

Button or Sensor Triggered Audio Player with 25W*2 Stereo Amplifier

User's Manual

Model: FN-TG01S

Version: V1.0



1. Overviews

1.1. Brief Introduction

FN-TG01S is a high quality button or sensor triggered audio player launched by Flyron Technology Co., Ltd. It's very flexible to use a button/relay/PIR sensor/photoelectric sensor/proximity sensor(metal sensor), etc. to activate the sound. Also it provides many different types of trigger modes (functions) to meet different requirements. With the distinctive features of flexible to work with a button or sensor, multiple trigger modes available (multifunctional), and simple wiring and easy to use, it's possible to have it used in different kinds of applications such as museums, stations, exhibition halls, animatronics, CCTV systems, industrial control systems, security equipment, smart workshops, etc.

1.2. Features.

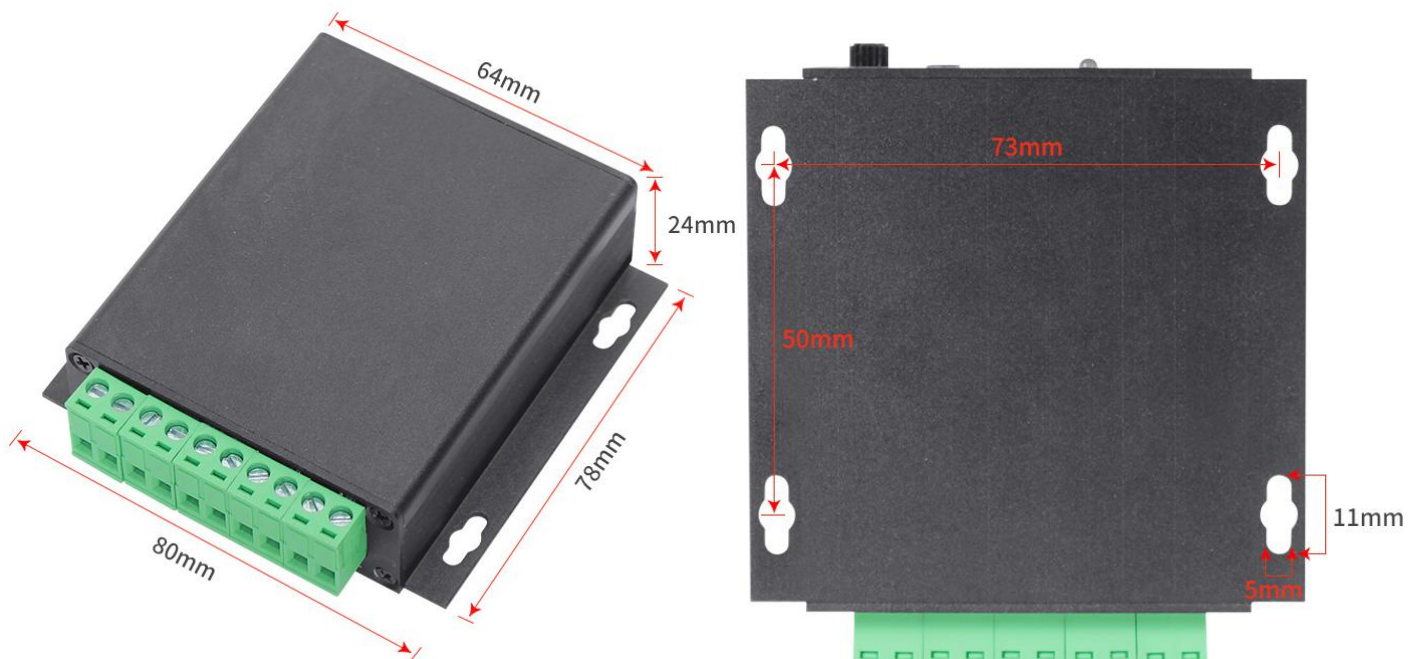
- 1). Able to work with a button or normally open relay switch.
- 2). Able to work with a PIR sensor, photoelectric sensor, proximity sensor (metal sensor), etc.

- 3). Built-in high quality MP3 audio decoder.
- 4). Built-in 16MBytes flash memory and supports max. 32GB micro SD card.
- 5). Equipped with a type-C USB connector, and load audio files to the internal flash memory/micro SD card directly via USB connection to computer.
-The internal flash memory or micro SD card works as a USB flash drive on computer. No need any software/program.
- 6). Equipped with a class D 25watt x 2 stereo amplifier that can drive max. two 25watts (4-8 ohms) speakers directly for left and right channels.
- 7). 10 types of trigger modes available to choose according to actual needs.
- 8). Set a trigger mode easily in a config file (.txt file).
- 9). Adjustable sound volume through the volume knob for the speaker output.
- 10). Equipped with a 3.5mm audio jack for stereo output that can drive an earphone directly or connect to an external amplifier.
- 11). Able to drive an external equipment like a warning light simultaneously when it is playing a sound.
- 12). Uses a metal enclosure that is solid and durable.

1.3. Technical Parameters

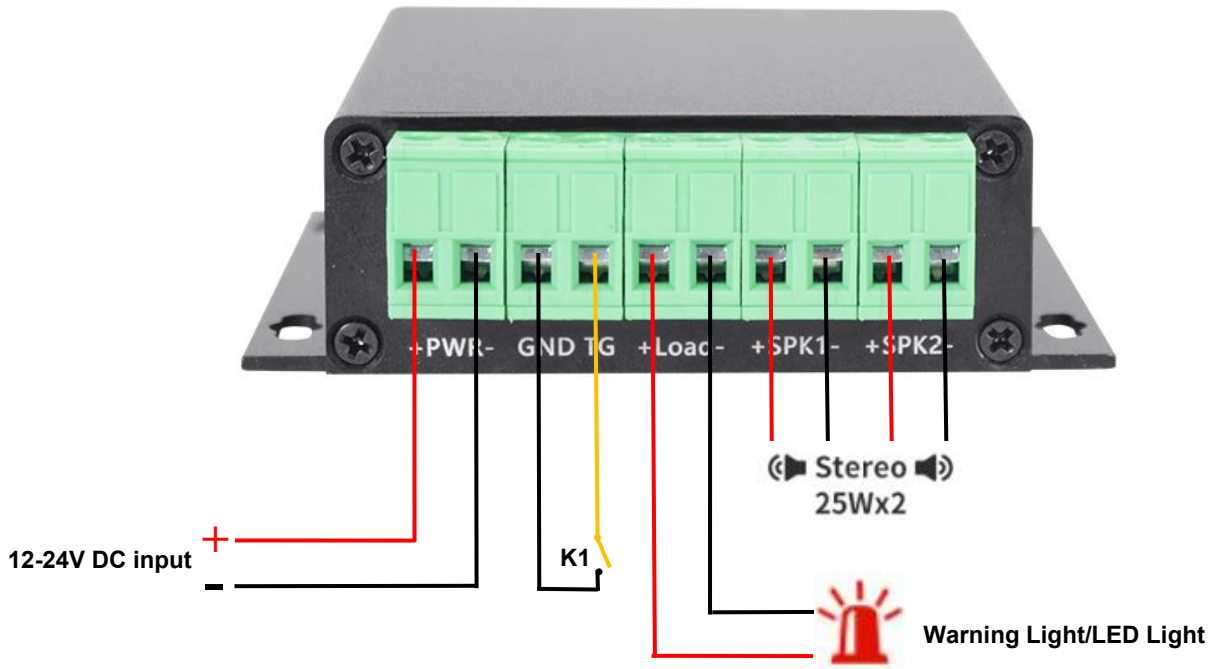
- 1). Working voltage: DC 12V-24V
- 2). Working current: $\geq 4500\text{mA}$ @12V (when it has two 25W speakers, and external load/warning light is not connected)
 $\geq 2250\text{mA}$ @24V (when it has two 25W speakers, and external load/warning light is not connected)
- 3). Output current to an external load/warning light: $\leq 1000\text{mA}$
- 4). Power consumption: $\leq 50\text{W}$ (external load/warning light not included))
- 5). Internal flash memory size: 16MB
- 6). Audio format: MP3

1.4. Dimensions

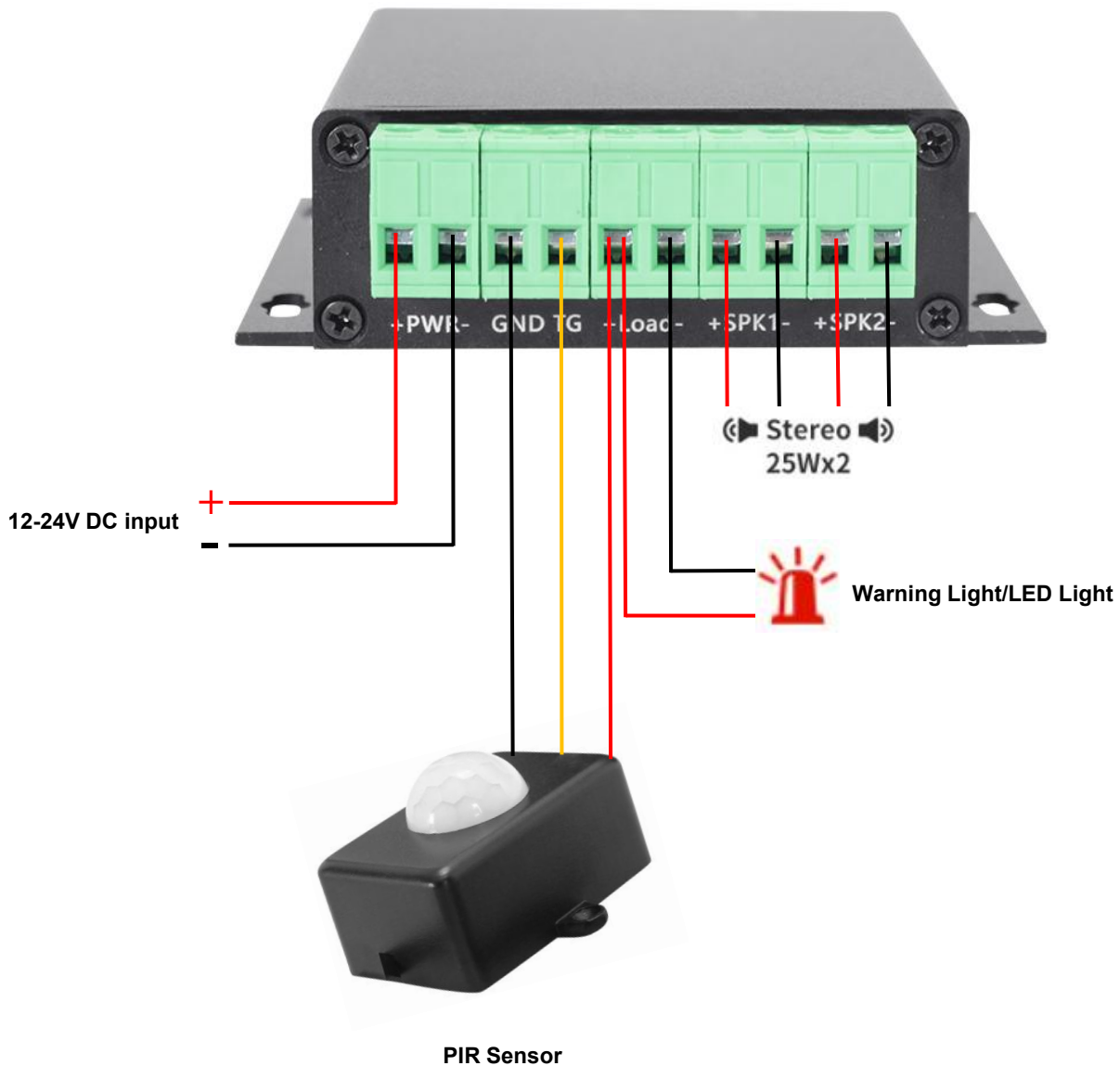


2. Connections

2.1. Working with a Button (or normally open relay switch)

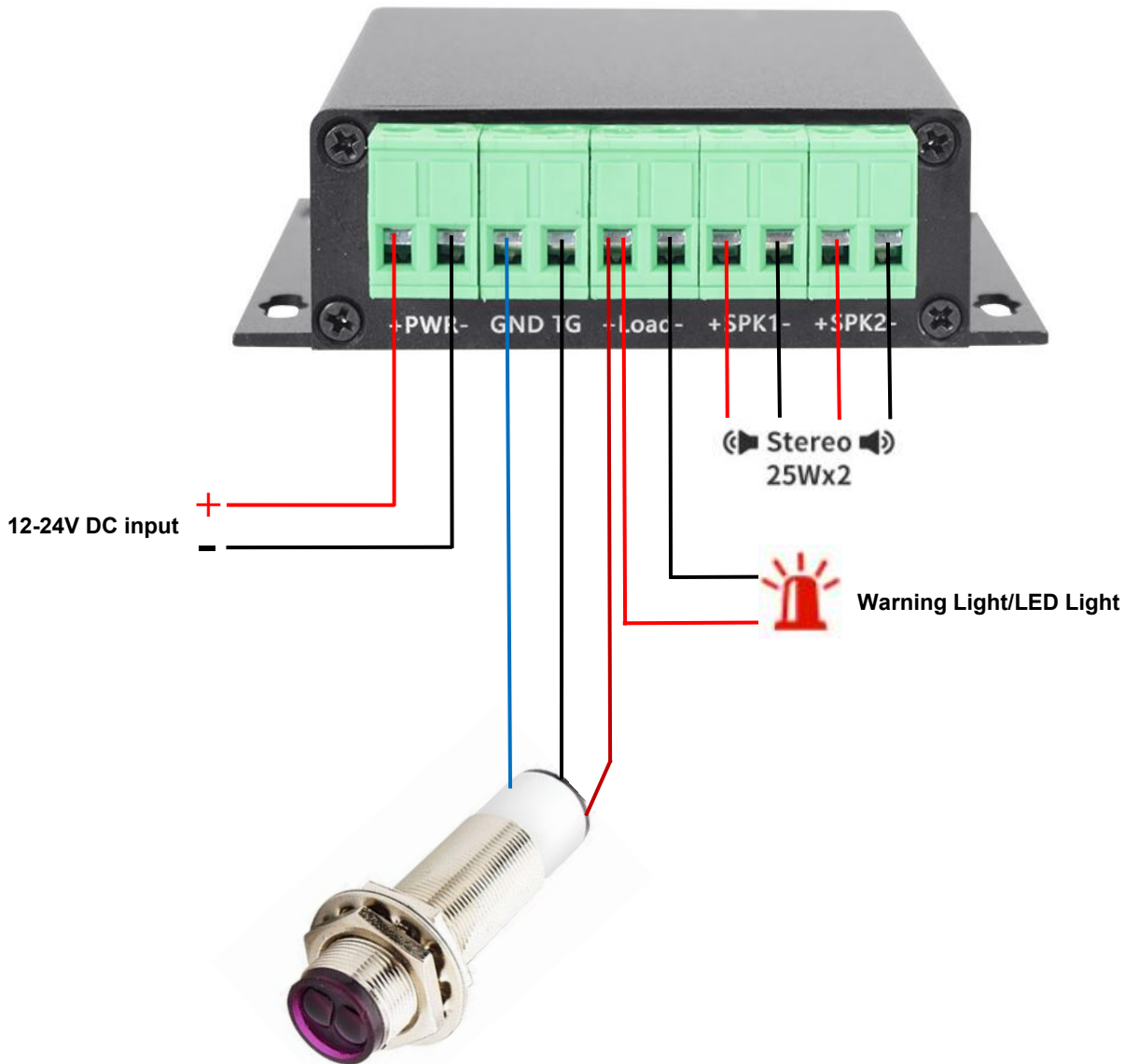


2.2. Working with a PIR Sensor



Note: The PIR sensor needed is the one that is able to output low-level signal (0V) to trigger the player and it can run on 12-24V DC. If you want to use a PIR sensor that outputs high-level signal (3.3V or higher) to trigger the player, we're open to customize another version of the player for you.

2.3. Working with a Photoelectric Sensor/Proximity Sensor(Metal Sensor)



Photoelectric Sensor/Proximity Sensor(Metal Sensor)

Note: The photoelectric sensor/proximity sensor (metal sensor) needed is a NPN type and it can run on 12-24V DC. If you want to use a PNP type to trigger the player, we're open to customize another version of the player for you.

3. Operation Guide

3.1. Select a Trigger Mode

There are 10 trigger modes available for users to choose according to the actual needs. Please refer to the below sheet about the details.



Number in Config File	Corresponding Trigger Mode	Explanatory Note
0	Play next audio file	<p>In this mode, if there is only one audio file, it'll always play the same audio file after each activation. If there are multiple audio files, it'll always play next audio file after each activation. During playback, the audio file can't be interrupted.</p> <p>This mode can be used for a self reset button, PIR sensor, photoelectric sensor, or proximity sensor (metal sensor).</p>
1	Level hold for loop playback	<p>In this mode, a button must be held or a sensor must be kept sending signal to the trigger for audio file to complete. The audio file will only play back while the button is held or the sensor is kept sending signal. During playback once the button being held is removed or the sensor stops sending signal, the playback will be stopped/canceled. Once the button is kept holding or the sensor is kept sending signal, when the playback of the audio file is finished, it will start to play it repeatedly (loop playback).</p> <p>This mode can be used for a self-locking button, photoelectric sensor or proximity sensor (metal sensor).</p>
2	Level hold for playback once	<p>The same as the mode "1" above. The only difference is that once the button is kept holding or the sensor is kept sending signal, when the playback of the audio file is finished, it will stop.</p> <p>This mode can be used for a self-locking button, photoelectric sensor or proximity sensor (metal sensor).</p>
3	Pulse interruptible	<p>In this mode, short press the button to start playback. It is possible to interrupt the playback by pressing the button again. Once playback is interrupted, it will automatically restart the audio file immediately.</p> <p>This mode can be used for a self reset button.</p>
4	Pulse uninterruptible	<p>In this mode, short press the button or a sensor sends a momentary signal to start playback. 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.</p> <p>This mode can be used for a self reset button, PIR sensor, photoelectric sensor or a proximity sensor (metal sensor).</p>
5	Play multiple audio files in order (interruptible)	<p>In this mode, the button is associated with a folder "01". In this folder it is possible to store multiple audio files (for example from "001.mp3" to "030.mp3"). Short press the button to play audio file "001.mp3", and short press again to play the next audio file "002.mp3", and so on. When the last audio file finishes playing, short press the button again to go back to play the audio file "001.mp3". During playback, if the button is pressed again, the playback will be interrupted and it will play next audio file automatically.</p> <p>This mode can be used for a self reset button.</p>
6	Play multiple audio files in order (uninterruptible)	<p>The same as mode "5" above, but during playback, if the the button is pressed again or the device is triggered again by the sensor, the playback will be uninterrupted.</p> <p>This mode can be used for a self reset button, PIR sensor, photoelectric sensor or a proximity sensor (metal sensor).</p>
7	Play multiple audio files at random (interruptible)	<p>In this mode, the button is associated with a folder "01". In this folder it is possible to store multiple audio files (for example from "001.mp3" to "030.mp3"). Short press the button to play an audio file at random. During playback, if the button is pressed again, the playback will be interrupted and it will play another audio file at random automatically.</p> <p>This mode can be used for a self reset button.</p>
8	Play multiple audio files at random (uninterruptible)	<p>The same as mode "7", but during playback, if the the button is pressed again or the device is triggered again by the sensor, the playback will be uninterrupted.</p> <p>This mode can be used for a self reset button, PIR sensor, photoelectric sensor or proximity sensor (metal sensor).</p>
9	Autoplay and insert mode	<p>In this mode, audio files stored in the folder "00" will automatically play in a loop when power is applied. A button or a sensor, which is associated with the audio file "001.mp3" saved in the root directory, can interrupt it and switch to play the associated audio file "001.mp3". Once the associated audio file "001.mp3" finishes the playback, the audio files stored in the folder "00" will continue to play in a loop.</p> <p>This mode can be used for a self reset button, PIR sensor, photoelectric sensor or a proximity sensor (metal sensor).</p>

Any of these 10 trigger modes can be set through a config file, which is a text file(.txt). Users just need to fill in a number that is corresponding to a trigger mode in a new built text file. Save it and rename the file “Config” or any name you like, then put it in the root directory of the internal flash memory or micro SD card together with the audio files or folders.

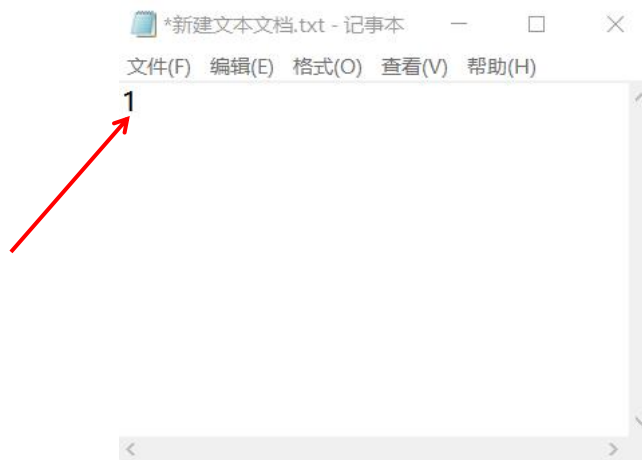
Note: If there is no config file in the memory/micro SD card, the player will always works with the first mode “play next audio file” by default.

3.2. How to create a config file

Users can create a config file without or with volume setting. The volume knob on the board controls the speaker output only, so if some users want to adjust volume from the 3.5mm audio jack output, it’s necessary to create a config file with volume setting, otherwise a config file without volume setting is enough. By the way, in the same time the speaker output is also subject to the volume setting in the config file.

3.2.1. Create a config file without volume setting

- 1). Firstly create a new text file on computer (desktop or somewhere else).
- 2). Open it and enter a number (trigger mode) you need. Suppose you need mode “1”, just enter “1”. See below.

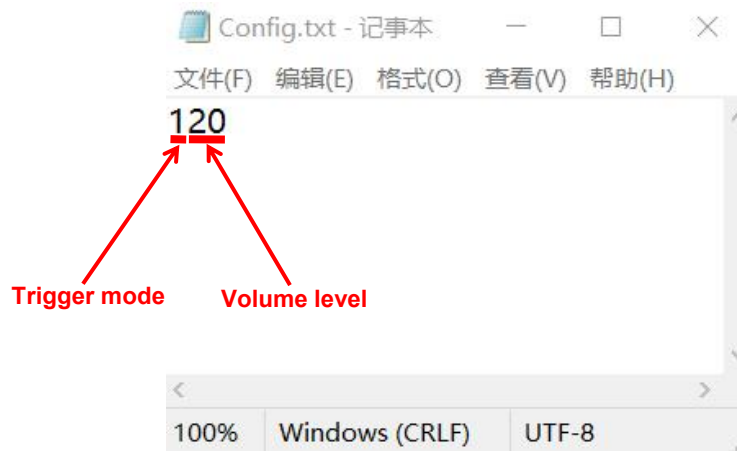


- 3). Save it and close it.
- 4). Rename the file “Config” or any other name you like.

3.2.2. Create a config file with volume setting

There are thirty-one volume levels from “00” to “30”. “00” means mute while “30” means the max. volume level.

- 1). Firstly create a new text file on computer (desktop or somewhere else).
- 2). Open it and enter a number (trigger mode) you need, and enter a volume level right after the mode number. See below.



3). Save it and close it.

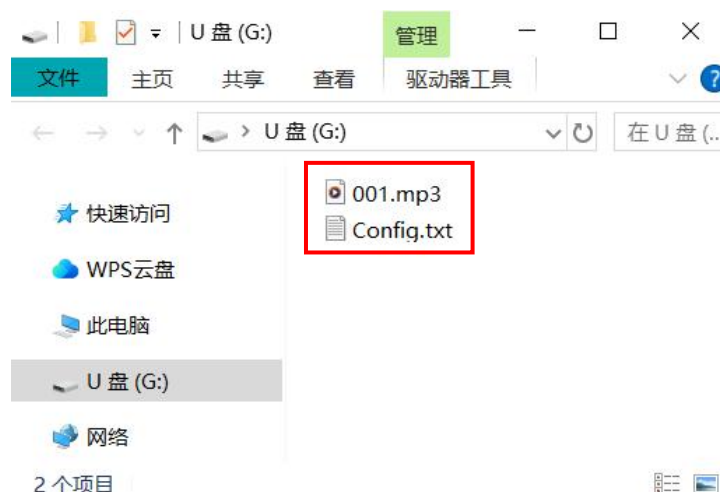
4). Rename the file “Config” or any other name you like.

3.3. Audio Files Loading/Updating

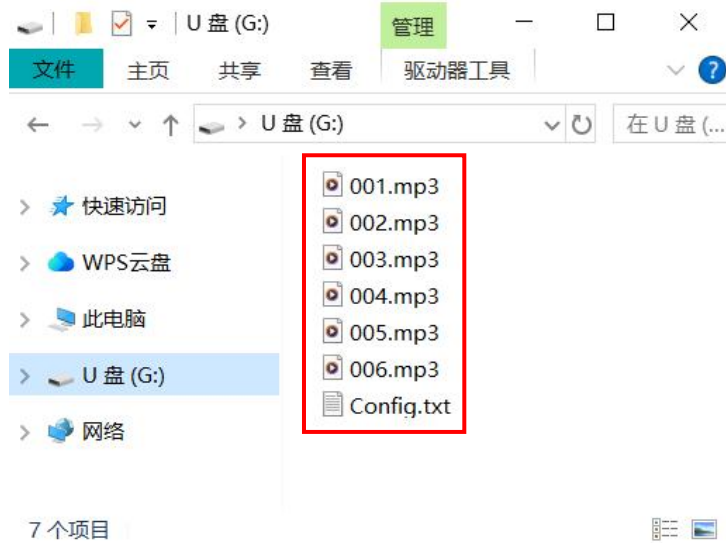
Users can use a USB data cable to connect the player to computer. The built-in flash memory will be detected as a USB flash drive on computer. Firstly, delete the sample audio files preloaded at our factory, and then transfer your audio file(s) to the memory. If the built-in flash memory is not large enough to store your audio file(s), you can use a micro SD card instead. When there is an inserted micro SD card, there will be two simulated USB flash drives on computer (one is the built-in flash memory and the other one is the micro SD card), so please note to recognize. When a micro SD card is plugged into the player, only audio file(s) from the SD card will be played.

3.3.1. For Trigger Mode 0-4

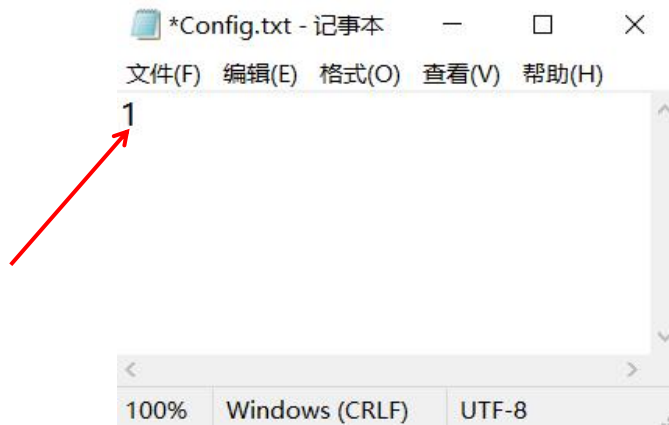
To these five trigger modes, the audio file(s) need to be placed on the root directory of the storage device (built-in flash memory or micro SD card). Apart from mode 0 that works with multiple audio files, all the rest of four modes (1-4) works with only one audio file. When you have one audio file for any of these five trigger modes, it's fine you rename the file or not. When you have multiple audio files for the mode 0, we suggest you rename the file names to 001, 002, 003..... and so on in this way. After that, create a config file with number 0/1/2/3/4 inside in the memory/micro SD card. See the screenshots as below.



Example of one audio file loaded for mode 0-4



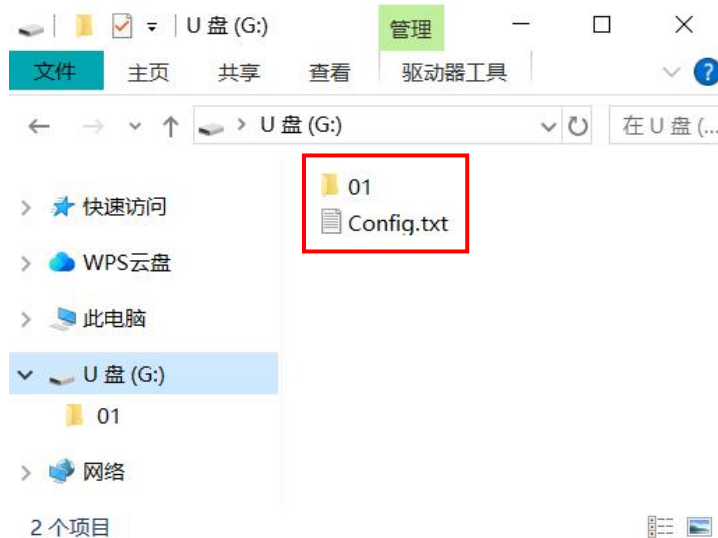
Example of multiple audio files loaded for mode 0

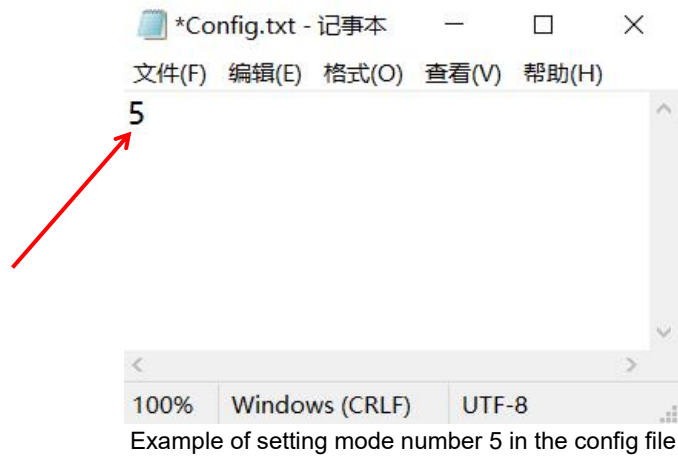


Example of setting mode number 1 in the config file

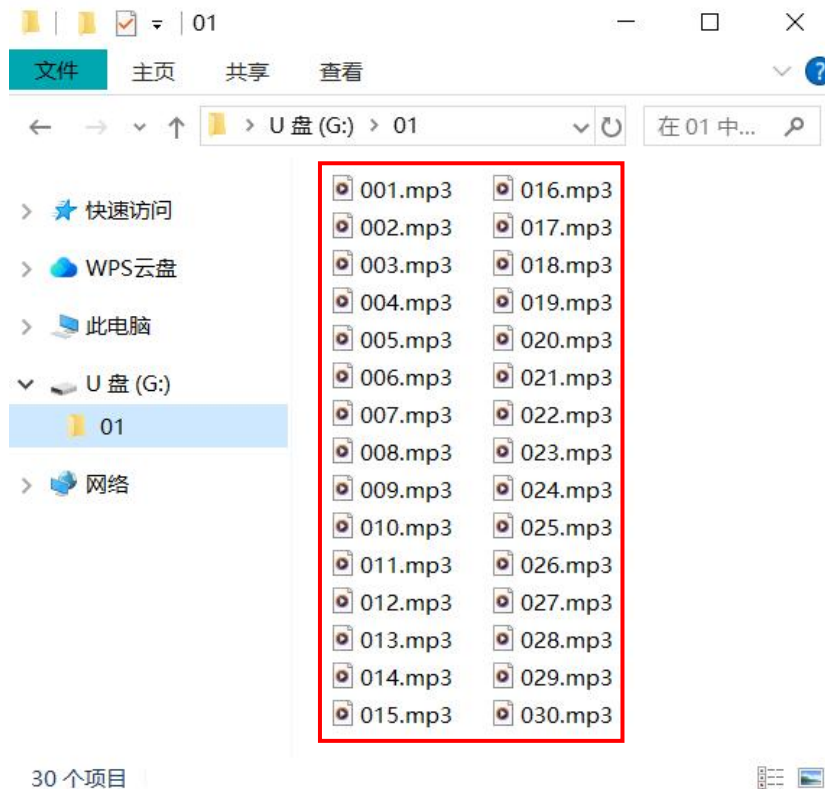
3.3.2. For Trigger Mode 5-8

Firstly, create a folder on the storage device (built-in flash memory or micro SD card), and rename it to 01, then put the config file with number 5/6/7/8 inside together with the folder on the root directory. See the screenshots as below.





After that, copy your audio files to the folder 01, and rename them to 001, 002, 003, and so on. In these four modes, the module recognizes the audio files by physical index order, so when you copy audio files to each folder, please note the copy order. See the screenshot as below.

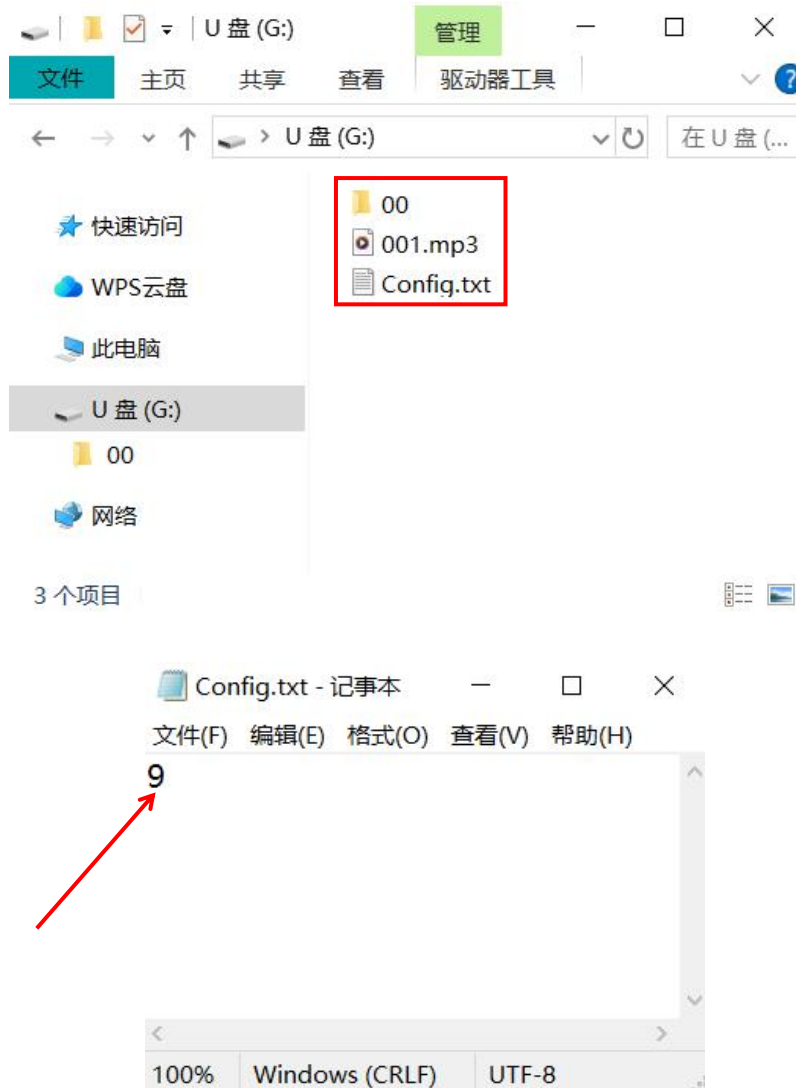


Note: When you rename a file, you can still keep the original file name and you can rename it like 001-Never Say Goodbye.mp3, 002-Season in the Sun.mp3, 003-Angel.mp3, and so on. This rule applies to all of the trigger modes.

3.3.3. For Trigger Mode 9

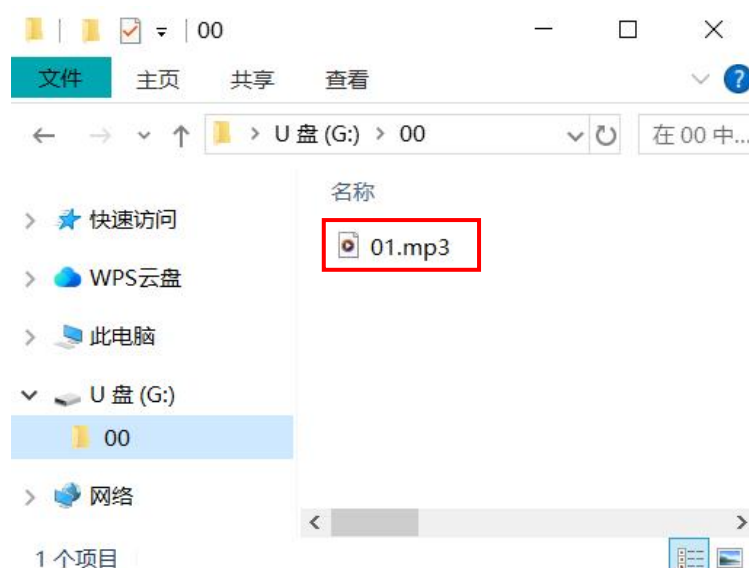
Firstly, create a folder and rename it to 00, and put the audio file, which needs to be played automatically in a loop when powered on, into this folder. The audio file in this folder need to be renamed as 01. The audio file used to interrupt the auto-play sound need to be placed in the root directory of the storage medium (built-in flash memory of the micro SD

card). You need to rename it to 001. Afterwards, put the config file with number 9 inside in the root directory as well. See the screenshot as below.



Example of setting mode number 9 in the config file

The audio file in the folder 00 is shown as below.





It's also okay to place multiple audio files in the folder 00, then the player will automatically play them one by one continuously in a loop when power is applied. See the screenshot as below for multiple files in the folder 00.

