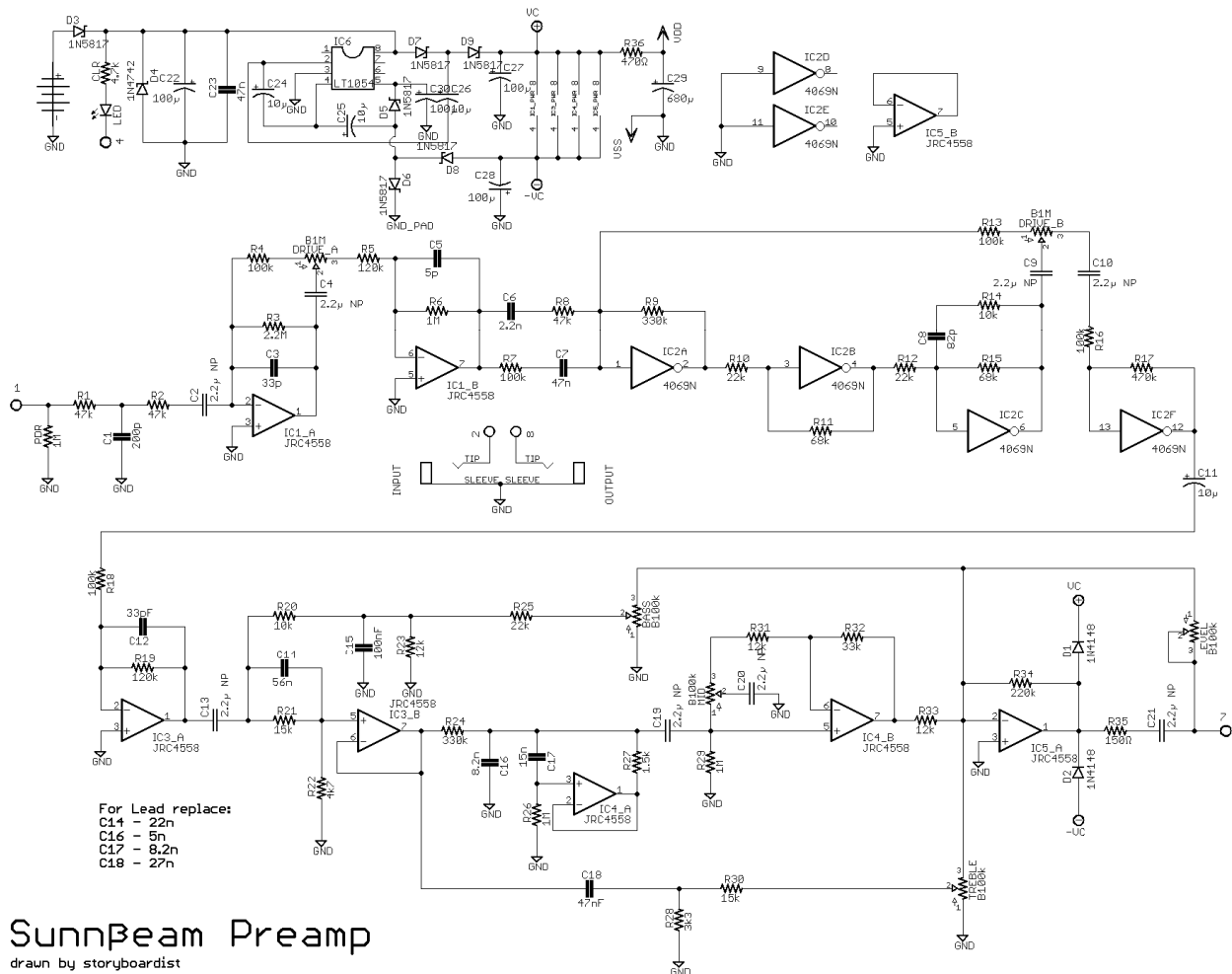


# sunnBeam

## DESCRIPTION

The SUNNBEAM is a stompbox adaption of the Sunn Beta Bass preamp. It features a 3-band EQ, plenty of gain, and an onboard charge pump delivering +/-15v supply. The SUNNBEAM can also be built to Sunn Beta Lead (guitar version) specs with just a few value changes outlined below. It's a big build and not for the feint of heart, but it sounds absolutely fantastic.

## SCHEMATIC



## BOM

### Resistors

PDR	1M
R1	47k
R2	47k
R3	2.2M
R4	100k
R5	120k
R6	1M
R7	100k
R8	47k
R9	330k
R10	22k
R11	68k
R12	22k
R13	100k
R14	10k
R15	68k
R16	100k
R17	470k
R18	100k
R19	120k
R20	10k
R21	15k
R22	4.7k
R23	12k
R24	330k
R25	22k
R26	1M
R27	1.5k
R28	3.3k
R29	1M
R30	15k
R31	12k
R32	33k
R33	12k
R34	220k
R35	150Ω
R36	470Ω
CLR	4.7k

### Capacitors

C1	200p
C2	2.2μ NP

C3	33p
C4	2.2μ NP
C5	5p
C6	2.2n
C7	47n
C8	82p
C9	2.2μ NP
C10	2.2μ NP
C11	10μ
C12	33p
C13	2.2μ NP
C14	56n
C15	100n
C16	8.2n
C17	15n
C18	47n
C19	2.2μ NP
C20	2.2μ NP
C21	2.2μ NP
C22	100μ
C23	47n
C24	10μ
C25	10μ
C26	10μ
C27	100μ
C28	100μ
C29	470μ
C30	100μ

### Semiconductors

D1	1N4148
D2	1N4148
D3	1N5817
D4	1N4742
D5	1N5817
D6	1N5817
D7	1N5817
D8	1N5817
D9	1N5817
IC1	JRC4558
IC2	CD4069N
IC3	JRC4558
IC4	JRC4558

IC5	JRC4558
IC6	LT1054
LED	3 or 5mm LED

#### Notes

A MAX1044 can be used instead of a LT1054, but you'll need to connect pins 1 and 8. All 2.2 $\mu$  are non-polarized electrolytic capacitors. To build the Lead (guitar) version of this preamp, change:

#### Electromechanical

Bass	B100k
Drive	B1M dual-gang
Level	B100k
Mid	B100k
Treble	B100k

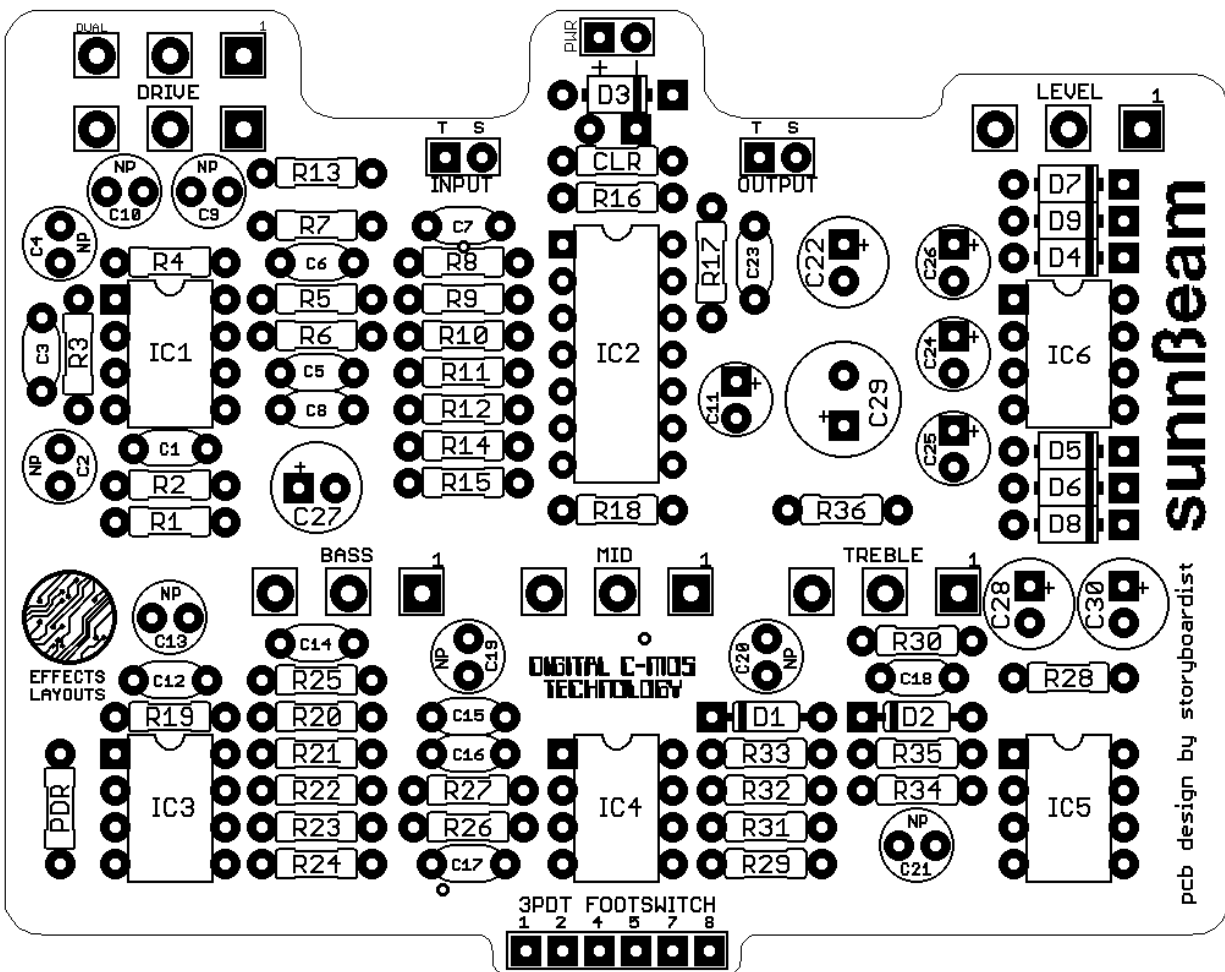
C14	22n
C16	4.7n
C17	8.2n
C18	27n

#### SHOPPING LIST

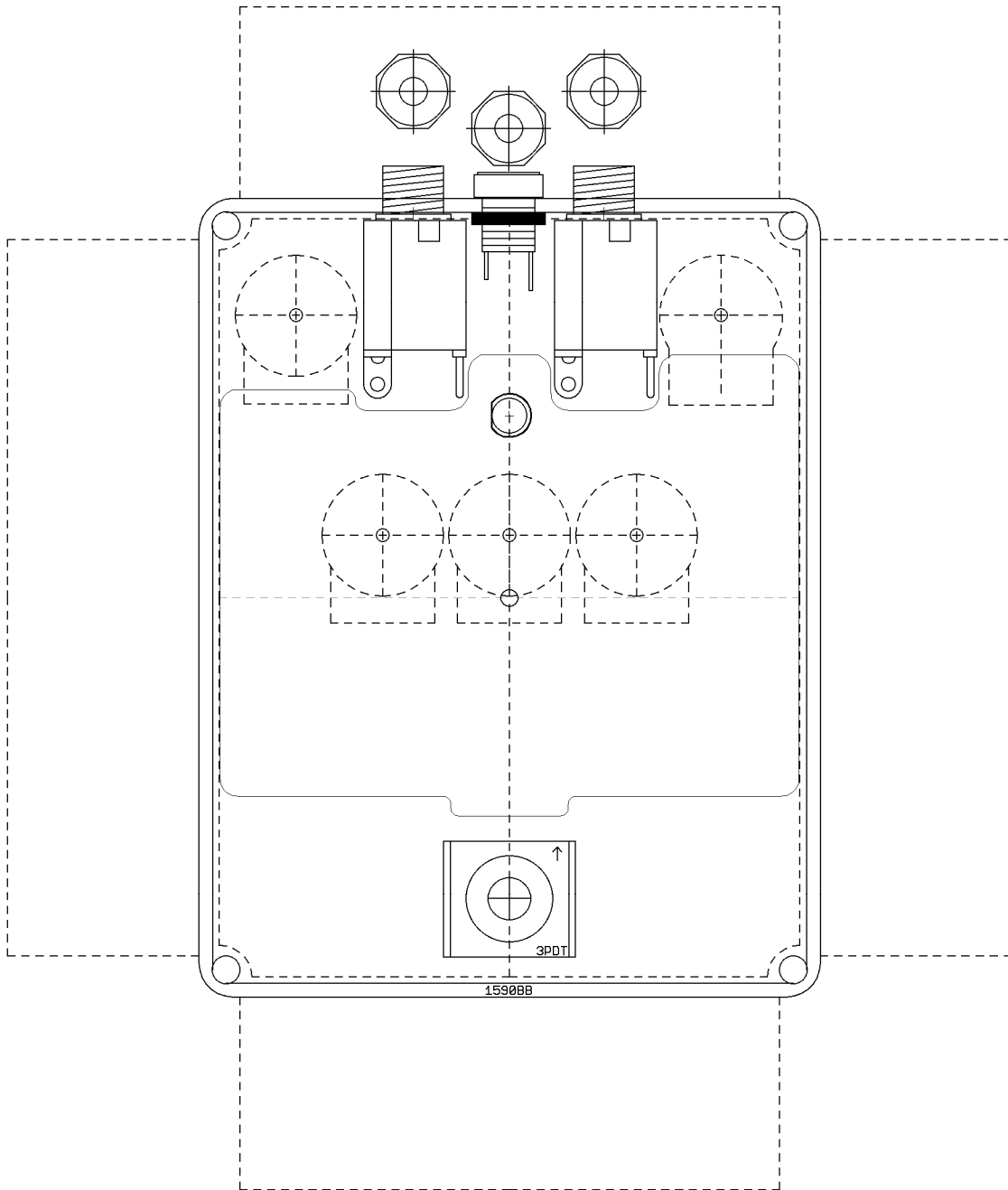
Value	Type (suggested)	Quantity
150 $\Omega$	$\frac{1}{4}$ watt metal or carbon film	1
470 $\Omega$	$\frac{1}{4}$ watt metal or carbon film	1
1.5k	$\frac{1}{4}$ watt metal or carbon film	1
3.3k	$\frac{1}{4}$ watt metal or carbon film	1
4.7k	$\frac{1}{4}$ watt metal or carbon film	2
10k	$\frac{1}{4}$ watt metal or carbon film	2
12k	$\frac{1}{4}$ watt metal or carbon film	3
15k	$\frac{1}{4}$ watt metal or carbon film	2
22k	$\frac{1}{4}$ watt metal or carbon film	3
33k	$\frac{1}{4}$ watt metal or carbon film	1
47k	$\frac{1}{4}$ watt metal or carbon film	3
68k	$\frac{1}{4}$ watt metal or carbon film	2
100k	$\frac{1}{4}$ watt metal or carbon film	5
120k	$\frac{1}{4}$ watt metal or carbon film	2
220k	$\frac{1}{4}$ watt metal or carbon film	1
330k	$\frac{1}{4}$ watt metal or carbon film	2
470k	$\frac{1}{4}$ watt metal or carbon film	1
1M	$\frac{1}{4}$ watt metal or carbon film	4
2.2M	$\frac{1}{4}$ watt metal or carbon film	1
5p	Ceramic	1
33p	Ceramic	2
82p	Ceramic	1
200p	Ceramic	1
2.2n	Film	1
8.2n	Film	1
15n	Film	1
47n	Film	3
56n	Film	1
100n	Film	1
2.2 $\mu$	Non-polarize Electrolytic	8
10 $\mu$	Electrolytic (35v or higher)	4
100 $\mu$	Electrolytic (35v or higher)	4

470μ	Electrolytic (35v or higher)	1
1N4148	Switching diode	2
1N4742	12v zener diode	1
1N5817	Schottky rectifier diode	6
CD4069N	Hex inverter	1
JRC4558	Dual opamp	4
LED	3 or 5mm	1
LT1054	Switching Voltage Regulator	1
B100k	16mm right angle PC mount	4
B1M	16mm dual-gang right angle PC mount	1

## LAYOUT



**DRILL TEMPLATE (125BB/1590BB)**



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