

# AZUH v1.1



## Ultimate Headset Firmware Guide



### Description

Arizona Wirefree Ultimate Headset (AZUH) firmware is a sophisticated stereo transmitting and receiving embedded application including cell phone headset compatibility. The firmware is split into two programs: the Transmitter (Tx) and Receiver (Rx). AZUH firmware is fully certified Bluetooth compliant, and will communicate with any other Bluetooth device using the same profile.

### Supported Bluetooth Profiles

	A2DP	Advanced Audio Distribution Profile
	AVRCP	Audio/Video Remote Control Profile
	HSP	Headset Profile
	HFP	Hands Free Profile

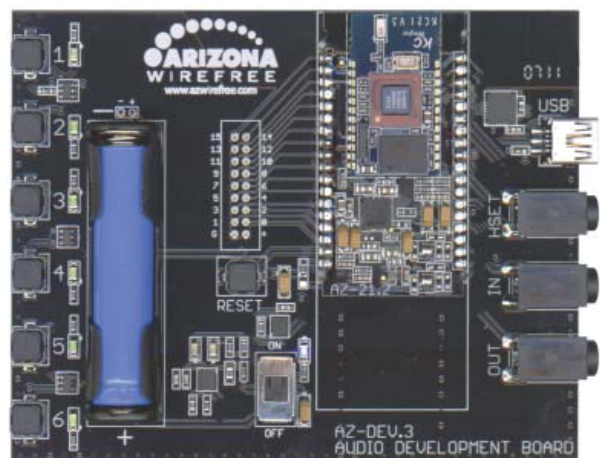
### Customization

All firmware offered by Arizona Wirefree for OEM customers is customizable. Many parameters of the Ultimate Headset firmware can be customized, including audio streaming data rate settings (quality vs. range), pairing operations, input gain, output gain, user interface functions, device name, and much more.

### Quick Start

AZ-DEV Development Boards have been pre-paired, where the Receiver BT address is already in the Transmitter memory. Turn on power to each board, and the Transmitter will auto-pair to the Receiver. Insert 3.5mm audio cable with an audio source into the IN jack on the Transmitter, and insert the 3.5mm headphone plug into the OUT jack on the Receiver.

A cell phone may also pair with the Receiver. Simply search for Bluetooth devices with your cell phone and bond with the Receiver (device name: **AZUH1.1 Rx**) using pin code 0000. Press Button #2 to ACCEPT incoming calls, or Button #3 to REJECT calls. Stereo transmission will resume after phone calls.



On the Receiver, Button #4 is VOLUME UP, and Button #5 is VOLUME DOWN.

## Advanced Audio Distribution Profile (A2DP)

The AZUH firmware implements standard Bluetooth A2DP profile. The firmware has two distinct binary images: a Transmitter (Tx), and a Receiver (Rx).

When searching for available Bluetooth devices, the reported device names are:

- AZUH1.1 Tx      Arizona Wirefree Ultimate Headset v1.1 Transmitter
- AZUH1.1 Rx      Arizona Wirefree Ultimate Headset v1.1 Receiver

## Audio Video Remote Control Profile (AVRCP)

On the AZ-DEV board, six General Purpose Inputs/Outputs (GPIOs) have been connected from the onboard AZ Audio Module Pins to both a momentary button and an LED. Each button and corresponding LED are connected to the same AZ Audio Module pin. Please refer to AZ Audio Module documentation for additional details about these GPIO pins.

Audio Video Remote Control functions:

### Transmitter

Button/LED	AVRCP Function	AZ Module Pin
Button 1	Power Latch	10
Button 2	Reconnect	7
Button 3	Unused	6
Button 4	Unused	3
LED 5	Connection Status	2
LED 6	Unused	1

### Receiver

Button/LED	AVRCP Function	AZ Module Pin
Button 1	Mute	10
Button 2	Skip Forward	7
Button 3	Skip Backward	6
Button 4	Volume Up	3
Button 5	Volume Down	2
LED 6	Connection Status	1

## Headset Profile (HSP)

The AZUH firmware also provides Bluetooth Headset Profile compatibility. An Arizona Wire-free Receiver can connect with a Bluetooth enabled cell phone and operate as a wireless headset. Either a wired mono headset or stereo headphones with microphone may be used with the Receiver.

A cell phone may also pair with the AZ-DEV Receiver. Simply search for Bluetooth devices with your cell phone and bond with the Receiver (device name: **AZUH1.1 R~~x~~**) using pin code 0000. Press Button #2 to ACCEPT incoming calls, or Button #3 to REJECT calls. Stereo transmission will resume after phone calls.



For a wired headset, simply insert the plug into the HSET jack on the AZ-DEV Board. Since many headsets use 2.5mm plugs, an adapter may be necessary to insert into the 3.5mm jack on the AZ-DEV Board. For a wired Bluetooth headset, the microphone signal is on the tip (left), and the mono output is on the ring (right). The AZ-DEV board provides BIAS voltage on the HSET jack to properly enable electret microphones.

To use with stereo headphones/headset, simply insert the headphone plug into the 3.5mm OUT jack. The mono phone audio will be heard in both headphone speakers.

A splitter is necessary for a dedicated microphone to avoid the mono output present on the ring (right) side of the HSET jack. Insert a left/right signal splitter adapter, and connect the microphone to the LEFT signal only.



## Hands Free Profile (HFP)

The Hands Free profile defines remote user functions for controlling a Headset. The Hands Free functions available are:

Receiver

Button/LED	HFP Function	AZ Module Pin
Button 1	Mute	10
Button 2	Accept Call	7
Button 3	Reject Call	6
Button 4	Volume Up	3
LED 5	Volume Down	2
LED 6	Unused	1