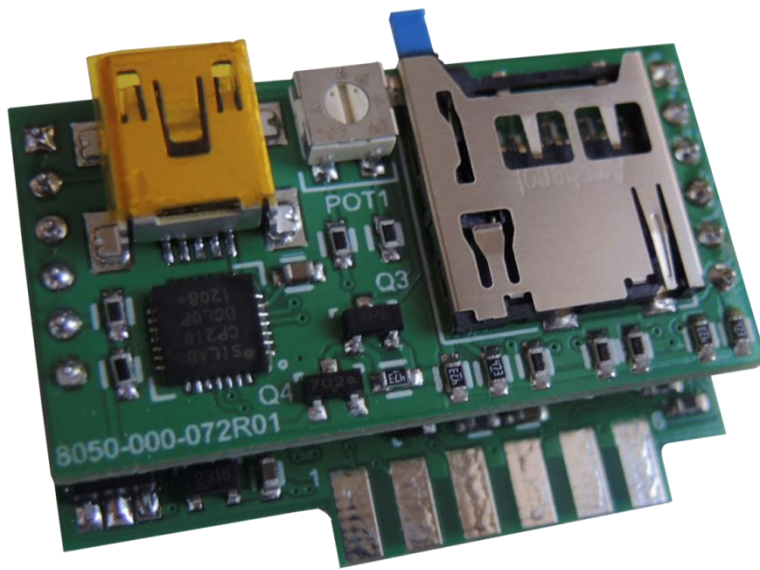




# MP3 Audio Player

## Install & User Manual



Genave / NRC, Inc.

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 **Warning** 

If incorrectly used, this equipment can cause severe injury. Those who use and maintain the equipment should be trained in its proper use, warned of its dangers, and should read the manuals before attempting to set up, operate, adjust or service the equipment. Keep this manual for future reference.

## **Important Safety Information**

### **Installation & Service Precautions**

 • Electrocution, severe personal injury and damage to equipment can occur during installation or servicing this equipment. All electrical work should be performed by, or under the supervision of an experienced electrician and in accordance with all applicable electrical, fire, building and safety codes.

• You must test the system and equipment to insure it is operating correctly after the installation, as well as after any work has been performed.

### **System Operation**

• Training is necessary to ensure those responsible can correctly use the system. Periodic tests can serve to accomplish the training for the operators, in addition to verifying system readiness.

• You must carefully read and completely understand all the information about the system including its abilities and its limitations. Since no control system is infallible, you must have contingency plans for control, in the event the primary systems do not perform as expected, for any reason.

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## MP3 Module Hardware

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# MP3 Audio Player Module

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## MP3 Audio Player

### *How Sound Files Are Played To The PA Port*

When the RXC-3000 runs a script, if it has been told to play a song/sound file, it turns on the MP3 player and tells the player the file number of the song/sound it is to play. The player automatically selects the file from the SD card and begins playing. At the same time, the RXC-3000 un-mutes the corresponding audio amplifiers and the external PA amplifier circuits.

### *How The RXC-3000 Knows What Audio File To Play*

Each MP3 sound file on the SD card must have a specific name that begins with 3 numbers (from **001** to **098**) followed by a hyphen (example **048-**). The number must include leading zeros and the file name must end in .mp3

Any characters after the hyphen are ignored by the RXC-3000 and are only there to help the programmer identify the files.

**NOTE 1:** The very first audio file (000-.mp3) is **never** used since “PLAY=000” is the code that instructs the RXC to stop playing audio. The file 000-.mp3 is simply a place holder on the SD card but it has to be there for the player to function correctly.

**NOTE 2:** All MP3 files must be located at the Root directory and not within file folders.

**NOTE 3:** Do not use the characters  `!@#%$%^&*(){}[]:;'"<>?'~`+=/`  in the file name

Here are how the files on the memory SD card appear to the RXC-3000:

001-Alert_msg_one.mp3	Audio #1 (first useable file)
002-Wail_Siren.MP3	Audio #2
003-Steady.Mp3	Audio #3
007-Longer_File_Name.mp3	Audio #7 (gaps in the numbering sequence are ok)
035-HeresAnotherSound.MP3	Audio #35
020-emergAlert.mp3	Audio #20 (files can be out of number sequence order)
057-UpperandLowerCase.Mp3	Audio #57 (UPPER, lower or MiXeD case is ok)

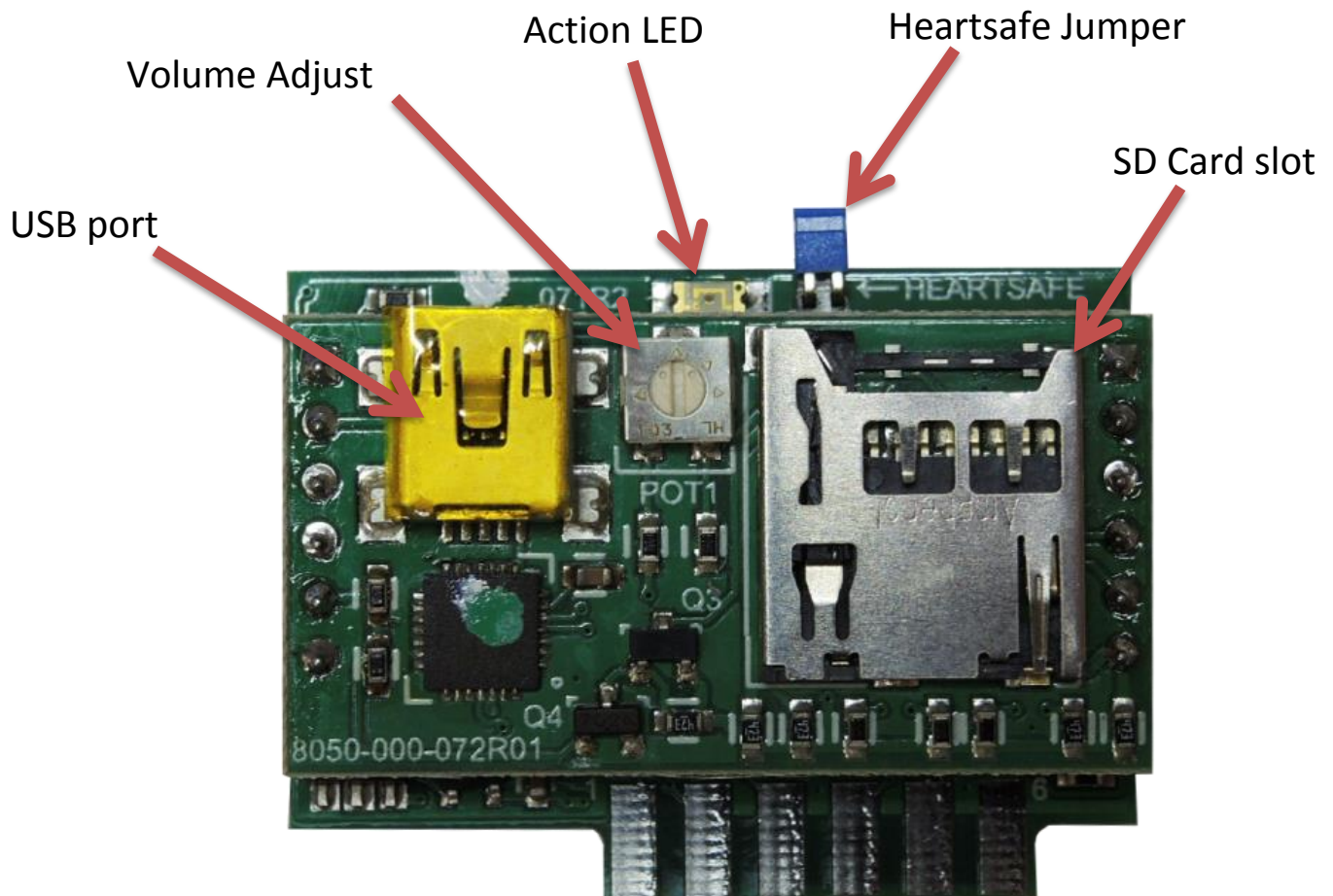
When triggered by the RXC-3000, the MP3 module only looks for files which end in “.mp3”. Then, it looks at the **first four** characters of each file until it finds a match to its search.

### Example:

When the RXC-3000 runs a script, if for example, the words “PLAY=006;” are in the script, the RXC will turn on its amplifier port and then it will instruct the MP3 module to search for and play audio file 006. The MP3 module then searches the SD card for a file matching “006-\*.MP3”. *The asterisk signifies the portion of the name that isn't, included in the search.* If a match is found, the MP3 module will begin playing the mp3 file.

There are two ways that the audio will end or stop. The first way is for the MP3 to come to the end of the audio file, at which time it will tell the RXC-3000 that the audio is done. The RXC-3000 will then turn off the amplifier port and finish running the script. The second way to stop the play is for a new script to begin running in the RXC-3000 in which the words “PLAY=000;” are part of the script.

**PLAY=000;** tells the RXC-3000 to command the MP3 module to stop playing any files and to shut off the amplifier port.



## USB Port

The USB port is a 5 pin Mini USB connector. When the MP3 module is installed in an RXC-3000, this USB port takes the place of USB module M4 which is normally located near the top of the LCD display. All USB functions continue seamlessly.

## Adjusting Audio Levels

The output level is adjusted using POT1, on the module. Begin playing the audio file and adjust to the appropriate level. Clockwise increases the volume, Counterclockwise decreases the volume.



## Action LED

The LED on the MP3 module is lit steadily while the MP3 module is playing a file.

If the requested MP3 file cannot be found on the SD card, the LED flashes 4 times and the LCD screen of the RXC-3000 will display **“Error: MP3 file xxx not found”**

On power up or insertion of the SD card into the slot, the LED will give one long pulse if the SD card is unformatted, damaged or has a media error.

LED Action	What it means
Steady	MP3 file is being played
4 flashes	MP3 player cannot find the requested file on the card
1 long flash	There is something wrong with the SD card or the files on the SD card



## Heartsafe

To prevent startling people who may be near the RXC-3000 when it starts playing audio files, the MP3 module has the exclusive “Heartsafe” feature developed by Genave. Any MP3 audio can begin softly then rise to full volume over 5 seconds. The rise allows people to prepare themselves for full volume.

For maximum flexibility, this feature can be disabled in applications where it is not required, but when enabled, ALL of the files run in Heartsafe mode. Selective application of Heartsafe requires that each actual mp3 file be modified to ramp up.

On the top of the MP3 module is a jumper near the word “HEARTSAFE”. This jumper selects the Heartsafe function.

Jumpered = Heartsafe is disabled.

Unjumpered = Heartsafe audio ramp up enabled.



## MicroSD Characteristics

Not all SD cards are not created equal. Use only Class 10 (high speed) memory cards manufactured by quality companies such as Sandisk. These cards will play consistently throughout all of the audio files. Failure to use Class 10 cards may result in loss of audio from the MP3 module.





### *How To Program The SD Card*

To a computer, an SD card looks exactly like a USB memory stick or hard drive. Remove the SD card from the MP3 module and insert it into a USB to SD card adapter.

Plug the USB reader into a USB port on your computer and the operating system will locate the card and start working with it.

Once you have copied the files (remember to add leading numbers and hyphen) to the SD card, insert the card back into the MP3 module and test the files by playing them with their associated actions.



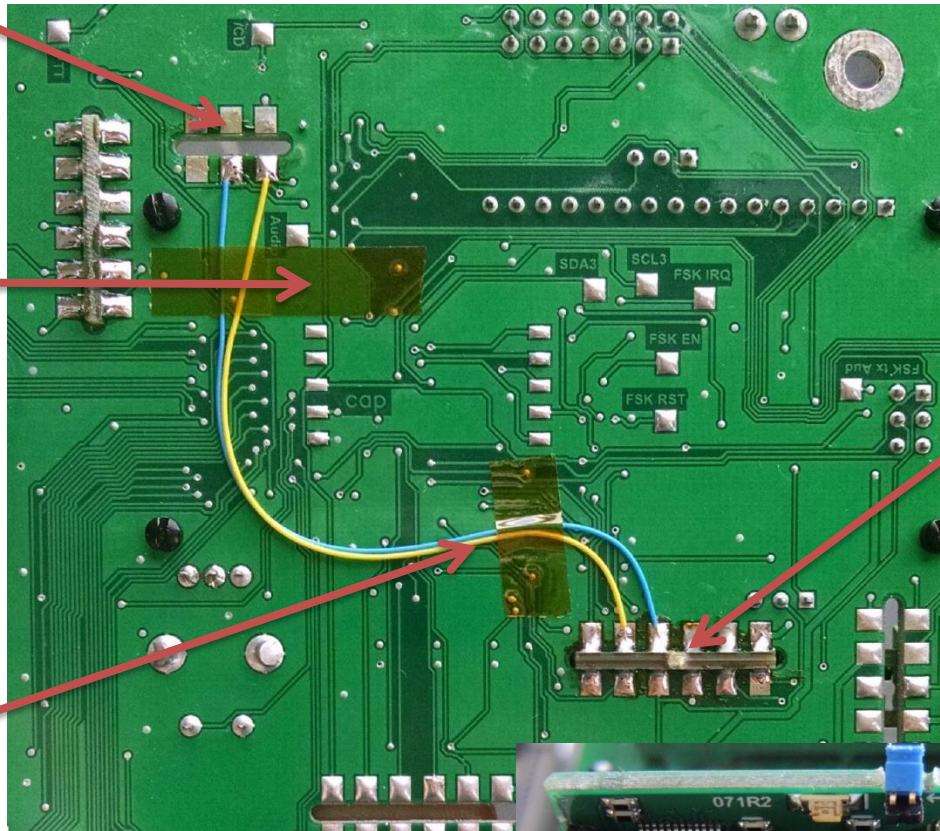
### Installing the MP3 Module

1. Remove USB module if installed.

4. Use the supplied Kapton tape to secure the wires to the PCB.

3. Use the supplied blue and yellow wires to make the connections shown.

2. Install MP3 module



The image to the right shows the completed MP3 player installation.

Communication with the RXC is through the USB communication port on the MP3 module. This includes programming of the RXC.

