

User Manual

Wireless AC1300 / N900 Gigabit Dual Band Router

WZR-D1800H



www.buffalotech.com

Contents

Chapter 1 - Product Overview 5

Package Contents.....	5
Hardware Overview.....	6
Front Panel LEDs.....	6
Back Panel.....	8
Bottom.....	9
Right Side	10
Vertical Placement	11
Horizontal Placement.....	11
Wall-Mounting	12

Chapter 2 - Installation..... 13

Initial Setup	13
---------------------	----

Chapter 3 - Configuration 16

Accessing the Web-based Configuration Interface.....	16
Configuration Interface Menus in Router Mode	18
Configuration Interface Menus in Bridge Mode.....	20
Setup.....	22
Internet/LAN (LAN Config)	24
Internet (Router Mode only).....	24
PPPoE (Router Mode only).....	25
DDNS (Router Mode only)	28
VPN server (Router Mode Only).....	30
LAN.....	32
DHCP Lease (Router Mode only)	34
NAT (Router Mode only)	35
Route	36

Wireless Config	37
WPS	37
Basic	38
Advanced	41
WMM	42
MAC Filter	44
Multicast Control	45
AOSS	46
Security (Router Mode only)	47
Firewall (Router Mode only)	47
IP Filter (Router Mode only)	49
VPN Passthrough (Router Mode only)	50
LAN Config	51
Port Forwarding (Router Mode only)	51
DMZ (Router Mode only)	52
UPnP (Router Mode only)	53
QoS (Router Mode only)	54
NAS	55
Disk management	55
Shared Folder	57
User Management	59
Shared Service	60
Web Access	61
Media Server	63
BitTorrent	64
Admin Config	66
Name	66
Password	67
Time/Date	68
NTP	69
ECO	70
Network-USB	71
Access	72

Log	73
Save/Restore	74
Initialize/Restart	75
Update	76
Diagnostic	78
System Info	78
Logs	80
Packet Info	81
Client Monitor	82
Ping	83

Chapter 4 - Connect to a Wireless Network 84

Automatic Secure Setup (AOSS / WPS)	84
Windows 7/Vista (Client Manager V)	85
Windows XP (Client Manager 3)	86
Mac OS X (AOSS Assistant)	87
Other Devices (e.g. Game Console)	88
Manual Setup	88
Windows 7 (WLAN AutoConfig)	88
Windows Vista (WLAN AutoConfig)	89
Windows XP (Wireless Zero Configuration)	92
Mac OS X (Wi-Fi)	93

Chapter 5 - Troubleshooting..... 94

Cannot connect to the Internet over wired connection.....	94
Cannot access the web-based configuration Interface.	94
Cannot connect to the network wirelessly.	95
You forgot AirStation's SSID, Encryption Key, or Password....	95
Restoring the Default Configuration	95
TCP/IP Settings (Windows 7).....	96
TCP/IP Settings (Windows Vista).....	97
TCP/IP Settings (Windows XP).....	98

TCP/IP Settings (Mac OS X).....	99
Other Tips.....	100
Chapter 6 - Default Configuration Settings.....	102
Chapter 7 - Network-USB Navigator	109
Initial Setup for Windows Users	109
Initial Setup for Mac Users	114
Opening the Network-USB User Manual	117
How to use Network-USB	118
Chapter 8 - Checking Wireless Signal Quality.....	119
Windows 7/Vista.....	119
Mac OS X.....	120
Chapter 9 - Shared Folders and the USB Port.....	122

Chapter 1 - Product Overview

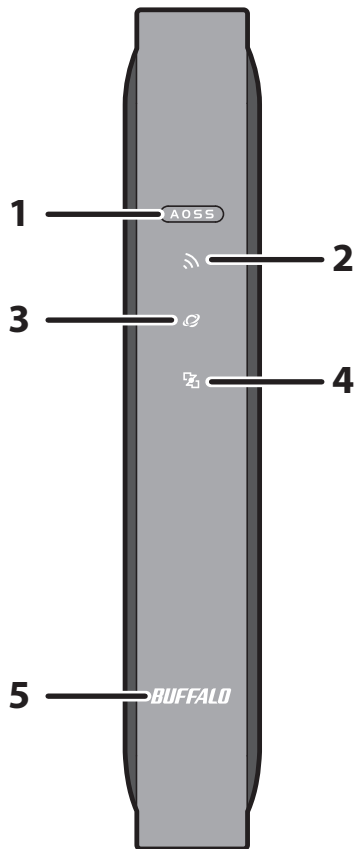
Package Contents

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

- WZR-D1800H 1
- AirStation Setup Card 1
- AC adapter 1
- Stands..... 2
- Screws for wall-mounting 2
- LAN cable 1
- AirNavigator CD..... 1
- Quick Setup Guide..... 1
- Warranty Statement 1

Hardware Overview

Front Panel LEDs



- 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 (Blue or Amber)**
- | | |
|------------------------|--|
| On: | Wireless LAN is enabled. |
| Randomly blinking: | Wireless LAN is transmitting. |
| 2 blinks: | AirStation is waiting for an AOSS or WPS security key. |
| Continuously blinking: | AOSS/WPS error; failed to exchange security keys. |
| Off: | Wireless LAN is disabled. |
- Note:
- | | |
|-----------------------|--|
| Wireless LED is blue | : Security settings have been made for the wireless LAN. |
| Wireless LED is amber | : Security settings have not been made for the wireless LAN. |

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)

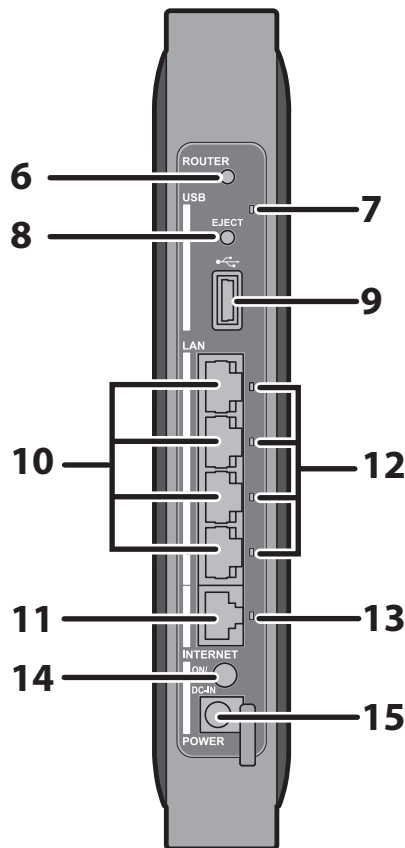
On (White):	Power is on.
Off:	Power is off.
On (Red)*1:	Booting.
2 blinks (Red)*2:	Flash ROM error.
3 blinks (Red)*2:	Wired Ethernet LAN error.
4 blinks (Red)*2:	Wireless LAN error.
5 blinks (Red)*3:	IP address setting error.
9 blinks (Red)*2:	System error.
Continuously blinking*1:	Updating firmware, saving settings, or initializing settings.

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

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

*3 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.

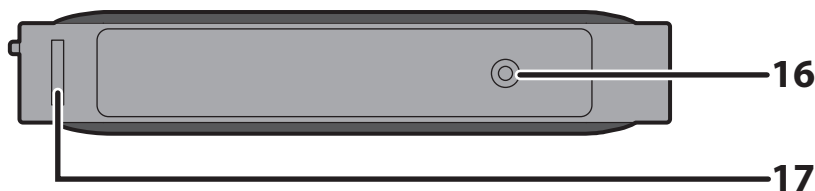
Back Panel



- 6 Router button** This button turns the router on and off. The operation mode is changed by holding down the button.
- 7 USB LED (Blue)**
- On: The 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.
- 8 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.
- 9 USB Port** Connect the USB drive.

- 10 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.
- 11 Internet Port** 10 Mbps, 100 Mbps, and 1000 Mbps connections are supported.
Note: In bridge/AP mode (router off), the Internet port becomes a regular LAN port, for a total of 5 usable LAN ports.
- 12 LAN LED (Green)**
On: An Ethernet device is connected.
Blinking: An Ethernet device is communicating.
- 13 Internet LED (Green)**
On: The Internet port is connected.
Blinking: The Internet port is transmitting data.
- 14 Power button** This button turns the power on and off.
- 15 DC connector** Connect the included AC adapter here.

Bottom



- 16 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.
- 17 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 the configuration interface.

Right Side

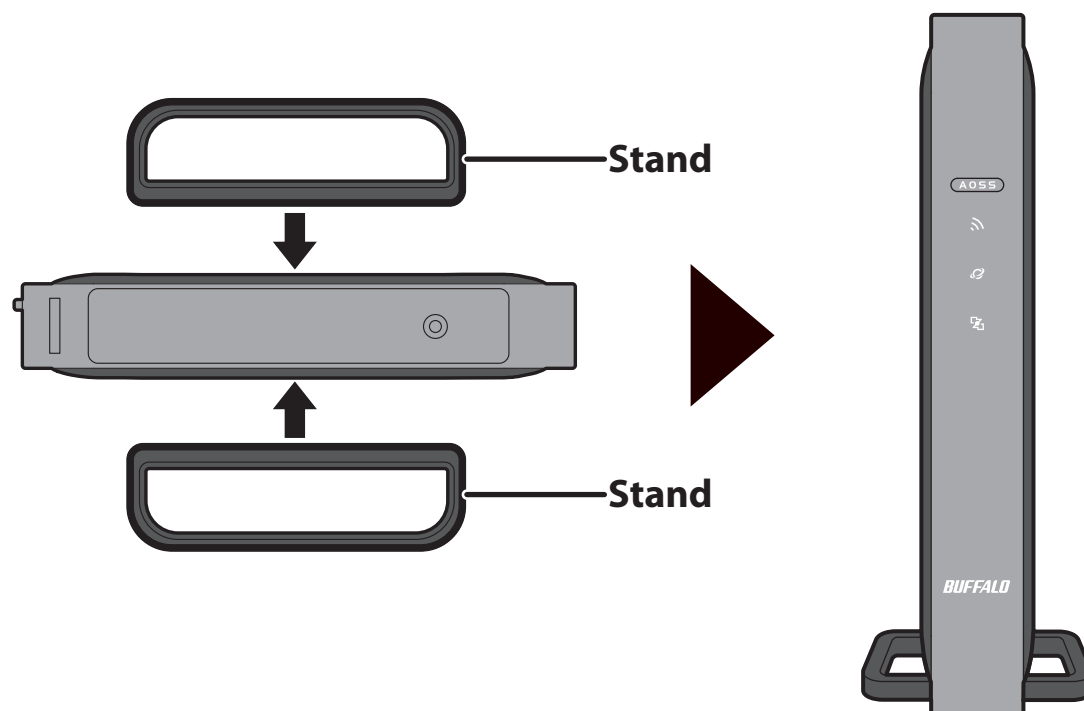


18 Mounting holes

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

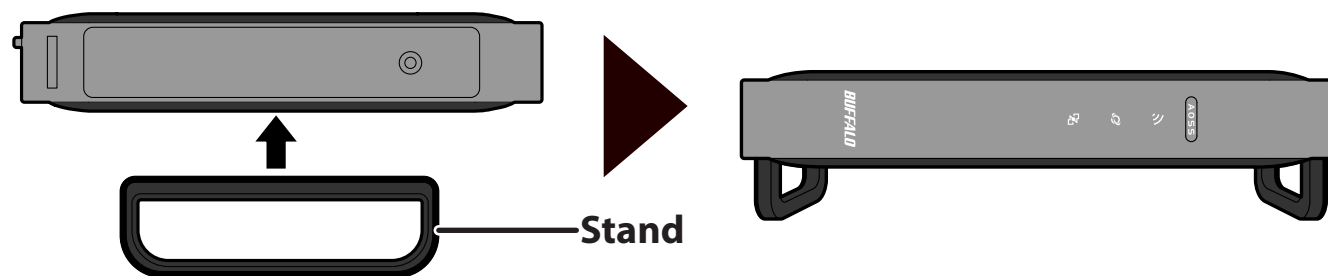
Vertical Placement

Attach the stand as shown in the figure below.



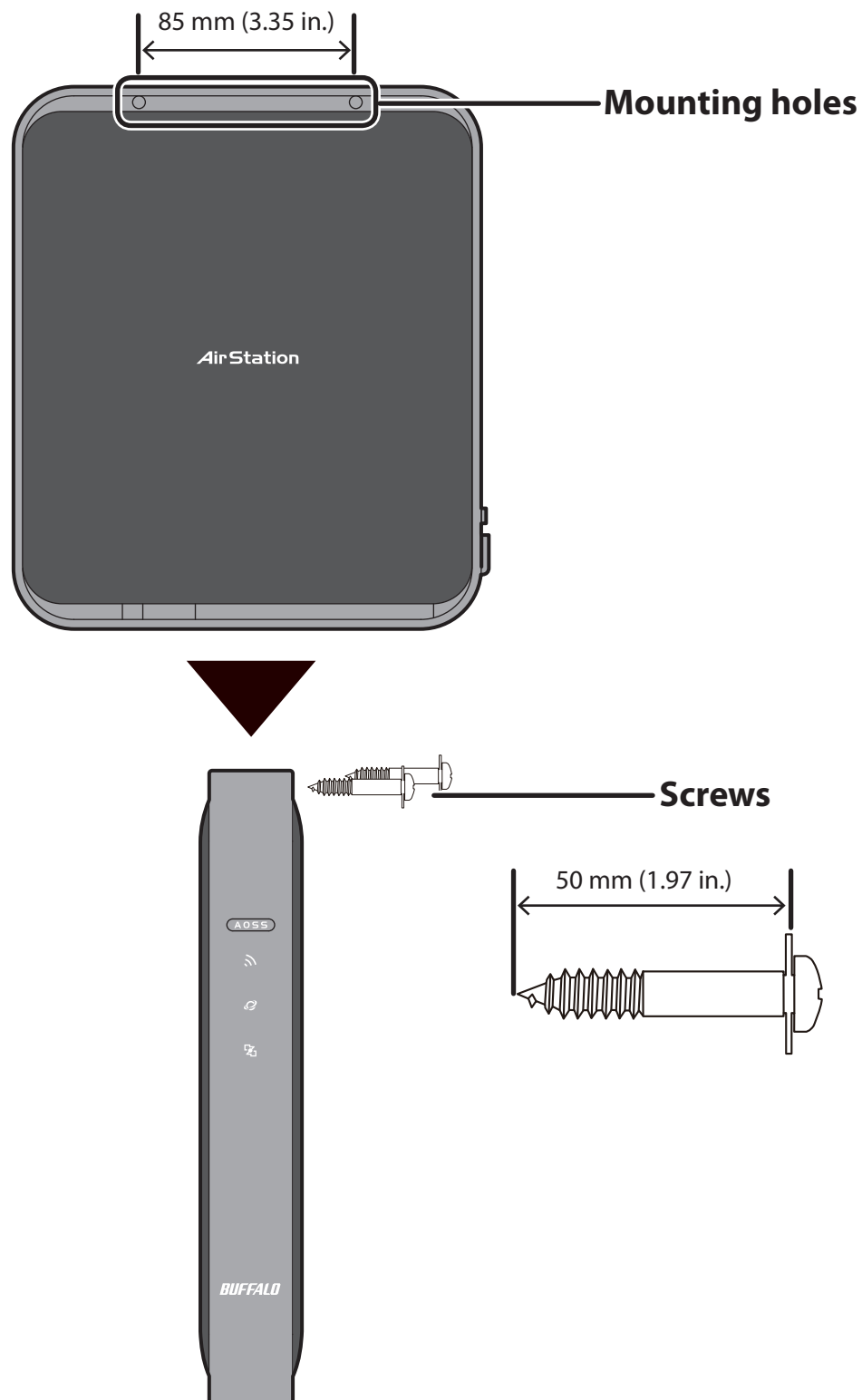
Horizontal Placement

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



Wall-Mounting

Install with the supplied screws in the mounting holes of the AirStation as shown in the figure below.

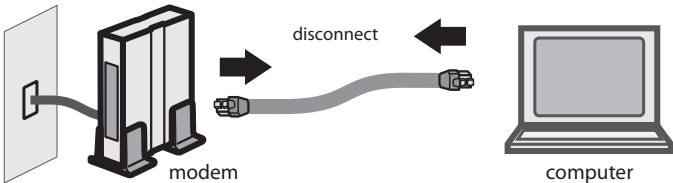


Chapter 2 - Installation

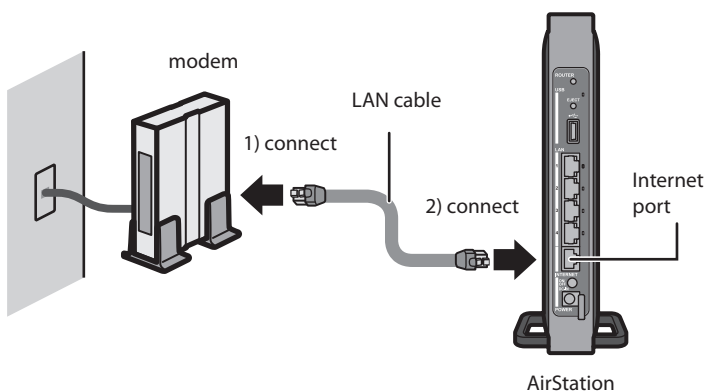
Initial Setup

To configure your AirStation, follow the procedure below.

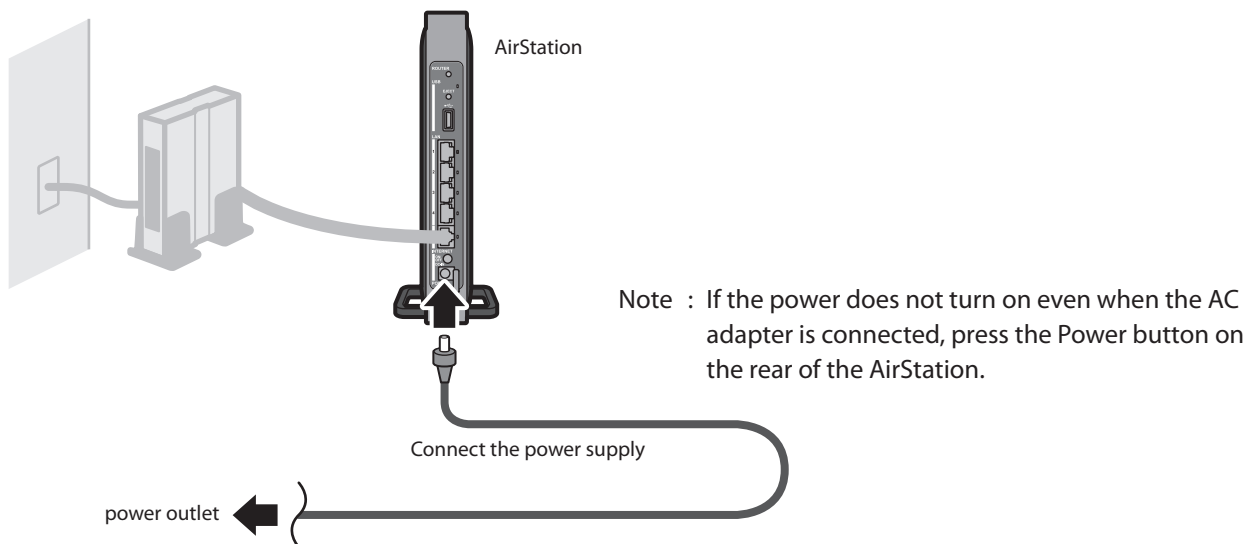
- 1** Verify that you can connect to the internet without the AirStation, then turn off your modem and computer.

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

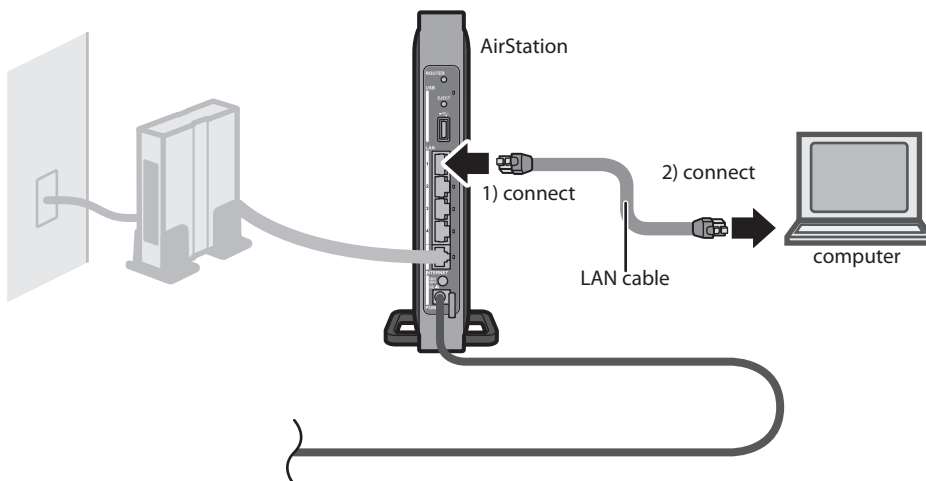
- 3** Plug one end of the LAN cable into your modem and the other end to the AirStation's Internet (WAN) port. Turn on the modem.



4 Turn on the AirStation, then wait one minute.



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 by referring to Chapter 4.



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	Green light on or blinking.
Internet	Green light on or blinking.

For LED locations, refer to chapter 1.

Note: If the router LED is not lit, hold down the router 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 [OK]. Step through the wizard to complete setup.

You’ve completed the initial setup of your AirStation. Refer to Chapter 3 for advanced settings.

Chapter 3 - Configuration

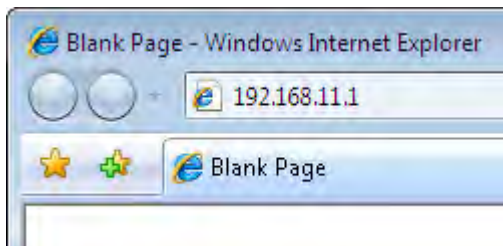
The web-based configuration tool lets you change advanced settings for the AirStation. Don't change these settings unless you know what you're doing.

Accessing the Web-based Configuration Interface

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

1 Launch a web browser.

2



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

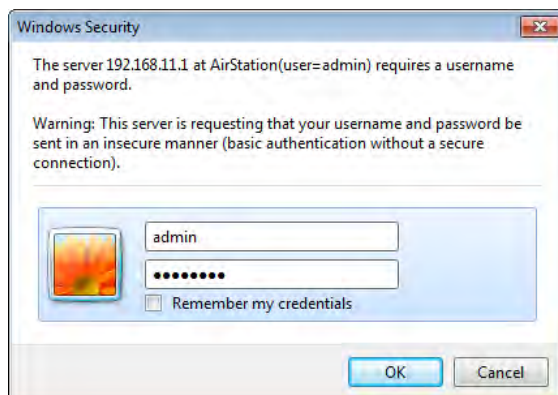
Note: The AirStation's default LAN-side IP address depends on the mode.

In router mode: 192.168.11.1

In bridge mode: 192.168.11.100

If you changed the IP address of the AirStation, then use the new IP address.

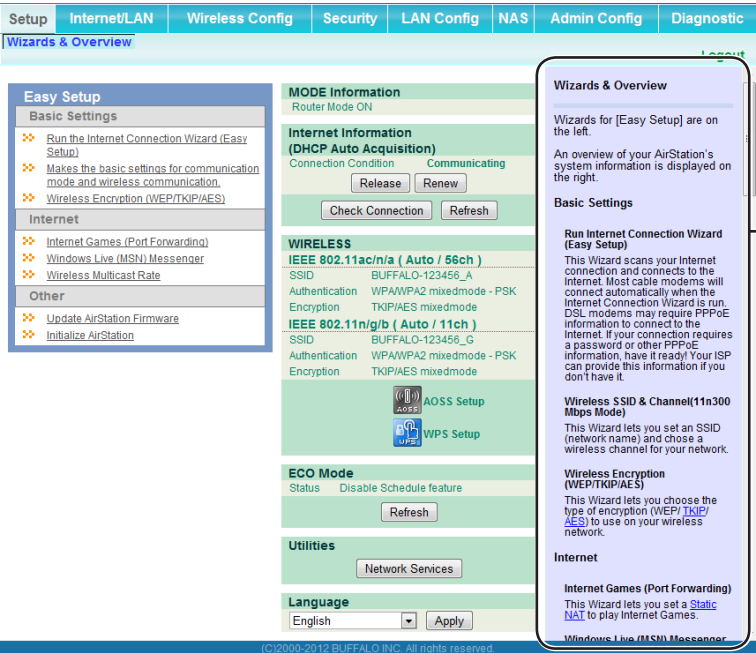
3



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

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

4



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

Help is always displayed on the right side of each screen. Refer to the help screens for more information on using the configuration interface.

Configuration Interface Menus in Router Mode

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

Main screen	Descriptions	Page
Internet/LAN		
Internet	Configure Internet side port and settings.	Page 24
PPPoE	PPPoE settings (DSL login).	Page 25
DDNS	DNS settings.	Page 28
VPN Server	VPN server settings.	Page 30
LAN	LAN side port configuration.	Page 32
DHCP Lease	DHCP lease settings.	Page 34
NAT	Network address translation settings, used to connect LAN side devices to the Internet.	Page 35
Route	Configure the AirStation's IP communication route.	Page 36
Wireless Config		
WPS	WPS settings and status.	Page 37
Basic	Configure basic wireless settings.	Page 38
Advanced	Configure advanced wireless settings.	Page 41
WMM	Set priorities for Wireless Multimedia Extensions (Wi-Fi Multimedia).	Page 42
MAC Filter	Limit access to specific devices.	Page 44
Multicast Control	Configure limits on sending unnecessary multicast packets to the wireless LAN port.	Page 45
AOSS	AOSS (AirStation One-touch Secure System) settings and status.	Page 46
Security		
Firewall	Protect your computer from outside intruders.	Page 47
IP Filter	IP filters for packets passing through the LAN side and the Internet side.	Page 49
VPN Passthrough	Configure IPv6 passthrough, PPPoE passthrough, and PPTP passthrough.	Page 50
LAN Config		
Port Forwarding	Configure port translation and exceptions for games and other programs.	Page 51
DMZ	Configure a destination to transfer communication packets without a LAN side destination.	Page 52
UPnP	Configure UPnP (Universal Plug and Play).	Page 53
QoS	Configure priority for packets that require a guaranteed data flow.	Page 54

NAS		
Disk Management	View the status and configure of attached USB disks.	Page 55
Shared Folder	Set the USB disk to use as shared folders.	Page 57
User Management	Configure users to access shared folders.	Page 59
Shared Service	Configure shared folder access.	Page 60
Web Access	Configure Web Access.	Page 61
Media Server	Configure a Media Server.	Page 63
BitTorrent	Configure a BitTorrent client.	Page 64
Admin Config		
Name	Configure the AirStation's name.	Page 66
Password	Configure the AirStation's login password for access to the configuration interface.	Page 67
Time/Date	Configure the AirStation's internal clock.	Page 68
NTP	Configure the AirStation to synchronize with an NTP server to automatically set the AirStation's internal clock.	Page 69
ECO	Configure the AirStation's ECO Mode.	Page 70
Network-USB	Configure Network-USB from this screen.	Page 71
Access	Configure access restrictions to the AirStation's configuration interface.	Page 72
Log	Configure a syslog server to manage the AirStation's logs.	Page 73
Save/Restore	Save or restore the AirStation's configuration from a configuration file.	Page 74
Initialize/Restart	Initialize the AirStation or reboot it.	Page 75
Update	Update the AirStation's firmware.	Page 76
Diagnostic		
System Info	View current system information for the AirStation.	Page 78
Logs	Check the AirStation's logs.	Page 80
Packet Info	View all packets transferred by the AirStation.	Page 81
Client Monitor	View all devices currently connected to the AirStation.	Page 82
Ping	Test the AirStation's connection to other devices on the network.	Page 83
Logout		
Click this to log out of the AirStation's configuration interface.		

Configuration Interface Menus in Bridge Mode

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

Main screen	Descriptions	Page
LAN Config		
LAN	LAN side port configuration.	Page 32
Route	Configure the AirStation's IP communication route.	Page 36
Wireless Config		
WPS	WPS settings and status.	Page 37
Basic	Configure basic wireless settings.	Page 38
Advanced	Configure advanced wireless settings.	Page 41
WMM	Set priorities for Wireless Multimedia Extensions (Wi-Fi Multimedia).	Page 42
MAC Filter	Limit access to specific devices.	Page 44
Multicast Control	Configure limits on sending unnecessary multicast packets to the wireless LAN port.	Page 45
AOSS	AOSS (AirStation One-touch Secure System) settings and status.	Page 46
NAS		
Disk Management	View the status and configure of attached USB disks.	Page 55
Shared Folder	Set the USB disk to use as shared folders.	Page 57
User Management	Configure users to access shared folders.	Page 59
Shared Service	Configure shared folder access.	Page 60
Web Access	Configure Web Access.	Page 61
Media Server	Configure a Media Server.	Page 63
BitTorrent	Configure a BitTorrent client.	Page 64
Admin Config		
Name	Configure the AirStation's name.	Page 66
Password	Configure the AirStation's login password for access to the configuration interface.	Page 67
Time/Date	Configure the AirStation's internal clock.	Page 68
NTP	Configure the AirStation to synchronize with an NTP server to automatically set the AirStation's internal clock.	Page 69
ECO	Configure the AirStation's ECO Mode.	Page 70
Network-USB	Configure Network-USB from this screen.	Page 71
Access	Configure access restrictions to the AirStation's configuration interface.	Page 72

Log	Configure a syslog server to manage the AirStation's logs.	Page 73
Save/Restore	Save or restore the AirStation's configuration from a configuration file.	Page 74
Initialize/Restart	Initialize the AirStation or reboot it.	Page 75
Update	Update the AirStation's firmware.	Page 76
Diagnostic		
System Info	View current system information for the AirStation.	Page 78
Logs	Check the AirStation's logs.	Page 80
Packet Info	View all packets transferred by the AirStation.	Page 81
Client Monitor	View all devices currently connected to the AirStation.	Page 82
Ping	Test the AirStation's connection to other devices on the network.	Page 83
Logout		
Click this to log out of the AirStation's configuration interface.		

Setup

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

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

Wizards & Overview Logout

Easy Setup

Basic Settings

- Run the Internet Connection Wizard (Easy Setup)
- Makes the basic settings for communication mode and wireless communication.
- Wireless Encryption (WEP/TKIP/AES)

Internet

- Internet Games (Port Forwarding)
- Windows Live (MSN) Messenger
- Wireless Multicast Rate

Other

- Update AirStation Firmware
- Initialize AirStation

MODE Information

Router Mode ON

Internet Information (DHCP Auto Acquisition)

Connection Condition: **Communicating**

Release Renew

Check Connection Refresh

WIRELESS

IEEE 802.11ac/n/a (Auto / 56ch)

SSID: BUFFALO-123456_A

Authentication: WPA/WPA2 mixedmode - PSK

Encryption: TKIP/AES mixedmode

IEEE 802.11n/g/b (Auto / 11ch)

SSID: BUFFALO-123456_G

Authentication: WPA/WPA2 mixedmode - PSK

Encryption: TKIP/AES mixedmode

AOSS Setup

WPS Setup

ECO Mode

Status: Disable Schedule feature

Refresh

Utilities

Network Services

Language

English ▼ Apply

Wizards & Overview

Wizards for [Easy Setup] are on the left.

An overview of your AirStation's system information is displayed on the right.

Basic Settings

Run Internet Connection Wizard (Easy Setup)

This Wizard scans your Internet connection and connects to the Internet. Most cable modems will connect automatically when the Internet Connection Wizard is run. DSL modems may require PPPoE information to connect to the Internet. If your connection requires a password or other PPPoE information, have it ready! Your ISP can provide this information if you don't have it.

Wireless SSID & Channel(11n300 Mbps Mode)

This Wizard lets you set an SSID (network name) and chose a wireless channel for your network.

Wireless Encryption (WEP/TKIP/AES)

This Wizard lets you choose the type of encryption (WEP/TKIP/AES) to use on your wireless network.

Internet

Internet Games (Port Forwarding)

This Wizard lets you set a [Static NAT](#) to play Internet Games.

Windows Live (MSN) Messenger

(C)2000-2012 BUFFALO INC. All rights reserved.

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.

Parameter	Meaning
LAN Config	Click this button to display the configuration screen to open ports for games and applications.
NAS	Click this button to display the configuration screen for NAS settings.
Admin Config	Click this button to display the configuration screen for administration settings.
Diagnostic	Click this button to display the status of the AirStation.
Easy Setup	Enables you to easily configure the AirStation's network settings automatically.
MODE Information	This indicates the operation mode of the AirStation.
Internet Information	Displays WAN-side system information for the AirStation.
Check Connection	Click this button to check if the AirStation is connected to the Internet properly.
Refresh	Click this button to refresh the current screen.
WIRELESS	Displays the current wireless settings.
AOSS Setup	Click this button to display the AOSS configuration screen.
WPS Setup	Click this button to display the WPS configuration screen.
ECO Mode	This indicates the operating status of ECO Mode.
Network Services	Displays the list of the network devices for which information is provided from the network on the LAN-side.
Media Server	Displays the status of the media server.
Download Manager	Displays the list of BitTorrent files downloading.
Language	Enables you to select the language you use.
Logout	Log out of the configuration interface. If the AirStation does not communicate for 5 minutes, it will log out automatically.

Internet/LAN (LAN Config)

Internet (Router Mode only)

Configure the WAN-side port ("Internet port").

SetupInternet/LANWireless ConfigSecurityLAN ConfigNASAdmin ConfigDiagnostic

InternetPPPoEDDNSVPN ServerLANDHCP LeaseNATRoute

Logout

Method of Acquiring IP Address

☒ Perform Easy Setup (Internet Connection Wizard)

☐ Acquire an IP Address Automatically from a DHCP Server

☐ Use PPPoE Client

☐ Use IP Unnumbered

☐ Use This Address

Static IP Address

Subnet Mask

255.255.255.0

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

Advanced Settings

Default Gateway

DNS Name Server Address

Primary:

Secondary:

Internet MAC Address

☒ Use Default MAC Address(00:90:4C:08:A0:00)

☐ Use This Address

MTU Size of Internet Port

1500

Bytes

Apply

Internet Ethernet Settings

Configuring your [Internet](#) side port:
Normally, you'll connect the [Internet](#) side port to an external network such as the internet.

Method of Acquiring IP Address

Select one of the following methods to acquire an [INTERNET](#) port [IP Address](#). Please ask your [Provider](#) for any other information about your line format. If you're not sure which method to choose, try selecting Easy Setup. You can confirm the status of the current [Internet](#) side [IP Address](#) on the System Information screen.

Perform Easy Setup (Internet Connection Wizard)

The Easy Setup scans your [Internet](#) connection and determines your internet connection type. The correct setup wizard for your internet connection is then activated automatically.

Note:

- Auto line determination [Easy Setup] is effective only for a line

(C)2000-2012 BUFFALO INC. All rights reserved.

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

PPPoE (Router Mode only)

Configure PPPoE settings.

SetupInternet/LANWireless ConfigSecurityLAN ConfigNASAdmin ConfigDiagnostic

InternetPPPoEDDNSVPN ServerLANDHCP LeaseNATRouteLogout

Default PPPoE ConnectionNo Active Session

IP Unnumbered PPPoE ConnectionNo Active Session

Apply

PPPoE Connection List

Number	Name	Status
Connection Settings not Registered		

Edit Connection List

Preferred Connections

No.	Name	Destination Address	Source Address
No Preferred Connections are Registered.			

Edit Preferred Connections

PPPoE Settings

If PPPoE is specified in the [Internet](#) side configuration, you'll have more detailed setup options on this page. To specify PPPoE as the [Internet](#) side communication method, on [Internet Setup]-[Internet Port], select [PPPoE Client Function] or select [Use IP Unnumbered] .

Note:
If [Acquire IP address automatically from DHCP server] or [Manual Setup] is set as the [Internet](#) side communication method, or if something besides PPPoE was detected when [Easy Setup] ran, it is not necessary to enter information on this page. (Even if it is set, it is not used.) Additionally, when [Easy Setup] is executed, information set on this page may be rewritten.

Default PPPoE Connection

(C)2000-2012 BUFFALO INC. All rights reserved.

Parameter	Meaning
Default PPPoE Connection	If you have registered multiple connection destinations in the PPPoE Connection List, connection destinations selected here have priority. You need to configure the route to which PPPoE is connected to if you don't use the default settings.
IP Unnumbered PPPoE Connection	Select the destination from the PPPoE Connection List which is used when "Use IP Unnumbered" is chosen for the Method of Acquiring IP Address (page 24).
PPPoE Connection List	Edit PPPoE destination. You can register up to 5 sessions.
[Edit Connection List]	Click this button to edit destination settings.

- 25 -

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

Parameter	Meaning
PPPoE Connection No. *-Add	Keep Alive If Keep Alive is enabled, then the AirStation will issue an LCP echo request once a minute in order to maintain the connection with the PPPoE. If the server does not respond for more than 6 minutes, the line is recognized as disconnected and the AirStation will terminate the connection. [Disabled] is the recommended setting.
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 -Add	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 of Connection.] Source address When communicating from this address, the AirStation will communicate with [Name of Connection.]

DDNS (Router Mode only)

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

Dynamic DNS Service: Disable

Current Dynamic DNS Information

Internet Side IP Address	192.168.10.47
Domain Name	Disabled
Status	Disabled

Dynamic DNS Settings

Dynamic DNS Setup.
Before configuring this settings, you need to sign up for a dynamic DNS service provider.

Dynamic DNS Service
Select a dynamic DNS service provider.
You can select "DynDNS" or "TZO".

- DynDNS
- TZO

The following values are different.

(C)2000-2012 BUFFALO INC. All rights reserved.

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

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

VPN server (Router Mode Only)

Configure the VPN server.

Setup	Internet/LAN	Wireless Config	Security	LAN Config	NAS	Admin Config	Diagnostic
Internet	PPPoE	DDNS	VPN Server	LAN	DHCP Lease	NAT	Route

[Logout](#)

**The LAN side IP address is set to 192.168.11.1.
Therefore, a PC connected to BUFFALO's router may be unable to access to the PC on the LAN.
The LAN side IP address and DHCP IP address pool should be changed.**

Auto Input	Generate Recommended IP Address		
LAN Side IP Address	IP Address	192.168.11.1	
	Subnet Mask	255.255.255.0	
DHCP Server Function	☒ Enable		
DHCP IP Address Pool	192.168.11.2	for up to	64 Address(es)
PPTP Server Function	☐ Enable		
Authorization Type	MS-CHAPv2 (40/128-bit Encryption)		

[Advanced Settings]

Server IP Address	☒ Auto ☐ Manual
Client IP Address	☒ Auto ☐ Manual
DNS Server IP Address	☒ LAN IP address of the AirStation ☐ Manual ☐ Do Not Specify
WINS Server IP Address	
MTU/MRU Value	1396

PPTP User List

User Name	Connection Condition	IP Address	Operation
No registered users			

VPN Server Settings

By using the PPTP server function it is possible to access the AirStation from the Internet and the LAN from a Windows PPTP client.

Note
If using GRE protocol (protocol no.47) and no.1723 TCP port filtering, then this function may not work correctly.
Also, be aware that if a router on the Internet side has these protocols blocked, then this function cannot be used.

Auto Input
Click this button to generate a random IP address with a small possibility of overlapping with IP addresses of other Buffalo routers.

LAN Side IP Address
Configure the AirStation's LAN [IP Address](#). The default is 192.168.11.1. If you want to connect the AirStation to an existing LAN, specify a unique, unused [IP Address](#) from the LAN's range of IP addresses.

Subnet Mask
Select the AirStation's LAN side Subnet Mask. The default is 255.255.255.0. If you want to connect the AirStation to an existing LAN, specify a unique, unused [IP Address](#) from the LAN's range of IP addresses.

DHCP Server Function
Enable the DHCP Server here. The default is enabled. If there is another DHCP server on the network, one DHCP server must be disabled or the IP ranges must be changed to avoid conflicts caused by overlapping DHCP scopes. If DHCP Server is enabled, confirm [DHCP IP Address Pool](#) doesn't overlap existing [IP Addresses](#) in the LAN segment.

DHCP IP Address Pool

(C)2000-2012 BUFFALO INC. All rights reserved.

Parameter	Meaning
Auto Input	Click to generate a random IP address.
LAN Side IP Address	Set a LAN side IP address and subnet mask.
DHCP Server Function	Enable or disable the DHCP server, which assigns IP addresses automatically.
DHCP IP Address Pool	Configure the range of IP addresses to be assigned by the DHCP server and IP addresses to be excluded from that range. Values from 1-256 may be entered.
PPTP Server Function	Enable to use a PPTP server.
Authorization Type	Select the authentication method for PPTP connection.
Server IP Address	Select the server IP address.
Client IP Address	Select the IP address range.
DNS Server IP Address	Choose the IP address for the DNS server.
WINS Server IP Address	Choose the IP address for the WINS server.
MTU/MRU Value	Configure MTU (Maximum Transmission Unit) / MRU (Maximum Receive Unit) between 578 and 1500 which is used during transmission on PPTP.
[Edit PPTP User List]	Click to edit user information.
Add new user	Click [Edit PPTP User List] to display.
Advanced Settings	Username Enter the username to connect to the PPTP server. You may enter up to 16 alphanumeric characters and symbols. Password Enter the password to connect to the PPTP server. You may enter up to 16 alphanumeric characters and symbols. Method of Acquiring IP Address Select the method to be used to assign the IP address is assigned to the PPTP client.
PPTP User List	Displays the PPTP connection user information.

LAN

Configure LAN-side and DHCP Server settings.

SetupInternet/LANWireless ConfigSecurityLAN ConfigNASAdmin ConfigDiagnostic

InternetPPPoEDDNSSVPN ServerLANDHCP LeaseNATRouteLogout

LAN Side IP Address

IP Address192.168.11.1

Subnet Mask255.255.255.0

DHCP Server Function

☒ Enable

DHCP IP Address Pool

192.168.11.2for up to64Address(es)

Excluded IP Addresses:

LAN Side IP Address (For IP Unnumbered)

IP Address

Subnet Mask255.255.255.0

DHCP Server Settings [Advanced Settings]

Advanced Settings

☐ Display

Apply

LAN Side Ethernet Settings

Configure the AirStation's LAN [IP Address](#), Subnet Mask, and local DHCP Server settings here. Unless you're a networking expert, the default settings are recommended.

Note

If you have an existing LAN, the AirStation's configuration must be changed to connect to it. Please refer to [here](#) to set up your AirStation on an existing network.

LAN Side IP Address

Configure the AirStation's LAN [IP Address](#). The default is 192.168.11.1. If you want to connect the AirStation to an existing LAN, specify a unique, unused [IP Address](#) from the LAN's range of IP addresses.

(C)2000-2012 BUFFALO INC. All rights reserved.

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 Function	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.
Default Gateway	Set the default gateway IP address for the DHCP server to issue to clients.

Parameter	Meaning
DNS Servers Router mode only	Set the DNS server IP address for the DHCP server to issue to clients.
WINS Server Router mode only	Set the WINS server IP address for the DHCP server to issue to clients.
Domain Name Router mode only	Set the domain name for the DHCP server to issue to clients. You may enter up to 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)

Configure DHCP Exceptions.

SetupInternet/LANWireless ConfigSecurityLAN ConfigNASAdmin ConfigDiagnostic

InternetPPPoEDDNSSVPNServerLANDHCP LeaseNATRouteLogout

Add Client Information

IP Address

MAC Address

Add

Current DHCP Client Information

IP Address	MAC Address	Lease Period	Status	Customize
192.168.11.2(*)	E0:69:95:2E:1F:DB	47:54:5	Auto	Manual Assignment

(*) The IP Address of the client that is configuring this AirStation is (192.168.11.2)

Refresh

DHCP Lease Settings

Add manual IP address assignment, delete automatic IP Address assignment or set automatic assignment to manual

Manual assignment

Assign an IP address to specified MAC address manually. Up to 256 devices can be registered for manual assignment.

Add/Edit Client information

This area is for adding or editing a line.

IP Address

Enter an IP address for manual assignment. The default is blank in append

(C)2000-2012 BUFFALO INC. All rights reserved

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 manual leasing by clicking [Manual Assignment].

NAT (Router Mode only)

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

SetupInternet/LANWireless ConfigSecurityLAN ConfigNASAdmin ConfigDiagnostic

InternetPPPoEDDNSVPN ServerLANDHCP LeaseNATRouteLogout

Address Translation☒ Enable

Log Output of Deleted Packets☐ Enable

Apply

Network Address Translation Settings

Configure address translation to connect the Internet side to the Internet.

Address Translation

(C)2000-2012 BUFFALO INC. All rights reserved.

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

Configure the AirStation’s IP communication route.

SetupInternet/LANWireless ConfigSecurityLAN ConfigNASAdmin ConfigDiagnostic

InternetPPPoEDDNSVPN ServerLANDHCP LeaseNATRouteLogout

Add a Route

Destination Address

IP Address

Subnet Mask

255.255.255.0

Gateway

Metric

15

Add

Routing Information

Destination Address

Subnet Mask

Gateway

Metric

Operation

Routing Configuration is not Registered

Routing Information

Configure [Routing Information](#).

Add/Edit a Route

This area is for adding or editing a line.

Destination Address

Specify the destination IP address or network address.
If you're entering an IP address as destination, specify [Host 255.255.255.255] for the subnet mask. In case of entering a network address as destination, specify the network address and

(C)2000-2012 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

WPS Status and Settings.

Setup	Internet/LAN	Wireless Config	Security	LAN Config	NAS	Admin Config	Diagnostic
WPS	Basic(11ac/n/a)	Advanced(11ac/n/a)	WMM(11ac/n/a)	MAC Filter	Multicast Control		
AOSS	Basic(11n/g/b)	Advanced(11n/g/b)	WMM(11n/g/b)	Logout			

WPS☒ Enable

External Registrar☒ Enable

Apply

AirStation PIN12345670Generate PIN

Enrollee PINOK

WPS Security Information

WPS Status	configured	Release
11ac/n/a	SSID	BUFFALO-08A000_A
	Security	WPA/WPA2 mixedmode - PSK TKIP/AES mixedmode
	Encryption Key	1234567890123
11n/g/b	SSID	BUFFALO-08A000_G
	Security	WPA/WPA2 mixedmode - PSK TKIP/AES mixedmode
	Encryption Key	1234567890123

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.

The default is Enable.

Warning

(C)2000-2012 BUFFALO INC. All rights reserved.

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

Basic

Configure basic wireless settings from here.

SetupInternet/LANWireless ConfigSecurityLAN ConfigNASAdmin ConfigDiagnostic

WPSBasic(11ac/n/a)Advanced(11ac/n/a)WMM(11ac/n/a)MAC FilterMulticast ControlAOSSBasic(11n/g/b)Advanced(11n/g/b)WMM(11n/g/b)Logout

Wireless Radio☒ Enable

SSID

☒ Use AirStation's MAC address(BUFFALO-08A000_A)
☐ Use:

Wireless ChannelAuto Channel (Current Channel: 64)

High-Throughput ModeBandwidth : 11ac/n/a 1300 Mbps Mode (80MHz) (Current: 80 MHz)

Broadcast SSID☒ Allow

Wireless AuthenticationWPA/WPA2 mixedmode - PSK

Wireless EncryptionTKIP/AES mixedmode

WPA-PSK (Pre-Shared Key):

Rekey Interval60 minutes

Apply

Basic Wireless Setting (11ac/n/a/g/b)

You can set basic configuration information for your wireless LAN manually here. If encryption is not used, communication will be established just by this basic setup. Encryption is highly recommended, however. There are 2 standards (IEEE802.11ac/n/a and IEEE802.11n/g/b) for wireless LANs, and you can perform setup for each standard separately.

Wireless Radio

Un-checking "Enable" will disable wireless LAN functionality. When disabled, all wireless functionality, including broadcasting, is halted. Default value is enabled.

SSID

SSID is an identifying name for a

(C)2000-2012 BUFFALO INC. All rights reserved.

Parameter	Meaning
Wireless Radio	Determines whether to allow wireless communication. If this is unchecked, then no wireless connections will be allowed.
SSID	The SSID may contain 1 - 32 alphanumeric characters.
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-Throughput Mode	High-throughput mode uses triple the normal frequency range, 80 MHz instead of 20 MHz. In uncongested areas this can increase performance. To use High-throughput mode, set the Bandwidth to 80 MHz.
Broadcast SSID	If [Allow] is checked, then the AirStation will respond to SSID searches from wireless devices by broadcasting its SSID. If [Allow] is unchecked, then the AirStation ignores SSID searches from wireless devices.

Parameter	Meaning
Wireless authentication	Specifies the authentication method used when connecting to a wireless device.
Wireless encryption	You may use any of the following types of encryption: No encryption Data is transmitted without encryption. With this setting, anyone within range can connect to your wireless network and might be able to access data on the network. Not recommended for anyone with private data that needs to be kept secure. [No encryption] can be selected only when [No authentication] is selected for wireless authentication. WEP WEP is a common encryption method supported by most devices. WEP can only be selected when wireless authentication is set to [No authentication]. Note that WEP's encryption is weak, and networks protected with WEP are not much more secure than those with no encryption at all. Not recommended for anyone with private data that needs to be kept secure. TKIP TKIP is an encryption method which is more secure than WEP, but slower. 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. 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. 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.

Parameter	Meaning
WPA-PSK (Pre-Shared Key)	A pre-shared key or passphrase is the password for your wireless connections. There are two different formats for a pre-shared key. Use 8 to 63 alphanumeric characters (case-sensitive) for an ASCII passphrase, or use 64 alphanumeric characters (0 to 9 and a to f, not case-sensitive) for a hexadecimal passphrase.
Rekey interval	Set the update interval for the encryption key between 0 and 1440 (minutes).
Setup WEP encryption key	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).

Advanced

Configure advanced wireless settings.

Setup	Internet/LAN	Wireless Config	Security	LAN Config	NAS	Admin Config	Diagnostic
WPS	Basic(11ac/n/a)	Advanced(11ac/n/a)	WMM(11ac/n/a)	MAC Filter	Multicast Control	Logout	
AOSS	Basic(11n/g/b)	Advanced(11n/g/b)	WMM(11n/g/b)				

BSS BasicRateSet	6,12,24 Mbps ▾
Multicast Rate	Auto ▾
802.11n Protection	☐ Enable
DTIM Period	1
Privacy Separator	☐ Enable
Output Power	100 % ▾

Apply

Advanced Wireless Settings (11ac/n/a/11n/g/b)

Specify Advanced Wireless Settings.

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
11ac/n/a :

(C)2000-2012 BUFFALO INC. All rights reserved.

Parameter	Meaning
BSS Basic Rate Set	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 multi-cast 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.
Privacy Separator	If enabled, the Privacy Separator blocks communication between wireless devices connected to the AirStation. Wireless devices will be able to connect to the Internet but not with each other. Devices that are connected to the AirStation with wired connections will still be able to connect to wireless devices normally.
Output Power	This sets the output of the wireless signal. Because the wireless transmission output and signal distance range are nearly proportional, when the wireless transmission output is reduced, the signal distance range also becomes shorter.

WMM

Set priorities for specific communications.

Setup	Internet/LAN	Wireless Config	Security	LAN Config	NAS	Admin Config	Diagnostic
WPS	Basic(11ac/n/a)	Advanced(11ac/n/a)	WMM(11ac/n/a)	MAC Filter	Multicast Control		
AOSS	Basic(11n/g/b)	Advanced(11n/g/b)	WMM(11n/g/b)				Logout

WMM-EDCA Parameters

Please do not change the setting usually.

Priority	Parameter	For AP	For STA
AC_BK (Low)	CWmin:	15	15
	CWmax:	1023	1023
	AIFSN:	7	7
	TXOP Limit:	0	0
	Admission Control:	---	Disable ▾
AC_BE (Normal)	CWmin:	15	15
	CWmax:	63	1023
	AIFSN:	3	3
	TXOP Limit:	0	0
	Admission Control:	---	Disable ▾
AC_VI (High)	CWmin:	7	7
	CWmax:	15	15
	AIFSN:	1	2
	TXOP Limit:	94	94
	Admission Control:	---	Disable ▾
AC_VO (Highest)	CWmin:	3	3
	CWmax:	7	7
	AIFSN:	1	2
	TXOP Limit:	47	47
	Admission Control:	---	Disable ▾

Apply

WMM Settings (11ac/n/a/11n/g/b)

Prioritized AirStation communication for specific transactions. This settings provides some real time communication, which can help improve the quality of VOIP or other streaming protocols.

WMM-EDCA Parameters

It is usually not necessary to change this value.

Priority

The priority is ranked (Highest)8 : (High)4 : (Normal)2 : (Low)1 for each packet.

Parameter

CWmin, CWmax
The maximum and minimum value for the contention window. The contention window is used to control the frame collision avoidance system in IEEE802.11. Values that can be inputted: 1-32767.

AIFSN
Interval of the sending frame. The unit defines a time-slot (similar to the window value of CWmin, CWmax). Lower values define a higher priority as the back-off algorithm starts earlier. Values that can be inputted: 1-15.

TXOP Limit
The time for the queue to obtain send priority. The minimum value is 32ms. Large values can send more frames at a time. However, the maximum value is 100ms.

(C)2000-2012 BUFFALO INC. All rights reserved.

- 42 -

Parameter	Meaning
WMM-EDCA Parameters	You don't usually need to change these settings. Using the default settings is recommended. Priority The following priorities may be applied to individual transmission packets: (Highest) 8, (High) 4, (Normal) 2, and (Low) 1. From the queue, these packets are processed in order of priority. CWmin, CWmax The maximum and minimum value of the contention window. The contention window is used in the frame collision avoidance structure performed in IEEE802.11, and generally, the smaller the value in the window, the higher the probability that the queue obtains the right to send. AIFSN The interval to send frames. The unit of the AIFSN is a slot, just as the window defined by CWmin and CWmax is. The smaller the interval of sending frames, the faster the algorithm can restart. As a result, the priority of the queue is higher. TXOP Limit The period of time that the queue can use after obtaining the right to send. The unit is 32 ms. The longer this time, the more frames can be sent per right to send. However, the queue may interfere with other packet transmissions. If TXOP Limit is set to 0 (zero), only one frame can be sent per right to send. Admission Control Restricts new frames from interfering with a previous queue. New packets are prioritized lower until a queue of them is collected. As the new queue accumulates more packets, its priority increases.

MAC Filter

Restrict access to specific wireless devices.

Setup	Internet/LAN	Wireless Config	Security	LAN Config	NAS	Admin Config	Diagnostic
WPS	Basic(11ac/n/a)	Advanced(11ac/n/a)	WMM(11ac/n/a)	MAC Filter	Multicast Control	Logout	
AOSS	Basic(11n/g/b)	Advanced(11n/g/b)	WMM(11n/g/b)				

Enforce MAC Filtering(11ac/n/a) ☐ Enable
Enforce MAC Filtering(11n/g/b) ☐ Enable

Registration List

MAC Address	Connection Status
No Registered MAC Addresses	

Wireless MAC Filtering

Wireless connections to the AirStation can be limited to specific client MAC addresses to enhance security against unwanted network visitors. When enabled, only wireless client adapters with registered MAC addresses will be allowed to connect to the AirStation. The wireless MAC filter is ignored while AOSS is in use.

Enforce MAC Filtering

Both 802.11ac/n/a and 802.11n/g/b interfaces can be configured

(C)2000-2012 BUFFALO INC. All rights reserved.

Parameter	Meaning
Enforce MAC Filtering	Enable to restrict wireless connections to devices with registered MAC addresses.
Registration List	Displays the MAC addresses of registered devices which are permitted to connect wirelessly.
Edit Registration List	Adds a wireless device to the list of permitted devices.
MAC Addresses to be Registered	Enter a MAC address of a wireless device to permit to connect to the AirStation. Click [Register] to add that MAC address to the list.
List of all clients associated with this AirStation	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.

Setup

Internet/LAN

Wireless Config

Security

LAN Config

NAS

Admin Config

Diagnostic

WPS

Basic(11ac/n/a)

Advanced(11ac/n/a)

WMM(11ac/n/a)

MAC Filter

Multicast Control

AOSS

Basic(11n/g/b)

Advanced(11n/g/b)

WMM(11n/g/b)

Logout

Snooping

☒ Enable

Multicast Aging Time

300

Sec.

Apply

Multicast Control

This Setting controls multicast packet transfers to the wireless LAN port.

Snooping

Snooping observes multicast control packets like IGMP to

(C)2000-2012 BUFFALO INC. All rights reserved.

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.

AOSS

AOSS Status and Settings.

SetupInternet/LANWireless ConfigSecurityLAN ConfigNASAdmin ConfigDiagnostic

WPSBasic(11ac/n/a)Advanced(11ac/n/a)WMM(11ac/n/a)MAC FilterMulticast Control

AOSSBasic(11n/g/b)Advanced(11n/g/b)WMM(11n/g/b)Logout



AOSS Settings

Encryption Type	802.11ac/n/a AOSS is not active 802.11n/g/b AOSS is not active
AOSS Button on the AirStation Unit	☒ Enable

Apply

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.

(C)2000-2012 BUFFALO INC. All rights reserved.

Parameter	Meaning
	Initiates AOSS automatic wireless configuration. Click this, then press or click the AOSS button on your AOSS-compatible wireless client. Repeat for additional AOSS clients.
	Click this button to disconnect AOSS connections. Note: If AOSS connections are disconnected, the SSID and encryption keys will be restored to their last settings from before AOSS was used.
Encryption type	Display AOSS's Security Level status.
AOSS Button on the AirStation Unit	Uncheck to disable the physical AOSS button on the AirStation.
Current Encryption Information (AOSS connection only)	Displays the encryption type, SSID, and encryption key configured by AOSS.
[Random]	Click to enter random values for SSID, encryption key, and other settings.
[KEY base]	Click to return the SSID, encryption key, and other wireless settings to the values on the case sticker.
[Reset]	Click to return the SSID, encryption key, and other wireless settings to their previous values.

Parameter	Meaning
AOSS Client Information	Displays AOSS clients connected to the AirStation and information of the devices which are wirelessly communicated.
AOSS Ethernet Converter Information Only displayed if there are AOSS Connections	Displays information about Ethernet converters connected to the AirStation via AOSS.

Security (Router Mode only)

Firewall (Router Mode only)

Configure the AirStation's firewall.

Setup	Internet/LAN	Wireless Config	Security	LAN Config	NAS	Admin Config	Diagnostic
Firewall	IP Filter	VPN Pass Through	Logout				

Log Output ☐ Enable

Enable	Basic Rules	Number of Packets
☐	Prohibit NBT and Microsoft-DS Routing	0
☒	Reject IDENT Requests	0
☒	Block Ping from Internet	0

Apply

Firewall

Limits the type of packets allowed to pass between the Internet and LAN. When packets reach the AirStation, the firewall evaluates the packets, and forwards packets that don't match any filter to their destination. The Firewall blocks unnecessary packets from the Internet side and prevents leaking secure information from the LAN side.

Log Output

(C)2000-2012 BUFFALO INC. All rights reserved.

Parameter	Meaning
Log Output	Enable to output a log of firewall activity.
Basic Rules	Enable to use any of the quick filters. Preconfigured quick filters include: Prohibit NBT and Microsoft-DS Routing Enabling this blocks communication using these protocols from the WAN side to the LAN side or from the LAN side to the Internet. You can configure this with PPPoE if you select [Use PPPoE Client] or [Use IP Unnumbered] in Method of Acquiring IP address (page 24), or if Easy Setup identified a PPPoE connection during setup. Reject IDENT Requests Enabling this option will answer IDENT requests from the Internet side with corresponding rejection packets. Enable this option if you experienced slow transfer speeds for network applications such as mail, ftp or web browsing. If you have configured transfer of IDENT requests to the LAN side computer in the address translation settings (DMZ or TCP port 113), then that setting has higher priority, and overrides this setting. Block Ping from Internet If this is enabled, the AirStation will not respond to pings from the Internet side. You can configure this with PPPoE if you select [Use PPPoE Client] or [Use IP Unnumbered] in Method of Acquiring IP address (page 24), or if Easy Setup identified a PPPoE connection during setup.

IP Filter (Router Mode only)

Edit IP filters.

Setup	Internet/LAN	Wireless Config	Security	LAN Config	NAS	Admin Config	Diagnostic
Firewall	IP Filter	VPN Pass Through					
Logout							

Log Output ☐ Enable

Apply

Add IP Address Based Filter

Operation	Ignored	
Direction	Internet->LAN	
IP Address	Source Address:	-> Destination:
Protocol	☐ All	
	☐ ICMP	
	☐ Manual	Protocol Number:
	☒ TCP/UDP	TCP Port Manual Setting Specification method Port Number:

Add Rule

IP Filter Information

Operation	Direction	Source Address Destination Address	Protocol	Count	Customize
The IP Filter has not been configured yet					

IP Filter Settings
Limits the type of packets allowed to pass between the Internet and LAN.
The maximum number of rules is 32.
If the packet meets one of the monitoring conditions (see below) before it is routed, the specified action will be taken. If multiple conditions (see below) are met, the appropriate action will be performed once the packet meets the condition.

Log Output
Checking this box will record IP filtering information to a log. If Operation is enabled, log output is disabled.
The default is Disabled.

Add/Edit IP Address Based Filter
This area is for adding or editing a line.

Operation
Select the action to be performed on packets that meet filter criteria
Ignored
Stop the packet and do not route

(C)2000-2012 BUFFALO INC. All rights reserved.

Parameter

Meaning

Log Output	If enabled, IP filter activity is saved to a log.
Operation	Specify how to process target packets.
Direction	Specify the transmission direction of target packets.
IP Address	Specify the sender's IP address and receiver's IP address of the target packets.
Protocol	Select a protocol for target transmission packet.
IP Filter Information	Display the list of IP filters which have been registered.

VPN Passthrough (Router Mode only)

Configure IPv6 passthrough, PPPoE passthrough, and PPTP passthrough.

SetupInternet/LANWireless ConfigSecurityLAN ConfigNASAdmin ConfigDiagnostic

FirewallIP FilterVPN Pass ThroughLogout

IPv6 Pass Through☐ Enable

PPPoE Pass Through☐ Enable

PPTP Pass Through☒ Enable

Apply

VPN Pass Through

Specify VPN Pass Through settings.

IPv6 Pass Through

Select whether to use IPv6 Pass-through for address translation. The default setting is disabled.

(C)2000-2012 BUFFALO INC. All rights reserved.

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.

LAN Config

Port Forwarding (Router Mode only)

Configure port translation.

SetupInternet/LANWireless ConfigSecurityLAN ConfigNASAdmin ConfigDiagnostic

Port ForwardingDMZUPnPQoS

Logout

Add Port Forwarding

Group

New Group▼Group Name:

Internet Side IP Address

AirStation's Internet IP Address▼Manual IP Address:

Protocol

☐ All

☐ ICMP

☐ Manual

☒ TCP/UDP

Protocol Number:

TCP Port Manual Setting▼Specification Method

Port Number:

LAN Side IP Address

192.168.11.2

LAN Side Port

TCP/UDP Port

Add

Port Forwarding Registration Information

Group	Internet Side IP Address	Protocol	Customize
	LAN Side IP Address	LAN Side Port	

Port Forwarding has not been set up yet

Port Forwarding Settings

Although the AirStation performs Address Translation only for communication which is started from the LAN side, certain applications, such as network games, require that you allow communications from the Internet side via (Static NAT). Edit the rules for communicating from outside the internal network to the LAN side network device(Static NAT) carefully, consulting your internet game's documentation as necessary. Up to 32 rules can be registered.

Add/Edit Port Forwarding

You can add new port forwarding information and edit existing information.

Group

You can give a name (group name) to configured Static NAT's and give multiple Static NAT's one name and manage them together. By giving names to groups, you can [Enable] or [Disable] each

(C)2000-2012 BUFFALO INC. All rights reserved.

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

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

DMZ (Router Mode only)

Configure a destination to transfer communication packets without a LAN side destination to.

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

Port Forwarding **DMZ** UPnP QoS Logout

IP Address of DMZ

(*) The IP Address of the client that is configuring this AirStation is [192.168.11.2]

Apply

DMZ Settings

IP Address of DMZ

Specify the address of a LAN side network device to which rejected communication packets are to be transferred. When an IP address is entered for the DMZ, it becomes possible to access the device at that address.

(C)2000-2012 BUFFALO INC. All rights reserved.

Parameter	Meaning
IP Address of DMZ	Enter the IP address of the destination to which packets which are not routed by a port translation table are forwarded. Note: RIP protocol packets (UDP port number 520) will not be forwarded.

UPnP (Router Mode only)

Configure UPnP (Universal Plug and Play).

SetupInternet/LANWireless ConfigSecurityLAN ConfigNASAdmin ConfigDiagnostic

Port ForwardingDMZUPnPQoSLogout

UPnP☒ Enable

Apply

UPnP Settings

Setting up the internet gateway function of UPnP: On a PC which supports UPnP (WindowsXP, etc.), The AirStation is automatically

(C)2000-2012 BUFFALO INC. All rights reserved.

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

QoS (Router Mode only)

Configure the priority of packets sent to the Internet.

SetupInternet/LANWireless ConfigSecurityLAN ConfigNASAdmin ConfigDiagnostic

Port ForwardingDMZUPnPQoSLogout

QoS for transmission to the Internet☒ Enable

Uplink Bandwidth1000Kbps

No.	Enable	Application Name	Protocol	Destination Port	Priority
1	☐	VoIP	UDP		high
2	☐	ssh	TCP	22	medium
3	☐	telnet	TCP	23	medium
4	☐	ftp	TCP	21	low
5	☐		TCP		low
6	☐		TCP		low
7	☐		TCP		low
8	☐		TCP		low

Apply

QoS Setting

QoS is a technology to use the bandwidth on the network more effectively. When two or more packets arrive at the same time, the packet with higher priority is processed first. This can be used to give priority to communications that require real time processing, such as VOIP.

QoS for transmission to the Internet

If checked, this gives priority to packets being transmitted to the Internet. When enabled, you will be able to add four levels of increased priority for specific applications. By default, this is disabled.

Uplink Bandwidth

Specify the bandwidth transferred from this unit to the Internet in kbps. The real uplink bandwidth should be entered. If a bandwidth value larger than the real line speed is entered, the uplink bandwidth will be limited by the line speed. If a smaller bandwidth value is entered, the

(C)2000-2012 BUFFALO INC. All rights reserved.

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

Parameter	Meaning
priority	Select high, medium or low. If packets do not qualify for classification as a type on the list, then their priority is treated as a level between medium and low.

NAS

Disk management

View the status of and configure attached USB disks.

Setup

Internet/LAN

Wireless Config

Security

LAN Config

NAS

Admin Config

Diagnostic

Disk Management

Shared Folder

User Management

Shared Service

WebAccess

Media Server

BitTorrent

Logout

USB Disk Information

Device	Disk Assignment	Partition Information
Kingston DT 100 G2 Remove	Disk1 (Automatic Assignment)	Partition1 Format FAT Status Mounted Used/Available(%) 1,278,768 / 3,909,808 (33%) Operation Format

Refresh

Re-recognize USB Devices

[Advanced Settings]

Automatic USB Disk Assignment	☒ Enable
FAT Format File Name Character Code	North America (CP437)
HDD power-saving function	☐ Enable HDD stop time 10 Minutes

Apply

Disk Management

Displays the status of attached USB disks and allows you to manage these disks. Information for up to four connected USB disks is displayed. If the USB disks have multiple partitions, then the information for the first four partitions will be displayed. Windows compatible primary partitions and extended partitions are recognized. The possible operations are format and remove USB disk. Disk file checking is executed with a PC.

Caution

If several drives or one drive with multiple partition is connected, the drive might not be detected properly. Please connect one drive with single partition.

Device

Display detected USB disk identification.

Caution

(C)2000-2012 BUFFALO INC. All rights reserved.

Parameter	Meaning
Device	Displays information for attached USB disks. Disks are removed when [Remove] in the Device column is clicked.
Disk Assignment	A disk number will be automatically assigned to the disk or you can choose a number. Select a disk number, or select [Do not assign], then click [Apply].
Partition Information	Displays the partition information for the selected USB disk. Click [Format] to format the disk. Note: formatting a disk will erase all information on it.
Re-recognize USB devices	Click this to re-scan for connected USB disks.
Automatic USB Disk Assignment	Check [Enable] to automatically select an attached USB hard disk. The entire drive will be used as the shared folder. To configure your disk and share manually, uncheck [Enable].
FAT format file name character code	Select the character code for filenames in FAT formatted partitions.
HDD power-saving function	Click [Enable] to enable power saving mode.
HDD stop time	Powers down the drive after this duration of time.

Shared Folder

Configure a USB disk for use with shared folders.

SetupInternet/LANWireless ConfigSecurityLAN ConfigNASAdmin ConfigDiagnostic

Disk ManagementShared FolderUser ManagementShared Service

WebAccessMedia ServerBitTorrentLogout

Shared Folder Settings

Limits

Access Limits

Read/Write

JohnMike

<->

Read-only

Robin

<->

No access

guest

<->

WebAccess

☒ Access Limits

Apply

Shared Folder Settings

Settings for using the whole USB disk as shared folder. The shared folder name is set to diskX_ptY(X: disk number Y: partition number). The shared folder that can be used for Media Server is only disk1_pt1.

Access Limits

Sets the access permissions by user name. The default is "No Limits(Read/Write)". Users can be set to "Read/Write", "Read only" and "No access."

WebAccess

The AirStation authorizes each

(C)2000-2012 BUFFALO INC. All rights reserved

Parameter	Meaning
Shared Folder Name*	Enter a name for the shared folder. Up to 18 alphanumeric characters, spaces, hyphens (-), and underscores (_) may be used.
Shared Folder Description*	Enter a description of the shared folder (optional). Up to 75 alphanumeric characters, spaces, hyphens (-), and underscores (_) may be used.
Disk Partition Area*	Displays the partition area, format type, and the capacity of the USB disk.
Disclosed to*	Check the functionality that you want to support. Win/Mac OS (Samba NAS), Web Access, Media Server, and/or BitTorrent may be checked. Only one folder may be chosen for either Media Server or BitTorrent functionality.
Access Limits	If access limits are enabled, use the arrows to move highlighted users between the columns for [Read/Write], [Read-only], or [No access] privileges.

Parameter	Meaning
Web Access	You may also select to enforce access limits on users accessing through Web Access by checking the Access Limits checkbox. Users will have the same access levels as assigned above. If Access Limits is not checked, then all users accessing the shared folder via Web Access will have [Read only] access..
Shared Folder Registration Information*	Displays information about the shared folder.

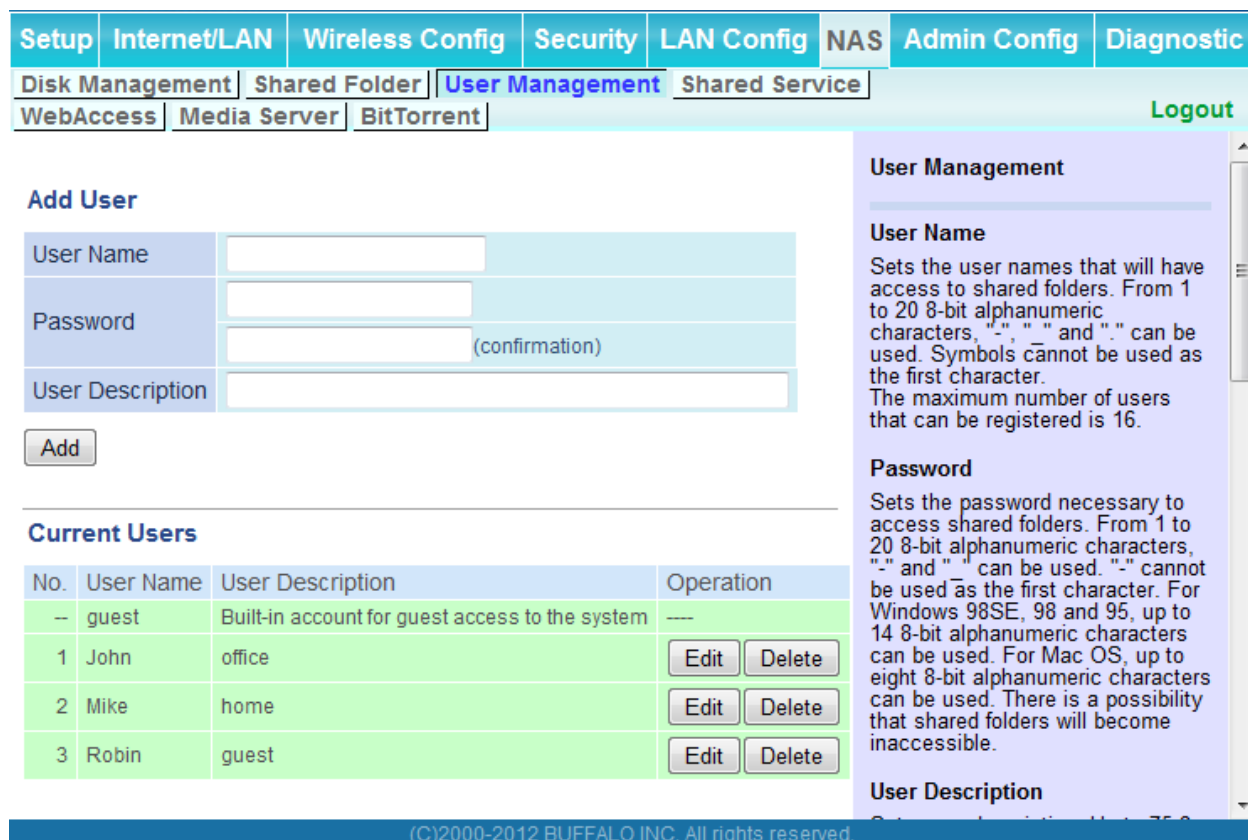
* This is not displayed when Automatic USB Disk Assignment (page 56) is used:

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

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

User Management

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



Add User

User Name

Password (confirmation)

User Description

Current Users

No.	User Name	User Description	Operation
--	guest	Built-in account for guest access to the system	----
1	John	office	Edit Delete
2	Mike	home	Edit Delete
3	Robin	guest	Edit Delete

(C)2000-2012 BUFFALO INC. All rights reserved.

Parameter	Meaning
Username	Enter the name of a user to be given access to the shared folder. Up to 20 alphanumeric characters, space, hyphens (-), and underscores (_) may be used for each user. Up to 16 users may be entered.
Password	Enter the user's password. Use of the same password that they use to log into their computer is recommended. Up to 20 alphanumeric characters, spaces, hyphens (-), and underscores (_) may be used. For Windows 98SE/98/95 users, up to 14 alphanumeric characters may be used. Mac OS users may use up to 8 alphanumeric characters. If you enter a longer password than your users can use, then they will not be able to access the share.
User Description	Describe the user (optional). Up to 75 alphanumeric characters, spaces, hyphens (-), and underscores (_) may be used.
Current Users	Lists current users, including "guest". Guest is a built-in account that cannot be changed or deleted.

Shared Service

Assign AirStation and workgroup names to access shared folders.

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

Disk Management Shared Folder User Management **Shared Service** WebAccess Media Server BitTorrent Logout

Shared Folder ☒ Enable

AirStation Name AP00904C08A000

AirStation Description

Workgroup Name WORKGROUP

Windows Client Language North America (CP437)

Apply

[Shared Service]

Shared Service Enabled

Shared Services

Shared Folder

This option allows you to make a USB disk available on your local network. The default setting is "Enabled."

You may specify access to shared folders as follows:
Example
\\192.168.11.1
(IP address of the AirStation)
\\APXXXXXXXXXXXX
(AirStation Name in 15 characters or less)

AirStation Name

Sets the AirStation Name. Same as [Admin Config] - [Name] - [AirStation Name]. Becomes a

(C)2000-2012 BUFFALO INC. All rights reserved.

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

Web Access

The screen to configure Web Access.

SetupInternet/LANWireless ConfigSecurityLAN ConfigNASAdmin ConfigDiagnostic

Disk ManagementShared FolderUser ManagementShared ServiceWebAccessMedia ServerBitTorrentLogout

WebAccess

☐ Enable

WebAccess Display Language

English

HTTPS/SSL Encryption

☐ Enable

WebAccess External Port

Auto

Port Number: 9000

DNS Service Host Name

Use BuffaloNAS.com registration function

BuffaloNAS.com name

BuffaloNAS.com key

Apply

[WebAccess Status]

WebAccess	Cannot be used (The WebAccess function is set to "Not used.")
External Port Status	Disabled
BuffaloNAS.com	Not registered

WebAccess

WebAccess

Sets whether or not to use the WebAccess function. The default setting is enabled. If set to disabled, then shared folders are not made public.

WebAccess Display Language

Sets the language used to display the WebAccess functions. The default is "English."

HTTPS/SSL Encryption

Sets whether or not to use SSL encryption for safer transfers (Uses https instead of http). The default setting is "Not used."

WebAccess External Port

Configures the external port for the WebAccess interface. The default setting is [Auto] and the value is 9000.

Auto

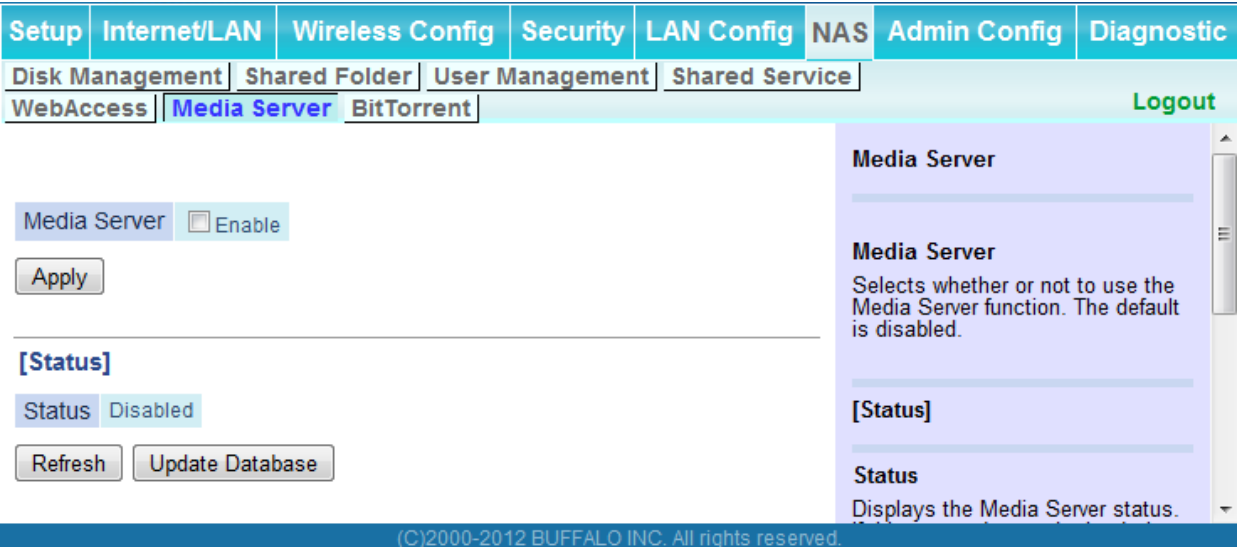
(C)2000-2012 BUFFALO INC. All rights reserved.

Parameter	Meaning
Web Access	Check [Enable] to use Web Access.
Web Access Display Language	Set the language to be used with Web Access.
HTTPS/SSL Encryption	Check [Enable] to use SSL encryption for protected data transfer.
Web Access External Port	Automatically sets the external port used for Web access. To select the port manually, select [Manual].

Parameter	Meaning
DNS Service Hostname	Sets the DNS Service Hostname when the Web access function is activated. Select [Use BuffaloNAS.com registration function] to use the Web access function 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.
Web Access	Displays the status of web access.
External Port Status	Displays the status of the external port.
BuffaloNAS.com	Displays the status of BuffaloNAS.com.

Media Server

Media Server settings.



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

BitTorrent

Configure the BitTorrent client.

SetupInternet/LANWireless ConfigSecurityLAN ConfigNASAdmin ConfigDiagnostic

Disk ManagementShared FolderUser ManagementShared ServiceWebAccessMedia ServerBitTorrentLogout

BitTorrent Function☐ Enable

External Port Number

Auto

Port Number9002

[Advanced Settings]

Bandwidth Restriction☒ Enable

Maximum Download Speed1000KB/s

Maximum Upload Speed200KB/s

Apply

Download ManagerDelete BitTorrent information

[BitTorrent Status]

BitTorrent StatusNot Available (specified disk's file system does not support BitTorrent.)

BitTorrent External Port StatusDisable

(C)2000-2012 BUFFALO INC. All rights reserved.

BitTorrent

BitTorrent Function

Allows you to enable/disable the BitTorrent function. The default setting is disabled. You can get downloaded BitTorrent files via shared folder or WebAccess function. Please configure the folder setting from "Disclosed to" of "Shared Folder" page. Downloaded files are stored in bittorrent folder on the USB disk. Automatic USB Disk Assignment is set to [Use] : disk1_pt1/bittorrent Automatic USB Disk Assignment is set to [Do not use] : shared folder name/bittorrent.

If you use BitTorrent, transmission quality may be degraded or the response of the configuration screen may become slow.

Caution

Bit Torrent can be only used when XFS is used as a format on USB drive.

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

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

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

Admin Config

Name

Configure basic AirStation settings.

SetupInternet/LANWireless ConfigSecurityLAN ConfigNASAdmin ConfigDiagnostic

NamePasswordTime/DateNTPECONetwork-USBAccessLogSave/Restore

Initialize/RestartUpdateLogout

AirStation NameAP00904C08A000

List Network Services☒ Enable

Apply

AirStation Name

This can be used to assign a specific descriptive name for the AirStation.

The AirStation name may be up to 64 alphanumeric characters in length, and '-' are allowed, but a '-'

(C)2000-2012 BUFFALO INC. All rights reserved.

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

Password

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

SetupInternet/LANWireless ConfigSecurityLAN ConfigNASAdmin ConfigDiagnostic

NamePasswordTime/DateNTPECONetwork-USBAccessLogSave/RestoreInitialize/RestartUpdateLogout

Administrator Nameadmin (fixed)

Administrator Password

.....

.....(Confirm)

Apply

AirStation Administrator Password

Administrator Name

This is the user name used to log into the AirStation's configuration screens. It cannot be changed from 'admin'.

Administrator Password

(C)2000-2012 BUFFALO INC. All rights reserved.

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

Time/Date

Configure the AirStation's internal clock.

SetupInternet/LANWireless ConfigSecurityLAN ConfigNASAdmin ConfigDiagnostic

NamePasswordTime/DateNTPECONetwork-USBAccessLogSave/Restore

Initialize/RestartUpdateLogout

NTP is enabled. Changes made to time and date settings may be overwritten by the NTP server when it syncs.

Local Date2012Year3Month28Day

Local Time3Hour38Minute18Seconds

Time Zone(GMT-06:00) Central Standard Time: CST

DST(Daylight Saving Time)USA (From Second Sunday in Mar to first Sunday in Nov)

Apply

Refresh

Get Current Time from your PC

Time/Date

Set the AirStation's internal clock. Set the internal clock manually.

Note:
The AirStation's internal clock is reset to its default setting whenever power is lost because it doesn't have a battery. However, the AirStation may be configured to adjust its clock automatically even when rebooted by connecting it to a NTP.

(C)2000-2012 BUFFALO INC. All rights reserved.

Parameter	Meaning
Local Date	You may manually set the date of the AirStation's internal clock.
Local Time	You may manually set the time of the AirStation's internal clock.
Time Zone	Specify the time zone (offset of Greenwich Mean Time) of the AirStation's internal clock.
DST (Daylight Saving Time)	You may configure the AirStation to automatically use DST (Daylight Saving Time). If selected, the AirStation will automatically adjust the time at the beginning and end of DST.

NTP

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

SetupInternet/LANWireless ConfigSecurityLAN ConfigNASAdmin ConfigDiagnostic

NamePasswordTime/DateNTP ECONetwork-USBAccessLogSave/RestoreLogout

Initialize/RestartUpdate

NTP Functionality☒ Enable

NTP Servertime.nist.gov

Update Interval24hours

Apply

NTP

If an NTP server is configured, the AirStation will access the specified NTP server and adjust its internal clock to conform with the NTP server’s time. NTP is an acronym of Network Time Protocol. An NTP server distributes accurate time to network devices.

(C)2000-2012 BUFFALO INC. All rights reserved.

Parameter	Meaning
NTP Functionality	Enable to use an NTP server. The default is Enabled.
NTP Server	Enter the name of the NTP server as a hostname, hostname with domain name, or IP address. Up to 255 alphanumeric characters, hyphens (-), and 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.

ECO

Configure Eco mode from this screen.

Setup	Internet/LAN	Wireless Config	Security	LAN Config	NAS	Admin Config	Diagnostic
Name	Password	Time/Date	NTP	ECO	Network-USB	Access	Log
Initialize/Restart	Update						Save/Restore
							Logout

Schedule Feature
☐ Enable

Apply

Weekly Schedule

	00	02	04	06	08	10	12	14	16	18	20	22
Sun												
Mon												
Tue												
Wed												
Thu												
Fri												
Sat												

☐ Normal
☐ Sleep
☐ User Define

Register Schedule

Operational Mode:

Start time:

End time:

The day of week: Sun Mon Tue Wed Thu Fri Sat

☐ ☐ ☐ ☐ ☐ ☐ ☐

Add

User Define Mode Settings

User Define Mode

LED:

Wired LAN:

Wireless LAN:

Apply

ECO

Configure ECO Mode. Enabling ECO Mode will put it in energy save operation according to Weekly Schedule. The HDD power-saving function is set by [NAS]-[Disk Management].

Schedule Feature

Selecting "Enable" will enable ECO Mode and change the operation mode according to Weekly Schedule. The default is disabled.

Note:

- The Operational Mode is changed even during communicating at the time set in the weekly schedule. Please note that communication may be disconnected in such a case.
- AOSS does not work during ECO mode if the Operational Mode is not "normal".
- Pressing and holding AOSS button on the main unit while the Operational Mode is not Normal can temporarily recover it to "Normal".

Weekly Schedule

Register Weekly Schedule. If you want to change the Operational Mode you have registered, overwrite a period of time you want to change in the new Operational Mode.

Register Schedule

Operational Mode

Select the Operational Mode. The default value is "Normal".

Normal
Does not perform energy saving operation.

Sleep
Perform following the energy...

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

Network-USB

Configure Network-USB from this screen.



Parameter	Meaning
Network-USB	Network-USB allows sharing USB devices connected to the AirStation from multiple computers on a wired or wireless LAN. Disable to reduce the impact on the NAS and other functions, 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.

Access

Restrict access to the AirStation's configuration interface.

Setup	Internet/LAN	Wireless Config	Security	LAN Config	NAS	Admin Config	Diagnostic
Name	Password	Time/Date	NTP	ECO	Network-USB	Access	Log
Initialize/Restart	Update						Save/Restore
							Logout

Log Output
☐ Enable

Enable	Management Access	Number of Packets
☐	Prohibit configuration from wireless LAN	0
☐	Prohibit configuration from wired LAN	0

Internet Side Remote Access Setting

Enable
Management Access
☐ Permit configuration from wired Internet

Apply

Management Access

You may prohibit management of the AirStation in specific circumstances. Enabling any of these limitations will prevent changes being made to the AirStation's settings from PCs that meet the listed limitation criteria. Note that checking all of these boxes at once will make it very difficult to make future changes to the AirStation's settings.

Log Output

Checking this box will record "Management Access" information to a log. Logging is disabled by default.

(C)2000-2012 BUFFALO INC. All rights reserved.

Parameter	Meaning
Log Output	Enabling outputs a log of changes to access settings.
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.
Permitted IP address	Displayed only if Internet side configuration is enabled. Enter the IP address of a device that is permitted to configure the AirStation remotely from the WAN (Internet) side.
Permitted Port	Displayed only if Internet side configuration is enabled. Set a port number (1 - 65535) to configure the AirStation from the WAN (Internet) side.

Log

Transfer the AirStation's logs to a syslog server.

SetupInternet/LANWireless ConfigSecurityLAN ConfigNASAdmin ConfigDiagnostic

NamePasswordTime/DateNTPECONetwork-USBAccessLogSave/Restore

Initialize/RestartUpdateLogout

Log Transfer☐ Enable

Syslog Server

Logs

☒ Address Translation☒ IP Filter

☒ Firewall☒ PPPoE Client

☒ Dynamic DNS☒ DHCP Client

☒ DHCP Server☒ AOSS

☒ Wireless Client☒ Authentication

☒ Setting Changes☒ System Boot

☒ NTP Client☒ Wired Link

☒ System

Apply

Select All

Clear All

Syslog Setup

Syslog transfers the AirStation's log information to a syslog server.

Log Transfer

Checking [Enable] will instruct the AirStation to transmit log information to a Syslog server. The default is disabled.

Syslog Server

The characters you can enter are half-byte alphanumeric characters, and the symbols of "-" and ".". You can enter up to 255 characters. Strings starting from "." or ending with "." cannot be set. You can enter up to 64 characters

(C)2000-2012 BUFFALO INC. All rights reserved.

Parameter	Meaning
Log Transfer	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.

Save/Restore

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

Setup

Internet/LAN

Wireless Config

Security

LAN Config

NAS

Admin Config

Diagnostic

Name

Password

Time/Date

NTP

ECO

Network-USB

Access

Log

Save/Restore

Initialize/Restart

Update

Logout

Save Current Settings

Save

☐ Encrypt the configuration file with a password

Restore Configuration from Backup File

Backup file

Browse...

Restore

☐ Enter password

Save/Restore AirStation Settings

Save Current Settings

Once you've got your AirStation set up the way you want it, you may save the current configuration of the AirStation to a file on the PC that you're using for configuration.

Note:
The AirStation will not be able to

(C)2000-2012 BUFFALO INC. All rights reserved.

Parameter	Meaning
Save current settings	Clicking [Save] will save the current configuration of the AirStation to a file. If the [Encrypt the configuration file with a password] option is checked, then the configuration file will be password protected with the password.
Restore Configuration from Backup File	Restore the configuration of the AirStation from a saved configuration file by clicking the [Browse...] button, navigating to the configuration file, and then clicking [Restore]. If the configuration file was password protected, then put a check next to [Enter password], enter the password, and click [Restore].

Initialize/Restart

Initialize or restart the AirStation.

Setup

Internet/LAN

Wireless Config

Security

LAN Config

NAS

Admin Config

Diagnostic

Name

Password

Time/Date

NTP

ECO

Network-USB

Access

Log

Save/Restore

Initialize/Restart

Update

Logout

Restart

This reboots your AirStation.

Restart Now

Initialize

This will restore your AirStation to the factory default settings.

Initialize Now

Initialize/Restart

Restart

This reboots your AirStation.

Settings affected:

Restarting will reset the clock to default time.

(C)2000-2012 BUFFALO INC. All rights reserved.

Parameter	Meaning
Restart	Click [Restart Now] to restart the AirStation.
Initialize	Click [Initialize Now] to initialize and restart the AirStation.

Update

Update the AirStation’s firmware.

SetupInternet/LANWireless ConfigSecurityLAN ConfigNASAdmin ConfigDiagnostic

NamePasswordTime/DateNTPECONetwork-USBAccessLogSave/RestoreInitialize/RestartUpdateLogout

Firmware VersionWZR-D1800H Ver.1.86

Update Method

☒ Specify Local File

☐ Auto Update Online

Firmware File Name

Browse...

Update Firmware

Version Check

*Get updated firmware files from our website:

[Download Service](#)

[Advanced Settings]

Firmware Update Reminder

☒ Enable

Remind Time

Automatic

Apply

Firmware Update

Update the AirStation's firmware.

Firmware Version

Displays the firmware version of the AirStation.

Update Method

Please select firmware update method.

Specify Local File

Update the firmware with a file stored on the local PC.

Auto Update Online

Connect to On Line Version Up site via Internet to update firmware.

Firmware File Name

Use the browse button to find the firmware file that will be applied to the AirStation.

"Browse" button

(C)2000-2012 BUFFALO INC. All rights reserved.

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

Parameter	Meaning
Firmware Update Reminder	This sets whether the Firmware Update Reminder function is used. When enabled, if new firmware is found, notification is sent to the Configuration Interface.
Remind time	This sets the interval for checking whether a new firmware version has been released.

Diagnostic

System Info

View system information for the AirStation.

Setup	Internet/LAN	Wireless Config	Security	LAN Config	NAS	Admin Config	Diagnostic
System Info	Logs	Packet Info	Client Monitor	Ping			Logout

Model	WZR-D1800H Ver.1.86 (R1.35/B6.30.15-0.22-0.10)		
AirStation Name	AP00904C08A000		
Mode Switch Status	Router Mode ON		
Operational Mode	Router Mode ON		
Internet	Method of Acquiring IP Address	Auto Detect Mode - DHCP	
	Connection Status	Communicating	
	Operation	Release Renew	
	IP Address	192.168.10.47	
	Subnet Mask	255.255.255.0	
	Default Gateway	192.168.10.1 (Via DHCP)	
	DNS1(Primary)	192.168.10.1 (Via DHCP)	
	Host Name	AP00904C08A000 (Manual)	
	Domain Name		
	MTU Size	1500	
	DHCP Server Address	192.168.10.1	
	Lease Start Time	2012/03/28 02:41:28	
	Lease Period	2012/03/30 02:41:28	
	Wired Link	1000Base-T (Full-duplex)	
	MAC Address	00:90:4C:08:A0:00	
LAN	IP Address	192.168.11.1	
	Subnet Mask	255.255.255.0	
	DHCP Server	Enabled	
	MAC Address	00:90:4C:08:A0:00	
Wireless(802.11ac/n/a)	Wireless Status	Enabled	
	SSID	BUFFALO-08A000_A	
	Authentication	WPA/WPA2 mixedmode - PSK	
	Encryption	TKIP/AES mixedmode	
	Broadcast SSID	Enabled	
	Privacy Separator	Disabled	
Wireless(802.11n/g/b)	Wireless Channel	54 Channel(Auto)	
	300 Mbps Mode	40 MHz	
	MAC Address	00:1D:73:64:80:94	
	Wireless Status	Enabled	
	SSID	BUFFALO-08A000_G	
	Authentication	WPA/WPA2 mixedmode - PSK	
Wireless(802.11n/g/b)	Encryption	TKIP/AES mixedmode	
	Broadcast SSID	Enabled	
	Privacy Separator	Disabled	
	Wireless Channel	11 Channel(Auto)	
	300 Mbps Mode	20 MHz	
	MAC Address	00:1D:73:64:85:38	
NAS	USB disk	Connected	
	Shared Folder	Enabled	
	WebAccess	Disabled	
	Media Server	Disabled	
	BitTorrent	Disabled	
ECO Mode	Status	Disable Schedule feature	

System Information

Displays the AirStation's main settings.

Model

Displays the model name and firmware version of the AirStation.

AirStation Name

Displays the AirStation's host name.

Mode Switch Status

Displays the status of the Router Mode switch.

Operational Mode

Displays the current mode of operation.

Internet

AirStation's [INTERNET port](#) side information.

Method of Acquiring IP Address

Acquiring a Internet IP address.

Name of the Connection

The name of the PPPoE connection specified in the configuration.

Connection Status

Displays the current Internet side status.

Operational Mode

The Operational Mode will show if any DHCP or PPPoE configuration is active. If DHCP is in use, the following commands can be executed.

- [Release] : Releases the IP address assigned by the DHCP Server.
- [Renew] : Renews the IP address from the DHCP Server.

The following commands can be executed when using PPPoE.

- [Start] : Start connecting to a PPPoE Server from idle/stop.
- [Connect] : Connect to PPPoE from an idle condition.
- [Disconnect] : Disconnect communication with a PPPoE Server.
- [Stop] : Stop idle condition.

IP Address

The IP address assigned to the AirStation.

Subnet Mask

The Subnet Mask assigned to the

(C)2000-2012 BUFFALO INC. All rights reserved.

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

Logs

The AirStation's logs are recorded here.

SetupInternet/LANWireless ConfigSecurityLAN ConfigNASAdmin ConfigDiagnostic

System InfoLogsPacket InfoClient MonitorPingLogout

Display log info

☒ Address Translation☒ IP Filter☒ Firewall☒ PPPoE Client☒ Dynamic DNS☒ DHCP Client☒ DHCP Server☒ AOSS☒ Wireless Client☒ Authentication☒ Setting Changes☒ System Boot☒ NTP Client☒ Wired Link☒ System

DisplaySelect AllClear All

Logs

Save to file logfile.log.Delete

Date Time	Type	Log Content
2012/03/28 03:14:07	NTP	time.nist.gov : Unknown host
2012/03/28 03:13:24	NTP	probe_count=0 hostname=time.nist.gov cy
2012/03/28 03:13:24	NTP	start ntpclient

Logs

Display log information recorded in the AirStation. The oldest information is overwritten by new logs.

Display log info

Select the types of information that should be logged by the AirStation. The default is All. The following items can be selected:

• Address Translation

• IP Filter

• Firewall (Includes discarded IP Masquerade packets)

• PPPoE Client (Internet side)

• Dynamic DNS (Internet side)

• DHCP Client (Internet side)

• DHCP Server (LAN side)

• AOSS

• Wireless Client (Start/stop and client connection)

• Authentication

(C)2000-2012 BUFFALO INC. All rights reserved.

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

Packet Info

View packet transfer information.

SetupInternet/LANWireless ConfigSecurityLAN ConfigNASAdmin ConfigDiagnostic

System InfoLogsPacket InfoClient MonitorPing

Logout

Interface	Sent		Received	
	Normal	Errors	Normal	Errors
Wired LAN	5011	0	4637	0
Wired Internet	45	0	0	0
Wireless LAN (802.11ac/n/a)	136	4	0	0
Wireless LAN (802.11n/g/b)	120	0	46	0

Refresh

Packet Traffic Information

The total numbers of packets sent and received by the AirStation, as well as the errors sending and receiving, are displayed.

[Refresh] button
Displayed packet information is renewed with current information when this button is clicked.

(C)2000-2012 BUFFALO INC. All rights reserved.

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

Client Monitor

This screen shows devices that are connected to the AirStation.

SetupInternet/LANWireless ConfigSecurityLAN ConfigNASAdmin ConfigDiagnostic

System InfoLogsPacket InfoClient MonitorPingLogout

MAC Address	Lease IP Address	Hostname	Communication Method	Wireless Authentication	802.11n
E0:69:95:2E:1F:DB	192.168.11.2	John-PC	Wired	-	-

Refresh

Client Monitor

Displays the LAN side clients (PCs) that are accessing the AirStation.
The following information is displayed:

(C)2000-2012 BUFFALO INC. All rights reserved.

Parameter	Meaning
Client Monitor	Displays information (MAC address, lease IP address, hostname, communication method, wireless authentication and 802.11n) for devices that are connected to the AirStation.

Ping

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

SetupInternet/LANWireless ConfigSecurityLAN ConfigNASAdmin ConfigDiagnostic

System InfoLogsPacket InfoClient MonitorPingLogout

Destination Address

Execute

Result

Destination	192.168.11.2
Result	64 bytes from 192.168.11.2: icmp_seq=0 ttl=128 time=5.3 ms 64 bytes from 192.168.11.2: icmp_seq=1 ttl=128 time=10.0 ms 64 bytes from 192.168.11.2: icmp_seq=2 ttl=128 time=10.0 ms

Ping

A Ping test can be performed from the AirStation. With a ping test, you can determine whether the AirStation can communicate with a specific network device.

Destination Address

Enter the network IP address that you want to ping; e.g. 192.168.11.3 or www.buffalotech.com.

(C)2000-2012 BUFFALO INC. All rights reserved.

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.

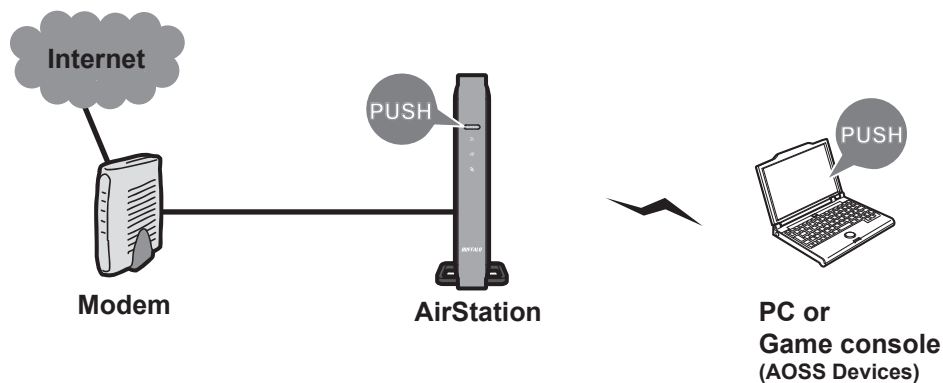
Chapter 4 - Connect to a Wireless Network

Automatic Secure Setup (AOSS / WPS)

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



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



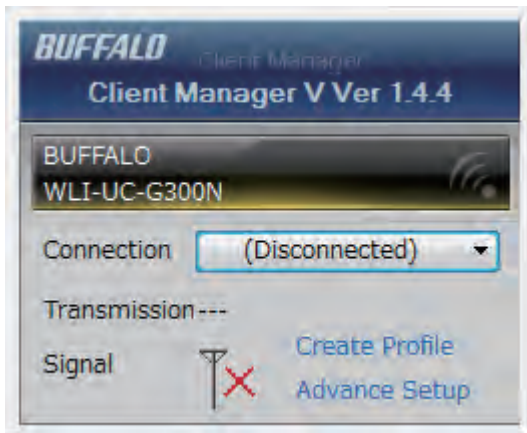
- Before using AOSS or WPS to connect the Buffalo wireless client to the computer, download Client Manager or AOSS Assistant from the Buffalo website and install it.
- Buffalo's Client Manager software can be used with the wireless LAN devices built into your computer. However, it is not guaranteed to work with all wireless LAN devices available.

Windows 7/Vista (Client Manager V)

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

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

2

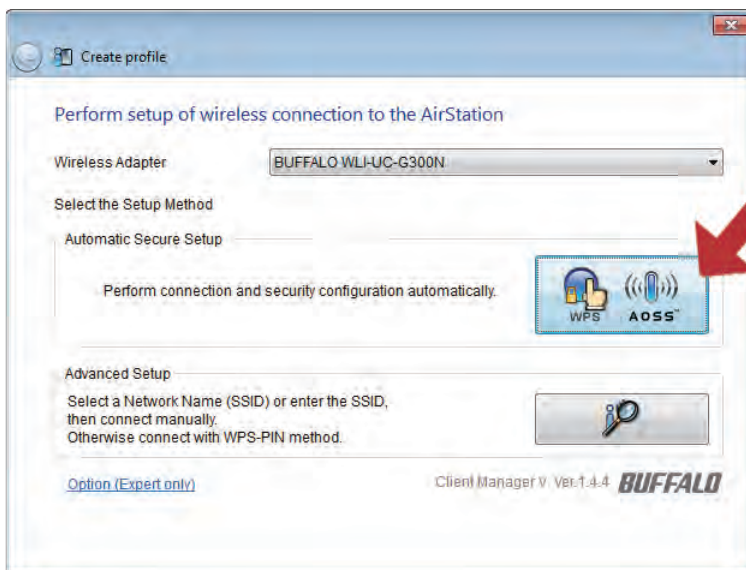


Click [Create Profile].

3

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

4



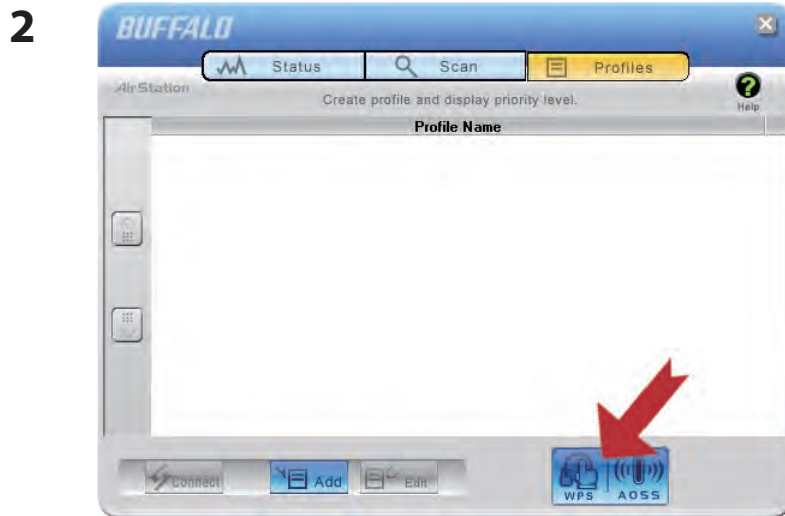
Click the [WPS AOSS] button.

Follow any instructions displayed on the screen. When the Wireless LED on the front of the AirStation stop flashing and glows steadily, the connection is complete.

Windows XP (Client Manager 3)

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

1 Right-click on the  icon in the system tray and select [Profile].



Click the [WPS AOSS] button.

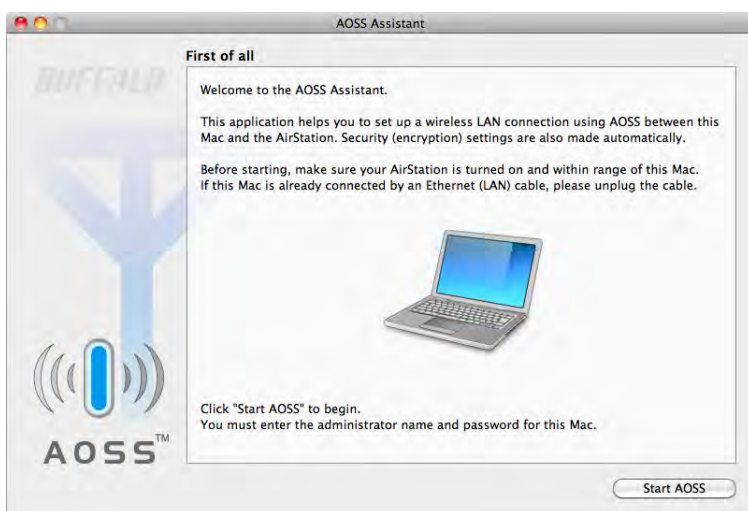
It will take several seconds for your wireless connection to be configured. When the Wireless LED on the front of the AirStation stop flashing and glows steadily, the connection is complete.

Mac OS X (AOSS Assistant)

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

- 1 Run the AOSS Assistant program that was downloaded from the Buffalo web site.
- 2 The software license screen is displayed. Click [Agree] to proceed.

3



Click [Start AOSS].

4



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

It will take several seconds for your wireless connection to be configured. When the Wireless LED on the front of the AirStation stop flashing and glows steadily, the connection is complete.

Other Devices (e.g. Game Console)

If you are using a game machine which supports AOSS or WPS, refer to that device's manual to initiate AOSS or WPS. When instructed, hold down the AOSS button on the AirStation for 1 second.

When the Wireless LED on the front of the AirStation stop flashing and glows steadily, the connection is complete.

Manual Setup

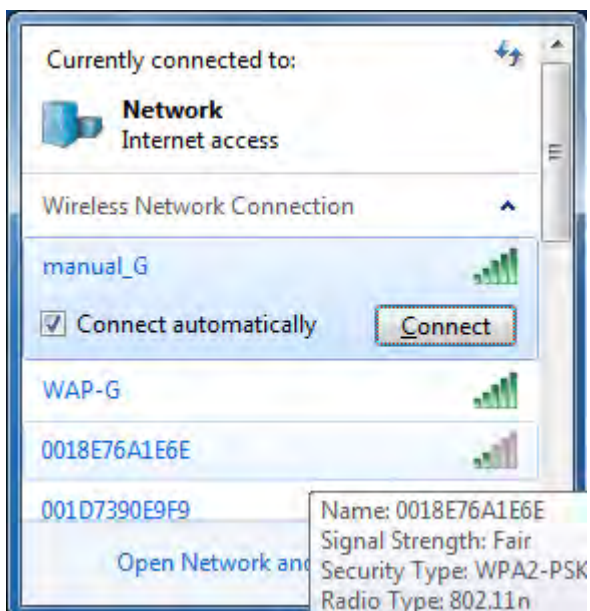
You can also connect to the AirStation without installing Client Manager V or Client Manager 3 by using the utility built-in to operating system. The procedure varies depending on which version of operating system you are using.

Windows 7 (WLAN AutoConfig)

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

1 Click on the network  icon in the system tray.

2



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

3



Enter the encryption key and click [OK].

Windows Vista (WLAN AutoConfig)

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

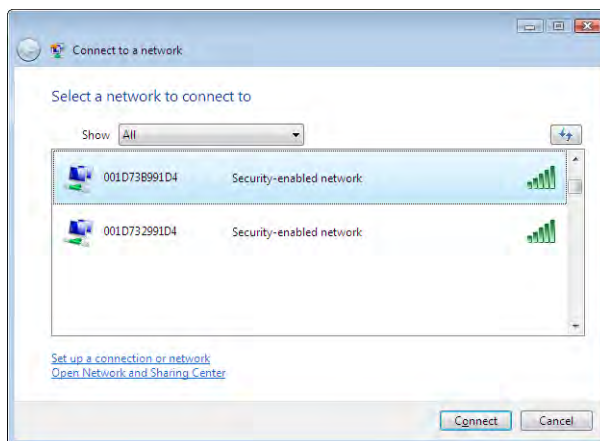
1

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

2

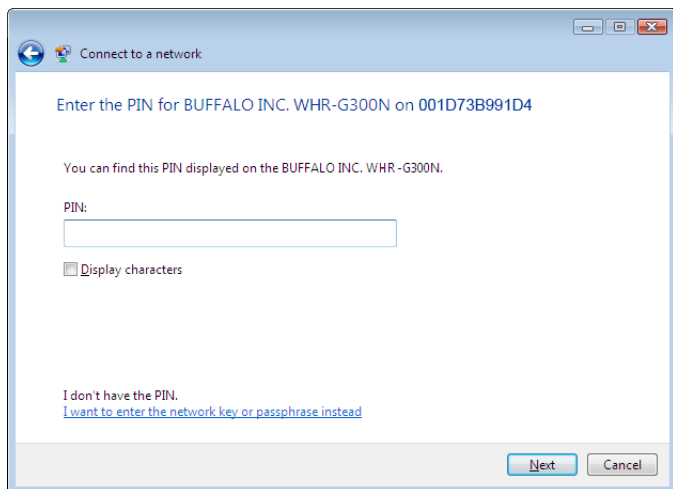
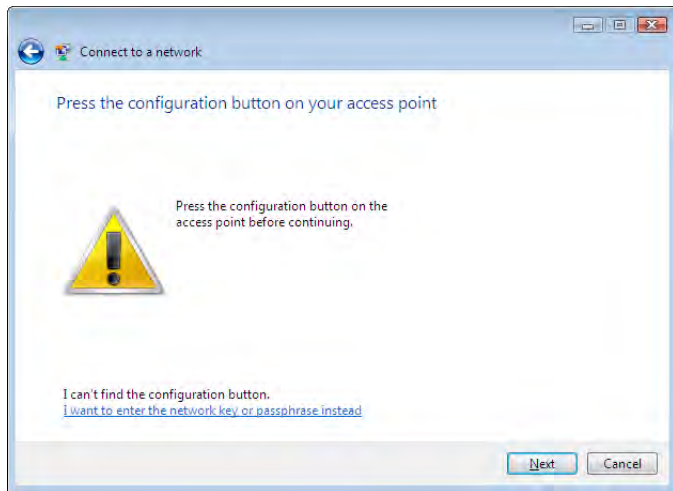
Click [Connect to a network].

3

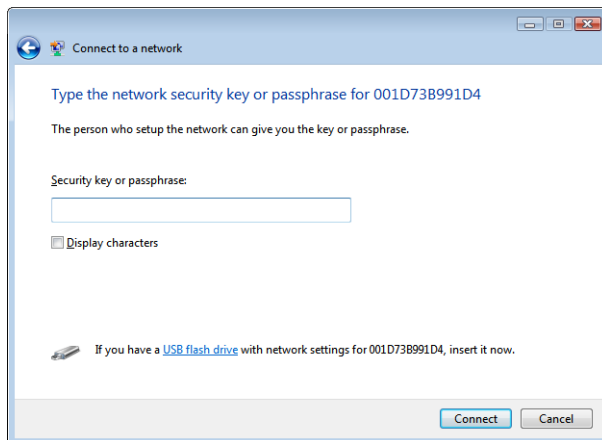


When this screen is displayed, select your network and click [Connect].

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



4



Enter the encryption key and click [Connect].

Step through the wizard to finish configuration.

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

Windows XP (Wireless Zero Configuration)

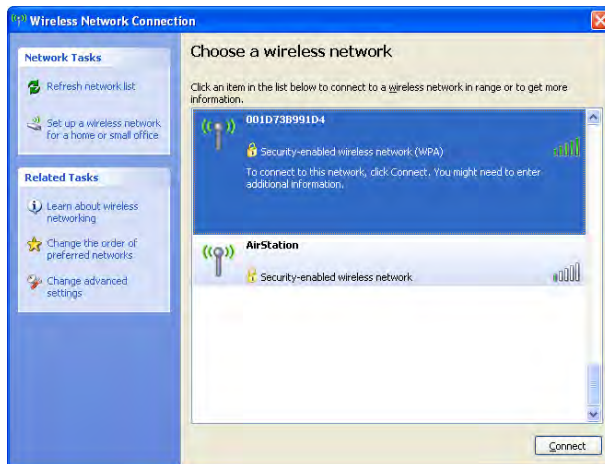
Windows XP includes Wireless Zero Config, a built-in utility to connect to your AirStation.

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

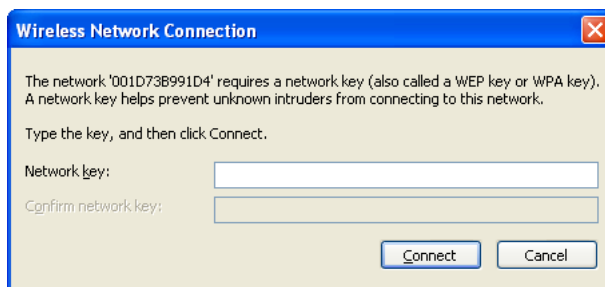
1 Right-click on the  wireless network icon in the system tray.

2 Click [View Available Wireless Networks].

3 Select the network to connect to and click [Connect].



4 Enter the encryption key (twice) and click [Connect].



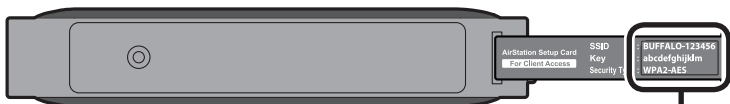
It will take several seconds for configuration to complete.

Mac OS X (Wi-Fi)

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

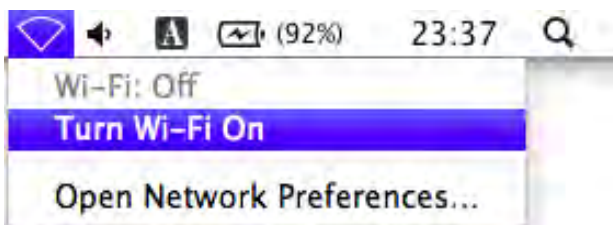
Note: In Mac OS X 10.6 and earlier, "Wi-Fi" appears as "AirPort".

1



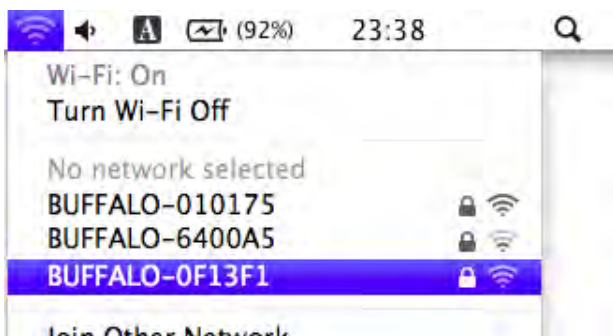
Refer to the setup card at the bottom of the AirStation. Make a note of the SSID and Key printed on the setup card.

2



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

3



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

4



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

It will take several seconds for configuration to complete.

Chapter 5 - Troubleshooting

Cannot connect to the Internet over wired connection.

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

Buffalo	White light is on
LAN	Green light is on or blinking
Internet	Green light is on or blinking
- Make sure that your computer is configured to “obtain an IP address automatically from DHCP”.
- Restart your AirStation.

Cannot access the web-based configuration Interface.

- See chapter 3 for instructions to open the AirStation’s configuration interface.
- Enter the correct username and password to log in to the configuration interface. If you are using AirStation with factory default settings, enter “admin” for the username and “password” for the password.
- Verify that your web browser is not set to use proxies.
- Make sure that your computer is configured to “obtain an IP address automatically from DHCP”.
- Restart your AirStation.

Cannot connect to the network wirelessly.

- Configure your wireless client with the same SSID, encryption type, and encryption key as set on the AirStation.

The factory defaults are:

SSID - BUFFALO-XXXXXX (the last 6 digits of the AirStation's MAC address) + "_A" or "_G".

Encryption Type - WPA2 - PSK AES, or none.

Encryption Key - Printed on the Setup card.

Note: For details, refer to the Setup card.

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

You forgot AirStation's SSID, Encryption Key, or Password.

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

Restoring the Default Configuration



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

TCP/IP Settings (Windows 7)

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

- 1** Click [Start] > [Control Panel] > [Network and Internet].
- 2** Click [Network and Sharing Center].
- 3** Click [Change Adapter Settings] on the left side menu.
- 4** Right-click on [Local Area Connection], 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].

To set your IP address settings manually, enter values for each setting. Examples:

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].

TCP/IP Settings (Windows Vista)

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

- 1** Click [Start] > [Settings] > [Control Panel].
- 2** Click [Network and Sharing Center].
- 3** Click [Manage network connections] on the left side menu.
- 4** Right-click on [Local Area Connection], then click [Properties].
- 5** 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].

To set your IP address settings manually, enter values for each settings. 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 [Close].

TCP/IP Settings (Windows XP)

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

- 1** Click [Start] > [Settings] > [Control Panel].
- 2** Double-click [Network].
- 3** Right-click on [Local Area Connection], then click [Properties].
- 4** Select [Internet Protocol (TCP/IP)], then click [Properties].
- 5** To have DHCP set your IP address settings automatically, check [Obtain an IP address automatically] and [Obtain DNS server address automatically].

To set your IP address settings manually, enter values for each setting. Examples:

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 [Close].

TCP/IP Settings (Mac OS X)

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

- 1** Click [Apple menu] > [System Preferences...].
- 2** Click [Network].
- 3** Click [Ethernet].
- 4** To have DHCP set your IP address settings automatically, select [Using DHCP] in the Configure IPv4 field.

To set your IP address settings manually, select [Manually] in the Configure IPv4 field and enter values for each setting. Examples:

If the router's IP address is 192.168.11.1,	
IP Address	192.168.11.80
Subnet Mask	255.255.255.0
Router	192.168.11.1
DNS Server	192.168.11.1
Search Domains	blank

- 5** Click [Apply].

Other Tips

Issue:

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

Answer:

Open your browser, enter 192.168.11.1 as the browser address, and hit Enter. You will be prompted to log in. Enter "admin" for the username and "password" for the password. Click [OK] to log in. The option to reset your password will be available on the first page.

Issue:

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

Answer:

Log in to the router. From the home page, go to the LAN Config section. Enter the port that needs to be forwarded and the IP address of the gaming console.

Issue:

How do I enable or modify security encryption settings on the wireless router?

Answer:

Go to the Wireless Config tab and then select the Security tab. Buffalo recommends the use of WPA2-PSK AES for wireless encryption. The passphrase/ key should be at least 8 characters in length.

Issue:

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

Answer:

Log in to the wireless router with your browser. Navigate to Wireless Config - Basic. Find the SSID setting. Select [Use] and enter the new name for your network. Click [Apply]. Once the wireless router has rebooted, you will need reconnect any wireless clients to the AirStation using the new network name. The encryption key will still be the same.

Issue:

What can I do if my wireless connection drops randomly or seems slow?

Answer:

There are many environmental factors that may cause this. First, ensure the issue is not range related by moving the wireless router and the client device closer together. If the connection drops continue, then range is probably not the issue.

Other 2.4 GHz devices such as microwaves, other wireless networks, and 2.4 GHz wireless phones may impact performance. Try a different wireless channel for your wireless router. Log in to the wireless router with your browser. Click on the Wireless Config tab and then the Basic tab. Wireless channels from 1 - 11 may be selected. Try the Auto-Channel option if available. Otherwise, manually select an alternate channel and click [Apply].

Issue:

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

Answer:

First, press the Router button on the AirStation to switch to router mode. The Router LED on the AirStation turns on, and after about one minute, turn off the cable or DSL modem, AirStation, and your computer. Verify that the modem is connected to the Internet port on the AirStation with a Ethernet cable. Power on the modem and wait one minute. Power on the wireless router and wait another minute. Power on the computer. Open a browser on the computer and navigate to a familiar website to verify whether the Internet connection is functioning normally.

If after these steps, an Internet connection is still unavailable, power off the cable or DSL modem and computer again and directly connect your computer to the cable or DSL modem with a cable between the computer and the port on the modem. Power on the modem and wait one minute. Power on the computer and again check for an Internet connection.

If an Internet connection IS NOT available with a direct connection to the computer, please call the Internet Service Provider who installed the modem.

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

Issue:

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

Answer:

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

Chapter 6 - Default Configuration Settings

Feature	Parameter	Default Setting
Internet (Router mode only)	Method of Acquiring IP Address	Perform Easy Setup (Internet Connection Wizard)
	Default Gateway	none
	DNS Name Server Address	none
	Internet MAC Address	Use Default MAC Address
	MTU Size of Internet Port	1500 Bytes
PPPoE (Router mode only)	Default PPPoE Connection	No Active Session
	IP Unnumbered PPPoE Connection	No Active Session
	PPPoE Connection List	none
	Preferred Connections	none
DDNS (Router mode only)	Dynamic DNS Service	Disabled
	Current Dynamic DNS Information	none
VPN Server (Router mode only)	LAN Side IP Address	192.168.11.1 (255.255.255.0)
	DHCP Server Function	Enabled
	DHCP IP Address Pool	192.168.11.2 for up to 64 Address(es)
	PPTP Server Function	Disabled
	Authorization Type	MS-CHAPv2 (40/128-bit Encryption)
	Server IP Address	Auto
	Client IP Address	Auto
	DNS Server IP Address	LAN IP address of the AirStation
	WINS Server IP Address	none
	MTU/MRU value	1396
	PPTP User List	none

Feature	Parameter	Default Setting
LAN	LAN Side IP Address	Router mode (Router On): 192.168.11.1 (255.255.255.0) Bridge mode (Router Off): 192.168.11.100 (255.255.255.0)
	DHCP Server Function (Router mode only)	Enabled
	DHCP IP Address Pool (Router mode only)	192.168.11.2 for up to 64 Addresses
	LAN Side IP Address (For IP Unnumbered) (Router mode only)	none
	Lease Period (Router mode only)	48 Hours
	Default Gateway (Router mode only)	AirStation's IP Address
	DNS Servers (Router mode only)	AirStation's IP Address
	WINS Server (Router mode only)	Do Not Specify
	Domain Name (Router mode only)	Assigned Domain Name
	Default Gateway (Bridge mode only)	none
	DNS Server Address (Bridge mode only)	none
DHCP Lease (Router mode only)	Current DHCP Client Information	none
NAT (Router mode only)	Address Translation	Enabled
	Log Output of Deleted Packets	Disabled
Route	Routing Information	none

Feature	Parameter	Default Setting
WPS	WPS	Enabled
	External Registrar	Enabled
	AirStation PIN	An 8-digit random value (Printed on the label of the AirStation)
	WPS Security Information	WPS status: configured SSID: BUFFALO-XXXXXX (the last 6 digits of the AirStation's MAC address) + "_A" or "_G". Security: WPA2 - PSK AES or none Encryption key: Either a 13-digit random value or disabled. Printed on the label of the AirStation. Encryption is disabled by default settings on AirStation for Asia Pacific.
Basic	Wireless Radio	Enabled
	SSID	Use AirStation's MAC address
	Wireless Channel	Auto Channel
	High-throughput mode	11ac/n/a Bandwidth: 11ac/n/a 1300 Mbps Mode (80 MHz) 11n/g/b Bandwidth: 11n/g/b Normal Mode (20 MHz)
	Broadcast SSID	Allow
	Wireless authentication	WPA2 - PSK, or no authentication
	Wireless encryption	AES, or no encryption
	WPA-PSK (Pre-Shared Key)	A 13-digit random value or disabled (Printed on the setup card. Encryption is disabled in default settings on AirStation for Asia Pacific.)
	Rekey interval	60 minutes
Advanced	BSS Basic Rate Set	11ac/n/a 6, 12, 24 Mbps 11n/g/b 1, 2, 5.5, 11 Mbps
	Multicast Rate	Auto
	802.11n Protection	Disabled
	DTIM Period	1
	Privacy Separator	Disabled
	Output Power	100%

Feature	Parameter	Default Setting		
WMM	WMM-EDCA Parameters (Priority AC_BK (Low))		For AP	For STA
		CWmin	15	15
		CWmax	1023	1023
		AIFSN	7	7
		TXOP Limit	0	0
		Admission Control	-----	Disabled
	WMM-EDCA Parameters (Priority AC_BE (Normal))		For AP	For STA
		CWmin	15	15
		CWmax	63	1023
		AIFSN	3	3
		TXOP Limit	0	0
		Admission Control	-----	Disabled
	WMM-EDCA Parameters (Priority AC_VI (High))		For AP	For STA
		CWmin	7	7
		CWmax	15	15
		AIFSN	1	2
		TXOP Limit	94	94
		Admission Control	-----	Disabled
	WMM-EDCA Parameters (Priority AC_VO (Highest))		For AP	For STA
		CWmin	3	3
		CWmax	7	7
		AIFSN	1	2
		TXOP Limit	47	47
		Admission Control	-----	Disabled
MAC Filter	Enforce MAC Filtering	11ac/n/a Disabled 11n/g/b Disabled		
	Registration List	none		
Multicast control	Snooping	Enabled		
	Multicast Aging Time	300 sec.		
AOSS	Encryption Type	none		
	AOSS Button on the AirStation Unit	Enabled		

Feature	Parameter	Default Setting
Firewall (Router mode only)	Log Output	Disabled
	Basic Rules	Prohibit NBT and Microsoft-DS Routing Disabled
		Reject IDENT Requests Enabled
	Block Ping from Internet	Enabled
IP Filter (Router mode only)	Log Output	Disabled
	IP Filter Information	none
VPN Pass Through (Router mode only)	IPv6 Pass Through	Disabled
	PPPoE Pass Through	Disabled
	PPTP Pass Through	Enabled
Port Forwarding (Router mode only)	Port Forwarding Registration Information	none
DMZ (Router mode only)	IP Address of DMZ	none
UPnP (Router mode only)	UPnP	Enabled
QoS (Router mode only)	QoS for transmission to the Internet	Disabled
Disk Management	Automatic USB Disk Assignment	Enabled
	FAT format file name character code	North America (CP437)
	HDD power-saving function	Disabled HDD stop time 10 Minutes
Shared Folder	Access Limits	No Limits (Read/Write)
	Web Access	Access Limits
User Management	Current Users	guest
Shared Service	Shared Folder	Enabled
	AirStation Name	AP + AirStation's MAC Address
	AirStation Description	None
	Workgroup Name	WORKGROUP
	Windows Client Language	North America (CP437)
	Shared Service	None

Feature	Parameter	Default Setting
Web Access	Web Access	Disabled
	Web Access Display Language	English
	HTTPS/SSL Encryption	Disabled
	Web Access External Port	Auto (Port Number:9000)
	DNS Service Host Name	Use BuffaloNAS.com registration function
	Web Access status	None
Media Server	Media Server	Disabled
	Status	None
BitTorrent	BitTorrent Function	Disabled
	External Port Number	Auto (Port Number: 9002)
	Bandwidth Restriction	Enabled Maximum Download Speed 1000 KB/s Maximum Upload Speed 200 KB/s
	BitTorrent Status	none
Name	AirStation Name	AP + AirStation's MAC Address
	List Network Services	Enabled
Password	Administrator Name	admin (fixed)
	Administrator Password	password
Time/Date	Local Date	2012 Year 1 Month 1 Day
	Local Time	0 Hour 0 Minute 0 Seconds
	Time Zone	(GMT - 06:00) Central Standard Time: CST
	DST (Daylight Saving Time)	USA (From Second Sunday in Mar to first Sunday in Nov)
NTP	NTP Functionality	Enabled
	NTP Server	time.nist.gov
	Update Interval	24 hours

Feature	Parameter	Default Setting
ECO	Schedule feature	Disabled
	Register schedule	Operational Mode: Normal Start time: 0:00 End time: 0:30 The day of week: none
	User Define Mode	LED: Off Wired LAN: ECO (Slow operation) Wireless LAN: Off
Network-USB	Network-USB	Enabled
	Use multifunction Printer	Enabled
Access	Log Output	Disable
	Limitation Item	Prohibit configuration from wireless LAN Disabled Prohibit configuration from wired LAN Disabled Permit configuration from wired Internet Disabled
Log	Log Transfer	Disabled
	Syslog Server	none
	Logs	Router Mode: Address Translation, IP Filter, Firewall, PPPoE Client, Dynamic DNS, DHCP Client, DHCP Server, AOSS, Wireless Client, Authentication, Setting Changes, System Boot, NTP Client, Wired Link, and System Bridge Mode: IP Filter, DHCP Client, AOSS, Wireless Client, Authentication, Setting Changes, System Boot, NTP Client, Wired Link, and System
Update	Update Method	Specify Local File
	Firmware Update Reminder	Enabled
	Remind Time	Automatic

Chapter 7 - Network-USB Navigator

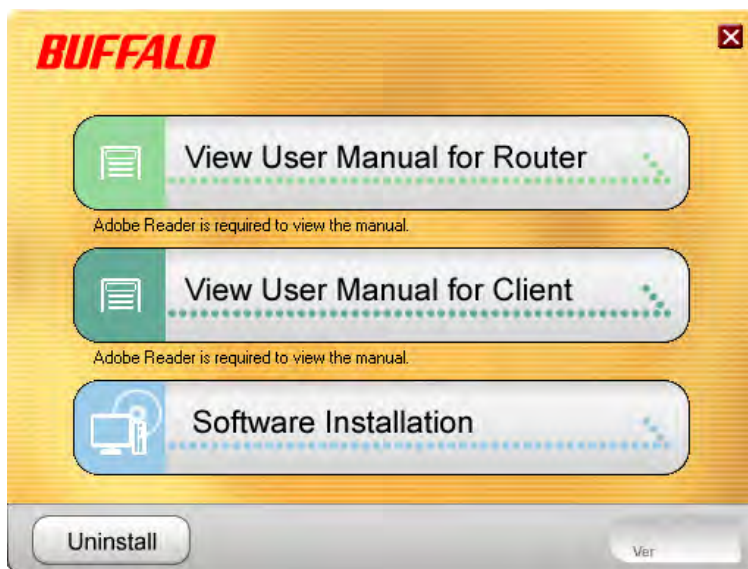
Network-USB Navigator is compatible only with printers and multifunction printers (all-in-one devices with a printer, scanner, and memory card reader). It cannot be used with any other type of USB devices.

Initial Setup for Windows Users

- 1 Insert the AirNavigator CD into your computer.

The setup menu will launch automatically. If not, open the CD and click on "Launcher.exe" in the "win" folder.

2



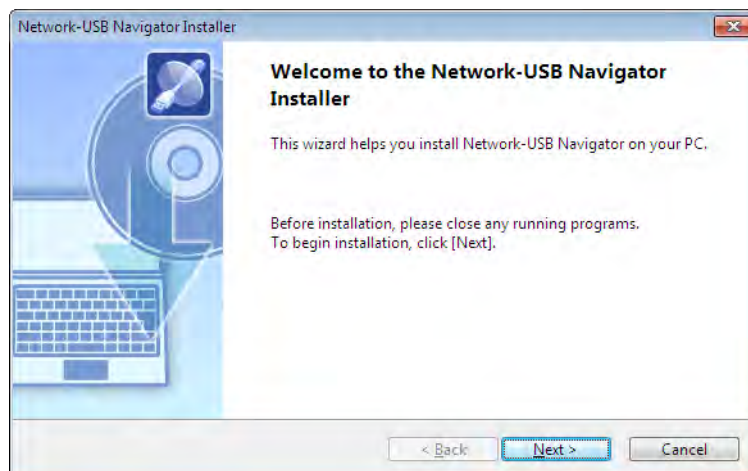
Click [Software installation].

3



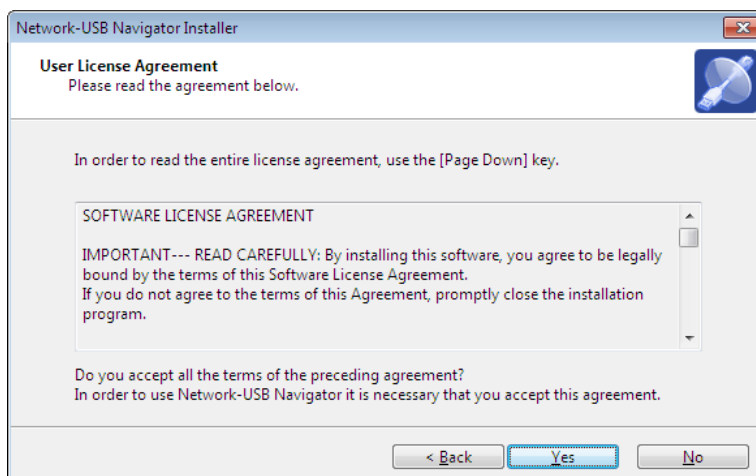
Check the box for “Network-USB Navigator” and click [Install].

4



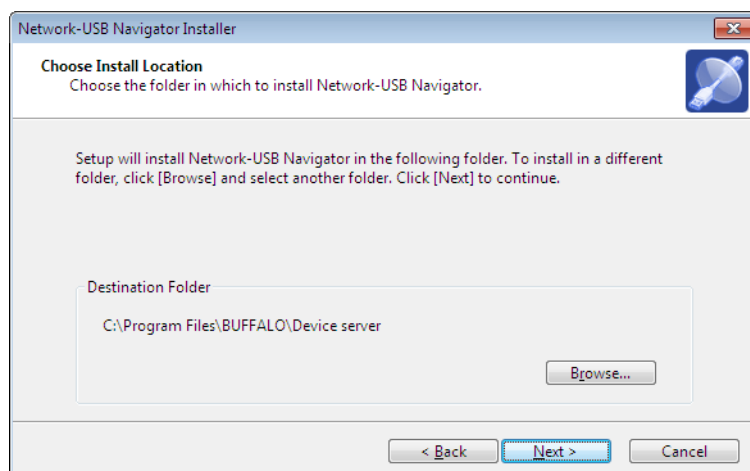
Click [Next].

5



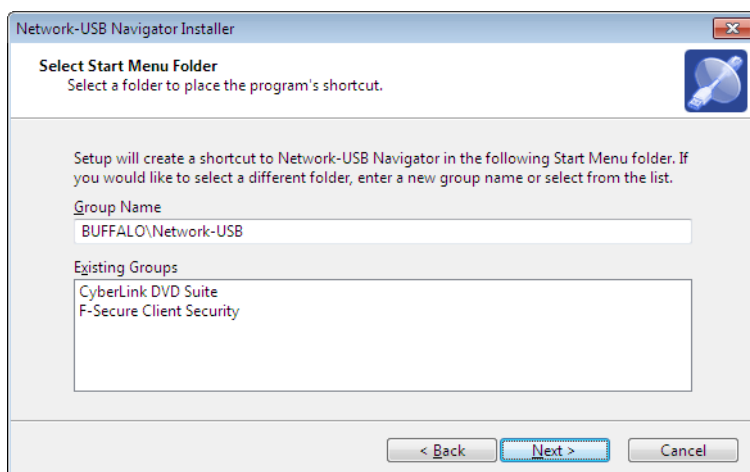
Read the license agreement.
Click [Yes] to continue.

6



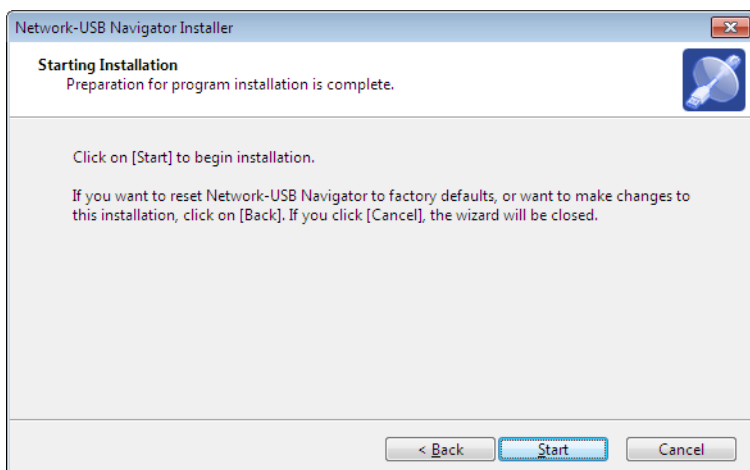
Click [Next].

7



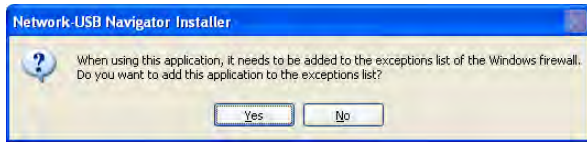
Click [Next].

8



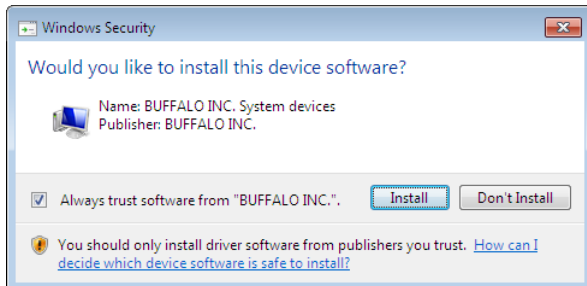
Click [Start].

- Installation on Windows XP (SP2 or later)

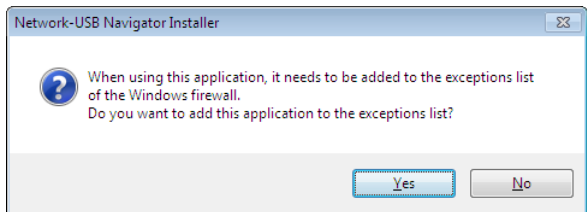


Click [Yes] when this screen is shown.

- Installation on Windows 7/Vista

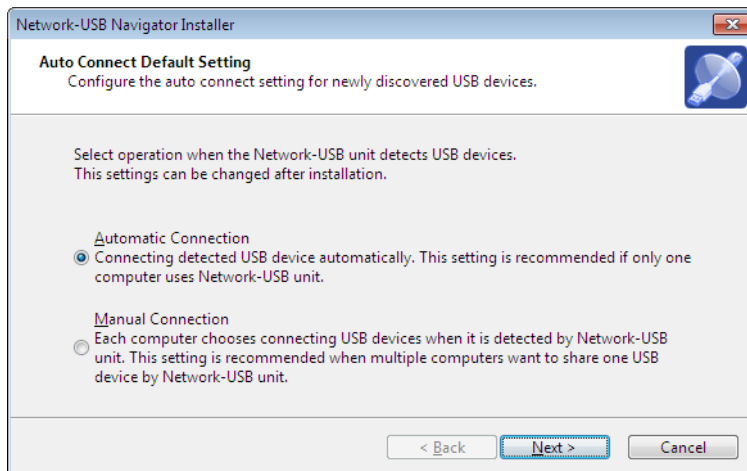


Click [Install] when this screen is shown.



Click [Yes] when this screen is shown.

9



1 You can select the behavior of this product when a USB device is detected. Select the connection behavior suited to your usage environment.

2 Click [Next].

10 Click [Finish] when the “Network-USB Navigator Install is Complete” screen is shown.

Network-USB Navigator installation is complete.

Initial Setup for Mac Users

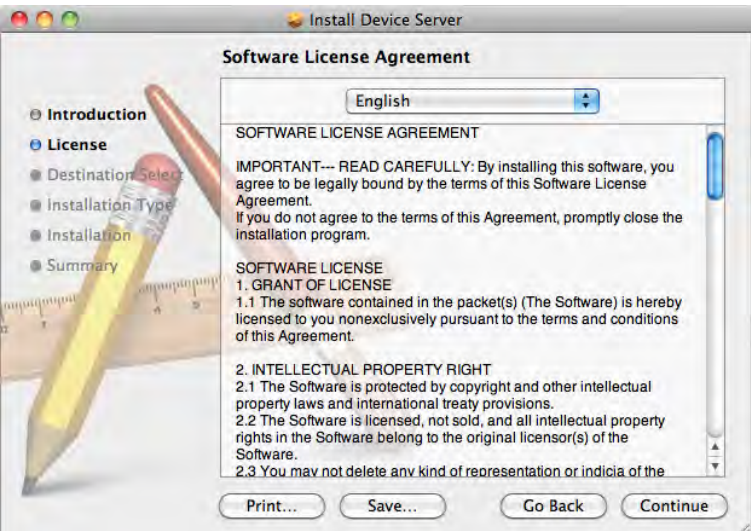
- 1 Insert the Air Navigator CD.
- 2 From the menu bar, click [Go] > [Computer].
- 3 Double-click the CD icon, and then double-click [Mac] > [DeviceServer] > [Cosetup].

4



Click [Continue].

5



Read the license agreement, and then click [Continue].

6



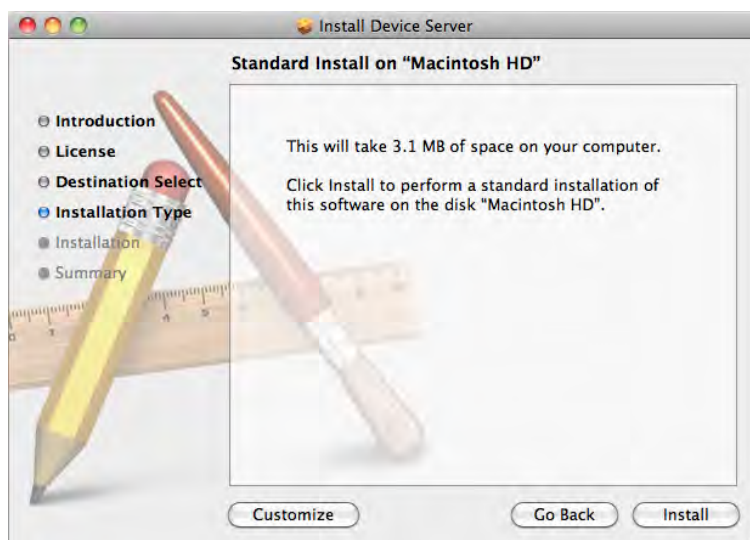
Click [Agree] to continue.

7



Click [Continue].

8



Click [Install].

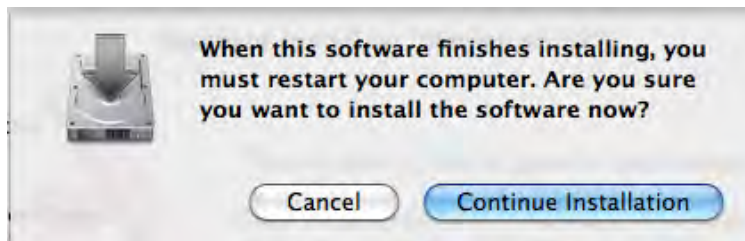
9



Input your name and password.

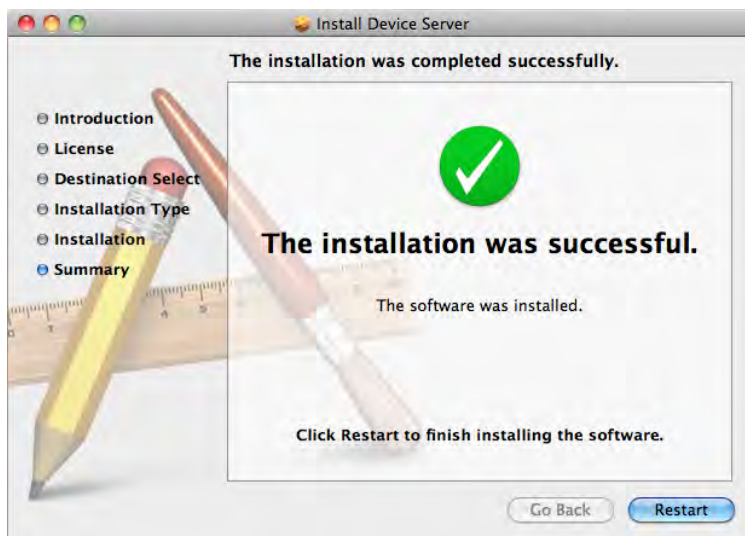
Click [OK].

10



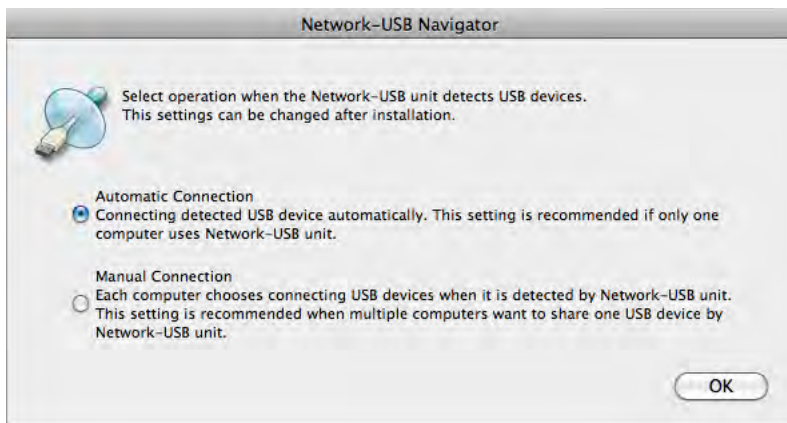
Click [Continue Installation].

11



Click [Restart].

12



1 During the first program launch only, the screen at left will appear before the main program screen is displayed. From here, you can select the behavior of this product when a USB device is detected. Select the connection behavior suited to your usage environment.

2 Click [OK].

Network-USB Navigator installation is complete.

Opening the Network-USB User Manual

1 Launch Network-USB Navigator.

There are two ways to launch the program.

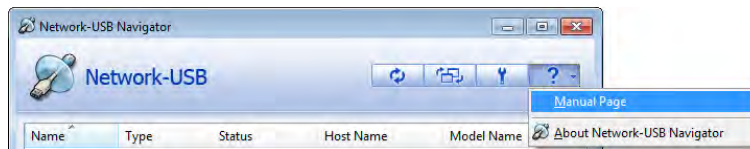
Windows Users

- a) Click the task tray icon .
- b) From the Start menu, click [(All) Programs]-[BUFFALO]-[Network-USB]-[Network-USB Navigator].

Macintosh Users

- a) Click the Dock icon .
- b) Click [Macintosh HD]-[Applications]-[BUFFALO]-[Device Server]-[Network-USB Navigator].

2



Click , then click [Manual Page].

3

Network-USB User Manual will open.

How to use Network-USB

To configure Network-USB, refer to the “Network-USB User Manual”.

Chapter 8 - Checking Wireless Signal Quality

For users of Windows 7, Vista, or Mac OS X (10.4 and later), software supplied with the AirStation can be used to check the quality and strength of the wireless signal.

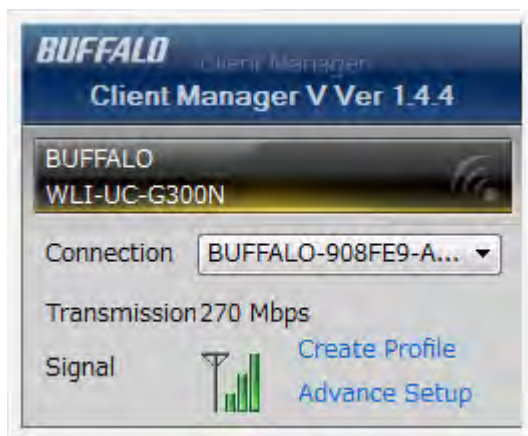
Windows 7/Vista

Note: · If Client Manager V is not already installed, download it from the Buffalo web site, and install.

· Client Manager V does not support Windows XP.

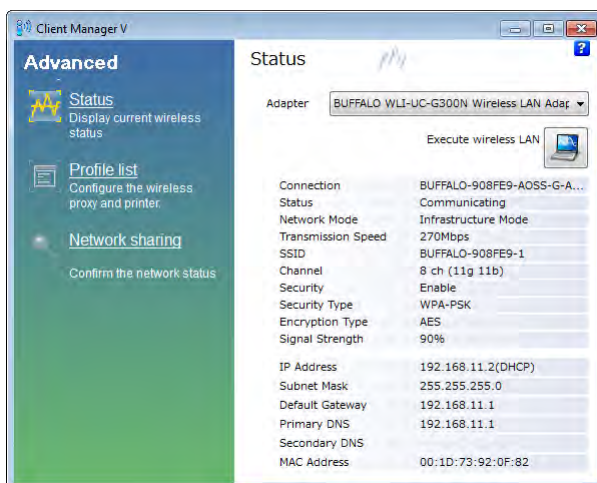
1 Click [Start] > [All Programs] > [BUFFALO] > [AirStation Utility] > [Client Manager V].

2



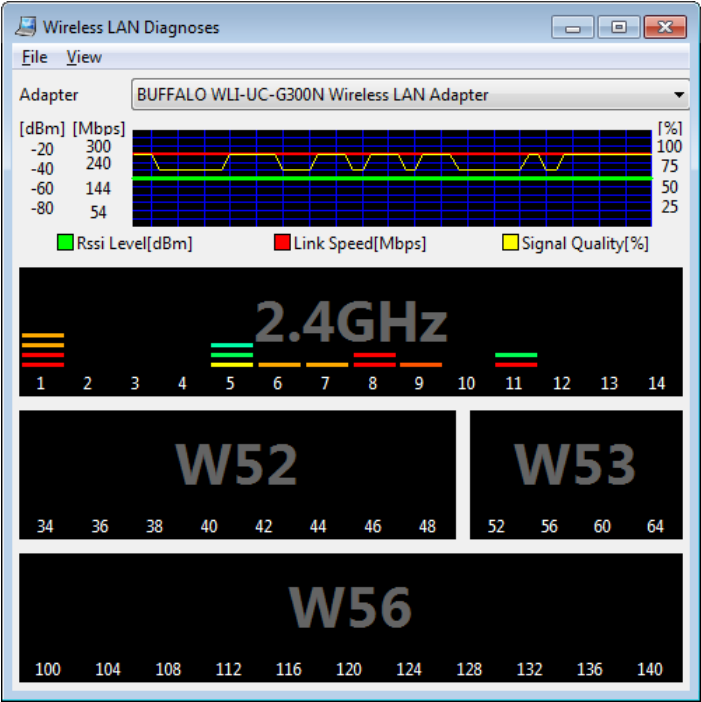
Click [Advanced Setup].

3



When the Client Manager V status screen is displayed, click  .

4



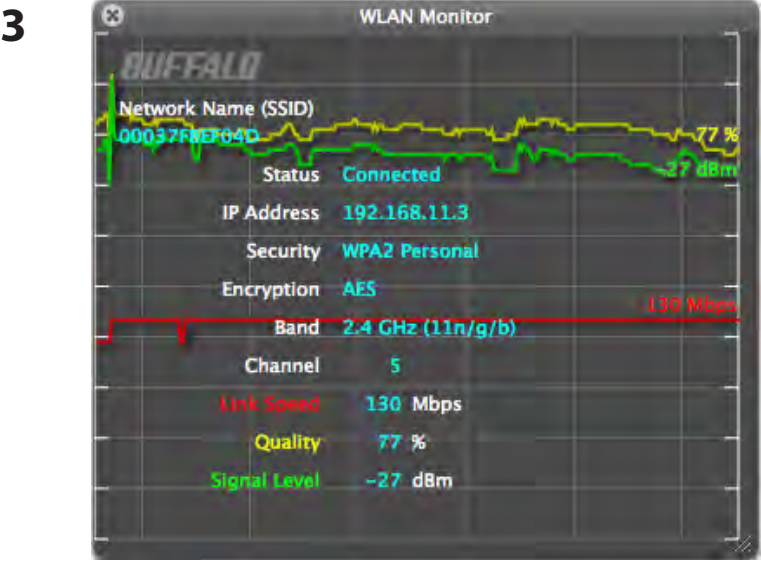
Parameter	Meaning
Connection status	Signal strength (dBm), link speed (Mbps), and signal quality (%) are displayed in one-minute intervals on a real-time graph.
Usage status by channel	The 11b/11g display shows usage in the 2.4 GHz band channels 1 to 11. The 11a display shows usage in the W52, W53, and W56 channels.

Colors are used to indicate the signal strength of the access point. Colors closer to red indicate an access point with a stronger signal strength, and colors closer to blue indicate an access point with a weaker signal strength.

Mac OS X

- 1 Run the WLAN Monitor program that was downloaded from the Buffalo web site.

2 The software license screen is displayed when starting for the first time only. Click [Agree] to proceed.



Parameter	Meaning
Network name (SSID)	This displays the SSID of the AirStation that is currently connected.
Status	This indicates the current connection status.
IP Address	This indicates the IP address of the current wireless network port (Wi-Fi).
Security	This indicates the authentication method for the current connection target.
Encryption	This displays the encryption type for the current connection target.
Band	This displays the wireless band for the current connection target.
Channel	This displays the wireless channel for the current connection target.
Link Speed (Mbps)	This displays the current link speed.
Quality (%)	This displays the current signal quality.
Signal Level (dBm)	This indicates the strength of the current signal.

Chapter 9 - Shared Folders and the USB Port

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 shared folder names, work group names, or file names contain any of the following characters, you may not access data or manipulate files on the AirStation properly. In such a case, use a different character.
- If a file created on a Macintosh contains any of the following characters, it will not be displayed correctly under Windows OS. Also, you cannot copy or properly display a file when connecting via SMB from Mac OS X 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 7, Vista, XP or 2000, access restrictions may not work properly. A (different) guest account already exists on the AirStation.
- If you access a shared folder from a Macintosh computer, additional Mac OS X 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 Macintosh.
- Device types that can be connected to the AirStation's USB connector are USB hard drives, USB memory sticks, or USB card readers. Card readers with 5 or more slots are not supported. USB devices such as a digital cameras, CD/DVD drives, USB hubs, mice, or keyboards are not supported.
- Encrypted USB hard drives are not supported.
- Only one single drive may be connected to the AirStation's USB port at a time. Drives manufactured by other companies besides Buffalo Technology 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.

Appendix A - Specifications

Wired LAN Interface	
Standard Compliance	IEEE802.3ab (1000BASE-T), IEEE802.3u (100BASE-TX), IEEE802.3 (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
LAN Port Connector	RJ-45
Wireless LAN Interface	
Standard Compliance	IEEE802.11ac (Draft 2.0) /n/a/g/b
Transmission Method	Direct Sequence Spread Spectrum (DSSS), OFDM, MIMO
Frequency Range	Available frequencies depend on the country of purchase. See the next page for details.
Transmission Rate 802.11ac (Draft)	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) 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) 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) 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) 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) 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 802.11n/a/b/g	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) 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) 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) 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) 802.11a/g: 54, 48, 36, 24, 18, 12, 9, 6 Mbps 802.11b: 11, 5.5, 2, 1 Mbps
Access Mode	Infrastructure Mode
Security	AOSS, WPA2-PSK (TKIP/AES), WPA/WPA2 mixed PSK, WPA-PSK (TKIP/AES), 64-bit or 128-bit WEP, Mac Address Filter
USB Interface	
Interface	USB 2.0
Connector Type	Type A (plug)
Compliance	5.0 V 500 mA (max 1000 mA)
Other	
Power Supply	External AC 100-240 V Universal, 50/60 Hz
Power Consumption	About 13.2 W (Max)
Dimensions	212.2 x 183.2 x 34 mm (8.4 x 7.2 x 1.3 in.)
Weight	510 g (18 oz.)
Operating Environment	0 - 40° C (32 - 104° F), 20 - 80% (non-condensing)

802.11a Frequency Range

USA	5180-5240 MHz (Channels 36, 40, 44, 48)
Canada	5745-5825 MHz (Channels 149, 153, 157, 161, 165)

802.11g Frequency Range

USA	2412-2462 MHz (Channels 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11)
Canada	

Appendix B - Environmental Information

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



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

Appendix C - GPL Information

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

Regulatory Compliance Information

Federal Communication Commission Interference Statement

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

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

FCC Caution:

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. For product available in the USA/Canada market, only channel 1~11 can be operated. Selection of other channels is not possible. This device and its antenna(s) must not be co-located or operation in conjunction with any other antenna or transmitter. This device is going to be operated in 5.15~5.25GHz frequency range, it is restricted in indoor environment only.

Important Note - FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. The availability of some specific channels and/or operational frequency bands are country dependent and are firmware programmed at the factory to match the intended destination. The firmware setting is not accessible by the end user.

Industry Canada statement: Industrie Canada déclaration:

This Class B digital apparatus complies with Canadian ICES-003. This device complies with RSS-210 of the Industry Canada Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada. Ce dispositif est conforme à la norme CNR-210 d'Industrie Canada applicable aux appareils radio exempts de licence. Son fonctionnement est sujet aux deux conditions suivantes: (1) le dispositif ne doit pas produire de brouillage préjudiciable, et (2) ce dispositif doit accepter tout brouillage reçu, y compris un brouillage susceptible de provoquer un fonctionnement indésirable.

Caution: Prudence:

The device for the band 5150-5250 MHz is only for indoor usage to reduce potential for harmful interference to co-channel mobile satellite systems. Le dispositif fonctionnant dans la bande 5150-5250 MHz est réservé uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux.

The maximum antenna gain permitted for devices in the band 5725-5825 MHz shall comply with the e.i.r.p. limits specified for point-to-point and non point-to-point operation as appropriate.

For product available in the USA/Canada market, only channel 1~11 can be operated. Selection of other channels is not possible.

The device could automatically discontinue transmission in case of absence of information to transmit, or operational failure. Note that this is not intended to prohibit transmission of control or signaling information or the use of repetitive codes where required by the technology.

Important Note - Radiation Exposure Statement: Note Importante - Déclaration d'exposition aux radiations:

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body. This device has been designed to operate with an antenna having a maximum gain of [4.33] dB. Antenna having a higher gain is strictly prohibited per regulations of Industry Canada. The required antenna impedance is 50 ohms. Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps. Ce dispositif a été conçu pour fonctionner avec une antenne ayant un gain maximal de dB [4.33]. Une antenne à gain plus élevé est strictement interdite par les règlements d'Industrie Canada. L'impédance d'antenne requise est de 50 ohms. Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.

Europe – EU Declaration of Conformity

This device complies with the essential requirements of the R&TTE Directive 1999/5/EC. The following test methods have been applied in order to prove presumption of conformity with the essential requirements of the R&TTE Directive 1999/5/EC: EN60950-1: 2006 +A11: 2009 Safety of Information Technology Equipment

EN50385 : (2002-08) Product standard to demonstrate the compliance of radio base stations and fixed terminal stations for wireless telecommunication systems with the basic restrictions or the reference levels related to human exposure to radio frequency electromagnetic fields (110MHz - 40 GHz) - General public

EN 300 328 V1.8.1: (2012-04) Electromagnetic compatibility and Radio spectrum Matters (ERM); Wideband Transmission systems; Data transmission equipment operating in the 2,4 GHz ISM band and using wide band modulation techniques; Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive

EN 301 893 V1.7.0: (2012-01) Broadband Radio Access Networks (BRAN); 5 GHz high performance RLAN; Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive