

## **BMC068. Unity Mixer**

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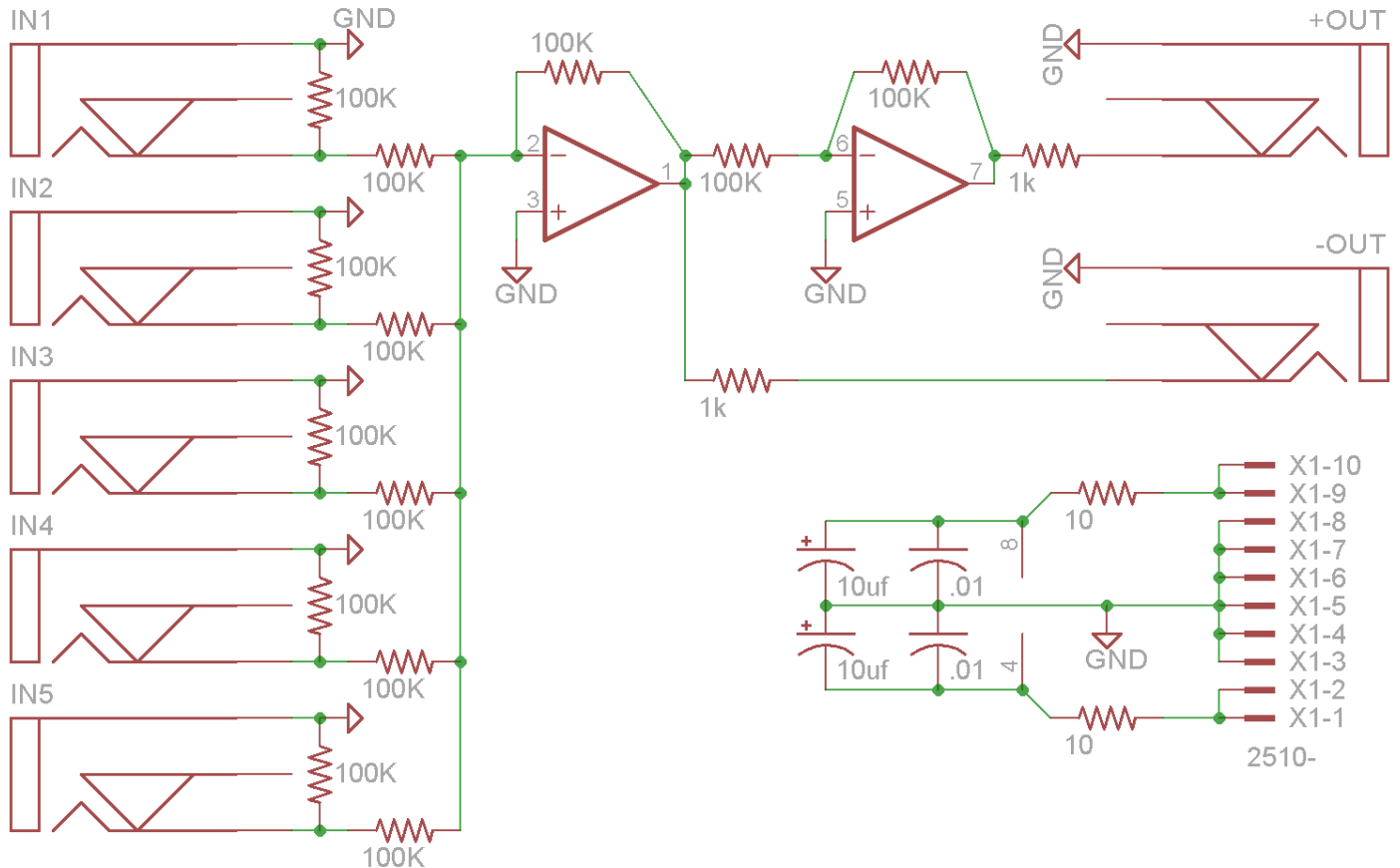
**A.Parts List**

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## I. What it Does

This module is a 5 input unity gain mixer. Unity gain means neither amplifying nor attenuating the input signals. Inputs are mixed together equally. It has a non-inverting and inverting outputs.

## II. Schematic



On the left are the input jacks. The tip of each input jack is connected to two 100K resistors. One resistor connects to ground and the other connects to the inverting input of an op-amp. A 100K feedback resistor on this op-amp sets the gain of this amplifier at -1. Its output connects to another inverting amplifier through a 100K resistor and to the negative output jack through a 1K resistor. The second amplifiers output connects to the positive output.

The power connections are in the bottom right. The +/-12V voltage rails are filtered by a 10 ohm/10uF passive low pass filter and further filtering is done by a .01uF capacitor at each power pin of the TL072.

### III Construction

#### A.PARTS LIST

##### SEMICONDUCTORS

Name/Value	QTY	Notes
TL072	1	8 Pin DIP

##### RESISTORS

Name/Value	QTY	Notes
10 ohms	2	All resistors 1/4W metal film except potentiometers
1K	2	
100K	13	

##### CAPACITORS

Name/Value	QTY	Notes
.1uf	2	cheap ceramic disc. Value not critical.
10uf	2	Electrolytic, 16V or higher rating.

##### OTHER

Name/Value	QTY	Notes
8 pin DIP socket	1	
Power connector	1	Right angle 2x5 2.54mm, <a href="#">like this</a> .
Jacks	7	PCB is designed around these jacks: <a href="#">PJ-323M</a>

## B. THE BOARD

The PCB is 92mm x 30mm. The jacks are spaced 14mm apart (.55 inch). Below are images of the PCB with and without traces present. The image of the PCB with traces does not show connections to ground.

