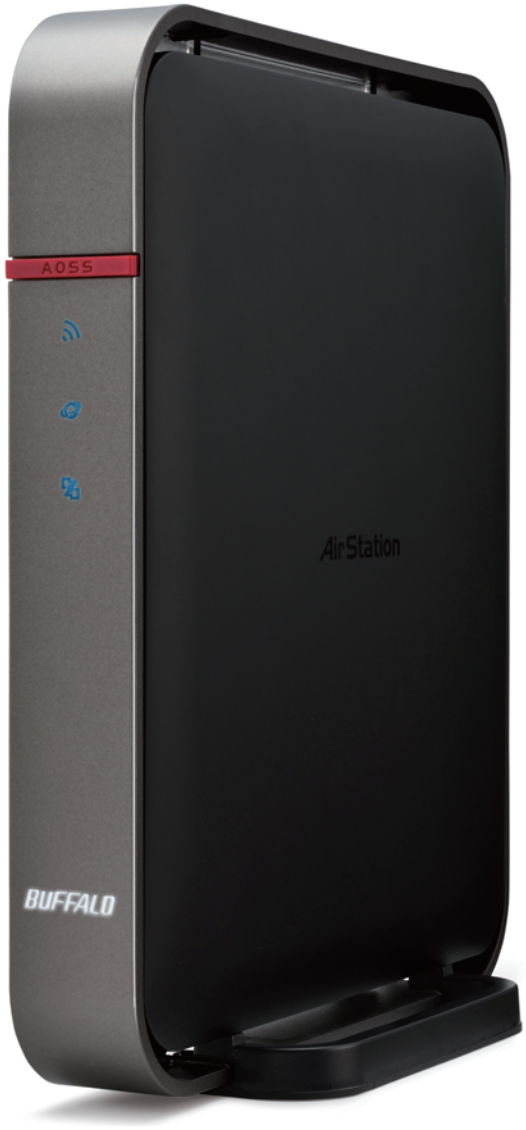
AirStation WZR-1750DHP

User Manual



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Contents

Chapter 1 - Setup

Introduction

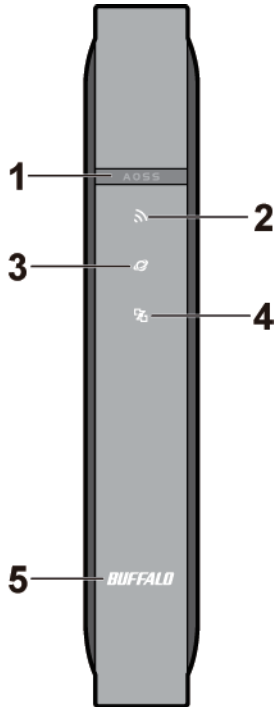
Thank you for buying a Buffalo AirStation. The WZR-1750DHP AirStation is a dual-band wireless router with outstanding performance and range. It combines speeds of 600 Mbps up to 1750 Mbps with a robust set of extra features like QoS, wireless bridging, USB NAS, media server, and parental control. This manual will help you set it up and use it. If you're new to wireless networking, turn to chapter 2 to start configuring your wireless network.

For advanced users, use a wired Ethernet connection to access the AirStation's settings:

- Default LAN-side IP address: 192.168.11.1
- Username: admin
- Default password: password

Diagrams and Layout

Front Panel



1 AOSS button

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

2 Wireless LED

(Access point/wireless bridge control switch set to "AP")

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.

(Access point/wireless bridge control switch set to "WB")

On:

Wireless LAN is enabled or transmitting.

Blinking:

Wireless LAN is enabled but not connected.

Off:

Wireless LAN is disabled.

Note:

The wireless LED will be blue for 5 GHz wireless connections or amber for 2.4 GHz wireless connections.

3 Internet access LED (Blue)

On:

Internet access is available.

Off:

Internet access is not available.
Router functionality is disabled.

4 Router LED (Blue)

On:

Router functionality is enabled.

Off:

Router functionality is disabled.

5 Buffalo LED (White or Red)

On (White):

Power is on.

Off:

Power is off.

On (Red)*:

Booting.

2 blinks (Red):**

Flash ROM error.

3 blinks (Red):**

Wired Ethernet LAN error.

4 blinks (Red):**

Wireless LAN error.

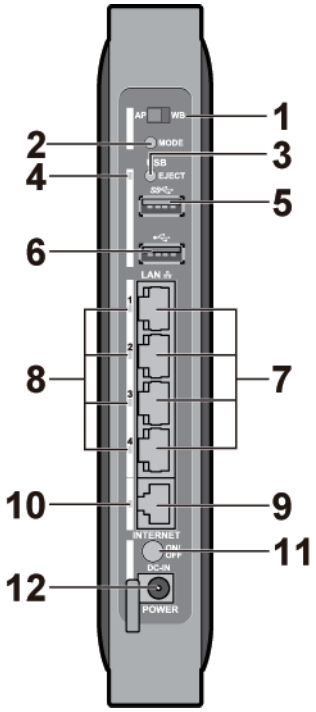
5 blinks (Red)*:**
IP address error.
9 blinks (Red):**
System error.
Continuously blinking*:
Updating firmware, saving settings, or initializing settings.

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

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

*** 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 the AirStation.

Back Panel



1 Access Point/Wireless Bridge Control Switch
This switch changes between access point mode and wireless bridge mode.
AP - access point (or router)
WB - wireless bridge

2 Mode button
If the switch above is in the "AP" position, this button switches the AirStation between router and access point functionality. If the switch is in the "WB" position, the button has no effect.

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

4 USB LED (Blue)

On:

A USB drive is connected.

Blinking:

The USB drive can be removed.

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.

5 USB 3.0 Port

You can connect any USB 3.0 compatible devices (such as USB storage). Use the cable attached to the USB 3.0 device to connect.

6 USB 2.0 Port

You can connect any USB 2.0 compatible devices (such as USB printers).

7 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.

8 LAN LED (Green)

On:

An Ethernet device is connected.

Blinking:

An Ethernet device is communicating.

9 Internet Port

10 Mbps, 100 Mbps, and 1000 Mbps connections are supported.

Note:

In wireless bridge mode or access point mode, the Internet port becomes a regular LAN port, for a total of 5 usable LAN ports.

10 Internet LED (Green)

On:

The Internet port is connected.

Blinking:

The Internet port is transmitting data.

11 Power button

This button turns the power on and off.

It may take 20 to 30 seconds to complete shutdown.

12 DC connector

Connect the included AC adapter here.

Bottom

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

2 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 for logging into Settings.

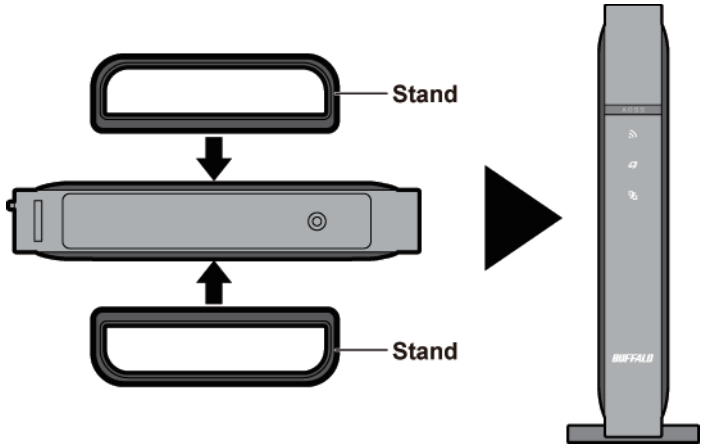
Right Side

1 Mounting holes
Mounting holes are provided for mounting the AirStation to a wall. Use the supplied screws to mount to a wall.

Installation

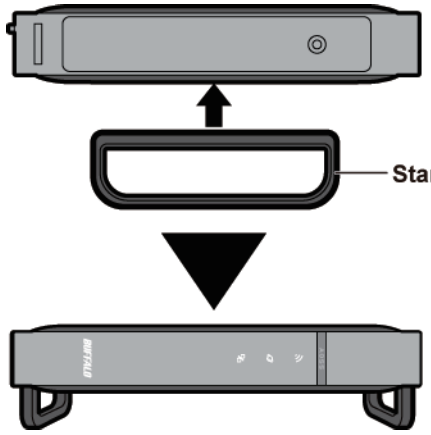
Vertical Placement

Attach the stand as shown in the figure below.



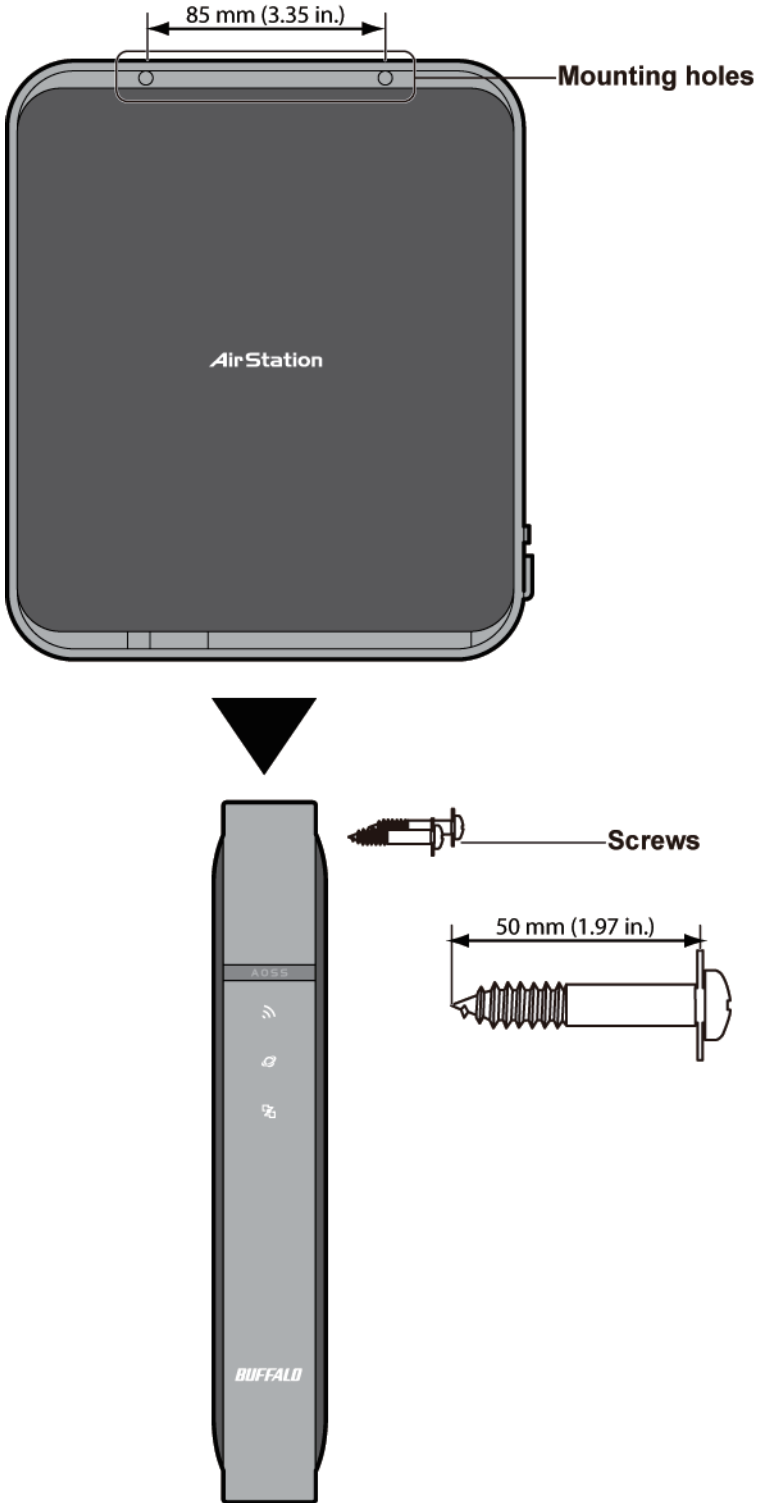
Horizontal Placement

The same stand also allows horizontal placement. Install the stand as shown in the figure below.



Wall-Mounting

Attach to the wall with the supplied screws in the mounting holes as shown below.

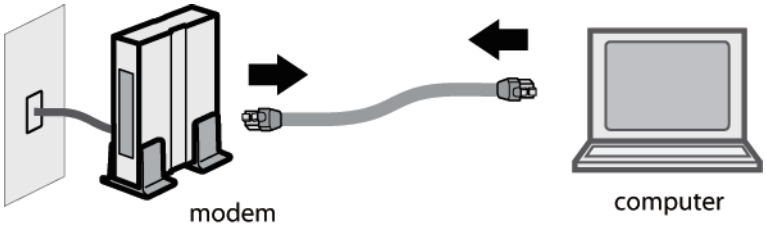


Connect to a PC and Power On

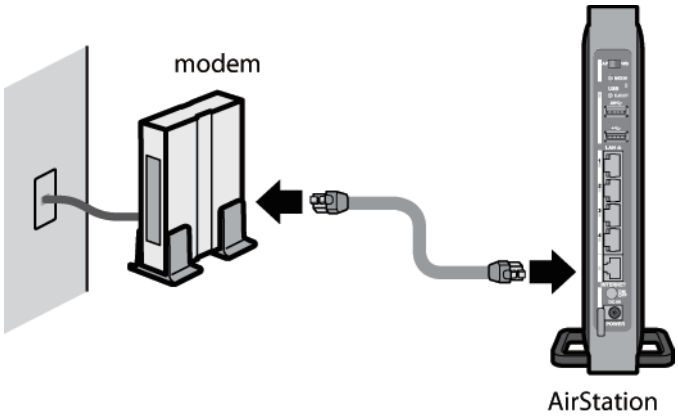
To configure your AirStation, follow the procedure below.

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

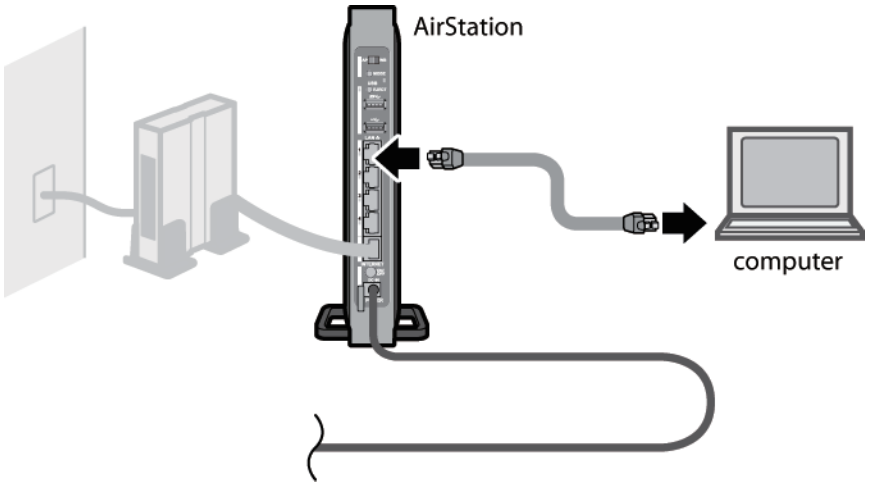
2 Unplug the LAN cable which connects your computer and modem.



3 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.

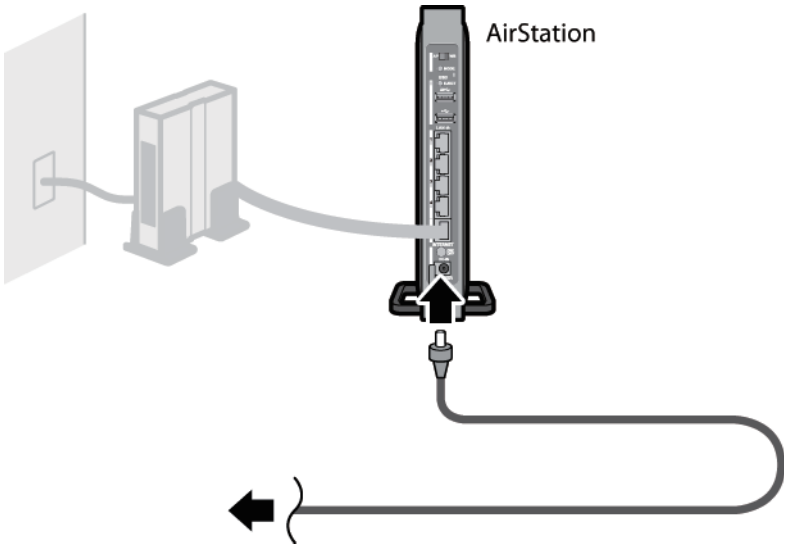


4 Turn on the AirStation, then wait one minute.



Note:
If the power does not turn on when the AC adapter is connected, press the Power button on the rear of the AirStation.

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 3.



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

Wireless	On or blinking.
Internet access	On.
Router	On.
Buffalo	White light on.
LAN	On or blinking.
Internet	On or blinking.

Note:
If the router LED is not lit, hold down the mode button for about 3 seconds to switch to router mode.

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 [Log In]. Step through the wizard to complete setup.

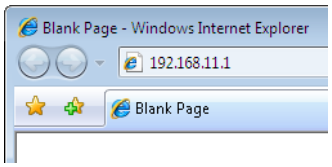
You've completed the initial setup of your AirStation.

Opening Settings

To configure the AirStation, log in to Settings as shown below.

1 Launch a web browser.

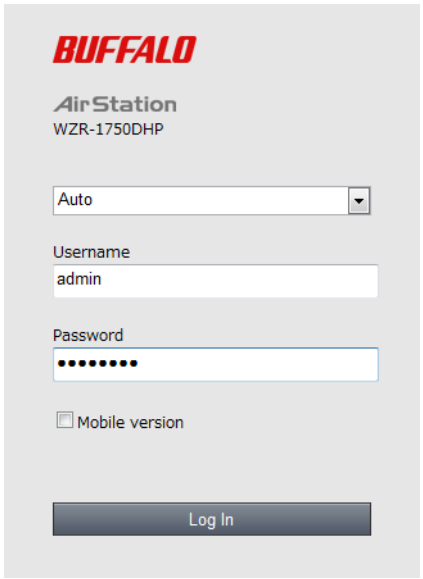
2 Enter the AirStation's LAN-side IP address in the address field and press the Enter key.



Note:

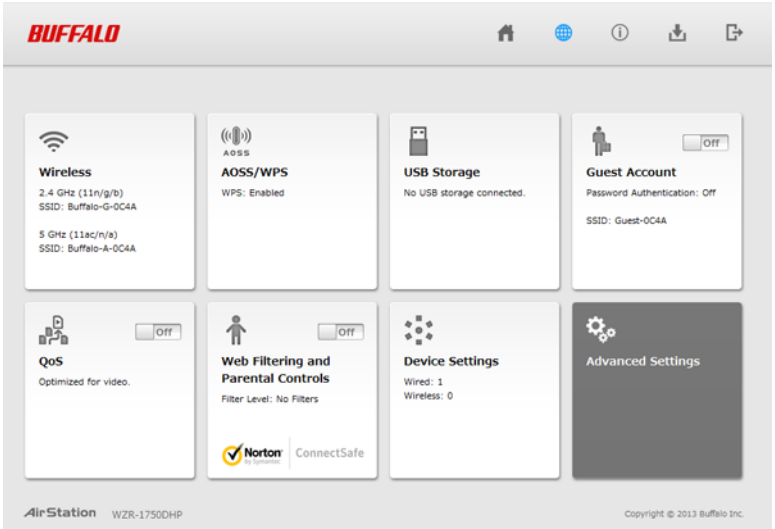
- The AirStation's default LAN-side IP address depends on the mode.
- In router mode: 192.168.11.1
- In access point mode: 192.168.11.100
- In Wireless bridge mode: 192.168.11.100
- If you changed the IP address of the AirStation, then use the new IP address.

3 Enter "admin" for the username and "password" for the password, then click [Log In].



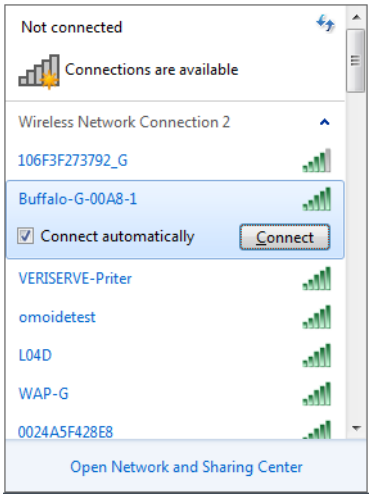
Note:
If you forget your password, hold down the reset button to initialize all settings. Note that all other settings will also revert to their default values.

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

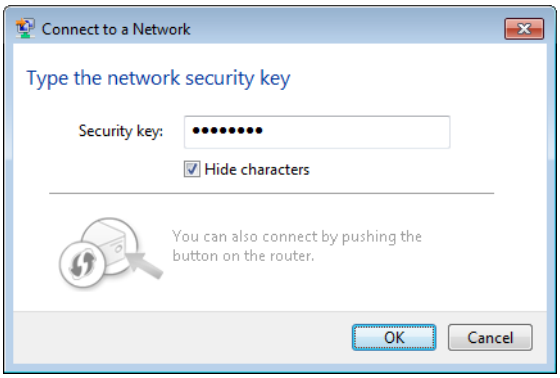


Connect Your Wireless Devices

For each wireless device that you want to connect to the network, use the device's built-in software to search for available networks. Find your SSID (the name of your wireless network) on the list of detected networks and select it.



Enter the passphrase for the network and you'll be connected. Repeat for any additional wireless client devices that you want to connect.



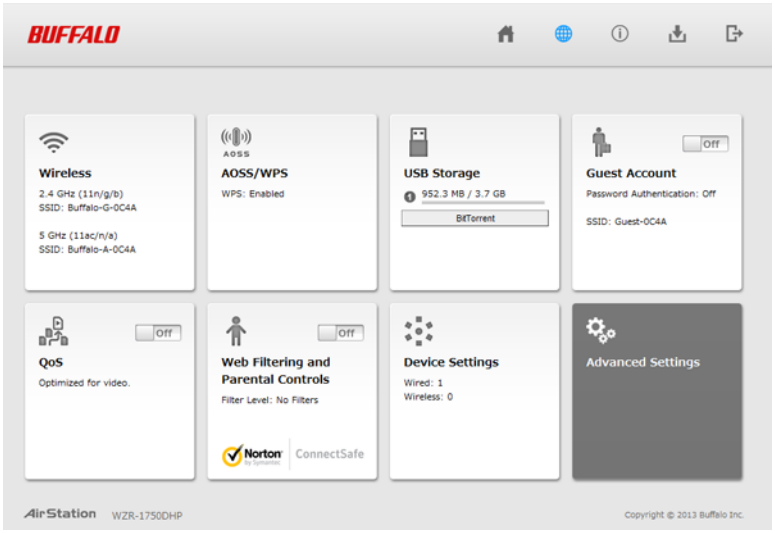
Chapter 2 - Settings

Settings lets you change advanced settings for the AirStation.

Easy Admin

Home

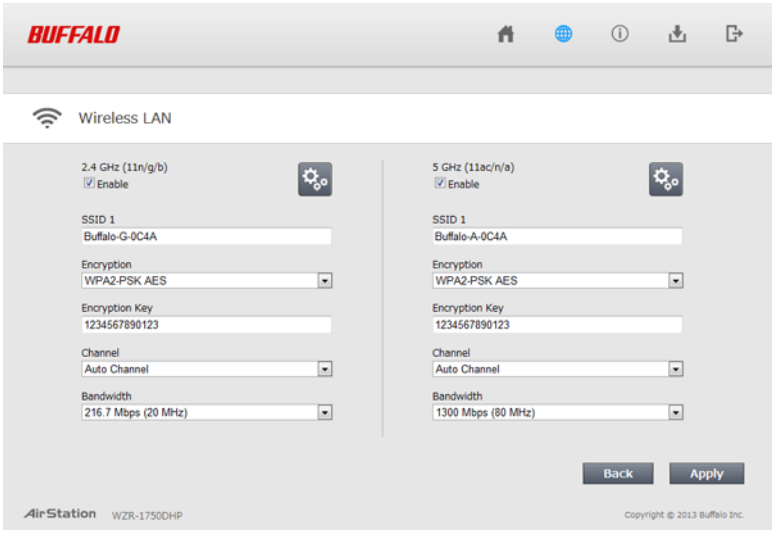
When you first open Settings, the Easy Admin page is shown. From this page you can easily configure common settings. The examples below assume the AirStation is in router mode.



Parameter	Meaning
Wireless	Displays current wireless status. Click the panel to configure wireless settings.
AOSS/WPS	Displays current AOSS/WPS status. Click the panel to run AOSS/WPS.
USB Storage	Displays the status of USB storage connected to this product. Click the panel to configure USB storage settings.
Guest Account	Displays current guest account status. Click the slider to turn guest account on or off. Click the panel to configure guest account settings.
QoS	Displays current QoS status. Click the slider to turn QoS on or off. Click the panel to configure priority control QoS.
Web Filtering and Parental Controls	Displays current content filter status. Click the slider to turn web filtering and parental controls on or off. Click the panel to configure web filtering and parental controls.
Device Settings	Displays the number of devices connected to the network. Click the panel to check each devices status.
Advanced Settings	Click the panel to configure advanced settings.

Wireless

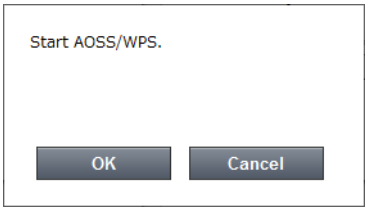
Configure basic wireless settings. This mode is available in router and access point mode only.



Parameter	Meaning
2.4 GHz (11n/g/b) **5 GHz (11ac/n/a)**	You may enable or disable either wireless frequency range independently. If both wireless radios are disabled, the AirStation will not communicate wirelessly.
SSID 1	Each SSID may contain up to 32 alphanumeric characters.
Encryption	The following types of encryption are available: **WPA2-PSK AES** WPA2 authentication with AES encryption is the best system available. Highly recommended if all your wireless clients support it. **WPA-PSK AES** WPA authentication with AES encryption is an older system, but still secure. **WPA/WPA2-mixed PSK TKIP+AES** For maximum compatibility, this system allows any combination of WPA, WPA2, TKIP, and AES. This encryption system works with most older clients but is not very secure. **No Encryption** No encryption means that anyone can log in to your wireless network, snoop on your wireless traffic, and use your bandwidth. Not recommended for most users.
Encryption Key	The encryption key is like the "password" for your wireless network. It may contain 8 to 63 case-sensitive alphanumeric characters (ASCII) or 64 hexadecimal characters (0-9 and a-f, not case-sensitive).
Channel	For best results, select [Auto Channel]. The AirStation will seek and use the clearest channel automatically. Alternately, you may choose a wireless channel manually.
Bandwidth	In rural areas with little wireless traffic, a larger bandwidth setting may improve wireless performance significantly. However, if you are in an urban area with much wireless traffic and interference, the default bandwidth is recommended.

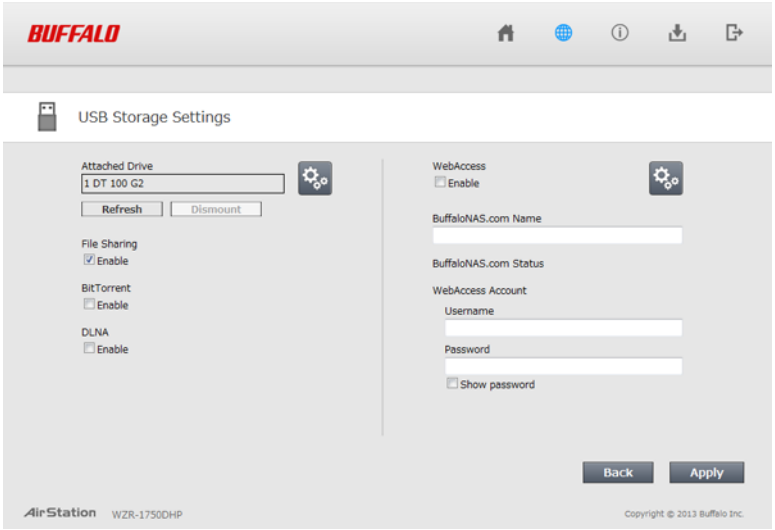
AOSS/WPS

The following window appears when you click the panel. Click [OK] to start AOSS/WPS.



USB Storage

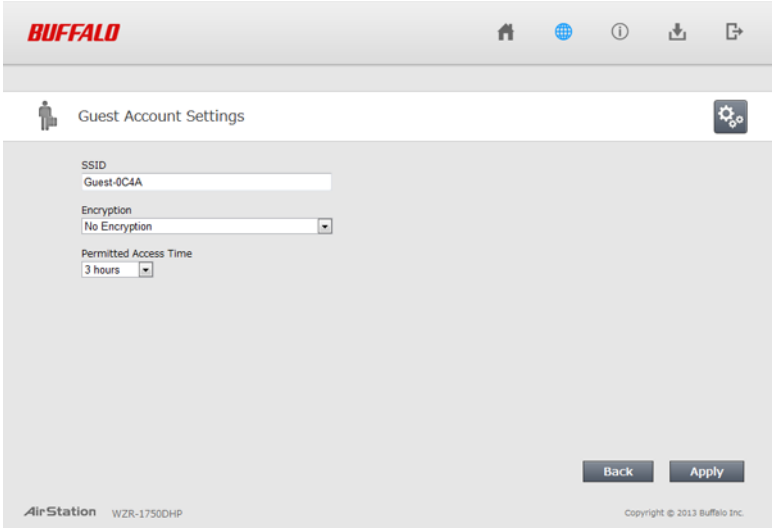
Configure USB storage settings.



Parameter	Meaning
Attached Drive	The names of USB devices connected to this product.
File Sharing	Enable or disable file sharing.
BitTorrent	Enable or disable BitTorrent.
DLNA	Enable or disable the media server.
WebAccess	Enable or disable WebAccess.
BuffaloNAS.com Name	This name may contain 3 to 20 alphanumeric characters, hyphens (-) and underscores (_). The AirStation will be registered by this name at BuffaloNAS.com.
BuffaloNAS.com Status	If the status shows [Registration failure], check your BuffaloNAS.com settings.
Username	The WebAccess username may contain up to 20 alphanumeric characters, hyphens (-), underscores (_) and periods (.). Don't use a symbol as the first character.
Password	The WebAccess password may contain up to 20 alphanumeric characters, hyphens (-), underscores (_) and periods (.). It should not be blank. Don't use a symbol as the first character.

Guest Account

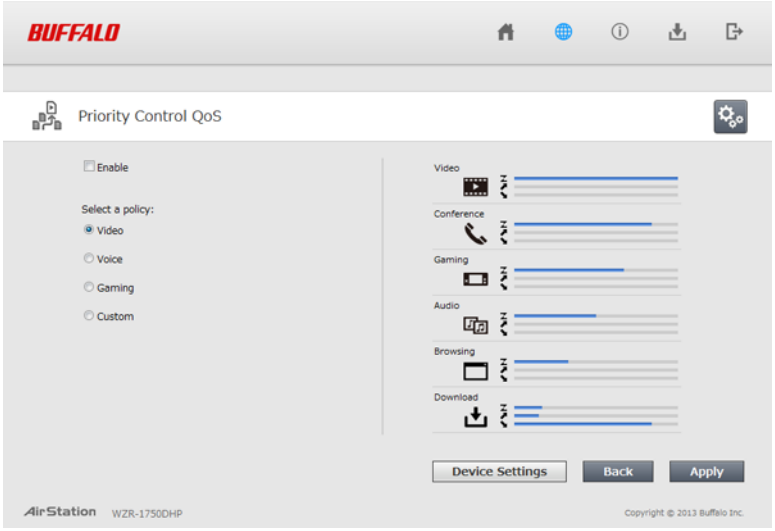
Configure guest account settings. This mode is available in router and access point mode only.



Parameter	Meaning
SSID	The SSID for the guest account may contain up to 32 alphanumeric characters.
Encryption	Select an encryption mode for the guest account.
Permitted Access Time	This is the amount of time that guests will be permitted to access the Internet.

QoS

Configure QoS settings. This mode is available in router mode only.

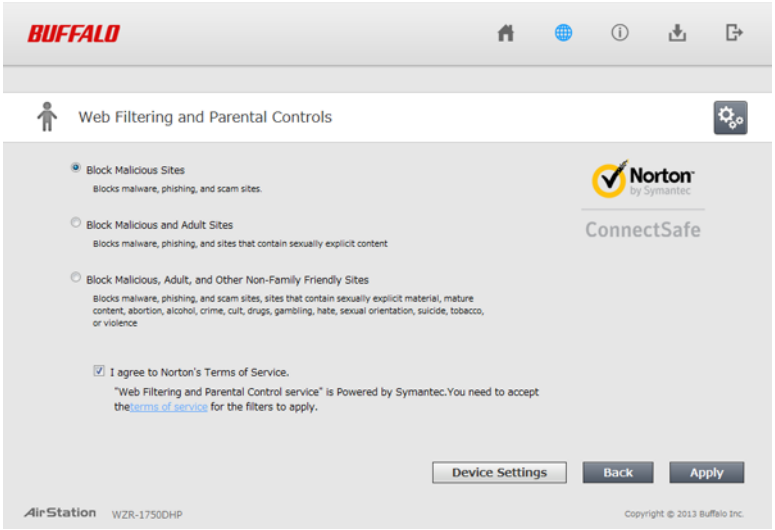


Parameter	Meaning
Enable	Enable or disable QoS.

Parameter	Meaning
Select a policy	Select a policy for communication. Network bandwidth will be optimized for the selected item.
Traffic Monitor	You can check each item's communication status. : Priority : Upload speed : Download speed

Web Filtering and Parental Controls

Configure web filtering and parental controls. This mode is available in router mode only.



Parameter	Meaning
Block Malicious Site	Blocks malware, phishing, and scam sites.
Block Malicious and Adult Sites	Blocks malware, phishing, and sites that contain sexually explicit content.
Block Malicious, Adult, and Other Non-Family Friendly Sites	Blocks malware, phishing, and scam sites, sites that contain sexually explicit material, mature content, abortion, alcohol, crime, cult, drugs, gambling, hate, sexual orientation, suicide, tobacco, and violence.
I agree to Norton's Terms of Service	Parental controls are provided by Symantec Corporation. To enable, you must accept the terms of service.

Norton ConnectSafe must be activated by customer. Use of Norton ConnectSafe is subject to the Terms of Service found at https://dns.norton.com/dnsweb/terms.do

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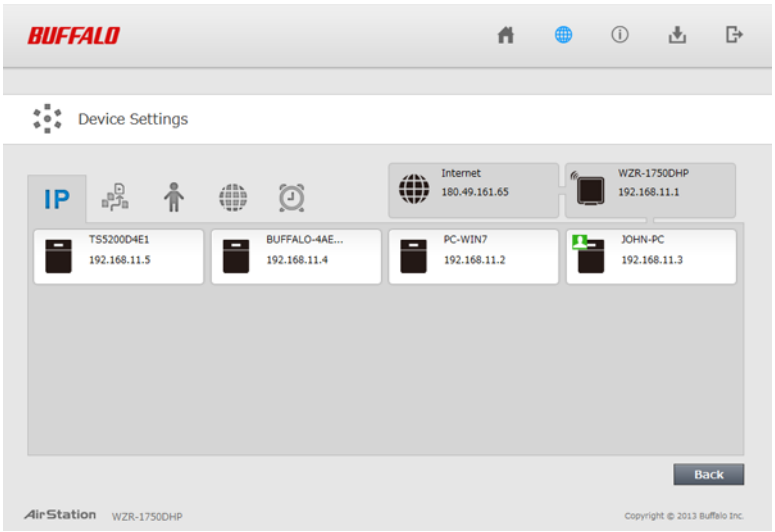
Device Settings

Check the status of each device connected to the network. This mode is available in router mode only.

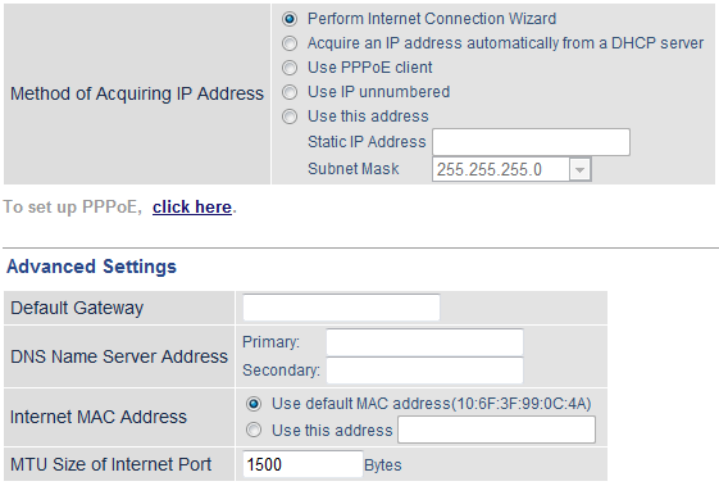


Parameter	Meaning
IP	Displays the IP address of each device connected to this product.
	Displays uploading and downloading speed of each device connected to this product.
	Displays the devices connected to the AirStation.
	Click the appropriate icon to open each device's settings.
	Click the icon to send a Wake-on-LAN packet to the device.

Internet

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

Internet -> Internet (Router Mode Only)

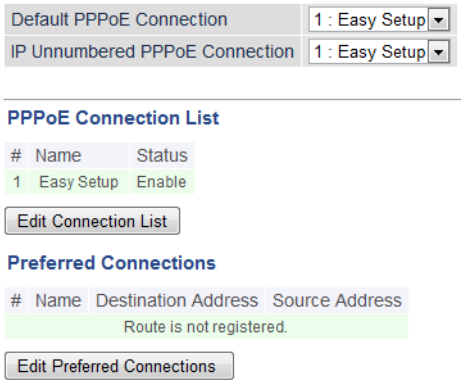


Parameter	Meaning
Method of Acquiring IP Address	Specify how the WAN-side IP address is obtained.
Default Gateway	Configure an IP address for the default gateway.
DNS Name Server Address	Specify an IP address for the DNS server.
Internet MAC Address	You may use the default MAC address or specify one 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 value of the Internet port. Values of 578 to 1500 bytes may be entered.

PPPoE

Configure PPPoE settings.

Internet -> PPPoE (Router Mode Only)



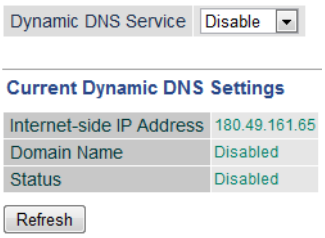
Parameter	Meaning
Default PPPoE Connection	If you have registered multiple connection destinations in the [PPPoE Connection List], connection destinations selected here have priority.
IP Unnumbered PPPoE Connection	Select the destination from the [PPPoE Connection List] which is used when [Use IP Unnumbered] is chosen for 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	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. **Authentication** Configure an authentication 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. **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. If the server does not respond for more than 6 minutes, the line is recognized as disconnected and the AirStation will terminate the connection. Disabled by default.
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].

Dynamic DNS

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

Internet -> Dynamic DNS (Router Mode Only)

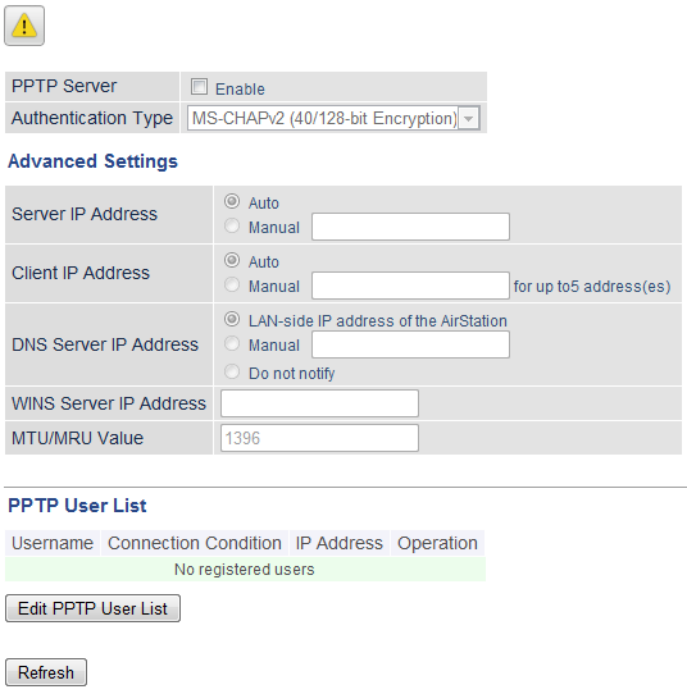


Parameter	Meaning
Dynamic DNS Service	Select a provider (DynDNS or TZO) for dynamic DNS.
Username	Enter the dynamic DNS username. You may enter up to 64 alphanumerical characters and symbols.
Password	Enter the dynamic DNS password. You may enter up to 64 alphanumerical characters and symbols.
Hostname	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.
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 the dynamic DNS service.

PPTP

Configure the VPN server.

Internet -> PPTP (Router Mode Only)



Parameter	Meaning
PPTP Server	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	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 **Advanced Settings**	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. **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.

NAT

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

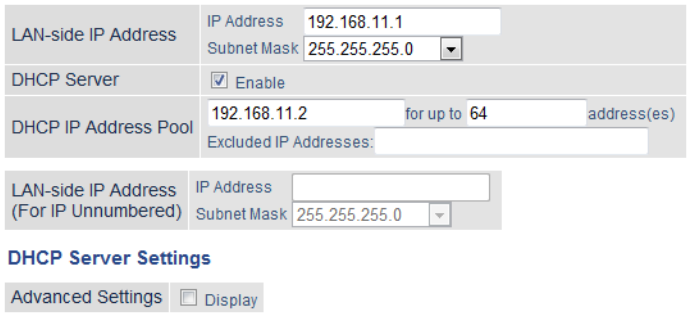
Internet -> NAT (Router Mode Only)

Parameter	Meaning
Address Translation	Enable to use network address translation.

LAN

Configure LAN-side and DHCP server settings.

LAN -> LAN



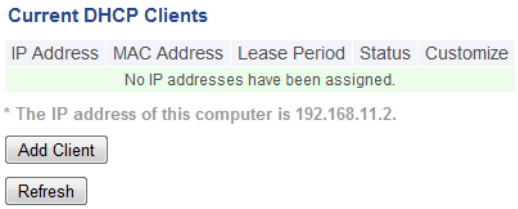
Parameter	Meaning
LAN-side IP Address	By default, the LAN-side IP address is 192.168.11.1 with subnet mask 255.255.255.0. You may change it here.
DHCP Server	Enable or disable the DHCP server, which assigns LAN-side IP addresses automatically.
DHCP IP Address Pool	Configure the range of IP addresses 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 each other.
Advanced Settings	Check [Display] to display DHCP server advanced settings options.
Lease Period	Set the effective period of an IP address assigned by the DHCP server. Up to 999 hours may be entered.

Parameter	Meaning
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 127 alphanumerical characters, hyphens, and periods.

DHCP Lease

Configure DHCP exceptions.

LAN -> DHCP Lease (Router Mode Only)

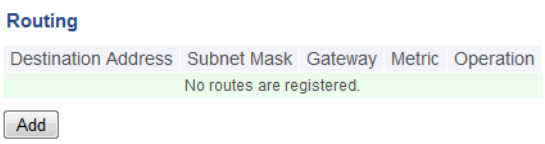


Parameter	Meaning
Current DHCP Clients	Displays information for current leases. An IP address which is leased automatically can be changed to manual leasing by clicking [Add Client].

Routing

Configure the AirStation's IP communication route.

LAN -> Routing

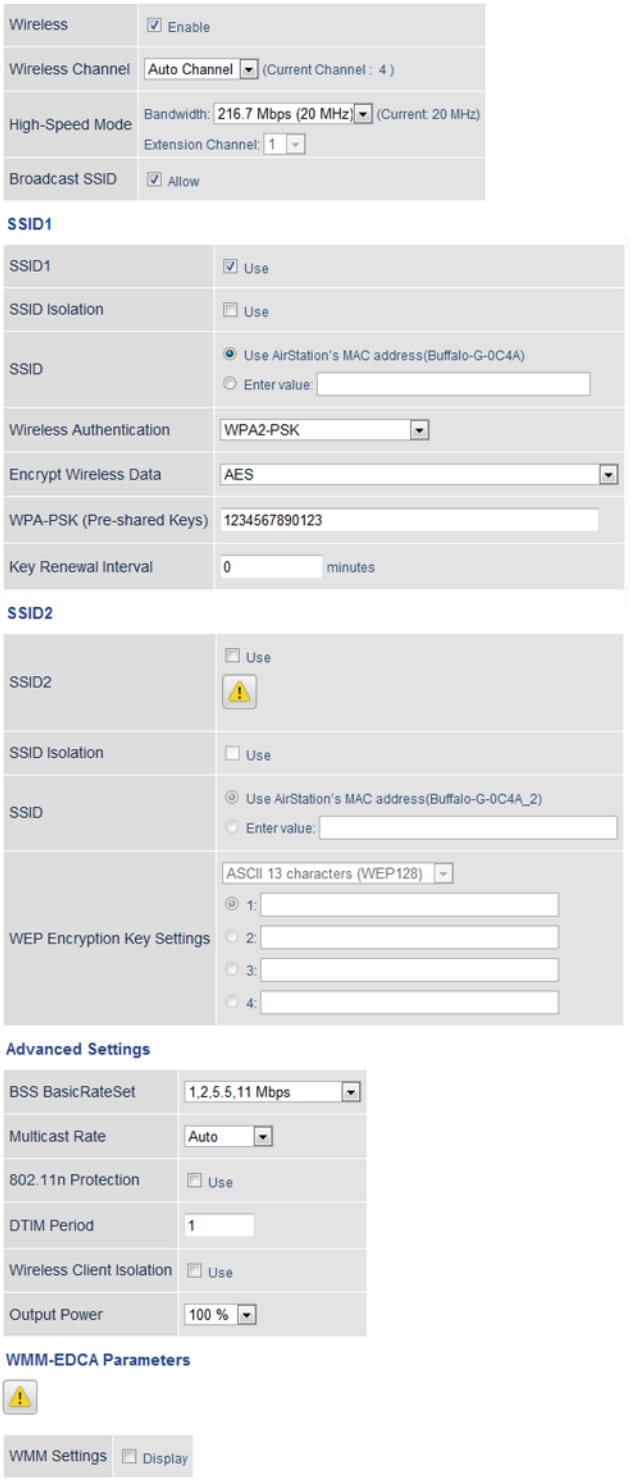


Parameter	Meaning
Routing	Manual entries will appear here after being added.

2.4 GHz

Configure basic wireless settings from here.

Wireless -> 2.4 GHz



Parameter	Meaning
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. With [Auto Channel] selected, the AirStation will automatically use the best available channel.
High-Speed Mode	Configure the bandwidth for wireless communication. To increase communication rate, set the bandwidth to 450 Mbps (40 MHz) and configure extension channel.
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 **SSID 2**	Enable or disable the main SSID (SSID 1) and sub SSID (SSID 2).
SSID Isolation	Enable to make wireless devices connected to the specified SSID be able to communicate only with the Internet-side.
Wireless Authentication	Select an authentication method for SSID 1 from below: **WPA/WPA2-mixed mode PSK** Allows the authentication compatible with WPA-PSK and WPA2-PSK at the same time. **WPA2-PSK** Allows the authentication compatible with WPA2 (IEEE 802.11i). **WPA-PSK** Allows the authentication compatible with WPA (Wi-Fi Protected Access). **No Authentication** Connect to wireless clients without any authentication method.
Encrypt Wireless Data	You may use any of the following types of encryption: **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. **AES** AES is more secure than TKIP, and faster. Use a pre-shared key to communicate with a wireless device. AES can be selected only when WPA-PSK or WPA2-PSK is selected for wireless authentication. **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.
WPA-PSK (Pre-Shared Keys)	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).
WEP Encryption Key Settings	A WEP encryption key (passphrase) may have any of four different formats. An ASCII passphrase may use either 5 or 13 alphanumeric characters (case-sensitive). A hexadecimal passphrase may use either 10 or 26 alphanumeric characters (0 to 9 and a to f, not case-sensitive).
BSS BasicRateSet	BSS (basic service set) configures the transmission rate of control communication frames for a wireless client. Setup choices may vary with different wireless clients.

Parameter	Meaning
Multicast Rate	Set the communication speed of multicast packets.
802.11n Protection	Enable to use 802.11n protection. 802.11n protection gives priority to 802.11n devices in mixed mode (11b/g or 11a) networks.
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	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 Settings	Check [Display] to set priorities only for a specific communication.
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.

5 GHz

Configure basic wireless settings from here.

Wireless -> 5 GHz

Wireless	☑ Enable
Wireless Channel	Auto Channel (Current Channel : 161)
High-Speed Mode	Bandwidth: 1300 Mbps (80 MHz) (Current: 80 MHz)
Broadcast SSID	☑ Allow

SSID1

SSID1	☑ Use
SSID Isolation	☐ Use
SSID	◉ Use AirStation's MAC address(Buffalo-A-0C4A) ○ Enter value:
Wireless Authentication	WPA2-PSK
Encrypt Wireless Data	AES
WPA-PSK (Pre-shared Keys)	1234567890123
Key Renewal Interval	0 minutes

SSID2

SSID2	☐ Use ⚠
SSID Isolation	☐ Use
SSID	◉ Use AirStation's MAC address(Buffalo-A-0C4A_2) ○ Enter value:
WEP Encryption Key Settings	ASCII 13 characters (WEP128) ◉ 1: ○ 2: ○ 3: ○ 4:

Advanced Settings

BSS BasicRateSet	6,12,24 Mbps
Multicast Rate	Auto
802.11n Protection	☐ Use
DTIM Period	1
Wireless Client Isolation	☐ Use
Output Power	100 %

WMM-EDCA Parameters

⚠

WMM Settings	☐ Display

Parameter	Meaning
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. With [Auto Channel] selected, the AirStation will automatically use the best available channel. If a channel compatible with DFS is selected, the channel will be changed automatically when a weather radar is detected.
High-Speed Mode	Configure the bandwidth for wireless communication. To increase communication rate, set the bandwidth to 1300 Mbps (80 MHz) and configure extension channel.
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 **SSID 2**	Enable or disable the main SSID (SSID 1) and sub SSID (SSID 2).
SSID Isolation	Enable to make wireless devices connected to the specified SSID be able to communicate only with the WAN-side.
Wireless Authentication	Select an authentication method for SSID 1 from below: **WPA/WPA2-mixed mode PSK** Allows the authentication compatible with WPA-PSK and WPA2-PSK at the same time. **WPA2-PSK** Allows the authentication compatible with WPA2 (IEEE 802.11i). **WPA-PSK** Allows the authentication compatible with WPA (Wi-Fi Protected Access). **No Authentication** Connect to wireless clients without any authentication method.
Encrypt Wireless Data	You may use any of the following types of encryption: **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. **AES** AES is more secure than TKIP, and faster. Use a pre-shared key to communicate with a wireless device. AES can be selected only when WPA-PSK or WPA2-PSK is selected for wireless authentication. **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.
WPA-PSK (Pre-Shared Keys)	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).

Parameter	Meaning
WEP Encryption Key Settings	A WEP encryption key (passphrase) may have any of four different formats. An ASCII passphrase may use either 5 or 13 alphanumeric characters (case-sensitive). A hexadecimal passphrase may use either 10 or 26 alphanumeric characters (0 to 9 and a to f, not case-sensitive).
BSS BasicRateSet	BSS (basic service set) configures the transmission rate of control communication frames for a wireless client. Setup choices may vary with different wireless clients.
Multicast Rate	Set the communication speed of multicast packets.
802.11n Protection	Enable to use 802.11n protection. 802.11n protection gives priority to 802.11n devices in mixed mode (11b/g or 11a) networks.
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	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 Settings	Check [Display] to set priorities only for a specific communication.
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.

WPS

WPS status and settings.

Wireless -> WPS (Router and Access Point Mode Only)

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.

AOSS

AOSS status and settings.

Wireless -> AOSS (Router and Access Point Mode Only)

AOSS Settings

AOSS Status	In use
Allow WEP for Game Consoles Only	802.11ac/n/a ☐ Enable 802.11n/g/b ☐ Enable
AOSS Button on The AirStation Unit	☑ Enable

AOSS Client Information

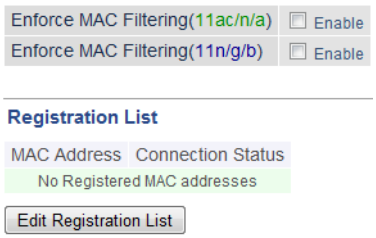
Name	MAC Address	Encryption Type	Wireless	AOSS
MacBook	90:27:E4:F1:2A:4B	WEP64/WEP128 WPA-PSK-TKIP (802.11ac/n/a) WPA-PSK-AES WEP64/WEP128 WPA-PSK-TKIP (802.11n/g/b) WPA-PSK-AES	-	AOSS

Parameter	Meaning
AOSS Status	Displays current AOSS status. Click to disconnect AOSS connection when it is enabled. (SSID and encryption key will return to the previous setting.)
Allow WEP for Game Consoles Only	This allows game consoles which only support WEP to connect to the network.
AOSS Button on The AirStation Unit	If [Enable] is unchecked, only WPS runs when you press the button.
AOSS Client Information	Displays the information of the clients connected to this product via AOSS and communicating with this product wirelessly. **Name** Displays the name of the clients. **MAC Address** Displays the MAC address of the clients. **Encryption Type** Displays the encryption type the clients can use. **Wireless** Displays current wireless method.

MAC Filtering

Restrict access to specific wireless devices.

Wireless -> MAC Filtering



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.
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.
Connected Client's List	Display the list of all MAC addresses of wireless devices connected to the AirStation.

Multicast Control

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

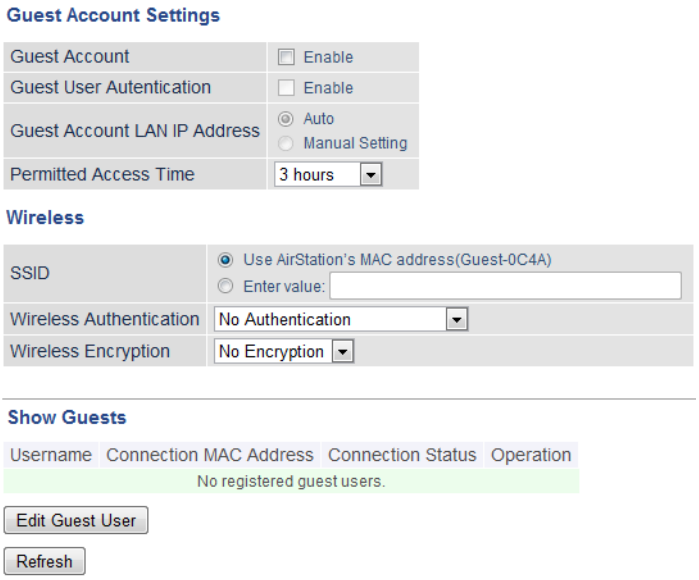
Wireless -> Multicast Control

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.

Guest Account

Configure the AirStation's guest account.

Wireless -> Guest Account (Router and Access Point Mode Only)

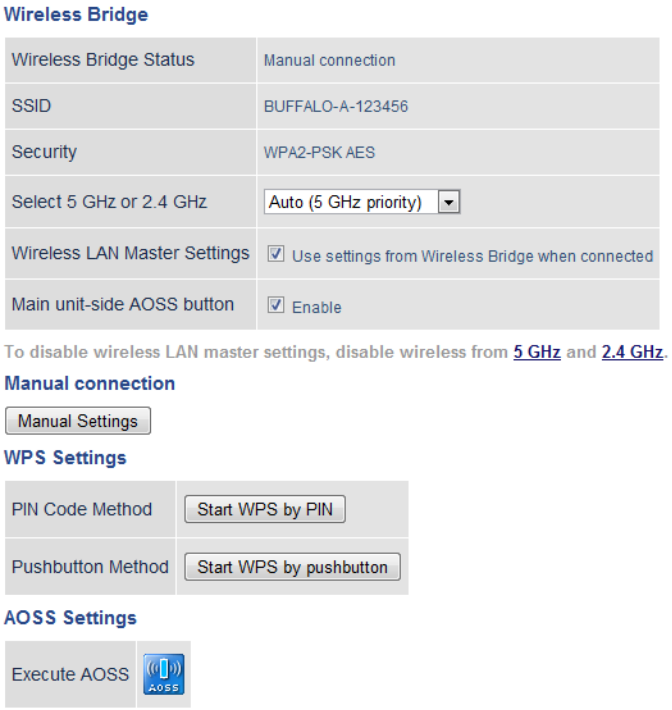


Parameter	Meaning
Guest Account	Enable or disable the guest account.
Guest User Authentication	This sets whether authentication is performed for users who use the guest account.
Guest Account LAN IP Address	This sets the LAN-side IP address for the guest account.
Guest Account DHCP Server	This sets whether IP addresses are automatically assigned for devices connected to the guest account.
Permitted Access Time	Set the time frame for Internet access for the guest account.
SSID	This sets the SSID for the guest account.
Wireless Authentication	This sets whether wireless authentication is performed for the guest account.
Wireless Encryption	This sets the wireless encryption system for the guest account.
WPA-PSK(Pre-shared Key)	This sets the wireless encryption key for the guest account.
Key Renewal Interval	Set the update interval for the encryption key for the guest account.
Edit Guest User	Click to register a user who is using the guest account.
Username	This sets the name of the user using the guest account.
Password	This sets the password of the user using the guest account.

Wireless Bridge

Configure the AirStation's wireless bridge.

Wireless -> Wireless Bridge (Wireless Bridge Mode Only)

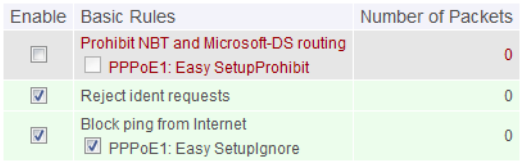


Parameter	Meaning
Wireless Bridge Status	Displays wireless bridge status.
SSID	Displays the master's SSID.
Security	Displays the type of security used by connection with the master.
Select 5 GHz or 2.4 GHz	Set the priority for the connection with the master.
Wireless LAN Master Settings	When checked, the AirStation will use the wireless settings of the master device.
Main unit-side AOSS Button	Uncheck [Enable] to disable AOSS and WPS.
Manual Settings	Click to search master devices. Select a master device and enter the encryption key.
PIN Code Method	Click [Start WPS by PIN] to issue PIN code and search master devices. Select a master device and click [Run PIN] to start WPS. Register PIN code to the destination master device within 2 minutes.
Pushbutton Method	Click [Start WPS by pushbutton] to start WPS. Press master device's AOSS/WPS button within 2 minutes.
Execute AOSS	Click AOSS to start AOSS. Press master device's AOSS/WPS button within 2 minutes.

Firewall

Configure the AirStation's firewall.

Security -> Firewall (Router Mode Only)

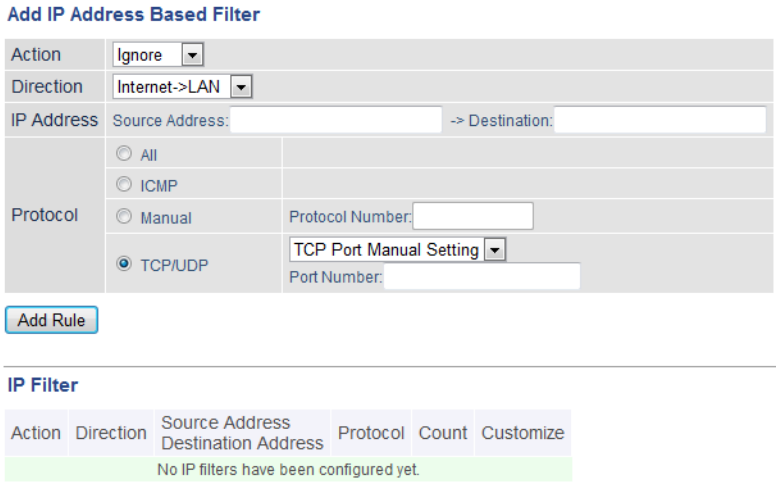


Parameter	Meaning
Basic Rules	Enable to use any of the quick filters. Preconfigured quick filters include: **Prohibit NBT and Microsoft-DS routing** Enabling this blocks communication using these protocols from the WAN side to the LAN side or from the LAN side to the Internet. You can configure this with PPPoE if you select [Use PPPoE client] or [Use IP Unnumbered] for 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 Internet side. You can configure this with PPPoE if you select [Use PPPoE client] or [Use IP Unnumbered] for the method of acquiring an IP address, or if Easy Setup identified a PPPoE connection during setup.

IP Filter

Edit IP filters.

Security -> IP Filter (Router Mode Only)

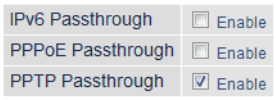


Parameter	Meaning
Action	Specify how to process target packets.
Direction	Specify the transmission direction of target packets.
IP Address	Specify the sender's IP address and receiver's IP address of the target packets.
Protocol	Select a protocol for target transmission packet.
IP Filter	Display the list of IP filters which have been registered.

VPN Passthrough

Configure IPv6 passthrough, PPPoE passthrough, and PPTP passthrough.

Security -> VPN Passthrough (Router Mode Only)

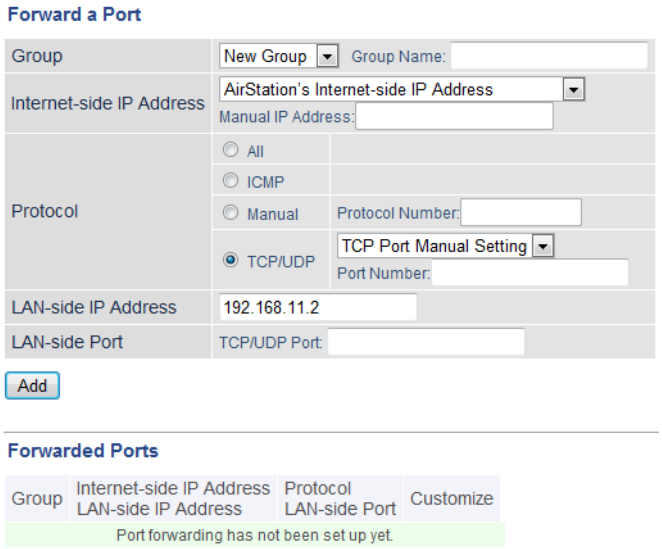


Parameter	Meaning
IPv6 Passthrough	Enable to use IPv6 Passthrough for address translation.
PPPoE Passthrough	Enable to use PPPoE bridging. PPPoE bridging lets you automatically obtain an IP address from your provider for your LAN-side computer using the PPPoE protocol because PPPoE packets can pass between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

Port Forwarding

Configure port translation.

Security -> Port Forwarding (Router Mode Only)

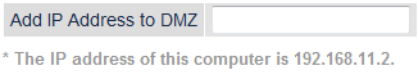


Parameter	Meaning
Group	Specify a group name for a new rule to belong to. Select [New Group] and enter the new group name in the Group Name field to create a new group. A group name can include up to 16 alphanumeric characters.
Internet-side IP Address	Enter the Internet-side IP address (before translation) for the port translation table entry.
Protocol	Select the Internet-side protocol (before translation) for the port translation table entry.
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 for packets that don't have a LAN-side destination.

Security -> DMZ (Router Mode Only)



Parameter	Meaning
Add IP Address to 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

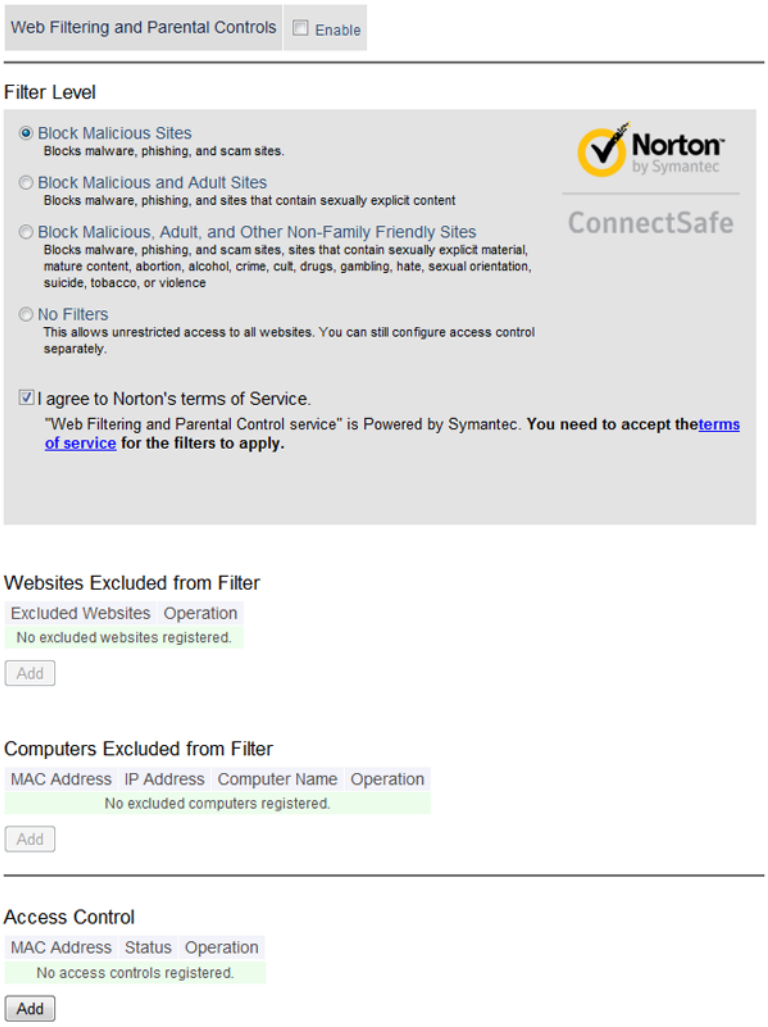
Configure UPnP (universal plug and play).

Security -> UPnP (Router Mode Only)

Parameter	Meaning
UPnP	Enable or disable universal plug and play (UPnP) functionality.

Web Filtering and Parental Controls

Security -> Web Filtering and Parental Controls (Router Mode Only)



Norton ConnectSafe must be activated by customer. Use of Norton ConnectSafe is subject to the Terms of Service found at

https://dns.norton.com/dnsweb/terms.do .

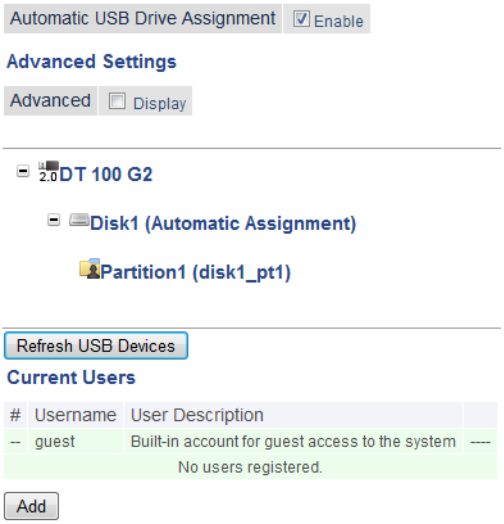
Parameter	Meaning
Web Filtering and Parental Controls	Enable or disable content filter functionality.
Filter Level	Select filter level. Level 3 is selected by default.
Websites Excluded from Filter	Specify a list of websites that will be unaffected by the web filtering and parental controls. Click [Add] and enter any website (up to 20 are allowed). You can edit or delete entered entries.

Parameter	Meaning
Computers Excluded from Filter	Set a list of computers on the network that will be unaffected by the web filtering and Parental Controls. Click [Add] and enter a computer's MAC address (up to 20 are allowed). You can edit or delete entered entries.
Access Control	Select the computers on the network that will be subjected to the web filtering and parental controls. Under target computer, enter the computer's MAC address and click [Add] to save it to the access control list.

Disk Management

View the status of and configure attached USB drives.

Applications -> Disk Management



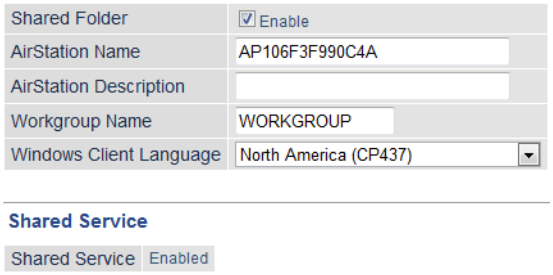
Parameter	Meaning
Automatic USB Drive Assignment	Enable or disable automatic USB drive assignment.
Advanced	Check [Display] to display the advanced functionality.
Character Code for FAT	Specify the file name character code used for FAT-formatting.
Sleep Mode	Enable or disable sleep mode.
Sleep Mode Interval	When the device is not used until the specified time frame, the device power will be off. You can specify the time frame from 1 to 300 minutes.
Device	Displays the manufacturer, product name and unit name of the connected USB devices.
Disk Assignment	Select a number of the drive or [Do not assign].
Partition Information	Displays partition information.
Refresh USB Devices	Refreshes USB devices.
Modify Shared Folder	Displays when you select a partition and click [Setting Changes]. Restricts the access to the USB devices.
Shared Folder Name	The shared folder name may contain up to one-byte 18 alphanumeric characters, each region's characters, hyphens (-) and underscores (_). Do not use a symbol as the first character.

Parameter	Meaning
Shared Folder Description	The shared folder description may contain up to one-byte 75 alphanumeric characters, each region's characters, hyphens (-) and underscores (_).
Drive Partition Area	Displays [Select], [Drive Partition Area], [Format] and [Used/Available] of devices and partitions.
Disclosed to	Select the functions used by registered shared folder.
Access Restrictions	Configure access restriction settings by username.
WebAccess	If checked, WebAccess users will have the same permission via WebAccess that they do locally. If unchecked, WebAccess users will have the permission as read-only.
Current Users	Displays the registered user information.
Add	Click it to register new user.
Username	Enter an username to access the shared folder. You can enter 1 to 20 alphanumeric characters, hyphens (-), underscores (_) and periods (.). Do not use a symbol as the first character.
Password	Enter the password to access the shared folder. You can enter 1 to 20 alphanumeric characters, hyphens (-), underscores (_) and periods (.). Do not use a symbol as the first character.
User Description	The user description may contain up to one-byte 75 alphanumeric characters, each region's characters, one-byte spaces, hyphens (-) and underscores (_).

Sharing

Assign AirStation and workgroup names to access shared folders.

Applications -> Sharing

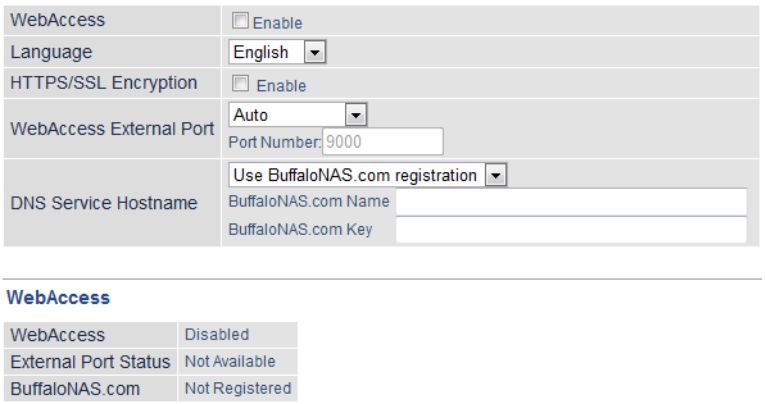


Parameter	Meaning
Shared Folder	Enable to make a USB drive available on your local network.
AirStation Name	Rename your AirStation if desired. Up to 15 alphanumeric characters, spaces, and hyphens (-) may be used. The AirStation name is also used as the hostname that will be used with the shared service. The shared service may not be available if 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 drive that is used with the shared service.

WebAccess

Configure WebAccess.

Applications -> WebAccess

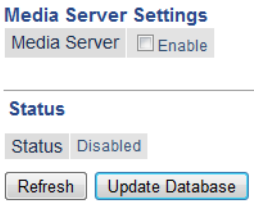


Parameter	Meaning
WebAccess	Check [Enable] to use WebAccess.
Language	Set the language to be used with WebAccess.
HTTPS/SSL Encryption	Check [Enable] to use SSL encryption for protected data transfer.
WebAccess External Port	Automatically sets the external port used for WebAccess. To select the port manually, select [Manual].
DNS Service Hostname	Sets the DNS service hostname when WebAccess is activated. Select [Use BuffaloNAS.com registration] to use WebAccess easily. You'll have to configure a [BuffaloNAS.com name] and [BuffaloNAS.com 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.
WebAccess	Displays the status of WebAccess.
External Port Status	Displays the status of the external port.
BuffaloNAS.com	Displays the status of BuffaloNAS.com.

Media Server

Media Server settings.

Applications -> Media Server

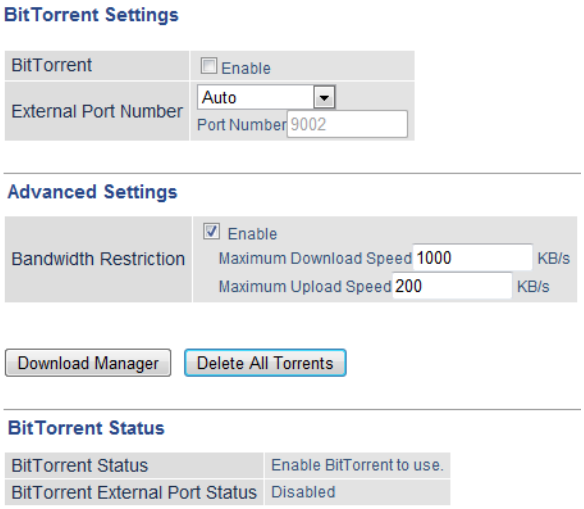


Parameter	Meaning
Media Server	Enable to use the media server.
Status	Displays the status of the media server.

BitTorrent

Configure the BitTorrent client.

Applications -> BitTorrent



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.
Bandwidth Restriction	Set a bandwidth limit for BitTorrent.

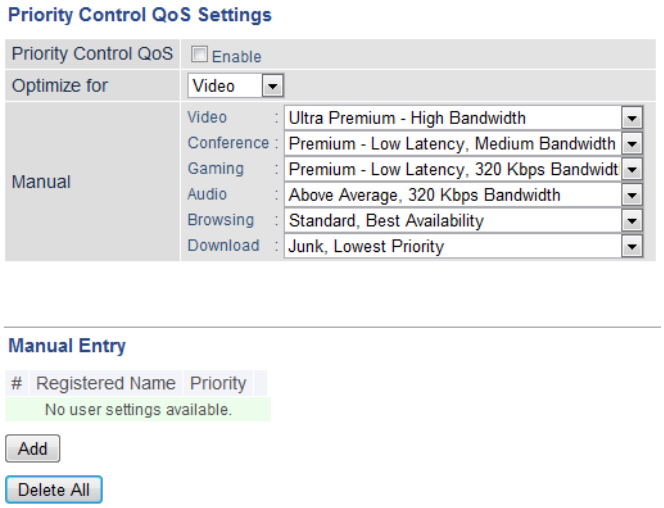
Parameter	Meaning
Download Manager	Displays the BitTorrent download manager screen. Add a torrent, then click [Add] to download the file(s).
Delete All Torrents	Deletes all files, including the torrent files and files which are currently downloading. Downloaded files are not deleted.
BitTorrent Status	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.

QoS

Configure priority control QoS settings and check the status.

Applications -> QoS (Router Mode Only)

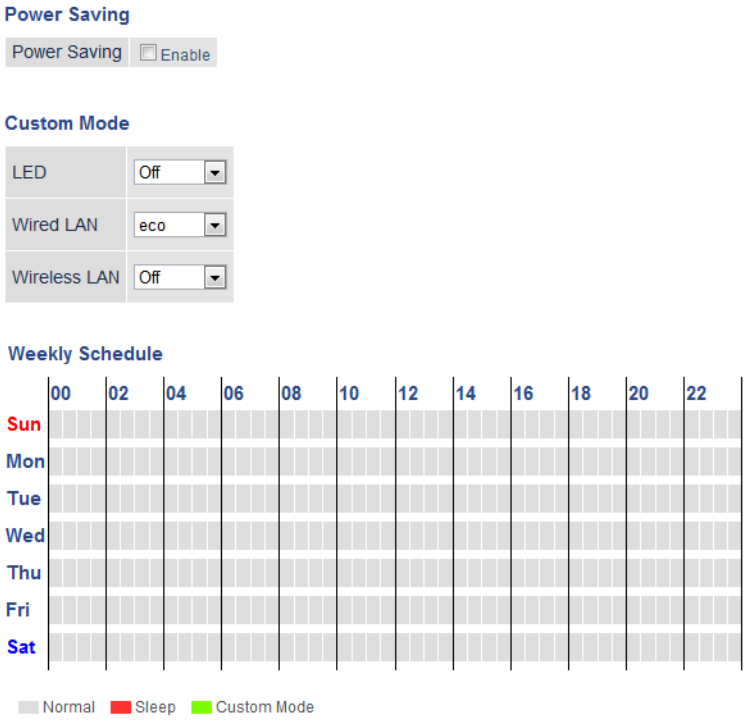


Parameter	Meaning
Priority Control QoS	Enable or disable QoS.
Optimize for	Select a policy for communication.
Manual	These settings will be used when [Manual] is selected from the [Optimize for] field above.
Manual Entry	Displays manually registered rule information.
Add	Click to register new user. You can register up to 20 users.
Name	Enter the name of the setting.
Priority	Select a priority for the setting.
Protocol	Select a target protocol.
Remote Settings	Specify the WAN-side server setting.
Local Settings	Specify the LAN-side device.

eco Mode

Configure eco Mode from this screen.

Applications -> eco Mode



Parameter	Meaning
Power Saving	Enable to schedule eco Mode. If eco Mode is enabled, AOSS will function only when the AirStation is in normal operating mode.
Custom Mode	Individual power saving elements may be configured for custom mode.
Weekly Schedule	Graphically displays the configured schedule.
Schedule Entry	Configure operational mode for time periods in the weekly schedule.

Network USB

Network USB allows a computer on the wired or wireless LAN to connect to a USB device connected to the AirStation as though it were directly connected to the computer. Printers connected in this way support 2-way communication, so ink-level notifications and similar functions will work normally. Only one computer can connect to the USB device at a time.

Note:
Network USB is recommended for printer use. Other USB devices are not supported at this time.

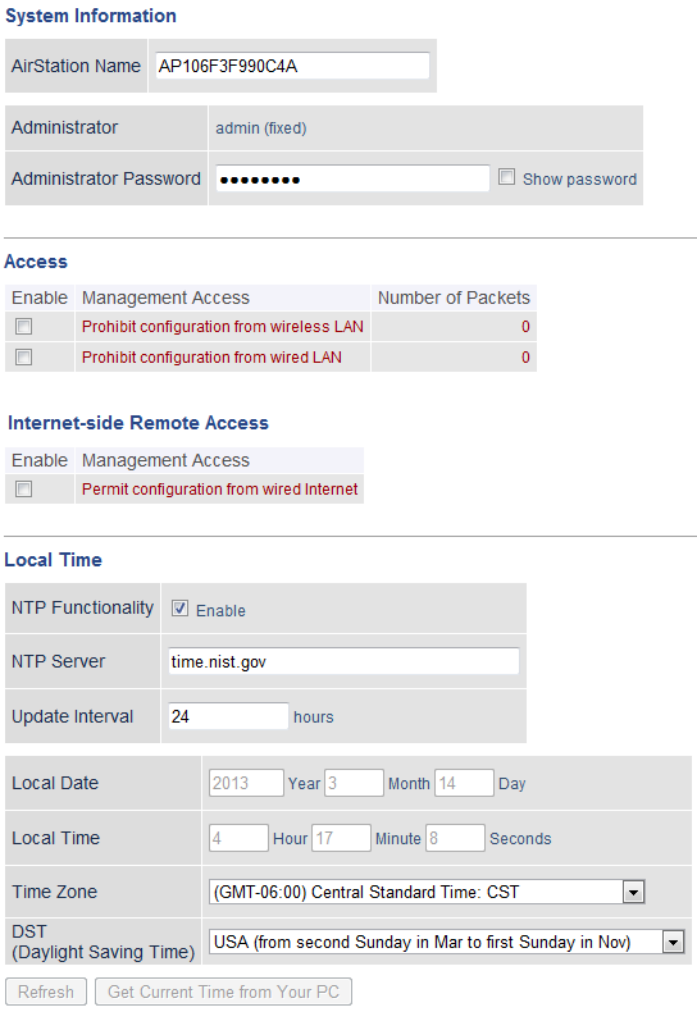
Applications -> Network USB

Parameter	Meaning
Network USB	The USB Device Server allows a computer on the wired or wireless LAN to connect to a USB device connected to the AirStation as though it were directly connected to the computer. Disable to reduce the load on the NAS, improve performance, or for security reasons.
Use Multifunction Printer	This uses a multifunction printer supporting mass storage classes as a printer. Disable if using as a NAS instead.

System

Configure basic AirStation settings.

Admin -> System



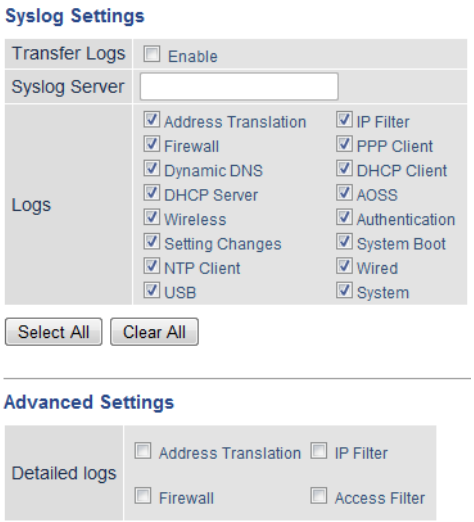
Parameter	Meaning
AirStation Name	Enter a name for the AirStation. Names may include up to 64 alphanumeric characters and hyphens (-).
Administrator	The name of the administrator account is “admin”.
Administrator Password	The administrator password may contain up to 8 alphanumeric characters and underscores (_).
Prohibit configuration from wireless LAN	If enabled, prevents access to configuration interface from wirelessly connected devices (only wired devices may configure).
Prohibit configuration from wired LAN	If enabled, prevents access to configuration interface from wired devices (only wirelessly connected devices may configure).
Permit configuration from wired Internet	If enabled, allows access to configuration interface from network devices on the WAN (Internet) side.

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

Syslog Settings

Transfer the AirStation's logs to a syslog server.

Admin -> Syslog Settings

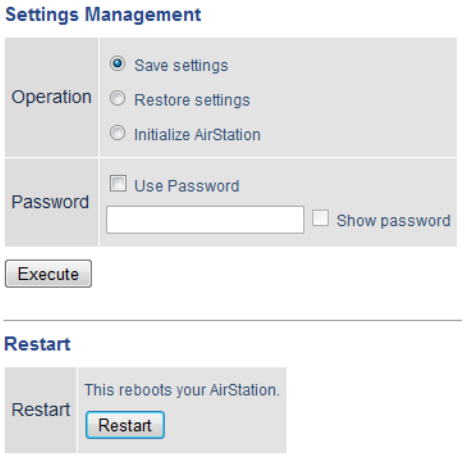


Parameter	Meaning
Transfer Logs	Enable to send logs to a syslog server.
Syslog Server	Identify the syslog server by hostname, hostname with domain name, or IP address. You may enter up to 255 alphanumeric characters and hyphens (-).
Logs	Choose which logs will be transferred to the syslog server.
Detailed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

Reset / Reboot

Save and restore this product's settings, and also initialize and restart this product.

Admin -> Reset / Reboot

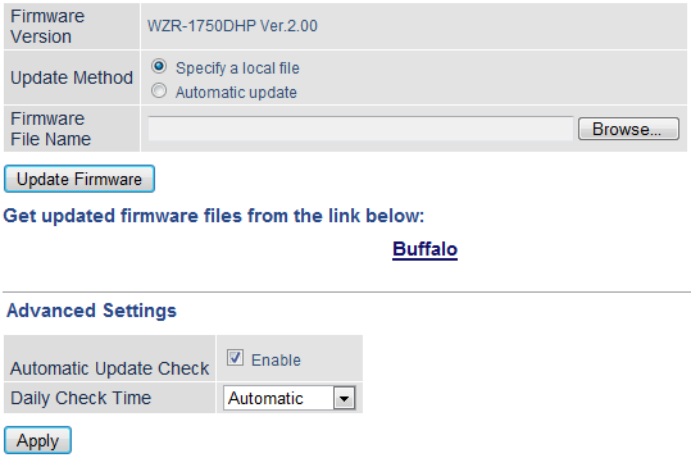


Parameter	Meaning
Operation	Select an operation. **Save settings** Save this product's settings to a file. Click [Execute]. You can encrypt the setting file by checking [Use Password] and clicking [Execute]. **Restore settings** Restore this product's settings from the setting file. Click [Browse...] and specify a setting file, then click [Execute]. If the setting file is encrypted, check [Use Password] and click [Execute]. **Initialize AirStation** Initialize and restart this product. Click [Execute].
Restart	Click it to restart this product.

Update

Update the AirStation's firmware.

Admin -> Update



Parameter	Meaning
Firmware Version	Displays the current firmware version of the AirStation.
Update Method	[Specify a local file] updates from a firmware file stored on your computer. [Automatic update] updates to the latest firmware automatically.
Firmware File Name	Click [Browse...] to navigate to the firmware file on your computer if [Specify a local file] is selected. You don't need to specify the firmware location if you're using [Automatic update]. Click [Update Firmware] to update the firmware.
Automatic Update Check	If enabled, you'll be notified in Settings when a new firmware is available.
Daily Check Time	This sets the interval for checking whether a new firmware version has been released.

System Information

View system information for the AirStation.

Status -> System Information

Model	WZR-1750DHP Version 2.02 (R1.02/B6.30.163-1.00-1.00)	
AirStation Name	AP106F3F990C4A	
Mode	Router Mode	
Internet	Method of Acquiring IP Address	Auto Detect Mode- PPPoE
	Name of Connection	Easy Setup (Default Connection)
	Connection Status	Online
	Operation	Stop
	IP Address	153.177.120.6
	PPP Server IP	118.23.61.140
	DNS1(Primary)	222.146.35.137 (Auto)
	DNS2(Secondary)	221.184.25.25 (Auto)
	MTU Size	1454
	Wired	1000Base-T (Full-duplex)
	MAC Address	10:6F:3F:99:0C:4A
LAN	IP Address	192.168.11.1
	Subnet Mask	255.255.255.0
	DHCP Server	Enabled
	MAC Address	10:6F:3F:99:0C:4A
Wireless(5 GHz)	Wireless Status	Enabled
	SSID1	Buffalo-A-0C4A
	Authentication	WPA2-PSK
	Encryption	AES
	Broadcast SSID	Enabled
	Wireless Client Isolation	Disabled
	Wireless Channel	161 (Auto)
	High-Speed Mode	80 MHz
	MAC Address	10:6F:3F:9A:0C:4A
Wireless(2.4 GHz)	Wireless Status	Enabled
	SSID1	Buffalo-G-0C4A
	Authentication	WPA2-PSK
	Encryption	AES
	Broadcast SSID	Enabled
	Wireless Client Isolation	Disabled
	Wireless Channel	4 (Auto)
	High-Speed Mode	20 MHz
	MAC Address	10:6F:3F:9B:0C:4A
Guest Account	Status	Disabled
NAS	USB drive	Not connected
	Shared Folder	Enabled
	WebAccess	Disabled
	Media Server	Disabled
	BitTorrent	Disabled
Web Filtering and Parental Controls	Disabled	
eco Mode	Status	Disabled

Refresh

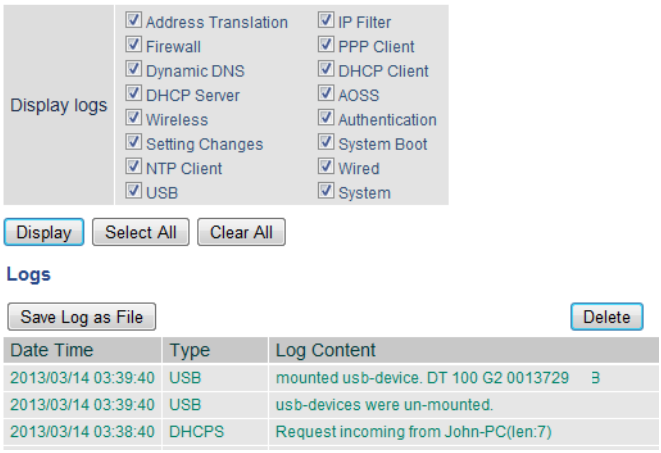
Parameter	Meaning
Model	Displays the product name of the AirStation and the firmware version.
AirStation Name	Displays the name of the AirStation.
Mode	Displays the AirStation's current operational mode.
Internet	Displays information about the Internet port.

Parameter	Meaning
LAN	Displays information about the LAN port.
Wireless (5 GHz) **Wireless (2.4 GHz)**	Displays the wireless status.
Guest Account	Displays information about the guest account.
NAS	Displays information about the USB drive.
Web Filtering and Parental Controls	This indicates the operating status of the parental controls.
eco Mode	This indicates the operating status of eco Mode.

Logs

The AirStation's logs are recorded here.

Status -> Logs

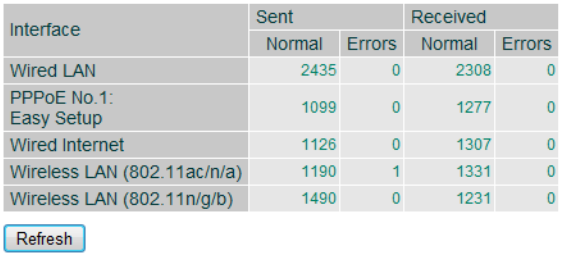


Parameter	Meaning
Display logs	Choose the types of logs to display.
Logs	Displays the log information recorded in the AirStation.

Packets

View packet transfer information.

Status -> Packets



Interface	Sent		Received	
	Normal	Errors	Normal	Errors
Wired LAN	2435	0	2308	0
PPPoE No.1: Easy Setup	1099	0	1277	0
Wired Internet	1126	0	1307	0
Wireless LAN (802.11ac/n/a)	1190	1	1331	0
Wireless LAN (802.11n/g/b)	1490	0	1231	0

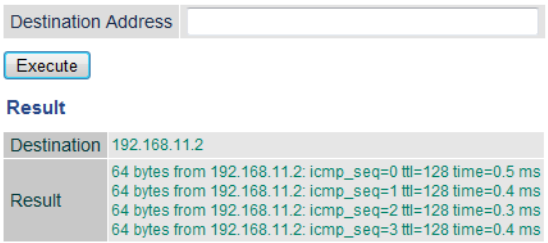
Refresh

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.

Ping

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

Status -> Ping



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 3 - Wireless

Wireless Options

You may use any of the following methods to connect devices to the AirStation wirelessly.

Manual Configuration

On your device, search for available networks and find the AirStation. If a password is required, enter the AirStation's encryption key.

WPS (Wi-Fi Protected Setup)

WPS is an automatic connection method created by the Wi-Fi Alliance. Two different versions of WPS are supported: pushbutton and PIN. For pushbutton, start WPS on your client device, then press the AOSS button on the AirStation. Alternately, if your wireless client has a WPS PIN, you may use the Client Manager to enter the PIN in the AirStation. With either of these methods, a wireless connection will be established automatically within a couple of minutes.

Notes:

- WPS supports Windows 8, Windows 7, Windows Vista Service Pack 2 only.
- Mac OS is not supported.

AOSS (AirStation One-touch Secure System)

AOSS is a proprietary system by Buffalo that lets you set up a secure wireless connection with the push of a button. Press your device's and the AirStation's AOSS buttons and a secure wireless connection will be configured automatically.

Notes:

- To use AOSS with a Windows PC, install Client Manager.
- To use AOSS with Mac, install AOSS Assistant.

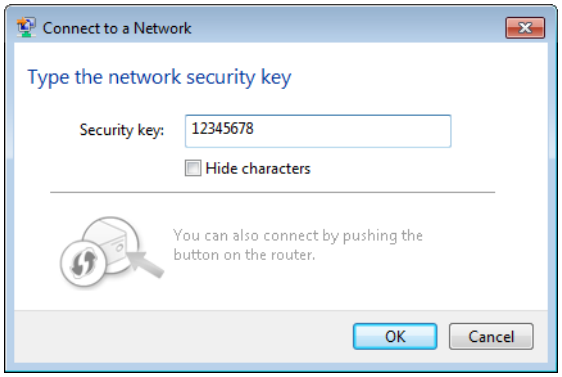
Manual Configuration (SSID and Password)

1 Click the wireless icon.

2 Select your AirStation's SSID from the list.

Note:
Your AirStation's default SSID and encryption key are on the setup card stored in the base of the AirStation.

3 Enter the AirStation's encryption key.



4 The connection will be established.

Automatic Secure Setup (WPS)

1 Click the wireless icon.

2 Select your AirStation's SSID from the list.

Note:
Your AirStation's default SSID is on the setup card stored in the base of the AirStation.

3 Without entering a password, press the AOSS button on the AirStation.

Notes:

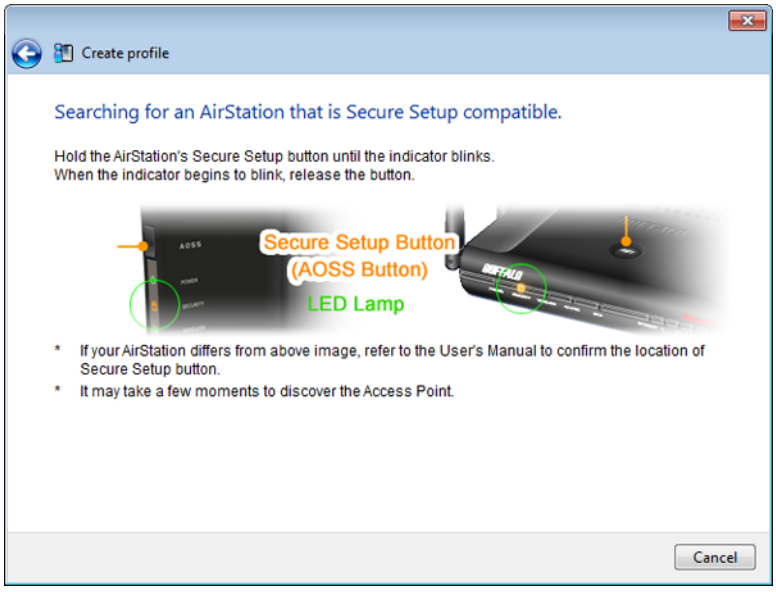
- WPS supports Windows 8, Windows 7, Windows Vista Service Pack 2 only.
- Mac OS is not supported.

4 The connection will be established.

Automatic Secure Setup (AOSS)

1 Windows users should download Client Manager from Buffalo's website and install it.
Mac users should download AOSS Assistant and install it.

2 Initiate AOSS from Client Manager or AOSS Assistant.



3 Press your AirStation's AOSS button.

4 The connection will be established.

Adding an AirStation to an Existing Wireless Network as a Client

In a network that already has a wireless access point, the AirStation can serve as a wireless client. It can connect wirelessly to the existing wireless network and other devices can be connected to its Ethernet ports.

To configure the AirStation as a wireless client, navigate to [Wireless] > [Wireless Bridge] in Settings.

Under "Manual Connection", click [Configure].

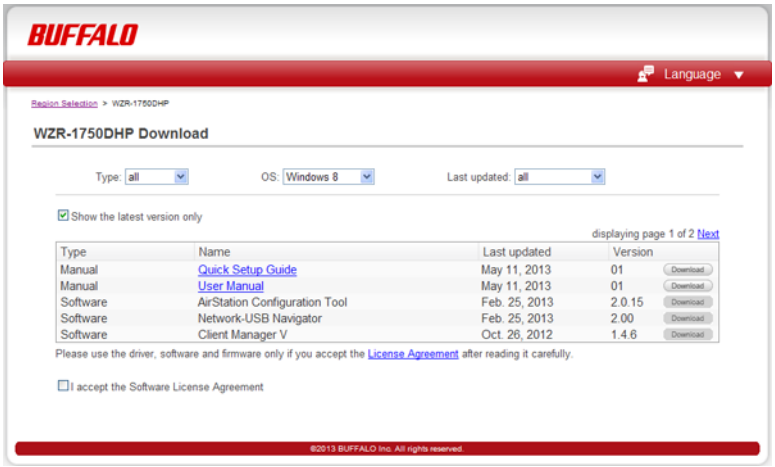
Select your access point from the list of detected wireless devices. Select settings for "Wireless Authentication" and "Encryption" to match the AP's settings, then click [OK]. The AirStation is now connected as a wireless client, and Ethernet devices connected to it can use the AP's Internet connection.

Chapter 4 - Utilities

How to Download Utilities

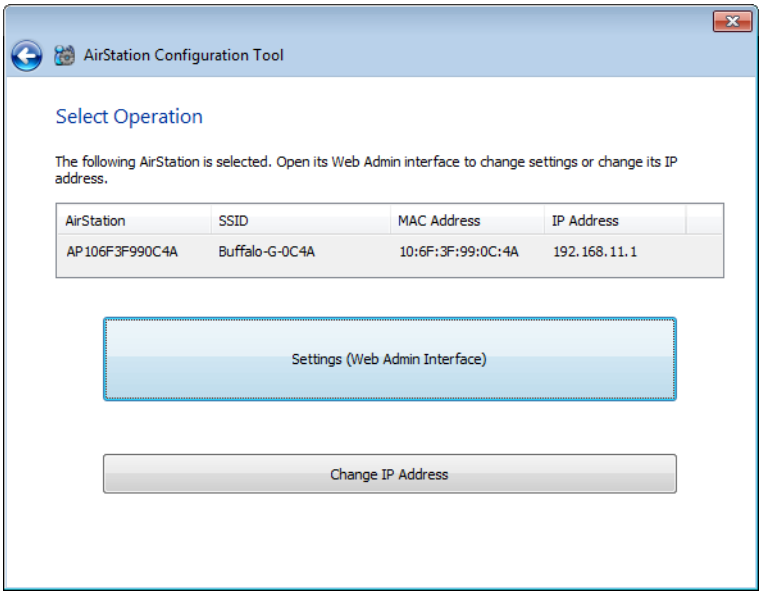
You can download utilities for your AirStation from Buffalo's website.

WZR-1750DHP: http://d.buffalo.jp/wzr-1750dhp/



AirStation Configuration Tool

You can enter the AirStation's settings and change IP address with this tool.



Compatible with:

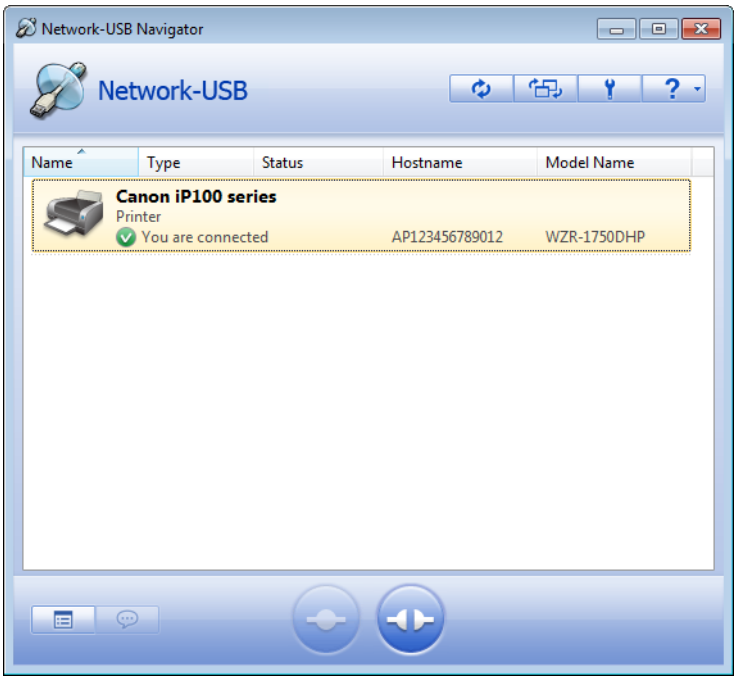
Windows 8, Windows 7, Windows Vista, Windows XP

OS X 10.8, 10.7, 10.6, 10.5, 10.4

Network-USB Navigator

You can use a printer connected to the AirStation's USB port via any computer in your network with this software.

Note:
Concurrent use by multiple computers is not supported.



Compatible with:

Windows 8, Windows 7, Windows Vista, Windows XP

OS X 10.8, 10.7, 10.6, 10.5, 10.4

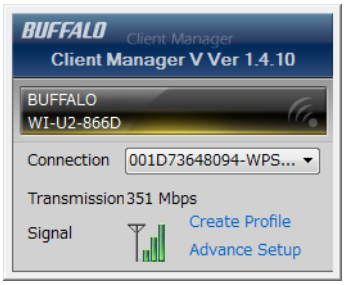
Client Manager

Use this software to let your Windows PC connect to the AirStation with AOSS.

Client Manager V supports Windows 8, Windows 7 and Windows Vista.

Client Manager 3 supports Windows XP.

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.



Compatible with:

Windows 8, Windows 7, Windows Vista, Windows XP

AOSS Assistant

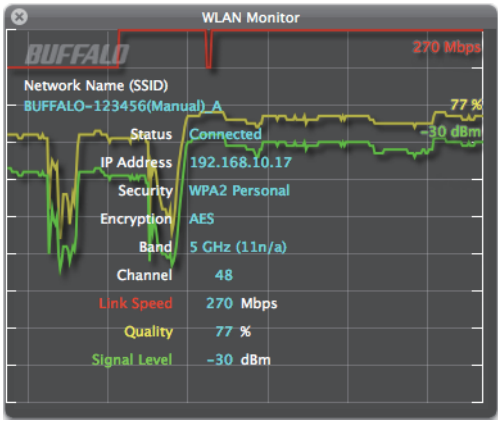
Use this software to let your Mac connect to the AirStation with AOSS.

Compatible with:

OS X 10.8, 10.7, 10.6, 10.5, 10.4

WLAN Monitor

You can check the radio wave condition, connection speed, signal quality, and signal level with this tool.



Compatible with:

OS X 10.8, 10.7, 10.6, 10.5, 10.4

Chapter 5 - Troubleshooting

Finding Your AirStation on the Network

By default, your AirStation is accessible on your local network at the IP address 192.168.11.1 with subnet mask 255.255.255.0. If this address has been changed and you don't know the new address, you can reset the AirStation to its default settings by holding down the reset button for 3 seconds.

You can also find your AirStation on the network with the AirStation Configuration Tool. This software will detect AirStations on your network and give you the IP address and MAC address of each.

Eliminating Dead Spots in Wireless Coverage

If there are spots in your house with poor wireless coverage, try moving your AirStation. Sometimes even moving it a few feet can eliminate dead spots in the area. Also, in Settings, make sure that the wireless output power of the AirStation is set to 100% for maximum range.

If Your Wireless Connection Is Not Stable

Many household devices such as microwaves and cordless phones can interfere with some channels of the spectrum available for the AirStation. If your wireless connection is unstable, change the wireless channel setting to [auto channel] for both the AirStation and your wireless client device. The AirStation will then choose the clearest channel automatically.

Make sure that the 5 GHz band is enabled. The WZR-1750DHP is a dual band router, and either band will work well, but the 5 GHz band will usually have less interference.

Basic Router Troubleshooting

If your router is not behaving normally, begin by using the resetting all settings. With the unit connected to power, hold down the reset button for 3 seconds. This will reset all settings to their defaults. The local IP address of the router will now be 192.168.11.1 with a 255.255.255.0 subnet mask.

Connect your PC to one of the Ethernet ports on the router. Give the computer a manual (fixed) IP address on the same subnet as the router such as 192.168.11.2. Set the subnet mask to 255.255.255.0.

Open a browser (such as Firefox) on your computer and type 192.168.11.1 into the URL window. Click [Go]. The router's settings page should open.

Enter the router's username and password ("admin" and "password" by default).

You should now be able to reconfigure your settings and change your password for the router.

Basic Router Troubleshooting from a Mac

If your router is not behaving normally, begin by using the resetting all settings. With the unit connected to power, hold down the reset button for 3 seconds. This will reset all settings to their defaults. The local IP address of the router will now be 192.168.11.1 with a 255.255.255.0 subnet mask.

Connect your Mac to one of the Ethernet ports on the router. In System Preferences - Network - Ethernet, give the computer a manual (fixed) IP address on the same subnet as the router such as 192.168.11.2. Set the subnet mask to 255.255.255.0.

If your Mac doesn't have an Ethernet port, connect it to the AirStation wirelessly instead. The AirStation's default SSID and passphrase are printed on the setup card in the bottom of the router. Use this information to connect wirelessly. Then, give the computer a fixed IP address on the same subnet as the router such as 192.168.11.2 and set the subnet mask to 255.255.255.0.

Open a browser (such as Safari) on your computer and type 192.168.11.1 into the URL window. Click [Go]. The router's settings page should open.

Enter the router's username and password ("admin" and "password" by default).

You should now be able to reconfigure your settings and change your password for the router.

Appendix A - Supplemental Information

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
- AC power cable.....1
- Stands.....2
- Screws for wall-mounting.....2
- Ethernet cable.....1
- Quick setup guide.....1
- Warranty statement.....1

Factory Default Settings

Feature	Parameter	Default Setting
Internet	**Method of Acquiring IP Address**	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	Settings are not registered.
	Preferred Connections	Route is not registered.
Dynamic DNS	**Dynamic DNS Service**	Disabled
PPTP	**PPTP Server**	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
	PPTP User List	No registered users.
NAT	**Address Translation**	Enabled

Feature	Parameter	Default Setting
LAN	LAN-side IP Address	IP address: 192.168.11.1 Subnet mask: 255.255.255.0
	DHCP Server	Enabled
	DHCP IP Address Pool	192.168.11.2 for up to 64 address(es)
	LAN-side IP Address (For IP Unnumbered)	-
	Advanced Settings	Not display
	Lease Period	48 hour(s)
	Default Gateway	AirStation's IP address
	DNS Servers	AirStation's IP address
	WINS Server	Do not specify
	Domain Name	Assigned domain name
DHCP Lease	Current DHCP Clients	-
Routing	Routing	No routes are registered.
2.4 GHz 5 GHz	Wireless	Enabled
	Wireless Channel	Auto Channel
	High-Speed Mode	2.4 GHz: 216.7 Mbps (20 MHz) 5 GHz: 1300 Mbps (80 MHz)
	Broadcast SSID	Allow
	SSID 1	Use
	SSID Isolation	Not used
	SSID	Use AirStation's MAC address
	Wireless Authentication	WPA2-PSK or No Authentication
	Encryption Wireless Data	AES or No Encryption
	WPA-PSK (Pre-shared Keys)	A 8-digit random value or disabled (Printed on the setup card. Encryption is disabled in default settings on AirStation for Asia Pacific.)
	Key Renewal Interval	0 minutes
	SSID 2	Not used
	SSID Isolation	Not used
	SSID	Use AirStation's MAC address
	WEP Encryption Key Settings	-
	BSS BasicRateSet	2.4 GHz: 1, 2, 5.5, 11 Mbps 5 GHz: 6, 12, 24 Mbps
	Multicast Rate	Auto
	802.11n Protection	Not used
	DTIM Period	1
	Wireless Client Isolation	Not used
	Output Power	100%
	WMM Settings	Not displayed

Feature	Parameter	Default Setting		
	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 (Nomal))		**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
WPS	**WPS**	Enabled		
	External Registrar	Enabled		
	AirStation PIN	An 8-digit random value (Printed on the label of the AirStation)		
	Enrollee PIN	-		
	WPS Security Settings	**WPS Status**: Configured **SSID**: BUFFALO-A-XXXX (the last 4 digits of the AirStation's MAC address). BUFFALO-G-XXXX (the last 4 digits of the AirStation's MAC address). **Security**: WPA2-PSK AES or none **Encryption Key**: Either an 8-digit random value or disabled. Printed on the setup card. Encryption is disabled by default settings on AirStation for Asia Pacific.		
AOSS	**AOSS Status**	Not in use		
	Allow WEP for Game Consoles Only	Disabled		
	AOSS Button on The AirStation Unit	Enabled		

Feature	Parameter	Default Setting
MAC Filtering	**Enforce MAC Filtering**	Disabled
	Registration List	No Registered MAC address
Multicast Control	**Snooping**	Enabled
	Multicast Aging Time	300 Sec.
Guest Account	**Guest Account**	Disabled
	Guest User Authentication	Disabled
	Guest Account LAN IP Address	Auto
	Permitted Access Time	3 hours
	SSID	Use AirStation's MAC address
	Wireless Authentication	No Authentication
	Wireless Encryption	No Encryption
	Show Guests	No registered guest users.
Firewall	**Basic Rules**	**Prohibit NBT and Microsoft-DS routing**: Disabled **Reject ident requests**: Enabled **Block ping from Internet**: Enabled
IP Filter	**IP Filter**	No IP filters have been configured yet.
VPN Passthrough	**IPv6 Passthrough**	Disabled
	PPPoE Passthrough	Disabled
	PPTP Passthrough	Enabled
Port Forwarding	**Forwarded Ports**	Port forwarding has not been set up yet.
DMZ	**Add IP Address to DMZ**	-
UPnP	**UPnP**	Enabled
Web Filtering and Parental Controls	**Web Filtering and Parental Controls**	-
Disk Management	**Automatic USB Drive Assignment**	Enabled
	Advanced	Not Displayed
	Character Code for FAT	North America (CP437)
	Sleep Mode	Disabled
	Current Users	No users registered.
Sharing	**Shared Folder**	Enabled
	AirStation Name	AP + AirStation's MAC Address
	AirStation Description	-
	Workgroup Name	WORKGROUP
	Windows Client Language	North America (CP437)
WebAccess	**WebAccess**	Disabled
	HTTPS/SSL Encryption	Disabled
	WebAccess External Port	Auto
	DNS Server Hostname	Use BuffaloNAS.com registration
Media Server	**Media Server**	Disabled
BitTorrent	**BitTorrent**	Disabled
	External Port Number	Auto
	Bandwidth Restriction	Disabled

Feature	Parameter	Default Setting
QoS	**Priority Control QoS**	Disabled
	Optimize for	Video
	Manual	**Video**: Ultra Premium - High Bandwidth **Conference**: Premium - Low Latency, Medium Bandwidth **Gaming**: Premium - Low Latency, 320 Kbps Bandwidth **Audio**: Above Average, 320 Kbps Bandwidth **Browsing**: Standard, Best Availability **Download**: Junk, Lowest Priority
	Manual Entry	No user settings available.
eco Mode	**Power Saving**	Disabled
	LED	Off
	Wired LAN	eco
	Wireless LAN	Off
	Weekly Schedule	-
	Mode	Normal
	Start Time	0:00
	End Time	0:30
	Day of Week	-
Network USB	**Network USB**	Enabled
	Use Multifunction Printer	Enabled
System	**AirStation Name**	AP + AirStation's MAC Address
	Administrator	admin (fixed)
	Administrator Password	password
	Access	**Prohibit configuration from wireless LAN**: Disabled **Prohibit configuration from wired LAN**: Disabled **Permit configuration from wired Internet**: Disabled
	NTP Functionality	Enabled
	NTP Server	time.nist.gov
	Update Interval	24 hours
	Local Date	2013 Year 1 Month 1 Day
	Local Time	0 Hour 0 Minute 0 Seconds
	Time Zone	(GMT - 06:00) Central Standard Time: CST
	DST (Daylight Saving Time)	USA (from second Sunday in Mar to first Sunday in Nov)

Feature	Parameter	Default Setting
Syslog Settings	**Transfer Logs**	Disabled
	Syslog Server	-
	Logs	Address Translation, IP Filter, Firewall, PPP Client, Dynamic DNS, DHCP Client, DHCP Server, AOSS, Wireless, Authentication, Setting Changes, System Boot, NTP Client, Wired, USB, System
	Detailed logs	-
Update Firmware	**Update Method**	Specify a local file
	Firmware File Name	-
	Automatic Update Check	Enabled
	Daily Check Time	Automatic

Technical Specifications

Wireless LAN Interface	
Standard Compliance	IEEE 802.11ac (Draft) / 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 802.11ac (Draft)	**IEEE 802.11ac (Draft) 20 MHz BW <Long GI>:** 260/234/195/175.5/156/117/78/58.5/39/19.5 Mbps (3 stream) 156/130/117/104/78/52/39/26/13 Mbps (2 stream) 78/65/58.5/52/39/26/19.5/13/6.5 Mbps (1 stream) **IEEE 802.11ac (Draft) 20 MHz BW <Short GI>:** 288.9/260/216.7/195/173.3/130/86.7/65/43.3/21.7 Mbps (3 stream) 173.3/144.4/130/115.6/86.7/57.8/43.3/28.9/14.4 Mbps (2 stream) 86.7/72.2/65/57.8/43.3/28.9/21.7/14.4/7.2 Mbps (1 stream) **IEEE 802.11ac (Draft) 40 MHz BW <Long GI>:** 540/486/405/364.5/324/243/162/121.5/81/40.5 Mbps (3 stream) 360/324/270/243/216/162/108/81/54/27 Mbps (2 stream) 180/162/135/121.5/108/81/54/40.5/27/13.5 Mbps (1 stream) **IEEE 802.11ac (Draft) 40 MHz BW <Short GI>:** 600/540/450/405/360/270/180/135/90/45 Mbps (3 stream) 400/360/300/270/240/180/120/90/60/30 Mbps (2 stream) 200/180/150/135/120/90/60/45/30/15 Mbps (1 stream) **IEEE 802.11ac (Draft) 80 MHz BW <Long GI>:** 1170/1053/877.5/702/526.5/351/263.3/175.5/87.8 Mbps (3 stream) 780/702/585/526.5/468/351/234/175.5/117/58.5 Mbps (2 stream) 390/351/292.5/263.3/234/175.5/117/87.8/58.5/29.3 Mbps (1 stream) **IEEE 802.11ac (Draft) 80 MHz BW <Short GI>:** 1300/1170/975/780/585/390/292.5/195/97.5 Mbps (3 stream) 866.7/780/650/585/520/390/260/195/130/65 Mbps (2 stream) 433.3/390/325/292.5/260/195/130/97.5/65/32.5 Mbps (1 stream)

Transmission Rate 802.11 n/a/b/g	**IEEE 802.11n 20 MHz BW <Long GI>:** 195/175.5/156/117/78/58.5/39/19.5 Mbps (3 stream) 130/117/104/78/52/39/26/13 Mbps (2 stream) 65/58.5/52/39/26/19.5/13/6.5 Mbps (1 stream) **IEEE 802.11n 20 MHz BW <Short GI>:** 216.7/195/173.3/130/86.7/65/43.3/21.7 Mbps (3 stream) 144.4/130/115.6/86.7/57.8/43.3/28.9/14.4 Mbps (2 stream) 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>:** 405/364.5/324/243/162/121.5/81/40.5 Mbps (3 stream) 270/243/216/162/108/81/54/27 Mbps (2 stream) 135/121.5/108/81/54/40.5/27/13.5 Mbps (1 stream) **IEEE 802.11n 40 MHz BW <Short GI>:** 450/405/360/270/180/135/90/45 Mbps (3 stream) 300/270/240/180/120/90/60/30 Mbps (2 stream) 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 802.3ab (1000BASE-T) / IEEE 802.3u (100BASE-TX) / IEEE 802.3 (10BASE-T)
Transmission Rate	10 / 100 / 1000 Mbps
Transmission Encoding	1000BASE-T 4DPAM5, 100BASE-TX 4B5B/MLT-3, 10BASE-T Manchester Coding
Access Method	CSMA/CD
Speed and Flow Control	10 / 100 / 1000 Mbps, Auto Sensing, Auto MDIX
Number of LAN Ports	4
USB Interface	
Interface	USB 3.0 USB 2.0
Connector Type	USB 3.0 x 1 USB 2.0 x 1
Other	
Power Supply	External AC 100-240 V Universal, 50/60 Hz (Asian Power Devices Inc. DA-48Q12)
Power Consumption	About 18.2 W (Max)
Dimensions	212.2 x 183.2 x 34 mm (8.4 x 7.2 x 1.3 in.)
Weight	580 g (20.5 oz.)
Operating Environment	0 - 40° C (32 - 104° F), 20 - 80% (non-condensing)

Shared Folders and USB Ports

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

- When using two-byte characters (such as Japanese), keep folder and file names within 80 characters. You may not be able to copy a folder or a file whose name length is more than 80 characters.
- You cannot set attributes (hidden or read-only) for folders or files on the AirStation.
- When using access restrictions, you can register up to 16 users for the AirStation.
- Please note that you are not allowed to use any of the following words as a user or group name: adm, administrator, all, bin, daemon, disk, ftp, guest, halt, hdusers, kmen, lp, mail, man, news, nobody, nogroup, none, operator, root, shadow, shutdown, sshd, sync, sys, ttyusers, utmp, uucp, www.
- Please note that you are not allowed to use any of the following words as a shared folder name: global, homes, printers, bittorrent, disk1_pt1, disk1_pt2, disk1_pt3, disk1_pt4, disk2_pt1, disk2_pt2, disk2_pt3, disk2_pt4, disk3_pt1, disk3_pt2, disk3_pt3, disk3_pt4, disk4_pt1, disk4_pt2, disk4_pt3, disk4_pt4.
- If a file created on a Mac contains any of the following characters, it will not be displayed correctly under Windows. Also, you cannot copy or properly display a file when connecting via SMB from Mac OS if it contains any of these characters:

  ? [ ] / ¥ = + < > ; : " , | *
- Cancelling or aborting a file copy may leave the file incomplete, and you may no longer be able to delete the incomplete file. This can also happen during a power outage or if the LAN cable is suddenly disconnected. If it happens, restart the AirStation, delete the file, and try copying the file again.
- Use the same username and password for the AirStation as the user's Windows login. If they are different, the user may not be able to access shared folders with access restrictions on the AirStation.
- Date and time stamps stored on the USB hard drive may be updated by the OS accessing the AirStation. File creation or access dates may not be maintained.
- If you view the size of a hard drives on the browser, it shows a bigger value than when you see it in Windows' drive properties. This is because the browser shows the size of the drive in gigabytes but Windows shows it in gibibytes.
- If you have logged in using a "guest" account from Windows 8, Windows 7, Windows Vista, Windows XP, or Windows 2000, access restrictions may not work properly. A (different) guest account already exists on the AirStation.
- If you access a shared folder from a Mac, additional Mac OS information files may be automatically generated. Do not delete these files from a Windows computer. Otherwise, you may no longer be able to access folders from a Mac.
- Device types that can be connected to the AirStation's USB connector are USB hard drives, USB memory sticks, USB printer, or USB card readers. Card readers with 5 or more slots are not supported. USB devices such as a digital cameras, CD/DVD drives, mice, or keyboards are not supported.
- Encrypted USB hard drives are not supported.
- If your hard drive has an auto power mode switch, move the switch to [manual] or [on]. Leaving the switch set to [auto] may result in unpredictable behavior.
- Up to 4 partitions can be recognized on a USB hard drive.
- Available file systems for USB hard drives are FAT12, FAT16, FAT32, and XFS.

GPL Information

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

Appendix B - Tutorials

Configuring the AirStation for Optimal Performance and Security

Some basic configuration tips to help improve your router performance and security.

Performance

- Put the AirStation in an elevated spot near the center of your house or coverage area, but away from other devices that might cause interference.
- Experiment with strategic locations to improve signal strength. To reduce interference, keep the router away from cordless phones and microwaves.
- In populated areas, leave automatic channel selection enabled and use 20 MHz wide channels. In less crowded areas, 40 MHz wide channels may offer better performance.
- Use QoS (quality of service) to give priority to services that need the most data.

Security

- Use AES (Advanced Encryption Standard) as the encryption. WEP offers virtually no protection at all.
- Enable the built-in AirStation firewall to prevent certain types of network traffic from reaching your computer.
- Enable IP filtering to control what IP traffic to allow into and out of your network for further access control.
- If you are using an unsecure network (e.g. WEP) and you wish to keep that access point separate from the rest of the network, enable SSID isolation. The unsecure router will still be able to access the Internet, but will be kept separate from the rest of the network.

Sharing a Printer

A USB printer attached to the AirStation can be made available to the network for wireless printing. You will need to download and install the Network-USB Navigator application from the Buffalo website.

Before proceeding, make sure the printer is installed on your PC with the correct printer drivers/software. If the PC does not have the required drivers, even if Network-USB Navigator detects the printer you will not be able to print to the device.

Enabling Network USB on the AirStation

1. Open the AirStation's settings and click [Advanced Settings].
2. Navigate to [Applications] > [Network USB].
3. Enable [Network USB]. If the printer has multiple functions (e.g. scanning), enable multi-function as well.

Installing and Using Network-USB Navigator

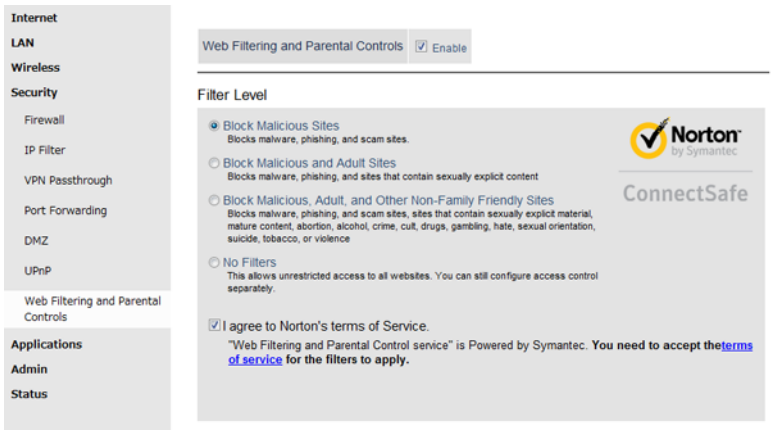
1. Download the Network-USB Navigator software from the Buffalo website.
2. Open the application and install it on your PC, following the directions on the screen.
3. Connect the USB printer to the AirStation. Make sure the printer is powered on.
4. Open Network-USB Navigator. The printer should appear as a network device.
5. Select the printer and click [Connect].

The printer should now be connected and available for wireless printing.

Configuring Parental Controls

You can apply website content filters and control access to computers on your network. You can access parental control settings by the clicking [Advanced Settings], then navigating to [Security] > [Web Filtering and Parental Controls].

You must first accept the Symantec terms of use before you can use Parental Controls.



Content Filter

You can enable the content filter to block objectionable websites. You can select a filter level to set what kind of sites are blocked by the AirStation.

To configure the content filter:

1 On the parental control page, click [Enable] next to "Web Filtering and Parental Controls".

2 Select the filter level.

3 Click [Apply].

Websites Excluded from Filter

Excluded websites can be accessed regardless of the content filter in place. You can register up to 20 excluded sites. To add a website:

1 On the Parental Controls page, click [Add] under "Websites Excluded from Filter" to open "Exclude Websites" page.

2 Enter a website URL (e.g. www.google.com).

3 Click [Add].

You will be returned to the Parental Controls page and the site will be displayed under "Websites Excluded from Filter". You can click [Edit] to make any changes, or [Delete] to remove the entry.

Computers Excluded from Filter

Excluded computers can access any website without being affected by the content filter. You can register up to 20 excluded computers. To add a computer:

1. On "Parental Controls" page, click [Add] under "Computers Excluded from Filter" to open "Exclude Computers" page.
2. Enter a computer's MAC address. If you need help locating a computer's MAC address, consult the computer's manual.
3. Click [Add].

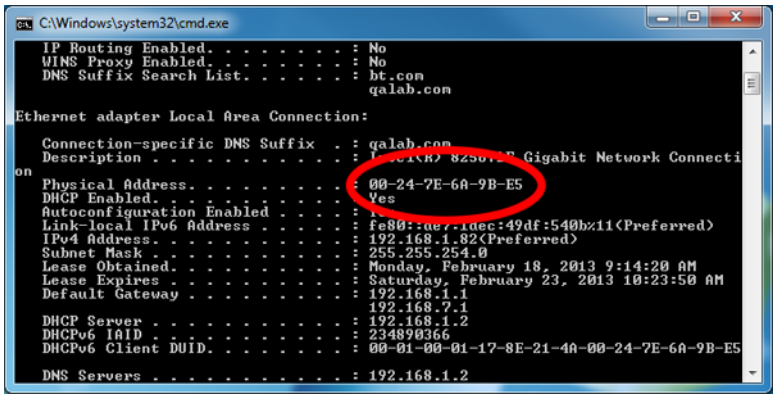
You will be returned to the Parental Controls page and the computer will be displayed under "Computers Excluded from Filter". You can click [Edit] to make any changes, or [Delete] to remove the entry.

Finding a Computer's MAC Address

Use the following steps to locate a computer's MAC address.

1. On your PC desktop, click Start and type "cmd" into the search bar.

2 The command prompt appears. Type "ipconfig /all" and hit Enter.

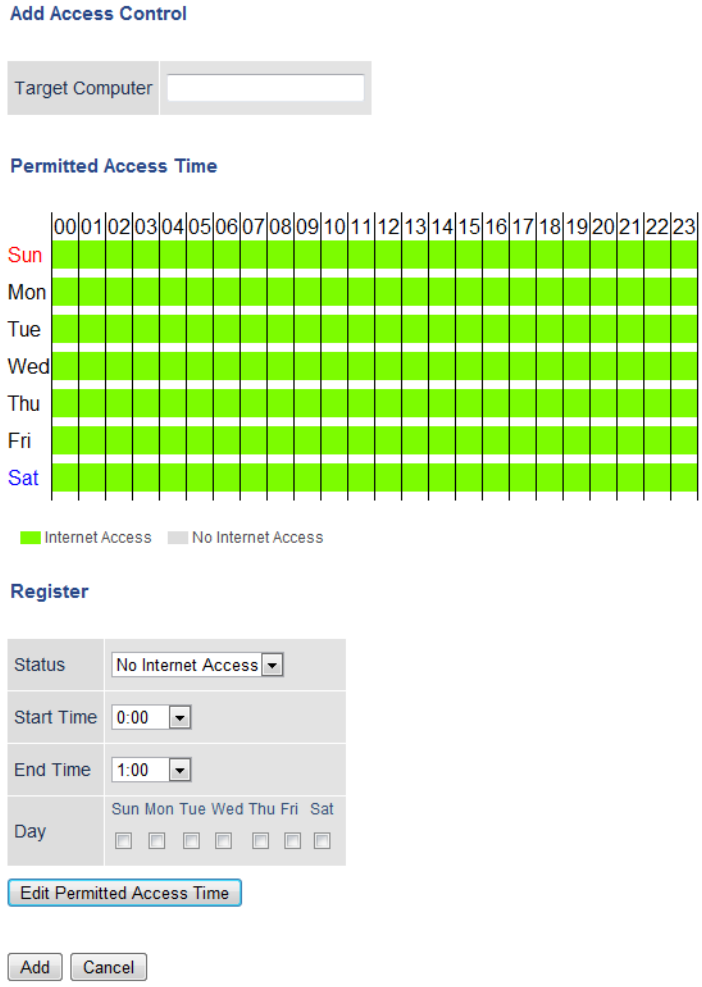


3 Locate the physical address. This is the computer's MAC address.

Access Control

Access control lets you set up a schedule that dictates when a target computer on the network can (or cannot) access the Internet. You can have up to 20 network computers under access control.

1 On the parental control page, click [Add] to open "Access Control" page.



2 Under "Target Computer", enter the computer's MAC address.

3 For the added computer, select [Internet Access] or [No Internet Access].

4 Set the "Start Time", "End Time", and "Day"(s) for the computer's "Permitted Access Time". "0" refers to midnight. For example, if you set Computer A to have "Internet Access" from 7:00-10:00 on Thursday and Saturday, then Computer A can only access the Internet during those times and would not be able to get online during other times.

5 Click [Edit Permitted Access Time] to save the change.

6 You can make additional changes to the schedule if needed by repeating steps 3-5.

7 Click [Add].

You will be returned to the Parental Controls page and the computer will be displayed under the "Access Control List". You can click [Edit] to modify the permitted access time or other settings, or [Delete] to remove the entry.

Port Forwarding Basics

Port forwarding is a way of configuring the AirStation so that incoming data is automatically directed to specific IP addresses on the network based on the data type.

Common Uses

Port forwarding allows computers outside your network to access computers on your LAN.

Some applications require port forwarding. For example, if you set up a game server, people outside the network will need to join your server to play the game with you. But the AirStation will automatically block all outside attempts to connect to your LAN. By setting a port number (the port receiving all the connection requests) and the IP address of your game server, the AirStation can then automatically direct the connection requests to the game server, allowing others to join and play.

You will need to know specific ports and corresponding protocols to successfully configure port forwarding. Most network applications and services will have the required ports and protocols in their user documentation.

Security

The risk of having a port "open" to the Internet depends entirely on the application using the open port. If no application is currently connected to the port, all communications to the port will be ignored. Enabling a firewall or other security application will help reduce security risk.

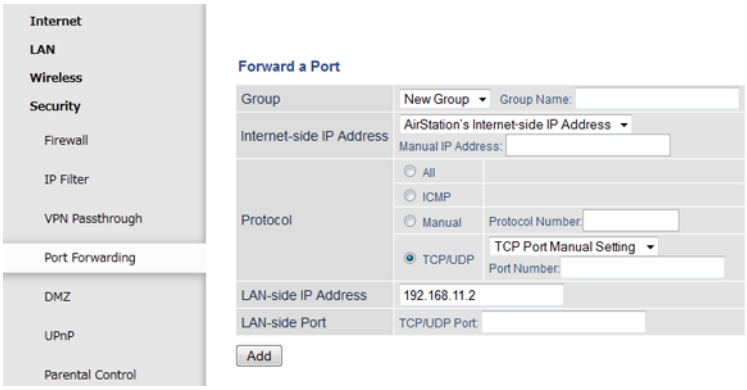
UPnP

For the most part, manually configuring port forwarding rules is unnecessary with the advent of UPnP (universal plug and play). UPnP is a protocol that allows a connecting application or device to automatically request and configure a port for you.

Many applications require that UPnP be enabled both in the application's configuration and on the router. You can enable UPnP on this AirStation by opening "Advanced Settings", then navigating to [Security] > [UPnP].

Setting Up Port Forwarding Rules

If UPnP is enabled, most programs will configure this for you automatically. Otherwise, you can manually set rules for port forwarding. You can access port forwarding options by opening "Advanced Settings" and then navigating to [Security] > [Port Forwarding].



Creating Port Forwarding Rules

The AirStation can register up to 32 rules. Rules can be managed using the group feature.

Once a group has been created, you can add additional port forwarding rules to that group. You can also turn the group of rules on or off as needed, or select a group of port forwarding rules to be disabled.

1 Create a new group name or add to an existing group.

2 Specify the WAN-side IP address the AirStation will forward ports from. Using the AirStation's Internet IP address is highly recommended, but you can manually enter an IP address.

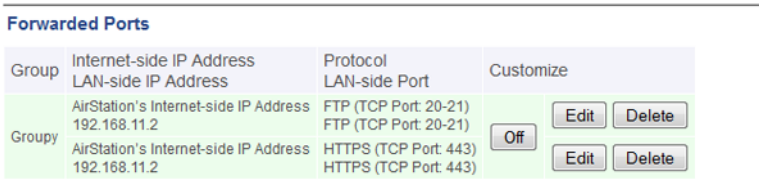
3 Select a protocol and its corresponding port from the dropdown menu. For example, selecting HTTP will automatically select TCP port 80. If you select any other protocol, you must select a valid port (from 1-65535) as well. The default is TCP/UDP, along with a list of common protocols. If selected, the protocols will use a corresponding port. You can also select "Manual" to manually enter a protocol and its corresponding port.

4 Enter the LAN–side IP address of the network computer to receive the forwarded data.

5 Enter the LAN-side port. This port will almost always be the same as the port set under "Protocol". If the port is different, this port will be used to route traffic on the LAN rather than the WAN port. As before, you can select a port from 1-65535.

Once the rule has been added, it will be displayed under the "Forwarded Ports" section.

Managing Port Forwarding Rules



Individual rules cannot be turned off. Only a rule group can be shut off. You can click [Edit] to make any changes to individual rules, or [Delete] to remove the rule entry.

Configuring a USB Drive as a NAS

You can use a USB drive as a network-attached storage (NAS) device by plugging it into the AirStation. The files on the device can then be accessed from anywhere on the network.

Note: Not all USB drives are compatible with the AirStation.

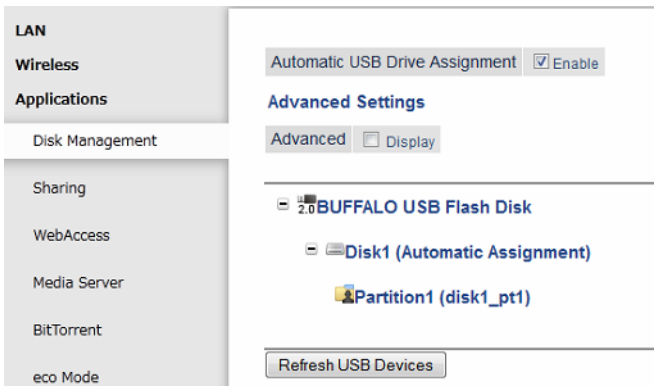
Setting Up the NAS

Make sure the USB drive is powered on.

1 Connect the USB drive to the AirStation.

2 On a computer, open Settings and enter "Advanced Settings".

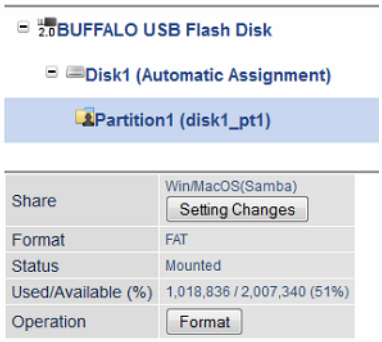
3 Navigate to [Applications] > [Disk Management].



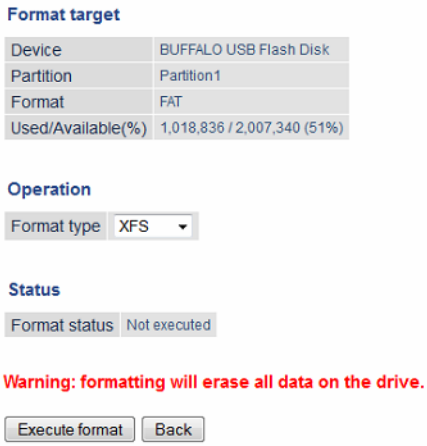
4 Enable "Automatic USB Disk Assignment".

Formatting the Drive

1 On the disk management page, click "Partition1".



2 AirStation does not support ext3 or NTFS format drives. If the USB drive is in one of those formats, click [Format] to open "Format Disk" page.



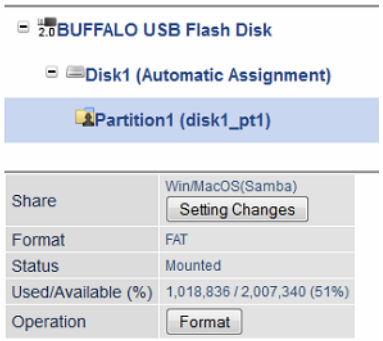
3 Select a format type and click [Execute format] to format the drive. Formatting will erase all data on the drive, so back up any important data beforehand.

User Access

Set user access restrictions for the drive.

1 On the disk management page, click "Partition1".

2 Click [Setting Changes].



3 Select the type of access to be given to users and click [Save].

To create new users, click [Add] from the disk management page.

Enable Sharing

Enable sharing so the drive is accessible by other users on the network.

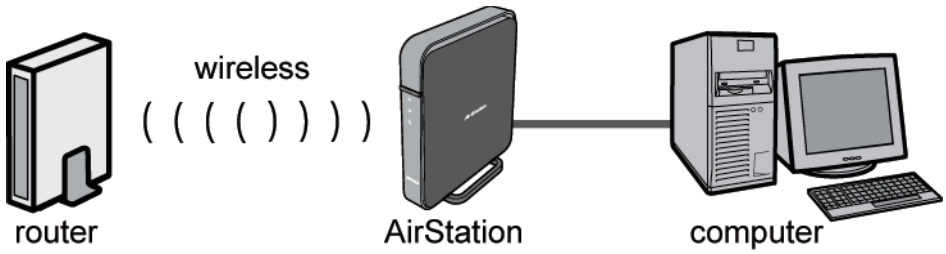
1 Navigate to [Applications] > [Sharing].

2 Enable "Shared Folder" for the NAS.

3 Set the Workgroup name and click [Apply].

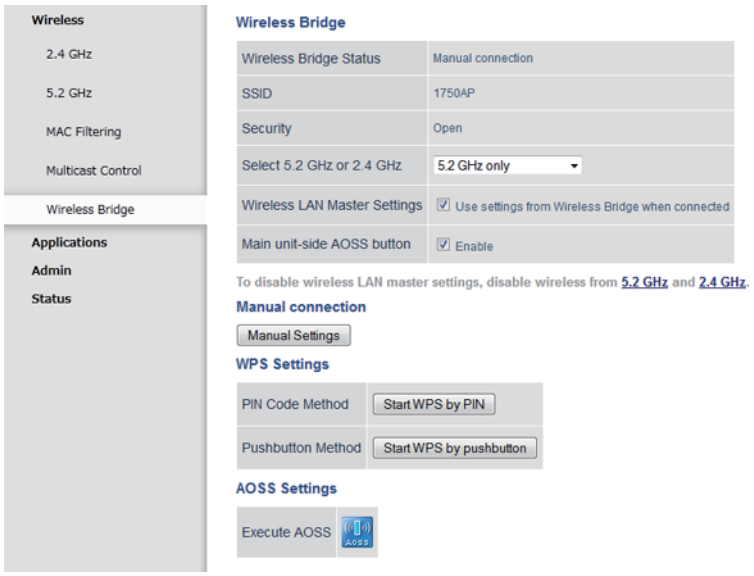
Adding a Second AirStation as a Wireless Client

If you have an existing wireless network, you can add the AirStation as a wireless client. It will be able to wirelessly connect to the access point. Other devices can then connect to the AirStation's Ethernet ports to use the access point's Internet connection.

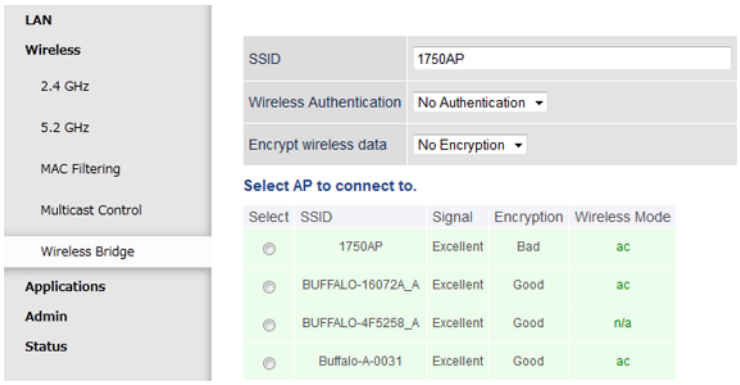


Setting up the AirStation

1. Set the mode switch on the back of the AirStation to "WB".
2. Connect the AirStation to a computer on the network with an Ethernet cable and power on the AirStation.
3. Open a web browser and enter the AirStation's IP address.
4. Enter the administrator password and log in.
5. Go to "Advanced Settings" and navigate to [Wireless] > [Wireless Bridge].



6 Click [Manual Settings] to open the manual configuration page.



7 Select the access point from the available list of detected wireless devices. If nothing is displayed, click [Search Again] to refresh the list.

8 Set the wireless authentication and encryption to match that of the access point.

9 Click [OK].

The AirStation should now be connected as a wireless client. You can disconnect the Ethernet cable and move the AirStation to another location that is within range of the access point. Other devices can now be connected to use the access point's Internet.

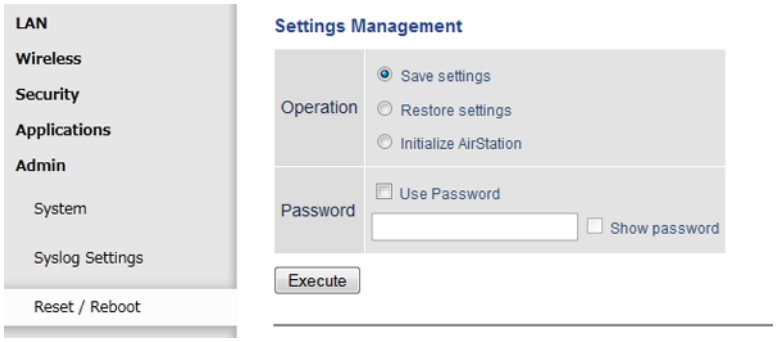
Saving and Restoring Settings

Once you have finished configuring your AirStation to your needs, you can save the current configuration to a backup file. This file can be used to restore the AirStation's settings when needed. For example, the AirStation will initialize its settings after a hard reset. Instead of re-configuring the unit, simply use the backup file to restore its previous settings.

The backup file is not automatically updated when you make further AirStation configuration changes.

Save Settings to a Backup File

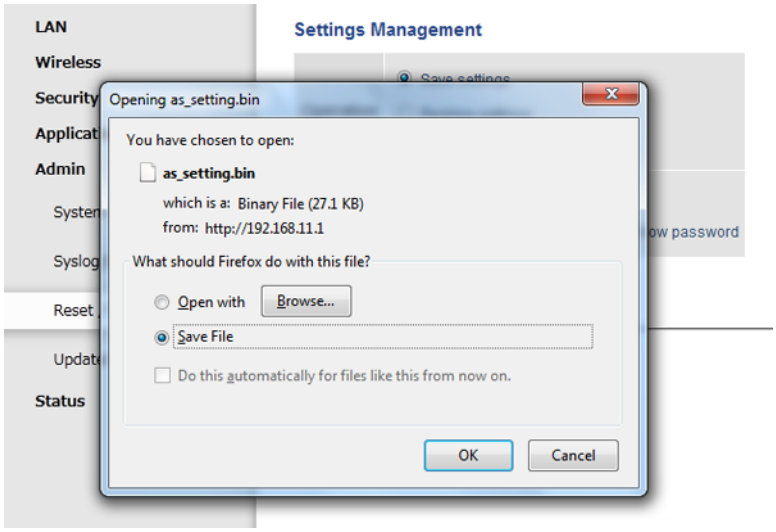
You can access save settings by clicking "Advanced Settings", then navigating to [Admin] > [Reset/Reboot].



1 On the save/restore settings page, check "Save settings".

2 Check "Use Password" if you want to encrypt the backup file with a password. If you do, the system will ask for the password when restoring settings with the backup file. The password may include up to 8 single-byte alphanumeric characters and underscores (_).

3 Click [Execute]. The Save As dialog appears.

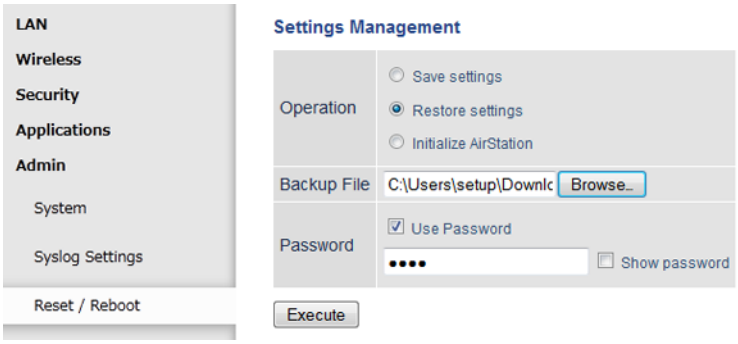


4 Click [OK].

Once the file has been saved to your system, do not rename the backup file. If needed, you can put the file into another folder.

Restoring Settings with a Backup File

Restore settings can be found on the same tab.



1 On the save/restore settings page, check "Restore settings".

2 The Browse field appears. Click [Browse...] to locate the backup file on the system.

3 Click [Execute]. The Restore dialog appears.

4 Enter the password if prompted. The password will be the one set when the backup file was created.

Please wait as the saved settings are restored to the AirStation. When settings are restored, all values (e.g. IP address, wireless encryption key, login, etc.) are changed to the ones saved in the backup file.

Note:
The AirStation will not be able to restore settings if:

- The backup file was created with a different version of the AirStation firmware.
- The backup file was created by a different product.

Replacing the AirStation

If an AirStation is no longer functional, you can replace it with another unit of the same model and use a saved backup file to automatically populate settings on the new unit. The firmware on the new unit must be the same version as the old unit when the backup file was created. If need be, downgrade the current firmware version to the previous one before using the backup file.

Setting Up WebAccess

WebAccess is a cloud service provided by Buffalo that allows you to access your NAS remotely over the Internet. You can share content with everyone or with specified users. You can set up WebAccess through the settings page of your NAS, or enable the service on your AirStation.

If you have a BuffaloNAS.com account, you can use its login to use WebAccess. You can also use your DDNS hostname or an external IP address along with the port used for WebAccess.

WebAccess Settings

1 Make sure the NAS is connected and available, and that the AirStation is powered on and connected.

2 Open "Advanced Settings" and navigate to [Security] > [UPnP].

3 Enable "UPnP" and click [Apply].

4 Navigate to [Applications] > [Disk Management].

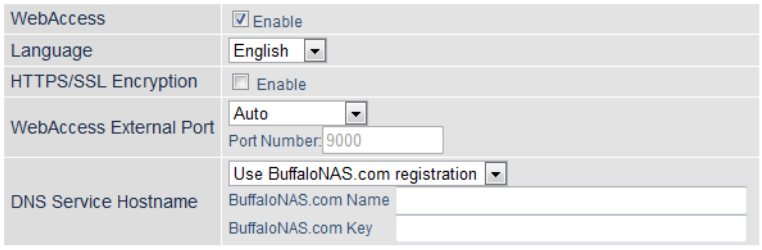
5 Click [Setting Changes].

6 Check "Access Restrictions" and click [Save].

7 If you need to create a new user for WebAccess, create one on the disk management page, under "Current Users".

8 Click [Applications] > [WebAccess].

9 Check "Enable" for WebAccess.



10 Leave the WebAccess External Port option as "Auto" so that UPnP will automatically configure a port for you.

11 Select the DNS Service hostname used to access the service. If you have a BuffaloNAS.com account, select "Use BuffaloNAS.com Registration" and enter your BuffaloNAS.com username and password. You can also use an existing hostname, such as your dynamic DNS hostname.

12 Click [Apply] at the bottom of the page.

Connecting Wireless Devices Using AOSS

You can use the physical AOSS button on your AirStation to easily connect wireless devices that support AOSS or WPS. Consult your wireless device's documentation for the location of its AOSS or WPS button.

If you already have a wireless network that was configured without using AOSS or WPS, connecting a new device with AOSS will change its settings, disconnecting any previously connected wireless devices.

Push Button Configuration

Easily connect other wireless devices using the physical AOSS button.

1 Power on the AirStation.

2 Hold the physical AOSS button down for two seconds, then release it.

3 For the next 2 minutes, the AOSS LED will flash and the AirStation will automatically search for a nearby AOSS/WPS device. The AirStation will automatically return to normal if a device isn't found after 2 minutes.

4 Push the AOSS/WPS button on the wireless device. It should be automatically connected within 2 minutes.

You can repeat this for all AOSS/WPS devices you are attempt to connect with. If setup doesn't work, open Settings and ensure that the AOSS physical button is enabled.

Setting Up a VPN Server

You can configure a PPTP (VPN) server with either a dynamic DNS hostname or a static IP address.

Currently the AirStation supports both DynDNS and TZO. If you have a DynDNS or TZO account, you can enter the login and hostname information under [Advanced Settings] > [Internet] > [Dynamic DNS].

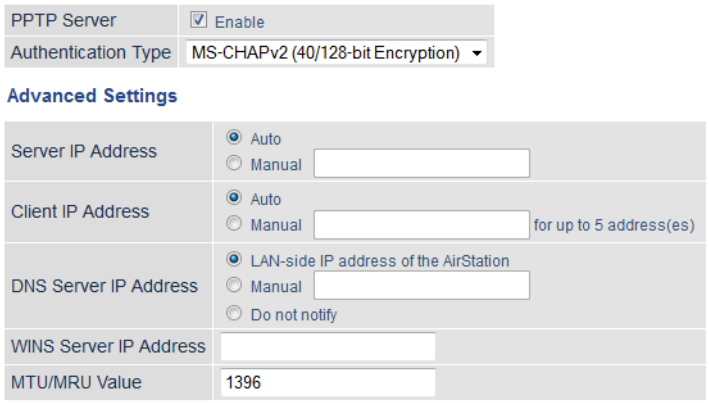
PPTP Settings on the AirStation

Your computer should be directly connected to the AirStation.

1 Open Settings.

2 Click [Advanced Settings] and navigate to [Internet] > [PPTP].

3 Check "Enable PPTP Server".



4 Select the VPN authentication type. If you are unsure which one to use, leave it on the default selection.

5 You can leave the Server IP Address on "Auto". If you are using a static IP address, click [Manual] and enter it into the field.

6 You can leave the client IP address on "Auto". If client computers are within a specific IP address range, click [Manual] and enter the range into the field.

7 If you have a WINS server on the network, you can enter its IP address into the field.

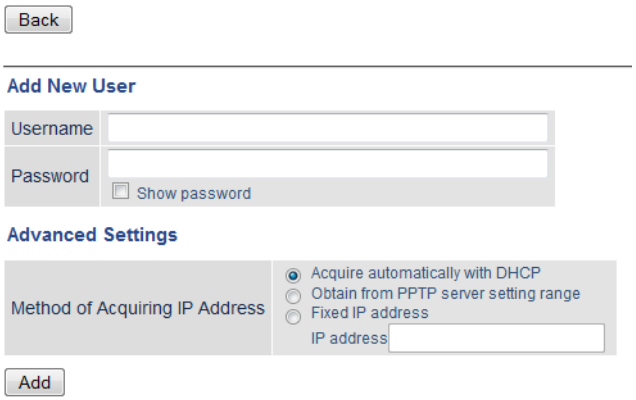
8 Leave the MTU value on its default setting.

Editing Users

You can create and edit users that will access your PPTP server.

1 Click [Edit PPTP User List] to open the edit users page.

2 Enter a username and password for a new user.



3 Select a method of acquiring IP address.

4 Click [Add].

The user will appear under the "PPTP User List" section. You can click [Edit] to modify the user or click [Delete] to remove the entry.

Using AirStations with 2Wire Residential Gateways

AT&T Internet services (U-verse or ADSL) will often assign a 2Wire residential gateway device that serves as both the modem and the router. To add an AirStation to this network, it is best to add the unit as a client device. This way the AirStation will not conflict with the existing residential gateway settings such as the firewall or port forwarding.

For detailed instructions on how to connect the AirStation to the network as a client, refer to the "Connecting AirStation as Client" section.

If you would like to set the 2Wire access point as the client device, or you need more information on its settings, contact AT&T technical support.

How to Use QoS

QoS (quality of service) is a feature that allows the AirStation to prioritize traffic by type. QoS applies to both upstream and downstream data flow, and ensures consistent performance when using certain high-traffic applications, such as video streaming.

The higher the priority, the higher the allocated bandwidth will be. For example, if "Video" is selected, streaming video will be given the highest bandwidth priority.

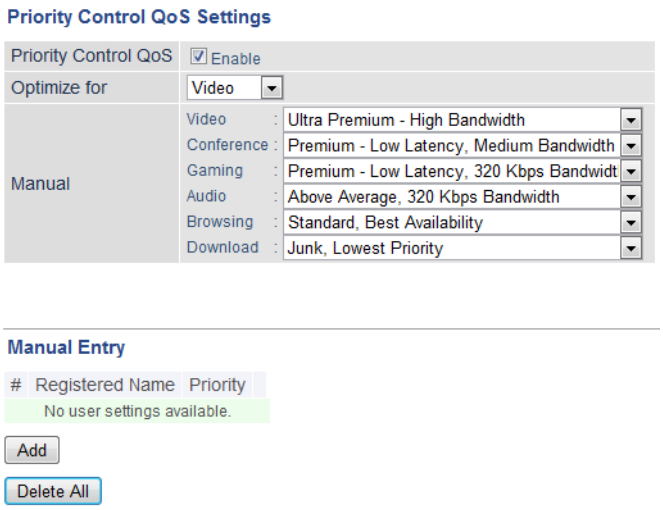
Setting a QoS Priority Policy

When setting a custom policy, select the type of traffic to be given the highest priority and lower the priority of other traffic types accordingly.

1 Open Settings and click [Advanced Settings].

2 Navigate to [Applications] > [QoS].

3 Enable "Priority Control QoS".



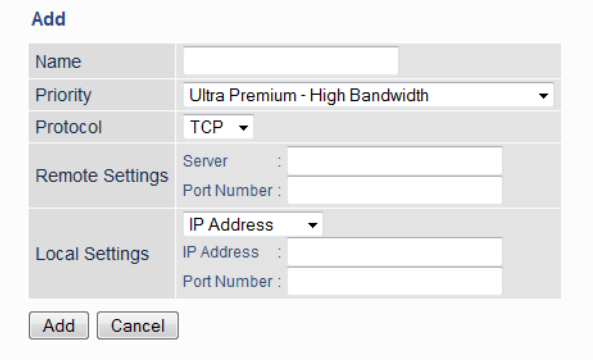
4 Choose an "Optimize for" selection.
Video: Prioritizes streaming video traffic.
Voice: Prioritizes voice chats and VoIP traffic.
Gaming: Prioritizes online gaming traffic.
Manual: Select this option to customize QoS priority for a selected operation.

5 To set a manual policy, select the operation to be prioritized and lower the priority for others. For example, if you set "Video" as "Ultra Premium - High Bandwidth", the bandwidth priority of other operations should be lowered accordingly.

6 Click [Apply].

Manual Entry

Click [Manual Entry] to open the manual entry page, where you can create custom QoS priority settings for individual applications.



1 Enter a name for the new manual entry.

2 Select a value from the dropdown menu to define the priority level for incoming packets.

3 Select a protocol for the application's incoming packets. For example, most VoIP and multimedia applications use UDP, while the Internet and emails use TCP.

4 Set the WAN-side server and port number under "Remote Settings".

5 If you need to use a specific port, most network applications and services will have their required protocols and ports listed in their documentation.

6 Enter the IP address or MAC address of the network device for QoS priority.

7 Click [Add].

Once an entry has been saved, you can click [Edit] to change it or [Delete] to remove the entry. Click [Delete All] to remove all saved entries.

How to configure TCP/IP

Windows 8

To configure TCP/IP in 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
Default gateway: 192.168.11.1
Preferred DNS server: 192.168.11.1
Alternate DNS server: blank

5 Click [Apply].