

# **Programmable MP3 Siren Horn with Trigger Inputs User Manual**



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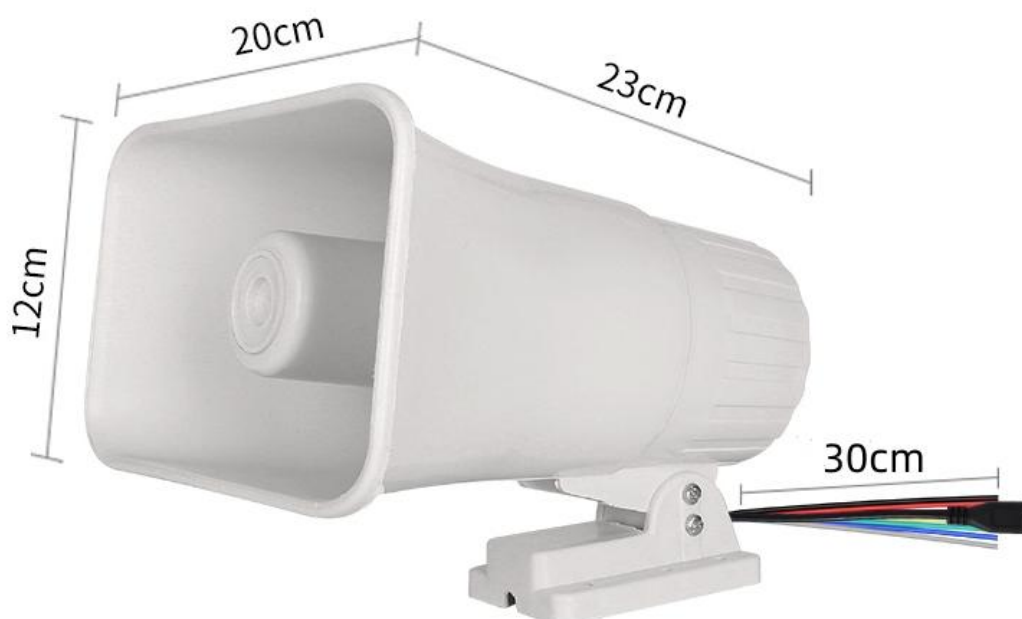
## 1. Features

- ✧ Built-in high quality MP3 player sound board with class D amplifier.
- ✧ Equipped with 4 trigger inputs.
- ✧ Negative trigger version and positive trigger version available to choose.
- ✧ Built-in 8MB flash memory that is able to store max. 8 minutes long MP3 files of 128Kbps.
- ✧ Load audio files to the internal flash memory through USB connection with computer (Windows preferable).  
-No need any software/program. It'll be detected as a USB flash drive on computer.
- ✧ Supports multiple functions/trigger modes.
- ✧ The function/trigger mode of each trigger input can be set individually in a configuration file (text file).
- ✧ Sound volume can be set as well in the same configuration file.
- ✧ Can be triggered with normally open buttons, switches, relays or a PLC.
- ✧ Wide power input(9-40V DC) and stable performance.
- ✧ IPX65 protection rating and can be used outdoor.
- ✧ Industrial grade design and strong anti-jamming capability.

## 2. Technical Parameters

- ✧ Working voltage: 9V-40V DC
- ✧ Working current:  $\geq 3000\text{mA}$  (Input: 12V)
- ✧ Standby Current:  $\leq 10\text{mA}$
- ✧ Power Consumption:  $\leq 30\text{W}$
- ✧ Flash memory size: 8MBytes
- ✧ Audio format: MP3 ( $\leq 192\text{Kbps}$ )
- ✧ Sound intensity:  $\leq 120\text{dB}$

## 3. Dimensions





## 4. Operation Guide

### 4.1. Set Trigger Mode

There are 7 main trigger modes(from “0” to “6”) and 5 assistant work modes(from “7” to “B”) available for users to set in a configuration file according to the actual needs

Each of the parameter values from “0” to “B” represents a corresponding trigger mode, which can be set individually for each of the 4 trigger inputs. See the details below.

Parameter Value	Corresponding Trigger Mode
0	Pulse Interruptible
1	Hold and Play in Loop
2	Pulse Non-interruptible
3	Hold and Play Once
4	All in Loop
5	Play Next in Associated Folder
6	Single in Loop
7	Play/Pause
8	Previous
9	Next
A	Vol+
B	Vol-

### **Detailed Explanations on the Main Trigger Modes 0-6**

- **Pulse Interruptible**: In this mode, a single negative pulse will start playback. It is possible to interrupt the playback by pressing the same button used to activate. Once playback is interrupted, it will automatically restart the audio file immediately. It's also possible to interrupt the play back by pressing any of the other 3 buttons. Once playback is interrupted, it will automatically start the sound that is associated with the button pressed.
  
- **Hold and Play in Loop**: In this mode, the negative pulse must be held/maintained to the sound module trigger for audio file to complete. The audio file will only playback while button, or negative pulse, is held/maintained during playback. Once the button being held, or negative pulse, is removed, the playback will be stopped/canceled. Once the button is kept holding, when the playback of the audio file is finished, it will start to play it repeatedly(loop playback).
  
- **Pulse Non-interruptible**: In this mode, a single negative pulse will start playback. It's not possible to interrupt the playback by pressing the same button or the other buttons. Once an audio file is triggered, the audio file will not be able to be interrupted/canceled during playback. The playback will only end when the audio file has played its entirety.
  
- **Hold and Play Once**: In this mode, the negative pulse must be held/maintained to the sound module trigger for audio file to complete. The audio file will only playback while button, or negative pulse, is held/maintained during playback. Once the button being held, or negative pulse, is removed, the playback will be stopped/canceled. Once the button is kept holding, when the playback of the audio file is finished, it will not start to play it again.
  
- **All in Loop**: In this mode, a single negative pulse will start playback. Press the button and it's able to play all the audio files in the storage device one by one in loop. During playback, if the the same button is pressed again, the playback will be stopped. In addition, if the associated trigger input is shortened with GND first, the player will automatically play the audio files one by one in loop once it is powered on.
  
- **Play Next in Associated Folder**: In this mode, a single negative pulse will start playback. Every time press the button and it's able to play next audio file and stops when the audio file is finished in the associated folder. During playback, if the the same button is pressed again, the playback will be interrupted and it will activate the next audio file at the same time. In this mode, as many as 100 audio files can be loaded into the folder.
  
- **Single in Loop**: In this mode, a single negative pulse will start playback. Press the button and it's able to play the associated audio file in loop. During playback, if the the same button is pressed again, the playback will be stopped.

Any of these 12 trigger modes can be set easily for any of the 4 trigger inputs using a configuration file (a text file). In the configuration file, each digit that represents the trigger mode is associated with one trigger input, so there are

total of 4 digits that associate 4 trigger inputs respectively for this device. Please refer to the image as shown below for the details.

The first 6 digits are the trigger modes that're corresponding to the six trigger inputs respectively. As this device just has 4 trigger inputs, so please just set the first 4 digits, and you can fill in any value (from 0 to B) for the 5th and the 6th digit. It's also fine you don't fill in the 5th and the 6th digits, if you need the horn works at the highest volume level.

The last 2 digits represent the current volume level. There're 31 volume levels from "00" to "30". "00" means mute while "30" means the highest volume level. If you need the horn works at the highest volume level, it's okay you don't fill in any digits for the volume level and just leave it blank.



You can rename this configuration file any name, like "Config.txt" or any name you like.

**Note: If you don't put a configuration file in the flash memory, the device works with the first trigger mode "Pulse Interruptible" for all of the 4 trigger inputs and the highest volume level by default.**

## 4.2. Audio Files Loading

There is an extension cable of the micro USB port with the device, and users can connect it to computer via a USB data cable to load audio files and the configuration file. The internal flash memory working as a USB flash drive will be detected and displayed on computer. Please refer to the image as shown below.

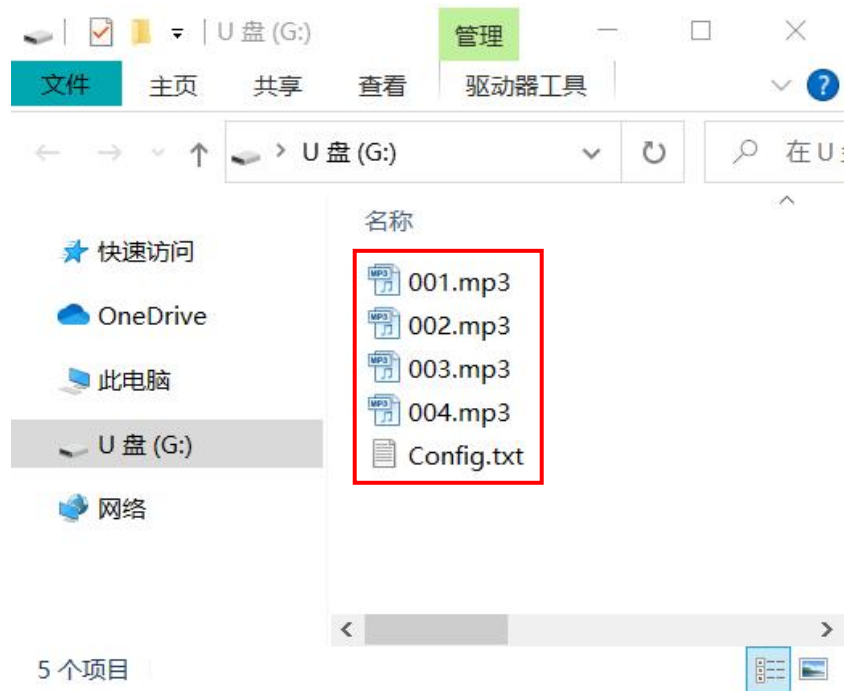


### 4.2.1. File Loading Method for Trigger Mode 0-4, 6

Except for the trigger mode 5 (Play Next in Associated Folder) that supports multiple audio files, all of the other 6 main trigger modes(0-4, and 6) work based on one-on-one control. 4 audio files need to be directly stored in the root directory of the flash memory. No folders can be in the root directory. The arrangements of the audio files are managed by a physical indexing sequence. In other words, the file that is to be loaded first into the flash memory will be associated with the 1<sup>st</sup> trigger input. The last file to be loaded will be associated with the 4<sup>th</sup> trigger input.

In order to guarantee a correct 'one-on-one' order, please refer to the following steps.

- 1). Build a new folder on the computer and put the 4 audio files into this new folder.
- 2). Rename the audio files from 001.mp3 to "004.mp3", and make sure they are ranked from "001.mp3" to "004.mp3" in order.
- 3). Connect the device to computer through the USB data cable, and you'll see a "USB flash drive".
- 4). Delete the sample audio files pre-loaded at factory for testing purpose.
- 5). Back to the folder and select all of the 4 audio files in the folder.
- 6). Right click on the first file (001.mp3) and choose "Send to USB flash drive".
- 7). This will send the 4 audio files to the flash memory in a correct order.
- 8). Put the prepared configuration file into the root directory together with audio files and then refresh. Please refer to the image below.



- 9). Safely remove the USB cable from computer.
- 10). Apply power to the device and push any of 4 buttons to play back a corresponding sound.

**Notes:**

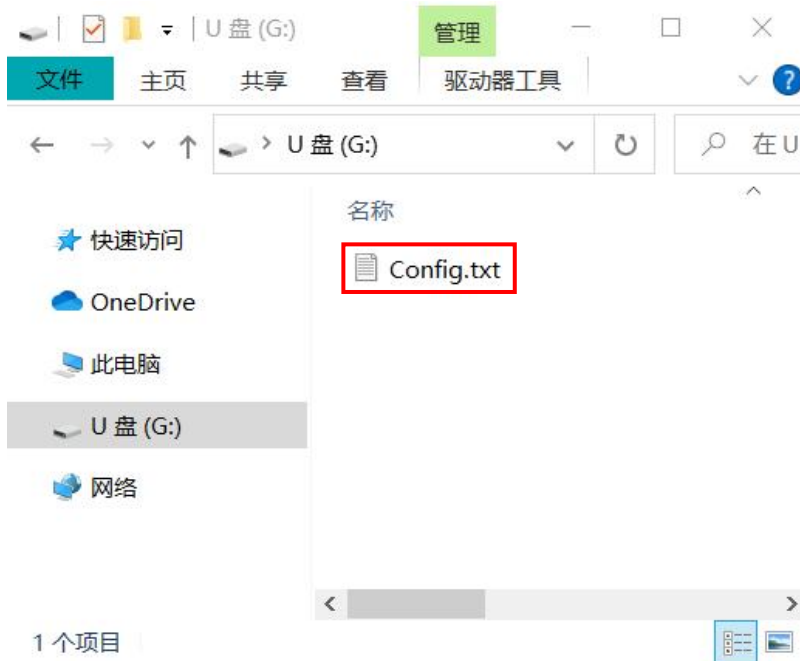
- 1). It's also fine that you copy the files one by one.
- 2). Any of the 5 assistant work modes (from "7" to "B") can be set for any of the 4 trigger inputs as well when using this file loading method.

**4.2.2. File Loading Method for Triggering Mode 5**

The trigger mode 5 (Play Next in Folder) is a special feature of this device that is able to meet some special

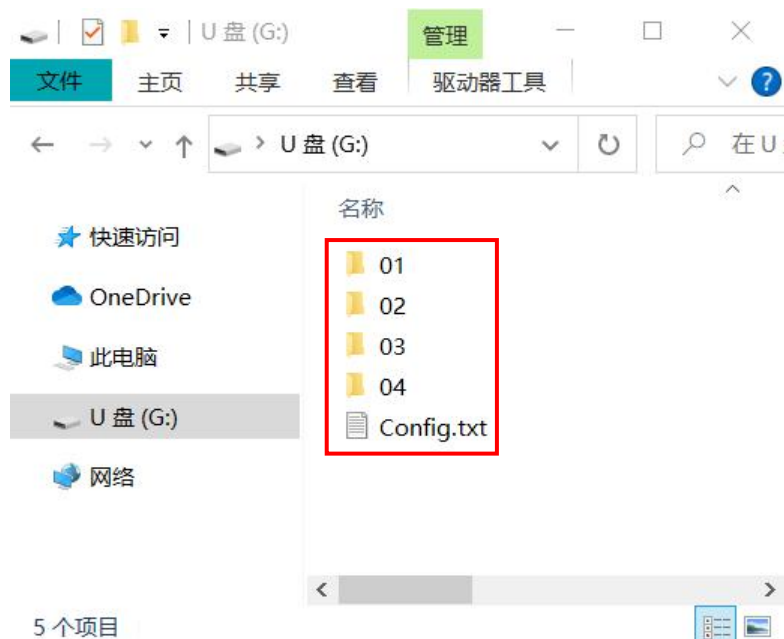
applications. When building the configuration file, please fill in the number "5555". In this way all of the 4 trigger inputs will be worked in mode 5 (Play Next in Folder). It's also fine if you just want the first 2 trigger inputs to be worked in mode 5, and the other 2 trigger inputs to be worked in the other modes like filling in the number"5512". Let's take all of the 4 trigger inputs to be worked in mode 5 as example. Please refer to the steps below on how to load the audio files.

1). Firstly connect the device to computer using a USB data cable, and copy the prepared configuration into the flash memory of the device. See the image as shown below.



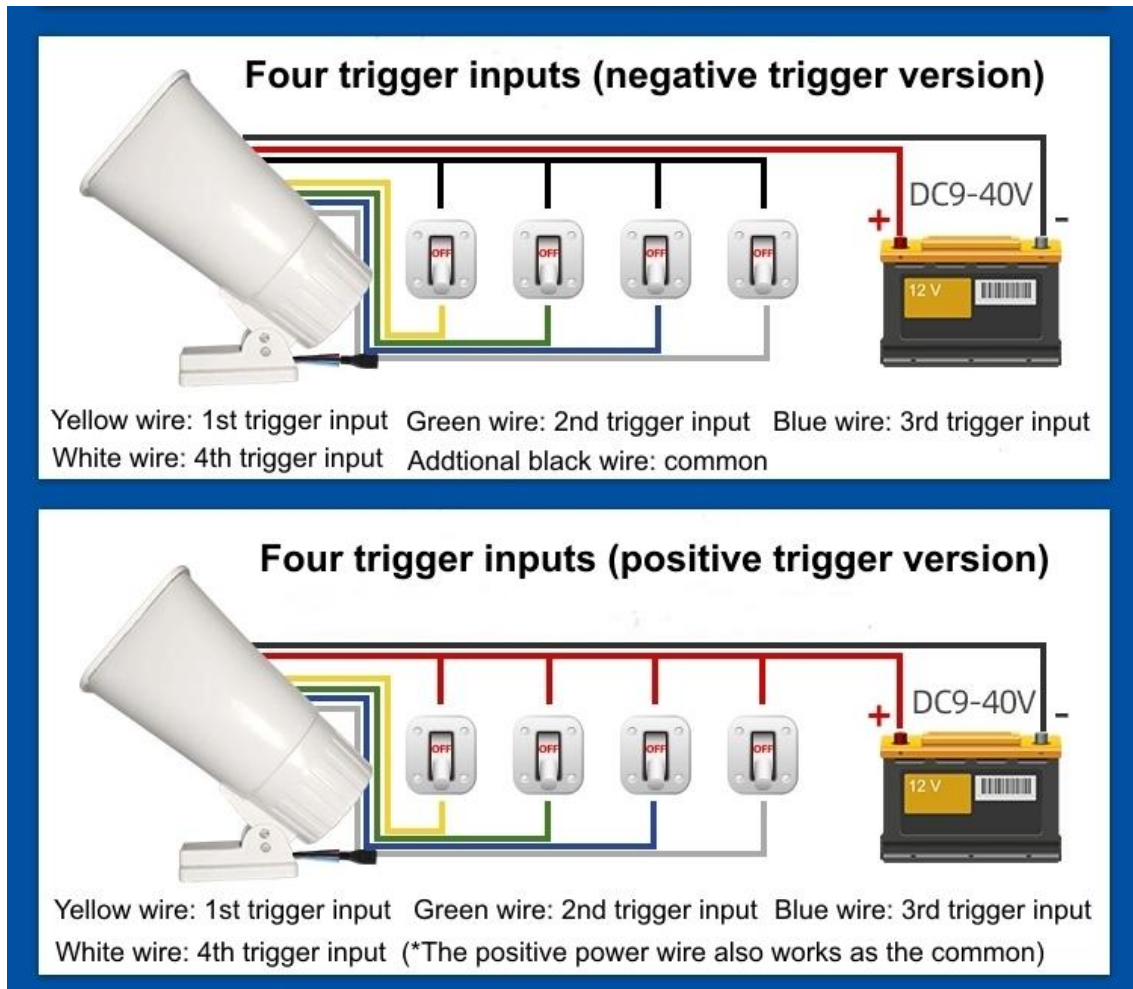
2). Safely remove the device (internal flash memory) from computer.

3). Build 4 new folders in the memory and rename them 01, 02, 03, and 04. The 1<sup>st</sup> trigger input will be associated with the folder 01, the 2<sup>nd</sup> trigger input will be associated with the folder 02,...and the 4<sup>th</sup> trigger input will be associated with folder 04. Refer to the image below.



- 5). Respectively copy audio files from computer to the related folder. The audio files in the folders can be renamed as 001.mp3, 002.mp3, 003.mp3.....It also works if you don't change the names.
- 6). Safely remove the device (internal flash memory) from computer.
- 7). Apply power to the device and push any of 4 buttons to play back a sound from the associated folder.

### 4.3. Wiring Examples



**Note:** It also can be activated with a PCL or controller. The negative trigger version will be activated with low level signal (0V) from a PLC or controller, while the positive trigger version will be activated with a high level signal (9-40V) from a PLC or controller. The PLC or controller needs to share the same ground with this device in advance.