BUFFALO™

AirStation

WHR-300HP2 / WHR-600D

User Manual

www.buffalotech.com

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Contents

Chapter 1 - Product Overview

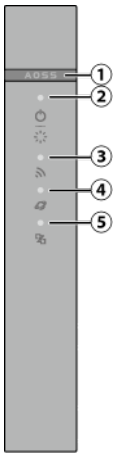
Package Contents

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

- AirStation.....1
- AirStation setup card.....1
- AC adapter.....1
- Ethernet cable.....1
- Quick setup guide.....1
- Warranty statement.....1

Diagrams and Layout

Front Panel



1 AOSS Button
To initiate AOSS, hold down this button until the wireless LED flashes (about 3 seconds). 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 / Diag LED (Green or Red)

On (Green):
Power is on.
Blinking (Green):
Booting.
Off:
Power is off.
2 blinks (Red):**
Flash ROM error.
3 blinks (Red):**
Wired LAN error.
4 blinks (Red):**
Wireless LAN error.
5 blinks (Red)*:**
IP address setting error.
Continuously blinking*:
Updating firmware, saving settings or initializing settings.

* Do not unplug the AC adapter while the LED is blinking continuously.

** Turn off AirStation first, wait for a few seconds, then turn it back on.

*** Cannot communicate because WAN-side and LAN-side IP addresses are same. Change LAN-side IP address of the AirStation.

3 Wireless LED (Green or Amber)

On:
Wireless LAN is enabled or transmitting.
Double blinks:
AirStation is waiting for an AOSS or WPS security key.
Continuously blinking:
AOSS/WPS error; failed to exchange security keys.
Off:
Wireless LAN is disabled.

Note: For WHR-300HP2, the wireless LED will be green if security is enabled or amber if it is disabled. For WHR-600D, the wireless LED will be green if security for both 2.4 GHz and 5 GHz is enabled or amber if either is disabled.

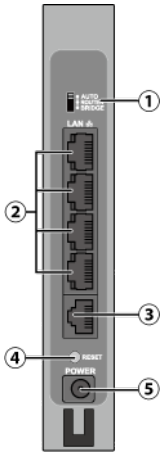
4 Internet Access LED (Green)

On:
Router functionality is enabled and you can connect to the Internet.
Blinking:
Router functionality is enabled but you cannot connect to the Internet.
Off:
Router functionality is disabled (the AirStation is in bridge mode).

5 Router LED (Green or Amber)

On (Green):
Mode switch is in the "Router" position.
On (Amber):
Mode switch is in the "Auto" position.
Off:
Mode switch is in the "Bridge" position.

Back Panel



1 Mode Switch
This switch changes between router mode and bridge (access point) mode. Auto mode will enable or disable router functionality automatically.

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

3 Internet Port
10 Mbps and 100 Mbps connections are supported.

Note: In bridge (access point) mode, the Internet port becomes a regular LAN port, for a total of 5 usable LAN ports.

4 Reset Button
To reset all settings, hold down this button until the power/diag LED turns red (about 3 seconds). The power must be on for this to work.

5 DC Connector
Connect the included AC adapter here.

Bottom

1 Setup Card Slot

This is the slot where the AirStation setup card is stored. The initial settings for the username, password, SSID, and encryption type are provided on the card.

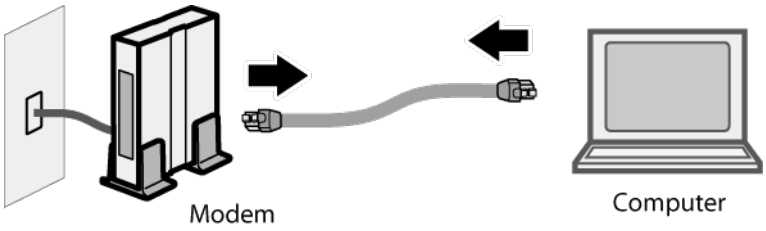
Chapter 2 - Installation

Initial Setup

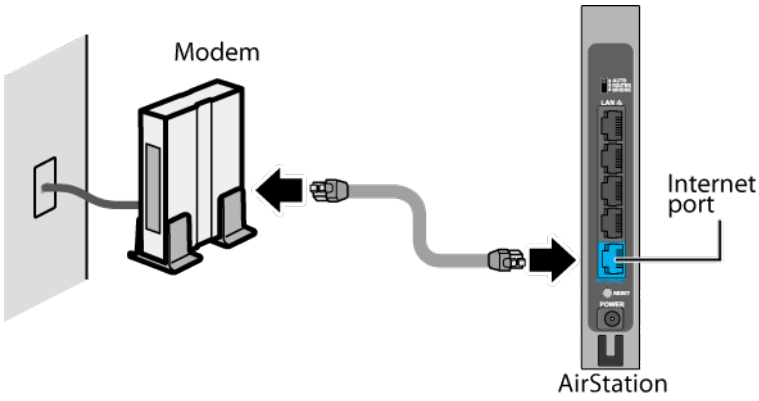
To configure your AirStation, follow the procedure below.

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

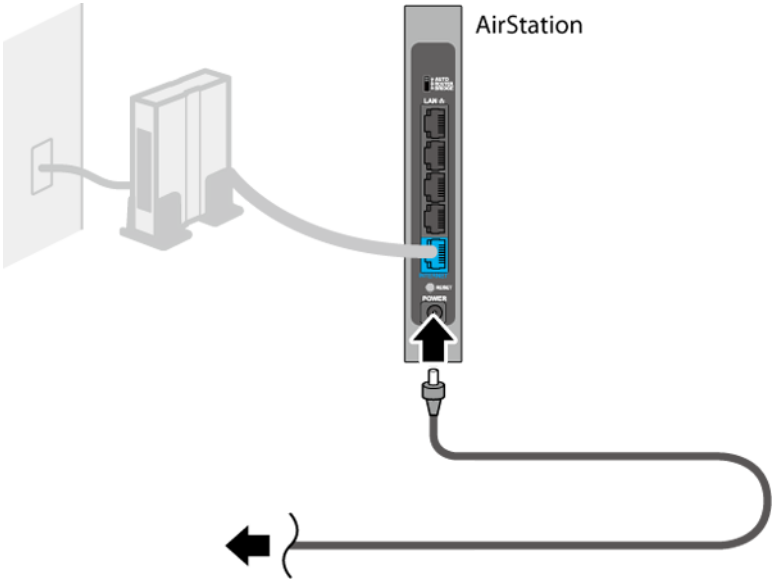
2 Unplug the LAN cable which connects your computer and modem.



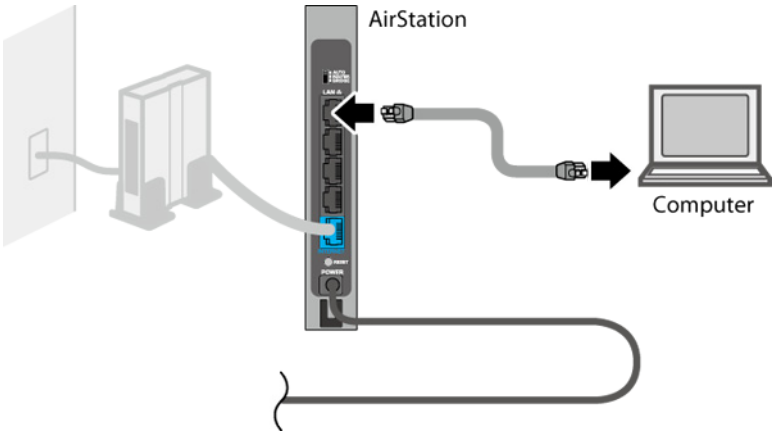
3 Confirm that the mode switch is in the "Auto" position. Plug one end of the LAN cable into your modem and the other end to the AirStation's Internet (WAN) port. Turn on the modem.



4 Turn on the AirStation and wait one minute.



5 If using a wired LAN, connect the AirStation LAN port and computer using a LAN cable.
If using a wireless LAN, connect the computer to the wireless LAN as described in chapter 4.



6 Once your computer has booted, the AirStation's LEDs should be lit as described below:
Power/Diag: Green LED on.
Wireless: Green LED on.
Router: Amber LED on.
For LED locations, refer to chapter 1.

Note: If the router LED is not lit, set the mode switch to "Router".

7 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 the initial setup of your AirStation. Refer to chapter 3 for advanced settings.

Chapter 3 - Configuration

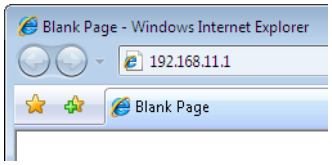
Configuration of the AirStation is done from Settings, the web-based configuration GUI. This user manual shows Settings screens of WHR-600D as example.

Accessing Settings

To configure the AirStation's settings manually, log in to Settings as shown below.

1 Open a browser.

2 Enter the AirStation's LAN-side IP address in the address field and press the enter key.



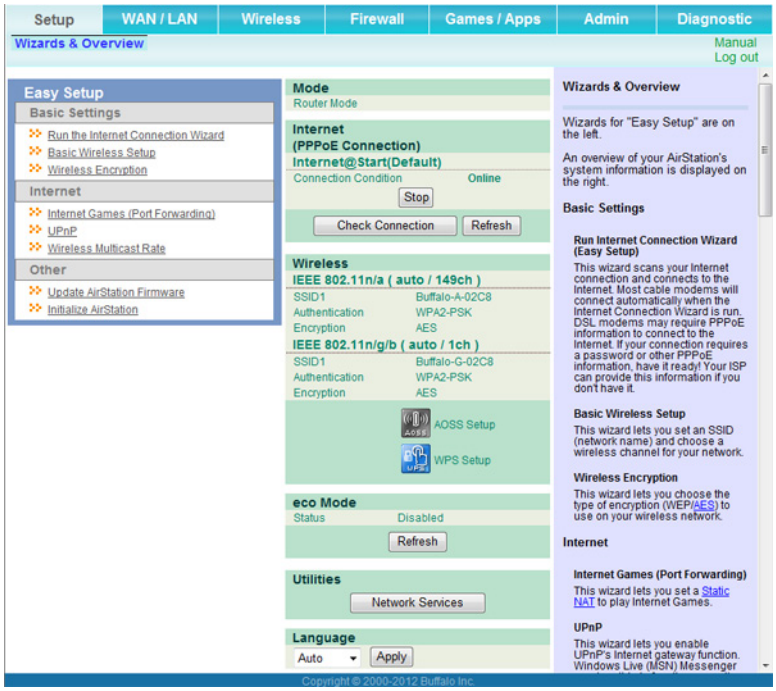
Notes:

- The AirStation's default LAN-side IP address depends on the mode.
  In router mode: 192.168.11.1
  In bridge (access point) mode: 192.168.11.100
  If the mode switch is set to Auto and the AirStation is in bridge (access point) mode, the AirStation's IP address is 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, then click *OK*.

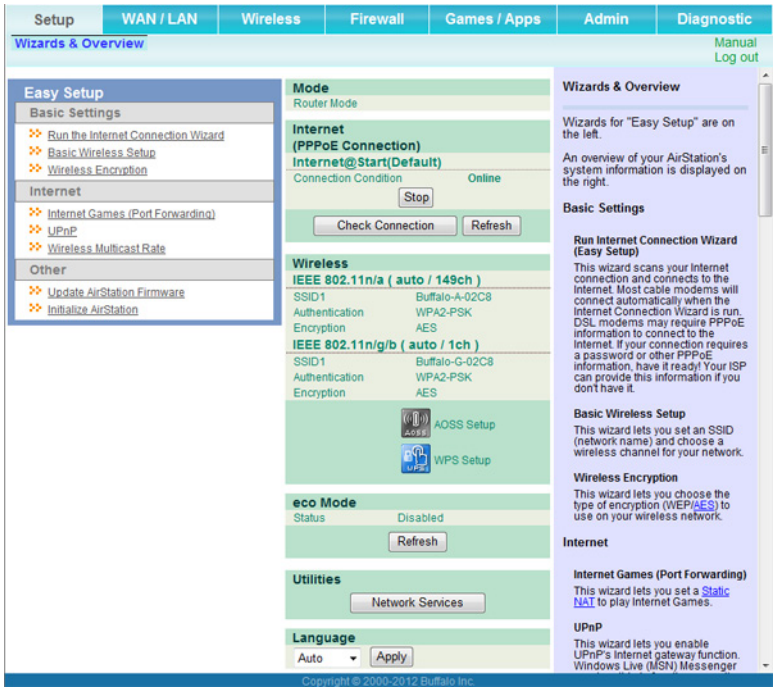
Note: If you forget your password, hold down the reset button to initialize all settings. Note that all other settings will also revert to their default values.

4 This is Settings, 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 Settings.



Setup

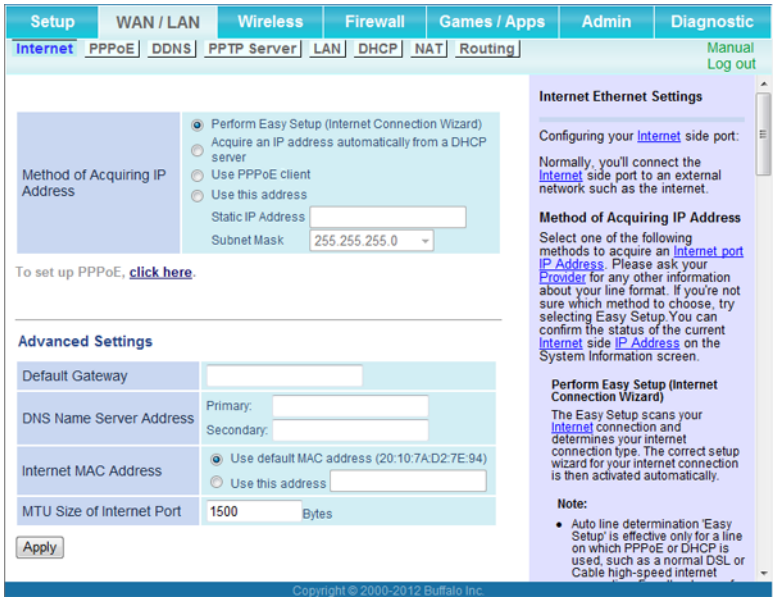
Setup is the home page of Settings. You can verify settings and the status of the AirStation here.



WAN / LAN	Displays the configuration screen for the Internet port and LAN ports.
Wireless	Displays the configuration screen for wireless settings.
Firewall	Displays the configuration screen for the firewall.
Games / Apps	Displays the configuration screen to open ports for games and applications.
Admin	Displays the configuration screen for administration settings.
Diagnostic	Displays the status of the AirStation.
Easy Setup	Enables you to easily configure the AirStation's network settings automatically.
Mode	This indicates the operation mode of the AirStation.
Internet	Displays WAN-side system information for the AirStation.
Check Connection	Click to check if the AirStation is connected to the Internet properly.
Refresh	Click to refresh the current screen.
Wireless	Displays the current wireless settings.
AOSS Setup	Click to display the AOSS configuration screen.
WPS Setup	Click to display the WPS configuration screen.
eco Mode	Displays current eco Mode status.
Network Services	Displays the list of the network devices for which information is provided from the network on the LAN-side.
Language	Enables you to select the language you use.
Log Out	Log out of Settings. If the AirStation does not communicate for 5 minutes, it will log out automatically.

Internet

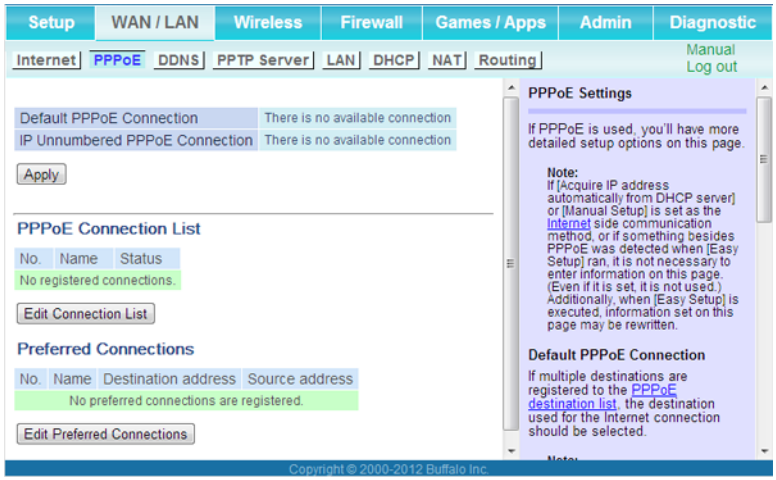
Configure the WAN-side port (“Internet port”) here. This function is only available when the AirStation is in router mode.



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	You may use the default MAC address or specify one manually. **Note:** Configuring an improper MAC address may make the AirStation unusable. Do not change the MAC address unless you know what you’re doing!
MTU Size of Internet Port	Configure the MTU (maximum transmission unit) value of the Internet port. Values of 578 to 1500 bytes may be entered.

PPPoE

Configure PPPoE settings here. This function is only available when the AirStation is in router mode.

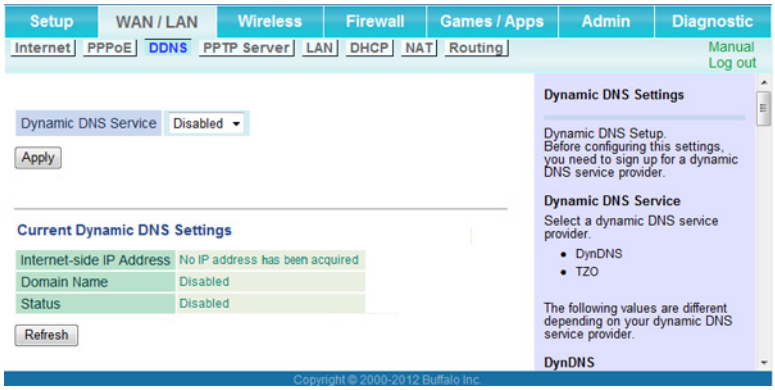


Default PPPoE Connection	If you have registered multiple connection destinations in the *PPPoE Connection List*, connection destinations selected here have priority.
IP Unnumbered PPPoE Connection	Select the destination from the *PPPoE Connection List* to be used when *Use IP Unnumbered* is chosen as the method of acquiring IP address.
PPPoE Connection List	Edit PPPoE destination. You can register up to 5 sessions.
Edit Connection List	Click this button to edit destination settings.

PPPoE Connection	**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** Select the connection method used by the AirStation to connect to your ISP. **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. **Authentication** Choose the type of authentication specified by your ISP. **MTU Size** Choose the MTU (maximum transmission unit) size recommended by your ISP. Values of 578 to 1492 bytes may be entered. **MRU Size** Choose the MRU (maximum receive unit) size recommended by your ISP. Values of 578 to 1492 may be entered. **Keepalive** If keepalive is enabled, the AirStation will issue an LCP echo request once a minute in order to maintain the connection with the PPPoE server. If the server does not respond for more than 6 minutes, the line is recognized as disconnected and the AirStation will terminate the connection.
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** The destination to connect by PPPoE if *Destination Address* and *Source Address* match. Select the destination registered to the PPPoE Connection List. **Destination Address** When communicating to this address, the AirStation will communicate with *Name*. **Source Address** When communicating from this address, the AirStation will communicate with *Name*.

DDNS

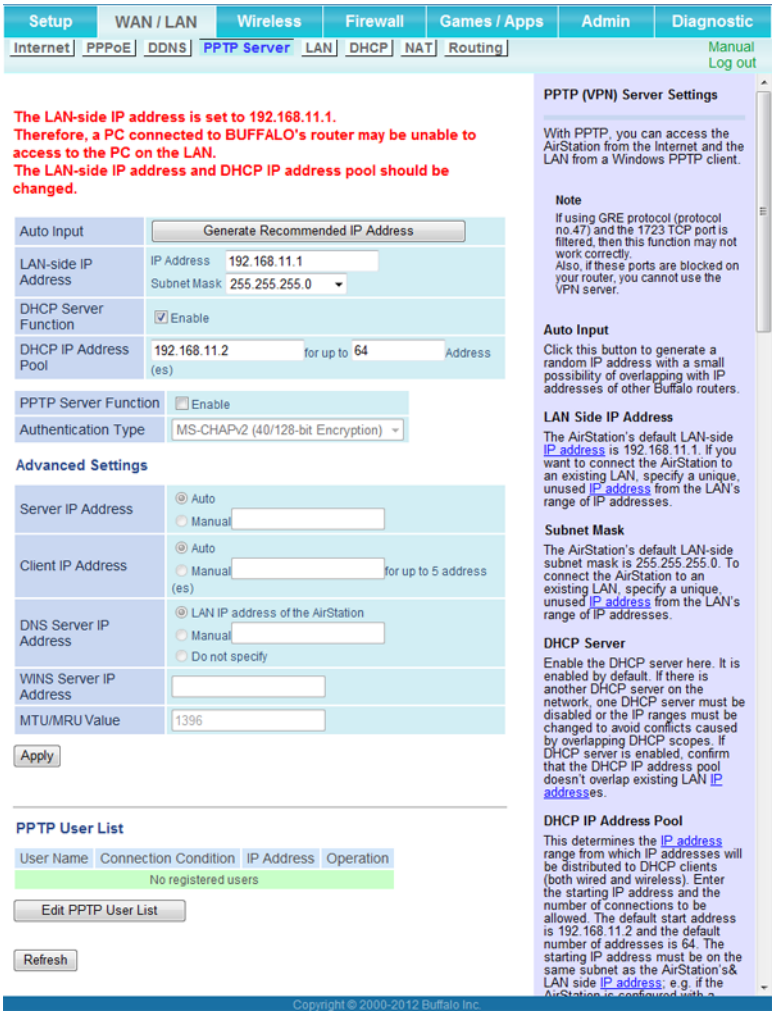
Configure dynamic DNS settings here. Many settings are only available when the appropriate dynamic DNS service is enabled. This function is only available when the AirStation is in router mode.



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 that is registered to the dynamic DNS service. You may enter up to 64 alphanumerical characters and symbols.
TZO Key	Enter the TZO Key that is registered to the dynamic DNS service. You may enter up to 64 alphanumerical characters and symbols.
Domain Name	Enter the domain name that is registered to the dynamic DNS service. You may enter up to 255 alphanumerical characters, hyphens, and periods.
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	Displays the status of the dynamic DNS service.

PPTP Server

Configure the PPTP server here. This function is only available when the AirStation is in router mode.

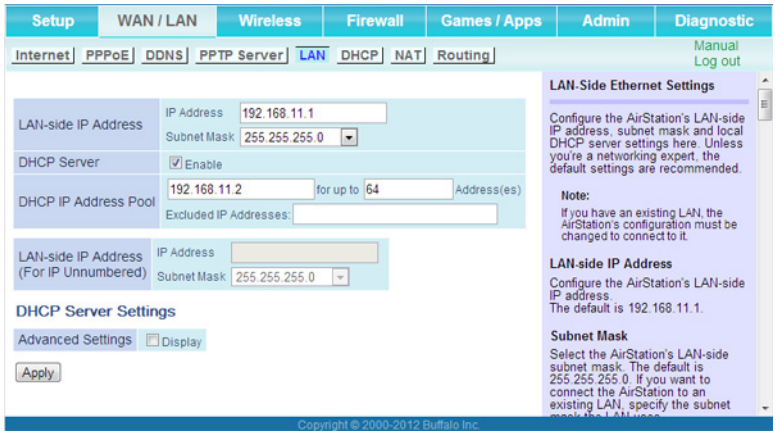


Auto Input	Click to generate a random IP address.
LAN-side IP Address	Set a LAN-side IP address and subnet mask.
DHCP Server Function	Enable or disable the DHCP server, which assigns IP addresses automatically.
DHCP IP Address Pool	Configure the range of IP addresses to be assigned by the DHCP server and IP addresses to be excluded from that range. Values from 1-256 may be entered.
PPTP Server Function	Enable to use a PPTP server.
Authentication 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	MTU/MRU values from 578 to 1500 are supported.
Edit PPTP User List	Click to edit user information.

Add New User	Click *Edit PPTP User List* to display. **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.
Advanced Settings	Click *Edit PPTP User List* to display. **Method of Acquiring IP Address** Select the method to be used to assign the IP address for the PPTP client.
PPTP User List	Displays the PPTP connection user information.

LAN

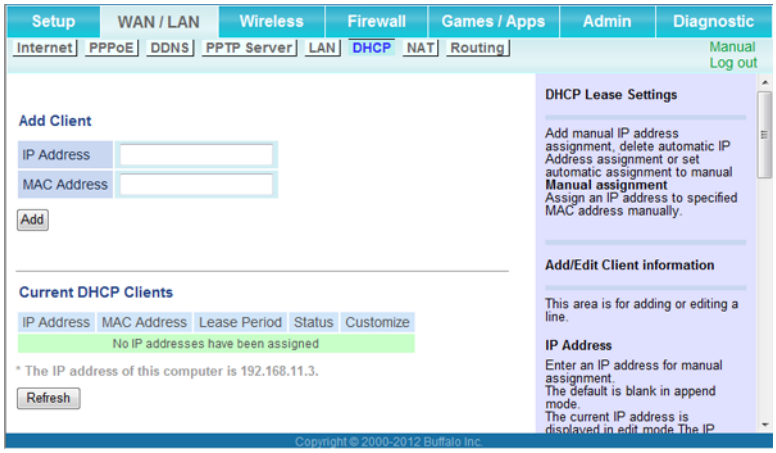
Configure LAN-side and DHCP server settings here.



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	Enable or disable the DHCP server, which assigns LAN-side IP addresses automatically.
DHCP IP Address Pool	Configure the range of IP addresses to be assigned by the DHCP server and IP addresses to be excluded from that range. Values from 1-256 may be entered.
LAN-side IP Address (For IP unnumbered)	Set an IP unnumbered LAN-side IP address. **Note:** A PC with a normal LAN-side IP address and a PC with an IP unnumbered IP address cannot communicate with each other.
Advanced Settings	Check *Display* to show additional settings for the DHCP server.
Lease Period	Set the effective period of an IP address assigned by the DHCP server. Up to 999 hours may be entered.
Default Gateway	Set the default gateway IP address for the DHCP server to issue to clients.
DNS Servers	Set the DNS server IP address for the DHCP server to issue to clients.
WINS Server	Set the WINS server IP address for the DHCP server to issue to clients.
Domain Name	Set the domain name for the DHCP server to issue to clients. You may enter up to 64 alphanumerical characters, hyphens, and periods.

DHCP

Configure DHCP settings here. This function is only available when the AirStation is in router mode.



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 of the client.
Current DHCP Clients	Displays information for current leases. Click *Edit* to edit the entry and click *Delete* to delete the entry.

NAT

Configure network address translation settings here. This enables LAN-side devices to communicate with the Internet. This function is only available when the AirStation is in router mode.

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

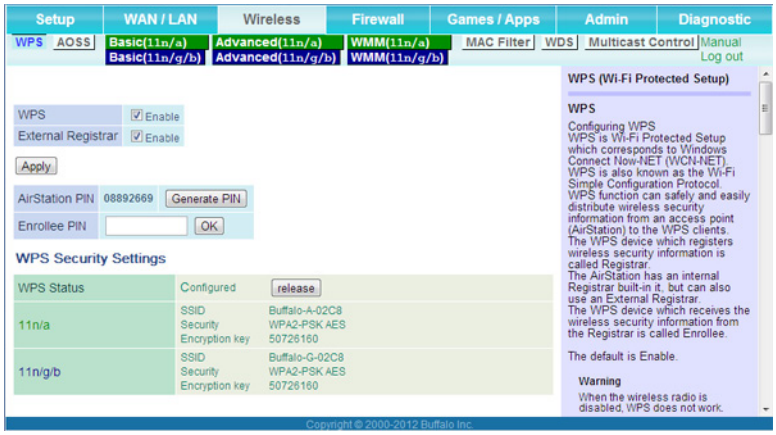
Routing

Configure the AirStation's IP communication route here.

Destination Address	Adds a destination IP address and subnet mask to the routing table.
Gateway	Adds a gateway address to the 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.

WPS

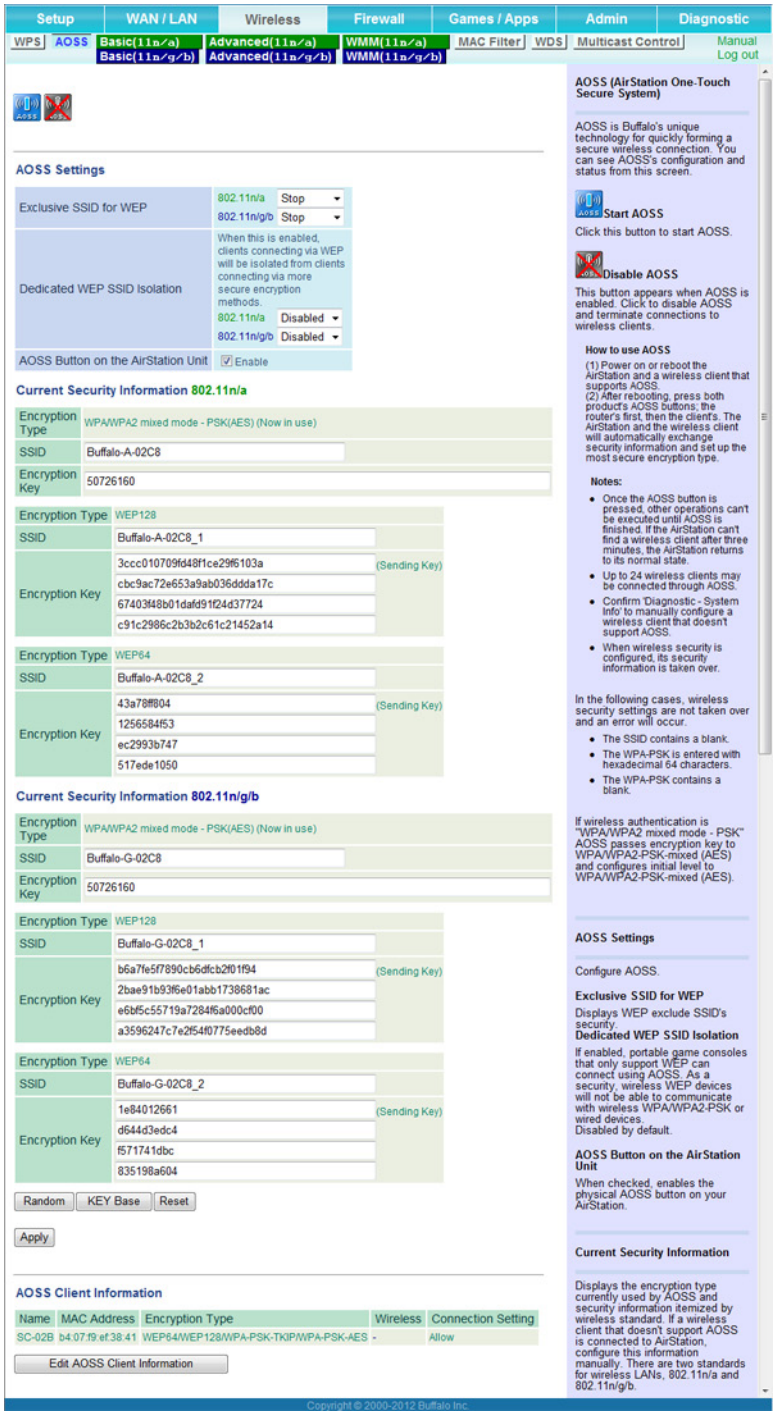
WPS is a system for configuring your wireless network automatically. WPS was created by the Wi-Fi Alliance. If your wireless devices support WPS, you may connect them by pushing buttons on the devices or by entering a PIN from one device into another.



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 a wireless band is unconfigured.

AOSS

AOSS is a system for configuring your wireless network automatically. AOSS was developed by Buffalo Inc. If your wireless devices support AOSS, you may connect them by pushing buttons on the devices or in their software.

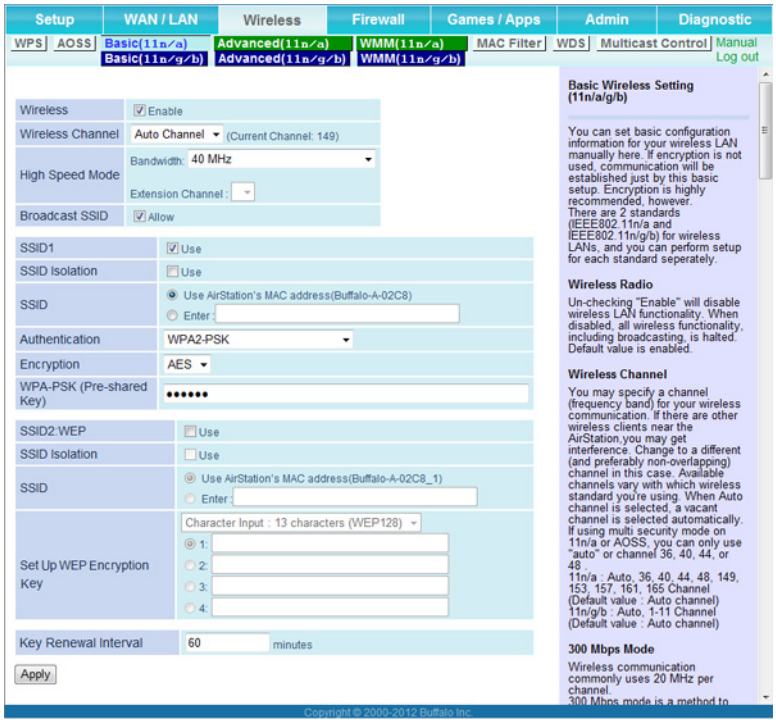


AOSS	Initiates AOSS automatic wireless configuration. Click this, then press or click the AOSS button on your AOSS-compatible wireless client. Repeat for additional AOSS clients.

	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, clients will not be able to connect with WEP.
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. All connected devices will be able to communicate with the Internet.
AOSS Button on the AirStation Unit	Uncheck to disable the physical AOSS button on the AirStation.
Current Security Information	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 case sticker.
Reset	Click to return the SSID, encryption key, and other wireless settings to their previous values.
AOSS Client Information	Displays AOSS clients connected to the AirStation and information of the devices which are wirelessly communicated.

Basic

Configure basic wireless settings here.

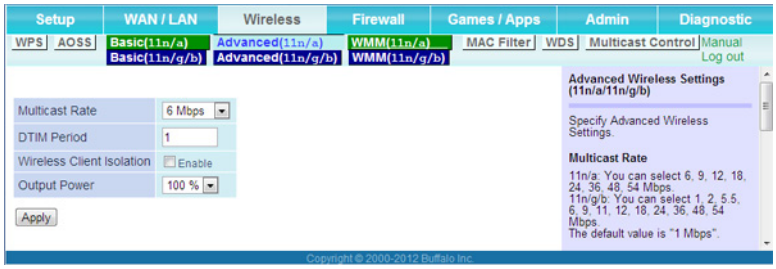


Wireless	Determines whether to allow wireless communication. If this is unchecked, then no wireless connections will be allowed.

Wireless Channel	Sets a channel (a range of frequencies) for wireless connections. When "Auto Channel" is selected, the AirStation will automatically use the best available channel.
High Speed Mode	High speed mode uses 40 MHz bands instead of regular 20 MHz bands. In uncongested areas this can increase performance. To use high speed mode, set the bandwidth to 40 MHz.
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.
SSID 1	SSID1 can use no authentication, WPA-PSK, WPA2-PSK, or WPA/WPA2 mixed mode - PSK for wireless security.
SSID 2	SSID2 can use WEP for wireless security.
SSID Isolation	When enabled, wireless devices connected to the AirStation can communicate only with the Internet side, not with each other.
SSID	The SSID may use 1 - 32 alphanumeric characters.
Authentication	Specifies the authentication method used when connecting to a wireless device.
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. **AES** AES is very secure encryption method that is recommended for most users. Use a pre-shared key to communicate with a wireless device. AES can be selected when WPA-PSK or WPA2-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.
Key Renewal Interval	Set the update interval for the encryption key between 0 and 1440 (minutes).
Set Up WEP Encryption Key	A WEP encryption key (passphrase) may use four different formats. An ASCII passphrase may use either 5 or 13 alphanumeric characters (case-sensitive). A hexadecimal passphrase may use either 10 or 26 alphanumeric characters (0 to 9 and a to f, not case-sensitive).

Advanced

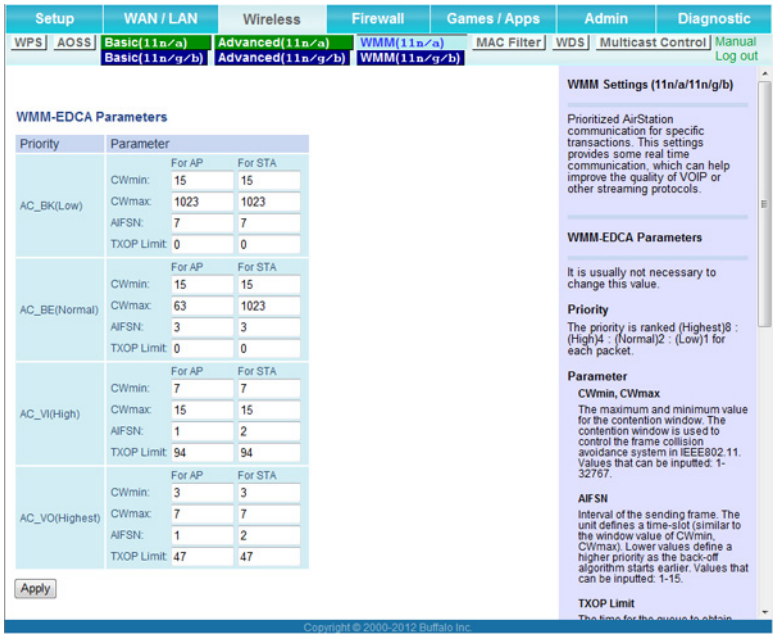
Configure advanced wireless settings here.



Multicast Rate	Set the communication speed of multicast 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.
Wireless Client Isolation	If enabled, the wireless client isolation 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 (11n/a only)	This sets the output of the wireless signal. Because the wireless transmission output and signal distance range are nearly proportional, when the wireless transmission output is reduced, the signal distance range also becomes shorter.

WMM

Set priorities for specific communications here.



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 IEEE 802.11, 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.

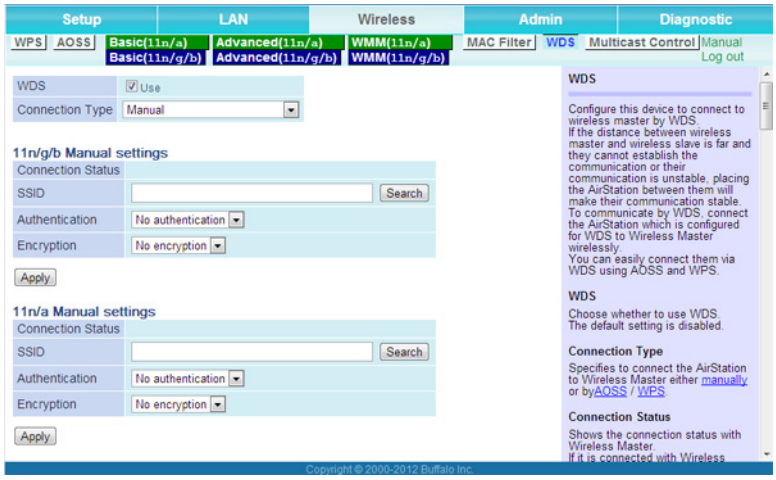
MAC Filter

MAC filtering lets you restrict access to your network. Only specific wireless devices will be able to connect.

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.
Enter MAC Addresses	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 Connected Clients	Display the list of all MAC addresses of wireless devices connected to the AirStation.

WDS

Configure WDS here. This function is only available when the AirStation is in bridge mode.



WDS	If enabled, the AirStation can connect to the wireless master using WDS. Disabled by default.
Connection Type	Select the connection method to connect to the master. You may use AOSS or WPS to connect push-button style, or specify an SSID to configure manually.
Connection Status	Displays the connection status with the master.
SSID	Specify an SSID to connect to the master manually.
Search	Click this button to search for a master.
Authentication	Specify the type of authentication used to connect to the master.
Encryption	Specify the type of encryption used to connect to the master.

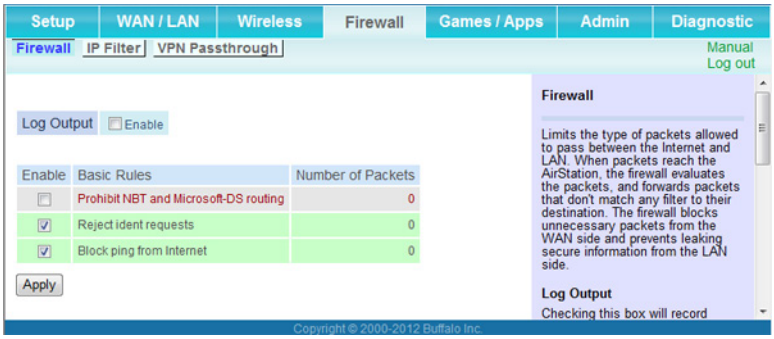
Multicast Control

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

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

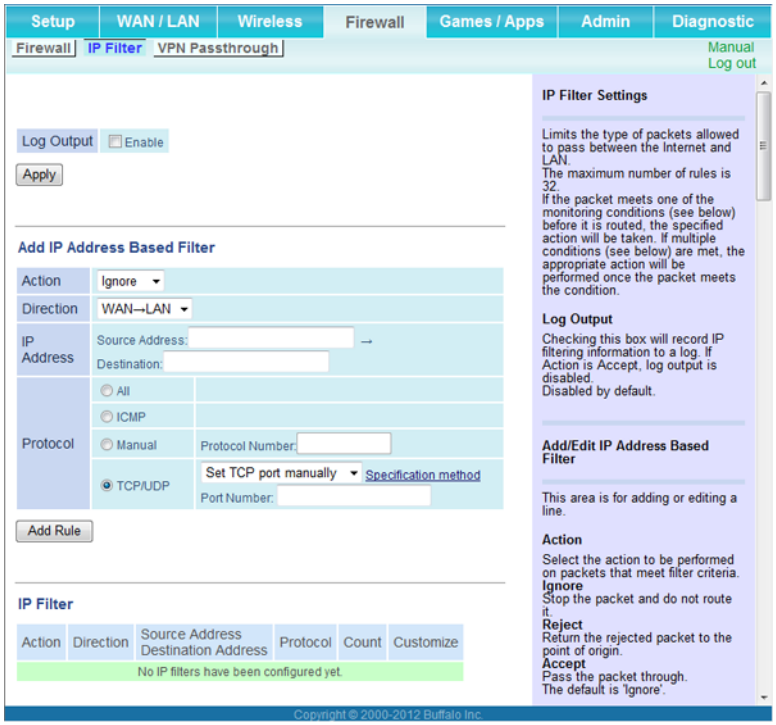
Configure the AirStation's firewall here. This function is only available when the AirStation is in router mode.



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* from the method of acquiring IP address, or if Easy Setup identified a PPPoE connection during setup. **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 WAN side. You can configure this with PPPoE if you select *Use PPPoE Client* from the method of acquiring IP address, or if Easy Setup identified a PPPoE connection during setup.

IP Filter

Edit IP filters here. This function is only available when the AirStation is in router mode.



Log Output	If enabled, IP filter activity is saved to a log.
Action	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	Displays the list of IP filters which have been registered.

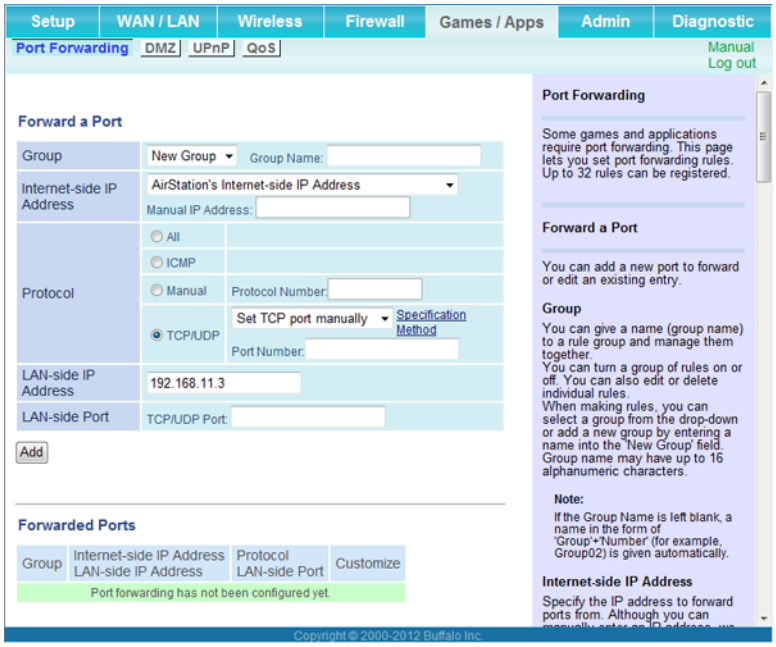
VPN Passthrough

Configure IPv6 passthrough, PPPoE passthrough, and PPTP passthrough here. These functions are only available when the AirStation is in router mode.

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.

Port Forwarding

Configure port translation here. This function is only available when the AirStation is in router mode.



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.
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	Displays current entries in the port translation table.

DMZ

Configure a destination for packets that don't have a LAN-side destination here. This function is only available when the AirStation is in router mode.

IP Address of DMZ	Enter the IP address of a network device that will receive rejected packets. This device will be accessible from outside the firewall. **Note:** RIP protocol packets (UDP port number 520) will not be forwarded.

UPnP

Configure UPnP (Universal Plug and Play) here. This function is only available when the AirStation is in router mode.

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

QoS

Configure the priority of packets sent to the Internet here. This function is only available when the AirStation is in router mode.

QoS	Check to enable QoS (quality of service).
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 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.
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

Name

Change the name of the AirStation here.

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.

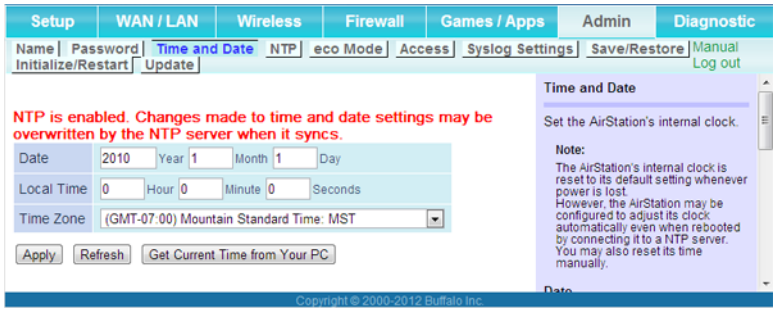
Password

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

Admin Name	The name of the administrator account is "admin".
Admin Password	The administrator password may contain up to 8 alphanumeric characters and underscores (_).

Time and Date

Configure the AirStation's internal clock here.



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

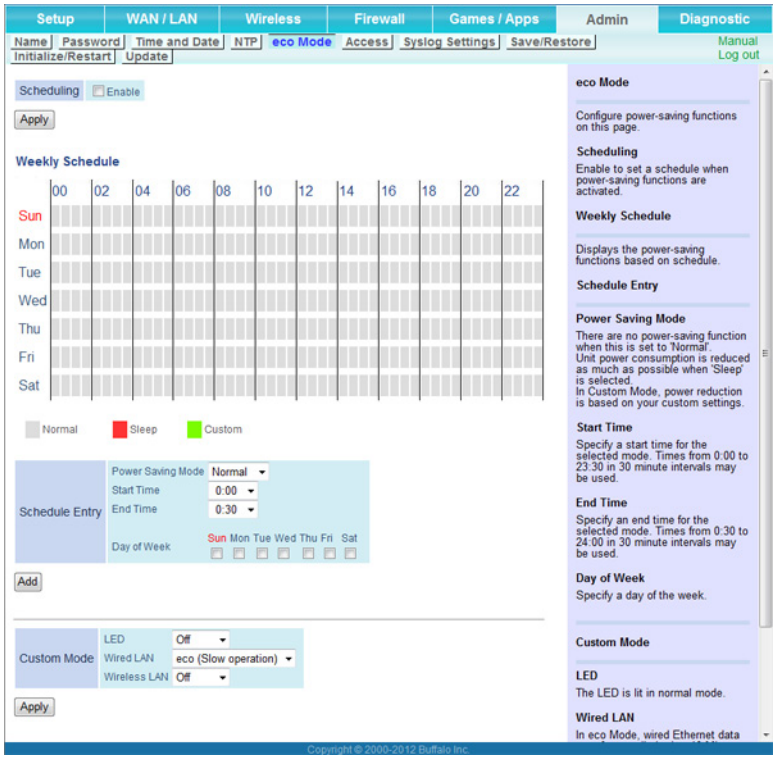
NTP

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

NTP	Enable to use an NTP server. Enabled by default.
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 (-), underscores (_) and periods (.) may be used. The default is "time.nist.gov".
Update Interval	How often shall the AirStation check the NTP server for the correct time? Intervals of 1 - 24 hours may be set. The default is 24 hours.

eco Mode

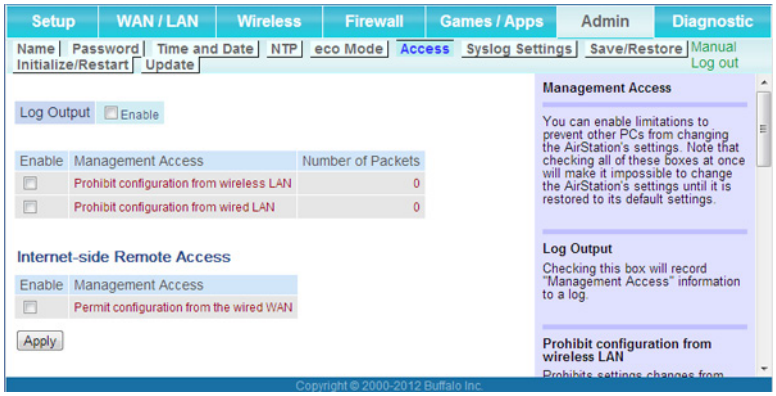
Configure eco Mode here.



Scheduling	Enable to create a schedule for when power saving options are activated. 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 custom mode is chosen, configure it below.
Custom Mode	Individual power saving elements may be configured for custom mode.

Access

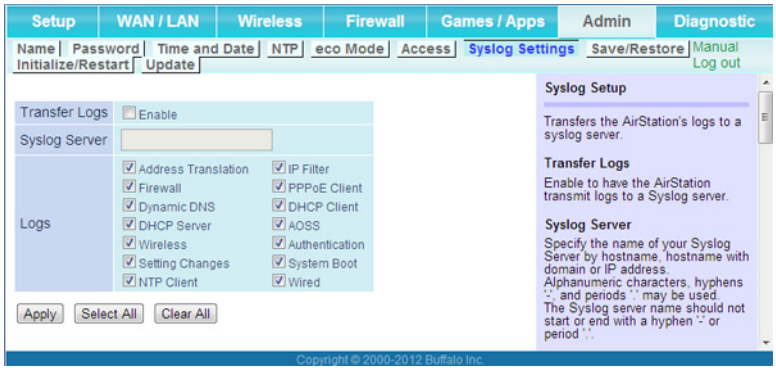
Restrict access to Settings here.



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

Syslog Settings

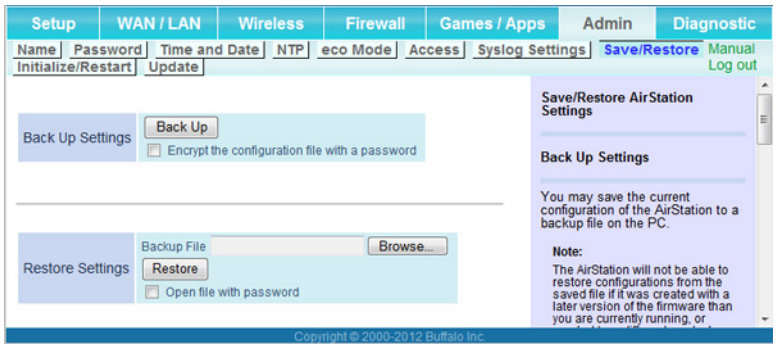
Transfer the AirStation's logs to a syslog server here.



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

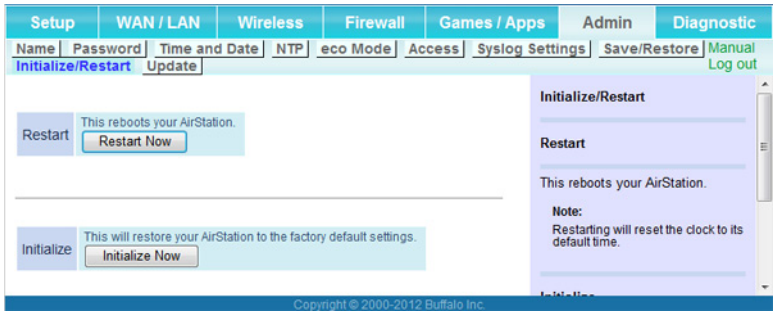
Save AirStation settings as a file and restore from them later.



Back Up Settings	Clicking *Back Up* 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.
Restore Settings	Restore the configuration of the AirStation from a saved configuration file by clicking *Browse...*, navigating to the configuration file, and then clicking *Restore*. If the configuration file was password protected, check *Open file with password*, enter the password, and click *Restore*.

Initialize/Restart

Initialize or restart the AirStation.



Restart	Click *Restart Now* to restart the AirStation.
Initialize	Click *Initialize Now* to initialize and restart the AirStation. All settings will be restored to factory default.

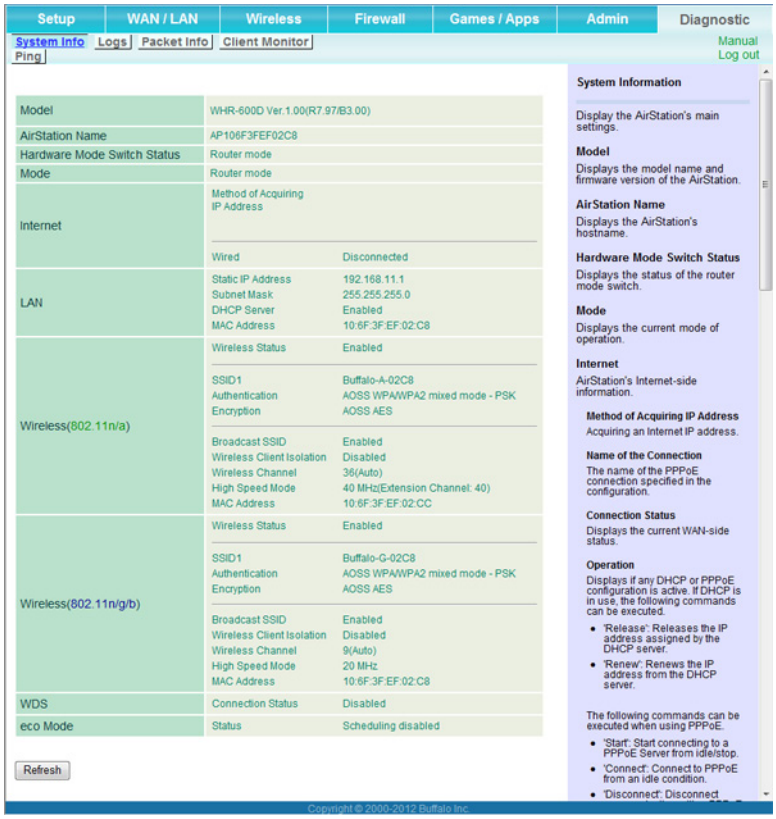
Update

Update the AirStation's firmware.

Firmware Version	Displays the current firmware version of the AirStation.
Update Method	*Select a file on your PC* updates from a firmware update file that you've downloaded to your computer. *Automatic update* will search the Internet for updated firmware and update your firmware automatically when new firmware is available.
Firmware File Name	Click *Browse...* to navigate to the firmware file on your computer if *Select a file on your PC* is selected. You don't need to specify the firmware location if you're using *Automatic update*. Click *Update Firmware* to update the firmware.

System Info

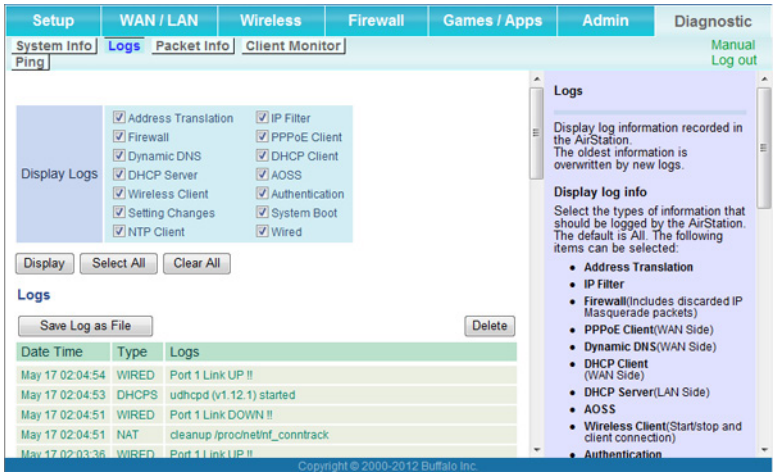
View system information for the AirStation.



Model	Displays the product name of the AirStation and the firmware version.
AirStation Name	Displays the name of the AirStation.
Hardware Mode Switch Status	Displays the status of the AirStation's mode switch.
Mode	Displays the AirStation's current operational mode.
Internet	Displays the status of the WAN port.
LAN	Displays the status of the LAN port.
Wireless	Displays the wireless status.
WDS	Displays the connection status of WDS.
eco Mode	Displays current eco Mode status.

Logs

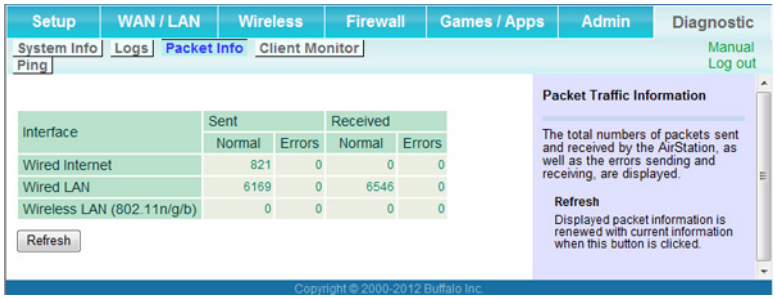
The AirStation's logs are recorded here.



Display Logs	Choose the types of logs to display.
Logs	Displays the log information recorded in the AirStation.

Packet Info

View packet transfer information.



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.

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.

Destination Address	Enter the IP address or hostname of the device to communicate with and click *Execute*. The result will be displayed below.

Chapter 4 - Connect to a Wireless Network

Automatic Secure Setup (AOSS / WPS)

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

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

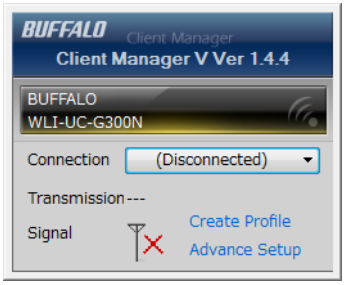
- Before using AOSS or WPS to connect the Buffalo wireless client to the computer, download Client Manager or AOSS Assistant from the Buffalo website and install it.
- Buffalo's Client Manager software can be used with the wireless LAN devices built into your computer. It works with most Windows computers.

WIndows 8.1, Windows 8, Windows 7, or Windows Vista (Client Manager V)

If you are using Windows 8.1, Windows 8, Windows 7, or Windows Vista, use Client Manager V to connect wirelessly with AOSS or WPS.

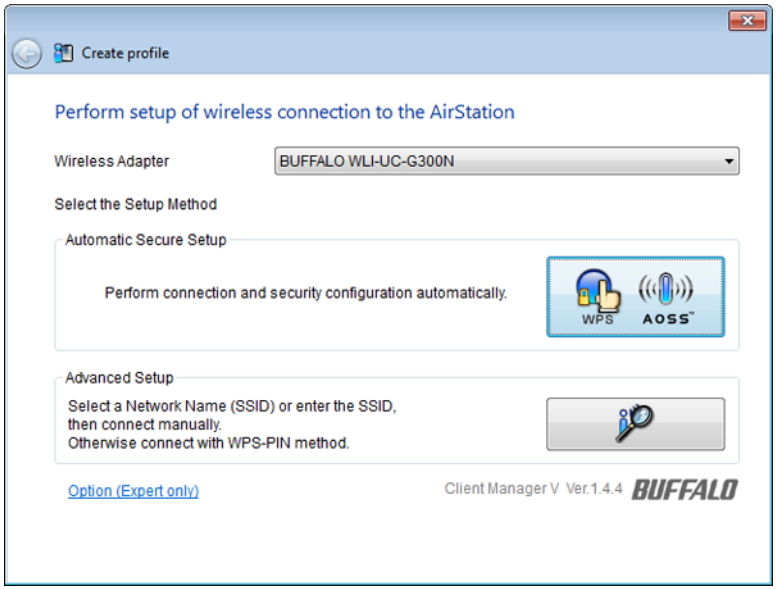
1 Launch Client Manager V.

2 Click *Create Profile*.



3 If the "User Account Control" screen opens, click *Yes* or *Continue*.

4 Click *WPS AOSS*.



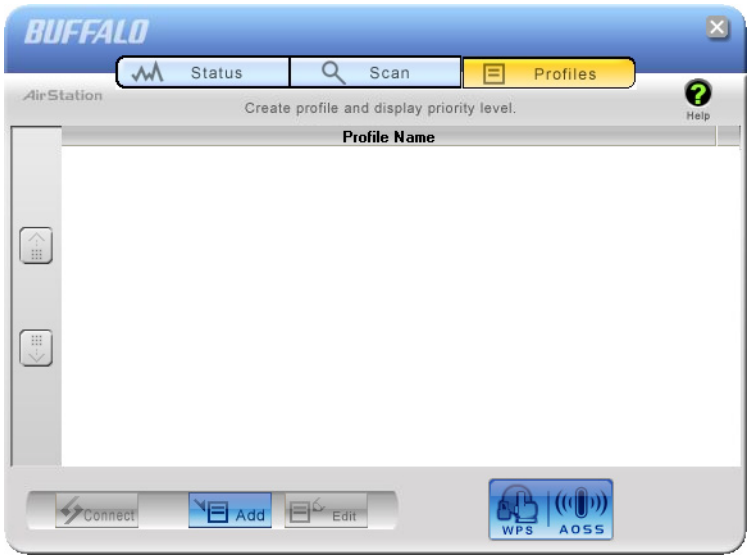
When the wireless LED on the front of the AirStation stops blinking and glows steadily, the connection is ready to use.

Windows XP (Client Manager 3)

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

1 Right-click the icon in the system tray and select *Profile*.

2 Click *WPS AOSS*.



It will take several seconds for your wireless connection to be configured. When the wireless LED on the front of the AirStation stops blinking and glows steadily, the connection is ready to use.

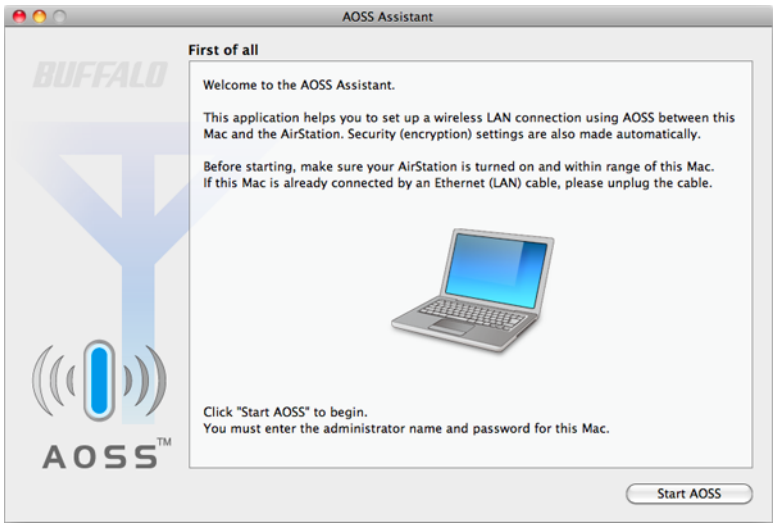
Mac OS (AOSS Assistant)

If you are using Mac OS X 10.9, 10.8, 10.7, 10.6, 10.5 or 10.4, use AOSS Assistant to connect wirelessly with AOSS.

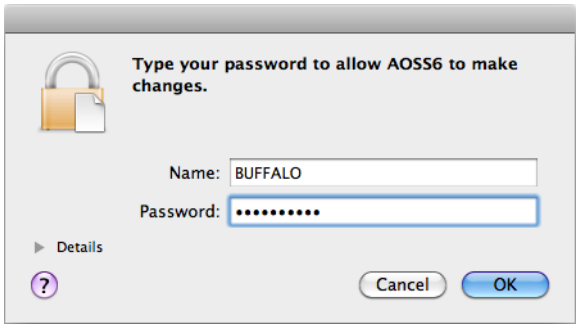
1 Download AOSS Assistant from Buffalo's website.

2 Open the AOSS Assistant software. Click *Agree* to proceed.

3 Click *Start AOSS*.



4 Enter the Mac's username and password and click *OK*.



It will take several seconds for your wireless connection to be configured. When the wireless LED on the front of the AirStation stops blinking and glows steadily, the connection is ready to use.

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 or WPS. When instructed, hold down the AOSS button on the AirStation for 1 second.

When the wireless LED on the front of the AirStation stops blinking and glows steadily, the connection is ready to use.

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 the operating system. The procedure varies depending on which operating system you are using.

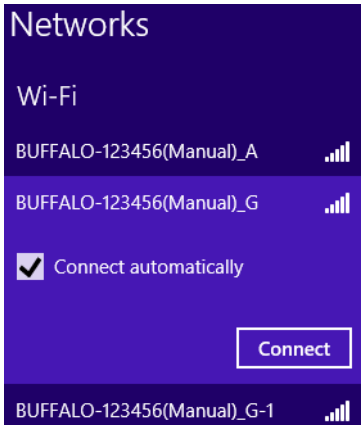
Windows 8.1/Windows 8 (WLAN AutoConfig)

With Windows 8.1 or Windows 8, use WLAN AutoConfig to connect to the AirStation.

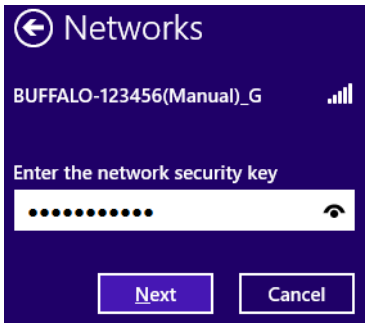
1 Switch Windows to desktop mode.

2 Click the network icon  in the system tray.

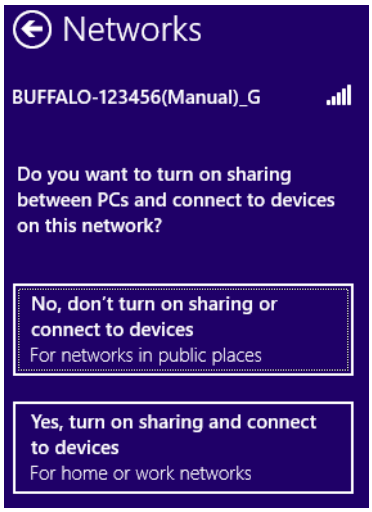
3 Select the target AirStation's name and click *Connect*. If you will be connecting to this device again, check *Connect automatically*.



4 Enter the encryption key and click *Next*.



5 Click *No, don't turn on sharing or connect to devices*.

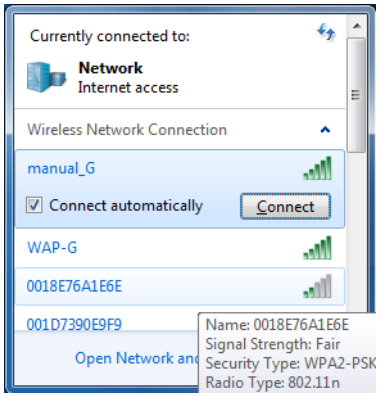


Windows 7 (WLAN AutoConfig)

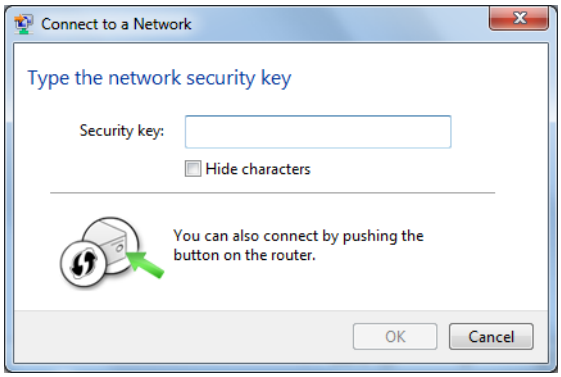
With Windows 7, use WLAN AutoConfig to connect to the AirStation.

1 Click 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*.



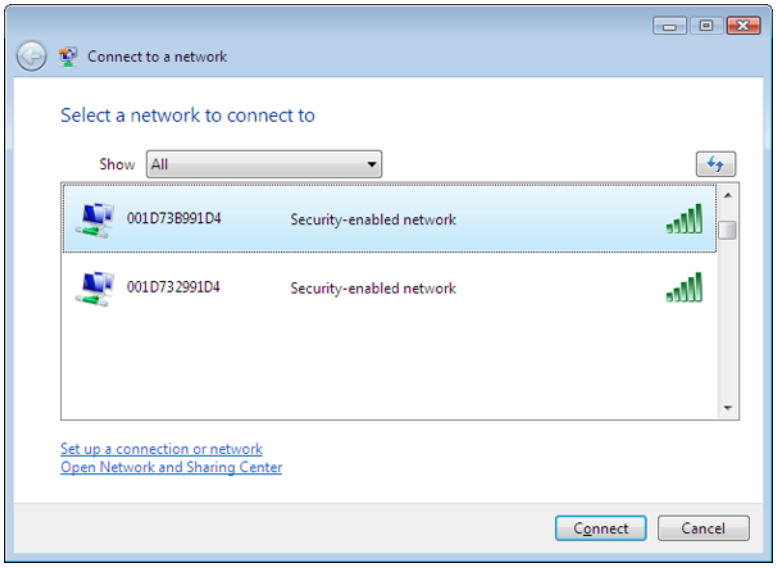
Windows Vista (WLAN AutoConfig)

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

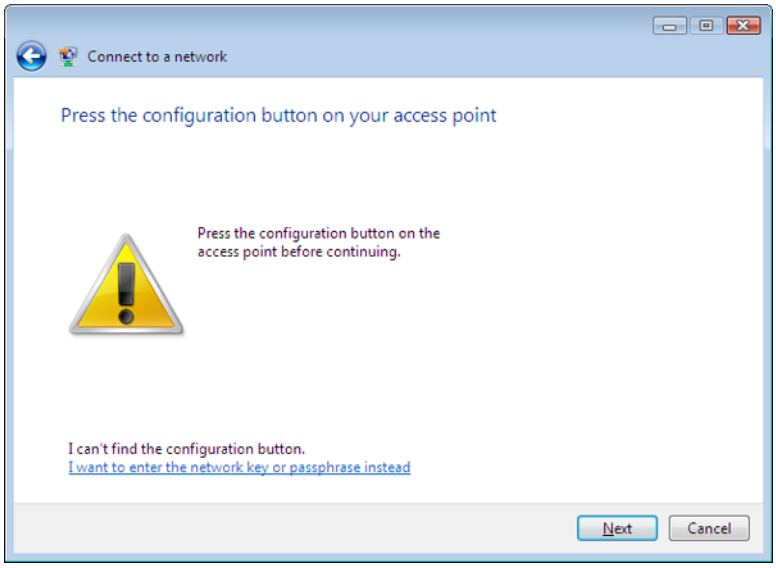
1 Right-click the wireless network icon  in the system tray.

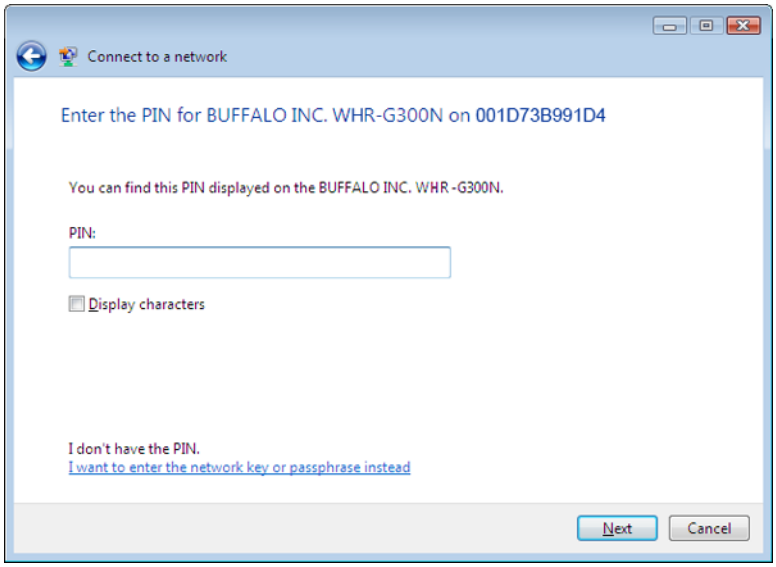
2 Click *Connect to a network*.

3 When this screen is displayed, select your network and click *Connect*.

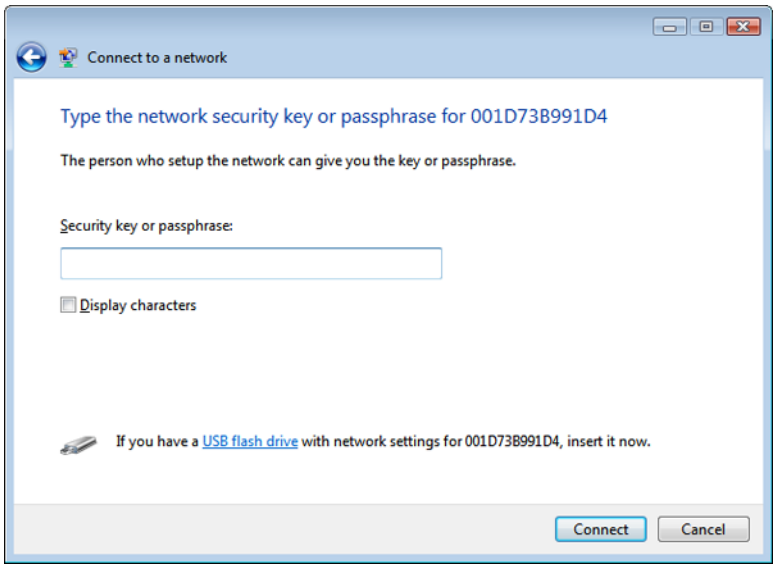


If the screen below is displayed, click *I want to enter the network key or passphrase instead*.
Otherwise, go to step 4.





4 Enter the encryption key and click *Connect*.



Step through the wizard to finish configuration.

If the "Set Network Location" screen is displayed, select *Home*, *Work*, or *Public location* depending on where you're using the AirStation.

Windows XP (Wireless Zero Configuration)

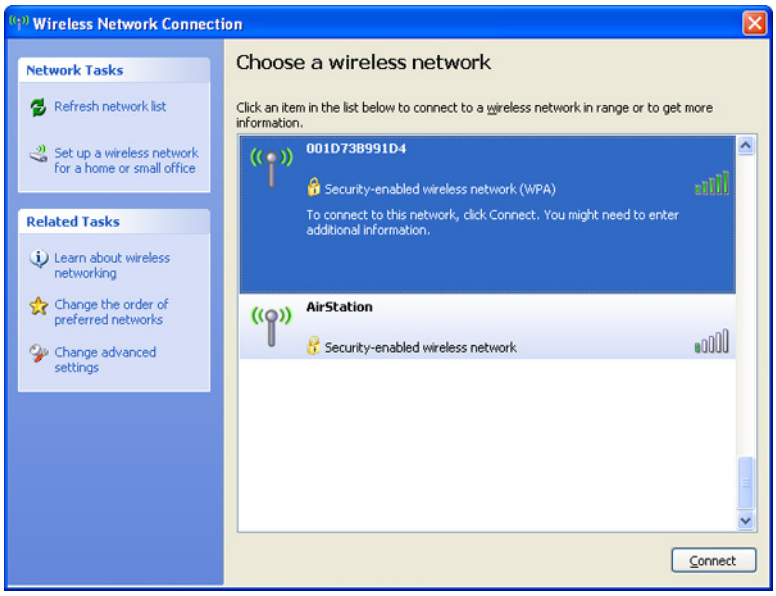
Windows XP includes Wireless Zero Config, a built-in utility to connect to your AirStation.

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 the image 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*.

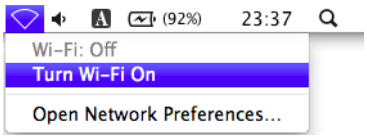
It will take several seconds for configuration to finish.

Mac OS (Wi-Fi)

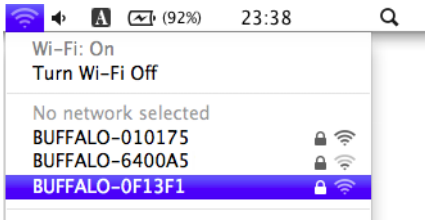
Use Wi-Fi on a Mac to connect to the AirStation.

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

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



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



3 Enter your encryption key in the password field, check *Remember this network*, and click *Join*.

It will take several seconds for configuration to complete.

Chapter 5 - Troubleshooting

Cannot Connect to the Internet Over a Wired Connection

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

  Power/Diag: LED is lit green

  Wireless: LED is lit green or amber
- Make sure that your computer is configured to "obtain an IP address automatically from DHCP".
- Restart your AirStation.

Cannot Access Settings

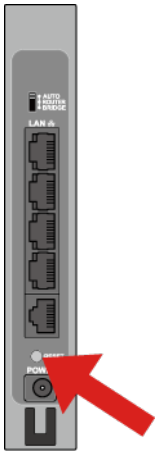
- See chapter 3 for instructions to open Settings.
- Enter the correct username and password to log in to Settings. If you are using AirStation with factory default settings, enter "admin" for the username and "password" for the password.
- Verify that your web browser is not set to use proxies.
- Make sure that your computer is configured to "obtain an IP address automatically from DHCP".
- 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 (11n/a) (WHR-600D only) - Buffalo-A-XXXX (where "XXXX" is the last 4 digits of the AirStation's MAC address).
  SSID (11n/g/b) - Buffalo-G-XXXX (where "XXXX" is the last 4 digits of the AirStation's MAC address)
  Encryption Type - 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.

Forgot AirStation's SSID, Encryption Key, or Password

Hold down the reset button on the base of your AirStation for 3 seconds to initialize its settings. All settings, including your password, SSID, and encryption key will be initialized to their defaults.



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

How to Configure TCP/IP

Windows 8.1/Windows 8

To configure TCP/IP in Windows 8.1 or Windows 8, follow the procedure below.

1. Open *Control Panel*.
2. Click *Network and Internet*.
3. Click *Network and Sharing Center*.
4. Click *Change Adapter Settings* on the left side menu.
5. Right-click the network adapter, then click *Properties*.
6. If the "User Account Control" screen opens, click *Yes* or *Continue*.
7. Select *Internet Protocol Version 4 (TCP/IPv4)* then click *Properties*.
8. To have DHCP set your IP address settings automatically, check *Obtain an IP address automatically* and *Obtain DNS server address automatically*.
   Alternately, you can configure the settings manually. Example:
   If the router's IP address is 192.168.11.1,
   IP address: 192.168.11.80
   Subnet mask: 255.255.255.0
   Default gateway: 192.168.11.1
   Preferred DNS server: 192.168.11.1
   Alternate DNS server: blank
9. Click *OK*.

Windows 7

To configure TCP/IP in Windows 7, follow the procedure below.

1 Open *Control Panel*.

2 Click *Network and Sharing Center*.

3 Click *Change Adapter Settings* on the left side menu.

4 Right-click the network adapter, then click *Properties*.

5 If the "User Account Control" screen opens, click *Yes* or *Continue*.

6 Select *Internet Protocol Version 4 (TCP/IPv4)* then click *Properties*.

7 To have DHCP set your IP address settings automatically, check *Obtain an IP address automatically* and *Obtain DNS server address automatically*.
Alternately, you can configure the settings manually. Example:
If the router's IP address is 192.168.11.1,
IP address: 192.168.11.80
Subnet mask: 255.255.255.0
Default gateway: 192.168.11.1
Preferred DNS server: 192.168.11.1
Alternate DNS server: blank

8 Click *OK*.

Windows Vista

To configure TCP/IP in Windows Vista, follow the procedure below.

1 Open *Control Panel*.

2 Click *Network and Sharing Center*.

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

4 Right-click the network adapter, then click *Properties*.

5 If the "User Account Control" screen opens, click *Yes* or *Continue*.

6 Select *Internet Protocol Version 4 (TCP/IPv4)* then click *Properties*.

7 To have DHCP set your IP address settings automatically, check *Obtain an IP address automatically* and *Obtain DNS server address automatically*.
Alternately, you can configure the settings manually. Example:
If the router's IP address is 192.168.11.1,
IP address: 192.168.11.80
Subnet mask: 255.255.255.0
Default gateway: 192.168.11.1
Preferred DNS server: 192.168.11.1
Alternate DNS server: blank

8 Click *OK*.

Windows XP

To configure TCP/IP in Windows XP, follow the procedure below.

1. Open *Control Panel*.
2. Double-click *Network*.
3. Right-click the network adapter, then click *Properties*.
4. Select *Internet Protocol (TCP/IP)* then click *Properties*.
5. To have DHCP set your IP address settings automatically, check *Obtain an IP address automatically* and *Obtain DNS server address automatically*.
   Alternately, you can configure the settings manually. Example:
   If the router's IP address is 192.168.11.1,
   IP address: 192.168.11.80
   Subnet mask: 255.255.255.0
   Default gateway: 192.168.11.1
   Preferred DNS server: 192.168.11.1
   Alternate DNS server: blank
6. Click *OK*.

Mac OS

To configure TCP/IP in Mac OS, follow the procedure below.

1. Click *Apple* menu > *System Preferences*….
2. Click *Network*.
3. Click the network adapter.
4. To have DHCP set your IP address settings automatically, select *Using DHCP* in the "Configure IPv4" field.
   Alternately, you can configure the settings manually. Example:
   If the router's IP address is 192.168.11.1,
   IP address: 192.168.11.80
   Subnet mask: 255.255.255.0
   Router: 192.168.11.1
   DNS server: 192.168.11.1
5. Click *Apply*.

Other Tips

Issue:

I reset my AirStation to factory default settings and forgot how to log in to Settings.

Answer:

Open your browser, enter 192.168.11.1 as the browser address, and hit the enter key. You will be prompted to log in. Enter "admin" for the username and "password" for the password. Click *OK* to log in.

Issue:

How do I forward ports on my AirStation for my gaming console?

Answer:

Log in to Settings and navigate to *Setup - Internet Games (Port Forwarding)*. Enter the port that needs to be forwarded and the IP address of the gaming console.

Issue:

How do I enable or modify encryption settings on my AirStation?

Answer:

Log in to Settings and navigate to *Setup - Wireless Encryption*. Buffalo recommends the use of WPA2-PSK AES for wireless encryption. The passphrase/key should be at least 8 characters in length.

Issue:

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

Answer:

Log in to Settings and navigate to *Wireless - Basic*. Find the SSID setting. Select *Use* and enter the new name for your network. Click *Apply*. Once the AirStation 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 AirStation 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 AirStation. Log in to Settings and navigate to *Basic Wireless Setup* on *Setup* page. Wireless channels from 1 - 11 may be selected. Try "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 AirStation, I am unable to access the Internet with my web browser.

Answer:

First, switch the AirStation to router mode. The router LED on the AirStation turns on, and after about one minute, turn off the cable or DSL modem, AirStation, and your computer. Verify that the modem is connected to the Internet port on the AirStation with a Ethernet cable. Power on the modem and wait one minute. Power on the AirStation 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 an Internet connection is still not available after these steps, 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 check again for an Internet connection.

If an Internet connection IS NOT available with a direct connection to the computer, please contact your ISP.

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

Issue:

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

Answer:

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

Chapter 6 - Default Configuration Settings

WHR-300HP2

Feature	Parameter	Default Setting
Internet	Method of Acquiring IP Address	Perform Easy Setup (Internet Connection Wizard)
	Default Gateway	-
	DNS Name Server Address	-
	Internet MAC Address	Use default MAC address
	MTU Size of Internet Port	1500 Bytes
PPPoE	Default PPPoE Connection	No active session.
	IP Unnumbered PPPoE Connection	No active session.
	PPPoE Connection List	No connections registered.
	Preferred Connections	No connections registered.
DDNS	Dynamic DNS Service	Disabled
PPTP Server	LAN-side IP Address	192.168.11.1 (255.255.255.0)
	DHCP Server Function	Enabled
	DHCP IP Address Pool	192.168.11.2 to 192.168.11.65
	PPTP Server Function	Disabled
	Authentication Type	MS-CHAPv2 (40/128-bit Encryption)
	Server IP Address	Auto
	Client IP Address	Auto
	DNS Server IP Address	LAN-side IP address of the AirStation
	WINS Server IP Address	-
	MTU/MRU Value	1396
LAN	LAN-side IP Address	Router mode (Router on): 192.168.11.1 (255.255.255.0) Bridge mode (Router off): 192.168.11.100 (255.255.255.0) Bridge mode (when the mode switch is in the Auto position): Obtain automatically from DHCP server
	DHCP Server	Enabled
	DHCP IP Address Pool	192.168.11.2 to 192.168.11.65
	LAN-side IP Address (For IP Unnumbered)	-
	Lease Period	48 Hours
	Default Gateway	AirStation's IP address
	DNS Servers	AirStation's IP address
	WINS Server	Assigned by DHCP
	Domain Name	Assigned by DHCP

Feature	Parameter	Default Setting
NAT	**Address Translation**	Enabled
	Log Output of Deleted Packets	Disabled
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-G-XXXX (where "XXXX" is the last 4 digits of the AirStation's MAC address) **Security**: WPA2 - PSK AES **Encryption key**: The 8-digit random number printed on the setup card.
AOSS	**Exclusive SSID for WEP**	Disabled
	Dedicated WEP SSID isolation	Disabled
	AOSS Button on the AirStation Unit	Enabled
Basic	**Wireless**	Enabled
	Wireless Channel	Auto Channel
	High Speed Mode	20 MHz bandwidth
	Broadcast SSID	Allow
	SSID1	Enabled
	SSID Isolation	Disabled
	SSID	AirStation's MAC address
	Authentication	WPA2 - PSK
	Encryption	AES
	WPA-PSK (Pre-Shared Key)	The 8-digit random number printed on the setup card.
	SSID2: WEP	Disabled
	Key Renewal Interval	60 minutes
Advanced	**Multicast Rate**	1 Mbps
	DTIM Period	1
	Wireless Client Isolation	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
	WMM-EDCA Parameters (Priority AC_BE (Normal))		**For AP**	**For STA**
		CWmin	15	15
		CWmax	63	1023
		AIFSN	3	3
		TXOP Limit	0	0
	WMM-EDCA Parameters (Priority AC_VI (High))		**For AP**	**For STA**
		CWmin	7	7
		CWmax	15	15
		AIFSN	1	2
		TXOP Limit	94	94
	WMM-EDCA Parameters (Priority AC_VO (Highest))		**For AP**	**For STA**
		CWmin	3	3
		CWmax	7	7
		AIFSN	1	2
		TXOP Limit	47	47
MAC Filter	**Enforce MAC Filtering**	Disabled		
	Registration List	No registered MAC addresses		
WDS	**WDS**	Disabled		
Multicast Control	**Snooping**	Disabled		
	Multicast Aging Time	300 seconds		
Firewall	**Log Output**	Disabled		
	Basic Rules	Prohibit NBT and Microsoft-DS routing: Disabled Reject ident requests: Enabled Block ping from Internet: Enabled		
IP Filter	**Log Output**	Disabled		
VPN Passthrough	**IPv6 Passthrough**	Disabled		
	PPPoE Passthrough	Disabled		
	PPTP Passthrough	Disabled		
DMZ	**IP Address of DMZ**	-		
UPnP	**UPnP**	Enabled		
QoS	**QoS**	Disabled		
Name	**AirStation Name**	"AP" + AirStation's MAC Address		
	Network Services	Enabled		
Password	**Admin Name**	admin (fixed)		
	Admin Password	password		
Time and Date	**Local Date**	2010 Year 1 Month 1 Day		
	Local Time	0 Hour 0 Minute 0 Seconds (12 midnight)		
	Time Zone	(GMT+00:00) Greenwich Mean Time, London		
NTP	**NTP**	Enabled		
	NTP Server	time.nist.gov		
	Update Interval	24 hours		

Feature	Parameter	Default Setting
eco	**Scheduling**	Disabled
	Schedule Entry	**Power Saving Mode**: Normal **Start Time**: 0:00 **End Time**: 0:30 **Day of Week**: none
	Custom Mode	**LED**: Off **Wired LAN**: eco **Wireless LAN**: Off
Access	**Log Output**	Disabled
	Management Access	**Prohibit configuration from wireless LAN**: Disabled **Prohibit configuration from wired LAN**: Disabled **Permit configuration from wired WAN**: Disabled
Syslog Settings	**Transfer Logs**	Disabled
	Syslog Server	-
	Logs	Address Translation, IP Filter, Firewall, PPPoE Client, Dynamic DNS, DHCP Client, DHCP Server, AOSS, Wireless, Authentication, Setting Changes, System Boot, NTP Client, and Wired
Update	**Update Method**	Local file

Feature	Parameter	Default Setting
Internet	Method of Acquiring IP Address	Perform Easy Setup (Internet Connection Wizard)
	Default Gateway	-
	DNS Name Server Address	-
	Internet MAC Address	Use default MAC address
	MTU Size of Internet Port	1500 Bytes
PPPoE	Default PPPoE Connection	No active session.
	IP Unnumbered PPPoE Connection	No active session.
	PPPoE Connection List	No connections registered.
	Preferred Connections	No connections registered.
DDNS	Dynamic DNS Service	Disabled
PPTP Server	LAN-side IP Address	192.168.11.1 (255.255.255.0)
	DHCP Server Function	Enabled
	DHCP IP Address Pool	192.168.11.2 to 192.168.11.65
	PPTP Server Function	Disabled
	Authentication Type	MS-CHAPv2 (40/128-bit Encryption)
	Server IP Address	Auto
	Client IP Address	Auto
	DNS Server IP Address	LAN-side IP address of the AirStation
	WINS Server IP Address	-
	MTU/MRU Value	1396
LAN	LAN-side IP Address	Router mode (Router on): 192.168.11.1 (255.255.255.0) Bridge mode (Router off): 192.168.11.100 (255.255.255.0) Bridge mode (when the mode switch is in the Auto position): Obtain automatically from DHCP server
	DHCP Server	Enabled
	DHCP IP Address Pool	192.168.11.2 to 192.168.11.65
	LAN-side IP Address (For IP Unnumbered)	-
	Lease Period	48 Hours
	Default Gateway	AirStation's IP address
	DNS Servers	AirStation's IP address
	WINS Server	Assigned by DHCP
	Domain Name	Assigned by DHCP
NAT	Address Translation	Enabled
	Log Output of Deleted Packets	Disabled

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-A-XXXX (where "XXXX" is the last 4 digits of the AirStation's MAC address) Buffalo-G-XXXX (where "XXXX" is the last 4 digits of the AirStation's MAC address) **Security**: WPA2 - PSK AES **Encryption key**: The 8-digit random number printed on the setup card.
AOSS	**Exclusive SSID for WEP**	Disabled
	Dedicated WEP SSID isolation	Disabled
	AOSS Button on the AirStation Unit	Enabled
Basic	**Wireless**	Enabled
	Wireless Channel	Auto Channel
	High Speed Mode	11n/a 40 MHz bandwidth 11n/g/b 20 MHz bandwidth
	Broadcast SSID	Allow
	SSID1	Enabled
	SSID Isolation	Disabled
	SSID	AirStation's MAC address
	Authentication	WPA2 - PSK
	Encryption	AES
	WPA-PSK (Pre-Shared Key)	The 8-digit random number printed on the setup card.
	SSID2: WEP	Disabled
	Key Renewal Interval	60 minutes
Advanced	**Multicast Rate**	11n/a: 6 Mbps 11n/g/b: 1 Mbps
	DTIM Period	1
	Wireless Client Isolation	Disabled
	Output Power (11n/a)	100%

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
	WMM-EDCA Parameters (Priority AC_BE (Normal))		**For AP**	**For STA**
		CWmin	15	15
		CWmax	63	1023
		AIFSN	3	3
		TXOP Limit	0	0
	WMM-EDCA Parameters (Priority AC_VI (High))		**For AP**	**For STA**
		CWmin	7	7
		CWmax	15	15
		AIFSN	1	2
		TXOP Limit	94	94
	WMM-EDCA Parameters (Priority AC_VO (Highest))		**For AP**	**For STA**
		CWmin	3	3
		CWmax	7	7
		AIFSN	1	2
		TXOP Limit	47	47
MAC Filter	**Enforce MAC Filtering (11n/a)**	Disabled		
	Enforce MAC Filtering (11/n/g/b)	Disabled		
WDS	**WDS**	Disabled		
Multicast Control	**Snooping**	Disabled		
	Multicast Aging Time	300 seconds		
Firewall	**Log Output**	Disabled		
	Basic Rules	Prohibit NBT and Microsoft-DS routing: Disabled Reject ident requests: Enabled Block ping from Internet: Enabled		
IP Filter	**Log Output**	Disabled		
VPN Passthrough	**IPv6 Passthrough**	Disabled		
	PPPoE Passthrough	Disabled		
	PPTP Passthrough	Disabled		
DMZ	**IP Address of DMZ**	-		
UPnP	**UPnP**	Enabled		
QoS	**QoS**	Disabled		
Name	**AirStation Name**	"AP" + AirStation's MAC Address		
	Network Services	Enabled		
Password	**Admin Name**	admin (fixed)		
	Admin Password	password		
Time and Date	**Local Date**	2010 Year 1 Month 1 Day		
	Local Time	0 Hour 0 Minute 0 Seconds (12 midnight)		
	Time Zone	(GMT+00:00) Greenwich Mean Time, London		
NTP	**NTP**	Enabled		
	NTP Server	time.nist.gov		
	Update Interval	24 hours		

Feature	Parameter	Default Setting
eco	**Scheduling**	Disabled
	Schedule Entry	**Power Saving Mode**: Normal **Start Time**: 0:00 **End Time**: 0:30 **Day of Week**: none
	Custom Mode	**LED**: Off **Wired LAN**: eco **Wireless LAN**: Off
Access	**Log Output**	Disabled
	Management Access	**Prohibit configuration from wireless LAN**: Disabled **Prohibit configuration from wired LAN**: Disabled **Permit configuration from wired WAN**: Disabled
Syslog Settings	**Transfer Logs**	Disabled
	Syslog Server	-
	Logs	Address Translation, IP Filter, Firewall, PPPoE Client, Dynamic DNS, DHCP Client, DHCP Server, AOSS, Wireless, Authentication, Setting Changes, System Boot, NTP Client, and Wired
Update	**Update Method**	Local file

Appendix A - Supplemental Information

Technical Specifications

WHR-300HP2

Wireless LAN Interface	
Standard Compliance	IEEE 802.11n / IEEE 802.11g / IEEE 802.11b
Transmission Method	Direct sequence spread spectrum (DSSS), OFDM, MIMO
Frequency Range	Available frequencies depend on the country of purchase.
Transmission Rate	**IEEE 802.11n 20 MHz BW <Long GI>:** 130/117/104/78/52/39/26/13 Mbps (2 streams) 65/58.5/52/39/26/19.5/13/6.5 Mbps (1 stream) **IEEE 802.11n 20 MHz BW <Short GI>:** 144.4/130/115.6/86.7/57.8/43.3/28.9/14.4 Mbps (2 streams) 72.2/65/57.8/43.3/28.9/21.7/14.4/7.2 Mbps (1 stream) **IEEE 802.11n 40 MHz BW <Long GI>:** 270/243/216/162/108/81/54/27 Mbps (2 streams) 135/121.5/108/81/54/40.5/27/13.5 Mbps (1 stream) **IEEE 802.11n 40 MHz BW <Short GI>:** 300/270/240/180/120/90/60/30 Mbps (2 streams) 150/135/120/90/60/45/30/15 Mbps (1 stream) **IEEE 802.11g:** 54/48/36/24/18/12/9/6 Mbps **IEEE 802.11b:** 11/5.5/2/1 Mbps
Access Mode	Infrastructure Mode
Security	AOSS, WPA/WPA2 mixed PSK, WPA2-PSK (AES), WPA-PSK (AES), 64-bit or 128-bit WEP, MAC address filter
Wired LAN Interface	
Standard Compliance	IEEE 802.3u (100BASE-TX) / IEEE 802.3 (10BASE-T)
Transmission Rate	10 / 100 Mbps
Transmission Encoding	100BASE-TX 4B5B/MLT-3, 10BASE-T Manchester Coding
Access Method	CSMA/CD
Speed and Flow Control	10 / 100 Mbps, Auto Sensing, Auto MDIX
Number of LAN Ports	5
Other	
Power Supply	External AC 100-240 V Universal, 50/60 Hz
Power Consumption	About 10.2 W (Max)
Dimensions	55 x 130.5 x 159 mm (2.17 x 5.14 x 6.26 in.)

Weight	265 g (9.3 oz.)
Operating Environment	0 - 40° C (32 - 104° F), 10 - 85% (non-condensing)

WHR-600D

Wireless LAN Interface	
Standard Compliance	IEEE 802.11n / IEEE 802.11a / IEEE 802.11g / IEEE 802.11b
Transmission Method	Direct sequence spread spectrum (DSSS), OFDM, MIMO
Frequency Range	Available frequencies depend on the country of purchase.
Transmission Rate	**IEEE 802.11n 20 MHz BW <Long GI>:** 130/117/104/78/52/39/26/13 Mbps (2 streams) 65/58.5/52/39/26/19.5/13/6.5 Mbps (1 stream) **IEEE 802.11n 20 MHz BW <Short GI>:** 144.4/130/115.6/86.7/57.8/43.3/28.9/14.4 Mbps (2 streams) 72.2/65/57.8/43.3/28.9/21.7/14.4/7.2 Mbps (1 stream) **IEEE 802.11n 40 MHz BW <Long GI>:** 270/243/216/162/108/81/54/27 Mbps (2 streams) 135/121.5/108/81/54/40.5/27/13.5 Mbps (1 stream) **IEEE 802.11n 40 MHz BW <Short GI>:** 300/270/240/180/120/90/60/30 Mbps (2 streams) 150/135/120/90/60/45/30/15 Mbps (1 stream) **IEEE 802.11a / IEEE 802.11g:** 54/48/36/24/18/12/9/6 Mbps **IEEE 802.11b:** 11/5.5/2/1 Mbps
Access Mode	Infrastructure Mode
Security	AOSS, WPA/WPA2 mixed PSK, WPA2-PSK (AES), WPA-PSK (AES), 64-bit or 128-bit WEP, MAC address filter
Wired LAN Interface	
Standard Compliance	IEEE 802.3u (100BASE-TX) / IEEE 802.3 (10BASE-T)
Transmission Rate	10 / 100 Mbps
Transmission Encoding	100BASE-TX 4B5B/MLT-3, 10BASE-T Manchester Coding
Access Method	CSMA/CD
Speed and Flow Control	10 / 100 Mbps, Auto Sensing, Auto MDIX
Number of LAN Ports	5
Other	
Power Supply	External AC 100-240 V Universal, 50/60 Hz
Power Consumption	About 8.2 W (Max)
Dimensions	55 x 130.5 x 159 mm (2.17 x 5.14 x 6.26 in.)
Weight	275 g (9.7 oz.)
Operating Environment	0 - 40° C (32 - 104° F), 10 - 85% (non-condensing)

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 collection, reuse, and recycling systems, please contact your local or regional waste administration.

GPL Information

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