

# User Manual

Wireless AC1300 / N900 Gigabit Dual Band Router

**WZR-D1800H**



# Contents

|  |           |
|--|-----------|
| <b>Chapter 1 - Product Overview .....</b>            | <b>5</b>  |
| 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        |
| <b>Chapter 2 - Installation.....</b>                 | <b>13</b> |
| Initial Setup .....                                  | 13        |
| <b>Chapter 3 - Configuration .....</b>               | <b>16</b> |
| 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        |
| <b>Diagnostic .....</b>  | <b>78</b> |
| System Info .....        | 78        |
| Logs .....               | 80        |
| Packet Info .....        | 81        |
| Client Monitor.....      | 82        |
| Ping.....                | 83        |

---

## **Chapter 4 - Connect to a Wireless Network..... 84**

|   |           |
|---|-----------|
| <b>Automatic Secure Setup (AOSS / WPS).....</b> | <b>84</b> |
| 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        |
| <b>Manual Setup .....</b>                       | <b>88</b> |
| 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        |
| <b>Chapter 6 - Default Configuration Settings.....</b>   | <b>102</b> |
| <b>Chapter 7 - Network-USB Navigator .....</b>           | <b>109</b> |
| 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        |
| <b>Chapter 8 - Checking Wireless Signal Quality.....</b> | <b>119</b> |
| Windows 7/Vista.....                                     | 119        |
| Mac OS X.....  | 120        |
| <b>Chapter 9 - Shared Folders and the USB Port.....</b>  | <b>122</b> |

# Chapter 1 - Product Overview

## Package Contents

---

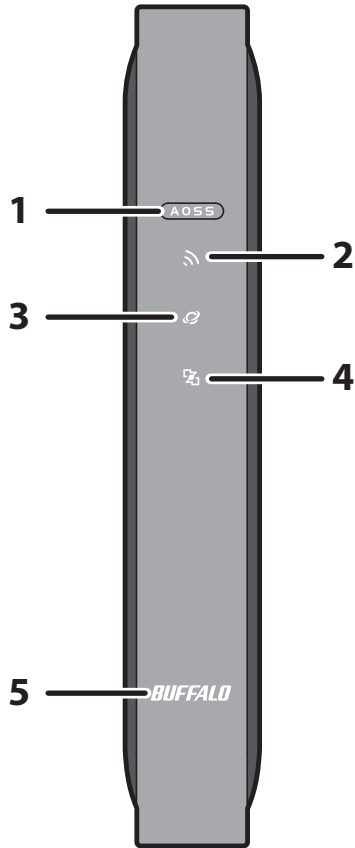
The following items are included in your AirStation package. If any of the items are missing, please contact your vender.

- 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.

### 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.

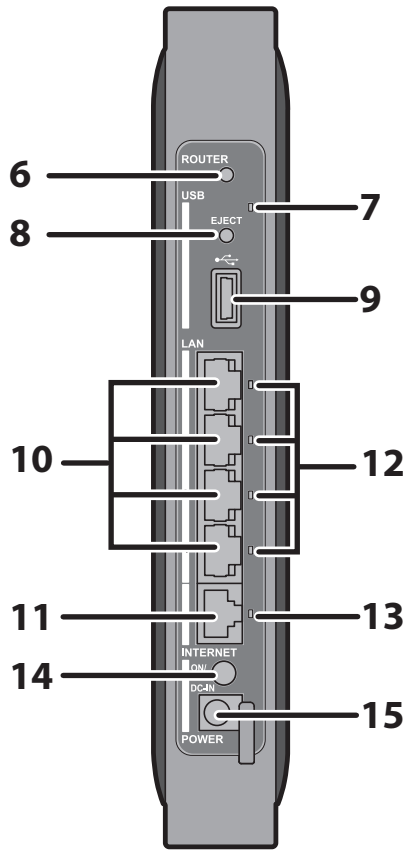
\*1 Never unplug the AC adapter while the Buffalo LED is blinking continuously.

\*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.



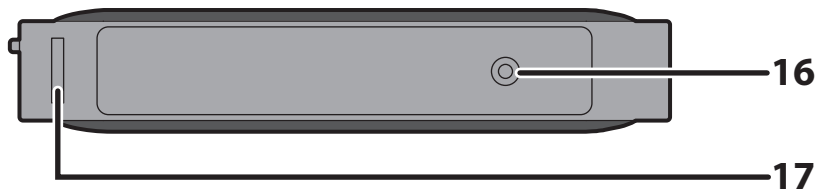
## Back Panel



- 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.

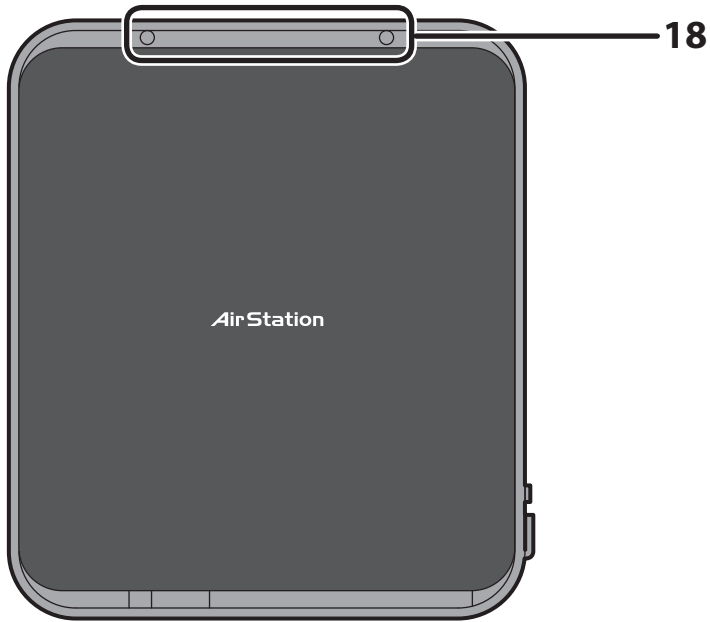
- 10 LAN Port**                      Connect your computer, hub, or other Ethernet devices to these ports. This switching hub supports 10 Mbps, 100 Mbps, and 1000 Mbps connections.
  
- 11 Internet Port**                10 Mbps, 100 Mbps, and 1000 Mbps connections are supported.  
Note: In bridge/AP 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



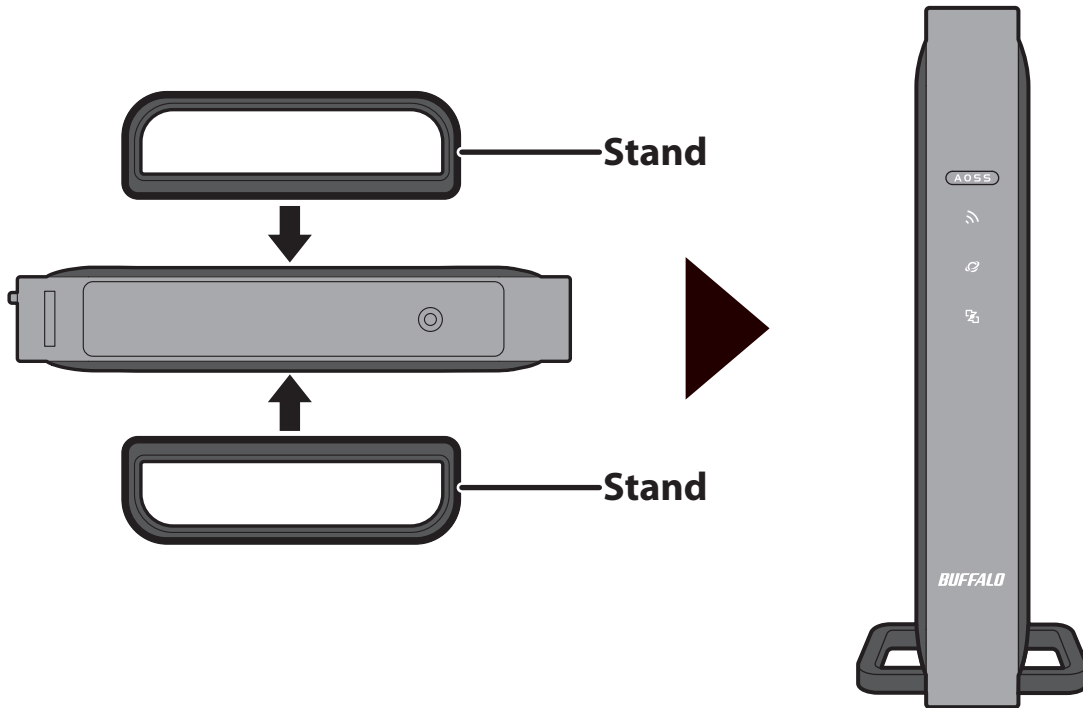
### **18 Mounting holes**

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

---

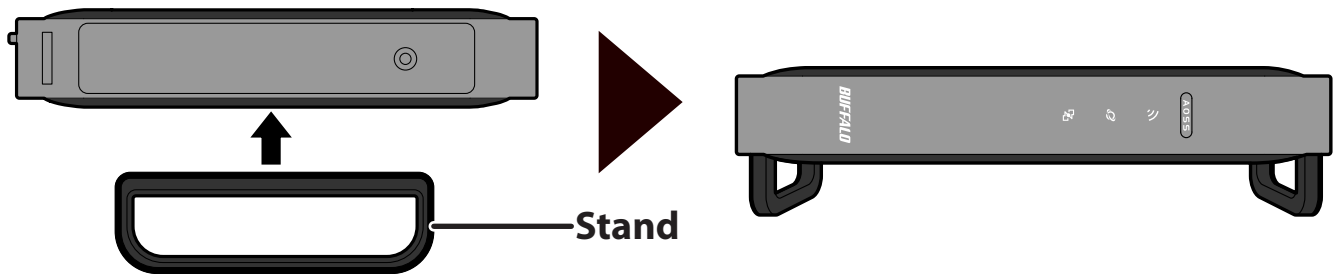
Attach the stand as shown in the figure below.



## Horizontal Placement

---

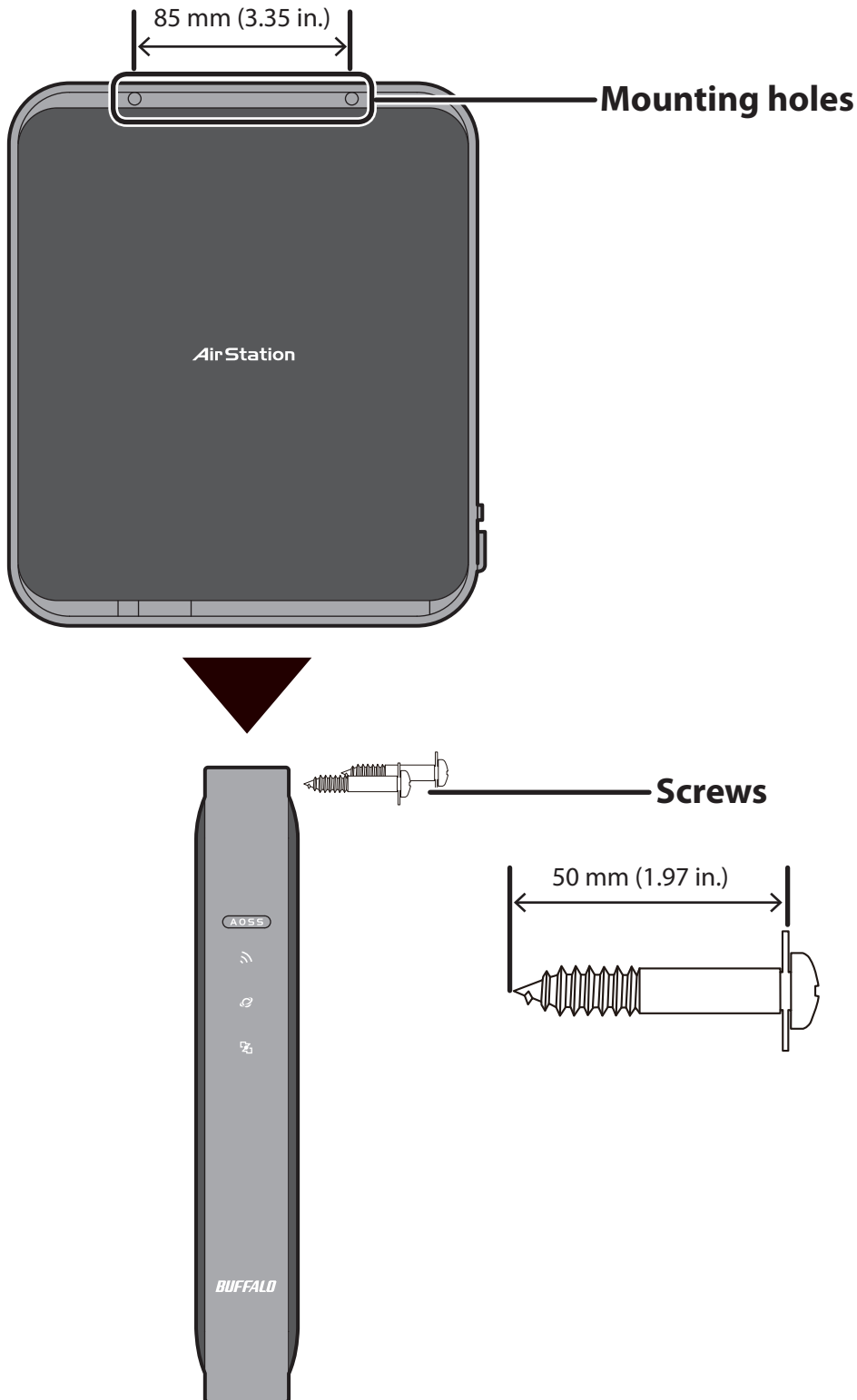
The same stand also allows horizontal placement. Install the stand as shown in the figure below.



## Wall-Mounting

---

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



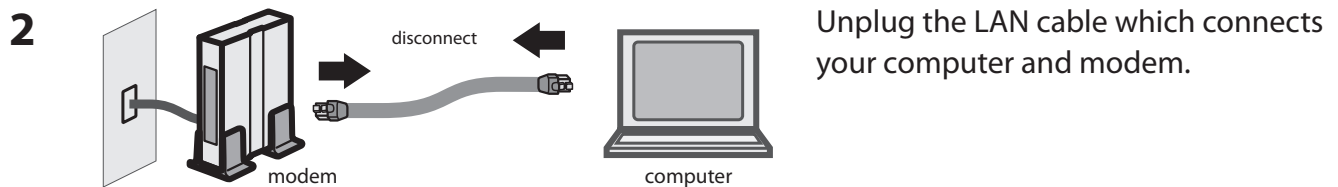
# Chapter 2 - Installation

## Initial Setup

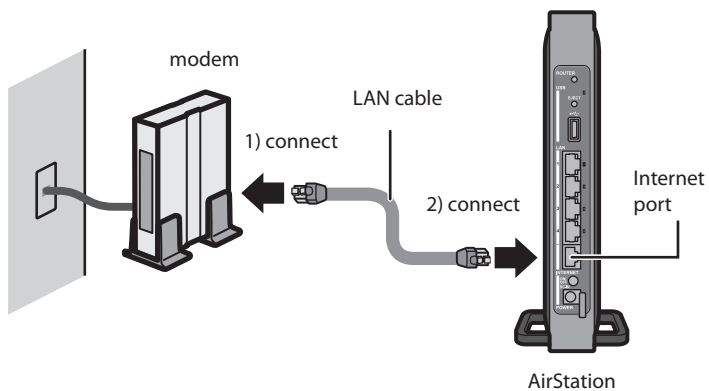
---

To configure your AirStation, follow the procedure below.

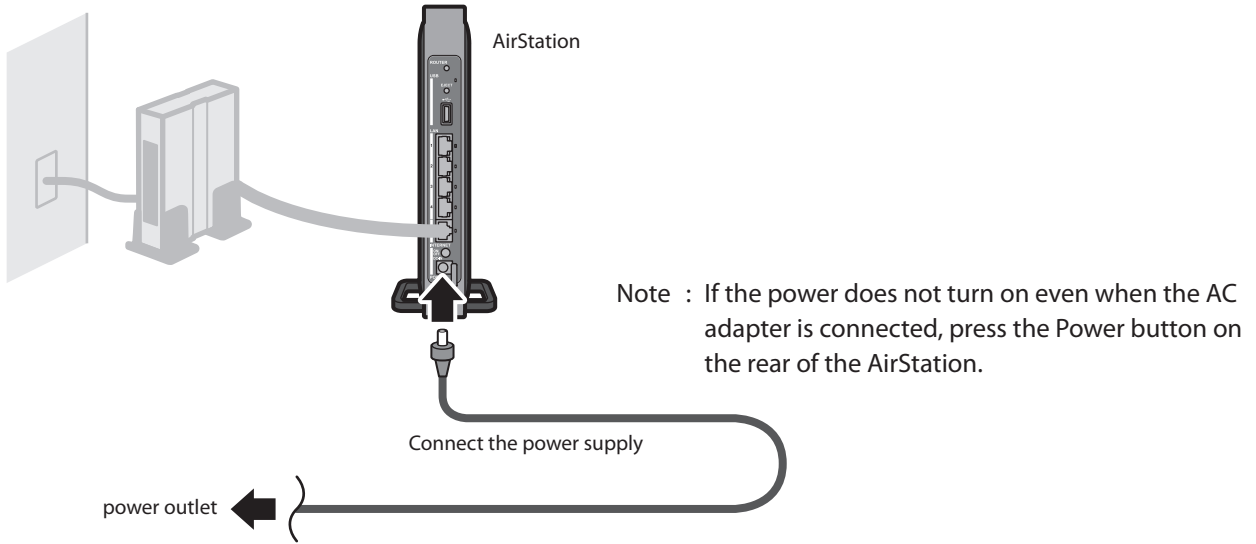
- 1** Verify that you can connect to the internet without the AirStation, then turn off your modem and computer.



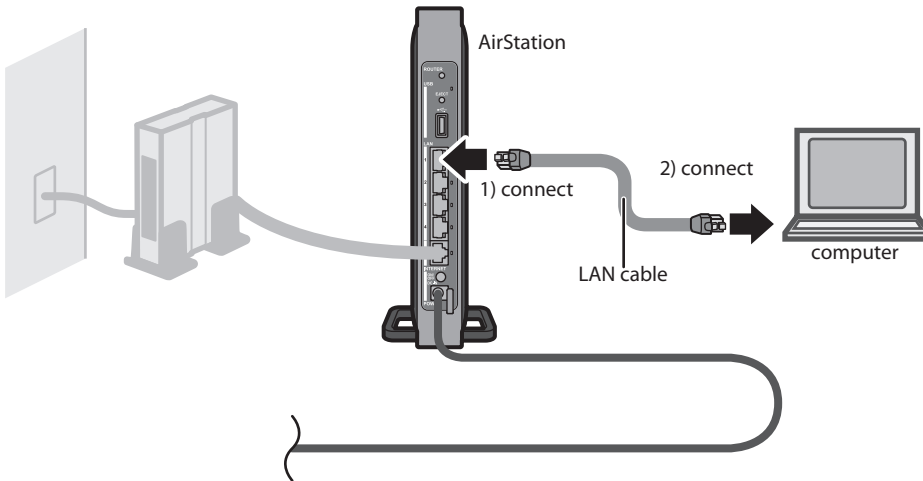
- 3** Plug one end of the LAN cable into your modem and the other end to the AirStation's Internet (WAN) port. Turn on the modem.



**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.

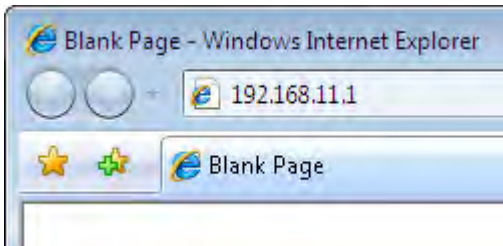
## Accessing the Web-based Configuration Interface

---

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.

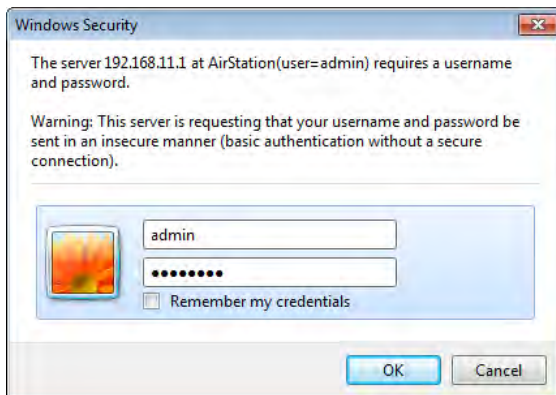
Note: The AirStation's default LAN-side IP address depends on the mode.

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.

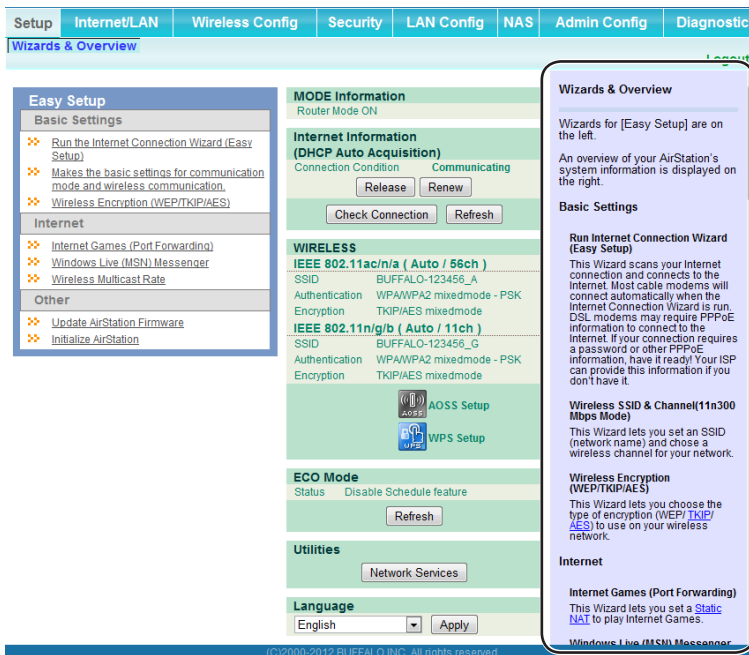
**3**



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    |
|------------------------|---|---------|
| <b>Internet/LAN</b>    |   |         |
| 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 |
| <b>Wireless Config</b> |   |         |
| 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 |
| <b>Security</b>        |   |         |
| 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 |
| <b>LAN Config</b>      |   |         |
| 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    |
|------------------------|--|---------|
| <b>LAN Config</b>      |  |         |
| LAN                    | LAN side port configuration.   | Page 32 |
| Route                  | Configure the AirStation's IP communication route.   | Page 36 |
| <b>Wireless Config</b> |  |         |
| 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 |
| <b>NAS</b>             |  |         |
| 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 |
| <b>Admin Config</b>    |  |         |
| 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.

The screenshot shows the AirStation configuration interface with a top navigation bar containing: Setup, Internet/LAN, Wireless Config, Security, LAN Config, NAS, Admin Config, and Diagnostic. Below this is a sub-bar with 'Wizards & Overview' and a 'Logout' button.

**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  
Buttons: 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** and **WPS Setup** buttons are visible.

**ECO Mode**  
Status: Disable Schedule feature  
Refresh button

**Utilities**  
Network Services button

**Language**  
English dropdown menu, Apply button

**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**

©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.          |

| <b>Parameter</b>     | <b>Meaning</b>   |
|----------------------|--|
| 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 Service List | 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 List        | 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”).

**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:**

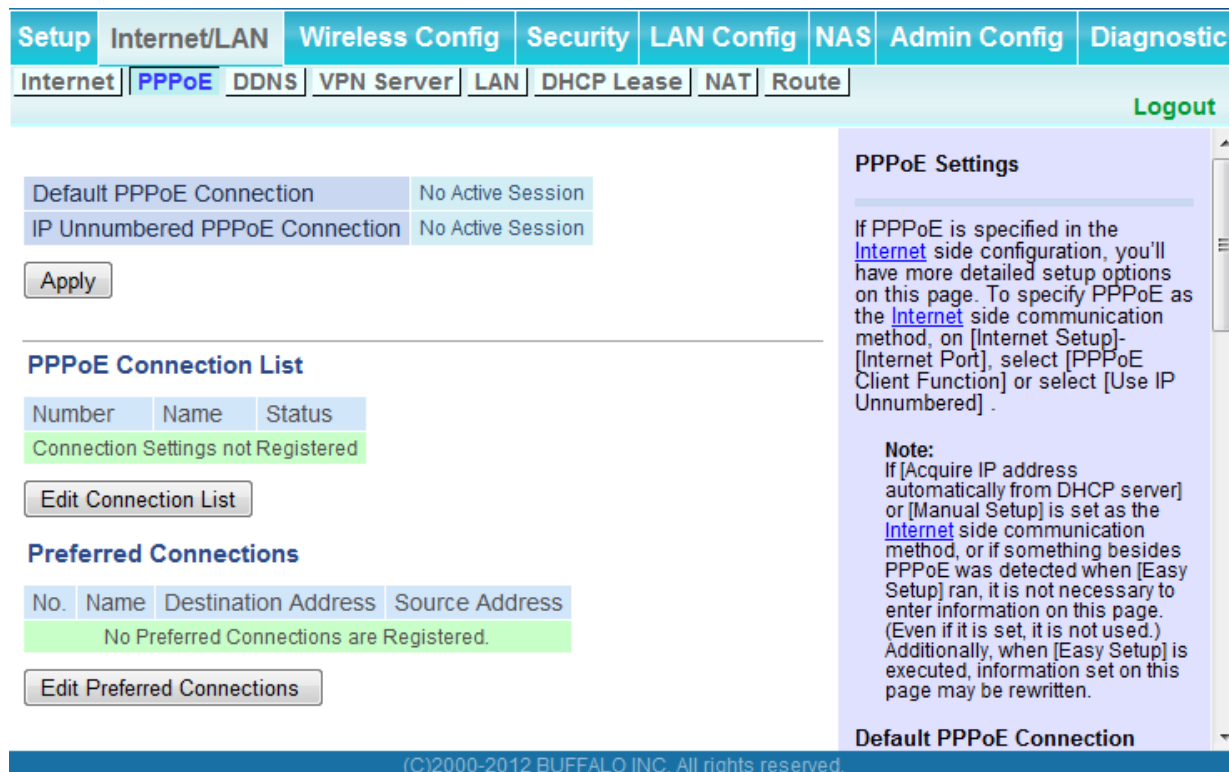
- Auto line determination [Easy Setup] is effective only for a line

(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.<br>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.



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

Internet | **PPPoE** | DDNS | VPN Server | LAN | DHCP Lease | NAT | Route

Logout

|                                |                   |
|--------------------------------|-------------------|
| Default PPPoE Connection       | No Active Session |
| IP Unnumbered PPPoE Connection | No 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.  |

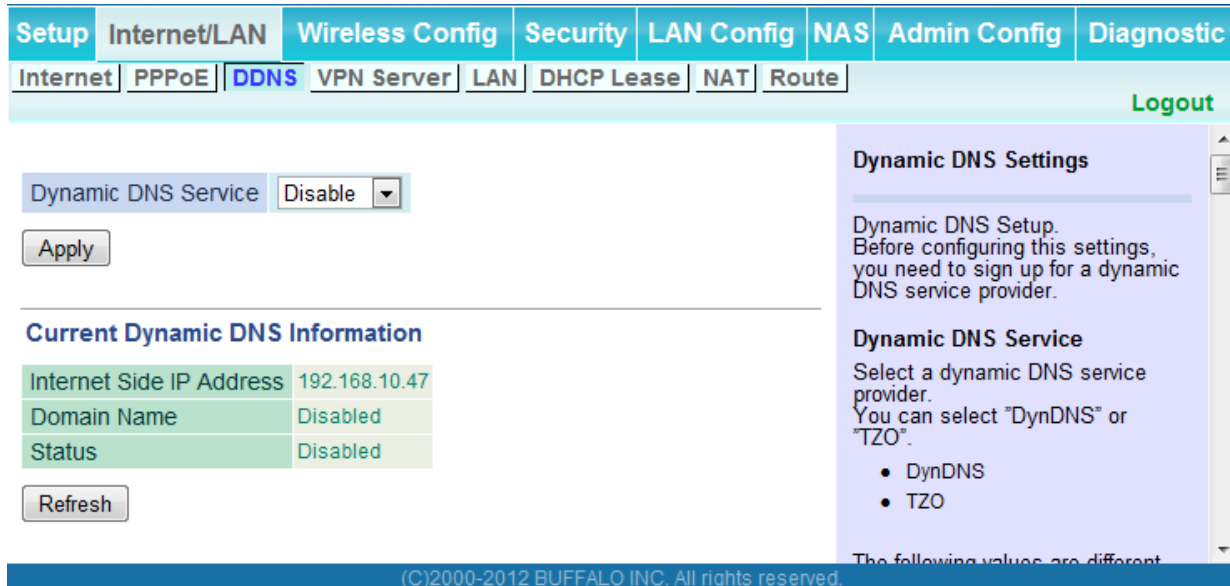
| Parameter                 | Meaning  |
|---------------------------|--|
| PPPoE Connection No.*-Add | This is displayed when [Edit Connection List] is clicked.<br><br><b>Name of Connection</b><br>Enter the name to identify the connected destination. You may enter up to 32 alphanumeric characters and symbols.<br><br><b>Username</b><br>Enter the username specified by your ISP for PPPoE certification. You may enter up to 32 alphanumeric characters and symbols.<br><br><b>Password</b><br>Enter the password specified by your ISP for PPPoE certification. You may enter up to 32 alphanumeric characters and symbols.<br><br><b>Service Name</b><br>Fill in this field only if your ISP specifies a Service Name. Leave blank otherwise. You may enter up to 32 alphanumeric characters and symbols.<br><br><b>Connection Type</b><br>Specifies the timing for the AirStation to connect to your provider.<br><br><b>Automatic disconnection</b><br>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.<br><br><b>Authorization</b><br>Configure an authorization method with a provider.<br><br><b>MTU Size</b><br>Configure the MTU size for PPPoE. Values of 578 to 1500 bytes may be entered.<br><br><b>MRU Size</b><br>Configure MRU (Maximum Receive Unit) for PPPoE. Values of 578 to 1492 may be entered. |

| Parameter                       | Meaning  |
|---------------------------------|--|
| PPPoE Connection No. *-Add      | <b>Keep Alive</b><br>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.<br><b>Name</b><br>The destination to connect by PPPoE if [Destination address] and [Source address] match. Select the destination registered to the PPPoE Connection List.<br><b>Destination address</b><br>When communicating to this address, the AirStation will communicate with [Name of Connection.]<br><b>Source address</b><br>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:  ▾

---

**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. |

---

| <b>Parameter</b>         | <b>Meaning</b>  |
|--------------------------|---|
| 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           | <input type="button" value="Generate Recommended IP Address"/>   |
| LAN Side IP Address  | IP Address <input type="text" value="192.168.11.1"/><br>Subnet Mask <input type="text" value="255.255.255.0"/> |
| DHCP Server Function | <input checked="" type="checkbox"/> Enable   |
| DHCP IP Address Pool | <input type="text" value="192.168.11.2"/> for up to <input type="text" value="64"/> Address(es)                |
| PPTP Server Function | <input type="checkbox"/> Enable  |
| Authorization Type   | <input type="text" value="MS-CHAPv2 (40/128-bit Encryption)"/>   |

**[Advanced Settings]**

|                        |  |
|------------------------|--|
| Server IP Address      | <input checked="" type="radio"/> Auto<br><input type="radio"/> Manual <input type="text"/>   |
| Client IP Address      | <input checked="" type="radio"/> Auto<br><input type="radio"/> Manual <input type="text"/> for up to 5 address(es)   |
| DNS Server IP Address  | <input checked="" type="radio"/> LAN IP address of the AirStation<br><input type="radio"/> Manual <input type="text"/><br><input type="radio"/> Do Not Specify |
| WINS Server IP Address | <input type="text"/>   |
| MTU/MRU Value          | <input type="text" 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.

---

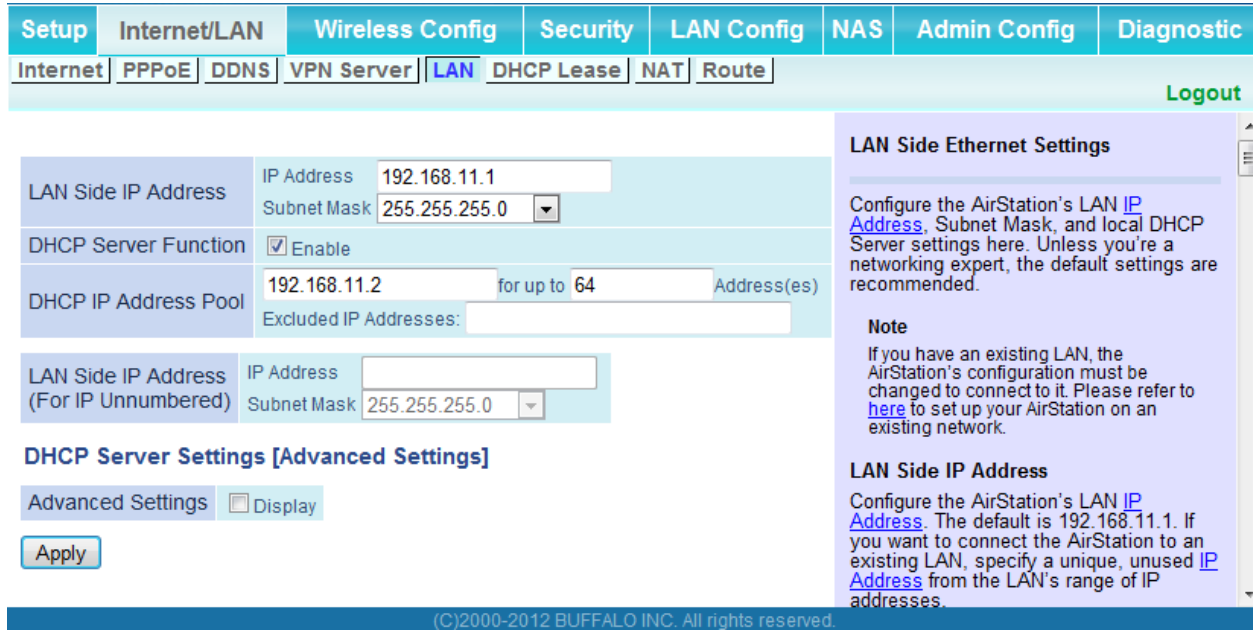
| <b>Parameter</b>               | <b>Meaning</b>   |
|--------------------------------|--|
| Auto Input                     | Click to generate a random IP address.   |
| LAN Side IP Address            | Set a LAN side IP address and subnet mask.   |
| DHCP Server Function           | Enable or disable 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 0-253 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 DHCP server.   |
| WINS Server IP Address         | Choose the IP address for the WINS server.   |
| [Edit PPTP User List]          | Click to edit user information.  |
| Username                       | Enter the username to connect to the PPTP server. You may enter up to 16 alphanumerical characters and symbols.  |
| Password                       | Enter the password to connect to the PPTP server. You may enter up to 16 alphanumerical characters and symbols.  |
| Method of Acquiring IP Address | Select the method to be used to assign the IP address is assigned to the PPTP client.  |
| PPTP User List                 | Displays the PPTP connection user information.   |

---



# LAN

Configure LAN-side and DHCP Server settings.



| Parameter                               | Meaning  |
|---|--|
| LAN Side IP Address                     | By default, the LAN side IP address is 192.168.11.1 with subnet mask 255.255.255.0. You may change it here.  |
| DHCP Server 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 0-253 may be entered.           |
| LAN Side IP Address (For IP Unnumbered) | Set an IP unnumbered LAN side IP address.<br>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.  |

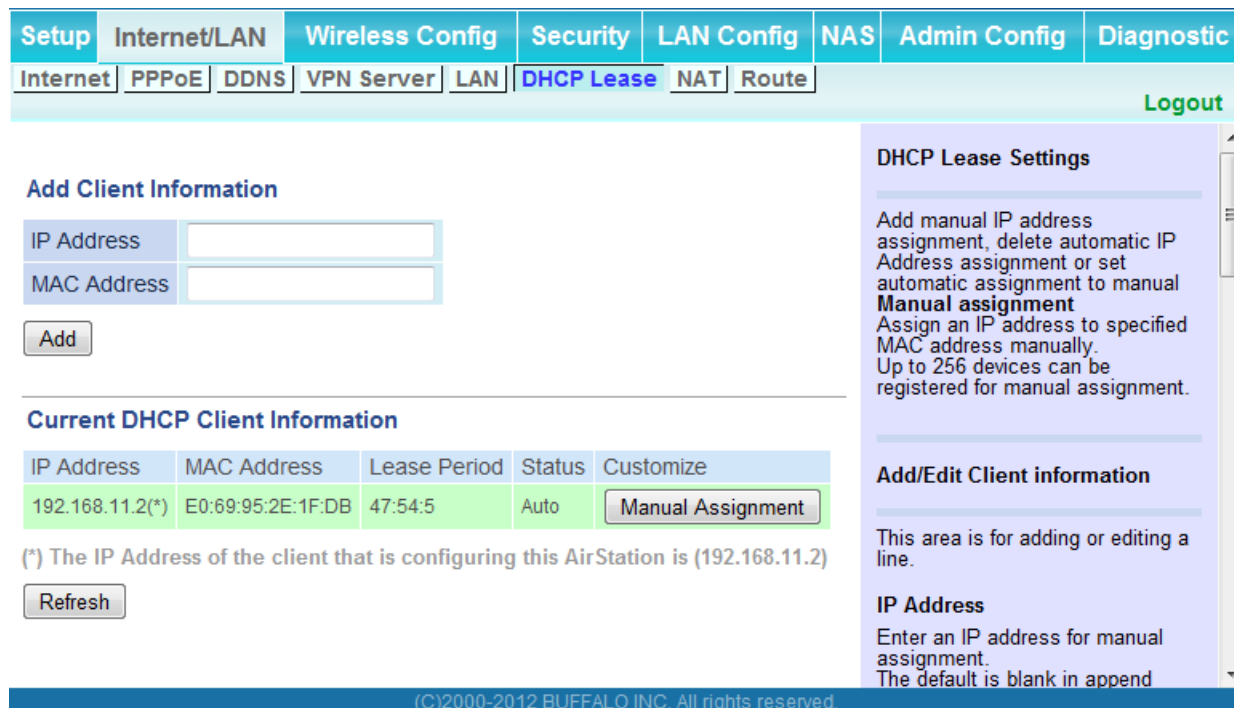
---

| <b>Parameter</b>                       | <b>Meaning</b>  |
|--|---|
| DNS Servers<br>Router mode only        | Set the DNS server IP address for the DHCP server to issue to clients.  |
| WINS Server<br>Router mode only        | Set the WINS server IP address for the DHCP server to issue to clients.   |
| Domain Name<br>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<br>Bridge mode only    | Set the default gateway IP address.   |
| DNS Server Address<br>Bridge mode only | Set the DNS server IP address.  |

---

## DHCP Lease (Router Mode only)

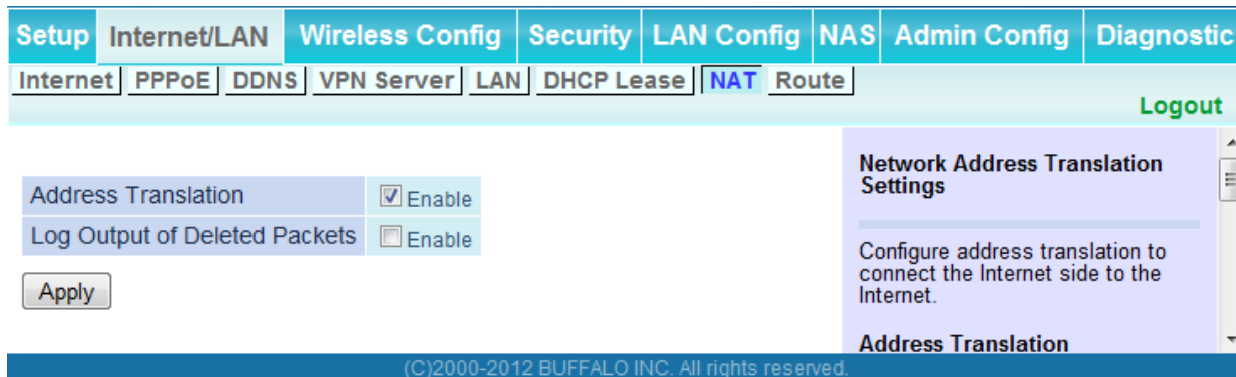
Configure DHCP Exceptions.



| Parameter                       | Meaning  |
|---------------------------------|--|
| IP Address                      | Enter an IP address to lease manually. The IP address should be from the same subnet as the DHCP scope, but not be within the range that DHCP is assigning to other devices. |
| MAC Address                     | Enter the MAC address which identifies the client.   |
| Current DHCP 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.



---

| 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.

| 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.

The screenshot shows the Buffalo router's configuration interface. The top navigation bar includes tabs for Setup, Internet/LAN, Wireless Config, Security, LAN Config, NAS, Admin Config, and Diagnostic. Under the Wireless Config tab, there are sub-tabs for WPS, AOSS, Basic(11ac/n/a), Advanced(11ac/n/a), WMM(11ac/n/a), MAC Filter, Multicast Control, Basic(11n/g/b), Advanced(11n/g/b), WMM(11n/g/b), and Logout.

The WPS settings section includes:

- WPS:  Enable
- External Registrar:  Enable
- Apply button
- AirStation PIN: 12345670, with a Generate PIN button
- Enrollee PIN: [input field], with an OK button

The WPS Security Information section shows:

- WPS Status: configured, with a Release button
- 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)

A right-hand pane titled "WPS (WiFi Protected Setup)" contains explanatory text about WPS, including its relationship to WCN-NET and WPS Simple Configuration Protocol, and defines the roles of Registrar and Enrollee. It also states "The default is Enable." and includes a Warning section.

At the bottom, a copyright notice reads: (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.<br>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.

| 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     |

|                           |  |
|---------------------------|--|
| Wireless Radio            | <input checked="" type="checkbox"/> Enable   |
| SSID                      | <input checked="" type="radio"/> Use AirStation's MAC address(BUFFALO-08A000_A)<br><input type="radio"/> Use: <input type="text"/> |
| Wireless Channel          | Auto Channel (Current Channel: 64)   |
| High-Throughput Mode      | Bandwidth : 11ac/n/a 1300 Mbps Mode (80MHz) (Current: 80 MHz)<br>Extension Channel : 36  |
| Broadcast SSID            | <input checked="" type="checkbox"/> Allow  |
| Wireless Authentication   | WPA/WPA2 mixedmode - PSK   |
| Wireless Encryption       | TKIP/AES mixedmode   |
| WPA-PSK (Pre-Shared Key): | ●●●●●●●●   |
| Rekey Interval            | 60 minutes   |

**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 and choose an Extension Channel.<br>Note: If Auto Channel is selected, then the Extension Channel is set automatically. |
| 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     | <p data-bbox="641 432 1289 464">You may use any of the following types of encryption:</p> <p data-bbox="641 491 824 522"><b>No encryption</b></p> <p data-bbox="662 527 1455 741">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.</p> <p data-bbox="641 772 699 804"><b>WEP</b></p> <p data-bbox="662 808 1455 1022">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.</p> <p data-bbox="641 1054 699 1085"><b>TKIP</b></p> <p data-bbox="662 1089 1455 1192">TKIP is an encryption method which is more secure than WEP, but slower. Use an pre-shared key to communicate with a wireless device.</p> <p data-bbox="662 1203 1455 1272">TKIP can be selected only when WPA-PSK or WPA2-PSK is selected for wireless authentication.</p> <p data-bbox="641 1304 693 1335"><b>AES</b></p> <p data-bbox="662 1339 1455 1400">AES is more secure than TKIP, and faster. Use a pre-shared key to communicate with a wireless device.</p> <p data-bbox="662 1411 1455 1480">AES can be selected only when WPA-PSK or WPA2-PSK is selected for wireless authentication.</p> <p data-bbox="641 1512 927 1543"><b>TKIP/AES mixed mode</b></p> <p data-bbox="662 1547 1455 1719">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.</p> |



---

| <b>Parameter</b>         | <b>Meaning</b>  |
|--------------------------|---|
| 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.

| 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 ▾ |

### 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,

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

| Parameter           | Meaning   |
|---------------------|---|
| WMM-EDCA Parameters | <p data-bbox="643 321 1442 394">You don't usually need to change these settings. Using the default settings is recommended.</p> <p data-bbox="643 422 740 453"><b>Priority</b></p> <p data-bbox="662 457 1446 600">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.</p> <p data-bbox="643 627 846 659"><b>CWmin, CWmax</b></p> <p data-bbox="662 663 1446 846">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.</p> <p data-bbox="643 873 721 905"><b>AIFSN</b></p> <p data-bbox="662 909 1446 1052">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.</p> <p data-bbox="643 1079 786 1110"><b>TXOP Limit</b></p> <p data-bbox="662 1115 1446 1297">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.</p> <p data-bbox="643 1325 878 1356"><b>Admission Control</b></p> <p data-bbox="662 1360 1446 1467">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.</p> |

---

## MAC Filter

Restrict access to specific wireless devices.

The screenshot shows the configuration page for the MAC Filter. At the top, there is a navigation menu with tabs: Setup, Internet/LAN, Wireless Config, Security, LAN Config, NAS, Admin Config, and Diagnostic. Under 'Wireless Config', there are sub-tabs: Basic(11ac/n/a), Advanced(11ac/n/a), WMM(11ac/n/a), MAC Filter, and Multicast Control. Below these, there are more sub-tabs: Basic(11n/g/b), Advanced(11n/g/b), WMM(11n/g/b), and Logout. The 'MAC Filter' sub-tab is active. The main content area has two sections: 'Enforce MAC Filtering' and 'Registration List'. The 'Enforce MAC Filtering' section has two checkboxes, both labeled 'Enable'. The 'Registration List' section has a table with columns 'MAC Address' and 'Connection Status', and a single row with the text 'No Registered MAC Addresses'. A 'Wireless MAC Filtering' help box is open on the right, containing text about limiting wireless connections to specific client MAC addresses. At the bottom of the interface, there is a copyright notice: '(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.

The screenshot shows the configuration interface for Multicast Control. The navigation menu includes Setup, Internet/LAN, Wireless Config, Security, LAN Config, NAS, Admin Config, and Diagnostic. Under Wireless Config, the sub-tabs are WPS, AOSS, Basic(11ac/n/a), Advanced(11ac/n/a), WMM(11ac/n/a), MAC Filter, and Multicast Control. The Multicast Control page is active, displaying the following settings:

- Snooping:**  Enable
- Multicast Aging Time:** 300 Sec.

An **Apply** button is located below the settings. A help panel on the right provides additional information:

**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.

## 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.<br>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<br>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.

The screenshot displays the configuration interface for the AirStation's firewall. At the top, a navigation bar includes 'Setup', 'Internet/LAN', 'Wireless Config', 'Security', 'LAN Config', 'NAS', 'Admin Config', and 'Diagnostic'. Under 'Security', there are sub-menus for 'Firewall', 'IP Filter', and 'VPN Pass Through'. A 'Logout' link is visible in the top right corner.

The main configuration area is divided into two sections. On the left, there is a 'Log Output' section with an 'Enable' checkbox. Below it is a table of 'Basic Rules' with columns for 'Enable', 'Basic Rules', and 'Number of Packets'.

| Enable                              | Basic Rules                           | Number of Packets |
|-------------------------------------|---------------------------------------|-------------------|
| <input type="checkbox"/>            | Prohibit NBT and Microsoft-DS Routing | 0                 |
| <input checked="" type="checkbox"/> | Reject IDENT Requests                 | 0                 |
| <input checked="" type="checkbox"/> | Block Ping from Internet              | 0                 |

An 'Apply' button is located below the table. On the right side, a 'Firewall' section provides a detailed description: '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.' Below this is a 'Log Output' section.

At the bottom of the page, a copyright notice reads: '(C)2000-2012 BUFFALO INC. All rights reserved.'



| Parameter   | Meaning  |
|-------------|--|
| Log Output  | Enable to output a log of firewall activity.   |
| Basic Rules | <p data-bbox="643 394 1406 457">Enable to use any of the quick filters. Preconfigured quick filters include:</p> <p data-bbox="643 489 1146 520"><b>Prohibit NBT and Microsoft-DS Routing</b></p> <p data-bbox="662 531 1458 709">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.</p> <p data-bbox="643 741 935 772"><b>Reject IDENT Requests</b></p> <p data-bbox="662 783 1458 1035">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.</p> <p data-bbox="643 1066 959 1098"><b>Block Ping from Internet</b></p> <p data-bbox="662 1108 1458 1276">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.</p> |

---

## IP Filter (Router Mode only)

Edit IP filters.

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

## VPN Passthrough (Router Mode only)

Configure IPv6 passthrough, PPPoE passthrough, and PPTP passthrough.

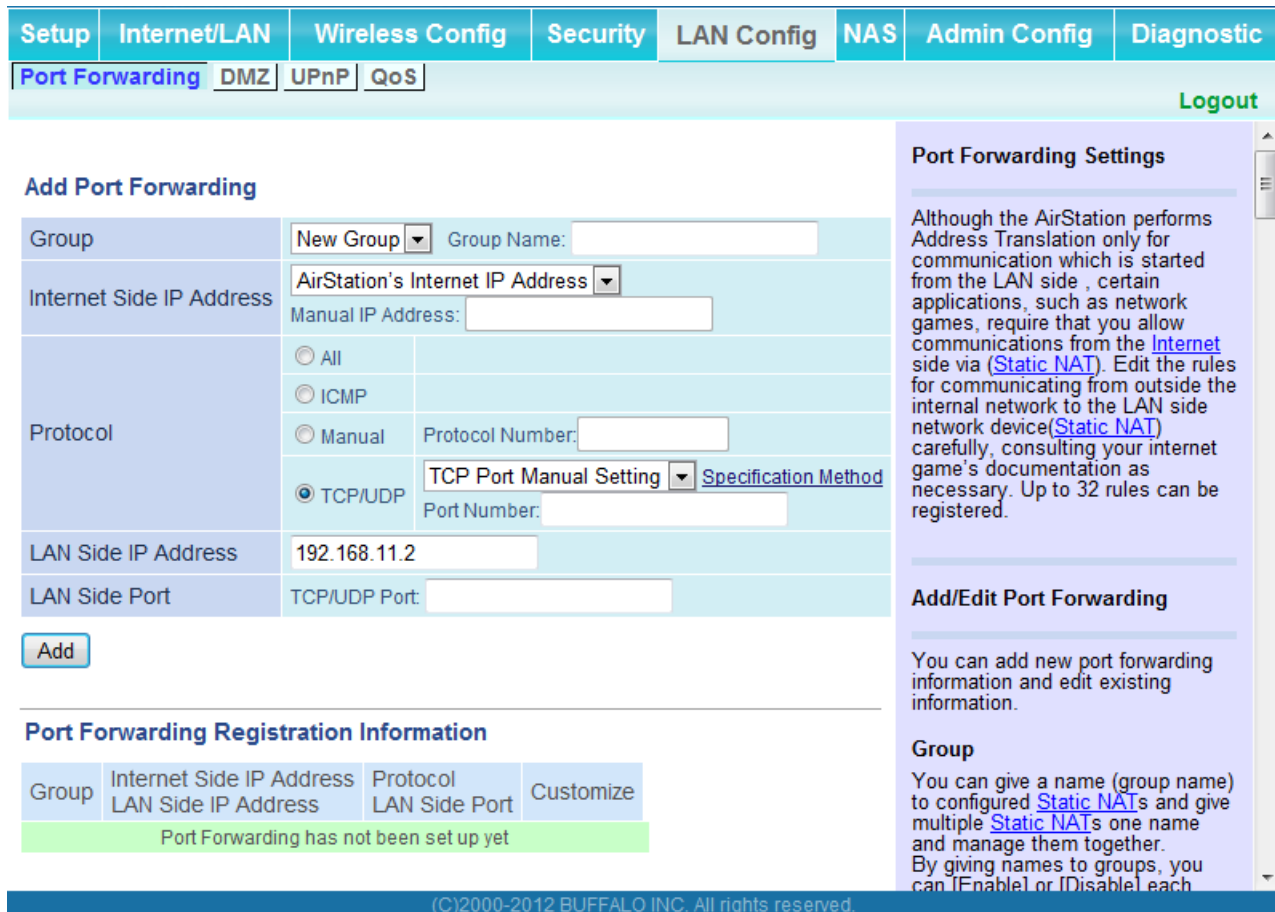


| Parameter         | Meaning  |
|-------------------|--|
| IPv6 Passthrough  | Enable to use IPv6 Passthrough for address translation.  |
| PPPoE Passthrough | Enable to use PPPoE bridging. PPPoE bridging lets you automatically obtain an IP address from your provider for your LAN-side computer using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

# LAN Config

## Port Forwarding (Router Mode only)

Configure port translation.



**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

| Group                                   | Internet Side IP Address | Protocol      | Customize |
|---|--------------------------|---------------|-----------|
|   | LAN Side IP Address      | LAN Side Port |           |
| Port Forwarding has not been set up yet |                          |               |           |

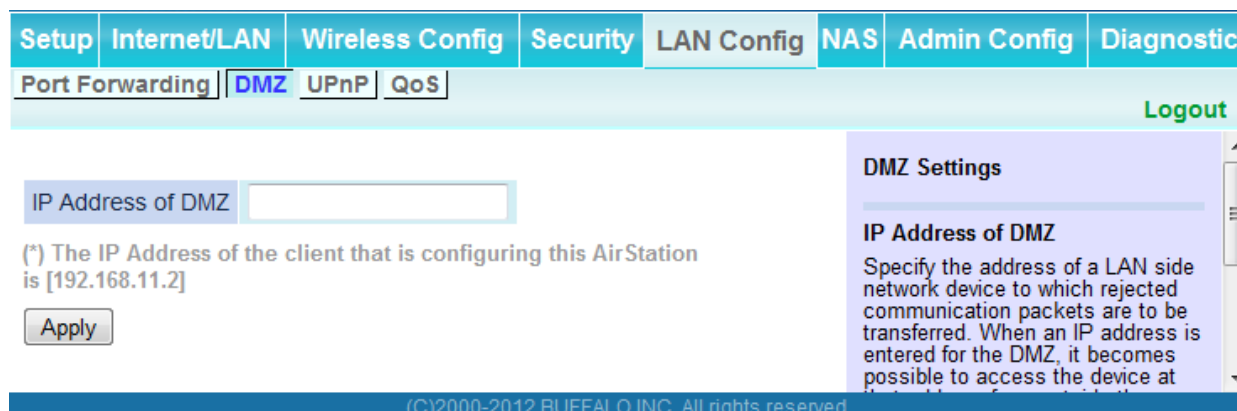
(C)2000-2012 BUFFALO INC. All rights reserved.

| 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.



| 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.<br>Note: RIP protocol packets (UDP port number 520) will not be forwarded. |

## UPnP (Router Mode only)

Configure UPnP (Universal Plug and Play).



---

| 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.

QoS for transmission to the Internet  Enable

Uplink Bandwidth  Kbps

| No. | Enable                   | Application Name | Protocol | Destination Port | Priority |
|-----|--------------------------|------------------|----------|------------------|----------|
| 1   | <input type="checkbox"/> | VoIP             | UDP      |                  | high     |
| 2   | <input type="checkbox"/> | ssh              | TCP      | 22               | medium   |
| 3   | <input type="checkbox"/> | telnet           | TCP      | 23               | medium   |
| 4   | <input type="checkbox"/> | ftp              | TCP      | 21               | low      |
| 5   | <input type="checkbox"/> |                  | TCP      |                  | low      |
| 6   | <input type="checkbox"/> |                  | TCP      |                  | low      |
| 7   | <input type="checkbox"/> |                  | TCP      |                  | low      |
| 8   | <input type="checkbox"/> |                  | TCP      |                  | low      |

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

**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

### 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.

The screenshot displays the 'Disk Management' section of a NAS configuration page. At the top, there is a navigation bar with tabs for Setup, Internet/LAN, Wireless Config, Security, LAN Config, NAS (selected), Admin Config, and Diagnostic. Below this, there are sub-tabs for Disk Management (selected), Shared Folder, User Management, Shared Service, WebAccess, Media Server, BitTorrent, and a Logout button.

The main content area is titled 'USB Disk Information' and contains a table with the following data:

| Device                                       | Disk Assignment                 | Partition Information   |
|--|---------------------------------|---|
| Kingston DT 100 G2<br><a href="#">Remove</a> | Disk1<br>(Automatic Assignment) | Partition1<br>Format: FAT<br>Status: Mounted<br>Used/Available(%): 1,278,768 / 3,909,808 (33%)<br>Operation: <a href="#">Format</a> |

Below the table are buttons for 'Refresh' and 'Re-recognize USB Devices'.

The 'Advanced Settings' section includes:

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

An 'Apply' button is located at the bottom of the settings.

On the right side, a 'Disk Management' sidebar provides a description: '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.' It also includes a 'Caution' section: '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.' and a 'Device' section: 'Display detected USB disk identification.' A 'Caution' label is also present at the bottom of the sidebar.

At the bottom of the page, a copyright notice reads: (C)2000-2012 BUFFALO INC. All rights reserved.



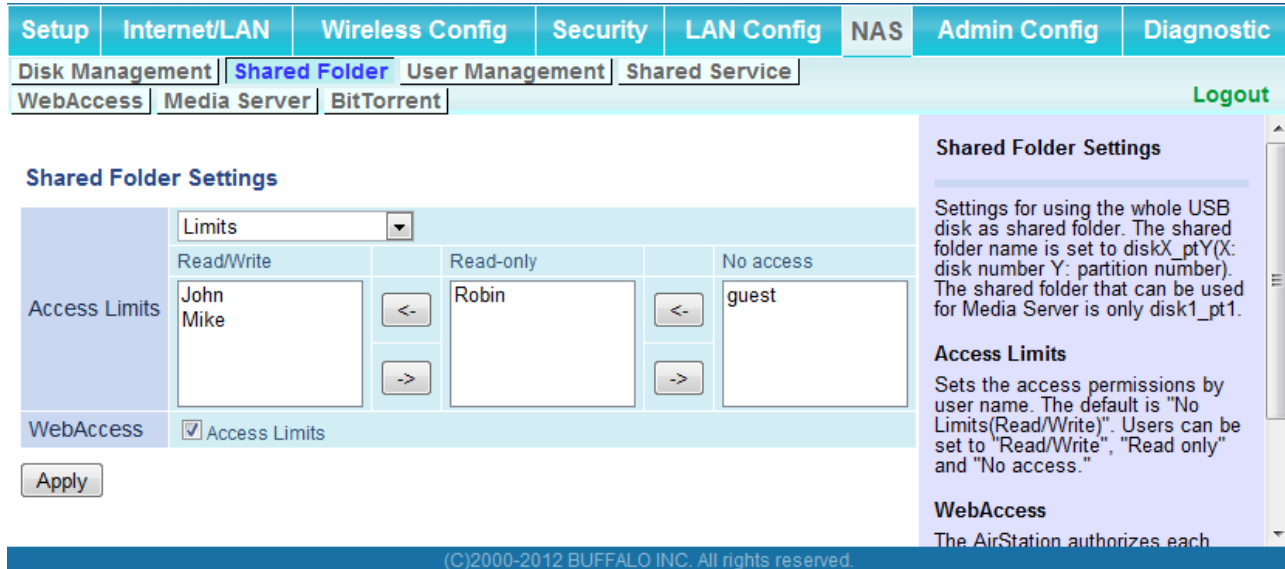
---

| <b>Parameter</b>                    | <b>Meaning</b>   |
|-------------------------------------|--|
| 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.



| 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.   |

| <b>Parameter</b>                        | <b>Meaning</b>   |
|---|--|
| 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.  |

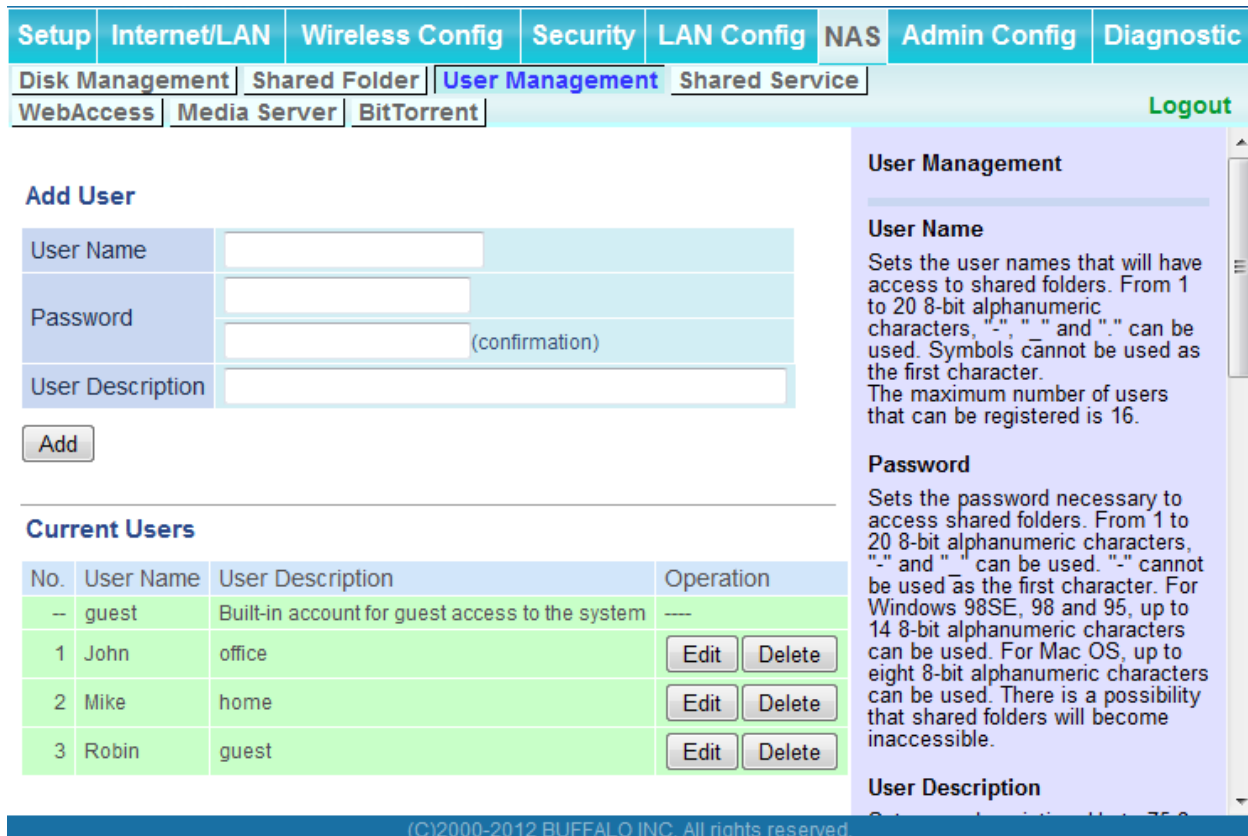
\* This is not displayed when Automatic USB Disk Assignment (page 56) is used:

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.



| 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.

| 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.

| 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]. |

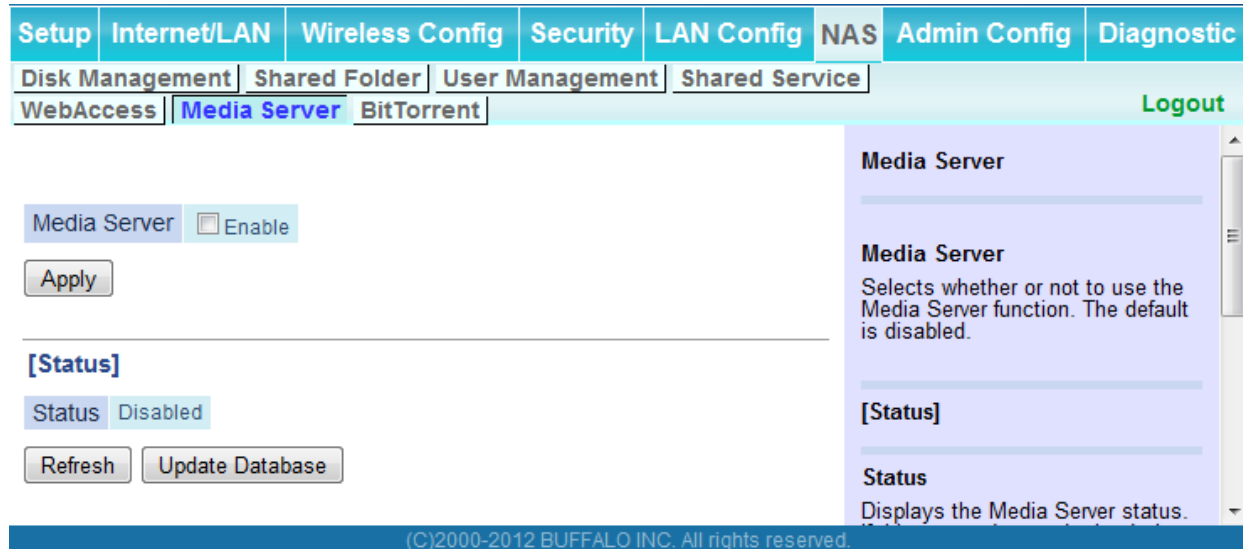
---

| <b>Parameter</b>     | <b>Meaning</b>   |
|----------------------|--|
| DNS Service Hostname | <p>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 - 0 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.</p> <p>Note: The registered name is deleted from the server if the AirStation is disconnected from power, even for a moment.</p> |
| 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.



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

Media Server  Enable

Apply

**[Status]**

Status Disabled

Refresh Update Database

**Media Server**

Media Server  
Selects whether or not to use the Media Server function. The default is disabled.

**[Status]**

Status  
Displays the Media Server status.

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

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



# BitTorrent

Configure the BitTorrent client.

The screenshot shows the BitTorrent configuration interface. At the top, there are navigation tabs: Setup, Internet/LAN, Wireless Config, Security, LAN Config, NAS, Admin Config, and Diagnostic. Below these are sub-tabs: Disk Management, Shared Folder, User Management, Shared Service, WebAccess, Media Server, BitTorrent, and Logout. The main content area is divided into sections:

- BitTorrent Function:** Includes a checkbox for 'Enable' (currently unchecked), a dropdown for 'External Port Number' set to 'Auto', and a text input for 'Port Number' set to '9002'.
- [Advanced Settings]:** Includes a checkbox for 'Bandwidth Restriction' (checked), 'Maximum Download Speed' set to '1000' KB/s, and 'Maximum Upload Speed' set to '200' KB/s. There is an 'Apply' button below.
- [BitTorrent Status]:** Includes 'BitTorrent Status' (Not Available (specified disk's file system does not support BitTorrent.)) and 'BitTorrent External Port Status' (Disable). There are buttons for 'Download Manager' and 'Delete BitTorrent information'.
- Right-hand sidebar:** Contains a 'BitTorrent' section with a 'BitTorrent Function' heading, a detailed description of the function, and a 'Caution' section.

At the bottom of the page, there is a copyright notice: (C)2000-2012 BUFFALO INC. All rights reserved.

## 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.

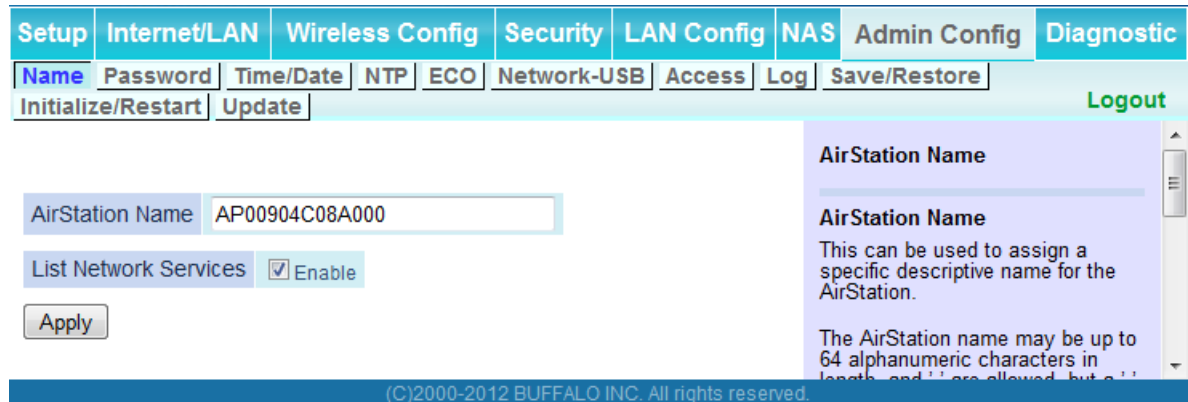
| <b>Parameter</b>                | <b>Meaning</b>  |
|---------------------------------|---|
| Bandwidth Restriction           | Set a bandwidth limit for BitTorrent.   |
| [Download Manager]              | Displays the BitTorrent download manager screen. Add a torrent, then click [Add] to download 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](http://www.bittorrent.com).

# Admin Config

## Name

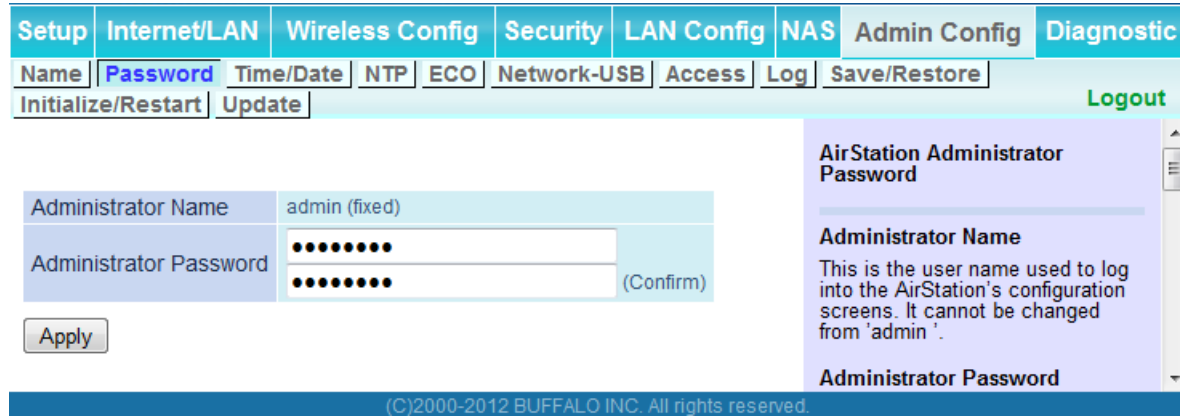
Configure basic AirStation settings.



| Parameter             | Meaning  |
|-----------------------|--|
| AirStation Name       | Enter a name for the AirStation. Names may include up to 64 alphanumeric characters and hyphens (-).       |
| 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.



The screenshot shows the configuration interface for the AirStation. The top navigation bar includes tabs for Setup, Internet/LAN, Wireless Config, Security, LAN Config, NAS, Admin Config, and Diagnostic. The Security tab is selected, and the Password sub-tab is active. The main configuration area displays the Administrator Name as 'admin (fixed)' and two password fields, each with eight masked characters. An 'Apply' button is located below the password fields. A help sidebar on the right provides details for the Administrator Name and Password fields. The footer of the interface reads '(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.

The screenshot shows the configuration web interface for an AirStation. At the top, there is a navigation menu with tabs for Setup, Internet/LAN, Wireless Config, Security, LAN Config, NAS, Admin Config, and Diagnostic. Below the menu, there are links for Name, Password, Time/Date, NTP, ECO, Network-USB, Access, Log, Save/Restore, Initialize/Restart, and Update. A green Logout button is also present.

A red warning message states: "NTP is enabled. Changes made to time and date settings may be overwritten by the NTP server when it syncs."

The Time/Date configuration section includes the following fields:

- Local Date: 2012 Year 3 Month 28 Day
- Local Time: 3 Hour 38 Minute 18 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)

Buttons for Apply, Refresh, and Get Current Time from your PC are located below the fields.

A sidebar on the right contains a "Time/Date" section with the following text:

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.

At the bottom of the page, a copyright notice reads: (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.

| 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

---

**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: Normal

Start time: 0:00

End time: 0:30

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

---

**User Define Mode Settings**

User Define Mode

LED: Off

Wired LAN: ECO (Slow operation)

Wireless LAN: Off

**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...

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

| 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.

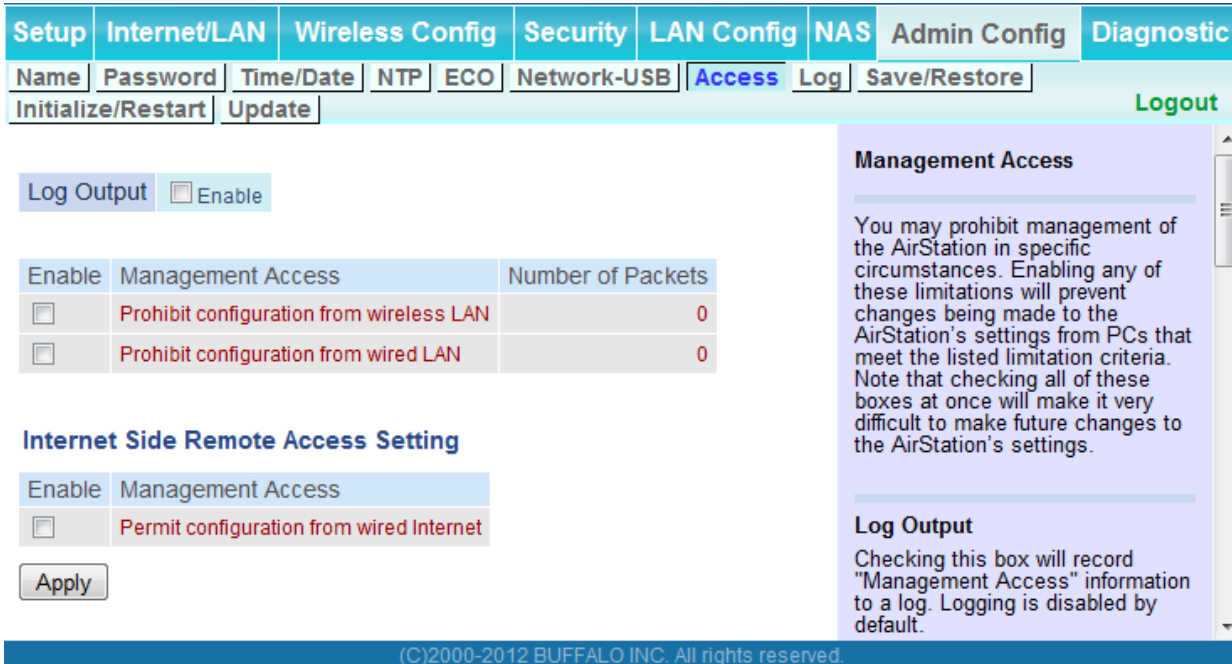


| Parameter                 | Meaning   |
|---------------------------|---|
| Network-USB               | Network-USB allows sharing USB devices connected to the AirStation from multiple computers on a wired or wireless LAN. Disable to reduce the impact on the NAS and other functions, improve performance,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



**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.                               |

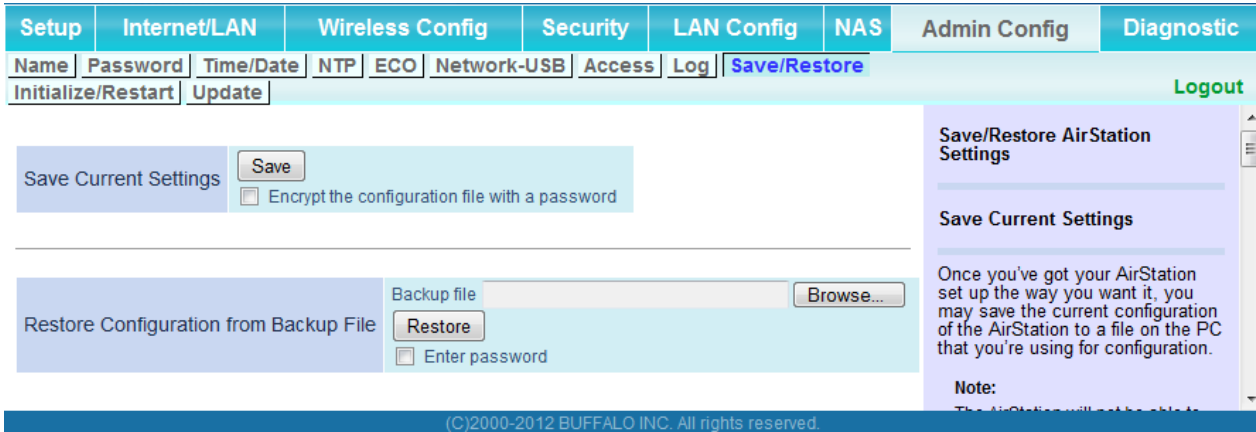
# Log

Transfer the AirStation's logs to a syslog server.

| 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, hyphens (-), and underscores (_). |
| Logs          | Choose which logs will be transferred to the syslog server.  |

## Save/Restore

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



| Parameter                              | Meaning   |
|--|---|
| Save current settings                  | Clicking [Save] will save the current configuration of the AirStation to a file. If the [Encrypt the configuration file with a password] option is checked, then the configuration file will be password protected with the current administrator 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 [To restore from the file you need the password], enter the password, and click [Open]. |

## Initialize/Restart

Initialize or restart the AirStation.

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

## Update

Update the AirStation's firmware.

The screenshot displays the 'Firmware Update' configuration page. At the top, a navigation bar contains tabs for 'Setup', 'Internet/LAN', 'Wireless Config', 'Security', 'LAN Config', 'NAS', 'Admin Config', and 'Diagnostic'. The 'Update' sub-tab is active. The main panel shows the current 'Firmware Version' as 'WZR-D1800H Ver. 1.86'. Under 'Update Method', 'Specify Local File' is selected with a radio button, while 'Auto Update Online' is unselected. A text field for 'Firmware File Name' is empty, accompanied by a 'Browse...' button. Below these are 'Update Firmware' and 'Version Check' buttons. A link for '\*Get updated firmware files from our website: Download Service' is provided. The 'Advanced Settings' section includes a 'Firmware Update Reminder' checkbox (checked) and a 'Remind Time' dropdown menu set to 'Automatic'. An 'Apply' button is at the bottom. A help panel on the right explains the update methods and the 'Browse' button.

| Parameter          | Meaning   |
|--------------------|---|
| Firmware Version   | Displays the current firmware version of the AirStation.  |
| Update Method      | <p><b>Specify Local File</b><br/>Updates from a firmware file stored on your computer.</p> <p><b>Automatic Update Online</b><br/>Automatically updates to the latest firmware available.</p>  |
| 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. |

---

| <b>Parameter</b>         | <b>Meaning</b>  |
|--------------------------|---|
| 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 |
|-----------------------------|----------------------|-----------------------------|--------------------------------|----------------------|------------------------|--------------|------------|
| <a href="#">System Info</a> | <a href="#">Logs</a> | <a href="#">Packet Info</a> | <a href="#">Client Monitor</a> | <a href="#">Ping</a> | <a href="#">Logout</a> |              |            |

|                                   |  |
|-----------------------------------|--|
| <b>Model</b>                      | WZR-D1800H Ver.1.86 (R1.35/B6.30.15-0.22-0.10)   |
| <b>AirStation Name</b>            | AP00904C08A000   |
| <b>Mode Switch Status</b>         | Router Mode ON   |
| <b>Operational Mode</b>           | Router Mode ON   |
| <b>Internet</b>                   | Method of Acquiring IP Address: Auto Detect Mode - DHCP                                |
|                                   | Connection Status: Communicating   |
|                                   | Operation: <input type="button" value="Release"/> <input type="button" value="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 |  |
| <b>LAN</b>                        | Wired Link: 1000Base-T (Full-duplex)   |
|                                   | MAC Address: 00:90:4C:08:A0:00   |
|                                   | IP Address: 192.168.11.1   |
|                                   | Subnet Mask: 255.255.255.0   |
| <b>Wireless(802.11ac/n/a)</b>     | DHCP Server: Enabled   |
|                                   | MAC Address: 00:90:4C:08:A0:00   |
|                                   | Wireless Status: Enabled   |
|                                   | SSID: BUFFALO-08A000_A   |
|                                   | Authentication: WPA/WPA2 mixedmode - PSK   |
|                                   | Encryption: TKIP/AES mixedmode   |
| <b>Wireless(802.11n/g/b)</b>      | Broadcast SSID: Enabled  |
|                                   | Privacy Separator: Disabled  |
|                                   | Wireless Channel: 54 Channel(Auto)   |
|                                   | 300 Mbps Mode: 40 MHz  |
|                                   | MAC Address: 00:1D:73:64:80:94   |
|                                   | Wireless Status: Enabled   |
| <b>NAS</b>                        | SSID: BUFFALO-08A000_G   |
|                                   | Authentication: WPA/WPA2 mixedmode - PSK   |
|                                   | Encryption: TKIP/AES mixedmode   |
|                                   | Broadcast SSID: Enabled  |
|                                   | Privacy Separator: Disabled  |
|                                   | Wireless Channel: 11 Channel(Auto)   |
| <b>ECO Mode</b>                   | 300 Mbps Mode: 20 MHz  |
|                                   | MAC Address: 00:1D:73:64:85:38   |
|                                   | USB disk: Connected  |
|                                   | Shared Folder: Enabled   |
|                                   | WebAccess: Disabled  |
| <b>Refresh</b>                    | Media Server: Disabled   |
|                                   | BitTorrent: Disabled   |
|                                   | 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.

---

| <b>Parameter</b>   | <b>Meaning</b>  |
|--------------------|---|
| 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.

The screenshot shows the 'Logs' configuration page. At the top, there is a navigation bar with tabs: Setup, Internet/LAN, Wireless Config, Security, LAN Config, NAS, Admin Config, and Diagnostic. Below this is a sub-menu with 'System Info', 'Logs' (selected), 'Packet Info', 'Client Monitor', and 'Ping'. A 'Logout' link is in the top right.

The main content area is divided into two parts. On the left, under 'Display log info', there is a list of log categories with checkboxes:
 

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

 Below this list are buttons for 'Display', 'Select All', and 'Clear All'.

Below the 'Display log info' section is the 'Logs' section, which includes a 'Save to file logfile.log.' button and a 'Delete' button. A table shows the following log entries:
 

| 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                         |

On the right side, there is a sidebar titled 'Logs' with the following text:
 

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)

At the bottom of the page, there is a copyright notice: (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.

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

**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.

| 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                | -                       | -       |

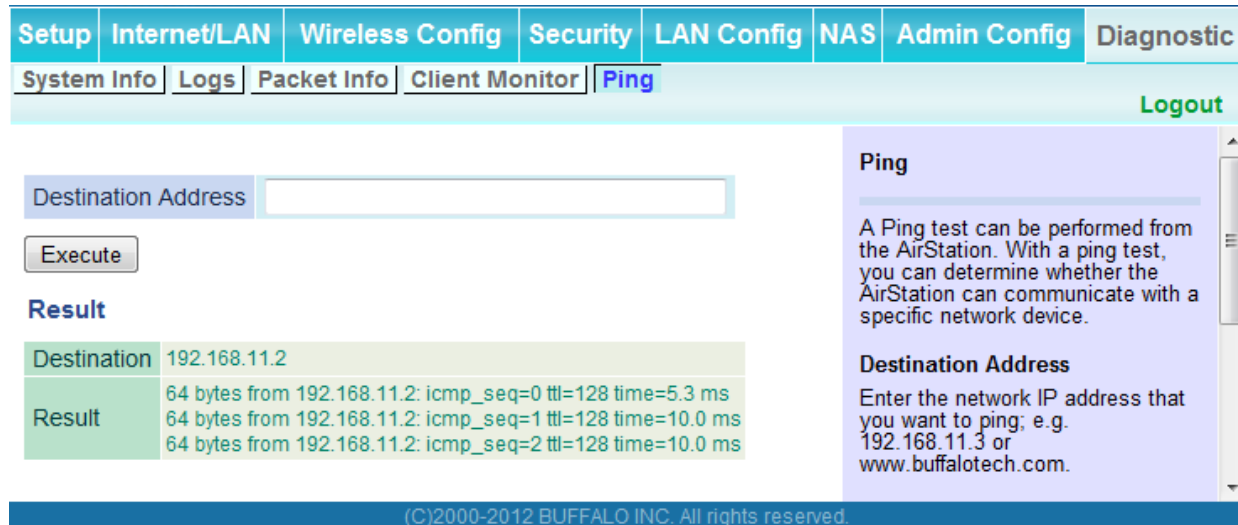
Refresh

(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.



| 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

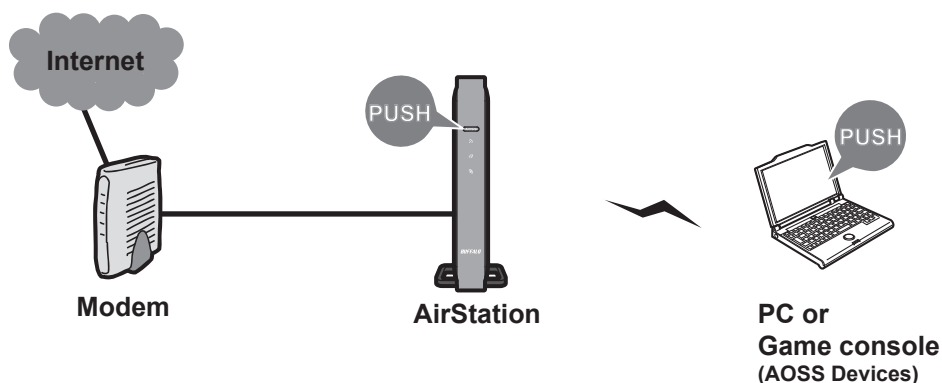
## Automatic Secure Setup (AOSS / WPS)

---

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.



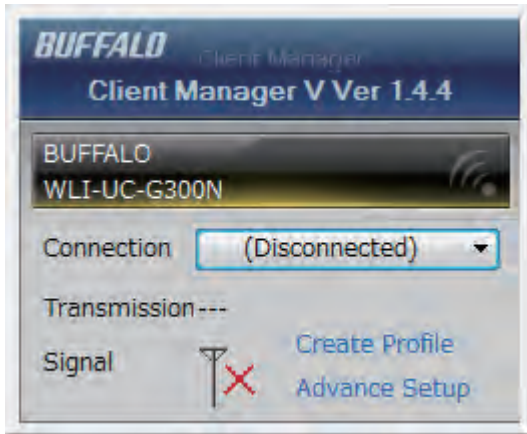
- Before using AOSS or WPS to connect the Buffalo wireless client to the computer, download Client Manager or AOSS Assistant from the Buffalo website and install it.
- Buffalo's Client Manager software can be used with the wireless LAN devices built into your computer. However, it is not guaranteed to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

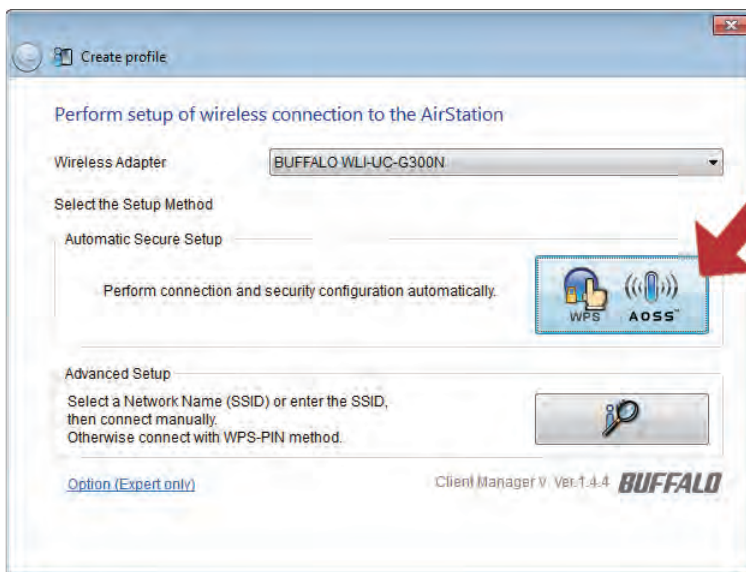
**1** Click [Start] > [All Programs] > [BUFFALO] > [AirStation Utility] > [Client Manager V].

**2** Click [Create Profile].



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

**4** Click the [WPS AOSS] button.

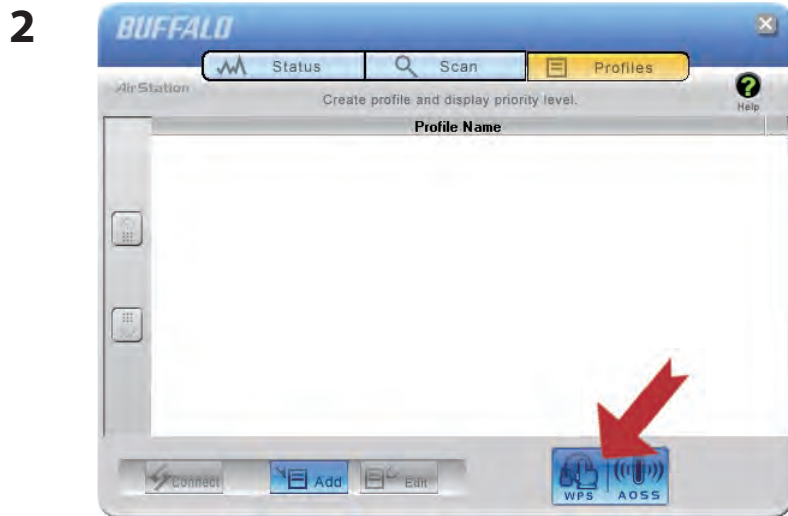


Follow any instructions displayed on the screen. When the Wireless LED on the front of the AirStation stop flashing and glows steadily, the connection is complete.

## 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.



Click [Start AOSS ].



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.

The screenshot shows the Windows 7 WLAN AutoConfig window. It displays the current network connection as 'Network' with 'Internet access'. Under 'Wireless Network Connection', there is a list of available networks. The first network is 'manual\_G' with a signal strength indicator and a 'Connect' button. Below it, there are two other networks: 'WAP-G' and '0018E76A1E6E'. A tooltip is visible over the '0018E76A1E6E' network, showing details: Name: 0018E76A1E6E, Signal Strength: Fair, Security Type: WPA2-PSK, and Radio Type: 802.11n.

**3**



Enter the encryption key and click [OK].

## Windows Vista (WLAN AutoConfig)

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

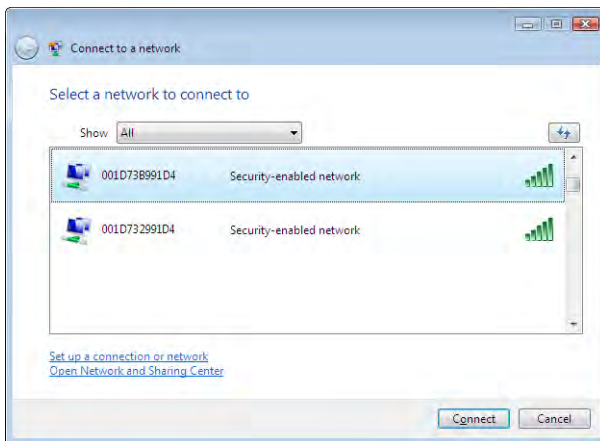
**1**

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

**2**

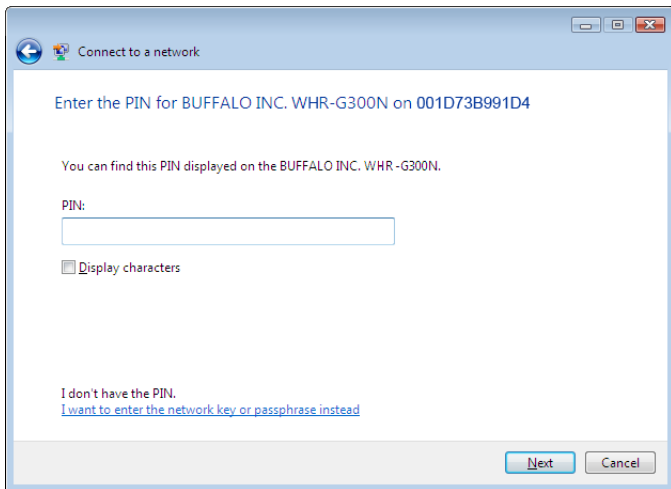
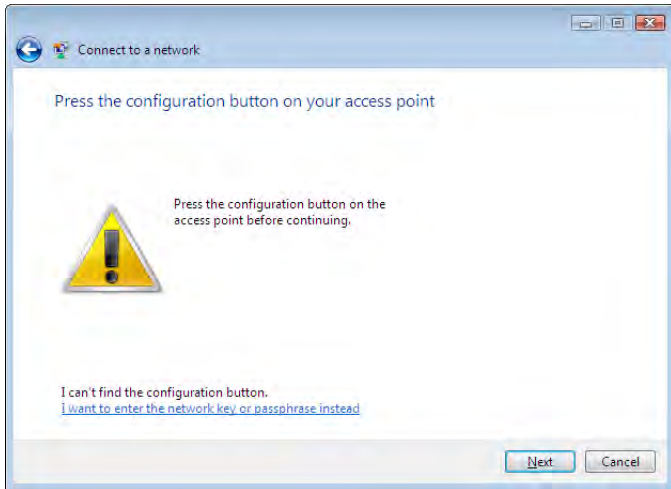
Click [Connect to a network].

**3**

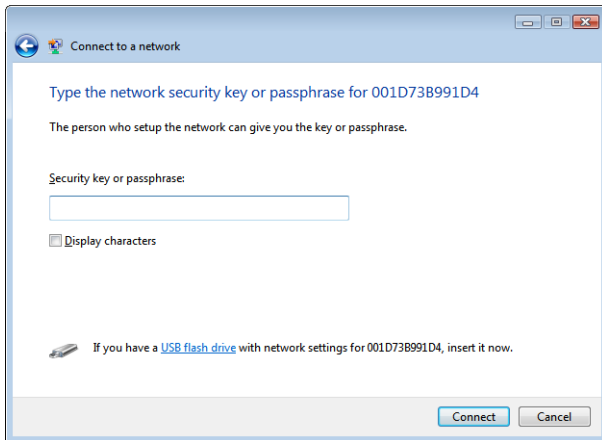


When this screen is displayed, select your network and click [Connect].

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.

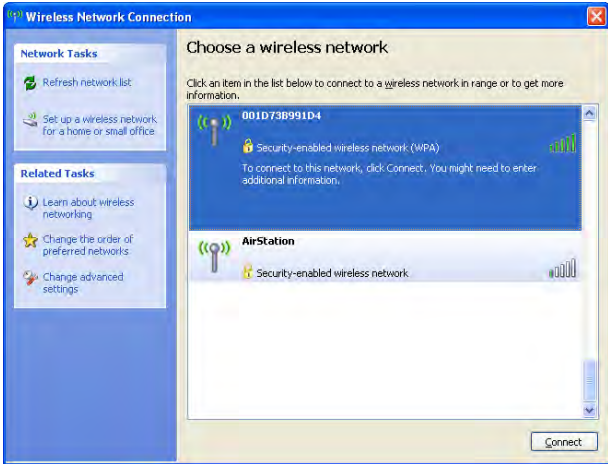
## Windows XP (Wireless Zero Configuration)


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.

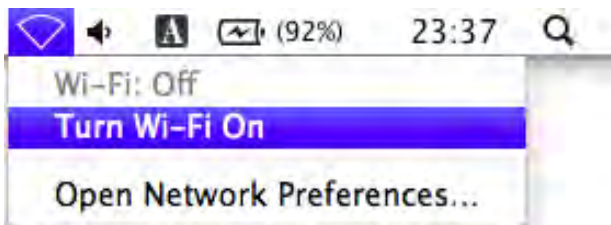
Note: In Mac OS X 10.6 and earlier, "Wi-Fi" appears as "AirPort".


1



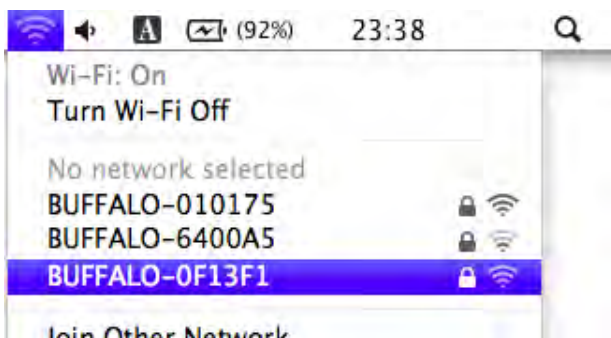
Refer to the setup card at the bottom of the AirStation. Make a note of the SSID and Key printed on the setup card.

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:

|                 |                               |
|-----------------|-------------------------------|
| Internet access | Blue light is on              |
| 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)

Encryption Type - WPA/WPA2 mixed mode - PSK, 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 Internet Game/ Port Mapping 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 WPA/ WPA2 mixed 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, power off the cable or DSL modem, the wireless router, and your computer. Move the router's mode switch to the *on* position. Verify that the modem is connected to the wireless router with an Ethernet cable to the WAN port. Power on the modem and wait one minute. Power on the wireless router and wait another minute. Power on the computer. Open a browser on the computer and navigate to a familiar website to verify whether the Internet connection is functioning normally. If after these steps, an Internet connection is still unavailable, power off the cable or DSL modem and computer again and directly connect your computer to the cable or DSL modem with a cable between the computer and the port on the modem. Power on the modem and wait one minute. Power on the computer and again check for an Internet connection.

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

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

**Issue:**

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

**Answer:**

The latest drivers and firmware are available online at [\*\*www.buffalotech.com\*\*](http://www.buffalotech.com)

# Chapter 6 - Default Configuration Settings

| Feature                          | Parameter                       | Default Setting                                 |
|----------------------------------|---------------------------------|---|
| Internet<br>(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<br>(Router mode only)      | Default PPPoE Connection        | No Active Session                               |
|                                  | IP Unnumbered PPPoE Connection  | No Active Session                               |
|                                  | PPPoE Connection List           | none  |
|                                  | Preferred Connections           | none  |
| DDNS<br>(Router mode only)       | Dynamic DNS Service             | Disabled  |
|                                  | Current Dynamic DNS Information | none  |
| VPN Server<br>(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):<br>192.168.11.1 (255.255.255.0)<br><br>Bridge mode (Router Off):<br>192.168.11.100 (255.255.255.0) |
|                                  | DHCP Server Function<br>(Router mode only)                       | Enabled   |
|                                  | DHCP IP Address Pool<br>(Router mode only)                       | 192.168.11.2 for up to 64 Addresses   |
|                                  | LAN Side IP Address<br>(For IP Unnumbered)<br>(Router mode only) | none  |
|                                  | Lease Period<br>(Router mode only)                               | 48 Hours  |
|                                  | Default Gateway<br>(Router mode only)                            | AirStation's IP Address   |
|                                  | DNS Servers<br>(Router mode only)                                | AirStation's IP Address   |
|                                  | WINS Server<br>(Router mode only)                                | Do Not Specify  |
|                                  | Domain Name<br>(Router mode only)                                | Assigned Domain Name  |
|                                  | Default Gateway<br>(Bridge mode only)                            | none  |
|                                  | DNS Server Address<br>(Bridge mode only)                         | none  |
| DHCP Lease<br>(Router mode only) | Current DHCP Client Information                                  | none  |
| NAT<br>(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<br>(Printed on the label of the AirStation)   |
|          | WPS Security Information | WPS status: configured<br>SSID: BUFFALO-XXXXXX (the last 6 digits of the AirStation's MAC address)<br>Security: WPA/WPA2 mixedmode - PSK TKIP/AES mixedmode or none<br>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<br>Bandwidth: 11ac/n/a 1300 Mbps Mode (80 MHz)<br>Extension Channel: -<br><br>11n/g/b<br>Bandwidth: 11n/g/b Normal Mode (20 MHz)<br>Extension Channel: -   |
|          | Broadcast SSID           | Allow   |
|          | Wireless authentication  | WPA/WPA2 mixedmode - PSK, or no authentication  |
|          | Wireless encryption      | TKIP/AES mixedmode, or no encryption  |
|          | WPA-PSK (Pre-Shared Key) | A 13-digit random value or disabled<br>(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<br>6, 12, 24 Mbps<br><br>11n/g/b<br>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<br>(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<br>(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<br>(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<br>(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<br>Disabled<br>11n/g/b<br>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<br>(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<br>(Router mode only)           | Log Output                               | Disabled                              |          |
|   | IP Filter Information                    | none                                  |          |
| VPN Pass<br>Through<br>(Router mode only) | IPv6 Pass Through                        | Disabled                              |          |
|   | PPPoE Pass Through                       | Disabled                              |          |
|   | PPTP Pass Through                        | Enabled                               |          |
| Port Forwarding<br>(Router mode only)     | Port Forwarding Registration Information | none                                  |          |
| DMZ<br>(Router mode only)                 | IP Address of DMZ                        | none                                  |          |
| UPnP<br>(Router mode only)                | UPnP                                     | Enabled                               |          |
| QoS<br>(Router mode only)                 | QoS for transmission to the Internet     | Disabled                              |          |
| Disk<br>Management                        | Automatic USB Disk Assignment            | Enabled                               |          |
|   | FAT format file name character code      | North America (CP437)                 |          |
|   | HDD power-saving function                | Disabled<br>HDD stop time 10 Minutes  |          |
| Shared Folder                             | Access Limits                            | No Limits (Read/Write)                |          |
|   | Web Access                               | Access Limits                         |          |
| User<br>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<br>Maximum Download Speed 1000 KB/s<br>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<br>Start time: 0:00<br>End time: 0:30<br>The day of week: none   |
|             | User Define Mode          | LED: Off<br>Wired LAN: ECO (Slow operation)<br>Wireless LAN: Off  |
| Network-USB | Network-USB               | Enabled   |
|             | Use multifunction Printer | Enabled   |
| Access      | Log Output                | Disable   |
|             | Limitation Item           | Prohibit configuration from wireless LAN Disabled<br>Prohibit configuration from wired LAN Disabled<br>Permit configuration from wired Internet Disabled  |
| Log         | Log Transfer              | Disabled  |
|             | Syslog Server             | none  |
|             | Logs                      | Router Mode:<br>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<br>Bridge Mode:<br>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.

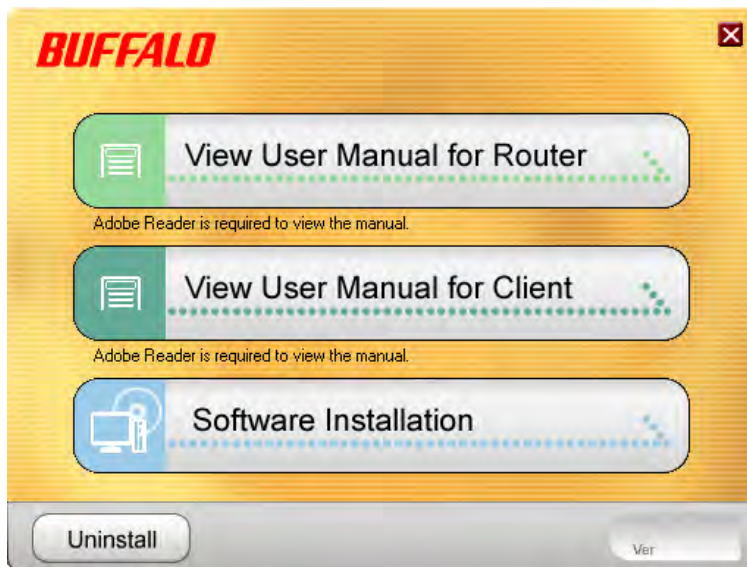
## Initial Setup for Windows Users

---

- 1 Insert the AirNavigator CD into your computer.

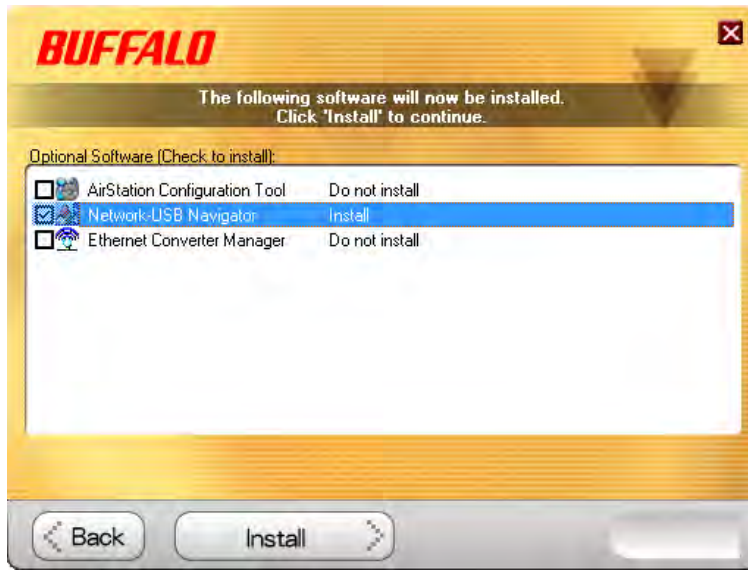
The setup menu will launch automatically. If not, open the CD and click on "Launcher.exe" in the "win" folder.

2



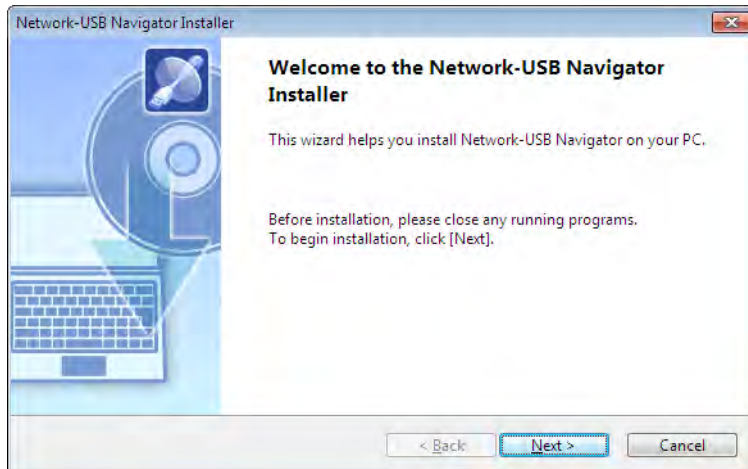
Click [Software installation].

3



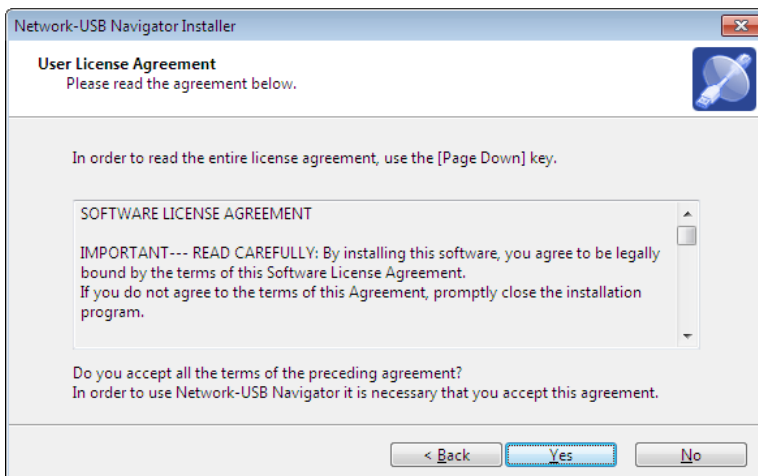
Check the box for "Network-USB Navigator" and click [Install].

4



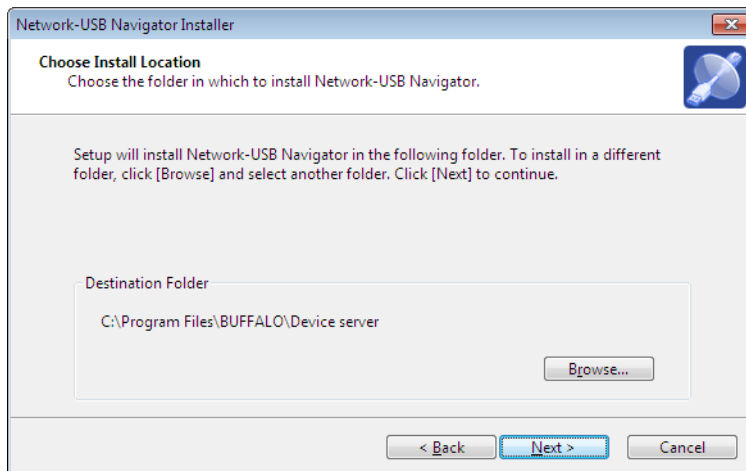
Click [Next].

5



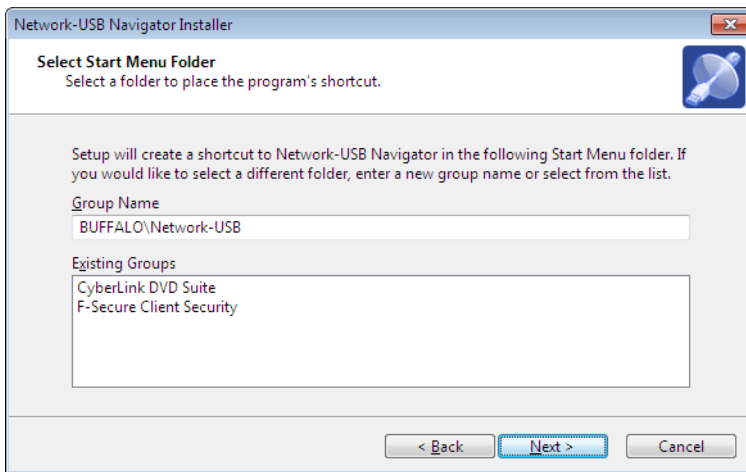
Click [Yes].

6



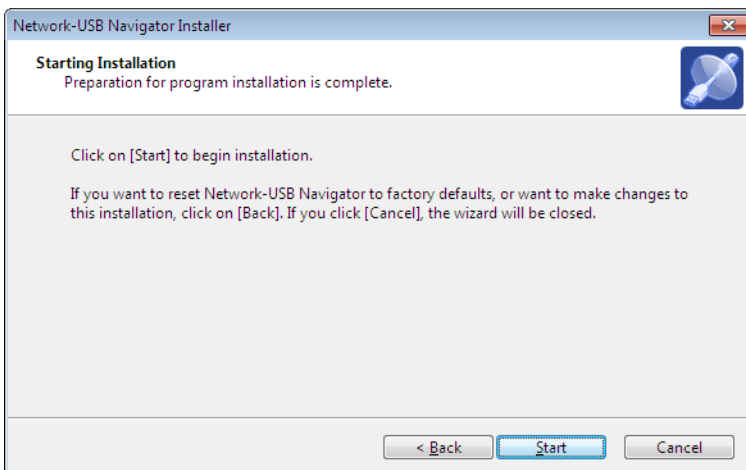
Click [Next].

7



Click [Next].

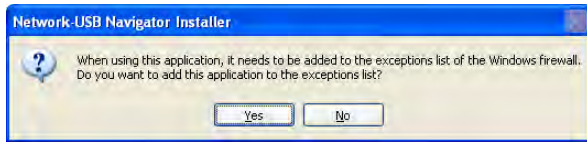
8



Click [Start].

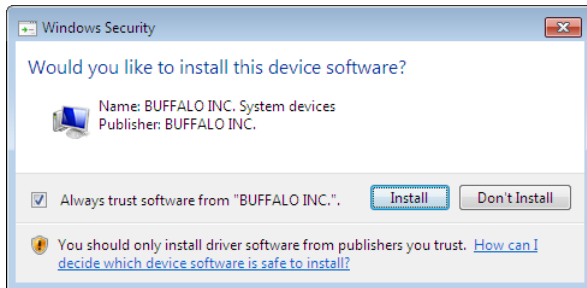


- Installation on Windows XP (SP2 or later)

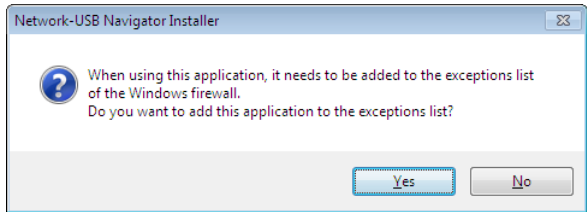


Click [Yes] when this screen is shown.

- Installation on Windows 7/Vista

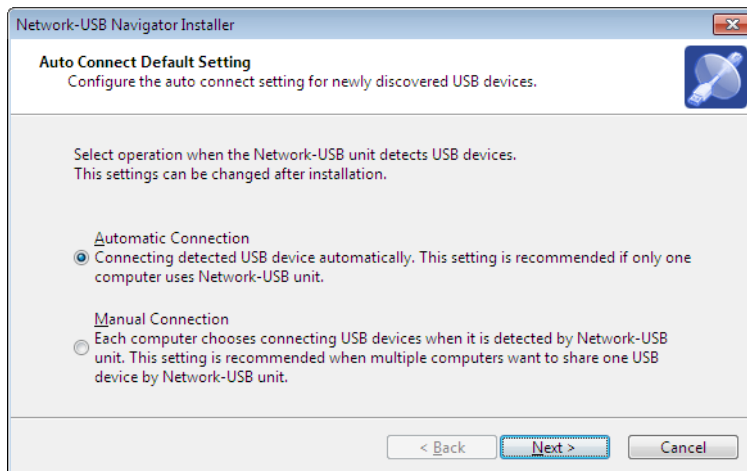


Click [Install] when this screen is shown.



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].



Click [Continue].



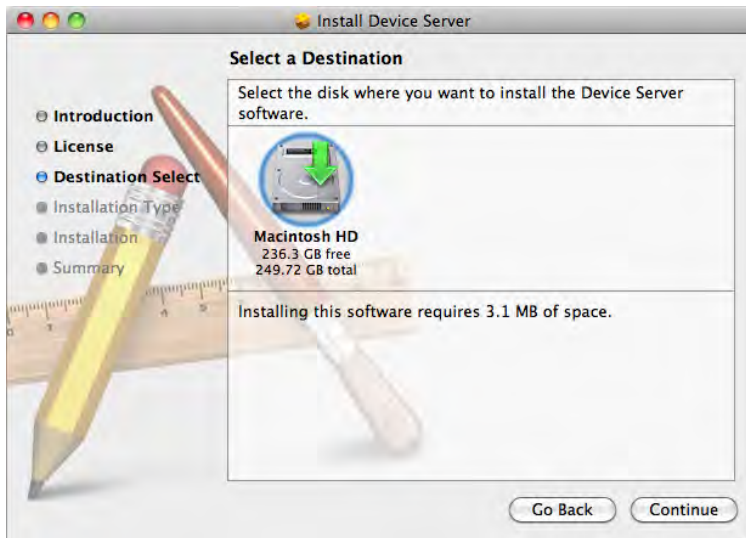
Click [Continue].

6



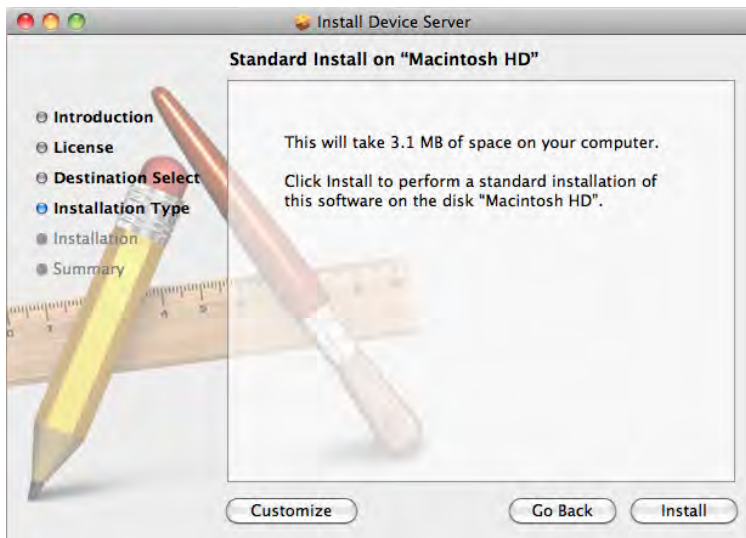
Click [Agree].

7



Click [Continue].

8



Click [Install].

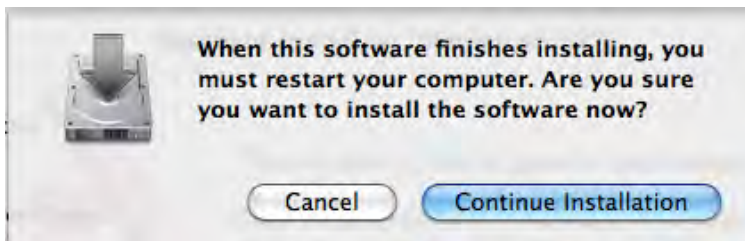
9



Input your name and password.

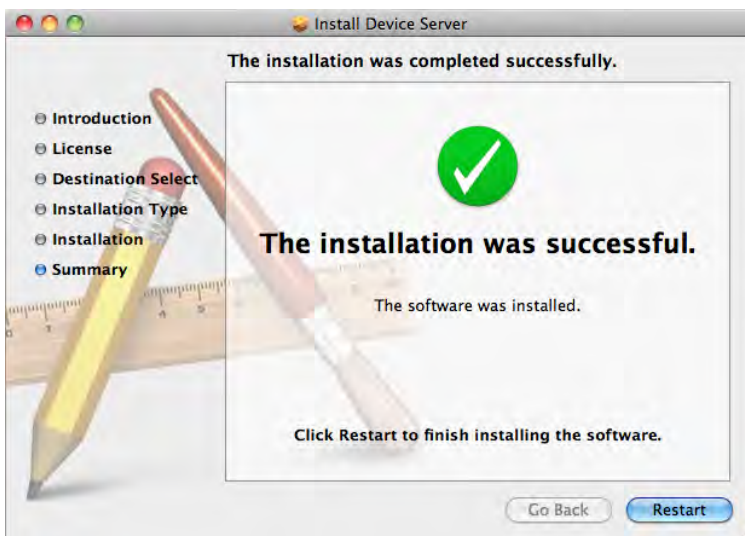
Click [OK].

10



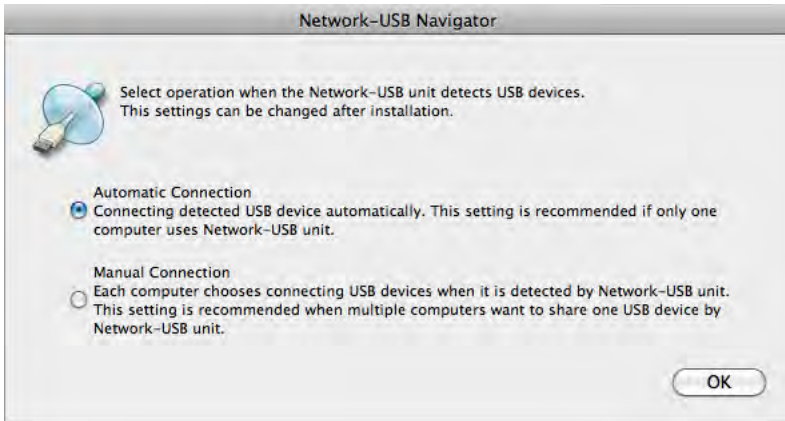
Click [Continue Installation].

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 Navigator]-[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.

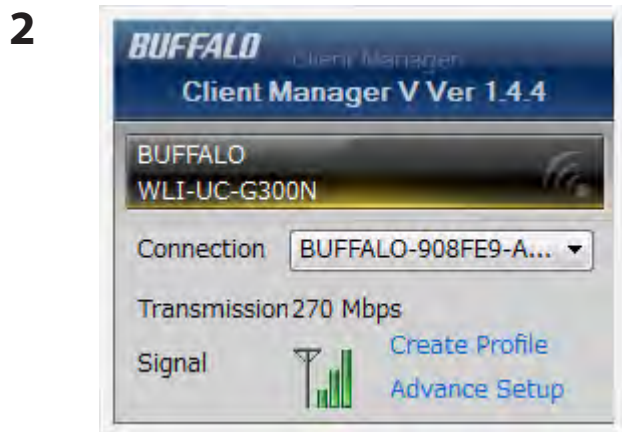
## Windows 7/Vista

---

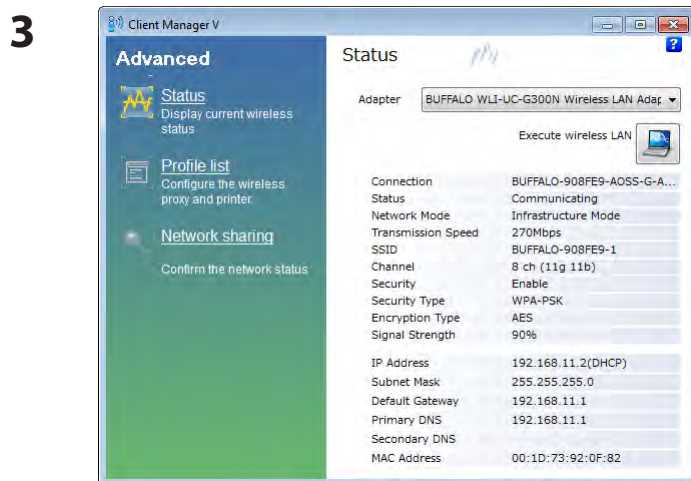
Note: · If Client Manager V is not already installed, download it from the Buffalo web site, and install.


· Client Manager V does not support Windows XP.

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



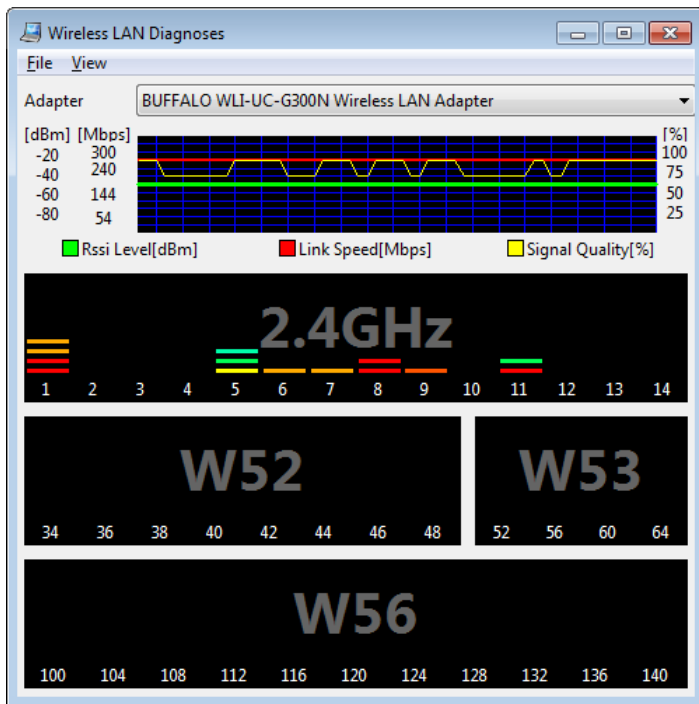
Click [Advanced Setup].



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

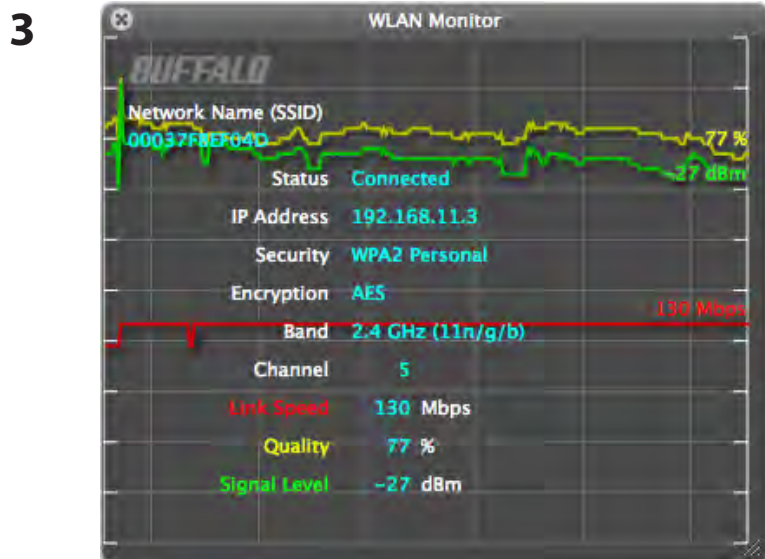
The 11b/11g display shows usage in the 2.4 GHz band channels 1 to 11.  
The 11a display shows usage in the W52, W53, and W56 channels.

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

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

|                                    |  |
|------------------------------------|--|
| Transmission Rate<br>802.11n/a/b/g | <p>802.11n:</p> <p>20 MHz BW (Long GI)<br/>195, 175.5, 156, 117, 78, 58.5, 39, 19.5 Mbps (3 stream)<br/>130, 117, 104, 78, 52, 39, 26, 13 Mbps (2 stream)<br/>65, 58.5, 52, 39, 26, 19.5, 13, 6.5 Mbps (1 stream)</p> <p>20 MHz BW (Short GI)<br/>216.7, 195, 173.3, 130, 86.7, 65, 43.3, 21.7 Mbps (3 stream)<br/>144.4, 130, 115.6, 86.7, 57.8, 43.3, 28.9, 14.4 Mbps (2 stream)<br/>72.2, 65, 57.8, 43.3, 28.9, 21.7, 14.4, 7.2 Mbps (1 stream)</p> <p>40 MHz BW (Long GI)<br/>405, 364.5, 324, 243, 162, 121.5, 81, 40.5 Mbps (3 stream)<br/>270, 243, 216, 162, 108, 81, 54, 27 Mbps (2 stream)<br/>135, 121.5, 108, 81, 54, 40.5, 27, 13.5 Mbps (1 stream)</p> <p>40 MHz BW (Short GI)<br/>450, 405, 360, 270, 180, 135, 90, 45 Mbps (3 stream)<br/>300, 270, 240, 180, 120, 90, 60, 30 Mbps (2 stream)<br/>150, 135, 120, 90, 60, 45, 30, 15 Mbps (1 stream)</p> <p>802.11a/g:<br/>54, 48, 36, 24, 18, 12, 9, 6 Mbps</p> <p>802.11b:<br/>11, 5.5, 2, 1 Mbps</p> |
| 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   |
| <b>USB Interface</b>               |  |
| Interface                          | USB 2.0  |
| Connector Type                     | Type A (plug)  |
| Compliance                         | 5.0 V 500 mA (max 1000 mA)   |
| <b>Other</b>                       |  |
| 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<br>Canada | 5180-5240 MHz (Channels 36, 40, 44, 48) |
|---------------|---|

**802.11g Frequency Range**

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

# Appendix B - 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 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.

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

## **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 V1.7.1: (2006-10)

Electromagnetic compatibility and Radio spectrum Matters (ERM); Wideband Transmission systems; Data transmission equipment operating in the 2,4 GHz ISM band and using spread spectrum modulation techniques; Harmonized EN covering essential requirements under article 3.2 of the R&TTE Directive

EN 301 893 V1.5.1: (2008-12)

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

EN 301 489-1 V1.8.1: (2008-04)

Electromagnetic compatibility and Radio Spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements

EN 301 489-17 V2.1.1 (2009-05)

Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility

(EMC) standard for radio equipment; Part 17: Specific conditions for Broadband Data Transmission Systems

This device is a 2.4 GHz wideband transmission system (transceiver), intended for use in all EU member states and EFTA countries, except in France and Italy where restrictive use applies.

In Italy the end-user should apply for a license at the national spectrum authorities in order to obtain authorization to use the device for setting up outdoor radio links and/or for supplying public access to telecommunications and/or network services.

This device may not be used for setting up outdoor radio links in France and in some areas the RF output power may be limited to 10 mW EIRP in the frequency range of 2454 – 2483.5 MHz. For detailed information the end-user should contact the national spectrum authority in France.

**CE0700** 

Česky [Czech]

Buffalo Technology Inc. tímto prohlašuje, že tento AirStation WZR-D1800H je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 1999/5/ES.

Dansk [Danish]

Undertegnede Buffalo Technology Inc. erklærer herved, at følgende udstyr AirStation WZR-D1800H overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.

Deutsch [German]

Hiermit erklärt Buffalo Technology Inc. dass sich das Gerät AirStation WZR-D1800H in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EG befindet.

Eesti [Estonian]

Käesolevaga kinnitab Buffalo Technology Inc. seadme AirStation WZR-D1800H vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.

English

Hereby, Buffalo Technology Inc. declares that this AirStation WZR-D1800H is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

Español [Spanish]

Por medio de la presente Buffalo Technology Inc. declara que el AirStation WZR-D1800H cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.

Ελληνική [Greek]

ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ Buffalo Technology Inc. ΔΗΛΩΝΕΙ ΟΤΙ AirStation WZR-D1800H ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕΚ.

Français [French]

Par la présente Buffalo Technology Inc. déclare que l'appareil AirStation WZR-D1800H est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.

Italiano [Italian]

Con la presente Buffalo Technology Inc. dichiara che questo AirStation WZR-D1800H è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.

Latviski [Latvian]

Ar šo Buffalo Technology Inc. deklarē, ka AirStation WZR-D1800H atbilst Direktīvas 1999/5/ΕΚ būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.

Lietuvių [Lithuanian]

Šiuo Buffalo Technology Inc. deklaruoja, kad šis AirStation WZR-D1800H atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.

Nederlands [Dutch]

Hierbij verklaart Buffalo Technology Inc. dat het toestel AirStation WZR-D1800H in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.

Malti [Maltese]

Hawnhekk, Buffalo Technology Inc. , jiddikjara li dan AirStation WZR-D1800H jikkonforma mal-ħtiġijiet essenzjali u ma provvedimenti oħrajn rilevanti li hemm fid-Dirrettiva 1999/5/EC.

Magyar [Hungarian]

Alulírott, Buffalo Technology Inc. nyilatkozom, hogy a AirStation WZR-D1800H megfelel a vonatkozó alapvető követelményeknek és az 1999/5/EC irányelv egyéb előírásainak.

Polski [Polish]

Niniejszym Buffalo Technology Inc. oświadcza, że AirStation WZR-D1800H jest zgodny z zasadniczymi wymogami oraz pozostałymi stosownymi postanowieniami Dyrektywy 1999/5/EC.

Português [Portuguese]

Buffalo Technology Inc. declara que este AirStation WZR-D1800H está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.

Slovensko [Slovenian]

Buffalo Technology Inc. izjavlja, da je ta AirStation WZR-D1800H v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES.

Slovensky [Slovak]

Buffalo Technology Inc. týmto vyhlasuje, že AirStation WZR-D1800H spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.

Suomi [Finnish]

Buffalo Technology Inc. vakuuttaa täten että AirStation WZR-D1800H tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.

Svensk [Swedish]

Härmed intygar Buffalo Technology Inc. att denna AirStation WZR-D1800H står i överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.

**Taiwan:**

SAR compliance has been established in typical laptop computer(s) with CardBus slot, and product could be used in typical laptop computer with CardBus slot. Other application like handheld PC or similar device has not been verified, may not comply with related RF exposure rules, and such use shall be prohibited.

**Safety**

This equipment is designed with the utmost care for the safety of those who install and use it. However, special attention must be paid to the dangers of electric shock and static electricity when working with electrical equipment. All guidelines of this manual and of the computer manufacturer must therefore be allowed at all times to ensure the safe use of the equipment.

**根據 NCC 低功率電波輻射性電機管制辦法：**

**第十二條：**

經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。

**第十四條：**

低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。前項合法通信，指依電信法規定作業之無線電通信。低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

해당 무선설비는 전파혼신 가능성이 있으므로 인명안전과 관련된 서비스는 할 수 없음

|                          |   |
|--------------------------|---|
| 기종별                      | 사 용 자 안 내 문   |
| B 급 기기<br>( 가정용 정보통신기기 ) | 이 기기는 가정용 (B 급 ) 전자파적합기기로서 주로 가정에서 사용하는 것을 목적으로 하며 , 모든 지역에서 사용할 수 있습니다 . |

# Appendix C - 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 D - GPL Information

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