

3A Power Supply

Instruction Manual & Construction Notes



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1 Introduction

This board is a form, fit and function replacement for the original Nascom 3A PSU.

Many of these boards are now showing their age and this is the perfect replacement for those wanting the original hardware.

2 Components

Qty	Reference(s)	Value	Notes
2	C1, C2	3300uF	Electrolytic
6	C3, C4, C7, C8, C11, C12	2.2uF	Tantalum
4	C5, C9, C13, C16	0.1uF	Disc
2	C6, C10	1000uF	Electrolytic
2	C14, C15	2.2uF	Tantalum
1	D1	Rectifier	KBPC602 _ heatsink
1	D2	Rectifier	BR81D
4	D3, D5, D7, D10	1N4001	
4	D4, D6, D8, D9	LED	LED
2	P1, P2	9VAC	Power In
2	P3, P5	15VAC	Power In
1	P4	GND	Power In
1	P6	+5V	Power Out
1	P7	0V	Power Out
1	P8	+12V	Power Out
1	P9	-5V	Power Out
1	P10	-12V	Power Out
2	R1, R3	270	
1	R2	1K	
1	R4	10	10W Ceramic
1	R5	1K	
1	U1	LM323K	+5V Regulator (3A) + heatsink
1	U2	L7812	+12V Regulator + heatsink
1	U3	L7905	-5V Regulator + heatsink
1	U4	L7912	-12V Regulator + heatsink

3 Notes on Components

All the components used have been selected at time of design to be readily available via commercial component suppliers.

The original design has two wire links that allowed the board to be constructed as single sided design. These have been replaced with tracks.

However, through plate holes do exist so links could be added if required to give an original look.

4 Construction

4.1 Before you start construction

Inspect the PCB for any visible signs of damage

Select your components:

- Tantalum capacitors can be temperamental. Make sure they are inserted with the correct polarity, are of good quality and are overrated voltage wise.

4.2 Order of construction

The suggested recommended order of construction is:

- Resistors (Not the large ceramic resistor)
- Diodes
- Tantalum capacitors
- LED's
- Power pins
- Disc capacitors
- Bridge rectifiers
- Large electrolytic capacitors
- Voltage regulators & heatsinks
- D2 heatsink

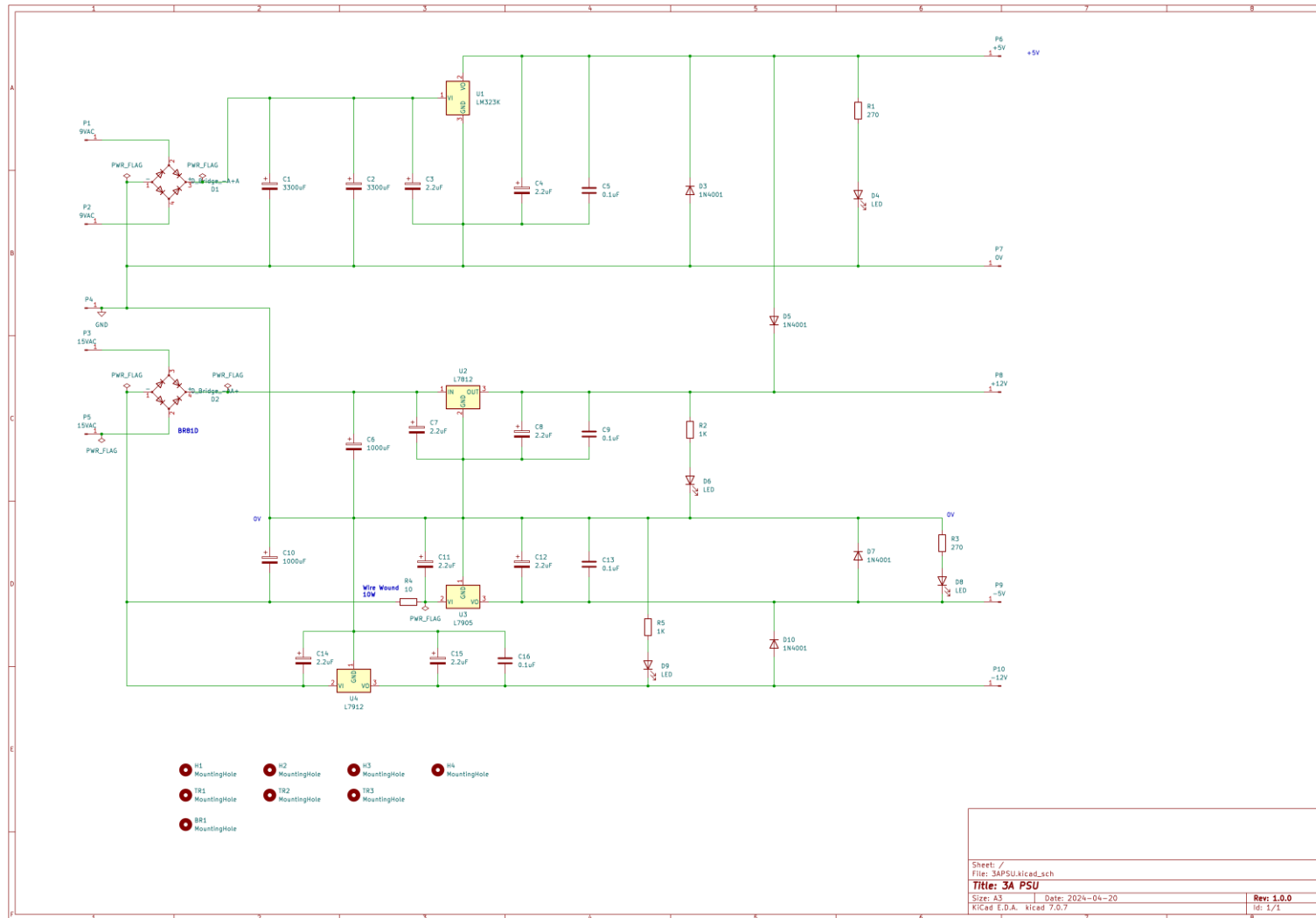
4.3 Mounting Hardware - Warning

The heatsinks require through board mountings (screw/washer/nut). Once completed, verify that any mounting hardware **does not touch** any tracks.

4.4 Test Before Use – **DO THIS!**

Before attaching any hardware to the power supply, it is **STRONGLY RECOMMENDED** that the voltages at the +5v, -5v, +12v and -12v outputs are verified to be correct.

3A PSU



5 Errata

5.1 Version 1.1

The LED D9, has the +ve terminal marked on the incorrect through hole. The outline component silkscreen is correct.

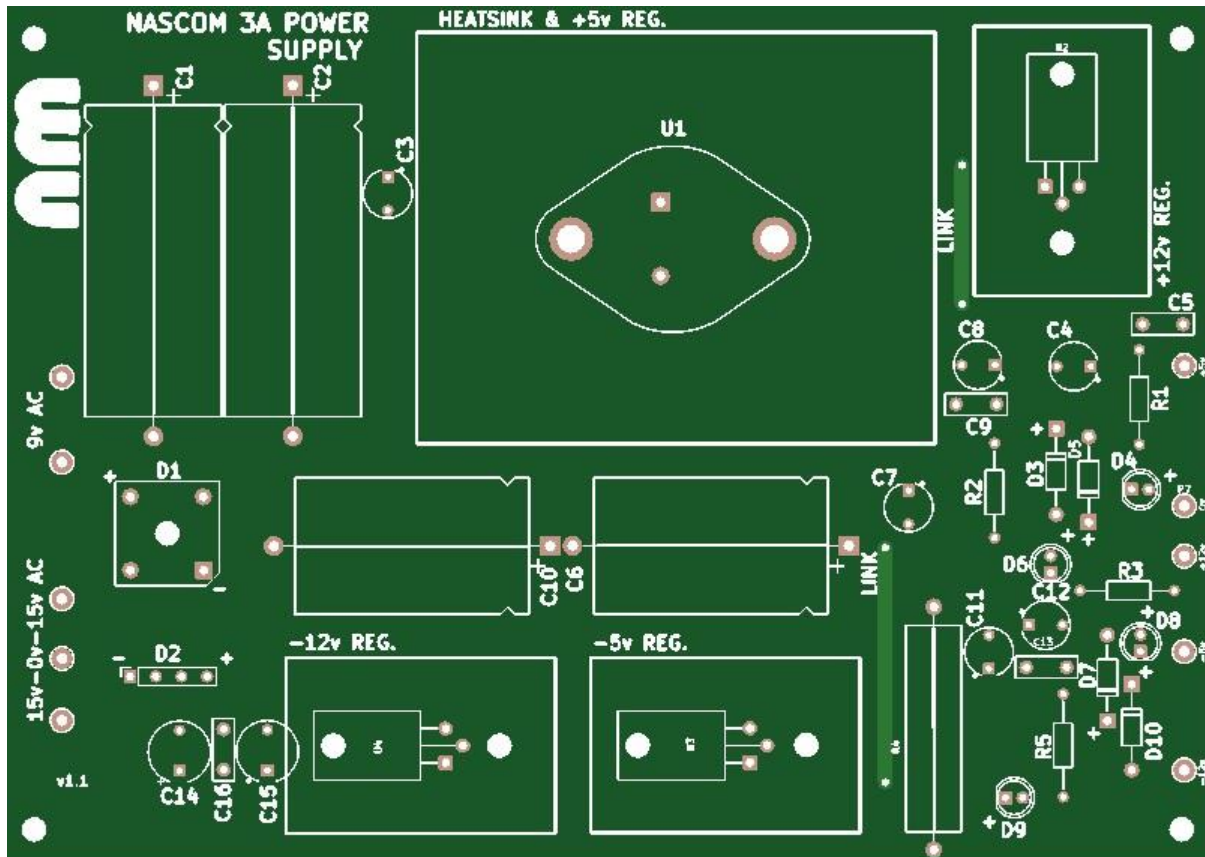
5.2 Version 1.2

No functional change

5.3 Version 1.3

Update to Kicad 9. No functional change

6 Reference Images



3A PSU

