

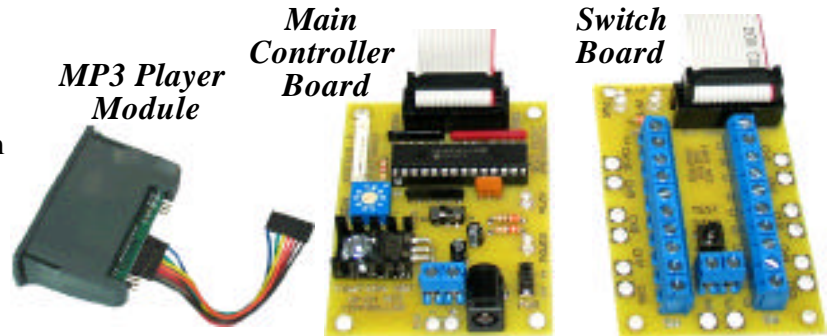
# 10-Ch MP3 Audio / Switch Input Controller

## 10 Ch Sound Board Description:

This unique advanced MP3 controller system is designed to control the playback of 1 to 10 MP3 audio files that have been recorded by the user on to a flash USB memory storage drive

The audio files can be selected individually by activating 1-10 remote push button switches or by the activation of dry closure contacts like

Relay Outputs, Sensors attached to the Switch Interface Board. The audio files can also be stepped through sequentially or selected randomly by a single remote push button switch or contact closure from a remote relay (Relay Outputs) on the Remote Trigger Connector located on the Switch Board. The controller will wait until the sound file has finished playing before it can be activated again to prevent broken playback audio tracks,



## Set Up:

Attach the **MP3 Playback Module** to the **Main Control Board** via the ribbon cables (*see drawings*) (Note: connector can only go on one way, check wire orientation to make sure connected correctly or module will be damaged).

Attach the **Switch Board** to the **Main Control Board** via the ribbon cables (*see drawings*). (Note: connector can only go on one way, check orientation to make sure connected correctly, notch and block match up on headers of ribbon cables).

Attach remote switch 1-10 (*see drawings*) sensor or connect dry contact relays to the associated switch terminal blocks 1-10 on the Switch Board. Connect the Switch Board to the switch header connector on the Main controller board (Note: again, check orientation to make sure cable is connected correctly)

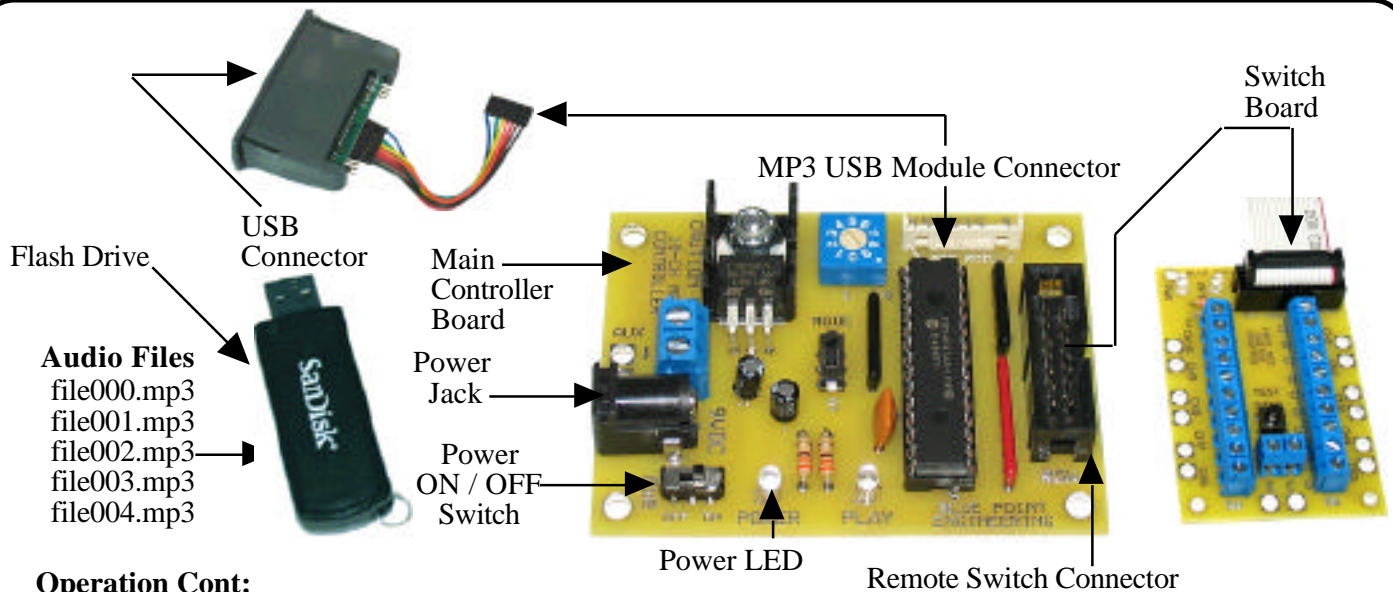
Connect a regulated 7.5 – 9.0 VDC at 500 mA power supply to the power jack or wire terminal power block if not using a jack connector.

Connect a stereo audio cable to the audio output jack on the MP3 player module and the other end to a powered amplifier / speaker for sound (*see drawings*).

## Operation:

To use this board, you must first store 1 to 10 MP3 files of audio on a USB flash drive. These audio files must be named as follows: The first audio file must be named "**file000.mp3**". The next file must be named "**file001.mp3**" and so on to the last audio file named "**file009.mp3**". You can have as many audio files as you want up to 10. If you had 10 audio files, the last file would be named "**file009.mp3**", ( Remember you started at file000.mp3 ). When naming the audio files, do not skip any numbers. The MP3 files can be of any audio length up to the total storage capacity of the USB flash drive.

Once you have recorded your files, you must set the **File Number Indicator Switch** (see drawings) located on the Main Controller Board to indicate to the on board micro processor how many files you have stored on the USB Flash drive. For example, if you only have 5 MP3 files on the drive, they would be named: "**file000.mp3**", "**file001.mp3**", "**file002.mp3**", "**file003.mp3**", "**file004.mp3**" and you would set the File Number Indicator to **position 4** ( 0, 1, 2, 3, 4 = 5 files, Remember you started at **file000.mp3** )



### Operation Cont:

Insert the USB flash drive with MP3 files into the USB connector on the **MP3 Playback Board** and turn on the power.

You will see LEDs on each of the boards come on indicating that power is on. You will also see a flashing **red** and **green** LED next to the USB flash drive on the MP3 Playback Module. This LED indicates that the MP3 module is initializing. When it glows a solid **green**, then the controller board is ready to use.

There are **3 modes of playback operation**, (see *setup mode drawing pages*) which are selected by placement of a micro slide switch on the main controller board. The three modes are: **Individual, Sequential** and **Random**.

**Individual Mode:** The slide switch is set to Sequence. Any of the 1-10 attached remote push button switches connected to the Switch Board to activate the specific audio sound file channel. Also, a **yellow** LED on the Switch Board and the Controller Boards will light indicating that audio playback is occurring. If you activate a switch for a file that is not on the USB flash drive, nothing will happen. (Note: If you are only using 3 channels for example the remaining un-used channels do not need any switches connected). The controller will wait until the audio file has finished playing before it can be activated.

**Sequential Mode:** The slide switch is set to Sequence (S) will place the controller board into Sequential Mode. Audio files are played starting at file1 (file000.mp3) and move to highest numbered file each time triggered.. You will use a remote single push button switch or a remote relay contact closure attached to the Remote Trigger Terminal blocks on the Switch Board. (see drawings) Every time the Remote Trigger is activated (Push button Switch, or optional remote Relay is activated, the controller board cycles through the audio files sequentially and plays it back to the attached powered audio amp / speaker module. When the last highest numbered audio file is reached in the play list, (10) (Max file = file009.mp3) then the next audio file triggered will restart at audio file1 (file000.mp3). The controller will wait until the audio file has finished playing and also turn OFF the SS relay before it can be activated again

**Random Mode:** The slide switch is set to Random (R) controller board). You will use a single dry remote relay contact closure or a remote single push button switch attached to the Remote Trigger Terminal blocks on the Switch Board. Every time the Remote Trigger is activated (push button switch, or optional external relay activated, the controller board picks an audio channel file randomly and plays it back to the attached powered audio amp / speaker module. Again the controller will wait until the audio file has finished playing before it can randomly select another audio file.

### Playback Options:

If you want the audio file / channel to play over and over, (looping) option in sequence or random, then simply short the remote push button switch channel needed together with a short piece of wire. The controller will playback and wait until the sound file has finished playing, before it will automatically step to the next audio channel or select a random number channel for playback until the wire loop is removed. This wire loop can be placed on any single channel or in the random / sequence wire terminal block on the remote switch connection board.

### **Playback Mode Selection:**

Set the onboard Mode Switch to Random or Sequence Playback.

**Sequence Mode:** Audio files are played starting at file1 (file000.mp3) and move to the next numbered file each time the remote trigger switch is activated or if connected to a remote relay contact each time the relay is activated. When the last highest numbered file is reached in the play list, (10) (Max file = file009.mp3) then the next audio file triggered will restart at audio file1 (file000.mp3), The controller will wait until the sound file has finished playing before it can be activated again. (Yellow LED will turn ON / OFF as file is played)

**Random Mode:** Audio files are played randomly, each time the remote trigger switch is activated or if connected to a remote relay contact each time the relay is activated. The controller will wait until the sound file has finished playing before it can be activated again. (Yellow LED will turn ON / OFF as file is played)

**NOTE:** any number of file can be recorded from 1 to 10 audio files. The length of the recorded audio files available is determined by the size of the USB Flash Memory Drive. ( 2-4 GB size recommended)

Min number=1 file (file000.mp3) and the Max number=10 file (file009.mp3)

Audio File Size= As large as the USB Flash memory Drive capacity is.

### **Troubleshooting / Hints Guide**

#### **Q. I have recorded my sounds, but nothing plays back when I activate the trigger switch or test button.**

- A. Check to see that you have named the audio files correctly. For example, if you only have 5-MP3 audio files on the drive, they would be named “file000.mp3” to “file004.mp3”
- A. Check to see if your Hide File Extension display is turned ON in your computer, if so, then the files probably have double extensions added, “file000.mp3.mp3. -“ file009.mp3.mp3. **The second extension is incorrect, should be file000.mp3”** to “file009.mp3, Turn Hide OFF and rename the files.
- A. Check to see that the main board File Number Indicator switch is set to the correct number of files you have on the USB Flash Memory Drive: Remember you started at file000.mp3 so the File Number Indicator would be set to the **position 4** (0, 1, 2, 3, 4 = 5 files ). Make sure Notch on Switch is correct position.
- A. Check to see that the audio files you are using are not a different format, The audio file must be MP3 type.
- A. Check to see that the audio files have been transferred onto the USB Flash Memory Drive.
- A. When you activate the remote switch test button, does the **Yellow LED** on the board go ON and then OFF. This would indicate that the audio file has been triggered for playback, but that the sound may not be getting to the remote connected Amplifier / Speaker module. Make sure that the power to the Amplifier and Speaker is ON and the volume turned up. Check the stereo audio cable connected between the MP3 sound playback board audio jack output and the Amplifier / Speaker Module audio input jack, making sure that it is plugged in and that the audio cable is good. If the **Yellow LED does not turn OFF or ON** when the remote switch or test button is activated, then there may be a problem with the USB Flash Memory Drive or the MP3 audio files, names or audio format-type is not MP3. Try a different USB Drive, Check Audio Files.
- A. Check the power supply and make sure that you are connected to the controller board and plugged into the wall outlet if using a wall adapter. Make sure that you have the correct power supply (9 VDC power)
- A. Make sure that the board power switch is ON (You should see a **RED LED** light when there is power to the sound controller board)
- A. Check your USB Flash Memory Drive to see that it has been formatted as a blank drive, before adding you new sound files, Some USB Flash Memory Drives have a security or Auto Boot feature that prevents the MP3 player from using the sound files correctly even when formatted. Re-format your USB Flash Memory Drive removing any security or Auto Boot formats first. (**Format USB Flash Drive as a MS-DOS FAT**) Try a different USB Flash Memory Drive type, as some manufacture brands operate different than others.

#### **Q. I would like all the audio files to play once, and then start over automatically.**

- A. Connect a jumper wire across the remote switch / relay trigger input connector. The audio files will play as looping playback. The controller will wait until the sound file has finished playing before it will playback the next audio file.

#### **Q. I am using the optional Mini Audio Amp / Speaker module, but there is no sound from it.**

- A. Check to see that a 9v Battery has been installed, or if the battery is dead.

#### **Q. No audio when I trigger the board. But the Yellow LED is ON.**

- A. Check to see that the sound file is named correctly. Check to see if there is some white noise (NO SOUND, but blank air time) before the actual sound or after the sound. (Use a sound editor software to check this)
- A. Check the AFN to make sure it is set to the correct number of sound files you have on the USB drive.

#### **Q. Audio Playback (Yellow LED ON) is not immediate and audio does not stop immediately after**

- A. **sound has played,(Yellow LED ON).** Check to see if there is some white noise (NO SOUND, but blank air time) before the actual sound or after the sound. (Use a sound editor software to remove this blank time).

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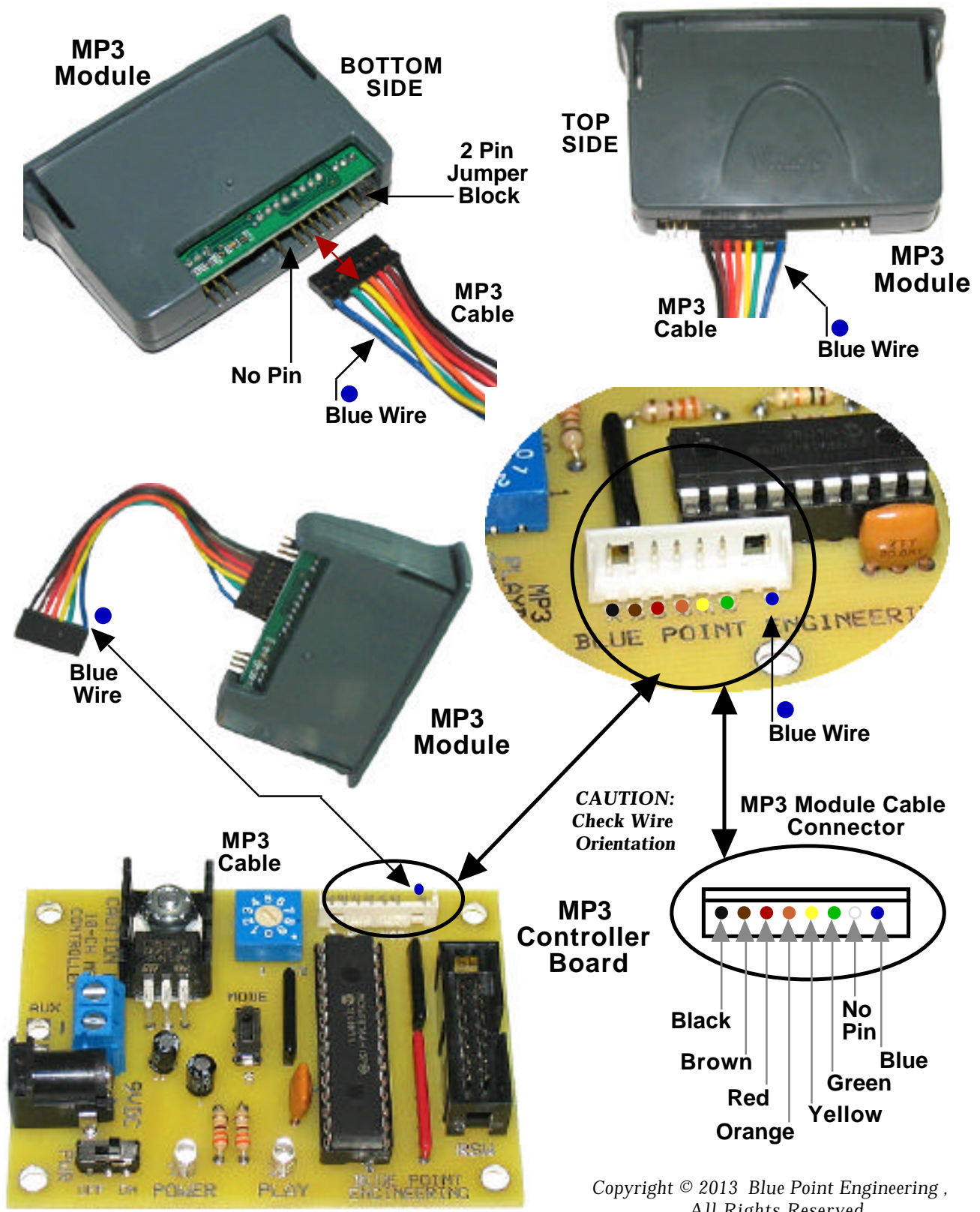
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# MP3 Module Setup

# Overview



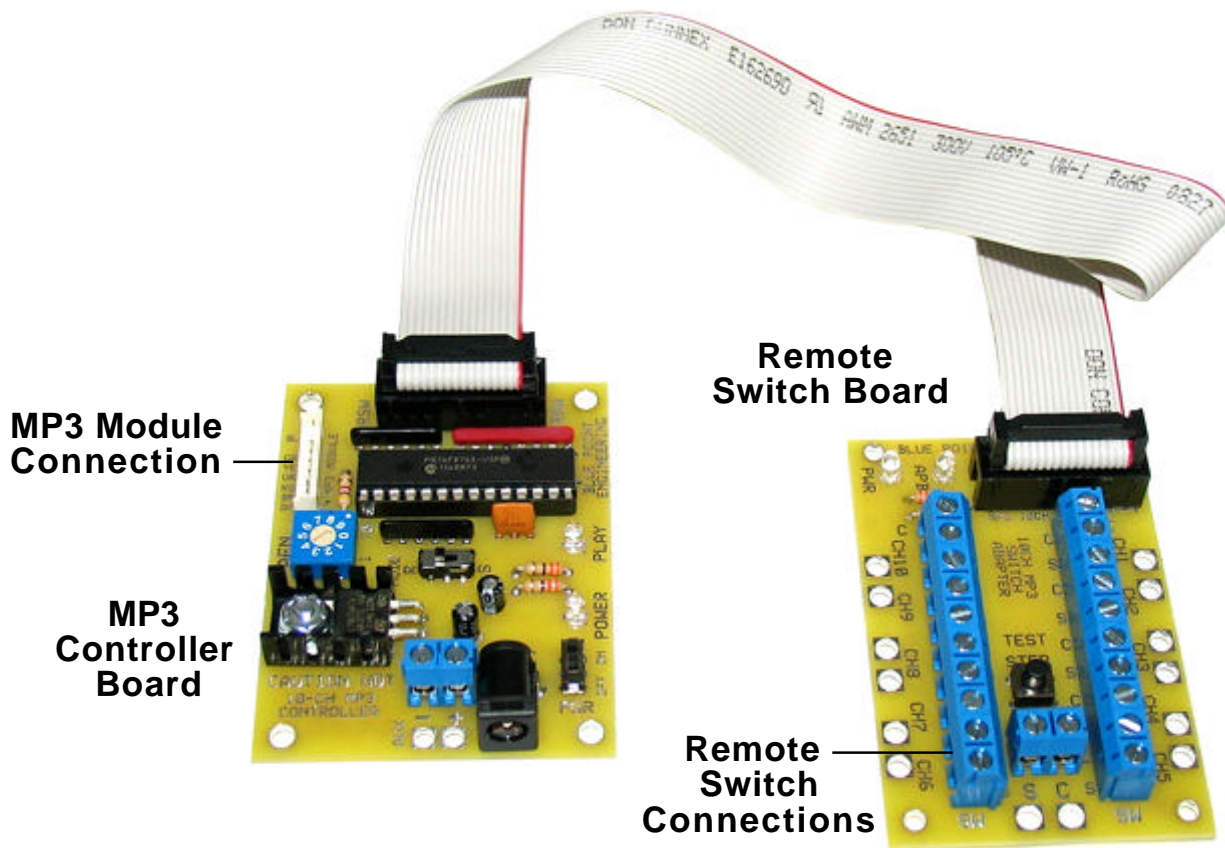
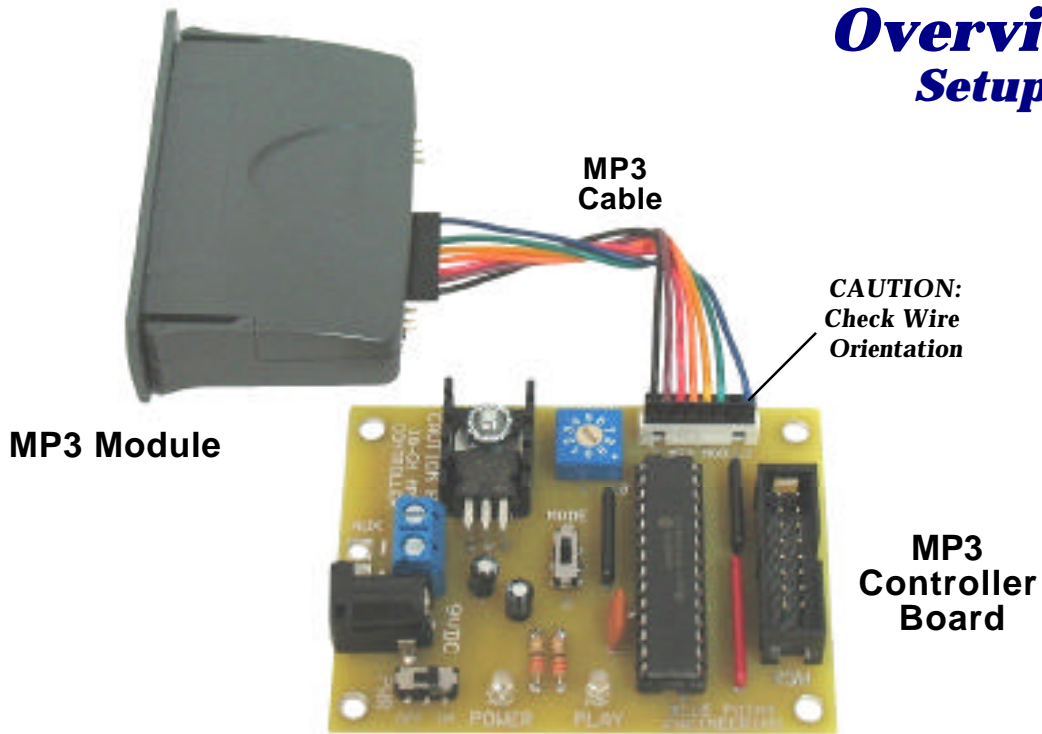
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# Overview Setup



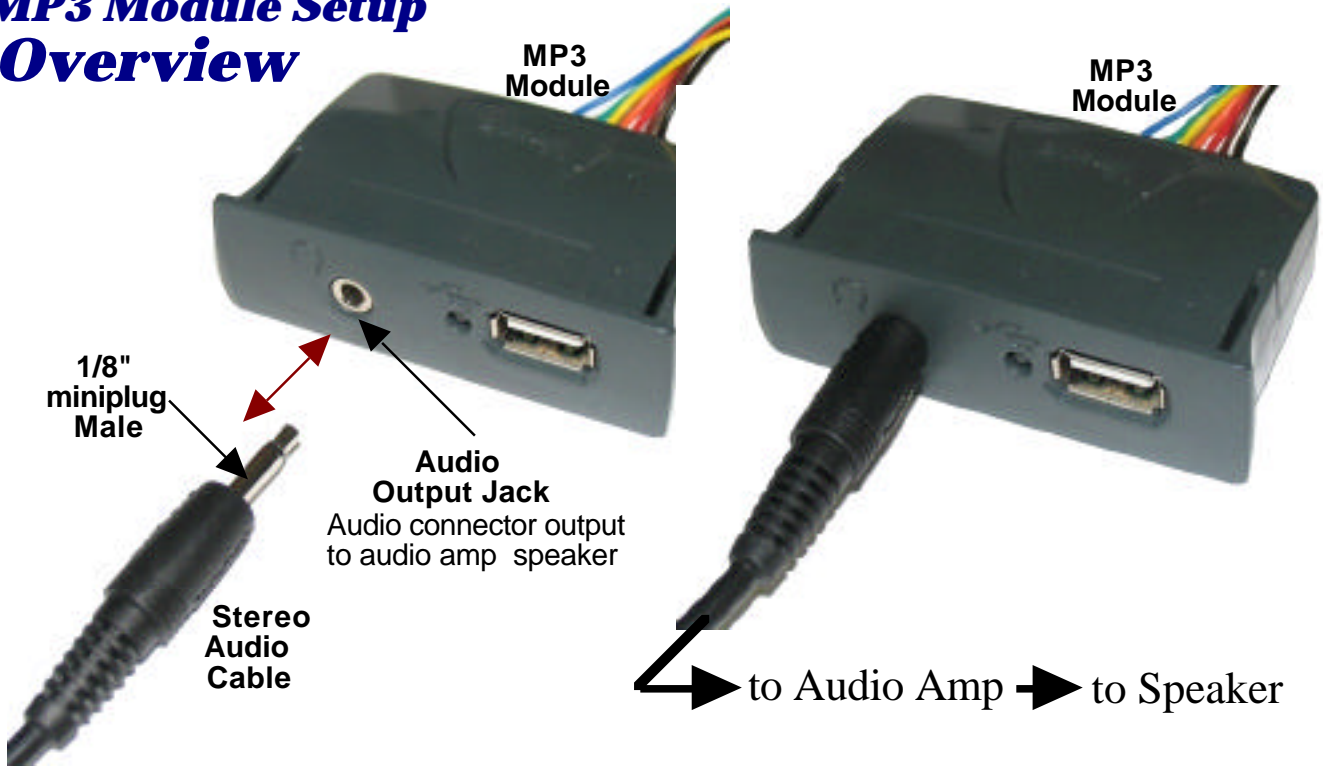
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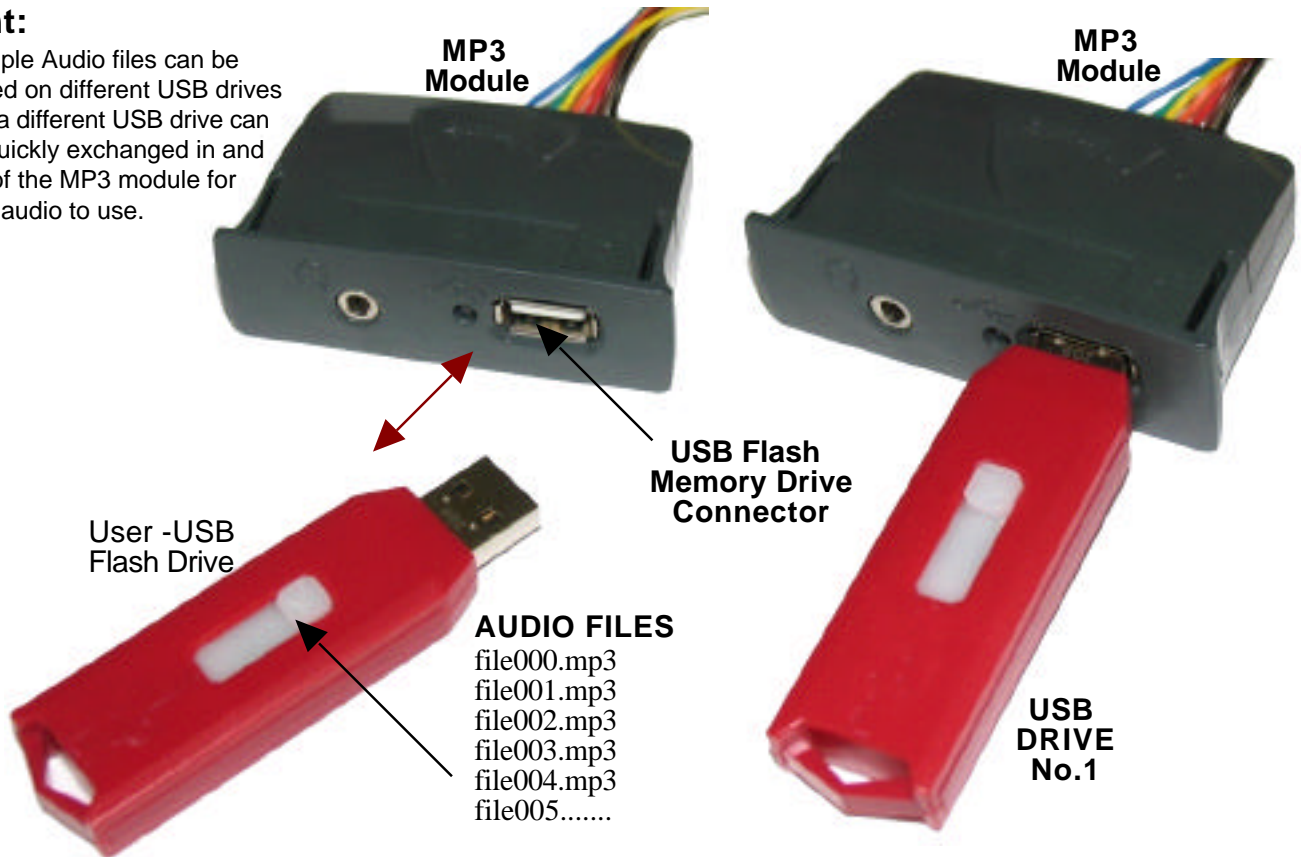
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# MP3 Module Setup Overview



## Hint:

Multiple Audio files can be stored on different USB drives and a different USB drive can be quickly exchanged in and out of the MP3 module for new audio to use.



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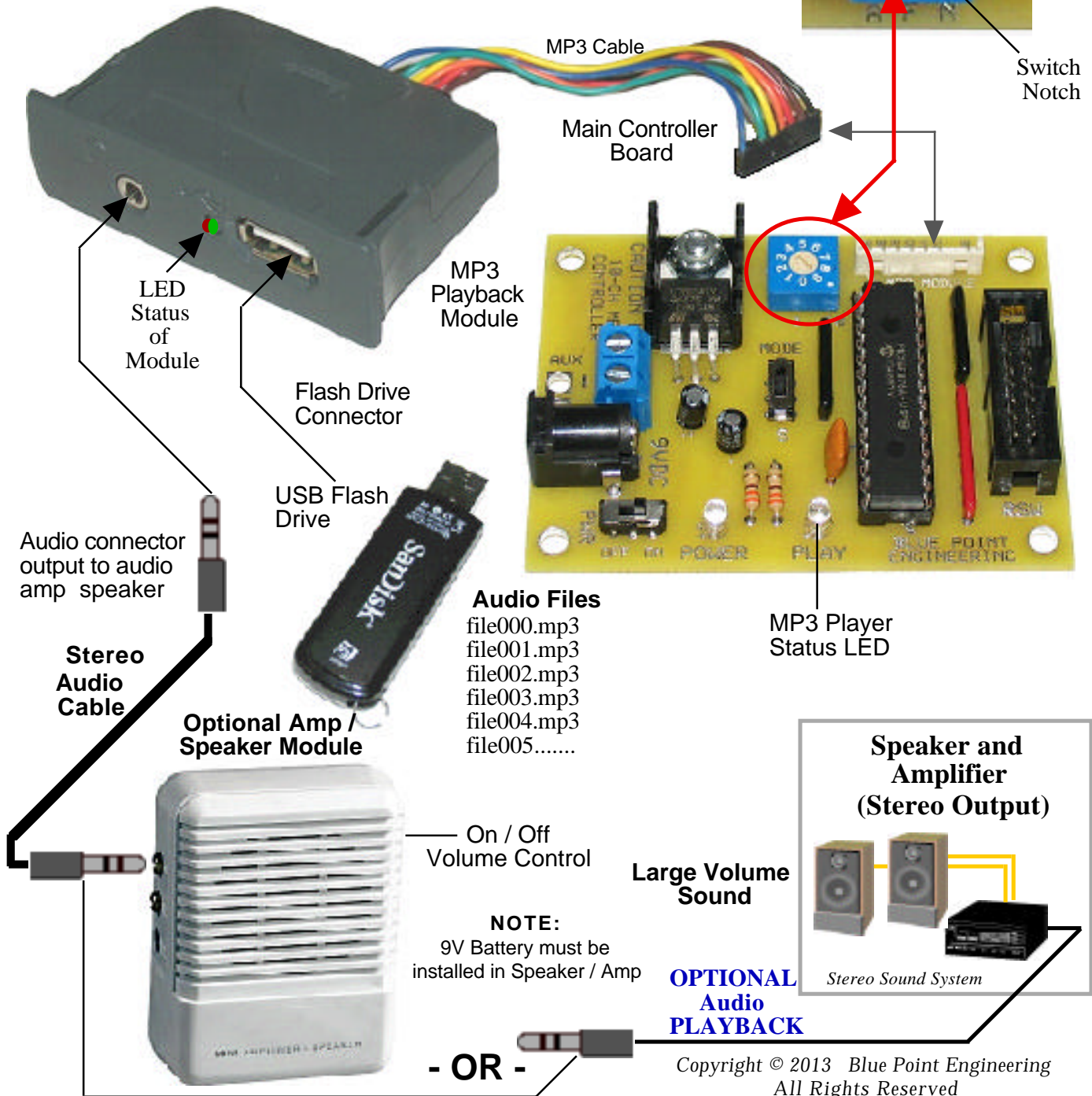
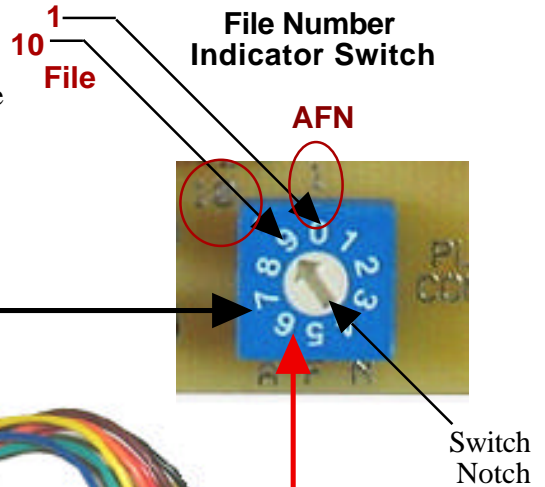
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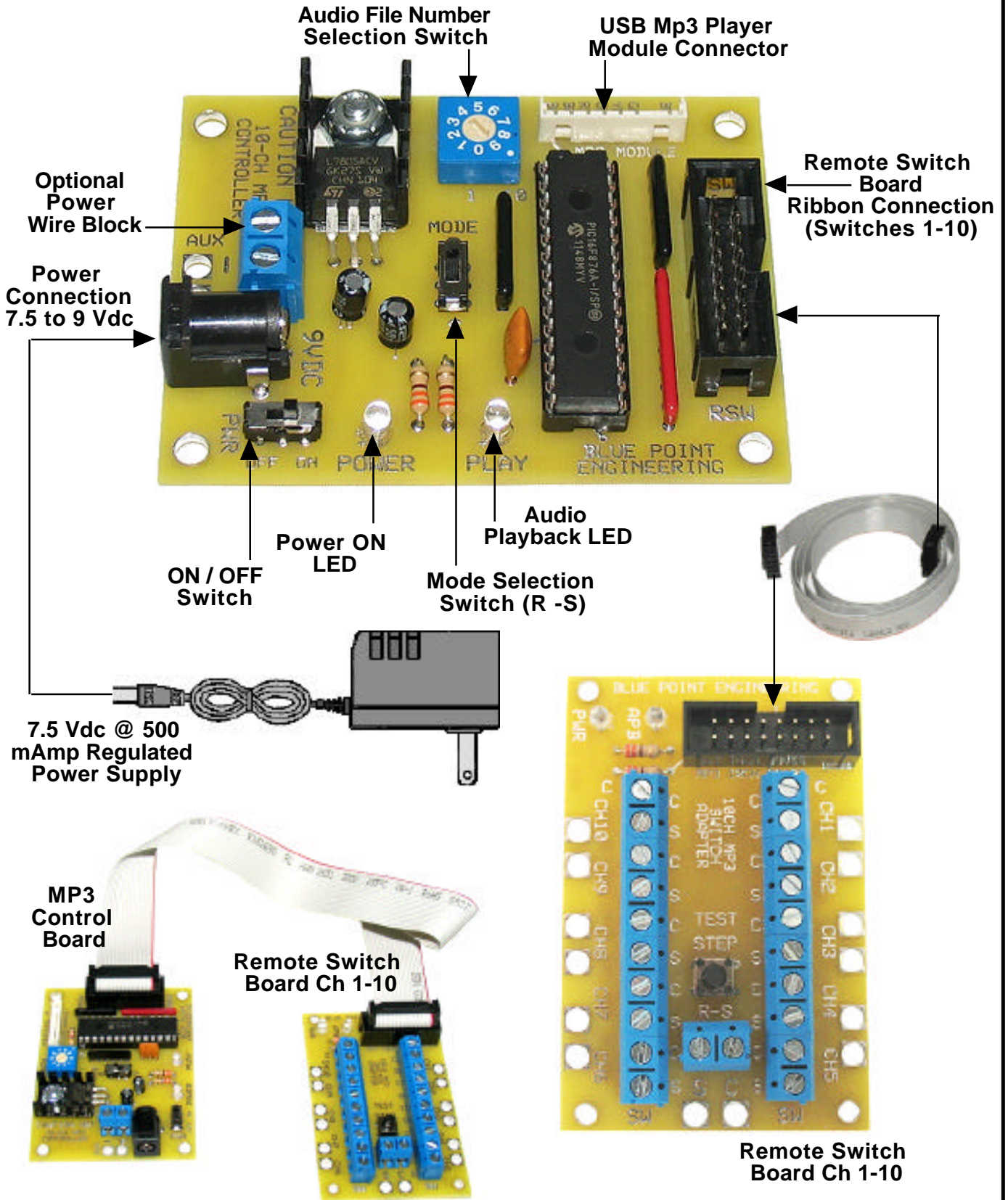
## File Number Indicator Switch

You must set the **Audio File Number** Indicator Switch located on the Main Control Board to how many files you have stored on the USB Flash drive. For example, if you only have 5 MP3 files on the drive, they would be: "file000.mp3", "file001.mp3", "file002.mp3", "file003.mp3", "file004.mp3" and you would set the Audio File Number Indicator switch to **position 4** (0, 1, 2, 3, 4 = 5 files, Remember you started at file000.mp3 (Position 9 = 10 Files) (Make sure Switch Notch is at correct number)



# Main Control Board Setup

# Overview



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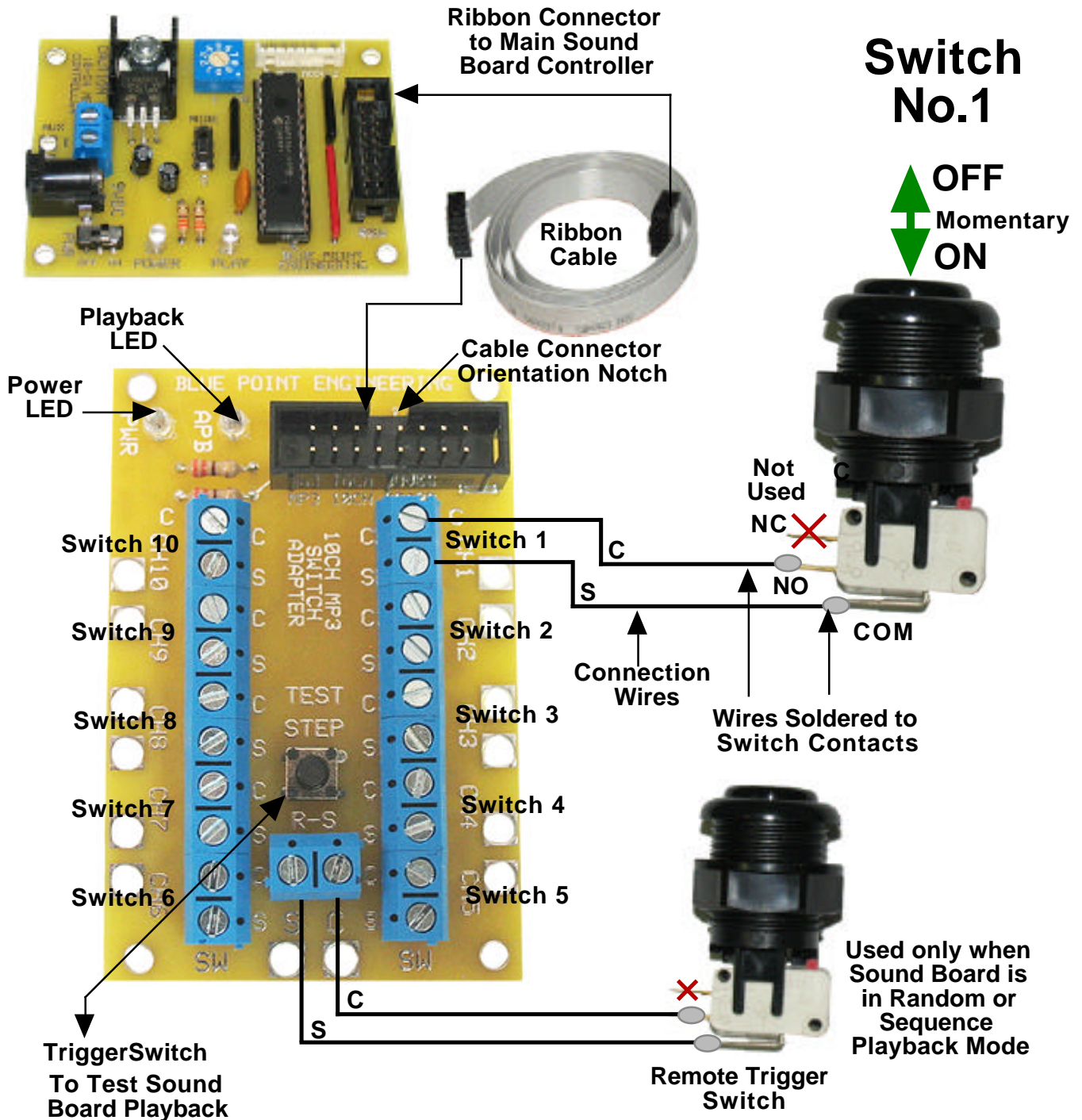
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# 10-Ch MP3 Audio / Sw Board

## Push Button Setup

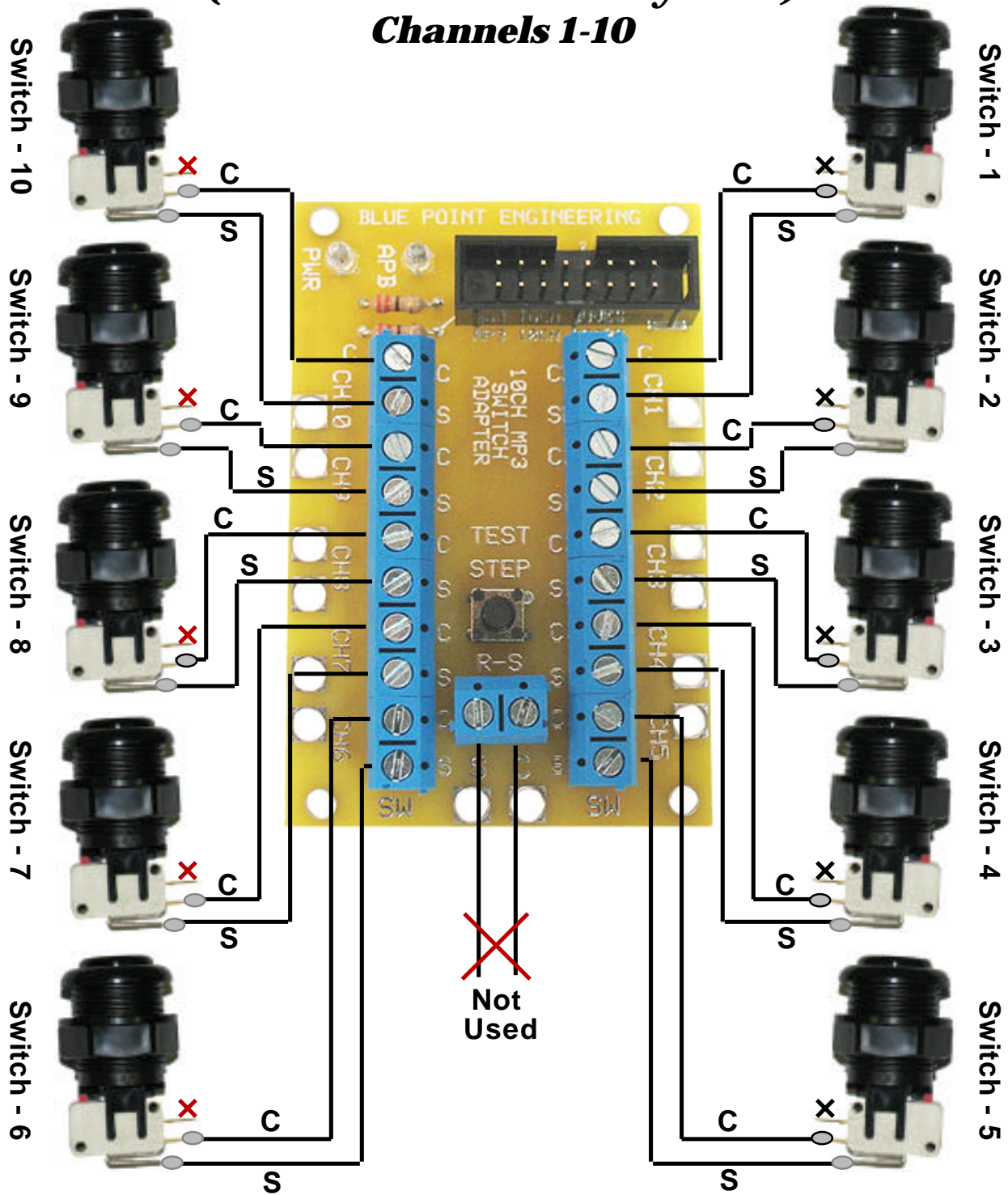


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# Push Button Setup

## Sound Playback Audio Channels 1-10 ( Manual Selection Playback ) Channels 1-10

**OPTIONAL**  
Momentary  
Pushbutton  
Switches



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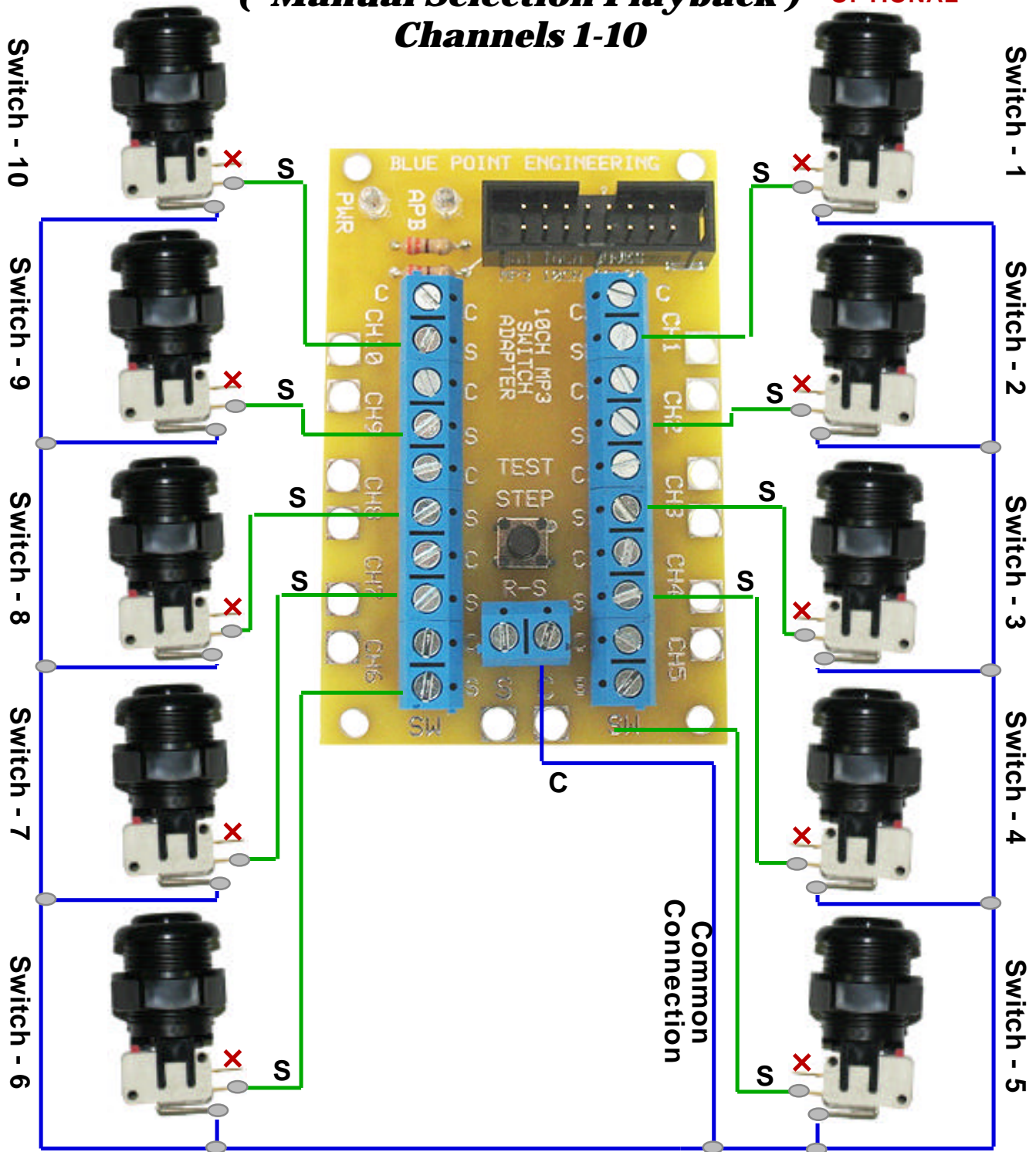




# Push Button Setup

# Optional Switch Setup Common Wire

Sound Playback Audio Channels 1-10  
( *Manual Selection Playback* ) **OPTIONAL**  
**Channels 1-10**



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