Wiring the ON/OFF Switch.

Objectives of this document:

This document is intended as a self-paced guide to wiring the following:

- Power ON/OFF switch

Resources you will need during this exercise:

- Toggle Switch (used as the ON/OFF switch in most of our “Boom Box Projects”)
- Soldering Iron
- Soldering Iron Stand with a damp cloth or sponge
- Diagonal Pliers (“Side-cutters”)
- Solder sucker or Solder wick (for removing unwanted solder)

What we are aiming for:

This Guide is intended to show how to safely and securely wire in the ON/OFF
Please refer to Figure 1.

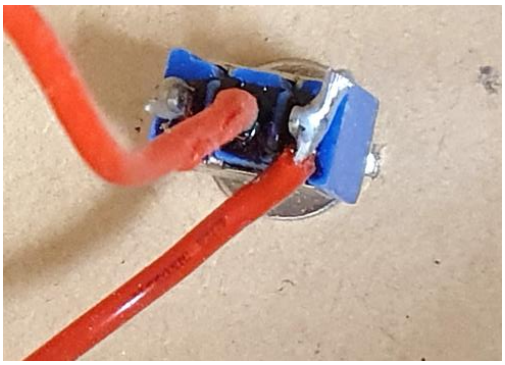

Fig 1: Rear of an ON/OFF switch.

Part 1 Wiring the ON/OFF Switch :

Step 1: Identify the terminals on the rear of the switch.
(Refer to Figure 2.)

Step 2: For this Kit, many users like to have a choice of either a USB power input or switch to use an internal battery pack. This guide will show how this can be done….

Step 3: Connect one of the outer terminals to the Positive lead of the Battery Pack.

Step 4: Connect the Centre terminal to the Amplifier and any Bluetooth or other add-on options.

Step 5: Connect the second outer terminal to the USB receptacle (Positive wire)

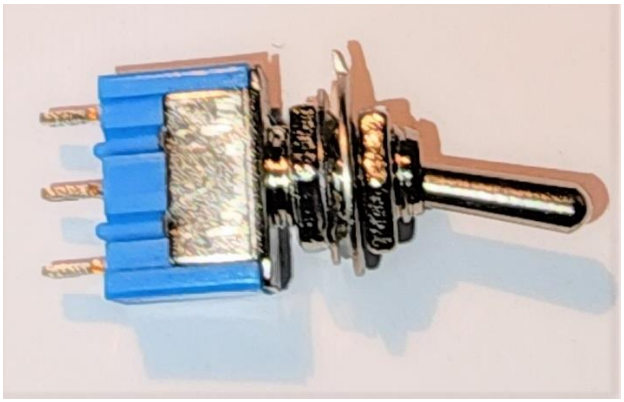

Fig 2: A close up of the Power Switch.
The Centre pin is usually connected to the Audio Amplifier (Or whatever Is to be powered in the rest of the system).

Refer to Figure 3 for an example of the wire connections in a completed Bluetooth Speaker System.

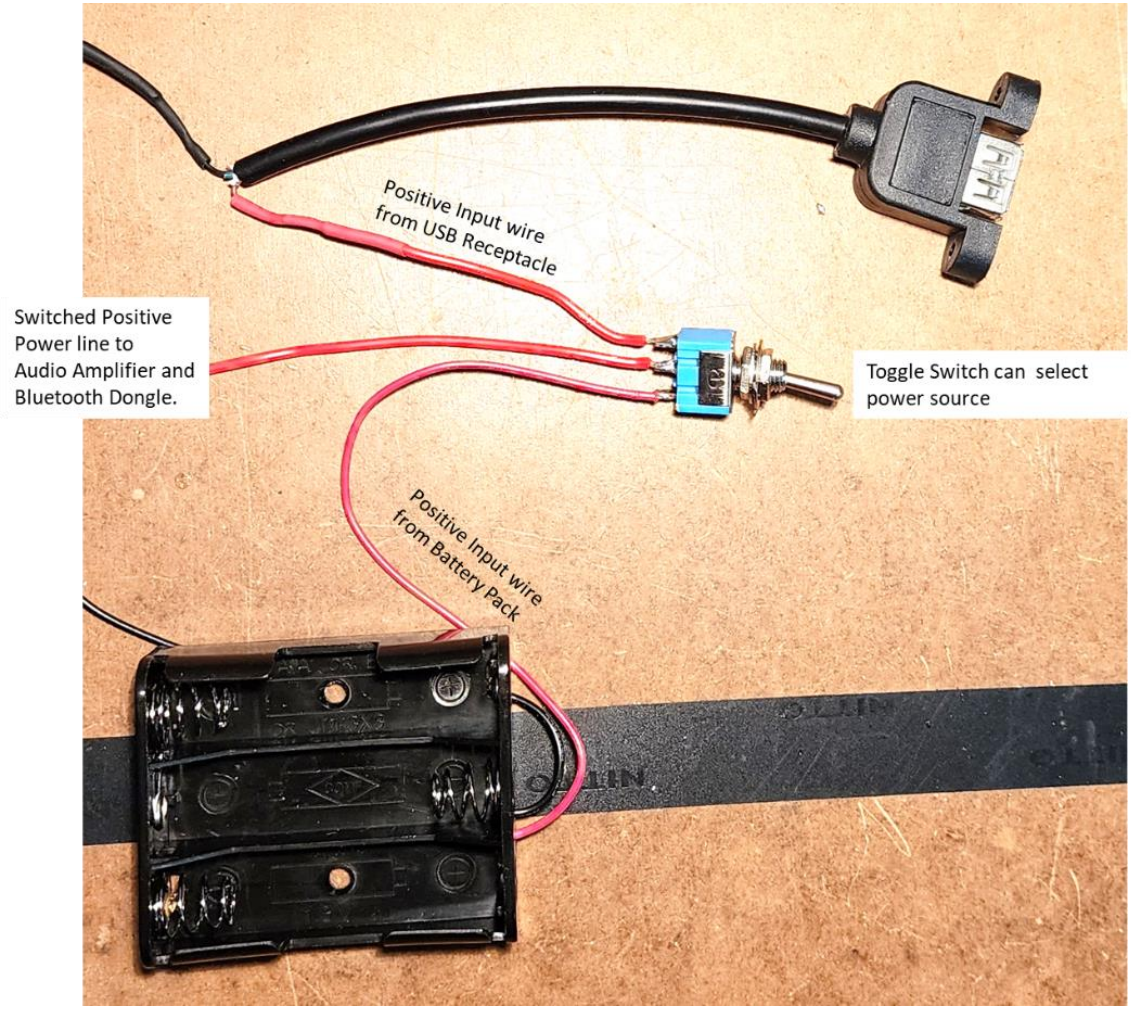

Fig 3: Showing the connections in a demonstration Bluetooth Speaker System.

Part 2 Testing for the first time:

Step1: ALWAYS REMEMBER ….

The Toggle of the switch connects the OPPOSITE terminal to the center terminal.

OR some people prefer to remember

The Toggle points AWAY from the connected terminal.

Step 2: Disconnect from the USB power supply (If it is going to be used).

Step 3: Turn the Switch to the OFF position. (The Toggle should now be pointing away from the USB connection.

Step 4: Install the batteries and connect the Battery Pack. Watch for any sparks.

Step 5: Leave the system OFF for approx. 60 seconds and test for any HOT wires or hot spots.

If you **do** detect any heat, immediately disconnect the power source.

If you do detect any heat, you must find the cause and remedy it before proceeding.

There should be no heating when the switch is OFF.

When there is no heat, proceed to the next step.

Step 6: Turn the Switch ON and again watch for any sparks of heat!

If you see any sparks or detect any heat, immediately switch OFF and also disconnect the power source.

Proceed to Fault Finding. Remedy all faults before proceeding to next step.

When there are no sparks and no heat, proceed to the next step.

Step 7: Connect the USB supply and repeat steps 5 & 6 using the USB supply.

If there are no sparks or heat at any switch position, it is safe to move to the next step.

Step 8: It is now safe to start using your power supply and the ON/OFF switch for your system.

Part 3 Fault Finding:

Most of the problems we have observed with these connections are one of three kinds:

1) Soldering induced problems.
    a. Short circuit bridges between the terminals on the back of the Switch or Socket.
    b. Poor quality “cold solder joints” on the terminals or connecting wires.
2) Wrong terminals used for the Switch or the Socket. (Wires connected to the wrong places.)
3) Wire connections intermittent.
    a. Often due to contaminants in the wire joints, such as molten wire covering, etc.
    b. Cold solder joint between wire and terminals on Switch or Socket
    c. Wires not stripped carefully, leaving too fee inner conductors to make a reliable connection joint.