BUFFALO

User Manual for Professional Firmware WZR-HP-AG300H

Nfiniti High Power Wireless Router & Access Point



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1. Introduction

1.1. Welcome

This AirStation wireless router comes with two different firmware packages. You may use either the dd-wrt-based Professional firmware or the simple User-friendly firmware. By default, the Professional firmware is preinstalled for US/EU products, and the User-friendly firmware is preinstalled for Asia-Pacific products.

1.2. Device Configuration

From the factory, the router is configured as a network bridge. That means that all network interfaces can communicate with each other using this default bridge. The router is ready to use with a few simple adjustments.

1.2.1. Factory Settings

Because all interfaces are attached to the bridge by default, they all have the same IP configuration:

IP address	192.168.11.1
Subnet Mask	255.255.255.0
DHCP server	enabled
DHCP-Range	192.168.11.2 - 66

The Wireless LAN interface is activated by default with an SSID generated from the device's MAC address. For security, unused interfaces should be disabled. Wireless LAN interfaces that are not disabled should be configured with secure encryption (WPA2 or WPA is recommended) and a secure password.

1.2.2. Initial Operation

Connect your computer to the router with an Ethernet LAN cable and power the router on. It will take about 30 seconds to boot. You can then access it via telnet or web browser at the IP address 192.168.11.1. The DHCP server in the router is enabled by default. If your PC's Ethernet is configured for DHCP it should receive an IP address from the router's DHCP server. If not, please configure the Ethernet interface with an address from the 192.168.11.x subnet.

Because all relevant settings can be made using the web interface, this manual refers to configuration via the web GUI only.

2. Configuration via the Web Interface

The router contains an integrated web server that provides an easy to use web interface. It allows configuration, administration, and status checking in a simple but effective way.

When accessing the web GUI for the first time, change the default username and password. By default, the router's status page can be accessed without authentication, but this can be disabled.

The web interface was successfully tested on the following browsers:

- Internet Explorer 7.x and newer versions
- Firefox 2.x and newer versions
- Safari 2.x and newer versions

2.1. Preparation

Connect your PC to the router and power the router on as described in 1.2.2. After the router has loaded its operating system, you can communicate with it via your LAN network interface.

The easiest way to test if your PC can communicate with the router is to ping 192.168.11.1.

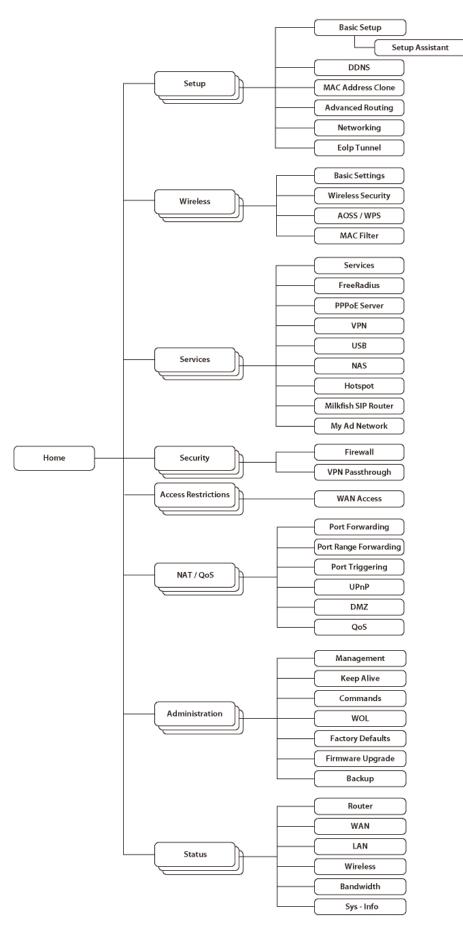
2.2. Web Interface Access

Open a browser window. Enter the address http://192.168.11.1 into the address bar. The status page will be displayed.

When you click on a tab, the login window will pop up. Enter the username and password you previously set.

Authentifizier	ung erforderlich	×
?	http://192.168.1.1 verlangt einen Benutzernamen und ein Passwort. Ausgabe der Website: "DD-WRT"	
Benutzername:		
Passwort:		
	OK Abbrechen	

2.3. Web Interface Structure



2.3.1. Setup

2.3.1.1. Basic Configuration

Setup Assistant

The setup assistant provides a step-by-step interface for basic router configuration. This configures most common settings automatically.

WAN Setup

Here you'll find the most important settings to configure your internet access and WAN port. DHCP is enabled by default, but you can also use PPPOE, PPTP, L2TP, static IP, or HeartBeat Signal. If you don't use a password to log in to your ISP, you may need to enter "0000" for the password. Also, for some ISPs you should not enter the service name, as it will prevent establishing the connection. If you experience connection problems, then leave the service name empty.

WAN Connection Type	Description
Disabled	The WAN port is disabled.
Static IP	A static IP address will be used - enter the IP address, subnet mask, gateway, and server manually.
Automatic Configuration - DHCP	The router obtains its WAN-side IP address from a DHCP server.
PPPOE	Configure as PPPoE-client. For VDSL, check the "VDSL-Tagging" box.
PPTP	Establishes connection via PPTP.
L2TP	Establishes connection via L2TP.
HeartBeat Signal	If you use a HeartBeat connection, consult your ISP for setup information. HeartBeat Signal is used only in Australia.
3G/UMTS	Configures Internet Access via 3G/UMTS. Enable USB in the "Services" section and attach a 3g/UMTS USB stick to the router.

Network Setup

Network Setup configures the router's basic settings to match the local network. By default these settings are valid for all network ports except the WAN because they are all attached to the default bridge. If ports are disassociated from the bridge they will have different settings.

2.3.1.2. Dynamic DNS (DynDNS or DDNS)

Dynamic DNS allows the assignment of a DNS record to a dynamically assigned WAN-side IP address. A DynDNS client updates DNS records when your WAN-side IP address changes.

The router's firmware offers presets for the most common DynDNS services plus an option to define individual settings.

DynDNS Service	Description
Disabled	Default, no DynDNS
DynDNS.org	
freedns.afraid.org	
ZoneEdit.com	
No-IP.com	
3322.org	
easyDNS.com	
TZO.com	
DynSIP.org	
Custom	Individual DynDNS service configuration

2.3.1.3. MAC Address Cloning

MAC address cloning lets you assign a different MAC address to the router than the one encoded in the hardware.

2.3.1.4. Advanced Routing

Operating Mode

The default operating mode of the router is *Gateway*. Other routing protocols are available.

Modus	Description
Gateway	Gateway (default)
BGP	BGP Routing
Rip2 Router	Rip2 Routing
Router	Router

Static Routing

The Static Routing section lets you add static routes. The input parameters are equivalent to the parameters of the Linux command "route".

2.3.1.5. Networking

The Networking section allows detailed network configuration.

VLAN Tagging Use this option to configure VLAN tagging.

Bridging

By default, one bridge (br0) is defined and active. In this section you can define additional bridges and change the interface assignment according to your requirements.

Bonding

Bonding offers the ability to "bond" interfaces together. Bonding can be used to enhance throughput or provide failover capabilities.

Port Setup The port setup section allows further configuration of the routers network interfaces. Network interfaces can be separated from the bridge and it is possible to assign separate network settings for each interface. If an interface is separated from the bridge, add routing rules to allow communication between the interface and the bridge or other unbridged interfaces.

DHCPD Besides the default DHCP server, you can define additional DHCP servers.

2.3.1.6. EoIP Tunnel

EoIP (Ethernet over IP) tunnels can transport Ethernet data packages via a tunnel over existing IP connections. You can define up to 10 tunnels that can also be bonded.

2.3.2. Wireless

2.3.2.1. Basic Settings

Each Wireless LAN interface has its own section in the wireless basic settings screen. The wireless interfaces are labelled ath0 and ath0.1 - ath0.4 depending on the number of radios installed. To correctly identify the antenna connectors, please compare the MAC addresses printed on the enclosure with the addresses displayed in the web interface.

Wireless Mode This parameter is used to define the operating mode of the Wireless LAN interface. You can select among the following modes:

Modus	Description
AP	WLAN Access Point mode (default)
Client	WLAN Client mode
Client-Bridge	Client-Bridge mode allows connecting to another Wireless LAN access point and establishing a network bridge with that access point
AdHoc	AdHoc operating mode, required for building mesh networks
WDS Station	WDS Station is the client in a WDS-AP <-> WDS station bridge. This is a special wireless networking mode that offers better flexibility and security than the classical MAC address based WDS.
WDS AP	WDS AP is the AP side for WDS AP <-> WDS Station. A WDS AP allows connections from WDS Stations and Wireless Clients.

Wireless Network Mode Defines the IEEE802.11 networking mode.

Mode	Description
Disabled	Interface is disabled
Mixed	2.4 GHz 802.11b / 802.11g / 802.11n mixed mode
A-Only	5 GHz 802.11a mode (802.11b, 802.11g, and 802.11n devices cannot connect)
B-Only	2.4 GHz 802.11b mode (802.11a, 802.11g, and 802.11n devices cannot connect)
G-Only	2.4 GHz 802.11g mode (802.11a, 802.11b, and 802.11n devices cannot connect)
BG-Mixed	2.4 GHz 802.11b & 802.11g mixed mode (802.11a and 802.11n devices cannot connect)
NA-Mixed	5 GHz 802.11n & 802.11a mixed mode (802.11b and 802.11g devices cannot connect)
NG-Mixed	2.4 GHz 802.11n & 802.11g mixed mode (802.11a and 802.11b devices cannot connect)
N-Only (5 GHz)	5 GHZ 802.11n mode (802.11a, 802.11b, and 802.11g devices cannot connect)
N-Only (2.4 GHz)	2.4 GHZ 802.11n mode (802.11a, 802.11b, and 802.11g devices cannot connect)

Channel Width

Some wireless network modes support wireless channel widths besides the standard 20 MHz. 802.11g & 802.11n offer the option to use 40 MHz channels for enhanced throughput. Both the AP and the client must support 40 MHz channels to use them.

Wireless Channel (AP only)

Set the desired wireless channel, or let the router choose a free channel automatically. If the router is in classic WDS (MAC address based) mode, then the wireless channel must be selected manually.

Wireless Network Name (SSID)

The name of the wireless network the radio transmits or connects to (depending on the wireless mode)

Wireless SSID Broadcast (AP only)

The name of the wireless network (SSID) may be broadcasted or not. Not broadcasting does not prevent the network from being detected by a wireless network sniffer; it just hides the name.

Advanced Settings

Check this box to get access to advanced wireless settings. These advanced parameters should be only modified by experienced users.

2.3.2.2. Wireless Security

Because wireless data packets can easily be sniffed, wireless connections require a greater level of security to ensure that data cannot be read by unauthorized users.

Security Mode

Mode	Description
Disabled	No encryption set (not recommended!)
WPA Personal	WPA encryption with a passphrase (text password)
WPA Enterprise (AP only)	WPA encryption with Radius Client authentication according to 802.1x
WPA2 Personal	WPA2 encryption with a passphrase (text password)
WPA2 Enterprise (AP only)	WPA2 encryption with Radius Client authentication according to 802.1x
WPA2 Personal Mixed	WPA & WPA2 encryption in WPA/WPA2 mixed mode with a passphrase (text password)
WPA2 Enterprise Mixed (AP only)	WPA & WPA2 encryption in WPA/WPA2 mixed with Radius Client authentication according to 802.1x
RADIUS	
WEP	WEP 64 Bit / 128 Bit encryption (insecure; not recommended!)
802.1x (Client only)	Client side mode to connect to AP's working with WPA Enterprise Modes via RADIUS authentication

When using WEP encryption (not recommended), the user can choose between 64 bit and 128 bit keys. Keys can be entered as passphrases that are used to generate the Hex keys. Theoretically 128 bit keys offer a higher level of security but because of design flaws, that's not the case in actual use.

Key length	Description
64 Bit (10 Hexadecimal characters)	Standard
128 Bit (26 Hexadecimal characters)	

With WPA or WPA2 encryption, there are several encryption algorithms to choose from. AES is more secure but TKIP is more widely supported. There is also a TKIP + AES setting, but that does not offer more security than TKIP.

Algorithm	Description
TKIP	TKIP encryption, supported by most clients

	devices
AES	AES encryption offers a better level of security but might not be supported by a number of client devices and requires less CPU processing power.
TKIP + AES	Mixed mode - offers best compatibility but doesn't work in all environments

If RADIUS security is used, the MAC address format has to be set accordingly.

RADIUS MAC format options	Description
aabbcc-ddeeff	Standard
aabbccddeeff	
aa:bb:cc:dd:ee:ff	
aa-bb-cc-dd-ee-ff	

2.3.2.3. AOSS/WPS

AOSS (AirStation One-touch Secure Setup) is Buffalo Technology's system to automatically connect wireless clients to an access point. Just press the button on the AirStation, then press the button for the wireless client (which might be in its software). AOSS will connect the wireless devices automatically. AOSS is recommended if all of your wireless devices support it. AOSS can only be used in AP mode.

The WPS is a standard created by the Wi-Fi Alliance. There are two methods of configuration, PBC and PIN. PBC is similar to AOSS. PIN uses a unique PIN code to register the wireless client to the AirStation. If your wireless devices support it, WPS makes configuration simple and automatic.

Enable AOSS Enables the AOSS Service. When disabled, AOSS cannot be used.

Start AOSS Negotiation To initiate AOSS, either click the AOSS button in the GUI or hold down the AOSS button on the front of the router for 3 seconds.

Security Modes You may choose which security modes are offered in the AOSS negotiation process. The use of WEP in general is not recommended due to security concerns.

WPS Button Enables the WPS button. When disabled, WPS button cannot be used.

WPS PIN Enter the PIN code printed on your client device or your client authentication application.

2.3.2.4. MAC Filter

The MAC Filter defines a list of client MAC addresses that are allowed to connect wirelessly. MAC addresses that aren't on the list aren't allowed to connect.

2.3.3. Services

2.3.3.1. Services

The services section allows the configuration of basic service settings. Telnet and SSH can be configured this way. Remote access options are configured in the *Administration* section.

	Description
Domains	
WAN	Standard
LAN / WLAN	

Rflow / MACupd Interface Options	Description
LAN & WLAN	Standard
LAN	
WLAN	

2.3.3.2. FreeRadius

Certain applications (for example, Chillispot hotspot software) benefit from a RADIUS server for management of user credentials and settings.

Server Certificate This section contains the parameters to generate the RADIUS server certificate. The certificate needs to be generated before clients can be configured to connect to the RADIUS server.

Certificate Status Displays the server certificate creation status.

Settings Choose the port that the RADIUS server uses for client communication. The default port is 1812.

Clients This section is used to define RADIUS clients (required for HotSpot usage).

Users Lists the users defined in the RADIUS servers. Allows creation and modification of accounts.

2.3.3.3. PPPoE Server

Some applications require a PPPoE server on the router, which can be configured here. The PPPoE server is disabled by default.

2.3.3.4. VPN

The router can also be configured as VPN server or VPN client.

PPTP

When defining the PPTP server's IP range, avoid overlap with the range of IP addresses handed out by DHCP if DHCP is enabled. The IP range is defined using the following syntax:

xxx.xxx.<start-ip>-<end-ip>

for example

192.168.1.20-30

Enter client login data follows:

<username> * <password> *

for example

testuser * test *

The encryption options can be set as follows

PPTP server type	Settings	
DD-WRT Router	mppe required (Standard)	
Windows PPTP Server	<pre>mppe required,no40,no56,stateless or mppe required,no40,no56,stateful</pre>	

OpenVPN

OpenVPN is a powerful and flexible VPN solution. OpenVPN security is based on certificates that cannot created on the router itself. Please refer to OpenVPN's online documentation for instructions on creating certificates and configuring OpenVPN.

2.3.3.5. USB

The router's USB port can be used for several purposes. Here the basic and advanced USB parameters are defined. Besides enabling USB and defining the USB hardware standard to use you can also define if printer and storage support for USB shall be enabled.

2.3.3.6. NAS

If USB hard drive support is enabled, you can start the integrated ProFTPd server to share data on an attached hard disk via FTP.

The User/Password data are entered as follows:

<username> * <password> *

for example

testuser * test *

Be careful enabling anonymous login. If anonymous login is enabled, everyone accessing your network has permission to read and write data.

2.3.3.7. Hotspot

Most hotspot software requires a server to store user settings and login information. Please note that Sputnik is a commercial hotspot service that requires an agreement with Sputnik for usage.

2.3.3.8. Milkfish SIP Router

This package is an implementation of the Milkfish SIP router.

2.3.3.9. My Ad Network

Allows the creation of an AnchorFree Hotspot that can be used to create revenue via AnchorFree.

2.3.4. Security

2.3.4.1. Firewall

Aside from enabling and disabling the firewall, you can also set additional filters, block certain network requests for the WAN interface, and manage logs.

2.3.4.2. VPN Pass-through

VPN settings effect how the firewall handles IPSec, PPTP, and L2TP connections. By default, pass-through is enabled. Please note that disabling pass-through will usually prevent you from establishing VPN connections from computers located in your local network to VPN servers on the internet.

2.3.5. Access Restrictions

2.3.5.1. WAN Access

The WAN access settings allow the definition of time and service related access rules.

2.3.6. NAT / QOS

2.3.6.1. Port Forwarding

Port forwarding allows the assigning of WAN ports to specific internal IP addresses and matching ports. Bidirectional external traffic can be

forwarded to specific internal devices and computers. Each port forwarding entry defines a source port and a target IP address.

Before adding or removing a port forwarding entry, save all changed settings. Any changes not saved will be lost when a port forwarding entry is added or deleted.

2.3.6.2. Port Range Forwarding

Port range forwarding works similarly to port forwarding. Unlike port forwarding, instead of a single port, a range of ports is forwarded to the same range of ports at the internal target IP address.

2.3.6.3. Port Triggering

Port triggering is a kind of port range forwarding where outgoing traffic on specific ports enables previously defined port forwards for the activating device. This temporarily opens required ports when specific applications are opened on computers on the LAN. This offers a greater level of security than port forwarding or port range forwarding because the ports are only opened when needed.

2.3.6.4. UPnP

UPnP allows UPnP capable applications and devices to open and close required ports automatically as needed. This is simple to use and does not require further configuration steps.

2.3.6.5. DMZ

A DMZ computer is a special computer in the internal network that gets all incoming traffic forwarded. The task of that computer is managing this traffic. When the DMZ feature is activated the internal firewall is activated. This can pose a security issue if not handled with care. Furthermore, several services of the router, that have to be accessible from the WAN side, will not work because the associated traffic is forwarded to the DMZ computer.

2.3.6.6. QoS

QoS (Quality of Service) is a procedure to prioritise network traffic by application. Specific services can be assigned specific bandwidth.

Aside from upstream and downstream bandwidth, you can define settings for specific services and IP and MAC address ranges.

2.3.7. Administration

2.3.7.1. Management

The Management section contains settings for remotely accessing the router and other basic settings that are usually not changed. The settings for the language used in the Web GUI are also located here. You may choose between Chinese (simplified & traditional), Croatian, Dutch, French, German, Hungarian, Italian, Japanese, Latvian, Polish, Portuguese, Romanian, Russian, Slovenian, Spanish, and Swedish. The default setting is English.

Before using Telnet or SSH, activate the associated service(s) in this section.

2.3.7.2. Keep Alive

Keep-Alive lets you configure monitoring options that automatically reboot the router if a service malfunction causes it to fail to respond.

2.3.7.3. Commands

Entering Linux commands is one of the most powerful ways to access the router's functionality. This enables you to access services and configure options that are not accessible via the Web GUI. Using shell commands can lead to unexpected results. Use them with utmost care.

Aside from executing the shell commands directly you can also save custom start up and firewall scripts.

2.3.7.4. WOL

With Wake-on-LAN, you can send special data packets to compatible devices on your LAN, causing them to exit sleep mode.

WOL data packets can be triggered manually or scheduled automatically.

2.3.7.5. Factory Defaults

With this feature you can reset the router's settings to factory defaults. After a reset, the router will restart.

2.3.7.6. Firmware Upgrade

The firmware upgrade option can be used to install a different firmware version. When doing this you can choose if the router's settings will be restored to factory defaults or kept.

2.3.7.7. Backup

You can use this feature to store your current configuration into a backup file, or to restore from a previously stored configuration. This also makes it simple to set up a number of routers with the exact same configuration.

2.3.8. Status

2.3.8.1. Router

The status screen displays information about the router, such as cpu load, memory consumption, and currently active IP connections. Status is updated automatically.

2.3.8.2. WAN

If the WAN interface is enabled, this screen displays WAN settings and throughput statistics.

2.3.8.3. LAN

Here you can find LAN-related information like active clients and DHCP clients.

2.3.8.4. Wireless

The wireless LAN status screen displays the current wireless LAN interface configuration, wireless LAN clients (in AP modes), and access points (in client modes). If there's more than one wireless LAN interface, you can switch between them via the interface pull down menu.

2.3.8.5. Bandwidth

Bandwidth monitoring displays real time diagrams for incoming and outgoing traffic for each network interface.

2.3.8.6. SysInfo

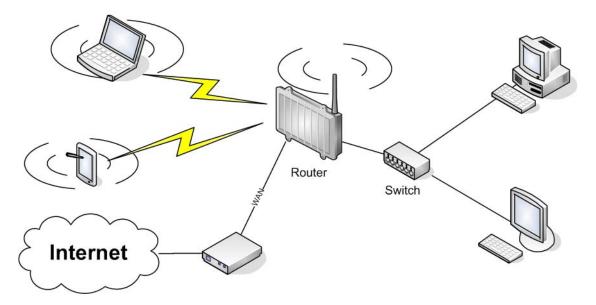
The SysInfo screen combines the most important information of the other status pages. By default, the SysInfo page can be accessed from LAN devices without authentication. That can be changed in the *Management* section of the *Administration* area.

3. Use Cases

The following use cases relate to the most commonly used router configurations. The related router configuration is explained step by step.

3.1. Access Point

Access Point (AP, sometimes also called "Infrastructure Mode") is the mode where the router is also the central wireless hub that connects to the LAN and provides access to wireless devices. These wireless clients of the AP can communicate with each other and with wired devices on the network such as the Internet.



Connect your computer to the router as described in 2.1. and access the web interface according to 2.2.

3.1.1. Access Point with NAT / DHCP

Setup -> Basic Setup

- WAN Setup
 - o In "Connection Type", choose the type of WAN connection you want to use and complete the related settings.
- Network Setup
 - o Enter the desired LAN IP address for the router into "Router IP".
 - o Set "DHCP Type" to "DHCP Server" (this is the default).
 - o "Enable" DHCP Server (this is the default).
 - o Adjust the DHCP address range to match your requirements.
- Time Settings o Choose your time zone.
- Click "Save".

Wireless -> Basic Settings

- Enter your country in "Regulatory Domain"
- In the "Antenna Gain" field, please enter the gain of the antenna on your router. The firmware will adjust the transmit power accordingly to meet regulatory requirements. Please keep in mind that very long cables can dampen the HF signal thus reducing the usable antenna gain.
- Configure "Wireless Mode" to "AP"
- Set your desired wireless mode in "Wireless Network Mode". Please note that mixed modes will lead to reduced performance because of maintaining compatibility.
- Enter a name for your wireless network into "Wireless Network Name (SSID)"
- Click "Save"

Wireless -> Wireless Security

- Choose and configure a security mode. Please note that WEP is insecure and should only be used if no other option is available.
- Click "Apply Settings"

You can now connect the router to the Internet and your local network. After you successfully connect wireless devices, they will then be displayed on the "SysInfo" and "WLAN Status" pages.

3.1.1. Access Point attached to a network / Internet gateway

Setup -> Basic Setup

- WAN Setup
 - o For "Connection Type", choose "Disabled".
- Network Setup
 - o Enter the desired LAN-side IP address for the router into "Router IP".
 - o Set the "DHCP Type" to "DHCP Server" (this is the default).
 - o "Disable" "DHCP Server".
- Time Settings
 - o Choose your time zone.
- Click "Save".

Wireless -> Basic Settings

- Enter your country in "Regulatory Domain"
- In the "Antenna Gain" field, please enter the gain of the antenna on your router. The firmware will adjust the transmit power accordingly to meet regulatory requirements. Please keep in mind that very long cables can dampen the HF signal thus reducing the usable antenna gain.
- Configure "Wireless Mode" to "AP"
- Choose a wireless mode in "Wireless Network Mode". Please note that mixed modes will lead to reduced performance because of maintaining compatibility.

- Enter a name for your wireless network into "Wireless Network Name (SSID)".
- Click "Save".

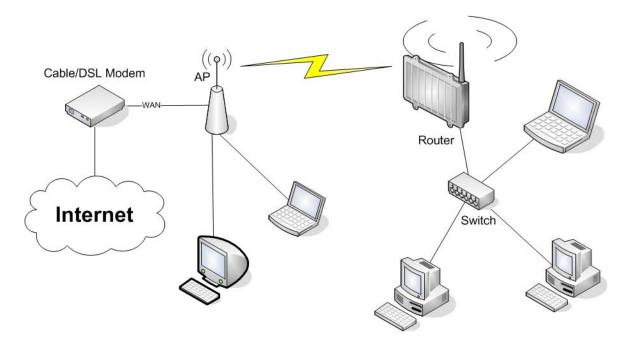
Wireless -> Wireless Security

- Choose and configure your desired security mode. Please note that WEP is insecure and should only be used if no other option is available.
- Click "Apply Settings"

You can now connect the router to the Internet and your local network. If you're running a DHCP server in your LAN, connected wireless devices will get their IP addresses from the server.

3.2. Wireless Client

The router can be also used as a wireless LAN client. This can be useful if you want to connect devices to your wireless LAN that do not have a wireless LAN interface. In this configuration, the wireless LAN interface acts as a wireless client. Attached wired Ethernet devices can also access the WAN through the wireless connection.



Setup -> Basic Setup

- WAN Setup
 - o Set "Connection Type" to "DHCP" to have the AirStation get its IP address from a DHCP server, or to a "Static IP" if no DHCP server is available.
- Network Setup
 - o Enter the desired LAN-side IP address for the router in "Router IP".
 - o Set the "DHCP Type" to "DHCP Server" (this is the default setting).
 - o "Enable" "DHCP Server" (this is the default setting).
 - o Adjust the DHCP address range to match your requirements.

- Time Settings o Choose your time zone.
- Click "Save".

Wireless -> Basic Settings

- Enter your country in "Regulatory Domain"
- In the "Antenna Gain" field, please enter the gain of your AirStation's antenna. The firmware will adjust the transmit power automatically to meet regulatory requirements. Please note that the use of a long extension cable for your antenna will reduce the usable antenna gain.
- Configure "Wireless Mode" to "Client".
- Configure "Wireless Network Mode" to match the capabilities of the access point you want to connect to.
- Enter the network name (SSID) of the AP you want to connect to into "Wireless Network Name (SSID)".
- Click "Save".

Wireless -> Wireless Security

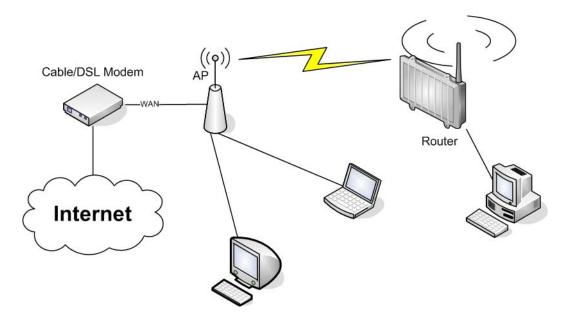
- Configure the security mode to match the security settings of the access point you want to connect to.
- Click "Apply Settings".

After the router reboots, please confirm that it has connected to the access point. If there is a DHCP server available on the access point side, and the router is configured to request an IP address, then it should receive an IP address for its WAN-side interface.

You can now either connect wired clients to the access point or configure another wireless network interface as an access point to grant access to wireless clients.

3.3. Wireless Client Bridge

A wireless client bridge offers the ability to transparently integrate the router's LAN into a different LAN that another access point is connected to. Clients connected to such a router can access devices in both LANs and vice versa. In that configuration the router's WAN interface is disabled.



Setup -> Basic Setup

- WAN Setup
 - o Choose "Disabled" for "Connection Type" (this will be set automatically).
- Network Setup
 - o Enter the desired LAN-side IP address for the router into "Router IP".
 - o "Disable" "DHCP Server".
- Time Settings o Choose your time zone.
- Click "Save".

Wireless -> Basic Settings

- Enter your country in "Regulatory Domain".
- In the "Antenna Gain" field, please enter the gain of your AirStation's antenna. The firmware will adjust the transmit power automatically to meet regulatory requirements. Please note that the use of a long extension cable for your antenna will reduce the usable antenna gain.
- Configure "Wireless Mode" to "Client Bridge".
- Set "Wireless Network Mode" to match the access point you want to connect to.
- Enter the network name (SSID) of the AP you want to connect to.
- Click "Save".

Wireless -> Wireless Security

- Configure security to match the security settings of the access point you want to connect to.
- Click "Apply Settings".

After the router reboots, please confirm that it has connected to the access point. If there is a DHCP server available on the access point

side, a pc in the router's LAN configured to request an address from DHCP should receive an IP address.

3.4. FTP Server

The router can be used as an FTP server when a USB disk (such as a hard disk or flash memory device) is connected to the USB port on the rear of the router.

3.4.1. Examples

```
Services -> USB
```

•Make the settings in the USB Support section, and click [Apply Settings].

USB Support	
Core USB Support	Inable O Disable
USB 1.1 Support (UHCI)	Inable O Disable
USB 1.1 Support (OHCI)	Inable O Disable
USB 2.0 Support	
USB Printer Support	🔘 Enable 💿 Disable
USB Storage Support	Inable O Disable
Automatic Drive Mount	💿 Enable 🔘 Disable
Run-on-mount Script Name	
Disk Mount Point	/mnt 💌
Disk Info	

Examples:

Core USB Support	Enabled
USB 1.1 Support	Enabled
(UHCI)	
USB 1.1 Support	Enabled
(OHCI)	
USB 2.0 Support	Enabled
USB Storage	Enabled
Support	
Automatic Drive	Enabled
Mount	
Run-on-mount	blank
Script Name	
Disk Mount Point	/mnt

•Connect a USB disk to the router.

After a short wait, the disk information is displayed in the Disk Info section.

Disk Info
/dev/sda
Block device, size 496 MiB (520093696 bytes)
Windows NTLDR boot loader
DOS/MBR partition map
Partition 1: 496.0 MiB (520061952 bytes, 1015746 sectors from 62)
Type 0x0B (Win95 FAT32)
FAT32 file system (hints score 4 of 5)
Volume size 492.0 MiB (515866624 bytes, 125944 clusters of 4 KiB)
FAT32 file system (hints score 4 of 5)
Volume size 495.0 MiB (519061504 bytes, 126724 clusters of 4 KiB)
Status: Mounted on /mnt

Services -> NAS

•Make the settings in the ProFTPD section, and click [Apply Settings].

ProFTPD			
ProFTPD	💿 Enable 🔘 Disable		
Server Port	21	(Default: 21)	
Files Directory	/mnt 💌		
Allow Write	💿 Enable 🔘 Disable	(Default: Disable)	
User Password List	buffalo 12345678	1	~
			~
Anonymous Login (Read-only)	🔘 Enable 💿 Disable		

Setting example:

ProFTPD	Enable
Server Port	21
Files Directory	/mnt
Allow Write	Enable
User Password List	buffalo
	12345678
Anonymous Login	Disable
(Read-only)	

*The user name (example: buffalo) and password (example: 12345678) are separated by a space.

3.4.2. Logging into the FTP server

Open a command prompt window.
Enter "ftp 192.168.11.1" to access the FTP server.
Enter the user name, and press the Enter key.
Enter the password, and press the Enter key.
When the login is successful, "ftp>" appears on the screen.
To logout, enter the "bye" command.
Microsoft Windows [Version 6.1.7600]
Copyright (c> 2009 Microsoft Corporation. All rights reserved.
C:\Users\John>ftp 192.168.11.1
Connected to 192.168.11.1
200 ProFTPD 1.3.3 Server (DD-WRT) [192.168.11.1]
User (192.168.11.1:(none>): buffalo
331 Password required for buffalo
Password:
230 User buffalo logged in ftp>

3.4.3. Common FTP commands

Command	Description	Entry example
ftp	Starts FTP	ftp
ls	Displays a list of	ls
	the remote	
	directory's files	
pwd	Displays the	pwd
	current directory	
	on the remote	
	computer	
cd	Changes the current	cd img
	working directory	
	on the remote	
	computer	
mkdir	Creates a remote	mkdir test
	directory	
rmdir	Deletes a remote	rmdir test
	directory	
lcd	Changes the current	lcd E:\test
	working directory	
	on the local	
	computer	
asc	Switches to ASCII	asc
	transfer mode	
bin	Switches to binary	bin
	transfer mode	
put	Uploads a file to	put test.pdf
	the remote computer	
mput	Uploads multiple	mput test1.jpg
	files to the remote	test2.jpg
	computer	test3.jpg
get	Downloads a file to	get index.html
	the local computer	
mget	Downloads multiple	mget test1.jpg
	files to the local	test2.jpg
	computer	test3.jpg

delete	Deletes a file on	delete
	the remote computer	test1.jpg
mdelete	Deletes multiple	mdelete
	files on the remote	test1.jpg
	computer	test2.jpg
		test3.jpg
rename	Renames a file on	rename
	the remote computer	test1.jpg
		new1.jpg
help	Displays the Help	help
	for FTP commands	
bye	Exits FTP	bye

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User Manual for User-friendly Firmware

Nfiniti High Power Wireless Router & Access Point

WZR-HP-AG300H



www.buffalotech.com

35011804 ver.01

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Chapter 1 - Product Overview

Installing Your AirStation

To install your AirStation, insert the software CD from your package into your computer and follow the directions on the screen. For more infomation about installation, turn to chapter 3 of this manual.

Professional or User-friendly?

This AirStation wireless router comes with two different firmware packages. You may use either the dd-wrt-based Professional firmware or the simple User-friendly firmware. By default, the Professional firmware is preinstalled for US/EU products, and the User-friendly firmware is preinstalled for Asia-Pacific products. Turn to page 19 for instructions on switching between the two firmware packages.

Note : Most of this manual documents the user-friendly version of the firmware. For more information on the dd-wrt-based professional firmware, consult the help files in its web-based configuration interface or the *WZR-HP-AG300H User Manual for Professional Firmware*, available for download from Buffalo Technology.

Features

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

With support for current Wireless-N, Wireless-A, Wireless-G, and Wireless-B standards, the AirStation can transfer data to and from all standard 2.4 GHz and 5 GHz wireless clients. Simultaneous communication on 2.4 GHz and 5 GHz bands is supported.

Dual speed mode

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

Supports AOSS and WPS

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

Security Features

The AirStation is equipped with following security features:

- AOSS
- WPS
- WPA-PSK (TKIP/AES)
- WPA2-PSK(TKIP/AES)
- WPA/WPA2 mixed PSK
- WEP (128-bit/64 bit)
- Privacy Separator
- MAC address access restriction
- Deny Any Connection/SSID stealth
- Password for web-based control interface
- Firewall with easy rules

Automatic Channel Selection

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

Roaming

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

Initialization

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

Browser Based Administration

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

Auto Mode (Router/Bridge Automatic Recognition)

In Auto mode, the AirStation will detect whether or not your network has a router and automatically switch to the appropriate router or bridge mode. You can also manually switch between modes. (See page 11.)

MovieEngine

MovieEngine uses QoS to optimise your network for multimedia streaming. This can reduce jumps, distorted audio, and dropped frames while watching streamed video.

NAS (Network Attached Storage)

Attach a USB hard drive to the AirStation and share it on the network as a NAS. All connected clients can access it.

Gigabit Ethernet

This unit supports gigabit Ethernet, allowing transmission rates of up to a billion bits per second.

Air Navigator CD Requirements

The AirStation wireless router and access point works with most wired and wireless devices. However, the automatic installation program on the CD requires a connected Windows 7, Vista or XP computer to run. If you use the AirStation with a different operating system, you will have to configure your network settings manually from a browser window.

300 Mbps High Speed Mode

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

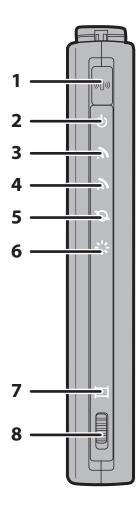
Package Contents

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

AC adapter	1
	1
Stand for vertical/horizontal/wall-mounting1	
Screws for wall-mounting	
• LAN cable 1	
Air Navigator CD	1
• Quick Setup Guide1	

Hardware Overview

Front Panel LEDs



1 AOSS Button

To initiate AOSS, hold down this button until the 2.4 GHz LED and 5 GHz LED flash (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 Power LED (Green)

On:	The AC adapter is connected.
04	

Off: The AC adapter is not connected.

3 2.4 GHz LED (Green or Amber)

Indicates 2.4 GHz wireless LAN and security status. Green on: Wireless link is enabled.

Wireless security is enabled.

- Amber Wireless link is enabled.
- on: Wireless security is disabled.

Green 2 AirStation is waiting for an AOSS or WPS security blinks: key.

AmberAOSS/WPS error; failed to exchange securityblinking:keys.

Off: Wireless LAN is disabled.

Note: The LED glows green if encryption is configured.

4 5 GHz LED (Green or Amber)

Indicates 5 GHz wireless LAN and security status.

Green on:	Wireless link is enabled.	
	Wireless security is enabled.	
Amber on:	Wireless link is enabled.	
	Wireless security is disabled.	
Green 2 blinks:	AirStation is waiting for an AOSS or WPS security key.	
Amber Blinking:	AOSS/WPS error; failed to exchange security keys.	
Off:	Wireless LAN is disabled.	
Note: The LED glows green if encryption is configured.		

5 Router LED (Green)

On:	Router functionality is enabled.
Off:	Router functionality is disabled.

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

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

- *1 Unplug the AC adapter from the wall socket, wait for a few seconds, and then plug it again. If the light still flashes, please contact technical support.
- *2 Never unplug the AC adapter while the Diag LED is blinking continuously.

7 Movie Engine LED (Blue)

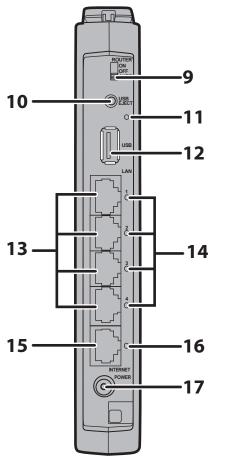
On:Movie Engine functionality is enabled.Off:Movie Engine functionality is disabled.

8 Movie Engine Switch

Switches the movie engine function between enabled and disabled.

- On: Movie Engine functionality is enabled.
- Off: Movie Engine functionality is disabled.

Back Panel



9 Router Switch

Switches router mode between enabled, disabled, and auto.

- On: Router functionality is enabled (router mode).Off: Router functionality is disabled (bridge/AP mode).
- Auto: This switches between modes automatically based on whether or not another router is detected on the Internet port. The default setting for this switch is Auto.

10 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.

11 USB LED (Green)

On: The USB disk is connected.

Off: The USB drive can be removed or no USB drive is connected.

Flashing: Overcurrent detected.

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.

- **12 USB Port**Connect the USB drive.Note: USB hubs are not supported.
- **13 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.

14 LAN LED (Green)

On:	An Ethernet device is connected.
Flashing:	An Ethernet device is communicating.

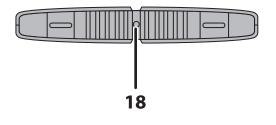
15 Internet Port10 Mbps, 100 Mbps, and 1000 Mbps connections are supported.
Note: In bridge/AP mode (router switch off), the Internet port becomes a
regular LAN port, for a total of 5 usable LAN ports.

16 Internet LED (Green)

DC Connector	Connect the included AC adapter here.
Flashing:	The Internet port is transmitting data.
On:	The Internet port is connected.

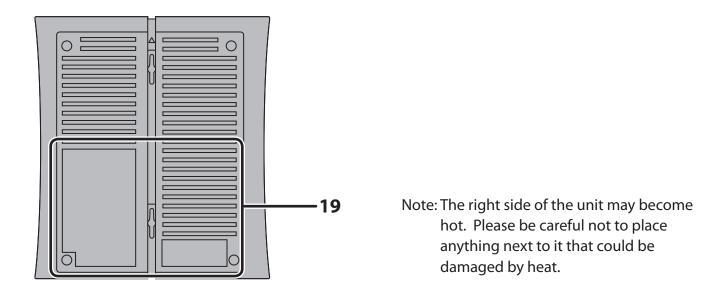
Bottom

17



18 Reset Button To reset all settings, hold down this button until the Diag LED comes on (about 3 seconds). Power must be on.

Right Side



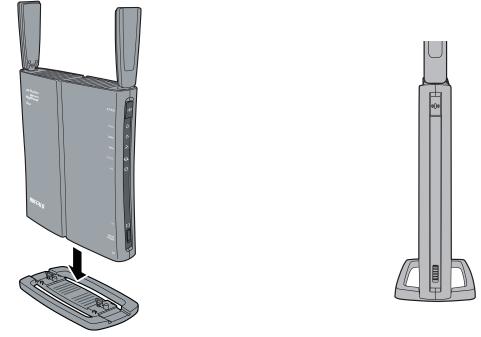
19 Factory Default Settings

This sticker shows the AirStation's SSID, default encryption key, and WPS PIN code. By default, encryption is disabled for AirStations sold in Asia Pacific.

Chapter 2 - Placing Your AirStation

Vertical Placement

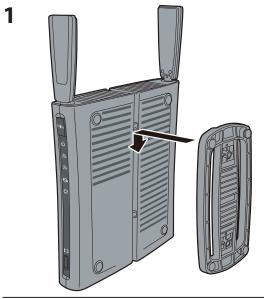
If the AirStation is to be placed vertically, attach the stand as shown.



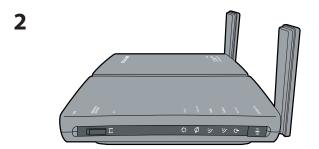
Horizontal Placement

When installing the AirStation horizontally, attach the stand for best heat dissipation.

Attach the stand as shown in the figure.

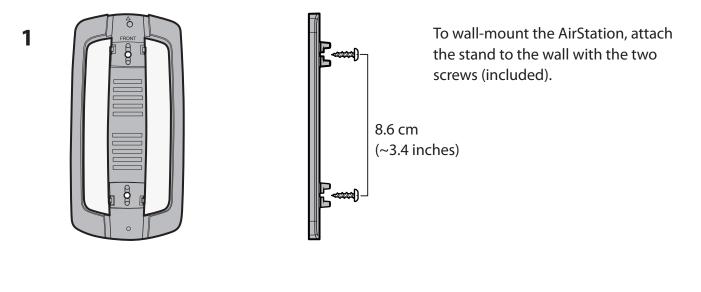


WZR-HP-AG300H User Manual

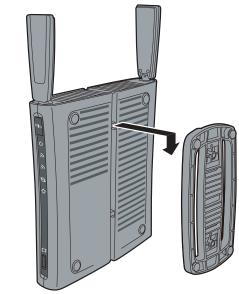


Install horizontally.

Wall-Mounting







Snap the center of the AirStation to the stand as shown.

Chapter 3 - Installation

Automatic Setup

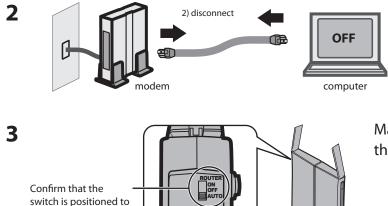
The AirNavigator CD can step you through installing your AirStation. To step through the setup program, insert the CD into your Windows 7/Vista/XP PC and follow the instructions on the screen. If your computer uses a different operating system, use manual setup instead.

- Note: To use a wireless client in Windows 7 or Vista, perform setup using the AirNavigator CD to automatically generate a profile for wirelessly connecting to the AirStation. After setup is complete, once the LAN cable is removed, you can connect from your wireless client to the AirStation.
 - Before performing setup, enable your computer's wireless client.

Manual Setup

To configure your AirStation manually, follow the procedure below.

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

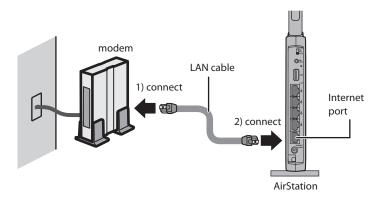


Unplug the LAN cable which connects your computer and modem.

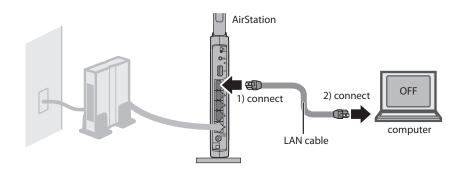
Make sure the mode switch on the back of the AirStation is in the "auto" position.

[AUTO].

4 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.

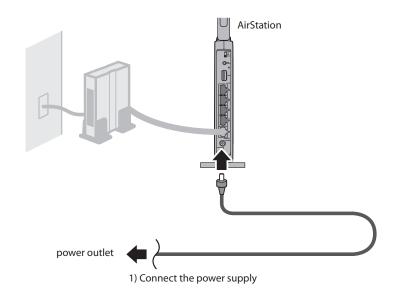


5 Connect your computer to one of the AirStation's LAN ports with the LAN cable.



6

Turn on the AirStation, wait one minute, then turn on your computer.



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

Power	Green light on.
2.4 GHz	Green light on or amber light is on.
5 GHz	Green light on or amber light is on.
Router	Green light on or off depending on your network.
Diag	Off
LAN	Green light on or blinking.
Internet	Green light on or blinking.

For LED locations, refer to chapter 1.

8 Launch a web browser. If the home screen is displayed, setup is complete. If username and password fields are displayed, enter "root" for the user name. Enter "admin" for the password if you're using the professional firmware (default), or leave the password field blank if you've switched to the user-friendly firmware. Click [OK]. Step through the wizard to complete setup.

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

Firmware Differences

You can choose between two different firmwares for your AirStation. By default, the professional firmware (dd-wrt) is installed. If you prefer, you may install the user-friendly firmware instead. The two firmwares have slightly different features, as shown in the chart below.

Function	Professional firmware (dd-wrt)	User-friendly firmware
Router mode switch functionality	_	✓
Default administrator name	root	root (fixed)
Default administrator password	admin	none
AOSS	✓	✓
WPS	✓	✓
WDS	✓	—

Changing Firmware

To change between the professional firmware (dd-wrt) and the user-friendly firmware, follow the steps below.

Windows

1 Insert the AirNavigator CD into your computer. The setup wizard will automatically launch. Note: If the Setup Wizard does not launch, open the CD and double-click [ASSetWiz.exe] in the "Win" folder.





Click [Change Firmware].



The procedure for wiring will be displayed. Step through the wizard to connect your AirStation. 5



When this screen is displayed, click [Change Firmware].

Connect to 192.168.1	.1.1 💦 🛃 🔀
and password.	1.1 at AirStation requires a username
	is requesting that your username and an insecure manner (basic authentication nection).
User name:	🖸 root 👻
<u>P</u> assword:	•••••
	Remember my password
	OK Cancel

If requested, enter the AirStation's username and password.

Note: By default, the professional firmware doesn't have a username and a password configured. Set them before you go to the next step. **6** When the following screen is displayed, make sure that the firmware file name is displayed, click [Upgrade] or [Apply], and follow the instructions on the screen.

Note: If the firmware name is not displayed on the screen, click [Browse...] and select the desired firmware. The firmware files are contained in the "Firmware" folder of the AirNavigator CD.

Professional firmware (dd-wrt) update screen:

Setup	Wireless	Services	Security	Access Restrictions	NAT / QoS	Administration	Status	
Management	Keep Alive	Commands	WOL Fact	ory Defaults Firmware U	pgrade Backup			
Firmware M	Managemen	t				н	elp	more
Firmware U After flashing Please select			Don't reset		Browse	Cl se ut Cl		se, button to re file to be outer. rbutton to begin ess. Upgrade must
			g firmware m	N I N G ay take a few minutes. or press the reset butto	on!		, be interrupte	
			Upg	rade				

User-friendly firmware update screen:

odate Firmware	
Select the AirStation firmwa	re update file.
Update Method	 Specify Local File Auto Update Online
Firmware File Name	Browse
Using US would use Card	to update firmware by online or download firmware update program packet transfer depending on your subscription plan.

Macintosh

- **1** Open the configuration Interface of the AirStation.
- To replace the professional firmware with the user-friendly firmware, click [Administration] > [Firmware Upgrade].
 To replace the user-friendly firmware with the professional firmware, go to [Easy Setup] and click [Update AirStation Firmware].
- **3** Click [Browse...] to select the firmware file, and click [Upgrade] or [Apply].

Note: The firmware files are contained in the "Firmware" folder of the AirNavigator CD.

Professional firmware (dd-wrt) update screen:	
	_

Setup	Wireless	Services	Security	Access Restrictions	NAT / QoS	Administration	Status	
Management	Keep Alive	Commands	WOL Fact	ory Defaults Firmware L	Ipgrade Backup			
Firmware I	Managemen	t				H	elp	more
Firmware U After flashing Please select	a file to upgrad	de Upgrading) firmware m	▼ NING ay take a few minutes. or press the reset butt		Cli se up Cli th	rmware Upgrad ick on the <i>Browse</i> lect the firmware loaded to the rou ick the <i>Upgrade</i> b e upgrade proces to be interrupted.	button to file to be iter. utton to begin
			Upg	rade				

date Firmware		
Select the AirStation firmwar	e update file.	
Update Method	 Specify Local File Auto Update Online 	
Firmware File Name	o update firmware by online or download fir	Browse
Using 3G Modem card t makes a lot of fees for j We recommend other in firmware downloading. Once you start the firmware up	o update firmware by online or download fir backet transfer depending on your subscrip internet connection rather than 3G Modem c date, do not unplug the router or close the browser wind the front of the router has stopped blinking. Get updated	mware update program tion plan. ard connection for ow until the update has
Using 3G Modem card f makes a lot of fees for j We recommend other in firmware downloading. Once you start the firmware up finished and the DIAG LED on	backet transfer depending on your subscrip Internet connection rather than 3G Modem c date, do not unplug the router or close the browser wind	mware update program tion plan. ard connection for ow until the update has

User-friendly firmware update screen:

About this User Manual

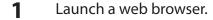
This user manual is primarily for AirStations with the user-friendly firmware. For more information on the professional firmware (dd-wrt), refer to **www.dd-wrt.com/wiki**.

Chapter 4 - Configuration

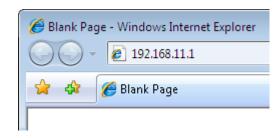
The web-based configuration tool lets you change advanced settings for the AirStation. Don't change these settings unless you know what you're doing.

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.



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 position of the mode switch. In router mode: 192.168.11.1

In bridge mode: 192.168.11.100

Note: If the router switch is set to auto and the unit is in bridge mode, then the AirStation's IP address was assigned by an external DHCP server.

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

3 Connect to 192.168.11.1 ? 🗙 The server 192.168.11.1 at AirStation requires a username and password. Warning: This server is requesting that your username and password be sent in an insecure manner (basic authentication without a secure connection). User name: 🕵 root • Password: Remember my password OK Cancel

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

Note: By default, the password is blank (not set).
If you forget your password, hold down the reset button (page 12) to initialize all settings. The password will then be blank. Note that all other settings will also revert to their default values.

Basic Settings Settings Wrieless SSID & Channel(11n300 Mbps Mode) Wrieless SSID & Channel(11n300 Mbps Mode) Wrieless SSID & Channel(11n300 Mbps Mode) Wrieless Encryption (WEP/TKIP/AES) Internet Wrieless Multicast Rate Other Update ArtStation Firmware	Internet Information (PPPOE Connection) 1: Easy Setup(Default) Connection Condition Check Connection WIRELESS WIRELESS WIRELESS BUFFAL-CO0008_A Authentication WPAWPA2 mixedmode - PSK Encryption XVPAWPA2 mixedmode - PSK DISL Modem	asy Setup] are o your AirStation's ation is displayed s Connection Wiza scans your Interne action your Interne matically when the matically when the
Mode) Wireless Encryption (WEP/TKIP/AES) Internet Mindows Live (MSN) Messenger Wireless Multicati Raite Other Update AriStation Firmware	Connection Contaition Online the right. Basic Setting Check Connection Refresh WIRELESS IEEE 802.11n/a (Auto / 40ch) SID BUFFALO-C00008_A Authentication WPAWPA2 mixedmode -PSK Encryption VDFAWPA2 mixedmode -PSK Internet Coon DBL modem	s Connection Wiza scans your Interne nd connects to the t cable moderns w matically when the
Windows Live (MSN) Messenger Wireless Multicast Rate Other Update AriStation Firmware Nor is a 100 m	WIRELESS (Easy Setup) TieEE 802.11n/a (Auto / 40ch) SSID BUFFALO-C00008_A Authentication WPAWPA2 mixedmode - PSK Encryption TKIPAES mixedmode - PSK DBUFFALO-C00008_A DBUFFALO-C00008_A DBUFFALO-C00008_A DBUFFALO-C00008_A DBUFFALO-C00008_A DBUFFALO-C00008_A DBUFFALO-C00008_A DBUFFALO-C00008_A DBUFFALO-C00008_A DBUFFALO-C00008_A DBUFFALO-C00008_A DBUFFALO-C008_A DBUFFALO-C008_A	cans your Interne nd connects to the t cable modems w matically when the
Update AirStation Firmware	Encryption TKIP/AES mixedmode DSL modem	
	IEEE 802.11n/g/b (Auto / 11ch) Internet. If you SSID BUFFALO-C000D8_G a password information.	s may require PPF o connect to the ur connection requ or other PPPoE have it ready! Your his information if y
	WPS Setup Mbps Mode) This Wizard I (network nan	ID & Channel(11n ets you set an SSI ne) and chose a nnel for your netwo
	Pofrach type of encry	cryption E S) ets you choose the ption (WEP/ <u>TKIP/A</u> ir wireless networ
	Utilities Internet	

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.

Note : This example, like others in this manual, shows the user-friendly firmware. The dd-wrt based professional firmware is somewhat different. For more information on the professional firmware, visit dd-wrt's website at **www.dd-wrt.com**.

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.

lain screen	Descriptions	Page
Internet/LAN		
Internet	Configure Internet side port and settings.	Page 32
PPPoE	PPPoE settings (DSL login).	Page 33
DDNS	DNS settings.	Page 36
VPN Server	VPN server settings.	Page 38
LAN	LAN side port configuration.	Page 40
DHCP Lease	DHCP lease settings.	Page 42
NAT	Network address translation settings, used to connect LAN side devices to the Internet.	Page 43
Route	Configure the AirStation's IP communication route.	Page 44
Wireless Config		
WPS	WPS settings and status.	Page 45
AOSS	AOSS (AirStation One-touch Secure System) settings and status.	Page 46
Basic	Configure basic wireless settings.	Page 48
Advanced	Configure advanced wireless settings.	Page 5
WMM	Set priorities for Wireless Multimedia Extensions (Wi-Fi Multimedia).	Page 52
MAC Filter	Limit access to specific devices.	Page 54
Multicast Control	Configure limits on sending unnecessary multicast packets to the wireless LAN port.	Page 55
Security		
Firewall	Protect your computer from outside intruders.	Page 56
IP Filter	IP filters for packets passing through the LAN side and the Internet side.	Page 58
VPN Passthrough	Configure IPv6 passthrough, PPPoE passthrough, and PPTP passthrough.	Page 59
LAN Config		
Port Forwarding	Configure port translation and exceptions for games and other programs.	Page 60
DMZ	Configure a destination to transfer communication packets without a LAN side destination.	Page 6
UPnP	Configure UPnP (Universal Plug and Play).	Page 62
QoS	Configure priority for packets that require a guaranteed data flow.	Page 63

Movie Engine	Configure options for the Movie Engine feature.	Page 65
NAS		
Disk Management	View the status and configure of attached USB disks.	Page 67
Shared Folder	Set the USB disk to use as shared folders.	Page 69
User Management	Configure users to access shared folders.	Page 71
Shared Service	Configure shared folder access.	Page 72
Web Access	Configure Web Access.	Page 73
Media Server	Configure a Media Server.	Page 75
BitTorrent	Configure a BitTorrent client.	Page 76
Admin Config		
Name	Configure the AirStation's name.	Page 78
Password	Configure the AirStation's login password for access to the configuration interface.	Page 79
Time/Date	Configure the AirStation's internal clock.	Page 80
NTP	Configure the AirStation to synchronize with an NTP server to automatically set the AirStation's internal clock.	Page 81
ECO	Configure the AirStation's ECO Mode.	Page 82
Access	Configure access restrictions to the AirStation's configuration interface.	Page 84
Log	Configure a syslog server to manage the AirStation's logs.	Page 85
Save/Restore	Save or restore the AirStation's configuration from a configuration file.	Page 86
Initialize/Restart	Initialize the AirStation or reboot it.	Page 87
Update	Update the AirStation's firmware.	Page 88
Diagnostic		
System Info	View current system information for the AirStation.	Page 89
Logs	Check the AirStation's logs.	Page 91
Packet Info	View all packets transferred by the AirStation.	Page 92
Client Monitor	View all devices currently connected to the AirStation.	Page 93
Ping	Test the AirStation's connection to other devices on the network.	Page 94
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.

lain screen	Descriptions	Page
LAN Config		
LAN	Configure LAN side ports and devices.	Page 40
Route	Configure the AirStation's IP communication route.	Page 44
Wireless Config		
WPS	WPS settings and status.	Page 45
AOSS	AOSS (AirStation One-touch Secure System) settings and status.	Page 46
Basic	Configure basic wireless settings.	Page 48
Advanced	Configure advanced wireless settings.	Page 51
WMM	Set priorities for Wireless Multimedia Extensions (Wi-Fi Multimedia).	Page 52
MAC Filter	Limit access to specific devices.	Page 54
Multicast Control	Configure limits on sending unnecessary multicast packets to the wireless LAN port.	Page 55
QoS		
Movie Engine	Configure options for the Movie Engine feature.	Page 65
NAS		
Disk Management	View the status and configure of attached USB disks.	Page 67
Shared Folder	Set the USB disk to use as shared folders.	Page 69
User Management	Configure the name to access shared folders.	Page 71
Shared Service	Configure the name to access shared folders.	Page 72
Web Access	Set to use the Web Access function.	Page 73
Media Server	Set to use the Media Server function.	Page 75
BitTorrent	Set to use the BitTorrent function.	Page 76
Admin Config		
Name	Configure the AirStation's name.	Page 78
Password	Configure the AirStation's login password for access to configuration interface.	Page 79
Time/Date	Configure the AirStation's internal clock.	Page 80
NTP	Configure the AirStation to synchronize with an NTP server to automatically set the AirStation's internal clock.	Page 81

ECO	Configure ECO Mode.	Page 82			
Access	Configure access restrictions to the AirStation's configuration interface.	Page 84			
Log	Check the AirStation's logs.	Page 85			
Save/Restore	Save or restore the AirStation's configuration from a configuration file.	Page 86			
Initialize/Restart	Initialize the AirStation or reboot it.	Page 87			
Update	Update the AirStation's firmware.	Page 88			
Diagnostic					
System Info	View current system information for the AirStation.	Page 89			
Logs	Check the AirStation's logs.	Page 91			
Packet Info	View all packets transferred by the AirStation.	Page 92			
Client Monitor	View all devices currently connected to the AirStation.	Page 93			
Ping	Test the AirStation's connection to other devices on the network.	Page 94			
Logout					
Click this to log out of the AirStation's configuration interface.					

Setup

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

Setup Internet/LAN Wireless Cor	nfig Security LAN Config	NAS Admin Config	Diagnostic
Wizards & Overview			Logout
Easy Setup Basic Settings Run the Internet Connection Wizard (Easy Setup) Wireless SSID & Channel(11n300 Mbps Mode) Wireless Encryption (WEP/TKIP/AES)	MODE Information Router Mode ON Internet Information (PPPoE Connection) 1: Easy Setup(Default) Connection Condition Onlin Stop	Wizards & Overview Wizards for [Easy So the left. An overview of your A system information is the right. Basic Settings	w etup] are on
Internet Internet Games (Port Forwarding) Windows Live (MSN) Messenger Wireless Multicast Rate Other Update AirStation Firmware Initialize AirStation	Check Connection Refi WIRELESS IEEE 802.11n/a (Auto / 40ch) SSID BUFFALO-C000D8_A Authentication WPAWPA2 mixedmode IEEE 802.11n/g/b (Auto / 11ch) SSID SSID BUFFALO-C000D8_G Authentication WPAWPA2 mixedmode IEEE 802.11n/g/b (Auto / 11ch) SSID SSID BUFFALO-C000D8_G Authentication WPAWPA2 mixedmode Encryption TKIP/AES mixedmode Incryption TKIP/AES mixedmode Incryption TKIP/AES mixedmode Incryption TKIP/AES mixedmode	DSL modems may i information to conn- Internet. If your conn a password or othei information, have it can provide this info don't have it. Wireless SSID & Cf Mbps Mode) This Wizard lets you	Your Internet nects to the modems will lly when the Wizard is run. require PPPoE ect to the lection requires rPPPoE ready! Your ISP rrmation if you hannel(11n300 set an SSID i chose a
	ECO Mode Status Disable Schedule feature Refresh Utilities Network Service List Language Auto Apply	Wireless Encryptio (WEP/TKIP/AES) This Wizard lets you type of encryption (V to use on your wirel Internet Internet Games (Por This Wizard lets you NAT to play Internet Windows Live (MSI	r choose the VEP/ <u>TKIP/AES</u>) ess network. Prt Forwarding) I set a <u>Static</u> Games.

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

Parameter	Meaning
LAN Config	Click this button to display the configuration screen to open ports for games and applications.
NAS	Click this button to display the configuration screen for NAS settings.
Admin Config	Click this button to display the configuration screen for administration settings.
Diagnostic	Click this button to display the status of the AirStation.
Easy Setup	Enables you to easily configure the AirStation's network settings automatically.
MODE Information	This indicates the operation mode of the AirStation.
Internet Information	Displays WAN-side system information for the AirStation.
Check Connection	Click this button to check if the AirStation is connected to the Internet properly.
Refresh	Click this button to refresh the current screen.
WIRELESS	Displays the current wireless settings.
AOSS Setup	Click this button to display the AOSS configuration screen.
WPS Setup	Click this button to display the WPS configuration screen.
ECO Mode	This indicates the operating status of ECO Mode.
Network 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").

Setup	Internet/LAN	Wireless Config	Security	LAN Config	NA	S A	dmin Config	Diagnosti	с
Internet	PPPOE DDNS	VPN Server LA	DHCP Le	ase NAT Rou	te			Logou	t
						Interr	net Ethernet Sett	ings	-
	e IP address acqu Easy Setup (Inter	isition method, met Connection Wiz	ard)" is set u	р.		Config	guring your <u>Interne</u>	t side port:	-
To set up	PPPoE, <u>click here</u> .					Intern	ally, you'll connec <u>et</u> side port to an ork such as the int	external	
Advance	ed Settings				-	Selec	od of Acquiring I t one of the follow	ing	
Default (ault Gateway Provider for any other information					formation			
Address	dress of DNS Name Server Secondary: Secondary: about your line format. If you're no sure which method to choose, try selecting Easy Setup. You can confirm the status of the current				hóose, try You can e current				
Internet	nternet MAC Address Image: Machine Mach					een. This nged when tch on the			
MTU Size	e of Internet Port	1500	Bytes				tion is set to [ROI		
Apply						Per	form Easy Setup (I inection Wizard)	nternet	
. 489							Easy Setup scans		-

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.			
Address of DNS Name Server	Specify an IP address for the DNS server.			
Internet MAC Address	Configure the Internet side MAC address. Note: Configuring an improper MAC address may make the AirStation unusable. Change this setting at your own risk.			
MTU size of Internet Port	Configure the MTU value of the Internet port. Values of 578 to 1500 bytes may be entered.			

PPPoE (Router Mode only)

Configure PPPoE settings.

Setup Internet/LAN Wireless Internet PPPoE DDNS VPN Set		ty LAN Config	NAS te	Admin Config	Diagnostic
					Logout
			Р	PPoE Settings	<u>^</u>
Default PPPoE Connection	1 : Easy Setup 👻		If	PPPoE is specified in	n the
IP Unnumbered PPPoE Connection	1 : Easy Setup 👻				
Apply Apply Apply 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].				y PPPoE as nunication etup]- PPPoE	
PPPoE Connection List Note: If Acquire IP address					
Number Name Status automatically from DHCP server] or [Manual Setup] is set as the					HCP server]
1 Easy Setup Enable		Internet side commu	nication		
Edit Connection List				PPPoE was detected	l when [Easy
Preferred Connections	Preferred Connections Preferred Connections Setup J 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 evented this e				
No. Preferred Connections are Re				page may be rewritte	n.
	yistored.		D	efault PPPoE Conn	ection
Edit Preferred Connections	J			multiple destinations gistered to the PPPo	
		ALL O INC All rights resear	D	estination List, the de	

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 32).
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.
	Name of Connection Enter the name to identify the connected destination. You may enter up to 32 alphanumerical characters and symbols.
	Username Enter the username specified by your ISP for PPPoE certification. You may enter up to 32 alphanumerical characters and symbols.
	Password Enter the password specified by your ISP for PPPoE certification. You may enter up to 32 alphanumerical characters and symbols.
	Service Name Fill in this field only if your ISP specifies a Service Name. Leave blank otherwise. You may enter up to 32 alphanumerical characters and symbols.
	Connection Type Specifies the timing for the AirStation to connect to your provider.
	Automatic disconnection Set time to disconnect after communication is stopped when the connection method is set to [Connect on Demand] or [Manual]. You can enter up to 1440 minutes.
	Authorization Configure an authorization method with a provider.
	MTU Size Configure the MTU size for PPPoE. Values of 578 to 1500 bytes may be entered.
	MRU Size Configure MRU (Maximum Receive Unit) for PPPoE. Values of 57 to 1492 may be entered.

Parameter	Meaning				
PPPoE Connection No. *-Add	Keep Alive If Keep Alive is enabled, then the AirStation will issue an LCP echo request once a minute in order to maintain the connection with the PPPoE. If the server does not respond for more than 6 minutes, the line is recognized as disconnected and the AirStation will terminate the connection. [Disabled] is the recommended setting.				
Preferred Connections	Displays information you have set regarding to the connection destination route.				
[Edit Preferred Connections]	Click to edit the connection destination route settings.				
Preferred PPPoE Connection -Add	Click [Edit Preferred Connections] to display.				
	Name The destination to connect by PPPoE if [Destination address] and [Source address] match. Select the destination registered to the PPPoE Connection List.				
	Destination address When communicating to this address, the AirStation will communicate with [Name of Connection.]				
	Source address When communicating from this address, the AirStation will communicate with [Name of Connection.]				

DDNS (Router Mode only)

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

Setup Internet/LAN	Wireless (Config Se	curity	LAN Config	NAS	Admin Config	Diagnostic	2
Internet PPPoE DDN	S VPN Serv	er LAN D	HCP Lea	ase NAT Rout	te		Logout	
					D	ynamic DNS Setting	js	•
Dynamic DNS Service Disable Dynamic DNS Setup. Apply Before configuring this settings, you need to sign up for a dynamic DNS service provider.					settings, r a dynamic			
Current Dynamic DNS					S pr Y	ynamic DNS Servic elect a dynamic DNS ovider. ou can select "DynDN	service	
Internet Side IP Address	61.117.83.211					ZO".		
Domain Name	Disabled					DynDNS T70		
Status	Disabled					• TZO		
Refresh				NC All rights record	de se	ne following values are epending on your dyn ervice provider.	e different amic DNS	Ŧ

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

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

VPN server (Router Mode Only)

Configure the VPN server.

	AN Wireles		Security	LAN Config	NAS	;	Admin Config	Diagnostic
Internet PPPoE DDN	S VPN Serv	er LAN	DHCP Lease	NAT Route				Logout
The LAN side IP addre Therefore, a PC conne the PC on the LAN.	ected to BUF	FALO's ro	uter may be		s to		VPN Server Settings By using the PPTP se it is possible to acces AirStation from the Int	erver function is the ernet and the
The LAN side IP addre			mended IP Add			Ľ	LAN from a Windows Note	PPTP client.
LAN Side IP Address		192.168.11.1					If using GRE protoco no.47) and no.1723 1 filtering, then this fun work correctly. Also, be aware that if	CP port ction may not
DHCP Server Function	Enable						the Internet side has protocols blocked, th	these
DHCP IP Address Pool	192.168.11.2		for up to 64	Address(e	s)		function cannot be us	
PPTP Server Function Authorization Type	Auto Input Enable MS-CHAPv2 (40/128-bit Encryption)						th a small ng with IP	
[Advanced Settings]							LAN Side IP Addres	S
Server IP Address	 Auto Manual 						Configure the AirStati <u>Address</u> . The default i 192.168.11.1. If you w connect the AirStatior existing LAN, specify	s vant to n to an
Client IP Address	AutoManual			for up to 5 address(e	s)		unused <u>IP Address</u> fro range of IP addresses	om the LAN's
DNS Server IP Address	 LAN IP ac Manual Do Not S 		AirStation				Subnet Mask Select the AirStation's Subnet Mask. The def 255.255.255.0. If you	fault is want to
WINS Server IP Address	;						connect the AirStatior existing LAN, specify unused <u>IP Address</u> fro	n to an a unique,
MTU/MRU value	1396		_				unused <u>IP Address</u> fro range of IP addresses	om the LAN's
Apply						ver here. The here is on the		
PPTP User List disabled or the IP ranges must be changed to avoid conflicts caused by overlapping DHCP scopes. If DHCP Scopes. If DHCP Server is enabled, confirm DHCP IP Address Pool doesn't overlap existing IP Address es in the LAN segment.						ges must be licts caused scopes. If ed, confirm ol doesn't		
Edit PPTP User List					-		DHCP IP Address Po This determines the IP range from which IP a be distributed to DHC (both wired and wirele	<u>P Address</u> ddresses will P clients

Parameter	Meaning
Auto Input	Click to generate a random IP address.
LAN Side IP Address	Set a LAN side IP address and subnet mask.
DHCP Server Function	Enable or disable the DHCP server, which assigns IP addresses automatically.
DHCP IP Address Pool	Configure the range of IP addresses to be assigned by the DHCP server and IP addresses to be excluded from that range. Values from 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.

Setup Internet/L	AN Wireless Config	Security	LAN Config	NAS	Admin Config	Diagnostic	
Internet PPPoE DDNS VPN Server LAN DHCP Lease NAT Route Logout							
				LAN Si	de Ethernet Setting		
LAN Side IP Address	IP Address 192.168.11. Subnet Mask 255.255.255			Address	re the AirStation's LA	local DHCP	
DHCP Server Function	🗹 Enable	Server settings here. Unless you're a networking expert, the default settings are recommended					
DHCP IP Address Pool	192.168.11.2 Excluded IP Addresses:	for up to 64	Address(es)	Note	have an existing LAN, t	the AirStation's	
LAN SIDE IF Address	IP Address Subnet Mask 255.255.255.	to it. P AirSta	uration must be chang lease refer to <u>here</u> to s tion on an existing net de IP Address	set up your			
DHCP Server Setting	s [Advanced Settings]			Configu Address	re the AirStation's LA . The default is 192.	N <u>IP</u> 168.11.1. If	
Advanced Settings Display You want to connect the AirS existing LAN, specify a unique Address from the LAN's range addresses.						Station to an ue, unused IP	
				Subnet	Mask		
	(C)20	00-2010 BUFFALO	INC. All rights reserve	ed.	· · · · · · · · · · · · · · ·		

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. Note: A PC with a normal LAN side IP address and a PC with an IP Unnumbered IP address cannot communicate each other.
Advanced Settings	Check [Display] to display DHCP server advanced settings options.
Lease Period	Set the effective period of an IP address assigned by the DHCP server. Up to 999 hours may be entered.
Default Gateway	Set the default gateway IP address for the DHCP server to issue to clients.

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

DHCP Lease (Router Mode only)

Configure DHCP Exceptions.

Setup Int	ernet/LAN Wir	eless Config	Secu	irity	LAN Config	NAS	Admin Config	Diagnostic
Internet PPP	OE DDNS VPN	Server LAN	DHCP	Lease	NAT Route	J		Logout
Add Client Inf	iarmatian						DHCP Lease Setting	A
IP Address MAC Address Add							Add manual IP addres assignment, delete au Address assignment of automatic assignment Manual assignment Assign an IP address MAC address manual Up to 200 devices can registered for manual	tomatic IP or set to manual to specified y. be
Current DHC	P Client Informa	tion					Add/Edit Client infor	mation
IP Address	MAC Address	Lease Period	Status	Custor	mize		This area is for adding	or editing a
192.168.11.2(*)	00:11:09:94:F5:B9	47:36:47	Auto	M	anual Assignmer	nt	line.	J
(*) The IP Addre Refresh	ess of the client the	at is configuring	, this Air	Station	is(192.168.11.2)		IP Address Enter an IP address for assignment. The default is blank in mode. The current IP address	append

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.

Setup Internet/LAN Wire	less Config	Security	LAN Config	NAS	Admin Config	Diagnostic
Internet PPPoE DDNS VPN Server LAN DHCP Lease NAT Route						
					etwork Address Tra	A
Address Translation	Enable				5	
Log Output of Deleted Packets	Enable			Co	nfigure address trans	slation to
Apply Apply						
трыу				Ac	Idress Translation	Ţ
	(C)2000-	-2010 BUFFALO	INC. All rights resei	V-	Idress Translation	••• (Enchio)
	(C)2000-	2010 BUFFALO	INC. All rights reser	V-		• • · · · · · · · · · · · · · · · · · ·
Parameter	(C)2000-	2010 BUFFALO		V-		ete (Feeble)
	(C)2000-	Meanir	ng	rved.		• tr (Frekla) ▼

Route

Configure the AirStation's IP communication route.

Setup Internet/L	AN Wireless	Config	Security	LAN	Config	NAS	Admin Config	Diagnost	ic
Internet PPPoE DDNS VPN Server LAN DHCP Lease NAT Route									
						R	outing Information	Lugut	Â
Add a Route						C	onfigure <u>Routing Infor</u>	mation.	=
Destination Address	IP Address								-
Destination Address	Subnet Mask 2	55.255.255.0)	•		Δ	dd/Edit a Route		
Gateway									
Metric	15						his area is for adding ne.	or editing a	
Add						D	estination Address		
Routing Information Specify the destination IP address or network address. If you're entering an IP address as destination, specify [Host 255.255.255] for the subnet mask. In case of entering a									
Destination Address	Subnet Mask	Gateway	Metric C	peration		n	etwork address as de pecify the network ad	stination,	
Routing Configuration is not Registered subnet mask.									
						G	ateway		-

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

Wireless Config

WPS

WPS Status and Settings.

Setup Inte	rnet/LAN W	/ireless Config	Security	LAN Config	NA	S Admin Config	Diagnostic
WPS AOSS		Advanced(b) Advanced(WMM(11n/a) WMM(11n/g/b		AC Filter Multicast	Control Logout
						WPS(WiFi Protected	Setup)
WPS	🔽 enabl	e				WPS	=
External Regi	strar 🔽 enabl	e				Configuring WPS	
Apply						WPS is WiFi Protecte which corresponds to Connect Now-NET (W WPS is also known as	Windows CN-NET).
AirStation PIN	18919134	Generate PIN				Simple Configuration F WPS function can safe	Protocol.
Enrollee PIN		OK				easily distribute wirele information form an ac	ss security
WPS Security	y Information					(AirStation) to the WP The WPS device which wireless security inform	S clients. h registers
WPS status	configured	release				called Registrar. The AirStation has an Registrar built-in it, bu	
11n/a	SSID Security Encryption key	BUFFALO-C000D8 WPA/WPA2 mixedn 384532x3hs5p9	_	IP/AES mixedmode		use an External Regis The WPS device which the wireless security in from the Registrar is c Enrollee	trar. h receives nformation
11n/g/b	SSID Security Encryption key	BUFFALO-C000D8 WPA/WPA2 mixedn 384532x3hs5p9	_	IP/AES mixedmode		The default is Enable.	
						When the wireless ra disabled, WPS does	
		(C)2000-2	010 BUFFALC	INC. All rights reser	ved.		

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

AOSS

AOSS Status and Settings.

	nternet/LAN Basic(11n∕a)	Wireless C	-	ecurity			NAS	Admin Config Diagnost
VPSIAUSS	Basic(11n/a) Basic(11n/g/	Advance b) Advance	d(11n/a) d(11n/g/b		11n∕a) 11n∕g⁄b)	IVIAC F	liter iviu	Logo
(])) NO55 (055							^	AOSS (AirStation One-Touch Secure System)
OSS Setting	gs						-1	technology for quickly forming a secure wireless connection. You can see AOSS's configuration and status from this screen.
Encryption Ty	pe of Exclusive §	SSID for WEP	802.11n/a 802.11n/g/b	Disabled Disabled	•			(()) LOSSI [Start AOSS] button
Encryption lev	el expansion fur	nction	802.11n/a 802.11n/g/b	Enabled	• •			Click this button to start AOSS. The AOSS button on top of the router works the same as this
Dedicated WE	P SSID isolation	1	802.11n/a 802.11n/g/b		•			button. Refer to <u>How to use AOSS</u> for more details.
Allow WEP for	Game Console	Only	802.11n/a 802.11n/g/b	Enable				Disable AOSS] button This button appears when AOSS is enabled. Click this button to
AOSS Button	on the AirStatior	n Unit	Enable					disable AOSS. Connections to wireless clients will be terminated,
urrent Encr	yption Informa	tion 802.11n/;						AOSS Information removed, and Encryption Type reset to its default value, AES. Current Encryption
Encouption	PA-PSK-AES (Now							value, AES. Current Encryption Information will also be removed. Wireless Setting and Wireless Security are enabled in Advanced
	BUFFALO-C000D8_A-1							Settings when AOSS is disabled.
Encryption 3	384532x3hs5p9							How to use AOSS How to use AOSS:
key	30433273113353							(1)First Power on or reboot the AirStation
Encryption _W Fype	WPAWPA2-PSK-mixed (Now in use)							AOSS. (2)Press AOSS buttons
SSID B	UFFALO-C000D8	A						After rebooting, press both product's AOSS buttons, the
Encryption 3	84532x3hs5p9							router's first, then the client's. The AirStation and the wireless client will exchange security information
Ney	_							to set up the most secure encryption type automatically and
Encryption Ty							E	are ready to communicate.
SSID	BUFFALO-C	_	5050					 Note: Once the AOSS button is
		472721D4D9714 D4A087F1FB15			(Sending Key	()		pressed, other operations can't be started until AOSS is
Encryption ke	у	4332277406D0F						finished. If the AirStation can't find a wireless client after three minutes, the AirStation's status
	43075F0CEE	34A50ECCA64A	E2B87					 e Up to 24 wireless clients may
Encryption Ty	pe WEP64							be connected through AOSS.
SID	BUFFALO-C	000D8_G-4						 By default, AOSS is functional but does not initiate a connection unless started
	8DF866C892	!			(Sending Key	0		manually by pushing the AOSS button, either here or on the top
nanution ko	3629D01C00	;						of the router. • Use AirStation's System
Encryption ke	5239041138							Information page to manually configure a wireless client that doesn't support AOSS.
Denders	891A8FC2B0							 When wireless security is configured, it's security
Random	KEY base Res	Set						information is succeeded.
Apply								In the following cases, the setting of wireless security is not succeeded and AOSS returns error
OSS Client	Information							 Any blank is contained in SSID. WPA-PSK is input with 'hexadecimal 64 characters'.
Client nformation	MAC Address	Encryption Ty			Wireles	s Conne Settin		Any blank is contained in WPA- PSK.
VLP-UC- 0 G300	0:1D:73:3B:26:2C	WEP64/WEP128 WPA-PSK-TKIP/ WEP64/WEP128 WPA-PSK-TKIP/	VPA-PSK-AE			a Allow		In the following cases, the setting of wireless security is not succeeded and AOSS generates new encryption settings.
Edit AOS	S Client Informati							 Wireless Authentication is
	et Converter l							"WPA2-PSK",
Client Informa	tion MAC Addre	ess Encryptio	n Type				-	If Wireless Authorization is "WPA/WPA2 mixedmode - PSK" AOSS passes encryption key to WPA-PSK-TKIP and configures
		III					Þ	WPA-PSK-TKIP and configures initial level to WPA-PSK-TKIP.

Parameter	Meaning
(((<mark>]</mark>))) A055	Initiates AOSS automatic wireless configuration. Click this, then press or click the AOSS button on your AOSS-compatible wireless client. Repeat for additional AOSS clients.
	Click this button to disconnect AOSS connections. Note: If AOSS connections are disconnected, the SSID and encryption keys will be restored to their last settings from before AOSS was used.
Encryption Type of Exclusive SSID for WEP	You may allow a separate SSID specifically for WEP connections. If "disabled" is selected, then clients will not be able to connect with WEP.
Encryption level expansion function	Expands security method from TKIP to WPA/WPA2-PSK-mixed mode.
Dedicated WEP SSID isolation	Set a separate SSID and network segment specifically for WEP connections. Devices connected with WEP will not be able to communicate with devices connected using AES/TKIP. All connected devices will be able to communicate with the internet.
Allow WEP for Game Console Only	When enabled, the AirStation allows wireless devices to connect with 64-bit or 128-bit WEP.
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.
AOSS Client Information*	Displays AOSS clients connected to the AirStation and information of the devices which are wirelessly communicated.
AOSS Ethernet Converter Information* * Only displayed if there are AOSS Connections	Displays information about Ethernet converters connected to the AirStation via AOSS.

Basic

The screen to configure a basic wireless settings.

Setup	Inte	rnet/LAN	Wireless Config	Security	LAN Config	NAS	Admin Config	Diagnostic	
WPS AOSS		ic(11n∕a) ic(11n∕g∕	Advanced(11n/a) Advanced(11n/a)		1n/a) MAC 1n/g/b)	Filter Multic	ast Control	Logout	
		_					Basic Wireless Set (11n/a/g/b)	ting	
Wireless Ra	dio	🔽 Enable							
Wireless Ch	annel	Auto Chan	nel 👻 (Current Channel:	: 11)			You can set basic co information for your v		
300 Mbps Mode Bandwidth : 20 MHz Extension Channel : 1					cryption is not n will be his basic				
Broadcast SSID V Allow							setup. Encryption is highly recommended, however.		
Allow multiple SSIDs							There are 2 standards (IEEE802.11n/a and IEEE802.11n/g/b) for wireless LANs, and you can perform setup for each standard seperately.		
Separate feature									
			Our Station's MAC	address(BUFFA	LO-C000D8_G)		Wireless Radio		
SSID			© Enter :	-			Un-checking "Enable wireless LAN functio		
Wireless au	thentic	ation	WPA/WPA2 mixedmo	de - PSK 🔻			disabled, all wireless including broadcastir	s functionality, ng, is halted.	
Wireless encryption TKIP/AES mixedmode -						Default value is enab	led.		
WPA-PSK (Pre-Shared Key):							Wireless Channel	hannal	
Rekey interval : 60 minutes					You may specify a c (frequency band) for communication. If the	your wireless			
Apply							wireless clients near AirStation, you may interference. Change (and preferably non-c	the get to a different	

Parameter	Meaning
Wireless Radio	Determines whether to allow wireless communication. If this is unchecked, then no wireless connections will be allowed.
Wireless Channel	Sets a channel (a range of frequencies) for wireless connections. With Auto Channel selected, the AirStation will automatically use the best available channel.
300 Mbps Mode	 300 Mbps mode uses twice the normal frequency range, 40 MHz instead of 20 MHz. In uncongested areas this can increase performance. To use 300 Mbps mode, set the Bandwidth to 40 MHz and choose an Extension Channel. Note: If Auto Channel is selected, then the Extension Channel is set automatically.

Parameter	Meaning
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.
Allow multiple SSIDs Use Single SSID	Clicking [Allow multiple SSIDs] will enable Multi Security, allowing the use of multiple SSIDs, each with different wireless security settings. Clicking [Use Single SSID] will disable Multi Security. The AirStation will then allow one SSID and one type of wireless security. Note: When using Multi Security, enable at least one of the following: SSID1, SSID2, or SSID3.
SSID1	Multi Security SSID1 can use WPA-PSK-TKIP or WPA/WPA2-Mixed for wireless security.
SSID2	Multi Security SSID2 can use WPA-PSK-AES for wireless security.
SSID3	Multi Security SSID3 can use WEP for wireless security.
Separate	When enabled, wireless devices connected to the AirStation can communicate only with the Internet side, not with each other.
SSID	Set SSID using 1 - 32 alphanumeric characters.
Wireless authentication	Specifies an authentication method used when connecting to a wireless device.

Parameter	Meaning
Wireless encryption	You may use any of the following types of encryption:
	No encryption Data is transmitted without encryption. With this setting, anyone within range can connect to your wireless network and might be able to access data on the network. Not recommended for anyone with private data that needs to be kept secure. [No encryption] can be selected only when [No authentication] is selected for wireless authentication.
	WEP
	WEP is a common encryption method supported by most devices. WEP can only be selected when wireless authentication is set to [No authentication]. Note that WEP's encryption is weak, and networks protected with WEP are not much more secure than those with no encryption at all. Not recommended for anyone with private data that needs to be kept secure.
	ТКІР
	TKIP is an encryption method which is more secure than WEP, but slower. Use an pre-shared-key to communicate with a wireless device.
	TKIP can be selected only when WPA-PSK or WPA2-PSK is selected for Wireless authentication.
	AES
	AES is more secure than TKIP, and faster. Use a pre-shared-key to communicate with a wireless device. AES can be selected only when WPA-PSK or WPA2-PSK is selected
	for wireless authentication.
	TKIP/AES mixed mode TKIP/AES mixed mode allows both TKIP and AES authentication and communication. This is no more secure than TKIP alone, but more convenient for some users. TKIP/AES mixed mode can be selected only when WPA/WPA2 mixed mode - PSK is selected for wireless authentication.
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.

Parameter	Meaning
Rekey interval	Set the update interval for the encryption key between 0 and 1440 (minutes).
Set up WEP encryption key	A WEP encryption key (passphrase) may have any of four different formats. An ASCII passphrase may use either 5 or 13 alphanumeric characters (case-sensitive). A hexadecimal passphrase may use either 10 or 26 alphanumeric characters (0 to 9 and a to f, not case-sensitive).

Advanced

Configure advanced wireless settings.

Setup	Internet	/LAN V	Vireless Config	Security	LAN Config	NAS	Adm	nin Config	Diagnost	ic
WPS AC	SS Basi Basi		a) Advanced(g/b) Advanced(WMM(11n/a) WMM(11n/g/h		C Filter	Multicast	Control Logou	ıt
							Advance (11n/a/11	d Wireless S n/g/b)	Settings	- III
Multicast	Rate	Auto	+ e devices compatible	mode				dvanced Wire	eless	
DTIM Pe	riod	1					Settings.	Dete		
Privacy S	Separator	🔳 Enab	le				Multicas 11a :	Rate		
Apply							36, 48, 54 11n/g/b :	select 6, 9, 12 4Mbps or Auto select 1, 2, 5.	D.	Ŧ
			(C)2000-2	010 BUFFALO	INC. All rights reser	ved.				

Parameter	Meaning
Multicast Rate	Set the communication speed of multi-cast packets.
DTIM Period	Set the beacon responding interval (1 -255) for which the AirStation responds to a wireless device. This setting is effective only when power management is enabled for the wireless device.
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.

WMM

Set priorities for specific communications.

PS AOSS		Advanced Advanced		WMM(11n/a) WMM(11n/g/b)		C Filter Multicast Contr	Logo
					١	WMM Settings (11n/a/11n/g	/b)
/MM-EDCA P					F	Prioritized AirStation communication for specific	
Priority	Parameter	5 4D	5 0T4		t	ransactions. This settings	
	CWmin [.]	For AP	For STA		ċ	provides some real time communication, which can he	elp
	CWmax:	1023	1023		i	mprove the quality of VOIP o other streaming protocols.	r
C_BK(Low)	AIFSN:	7	7				
	TXOP Limit:	0	0				
	Admission Control:	U	Disable -		'	WMM-EDCA Parameters	
	Admission Control.				1	t is usually not necessary to	
AC_BE(Normal)	CWmin:	For AP	For STA			change this value.	
	CWmax:	63	1023		F	Priority	
	AIFSN:	3	3]	The priority is ranked (Highes	t)8:
	TXOP Limit:	0	0		e	High)4 : (Normal)2 : (Low)1 fo each packet.	Jr
	Admission Control:	U	0 Disable →			Parameter	
	Admission Control.					CWmin, CWmax	
	CWmin:	For AP	For STA			The maximum and minimum for the contention window. Th	
	CWmax:	' 15	15			contention window is used to	
C_VI(High)	AIFSN:	1	2			control the frame collision avoidance system in IEEE80	
	TXOP Limit:	<u> </u>	2 94			Values that can be inputted: 32767.	1-
	Admission Control:	94	94 Disable 🔻			AIFSN	
	Aumission Control.					Interval of the sending frame.	The
	CWmin:	For AP	For STA			unit defines a time-slot (simi the window value of CWmin,	
	CWmax:	7	7			CWmax). Lower values defin higher priority as the back-off	f
C_VO(Highest)	AIFSN:	1	2			algorithm starts earlier. Value can be inputted: 1-15.	es tha
		<u> </u>				TXOP Limit	
						The time for the queue to obt	
	TXOP Limit: Admission Control:	47	47 Disable 🔻				ľ

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

MAC Filter

Restrict access to specific wireless devices.

WPS AOSS Basic(11n/a) Advanced(11n/a) WMM(11n/a) MAC Filter Multicast Control Basic(11n/g/b) Advanced(11n/g/b) WMM(11n/g/b) Logo Enforce MAC Filtering(11n/a) Enable Wireless MAC Filtering Enforce MAC Filtering(11n/g/b) Enable Wireless connections to the AirStation can be limited to specific client MAC addresses to enhance security against unwanted network visitors. When enabled, only wireless client adapters with registered MAC addresses will be allowed to connect to the AirStation. The wireless MAC filter is ignored while	с
Enforce MAC Filtering(11n/a) Enable Enforce MAC Filtering(11n/g/b) Enable Apply Wireless connections to the AirStation can be limited to specific client MAC addresses to enhance security against unwanted network visitors. When enabled, only wireless client adapters with registered MAC addresses will be allowed to connect to the AirStation. The	t
Enforce MAC Filtering(11n/g/b) Enable Apply Enable Wireless connections to the AirStation can be limited to specific client MAC addresses to enhance security against unwanted network visitors. When enabled, only wireless client adapters with registered MAC addresses will be allowed to connect to the AirStation. The wine the MAC addresses will be allowed to connect to the AirStation.	Â
Enforce MAC Filtering(11n/g/b) Enable Apply AirStation can be limited to specific client MAC addresses to enhance security against unwanted network visitors. When enabled, only wireless client adapters with registered MAC addresses will be allowed to connect to the AirStation. The window MAC addresses will be allowed to connect to the AirStation.	
Apply Apply enhance security against unwanted network visitors. When enabled, only wireless client adapters with registered MAC addresses will be allowed to connect to the AirStation. The wireless Machine and Charge and Cha	Ξ
windows MAC Electric improved while	
Registration List AOSS is in use.	
MAC Address Connection Status Enforce MAC Filtering	
No Registered MAC Addresses Both 802.11n/a and 802.11n/g/b	
Edit Registration List Edit Registration List Check Enable to use MAC filtering. Then, only wireless clients with registered MAC Addresses	Ŧ

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

Multicast Control

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

Setup	Internet/L	AN Wire	less Config	Security	LAN Config	NAS	Admin Config	Diagnostic
WPS	AOSS Basic		Advanced		WMM(11n/a)		Filter Multicast	
	Basic(11n/g/b) Advanced	(11n/g/b)	WMM(11n/g/h)		Logout
						ľ	Iulticast Control	
Snoop	bing	🛛 Enable)			F	his setting controls m acket transfer to wirel	nulticast less LAN
Multica	ast Aging Time	300	Sec.			F	ort.	
						9	nooping	
Apply	J					0	nooping observes mu ontrol packets like IG ontrol unnecessary p	MP to
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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.

Security (Router Mode only)

Firewall (Router Mode only)

Configure the AirStation's firewall.

	Setup	Internet/LAN Wireless Confi	g Security	LAN Config	NAS	Admin Config	Diagnosti	с
	Firewall IP Filter VPN Pass Through							
ļ	Firewall							-
	Log Output Enable Limits the type of packets allowed to pass between the Internet and LAN. When packets reach the							
	Enable	Basic Rules	Number of Pack	kets		rStation, the firewall (
		Prohibit NBT and Microsoft-DS Routing PPPoE1: Easy Setup Prohibit 0 the packets, and forwards packets that don't match any filter to their destination. The Firewall blocks						
		Reject IDENT Requests		0	In	necessary packets f ernet side and preven cure information from	nts leaking	
		Block Ping from Internet 0 side.						
(Apply Log Output Checking this box will record Firewall information to a log. The default setting is disabled.							

Parameter	Meaning
Log Output	Enable to output a log of firewall activity.
Basic Rules	Enable to use any of the quick filters. Preconfigured quick filters include:
	Prohibit NBT and Microsoft-DS Routing Enabling this blocks communication using these protocols from the WAN side to the LAN side or from the LAN side to the Internet. You can configure this with PPPoE if you select [Use PPPoE Client] or [Use IP Unnumbered] in Method of Acquiring IP address (page 32), or if Easy Setup identified a PPPoE connection during setup.

Parameter	Meaning
	Reject IDENT Requests Enabling this option will answer IDENT requests from the Internet side with corresponding rejection packets. Enable this option if you experienced slow transfer speeds for network applications such as mail, ftp or web browsing. If you have configured transfer of IDENT requests to the LAN side computer in the address translation settings (DMZ or TCP port 113), then that setting has higher priority, and overrides this setting.
	Block Ping from Internet If this is enabled, the AirStation will not respond to pings from the Internet side. You can configure this with PPPoE if you select [Use PPPoE Client] or [Use IP Unnumbered] in Method of Acquiring IP address (page 32), or if Easy Setup identified a PPPoE connection during setup.

IP Filter (Router Mode only)

Edit IP filters.

Setup	Internet/L	AN Wireless	Config Sec	urity	LAN Config	NAS	Admin Config	Diagnostic
Firewall	PFilter VPN	Pass Through						1
								Logout
							IP Filter Settings	
Log Output	Enable						Limits the type of part to pass between the LAN. The maximum numb 32. If the packet meets of monitoring conditions before it is routed, th	Internet and er of rules is one of the s (see below) e specified
Add IP Add	ress Based	Filter					action will be taken. conditions (see below appropriate action wi	v) are met the
Operation	Ignored 👻						performed once the p the condition.	acket meets
Direction	Internet→LA	N 👻					Log Output	
IP Address	Source Addres	ss:	$\rightarrow D$	estination	:		Checking this box wi	II record IP
) All						filtering information to Operation is enabled disabled.	, log output is
	CMP						The default is Disable	ed.
Protocol	🔘 Manual	Protocol Num	iber:					
	TCP/UDP	TCP Port M Port Number:		<u>Specifica</u>	tion method		Add/Edit IP Address Filter	s Based
Add Rule							This area is for addin line.	g or editing a
							Operation	
IP Filter Inf	ormation						Select the action to I on packets that, meet filter criteria	be performed
Operation	pperation Direction Direction Direction Address Destination Address Protocol Count Customize it.							
	The IP	Filter has not been o	configured yet				Rejected Return the rejected p	acket to the
							point of origin. Accepted	-

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.

Setup Internet/LA	N Wireles	ss Config	Security	LAN Config	NAS	Admin Config	Diagnostic
Firewall IP Filter V	PN Pass Th	rough					Logout
					V	PN Pass Through	Logout
IPv6 Pass Through	Enable					pecify VPN Pass Thread trings.	ough
PPPoE Path Through	Enable				IP	v6 Pass Through	
PPTP Pass Through	C Enable					elect whether to use l rough for address tra	
Apply					Th	e default setting is d	isabled.
						Note:	-
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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 (QoS)

Port Forwarding (Router Mode only)

Configure port translation.

Setup	Internet/LAN	Wireless	Config	Security	LAN Confi	g NAS	Admin Config	Diagnostic
Port Forw	Port Forwarding DMZ UPnP QoS Movie Engine Logout							
Add Port	Forwarding						Port Forwarding Ser Although the AirStatio	
Group		New Group	Group	Name:			Address Translation o communication which	nlý for is started
Internet Si	ide IP Address	AirStation's Manual IP Add		Address	•		from the LAN side , co applications, such as games, require that ye communications from	network ou allow the <u>Internet</u>
Protocol		 All ICMP Manual TCP/UDP 	Protocol N TCP Port Port Numb	Manual Setur	0 → <u>Specificatio</u>	on Method	side via (<u>Static NAT</u>). for communicating fro internal network to the network device(<u>Static</u> carefully, consulting y game's documentatio necessary. Up to 32 r registered.	m outside the e LAN side <u>NAT)</u> rour internet n as
LAN Side	IP Address	192.168.11.2					Add/Edit Port Forwa	rding
LAN Side	Port ·	TCP/UDP Port	t				You can add new port	forwarding
Add	information and edit existing							
Port Forw	Port Forwarding Registration Information to configured <u>Static NATs</u> and give multiple <u>Static NATs</u> one name						<u>AT</u> s and give one name	
(2roup	ternet Side IP Ad AN Side IP Addre Port Forwarding	ess LAN	ocol Side Port set up yet	Customize			and manage them tog By giving names to gr can [Enable] or [Disat separately. To add a <u>Static NAT</u> r existing group, select from the drop-down bo	oups, you ble] each ule to the group
			(C)2000-2	2010 BUFFALO	INC. All rights re	served.	oboooo Add	

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.
	60

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

DMZ (Router Mode only)

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

Setup	Internet/LAN	Wireless Config	Security	LAN Config	NAS	Admin Config	Diagnostic	
Port Forwarding DMZ UPnP QoS Movie Engine Logout								
					DI	MZ Settings	_	
IP Address of DMZ								
(*) The IP Address of the client that is configuring this AirStation is[192.168.11.2] Apply Specify the address of a LAN side network device to which rejected communication packets are to be transferred. When an IP address is entered for the DMZ, it becomes the device to device to device to device to device to the device to be transferred.						h rejected s are to be P address is becomes		
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Parameter	Meaning
IP Address of DMZ	Enter the IP address of the destination to which packets which are not routed by a port translation table are forwarded. Note: RIP protocol packets (UDP port number 520) will not be forwarded.

UPnP (Router Mode only)

Configure UPnP (Universal Plug and Play).

Setup	Internet/LAN	Wireless Config	Security	LAN Config	NAS	Admin Config	Diagnostic
Port For	warding DMZ	UPnP QoS Movi	e Engine				Logout
					UF	PnP Settings	
UPnP Apply	Enable				Se fun su Th rec	tting up the internet inction of UPnP: On a pports UPnP (Windo e AirStation is auton cognized on the LAN	gateway a PC which owsXP, etc.), natically I as an
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Param	eter		Meanin	g			
LIDeD	JPnP Enable or disable Universal Plug and Play (UPnP) functiona						

QoS (Router Mode only)

Configure the priority of packets sent to the Internet.

Se	tup	Internet/LAN Wireless Confi	ig Sec	urity LAN C	Config	N/	AS	Admin Config	Diagnosti	с
Port	Forward	ling DMZ UPnP Qos Movie I	Engine						Logou	ıt
_							QoS	Setting	Logot	Â
QoS	for trans	mission to the Internet V Enable					on the	s a technology to use network more effective	vely.	
Uplo	ad band	width 1000 Kbps					same is pro	two or more packets time, the packet with cessed first. This can riority to communicati	higher priority be used to	ш
No.	Enable	application name	protocol	destination port	priority		requir	riority to communicati e real time processing	, such as	
1		VoIP	UDP -		high	•		for transmission to th		
2		ssh	TCP 🔻	22	medium	•		cked, this gives priority transmitted to the Inte		
3		telnet	TCP 🔻	23	medium	•	enabl	transmitted to the inte ed, you will be able to reased priority for spec	add four levels	
4		ftp	TCP 🔻	21	low	•	applic	ations. fault, this is disabled.	and	
5			TCP 🔻		low	•	Uplin	k Bandwidth		
6			TCP 👻		low	•	Speci this u	fy the bandwidth trans nit to the Internet in kt	ferred from	
7			TCP -		low	•	The re entere	al uplink bandwidth sl	hould be	
8			TCP 🔻		low	•	line s	ndwidth value larger the upped is entered, the up	olink	
Appl	Apply Apply bandwidth will be limited by the line speed. If a smaller bandwidth value is entered, the maximum line speed cannot be used. Use a link speed measuring tool on the									
		(C)	2000-2010 8	BUFFALO INC. All ria	hts reserve	d	Ose a	now speed measuring	noor on me	

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 alphanumerical characters, double or single tick marks ("'), quotation marks ("), and semicolons (;).
protocol	Select either TCP or UDP.
destination Port	Specify a destination port from 1 - 65535. If this field is empty, a random port is selected.

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.

Movie Engine (QoS)

Configure Movie Engine options.

Setup	Internet/L	AN W	Vireless C	onfig	Securit	y LA	N Config	NA	S	Admin Config	Diagnosti	с
Port For	warding D	MZ U	PnP QoS	Movi	e Engine						Lange	
											Logou	L
									Мо	vie Engine		
main uni	This page configures video or audio								ш			
Packet (Packet Control Setting data processing in specific when Movie Engine switch is ON position.											
IPv6 Pas	s Through	🔽 Use	е						Мо	vie Engine Status		
Multicast	t Rate	11 Mb	11 Mbps Display the status (ON/O Movie Engine switch on ti						I/OFF) of the n the main	4		
		Snoopi	ing Function	🔽 Us	e				uni ena	t. The Movie engine abled when the swite	feature is ch is ON.	
Multicast	t Control	Aging T	Time	300	Se	econds						
		Change	e Priority	VI (p	riority)	•			Pa	cket Control Settir	ng	
		Size Lir	mit	🗖 Lir	mit							
TCP RW	in Size Limit	Maximu	um Rwin Size	6553	6 by	tes			IP۱	6 Pass Through		
Apply	The router transfers IPv6 packets between the Internet and LAN. The factory default setting is [Enabled]. * This function is only enabled											
	-								wh	en the AirStation is de.	in Router	
No. MA	No. MAC Address IP address Protocol Port Number Priority Wireless priority control rules not registered. Multicast Rate Multicast Rate											
Ed	liting of Priorit				nereu.				Co the The	nfigure Multicast Co Movie Engine switc factory default sett ps]. However, it will	h is ON. ing is [11	+

Parameter	Meaning
Movie Engine switch status	Displays the status of the Movie Engine switch.
IPv6 Passthrough	Set to enable the IPv6 pass-through.
Multicast Rate	Select the Multicast Control rate.
Multicast Control	Turn on Multicast Control.
TCP Rwin Size Limit	Limits the maximum size of TCP Rwin packets passing through the AirStation's wireless LAN.
Wireless Priority Control Rules	Display the list of rules controlling the priority of packets passing through the AirStation's wireless LAN.

NAS

Disk management

View the status of and configure attached USB hard disks.

Setup Interne	et/LAN Wireless (Config Security LAN Confi	g NAS	S Admin Config D	liagnostic		
Disk Management Shared Folder User Management Shared Service Web Access Media Server BitTorrent Logout							
			Disk Management				
USB Disk Inform	ation		Displays the status of attached USB disks and allows you to				
Device	Disk Assignment	Partition Information		manage these disks. Info for up to four connected U	JSB disks		
BUFFALO ClipDrive Remove	Partition1 Format FAT Status Mounted Used/Available(%) 323,300 / 506,864 (64%) Operate Format			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			
Refresh	e-recognize USB device	25		and remove USB disk. Disk file checking is executed with a PC.			
[Advanced Settin	ngs]		Caution If several drives or one d multiple partition is conn drive might not be detect properly. Please connect	ected, the ed			
Automatic USB Dis	sk Assignment	Vse Use		with single partition.			
FAT format file na	me character code	North America (CP437) 🔻		Device			
HDD power-saving		Use HDD stop time 10 Minutes	Display detecting USB di identification.	sk			
Apply				Caution The device information is from USB disk. It might b from product name.			
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Parameter	Meaning
Device	Displays information for attached USB disks. Disks are removed when [Remove] in the Device column is clicked.
Disk Assignment	A disk number will be automatically assigned to the disk or you can choose a number. Select a disk number, or select [Do not assign], then click [Apply].
Partition Information	Displays the partition information for the selected USB disk. Click [Format] to format the disk. Note: formatting a disk will erase all information on it.
Re-recognize USB devices	Click this to re-scan for connected USB disks.
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Parameter	Meaning
Automatic USB Disk Assignment	Check [Use] 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 [Use]. [Use] is selected by default.
FAT format file name character code	Select the character code for filenames in FAT formatted partitions.
HDD power-saving function	Click [Use] to enable power saving mode.
HDD stop time	Powers down the drive after this duration of time.

Shared Folder

Configure a USB hard disk for use with shared folders.

Disk Management Shared Folder User Management Shared Service Logout Shared Folder Settings Shared Folder Settings Settings for using the whole USB disk as shared folder. The shared folder name is set to diskX_ptY(X: disk number Y: partition number). The shared folder that can be used for Media Server is only disk1_pt1. Access Limits Guest Access Limits Sets the access permissions by user name. The default is "No user can be set to "Read/Write", "Read only" and "No access." Web Access Web Access Web Access. Web Access." Web Access	Setup Int	ternet/LAN Wir	eless C	Config	Security	LA	AN Config	NAS	Admin Config	Diagnostic	2
Shared Folder Settings Imits Settings for using the whole USB disk as shared folder. The shared folder name is set to diskX_ptY(X: disk number Y: partition number). The shared folder that can be used for Media Server is only disk1_pt1. Access Limits John Mike Imits I											
Limits Read/Write Read/Write Read-only No access John Mike Mike Mike Image: Set to access Limits Settings for using the whole USB disk as shared folder. The shared folder name is set to diskX_ptY(X: disk number Y: partition number). The shared folder that can be used for Media Server is only disk1_pt1. Meb Access Meb Access Limits Apply Web Access Notation Web Access Notation Web Access Notation Web Access Web Access Notation No access Web Access Notation No access Web Access Web Access No access No access Web Access		Shared Folder Settings						-			
Access Limits Read/Write Read/Write Read/Write Read/Write Read-only No access folder name is set to diskX_ptY(X: disk number Y: partition number). The shared folder that can be used for Media Server is only disk1_pt1. Access Limits Web Access Web Access Limits Apply Web Access Web Access Web Access Web Access Web Access Web Access Vest Access Limits Web Access Web Access Vest Access Limits	Shared Folde	r Settings							Settings for using the	whole USB	
Access Limits John Image: Constraint of the server is only disk1_pt1. Mike Image: Constraint of the server is only disk1_pt1. Access Limits Web Access Image: Constraint of the server is only disk1_pt1. Access Limits Web Access Image: Constraint of the server is only disk1_pt1. Access Limits Apply Image: Constraint of the server is only disk1_pt1. Method is a constraint of the server is only disk1_pt1. Access Limits Image: Constraint of the server is only disk1_pt1. Image: Constraint of the server is only disk1_pt1. Method Access Image: Constraint of the server is only disk1_pt1. Image: Constraint of the server is only disk1_pt1. Method Access Image: Constraint of the server is only disk1_pt1. Image: Constraint of the server is only disk1_pt1. Method Access Image: Constraint of the server is only disk1_pt1. Image: Constraint of the server is only disk1_pt1. Apply Image: Constraint of the server is only disk1_pt1. Image: Constraint of the server is only disk1_pt1. Method Access Image: Constraint of the server is only disk1_pt1. Image: Constraint of the server is only disk1_pt1. Method Access Image: Constraint of the server is only disk1_pt1. Image: Constraint of the server is only disk1_pt1. Method Access Image: Co		Limits	•						folder name is set to	diskX ptY(X:	
Access Limits John Image: Constraint of the server is only disk1_pt1. Mike Image: Constraint of the server is only disk1_pt1. Access Limits Web Access Image: Constraint of the server is only disk1_pt1. Access Limits Web Access Image: Constraint of the server is only disk1_pt1. Access Limits Apply Image: Constraint of the server is only disk1_pt1. Method is a constraint of the server is only disk1_pt1. Access Limits Image: Constraint of the server is only disk1_pt1. Image: Constraint of the server is only disk1_pt1. Method Access Image: Constraint of the server is only disk1_pt1. Image: Constraint of the server is only disk1_pt1. Method Access Image: Constraint of the server is only disk1_pt1. Image: Constraint of the server is only disk1_pt1. Method Access Image: Constraint of the server is only disk1_pt1. Image: Constraint of the server is only disk1_pt1. Apply Image: Constraint of the server is only disk1_pt1. Image: Constraint of the server is only disk1_pt1. Method Access Image: Constraint of the server is only disk1_pt1. Image: Constraint of the server is only disk1_pt1. Method Access Image: Constraint of the server is only disk1_pt1. Image: Constraint of the server is only disk1_pt1. Method Access Image: Co		Read/Write		Read-only	у		No access		disk number Y: partition number). The shared folder that can be used		
Web Access Limits ✓	Access Limits		←	Robin		←	guest		for Media Server is on		
Apply Web Access Web Access Web Access			\rightarrow			→			Sets the access pern user name. The defau Limits(Read/Write)". U	Jsers can be	
	Web Access										
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Parameter	Meaning
Shared Folder Name*	Enter a name for the shared folder. Up to 18 alphanumeric characters, spaces, hyphens (-), and underscores (_) may be used.
Shared Folder Description*	Enter a description of the shared folder (optional). Up to 75 alphanumeric characters, spaces, hyphens (-), and underscores (_) may be used.
Disk Partition Area*	Displays the partition area, format type, and the capacity of the USB disk.
Disclosed to*	Check the functionality that you want to support. Win/Mac OS (Samba NAS), Web Access, Media Server, and/or BitTorrent may be checked. Only one folder may be chosen for either Media Server or BitTorrent functionality.
Access Limits	If access limits are enabled, use the arrows to move highlighted users between the columns for [Read/Write], [Read-only], or [No access] privileges.

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

* This is not displayed when Automatic USB Disk Assignment (page 68) 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.

Setu	ıp Intern	et/LAN Wireless Config Security	LAN Config	NA	S Admin Config	Diagnostic		
Disk Management Shared Folder User Management Shared Service Logout								
Web Access Media Server BitTorrent Logout								
	User Management							
Add	User				User Name			
User	Name				Set the user names the			
					access to shared folde to 20 8-bit alphanumeri	rs. From 1 c		
Pass	sword				to 20 8-bit alphanumeri characters, "-", "_" and used. Symbols cannot	"." can be be used as		
		(confirmation)			the first character. The maximum number of users			
User Description that can be registered is 16.								
Add Password								
Set the password necessary to access shared folders. From 1 to								
					20 8-bit alphanumeric of "-" and " " can be used	characters.		
Curr	ent Users				be used as the first cha	aracter. For		
			0		Windows 98SE, 98 and 14 8-bit alphanumeric of	characters		
No.	User Name	User Description	Operation		can be used. For Mac eight 8-bit alphanumeri	c characters		
-	guest	est Built-in account for guest access to the system can be used. There is a possibility				a possibility become		
1	John	entrational de la companya de la company						
2	Mike	home	Edit Delete		User Description			
3 Robin guestroom Edit Delete Set user description. Up to 75 8-bit characters can be input.								
					Characters from various 8-bit spaces, and the s	s countries,		

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

Shared Service

Assign AirStation and workgroup names to access shared folders.

Setup	Internet/LAN	Wireless Config	Security	LAN C	Config	NAS	S	Admin Config	Diagnost	lic
	Disk Management Shared Folder User Management Shared Service							ıt.		
Web Acc	Web Access Media Server BitTorrent Logo							LUGUL		
							Sha	red Services		
Shared F	Folder	Enable					Sha	red Folder		Ξ
AirStatio	n Name	AP0024A5C000D8		_			This USE	option allows you f disk available on y	to make a /our local	
AirStatio	n Description			_			netv "Ena	vork. The default se abled."	tting is	
		WORKGROUP					You	may specify acces	s to shared	
Workgroup Name WORKGROUP Windows Client Language North America (CP437)			437)	•			Exa	ers as follows: mple 2.168.11.1		
	Client Language	North America (CF	437)	•			(IP address of the AirStation)			
Apply								Station Name in 15	characters	
	AirStation Name									
IShared	[Shared Service] Sets the AirStation Name. Same									
-	Shared Service as [Admin Config] - [Name] - [AirStation Name]. Becomes a bost name that can be used as a									
						shai	red service. Becaus nes are limited to 15	e host	+	
		(0)2000.0			abta raaa	_	mann		,	

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 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.

Setup Internet/LA	N Wireless Config Security LAN Conf	ig NAS Admin Config Diagnostic
Disk Management Share Neb Access Media Serv	ed Folder User Management Shared Service er BitTorrent	Logout
		Web Access
Web Access	C Enable	Web Access Set whether or not to use the Web
Web Access Display Langu	age English -	Access function. The default setting is enabled. If set to
HTTPS/SSL Encryption	Enable	disabled, then shared folders are not made public.
Web Access External Port	Auto	Web Access Display Language
	Port Number: 30854	Set the language used to display
	Use BuffaloNAS.com registration function	the Web access functions. The default is "English."
DNS Service Host Name	BuffaloNAS.com name buffalo_name	HTTPS/SSL Encryption
Apply	Set whether or not to use SSL encryption for safer transfers (Uses https instead of http). The default setting is "Not used."	
		Web Access External Port
Web Access Status]		Configure the external port for the Web Access interface. The default setting is [Auto] and the value is
Web Access Enabl	ed	9000.
External Port Status Regis	tered	Auto
BuffaloNAS.com Regis	tering	Configure port number for Web Access automatically. Under Router Mode ON, this port is used

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].
DNS Service Hostname	Sets the DNS Service Hostname when the Web access function is activated. Select [Use BuffaloNAS.com registration function] to use the Web access function easily. You'll have to configure a [BuffaloNAS.com name] and [BuffaloNAS.com key] to use BuffaloNAS.com. 3 - 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. Note: The registered name is deleted from the server if the AirStation is disconnected from power, even for a moment.

Parameter	Meaning
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 User Management Logout								
				Me	edia Server			
Media Server V Enable				Se Me	edia Server lects whether or not dia Server function. disabled.			
[Status]				[St	tatus]			
Status Enabled				Sta	atus			
Refresh Update Data	base			lf t	splays the Media Se his cannot be used, atus of the USB disk	check the		
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Parameter	Meaning
Media Server	Enable to use the media server.
Status	Displays the status of the media server.

BitTorrent

Configure the BitTorrent client.

Setup Interne	t/LAN Wire	eless Config	Security	LAN Config	NAS	Admin Config	Diagnostic
Disk Management S Web Access Media			gement Shar	ed Service			Logout
						BitTorrent	
BitTorrent Function	🔽 Enable					BitTorrent Function	
External Port Number	Auto Port Number	▼ 31759				Allows you to enable BitTorrent function. T setting is disabled. You can get downloa files via shared folder Access function. Ple the folder setting from to" of "Shared Folder	he default ided BitTorrent or Web ase configure
[Advanced Settings]						Downloaded files are bittorrent folder on th	stored in e USB disk.
Bandwidth Restriction)ownload Speed		KB/s		Automatic USB Disk is set to [Use] : disk1_pt1/bittorrent Automatic USB Disk is set to [Do not use folder name/bittorrent	Assignment
Apply						if you use BitTorrent, quality may be degra response of the confi screen may become	ded or the guration
Download Manager	Del	ete BitTorrent inf	ormation			Caution	
						Bit Torrent can be or XFS is used as a for drive	nly used when rmat on USB
[BitTorrent Status]							
BitTorrent Status	Not	Available (specifie	ed disk's file syste	em does not support E	BitTorrent.)	External Port Num	
BitTorrent External Po	rt Status Reg	istered				Specify the external for BitTorrent. The de and the value is [900	fault is [Auto]
						Auto	Ŧ
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Parameter	Meaning
BitTorrent Function	Enable to use the BitTorrent client. If the BitTorrent client is enabled, overall communication performance may decrease and settings screens may respond slower. If that happens, reformat the USB disk with XFS. That may help performance.
External Port Number	Select an external port number.

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

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

Admin Config

Name

Configure basic AirStation settings.

Setup Internet/LAN Wireless Config Se	ecurity	LAN Config	NAS	Admin Config	Diagnostic				
Name Password Time/Date NTP ECO Access Log Save/Restore Initialize/Restart Update Logout Logout									
	_		Ai	Station Name					
AirStation Name AP0024A5C000D8 AirStation Name									
List Network Services V Enable			Th sp Air	is can be used to as ecific descriptive nar Station.	sign a ne for the				
Apply			Th 64	e AirStation name m alphanumeric chara	ay be up to cters in				
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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.

	N Wireless Config	Security LAN Config Access Log Save/Resto	NAS Admin Config Diagnostic
Initialize/Restart Upd		Access Log Savencesto	Logout
			AirStation Administrator Password
Administrator Name	root (fixed)		
	•••••		Administrator name
Administrator Password	•••••	(Confirm)	This is the user name used to log into the AirStation's configuration screens. It cannot be changed
Apply			from 'root'.
			Administrator password
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Parameter		Meaning	
Administrator Name	2	The name of the Adm	inistrator account is "root".
Administrator Passw	vord		sword may contain up to 8 alphanu scores ().

Time/Date

Configure the AirStation's internal clock.

Setup Internet/LA	N Wireless Config Security LAN Config NAS	Admin Config	Diagnostic		
Name Password Time/Da Initialize/Restart Update	NTP ECO Access Log Save/Restore		Logout		
		Time/Date	_		
An NTP time server is con	figured	Set the AirStation's	internel electr		
Local Date	2010 Year 12 Month 3 Day	Set the internal cloc			
Local Time	1 Hour 23 Minute 45 Seconds	Note: The AirStation's inte	ernal clock is		
Time Zone	Time Zone (GMT-06:00) Central Standard Time: CST				
DST(Daylight Saving Time)	USA (From Second Sunday in Mar to first Sunday in Nov)	nowever, the Anotation may be	tión may be		
Apply Refresh Ge	configured to adjus automatically even by connecting it to a You may also reset manually.	when rebooted NTP server.			
•	4 III	· ·	-		
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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 synchronise the AirStation's internal clock.

Setup Interne	t/LAN	Wireless Config	Security	LAN Config	NAS	Admin Config	Diagnosti	ic
Name Password Time/Date NTP ECO Access Log Save/Restore Logout								
					ти	Р		
NTP Functionality	🔽 Ena	able			lf a	an NTP server is cont	figured the	-
NTP Server	time.n	ist.gov			Air	Station will access t P server and adjust	the specified	
Update Interval	24	hours			clo	ock to conform with t rver's time. NTP is a	he NTP n acronym	
Apply					se	Network Time Protoc rver distributes accu twork devices.		
		(C)2000-2	010 BUFFALO	INC. All rights rese		D Functionality		-

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.

		Wireless Config			ig NAS	Admin Config	Diagnostic
Name Password Initialize/Restart		e NTP ECO A	cess Log	Save/Restore			Logout
Schedule feature	Enable					ECO Configure ECO Mode ECO Mode will put it save operation accord Weekly schedule. Schedule feature	. Enabling in energy
Weekly schedule 00 02 Sun Mon Tue Wed Thu Fri Sat Normal Slee	04 06		12 14	6 18 20	22	Selecting "Enable" w ECO Mode and chan operation mode acco Weekly schedule. The default is disable Note: • The Operational changed even di communicating i in the weekly sct note that commu be disconnected case. • AOSS does not v ECO mode if the Mode is not "norr • Pressing and ho button on the ma the Operational I Normal can temp it to "Normal".	ge the rding to ■ d. Mode is uring at the time set redule. Please redule. Please re
Register schedule	Operational Start time End time The day of w	Mode Normal 0:00 0:30 veek Sun Mon	▼ Tue Wed 1	hu Fri Sat		Weekly schedule Register Weekly sch want to change the C Mode you have regist overwrite a period of t to change in the new Mode. Register schedule	perational ered, ime you want
						Operational Mode	
User Define Mod	e Settinas					Select the Operation The default value is	
User Define Mode	LED	Off CONTINUE CO (Slow operation N Off Continue	ation) 👻			Normal Does not perform e operation. Sleep Perform following th saving operation. * Turn off LED * Stop wired LAN * Stop wireless LAN	ne energy

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

Access

Restrict access to the AirStation's settings screens.

Setup	Internet/LAN Wireless Config	g Security LAN	Config NA	S Admin Config Diagnost	ic	
	Password Time/Date NTP ECO /Restart Update	Access Log Sa	ve/Restore	Logou	ut	
				Management Access		
Log Out	put 🔲 Enable			You may prohibit management of the AirStation in specific circumstances. Enabling any of	E	
Enable	Management Access	Number of Packets		these limitations will prevent		
	Prohibit configuration from wireless LAN	0		changes being made to the AirStation's settings from PCs that		
	Prohibit configuration from wired LAN	0		meet the listed limitation criteria. Note that checking all of these		
				boxes at once will make it very difficult to make future changes to		
Internet	Side Remote Access Setting			the AirStation's settings.		
Enable	Management Access			Log Output		
	Permit configuration from wired Internet			Checking this box will record "Management Access" information		
Apply				"Management Access" information to a log. Logging is disabled by default.		
		2010 BUFFALO INC. All			-	

Parameter	Meaning
Log Output	Enabling outputs a log of changes to access settings.
Prohibit configuration from wireless LAN	If enabled, prevents access to settings screens from wirelessly connected devices (only wired devices may configure).
Prohibit configuration from wired LAN	If enabled, prevents access to settings screens from wired devices (only wirelessly connected devices may configure).
Permit configuration from wired Internet	If enabled, allows access to settings screens 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.

Setup Inter	net/LAN Wireless C	onfig Security	/ LAN Config	NAS	Admin Config Diagnost	ic
Name Passwo Initialize/Resta	rt Update NTP	ECO Access	Log Save/Restor	re	Logou	ut
					Syslog Setup	Â
Log Transfer	Enable				Syslog transfers the AirStation's	Ξ
Syslog Server					log information to a syslog server.	
Transfer Logs	 Address Translation Firewall Dynamic DNS DHCP Server Wireless Client Setting Changes NTP Client 	 IP Filter PPP Client DHCP Client AOSS Authentication System Boot Wired Link 			Log Transfer Checking [Enable] will instruct the AirStation to transmit log information to a Syslog server. The default is disabled. Syslog Server Specify the name of your Syslog Server by host name, host name with domain or I <u>P Address</u> .	
Apply Select	All Clear All			1	Alphanumeric characters, hyphen '-' and dot '.' may be used. The Syslog Server Name can't start or end with a hyphen '-' or dot	-
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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 (_).
Transfer Logs	Choose which logs will be transferred to the syslog server.

Save/Restore

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

Setup Internet/LAN Wireless Config Security LAN Config NAS	Admin Config	Diagnostic
Name Password Time/Date NTP ECO Access Log Save/Restore		Logout
	Save/Restore AirSta Settings	ation
Save current settings Save Encrypt the configuration file with a password	Save Current Settin	gs
	Once you've got your set up the way you w	
Backup file Browse	may save the current of the AirStation to a that you're using for c	configuration file on the PC
Restore Configuration from Backup File	Note: The AirStation will no	t be able to
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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.

Setup Internet/LAN Wireless Config Security LAN	Config NAS Admin Config Diagnostic
Name Password Time/Date NTP ECO Access Log Sate Initialize/Restart Update Update Initialize Initialize	/e/Restore
	Initialize/Restart
Restart This reboots your AirStation. Restart Now	Restart ≡
	This reboots your AirStation.
	Settings affected: Restarting will reset the clock to
Initialize This will restore your AirStation to the factory default settings.	default time.
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(C)2000-2010 BOFFALO INC. AIT	ignis reserved.
Parameter Meaning	

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

Update

Update the AirStation's firmware.

Setup Inter	net/LAN	Wireless C	onfig	Security	LAN Config	NAS	Admin Config	Diagnostic
Name Passwor Initialize/Restar			CO A	ccess Log	Save/Restore	j		Logout
							Firmware Update	
Firmware Version	WZR-HP-A	G300H Ver.1.72					Update the AirStation	's firmware.
Update Method	Specify Auto Up	Local File date Online					Firmware Version Displays the firmwar the AirStation.	e version of
Firmware File Name					Brows	e	Update Method	
Update Firmwa	ire						Please select firmwa method.	are update
*Get updated firmware files from our website: Specify Local File Download Service Update the firmware with a file stored on the local PC.								
							Auto Update Online	-
			C)2000-2	2010 BOFFALC) INC. All rights rese	rvea.		

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

Diagnostic

System Info

View system information for the AirStation.

stem Info Logs Pa			Log
			System Information
			System mormation
lodel	WZR-HP-AG300H Ver.	1.72 (R1.07/B1.00)	Display the AirStation's main
irStation Name	AP0024A5C000D8		settings.
lode Switch Status	Automatic Mode		Model
perational Mode	Router Mode ON		Displays the model name and firmware version of the AirStation.
lovie Engine Status	OFF		AirStation Name
	Method of Acquiring IP Address	Auto Detect Mode - PPPoE	Displays the AirStation's host name.
	Name of Connection Connection Status	Easy Setup (Default Connection) Online	Status of the hardware mode switch Displays the status of the ROUTER switch.
	Operation	Stop	
nternet	IP Address	211.18.137.199	Operational Mode Displays the current mode of
	PPP Server IP DNS1(Primary)	61.117.68.185 210.196.3.183 (Auto)	operation.
	DNS2(Secondary)	210.141.112.163 (Auto)	Movie Engine Status
	MTU Size	1454	Displays the status of the Movie Engine switch.
	Wired Link MAC Address	100Base-TX (Full-duplex) 00:24:A5:C0:00:D8	AirStation's INTERNET port side information.
AN	IP Address Subnet Mask	192.168.11.1 255.255.255.0	Method of Acquiring IP Address Acquiring a Internet IP address.
	DHCP Server MAC Address	Enabled 00:24:A5:C0:00:D8	■ Name of the Connection
	Wireless Status SSID	Enabled BUFFALO-C000D8_A	The name of the PPPoE connection specified in the configuration.
	Authentication Encryption	WPAWPA2 mixedmode - PSK TKIP/AES mixedmode	Connection Status Displays the current Internet side status.
Vireless(802.11n/a)	Broadcast SSID	Enable	Operational Mode
	Privacy Separator	Disable 40 (Auto)	The Operational Mode will show i
	Wireless Channel 300 Mbps Mode MAC Address	40 (Auto) 40 MHz (Extension Channel : 36) 00:24:A5:C0:00:D9	any DHCP or PPPoE configuratio is active. If DHCP is in use, the following commands can be executed.
	Wireless Status	Enabled	 [Release] : Releases the IP address assigned by the
	SSID	BUFFALO-C000D8_G	DHCP Server.
	Authentication Encryption	WPAWPA2 mixedmode - PSK TKIP/AES mixedmode	 [Renew] : Renews the IP address from the DHCP Server.
/ireless(802.11n/g/b)	Broadcast SSID Privacy Separator	Enable Disable	The following commands can be executed when using PPPoE.
	Wireless Channel	1 (Auto)	 [Start] : Start connecting to a
	300 Mbps Mode	20 MHz	PPPoE Server from idle/stop.
	MAC Address	00:24:A5:C0:00:D8	 [Connect]: Connect to PPPoE from an idle condition.
	USB disk Shared Folder Functio		 [Disconnect] : Disconnect communication with a PPPoE Server.
IAS	Web Access Media Server function BitTorrent Function	Use Use Use	[Stop] : Stop idle condition.
CO Mode		Disable Schedule feature	IP Address The IP address assigned to the
CO Mode	Status	Disable Scredule leature	AirStation.

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Parameter	Meaning
Model	Displays the product name of the AirStation and the firmware version.
AirStation Name	Displays the name of the AirStation.
Mode Switch Status	Displays the status of the AirStation's mode switch.
Operational Mode	Displays the AirStation's current operational mode.
Movie Engine Status	Displays the current Movie Engine Status.
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.

Setup Intern	et/LAN Wire	eless Config	Security	LAN Config	NA	S Admin Config Diagno	ostic
System Info	gs Packet Ir	nfo Client Mo	onitor Ping			Lo	t
						LOÇ	gout
					=	Logs	
Display log info	 Address Tra Firewall Dynamic DN DHCP Server Wireless Cli Setting Char 	IS V P er V A	PFilter PPClient HCPClient OSS uthentication ystem Boot			Display log information recorded the AirStation. The oldest information is overwritten by new logs. Display log info Select the types of information th	≡
	NTP Client		/ired Link			should be logged by the AirStatic The default is All. The following items can be selected:	n.
Display Selec	ct All Clear	All				 Address Translation IP Filter 	
Logs						 Firewall(Includes discarded I 	Р
Save to file lo	gfile.log.			Delete		Masquerade packets) PPP Client(Internet side) 	
Date Time	Туре	Log Content				Dynamic DNS(Internet side)	
2010/01/01 01:39:3	5 NTP	ntp server add	ress 192.43.24	14.18		 DHCP Client (Internet side) DHCP Server(LAN side) 	
2010/01/01 01:39:3	5 NTP	probe_count=0) hostname=tir	me.nist.gov cycle_tim	e:	AOSS	
2010/01/01 01:39:3		start ntpclient			-	 Wireless Client(Start/stop an client connection) 	d
		(0)0000.0		INC. All rights reserv		- Authentication	

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

Packet Info

Viewpacket transfer information.

Setup Internet/LAN W System Info Logs Packer				LAN C	onfig	NAS	Admin Config	Diagnostic	
								Logout	
luda of a c	Sent		Received			1	Packet Traffic Inform	ation	
Interface	Normal	Errors	Normal	Errors			The total numbers of pa	ackata cont	
Wired LAN	37442	0	31143	0			and received by the Air	Station, as	
Wired Internet	12745	0	16608	0			vell as the errors sending and eceiving, are displayed.		
PPPoE No.1: Easy Setup	50	0	55	0			[Refresh] button		
Wireless LAN (802.11n/a)	426	0	0	0			Displayed packet information is renewed with current information		
Wireless LAN (802.11n/g/b)	1476	0	0	0			when this button is cli	cked.	
Refresh									
	(C)	2000-201	0 BUFFALO I	NC. All rig	hts reser	ved.			

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.

Setup Inter	net/LAN	Nireless C	onfig Secur	ity LAN Cor	nfig NA	S Ad	dmin Config	Diagnostic
System Info Lo	ogs Packe	t Info Clie	ent Monitor Pir	ng				
								Logout
						Client	t Monitor	Ê
MAC Address	Lease IP Address	Hostname	Communication Method	Wireless Authentication	802.11n		ys the LAN side	
00:11:09:94:F5:B9	192.168.11.2	John-PC	Wired	-	-	(PCs) AirSta	that are accessi ation.	ng the
Refresh						The fol display	llowing informatio	on is
		(C)2000-2010 BLIE	ALO INC. All rights	received			-
			0,2000 2010 2011	ALC INC. AI IIQIIIC	reserved.			
Parameter			Mean	ing				
Client Monito	r		Displays information (MAC address, lease IP address, hostname, communication method, wireless authentication and 802.11n) fo devices that are connected to the AirStation.					

Ping

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

Setup In	ternet/LAN	Wireless Config	Security	LAN Co	onfig	NAS	Admin Config	Diagnosti	ic
System Info	Logs Pac	ket Info Client Mo	onitor Ping	I				Logou	ıt
							Ping	Lugut	Â
Destination Execute Result							A Ping test can be pe the AirStation. With a you can determine wh AirStation can comm specific network device	ping test, nether the unicate with a	Ш
Destination	192.168.11.2						Destination Address		
Result	64 bytes from	192.168.11.2: icmp_seq 192.168.11.2: icmp_seq 192.168.11.2: icmp_seq	=1 ttl=128 time	=0.3 ms			Enter the network IP a you want to ping; e.g. 192.168.11.3 or www.buffalotech.com		
						_	Execute		-
		(C)2000-2	010 BUFFALO	INC. All righ	nts reserv	ed.			

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.			

Note : Examples in this manual show the user-friendly firmware. The dd-wrt based professional firmware is somewhat different. For more information on the professional firmware, visit dd-wrt's website at **www.dd-wrt.com**.

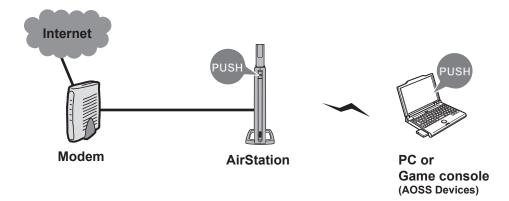
Chapter 5 - Connect to a Wireless Network

Automatic Secure Setup (AOSS/WPS)

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



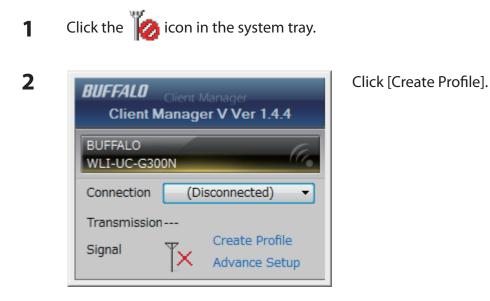
AOSS (AirStation One-Touch Secure System) was developed by Buffalo Technology. WPS was created by the Wi-Fi Alliance.



- Before using AOSS/WPS to connect to a Buffalo wireless client, install Client Manager software from the included AirNavigator CD. Consult your wireless client's documentation for more information.
- Buffalo's Client Manager software can be used with the wireless LAN devices built into most computers. However, it is not guaranteed to work with all wireless LAN devices available. Some wireless clients may require manual setup.

Windows 7/Vista (Client Manager V)

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



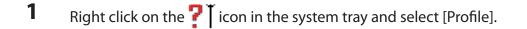
3 If the User Account Control screen opens, click [Yes] or [Continue].

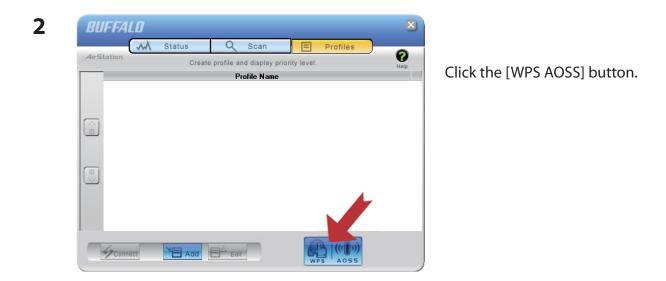
🌀 街 Create profile			×	Click the [WPS AOSS] buttor
Wireless Adapter Select the Setup Method Automatic Secure Setup	BUFFALO WLI-UC-G300N		-	
Advanced Setup Select a Network Name then connect manually. Otherwise connect with Option (Expert only)	WPS-PIN method.	ent Manager V Ver.1.4.4 BUFFA	11.0	

Follow any instructions displayed on the screen. When the 2.4 GHz and 5 GHz LEDs on the front of the AirStation stop flashing and is lit 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/WPS.



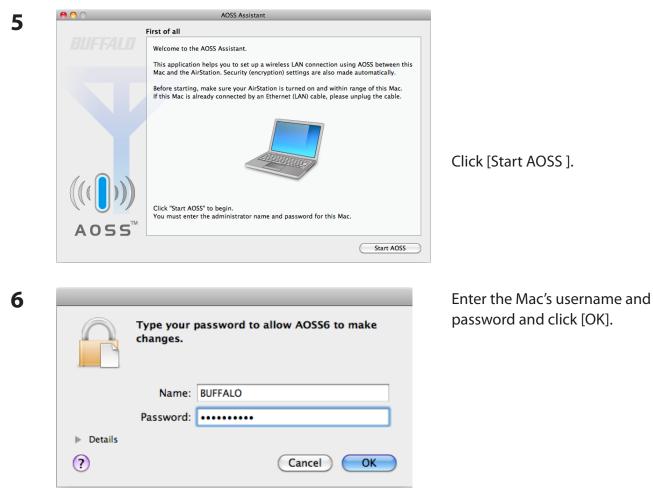


It will take several seconds for your wireless connection to be configured. When the 2.4 GHz and 5 GHz LEDs on the front of the AirStation stop flashing and glow steadily, the connection is complete.

Mac OS X (AOSS Assistant)

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

- 1 Load the AirNavigator CD in your Macintosh.
- 2 Double-click the Mac folder in the AirNavigator CD.
- **3** Double-click [AOSS Assistant].
- **4** The software license screen is displayed. Click [Agree] to proceed.



It will take several seconds for your wireless connection to be configured. When the 2.4 GHz and 5 GHz LEDs on the front of the AirStation stop flashing and glow 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/WPS. When instructed, hold down the AOSS button on the AirStation for 1 second.

When the 2.4 GHz and 5 GHz LEDs on the front of the AirStation stop flashing and glow 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 Windows. The procedure varies depending on which version of Windows you are using.

- Note: If the AirNavigator CD is used to perform setup when making the initial settings of AirStation, the wireless connection settings for the AirStation are completed during the Setup process. As a result, you do not need to make the settings below. After setup is complete, once the LAN cable is removed, you can connect from your wireless client to the AirStation.
 - Before performing setup, make the settings to enable the wireless client of the computer.

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.



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

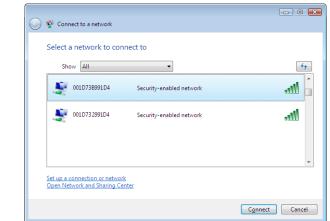
Connect to a Network	Enter the encryption key and click [OK
Type the network security key	
Security key:	
Hide characters	
You can also connect by pushing the button on the router.	
OK	

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 step4.

Connect to a network	
Press the configuration button on your access point	
Press the configuration button on the access point before continuing.	
I can't find the configuration button. I want to enter the network key or passphrase instead	
N	ext Cancel

	- • 🗙
🚱 👰 Connect to a network	
Enter the PIN for BUFFALO INC. WHR-G300N on 001D73B991D4	
You can find this PIN displayed on the BUFFALO INC. WHR -G300N.	
PIN:	
Display characters	
I don't have the PIN.	
I want to enter the network key or passphrase instead	
Next	Cancel

4	Connect to a network	Enter the encryption key and click [Connect].
	Type the network security key or passphrase for 001D738991D4 The person who setup the network can give you the key or passphrase.	
	Security key or passphrase:	
	Display characters	
	If you have a <u>USB flash drive</u> with network settings for 001D738991D4, insert it now.	
	Connect Cancel	

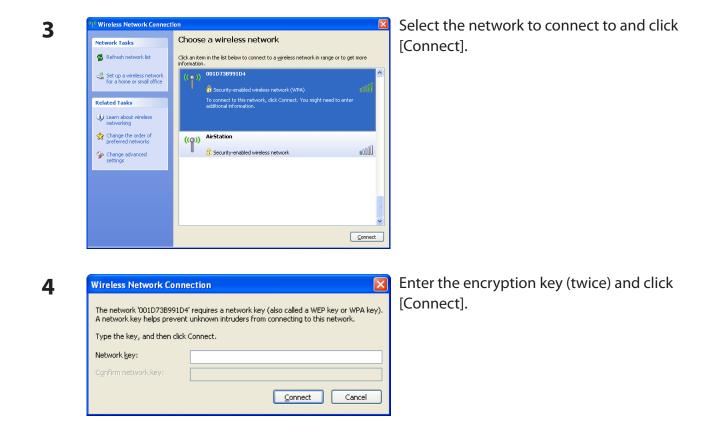
Step through the wizard to finish configuration.

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.

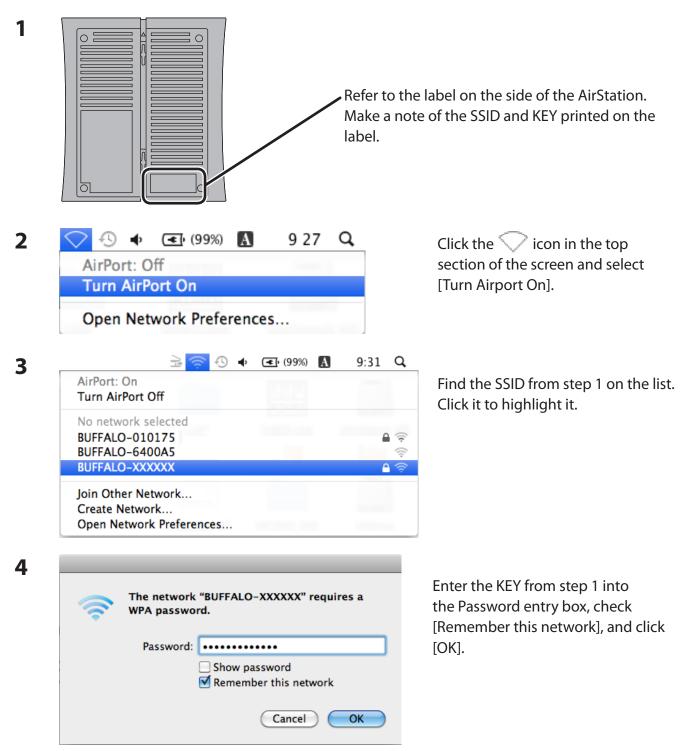
- Note: If Client Manager 3 is installed on your computer, Wireless Zero Config is disabled. Uninstall Client Manager 3 to use Wireless Zero Config, or just use Client Manager 3 to connect to the AirStation.
- 1 Right click on the 🕎 wireless network icon in the system tray.
- 2 Click [View Available Wireless Networks].



It will take several seconds for configuration to complete.

Mac OS X (AirPort)

Use AirPort on a Mac to connect to the AirStation.



It will take several seconds for configuration to complete.

Chapter 6 - 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:

Power	Green light is ON
Router	Green light is ON or OFF (depending on your environment)
Diag	OFF
LAN	Green light is ON or flashing
Internet	Green light is ON or flashing

- Make sure that your computer is set to [obtain an IP address automatically]. (See appendix D)
- Restart your AirStation.

Cannot access the web-based configuration Interface.

- See chapter 4 for instructions to open the AirStation's configuration interface.
- Enter the correct username and password to login to the configuration interface. The factory defaults are "root" (in lower case) for the username and a blank password (enter nothing). If you changed the password, enter the new password that you set.
- Verify that your web browser is not set to use proxies.
- Make sure that your computer is configured to [Obtain an IP Address Automatically.] (See appendix D)
- 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:

Note: Encryption is disabled by default in Asia Pacific.	
Encryption Key -	Printed on the label of the AirStation.
Encryption Type -	WPA/WPA2 mixed mode - PSK (Connect with either WPA-PSK TKIP or WPA2-PSK AES).
	"_A" or "_G"
SSID -	BUFFALO-XXXXXXX (the last 6 digits of the AirStation's MAC address) +

- 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. The factory defaults are:

SSID -	BUFFALO-XXXXXX (the last 6 digits of the AirStation's MAC address) + "_A" or "_G"
Encryption Type -	WPA/WPA2 mixed mode - PSK (Connect with either WPA-PSK TKIP or WPA2-PSK AES).
Encryption Key -	Printed on the label of the AirStation. (Encryption is disabled by default for Asia Pacific AirStations.)

The link speed is slower than 300 Mbps (Maximum link speed is only 130 Mbps).

By default, the AirStation's 300 Mbps mode is not enabled. You may enable it with the following procedure:

- 1. Open the configuration interface (chapter 4).
- 2. In Easy Setup, click [Wireless SSID & Channel (11n 300 Mbps Mode)].
- 3. Change the value in [300 Mbps Mode] [Bandwidth] to 40 MHz and click [Apply].

If you still cannot connect at 300 Mbps, check the settings of your wireless client devices.

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 "root" for the username and leave the password box empty (no password). Click [OK] to complete the login and 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's configuration interface. 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:

Log in to the configuration interface with your browser. Go to [Wireless Config] - [Security]. Buffalo recommends WPA 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 configuration interface. Go to the Wireless Config tab and then select the Basic tab if necessary. Find the settings area for SSID. Select the [Use] radio button and enter the name you wish to use for your network in the text field provided. Click [Apply] to save the settings. Once the wireless router has rebooted, select the new network name for all wireless devices and re-enter your encryption key if necessary.

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 the port on the modem.

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*

Appendix A - Specifications

Wireless LAN Interface	
Standard Compliance	IEEE802.11a / IEEE802.11b / IEEE802.11g / IEEE802.11n
Transmission Method	Direct Sequence Spread Spectrum (DSSS), OFDM, MIMO
802.11a Frequency Range	Available 808.11a frequencies depend on the country of purchase. See the next page for details.
802.11g Frequency Range	2,412 - 2,462 MHz (Channels 1 - 11)
Transmission Rate	802.11b: 11, 5.5, 2, 1 Mbps 802.11a/g: 54, 48, 36, 24, 18, 12, 9, 6 Mbps 802.11n 20MHz BW (LongGl) 130, 117, 104, 78, 52, 39, 26, 13 Mbps (2 stream) 65, 58.5, 52, 39, 26, 19.5, 13, 6.5 Mbps (2 stream) 40MHz BW (LongGl) 270, 243, 216, 162, 108, 81, 54, 27 Mbps (2 stream) 135, 121.5, 108, 81, 54, 40.5, 27, 13.5 Mbps (1 stream) (ShortGl) 300 Mbps (2 stream)
Access Mode	Infrastructure Mode
Security	AOSS, WPA2-PSK (TKIP/AES), WPA/WPA2 mixed PSK, WPA-PSK (TKIP/AES), 128 / 64bit WEP, Mac Address Filter
Wired LAN Interface	
Standard Compliance	IEEE802.3ab (1000BASE-T), IEEE802.3u (100BASE-TX), IEEE802.3 (10BASE-T)
Transmission Rate	10 / 100 / 1000 Mbps
Transmission Encoding	1000BASE-T 4DPAM5, 100BASE-TX 4B5B/MLT-3, 10BASE-T Manchester Cording
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
USB Interface	
Interface	USB 2.0
Connector Type	Type A (plug)
Compliance	5.0 V 500 mA (max 1000 mA)

Other	
Power Supply	External AC 100-240 V Universal, 50/60 Hz
Power Consumption	About 13.2 W (Max)
Dimensions	165 mm x 158 mm x 35mm (6.5 x 6.2 x 1.3 in.)
Weight	330 g (11.6 oz.) (not including the stand)
Operating Environment	0 - 40° C (32 - 104° F), 20 - 80% (non-condensing)

802.11a Frequency Rang	e
USA	5,180 - 5,240 MHz (Channels 36, 40, 44, 48)
Canada	5,745 - 5,825 MHz (Channels 149, 153, 157, 161, 165)
EU	5,180 - 5,240 MHz (Channels 36, 40, 44, 48)
Kuwait	5,260 - 5,320 MHz (Channels 52, 56, 60, 64)
Saudi Arabia	
UAE	
Oman	
Qatar	
Egypt	
Singapore	5,180 - 5,240 MHz (Channels 36, 40, 44, 48)
Australia	5,260 - 5,320 MHz (Channels 52, 56, 60, 64)
Hong Kong	5,745 - 5,825 MHz (Channels 149, 153, 157, 161, 165)
The Philippines	
India	
Thailand	
Malaysia	
South Korea	5,180 - 5,240 MHz (Channels 36, 40, 44, 48)
	5,745 - 5,825 MHz (Channels 149, 153, 157, 161, 165)
China	5,745 - 5,825 MHz (Channels 149, 153, 157, 161, 165)
Taiwan	5,745 - 5,825 MHz (Channels 149, 153, 157, 161, 165)

Appendix B - Default Configuration Settings

Feature	Parameter	Default Setting
Internet	Method of Acquiring IP Address	Perform Easy Setup (Internet Connection Wizard)
(Router Mode only)	Default Gateway	none
	Address of DNS Name Server	none
	Internet MAC Address	Use Default MAC Address
	MTU Size of Internet Port	1500 Bytes
PPPoE	Default PPPoE Connection	No Active Session
(Router Mode only)	IP Unnumbered PPPoE Connection	No Active Session
	PPPoE Connection List	none
	Preferred Connections	none
DDNS	Dynamic DNS Service	Disabled
(Router Mode only)	Current Dynamic DNS Information	none
VPN Server	LAN Side IP Address	192.168.11.1(255.255.255.0)
(Router Mode only)	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 Switch AUTO/ON): 192.168.11.1 (255.255.255.0)	
		Bridge Mode (Router Switch OFF): 192.168.11.100 (255.255.255.0)	
		Bridge Mode (Router Switch AUTO): Obtain automatically from DHCP Server	
	DHCP Server Function (Router Mode only)	Enabled	
	DHCP IP Address Pool (Router Mode only)	192.168.11.2 for up to 64 Addresses	
	LAN Side IP Address (For IP Unnumbered) (Router Mode only)	none	
	Lease Period (Router Mode only)	48 Hours	
	Default Gateway (Router Mode only)	AirStation's IP Address	
	DNS Servers (Router Mode only)	AirStation's IP Address	
	WINS Server (Router Mode only)	Do Not Specify	
	Domain Name (Router Mode only)	Assigned Domain Name	
	Default Gateway (Bridge Mode only)	none	
	DNS Server Address (Bridge Mode only)	none	
DHCP Lease (Router Mode only)	Current DHCP Client Information	none	
NAT	Address Translation	Enabled	
(Router Mode only)	Log Output of Deleted Packets	Disabled	
Route	Routing Information	none	

Feature	Parameter	Default Setting		
WPS	WPS	Enabled		
	External Registrar	Enabled		
	AirStation PIN	An 8-digit random value (Printed on the label of the AirStation)		
	WPS Security Information	WPS status:configuredSSID:BUFFALO-XXXXXX (the last 6 digits of the AirStation's MAC address) + "_A" or "_G"		
		Security: WPA/WPA2 mixedmode - PSK TKIP/AES mixedmode or none		
		Encryption key: Either a 13-digit random value or disabled. Printed on the label of the AirStation. Encryption is disabled by default settings on AirStation for Asia Pacific.		
AOSS	Encryption Type of Exclusive SSID for WEP	none		
	Encryption level expansion function	Enabled		
	Dedicated WEP SSID isolation	Disabled		
	Allow WEP for Game Console Only	Disabled		
	AOSS Button on the AirStation Unit	Enabled		
Basic	Wireless Radio	Enabled		
	Wireless Channel	Auto Channel		
	300 Mbps Mode	Band Width: 20 MHz Extension Channel: -		
	Broadcast SSID	Allow		
	Separate feature	not used		
	SSID	Use AirStation's MAC address		
	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 (Printed on the label of the AirStation. Encryption is disabled in default settings on AirStation for Asia Pacific.)		
	Rekey interval	60 minutes		

Feature	Parameter	Default Setting			
Advanced	Multicast Rate	Auto	Auto		
	DTIM Period	1			
	Privacy Separator	Disabled	Disabled		
WMM	WMM-EDCA Parameters		For AP	For STA	
	(Priority AC_BK (Low))	CWmin	15	15	
		CWmax	1023	1023	
		AIFSN	7	7	
		TXOP Limit	0	0	
		Admission Control		Disabled	
	WMM-EDCA Parameters		For AP	For STA	
	(Priority AC_BE (Normal))	CWmin	15	15	
		CWmax	63	1023	
		AIFSN	3	3	
		TXOP Limit	0	0	
		Admission Control		Disabled	
	WMM-EDCA Parameters (Priority AC_VI (High))		For AP	For STA	
		CWmin	7	7	
		CWmax	15	15	
		AIFSN	1	2	
		TXOP Limit	94	94	
		Admission Control		Disabled	
	WMM-EDCA Parameters		For AP	For STA	
	(Priority AC_VO (Highest))	CWmin	3	3	
		CWmax	7	7	
		AIFSN	1	2	
		TXOP Limit	47	47	
		Admission Control		Disabled	
MAC Filter	Enforce MAC Filtering	Disabled	Disabled		
	Registration List	none			
Multicast	Snooping	Enabled			
Control	Multicast Aging Time	300 Sec.			
Firewall	Log Output	Disabled			
(Router Mode only)	Basic Rules	Prohibit NBT and Microsoft-DS RoutingDisableReject IDENT RequestsEnableBlock Ping from InternetEnable			

Feature	Parameter	Default Setting		
IP Filter	Log Output	Disabled		
(Router Mode only)	IP Filter Information	none		
VPN Pass	IPv6 Pass Through	Disabled		
Through	PPPoE Pass Through	Disabled		
(Router Mode only)	PPTP Pass Through	Enabled		
Port Forwarding (Router Mode only)	Port Forwarding Registration	none		
DMZ (Router Mode only)	IP Address of DMZ	none		
UPnP (Router Mode only)	UPnP	Enabled		
QoS (Router Mode only)	QoS for transmission to the Internet	Disabled		
Movie Engine	Movie Engine switch status	off		
	IPv6 Pass Through	Used		
	Multicast Rate	11 Mbps		
	Multicast Control	Snooping FunctionUseAging Time Seconds300 SecondsChange PriorityVI (priority)		
	TCP Rwin Size Limit	Size Limit No limit Maximum Rwin Size 65536 bytes		
	Wireless Priority Control Rules	None		
Disk	Automatic USB Disk Assignment	Used		
Management	FAT format file name character code	North America (CP437)		
	HDD power-saving function	Not used HDD stop time 10 Minutes		
Shared Folder	Access Limits	No Limits (Read/Write)		
	Web Access	Access Limits		
User Management	Current Users	guest		
Shared Service	Shared Folder	Enabled		
	AirStation Name	AP + AirStation's MAC Address		
	AirStation Description	None		
	Workgroup Name	WORKGROUP		
	Windows Client Language	North America (CP437)		
	Shared Service	None		

Feature	Parameter	Default Setting
Web Access	Web Access	Disabled
	Web Access Display Language	English
	HTTPS/SSL Encryption	Disabled
	Web Access External Port	Auto (Port Number:9000)
	DNS Service Host Name	Use BuffaloNAS.com registration function
	Web Access status	None
Media Server	Media Server	Disabled
	Status	None
BitTorrent	BitTorrent Function	Disabled
	External Port Number	Auto (Port Number: 9002)
	Bandwidth Restriction	Enabled Maximum Download Speed 1000 KB/s Maximum Upload Speed 200 KB/s
	BitTorrent Status	None
Name	AirStation Name	AP + AirStation's MAC Address
	List Network Services	Enabled
Password	Administrator Name	root (fixed)
	Administrator Password	none
Time/Date	Local Date	2010 Year 1 Month 1 Day
	Local Time	0 Hour 0 Minute 0 Seconds
	Time Zone	(GMT+00:00) Greenwich Mean Time,London
	DST (Daylight Saving Time)	EU type 1 For GMT+00:00(From Last Sunday in Mar to last Sunday in Oct)
NTP	NTP Functionality	Enabled
	NTP Server	time.nist.gov
	Update Interval	24 hours

Feature	Parameter	Default Setting	
ECO	Scheduling	Disabled	
	Register schedule	Operational Mode:NormalStart time:0:00End time:0:30The day of week:none	
	User Define Mode	LED:OffWired LAN:ECO (Slow operation)Wireless LAN:Off	
Access	Log Output	Disable	
	Limitation Item	Prohibit configuration from wireless LANDisabProhibit configuration from wired LANDisabPermit configuration from wired InternetDisab	bled
Log	Log Transfer	Disabled	
	Syslog Server	none	
	Transfer Logs	Router Mode: Address Translation, IP Filter, Firewall, PPPoE Client, Dynamic DNS, DHCP Client, DHCP Serv AOSS, Wireless Client, Authentication, Setting Changes, System Boot, NTP Client, and Wired I Bridge Mode: IP Filter, DHCP Client, AOSS, Wireless Client, Authentication, Setting Changes, System Boot NTP Client, and Wired Link	Link

Appendix C - 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, install it from the AirNavigator CD. Click [Install Wireless Client Driver and Application] > [Options] > [Advanced Installation], and install Client Manager V.
 - · Client Manager V does not support Windows XP.





Click [Advanced Setup].



When the Client Manager V status screen is displayed, click

🖉 Wireless LA	N Diagnoses					×
<u>F</u> ile <u>V</u> iew						
Adapter	BUFFALO WLI-U	C-G300N Wi	reless LAN Ada	apter		-
[dBm] [Mbps] -20 300 -40 240 -60 144 -80 54						[%] 100 75 50 25
Rssi Le	/el[dBm]	Link Sp	eed[Mbps]	🔤 Signa	al Quality[%]	1
1 2	3 4 5	2.4	GHz	10 11 1	.2 13	14
34 36	W5 38 40	52 42 44	46 48	52 56	<mark>ر 53</mark>	64
			56			
100 104	108 112	116 12	20 124	128 132	136 1	40

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 14. 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.

Macintosh

- 1 Load the AirNavigator CD into your Macintosh.
- 2 Double-click the Mac folder in the AirNavigator CD.
- **3** Double-click [WLAN Monitor].

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

5	8		WLAN Monitor	r	
5	BUF	FALO			300 Mbps
		rk Name (SSID) LO-C000D8_A Status	Connected	\sim	80 % -27 dBm
	<u> </u>	IP Address	V III	· · · ·	×*
		Security	WPA2 Personal		
		Encryption	AES		
		Band	5 GHz (11n/a)		
		Channel	56		
			300 Mbps		
		Quality	80 %		
		Signal Level	-27 dBm		
					11.

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 (AirPort).
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.

Appendix D - 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].

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].

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].

Mac OS X

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

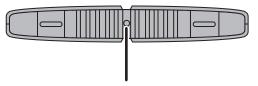
- 1 Click [Apple menu] > [System Preferences...].
- 2 Click [Network].
- **3** Click [Ethernet].
- **4** To have DHCP set your IP address settings automatically, select [Using DHCP] in the Configure IPv4 field.

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].

Appendix E - Restoring the Default Configuration



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

Appendix F - 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 G - 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.

For operation within 5.15 ~ 5.25GHz frequency range, it is restricted to indoor environment. 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.

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.

WZR-HP-AG300H with PCB Dipole antenna and max. antenna gain is 3.13 dBi in 2.4G and 3.04 dBi in 5G.

Industry Canada statement:

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.

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:

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.

High power radars are allocated as primary users (meaning they have priority) of 5250-5350 MHz and 5650-5850 MHz and these radars could cause interference and/or damage to LE-LAN devices.

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

Important Note - Canada Radiation Exposure Statement:

This equipment complies with Canada 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.

NOTE IMPORTANTE: (Pour l'utilisation de dispositifs mobiles)

Déclaration d'exposition aux radiations:

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.

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.

€ 0560 ①

Česky [Czech]

Buffalo Technology Inc. tímto prohlašuje, že tento AirStation WZR-HP-AG300H 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-HP-AG300H 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-HP-AG300H 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-HP-AG300H vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.

English

Hereby, Buffalo Technology Inc. declares that this AirStation WZR-HP-AG300H 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-HP-AG300H 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-HP-AG300H 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-HP-AG300H 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-HP-AG300H 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-HP-AG300H atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.

Lietuvių [Lithuanian]

Šiuo Buffalo Technology Inc. deklaruoja, kad šis AirStation WZR-HP-AG300H atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.

Nederlands [Dutch]

Hierbij verklaart Buffalo Technology Inc. dat het toestel AirStation WZR-HP-AG300H 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-HP-AG300H jikkonforma malhtigijiet essenzjali u ma provvedimenti ohrajn relevanti li hemm fid-Dirrettiva 1999/5/EC.

Magyar [Hungarian]

Alulírott, Buffalo Technology Inc. nyilatkozom, hogy a AirStation WZR-HP-AG300H megfelel a vonatkozó alapvető követelményeknek és az 1999/5/EC irányelv egyéb előírásainak.

Polski [Polish]

Niniejszym Buffalo Technology Inc. oświadcza, że AirStation WZR-HP-AG300H jest zgodny z zasadniczymi wymogami oraz pozostałymi stosownymi postanowieniami Dyrektywy 1999/5/EC.

Português [Portuguese]

Buffalo Technology Inc. declara que este AirStation WZR-HP-AG300H 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-HP-AG300H v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES.

Slovensky [Slovak]

Buffalo Technology Inc. týmto vyhlasuje, že AirStation WZR-HP-AG300H spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.

Suomi [Finnish]

Buffalo Technology Inc. vakuuttaa täten että AirStation WZR-HP-AG300H 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-HP-AG300H 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。

이 기기는 가정용으로 전자파적합등록을 한 기기로서 주거지역에서는 물론 모든 지역에서 사용할 수 있습니다.

```
해당 무선설비는 전파혼신 가능성이 있으므로 인명안전과 관련된 서비스는 할 수 없음
```

법에 의해 전방향 전파발사 및 동일한 정보를 동시에 여러 곳으로 송신하는 점-대-다지 점 서비스에의 사용은 금지되어 있습니다.

Appendix H - 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 I - GPL Information

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

Appendix J - Warranty Information

Buffalo Technology (Buffalo Inc.) products come with a two-year limited warranty from the date of purchase. Buffalo Technology (Buffalo Inc.) warrants to the original purchaser the product; good operating condition for the warranty period. This warranty does not include non-Buffalo Technology (Buffalo Inc.) installed components. If the Buffalo product malfunctions during the warranty period, Buffalo Technology/(Buffalo Inc.) will, replace the unit, provided the unit has not been subjected to misuse, abuse, or non-Buffalo Technology/(Buffalo Inc.) authorized alteration, modifications or repair.

All expressed and implied warranties for the Buffalo Technology (Buffalo Inc) product line including, but not limited to, the warranties of merchantability and fitness of a particular purpose are limited in duration to the above period.

Under no circumstances shall Buffalo Technology/(Buffalo Inc.) be liable in any way to the user for damages, including any lost profits, lost savings or other incidental or consequential damages arising out of the use of, or inability to use the Buffalo products.

In no event shall Buffalo Technology/(Buffalo Inc.) liability exceed the price paid for the product from direct, indirect, special, incidental, or consequential damages resulting from the use of the product, its accompanying software, or its documentation. Buffalo Technology (Buffalo Inc.) does not offer refunds for any product.

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