

Minty Amp assembly instructions

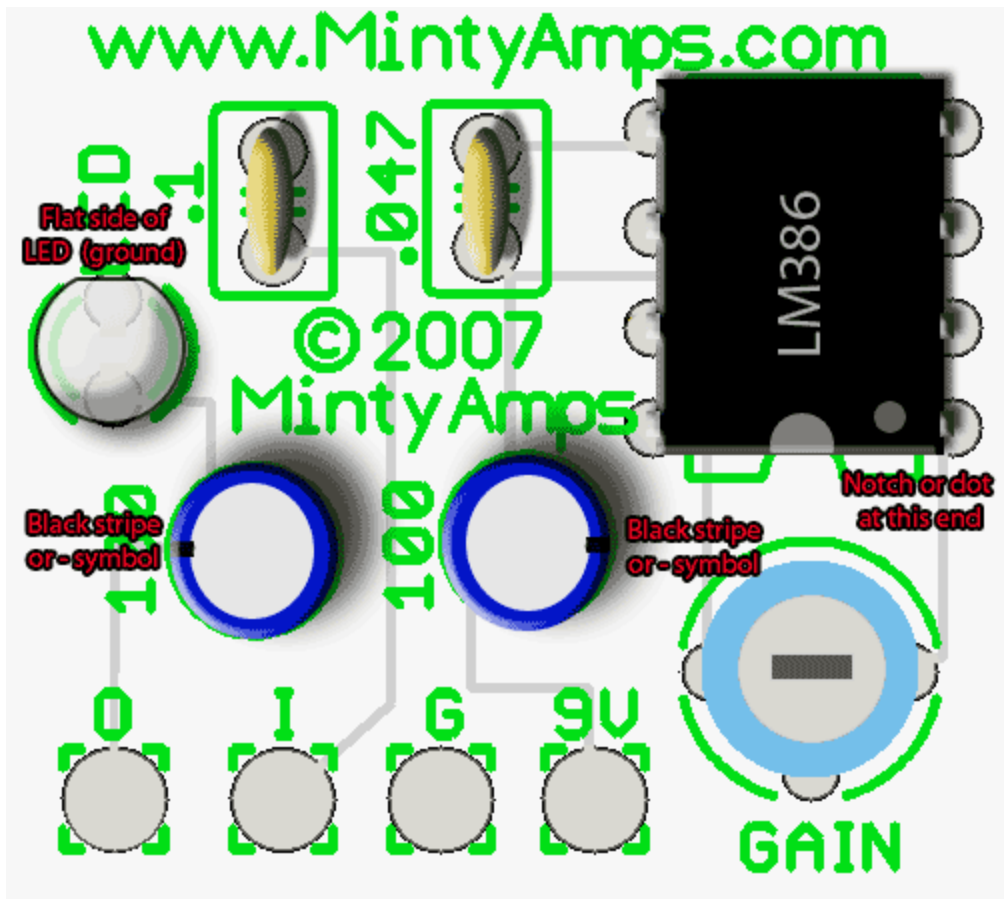
Parts Required:

- LM386 OpAmp (included in kit)
- 2x 100uf (min 16v) Electrolytic Capacitors (included in kit)
- 0.1uf Ceramic Capacitor (included in kit)
- 0.047uf Ceramic Capacitor (included in kit)
- ¼ Watt Resistor (270-2K ohms) or 1K/2K ohm potentiometer (included in kit)

Optional parts:

- LED (included in kit)
- Input Jack
- Output Jack
- 8 ohm Speaker (can drive a variety of speaker sizes with good results)
- Power Switch
- Volume control potentiometer (recommended if using with headphones)

This circuit can be powered from a 3-9 volt power supply. At 3 volts the sound is a little weak, but may still be adequate if you're aiming at driving headphones rather than a speaker. An ideal power source is a 9 volt battery. Solder parts into board as show below. You can attach the LED remotely or leave it out entirely.



Connect the positive side of the power source to the “9V” pad (via a switch is recommended).

Connect the positive side of the input jack to the pad marked “I”.

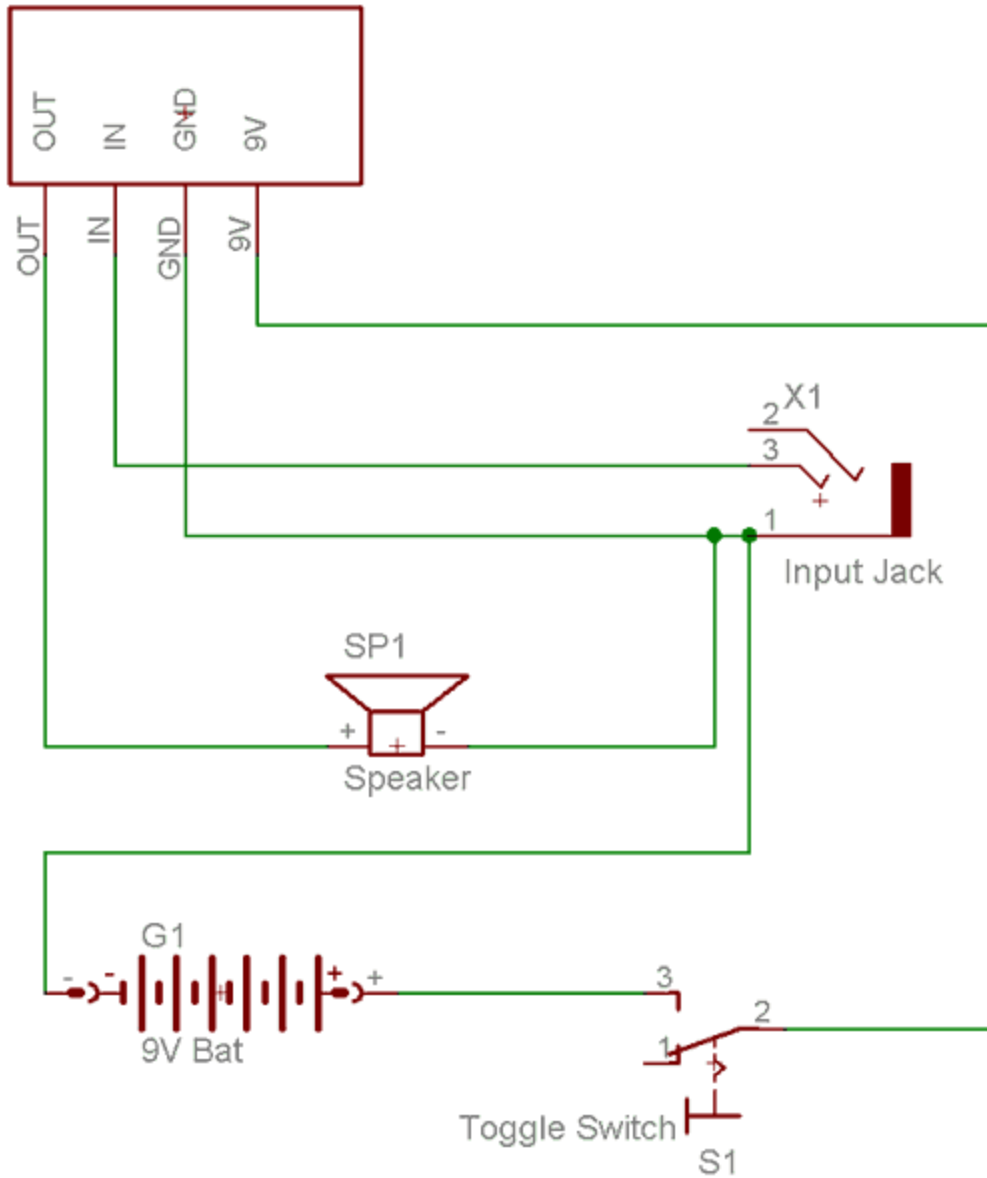
Connect the positive side of the speaker (or output jack) to the pad marked “O”.

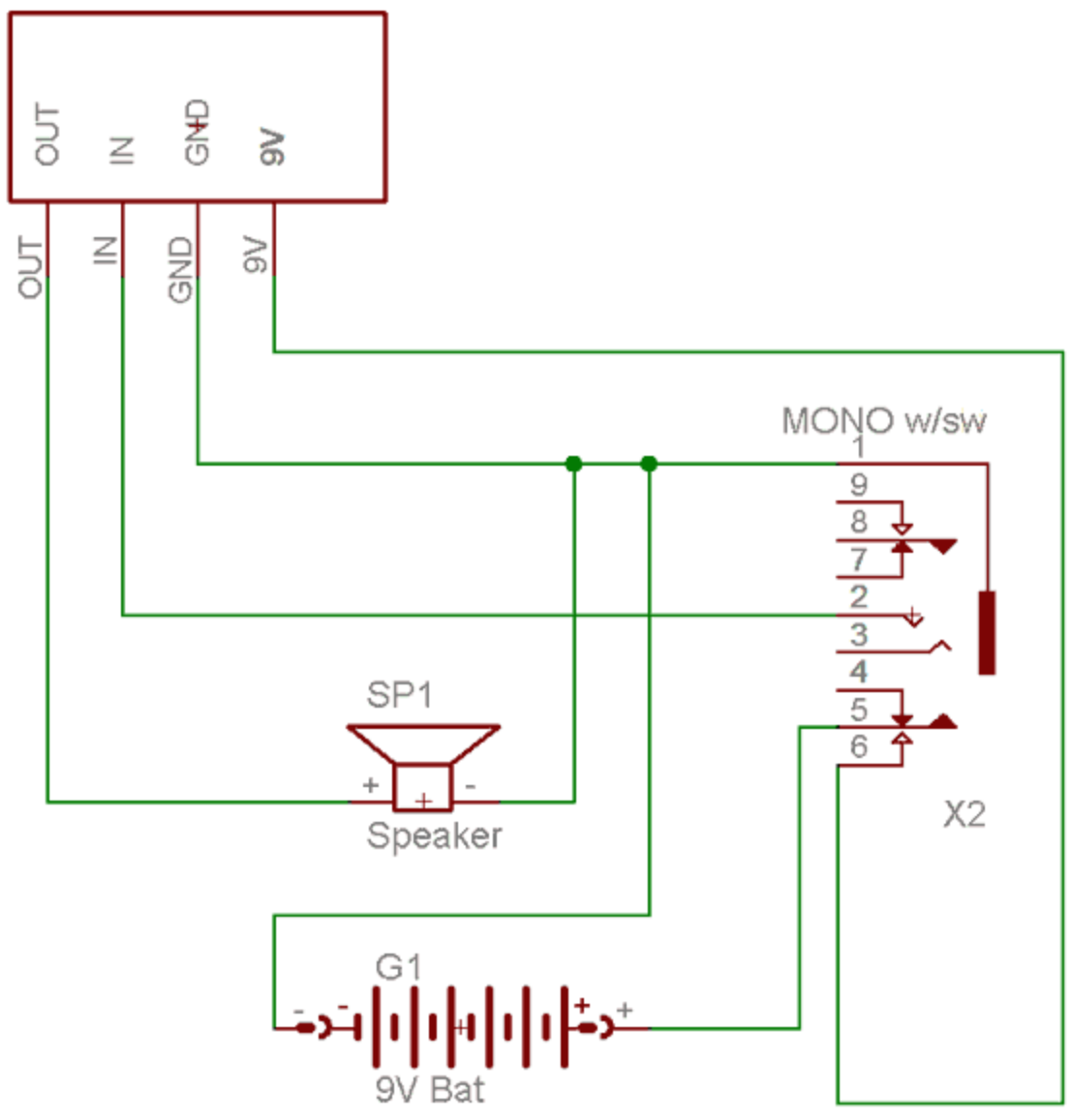
Connect the pad marked “G” to the common ground. Note: This circuit was designed to use a common ground, so the grounds of the input, output, power source and circuit must all be connected together. The ideal place for these connections is the ground tab of the input jack. Alternatively, if you are housing this project in a mint tin, you can use the tin as a common ground.

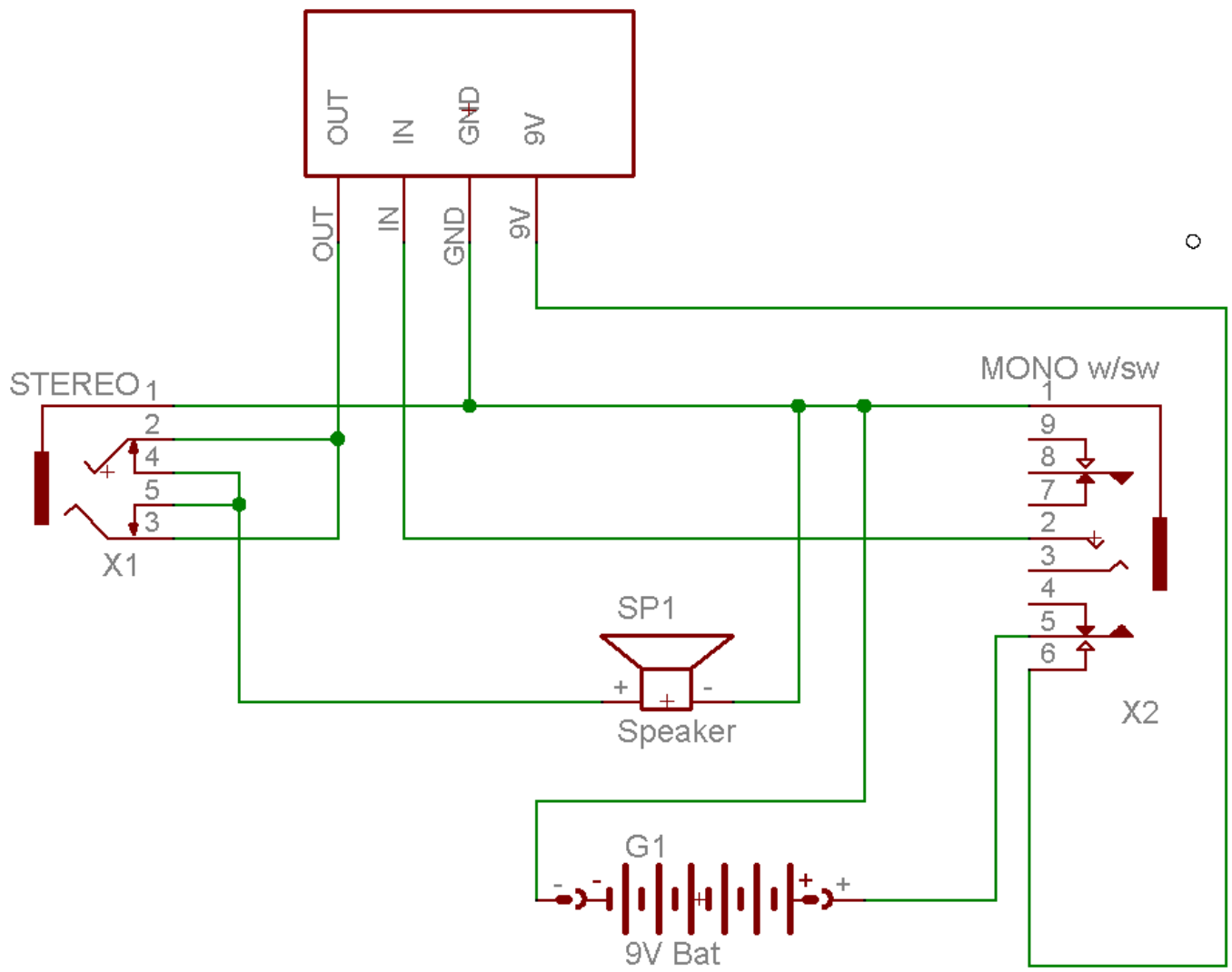
Double check that everything is in the correct way around before you hook up the power. Note that the 2 ceramic capacitors can go in either direction. Once you have it powered up you need to set the gain to best match the attached guitar. Using a small flat bladed screwdriver, set the gain control to half way to start with. From that point you can tweak it to where it works best with your instrument, too much gain and you'll get some horrible squealing so back it off to the point where you like it. This will work great for 99% of guitars out there, but if you have a particularly high output guitar and backing the gain all the way off doesn't help, try turning the volume controls down on the guitar itself. As a last resort, you could add a small resistor on the input jack to attenuate the signal even further.

Remember that the sound quality will be vastly improved once the Minty Amp is housed in some kind of box. It sounds great in a mint tin and even an old cigarette pack. How about putting one in a cigar box, or if you're really creative, you could fit one into the body of an old guitar. The sky really is the limit! We'd love to see (and hear) what you do with your Minty Amp kit and share it with other hobbyists. Keep in touch for details on new parts and designs.

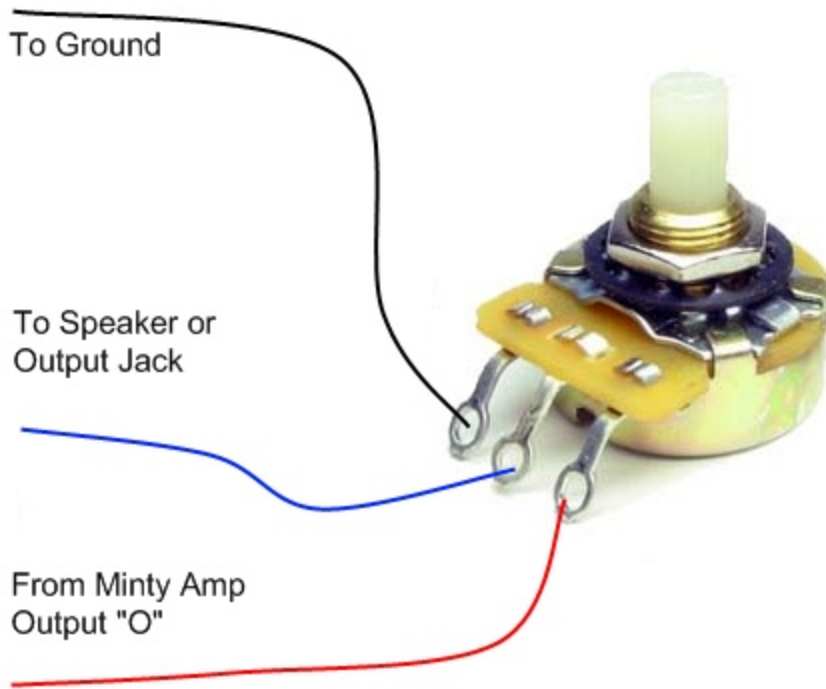
These diagrams show how to wire up your Minty Amp with optional components. First we use a simple toggle switch to turn the amp on and off. Next we use the mono jack and its normally open switch to automatically power the Minty Amp when the input jack is inserted. The final diagram takes this a step further by redirecting the output of the minty amp to the speaker via the 2 normally closed switches on the stereo jack. When a jack plug is inserted into the output jack, the signal to the speaker will be interrupted and diverted to the output jack.







This is how you should connect a volume control, should you want to. We recommend using a potentiometer with a value of around 2K ohms. Use an "audio" type potentiometer for a more balanced sweep range.



Example project.

In this example, I've housed the kit in an old mint tin. I've used a low profile 2 1/4" speaker and a 9 Volt battery as a power source. The input and output jacks I've used have both N.O. and N.C. switches in them, so I've been able to route the power via the N.O. switch on the input side so that power is only applied to the circuit when something is plugged in. Also, I've used the N.C. switch in the output jack to route the output to the speaker. In this case the speaker is muted when something is plugged into the output jack. You'll also notice that I've used the body of the tin as my common ground. To make good connections to the tin, you can lightly scratch the surface where you'd like the solder to stick with a sharp implement or wire wool. Adding a little flux will also improve any solder connections here.



