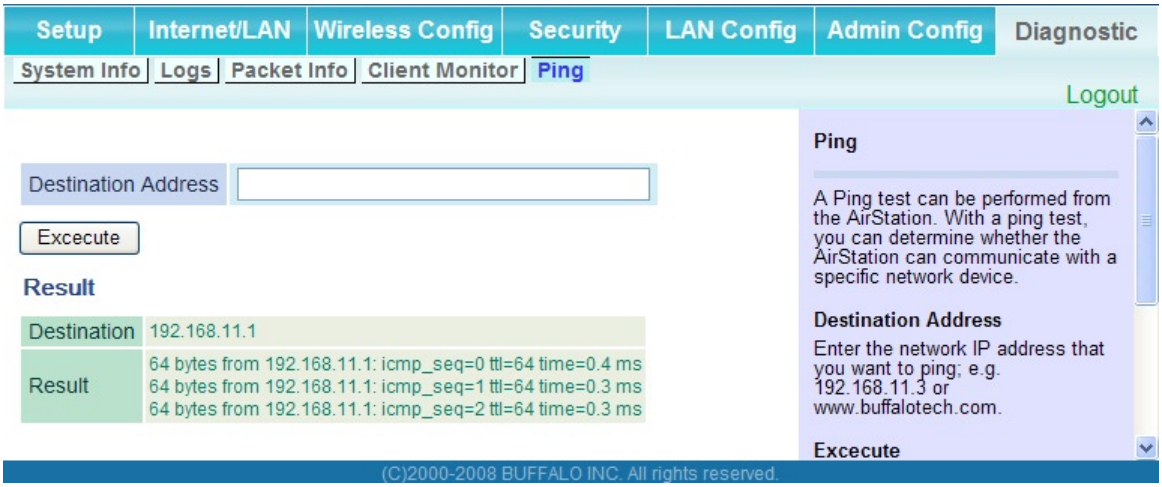
Client Monitor

This screen shows devices that are connected to the AirStation.

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.



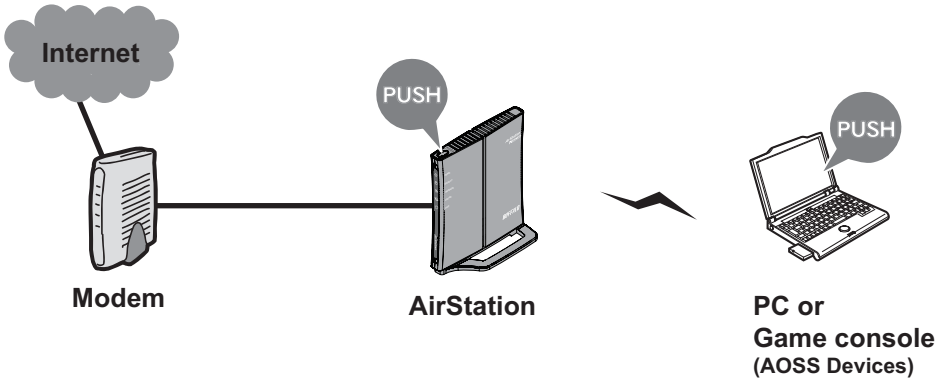
Parameter	Meaning
Destination Address	Enter an IP address or a host name of the device for which you try to verify the connection, and click "*Execute*". The result will be displayed in the "*Result*" field.

Chapter 5
Connect to a Wireless Network

Automatic Secure Setup (AOSS/WPS)

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

AOSS (AirStation One-Touch Secure System) is technology developed by BUFFALO. WPS was created by the Wi-Fi Alliance.



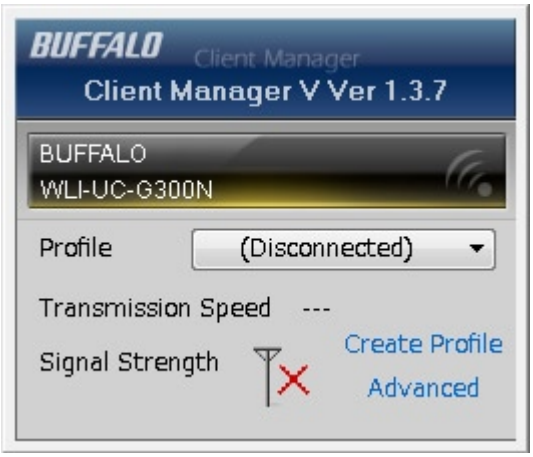
- Before using AOSS/WPS to connect to a Buffalo wireless client, install Client Manager software from the included AirNavigator CD. Consult your wireless client's documentation for more information.
- Buffalo's Client Manager software can be used with the wireless LAN devices built into your computer.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

Windows Vista (Client Manager V)

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

1 Click the icon in the system tray.

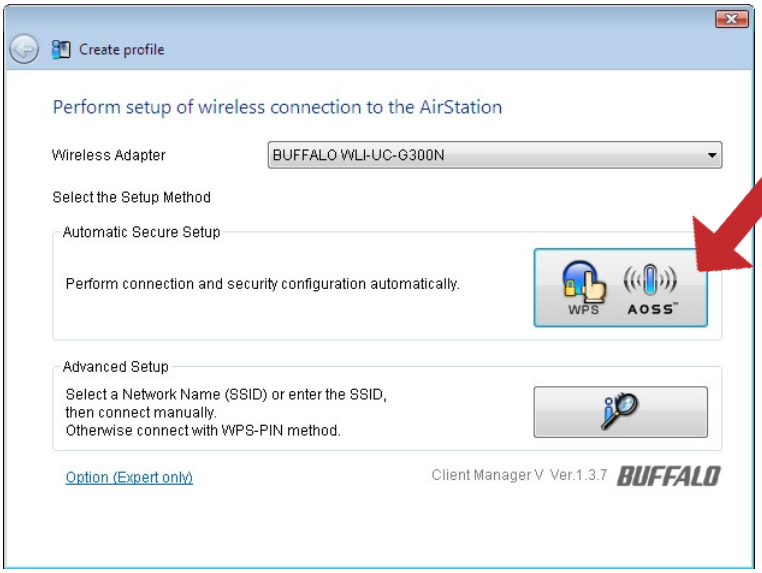
2



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

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

4



When the screen shown at left is displayed, click the "*WPS AOSS* " button.

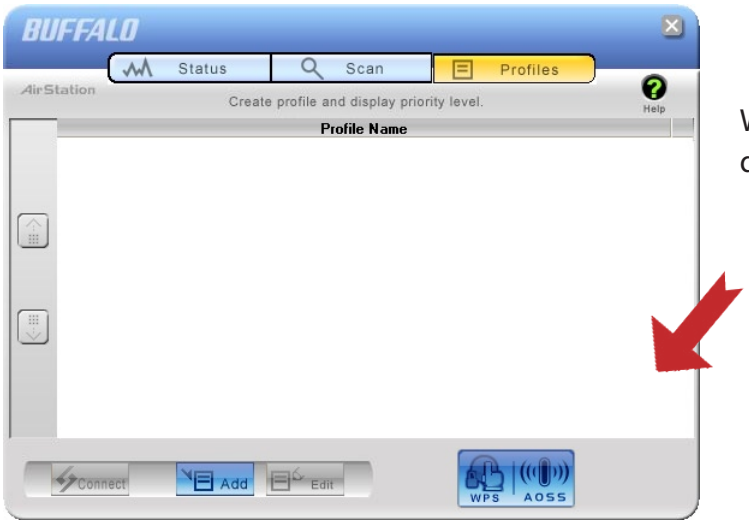
Follow the instructions displayed on the screen. After you configure the settings and the Security LED (page 8) stops flashing and is lit, the AOSS/WPS connection is completed.

Windows XP (Client Manager 3)

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

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

2



When the screen shown at left is displayed, click "*WPS AOSS*" button.

Follow the instructions displayed on the screen. After you configure the settings and the SECURITY LED (on page 8) stops flashing and is lit, the AOSS/WPS connection is completed.

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 (page 11) on the AirStation for 1 second.

After you configure the settings and the SECURITY LED (on page 8) stops blinking and is lit, the AOSS/WPS connection is completed.

Manual Setup

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

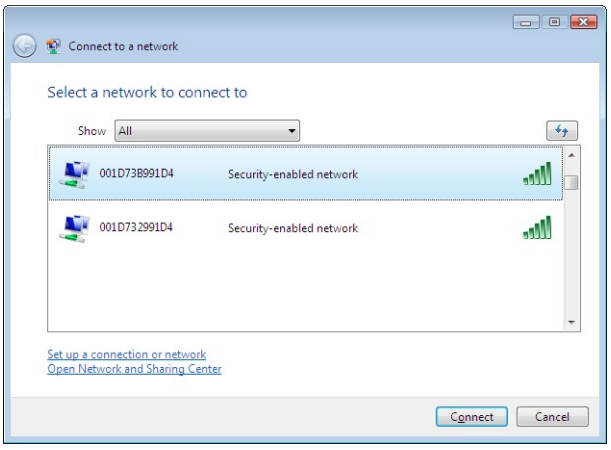
Windows Vista (WLAN AutoConfig)

Use Windows standard utility (WLAN AutoConfig) to connect to the following AirStation.

1 Right click on the wireless network icon in the system tray.

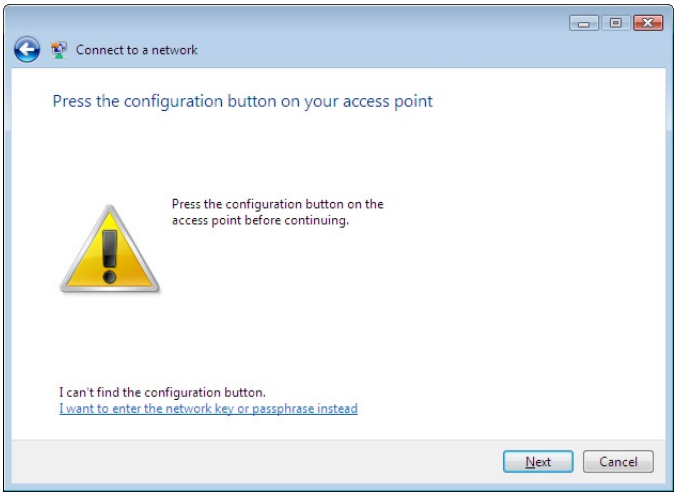
2 Click "*Connect to a network*".

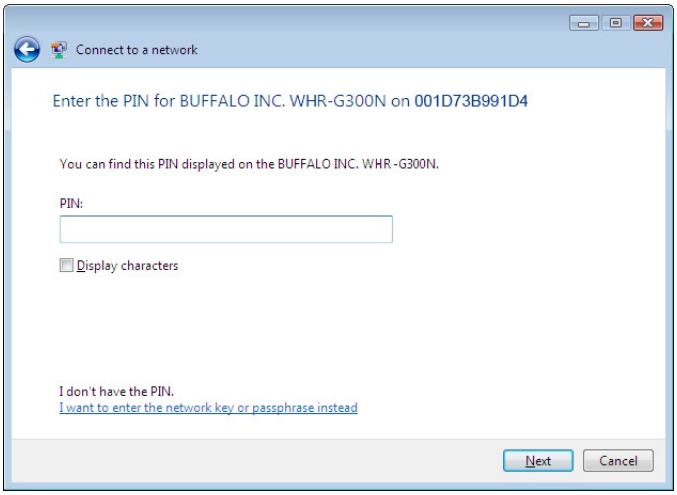
3



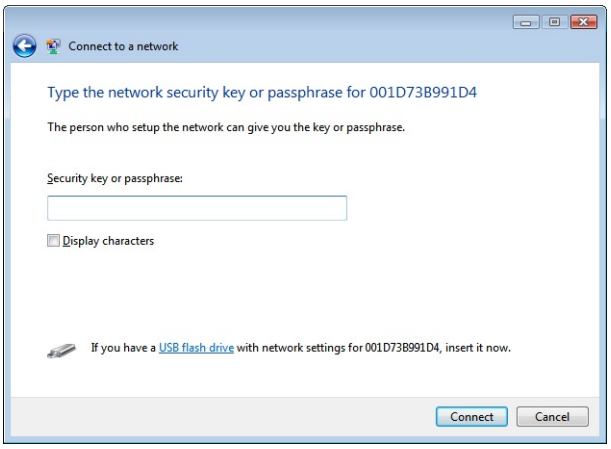
When the screen at left is displayed, select the network to connect to and click "*Connect*".

If the screen below is displayed, click "*I want to enter the network key or passphrase instead*".
(If this screen is not displayed, go to step 4)





4



When the screen at left is displayed, enter an encryption key (such as WEP key or pre-shared key) and click "*Connect*".

Follow the instructions displayed on the screen 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)

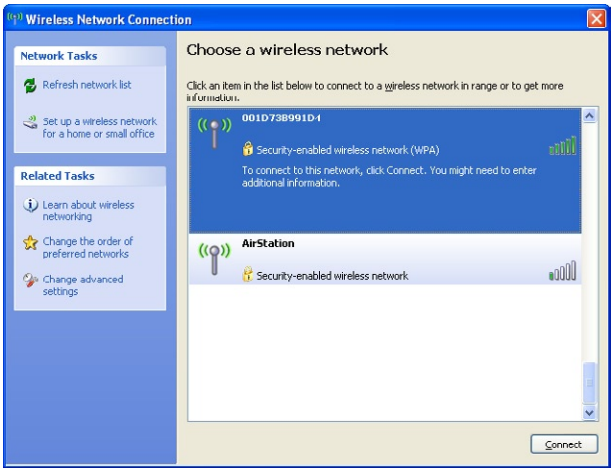
Windows XP includes a built-in utility to connect to your AirStation.

Note: If Client Manager 3 is installed on your computer, Windows Zero Config is disabled. Uninstall Client Manager 3 to use Windows Zero Config, 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



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

4

When the screen at left is displayed, enter the encryption key (such as WEP key or pre-shared key) 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
SECURITY	Amber light is ON
WIRELESS	Green light is ON or flashing
ROUTER	Green light is ON or OFF (the status varies 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*". (Refer to page 90)
- Restart your AirStation.

Cannot access the web-based configuration utility.

- Display the configuration screen by following the procedure on page 17.
- Enter the correct user name and password to login to the configuration screen.
  If you are using AirStation in factory default settings, enter "*root*" (in lower case) for the user name and leave the password blank (enter nothing)
- Verify that your web browser is not set to use proxies.
- Make sure that your computer is configured to "*Obtain an IP Address Automatically*." (page 89)
- Restart your AirStation.

Cannot connect to the network wirelessly.

- Configure your wireless device with the same SSID, encryption type, and encryption key as used by your AirStation.
  The following are the factory default settings of the AirStation:

SSID -	Printed on the label of the AirStation
Encryption Method -	WPA-PSK (AES)
Encryption Key -	Printed on the label of the AirStation

- 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 (page 91) on your AirStation for 5 seconds to initialize its settings. All settings, including your password, SSID, and encryption key will be initialized to their defaults.
The followings are the factory default settings of the AirStation.

SSID -	Printed on the label of the AirStation
Encryption Method -	WPA-PSK (AES)
Encryption Key -	Printed on the label of the AirStation

The link speed is slower than 150 Mbps (Maximum link speed is only 54Mbps).

By default, the AirStation's 150 Mbps mode is not enabled. To enable it, use the following procedure:

1. Open the configuration screen of your AirStation (page 17).
2. Click "*Wireless SSID & Channel (11n 150Mbps Mode)*" in Easy Setup.
3. Change the value in "150 MHz Mode" - "*Band Width*" to 20 MHz and click "*Apply*".

If you still cannot connect at 150 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.

Answer:

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

Issue:

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

Answer:

Log in to the router. 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 wireless router with your browser. Go to the Wireless Config tab and then select the Security tab. Buffalo recommends the use of 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 wireless router with your browser. Go to the Wireless Config tab and then select the Basic tab if necessary. Find the settings area called 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 affect this behavior. First, ensure the issue is not range related by locating the wireless router and the device dropping connection in closer proximity and check whether the connection drops continue.
In some cases, interference from other wireless networks or sources such as 2.4 GHz wireless phones may impact performance. To work around this scenario, change the wireless channel used by your wireless router.
Log in to the wireless router with your browser. Click on the Wireless Config tab and then the Basic tab. The Wireless Channel setting can be selected from channels 1 to 11. If an Auto-Channel option is available, attempt to use this option to remedy the problem. If Auto-Channel is unavailable, 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 a these steps, an Internet connection is still unavailable, power off the Cable or DSL modem and computer again and directly connect your computer to the Cable or DSL modem with a cable between the computer and the port on the modem. Power on the modem and wait one minute. Power on the computer and 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 our customer support.

Issue:

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

Answer:

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

Appendix A
Specifications

Wireless LAN Interface	
Standard Compliance	IEEE802.11b / IEEE802.11g / IEEE802.11n (Draft 2.0)
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 (Draft 2.0) 20MHz BW (ShortGI) 65, 72.2, 57.8, 43.3, 28.9, 21.7, 14.4, 6.5Mbps (1stream) 40MHz BW (LongGI) 135, 121.5, 108, 61, 54, 40.5, 27, 13.5Mbps (1stream) (ShortGI) 150, 135, 120, 90, 60, 45, 30, 15Mbps (1stream)
Access Mode	Infrastructure Mode
Security	WPA2, WPA-PSK (TKIP/AES), 128/64bit WEP, Mac Address Filter
Wired LAN Interface	
Standard Compliance	IEEE802.3u (100BASE-TX), IEEE802.3 (10BASE-T)
Transmission Rate	10 / 100Mbps
Transmission Encoding	100BASE-TX 4B5B/MLT-3, 10BASE-T Manchester Cording
Access Method	CSMA/CD
Speed and Flow Control	10/100, Auto Sensing, Auto MDIX
Number of LAN Ports	4
LAN Port Connector	RJ-45
Other	
Power Supply	External AC 100-240V Universal, 50/60Hz
Power Consumption	About 6.0W (Max)
Dimensions	140mm x 127mm x 25mm (5.5 x 5 x 1 in.)
Weight	200g (7 oz.)
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
	Internet Communication Format	SPEED: Auto
	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	Dynamic DNS Service	Disable
	Current Dynamic DNS Information	none
LAN	LAN Side IP Address	Router Mode: 192.168.11.1 (255.255.255.0) Bridge Mode (Router Switch OFF): 192.168.11.100 (255.255.255.0) Bridge Mode (Router Switch OFF): Obtain automatically from DHCP Server
	DHCP Server Function (Router Mode only)	Enable

Feature	Parameter	Default Setting
	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	none
NAT (Router Mode only)	Address Translation	Enable
	Log Output of Deleted Packets	Disable
Route	Routing Information	none
WPS	WPS	Enable
	External Registrar	Enable
	AirStation PIN	8A 13-digit random value (Printed on the label of the AirStation)
	WPS Security Information	WPS status: configured SSID: AirStation's MAC Address Security: WPA-PSK AES Encryption key: A 13-digit random value (Printed on the label of the AirStation)
AOSS	AOSS Button on the AirStation Unit	Enable
Basic	Wireless Radio	Enable
	Wireless Channel	Auto Channel

Feature	Parameter	Default Setting		
	300Mbps Mode	Band Width: 20MHz Extension Channel: -		
	Broadcast SSID	Allow		
	Separate feature	not used		
	SSID	Configure AirStation's MAC address		
	Wireless authentication	WPA-PSK		
	Wireless encryption	AES		
	WPA-PSK (Pre-Shared Key)	A 13-digit random value (Printed on the label of the AirStation)		
	Rekey interval	60 minutes		
Advanced	BSS Basic Rate Set	1,2,5.5,11 Mbps		
	Multicast Rate	Auto		
	Reverse Direction Grant	Enable		
	DTIM Period	1		
	Privacy Separator	Disable		
	Output power	100%		
WMM	WMM	Enable		
	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	-----	Disable
	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	-----	Disable

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

Feature	Parameter	Default Setting
Name	AirStation Name	AP + AirStation's MAC Address
Password	Administrator Name	root (fixed)
	Administrator Password	none
Time/Date	Local Date	2008 Year 1 Month 1 Day
	Local Time	0 Hour 0 Minute 0 Seconds
	Time Zone	(GMT+00:00) Greenwich Mean Time, London
NTP	NTP Functionality	Disable
	NTP Server	none
	Update Interval	24 hours
Access	Log Output	Disable
	Limitation Item	Prohibit configuration from wireless LAN Disable Prohibit configuration from wired LAN Enable Permit configuration from wired Internet Enable
Log	Log Transfer	Disable
	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 Vista

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

1 Click *Start* > *Settings* > *Control Panel*.

2 Double click "*Network and Sharing Center*".

3 Click "*Manage network connections*" on the left side menu.

4 Right click on "*Local Area Connection*", then click "*Properties*".

5 When the message "*Windows needs your permission to continue*", 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*", and then click "*OK*".

8 Click "*Close*".

Windows XP

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

1 Click *Start* > *Settings* > *Control Panel*.

2 Double click "*Network*".

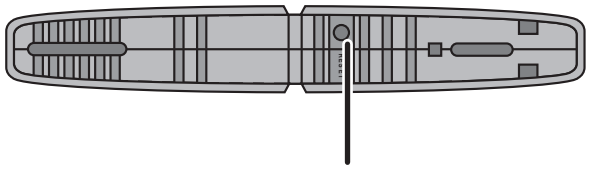
3 Right click on "*Local Area Connection*", then click "*Properties*".

4 Select "*Internet Protocol (TCP/IP)*", then click "*Properties*".

5 Select "*Obtain an IP address automatically*" and "*Obtain DNS server address automatically*", and then click "*OK*".

6 Click "*Close*".

Appendix D
Restoring the Default Configuration



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

Appendix E
Regulatory Compliance Information

Federal Communication Commission Interference Statement

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

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

FCC Caution:

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

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

FCC ID:

FDI-09101567-0

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.

European Union Notice:

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

- EN60950-1:
  2006 Safety of Information Technology Equipment
- EN 50385: 2002
  Product standard to demonstrate the compliance of radio base stations and fixed terminal stations for wireless telecommunication systems with the basic restrictions or the reference levels related to human exposure to radio frequency electromagnetic fields (110MHz - 40 GHz) - General public
- EN 300 328 V1.7.1 (2006-10)
  Electromagnetic compatibility and Radio spectrum Matters (ERM); Wideband transmission systems; Data transmission equipment operating in the 2,4 GHz ISM band and using wide band modulation techniques; Harmonized EN covering essential requirements under article 3.2 of the R&TTE Directive
- EN 301 489-1 V1.8.1 (2008-04)
  Electromagnetic compatibility and Radio Spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements
- EN 301 489-17 V1.3.2 (2008-04)
  Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 17: Specific conditions for 2,4 GHz wideband transmission systems and 5 GHz high performance RLAN equipment

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

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

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

CE 0560 ⓘ

Česky[Czech]
Buffalo Technology Inc. tímto prohlašuje, že tento AirStation WHR-HP-GN je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 1999/5/ES.

Dansk[Danish]
Undertegnede Buffalo Technology Inc. erklærer herved, at følgende udstyr AirStation WHR-HP-GN overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.

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

Eesti[Estonian]
Käesolevaga kinnitab Buffalo Technology Inc. seadme AirStation WHR-HP-GN vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.

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

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

Ελληνική[Greek]
ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ Buffalo Technology Inc. ΔΗΛΩΝΕΙ ΟΤΙ AirStation WHR-HP-GN ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕΚ.

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

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

Latviski[Latvian]
Ar šo Buffalo Technology Inc. deklarē, ka AirStation WHR-HP-GN atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.

Lietuvių[Lithuanian]
Šiuo Buffalo Technology Inc. deklaruoja, kad šis AirStation WHR-HP-GN atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.

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

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

Magyar[Hungarian]
Alulírott, Buffalo Technology Inc. nyilatkozom, hogy a AirStation WHR-HP-GN megfelel a vonatkozó alapvetõ követelményeknek és az 1999/5/EC irányelv egyéb elõírásainak.

Polski[Polish]
Niniejszym, Buffalo Technology Inc. , deklaruję, że AirStation WHR-HP-GN spełnia wymagania zasadnicze oraz stosowne postanowienia zawarte Dyrektywie 1999/5/EC.

Português[Portuguese]
Buffalo Technology Inc. declara que este AirStation WHR-HP-GN está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.

Slovensko[Slovenian]
Buffalo Technology Inc. izjavlja, da je ta AirStation WHR-HP-GN v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES.

Slovensky[Slovak]
Buffalo Technology Inc. týmto vyhlasuje, že AirStation WHR-HP-GN spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.

Suomi[Finnish]
Buffalo Technology Inc. vakuuttaa täten että AirStation WHR-HP-GN tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.

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

Industry Canada statement

This device complies with RSS-210 of the Industry Canada Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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

This device has been designed to operate with an antenna having a maximum gain of 2 dB. Antenna having a higher gain is strictly prohibited per regulations of Industry Canada. The required antenna impedance is 50 ohms.

Industy Canada ID: 6102A-024

For Taiwan 警語

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

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

CONDICIONES (Mexico)

PRIMERA
-El certificado provisional tiene vigencia de un año a partir de esta fecha y prodrá ser renovado hasta en dos ocasiones por el mismo período, para lo cual, previo a la fecha de vencimiento del Certificado deberá solicitar por escrito a esta Comisión su renovación. El Ceritificado definitivo tiene vigencia indefinida.

SEGUNDA
-El Certificado de Homologación, podrá ser cancelado a petición del solicitante a cuando la Comisión Federal de Telecomunicaciones así lo determine con fundamento en el Artículo 149 del Reglamento de Telecomunicaciones, o bien de acuerdo a lo señalado en el Capítulo Segundo de la Ley Federal de Procedimiento Administrativo.

TERCERA
-Los equipos amparados por este Certificado de Homologación deberán tener indicado en alguna parte visible, firmemente adherido, el númerode Certificado de Homologación correspondiente, así como la marca y modelo con la que se expide este Certificado.

CUARTA
-La Comisión Federal de Telecomunicación podrá requerir en cualquier momento a la empresa presentación de información ténica adicional, así como las muestras del equipo para realizar pruebas de comportamiento y verificar las caraterísticas del mismo.

QUINTA
-Cualquier modificación estructural o de configuración ténica deberá someterse a consideración de la Comisión, para que ésta determine si procede el otorgamiento de una ampliación del Certificado de Homologación o si requiere de un nuevo Certificado.

SEXTA
-El equipo que ampara el presente certificado deberá operar conforme a las regulaciones ténicas, reglas,reglamentos y otras disposiciones administrativas vigente o que llegara a emitir o adoptar la Comisión Federal de Telecomunicaciones y/o la Secretaría de Comunicaciones y Transportes.

SEPTIMA
-El equipo de radiocomunicación que ampara el presente certificado deberá operar de conformidad con el Reglamento de Radiocomunicaciones de la Unión Internacional de Telecomunicaciones y el Cuadro Nacional de Atribución de Frequencias México vigente.

OCTAVA
-Las antenas de las estaciones terrenas deberán cumplir con el patrón de radiación Recomendado por la Unión Internacional de Telecomunicaciones, Sector de Radio Frequencia UIT-R, en el casdo de sistemas de microondas las antenas de los mismos deberán cumplir con las recomendaciones del UIT-R, conforme a su banda de operación.

NOVENA
-La homologación de este equipo no implica la autorización para prestar servicios públicos de telecomunicaciones ni para establecer aplicaciones que obstruyan o invadan cualquier via general de comunicación.

DECIMA
- El inclumplimiento de las condiciones estipuladas en este Certificado será motivo de sanción con base a lo dispuesto en la Ley de Vías General de Comunicación, Ley Fedreal de Telecomunicación y en el Reglamento de Telecomunicaciones.

Appendix F
Environmental Information

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

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

Appendix G
GPL Information

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

Appendix H
Warranty Information

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

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

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

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

Appendix I
Contact Information

North America

Buffalo Technology USA Inc.
11100 Metric Blvd, Suite 750
Austin, TX 78758

GENERAL INQUIRIES

Monday through Friday
8:30am-5:30pm CST
Direct: 512-794-8533 | **Toll-free:** 800-456-9799 | **Fax:** 512-794-8520 |
Email: *sales@buffalotech.com*

TECHNICAL SUPPORT

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

Europe

Buffalo Technology UK Ltd.
2 Bracknell Beeches, Old Bracknell Lane
Bracknell, Berkshire, RG12 7BW
United Kingdom

GENERAL INQUIRIES

Email: *sales@buffalo-technology.com*

TECHNICAL SUPPORT

Buffalo Technology provides technical support in English, German, French, Italian, and Spanish. For opening hours and relevant telephone numbers, please go to *www.buffalo-technology.com/contact*