

User Manual

Wireless AC1300 / N450 Gigabit Dual Band Media Bridge WLI-H4-D1300



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Chapter 1 - Product Overview

Package Contents

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

• WLI-H4-D1300	1
AC adapter	1
Stands.	2
Screws for wall-mounting	2
LAN cable	1
AirNavigator CD	1
Quick Setup Guide	1
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 AirNavigator CD Quick Setup Guide Warranty Statement 	1 1 1

Hardware Overview

Front Panel LEDs



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

2 Wireless LED (Blue or Amber)

On:	Wireless LAN is enabled.
Blinking:	Wireless LAN is transmitting.
2 blinks:	AirStation is waiting for an AOSS or WPS security key.
Continuously blinking:	AOSS/WPS error; failed to exchange security keys.
Off:	Wireless LAN is disabled.
Note:	
Wireless LED is blue	: Security settings have been made for the wireless LAN.
Wireless LED is ambe	r : Security settings have not been made for the wireless LAN.

3 5 GHz Fixed mode LED (Blue)

On:	Operating in 5 GHz band fixed mode.
Off:	5 GHz band fixed mode is off.

4 Buffalo LED (White or Red)

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

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

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

Back Panel



5	5 GHz Fixed Mode button	This button is used to enable or disable 5 GHz fixed mode. The operation mode is switched by pressing the button until the 5 GHz fixed mode LED turns on or off (about 1 second).
6	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.
7	LAN LED (Green)	
	On:	An Ethernet device is connected.
	Blinking:	An Ethernet device is communicating.
8	Power button	This button turns the power on and off.
9	DC Connector	Connect the included AC adapter here.

Bottom



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

Right Side



11 Mounting holes

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

Vertical Placement

Attach the stand as shown in the figure below.



Horizontal Placement

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



Wall-Mounting

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



Chapter 2 - Installation

Initial Setup (one-touch connection)

To configure your AirStation, follow the procedure below.

1 Turn on the AirStation, then wait one minute.



2 Use a LAN cable to connect the LAN port on the AirStation to your computer, television, or other client device.



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

Wireless	On or blinking.
5 GHz	On or off.
Buffalo	White light on.
LAN	Green light on or blinking.

For LED locations, refer to chapter 1.

- **4** Press the WPS (or AOSS) button of the wireless router that you are currently using.
 - Note : This example explains how to make a one-touch connection between the AirStation and your wireless router. To make the setting from the configuration interface of the AirStation, see Chapter 3.
- **5** Press the AOSS/WPS button on the AirStation until the wireless LED button on the front panel starts flashing (about 1 second).
- 6 After about one minute, check that the Wireless LED on the AirStation's front panel is lit.
 - Note : If the Wireless LED continues flashing, connection with the wireless router has failed. Perform the procedure again from Step 4.
- 7 Launch your web browser. If you can connect to the Internet, then setup is completed.
 - Note : If you cannot connect to the Internet, there may be a problem with the settings of your wireless router. Refer to the manual for your wireless router for help configuring it.

Manual Setup

- **1** Refer to Chapter 3 to open the configuration interface for the AirStation.
- 2 Click [Connect to AirStation (access point)].
- **3** Click [Search].
- 4 Choose your wireless router and click [Select].
- **5** Enter the encryption type and encryption key. Click [Setup].
 - Note : If you cannot connect to the wireless router, double-check your encryption type and key. These settings must be the same for both the wireless router and the wireless bridge.

Chapter 3 - Configuration

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

Installing the Ethernet Converter Manager (Windows)

The Ethernet Converter Manager is required to display the AirStation configuration interface for a Windows computer. Use the procedure below to perform the installation.



1 Load the AirNavigator CD into your computer.

Click [Software installation].

3 Step through the wizard to install the Ethernet Converter Manager software.

Setting the AirStation IP Address (Windows)

The Ethernet Converter Manager can be used to change the IP address of the AirStation. If using a Windows computer, follow the procedure below to set the AirStation's IP address.

Click [Start] > [All programs] > [BUFFALO] > [AirStation Utility] > [Ethernet Converter Manager].



3

Enter Password	×
Enter password of El	themet Converter Manager
•••••	
	OK Cancel

Ethernet Convertion	rter M	anager	_ X
Model Name		WLI-H4-D1300	
Ethernet Converter	Name	AP00904C08A000	
IP Address		1.1.1.1	
MAC Address		00:1D:73:64:85:38	
Wireless Informatio	n		
SSID (Not Config	ured)		
Network Type		Infrastructure Mode	
Security		No encryption	
Channel			
a/g Mode		802.11a Only	
Status		Disconnect	
Signal Strength			
Options		Connection Settings Ex	it
Current Status.		Launch Web Setting screen	
		Modify IP Address	
		Switch a/g Mode	
		Connection Settings	
	✓	Refresh	
		Back to Ethernet Converter Selection About	

When this screen appears, enter the password, then click [OK].

- Notes: By default, the password is "password".
 - If you forget your password, hold down the reset button (page 8) to initialize all settings. The password will then revert to "password". Note that all other settings will also revert to their default values.

Click [Options] > [Modify IP Address...].

4	The second secon	×
	Enter IP address and subnet mask to configure for the	Ethernet Converter.
	Acquire IP Address Automatically via DHCP	
	IP Address 192 . 168 .	11 .
	Subnet Mask 255.255.255.0	-
	 Your PC and Ethemet Converter must have an IP ac range to allow configuration via the web setting scree requires a unique IP address. 	ddress in the same n. Each device
	* Automatic assignment is only available if a DHCP se (Boot up of the unit might take for a while.)	rver exists.
	 Please contact your network administrator when usin company network. 	ng this unit in your
	ОК	Cancel

Select "Acquire IP Address Automatically via DHCP", then click [OK].



Click [Yes].

Accessing the Web-based Configuration Interface (Windows)

To manually set the AirStation advanced settings from a Windows computer, use the procedure below to log into the AirStation Configuration interface.

Click [Start] > [All programs] > [BUFFALO] > [AirStation Utility] > [Ethernet Converter Manager].

-	
~	

3

Enter Pass	word	X
Enter passwo	rd of Ethernet Convert	er Manager
•••••		
	ок	Cancel

Ethernet Converter Ma	inager 🚾
Model Name	WLI-H4-D1300
Ethernet Converter Name	AP00904C08A000
IP Address	192.168.11.135
MAC Address	00:1D:73:64:85:38
Wireless Information	
SSID (Not Configured)	
Network Type	Infrastructure Mode
Security	No encryption
Channel	
a/g Mode	802.11a Only
Status	Disconnect
Signal Strength	
Options 🔻	Connection Settings Exit
urrent Status.	Launch Web Setting screen
	Modify IP Address
	Switch a/g <u>M</u> ode
	Connection Settings
\checkmark	<u>R</u> efresh
	Back to Ethernet Converter Selection

When this screen appears, enter the password, then click [OK].

- Notes: By default, the password is "password".
 - If you forget your password, hold down the reset button (page 8) to initialize all settings. The password will then revert to "password". Note that all other settings will also revert to their default values.

Click [Options] > [Launch Web Setting screen].

5



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

Note: If the password was changed, enter the new password instead of the default.



This is the configuration interface, where most wireless media bridge settings can be configured.

Accessing the Web-based Configuration Interface (Mac OS X)

To access the configuration interface of the AirStation from a Mac, the IP address of the AirStation is required. If you do not know the IP address, use the procedure below to access the configuration interface.

Note: If you do not know the IP address of the AirStation, reset the AirStation. All settings will be changed to their default values.

- 1 Click [Apple menu] > [System Preferences...].
- 2 Click [Network].
- **3** Click [Ethernet].
- **4** Select [Manually] in the Configure IPv4 field.

Note: Make a note of the current IP address.

- 5 Set the IP address of the Mac to be on the same subnet as the AirStation. The first three numbers in the IP address should be the same and the fourth different. For example, if the IP address of the AirStation is 1.1.1.1, you could set the IP address of the Mac to 1.1.1.2. Click [Apply].
- Launch your web browser, enter the IP address of the AirStation in the address field, and press the Enter key.
 When a screen appears for entering the name and password, enter "admin" in the username field and "password" in the password field, then click [OK].
- 7 When the settings for the AirStation are complete, return the IP address of the Mac to its original setting that was noted in step 4.

Configuration Interface Menus

The following settings may be changed from the configuration interface. Please refer to the pages listed at right for explanations of each item.

Main screen	Descriptions	Page
LAN Config		
LAN	Configure the AirStation's IP address.	Page 22
Wireless Config		
WPS	WPS Status and Settings.	Page 23
AOSS	AOSS Status and Settings.	Page 24
Basic	Configure basic wireless settings.	Page 25
Advanced	Configure advanced wireless settings.	Page 27
WMM	Set priorities for Wireless Multimedia Extensions (Wi-Fi Multimedia).	Page 28
Admin Config		
Name	Configure the AirStation's name.	Page 30
Password	Configure the AirStation's login password for access to the configuration interface.	Page 31
Time / Date	Configure the AirStation's internal clock.	Page 32
NTP	Configure the AirStation to synchronize with an NTP server to automatically set the AirStation's internal clock.	Page 33
Access	Configure access restrictions to the AirStation's configuration screens.	Page 34
Log	Configure a syslog server to manage the AirStation's logs.	Page 35
Save / Restore	Save or restore the AirStation's configuration from a configuration file.	Page 36
Initialize / Restart	Initialize the AirStation or reboot it.	Page 37
Update	Update the AirStation's firmware.	Page 38
Diagnostic		
System Info	View current system information for the AirStation.	Page 39
Logs	Check the AirStation's logs.	Page 40
Packet Info	View all packets transferred by the AirStation.	Page 41
Client Monitor	View all devices currently connected to the AirStation.	Page 42
Ping	Test the AirStation's connection to other devices on the network.	Page 43
Logout		
Click this to log out o	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	LAN Config	Wi	reless Config	Admin Co	onfig	Diagnostic	
Wizards & C	verview					Logou	t
Easy Se	tup	N	VIRELESS		Wizards &	Overview	* 11
Basic Settings			SID	-	Wizards for	[Easy Setup] are on	
>> Conne	Connect to AirStation(master)		AOSS	OSS Setup	the left.	of your AirStation's	
Other			et w	PS Setup	system infor	mation is displayed on	
>> <u>Update</u> >> <u>Initializ</u>	e AirStation Firmware e AirStation		andriade		Basic Setti	ngs	
		4	Auto A	pply	Connect to	AirStation(master)	
		(C)2000	0-2012 BUFFALO INC. All rigi	nts reserved.	This make	o the connection	-

Parameter	Meaning
LAN Config	Displays the configuration screen for the LAN ports.
Wireless Config	Click this button to display the configuration screen for wireless 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.
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.
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.

LAN Config

LAN

Configure LAN-side settings.

Setup	LAN Co	nfig	Wireless (Config	A	dmin Config	Diagnosti	•
LAN							Logo	ut
						LAN Side Ethern	et Settings	Â
LAN Side IP Address Acquire IP Address Automatically Manual Setup IP Address 1.1.1.1 Subnet Mask 255,255,255,0			Configure the AirStation's LAN IP Address, Subnet Mask and minimum DHCP Server settings. The first time you configure your					
Advance	Advanced Setting				recommended.	igs are		
Default G	ateway					Specify the AirSta	tion's LAN IP	
DNS Ser	ver Address	Primary: Secondary:				Address using the Acquire an IP Ad	below method. dress	
Apply						Acquire the <u>IP Ad</u> DHCP Server aut	dress from a comatically.	
						Manual Sofun		Ŧ

Parameter	Meaning
LAN Side IP Address	By default, the LAN side IP address is 1.1.1.1 with subnet mask 255.255.255.0. You may change it here.
Default Gateway	Set the default gateway IP address.
DNS Server Address	Set the DNS server IP address.

Wireless Config

WPS

WPS Status and Settings.

Setup LA	N Config Wireless Config		onfig Wireless Config Admin Config		Diagnostic	;
WPS AOSS	Basic Advance			Logou	ıt	
				WPS (WiFi Protec setting	cted Setup)	Â
WPS (WiFi Pr	otected Setup)			"WPS" is an abbre Protected Setup, a function that enable	viation for WiFi nd it is a es the use of a code to safely	
WPS	Enable			and easily transfer wireless security information from the wireless LAN master to this		
PIN code meth	od Starts W	/PS settings using PIN				
Pushbutton me	ethod Starts W	/PS settings using pushbutto	on	WPS1 butto	n	
setup List of wireless connections (WPS)				This executes the using a pushbutton For details, see the "Pushbutton Metho appears later.	WPS function e section d", which	
NO. SSID	Security	Encryption Key		WPS function		
Delete Setting	S	currentay registered.		This enables select the WPS function i "WPS" is an abbre Protected Setup, a WPS function is us	tion of whether s used. viation for WiFi nd when the sed, it enables	-

Parameter	Meaning
	Initiates WPS automatic wireless configuration. Click this, then press or click the WPS button on your WPS-compatible wireless router.
WPS	Enable to use WPS automatic configuration.
PIN cord method	This uses the WPS PIN code system to obtain wireless security information from the wireless access point.
Push button method	This uses the WPS Push Button method to obtain wireless security information from the wireless access point.
List of wireless connections (WPS)	Displays the wireless security information of the wireless connection where the WPS function was used to set security.

AOSS

AOSS Status and Settings.

Setup LAN Config	W	ireless Config	Admin Config		Diagnostic	;
WPS AOSS Basic Advar			Logou	ıt		
((0])) A055				AOSS (AirStation Secure System)	One-Touch	* III
AOSS Settings				AOSS is Buffalo's unique technology for quickly forming a secure wireless connection. You can see AOSS's configuration and		
Encryption Type		AOSS has not been use	d yet.	status from this sc	reen.	
AOSS Button on the AirStatio	on Unit	Enable		(())		
Apply		A055 [Start AOSS] button			
Арру				Click this button to The AOSS button router works the sa button. Refer to Ho	o start AOSS. on top of the ame as this ow to use AOSS	Ŧ

Parameter	Meaning
((())) Aoss	Initiates AOSS automatic wireless configuration. Click this, then press or click the AOSS button on your AOSS-compatible wireless router.
	Click this button to disconnect AOSS connections.
Encryption Type	Displays the Security Level setting for AOSS.
AOSS Button on the AirStation Unit	Uncheck to disable the physical AOSS button on the AirStation.
AOSS Client Information	Displays AOSS clients connected to the AirStation and information of the devices which are wirelessly communicated.

Basic

Configure basic wireless settings from here.

Setup	LAN Co	onfig	Wire	less Config	Admir	n Config	Diagnostic	
WPS AOS	S Basic Ad	dvanced	WMM				Logo	ut
SSID					Search	Basic		-
Wireless A	uthentication	Do not au	ithenticate 💌			The basic inform	mation and security	
Encryption	for wireless	Not encry	/pted 💌			that connects t	he Ethernet	
11A/11G s	election	11a only		-		(master) can be	e set manually.	
Apply						recommended recryption enal	inity, it is that you use with bled.	÷
			(C)2000-20	12 BUFFALO INC. A	ll rights reserved.			

Parameter	Meaning
SSID	The SSID may contain 1 - 32 alphanumeric characters.
Wireless authentication	Specifies the authentication method used when connecting to a wireless router.
Encryption for wireless	You may use any of the following types of encryption:
	Not encrypted 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. [Not encrypted] can be selected only when [Do not authenticate] 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 [Do not authenticate]. Note that WEP's encryption is weak, and networks protected with WEP are not much more secure than those with no encryption at all. Not recommended for anyone with private data that needs to be kept secure.
	 TKIP TKIP is an encryption method which is more secure than WEP, but slower. Use an pre-shared key to communicate with a wireless device. TKIP can be selected only when WPA-PSK or WPA2-PSK is selected for wireless authentication.

Parameter	Meaning
	AES AES is more secure than WEP, 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.
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.
WEP encryption key setting	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).
11A/11G selection	This specifies the band used when connecting with the wireless access router.
	Automatic (11a priority) First, a connection is tried at 802.11a, and if a connection cannot be made, a connection is tried at 802.11g.
	Automatic (11bg priority) First, a connection is tried at 802.11g, and if a connection cannot be made, a connection is tried at 802.11a.
	11a only Only 802.11a connections are allowed. Even if an 802.11a connection cannot be made, 802.11g is not used.
	11bg only Only 802.11g connections are allowed. Even if an 802.11g connection cannot be made, 802.11a is not used.

Advanced

Configure advanced wireless settings.

Setup	LAN Config	Wireless Config	Admin Config		Diagnostic	
WPS AOSS	Basic Advanced WM	IM			Logout	
					Logout	
				Advanced W	/ireless Settings	
MAC Addre	ss for wireless communicati	on Unit Address	-	(Tracina) Th		
802.11n Pro	otection	Enable		Specify Advan	nced Wireless	
Output Pow	er	100 % 💌		Settings.		
Request of	multicast translation	Enable		MAC Addres communicat	s for wireless tion	
Apply				Select MAC a communication	address for wireless on.	
				Unit Addros	• •	
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Parameter	Meaning
MAC Address for wireless communication	Select which MAC address is used for wireless communication.
802.11n protection	Enable to use 802.11n protection. 802.11n protection gives priority to 802.11n devices in mixed mode (11b/g or 11a) networks.
Output Power	This sets the output of the wireless signal. Because the wireless transmission output and signal distance range are nearly proportional, when the wireless transmission output is reduced, the signal distance range also becomes shorter.
Request of multicast translation	Specific multicast data (such as video broadcast data) can be transferred at high speeds to an access point that supports the multicast control.

WMM

Set priorities for specific communications.

Setup	LAN Config		Wireless C	config	Admin Config	Diagnostic		
WPS AC	WPS AOSS Basic Advanced WMM							
	Logout							
WMM-E	WMM-EDCA Parameters WMM Settings (11ac/n/a/11n/g/b)							
Please d	Please do not change the setting usually.					n specific		
Priority		Parameter			provides some real	settings time		
			For AP	For STA	communication, wh	ich can help		
		CWmin:	15	15	other streaming pro	tocols.		
	0141)	CWmax:	1023	1023	_			
AC_DR (L	_OW)	AIFSN:	7	7				
		TXOP Limit:	0	0	WMM-EDCA Para	neters		
		Admission C	ontrol:	Disable 💌				
			For AP	For STA	 It is usually not neo change this value 	essary to		
		CWmin:	15	15				
		CWmax:	63	1023	Priority			
AC_BE (N	vormal)	AIFSN:	3	3	(High)4 : (Normal)2	ed (Highest)8 : : (Low)1 for		
		TXOP Limit:	0	0	each packet.	. (,		
		Admission C	ontrol:	Disable 💌	Parameter			
			For AP	For STA	CWmin, CWmax			
		CWmin:	7	7	The maximum and	d minimum value		
		CWmax:	15	15	contention window	vindow. The vis used to		
AC_VI (Hi	igh)	AIFSN:	1	2	control the frame of avoidance system	collision		
		TXOP Limit:	94	94	Values that can be	inputted: 1-		
		Admission C	ontrol:	Disable 👻	32101.			
			For AP	For STA	AIFSN			
		CWmin:	3	3	unit defines a time	ding frame. The e-slot (similar to		
	AC_VO (Highest)	CWmax:	7	7	the window value CWmax) Lower va	of CWmin, alues define a		
AC_VO (H		AIFSN:	1	2	higher priority as t	he back-off		
		TXOP Limit:	47	47	can be inputted: 1	-15.		
		Admission C	ontrol:	Disable 💌	TXOP Limit			
Apply					The time for the qu send priority. The is 32ms. Large va more frames at a	ieue to obtain minimum value lues can send time. However,		

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- 28 -

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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.

Admin Config

Name

Configure basic AirStation settings.

Setup	LAN Config	Wireless Config	Admin Config	Diagnostic
Name Initialize	Password Time/ Password Update	Date NTP Access L	og Save/Restore	Logout
			AirStation Name	Ē
AirStation Apply	on Name AP0090	4C08A000	AirStation Name This can be used to specific descriptive n AirStation.	assign a name for the
	(C)2000-2012 BUFFALO INC. A	ll rights reserved.	•
Param	eter	Mean	ing	
AirStatio	on Name	Enter a	name for the AirStat	ion. Names may

alphanumeric characters and hyphens (-).

Password

Configure the password to log in to the AirStation's configuration interface.

Setup	LAN Con	fig	Wireless Config Admin Co		min Config	Diagnostic	;
Name Password Time/Date NTP Access Log Save/Restore Logout							
					AirStation Admin	nistrator	-
Administr	ator Name	admin (fi	ixed)				
Administr	ator Password	•••••	•••	(Confirm)	Administrator Na This is the user na	ame ame used to log	
Apply				(Commit)	into the AirStation screens. It cannot from 'admin '.	i's configuration t be changed	
					Administrator Pa	assword	-
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Parameter	Meaning
Administrator Name	The name of the Administrator account is "admin".
Administrator Password	The Administrator password may contain up to 8 alphanumeric characters and underscores (_).

Time/Date

Configure the AirStation's internal clock.

Setup LAN C	onfig	Wireles	s Config	Admin Config		Diagnostic
Name Password Time/D Initialize/Restart Update	ate NTP Ac	cess Log Sav	e/Restore			Logout
					Time/Da	te
NTP is enabled. Changes made to time and date settings may be overwritten by the NTP server when it syncs.					Set the AirStation's internal clock. Set the internal clock	
Local Date	2012 Year	4 Month 28	Day		manually	
Local Time	12 Hour	Minute 56	Seconds		Note:	Ptotion's internal clock is
Time Zone	(GMT-06:00)	Central Standard Ti	me: CST	•	reset to	its default setting
DST(Daylight Saving Time)	USA (From S	econd Sunday in M	lar to first Sunday in N	ov) 💌	it doesr Howeve	n't have a battery.
Apply Refresh Get Current Time from your PC					configu automa reboote NTP se its time	red to adjust its clock tically even when d by connecting it to a rver. You may also reset

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

NTP

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

Setup	LAN	Config	Wireless Co	onfig	Admin Config		Diagnostic	-
Name Password Time/Date NTP Access Log Save/Restore Logout							Jt	
						NTP		
NTP Fun	ctionality	🗷 Enable				If an NTD convertio	configured the	
NTP Ser	ver	time.nist.gov				AirStation will access the specified		
Update li	nterval	24	hours			clock to conform w	ith the NTP	
Apply						of Network Time Pi server distributes a network devices.	rotocol. An NTP accurate time to	Ŧ
		(C)2000-2012 BUFFAL	O INC. All r	ights re	eserved.		

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.

Access

Restrict access to the AirStation's configuration interface.



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

Log

Transfer the AirStation's logs to a syslog server.

Setup LAN	N Config	Wireless Config	Admin Config	Diagnostic
Name Passwo Initialize/Resta	ord Time/D art Update	Save/Restore	Logout	
Log Transfer	Enable		Syslog Setup	×
Syslog Server			Syslog transfers the log information to a s	AirStation's syslog server.
Logs	 IP Filter AOSS Authentica System Bill Wired Linit 	Image: Construction Image: Construction Image: Construction Image: Construction Construction Image: Construction Construction Image: Construction Image: Construction Construction Image: Construction Image: Construction Construction Image: Construction Image: Construction Ima	Log Transfer Checking [Enable] w AirStation to transmi information to a Sysl default is disabled.	vill instruct the it log log server. The
Apply Sele	ct All Clea		Syslog Server The characters you on half-byte alphanumer and the symbols of "	can enter are ric characters,

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

Save/Restore

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

Setup LA	N Config	Wireless Config	Admin Config		ig Diagnostic	
Name Password Time/Date NTP Access Log Save/Restore					Logou	t
Save Current Settings Save				Save/Restore AirStation Settings		• III
Encrypt the configuration file with a password				Save Current Settings		
Restore Configuration from Backup File		Backup file Restore Enter password	Browse	Once you'v set up the v may save th of the AirSt that you're	e got your AirStation way you want it, you he current configuration ation to a file on the PC using for configuration.	
				Note:		-

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], navigating to the configuration file, and then clicking [Restore]. If the configuration file was password protected, then put a check next to [Enter password], enter the password, and click [Open].

Initialize/Restart

Initialize or restart the AirStation.

Setup LAN Config	Wireless Config	Admin Config	Diagnostic		
Name Password Time/Date NTP Access Log Save/Restore Logo					
This reports your AirSta	tion	Initialize/Restart	<u>^</u>		
Restart Restart Now		Restart	E		
		This reboots your	AirStation.		
Initialize This will restore your A	rStation to the factory default setti	ngs. Settings affected Restarting will re	1: set the clock to		
		default time.			

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	LAN Config	Wireless Config	Admin	Config	Diagnostic	
Name Pas Initialize/Re	sword <u>Time/Date N1</u> estart Update	P Access Log Save/Restor	e		Logou	t
				Firmware Upo	late	Â
Firmware Version	WLI-H4-D1300 Ver.1.	86		Update the Air	Station's firmware	
Update Met	thod Specify Local File Auto Update Onlin	e		Firmware Ve	rsion	Ш
Firmware File Name			Browse	the AirStation		
Update Firmware Version Check				Update Method Please select firmware update method.		
*Get updat	ed firmware files from	our website:		Specify Local File		
	Dow	nload Service		Update the fir stored on the	mware with a file local PC.	
[Advanced	Settings]			Auto Update	Online	
If the time	of the AirStation is not	set beforehand		site via Intern	et to update firmware.	
the schedu	ling function will not	vork properly.		Firmware File	Name	
Firmware Update Rer	minder Enable			Use the brow firmware file t the AirStation	se button to find the hat will be applied to	
Remind Tin	ne Automatic 💌			"Browse" bu	tton	
Apply				Click "Browse desired file. Select the file	" button to locate the	÷
1						

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------------------------------------------------	--

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 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.
Firmware update Reminder	Specify Enable/Disable Firmware Update Reminder.
Remind Time	Specify the time when the system detects new firmware.

Diagnostic

System Info

View system information for the AirStation.

Setup LA	N Config	Config Wireless Config Admin Co		in Config	Diagnostic	
System Info Log	gs Packet Info C	lient Monitor Ping			Logou	ıt
				System Inform	ation	
Model	WLI-H4-D1300 Ver.1.8	36 (R1.44/B6.30.15-0.22-0.10)		Displays the Air	Station's main	
AirStation Name	AP00904C08A000			settings.	oration o main	
	Method of Acquiring IP Address	Manual Setting		Model Displays the mo firmware version	odel name and of the AirStation.	Ξ
LAN	IP Address Subnet Mask Default Gateway DNS (Primary) DNS (Secondary)	192.168.11.135 255.255.0.0 Not Set Not Set Not Set		Air Station Nan Displays the Air name.	ne Station's host	
	MTU Size MAC Address	1500 00:90:4C:08:A0:00		AirStation LAN	information.	
	SSID Authentication Encryption	BUFFALO- (Manual)_/ WPA2-PSK AES	123456 \ (IP address acc Connection St Display the cur under DHCP c	quisition. atus rrent LAN port status onfiguration.	
Wireless	MAC Address for wirel Wireless Channel Wireless Status	ess communication[Multiple Cl 802.11ac/r 40Channe 100% (270	lient] h/a : I Mbps)	Operation DHCP configu If DHCP is in u commands ca	ration. ise, the following n be executed.	
Pofrash	MAC Address	00.1D.73.6	4.00.94	 [Release]: address as DHCP Sen [Renew]: F 	Releases the IP ssigned by the ver. Renews the IP	
Reliesh				address fro Server.	om the DHCP	Ŧ
	(C)	2000-2012 BUFFALO INC. All r	ights reserve	d.		

Parameter	Meaning
Model	Displays the product name of the AirStation and the firmware version.
AirStation Name	Displays the name of the AirStation.
LAN	Displays information about the LAN port.
Wireless	Displays the wireless status.

Logs

The AirStation's logs are recorded here.

Setup LAN	Config	Wireless Config	J A	dmin Config	Diagnostic
System Info Log	S Packet Inf	o Client Monitor	Ping		Logout
	✓ IP Filter	DHCP Client		Logs	
Display log info	AOSS Authentication System Boot	 ✓ Wireless Client ✓ Setting Changes ✓ NTP Client 	Ξ	Display log inform the AirStation. The oldest informa overwritten by new	ation recorded in tion is ∕logs.
l	Wired Link	System 🗹		Display log info	
Display Select	All Clear Al	I		Select the types of should be logged I The default is All. items can be select	f information that by the AirStation. The following cted:
Save to file logfile.	log.	[Delete	IP Filter DHCB Client	
			_	 Drup client 	
Date Time	Туре	Log Content		 AOSS 	
Date Time 2012/01/01 00:21:31	Type NTP	Log Content time.nist.gov : Unknown	host	AOSS Wireless Clie	nt (Start/stop and
Date Time 2012/01/01 00:21:31 2012/01/01 00:21:31	Type NTP NTP	Log Content time.nist.gov : Unknown probe_count=0 hostnam	host e=time.nist.	AOSS Wireless Clie client connect Authenticatic	ent (Start/stop and tion)
Date Time 2012/01/01 00:21:31 2012/01/01 00:21:31 2012/01/01 00:21:31	Type NTP NTP NTP	Log Content time.nist.gov: Unknown probe_count=0 hostnam start ntpclient	host e=time.nist.	AOSS Wireless Clie client connect Authenticatio Setting Chan	ent (Start/stop and tion) n ges
Date Time 2012/01/01 00:21:31 2012/01/01 00:21:31 2012/01/01 00:21:31	Type NTP NTP NTP	Log Content time.nist.gov : Unknown probe_count=0 hostnam start ntpclient	host e=time.nist.	AOSS Wireless Clie client connect Authentication Setting Chan System Boot	ent (Start/stop and tion) on ges

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

Packet Info

View packet transfer information.

Setup	LAI	N Config Wi		ireless Config			Admin Config	Diagnosti	с
System Info Logs Packet Info Client Monitor Ping									
								Logot	
Interfac	_	Sent		Received		Packet Traffic Information		mation	n
menac	e	Normal	Errors	Normal	Errors				
Wired L	AN	3600	0	2562	0		The total numbers of packets sent and received by the AirStation, as well as the errors sending and		=
Wireles	s LAN	44	0	159	0				
Dofrach							receiving, are display	/ed.	
Reliesh							[Refresh] button		
							Displayed packet in renewed with currer	formation is nt information	-
		(()2000-20	012 BUFFALC	D INC. All	ric	ihts reserved.		

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

Client Monitor

This screen shows devices that are connected to the AirStation.

	Setup LA	N Config	Wireless Config A		dmin Config	Diagnostic	;	
System Info Logs Packet Info Client Monitor Ping Logo						ıt		
						Client Monitor		-
	MAC Address	Communicatio Method	ON Wireless Authentication	802.11r	n	Displays the LAN s	ide clients	Ш
	00:1D:73:64:80:94	Wired	-	-		(PCs) that are acce	ssing the	
	00:90:4C:08:A0:00	Wired	-	-		AirStation.		
	E0:69:95:2E:1F:D8	3 Wired	-	-		The following inform displayed:	ation is	
	Refresh					MAC Address	address	Ŧ
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Parameter	Meaning
Client Monitor	Displays information (MAC address, communication method, wireless authentication and 802.11n) for devices that are connected to the AirStation.

Ping

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

Setup	LAN Config	Wireless Config	Ad	min Config	Diagnostic	
System Info	Logs Packet In	fo Client Monitor Ping			Logou	Jt
Destination	Address			Ping		Â
Execute Result				A Ping test can b the AirStation. Wi you can determin AirStation can co specific network o	e performed from ith a ping test, e whether the mmunicate with a levice.	ш
Destination	192.168.11.135			Destination Add	ress	
Result	64 bytes from 192.16 64 bytes from 192.16 64 bytes from 192.16	3.11.135: icmp_seq=0 ttl=64 time= 3.11.135: icmp_seq=1 ttl=64 time= 3.11.135: icmp_seq=2 ttl=64 time=	0.3 ms 0.2 ms 0.2 ms	Enter the network you want to ping; 192.168.11.3 or www.buffalotech.c	IP address that e.g. com.	
		(C)2000-2012 BUFFALO INC. All ri	iahts rese	wed		Ŧ

Parameter	Meaning
Destination Address	Enter the IP address or hostname of the device that you are testing communication with, then click [Execute]. The result will be displayed below.

Chapter 4 - TroubleShooting

When connection to a wireless router is not possible

- Turn the power for the wireless router off and then on again.
- If the "5 GHz fixed mode" is enabled, turn it off.
- Refer to Chapter 2 to connect this unit to a wireless router.
- Move this unit closer to the wireless router.
- Make sure that your client devices are configured to "obtain an IP address automatically from DHCP".
- Verify that your web browser is not set to use proxies.
- Restart your wireless router and AirStation.

You forgot the SSID, encryption key, or password for the wireless network.

- Ask your network administrator about your SSID and encryption settings. These settings must match the SSID and encryption settings of the wireless router.
- If your wireless router supports AOSS or WPS, try using them to connect to the wireless router. Instructions for connecting with AOSS or WPS are in page 12.

Restoring the Default Configuration



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

TCP/IP Settings (Windows 7)

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

- 1 Click [Start] > [Control Panel] > [Network and Internet].
- 2 Click [Network and Sharing Center].
- **3** Click [Change Adapter Settings] on the left side menu.
- **4** Right-click on [Local Area Connection], then click [Properties].
- 5 If the User Account Control screen opens, click [Yes] or [Continue].
- **6** Select [Internet Protocol Version 4 (TCP/IPv4)] then click [Properties].
- **7** To have DHCP set your IP address settings automatically, check [Obtain an IP address automatically] and [Obtain DNS server address automatically].

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

If your AirStation's IP addr	ess is 1.1.1.1,
IP address	1.1.1.2
Subnet mask	255.255.255.0
Default gateway	blank
Preferred DNS server	blank
Alternate DNS server	blank

8 Click [OK].

TCP/IP Settings (Windows Vista)

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

- 1 Click [Start] > [Settings] > [Control Panel].
- 2 Click [Network and Sharing Center].
- **3** Click [Manage network connections] on the left side menu.
- **4** Right-click on [Local Area Connection], then click [Properties].
- 5 If the User Account Control screen opens, click [Yes] or [Continue].
- **6** Select [Internet Protocol Version 4 (TCP/IPv4)], then click [Properties].
- **7** To have DHCP set your IP address settings automatically, check [Obtain an IP address automatically] and [Obtain DNS server address automatically].

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

If your AirStation's IP ad	ddress is 1.1.1.1,
IP address	1.1.1.2
Subnet mask	255.255.255.0
Default gateway	blank
Preferred DNS server	blank
Alternate DNS server	blank

8 Click [Close].

TCP/IP Settings (Windows XP)

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

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

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

If your AirStation's IP address is 1.1.1.1,			
IP address	1.1.1.2		
Subnet mask	255.255.255.0		
Default gateway	blank		
Preferred DNS server	blank		
Alternate DNS server	blank		

6 Click [Close].

TCP/IP Settings (Mac OS X)

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

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

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

f your AirStation's IP address is 1.1.1.1,			
P Address 1.1.1.2			
Subnet Mask	255.255.255.0		
Router	blank		
DNS Server	blank		
Search Domains	blank		

5 Click [Apply].

Other Tips

Issue:

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

Answer:

Open your browser, enter 1.1.1.1 as the browser address, and hit Enter. You will be prompted to log in. Enter "admin" for the username and "password" for the password. Click [OK] to log in. The option to reset your password will be available on the first page.

Issue:

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:

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

Specifications

Wired LAN Interface	
Standard Compliance	IEEE802.3ab (1000BASE-T), IEEE802.3u (100BASE-TX), IEEE802.3 (10BASE-T)
Transmission Rate	10 / 100 / 1000 Mbps
Transmission Encoding	1000 BASE-T 4DPAM5, 100 BASE-TX 4B5B/MLT-3, 10 BASE-T Manchester Cording
Access Method	CSMA/CD
Speed and Flow Control	10 / 100 / 1000 Mbps, Auto Sensing, Auto MDIX
Number of LAN Port	4
LAN Port Connector	RJ-45
Wireless LAN Interface	
Standard Compliance	IEEE802.11ac (Draft 2.0) /n/a/g/b
Transmission Method	Direct Sequence Spread Spectrum (DSSS), OFDM, MIMO
Transmission Rate 802.11ac (Draft)	 802.11ac (Draft): 20 MHz BW (Long GI) 260, 234, 195, 175.5, 156, 117, 78, 58.5, 39, 19.5 Mbps (3 stream) 156, 130, 117, 104, 78, 52, 39, 26, 13 Mbps (2 stream) 78, 65, 58.5, 52, 39, 26, 19.5, 13, 6.5 Mbps (1 stream) 20 MHz BW (Short GI) 288.9, 260, 216.7, 195, 173.3, 130, 86.7, 65, 43.3, 21.7 Mbps (3 stream) 173.3, 144.4, 130, 115.6, 86.7, 57.8, 43.3, 28.9, 14.4 Mbps (2 stream) 86.7, 72.2, 65, 57.8, 43.3, 28.9, 21.7, 14.4, 7.2 Mbps (1 stream) 40 MHz BW (Long GI) 540, 486, 405, 364.5, 324, 243, 162, 121.5, 81, 40.5 Mbps (3 stream) 360, 324, 270, 243, 216, 162, 108, 81, 54, 27 Mbps (2 stream) 180, 162, 135, 121.5, 108, 81, 54, 40.5, 27, 13.5 Mbps (1 stream) 40 MHz BW (Short GI) 600, 540, 450, 405, 360, 270, 180, 135, 90, 45 Mbps (3 stream) 300, 150, 135, 120, 90, 60, 45, 30, 15 Mbps (1 stream) 200, 180, 150, 135, 120, 90, 60, 45, 30, 15 Mbps (1 stream) 80 MHz BW (Long GI) 1170, 1053, 877.5, 702, 526.5, 351, 263.3, 175.5, 87.8 Mbps (3 stream) 390, 351, 292.5, 263.3, 234, 175.5, 117, 87.8, 58.5, 29.3 Mbps (1 stream) 300 MHz BW (Short GI) 1300, 1170, 975, 780, 585, 390, 292.5, 195, 97.5 Mbps (3 stream) 300 MHz BW (Short GI) 1300, 1170, 975, 780, 585, 520, 390, 260, 195, 130, 65 Mbps (2 stream) 302, 526, 526, 526, 546, 552, 556, 546, 552, 556, 546, 556, 556, 556, 556, 556, 556

Transmission Rate 802.11n/a/b/g	802.11n: 20 MHz BW (Long GI) 195, 175.5, 156, 117, 78, 58.5, 39, 19.5 Mbps (3 stream)	
	130, 117, 104, 78, 52, 39, 26, 13 Mbps (2 stream)	
	65, 58.5, 52, 39, 26, 19.5, 13, 6.5 Mbps (1 stream)	
	20 MHZ BW (Short GI)	
	210.7, 195, 175.5, 150, 80.7, 05, 45.5, 21.7 MDps (5 Stream)	
	72 2 65 57 8 43 3 28 9 21 7 14 4 7 2 Mbps (2 stream)	
	40 MHz BW (Long GI)	
	405 364 5 324 243 162 121 5 81 40 5 Mbps (3 stream)	
	270, 243, 216, 162, 108, 81, 54, 27 Mbps (2 stream)	
	135, 121, 5, 108, 81, 54, 40, 5, 27, 13, 5 Mbps (1 stream)	
	40 MHz BW (Short GI)	
	450, 405, 360, 270, 180, 135, 90, 45 Mbps (3 stream)	
	300, 270, 240, 180, 120, 90, 60, 30 Mbps (2 stream)	
	150, 135, 120, 90, 60, 45, 30, 15 Mbps (1 stream)	
	802.11a/g:	
	54, 48, 36, 24, 18, 12, 9, 6 Mbps	
	802.11b:	
	11, 5.5, 2, 1 Mbps	
Frequency Range	Available frequencies depend on the country of purchase. See the next page for details.	
Access Mode	Infrastructure Mode	
Security	AOSS, WPS, WPA2-PSK (TKIP/AES), WPA-PSK (TKIP/AES), 128/64bit WEP	
Other		
Power Supply	External AC 100 - 240 V Universal, 50/60 Hz	
Power Consumption	About 9.8 W (Max)	
Dimensions	212.2 x 183.2 x 34 mm (8.4 x 7.2 x 1.3 in.)	
Weight	500 g (17.6 oz.)	
Operating Environment	0 - 40° C (32 - 104° F) , 20 - 80 % (non-condensing)	

802.11a Frequency Range			
USA Canada	5180-5240 MHz (Channels 36, 40, 44, 48)		

802.11g Frequency Range		
USA Canada	2412-2462 MHz (Channels 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11)	

Default Configuration Settings

Feature	Parameter	Default Setting	
LAN	LAN Side IP Address	Manual Setup 1.1.1.1 (255.255.255.0)	
	Default Gateway	none	
	DNS Server Address	none	
WPS	WPS	Enabled	
	List of wireless connections (WPS)	none	
AOSS	Encryption Type	none	
	AOSS Button on the AirStation Unit	Enabled	
Basic	SSID	none	
	Wireless Authentication	Do not authenticate	
	Encryption for wireless	Not encrypted	
	11A/11G selection	11a only	
Advanced	MAC Address for wireless communication	Unit Address	
	802.11n protection	Disabled	
	Output Power	100%	
	Request of multicast translation	Enabled	

Feature	Parameter	Default Setting		
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		For AP	For STA
	(Priority AC_VI (High))	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
Name	AirStation Name	AP + AirStation's MAC Add	dress	
Password	Administrator Name	admin (fixed)		
	Administrator Password	password		
Time/Date	Local Date	2012 Year 1 Month 1 Day		
	Local Time	0 Hour 0 Minute 0 Seconds		
	Time Zone	(GMT-06:00) Central Standard Time: CST		
	DST (Daylight Saving Time)	USA (From Second Sunday in Mar to first Sunday in Nov)		
NTP	NTP Functionality	Enabled		
	NTP Server	time.nist.gov		
	Update Interval	24 hours		

Feature	Parameter	Default Setting	
Access	Log Output	Disabled	
	Limitation Item	Prohibit configuration from wireless LAN Disabled Prohibit configuration from wired LAN Disabled	
Log	Log Transfer	Disabled	
	Syslog Server	none	
	Logs	IP Filter, DHCP Client, AOSS, Wireless, Authentication, Setting Changes, System Boot, NTF Client, Wired Link, and System	
Update	Update Method	Specify Local File	
	Firmware Update Reminder	Enabled	
	Remind Time	Automatic	

Ethernet Converter Manager

Ethernet Converter Manager Overview

Ethernet Converter Manager is a tool to manage your AirStation. It lets you change the AirStation's IP address. To install the this software, insert the Air Navigator CD into your computer. On the setup screen, click [Software installation].



Opening and Closing Ethernet Converter Manager

To start Ethernet Converter Manager, click [Start] > [All programs] > [BUFFALO] > [AirStation Utility] > [Ethernet Converter Manager]. To close the Ethernet Converter Manager, click [X] at the top right of the screen, or click [Exit].

Select LAN Adapter screen

Select which LAN adapter will be used to set up the AirStation. This screen is displayed if your computer has more than one NIC or other LAN devices. Choose a LAN adapter that is connected to the same network as the AirStation.

Select LAN Adapter - Ethernet Converter Manager				
Select the adapter from the list below that you wish to use to connect to the Ethemet Converter. Click on Refresh to update the list.				
n incorrect adapter	r, click on the f	Esc key to release		
		<u>R</u> efresh		
MAC Address	IP Address	Subnet Mask		
001D73E622F7	Disconnect			
0011095C86F1	192.168.1.3	255.255.255.0		
Select Exit				
	MAC Address 001D73E622F7 0011095C86F1	MAC Address IP Address 001D73E622F7 Disconnect 0011095C86F1 192.168.1.3		

Parameter	Meaning
Refresh	Click this button to update the list.
Select	Highlight your LAN Adapter, then click this button to configure the AirStation.
Exit	Closes the Ethernet Converter Manager.

Select Ethernet Converter

If you have multiple AirStations on the network, they'll all be displayed here. Choose your AirStation from the list and highlight it. Click [Select].

Select Ethernet Convert	er - Ethernet Co	nverter Manage	r X	
Select target Ethemet Converter. Confirm power line of the unit and cable connection then click Refresh button, if the target unit is not found.				
		B	efresh	
Ethernet Converter Name	MAC Address	IP Address		
AP00904C08A000	001D73648538	192.168.11.100		
Connect automatically when only one Ethemet Converter is detected.				
Web Setting	Selec	t 📃 📃	Exit	
1 Ethernet Converters are four	ıd.			

Parameter	Meaning
Refresh	Click this button to search and view the list of the AirStations that can be configured with this software.
Connect automatically when only one Ethernet Converter is detected	Check this option to skip this screen when there is only one AirStation that can be configured.
Web Setting	Click this button to display the AirStation's Web configuration interface. Note: If your computer and the AirStation are on different network subnets, then the IP address settings page will be displayed instead.
Select	Highlight your AirStation, then click this button to display the main screen.
Exit	Closes the Ethernet Converter Manager.

Main Screen

Change your AirStation's IP address or other settings from this window.

P Ethernet Converter Manager			
Model Name Ethemet Converter Nar	WLI-H4-D1300 ne AP00904C08A000		
IP Address	1.1.1.1		
MAC Address	00:1D:73:64:85:38		
Wireless Information SSID (Not Configured)		
Network Type	Infrastructure Mode		
Security	No encryption		
Channel	-		
a/g Mode	802.11a Only		
Status	Disconnect		
Signal Strength			
Options -	Connection Settings Exit		
Current Status.	Launch Web Setting screen		
	Modify IP Address		
	Switch a/g Mode		
	Connection Settings		
\checkmark	Refresh		
	Back to Ethernet Converter Selection		
	About		

Parameter	Meaning
Options > Launch Web Setting screen	Displays the AirStation's Web configuration interface. Note: If your PC and the AirStation are on different network subnets, then the IP address configuration screen is displayed instead.
Options > Modify IP Address	Displays the IP address configuration screen.
Options > Switch a/g Mode	This is not supported feature for this product.
Options > Connection Settings	Displays the connection settings for access points.
Options > Refresh	Updates displayed information for your AirStation.

Parameter	Meaning
Options > Back to Ethernet Converter Selection	Takes you back to the AirStation selection screen.
Options > About	Displays the version number of your Ethernet Converter Manager.
Connection Settings	Display the access point connection settings screen.
Exit	Close Ethernet Converter Manager.

Modify IP Address Screen

Modify the AirStation's IP address.

Modify IP Address	x		
Enter IP address and subnet ma	ask to configure for the Ethemet Converter.		
Acquire IP Address Automat	tically via <u>D</u> HCP		
IP Address	192 . 168 . 11 . 135		
Subnet Mask	255.255.0.0 🔻		
* Your PC and Ethemet Conver range to allow configuration via requires a unique IP address.	ter must have an IP address in the same the web setting screen. Each device		
 Automatic assignment is only available if a DHCP server exists. (Boot up of the unit might take for a while.) 			
* Please contact your network administrator when using this unit in your company network.			
	OK Cancel		

Parameter	Meaning
Acquire IP Address Automatically via DHCP	Check this option to automatically obtain an IP address from a DHCP server.
IP Address / Subnet Mask	If DHCP is not enabled, you can enter an IP address and subnet mask for the AirStation manually.

Connection Settings

Configure your access point's wireless connection settings.

 Connection Settings Click on Scan to search for available access points. Double click on an access point to select it from the list and enter your connection information. 					
					<u>S</u> can
SSID		СН	Strength	Encryption	
0024A570C7E0	0024A570C7E0		95%	Encrypted	
BUFFALO-123456(Manual)_G		1	95%	Encrypted	
E-Mobile		6	42%	Encrypted	
WAP-G		1	42%	Encrypted	
SSID	0024A	570C	7E0		
F R M R I					
Encryption Method	WPA2-PSK AES				
Encryption Key	1234567890123				
OK Cancel					
Found 4 access point(s).					

Parameter	Meaning
Scan	Click this button to search for available access points.
SSID	Select an access point to connect to. Double-click on an access point's SSID to select it.
Encryption method	Select the type of encryption to use.
Encryption Key	Enter the AP's encryption key.

Regulatory Compliance Information

Federal Communication Commission Interference Statement

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

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

FCC Caution:

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

For product available in the USA/Canada market, only channel 1~11 can be operated. Selection of other channels is not possible. This device is going to be operated in 5.15~5.25GHz frequency range, it is restricted in indoor environment only.

Important Note - FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This device and its antenna(s) must not be co-located or operation in conjunction with any other antenna or transmitter. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

The availability of some specific channels and/or operational frequency bands are country dependent and are firmware programmed at the factory to match the intended destination. The firmware setting is not accessible by the end user.

Industry Canada statement: Industrie Canada déclaration:

This Class B digital apparatus complies with Canadian ICES-003.

This device complies with RSS-210 of the Industry Canada Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and

(2) this device must accept any interference received, including interference that may cause undesired operation.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada. Ce dispositif est conforme à la norme CNR-210 d'Industrie Canada applicable aux appareils radio exempts de licence. Son fonctionnement est sujet aux deux conditions suivantes:

(1) le dispositif ne doit pas produire de brouillage préjudiciable, et

(2) ce dispositif doit accepter tout brouillage reçu, y compris un brouillage susceptible de provoquer un fonctionnement indésirable.

Caution: Prudence:

The device for the band 5150-5250 MHz is only for indoor usage to reduce potential for harmful interference to co-channel mobile satellite systems.

Le dispositif fonctionnant dans la bande 5150-5250 MHz est réservé uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux.

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

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

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

This equipment complies with IC RSS-102 radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator & your body.

Cet équipement respecte les limites d'exposition aux rayonnements IC RSS-102 définies pour un environnement non contrôlé. Il doit être installé et utilisé en maintenant une distance minimum de 20 cm entre le radiateur 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

EN 62311: 2008

Assessment of electronic and electrical equipment related to human exposure restrictions for electromagnetic fields (0 Hz – 300 GHz)

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 wide band modulation techniques; Harmonized EN covering essential requirements under 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 and services; Part 17: Specific conditions for 2,4 GHz wideband transmission systems and 5 GHz high performance RLAN equipment.

EN 301 893 V1.5.1: 2008

Broadband Radio Access Networks (BRAN); 5 GHz high performance RLAN; Harmonized EN covering essential requirements of article 3.2 of the R&TTE Directive

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.

€0700

Česky [Czech]

Buffalo Technology Inc. tímto prohlašuje, že tento AirStation WLI-H4-D1300 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 WLI-H4-D1300 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 WLI-H4-D1300 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 WLI-H4-D1300 vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.

English

Hereby, Buffalo Technology Inc. declares that this AirStation WLI-H4-D1300 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 WLI-H4-D1300 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 WLI-H4-D1300 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 WLI-H4-D1300 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 WLI-H4-D1300 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 WLI-H4-D1300 atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.

Lietuvių [Lithuanian]

Šiuo Buffalo Technology Inc. deklaruoja, kad šis AirStation WLI-H4-D1300 atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.

Nederlands [Dutch]

Hierbij verklaart Buffalo Technology Inc. dat het toestel AirStation WLI-H4-D1300 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 WLI-H4-D1300 jikkonforma malħtiġijiet essenzjali u ma provvedimenti oħrajn relevanti li hemm fid-Dirrettiva 1999/5/EC.

Magyar [Hungarian]

Alulírott, Buffalo Technology Inc. hogy a WLI-H4-D1300 megfelel a vonatkozó alapvető követelményeknek és az 1999/5/EC irányelv egyéb előírásainak.

Polski [Polish]

Niniejszym Buffalo Technology Inc. oświadcza, że WLI-H4-D1300 jest zgodny z zasadniczymi wymogami oraz pozostałymi stosownymi postanowieniami Dyrektywy 1999/5/EC.

Português [Portuguese]

Buffalo Technology Inc. declara que este WLI-H4-D1300 está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.

Slovensko [Slovenian]

Buffalo Technology Inc. izjavlja, da je ta WLI-H4-D1300 v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES.

Slovensky [Slovak]

Buffalo Technology Inc. týmto vyhlasuje, že WLI-H4-D1300 spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.

Suomi [Finnish]

Buffalo Technology Inc. vakuuttaa täten että WLI-H4-D1300 tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.

Svenska [Swedish]

Härmed intygar Buffalo Technology Inc. att denna WLI-H4-D1300 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 USB slot, and product could be used in typical laptop computer with USB slot. Other application like handheld PC or similar device has not been verified and 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。

在5.25-5.35秭赫(GHz)頻帶內操作之無線資訊傳輸設備,限於室內使用。

기종별	사용자안내문
B 급 기기	이 기기는 가정용 (B 급) 전자파적합기기로서 주
(가정용 정보통신기기)	로 가정에서 사용하는 것을 목적으로 하며 , 모든
	지역에서 사용할 수 있습니다 .

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 the collection, reuse and recycling systems, please contact your local or regional waste administration.

GPL Information

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