



Model Name: AW-GA200/AW-GA201
802.11g/54Mbps

*802.11g Access Point + Wireless Audio
Receiver Combo Solution*

User Manual

AzureWave Technologies Inc, 2006

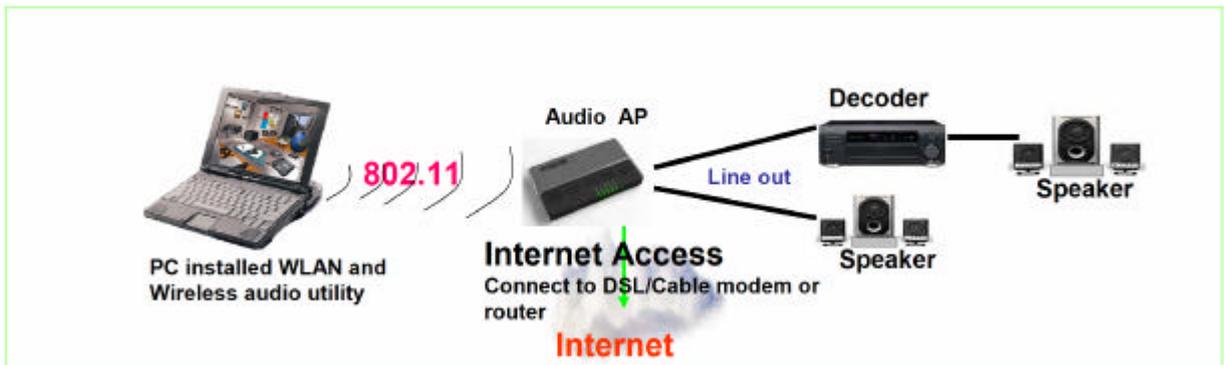
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Chapter 1: Introduction

AW-GA100 is 802.11g Access Point + Wireless Audio Receiver Combo Solution. It support following feature

- 802.11g Access point feature, including AP feature and AP Client feature.
- Wireless sound card (WSC) feature:
 - ✚ Wireless sound card (WSC) is the most advanced technology on wireless audio transmission. Users only need to install Azurewave driver/utility on your computer, computer can stream audio via 802.11 wireless network or 802.3 wire network to the receiver.



- Audio : Support 2.1 & 5.1 wireless sound card feature

AW-GA100 connect your computer digital music to full glory through your stereo or surround sound system through 802.11 wireless connection. .

The device will bundle with AzureWave wireless audio driver and utility. It creates a virtual sound system in your PC, which sends the audio output of any application to the AW-GA100 and the stereo system. Use your favorite media player to play your music, and listen in the comfort of the living room.

Chapter 2: Getting Start with AW-GA100

2.1 System Requirements

- 400 MHz or Faster PC
- 128 MB of RAM Memory
- CD-ROM Drive
- Wireless Network Adapter
- Internet Explorer 5.5 or Netscape Navigator 6.1 or Higher for Web-Based Configuration
- Windows 2000 or XP with Service Pack 1 (or later)

- **Note: Wireless Audio feature only works under Windows XP operating systems,**
 - ✚ **Note: AzureWave wireless audio utility support Windows XP only, NOT support Windows 98 or Windows ME**

2.2 Getting to know the AW-GA100

2.2.1The Back Panel



Audio Out L/R

The Audio Out (Left and Right) ports connect to the Audio In (Left and Right) ports of your audio receiver.

Ethernet

This Ethernet port connects to Ethernet network devices, such as a switch or router, if using a wired connection.

Reset Button

There are two ways to Reset the Device's factory defaults. Either press the Reset Button, for approximately ten seconds, or restore the defaults from the Password tab in the device's Web Based Utility.

*Important: Resetting the device will erase all of your settings and replace them with the factory defaults. Do not reset the device if you want to retain these settings.

Line Out

The Line Out port is where you can connect headphones or portable audio speakers with a headphone jack.

Optical Out

The Optical Out (SPDIF) port is where you connect the cable from the Optical In port of your audio receiver.

Power

The Power port is where you will connect the power adapter.

2.2.2 The LEDs

The LEDs is located in front panel, it can indicate some device information



Power (Green color)

. The Power LED lights up when the device is powered on.

Ready

. The Ready LED lights up when the device is ready. It will be flashing while upgrading firmware, after firmware upgrade process is done, the Ready LED will be back to light

up status.



Ethernet

. The Ethernet LED displays two modes. If the LED is continuously lit, the device is successfully connected to a device through the Ethernet port. If the LED is flashing, it is an indication of any network activity.



Wireless LAN

If the LED is flashing, it means Wireless LAN is acting.



Wireless Audio

The Wireless Audio LED displays three modes.

- LED is off, it means nobody run wireless audio feature (but could be use AP feature).
- LED is continuously lit, means specific computer is successfully connected to the device and enable wireless audio feature.
- LED is flashing, it means wireless audio transmission is acting.

2.3 Ceck your materials on the package

The AW-GA100 package should includes following items,

1. AW-GA100
2. Installion CD, the CD includes driver, utility and user's manual
3. RJ45 cable
4. Quick Installation Guide
5. Power Adapter (5V DC output)

Chapter 3: How to Make Wireless Audio Feature Working?

It's very easy to enable AW-GA100 wireless audio feature, just need to following 3 steps,

Step 1: Install your wireless audio driver and utility on your computer

Step 2: Power on your AW-GA100, connect AW-GA100 to power speaker or decoder.

Step 3: Connect PC to AW-GA100, Run the utility to enable wireless audio feature, then your can start to enjoy the convenience of wireless audio.

Below is the detailed instruction for above 3 steps

Step 1: Install your wireless audio driver and utility on your computer

The AzureWave wireless audio driver will create a virtual sound system in your PC, which sends the audio output of any application to the AW-GA100 and the stereo system.

The AzureWave wireless audio utility will help to manage single or multi-devices exist on the same network, you can also chose PC orginal audio output or wireless audio output on the utility.

For detailed installation and instruction of AzureWave wireless audio driver/utility, please refer to Chapter 4 and Chapter 5.

Step 2: Power on your AW-GA100, connect AW-GA100 to powered speaker or decoder.

Plug-in the power adapter bundled with AW-GA100, the power LED will be light up. AW-GA100 DON'T built-in speaker, so you have to connect to "Powered Speaker", Decoder(For SPDIF output) or Home stereo.

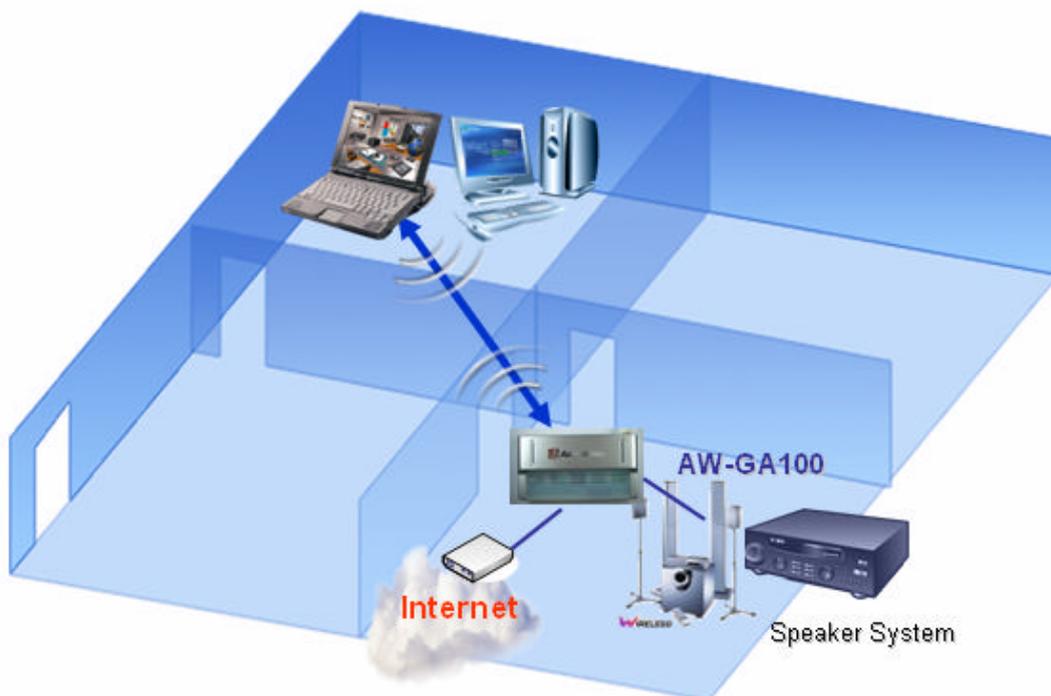
Step 3: Connect PC to AW-GA100, Run the utility to enable wireless audio feature, then you can start to enjoy the convenience of

Please connect your PC to AW-GA100 via 802.11 WLAN or 802.3 wired networks. For 802.11 WLAN setup, please refer to your PC WLAN adapter manual. The AW-GA100 default SSID is AW-GA100,

When you got successful network connection, the Access Point feature of AW-GA100 will be working. But you still have to run wireless audio utility to enable wireless audio feature. For the instruction of wireless audio utility, please refer to chapter 5.

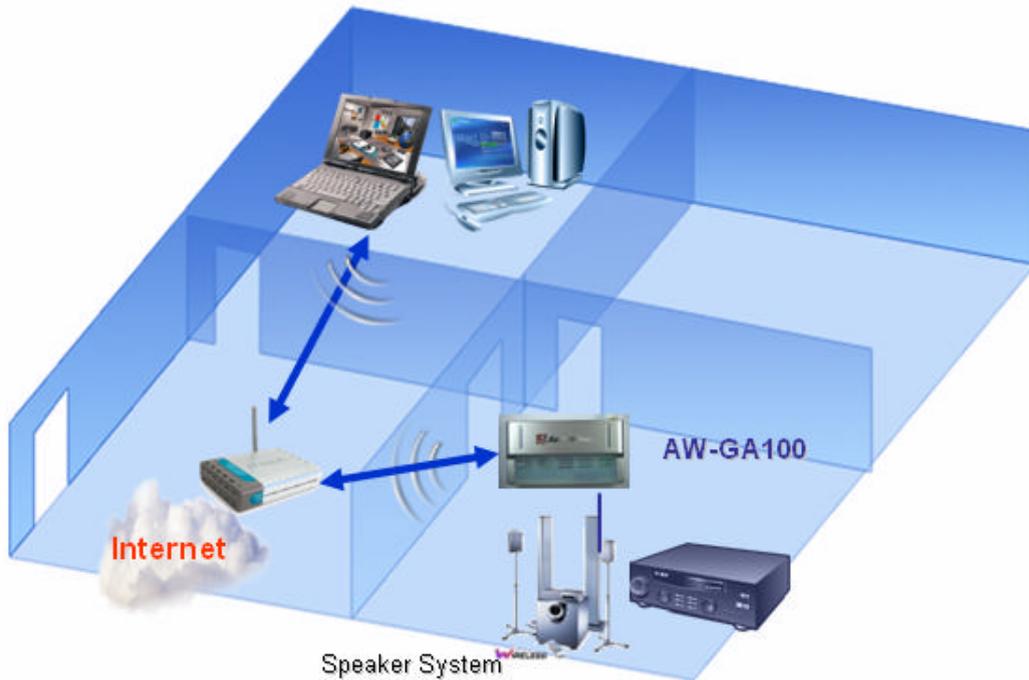
When wireless audio feature is enabling, the blue "wireless" LED will be lighting up. If you start to stream wireless audio to AW-GA100, the blue LED will be flashing, it means wireless audio transmission is acting.

Figure: AW-GA100 works as Access Point



You may have an available network existing at your home, or your home stereo is far away from your wireless DSL/Cable modem. Under this situation, you can configure AW-GA100 as "Client" mode, it mean the device will join your available network, diable Access Point feature, just connect to available network and receive the audio from PC.

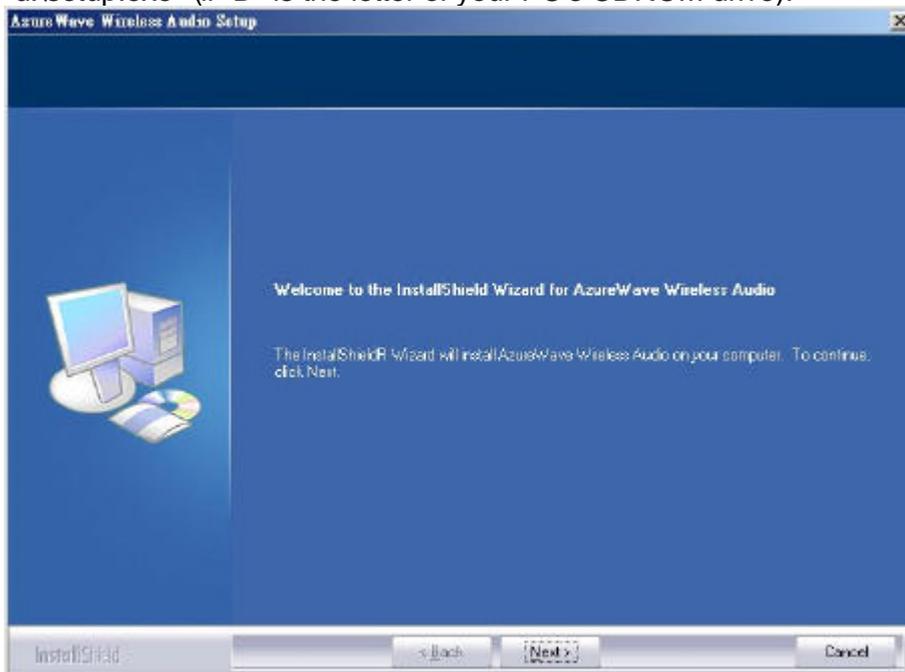
Figure: AW-GA100 works as Client



Chapter 4: Installation and Setup Wizard

4.1 Install your wireless audio driver and utility

Insert Installation CD onto your PC, then click start button and select run, enter "d:\setup.exe" (if "D" is the letter of your PC's CDROM drive).



When auto-installation utility is starting, please follow utility's instruction to complete Driver/Utility Installation process.

After Installation is done, the utility will automatically start the Setup Wizard.

4.2 Setup Wizard

4.2.1 Starting Setup Wizard to configure Device

Insert Installation CD onto your PC, then click start button and select run, enter "d:\setup\setup.exe"(if "D" is the letter of your PC's CDROM drive).

When auto-installation utility is starting, please follow utility's instruction to complete Driver/Utility Installation process.

After Installation is done, the utility will automatically start the Setup Wizard.

Starting Setup Wizard to configure Device

***Before your starting setup wizard, please connect device through Ethernet cable

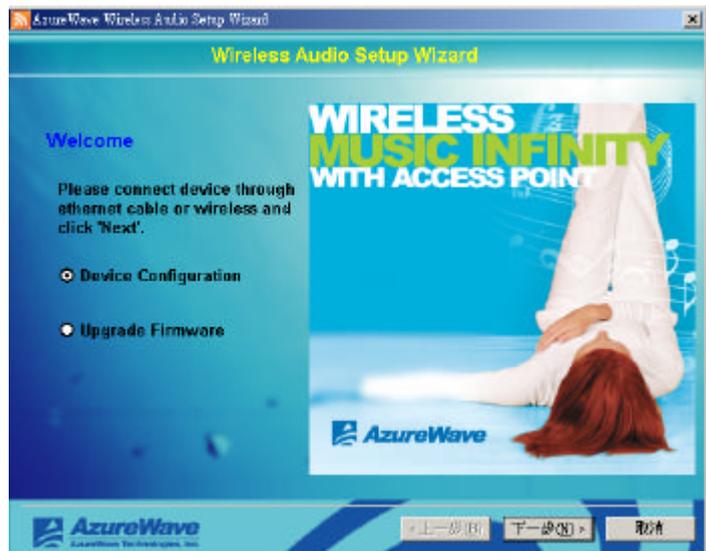
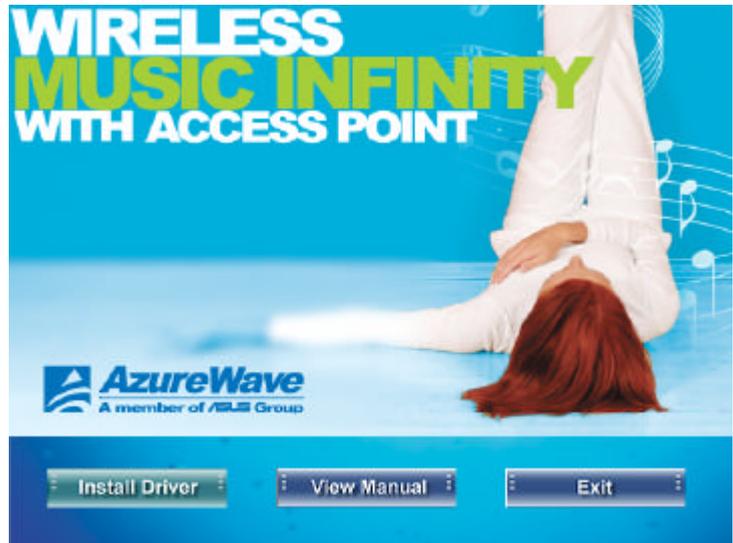
The setup wizard will help you to finish AW-GA201 configuration step by step. If you are first-time to configure wireless audio AP, please follow setup wizard's instruction to complete setup process. If you are an experienced user, you can choose "cancel" to skip the setup wizard.

The wizard will show up different instruction based your selecting GA201 working as AP, Client or router mode

1. GA201 under AP mode

Step 1 Operation

Change Device Name: You can change "device name" here, different device name will be helpful for you to manage multi-audio



AP/Receiver existing on same network.

The device name will display on wireless audio utility.

Step 2 Wireless setting

After you choosing "Create a new network" and enter next step, you can setup SSID and encryption way for wireless security. The device support WEP/None/WPAPSK(TKIP)/ WPA2PSK(AES)/ WPA2PSK(TKIP)+(AES)

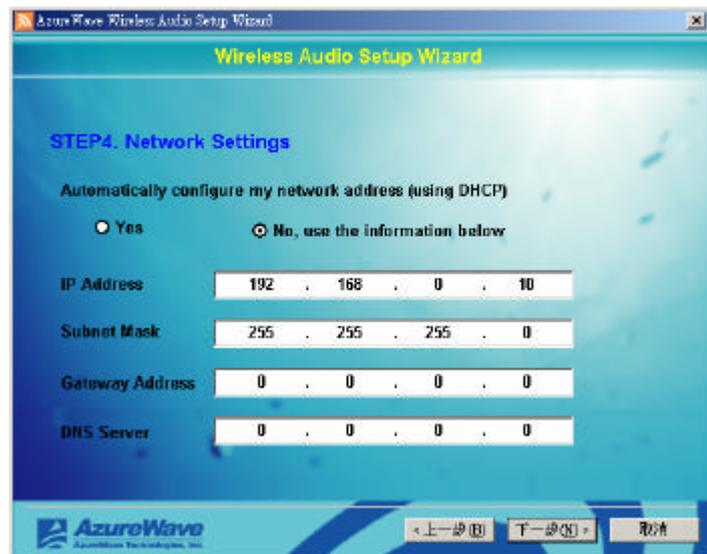
Step 3 Encryption Key

Then follow instruction to input security key based on different encryption way.

Step 4 Network Settings

On next step, you will enter the network setting page. On this page you can enable or disable DHCP feature.

Once configuration process is done, the Setup Wizard could be ask you to restart your computer. Please restart your PC and go to next step.



2 . GA201 under AP Client mode

Step 1 Operation

Same as AP mode, please refer to AP mode.

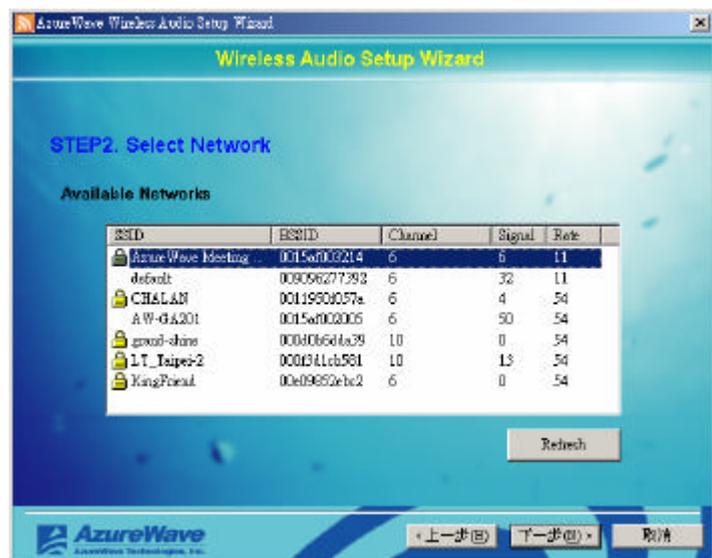
Step 2 Select Network

After complete step 1 setup, please click "next" button, the AW-GA201 will start to search available network.

Please select your preferred networking and click "next"

Step 3 Encryption Key

Please choose your favorite network and follow setup wizard's instruction to input security keys.



2 . GA201 under router mode

*Note: Since AW-GA201 RJ45 port is working as WAN port under router, please use wireless to configure router.

Step 1 Operation

Same as AP mode, please refer to AP mode.

Step 2 Wireless setting

After you choosing "Create a new network" and enter next step, you can setup SSID and encryption way for wireless security. The device support WEP/None/ WPAPSK(TKIP)/ WPA2PSK(AES)/ WPA2PSK(TKIP)+(AES)

Step 3 Encryption Key

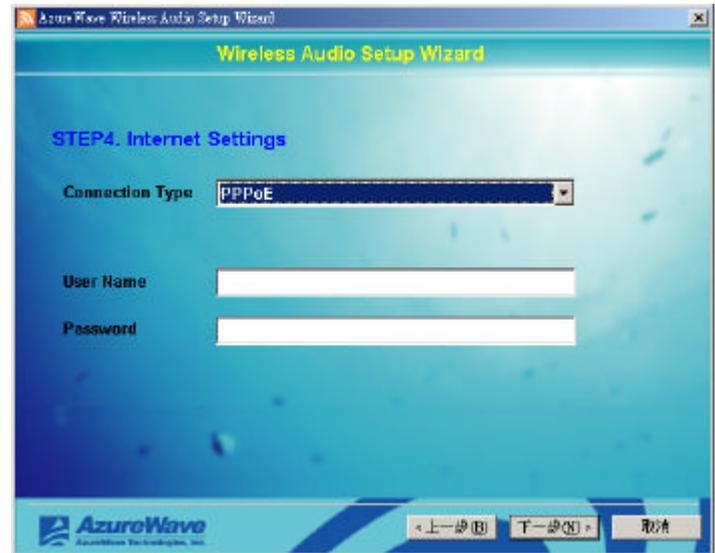
Then follow instruction to input security key based on different encryption way.

Step 4 Internet Setting

AW-GA201 support following connection type

- DHCP
- Static IP
- PPPoE
- PPTP

AW-GA201 will detect you network status and show your network protocol as default item. You can also pull down the select bar to change connection type.



Connecting PC to AW-GA201

After your complete Setup Wizard process, the device will be configured as a Access Point or Client mode link to specific network according to your previous setup.

*AW-GA201 is configured as AP/RT mode

Please connect you PC to AW-GA201 directly. After connection is successful, the wireless audio utility will be opened automatically.

*AW-GA201 is configured as Client mode

Device will connect to dedicated network as your configuration on setup wizard, please connect your PC to same network, the wireless audio utility will be opened automatically.

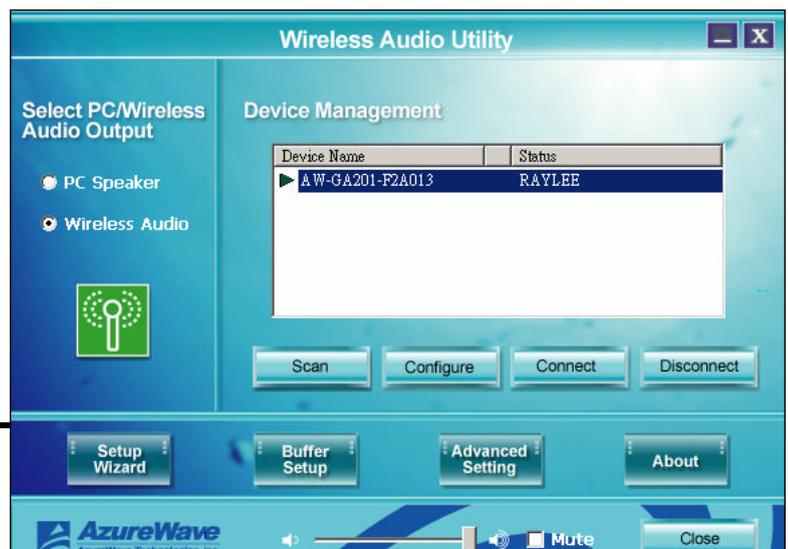
Chapter 4: Wireless Audio Utility

Chapter 5 : Wireless Audio Utility

AzureWave wireless audio utility is consist of 3 major features:

- PC speaker and wireless audio switch (Left side)
- Device Management (Right side)
- Setting (Bottom side)

Status, Advanced, Wizard and About



Device Management

The devices windows will show up “device name” of wireless audio receiver connect to the same network. Users can use “connect” and “disconnect” to connect 1 or more device.

Note: AW-GA201 support multi-link feature, it means PC can stream music to 1 or more devices. But due to system limitation, if AW-GA201 work as AP or RT mode, we strongly suggest NOT to run “multi-link” feature on the device, otherwise it could be cause audio stream quality issue.

AzureWave wireless audio utility includes 4 major page: Status, Advanced, Wizard and About

Status Page

Status Page is consisting of two major features: Switch to PC Audio or Wireless Audio and Multi-Device Management.

- Switch to PC Audio or Wireless Audio

Users choose “use PC’s Speaker” or “Use Wireless Audio” will switch PC audio to local speaker or wireless audio.

- Multi-Device Management

All the audio AP/Receiver connects to same network will be displayed on utility, the maximum quantity will up to 36 devices.

Utility will display device name and Owner’s Name (if somebody already connects to audio AP/Receiver).

Advanced Page

-Buffer Mode

Buffer mode allows users to setup memory buffer size. Including Movies/Game (200ms), Music(1 sec) and user-defined. Default is Music(1sec).

Bigger buffer will cause your PC and AW-GA100 audio transmission delay longer, but also help you audio transmission more stable and reduce the possibility of audio broken due to wireless signal interference

-Others setup.

Wizard

Choose Wizard icon, the utility will switch to Setup Wizard page.

Appendix A: Troubleshooting

This appendix consists of two parts: “Common Problems and Solutions” and “Frequently Asked Questions.” This appendix provides solutions to problems that may occur during the installation

and operation of this product.

Common Problems and Solutions

1. The music is coming from PC's speaker and not the speaker that connects to the AW-GA100.

Open the AzureWave Wireless Audio Utility to connect to the AW-GA100 in order to listen to music from speakers that connect to the Device.

2. My Wireless Device has been connected on the utility, but there is no music coming from the speaker.

- Check LED on front panel, make sure the wireless audio LED(blue one) is lighting up and flashing. If yes, please check following item
 - Check your audio cable connection.
 - If cable connection is correct, please close, then reopen the audio player that your are trying to play.
 - Reboot the PC and try again.

If wireless audio LED(blue one) is turn-off, please check your wireless network, make sure your PC is connecting to AW-GA100.

If wireless audio LED (blue one) is lighting up but not flashing, please check your wireless audio utility, make sure you already connect to AW-GA100.

3. There is a message that appears that says this device had been own by "xxxx" and I cannot connect to it.

On the advanced setting page of wireless audio utility, current users can lock the utility and reject the other users connect to this device. Under this case, the later users cannot connect to AW-GA100.

Frequently Asked Questions

What player I can use with AW-GA100?

You can use most any player you like, such as iTunes or Windows Media Player.

Can I listen to music from more than one AW-GA100 at the same time?

No, the AW-GA100 utility had been designed to connect to one AW-GA100 at a time.

I hear some sound breaks occasionally, what can I do?

This should not happen in normal cases, but could happen due to some wireless RF interference, especially if there are many nearby wireless devices, such as access points or routers, a microwave oven,Bluetooth device, cordless phone, etc. Keep your AW-GA100 away from these devices.

- If you are using an Intel Centrino based laptop or some old WLAN card/dongle, it may have a short period of suspending time for background scanning around every minute. It may also cause the sound streaming break. Please contact your wireless adapter factory to download the latest driver of your WLAN card. This problem only exist on Intel old driver version, new version already resolve this problem.

Change the power management setting of your wireless adapter from Max power saving to Max performance

What should I do if I forget all the settings of device?

You may reset to the default settings of the device by pressing and holding the reset button on the back panel of the Device for 10 seconds. After that, you need to re-run the setup wizard to configure it again.

What is my device's default IP Address?

The device's default IP address is 192.168.0.10.

Why can't I see the Device on my Device Utility?

- My Device has a wired connection to my network.
- Restart the PC and try again.
- Check all the cable connections and power.

My device is wirelessly connecting to my network, so why can't I see the Device on my Device Utility?

- Restart the PC and try again.
- If it's the first time, please return to the setup wizard again and make sure you configure the Device properly or move your Device closer to your wireless access point and try again.

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 or more 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.

You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

FCC RF Radiation Exposure Statement:

1. This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
2. This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.