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Mini Amplifier with LM386.

The LM386 is a low voltage audio power amplifier, simple and easy to build a mini amplifier with only a few components. (7/3/2006)

LM386

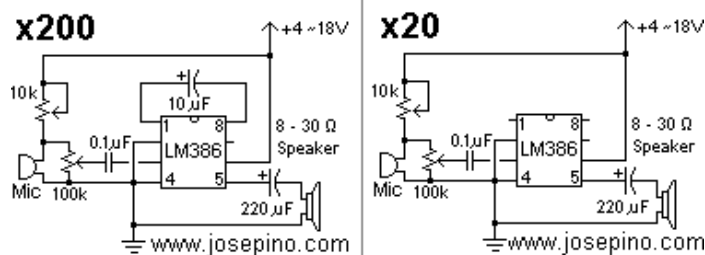


This is one of my favorites. The LM386 is a low voltage audio power amplifier. It can provide 125mW to 750mW, enough for any project that uses audio. This circuit can work with batteries, requires minimum external parts and works from 4 to 18 Volts (contact the manufacturer or read the technical info. Some versions works only with 5 to 15V.)

The power output depends of the voltage. The power output is 125mW when the voltage is 6V. The voltage gain goes from 20 to 200 and the output is self-centering, so doesn't need dual voltage as other amplifiers. It can be used on battery radios, tape players, intercoms, also, as ultrasonic amplifier. This chip is the "555" of the amplifiers.

Here is the typical application for this chip. Here are two schematics, the first one have a gain of 200 and the second one is only 20. You can use a switch for the 10uF capacitor to have the "boost" option.

Mini Amplifier with LM386



The 10k resistor is used to adjust the sensibility if the electret microphone, the 100k resistor is used to adjust the volume.

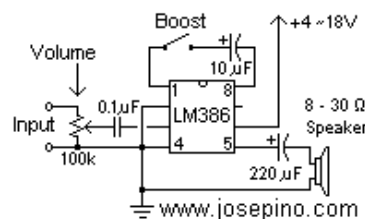
In theory, this circuit will not work because it needs a pre-amplifier. Supposedly, a 741 or any other pre-amplifier is needed. As I said before, I don't follow the theory. I already verified that the pre-amplifier is not needed, just adjust the 10k variable resistor. In fact, You may not be able to get the circuit to work properly with a pre-amplifier.

Warning: May be too loud

The 220uF capacitor can be replaced by any other if that value is not available. Do not connect the speaker directly to the output pin. If you are using a tweeter (or piezoelectric) you can connect it directly.

7/9/2006 - UPDATE: This schematic can be used for almost ANY application that needs an amplifier. The switch labeled "Boost" activates the gain of 200 if the input signal is too weak.

General Purpose Amplifier



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