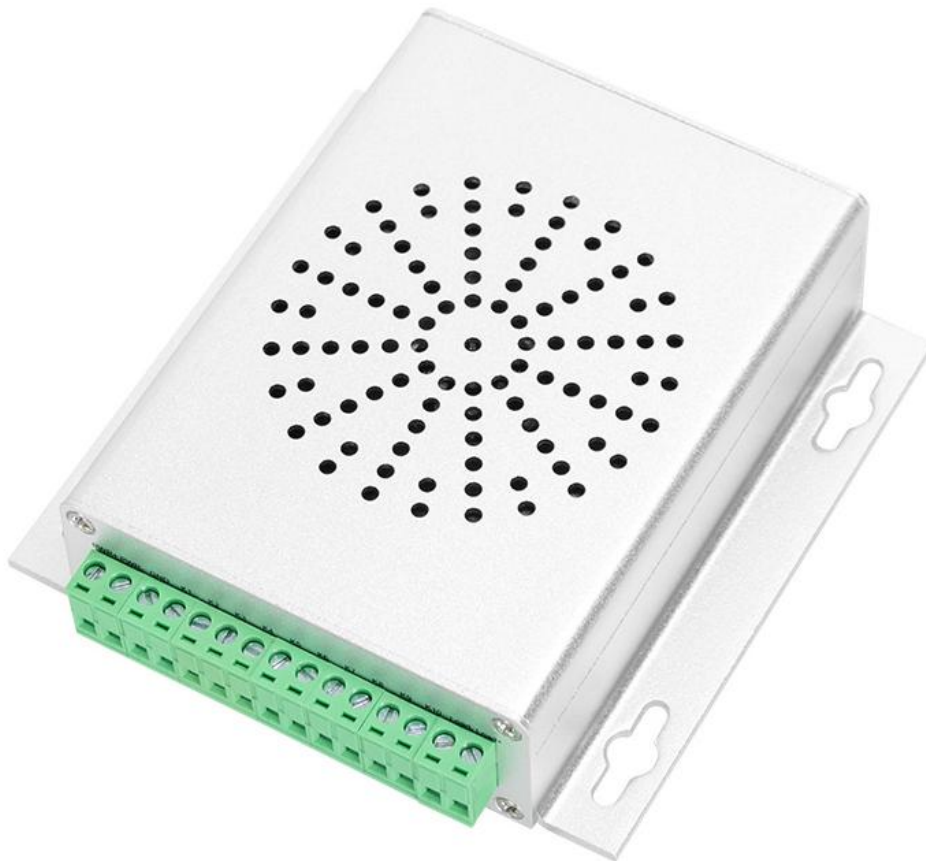


FN-AP10T Triggerable MP3 Audio Player

User's Manual

Version: V1.0



1. Overviews

1.1. Features

- ✧ Two trigger versions (negative trigger and positive trigger) optional.
- ✧ Built-in a high quality MP3 player with 8MB flash memory.
- ✧ Supports inserting USB flash drive and micro SD card as the extended storage devices.
- ✧ Supports max. 32GB USB flash drive and max. 32GB micro SD card.
- ✧ 10 trigger inputs available and they can be connected to as many as 10 buttons/switches/relays.
- ✧ Also possible to be controlled with a PLC or an industrial controller.

- ✧ Supports 10 types of trigger modes and each trigger mode can be set easily through a text document.
- ✧ Built-in a class D 10 Watts amplifier and the sound is loud and clear.
- ✧ Uploading audio files by connecting the micro USB port of the device to computer with a USB data cable.
- ✧ Sound volume is adjustable through turning the potentiometer.
- ✧ Able to drive an external equipment like a warning light or a motor simultaneously when it is playing a sound.
- ✧ Equipped with a 3.5mm audio output jack that can be connected to an external amplifier or an active speaker.
- ✧ Adopts solid and durable aluminium alloy case.
- ✧ Industrial grade design and strong anti-jamming capability.

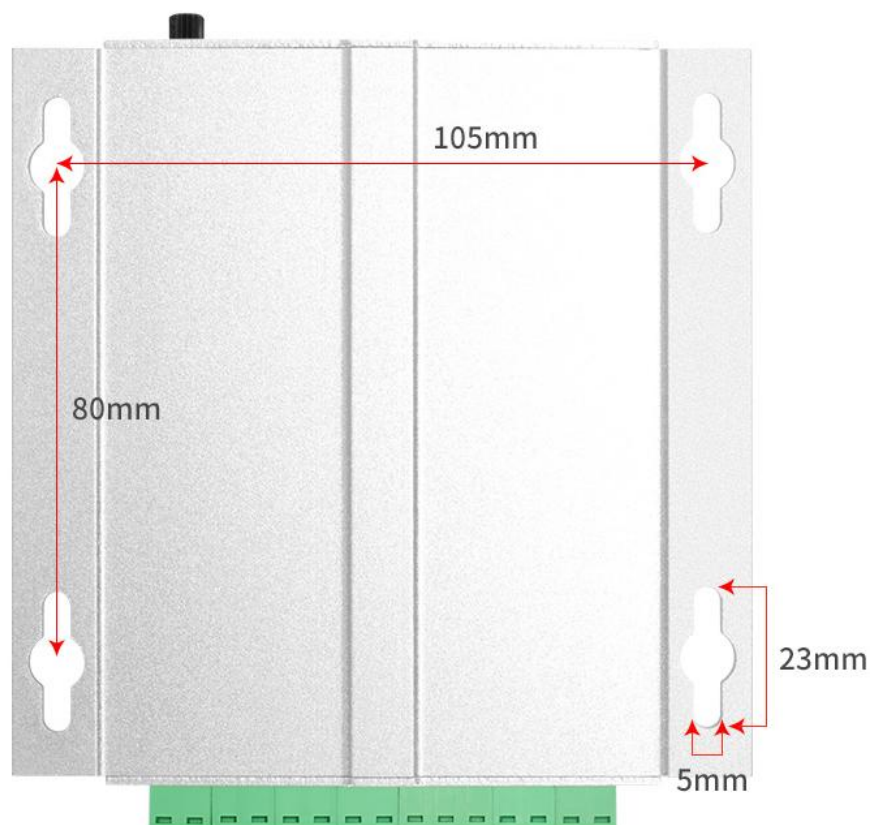
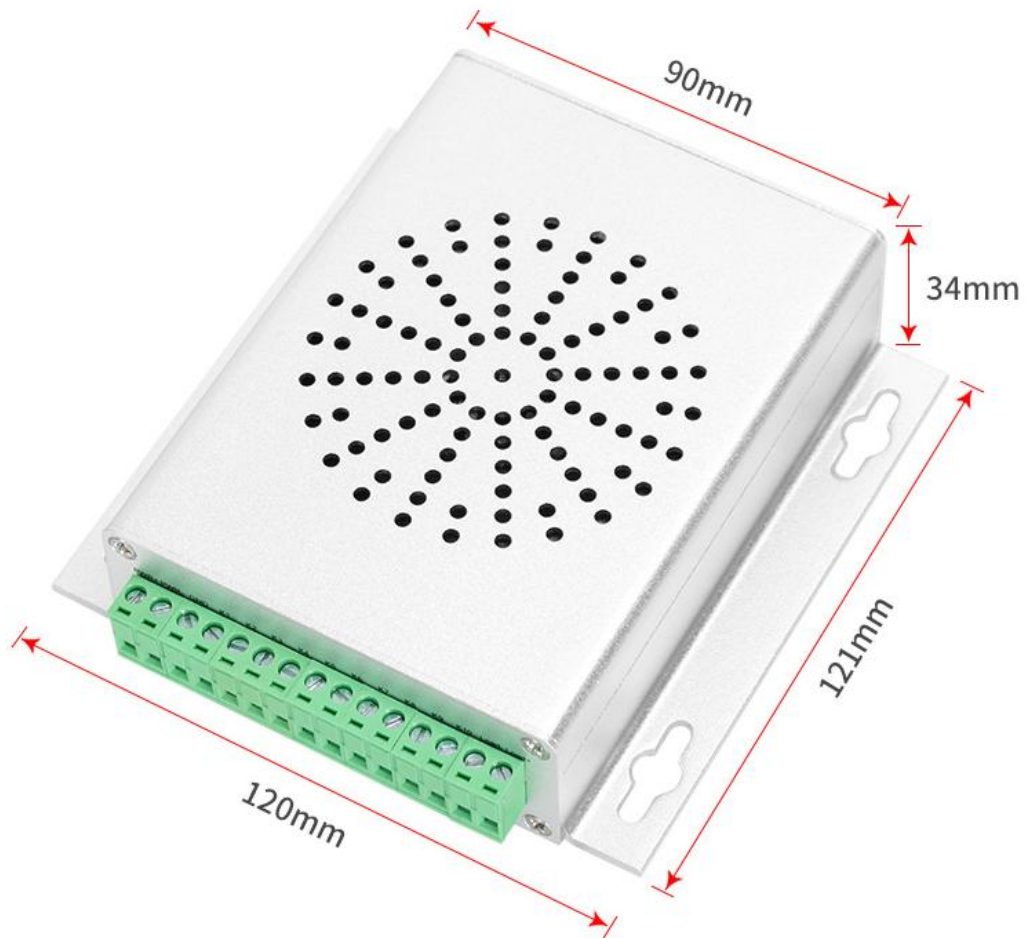
1.2. Technical Parameters

- ✧ Working voltage: 12-40V DC
- ✧ Working current: $\geq 1000\text{mA}$
- ✧ Power Consumption: $\leq 10\text{W}$
- ✧ Flash memory size: 8MB
- ✧ Audio format: MP3 ($\leq 192\text{Kbps}$)

1.3. Interfaces

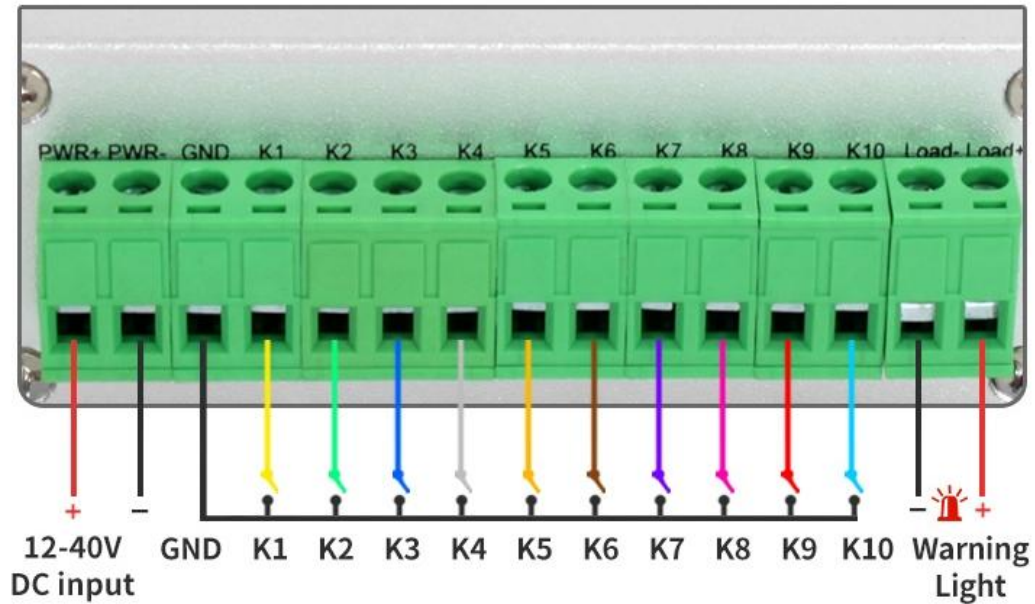


1.4. Dimensions

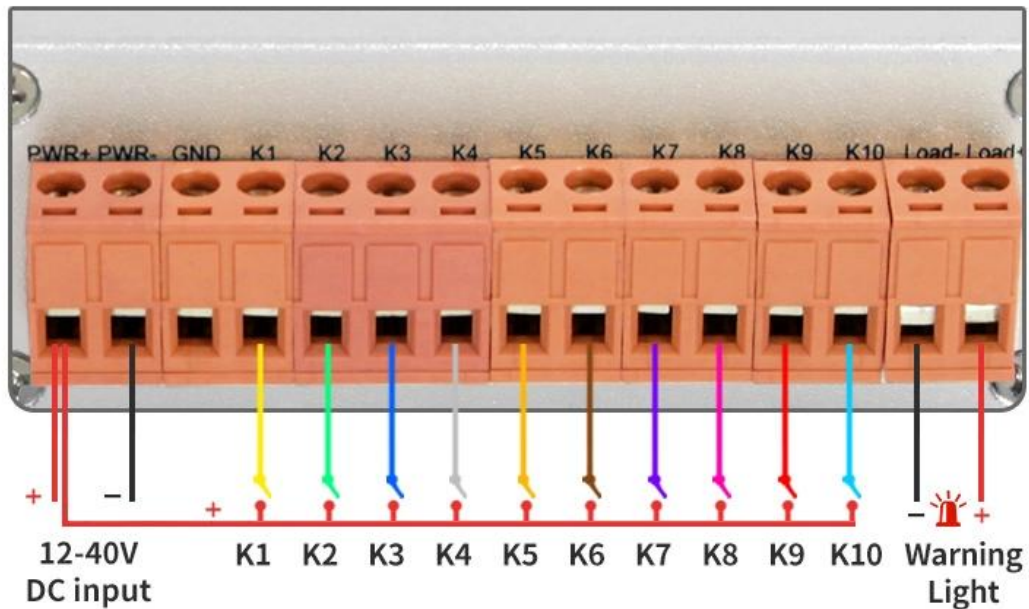


2. Examples of Wiring Connection

2.1. Negative Trigger Version



2.2. Positive Trigger Version



Note: The negative trigger version also can be activated with a low level signal (0V) while the positive trigger version can be activated from a high level signal (12-40V) from a PLC or controller. The PLC or controller needs to share the same ground with the player in advance.

3. Operation Guide

3.1. Select a Trigger Mode

There are 10 trigger modes available for users to choose according to the actual needs. Any of these 10 trigger modes can be set/acquired 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 micro SD card or the flash memory together with the audio files or folders.

Please refer to the below sheet about the details.

Number in Config File	Corresponding Trigger Mode	Explanatory Note
0	MP3 player mode	In this mode, K1 works as Next (uninterruptible), K2 as Next (interruptible), K3 as Shuffle Playback (uninterruptible), K4 as Shuffle Playback (interruptible), K5 as Play/Pause, K6 as Stop, K7 as Previous (uninterruptible), K8 as Previous (interruptible), K9 and K10 are idle.
1	Level hold for loop playback	In this mode, a button must be held/maintained to the trigger for audio file to complete. The audio file will only play back while button is held/maintained. During playback once the button being held 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).
2	Level hold for playback once	In this mode, a button must be held/maintained to the trigger for audio file to complete. The audio file will only play back while button is held/maintained. During playback once the button being held 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 stop.
3	Pulse interruptible	In this mode, short press the button to 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 playback by pressing any of the other 9 buttons. Once playback is interrupted, it will automatically start the sound that is associated with the button pressed.
4	Pulse uninterruptible	In this mode, short press the button to 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.
5	Play multiple audio files in order per button (interruptible)	Each button from K1 to K10 have their associated folders from 01 to 10 respectively. Each folder can store multiple files (for example from "001.mp3" to "030.mp3"). Short press the button to play sound file "001.mp3", and short press again to play the next file "002.mp3", and so on. When the last audio file finish playing, short press again to go back to play file "001.mp3". During playback, if you press the button again, the playback will be interruptible and it will play next file.
6	Play multiple audio files in order per button (uninterruptible)	The same as mode "5", but during playback, if you press the button again, the playback will be uninterruptible.

7	Play multiple audio files at random per button (interruptible)	Each button from K1 to K10 have their associated folders from "01" to "10" respectively. Each folder can store multiple files (for example from "001.mp3" to "030.mp3"). Short press the button to play an audio file at random. During playback, if you press the button again, the playback will be interruptible and it will play another audio file at random.
8	Play multiple audio files at random per button (uninterruptible)	The same as mode "7", but during playback, if you press the button again, the playback will be uninterruptible.
9	Autoplay and insert mode	In this mode, audio files stored in the folder "00" will automatically play one by one in a loop when power is applied. Any button from K1 to K10 (associated with "001.mp3" to "010.mp3" respectively in the root directory) can interrupt it and switch to play the associated audio file. Once the associated audio file finishes the playback, the audio files in the folder "00" will continue to play in a loop.

Note: If there is no config file on the memory/micro SD card, the board will always works with the first mode "MP3 player mode" 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.



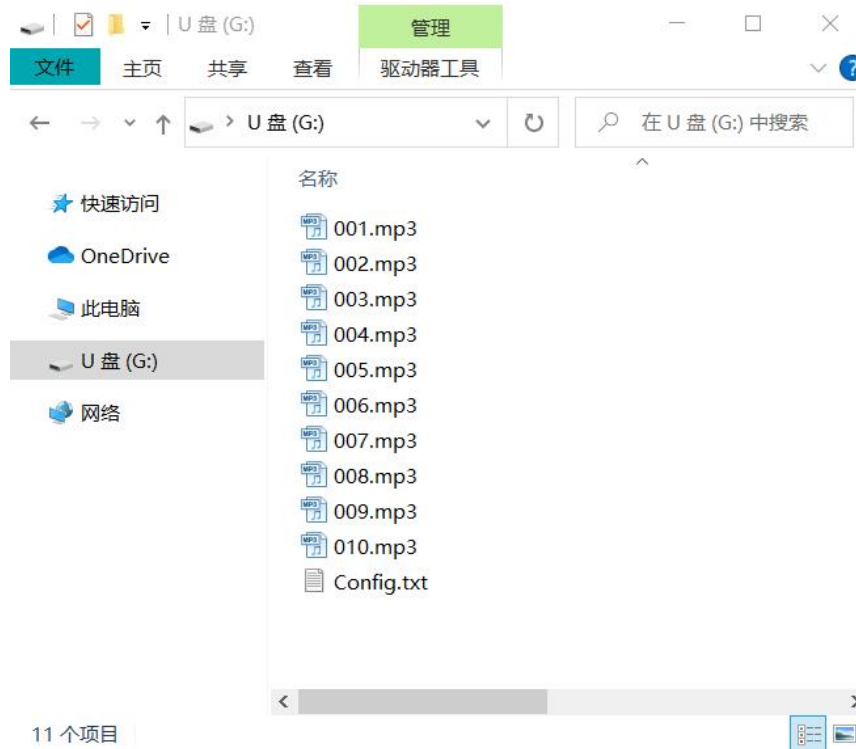
- 3). Save it and close it.
- 4). Rename the file “Config” or any other name you like.

3.3. Audio Files Loading/Updating

Users can use a USB data cable to connect the board to computer. The built-in flash memory will be detected as a USB flash drive on computer. If the built-in flash memory is not large enough to store your audio file, you can use a micro SD card instead. When there is an inserted micro SD card on the board, 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

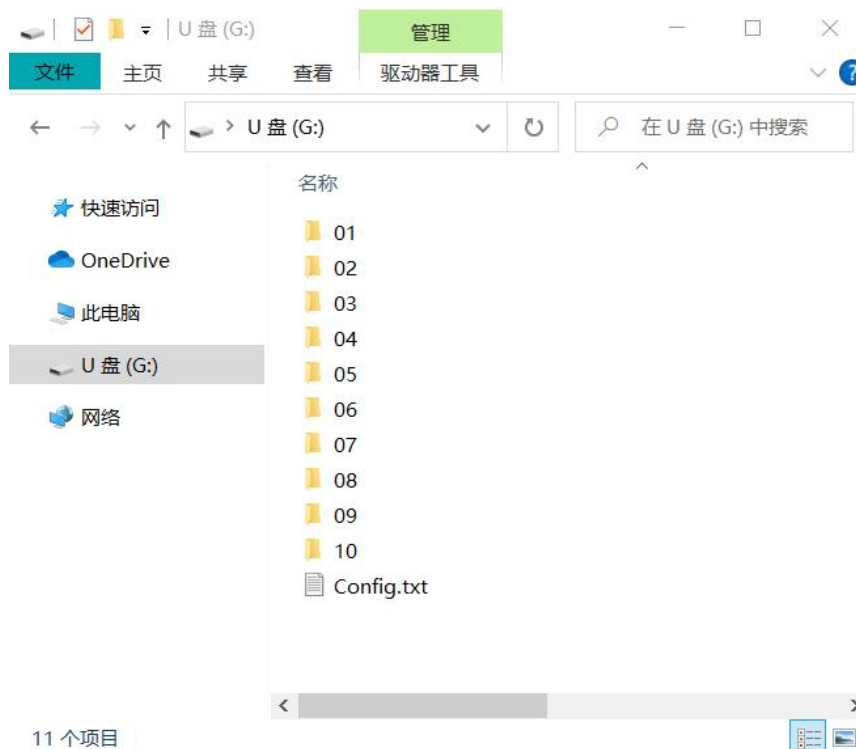
To these five modes, the audio files need to be placed on the root directory of the storage device (built-in flash memory or micro SD card). You can rename the files “001.mp3” to “010.mp3”. After that, create a config file in the memory referring to “2.2. How to create a config file” above. See the screenshot as below.



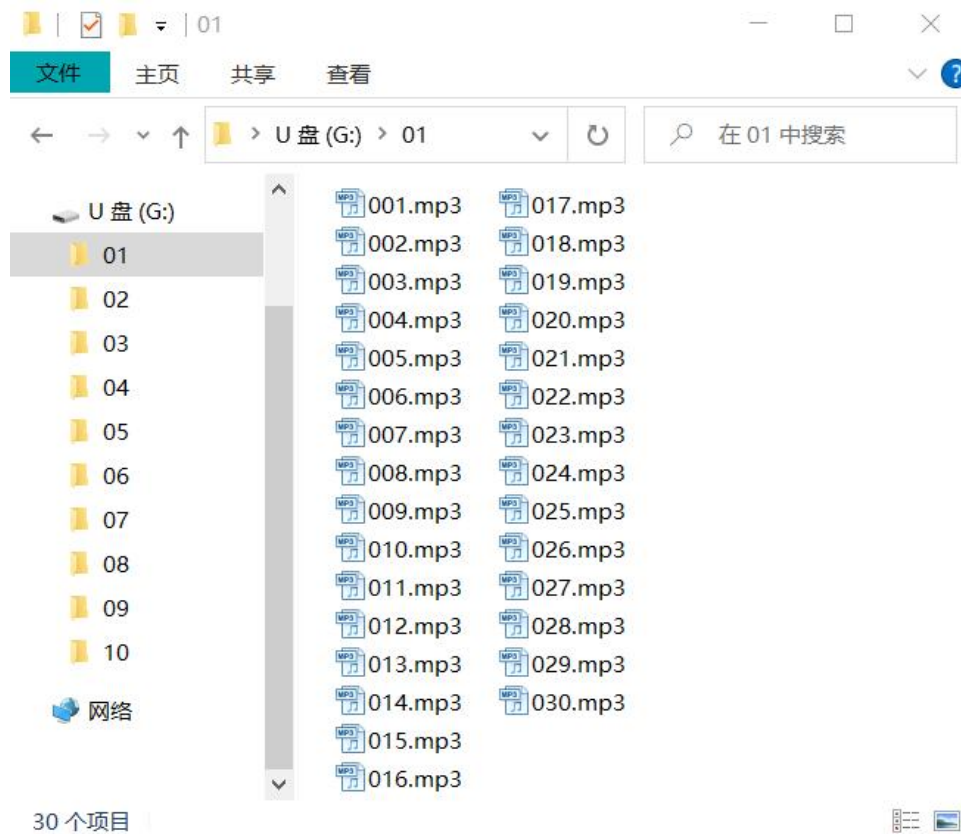
Notes: When you use the trigger mode "0", you can definitely place more than 10 audio files.

3.3.2. For Trigger Mode 5-8

At first, users need to create ten folders on the storage device (built-in flash memory or micro SD card), and name them 01, 02, 03, till 10, then put the config file together with the folders on the root directory. Of course, if you don't have to use so many buttons, then you don't need to create as many as ten folders. See the screenshot as below.



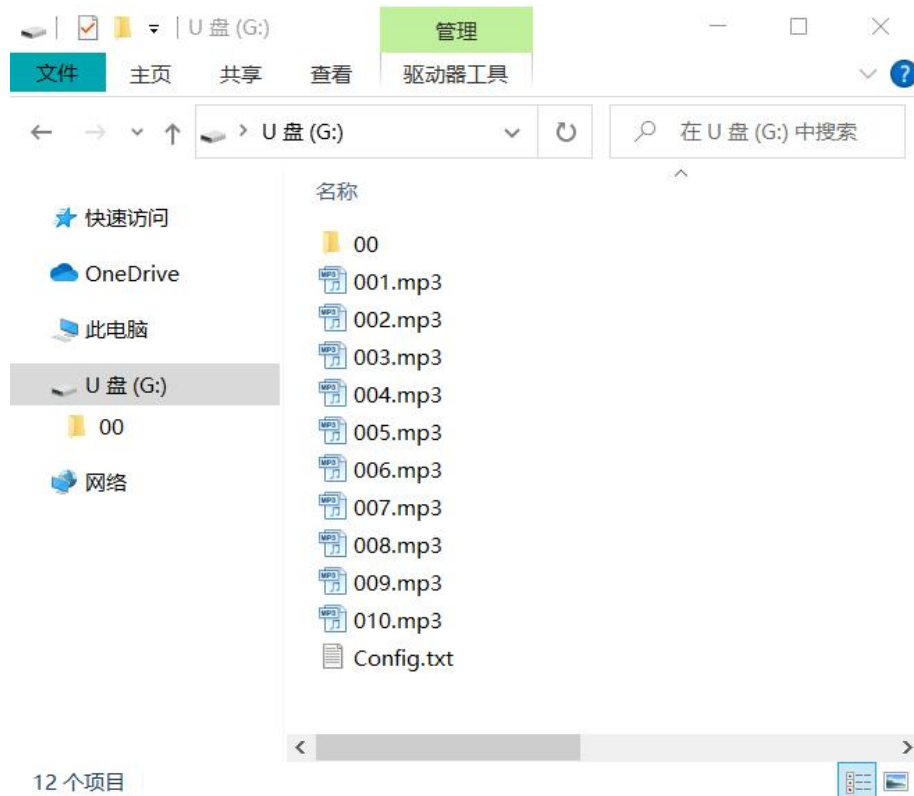
After that, copy your audio files to each associated folder, and rename them 001.mp3, 002.mp3, and so on. In these four modes, the module recognizes the audio files by physical index order, so when you copy audio files to each folder, please note the copy order. See the screenshot as below.



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

Users need to create a folder and name it 00, and put the audio files, which need to be played automatically in a loop when powered on, in this folder. The audio files in this folder need to be renamed 01, 02, 03.....in this way. Those audio files 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 these files 001.mp3, 002.mp3, 003.mp3...010.mp3 in this way. Each of these files is associated with a key/button from K1 to K10 respectively. Afterwards, put the config file in the root directory as well. See the screenshot as below.



Audio files in the folder 00 shown as below. It's okay to have only one audio file or multiple audio files in this folder.

