

BMC101. Electret Microphone

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If you have any questions, or need help trouble shooting, please e-mail
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provide variable gain for the audio signal. Another .1uf capacitor connects this stage to a second gain stage with a set gain of -5. This stage has zener diodes in it's feedback path, this will limit the output of the stage to +/-5V. The audio output jack connects to this op-amp through a 1K resistor.

A diode passes positive voltage from this signal to a 4.7uf tantalum capacitor. The capacitor discharges through a 1Mohm pot in series with a 1K resistor to ground. An op-amp buffer outputs the voltage on this capacitor to the Envelope output jack through a 1K resistor.

This signal then gets sent to an op-amp wired as a comparator with it's threshold voltage connected to the wiper of a 100K pot with one terminal grounded and the other connected to +12V through a 1Meg resistor. The output of this op-amp lights an indicator LED through a 10K current limiting resistor and then provides a gate output through a diode and 2.7K/2.2K resistor voltage divider.

III. Construction

A.Parts List

Semiconductors

Name	Quantity	Notes
TL074	1	DIP package
Electret Microphone Capsule	1	I used This One
1N4148 diode	2	
5V Zener diode	2	1N4732, 1N4733 or similar
LED	1	3mm LED

Resistors

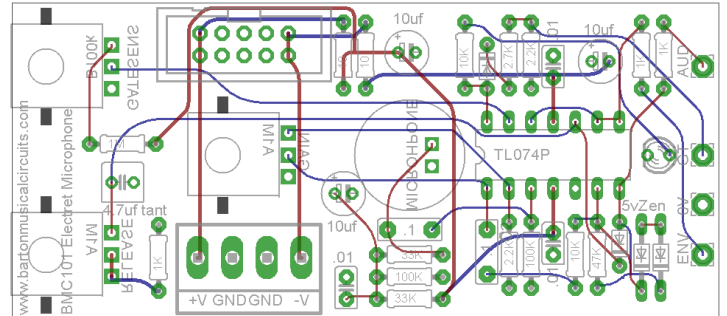
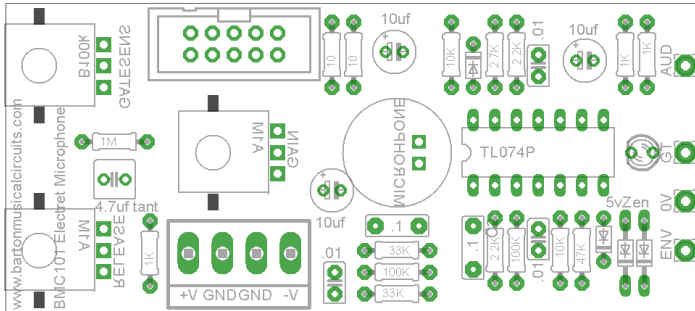
Name/Value	Quantity	Notes
10 ohm	2	1/4W Metal film for resistors unless otherwise noted
1K	3	
2.2K	2	
2.7K	1	
10K	1	
33K	2	
47K	1	
1M	1	
A1M Potentiometer	2	9mm mounted pot like these
B100K potentiometer	1	9mm mounted pot like these

Capacitors

Name/Value	Quantity	Notes
.01uf	3	Ceramic disk
.1uf	2	Film boxed caps
4.7uf	1	Tantalum
10uf	3	Eletrolytic

Other

Name/Value	Quantity	Notes
Power connecter	1	
Jack	3	
14 pin DIP socket	1	



B. The PCB

Above are renderings of the PCB with and without traces. The PCB is 82mm x 37mm.

Wiring is simple, the wirepads for the three output signals should connect to the tip connectors of the jacks, and the 0V wirepad connects to the sleeve of any jack.

To the right is an image of a complete module.

I prefer the response with the microphone capsule placed as close to the PCB as possible, but you can experiment with having it closer to the panel or through the panel.

