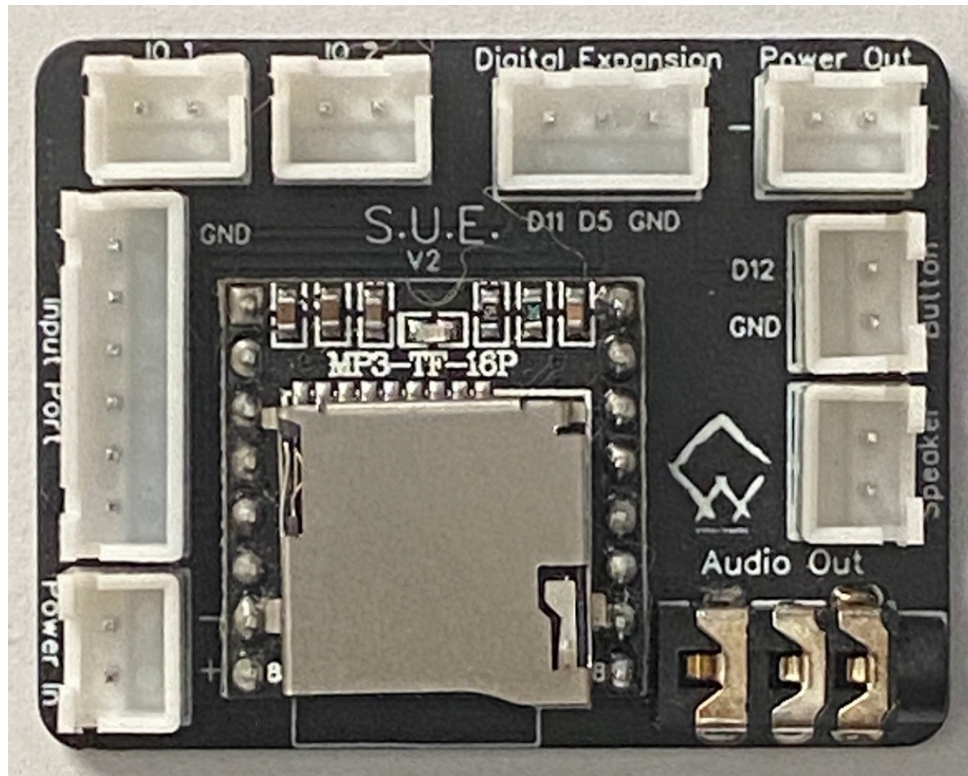


S.U.E. SD Card Formatting Instructions

Version 2.0
By Crash Works 3D



The purpose of this document is to provide instructions on how to properly format and copy Crash Works 3D sound effects mp3 files onto a micro SD card for the S.U.E. module.

S.U.E. is a **S**ound **U**nit **E**xpansion shield module designed to work with the A.L.I.S.H.A. Arduino shield module. S.U.E. is designed to enable sound effects for cosplay costumes and general fun. The S.U.E. shield has a DFPlayer Mini module installed on it which requires a specific SD card format and file naming convention. For more information please refer to the official DFPlayer Mini web site: https://wiki.dfrobot.com/DFPlayer_Mini_SKU_DFR0299

Recommended operating voltage between 5v-6v (not to exceed 6v due to MG90S servos.)

Pre-requisites

Micro SD card no larger than 8GB [<https://www.amazon.com/gp/product/B00MHZ6ZJQ/>]

USB Micro SD card reader or built-in Micro SD card reader [<https://www.amazon.com/SmartQ-C307-Portable-MicroSDHC-MicroSDXC/dp/B06ZYXR7DL/>]

Computer with latest Mac, Windows or Linux operating system

MP3 files downloaded from Crash Works 3D Github site:

https://github.com/crashworks3d/Iron_Man_Servo/

Formatting & File Copy Instructions

Mac OS

Plug your micro SD card into your computer and then In OSX open up a terminal and use the following commands:

```
$ sudo diskutil list
```

This will let you work out what logical disk is being used for your micro SD Card. In my case, I used the listed SIZE to work out that it was /dev/disk2. Now the card can be correctly formatted:

```
$ sudo diskutil eraseDisk FAT32 SOUND MBRFormat /dev/disk2
```

Now copy your MP3 files over to the micro SD card. They must be sequentially numbered like so:

```
0001.mp3  
0002.mp3  
0003.mp3
```

You will also need to copy these files across in order, the DFPlayer seems to use some sort of creation timestamp when the files are indexed. So don't copy 0003.mp3 and then 0001.mp3, otherwise wacky things will happen.

Finally, if you have done this all on OSX, you will need to clear out any hidden files as that will also mess up the DFPlayer's indexing system.

```
$ dot_clean /Volumes/SOUND
```

(Your volume folder might be different, depending on what you used as the disk name during the disk erase step).

Windows OS

Download and install the SD Card Formatter application from the following site:

<https://www.sdcard.org/downloads/formatter/>

Insert your Micro SD card into your computer

Launch the SD Card Formatter application

Select card

Select "Overwrite format"

In the "Volume label" text box, enter "SOUND"

Click the "Format" button and answer "Yes" to erase card

Once the formatting is completed, copy your MP3 files over to the micro SD card. They must be sequentially numbered like so:

0001.mp3
0002.mp3
0003.mp3

You will also need to copy these files across in order, the DFPlayer seems to use some sort of creation timestamp when the files are indexed. So don't copy 0003.mp3 and then 0001.mp3, otherwise wacky things will happen.

Linux OS

Insert your Micro SD card into your computer and then In OSX open up a terminal and use the following commands:

Identify the USB SD card drive using the following command:

```
$ lsblk
```

This will let you work out what logical disk is being used for your micro SD Card. In my case, I used the listed SIZE to work out that it was /dev/sdb1.

Unmount the disk if it is mounted using the following command:

```
$ sudo umount /dev/sdb1
```

Format the disk using the following command:

```
$sudo mkfs.vfat -F 32 -n 'SOUND' /dev/sdb1
```

Mount the disk using the following commands:

```
$ sudo mkdir /media/FAT32
```

```
$ sudo mount /dev/sdb1 /media/FAT32
```

```
$ sudo chmod 777 /media/FAT32
```

Now copy your MP3 files over to the micro SD card. They must be sequentially numbered like so:

0001.mp3
0002.mp3
0003.mp3

You will also need to copy these files across in order, the DFPlayer seems to use some sort of creation timestamp when the files are indexed. So don't copy 0003.mp3 and then 0001.mp3, otherwise wacky things will happen.

Troubleshooting

If you have the S.U.E. module properly plugged into A.L.I.S.H.A. and the sound effects are not playing. When a sound effect "plays" you should see a blue LED light on S.U.E. turn on. Check the following:

1. Ensure that the cables between the two modules are properly connected and snug.
2. Ensure that you have proper power to the modules.
3. Ensure the Micro SD card is properly formatted. The most common problem is that the Micro SD card is not properly formatted using the FAT32 file system. Try reformatting the SD card and re-copying the files to the card.
4. Ensure the files have been copied in the proper order and using the prescribed file naming convention.
5. Try "playing" the sound effects from your computer.

See the following sites/documents:

https://wiki.dfrobot.com/DFPlayer_Mini_SKU_DFR0299

https://www.robotshop.com/media/files/pdf2/dfplayer_mini_manual.pdf

<https://reprage.com/post/dfplayer-mini-cheat-sheet>

Community

Facebook: <https://www.facebook.com/groups/cosplayspecialeffectsprops>