PIR Motion Sensor Activated Audio Player

for POP Displays / Point of Sales / Statues / Artworks

User's Manual

Model: FN-M2A

Version: 1.0
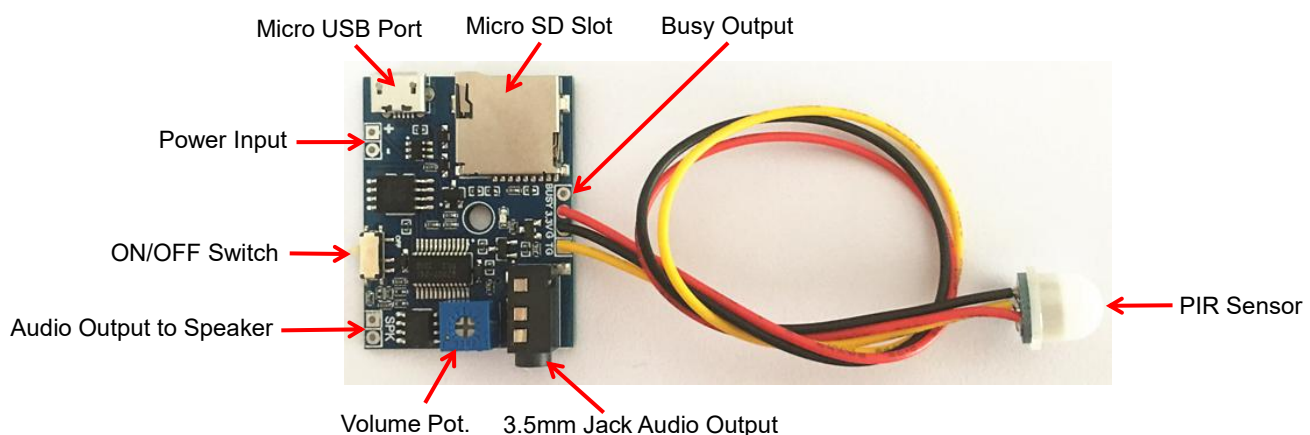*Release Date: Oct. 30th, 2020*

Features

1. Adopts a PIR motion sensor that can detect max. 3.5 meters distance.
2. When it detects a moving human body, the device automatically plays back a sound message.
3. Built-in a 4MBytes flash memory and supports max. 32GB micro SD card as well.
4. Supports to store multiple audio files on the memory, and if there are multiple audio files it plays next track in order after each activation from the PIR.
5. Load audio files onto the flash memory through the micro USB port, which is connected with a computer.
6. The on-board flash memory or micro SD card works as a USB flash drive on computer.
7. Built-in a 3W class D mono audio amplifier.
8. Equipped with a good quality round speaker box.
9. The sound volume is adjustable through the blue potentiometer.
10. Equipped with a 3.5mm audio jack that is able to be connected with an external amplifier or active speaker.
11. Busy signal output available that is able to work with a relay to control other external equipment like LED light, motor, etc.
12. Design with low power consumption and suitable to supply power using a 3.7V rechargeable lithium battery or 3 x AA / 3 x AAA alkaline batteries.
13. Supports to supply power directly through the micro USB port as well using an phone charger (5V 1A power adapter).
14. Equipped with charging circuits and it is possible to charge the attached lithium battery through the micro USB port.
15. The length of the wire between the board and the PIR sensor is 20cm.
16. PCB size: 40mm x 30mm
17. Diameter of the speaker box: 58mm
18. Height of the speaker box: 28mm

Technical Parameters

1. Working voltage: 3.7-5V DC
2. Working current: ≤200mA
3. Standby current: ≤30uA
4. Power Consumption: ≤3W
5. On-board flash memory size: 4MBytes
6. Audio format: MP3 or WAV
7. Distance of PIR detection: ≤3.5 meters
8. Detection angle: 120 degrees

Introduction of Main Board

Micro USB Port   Micro SD Slot   Busy Output
Power Input
ON/OFF Switch
Audio Output to Speaker
Volume Pot.   3.5mm Jack Audio Output
PIR Sensor

Notes

1. When the device is playing back a message, the Busy port outputs a signal in high level 3.3V.
2. When the device is powered with a phone charger (5V 1A power adapter) through the micro USB port, the ON/OFF switch is ineffective.
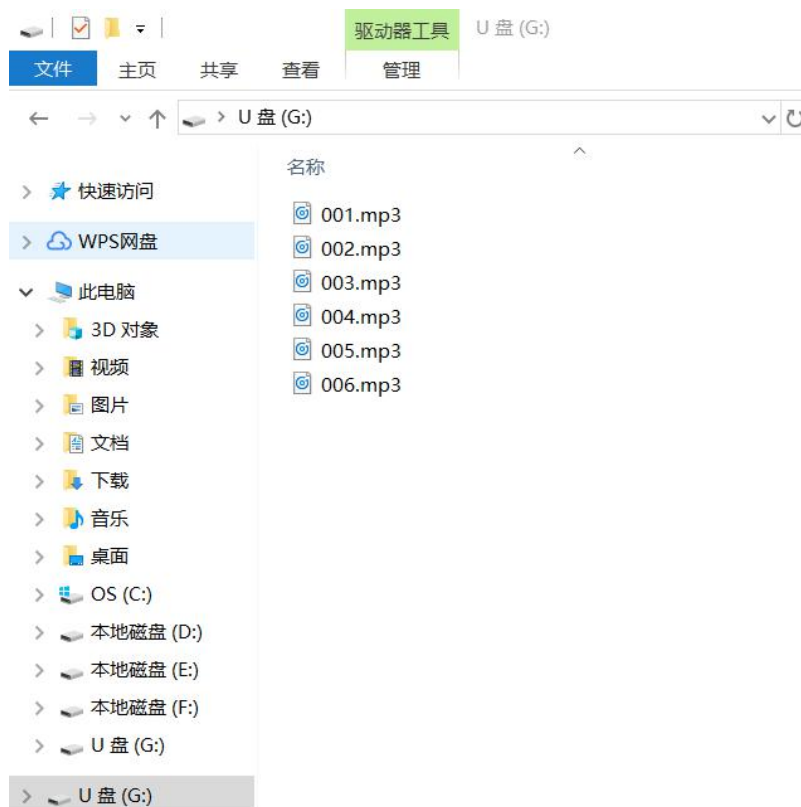
Audio Files Loading and Updating

Firstly please check the size of the audio file / files that need to be loaded. If the size is smaller than 4MB, please directly upload them into the built-in flash memory. If the size is larger than 4MB, please use a micro SD card instead.

Please refer to the steps below when you put audio files onto the built-in flash memory.

1. Steps for loading audio files onto the built-in flash memory

1). Connect the board with computer through a USB cable with micro USB plug. When the connection is done, you will see a removable disk / USB flash drive (simulated) on computer.

2). Double click the removable disk / USB flash drive (simulated), and you will see the pre-loaded audio files at factory for testing purpose as below.

What you need to do is to delete these pre-loaded audio files and copy your own ones into the root directory.

3). Safely disconnect the board from computer, then the audio files are successfully loaded / updated into the on-board flash memory.

When you need to use a micro SD card to store the audio files, please refer to the steps below.

2. Steps for loading audio files into a micro SD card

The board is provided with a card reader function, so you don't need an extra card reader since you have a USB data cable. When there is an inserted micro SD card on the board, computer will always read the micro SD card.

1). Insert the micro SD card, and connect the board with computer through a USB cable. When the connection is done, you will see a removable disk / USB flash drive (simulated) on computer.

2). Format the micro SD card to FAT32 file system.

3). Copy your audio files into the directory of the micro SD card.

4). Safely disconnect with computer.

3. Notes

1). When there is a micro SD card inserted on the board, it always plays the audio files from the micro SD card.

2). If there is only one audio file, it will always play this file after each activation. If there are multiple files, it will play next file in order after each activation.