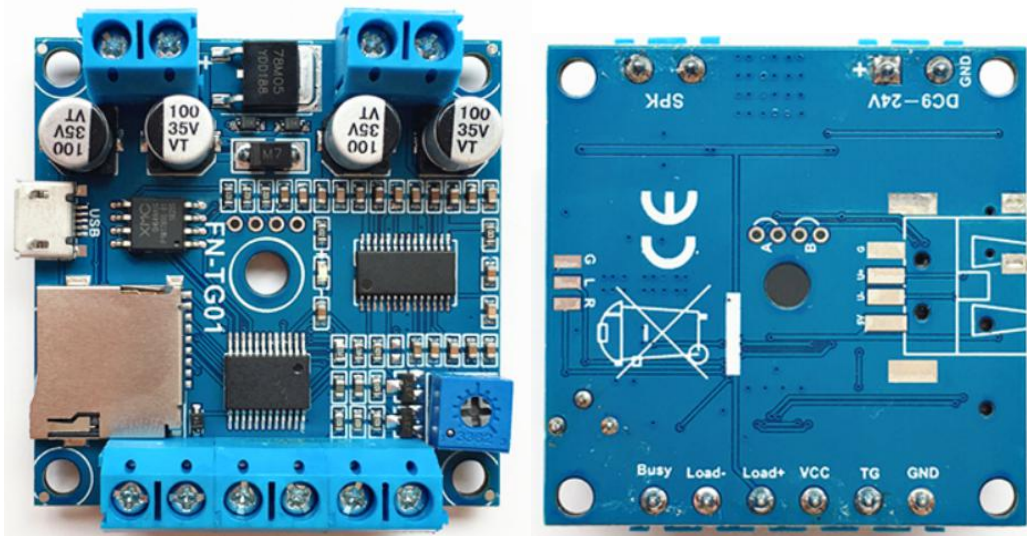


FN-TG01 Motion Sensor or Button Switch Activated MP3 Player Sound Module with Load Output

User's Manual

Version: V1.0



1. Features

- ✧ Equipped with a high quality audio decoder chip.
- ✧ Supports MP3 and WAV audio files.
- ✧ Built-in a 8MB flash memory, which is able to store total of about 8 minutes long MP3 files of 128Kbps.
- ✧ Equipped with a micro SD card holder, and supports max. 32GB micro SD card.
- ✧ Solder pads for connection with external USB flash drive available on the back of the board.
- ✧ Update audio files easily through the micro USB port connected with PC like using a USB drive.
- ✧ Built-in a class D 15Watts amplifier IC that is possible to drive a 10Watts 8ohms or 15Watts 8ohms speaker.
- ✧ Solder pads for audio signal out to external amplifier available on the back of the board.
- ✧ Adjustable sound volume through the blue potentiometer.
- ✧ Can be activated with a PIR sensor, micro wave sensor, switch or relay.
- ✧ Optional to play a sound in order or in random after each activation when there are multiple files in the memory.
- ✧ When a sound is playing, there is a load output simultaneously, which can directly drive a warning light, LED light or LED strip.
- ✧ A busy output available as well. It outputs high level when playing and low level when standby.
- ✧ Great sound quality and stable performance.
- ✧ PCB size: 45mm x 45mm



2. Technical parameters

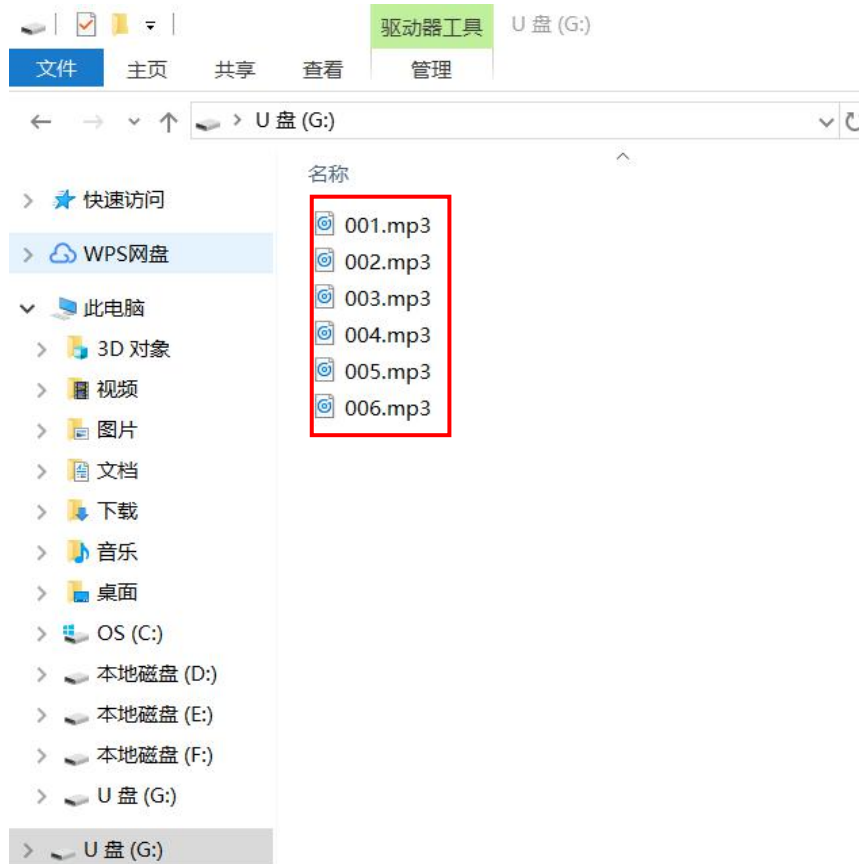
- ✧ Working Voltage: 9-24V DC
- ✧ Working Current: $\leq 2000\text{mA}$
- ✧ Consumption Current at Playback: $\leq 500\text{mA}$ (12V DC)
- ✧ Standby Current : $\leq 15\text{mA}$
- ✧ Flash memory size: 8Mbytes
- ✧ Audio format: MP3 or WAV

3. Audio Files Loading

There is a micro USB socket on the module. Users can connect it to computer through an Android phone purposed USB cable to load audio files. Computer will recognize the built-in flash memory or the micro SD card as a USB flash drive. When the module has an inserted micro SD card, computer will directly read the micro SD card. Otherwise, computer will read the built-in flash memory on the module.

Single audio file or multiple audio files need to be directly stored in the root directory of the internal memory. To multiple files, the quantity is not limited so long as the total size of these files is not larger than the internal memory (8Mbytes). And the arrangements of multiple audio files are managed by a physical indexing sequence. In other words, the file that is to be loaded first in the memory will be played first. The last file to be loaded in the memory will be played in the end. In order to guarantee a correct order, please refer to the following steps.

- 1). Build a new folder on the computer and put the audio files in this new folder.
- 2). Rename the audio files 001.mp3, 002.mp3, 003.mp3....., and make sure they are ranked from 001.mp3 to xxx.mp3 (the last one) in order.
- 3). Connect the equipment with computer through the USB cable, and you will see a simulated USB flash drive on computer.
- 4). Delete the sample audio files pre-loaded at factory for testing purpose.
- 5). Select all of the audio files in the folder.
- 6). Right click on the first file (001.mp3) and choose "Send to USB flash dive / removable disk".
- 7). This should send the multiple audio files to the memory in a correct sequence. Refer to the image below.



8). Safely remove the player(simulated USB flash drive) from computer.

If there are multiple files in the internal memory like above, after each activation, the player will play an audio file at a time in sequence (from the first file to the last one in loop). This is a default mode. If you want the player to play an audio file in random each time among all the files, you need to create a simple configuration file and put it together with the audio files in the root directory of the memory. Please refer to the two steps below on how to create such a configuration file.

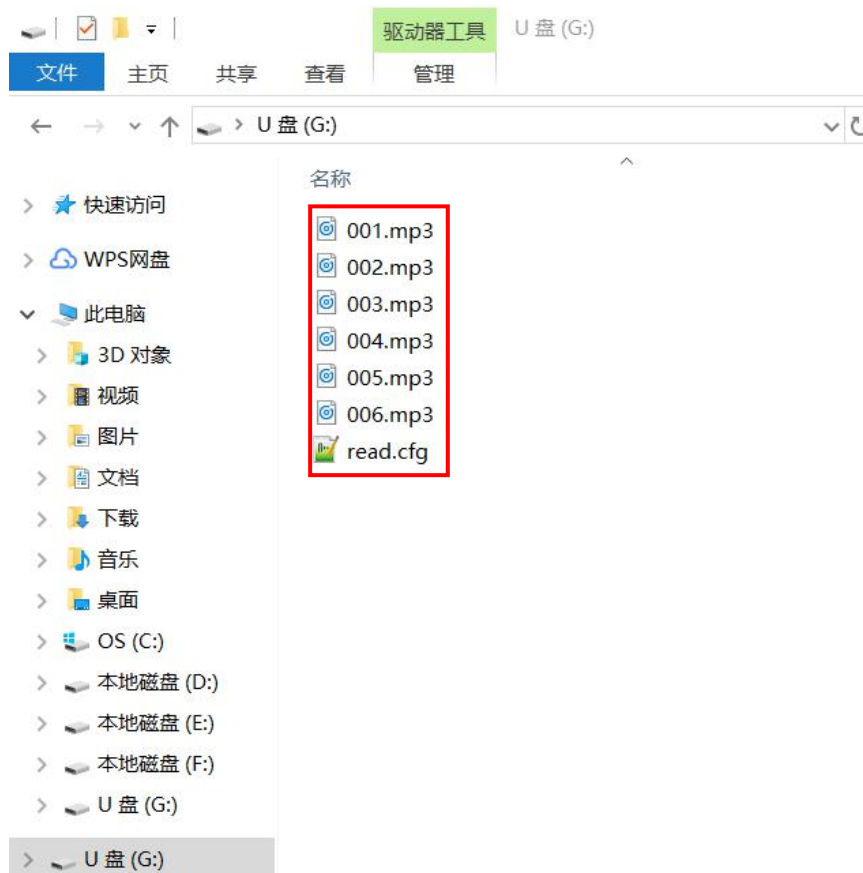
1). Build a new text file on computer and enter the number "1" that represents the random play mode. Refer to the image below.



2). Save it and change the file name “xxx.txt” to “read.cfg”. Please make sure your computer shows filename extensions. The extension “.txt” must be changed to “.cfg”, otherwise the file is not workable. Refer to the image below.

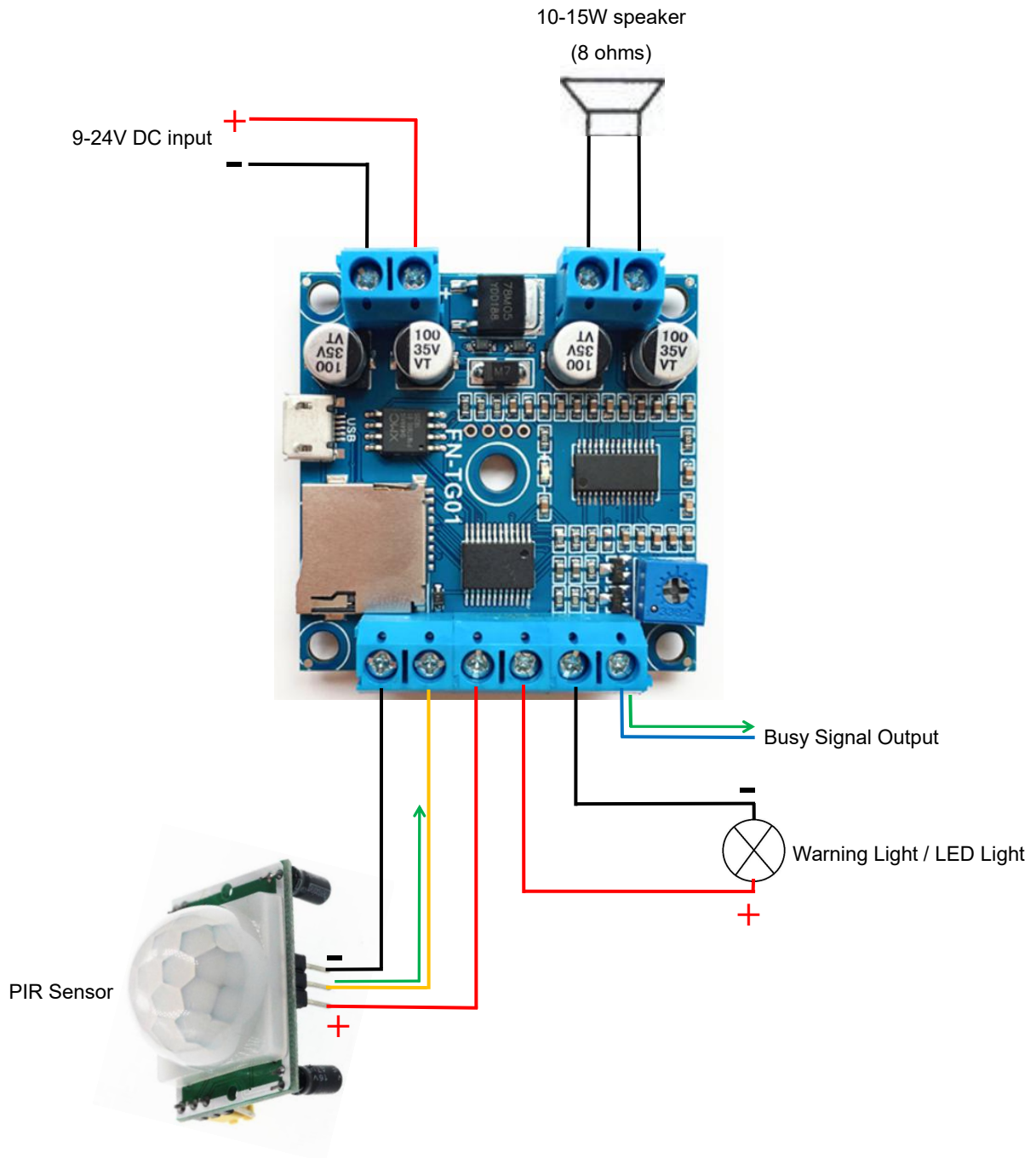


After copying the audio files, put this configuration file into the root directory together with audio files and then refresh. Refer to the image below.



4. Examples of Wiring Connections

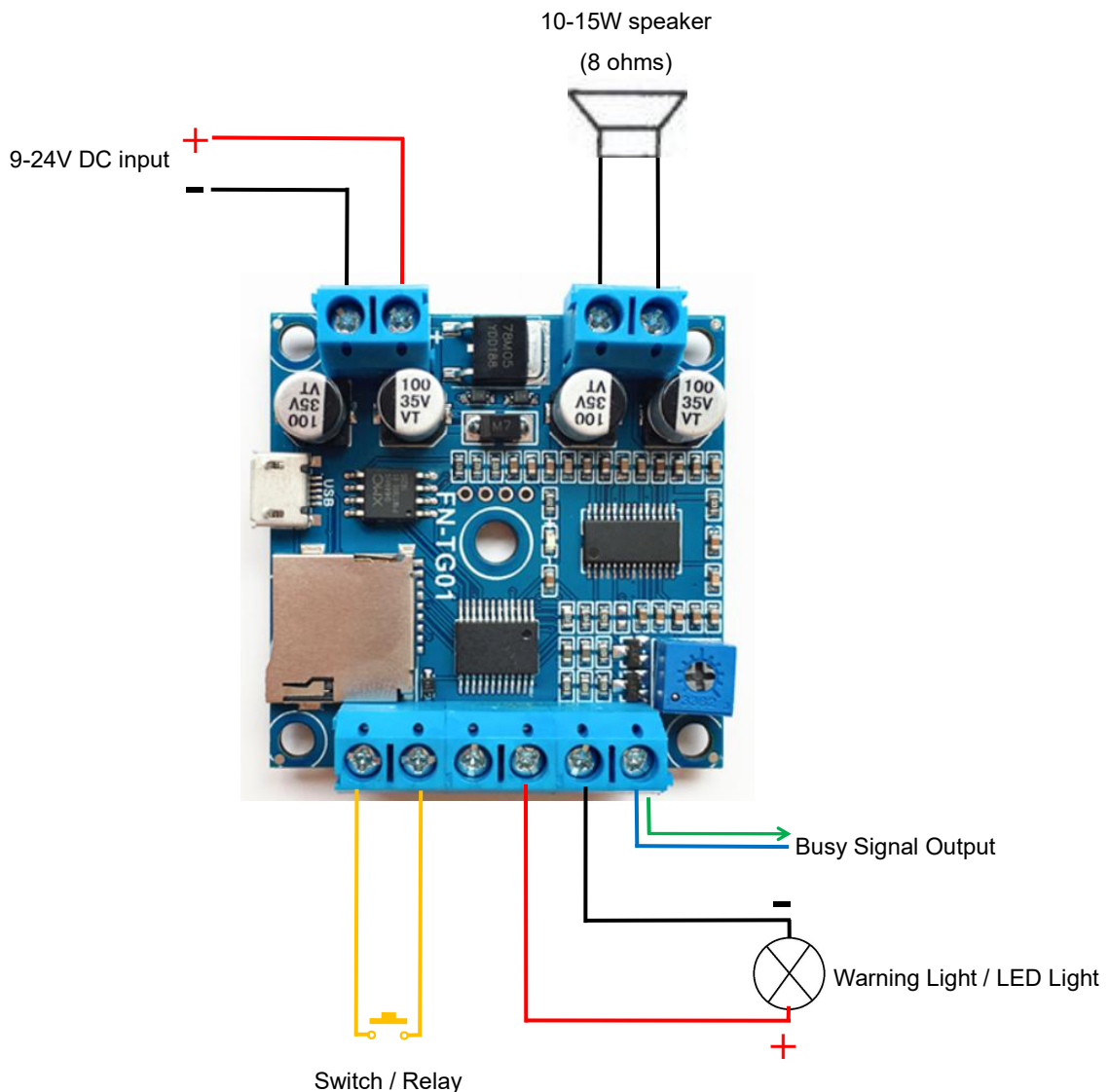
4-1. Connection with a PIR Sensor / Micro Wave Sensor



Notes:

- 1). The MP3 module directly supplies power to the PIR sensor. Please check the allowed power supply range for the PIR sensor before connection with the MP3 module.
- 2). When the PIR sensor works, please make sure it outputs a signal at 3.3V or lower to the MP3 module.
- 3). The load output ports have the same voltage as the power supply you use, so if you need to connect with a 12V light, the power supply you need to use must be 12V. If you don't need to connect with a light, just ignore this.
- 4). The Busy port outputs a signal in high level when the module is playing a sound, and it output a signal in low level when the module is standby.

4-2. Connection with a Switch or Relay



Notes:

- 1). A momentary switch or a relay with normally open contacts should be used.
- 2). The load output ports have the same voltage as the power supply you use, so if you need to connect with a 12V light, the power supply you need to use must be 12V. If you don't need to connect with a light, just ignore this.
- 3). The Busy port outputs a signal in high level when the module is playing a sound, and it output a signal in low level when the module is standby.

How to play a sound in a loop when power is applied to the module:

- (1) Jump the switch (bridge terminal connector 1 and 2 with wire)
- (2) Create config file with number "3" in it. See page 3 how to make a config file.
- (3) Apply 9 - 24V DC to the power input of the module.
- (4) The sound file will play in a loop. (When there are multiple sound files, the unit will play them one after another in order and then loop.