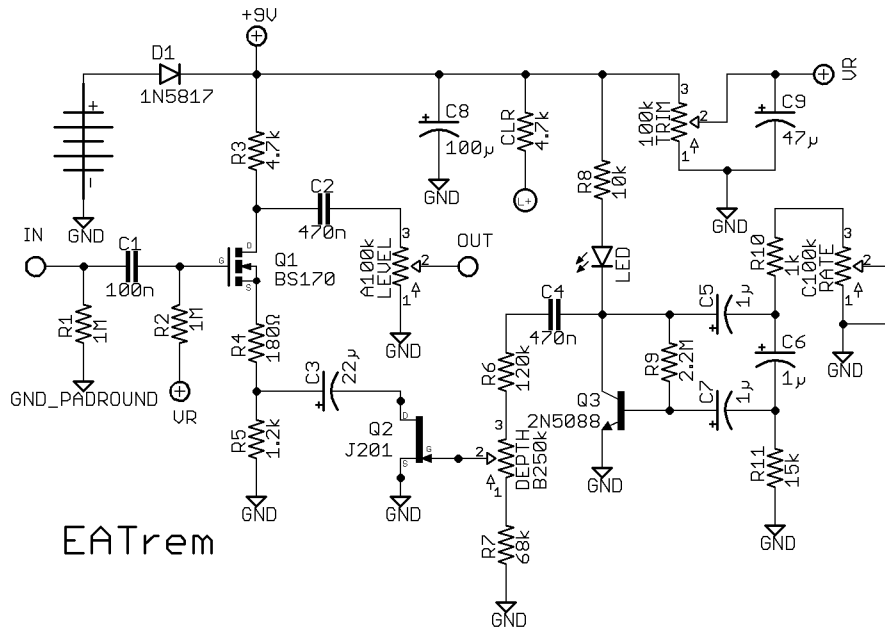


# EA Trem

## DESCRIPTION

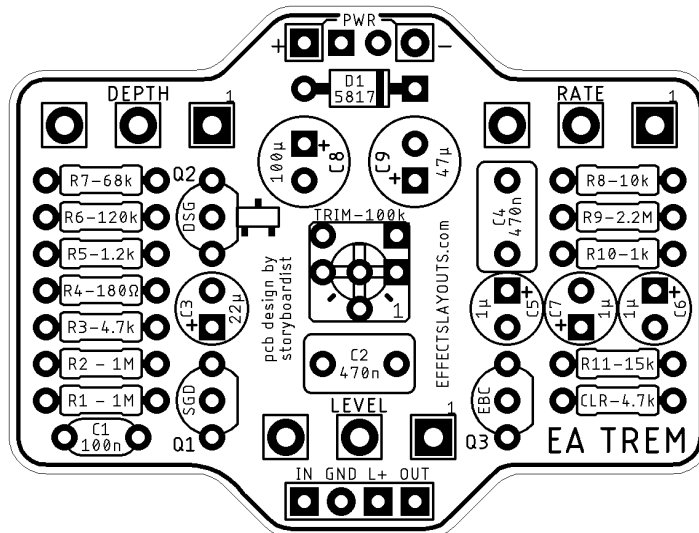
The EA Tremolo: a tried-and-true DIY classic and many pedal builder's first foray into modulation effects. The circuit was first published in an issue of Electronics Australia in 1968 and is a simple transistor-based design that produces a smooth, even tremolo effect. This is a modified version of the original design with a MOSFET-based audio stage first published on [home-wrecker.com](http://home-wrecker.com).

## SCHEMATIC



EA Trem

## LAYOUT



## BOM

### Resistors

R1	1M
R2	1M
R3	4.7k
R4	180Ω
R5	1.2k
R6	120k
R7	68k
R8	10k
R9	2.2M
R10	1k
R11	15k
CLR	4.7k

### Capacitors

C1	100n
C2	470n
C3	22μ
C4	470n
C5	1μ
C6	1μ
C7	1μ

C8	100μ
C9	47μ

### Semiconductors

D1	1N5817
LED	3 or 5mm
Q1	BS170
Q2	J201 or MMBFJ201
Q3	2N5088

### Electromechanical

Depth	B250k
Level	A100k
Rate	C100k
Trim	100k

### Note

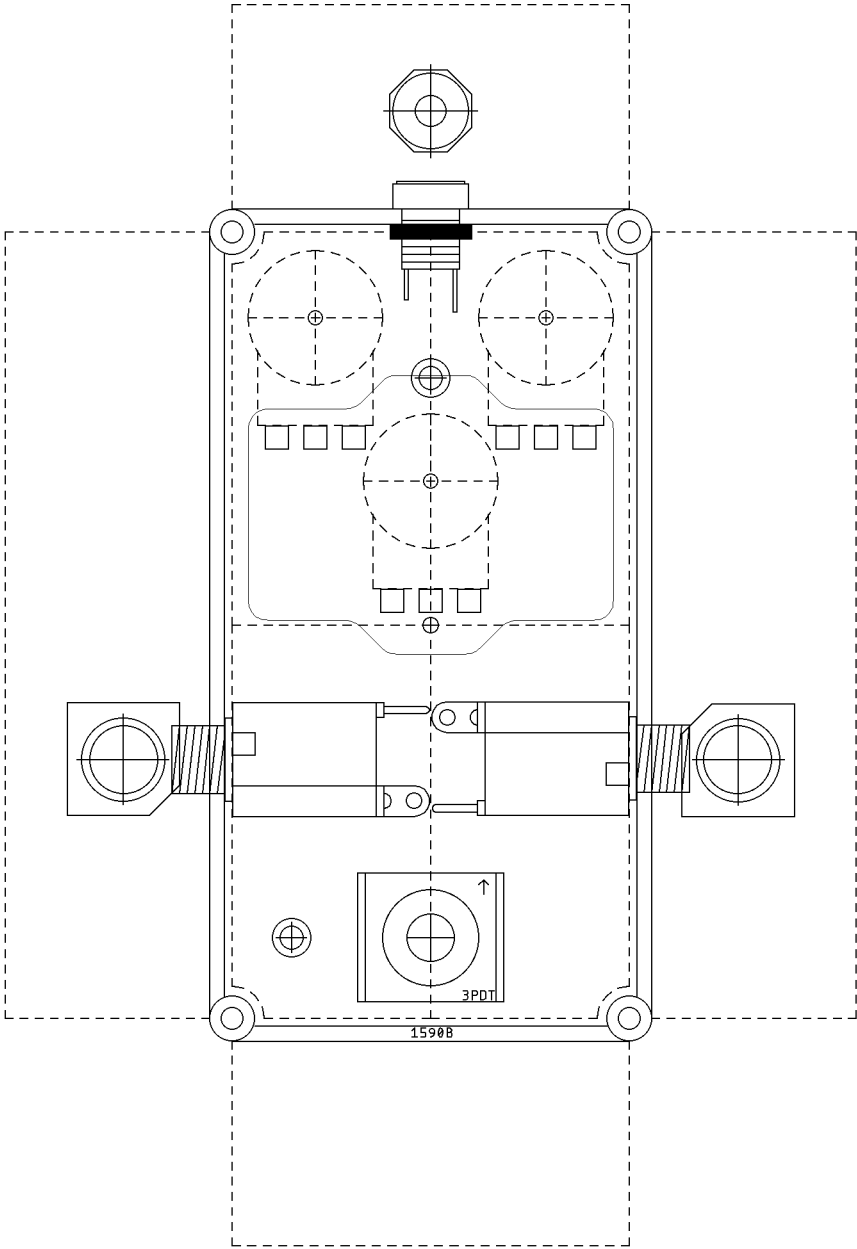
Adjust the trim so there is 4.5-5v at the drain of Q1. Either use a through-hole J201 or surface-mount MMBFJ201 for Q2; both are not required.

## SHOPPING LIST

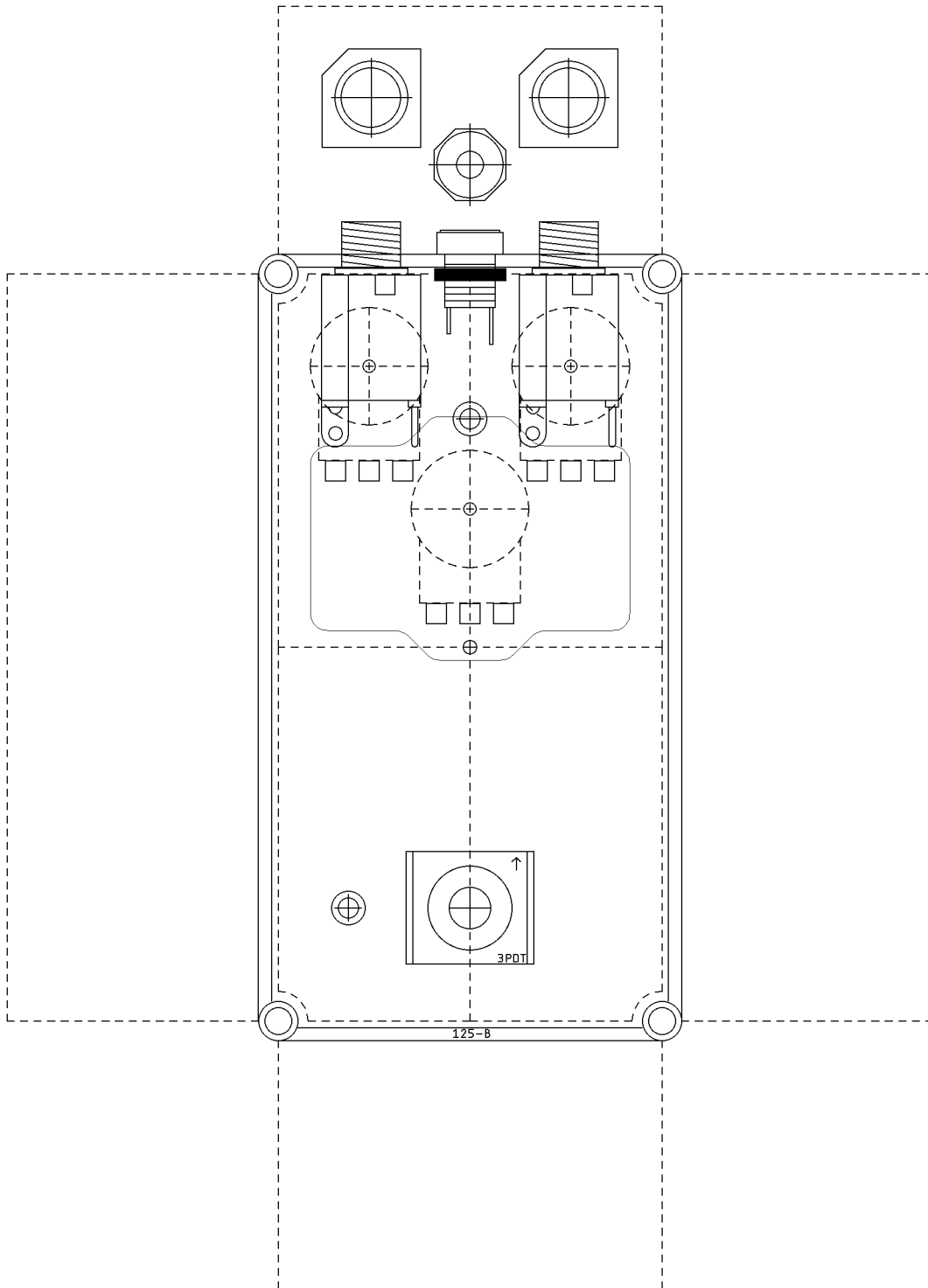
Value	Type (suggested)	Quantity
180Ω	¼ watt metal or carbon film	1
1k	¼ watt metal or carbon film	1
1.2k	¼ watt metal or carbon film	1
4.7k	¼ watt metal or carbon film	2
10k	¼ watt metal or carbon film	1
15k	¼ watt metal or carbon film	1
68k	¼ watt metal or carbon film	1
120k	¼ watt metal or carbon film	1
1M	¼ watt metal or carbon film	2
2.2M	¼ watt metal or carbon film	1
100n	Film	1
470n	Film	2
1μ	Electrolytic (25v+)	3
22μ	Electrolytic (25v+)	1
47μ	Electrolytic (25v+)	1
100μ	Electrolytic (25v+)	1
1N5817	Schottky rectified diode	1
LED	3 or 5mm	1

2N5088	BJT	1
BS170	MOSFET	1
J201/MMBFJ201	JFET	1
100k trim	Trim pot	1
A100k	16mm right angle PC mount potentiometer	1
B250k	16mm right angle PC mount potentiometer	1
C100k	16mm right angle PC mount potentiometer	1

**DRILL TEMPLATE (1590B)**



**DRILL TEMPLATE (125B)**



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