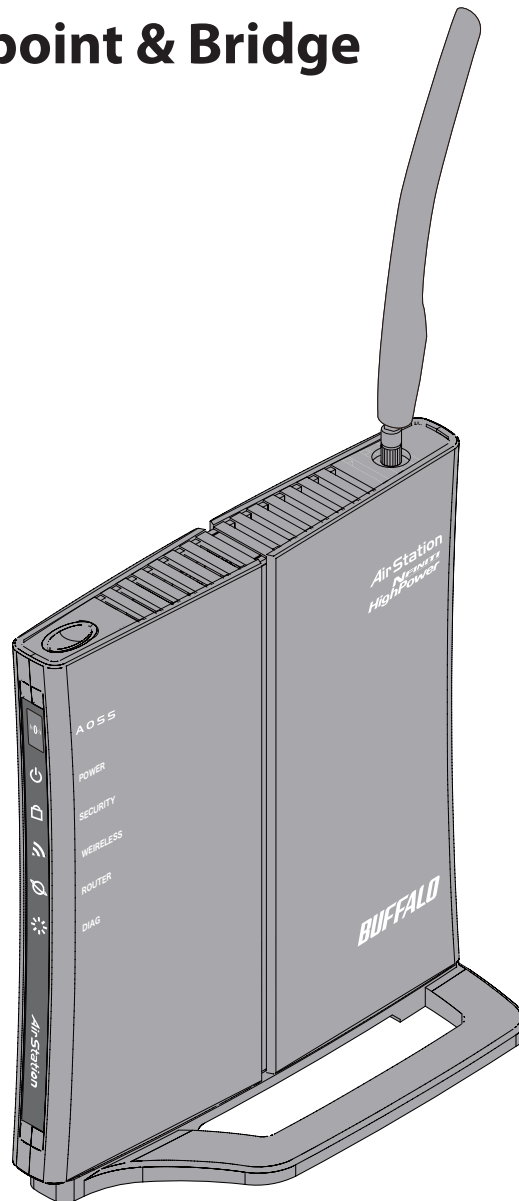


User Manual

WHR-HP-GN

AirStation Wireless N Technology HighPower Router, Access point & Bridge



www.buffalotech.com

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Chapter 1

Product Overview

Features

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

With support for current Wireless-N, Wireless-G, and Wireless-B standards, the AirStation can transfer data to and from all standard 2.4 GHz wireless clients.

Dual speed mode

Dual speed mode makes wireless transmission faster by using 2 channels, allowing 300 Mbps data transmission.

Support AOSS and WPS

Both AOSS (AirStation One-touch Secure System) and WPS (Wi-Fi Protected Setup) are supported. These automatic connection standards make connection with compatible wireless devices easier.

Security Features

The AirStation is equipped with following security features:

- AOSS
- WPS
- WPA-PSK (TKIP/AES)
- WPA2-PSK(TKIP/AES)
- WPA/WPA2 mixed PSK
- WEP(128/64bit)
- Privacy Separator
- MAC address access restriction
- Deny Any Connection/SSID stealth feature
- Setting screen with password
- Wireless transmission output restriction
- Firewall feature with easy rules

Automatic Channel Selection

Monitors wireless interference and automatically assigns the clearest, best channel.

Roaming

You can use multiple AirStations to cover a large area. Wireless clients can automatically switch AirStations for the best signal.

Initialization

To restore settings back to the factory defaults, hold down the Reset button on the bottom of the unit.

Browser Based Administration

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

Auto Mode (Router/Bridge Automatic Recognition)

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

Air Navigator CD Requirements

The AirStation wireless router and access point works with most wired and wireless devices. The automatic installation program on the CD requires Windows Vista or XP to run. Client Manager software is included for Windows Vista and XP/2000. The use of other operating systems may require that the AirStation be manually configured from a browser window.

150 Mbps High Speed Mode

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

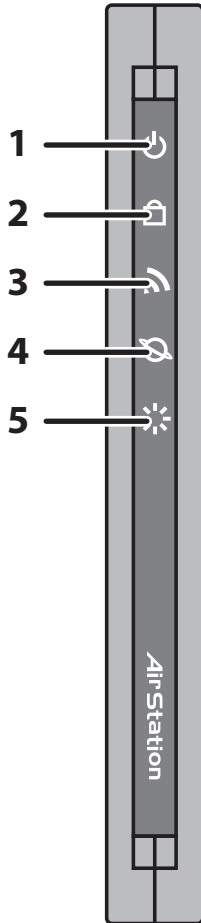
Package Contents

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

- WHR-HP-GN 1
- AC adapter..... 1
- Stand for vertical/wall-mounting..... 1
- Screws for wall-mounting..... 2
- LAN cable..... 1
- Air Navigator CD..... 1
- Quick Setup Guide..... 1

Hardware Overview

Front Panel LED's



1 POWER LED (Green)

- On: The AC adapter is connected
- Off: The AC adapter is not connected
- Blinking: An Ethernet connection is transmitting

2 SECURITY LED (Amber)

- Indicates security status.
- Off: Encryption is not set
- On: Encryption has been set
- Double blink: The unit is waiting for an AOSS or WPS security key
- Blinking: AOSS/WPS error; failed to exchange security keys.
- Note: When the Security LED is lit, an encryption key has been set. You can verify that the encryption key has been set in the screen on page 37.

3 WIRELESS LED (Green)

- Indicates wireless LAN status.
- On: Wireless LAN is connected
- Blinking: Wireless LAN is transmitting

4 ROUTER LED (Green)

- On: Router functionality is enabled
- Blinking: Router functionality is disabled

5 DIAG LED (Red)

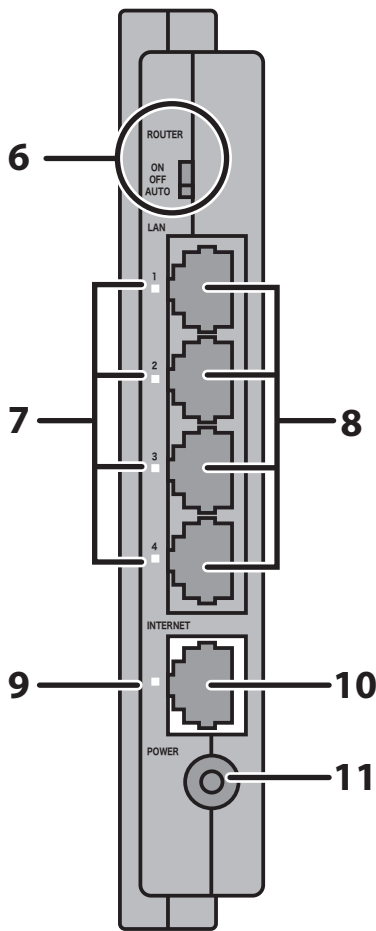
- This indicates the status of this unit depending on the number of blinks per cycle.
- Note: When the unit is first turned on or restarted, the Diag LED will blink for almost a minute during boot. This is normal.

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

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

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

Back Panel



6 ROUTER SWITCH

Switches router mode between enabled, disabled, and auto.

On: Router functionality is enabled (router mode).

Off: Router functionality is disabled (bridge/AP mode).

Auto: This switches between modes automatically based on whether or not another router is detected on the Internet port. The default setting for this switch is Auto.

7 POWER LED (Green)

On: An Ethernet device is connected.

Flashing: An Ethernet device is communicating.

8 LAN Port

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

9 INTERNET LED (Green)

On: The Internet port is connected.

Flashing: The Internet port is transmitting data.

10 INTERNET Port

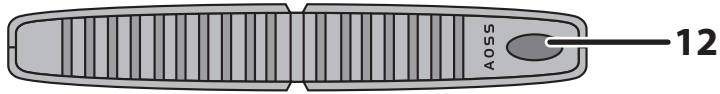
10Mb/s and 100Mb/s connections are supported.

Note: In bridge/AP mode (router switch off), the Internet port becomes a regular LAN port, for a total of 5 usable LAN ports. .

11 DC Connector

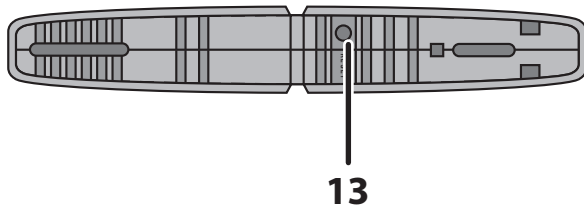
Connect the included AC adapter.

Top



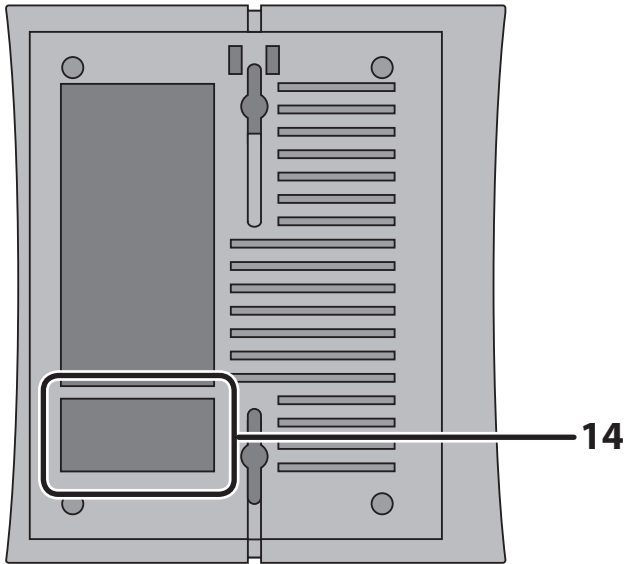
- 12 AOSS Button** Hold down this button until the Security LED flashes (about 1 second), while the unit's power is on, initiates AOSS/WPS mode, allowing the unit to exchange security keys with AOSS or WPS compatible devices.

Bottom



- 13 RESET Button** Holding this button until the Diag LED comes on, while the unit's power is on, will initialize its settings.

Right Side



14 Factory Default Settings

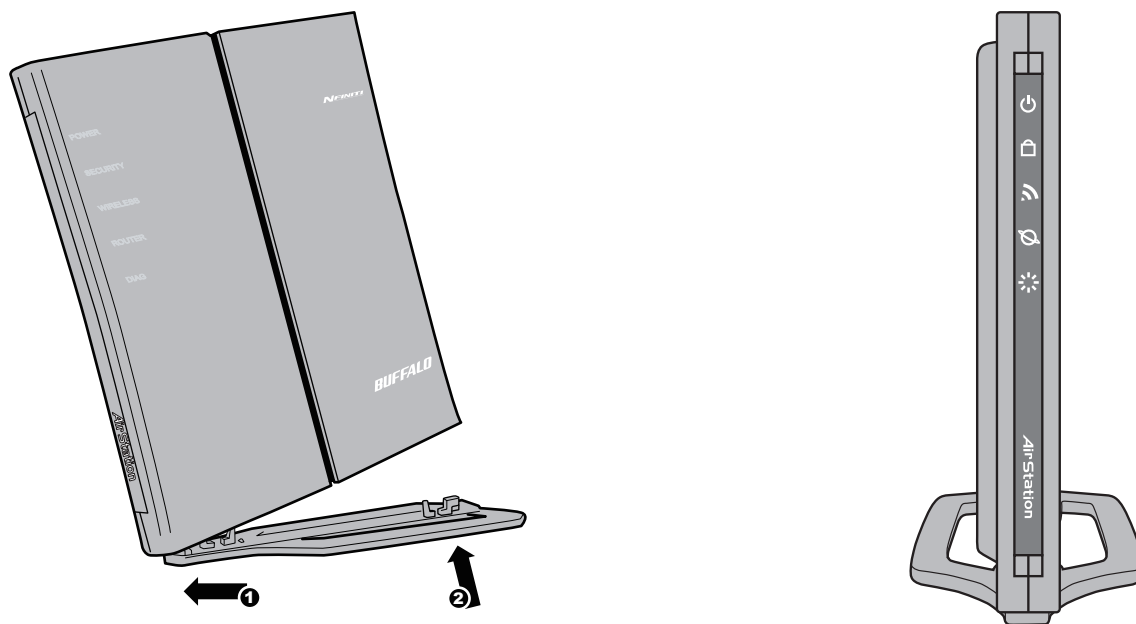
This sticker shows the AirStation's MAC address (SSID), WPS PIN, and default encryption key.

Chapter 2

Placing Your AirStation

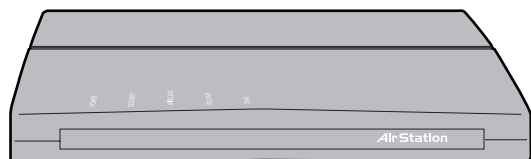
Vertical Placement

To place unit vertically, refer to the following figure to place the vertical/wall-mounting stand.



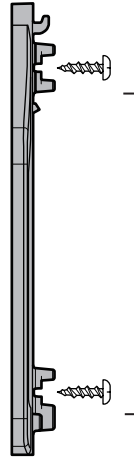
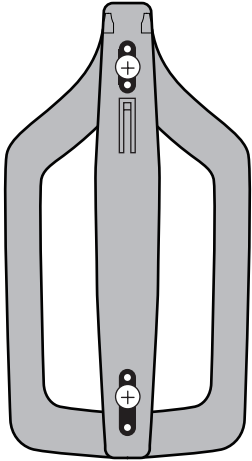
Horizontal Placement

Place the unit horizontally as the figure below.



Wall-Mounting

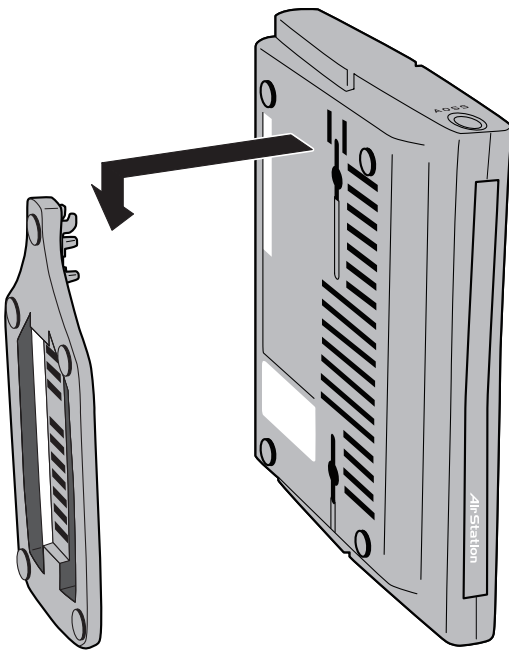
1



8.5 cm
(~3.3 inches)

Fix the vertical/wall-mount stand on the wall using screws.

2



Match the centers of your AirStation and its vertical/wall-mounting stand, and slide downward as shown on the left.

Chapter 3 Installation

CD Setup

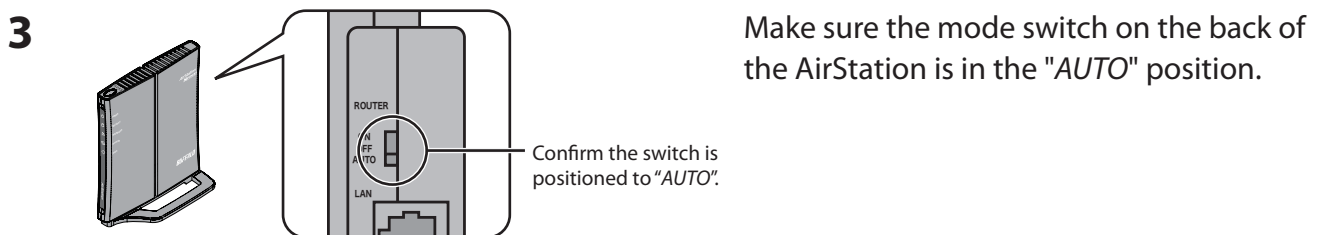
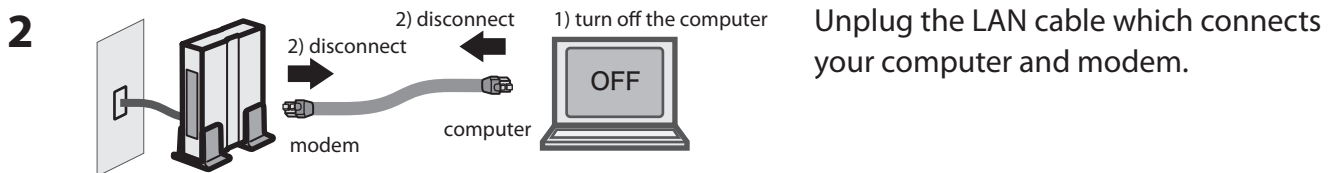
You can set up this unit with the included software CD. Insert the CD into your PC and follow the instructions on the screen.

* CD Setup is supported for Windows Vista/XP only.

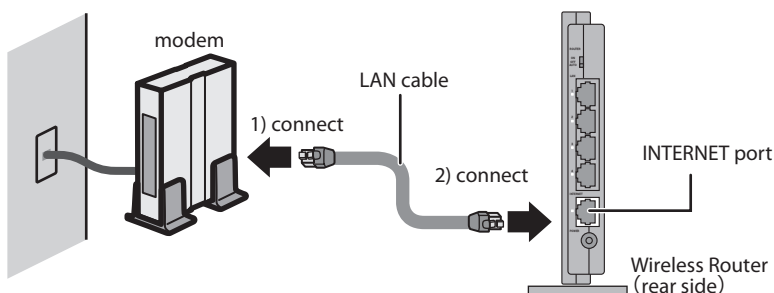
Manual Setup

To configure your AirStation manually, follow the procedure below.

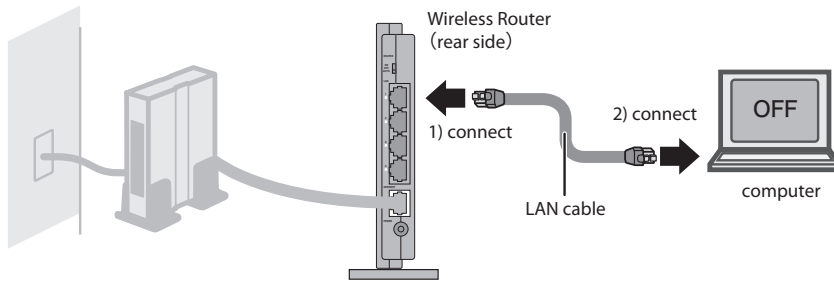
1 Turn off your computer and modem.



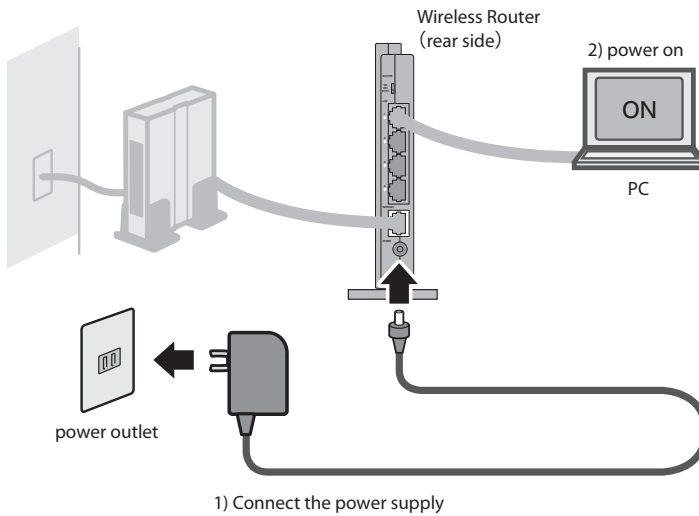
4 Plug one end of the LAN cable into your modem and the other side to the Internet port of the AirStation. Turn on your modem.



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



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



- 7** Wait for a while, and then make sure that the AirStation's LEDs are lit as described below:

POWER	Green light is on
SECURITY	Amber light is on
WIRELESS	Green light is on or blinking
ROUTER	Green light is on or off depending on your network
DIAG	Off
LAN	Green light is on or blinking
INTERNET	Green light is on or blinking

※ Refer to page 8 and 10 for LED locations and other details.

- 8** Launch a web browser. If the "home" setup screen is displayed, setup is complete. If a user name and password screen is displayed, enter "root" (in lower case) for the user name, leave the password blank, and click "OK". Follow the instructions on the screen to complete setup.

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

Chapter 4

Configuration

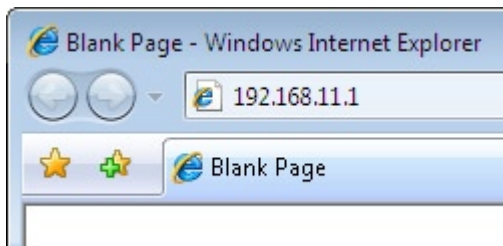
This chapter explains the advanced settings for the AirStation. To change advanced settings, use the AirStation's web-based configuration utility.

How to Access the Web-Based Configuration Utility

To display the configuration of the AirStation, follow the procedure below.

1 Launch a web browser.

2



Enter the router's LAN-side IP address in the address field, and press the "Enter" key.

- Note:
- The AirStation's default LAN-side IP address depends on the position of the mode switch.
In router mode: 192.168.11.1
In bridge mode: 192.168.11.100(*)
Note: If the router switch is set to "AUTO" and the unit is working in bridge mode, an IP address is assigned to this unit from a DHCP server.
 - If you change the IP address of this unit, use the new IP address.

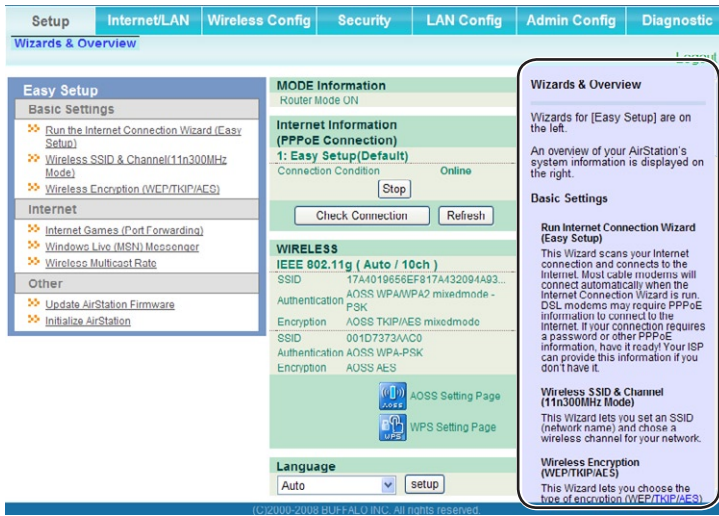
3



When this screen appears, enter "root" (in lower case) for the user name and the password that you set during initial setup. Click "OK".

- Note:
- By default, the password is blank (not set).
 - If you forget your password, hold down the Reset button (page 91) to initialize all settings. The password will then be blank. Note that all other settings will also revert to their default values.

4



The configuration screen is displayed.

Help is always displayed on the right side of the configuration screen. Refer to the Help screens for more information on each page in the web-based configuration screens.

Configuration Menu (Router Mode)

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

Main screen	Descriptions	Page
Internet/LAN		
Internet	Configure Internet side port and settings	Page 25
PPPoE	PPPoE settings (DSL login)	Page 26
DDNS	DNS settings	Page 29
LAN	LAN side port configuration	Page 31
DHCP Lease	DHCP server and lease settings	Page 33
NAT	Network address translation settings, used to connect LAN side devices to the Internet	Page 34
Route	Configure the IP communication route that the AirStation uses	Page 35
Wireless Config		
WPS	WPS settings and status	Page 36
AOSS	AOSS (AirStation One-touch Secure System) settings and status	Page 37
Basic	Configure basic wireless settings	Page 39
Advanced	Configure advanced wireless settings	Page 43
WMM	Set priorities for Wireless Multimedia Extensions (Wi-Fi Multimedia)	Page 44
MAC Filter	Limit access to specific devices	Page 46
Multicast Control	Configure limits on sending unnecessary multicast packets to the wireless LAN port	Page 47
Security		
Firewall	Protect your computer from outside intruders	Page 48
IP Filter	The screen to edit IP filters which relates to the packets passing through the LAN side and the Internet side	Page 50
VPN Passthrough	Configure IPv6 passthrough, PPPoE passthrough, and PPTP passthrough.	Page 51
LAN Config		
Port Forwarding	Configure port translation and exceptions for games and other programs.	Page 52

DMZ	Configure a DMZ for services with external users, secure from normal LAN operations.	Page 53
UPnP	Configure UPnP (Universal Plug and Play).	Page 54
QoS	Configure priority for packets that require a certain data flow.	Page 55
Admin Config		
Name	Configure the AirStation's NetBIOS name .	Page 56
Password	Configure the AirStation's login password for access to configuration screens.	Page 57
Time/Date	Configure the AirStation's internal clock.	Page 58
NTP	Configure the AirStation to synchronize with an NTP server to automatically set the AirStation's internal clock	Page 59
Access	Configure access restrictions to the AirStation's configuration screens	Page 60
Log	Configure a syslog server to manage the AirStation's logs.	Page 61
Save/Restore	Save or restore the AirStation's configuration from a configuration file.	page 62
Initialize/Restart	Initialize the AirStation or reboot it.	Page 63
Update	Update the AirStation's firmware.	Page 64
Diagnostic		
System Info	View current system information for the AirStation.	Page 65
Logs	Check or configure the AirStation's logs.	Page 67
Packet Info	View all packets transferred by the AirStation.	Page 68
Client Monitor	View all devices currently connected to the AirStation.	Page 69
Ping	Test the AirStation's connection to other devices on the network.	Page 70
Logout		
Click this to log out of the AirStation's configuration screens.		

Configuration Menu (Bridge Mode)

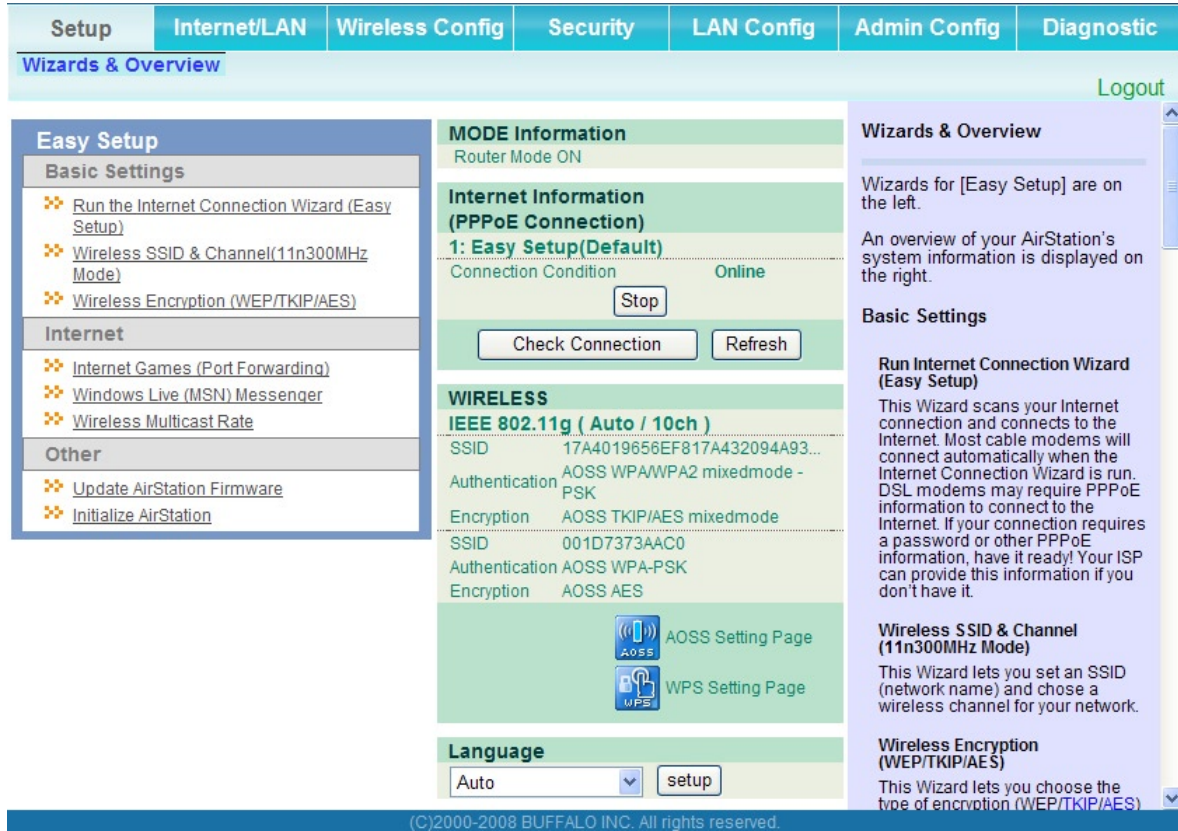
The menu structure during a bridge mode is the following. Please refer to respective page for explanations regarding to each item.

Main screen	Descriptions	Page
LAN Config		
LAN	Configure LAN side ports and devices	Page 31
Route	Configure the IP communication route that the AirStation uses	Page 35
Wireless Config		
WPS	WPS settings and status	Page 36
AOSS	AOSS (AirStation One-touch Secure System) settings and status	Page 37
Basic	Configure basic wireless settings	Page 39
Advanced	Configure advanced wireless settings	Page 43
WMM	Set priorities for Wireless Multimedia Extensions (Wi-Fi Multimedia)	Page 44
MAC Filter	Limit access to specific devices	Page 46
Multicast Control	Configure limits on sending unnecessary multicast packets to the wireless LAN port	Page 47
Admin Config		
Name	Configure the AirStation's NetBIOS name	Page 56
Password	Configure the AirStation's login password for access to configuration screens	Page 57
Time/Date	Configure the AirStation's internal clock.	Page 58
NTP	Configure the AirStation to synchronize with an NTP server to automatically set the AirStation's internal clock	Page 59
Access	Configure access restrictions to the AirStation's configuration screens	Page 60
Log	Configure a syslog server to manage the AirStation's logs.	Page 61
Save/Restore	Save or restore the AirStation's configuration from a configuration file	page 62
Initialize/Restart	Initialize the AirStation or reboot it	Page 63
Update	Update the AirStation's firmware.	Page 64
Diagnostic		
System Info	View current system information for the AirStation.	Page 65
Logs	Check or configure the AirStation's logs.	Page 67

Packet Info	View all packets transferred by the AirStation.	Page 68
Client Monitor	View all devices currently connected to the AirStation.	Page 69
Ping	Test the AirStation's connection to other devices on the network.	Page 70
Logout		
Click this to log out of the AirStation's configuration screens.		

Setup

The home page of the configuration screen. You can verify settings and the status of the AirStation here.



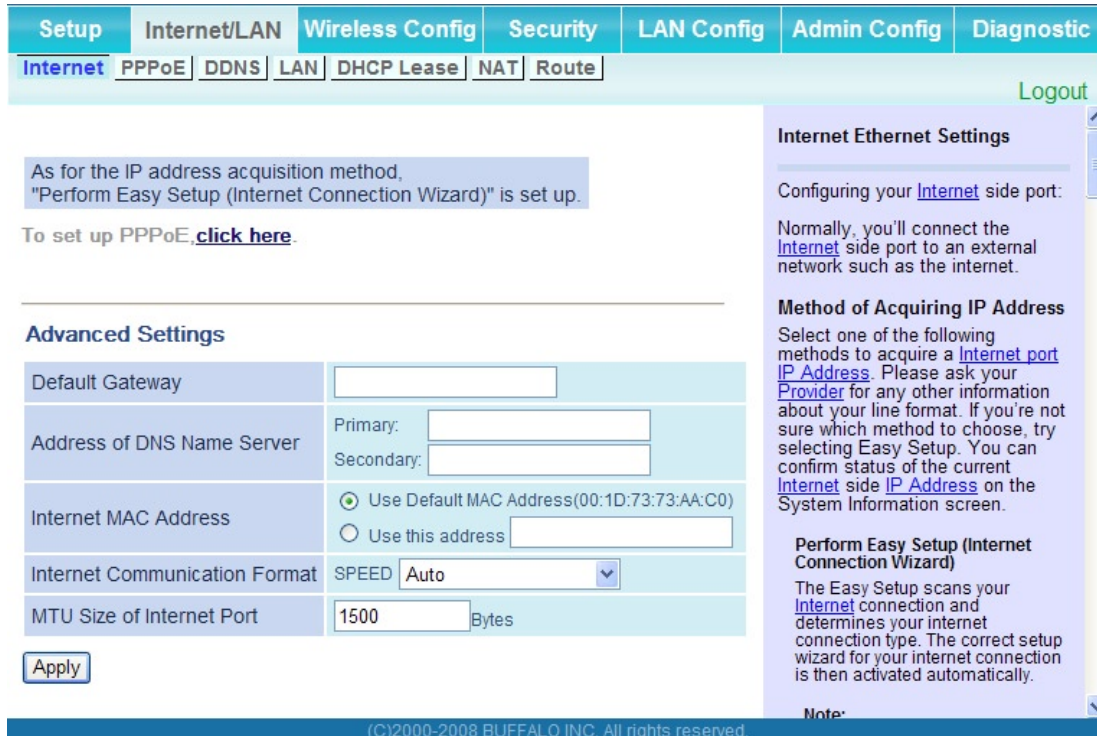
Parameter	Meaning
Internet/LAN (LAN Config)	Displays the configuration screen for the Internet port and LAN ports.
Wireless Config	Click this button to display the configuration screen for wireless settings.
Security	Click this button to display the configuration screen for security.
LAN Config	Click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

Parameter	Meaning
Admin Config	Click this button to display the configuration screen which is related to the administration of the AirStation.
Diagnostic	Click this button to display the status of the AirStation.
Easy Setup	Enable you to configure the AirStation easily such as an encryption method of the wireless signal or changing a wireless channel.
Internet Information	Displays the current information where the AirStation is connected on the Internet side.
Check Connection	Clicking this button to check if the AirStation is connected to the Internet properly.
Refresh	Clicking this button to refresh the screen which is currently displayed.
WIRELESS	Displays the current wireless settings.
AOSS	Click this button to display the AOSS configuration screen.
WPS	Click this button to display the WPS configuration screen.
Language	Enable you to select the language you use.
Logout	Logout from the configuration screen of the AirStation. If the AirStation does not communicate for 5 minutes, it will logout automatically.

Internet/LAN (LAN Config)

Internet (Router Mode only)

The screen to configure a port of the Internet side.



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

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

Logout

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

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

Advanced Settings

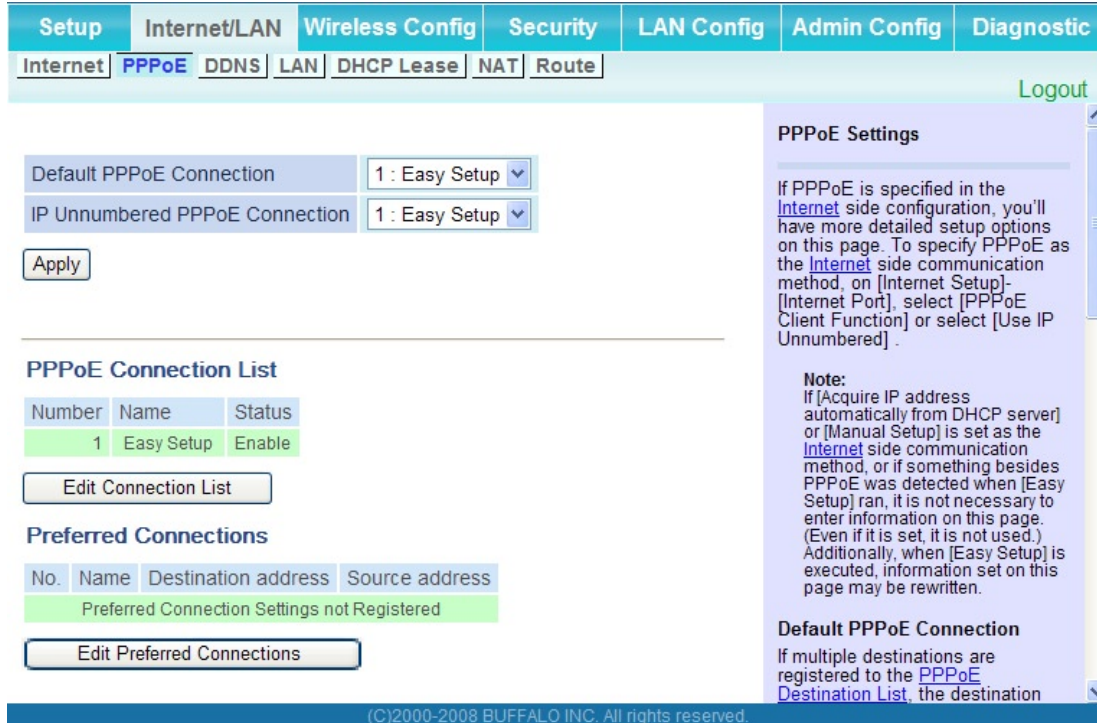
Default Gateway	<input type="text"/>
Address of DNS Name Server	Primary: <input type="text"/> Secondary: <input type="text"/>
Internet MAC Address	<input checked="" type="radio"/> Use Default MAC Address(00:1D:73:73:AA:C0) <input type="radio"/> Use this address <input type="text"/>
Internet Communication Format	SPEED <input type="text" value="Auto"/>
MTU Size of Internet Port	<input type="text" value="1500"/> Bytes

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Parameter	Meaning
Method of Acquiring IP Address	Specify how the Internet side IP address is obtained.
Default Gateway	Configure an IP address for the default gateway.
Address of DNS Name Server	Specify an IP address of the DNS server.
Internet MAC Address	Configure the Internet side MAC address. Note: Configuring an improper MAC address may make the AirStation unusable. Change this setting at your own risk.
Internet Communication Format	Specify a communication method for the Internet port.
MTU size of Internet Port	Configure the MTU value of the Internet port from the range of 578 to 1500 bytes.

PPPoE (Router Mode only)

The screen to configure PPPoE settings.



Parameter

Meaning

Default PPPoE Connection	If you have registered multiple connection destinations in PPPoE Connection List, connection destination selected here have priority. You need to configure the route to which PPPoE is connected to if you don't use the default setting.
IP Unnumbered PPPoE Connection	Select the destination from the PPPoE Connection List which is used when specifying "Use IP Unnumbered" in Method of Acquiring IP Address (page 25).
PPPoE Connection List	Edit PPPoE destination. You can register up to 5 sessions.
"Edit Connection List"	Click this button to display the screen to edit the settings of destination.

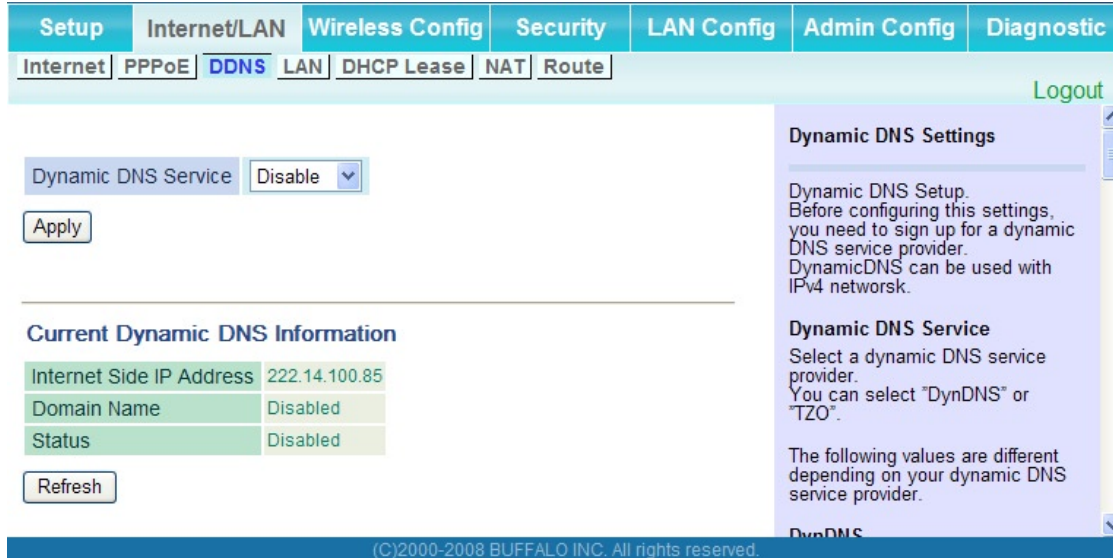
Parameter	Meaning
PPPoE Connection No.*-Add	<p data-bbox="641 325 1268 357">This is displayed when clicking "<i>Edit Connection List</i>".</p> <p data-bbox="641 388 906 415">Name of Connection</p> <p data-bbox="662 426 1422 489">Enter the name to identify the connected destination. You may enter up to 32 alphanumerical characters and symbols.</p> <p data-bbox="641 520 781 548">User Name</p> <p data-bbox="662 558 1419 663">Set the user name which is specified by your provider, used for a PPPoE certification. You may enter up to 32 alphanumerical characters and symbols.</p> <p data-bbox="641 695 764 722">Password</p> <p data-bbox="662 732 1429 837">Set the password specified by your provider for PPPoE certification. You may enter up to 32 alphanumerical characters and symbols.</p> <p data-bbox="641 869 818 896">Service Name</p> <p data-bbox="662 907 1451 1012">Fill in this field only when your provider specifies a Service Name. Leave blank otherwise. You may enter up to 32 alphanumerical characters and symbols.</p> <p data-bbox="641 1043 857 1071">Connection Type</p> <p data-bbox="662 1081 1461 1108">Specifies the timing for the AirStation to connect to your provider.</p> <p data-bbox="641 1140 964 1167">Automatic disconnection</p> <p data-bbox="662 1178 1451 1276">Set time to disconnect after communication is stopped when the connection method is set to "<i>Connect on Demand</i>" or "<i>Manual</i>". You can enter up to 1440 minutes.</p> <p data-bbox="641 1308 821 1335">Authorization</p> <p data-bbox="662 1346 1287 1373">Configure an authorization method with a provider.</p> <p data-bbox="641 1404 760 1432">MTU Size</p> <p data-bbox="662 1442 1425 1505">Configure MTU value in the range of 578 to 1492, which is used for communication on PPPoE.</p> <p data-bbox="641 1537 761 1564">MRU Size</p> <p data-bbox="662 1575 1451 1638">Configure MRU (Maximum Receive Unit) value in the range of 578 to 1492, which is used for communication on PPPoE.</p>

Parameter	Meaning
PPPoE Connection No. *-Add	<p>Keep Alive</p> <p>When enabling Keep Alive, the AirStation issues LCP echo request in order to maintain the connection with the PPPoE server once a minute. If the server does not respond more than 6 minutes the line is recognized as disconnected and the AirStation will terminate the connection. If a PPPoE connection is often disconnected, the server may not reply to Keep Alive. Set this to "Disable."</p>

Parameter	Meaning
Preferred Connections	Displays information you have set regarding to the connection destination route.
[Edit Preferred Connections]	Click this button to display the screen to edit the settings of connection destination route.
Preferred PPPoE Connection -Add	<p>This is displayed when clicking "<i>Edit Preferred Connections</i>".</p> <p>Name</p> <p>The name of destination to connect by PPPoE if "<i>Destination address</i>" and "<i>Source address</i>" of the communication match. Select the destination registered to PPPoE Connection List.</p> <p>Destination address</p> <p>Destination address to communicate. When communicating to this destination address, the AirStation will communicate with "<i>Name of Connection</i>."</p> <p>Source address</p> <p>Source address to communicate. When communicating from this source address, the AirStation will communicate with "<i>Name of Connection</i>."</p>

DDNS (Router Mode only)

The screen to configure Dynamic DNS settings.



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

Internet PPPoE **DDNS** LAN DHCP Lease NAT Route Logout

Dynamic DNS Service

Current Dynamic DNS Information

Internet Side IP Address	222.14.100.85
Domain Name	Disabled
Status	Disabled

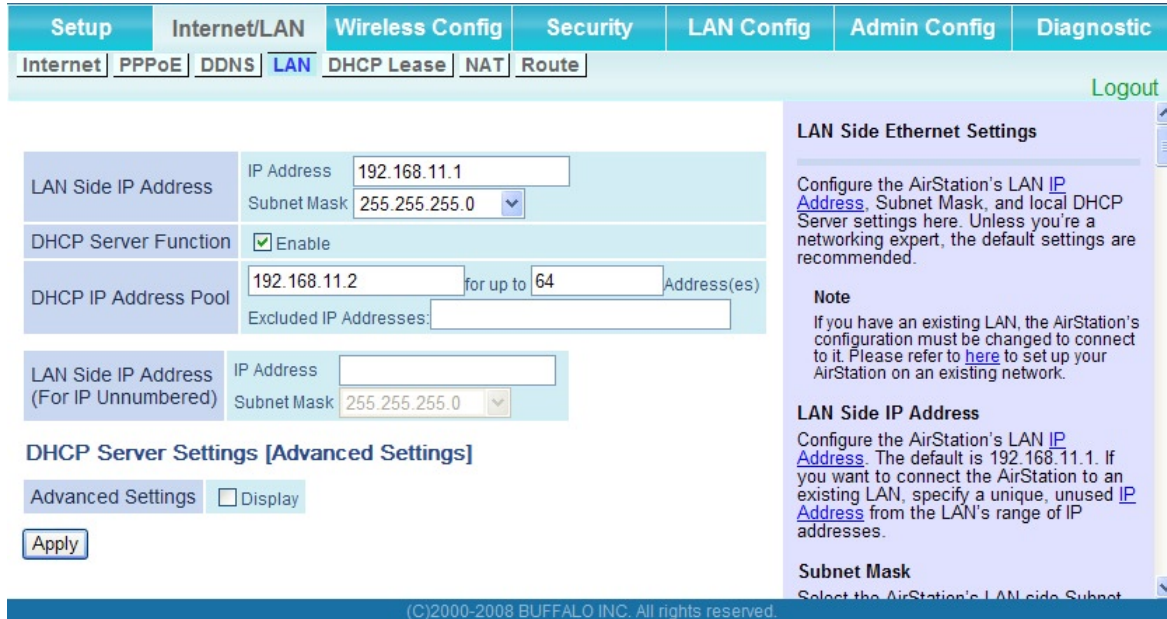
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Parameter	Meaning
Dynamic DNS Service	Select a provider (DynDNS or TZO) for Dynamic DNS.
User Name * Only when DynDNS is selected	Enter the user name which is registered to the Dynamic DNS service. You may enter up to 64 alphanumeric characters and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

Parameter	Meaning
Domain Name * Only when selecting TZO	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. When DynDNS is selected, set it between 0 and 35 days. When TZO is selected, set it between 0 and 99 days. If 0 (zero) day is set, no periodic update is performed.
Internet Side IP Address	The WAN-side IP address of the AirStation's Internet port. This address is sent to the dynamic DNS service provider.
Domain Name	The domain name assigned by the dynamic DNS Service provider. The AirStation can be accessed from the Internet using this domain name.
Status	Display the status of dynamic DNS service.

LAN

The screen to configure a port of the LAN side.



Parameter	Meaning
LAN Side IP Address	Set a LAN side IP address and subnet mask.
DHCP Server Function * Router Mode only	Enable or disable the DHCP server, which assigns IP addresses automatically.
DHCP IP Address Pool * Router Mode only	Configure the range of IP addresses to be assigned by the DHCP server and IP addresses to be excluded from that range. Values from 0-253 may be entered.
LAN Side IP Address (For IP Unnumbered) * Router Mode only	Set a LAN side IP address for IP unnumbered. Note: A PC with a normal LAN side IP address and a PC with an LAN side IP address for IP Unnumbered cannot communicate each other.
Advanced Settings * Router Mode only	Select Display to display the advanced settings options for the DHCP server.
Lease Period * Router Mode only	Set the effective period of an IP address assigned by the DHCP server. Up to 999 hours may be entered.

Parameter	Meaning
Default Gateway * Router Mode only	Set the default gateway IP address for the DHCP server to issue to clients.
DNS Servers * Router Mode only	Set the dDNS server IP address for the DHCP server to issue to clients.
WINS Server * Router Mode only	Set the WINS server IP address for the DHCP server to issue to clients.
Domain Name * Router Mode only	Set the domain name for the DHCP server to issue to clients. You may enter up to 127 alphanumerical characters, hyphens, and periods.
Default Gateway * Bridge Mode only	Set the default gateway IP address.
DNS Server Address * Bridge Mode only	Set the DNS server IP address.

DHCP Lease (Router Mode only)

The screen to configure DHCP lease.

Parameter	Meaning
IP Address	Enter an IP address to lease manually. The IP address should be from the same subnet as the DHCP scope, but not be within the range that DHCP is assigning to other devices.
MAC Address	Enter the MAC address which identifies the client.
Current DHCP Client Information	Displays information for current leases. An IP address which is leased automatically can be changed to be leased manually by clicking "Manual Assignment".

NAT (Router Mode only)

The screen to configure settings relating to the network address translation function which is used to connect the LAN side to the Internet.



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

Route

The screen to configure the communication IP route that the AirStation uses.

The screenshot shows the 'Route' configuration page. At the top, there is a navigation bar with tabs: Setup, Internet/LAN, Wireless Config, Security, LAN Config, Admin Config, and Diagnostic. Below this, there is a sub-menu for 'Internet/LAN' with options: Internet, PPPoE, DDNS, LAN, DHCP Lease, NAT, and Route. A 'Logout' link is visible in the top right. The main content area is split into two columns. The left column has an 'Add Routing' section with form fields for 'Destination Address' (IP Address and Subnet Mask), 'Gateway', and 'Metric'. Below these is an 'Add' button. The right column has a 'Routing Information' section with a link to 'Configure Routing Information', an 'Add/Edit Routing' section with explanatory text, and a 'Destination Address' section with detailed instructions. At the bottom of the main content area, there is a 'Routing Information' table with columns: Destination Address, Subnet Mask, Gateway, Metric, and Operation. A message below the table states 'Routing Configuration is not Registered'. At the very bottom of the page, there is a copyright notice: '(C)2000-2008 BUFFALO INC. All rights reserved.'

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

Wireless Config

WPS

The screen to see the detailed settings and status of WPS.

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

WPS AOSS **Basic(11g)** Advanced(11g) WMM(11g) MAC Filter Multicast Control Logout

WPS enable

External Registrar enable

Apply

AirStation PIN 18190014 Generate PIN

Enrollee PIN OK

WPS Security Information

WPS status	configured	release
11g	SSID	001D7373AAC0
	Security	WPA-PSK AES
	Encryption key	27532n4379w35

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WPS(WiFi Protected Setup)

WPS

Configuring WPS
WPS is WiFi Protected Setup which corresponds to Windows Connect Now-NET (WCN-NET). WPS is also known as the Wi-Fi Simple Configuration Protocol. WPS function can safely and easily distribute wireless security information from an access point (Airstation) to the WPS clients. The WPS device which registers wireless security information is called Registrar. The Airstation has an internal Registrar built-in it, but can also use an External Registrar. The WPS device which receives the wireless security information from the Registrar is called Enrollee.

Parameter

Meaning

WPS	Enable to use WPS automatic configuration.
External Registrar	Enable to accept the external configure requests from other WPS devices. Note: External configure requests will not be accepted if AOSS is in use.
AirStation PIN	Displays the PIN code of the AirStation. Clicking "Generate PIN" will generate a new PIN code. This code can be entered into other wireless devices that support WPS.
Enrollee PIN	Enter the PIN code for the other wireless device and click "OK".
WPS status	Displays "configured" if all available wireless bands are configured. Displays "unconfigured" if at least one wireless band is unconfigured.

AOSS

The screen to see the detailed settings and status of AOSS.

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

WPS
AOSS
Basic(11g)
Advanced(11g)
WMM(11g)
MAC Filter
Multicast Control
Logout

AOSS Settings - Edit AOSS Client Information

Encryption Type of Exclusive SSID for WEP	Stop
Advanced Encryption Level feature	Enable
Exclusive SSID for WEP	Disable
AOSS Button on the AirStation Unit	<input checked="" type="checkbox"/> Enable

AOSS Client Information

Client Information	MAC Address	Encryption Type	Wireless	Connection Setting
WLP-UC-AG300	00:1D:73:3B:26:2C	WEP64/WEP128 WPA-PSK-TKIP/WPA-PSK-AES	802.11g	Allow

AOSS Ethernet Converter Information

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

Current Security Information 802.11g

Encryption Level	WPA-PSK-AES (Inuse)
SSID	001D7373AAC0
Encryption Key	27532n4379w35
Encryption Level	WPAWPA2-PSK-mixed (Inuse)
SSID	17A4019656EF817A432094A9323A031F
Encryption Key	c1545b589b6d5e267d64ec773b399c66ae4e324432a7e12f7d137d14deff090
Encryption Level	WEP128
SSID	42010801080E42020808D4507DD731F

AOSS (AirStation One-Touch Secure System)

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

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



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

How to use AOSS
How to use AOSS:
(1)First
Power on or reboot the AirStation and a wireless client that supports AOSS.
(2)Press AOSS buttons
After rebooting, press both products's AOSS buttons, the router's first, then the client's. The AirStation and the wireless client will exchange security information to set up the most secure encryption type automatically and are ready to communicate.

Note:

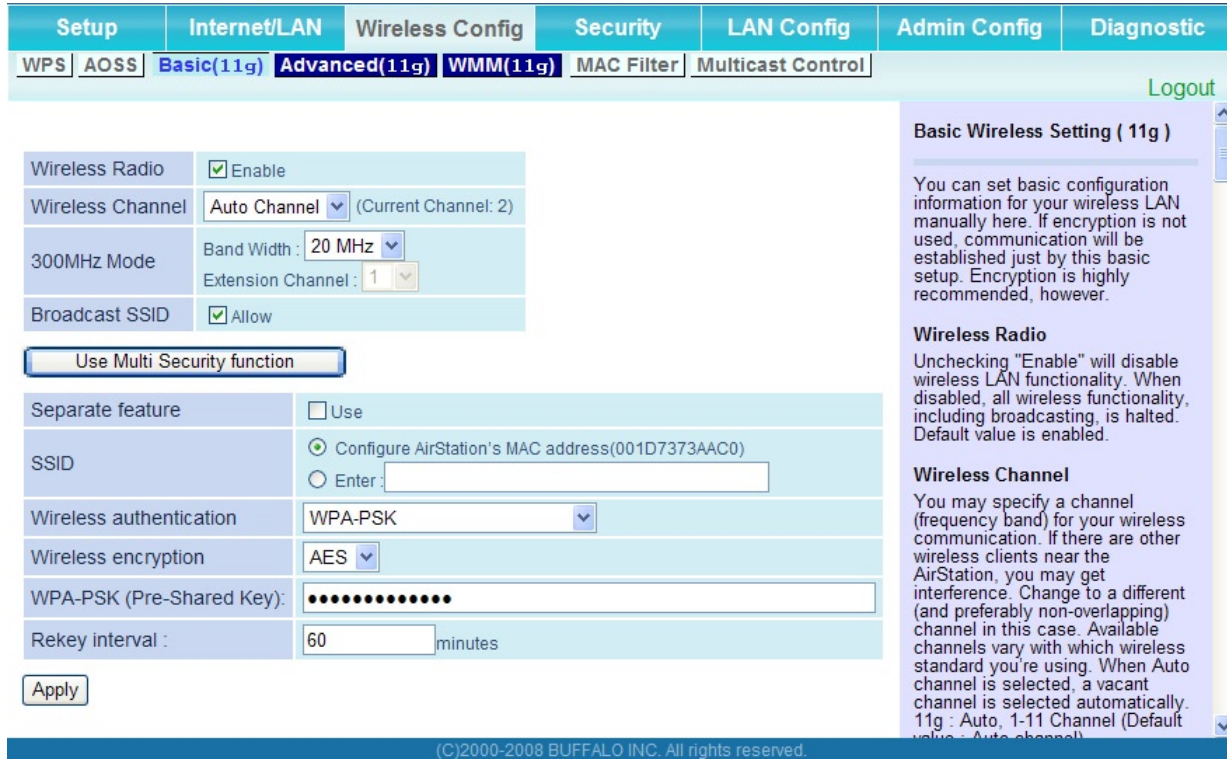
- Once the AOSS button is pressed, other operations can't be started until AOSS is finished. If the AirStation can't find a wireless client after three minutes, the AirStation's status returns to its previous state.
- Up to 24 wireless clients may

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Parameter	Meaning
	Initiates AOSS automatic wireless configuration. Click this, then press or click the AOSS button on your AOSS-compatible wireless client. Repeat for additional AOSS clients.
	Click this button to disconnect AOSS connections. Note: If AOSS connections are disconnected, the SSID and encryption keys will be restored to their most recent settings before using AOSS.
Encryption Type of Exclusive SSID for WEP	You may allow a separate SSID specifically for WEP connections. If "disabled" is selected, then clients will not be able to connect with WEP.
Advanced Encryption Level feature	Allow AOSS to make connections encrypted with WPA/WPA2-PSK-mixed mode.
Exclusive SSID for WEP	Set a separate SSID and network segment specifically for WEP connections. Devices connected with WEP will not be able to communicate with devices connected using AES/TKIP. All connected devices will be able to communicate with the internet.
AOSS Button on the AirStation Unit	Determine whether configure AOSS or not when the physical AOSS button is pressed.
AOSS Client Information*	Displays AOSS clients connected to the AirStation and information of the devices which are wirelessly communicated.
AOSS Ethernet Converter Information*	Displays information about ethernet converters connected to the AirStation via AOSS.
* Only displayed if there are AOSS Connections	
Current Security Information	Displays an encryption level, SSID, an encryption key configured by AOSS.
* AOSS Connection only	

Basic

The screen to configure a basic wireless settings.



Parameter	Meaning
Wireless Radio	Determines whether to allow wireless communication. If this is unchecked, then no wireless connections will be allowed.
Wireless Channel	Sets a channel (a range of frequencies) used for wireless connections. Available range of the channel is 1 to 11. With Auto Channel selected, the AirStation will automatically use the best available channel.
150Mbps Mode	To use 150 Mbps mode, set the Bandwidth to 40 MHz and choose an Extension Channel. Note: If using Auto Channel for the wireless channel, then the Extension Channel is set automatically.

Parameter	Meaning
Broadcast SSID	If " <i>Allow</i> " is checked, then the AirStation will respond to SSID searches from wireless devices by broadcasting its SSID. If " <i>Allow</i> " is unchecked, then the AirStation ignore SSID searches from wireless devices.
[Use Multi Security function] [Do not use Multi Security function]	Clicking " <i>Use Multi Security function</i> " will enable the Multi Security function, allowing the use of multiple SSIDs, each with different wireless security settings. Clicking " <i>Do not use Multi Security function</i> " will disable the Multi Security function. The AirStation will then allow one SSID and one type of wireless security. Note: When using Multi Security, you need to enable at least one of the following SSID1, SSID2, or SSID3.
SSID1	Multi Security SSID1 can use WPA-PSK-TKIP or WPA/WPA2-Mixed for wireless security.
SSID2	Multi Security SSID2 can use WPA-PSK-AES for wireless security.
SSID3	Multi Security SSID3 can use WEP for wireless security.
Separate feature	When " <i>Enabled</i> ", wireless devices connected to the AirStation can communicate only with the Internet side, not with each other.
SSID	Set SSID using 1-32 alphanumeric character (s).
Wireless authentication	Specifies an authentication method used when connecting to a wireless device.

Parameter	Meaning
Wireless encryption	<p>Select a type of data encryption for wireless communication from the following options:</p> <p>No encryption Data is transmitted without encryption. Avoid this option since any communication may be intercepted. "No encryption" can be selected only when "No authentication" is selected for Wireless authentication.</p> <p>WEP WEP is a common encryption method supported by most devices. Use an encryption key to communicate with a wireless device. WEP can only be selected when "No authentication" is selected for Wireless authentication.</p> <p>TKIP TKIP is an encryption method which is more secure than WEP, but slower. Use an pre-shared-key to communicate with a wireless device. TKIP can be selected only when WPA-PSK or WPA2-PSK is selected for Wireless authentication.</p> <p>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.</p> <p>TKIP/AES mixed mode TKIP/AES mixed mode allows both TKIP and AES authentication and communication. TKIP/AES mixed mode can be selected only when WPA/WPA2 mixed mode - PSK is selected for Wireless authentication.</p>
WPA-PSK (Pre-Shared Key)	<p>Enter a pre-shared key for use with wireless authentication.</p> <p>* Use 8 to 63 alphanumeric characters (case-sensitive) for a preshared key when you select character type as an input method. Enter 64 digits using 0 to 9 and a to f (not case-sensitive) when you select hexadecimal type as an input method.</p>
Rekey interval	<p>Set the interval between 0 and 1440 (minutes) to update a communication encryption key.</p>

Parameter	Meaning
Setup WEP encryption key	Enter an encryption key to encrypt wireless data. * Use 5 or 13 alphanumeric characters (case-sensitive) for an encryption key when you select character type as the input method. Enter 10 or 26 digits using 0 to 9 and a to f (not case-sensitive) when you select hexadecimal type as the input method.
