AW-NU138

IEEE 802.11b/g/n USB Wireless Adapter User's Manual

I. Introduction

i. Overview

Azurewave AW-NU138 USB 2.0 Wireless Adapter is a highly integrated wireless local area network (WLAN) solution to let users enjoy the digital content through the latest wireless technology without using extra cables and cords. It provides easy-to-use, high performance, cost effective and low power solution. Moreover, AW-NU138 enables compatible high-speed wireless connectivity within home, business and public access wireless networks.

Compliant with the IEEE 802.11n/g/b standard, AW-NU138 uses Direct Sequence Spread Spectrum (DSSS), Orthogonal Frequency Division Multiplexing (OFDM), BPSK, QPSK, CCK and QAM baseband modulation technologies. When you are using AW-NU138, a high level of integration and full implementation of the power management functions specified in the IEEE 802.11 standard can minimize system power requirements.

The AW-NU138 802.11n/g/b Wireless USB Adapter provides up to 128-bit level of WEP security to your wireless data transfers. It is able to run in the operating systems of Windows XP/Vista in either Infrastructure mode or Ad-Hoc mode. Comparing to previous wireless technology, AW-NU138 got great improvements on speed and range. AW-NU138 is able to double the data rate up to 150Mbps.

ii. Features

- ◎ USB 2.0 Wireless Adapter
- © Compliant with IEEE 802.11n/g/b standard
- ◎ two antenna to support 1 (Transmit) x 1 (Receive) technology
- ◎ High speed wireless connection up to 150Mbps
- (For download only, it must connect to the other two Spatial Streams Modulation Access Point)
- \bigcirc High performance and low power consumption
- ©Enhanced wireless security with 128-bit WEP encryption an WPA

iii. Product Review

1. Connection Mode

◎Infrastructure Mode

Infrastructure mode needs an access point to establish the network, which can provide wireless accesses within valid range for users to communicate with others or transmit data with a wired network. There are several benefits of Infrastructure networking:

 $\sqrt{\text{Roaming: a wireless LAN enabled computer can physically move from the operating range of one access point to the other without losing connection. There is a quick association made between new access point and wireless device as the computer traverses from the coverage of one access point to another.$

 $\sqrt{\text{Range Extension: each wireless LAN enabled computer within the range of access point can communicate with other wireless LAN enabled computers within the effective range from the access point.$

 $\sqrt{\text{Wired to wireless LAN connection: the access point will establish a bridge between wireless LAN and other wired counterparts.}$

Internet	+	ADSL or Cable (If any	Modem	Access Point
				((((
			AW-NU138	•

Infrastructure Mode

The difference between Ad-hoc mode and Infrastructure mode is that Ad-hoc mode does not need the access point or router. When you use this mode, your computer will act as a server within the valid range and connect directly to others in the same LAN workgroup.



Ad-hoc Mode

It is recommended to choose this mode when there is no access point showed on your wireless network.

II. Installation

i. System Requirements

Before you install AW-NU138, please make sure your system meets the following requirements.

*Desktop or Laptop or applications with USB 1.1/2.0 port

*Minimum of 64MB system memory

*Operating system: XP/Vista

*An optical drive/CD-ROM for utilities and driver installation

ii. Hardware Installation

- 1. Find an available USB 1.1/2.0 port on your desktop or laptop or other applications.
- 2. Plug AW-NU138Wireless USB adapter into USB port of desktop or laptop or other applications.

iii. Operation Range

The operating range of AW-NU138 varies from the working environment. However, this device made improvement on speed and range, which also reduced dead spots in coverage area. By default, this USB wireless adapter will automatically adjust the data rate. The transmission speed may vary according to the environment. The closer the wireless stations are the better the signal and transmission speed they will receive.

iv. Setup: Windows XP OS

If your computer is running a Windows operating system, it will automatically detect the AW-NU138 after the system boots up and displays a "Found New Hardware Wizard" window. Please click [Cancel] and proceed with the following steps.

Found New Hardware Wiz	ard		
	Welcome to the Found New Hardware Wizard Windows will search for current and updated software by looking on your computer, on the hardware installation CD, or on the Windows Update Web site (with your permission). Read our privacy policy		
	Can Windows connect to Windows Update to search for software?		
	 ○ Yes, this time only ○ Yes, now and every time I connect a device ○ No, not this time 		
	< <u>B</u> ack <u>N</u> ext > Cancel		

1. Find out the Driver, and launch the Setup Wizard



2. Please wait few seconds for wizard to prepare installation

Azurewave Wireless LAN -	InstallShield Wizard	
Preparing Setup Please wait while the InstallSI	nield Wizard prepares the setup.	
	Azurewave Wireless LAN Setup is preparing the InstallShield Wizard, which will guide through the rest of the setup process. Please wait.	you
InstallShield		Cancel

3. Please select click [Install] to proceed

Azurewave Wireless LAN - Ins	tallShield Wizard	\mathbf{X}
Ready to Install the Program The wizard is ready to begin insta	lation.	
	Click Install to begin the installation. If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.	
InstallShield	< Back Install Cancel]

4. The Wizard is running installation

Azurewave Wireless LAN -	InstallShield Wizard	X
Setup Status		
	The InstallShield Wizard is repairing Azurewave Wireless LAN	
InstallShield	Cancel	

5. Please wait few seconds for Wizard to setup



6. When it is completed, please click [Finish]

Azurewave Wireless LAN - In	nstallShield Wizard
	InstallShield Wizard Complete
	The InstallShield Wizard has successfully installed Azurewave Wireless LAN. Click Finish to exit the wizard.
InstallShield	K Back Finish Cancel

9. When the process is finished, the system will show a message of "Found New Hardware"



v. Setup: Windows Vista OS

Please follow the steps to complete installation.

1. Launch the setup driver

And the cost of the content		20120 0 31210	141.01	120	_
cuments tures isic cently Changed irches blic	 _setup.dll data1 data1.hdr data2 ISSetup.dll layout.bin setup setup setup 	5/18/2006 12:21 AM 7/10/2007 5:14 PM 7/10/2007 5:14 PM 7/10/2007 5:14 PM 7/10/2007 5:14 PM 7/10/2007 5:14 PM 5/25/2006 1:10 AM 7/9/2007 5:28 PM	Application Extens Cabinet File HDR File Cabinet File Application Extens BIN File Application Configuration Sett	365 KB 1,059 KB 31 KB 31,009 KB 540 KB 1 KB 445 KB 1 KB	
	etup.isn	5/17/2006 3:44 AM	ISN File	52 KB	
s ^					

2. When you see the permission dialogue box, please click [Continue]



3. Now the Wizard is preparing installation

Azurewave Wireless LAN - InstallShi	eld Wizard	
Preparing Setup Please wait while the InstallShield V	Wizard prepares the setup.	
	Azurewave Wireless LAN Setup is preparing the InstallShield Wizard, which will guin through the rest of the setup process. Please wait.	de you
InstallShield		Cancel

4. Please click [Install] to proceed

Azurewave Wireless LAN - Instal	Shield Wizard
Ready to Install the Program The wizard is ready to begin ins	tallation.
	Click Install to begin the installation. If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.
InstallShield	< Back Install Cancel

5. The system is process installation

Azurewave Wireless LAN - InstallSh	ield Wizard	X
Setup Status		
	The InstallShield Wizard is installing Azurewave Wireless LAN	
InstallShield	Car	icel

8. When the setup is completed, please click [Finish]

Azurewave Wireless LAN - Install	Shield Wizard
	InstallShield Wizard Complete
	The InstallShield Wizard has successfully installed Azurewave Wireless LAN. Click Finish to exit the wizard.
InstallShield	< Back

III. Network Connection

i. For Windows XP OS

Please see the following steps to setup network connection for Windows XP.

1. Find the network icon on the desktop shortcut and right-click on it. Choose "View Available Wireless networks"



2. You will see several options, please select one and click [Connect]



3. Please wait for few seconds to let system connecting to selected wireless network



4. You may need to type the network key when it is required



5. Now the selected wireless network is connected

tion 6	
Choose a wireless network	
Click an item in the list below to connect to a wireless networ information.	k in range or to get more
((Q)) AzureWave	Connected 👷
Security-enabled wireless network	1000
((Q)) SWRDG	
Security-enabled wireless network	0000
((Q)) IAPO-G54	
Security-enabled wireless network	Düüse
((Q)) default	
Unsecured wireless network	Düüe
	Connect
	Choose a wireless network Cick an item in the list below to connect to a wireless network formation. AzureWave Security-enabled wireless network (m) Security-enabled wireless network (m) APO-GS4 Security-enabled wireless network default Unsecured wireless network

6. You can check the connection status by clicking [Status] in the pop-up dialogue



7. Here is the wireless network connection status

neral Support	
Connection	
Status:	Acquiring network address
Network:	AzureWave
Duration:	00:01:54
Speed:	54.0 Mbps
Signal Strength:	888a -
Activity	24
	Sent — Wind — Received
Packets:	9 0
Properties D	isable View Wireless Networks

ii. For Windows Vista OS

Following are the instructions to setup wireless connection for Windows Vista.

1. Right-click on the network icon located on desktop shortcut. When you see the dialogue, please click [Connect to a network]



2. Choose wireless network within your range and click [Connect]

Select a network to	connect to	4 9
SWRDG	Security-enabled network	Utre
bu bu	Unsecured network	- Illee
1APO-654	Security-enabled network	litee
Set up a connection or ne Open Network and Sharin	twork ig Center	

- * If selected network is not secure, please choose [Connect anyway]
- 3. You may need to wait for few seconds when Windows connects to wireless network

Connect to a network	
Connecting to AzureWave	
i i i i i i i i i i i i i i i i i i i	2
	Cancel

4. Now the selected wireless network is connected



5. If you want to see the connection status, please right-click on the network you choose and select [Status]

LAN or High-Speed Internet (1) Wireless Network Connection AcureWave Disable Connect / Disconnect Status	
AzureWave Disable Connect / Disconnect	
Status	
Diagnose ^{Lut}	
Bridge Connections	
Create Shortcut	
Delete	
Rename	
Properties	

6. This is the information of network status

Connection		
IPv4 Connectiv	ity:	Internet
IPv6 Connectiv	ity:	Limited
Media State:		Enabled
SSID:		AzureWave
Duration:		00:03:42
Speed:		48.0 Mbps
Signal Quality:		llter
Details	Wireless Properties	
Activity	-	
	Sent — 🌉	Received
Bytes:	60,071	2,286,765
Properties	Pisable Diag	gnöse

IV. Setup for Ad-hoc Mode

i. For Windows XP OS

If you want to choose Ad-hoc mode, please right-click network icon on desktop shortcut and choose "Open Network Connections", or go to [Control Panel] and double-click "Network Connection" icon.

Disable Status Repair			2014					
View Available Wireless Netwo	rks							
Change Windows Firewall setti	ngs		a she was					
Open Network Connections	A -126	17 () <mark>(</mark>	4:52 PM					
Control Panel								
Back • 🕥 - 🎓 🔎 s	Help learch 🌔 Fol	ders .	1					
ress 🕞 Control Panel		-	1000	Part of the second seco	124		Xear	90
Control Panel 🛞	G	×		40	-	\sim		
Switch to Category View	Accessibility Options	Add Hardware	Add or Remov	Administrative Tools	Automatic Updates	Avira Antivir PersonalEdi	CMI Audio Config	
	-9	R	(J)		and a	P	-	
See Also	Date and Time	Display	Folder Options	Fonts	Game	Internet	Keyboard	
Help and Support	92	0	-	ta .		i a		
	Mouse	Network	Network Setup	Phone and	Power Options	Printers and	Bertional and	
	1 TONARO	Connections	Wizard	Modem	Tonici Optiono	Paxes	Language	
	9	1	۲	O,	2º			
	Scanners and Cameras	Scheduled Tasks	Security	Sounds and Audio Devices	Speech	System	Taskbar and Start Menu	
	69	3		00)	50			
	User Accounts	Windows	Windows	Wireless	郵件			
	Jacob Proventia	CardSpace	Firewall	Network Set	JAPE 1			

When you see the "Network Connections" screen, please follow the steps below to setup Ad-hoc mode.

1. Double-click "Wireless Network USB Adapter" icon to enter its properties



2. Click "General" tab and double-click the "Internet Protocol (TCP/IP)" item



3. Choose "Use the following IP address:" and type the IP address; then click [OK]

Internet Protocol (TCP/IP)	Properties 🛛 🛛 🔀
General	
You can get IP settings assign this capability. Otherwise, you the appropriate IP settings.	ed automatically if your network supports need to ask your network administrator for
Obtain an IP address aut	omatically
Use the following IP addr	ess:
IP address:	192.168.0.10
Subnet mask:	255 . 255 . 255 . 0
Default gateway:	
O Obtain DNS server addre	ter automatically
OUse the following DNS se	erver addresses:
Preferred DNS server.	E 27 - 27 - 27
Alternate DNS server.	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	Advanced
	OK Cancel

*Note: the IP address of the other wireless card should be set with the same subnet mask

4. Right-click the "Wireless Network Connection" icon and choose "properties"

S Network Connections	
File Edit View Favorites Tools Advanced Help	10
🔘 Back - 🔘 - 🎓 🖉 🔎 Search 😢 Folders 🛄 •	
Address S Network Connections	🛩 🄁 Go
Network Tasks Create a new correction Set up a home or smal office network Change Windows Firewall settings Frewall settings Wi View available wireless network device Disable this network device Disable this network device Pepair this connection Rename this connection Rename this connection New status of this connection Change settings of this connection Properties Change settings of this connection Properties Properties	► 60
S My Computer	
Wew or change settings for this connection, such as adapter, protocol, or modem configuration settings.	ai.

5. Select "Wireless Network" tab and choose [Add]

	ction 6 Properties 🛛 🛛 🤶
aneral Wireless Networks A	dvanced
Use Windows to configure n	ny wireless network settings
Available networks	
To connect to, disconnect fro about wireless networks in ran	m, or lind out more information ige, click the button below.
	View Wireless Networks
1	Move up
Add Remove	Properties
	and a second sec

6. Type "Network name (SSID)" and choose "Data encryption" if you want to protect the network security

	connection	
Network name (SSID):	test	
Wireless network key		
This network requires a ke	y for the following:	
Network Authentication:	Open	~
Data encryption:	Disabled	~
Network.kep		
Continn network key		-
Key ridex (advanced)	1 0	
The key is provided for	me automatically	

7. When you see the dialogue showing your network is unsecured, please click [Continue Anyway]

8. Now your network is in Ad-hoc mode

Wireles	s Network Connection 6 Properties 👘 👔
General	Wireless Networks Advanced
🗹 Use V	/indows to configure my wireless network settings
Availab	le networks.
To con about v	nect to, disconnect from, or find out more information wreless networks in range, click the button below.
	View Wireless Networks
Automa below	tically connect to available networks in the order listed (Automatic) Mover up Move down
Learn a configu	Id Remove Properties bout setting up wireless network Advanced
	OK Cancel

ii. For Windows Vista OS

Please follow the steps to setup Ad-hoc mode for Windows Vista.

1. Right-click the Network neighbor to choose "properties," or you can right-click network icon on desktop shortcut and choose "Network and Sharing Center"





2. When you see the "Network and Sharing Center" windows, please select "Manage network connection" bar



3. Right-click the connected network icon and choose "Properties"



4. When you see the warning message, please click [Continue]



5. Choose "Networking" tab and double-click the "Internet Protocol Version 4 (TCP/IPv4)" item



6. Choose "Use the following IP address:" and type the IP address; then click [OK]

ieneral				
You can get IP settings assigned this capability. Otherwise, you n for the appropriate IP settings.	l automatically if eed to ask your i	your n networ	etwork su k administ	pports trator
Obtain an IP address autor	natically			
Use the following IP address	151			
IP address:	192.1	68.0	. 10	
Subnet mask:	255 . 2	55 . 25	5.0	
Default gateway:			(6)	
Cobtain DNS server address	automatically			
Use the following DNS serv	er addresses:			
Preferred DNS server:	2	*	36	
Alternate DNS server:		÷.	*	
			Advan	ced

*Note: the IP address of the other wireless card should be set with the same subnet mask

7. Choose "Manage wireless networks" bar



8. Select [Add]

-						
00	e 🚮 « Network and In	ternet 🕨 Manage	Wireless Networks	•	Search .	م
Mar Wind can a	nage wireless netwo lows tries to connect to th also add or remove netwo	orks that use (V lese networks in the rk profiles.	Vireless Network Conr e order listed below. To chan	nection 2) ge the order, di	rag a network up	or down in the list. You
👍 Add	🕐 Adapter properties	8 Profile types	💱 Network and Sharing Co	enter		0
Networks	s you can view and modif	y (1)				•
	AzureWave	Security: WEP	Тур	e: Any support	ed	Automatically con
hel	1 item					1

9. Choose "Create ad-hoc network"

low d	o you want to add a network?
1	Add a network that is in range of this computer This shows you a list of networks that are currently available and lets you connect to one. Once you connect, a profile for the network is saved on your computer.
-	Manually create a network profile This creates a new network profile or locates an existing network and saves a profile for the network on your computer. You need to know the network name (SSID) and security key (if applicable).
4	Create an ad hoc network This creates a temporary network for sharing files or an Internet connection

10. Please click [Next]

-		00				
9	Manually connect to a wireless network					
5	Set up a wireless ad hoc network					
r c	in ad hoc network (sometimes called a computer-to-computer network) is a temporary network used for sharing files, presentations, or an Internet connection among multiple computers and devices.					
0	Computers and devices in ad hoc networks must be within 30 feet of each other.					
H S	If you're currently connected to a wireless network, you might be disconnected when you set up this network.					
	Next	Cancel				

11. Enter "Network name" and if you want to protect the network security, please choose in "security type"; then click [Next]

Give your network	a name and choose security	options
Network name:	test	
Security type:	No authentication (Open)	Help me choose
Security key/Passphrase:		Display characters
V Save this networ	k	

12. Now your network is in Ad-hoc mode

The te	st network is ready to use	
This net disconn to conn	work will appear in the list of wireless networks and will stay active until everyone ects from it. Give the network name and security key (if any) to people you want ect to this network.	
	Wireless network name: test Network security key: unsecured	
To share	files, open Network and Sharing Center in Control Panel and turn on file sharing.	

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.

IMPORTANT NOTE:

Radiation Exposure Statement:

The product comply with the US/Canada portable RF exposure limit set forth for an uncontrolled environment and are safe for intended operation as described in this manual. The further RF exposure reduction can be achieved if the product can be kept as far as possible from the user body or reduce output power if it doesn't affect the transmission/receiving quality.

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

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 compliance with related RF exposure rule and such use shall be prohibited.

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.