

Kit Contents

- 1x Printed Circuit Board (PCB)
- 1x 8Ω Speaker
- 1x 0.25" Mono Audio Jack (with nut)
- 1x 2.1mm Power Jack
- 1x Power Switch
- 1x Power Switch Cap (Red)
- 1x Red LED
- 1x 10K Ω Potentiometer (with washer and nut)
- 1x Knob
- 1x TEAC2025B Amplifier IC
- 1x 1N4004 Diode
- 1x 1K Ω Resistor (brown, black, red stripes)
- 2x 100K Ω Resistors (brown, black, yellow stripes)
- 6x 100μF Electrolytic Capacitors
- 3x 0.1μF Capacitors (labeled "104")
- 1x 6"-length of twisted pair wire

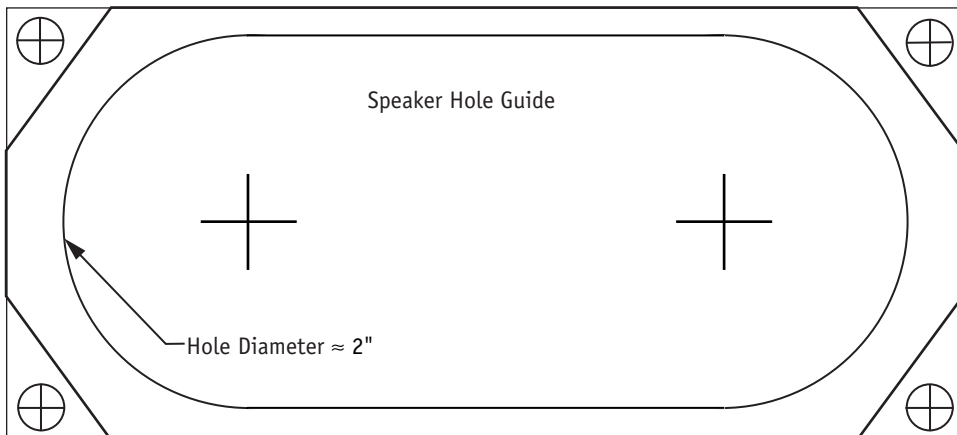
Assembly Instructions

Locate a box to house your amp. Reuse a box (shoe, cereal, shipping, etc.) or make your own enclosure. Be sure that it is big enough to fit the circuit and speaker comfortably. The speaker should be attached to the box with screws (or some other method) but the circuit was designed so the PCB can be held in place using only the nuts for the pot and audio input jack.

It is helpful to plan out how and where you are going to attach the speaker before you solder it to the PCB. The thickness of the box where the circuit board is held in place should not be more than 1/8" thick otherwise the nuts for the pot and jack will not be able to hold the PCB on to the box. If you are using a corrugated cardboard box, it can be a little thicker than 1/8" since it will compress.

Use the speaker and control panel hole guides (below) to orient the necessary holes and tape to to your box. If you're using a utility knife, it is easiest to cut out square holes. Round holes can also be drilled out of MDF, plywood, acrylic, etc. with the listed drill sizes. It is not recommended to drill cardboard because it leaves a jagged, torn edge. *Please be careful and take your time when cutting or drilling!*

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Assembling the kit also requires soldering the components to the printed circuit board (PCB). The placement and value of the components are outlined and labeled on the top of the PCB in white ink. Some of the parts are polarized and must be soldered to the PCB in the correct orientation. All parts should be placed on the top of the PCB and all soldering should be done on the bottom (the side without white ink). Ensure that the components are soldered flat against the top of the PCB. Components should be soldered in this order:

1. Amplifier IC. The legs will be too wide for the hole spacing on the PCB so gently bend each side of legs slightly towards the middle of the IC. This can be done in a uniform manner by laying the legs of one side of the IC down against a flat surface and pressing down gently with your thumbs. Flip the IC over to the other side and repeat. Orient the notch found on one end of the amplifier with the corresponding notch on the white outline on the PCB.

2. Diode. The diode is polarized - be sure to match the gray stripe at one end of the diode with the corresponding stripe on the diode outline.

3. Mylar Capacitors and Resistors.

4. Electrolytic Capacitors. These six capacitors are polarized. The longer lead (positive) should be placed in the hole with the '+' sign next to it.

5. LED. This is also polarized. Orient the flat edge of the LED with the flat part of the white outline.

6. Input and Power Jacks, Power Switch, Potentiometer.

7. PCB-to-Speaker Wire. The speaker wiring is not polarized - it does not matter which speaker pad connects to which speaker lug.

Notes

1. To power the amp with a wall wart, a 9-volt power supply must be used. A higher voltage WILL damage the amp. The power supply must also be center positive and fit the 2.1mm power jack.

2. The amp can also be powered by a 9-volt battery. A 9-volt battery clip can be soldered to the PCB's auxiliary power pads (labeled "PWR" and found near the potentiometer. Be sure to solder the clip so that the battery's positive terminal connects to the VIN (voltage in) pad and the negative terminal connects to the GND (ground) pad.

3. There are four 1/8" diameter holes in the PCB that can also be used to attach the PCB to an enclosure. A #4-sized screw will fit perfectly in these holes.

