Experience Level: Beginner / Time Required: 2 Hours

The Audio Switch Box allows switching between any of four male audio 3.5mm inputs to one 3.5mm output. I use it to switch between my iPod's and Sirius satellite radio to the remote input on a car CD player. The project has been in use for several years and still works great.

Required tools and parts:
- Soldering iron and solder
- Wire stripper/cutter and basic hand tools
- Drill and measuring tool

Kit Includes:
- Rotary switch
- 1/4" Shaft knob
- 3.5mm Stereo audio jacks
- 10-foot 20AWG Hookup wire
- 4-foot Heatshrink tubing
- ABS plastic enclosure

Step 1 - Wire first jack to the three poles of the switch
Wire the first audio jack to the three common poles of the switch. This jack will be the output of the switch. Solder three wires to the three inner poles.

Step 2 - Wire first audio jack
Connect the three wires to the first audio jack. This connector wire is a very tight fit in the hole of the terminal. It would not fit if the wire was tinned.
1. Strip 3/8" of insulation from three 4" wires.
2. Connect the three different wires through the hole in each of the three terminals.
3. Solder each terminal.
4. Cut six 1/2" pieces of 5mm heat shrink and place two on each wire.

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**Step 3 - Heat shrink the three poles of rotary switch**

Using a heat gun or a lighter, heat the heat shrink until it wraps tightly around the terminal connection and wire.

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**Step 4 - Identify first contact position of the three poles**

Locate and mark the first terminal (throw) of the three poles on the 3-pole, 4-position rotary switch.

1. Attach the knob to the switch.
2. Rotate fully counter clockwise.
3. Attach an ohm meter from the jack end of one wire and find the one outer terminal with 0 ohm resistance and mark the phenolic by the terminal with a small sharpie.
4. Repeat with the other two wires.

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**Step 5 - Heat shrink first jack**

Use a heat gun or lighter and heat shrink the first audio output jack.

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**Step 6 - Continue wiring the remaining four input jacks**

1. Cut and strip 3/8" of insulation on four 4" pieces of each of the three wires.
2. Cut 24 half-inch pieces of the heat shrink.
3. Solder each wire on input jack #1 to the identical terminal position on the output jack.
4. Ensure that each wire has two pieces of heat shrink and solder to the marked first terminal on each of the three wires.
5. Hook up an audio source on the common output and a set of headphones on the jack to ensure audio jack is operational.
6. Move switch to position 2, solder and retest audio input 2.
7. Move switch to position 3, solder and retest audio input 3.
8. Move switch to position 4, solder and retest audio input 4.
9. When everything works heat shrink all remaining connections.
10. All wiring is now done and ready to install in the case.

**Step 7 - Drill enclosure for the switch**
1. Mark from opposite corner to corner to locate center and center punch for pilot hole.
2. Drill center with 1/8" drill then a 1/4".
3. Enlarge with reamer to fit switch.
4. Drill 1/8" hole for the anti-rotation lug on the switch. Put the switch in the hole to find center.

**Step 8 - Drill 5 holes for the audio jacks**
1. Drill four 1/8" holes about 8mm from each corner.
2. Drill one 1/8" hole between the two holes on the back of the case.
3. Enlarge each hole to fit the audio jacks.

**Step 9 - Install switch and audio jacks**
1. Install switch and knob, and rotate fully counter clockwise.
2. Install common audio output jack in center hole.
3. Move the switch one position in the clockwise directions and locate the correct audio jack using audio source and headphones. Install switch in position 2 hole.
4. Move the switch one position in the clockwise direction and locate correct audio jack as #3 and install.
5. Move switch one position in the clockwise direction and locate correct audio jack as #4 and install.
6. Move switch fully counter-clockwise and locate correct audio jack as #1 and install.
7. Check all audio inputs to ensure proper operation.
Note: Threads on jacks are short so make sure any excess plastic flashing is removed or they won't tighten up. The audio jacks are installed as shown to ensure fit in corners.

Step 10 - Rear view
Here's what it looks like inside before we put on the cover.

Step 11 - Wrap it up
Here's what it looks like completed in use. There are two iPods and Sirius radio connected to the switch box. The output goes to the remote input on a Kenwood CD player with a 220 Watt power amplifier. This is the original with a different knob.