blackbox-av

audio ■ video ■ interactive

Battery Audio Player

Manual

V1

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Safety Guide

Please observe the following when installing this device

Warning

- This product is not designed to be resistant to moisture or excessive dirt/dust. When deciding on a suitable installation point ensure there is reasonable protection from environmental damage.
- If you require this unit to be installed outdoors or in a dusty or damp environment use a certified IP rated enclosure and seal any entry/exit holes of wiring etc. If the unit needs to be periodically updated or charged you will need to select an enclosure with an easy to remove lid and gasket seal. This product should not exceed its operating temperature
- If the power supply is damage in any way, contact blackbox-av to arrange for a replacement unit. They may require you to send the defective power unit back so in this case do not dispose of the power supply unless prompted to do so. Using a power supply with a higher voltage will irreparably damage the Battery Audio Player unit.
- Do not place the unit in direct sunlight for prolonged periods as this may cause the product to overheat.
- Disposal of old electrical equipment please follow the guidelines associated with your country/territory or ship the unit back to blackbox-av and we will dispose/recycle the unit. The symbol on the left indicates that this product shall not be treated as household waste. Instead it shall be handed to applicable collection point for the recycling of electronic

equipment. If you dispose of this unit correctly you will be helping prevent future harm to the environment which is caused by poor waste management of this type of equipment. Follow the battery removal guide before disposing of the item and dispose of them separately.

Precautions of Use

- When the unit is connected to a mains outlet and the power is switched on it provides energy for operating the device and charging the batteries. It is not recommended to keep the unit plugged in indefinitely if not in use.
- Do not operate the unit below -10 or above 50 degrees Celsius. Battery performance will be affected by colder temperatures. Do not bring the unit from a very cold environment to a warm environment without allowing it time to acclimatise as condensation may affect its operation.
- When using different types of push buttons and other hardware connected to the button inputs and GPIO connections make sure they are compatible with the device. Please see the technical spec page for details on these connections. Failure to use care with these connections may result in damaging the device and subsequently affect the
- blackbox-av Warranty.
- When attaching headphones or speakers please use certified and good quality accessories. Failure to use care with these connections may result in damaging the device and subsequently affect the blackbox-av Warranty.

Warranty

blackbox-av provides a 12 month warranty with this product.

Your new Battery Audio Player

In the Box:

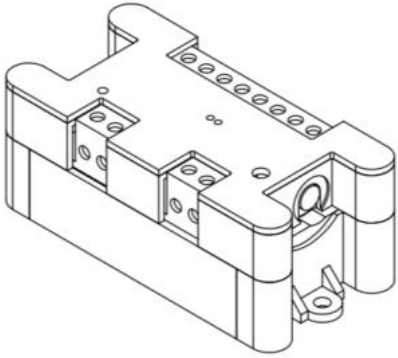
1. Battery Audio Player unit
2. USB Charger
3. 2000mAh Lipo Battery (pre-installed)
4. Micro USB Cable
5. Screwdriver

Battery Audio Player

The Battery Audio Player is designed for situations where a permanent mains supply is not available. It can be installed with speakers or headphones and triggered using a variety of buttons and sensors.

Batteries

The internal batteries can take 2 hours to charge. A red light indicates it's charging. A green light indicates the battery's full. The green light will come off after a while of being fully charged.



Charging the Batteries

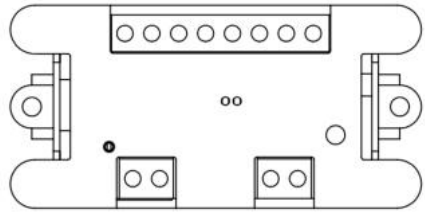
Insert the Micro USB charging cable into the power socket of the Battery Audio Player and the charge LED will switch on.

Power Adapter

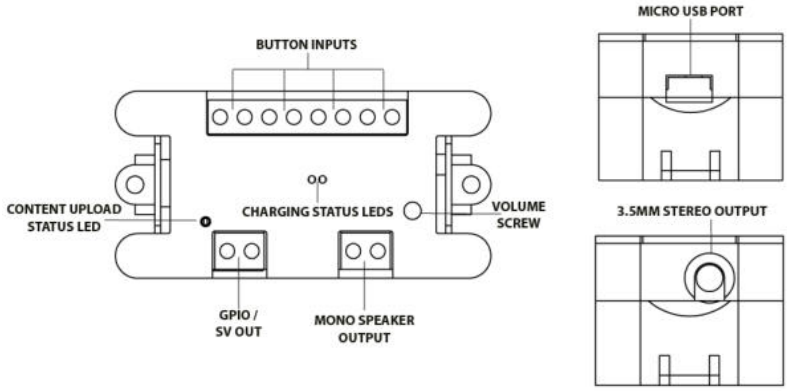
Used for charging the internal batteries. Whilst the unit is connected to its DC power supply the charge indicator will illuminate.

Internal Flash Storage

The Battery Audio Player contains an internal Flash Storage drive– with up to a maximum capacity of 8MB. On the drive there is a config file as well as your MP3 file.



Connections



Overview

Power Input / Charge

Whilst the unit is connected to its USB power supply the charge indicator will illuminate. The internal batteries can take 2 hours to charge. Once complete the charge indicator will turn from Red to Green. At medium volume with continuous playback the unit will play from fully charged for about 40 hours. (This however can greatly vary depending on your setup).

Headphone Output

This device has 1 x stereo high-quality 3.5mm jack output.

Volume

Use the included screwdriver to set the volume. Clockwise is louder, anticlockwise is quieter

NOTE: Headphone volume is not adjustable, only speaker volume.

Status LED

The LED indicates the player state.

Button Inputs

The Battery Audio Player can accept up to four buttons.

GPIO Out

This 3v – 4.2v is on constantly. It can be used for a PIR sensor.

Speaker Output

The onboard amplifier as 1x3W RMS and can be connected to a single speaker.

Programming

Content for your Battery Audio Player is stored on its internal Flash Storage (pre-programmed). We suggest you use this as a template for uploading your own content.

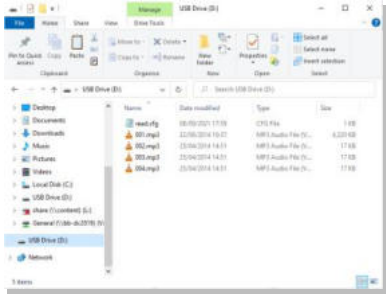
To program your content you will need;

1. A PC or laptop with Windows OS
2. Audio Content in .mp3 format (supports up to 4 files)
3. Your Read.cfg file
4. USB to Micro USB Cable (supplied)
5. Battery Audio Player (supplied)

1. Windows OS

Windows OS is required to program your Battery Audio Player using a PC or Laptop (Xp – 10).

MacOS is not supported due to hidden files generated by the OS.



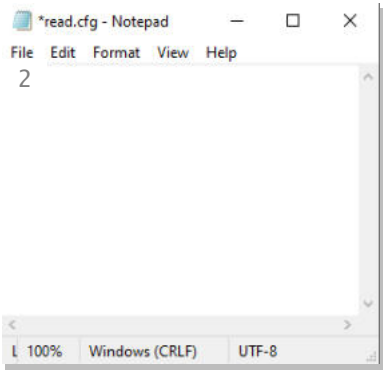
2. Audio Content

The Battery Audio Player can play up to 4 .mp3 tracks. These are stored in the player's internal storage. You must number your files 001 – 004.
File 001 – Button 1 / 1st file played
File 002 – Button 2 / 2nd file played...
Etc.

How these files are played / triggered is dependent on the Read.cfg file and the mode set. See following page for the Configuration Mode list.

3. Your Read.cfg file

The manner in which your content is played / triggered is dependent on the Read.cfg file.



The Read.cfg file has only 1 line to program your desired configuration,

To create a Read.cfg file simply right-click on windows desktop > new > text document > label it Read.cfg.

4. Add Content

Once you have your audio files ready and correctly named, and your Read.cfg file prepared, simply load onto the Battery Audio Player.

Insert the Micro USB – USB cable card into Battery Audio Player. Plug into a spare USB socket on your PC. A blue status light will rapidly blink and the drive will be accessible from the PC. Now simply drag and drop all the required files onto the Battery Audio Player.

Configuration Modes

Depending how you configure the Battery Audio Player trigger inputs you will need to set the Read.cfg file with the correct mode for your needs.

The modes available with the Battery Audio Player are listed below;

0

Interruptible

Up to 4 buttons can be attached. One individual MP3 file can be assigned to each button and playback is interruptible in this mode, so pressing a button will activate new playback.

1

Hold to play (loops)

While the button is held, the corresponding file will continue to play. as soon as the button is released the playback stops. when the file is complete the file will play again until the button is released.

2

Non-interruptible

Up to 4 buttons can be attached. One MP3 file can be assigned to each button and playback is non-interruptible. Further button presses will be ignored until playback has finished.

3

Loop

After a button is pressed, the corresponding file will to play on loop starting again as soon as it has finished. to stop playback press the button again.

4

Hold to play (stops)

While the button is held, the corresponding file will continue to play. as soon as the button is released the playback stops. When the file is complete playback will stop.

Status LEDs

Three LEDs of different colour will turn on depending on the actions being performed. When connected to a PC, a blue LED will rapidly blink. During the charging process, a Red status LED will turn on as the Battery Audio Player is charging. The status LED will change to Green once the battery is full. After a while of being fully charged, the Green Status LED will turn itself off. For further reference, see the image below.

Trigger and Buttons

Connecting Buttons

Buttons are simply wired directly to the screw terminals at each of the four inputs. Pushbuttons work as standard with the player and are required to be the normally open type. Piezo buttons are not compatible

Vandal & water-resistant buttons can be purchased if your installation requires a more robust switch.

GPIO Connection

The GPIO port can be used to connect power to another circuitry like a PIR Sensor (as seen in the diagram below with red, black and yellow wires).

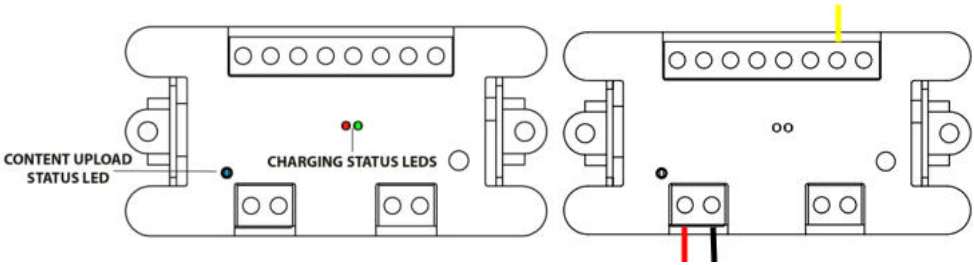
The Battery Audio Player is designed to be very efficient with power, using GPIO 3v – 4.2v Output for other devices will affect the battery consumption. Small LED's are relatively low power consumption devices and will be fine to use with the player.

Between charges the internal batteries will drop in power and voltage. Upon reaching 3.5V, the device will power down and become ready for charging.

Normal operation on fully charged batteries:
4.2V

Normal operation whilst on charge:
<=5V

Low power operation:
3.5V

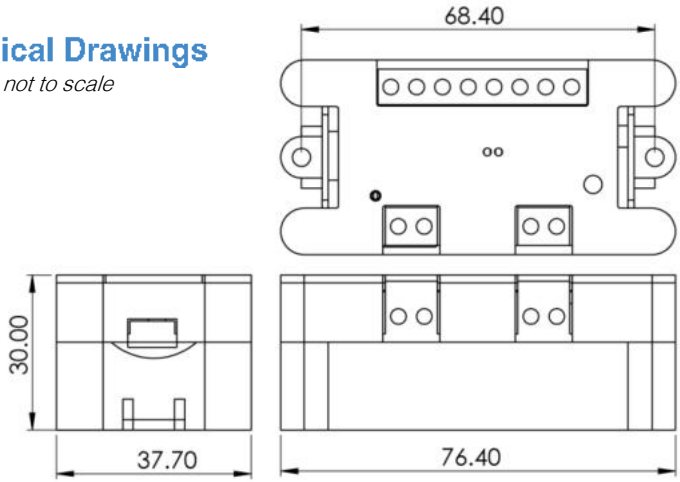


Technical Information

Weight	0.2Kg
Unpackaged Weight	0.1Kg
Dimensions	75 x 37 x 29mm
Message Storage Medium	Flash Memory (8MB of Storage)
Maximum Number of Audio Files	4 Files
Number of Buttons/Trigger Inputs	Triggered by up to 4 Buttons
Message Encoding Format	.MP3
Speaker Audio Output	1 x 3 Watts RMS (Mono)
Frequency Response	30Hz - 22KHz
Headphone Audio Output	1 x 3.5mm audio jack (stereo)
Speaker Connector	Screw terminals
Battery Life Duration	40 Hours (with full charge)
Power Supply	Micro USB
Battery	1 x 2000mah Lipo Battery
Stand-by Consumption	0mA
Playback Consumption	~50mA

Technical Drawings

Drawings not to scale



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