

DESCRIPTION

The LM386 Audio Amplifier Module is a general purpose single-channel audio amplifier that can handle up to 325mW.

PACKAGE INCLUDES:

- LM386 Audio Amplifier Module

KEY FEATURES OF LM386 AUDIO AMPLIFIER MODULE:

- 200x fixed gain
- Volume adjustment pot
- 1 Channel
- 325mW power
- 4-12V operation

The LM386 audio amplifier module is handy for providing basic audio amplification in a project.

The amplifier IC are LM386M-1 parts. They operate at 4V – 12V and provide up to 325mW of power. The output can drive loads from 4 to 32 ohms. The lower the resistance of the load, the more power it can provide, so a 4 ohm speaker will be about twice as loud as an 8 ohm speaker.

The gain is fixed at 200x, but volume can be adjusted using the potentiometer on the module.

These are single channel devices, so two are needed for stereo amplification.

OUR EVALUATION RESULTS:

These assemblies work reasonably well at basic audio amplification tasks but can quickly distort if over-driven. They can be used for lower volume music amplification such as headphones and can do a decent job, but they are best suited for providing amplification for things like sound affects where exact sound reproduction is not a high priority.

The potentiometer on the module adjusts the level of the input signal and the amplifier has a fixed gain of 200x. If the input is from something like a uC PWM pin with 5V levels, the potentiometer acts more like an on/off switch than a volume control and the output will be heavily distorted at higher levels.

In many cases, a resistor divider can be used to lower the input amplitude down to a couple hundred millivolts which is more in the amplifiers comfort zone and the potentiometer will act more like a volume control.

If the 0 ohm resistor at location R1 is removed, the fixed amplification will drop to 20x which might be useful in some applications. This value can be changed per the datasheet to adjust the gain between 20x and 200x

If you are looking for a more capable stereo audio amplifier solution, take a look at our PAM8403 stereo module down below.

BEFORE THEY ARE SHIPPED, THESE MODULES ARE:

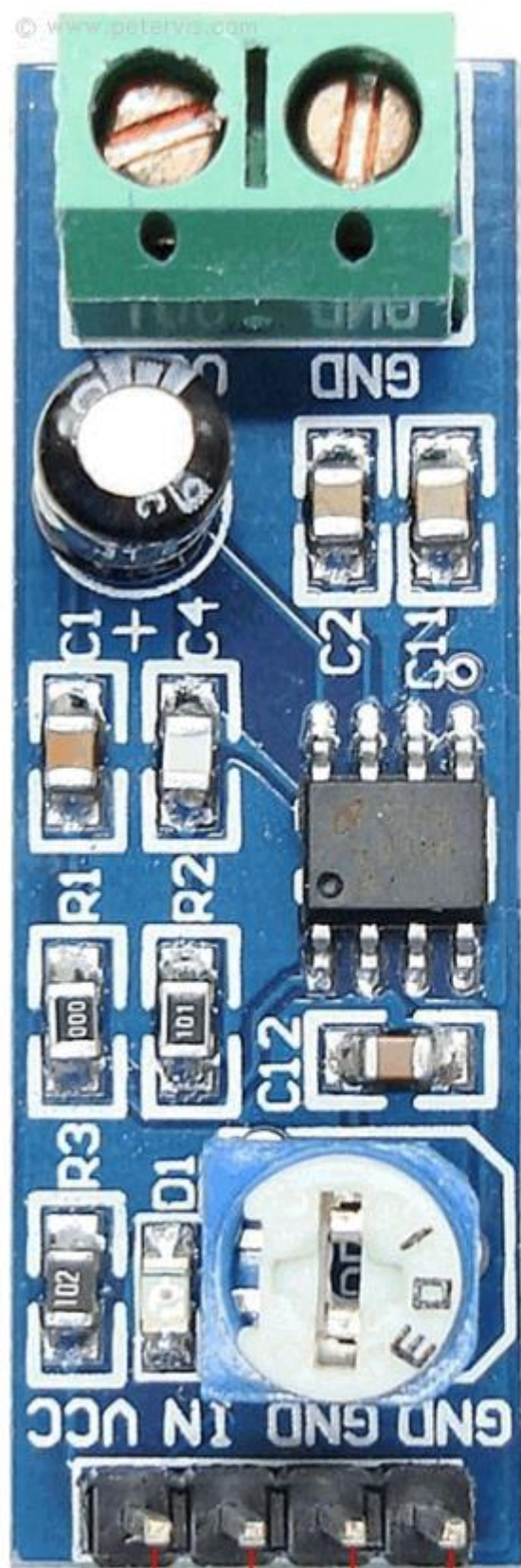
- Basic functionality tested using tone generator.
- Packaged in a resealable ESD bag for protection and easy storage.

Notes:

1. None

TECHNICAL SPECIFICATIONS

Operational Ratings		
Vs	Vcc Power Range	4-12V
Vi	Voltage on input pins	-0.4 to 0.4V
Pmax	Maximum output power	325mW (typ)
Load		4 Ohm – 32 Ohm
Dimensions		
	PCB (L x W)	41 x 14mm (1.6 x 0.55")



Screw
Terminal
Speaker
Output

LM386
Amplifier
Chip

Volume
Control
Preset

+Vcc 9V +Audio
Signal in Gnd Gnd

The LM386 Audio Amplifier Module is a mono audio amplifier based on the LM386 chip. On eBay, it goes by various names and descriptions such as "LM386 Audio Amplifier Module 200 Times 5V-12V Input 10K Adjustable Resistance".

The LM386M chip is available in a SO package (M) manufactured by Texas Instruments, and operates on a voltage range between 4 V and 12 V. It has an absolute maximum rating of 15 V. Package (M) has a dissipation rating of 0.73 W.

The LM386M version of the chip will provide a typical output of 325 mW, when the supply voltage is 6 V and the speaker load 8 Ω . A 9 V battery power supply will provide an output of around 500 mW.

The size of the PCB is 41 mm \times 13 mm, manufactured using SMD components, and arrives ready assembled. This will save the user much time and resources.

As you can see, the PCB manufacturing is to a high quality standard, and the one I received worked straight away without any problems.