

Introduction

The Stereo Audio Firmware for Bluecore03 modules allows to realize wireless cable replacement between 2 audio stereo devices (one is called Headset and one is called Gateway)

The communication is bidirectional with very high quality of sound and fast connection

The Pairing is automatic and once made the module reconnects automatically at power on.

Some useful functions are embedded on this firmware such as PIO control for external PTT (push to talk) signal, Squelch, Call and Amplifier_Enable

This firmware is possible to customize for special applications and requirements.

Facts

- Point to point communication
- Automatic pairing phase
- Automatic reconnection between 2 paired modules
- Wireless PTT signal transfer
- Digital Volume setting
- Amplifier_Enable signal to control an external audio amplifier
- External Squelch signal control
- External Call signal control (for Tetra HF radio)
- #1 Generic wireless Input/output PIO transfer



This firmware is suitable for BLUESMALL202 and all our products based on this module

Features

- Audio Stereo firmware compatible with Bluetooth modules with CSM Bluecore 03 Multimedia chipset
- Compatible with MODSMTC202 and all modules based on this product
- Hi-Fi signal quality
- Bidirectional Half duplex
- Automatic pairing and reconnection
- **PIO functions**
- PTT push to talk
- Vsend to activate radio broadcast
- Squelch
- Call (for TETRA radios)
- Ampli_Enable for external audio amplifier
- Generic digital Input/output signal for wireless transfer

Benefits

- Ready to use
- No software development needed
- Immediate Cable replacement
- Customizations possible
- Plug and Play

Applications

- Professional wireless helmets
- Wireless MP3
- Wireless HF radio control
- Intracom with MP3 Music source
- Cable replacement for Home theater

Contents

Introduction to Stereo Audio Firmware	3
How it works	3
I/O configuration and description	4
Ordering informations	5

Introduction to Stereo Audio Firmware

The Stereo Audio Firmware is suitable for cable replacement in audio applications. The firmware has 2 versions : Headset and the Gateway.

The audio transfer is bidirectional to overcome the limit of the A2DP standard profile.

The firmware is compatible with our Modules and products based on CSR Bluecore 03 Multimedia chipsets and especially with our bluesmall202 with integrated Stereo Codec.

Once paired (automatic pairing with a simple pushbutton) 2 modules with Stereo Audio Firmware automatically reconnects between them in 3-4 seconds.

Once connected the audio is exchanged in Full duplex mode and hi-fi quality. (to use it as half duplex you simply need to use the external amplifier and connect the AMPLI_EN signal)

The firmware controls by 2 PIO the digital volume setting.

The firmware also controls and manage external Digital signals (input/output), wireless transfer some digital signals and Leds to show the connection status etc.

How it works and PIOs

When the module 1 enters in PAIRING mode waits 40s to make automatic with another module that is also in PAIRING mode.

After pairing the 2 modules (ModuleA and ModuleB) connects automatically (even after turning off/on and an out of range excursion).

After connection the 2 modules will start to Exchange high quality stereo audio.

If PTT signal activates A, the VSEND signal activates on B (50ms standard delay). VSEND is normally the input of an external HF radio to allow broadcasting.

The SQUELCH or CALL signals on A activates, the AMPLI_EN activates on B (50ms standard delay). In this way the amplifier on the module mounted on the Headset side is activated only when there's BF signal from radio to avoid to listen ground noise.

It's possible to adjust the local volume level by V+ and V-

There's also a generic wireless PIO transfer from A to B and viceversa (OUT1 and IN1)

2 leds are also driven by this firmware : one to monitor the activity of the product (ON, Pair) and one to monitor the Connection status (connected, not connected)

In the next page a table with all the PIO signals and directions.

Pio Configuration and description

The following table describes every PIO functions and the related PIO #.
Please download also the datasheet of BLUESMALL202 to check the relative Pin # on the module

Name	Dir	Description	Pio #
PTT	IN	Push to talk (Active High) If goes DOWN on Module A, the VSEND signal goes down on Module B	0
PAIR	IN	Pairing (Active High) During power on if hold DOWN for t>2s the module enters in Pairing mode (for 40s)	4
V+	IN	Volume + (Active High) - Increase the audio output level	2
V-	IN	Volume - (Active High) - Decrease the audio output level	3
VSEND	OUT	Trasmission_enable - (Active High) - To be connected on the enable pin of the HF radio for broadcasting (see signal PTT above)	7
AMPLI_EN	OUT	Amplifier_enable - (Active High) - To be connected on the enable pin of the optional audio amplifier (see signal Squelch and Call below)	1
SQUELCH	IN	Squelch signal (Active High) If goes HIGH on Module A, the AMPLI_EN signal goes down on Module B	5
CALL	IN	Call signal (Active High) If goes HIGH on Module A, the AMPLI_EN signal goes HIGH on Module B (idem as Squelch signal above)	6
OUT1	OUT	Generic output (Active High) If the signal IN1 on Module B goes HIGH , the OUT1 signal goes HIGH on Module A	8
IN1	IN	Generic input (Active High) If the signal IN1 on Module B goes HIGH, the OUT1 signal goes HIGH on Module A	9
LED1	OUT	On/Pairing status (Active HIGH) - Slow flash : ON (not connected) Fast Flash : IN PAIRING	10
LED2	OUT	Connection status (Active HIGH) - Single flash : ON (Connected) Off : Not Connected	11

NOTE LED1 : When the module connects the Led1 turns off (and the Led2 start to flash)

Ordering informations

You can buy online on www.eikonsite.it or you can contact your local reseller

Eikon srl

Via Borgognina 5
61030 Lucrezia di Cartoceto (PU) Italy
Vat IT02036680417

Tel +39 0721 877365
Web www.eikonsite.it

Fax +39 0721 897679
Email info@eikonsite.it

Local reseller