User Manual for User-friendly Firmware

AirStation NFINITI HighPower Wireless Router & Access Point

WZR-600DHP

www.buffalotech.com

35012722-01

Contents

Chapter 1 - Product Overview

Professional or User-friendly?

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 preinstalled. Turn to page 14 for instructions on switching between the two firmware packages.

Note : Most of this manual documents the user-friendly version of the firmware. For more information on the dd-wrt-based professional firmware, consult the help files in its web-based configuration interface or the *User Manual for Professional Firmware*, available for download from Buffalo Technology.

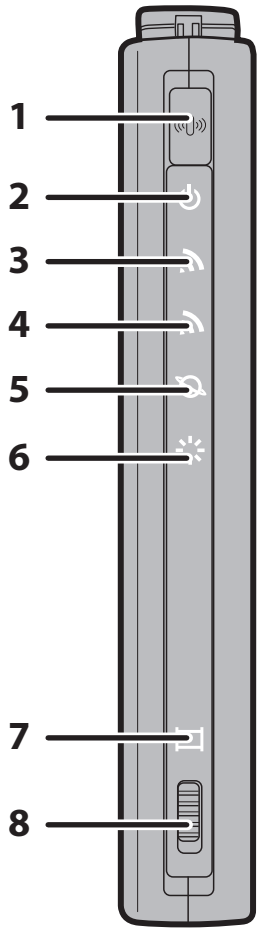
Package Contents

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

- WZR-600DHP 1
- AC adapter 1
- Stand for vertical/horizontal/wall-mounting 1
- Screws for wall-mounting 2
- LAN cable 1
- AirStation Utility CD 1
- Quick Setup Guide 1
- Setup Card 1

Hardware Overview

Front Panel LEDs



1 AOSS Button

To initiate AOSS, hold down this button until the 2.4 GHz LED and 5 GHz LED flash (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 2.4 GHz LED (Green or Amber)

Indicates 2.4 GHz wireless LAN and security status.

Green on:	Wireless link is enabled. Wireless security is enabled.
Amber on:	Wireless link is enabled. Wireless security is disabled.
Green 2 blinks:	AirStation is waiting for an AOSS or WPS security key.
Amber blinking:	AOSS/WPS error; failed to exchange security keys.
Off:	Wireless LAN is disabled.

Note: The LED glows green if encryption is configured.

4 5 GHz LED (Green or Amber)

Indicates 5 GHz wireless LAN and security status.

Green on:	Wireless link is enabled. Wireless security is enabled.
Amber on:	Wireless link is enabled. Wireless security is disabled.
Green 2 blinks:	AirStation is waiting for an AOSS or WPS security key.
Amber Blinking:	AOSS/WPS error; failed to exchange security keys.
Off:	Wireless LAN is disabled.

Note: The LED glows green if encryption is configured.

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

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

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

7 Movie Engine LED (Blue)

On: Movie Engine functionality is enabled.

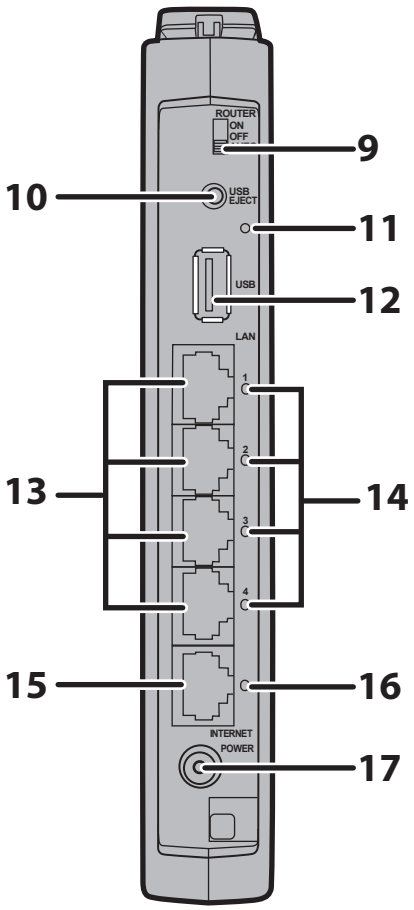
Off: Movie Engine functionality is disabled.

8 Movie Engine Switch

On: Enables Movie Engine.

Off: Disables Movie Engine.

Back Panel



9 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.

10 USB Eject Button

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

11 USB LED (Green)

On: The USB drive is connected.

Off: No USB drive is connected.

Note: When this LED is blinking, the connected USB drive cannot be used. Remove the connected USB drive. If the LED continues to blink even after the USB drive is removed, restart the AirStation.
Do not remove the USB drive or turn off the AirStation while the USB LED is on.

12 USB Port Connect the USB device.

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

14 LAN LED (Green)

On: An Ethernet device is connected.

Flashing: An Ethernet device is communicating.

15 Internet Port 10 Mbps, 100 Mbps, and 1000 Mbps 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.

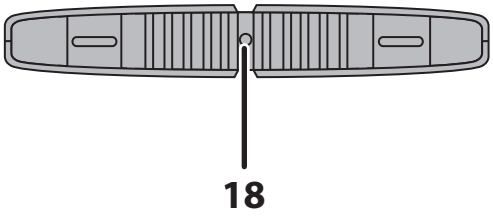
16 Internet LED (Green)

On: The Internet port is connected.

Flashing: The Internet port is transmitting data.

17 DC Connector Connect the included AC adapter here.

Bottom

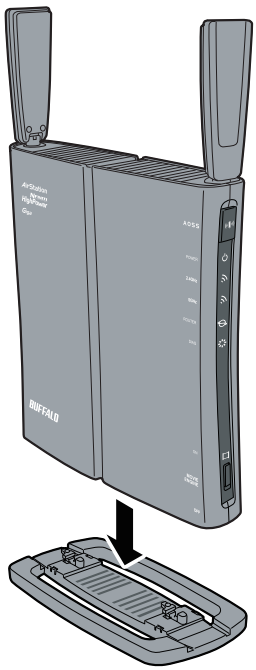


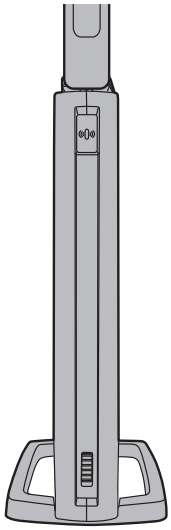
18 Reset Button To reset all settings, hold down this button until the Diag LED comes on (about 3 seconds). Power must be on.

Chapter 2 - Placing Your AirStation

Vertical Placement

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

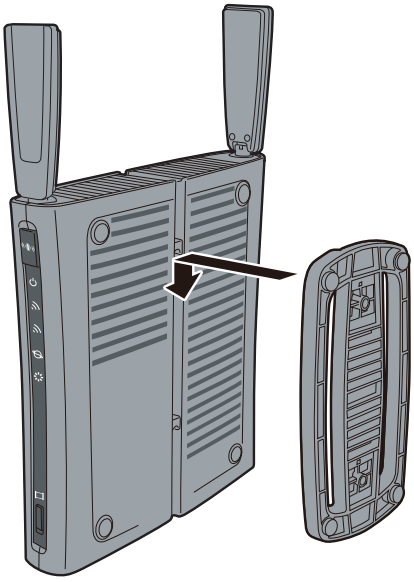




Horizontal Placement

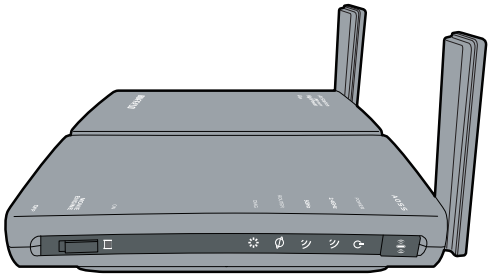
When installing the AirStation horizontally, attach the stand for best heat dissipation.

1



Attach the stand as shown in the figure.

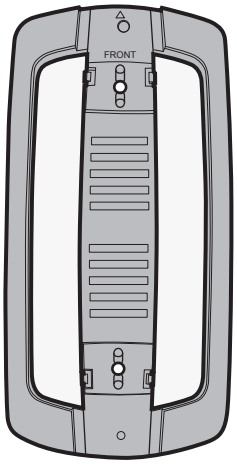
2

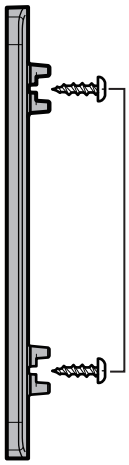


Install horizontally.

Wall Mounting

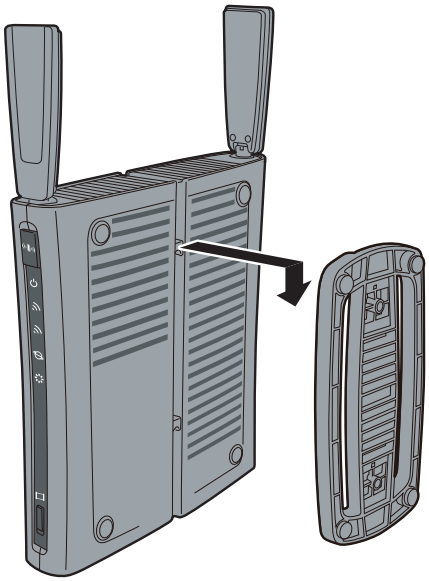
1





To wall-mount the AirStation, attach the stand to the wall with the two screws (included).

2



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

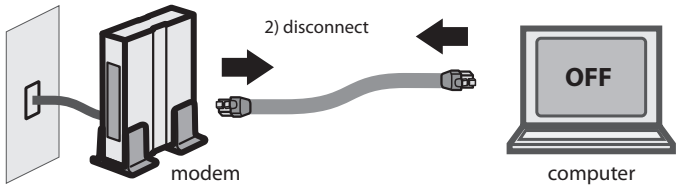
Chapter 3 - Installation

Initial Setup

To configure your AirStation, follow the procedure below.

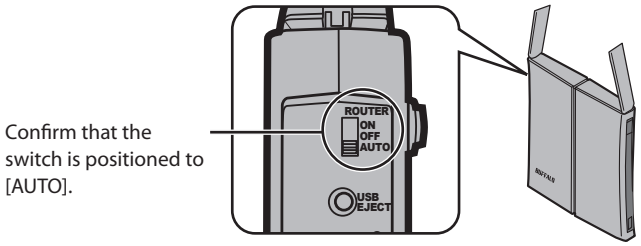
1 Verify that you can connect to the internet without the AirStation, then turn off your modem and computer.

2



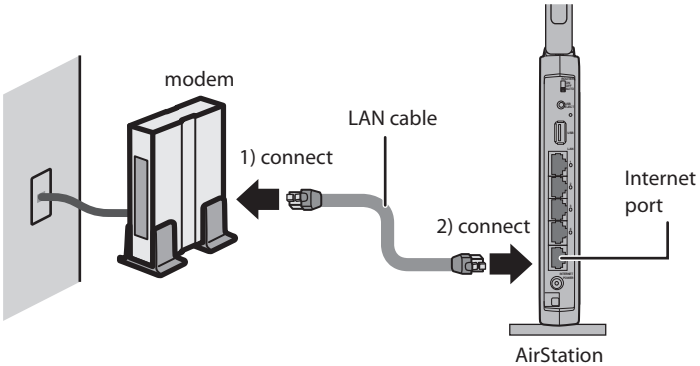
Unplug the LAN cable which connects your computer and modem.

3

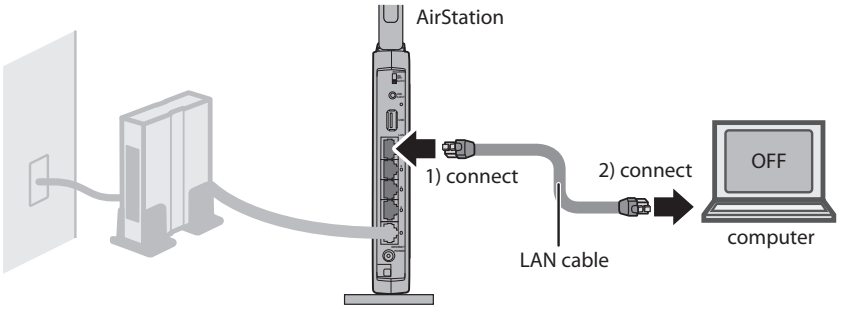


Make sure the mode switch on the back of the AirStation is in the "auto" position.

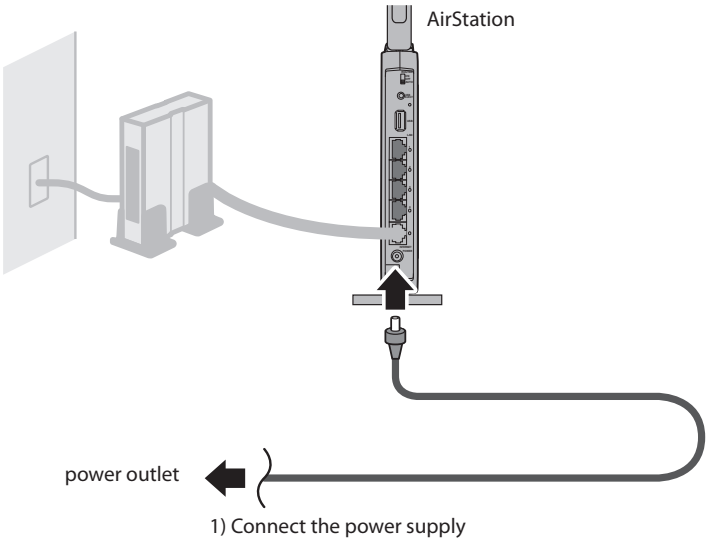
4 Plug one end of the LAN cable into your modem and the other end to the AirStation's Internet (WAN) port. Turn on the modem.



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



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



7 Once your computer has booted, the AirStation's LEDs should be lit as described below:

Power	Green LED on.
2.4 GHz	Green LED on or amber light is on.
5 GHz	Green LED on or amber light is on.
Router	Green LED on or off depending on your network.
Diag	Off
LAN	Green LED on or blinking.
Internet	Green LED on or blinking.

For LED locations, refer to chapter 1.

8 Launch a web browser. If the home screen is displayed, setup is complete.
If username and password fields are displayed, enter "admin" for the username and "password" for the password, then click [OK]. Step through the wizard to complete setup.

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

Changing Firmware

To change between the professional firmware (dd-wrt) and the user-friendly firmware, follow the steps below.

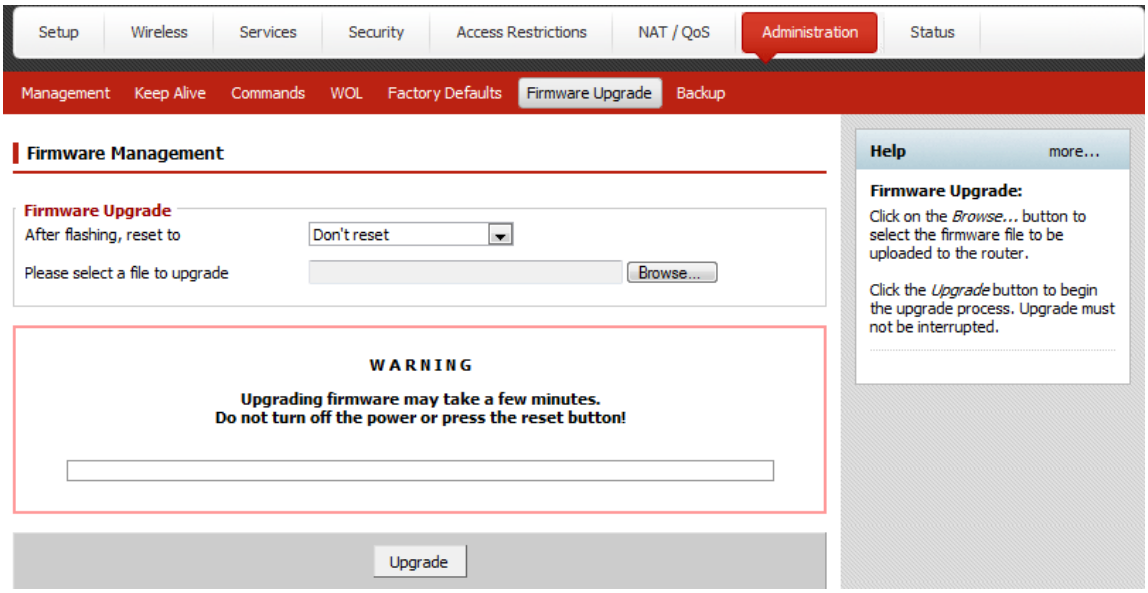
1 Open the configuration Interface of the AirStation.

2 To replace the professional firmware with the user-friendly firmware, click [Administration] > [Firmware Upgrade].
To replace the user-friendly firmware with the professional firmware, go to [Easy Setup] and click [Update AirStation Firmware].

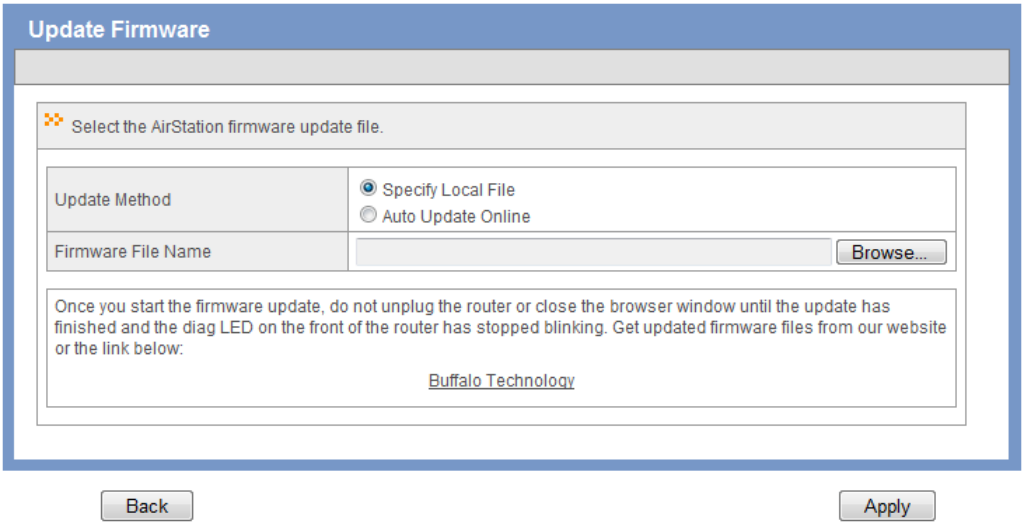
3 Click [Browse...] to select the firmware file, and click [Upgrade] or [Apply].

Note: The firmware files are contained in the "Firmware" folder of the utility CD.

Professional firmware (dd-wrt) update screen:



User-friendly firmware update screen:



Chapter 4 - Configuration

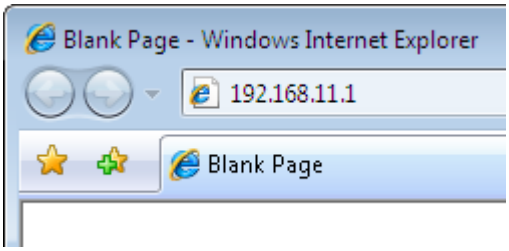
The web-based configuration tool lets you change advanced settings for the AirStation. Don't change these settings unless you know what you're doing.

Accessing the Web-based Configuration Interface

To configure the AirStation's advanced settings manually, log in to the web-based configuration interface 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.

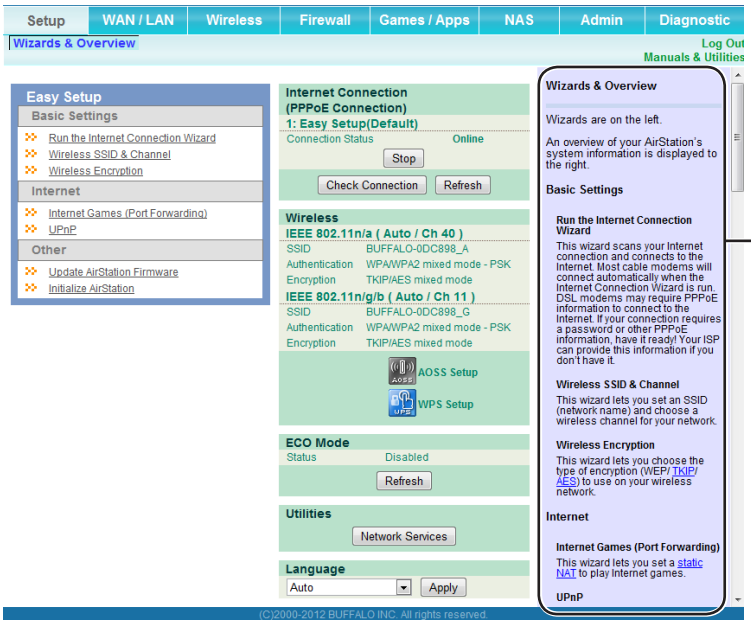
Note: · The AirStation's default LAN-side IP address depends on the position of the mode switch.
In router mode: 192.168.11.1
In bridge mode: 192.168.11.100
Note: If the router switch is set to auto and the unit is in bridge mode, then the AirStation's IP address was assigned by an external DHCP server.
· If you changed the IP address of the AirStation, then use the new IP address.

3

Enter "admin" for the username and "password" for the password and click [OK].

Note: If you forget your password, hold down the reset button (page 9) to initialize all settings. Note that all other settings will also revert to their default values.

4



This is the configuration interface, 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 interface.

Configuration Interface 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
WAN/LAN		
Internet	Configure Internet side port and settings.	Page 24
PPPoE	PPPoE settings (DSL login).	Page 25
DDNS	DNS settings.	Page 28
VPN Server	VPN server settings.	Page 30
LAN	LAN side port configuration.	Page 32
DHCP	DHCP lease settings.	Page 34
NAT	Network address translation settings, used to connect LAN side devices to the Internet.	Page 35
Routing	Configure the AirStation's IP communication route.	Page 36
Wireless		
WPS	WPS settings and status.	Page 37
Basic	Configure basic wireless settings.	Page 38
Advanced	Configure advanced wireless settings.	Page 41
WMM	Set priorities for Wireless Multimedia Extensions (Wi-Fi Multimedia).	Page 42
MAC Filter	Limit access to specific devices.	Page 44
AOSS	AOSS (AirStation One-touch Secure System) settings and status.	Page 45
Multicast Control	Configure limits on sending unnecessary multicast packets to the wireless LAN port.	Page 47
Firewall		
Firewall	Protect your computer from outside intruders.	Page 48
IP Filter	IP filters for packets passing through the LAN side and the Internet side.	Page 50
VPN Passthrough	Configure IPv6 passthrough, PPPoE passthrough, and PPTP passthrough.	Page 51
Games/Apps		
Port Forwarding	Configure port translation and exceptions for games and other programs.	Page 52
DMZ	Configure a destination to transfer communication packets without a LAN side destination.	Page 53
UPnP	Configure UPnP (Universal Plug and Play).	Page 54
QoS	Configure priority for packets that require a guaranteed data flow.	Page 55

Movie Engine	Configure options for the Movie Engine feature.	Page 57
NAS		
Disk Management	View the status and configure of attached USB disks.	Page 59
Shared Folder	Set the USB disk to use as shared folders.	Page 61
Users	Configure users to access shared folders.	Page 63
Sharing	Configure shared folder access.	Page 64
WebAccess	Configure Web Access.	Page 65
Media Server	Configure a Media Server.	Page 67
BitTorrent	Configure a BitTorrent client.	Page 68
Admin		
Name	Configure the AirStation's name.	Page 70
Password	Configure the AirStation's login password for access to the configuration interface.	Page 71
Time/Date	Configure the AirStation's internal clock.	Page 72
NTP	Configure the AirStation to synchronize with an NTP server to automatically set the AirStation's internal clock.	Page 73
ECO	Configure the AirStation's ECO Mode.	Page 74
Access	Configure access restrictions to the AirStation's configuration interface.	Page 76
Log	Configure a syslog server to manage the AirStation's logs.	Page 77
Save/Restore	Save or restore the AirStation's configuration from a configuration file.	Page 78
Initialize/Restart	Initialize the AirStation or reboot it.	Page 79
Update	Update the AirStation's firmware.	Page 80
Diagnostic		
System Info	View current system information for the AirStation.	Page 81
Logs	Check the AirStation's logs.	Page 83
Packet Info	View all packets transferred by the AirStation.	Page 84
Client Monitor	View all devices currently connected to the AirStation.	Page 85
Ping	Test the AirStation's connection to other devices on the network.	Page 86
Logout		
Click this to log out of the AirStation's configuration interface.		
Manuals & Utilities		
Click this to display download pages for Manuals and Utilities.		

Configuration Interface Menus in Bridge Mode

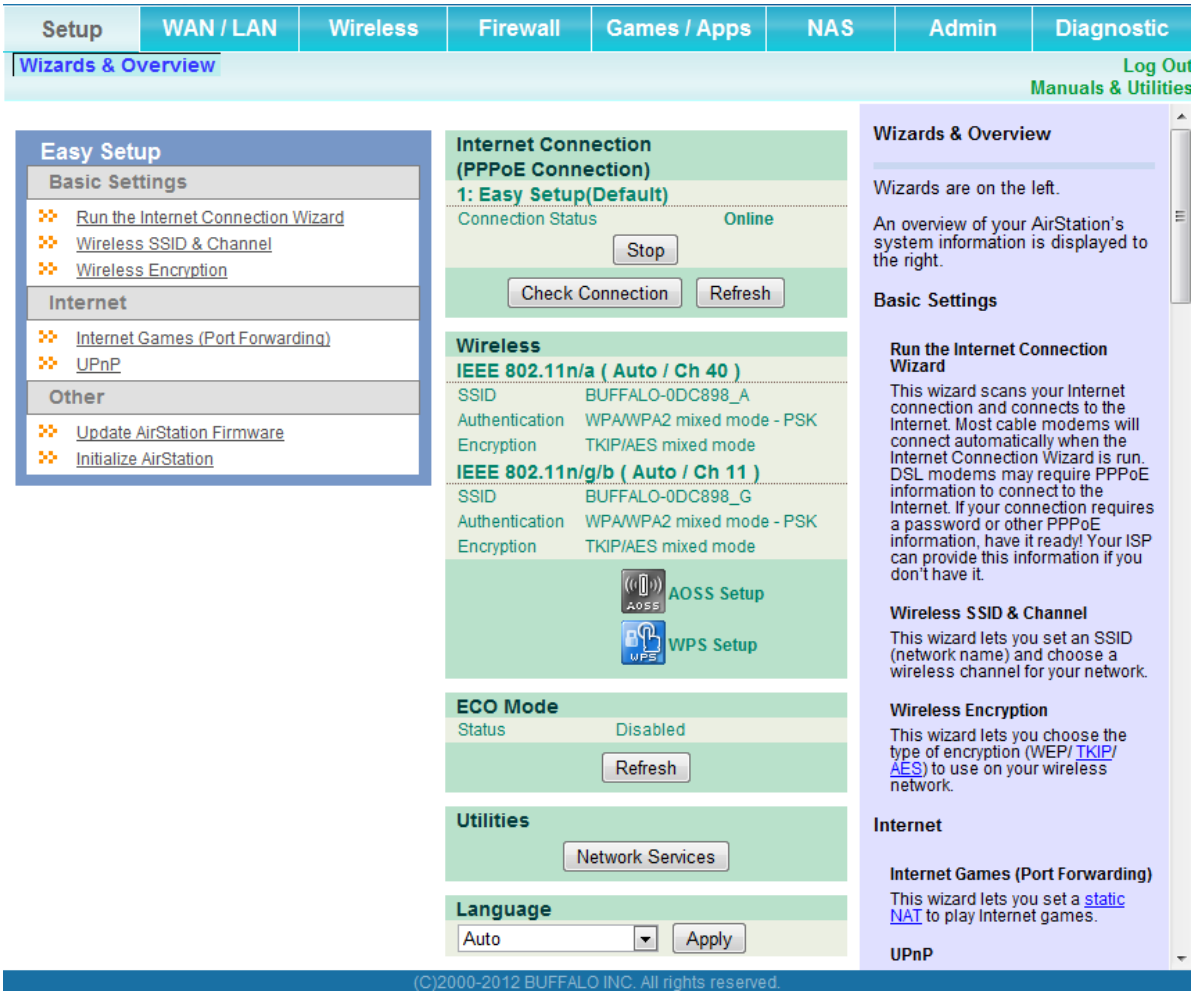
The menu structure in bridge mode is as follows. Please refer to the pages listed at right for explanations of each item.

Main screen	Descriptions	Page
LAN Config		
LAN	Configure LAN side ports and devices.	Page 32
Routing	Configure the AirStation's IP communication route.	Page 36
Wireless		
WPS	WPS settings and status.	Page 37
Basic	Configure basic wireless settings.	Page 38
Advanced	Configure advanced wireless settings.	Page 41
WMM	Set priorities for Wireless Multimedia Extensions (Wi-Fi Multimedia).	Page 42
MAC Filter	Limit access to specific devices.	Page 44
AOSS	AOSS (AirStation One-touch Secure System) settings and status.	Page 45
Multicast Control	Configure limits on sending unnecessary multicast packets to the wireless LAN port.	Page 47
QoS		
Movie Engine	Configure options for the Movie Engine feature.	Page 57
NAS		
Disk Management	View the status and configure of attached USB disks.	Page 59
Shared Folder	Set the USB disk to use as shared folders.	Page 61
Users	Configure the name to access shared folders.	Page 63
Sharing	Configure the name to access shared folders.	Page 64
WebAccess	Set to use the Web Access function.	Page 65
Media Server	Set to use the Media Server function.	Page 67
BitTorrent	Set to use the BitTorrent function.	Page 68
Admin		
Name	Configure the AirStation's name.	Page 70
Password	Configure the AirStation's login password for access to configuration interface.	Page 71
Time/Date	Configure the AirStation's internal clock.	Page 72
NTP	Configure the AirStation to synchronize with an NTP server to automatically set the AirStation's internal clock.	Page 73

ECO	Configure ECO Mode.	Page 74
Access	Configure access restrictions to the AirStation's configuration interface.	Page 76
Log	Check the AirStation's logs.	Page 77
Save/Restore	Save or restore the AirStation's configuration from a configuration file.	Page 78
Initialize/Restart	Initialize the AirStation or reboot it.	Page 79
Update	Update the AirStation's firmware.	Page 80
Diagnostic		
System Info	View current system information for the AirStation.	Page 81
Logs	Check the AirStation's logs.	Page 83
Packet Info	View all packets transferred by the AirStation.	Page 84
Client Monitor	View all devices currently connected to the AirStation.	Page 85
Ping	Test the AirStation's connection to other devices on the network.	Page 86
Logout		
Click this to log out of the AirStation's configuration interface.		
Manuals & Utilities		
Click this to display download pages for Manuals and Utilities.		

Setup

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



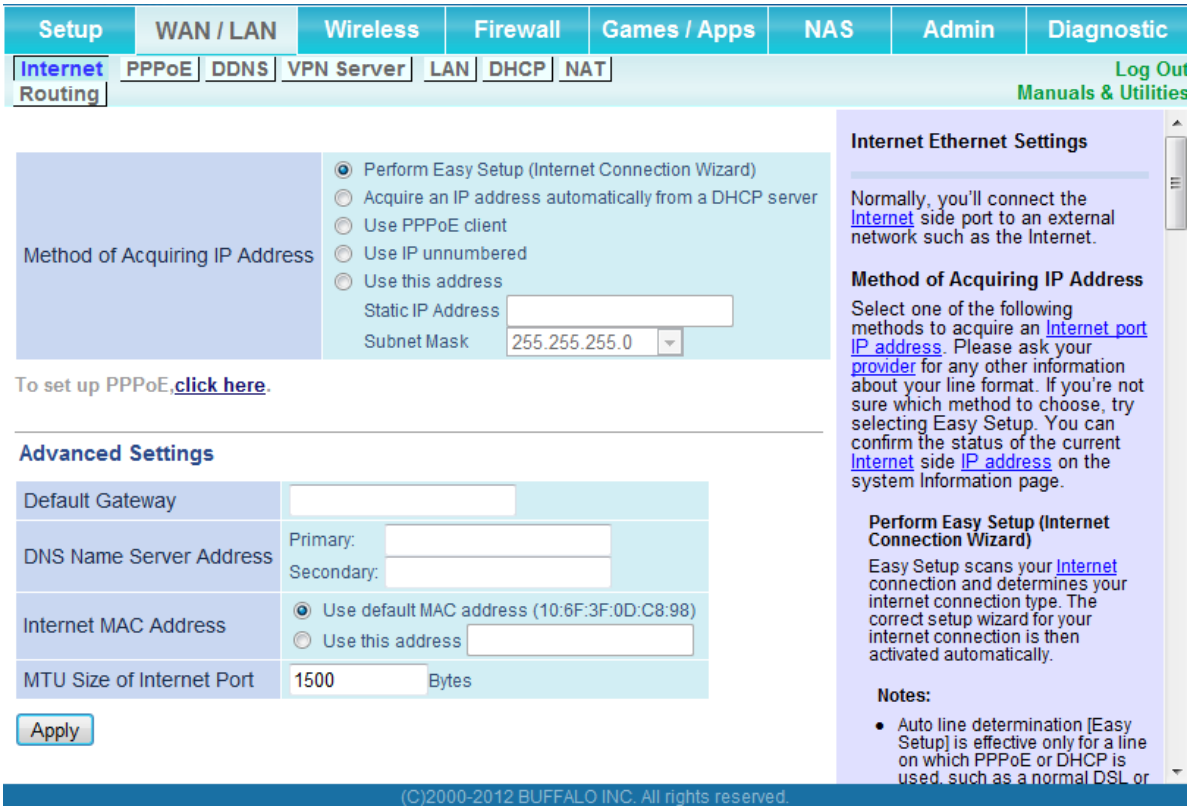
Parameter	Meaning
WAN/LAN (LAN Config)	Displays the configuration screen for the Internet port and LAN ports.
Wireless	Click this button to display the configuration screen for wireless settings.
Firewall	Click this button to display the configuration screen for security.

Parameter	Meaning
Games/Apps	Click this button to display the configuration screen to open ports for games and applications.
NAS	Click this button to display the configuration screen for NAS settings.
Admin	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 Connection	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.
ECO Mode	This indicates the operating status of ECO Mode.
Network Services	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 Manager	Displays the list of BitTorrent files downloading.
Language	Enables you to select the language you use.
Logout	Log out of the configuration interface. If the AirStation does not communicate for 5 minutes, it will log out automatically.
Manuals & Utilities	Click to display download pages for Manuals and Utilities.

WAN/LAN

Internet

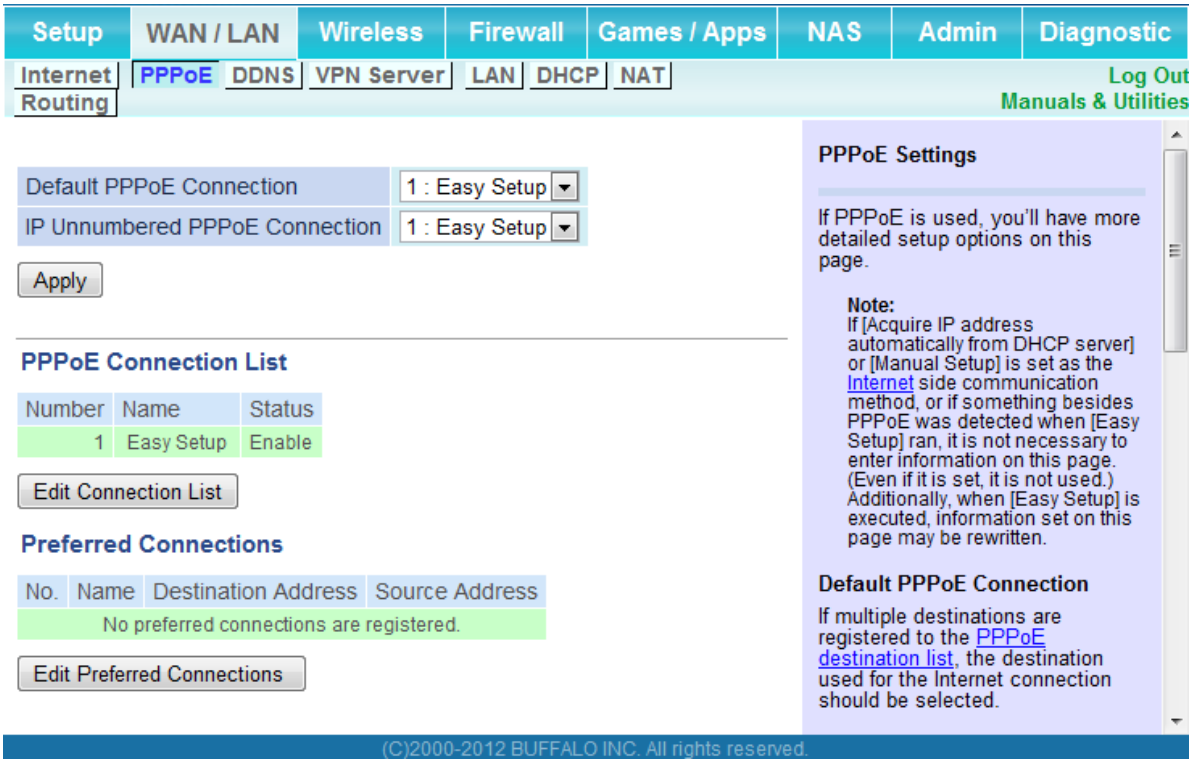
Configure the WAN-side port (“Internet port”).



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.
DNS Name Server Address	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

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 "Use IP Unnumbered" is chosen for the Method of Acquiring IP Address (page 24).
PPPoE Connection List	Edit PPPoE destination. You can register up to 5 sessions.
Edit Connection List	Click this button to edit destination settings.

Parameter	Meaning
PPPoE Connection No.	This is displayed when [Edit Connection List] is clicked. **Name of Connection** Enter the name to identify the connected destination. You may enter up to 32 alphanumerical characters and symbols. **Username** Enter the username specified by your ISP for PPPoE certification. You may enter up to 64 alphanumerical characters and symbols. **Password** Enter the password specified by your ISP for PPPoE certification. You may enter up to 64 alphanumerical characters and symbols. **Service Name** Fill in this field only if your ISP specifies a Service Name. Leave blank otherwise. You may enter up to 64 alphanumerical characters and symbols. **Connection Type** Specifies the timing for the AirStation to connect to your provider. **Automatic Disconnection** Set time to disconnect after communication is stopped when the connection method is set to [Connection on Demand] or [Manual]. You can enter up to 1440 minutes. **Authorization** Configure an authorization method with a provider. **MTU Size** Configure the MTU size for PPPoE. Values of 578 to 1492 bytes may be entered. **MRU Size** Configure MRU (Maximum Receive Unit) for PPPoE. Values of 578 to 1492 may be entered. **Keep Alive** 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. Enabled by default.

Parameter	Meaning
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	Click [Edit Preferred Connections] to display. **Name** This will be the name of the connection in the PPPoE connection list. **Destination Address** The AirStation will always use this connection to send data to this address. **Source Address** The AirStation will always use this connection to receive data from this address.

DDNS

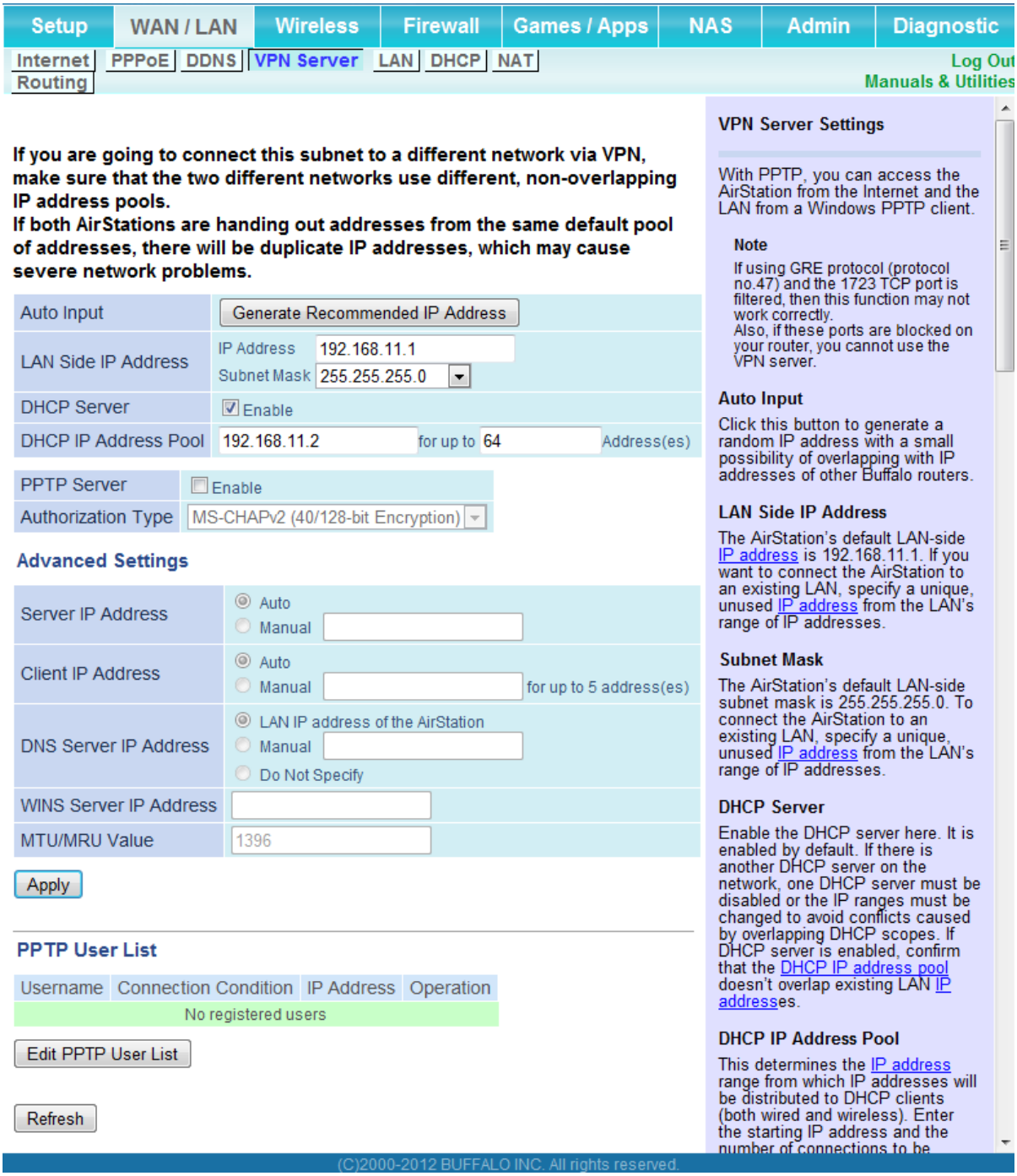
Configure Dynamic DNS settings. Many settings are only available when the appropriate Dynamic DNS service is enabled.

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

Parameter	Meaning
IP Address Update Period	Specifies the period to notify the dynamic DNS service provider of the current IP address. 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

Configure the VPN server.



Parameter	Meaning
Auto Input	Click to generate a random IP address.
LAN Side IP Address	Set a LAN side IP address and subnet mask.
DHCP Server	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 1-256 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	Choose the IP address for the DNS server.
WINS Server IP Address	Choose the IP address for the WINS server.
MTU/MRU Value	Configure MTU (Maximum Transmission Unit) / MRU (Maximum Receive Unit) between 578 and 1500 which is used during transmission on PPTP.
Edit PPTP User List	Click to edit user information.
Add new user	Click [Edit PPTP User List] to display.
Advanced Settings	**Username** Enter the username 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

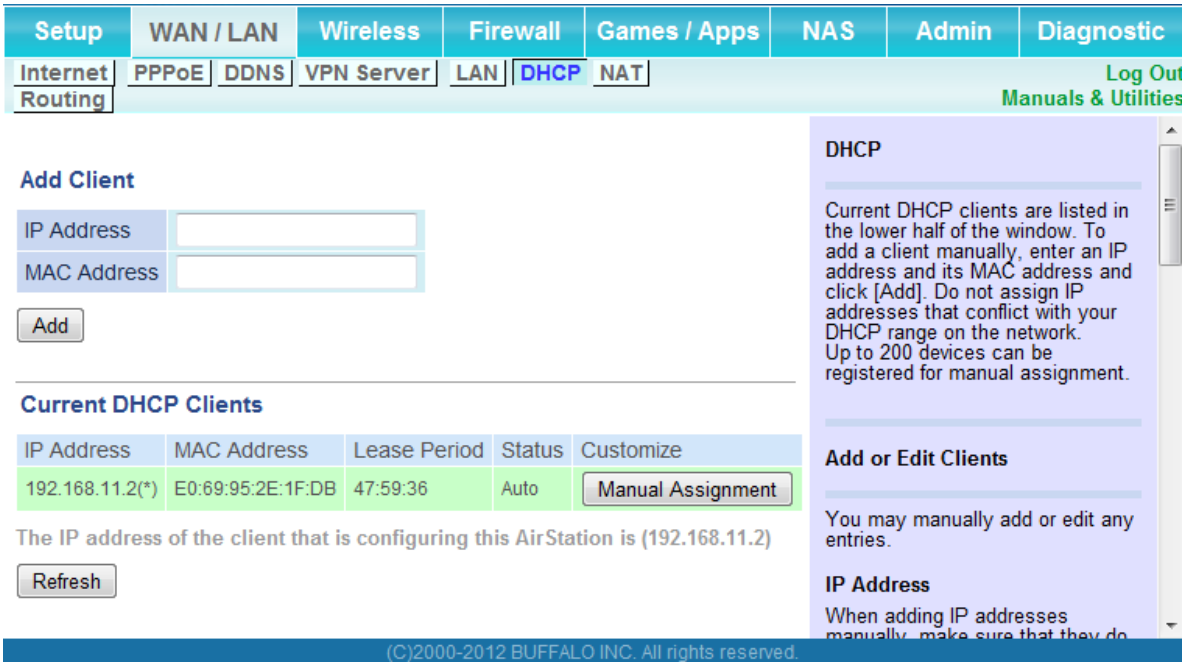
Configure LAN-side and DHCP Server settings.

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 Router Mode only	Enable or disable the DHCP server, which assigns LAN-side IP addresses automatically.
DHCP IP Address Pool Router Mode only	Configure the range of IP addresses to be assigned by the DHCP server and IP addresses to be excluded from that range. Values from 1-256 may be entered.
LAN Side IP Address (For IP Unnumbered) Router Mode only	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 Router Mode only	Check [Display] to display DHCP server advanced settings options.
Lease Period Router Mode only	Set the effective period of an IP address assigned by the DHCP server. Up to 999 hours may be entered.
Default Gateway Router Mode only	Set the default gateway IP address for the DHCP server to issue to clients.

Parameter	Meaning
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 64 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

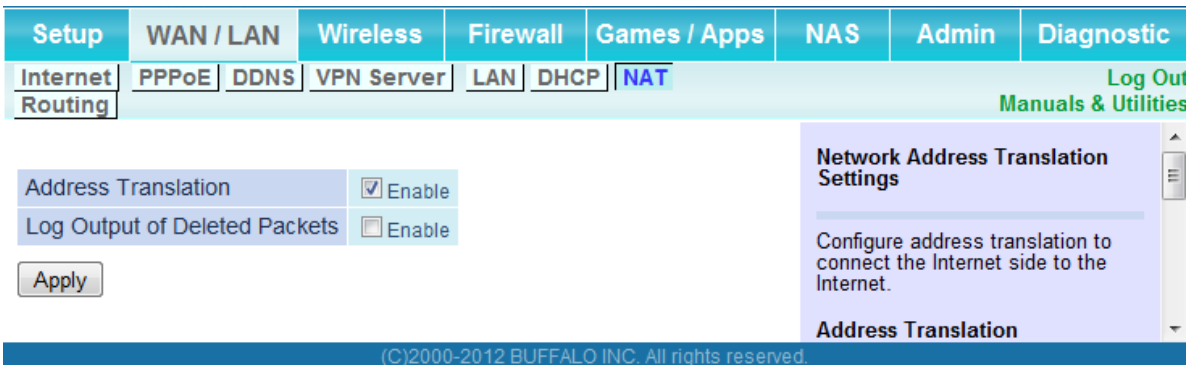
Configure DHCP Exceptions.



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 Clients	Displays information for current leases. An IP address which is leased automatically can be changed to manual leasing by clicking [Manual Assignment].

NAT

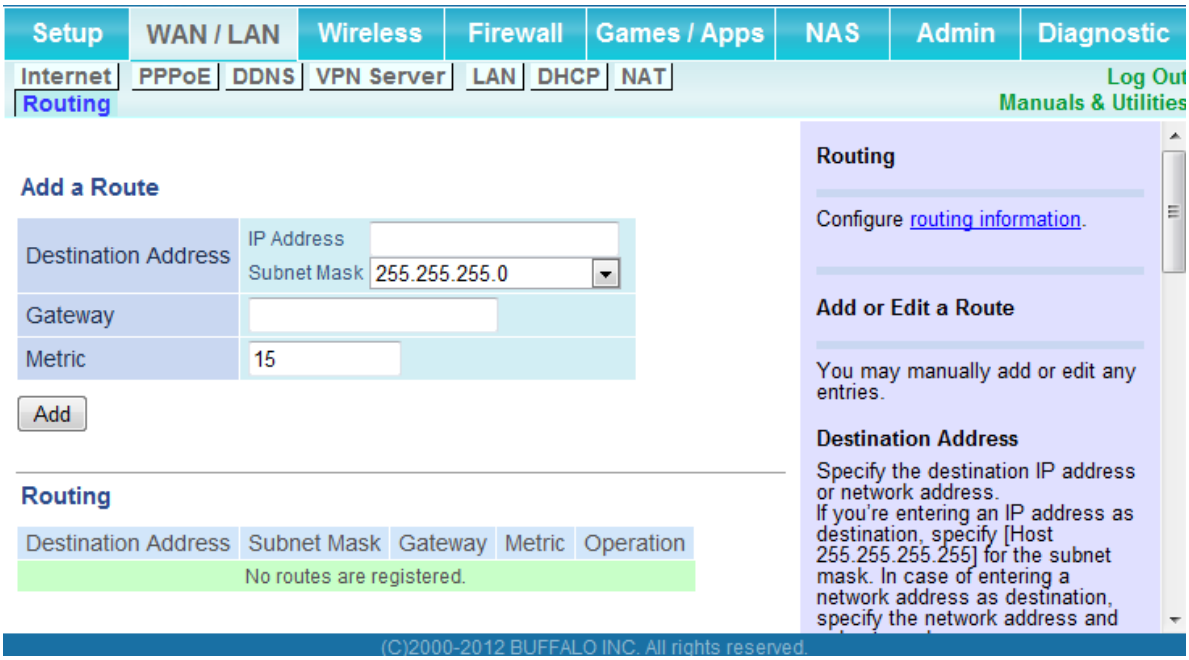
Configure network address translation settings. This enables LAN-side devices to communicate with the Internet.



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

Routing

Configure the AirStation's IP communication route.

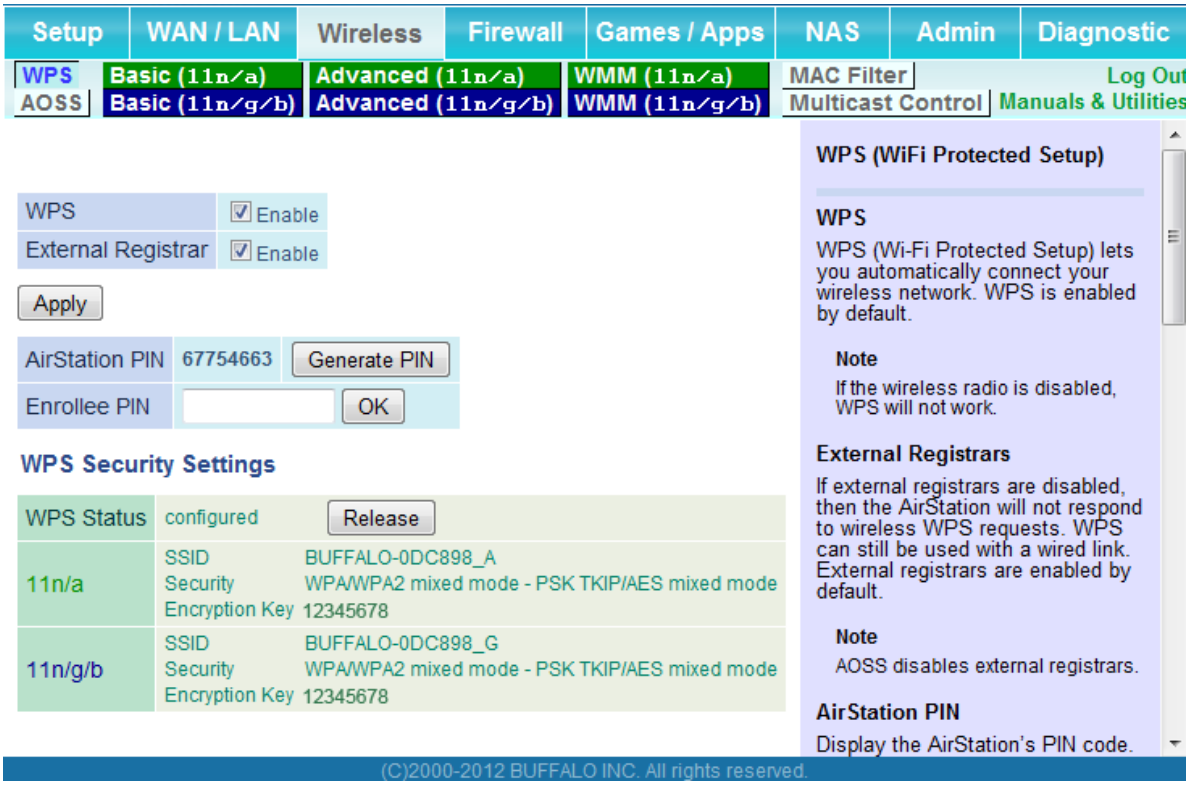


Parameter	Meaning
Destination Address	Adds a destination IP address and subnet mask to a routing table.
Gateway	Adds a gateway address to a routing table.
Metric	The metric is the maximum number of router hops a packet may take on the way to its destination address. Values between 1 and 15 may be entered.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

Wireless

WPS

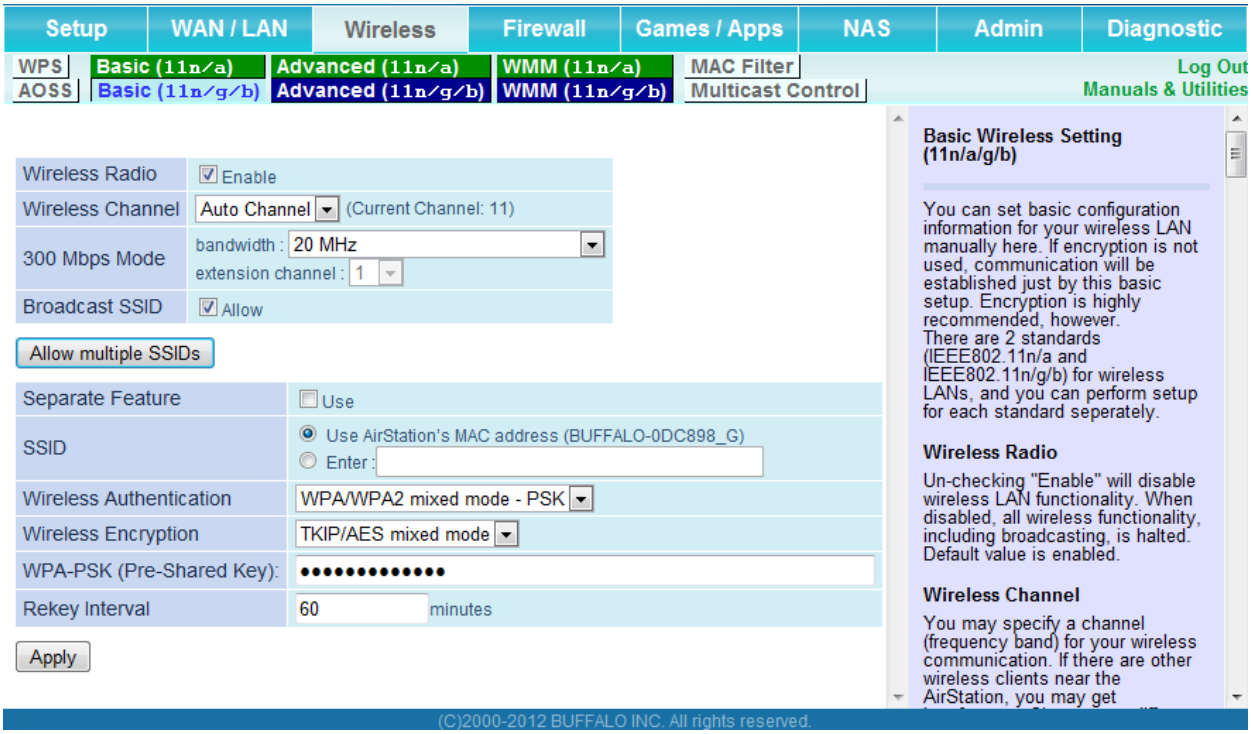
WPS Status and Settings.



Parameter	Meaning
WPS	Enable to use WPS automatic configuration.
External Registrar	Enable to accept configure requests from other WPS devices. Note: 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.

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) for wireless connections. With auto-channel selected, the AirStation will automatically use the best available channel.
300 Mbps 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 auto-channel is selected, then the extension channel is set automatically.

Parameter	Meaning
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.
Allow multiple SSIDs Use Single SSID	Clicking [Allow multiple SSIDs] will enable Multi Security, allowing the use of multiple SSIDs, each with different wireless security settings. Clicking [Use Single SSID] will disable Multi Security. The AirStation will then allow one SSID and one type of wireless security. Note: When using Multi Security, 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	When 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	You may use any of the following types of encryption: **No encryption** Data is transmitted without encryption. With this setting, anyone within range can connect to your wireless network and might be able to access data on the network. Not recommended for anyone with private data that needs to be kept secure. [No encryption] can be selected only when [No authentication] is selected for wireless authentication. **WEP** WEP is a common encryption method supported by most devices. WEP can only be selected when wireless authentication is set to [No authentication]. Note that WEP's encryption is weak, and networks protected with WEP are not much more secure than those with no encryption at all. Not recommended for anyone with private data that needs to be kept secure. **TKIP** TKIP is an encryption method which is more secure than WEP, but slower. TKIP can be selected only when WPA-PSK or WPA2-PSK is selected for wireless authentication. **AES** AES is more secure than TKIP, and faster. AES can be selected only when WPA-PSK or WPA2-PSK is selected for wireless authentication. **TKIP/AES mixed mode** TKIP/AES mixed mode allows both TKIP and AES authentication and communication. This is no more secure than TKIP alone, but more convenient for some users. TKIP/AES mixed mode can be selected only when WPA/WPA2 mixed mode - PSK is selected for wireless authentication.
WPA-PSK (Pre-Shared Key)	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 alphanumeric characters (0 to 9 and a to f, not case-sensitive) for a hexadecimal passphrase.
Rekey Interval	Set the update interval for the encryption key between 0 and 1440 (minutes).

Parameter	Meaning
Set up WEP encryption key	A WEP encryption key (passphrase) may have two different formats. An ASCII passphrase may use either 5 or 13 alphanumeric characters (case-sensitive). A hexadecimal passphrase may use either 10 or 26 alphanumeric characters (0 to 9 and a to f, not case-sensitive).

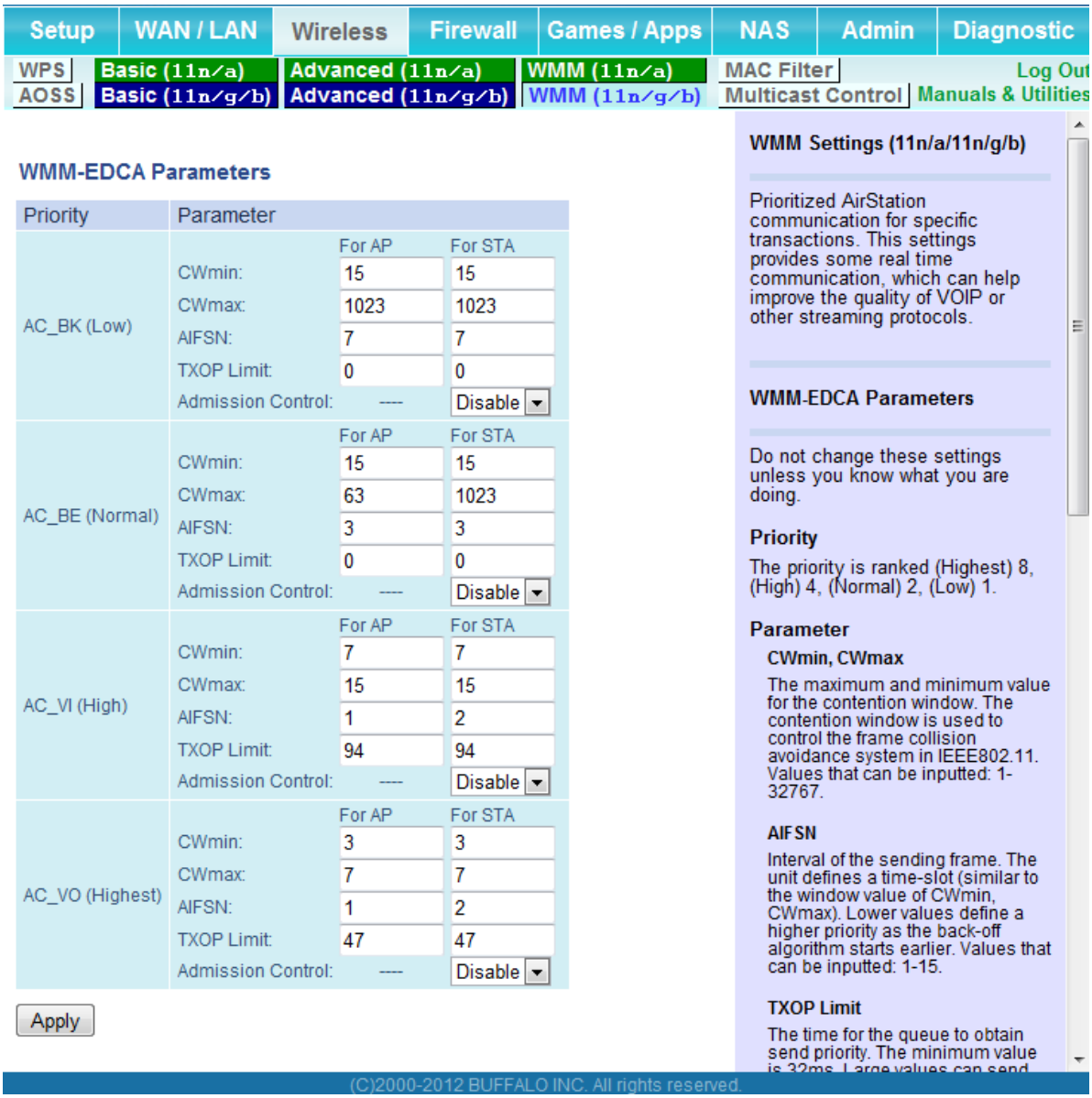
Advanced

Configure advanced wireless settings.

Parameter	Meaning
Multicast Rate	Set the communication speed of 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

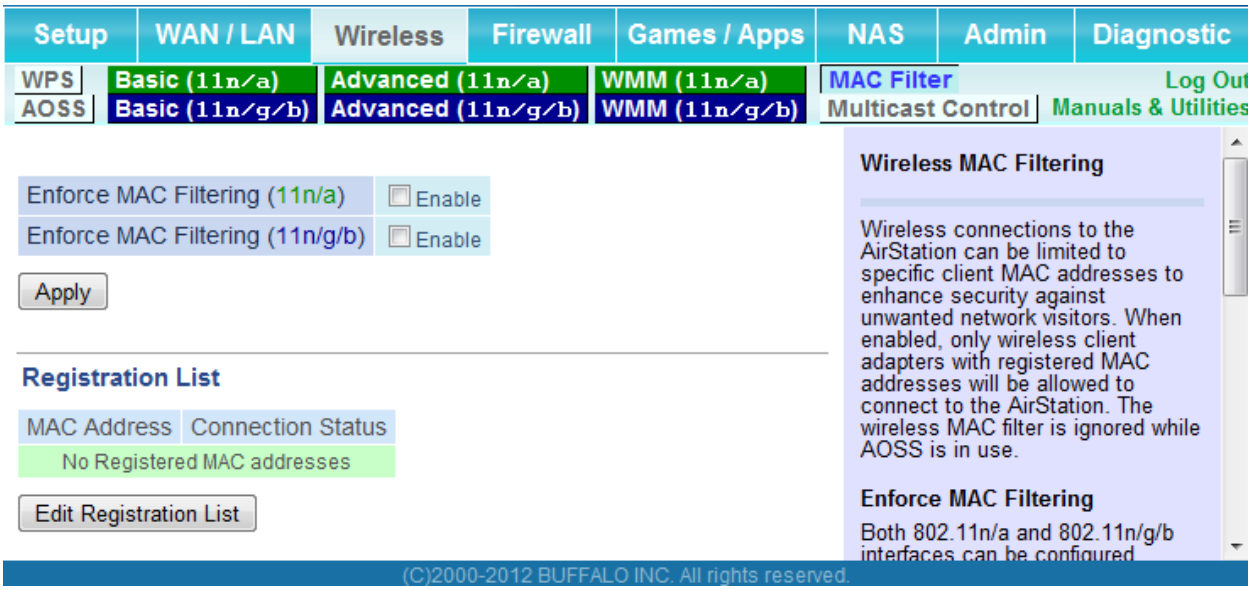
Set priorities for specific communications.



Parameter	Meaning
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 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. **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

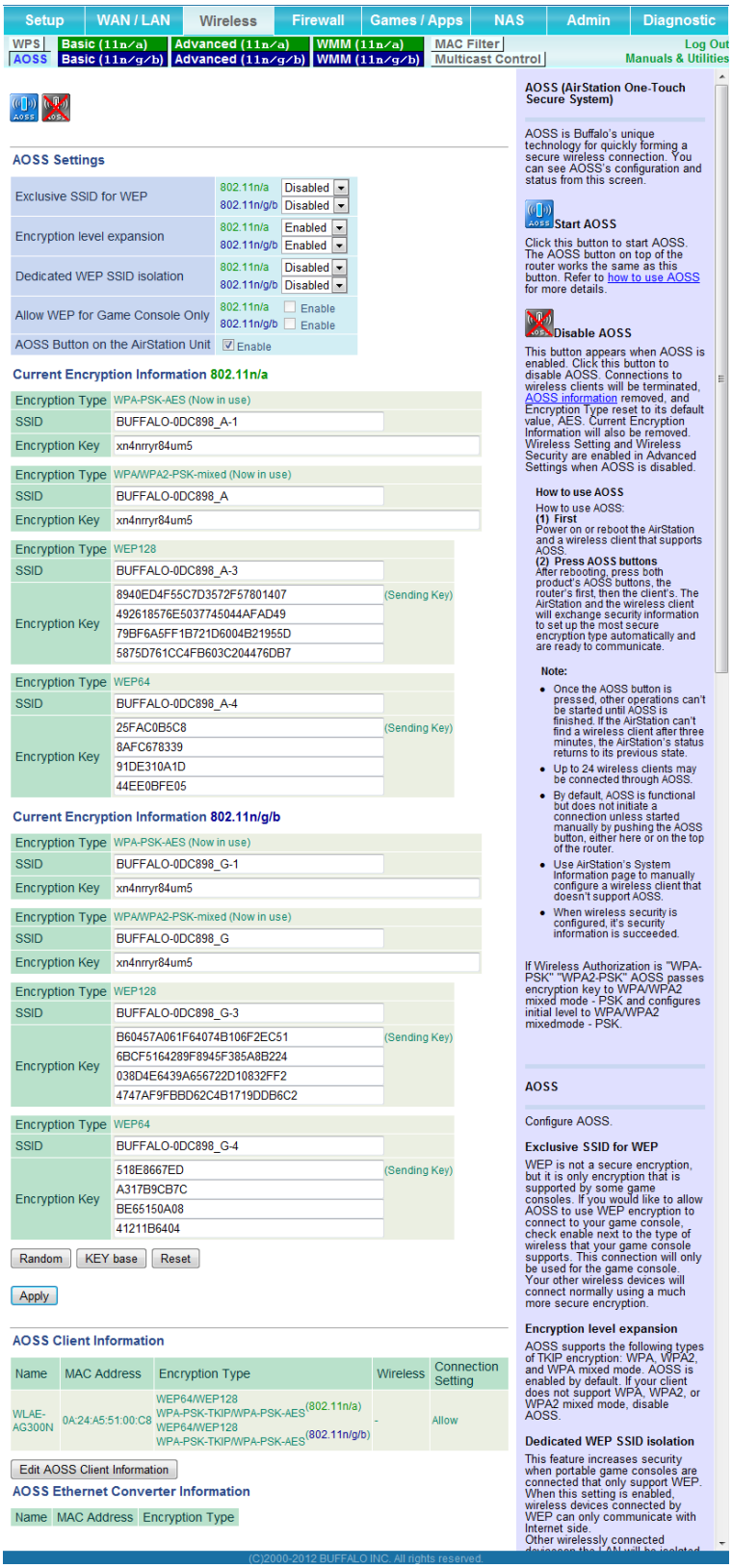
Restrict access to specific wireless devices.



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	Adds 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.

AOSS

AOSS Status and 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 last settings from before AOSS was used.
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	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.
Allow WEP for Game Console Only	When enabled, the AirStation allows wireless devices to connect with 64-bit 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, and 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 Setup Card.
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.

Multicast Control

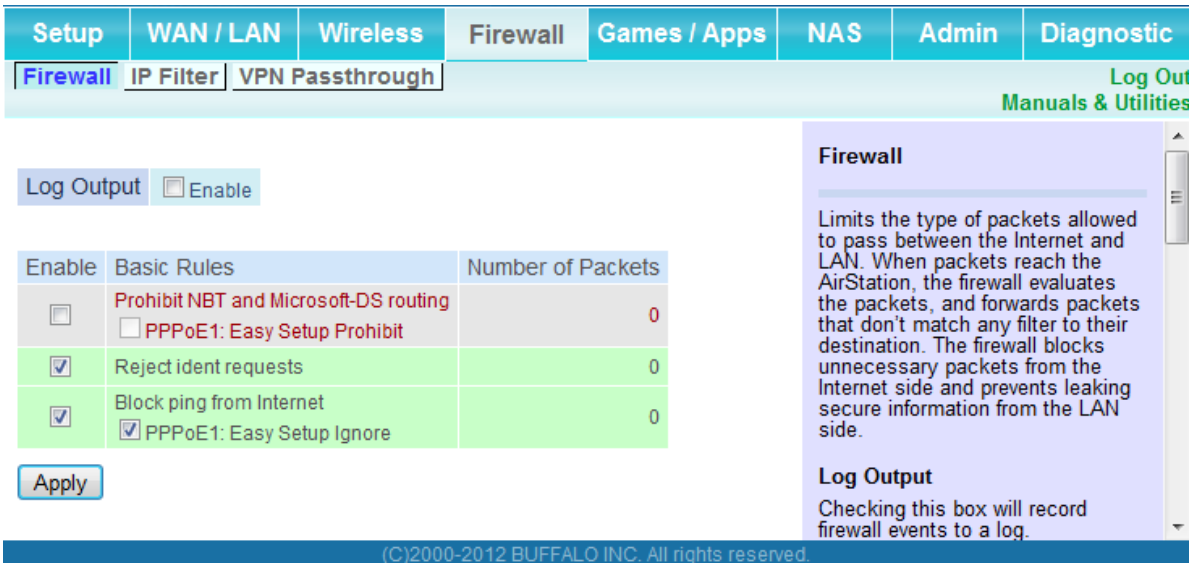
Configure restrictions on unnecessary multicast packets sent to the wireless LAN port.

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.

Firewall

Firewall

Configure the AirStation's firewall.

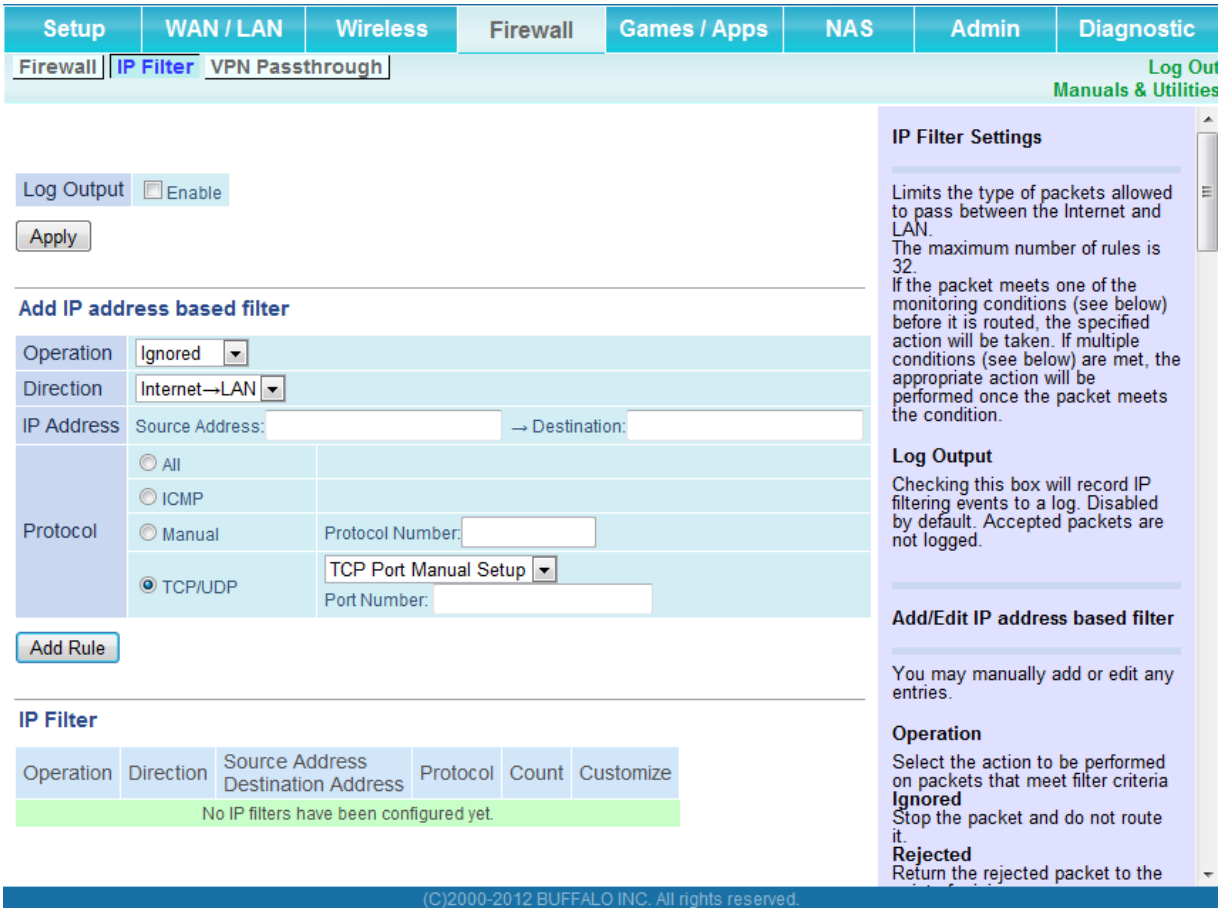


Parameter	Meaning
Log Output	Enable to output a log of firewall activity.
Basic Rules	Enable to use any of the quick filters. Preconfigured quick filters include: **Prohibit NBT and Microsoft-DS routing** Enabling this blocks communication using these protocols from the WAN side to the LAN side or from 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 (page 24), 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 slow transfer speeds for network applications such as mail, ftp or web 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. **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 24), or if Easy Setup identified a PPPoE connection during setup.

IP Filter

Edit IP filters.



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	Display the list of IP filters which have been registered.

VPN Passthrough

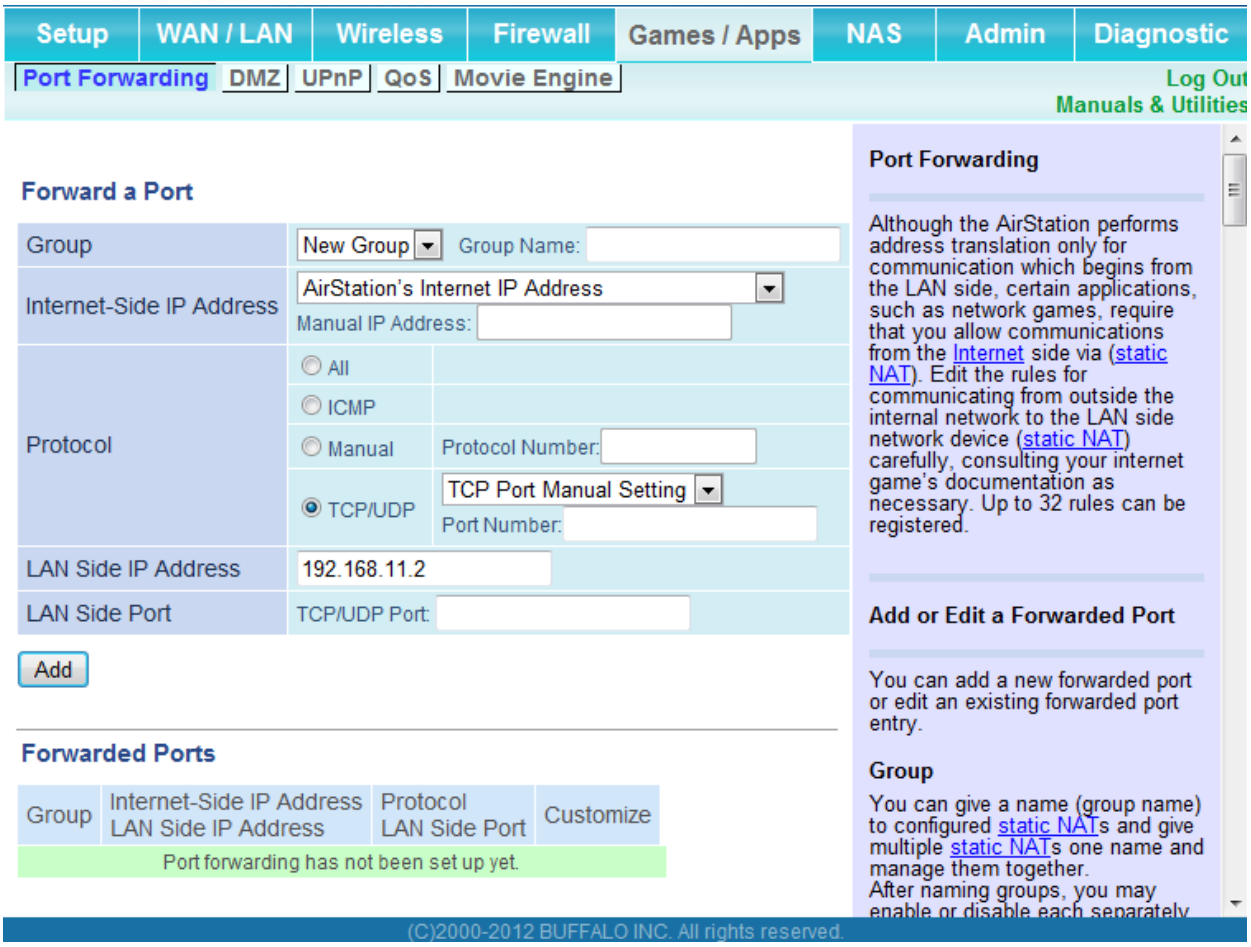
Configure IPv6 passthrough, PPPoE passthrough, and PPTP passthrough.

Parameter	Meaning
IPv6 Passthrough	Enable to use IPv6 Passthrough for address translation.
PPPoE Passthrough	Enable to use PPPoE bridging. PPPoE bridging lets you automatically obtain an IP address from your provider for your LAN-side computer using the PPPoE protocol because PPPoE packets can pass between the Internet and LAN.
PPTP Passthrough	Enable to use PPTP passthrough for address translation.

Games/Apps

Port Forwarding

Configure port translation.

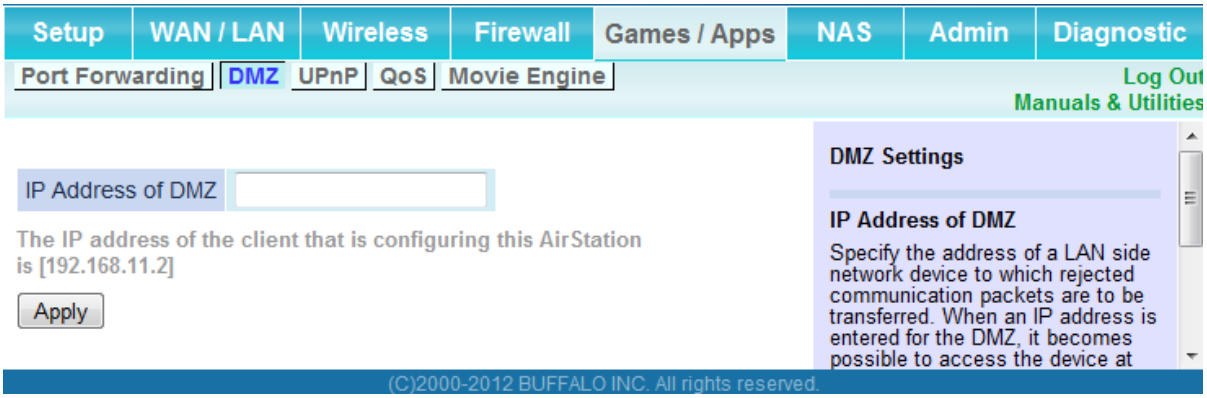


Parameter	Meaning
Group	Specify a group name for a new rule to belong to. Select [New Group] and enter the new group name in the Group Name field to create a new group. A group name can include up to 16 alphanumeric characters.
Internet-Side IP Address	Enter the Internet side IP address (before translation) 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.
Forwarded Ports	Shows current entries in the port translation table.

DMZ

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.

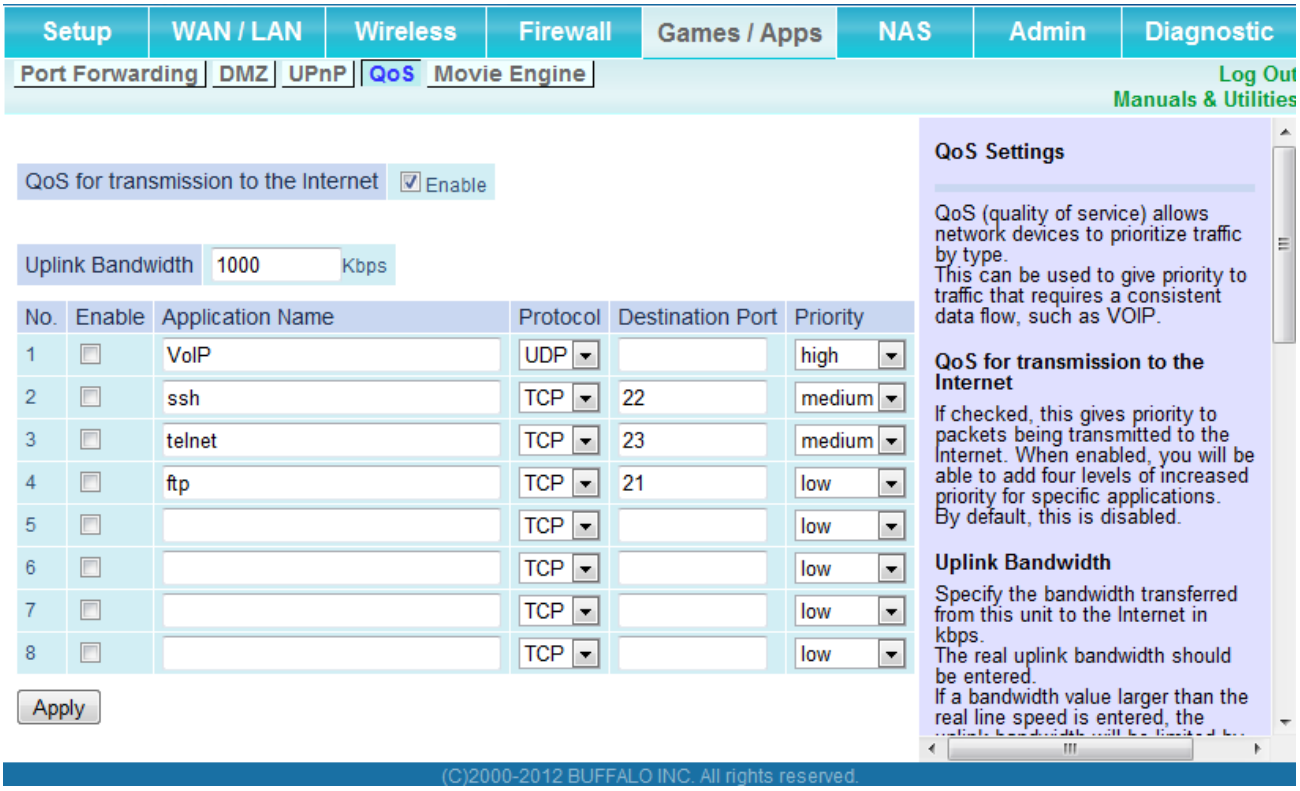
UPnP

Configure UPnP (Universal Plug and Play).

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

QoS

Configure the priority of packets sent to the Internet.

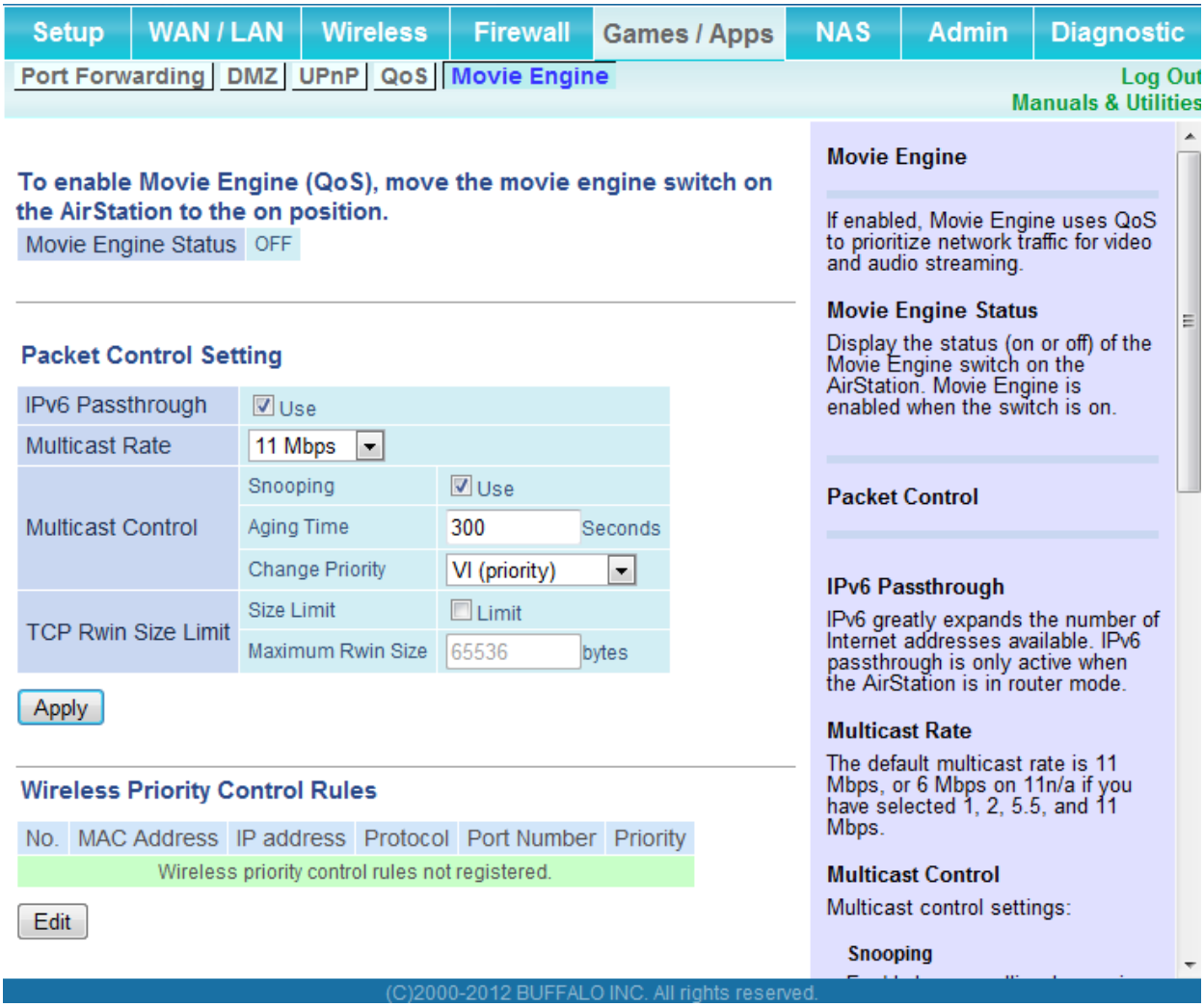


Parameter	Meaning
QoS for transmission to the Internet	Determine whether or not to prioritize packets sent to the Internet. Check this box to enable QoS.
Uplink Bandwidth	Specify the upstream bandwidth in kbps from the AirStation to the Internet side. Set the actual value for the upstream bandwidth.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

Parameter	Meaning
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.

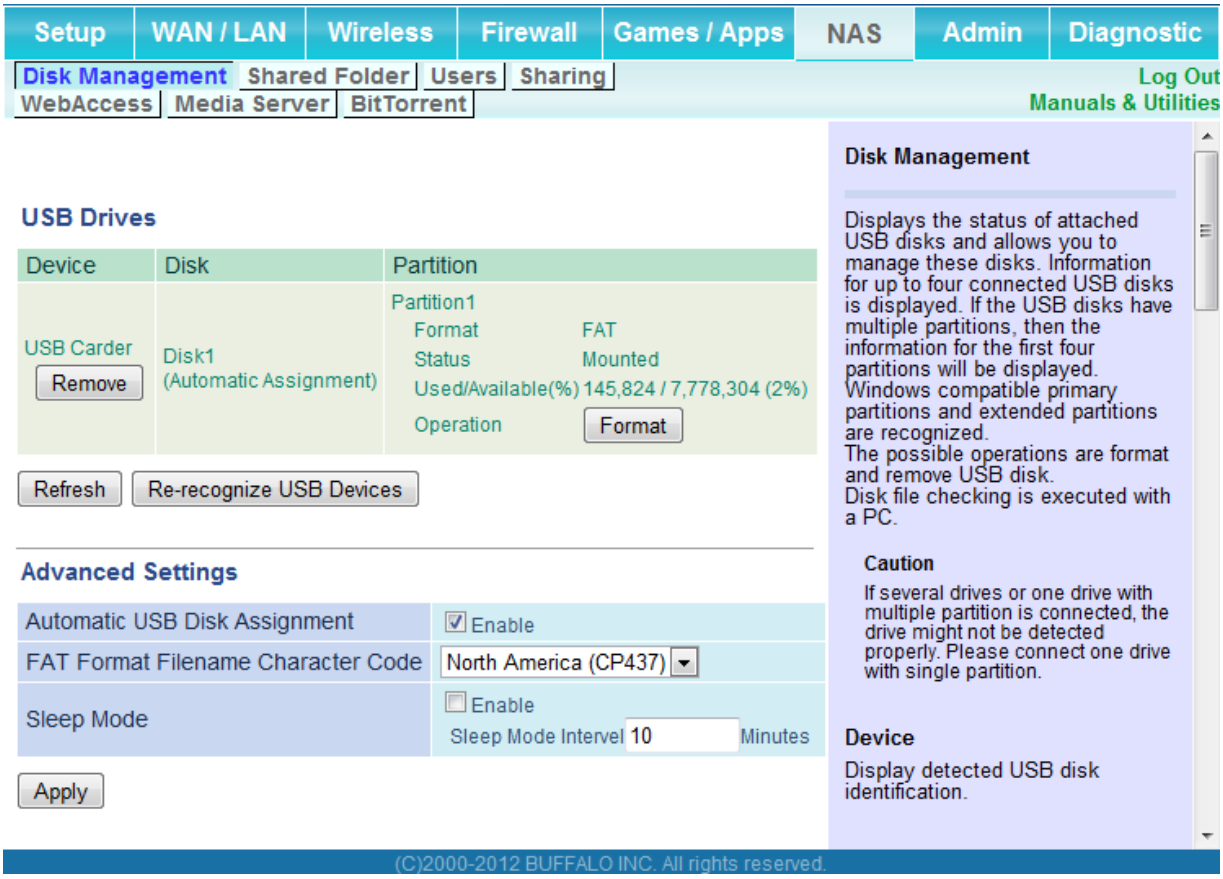


Parameter	Meaning
Movie Engine Status	Displays the status of the Movie Engine switch.
IPv6 Passthrough	Set to enable the IPv6 pass-through.
Multicast Rate	Select the Multicast Control rate.
Multicast Control	Turn on Multicast Control.
TCP Rwin Size Limit	Limits the maximum size of TCP Rwin packets passing through the AirStation's wireless LAN.
Wireless Priority Control Rules	Display the list of rules controlling the priority of packets passing through the AirStation's wireless LAN.

NAS

Disk Management

View the status of and configure attached USB hard disks.

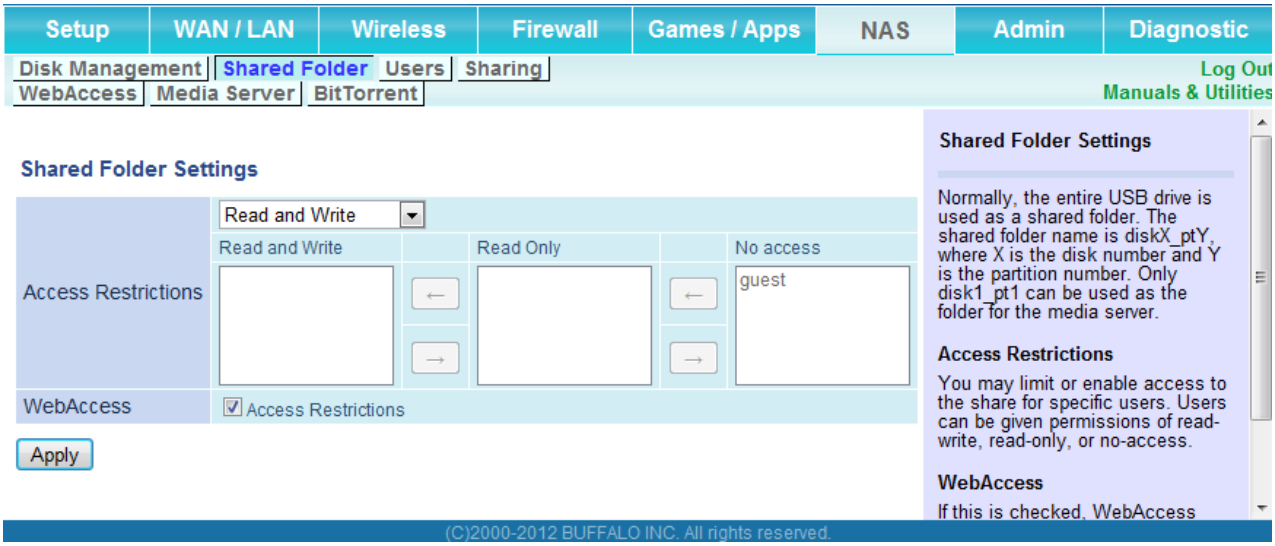


Parameter	Meaning
Device	Displays information for attached USB drives. To dismount a drive, click [Remove] in the Device column.
Disk	A disk number will be automatically assigned to the drive or you can choose a number. Select a drive number, or select [Do not assign], then click [Apply].
Partition	Displays the partition information for the selected USB drive. Click [Format] to format the drive. Note: formatting a drive will erase all information on it.
Re-recognize USB Devices	Click this to re-scan for connected USB drives.

Parameter	Meaning
Automatic USB Disk Assignment	Check [Enable] 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 [Enable]. [Enable] is selected by default.
FAT Format Filename Character Code	Select the character code for filenames in FAT formatted partitions.
Sleep Mode	Click [Enable] to enable Sleep Mode.
Sleep Mode Interval	Powers down the device after this duration of time.

Shared Folder

Configure a USB hard disk for use with shared folders.



Parameter	Meaning
Shared Folder Name*	Enter a name for the shared folder. Up to 18 alphanumeric characters, spaces, hyphens (-), and underscores (_) may be used.
Shared Folder Description*	Enter a description of the shared folder (optional). Up to 75 alphanumeric characters, spaces, 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 Restrictions	If access limits are enabled, use the arrows to move highlighted users between the columns for [Read and Write], [Read only], or [No access] privileges.

Parameter	Meaning
WebAccess	You may also select to enforce access limits on users accessing through Web Access by checking the Access Restrictions checkbox. Users will have the same access levels as assigned above. If Access Restrictions 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.

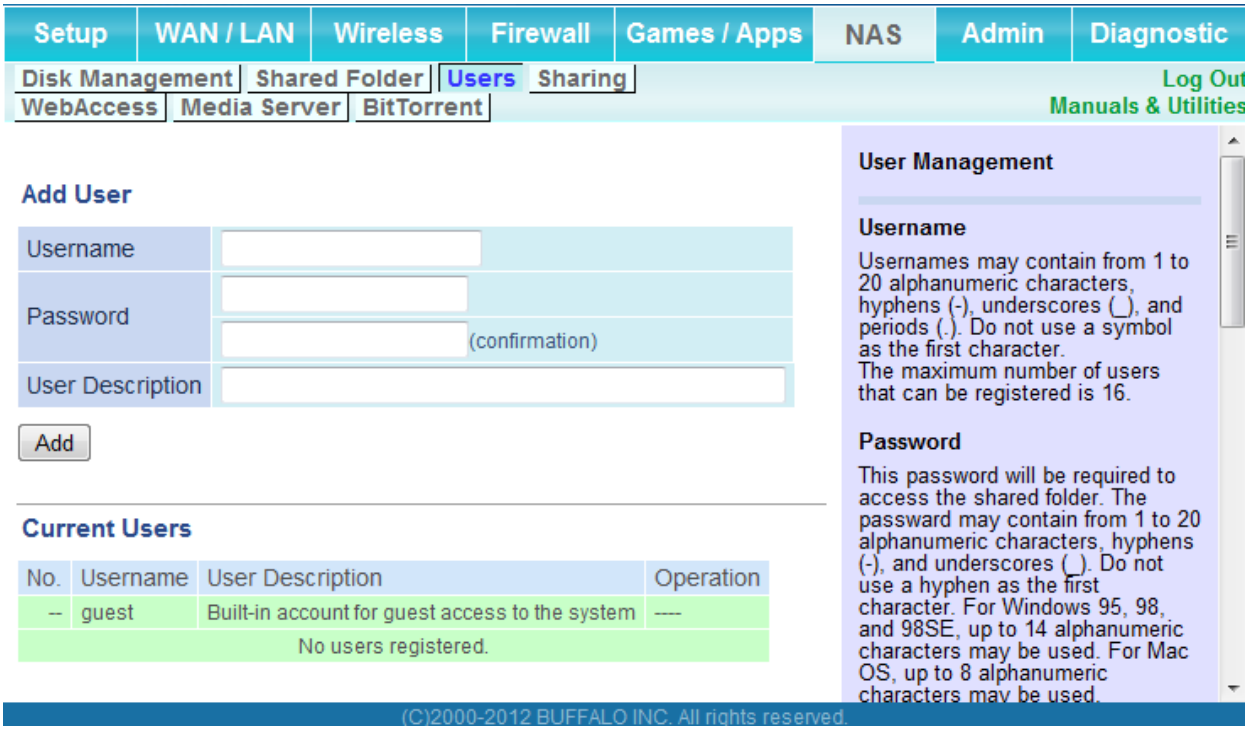
* This is not displayed when Automatic USB Disk Assignment (page 60) is used:

The following shared folder settings are used when Disk Management is activated:

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

Users

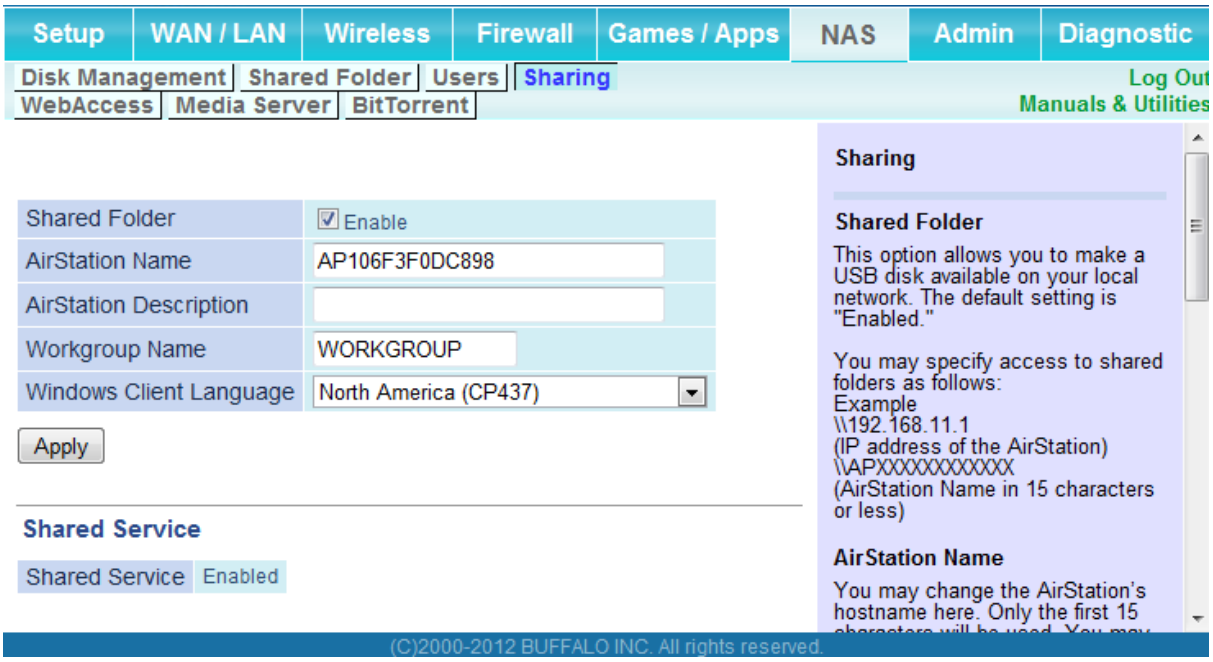
This screen lets you add users to the access list with the ability to access shared folders.



Parameter	Meaning
Username	Enter the name of a user to be given access to the shared folder. Up to 20 alphanumeric characters, space, hyphens (-), underscores (_), and periods (.) 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, spaces, 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, spaces, 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.

Sharing

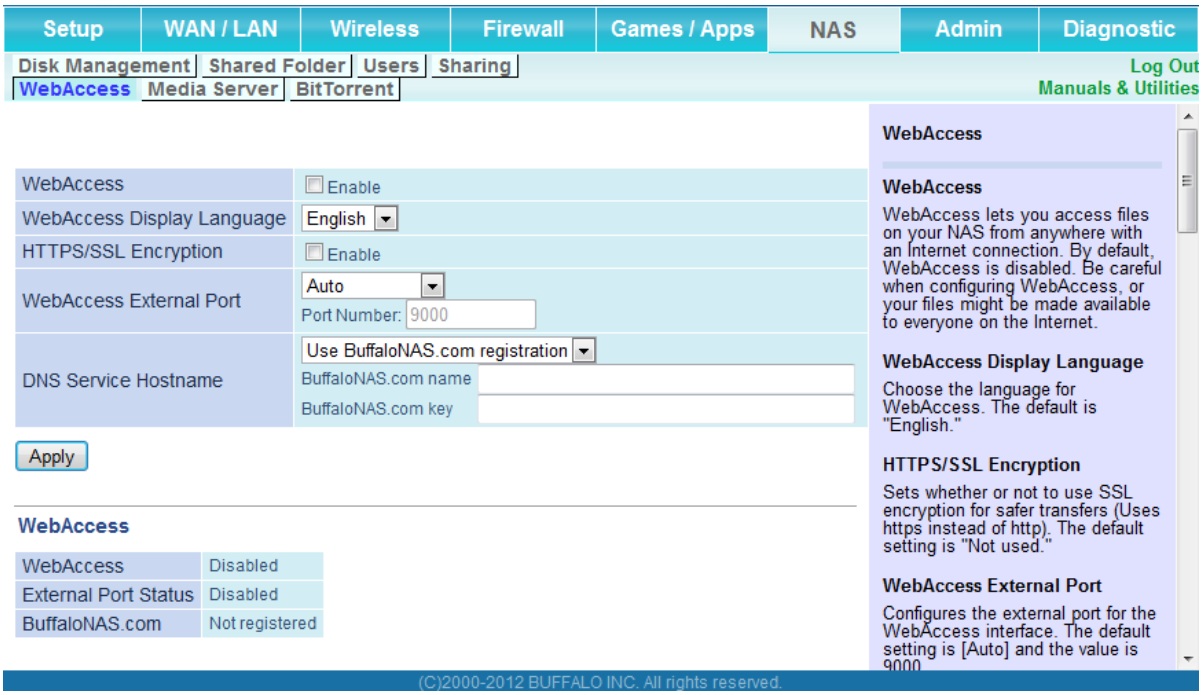
Assign AirStation and workgroup names to access shared folders.



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 hostname 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 periods (.) may be used.
Windows Client Language	Select the language to be used by the Windows client.
Shared Service	Displays the status of the USB disk that is used with the shared service.

WebAccess

The screen to configure Web Access.

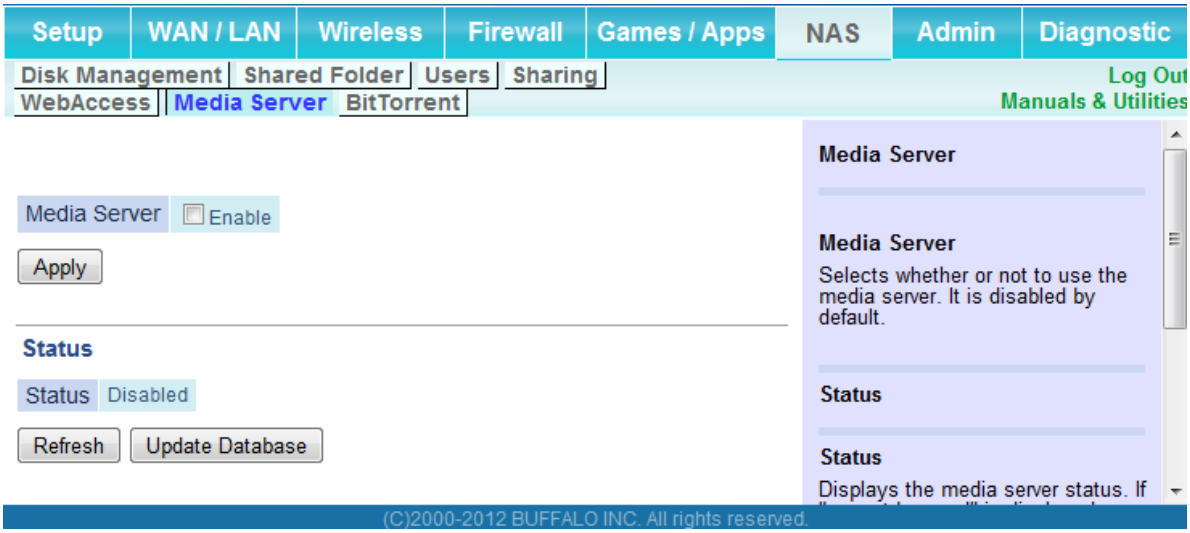


Parameter	Meaning
WebAccess	Check [Enable] to use Web Access.
WebAccess Display Language	Set the language to be used with Web Access.
HTTPS/SSL Encryption	Check [Enable] to use SSL encryption for protected data transfer.
WebAccess External Port	Automatically sets the external port used for Web Access. To select the port manually, select [Manual].
DNS Service Hostname	Sets the DNS service hostname for WebAccess. For ease of use, selecting Use BuffaloNAS.com registration is recommended. Enter your BuffaloNAS.com name and key] to use BuffaloNAS.com. 3 - 20 alphanumeric characters, spaces, hyphens (-), underscores (_) and period (.), may be used in the BuffaloNAS.com name. 3 - 20 alphanumeric characters, spaces, 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.

Parameter	Meaning
WebAccess	Displays the status of Web Access.
External Port Status	Displays the status of the external port.
BuffaloNAS.com	Displays the status of BuffaloNAS.com.

Media Server

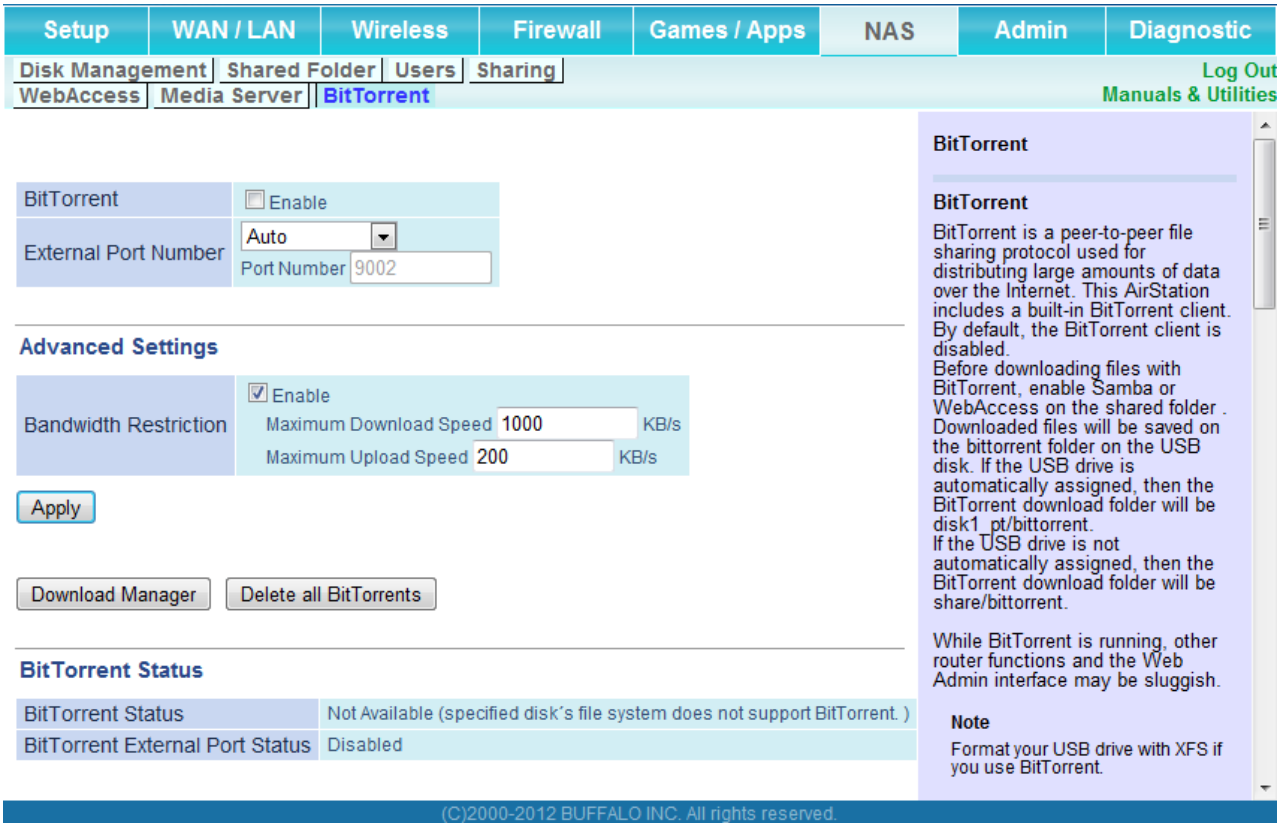
Media Server settings.



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

BitTorrent

Configure the BitTorrent client.



Parameter	Meaning
BitTorrent	Enable to use the BitTorrent client. If the BitTorrent client is enabled, overall communication performance may decrease and settings screens may respond slower. If that happens, reformat the USB disk with XFS. That may help performance.
External Port Number	Select an external port number.

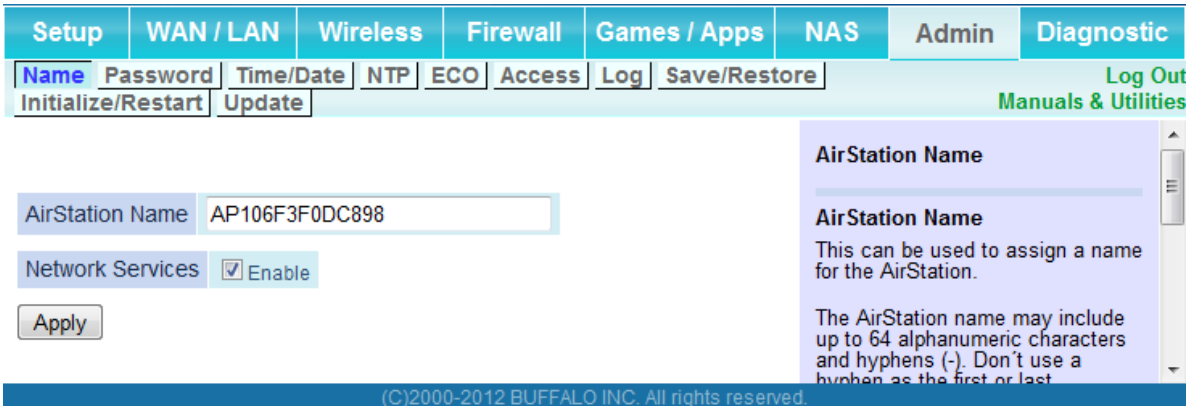
Parameter	Meaning
Bandwidth Restriction	Set a bandwidth limit for BitTorrent.
Download Manager	Displays the BitTorrent download manager screen. Add a torrent, then click [Add] to download the file(s).
Delete all BitTorrents	Deletes all files, including the torrent files and files which are currently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

You can download the latest Windows BitTorrent client from www.bittorrent.com.

Admin

Name

Configure basic AirStation settings.



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

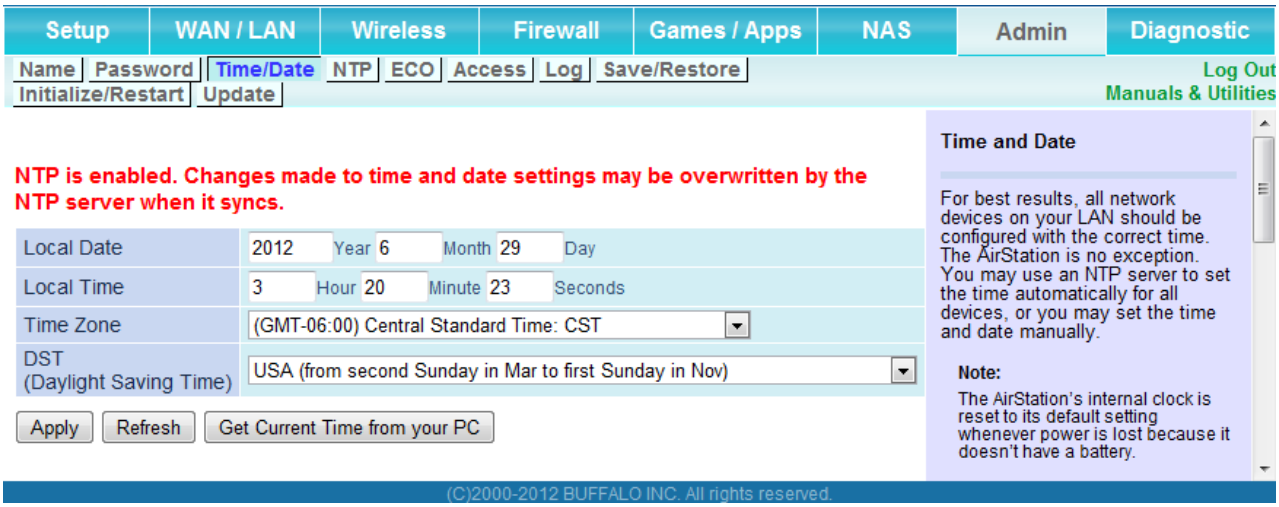
Password

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

Parameter	Meaning
Administrator	The name of the Administrator account is "admin".
Administrator Password	The Administrator password may contain up to 8 alphanumeric characters and underscores (_).

Time/Date

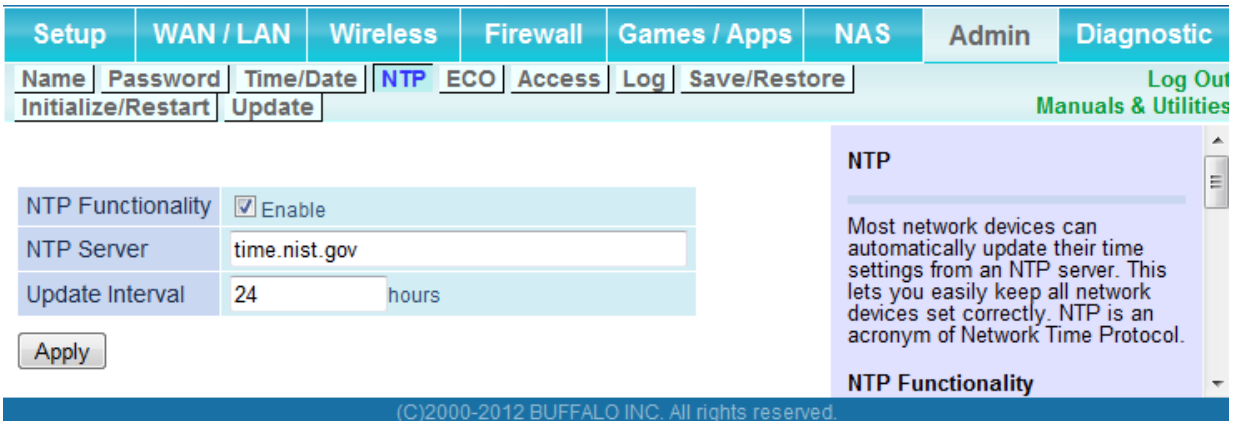
Configure the AirStation's internal clock.



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 automatically use DST (Daylight Saving Time). If selected, the AirStation will automatically adjust the time at the beginning and end of DST.

NTP

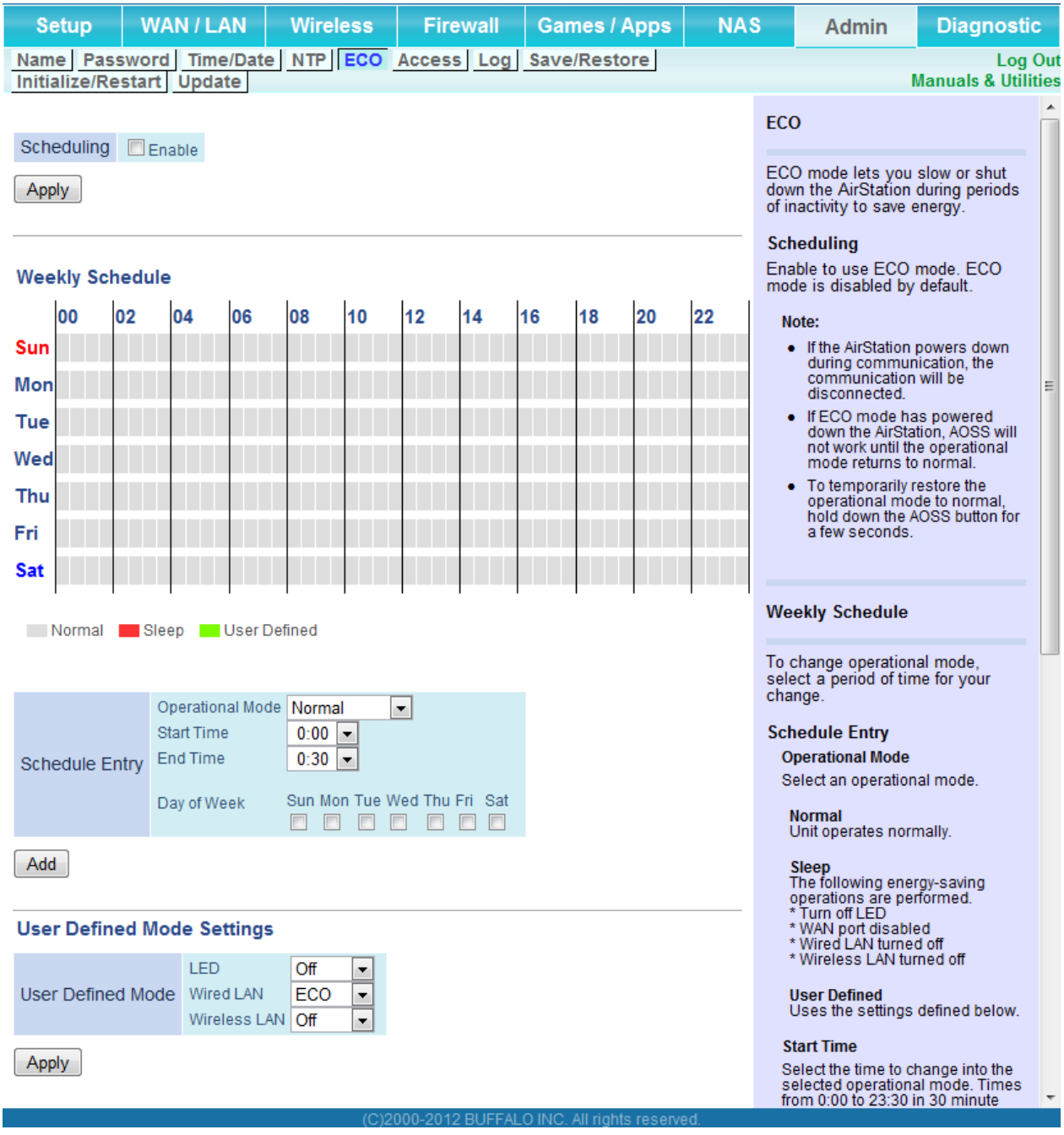
Configure an NTP server to automatically synchronise the AirStation's internal clock.



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 hostname, hostname with domain name, or IP address. Up to 255 alphanumeric characters, hyphens (-), and periods (.) 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

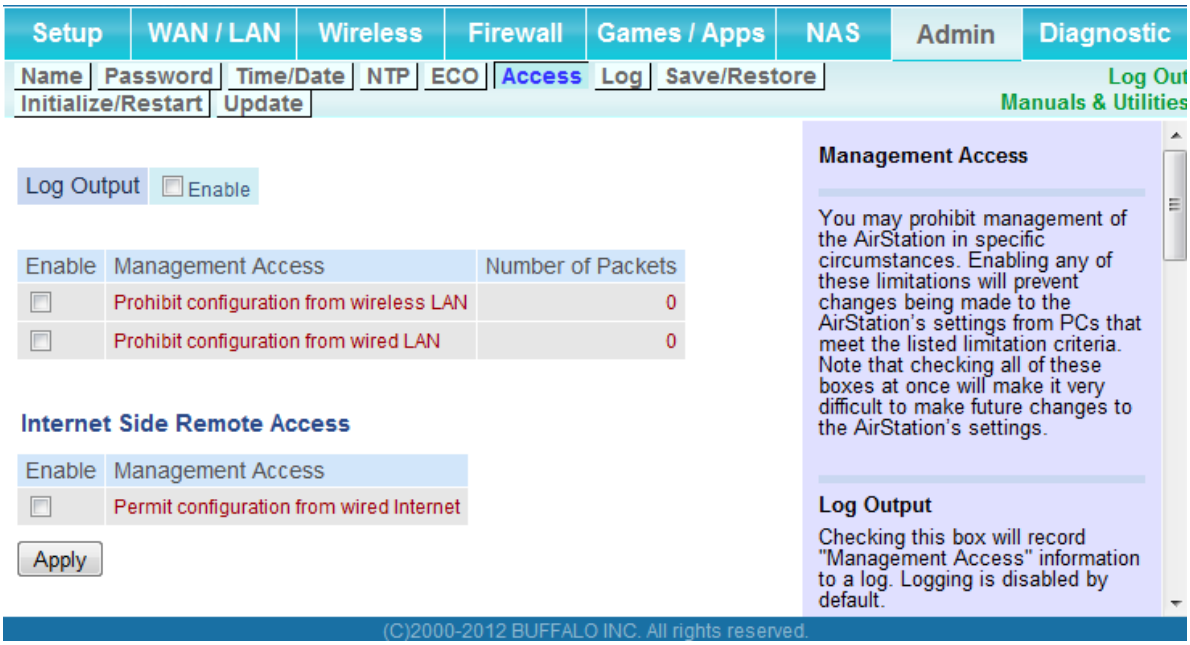
Configure Eco mode from this screen.



Parameter	Meaning
Scheduling	Enable to schedule Eco Mode. If Eco mode is enabled, AOSS will function only when the AirStation is in Normal operating mode.
Weekly Schedule	Graphically displays the configured schedule.
Schedule Entry	Configure operational mode for time periods in the weekly schedule. If User Defined mode is chosen, configure it below.
User Defined Mode	Individual power saving elements may be configured for User Defined mode.

Access

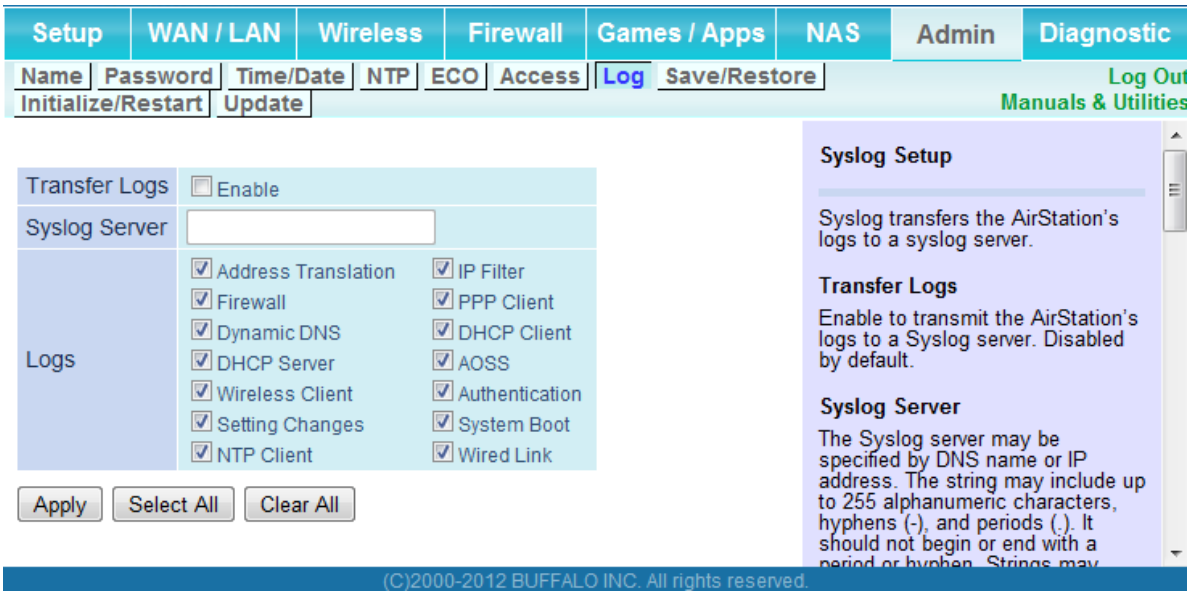
Restrict access to the AirStation's settings screens.



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

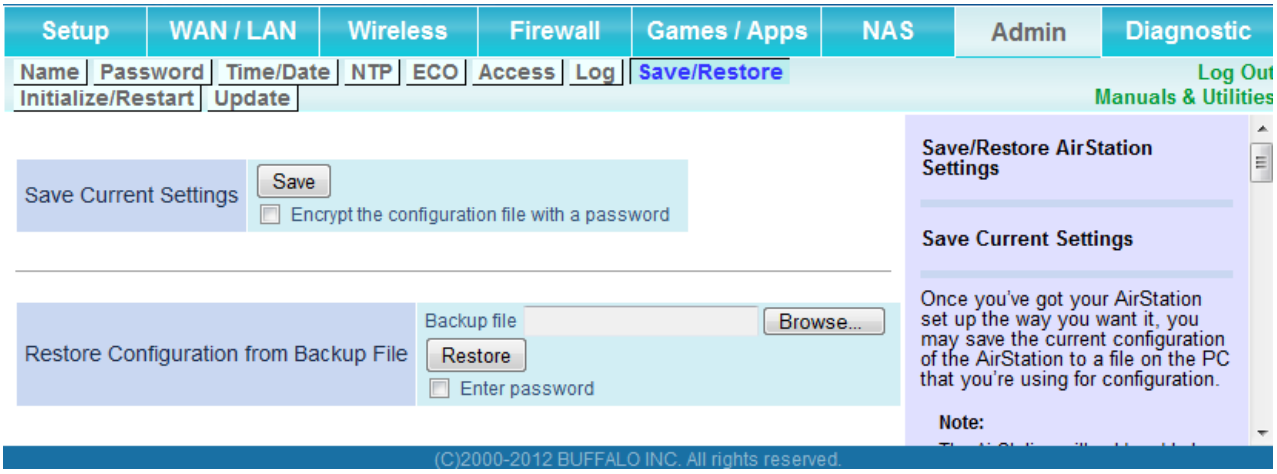
Transfer the AirStation's logs to a syslog server.



Parameter	Meaning
Transfer Logs	Enable to send logs to a syslog server.
Syslog Server	Identify the syslog server by hostname, hostname with domain name, or IP address. You may enter up to 255 alphanumeric characters, hyphens (-), and periods (.).
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 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 [Enter password], enter the password, and click [Restore].

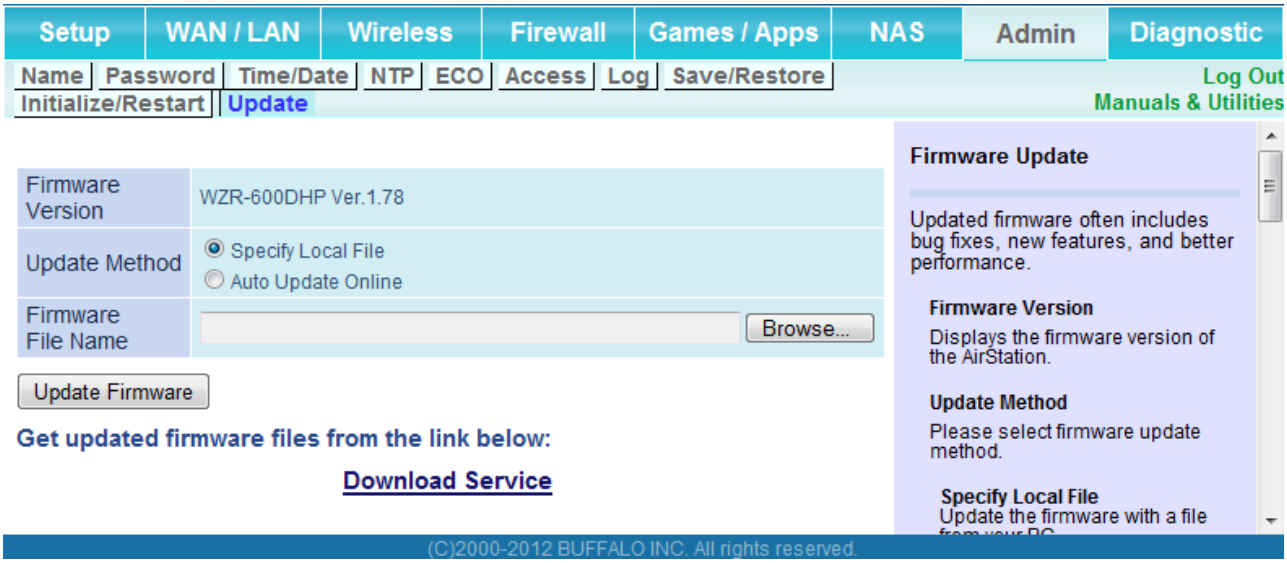
Initialize/Restart

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.

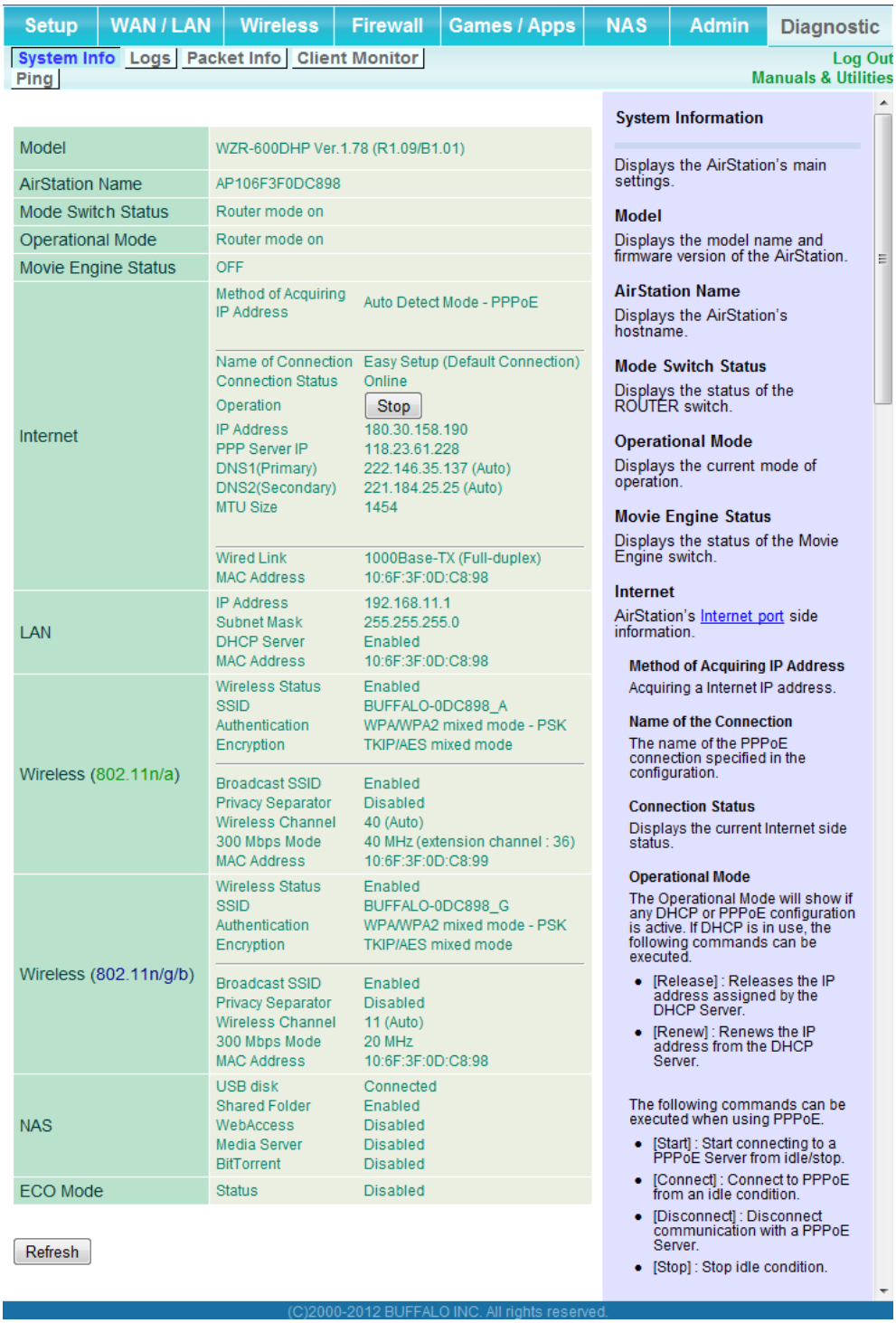


Parameter	Meaning
Firmware Version	Displays the current firmware version of the AirStation.
Update Method	**Specify Local File** Updates from a firmware file stored on your computer. **Auto Update Online** Automatically updates to the latest firmware available.
Firmware File Name	Click [Browse...] to navigate to the firmware file on your computer if [Specify Local File] was selected. You don't need to specify the firmware location if you're using [Auto Update Online]. Click [Update Firmware] to update the firmware.

Diagnostic

System Info

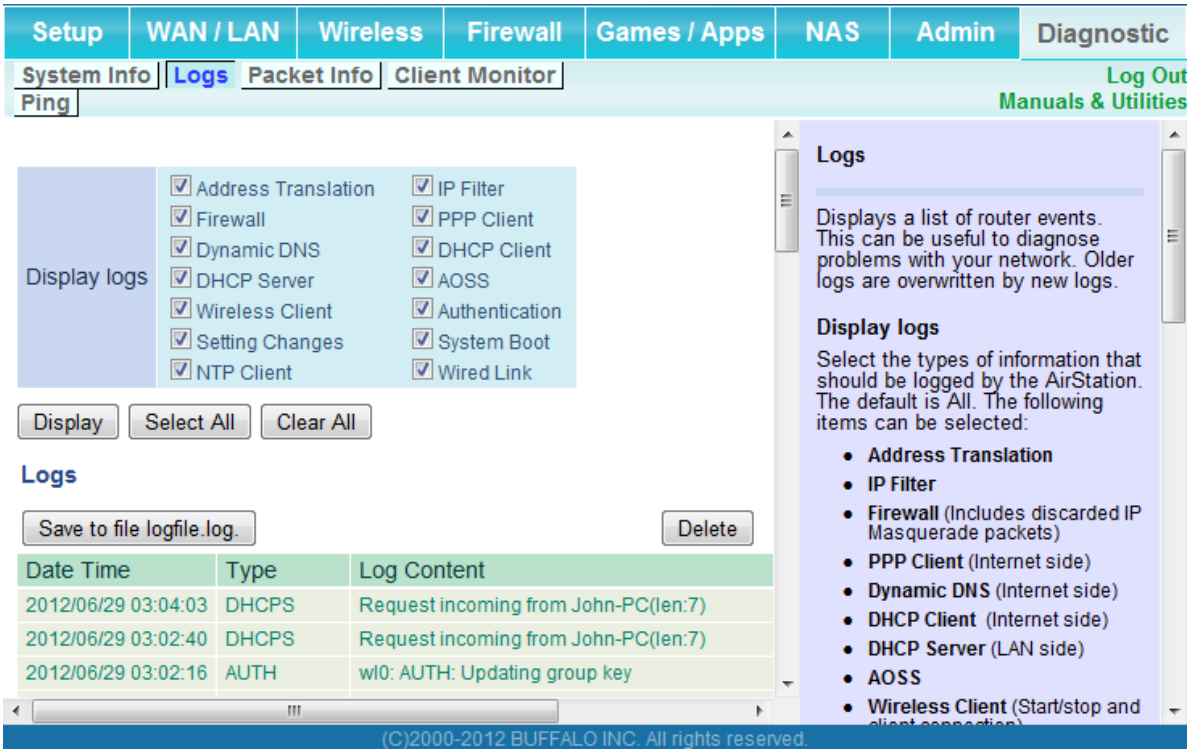
View system information for the AirStation.



Parameter	Meaning
Model	Displays the product name of the AirStation and the firmware version.
AirStation Name	Displays the name of the AirStation.
Mode Switch Status	Displays the status of the AirStation's mode switch.
Operational Mode	Displays the AirStation's current operational mode.
Movie Engine Status	Displays the current Movie Engine Status.
Internet	Displays information about the Internet port.
LAN	Displays information about the LAN port.
Wireless	Displays the wireless status.
NAS	Displays information about the USB disk.
ECO Mode	Displays the operating status of ECO Mode.

Logs

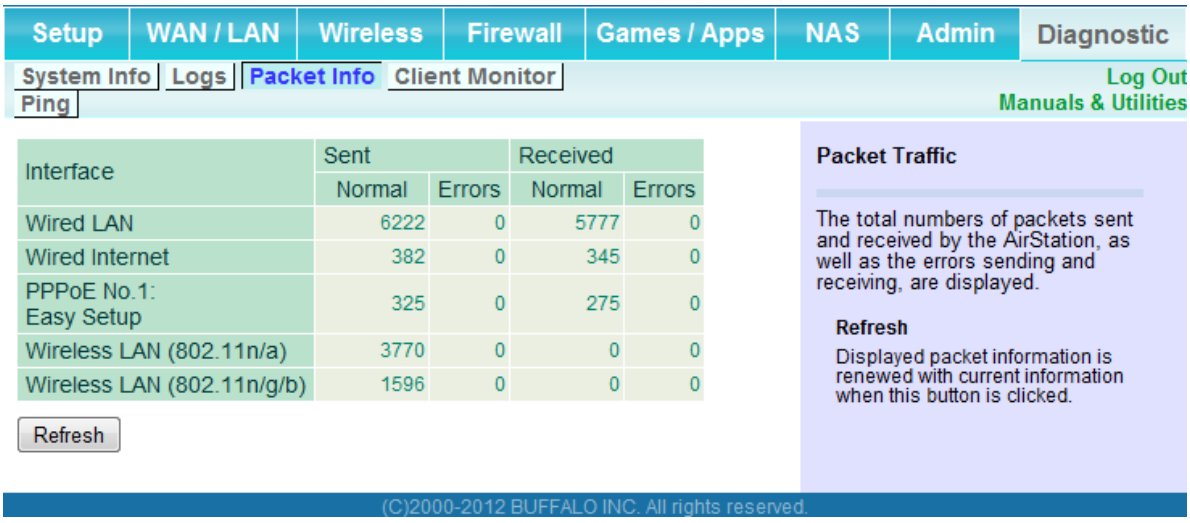
The AirStation's logs are recorded here.



Parameter	Meaning
Display logs	Choose the logs.
Logs	Displays the logs.

Packet Info

View packet transfer information.



Parameter	Meaning
Sent	Displays the number of packets sent to the WAN, the LAN, and the wireless LAN.
Received	Displays the number of packets received from the WAN, the LAN, and the wireless LAN.

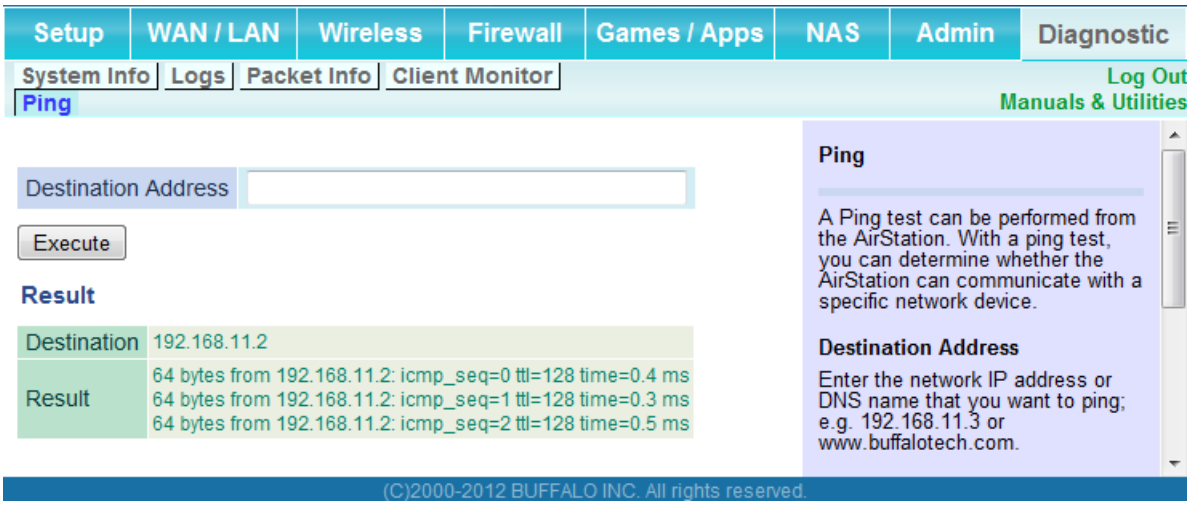
Client Monitor

This screen shows devices that are connected to the AirStation.

Parameter	Meaning
Client Monitor	Displays information (MAC address, lease IP address, hostname, 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.



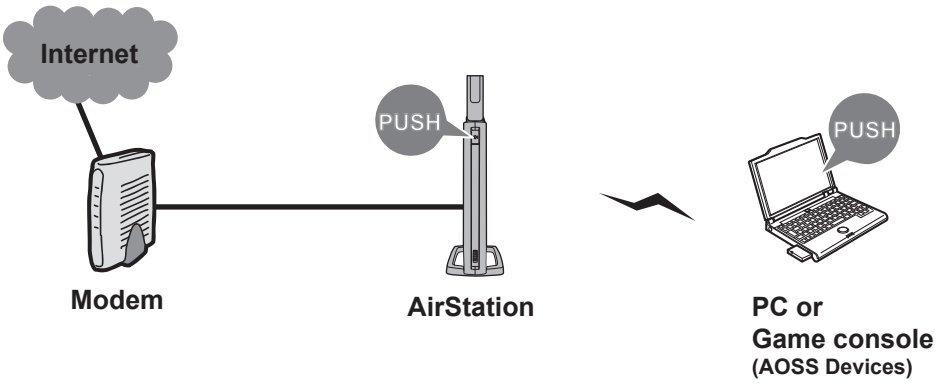
Parameter	Meaning
Destination Address	Enter the IP address or hostname of the device that you are testing communication with, then click [Execute]. The result will be displayed below.

Chapter 5 - Connect to a Wireless Network

Automatic Secure Setup (AOSS/WPS)

AOSS and WPS are systems that let you automatically configure wireless LAN settings. Just pressing the buttons will connect wireless devices and complete security settings. Easily connect to 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.



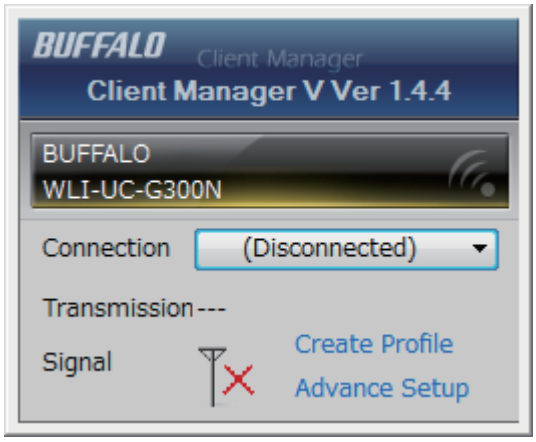
- Before using AOSS/WPS to connect to a Buffalo wireless client, install Client Manager software from the included utility CD. Consult your wireless client's documentation for more information.
- Buffalo's Client Manager software can be used with the wireless LAN devices built into most computers. However, 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 or Vista, use the included Client Manager V software to connect wirelessly with AOSS/WPS.

1 Click [Start] > [All Programs] > [BUFFALO] > [AirStation Utility] > [Client Manager V].

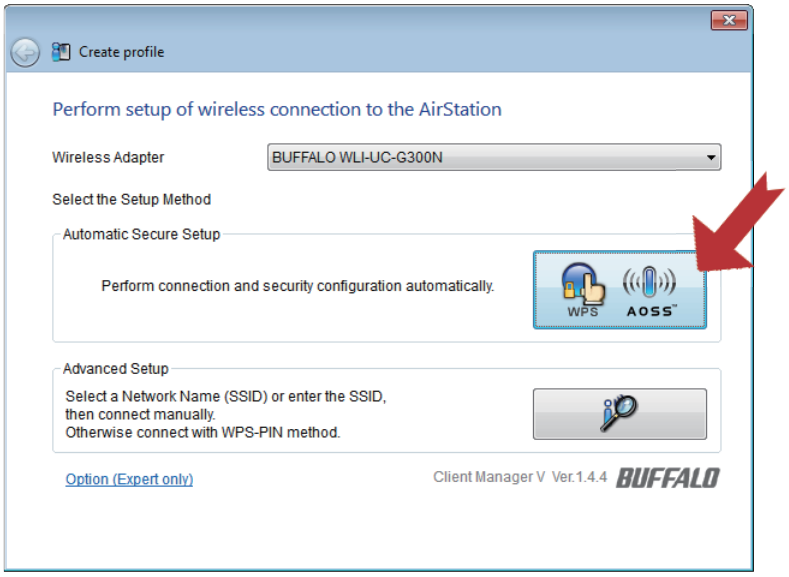
2



Click [Create Profile].

3 If the User Account Control screen opens, click [Yes] or [Continue].

4



Click the [WPS AOSS] button.

Follow any instructions displayed on the screen. When the 2.4 GHz and 5 GHz LEDs on the front of the AirStation stop 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].

2

Click the [WPS AOSS] button.

It will take several seconds for your wireless connection to be configured. When the 2.4 GHz and 5 GHz LEDs on the front of the AirStation stop flashing and glow steadily, the connection is complete.

Mac OS X (AOSS Assistant)

If you are using Mac OS X 10.7 / 10.6 / 10.5 / 10.4, use the included AOSS Assistant software to connect wirelessly with AOSS.

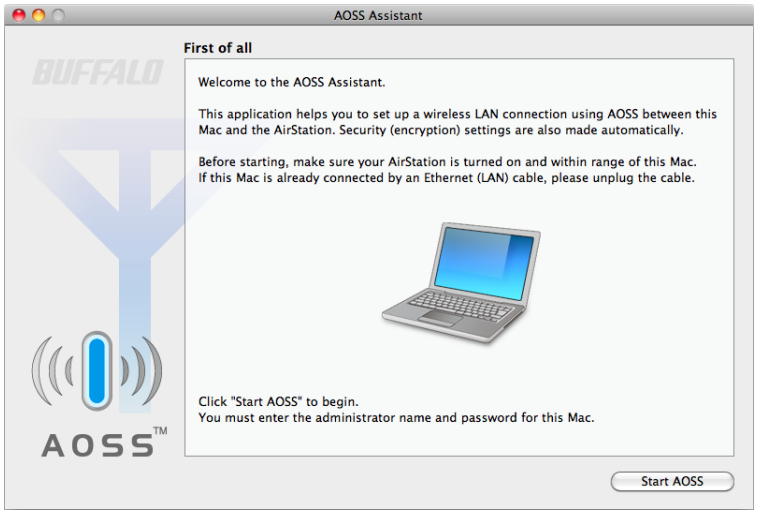
1 Load the utility CD in your Macintosh.

2 From the menu bar, click [Go] > [Computer].

3 Double-click the CD icon, and then double-click [AOSS Assistant] in the "Mac" folder.

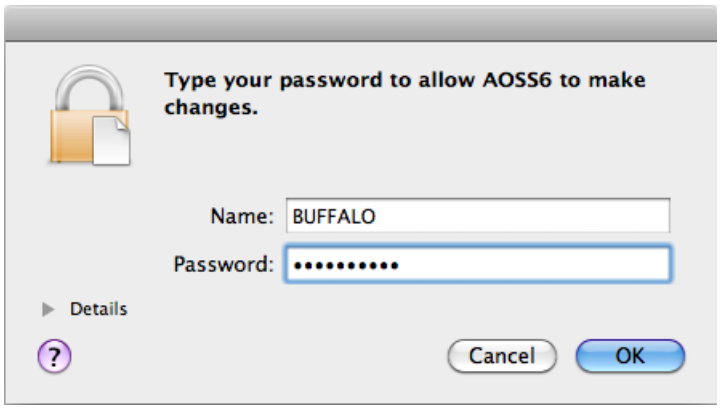
4 The software license screen is displayed. Click [Agree] to proceed.

5



Click [Start AOSS].

6



Enter the Mac's username and password and click [OK].

It will take several seconds for your wireless connection to be configured. When the 2.4 GHz and 5 GHz LEDs on the front of the AirStation stop flashing and glow 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 2.4 GHz and 5 GHz LEDs on the front of the AirStation stop flashing and glow steadily, the connection is complete.

Manual Setup

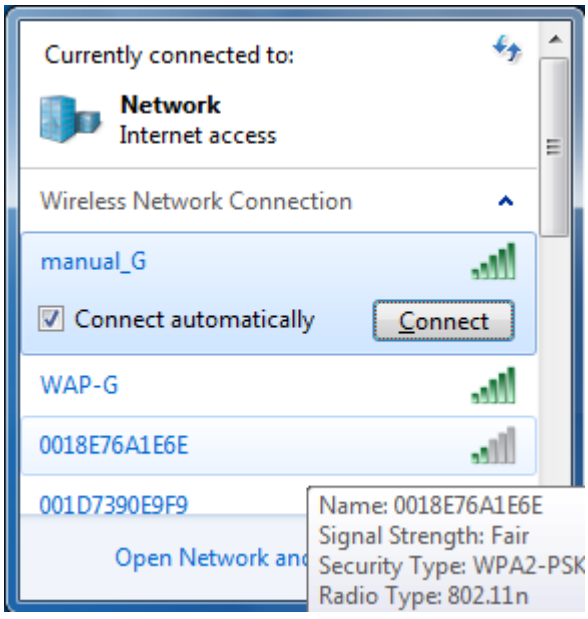
You can also connect to the AirStation without installing Client Manager V or Client Manager 3 by using the utility built-in to Windows. The procedure varies depending on which version of Windows you are using.

Windows 7 (WLAN AutoConfig)

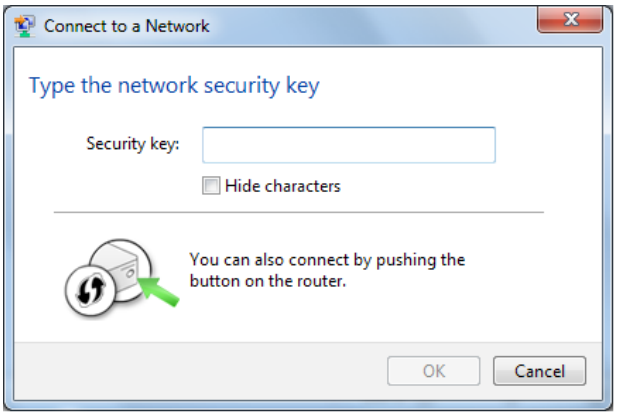
With Windows 7, use WLAN AutoConfig to connect to the AirStation.

1 Click on the network  icon in the system tray.

2



Select the target AirStation and click [Connect]. If you will be connecting to this device in the future, checking [Connect automatically] is recommended.

3 

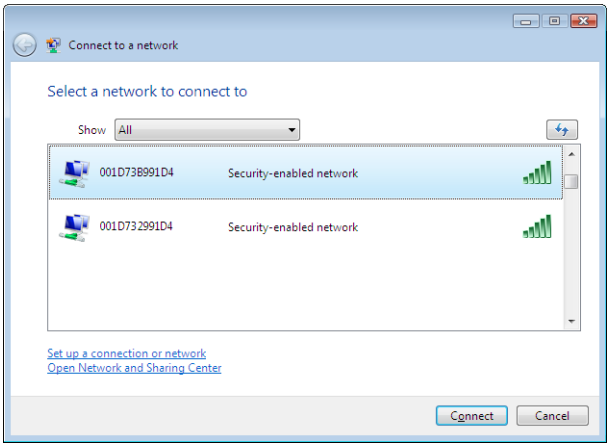
Enter the encryption key and click [OK].

Windows Vista (WLAN AutoConfig)

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

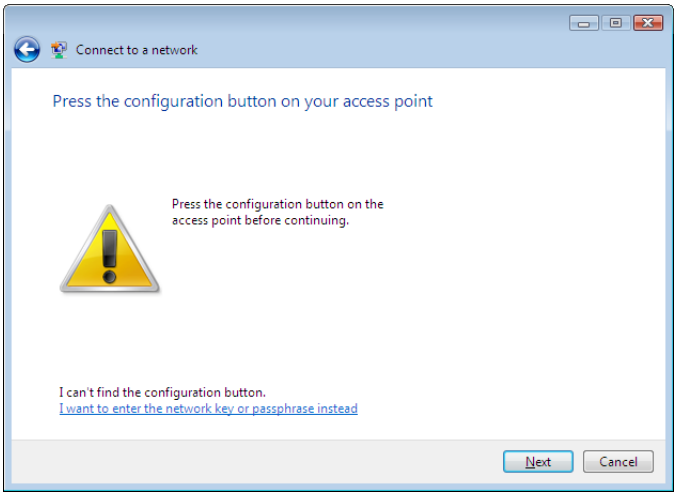
1 Right click on the wireless network  icon in the system tray.

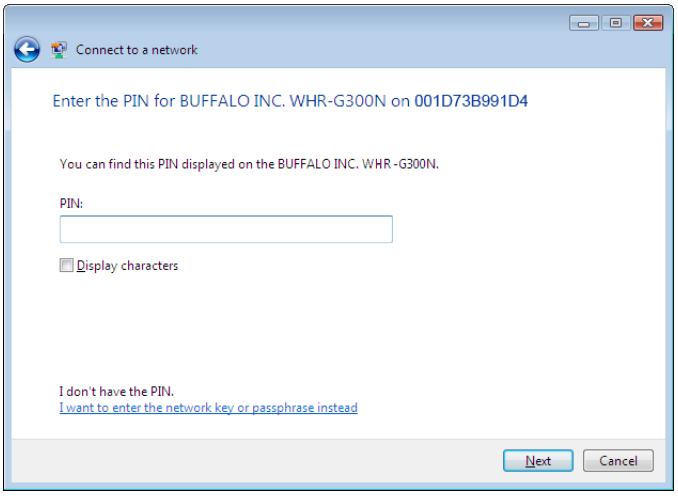
2 Click [Connect to a network].

3 

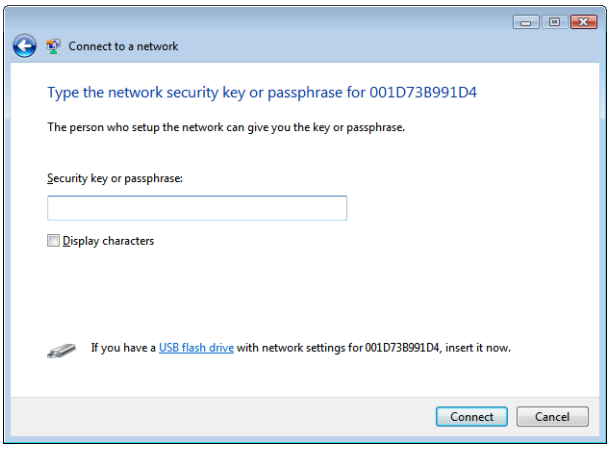
When this screen is displayed, select your network and click [Connect].

If the screen below is displayed, click [I want to enter the network key or passphrase instead]. Otherwise,go to step4.





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 on where you're using the AirStation.

Windows XP (Wireless Zero Configuration)

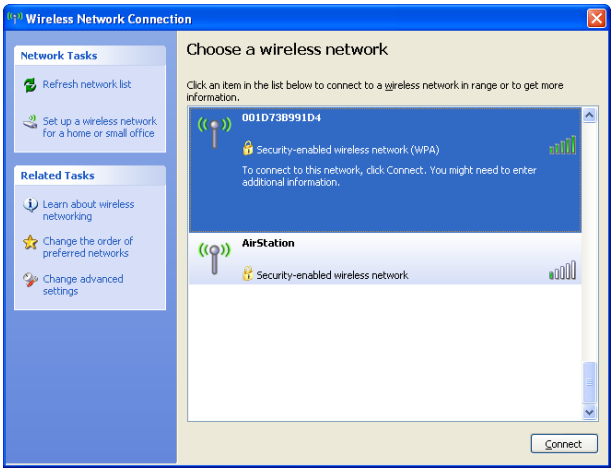
Windows XP includes Wireless Zero Config, a built-in utility to connect to your AirStation.

Note: If Client Manager 3 is installed on your computer, Wireless Zero Config is disabled. Uninstall Client Manager 3 to use Wireless Zero Config, or just use Client Manager 3 to connect to the AirStation.

1 Right click on the  wireless network icon 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].

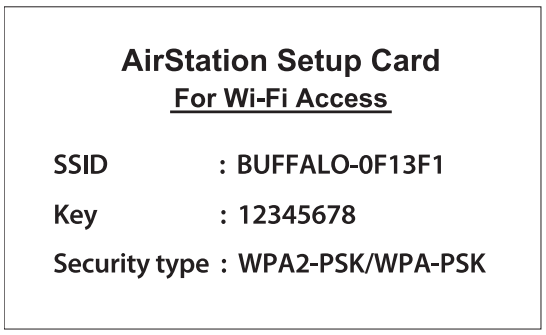
It will take several seconds for configuration to complete.

Mac OS X (Wi-Fi)

Use Wi-Fi on a Mac to connect to the AirStation.

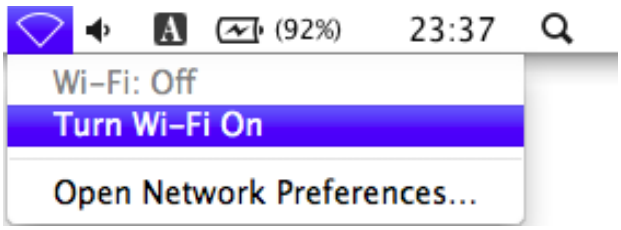
Note: In Mac OS X 10.6 and earlier, "Wi-Fi" appears as "AirPort".

1



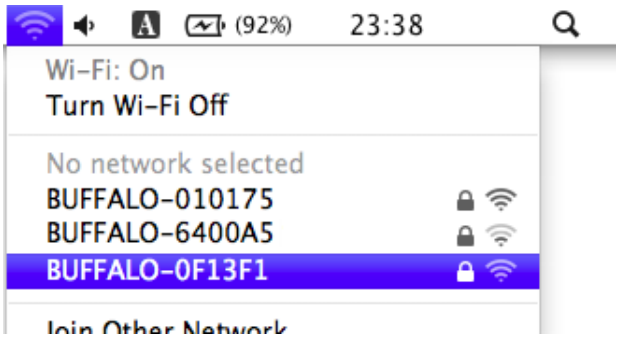
Refer to the Setup Card. Make a note of the SSID and Key printed on the Setup Card.

2



Click the icon in the top section of the screen and select [Turn Wi-Fi On].

3



Find the SSID from step 1 on the list. Click it to highlight it.

4

Enter the KEY from step 1 into the Password entry box, check [Remember this network], and click [OK].

It will take several seconds for configuration to complete.

Chapter 6 - Troubleshooting

Cannot connect to the Internet over wired connection.

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

Power	Green LED is ON
Router	Green LED is ON or OFF (depending on your environment)
Diag	OFF
LAN	Green LED is ON or flashing
Internet	Green LED is ON or flashing

- Make sure that your computer is set to [obtain an IP address automatically]. (Appendix C)
- Restart your AirStation.

Cannot access the web-based configuration Interface.

- See chapter 4 for instructions to open the AirStation's configuration interface.
- Enter the correct username and password to log in to the configuration interface. If you are using AirStation with factory default settings, enter "admin" for the username and "password" for the password.
- Verify that your web browser is not set to use proxies.
- Make sure that your computer is configured to [Obtain an IP Address Automatically.] (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 -	BUFFALO-XXXXXX (the last 6 digits of the AirStation's MAC address) + "_A" or "_G"
Encryption Type -	WPA/WPA2 mixed mode - PSK (Connect with either WPA-PSK TKIP or WPA2-PSK AES).
Encryption Key -	Printed on the Setup Card.

Note: For details, refer to the Setup Card.

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

You forgot the 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 link speed is slower than 300 Mbps (Maximum link speed is only 130 Mbps).

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

1. Open the configuration interface (chapter 4).
2. In Easy Setup, click [Wireless SSID & Channel (11n 300 Mbps Mode)].
3. Change the value in [300 Mbps Mode] - [Bandwidth] to 40 MHz and click [Apply].

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

Other Tips

Issue:

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

Answer:

Open your browser, enter 192.168.11.1 as the browser address, and hit Enter. You will be prompted to log in. Enter "admin" for the username and "password" for the password. Click [OK] to log in. 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 interface. From the home page, go to the Internet Games/Apps 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 interface with your browser. Go to [Wireless] - [Basic]. 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 wireless router with your browser. Navigate to [Wireless] - [Basic]. Find the SSID setting. Select [Use] and enter the new name for your network. Click [Apply]. Once the wireless router has rebooted, you will need reconnect any wireless clients to the AirStation using the new network name. The encryption key will still be the same.

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 [Wireless] - [Basic]. Wireless channels from 1 - 11 may be selected. Try the Auto-Channel option if available. Otherwise, manually select an alternate channel and click [Apply].

Issue:

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

Answer:

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

Chapter 7 - 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
	DNS Name Server Address	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 Settings	None
VPN Server (Router Mode only)	LAN Side IP Address	192.168.11.1(255.255.255.0)
	DHCP Server	Enabled
	DHCP IP Address Pool	192.168.11.2 for up to 64 Address(es)
	PPTP Server	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
	MTU/MRU value	1396
	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 (Router Mode only)	Enabled
	DHCP IP Address Pool (Router Mode only)	192.168.11.2 for up to 64 Addresses
	LAN Side IP Address (For IP Unnumbered) (Router Mode only)	None
	Lease Period (Router Mode only)	48 Hours
	Default Gateway (Router Mode only)	AirStation's IP Address
	DNS Servers (Router Mode only)	AirStation's IP Address
	WINS 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 (Router Mode only)	Current DHCP Clients	None
NAT (Router Mode only)	Address Translation	Enabled
	Log Output of Deleted Packets	Disabled
Routing	Routing	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 Settings	WPS status: configured SSID: BUFFALO-XXXXXX (the last 6 digits of the AirStation's MAC address) + "_A" or "_G" Security: WPA/WPA2 mixedmode - PSK TKIP/AES mixedmode Encryption key: An 8-digit random value (Printed on the Setup Card)
Basic	Wireless Radio	Enabled
	Wireless Channel	Auto Channel
	300 Mbps Mode	Band Width: 40 MHz (11n/a) 20 MHz (11n/g/b) Extension Channel: -
	Broadcast SSID	Allow
	Separate Feature	Not used
	SSID	BUFFALO-XXXXXX_A (11n/a) BUFFALO-XXXXXX_G (11n/g/b)
	Wireless Authentication	WPA/WPA2 mixedmode - PSK
	Wireless Encryption	TKIP/AES mixedmode
	WPA-PSK (Pre-Shared Key)	An 8-digit random value (Printed on the Setup Card)
	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 Filtering	Disabled		
	Registration List	None		
AOSS	Exclusive SSID for WEP	None		
	Encryption level expansion	Enabled		
	Dedicated WEP SSID isolation	Disabled		
	Allow WEP for Game Console Only	Disabled		
	AOSS Button on the AirStation Unit	Enabled		
Multicast Control	Snooping	Enabled		
	Multicast Aging Time	300 Sec.		

Feature	Parameter	Default Setting
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
IP Filter (Router Mode only)	Log Output	Disabled
	IP Filter	None
VPN Passthrough (Router Mode only)	IPv6 Passthrough	Disabled
	PPPoE Passthrough	Disabled
	PPTP Passthrough	Enabled
Port Forwarding (Router Mode only)	Forwarded Ports	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 Status	off
	IPv6 Passthrough	Used
	Multicast Rate	11 Mbps
	Multicast Control	Snooping Use Aging Time 300 Seconds Change Priority VI (priority)
	TCP Rwin Size Limit	Size Limit No limit Maximum Rwin Size 65535 bytes
	Wireless Priority Control Rules	None
Disk Management	Automatic USB Disk Assignment	Enabled
	FAT Format Filename Character Code	North America (CP437)
	Sleep Mode	Not used Sleep Mode Interval 10 Minutes
Shared Folder	Access Restrictions	Read and Write
	WebAccess	Access Restrictions
Users	Current Users	guest

Feature	Parameter	Default Setting
Sharing	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
WebAccess	WebAccess	Disabled
	WebAccess Display Language	English
	HTTPS/SSL Encryption	Disabled
	WebAccess External Port	Auto (Port Number:9000)
	DNS Service Hostname	Use BuffaloNAS.com registration
	WebAccess Status	None
Media Server	Media Server	Disabled
	Status	None
BitTorrent	BitTorrent	Disabled
	External Port Number	Auto (Port Number: 9002)
	Bandwidth Restriction	Enabled Maximum Download Speed 1000 KB/s Maximum Upload Speed 200 KB/s
	BitTorrent Status	None
Name	AirStation Name	AP + AirStation's MAC Address
	Network Services	Enabled
Password	Administrator	admin (fixed)
	Administrator Password	password
Time/Date	Local Date	2012 Year 1 Month 1 Day
	Local Time	0 Hour 0 Minute 0 Seconds
	Time Zone	(GMT-6:00) Central Standard Time - CST
	DST (Daylight Saving Time)	USA (from second Sunday to in Mar to first Sunday in Nov)
NTP	NTP Functionality	Enabled
	NTP Server	time.nist.gov
	Update Interval	24 hours

Feature	Parameter	Default Setting
ECO	Scheduling	Disabled
	Schedule Entry	Operational Mode: Normal Start time: 0:00 End time: 0:30 The day of week: None
	User Defined Mode	LED: Off Wired LAN: ECO (Slow operation) Wireless LAN: Off
Access	Log Output	Disable
	Management Access	Prohibit configuration from wireless LAN Disabled Prohibit configuration from wired LAN Disabled Permit configuration from wired Internet Disabled
Log	Transfer Logs	Disabled
	Syslog Server	None
	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