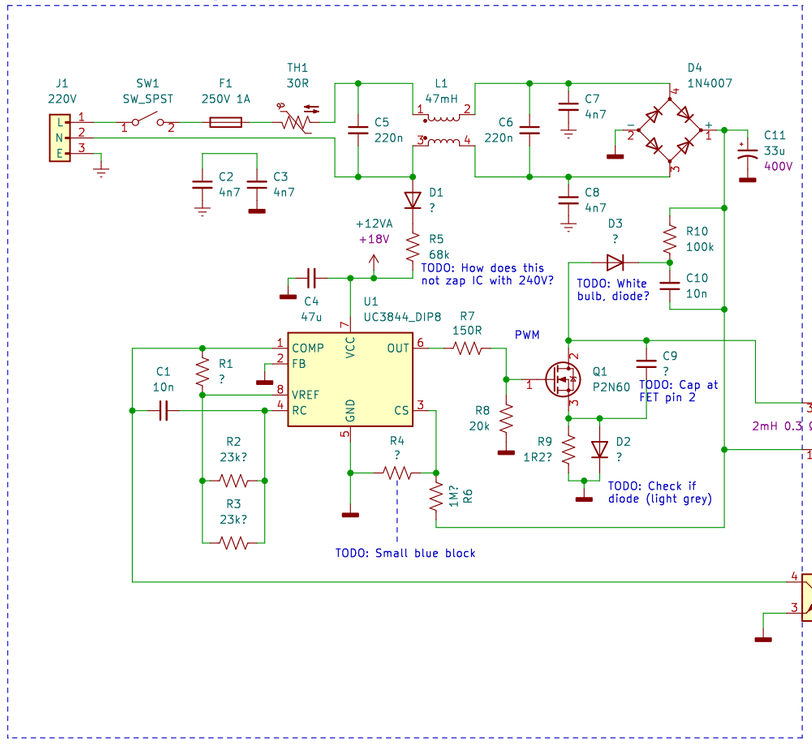
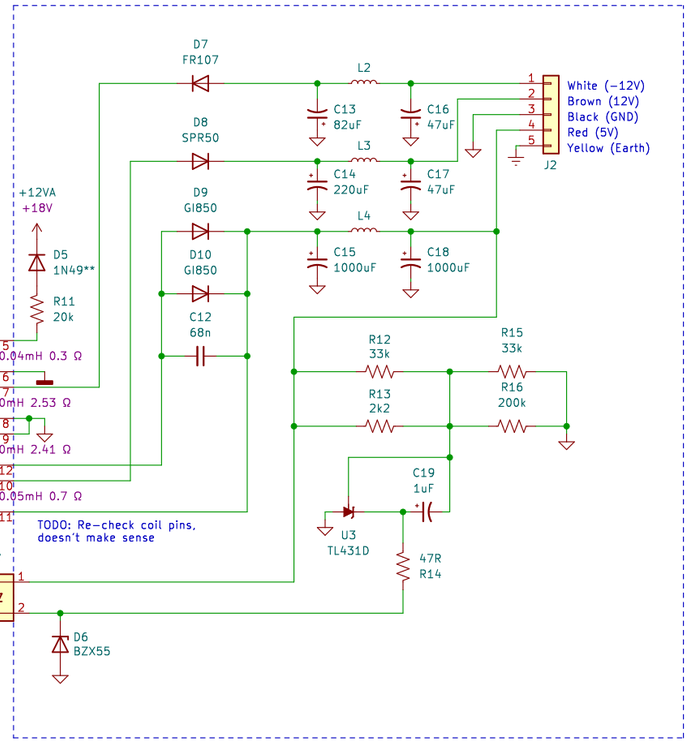
!WIP!

Based on the A500 PSU schematic by Greg McCarthy (greg@gjmccarthy.co.uk, https://github.com/StormTrooper)

AC/DC line voltage



DC stepped down



Test of known good working PSU
AC current measurements under load
Tested on 240 VAC with dim bulb limiter
Ticking sound under no load is normal

5 VDC	12 VDC	240 VAC
0.00 A 4.90 V	0 mA 16.00 V	31 mA
0.00 A 5.10 V	70 mA 10.96 V	37 mA
1.00 A 4.99 V	70 mA 11.89 V	68 mA
1.45 A 4.93 V	70 mA 12.10 V	97 mA
3.00 A 4.70 V	70 mA 12.60 V	180 mA

Test of known good working UC3844 PWM IC
Pin 6 (OUT)
Load on 5V output

I	Duty	Period	V max
0 mA	7.0%	276 ms	18.0 V
28 mA	4.0%	25 us	12.2 V
1.0 A	9.5%	25 us	14.8 V
3.0 A	15.0%	25 us	16.4 V
6.0 A	20.0%	25 us	19.0 V

P2N60 alternatives

GDS
600 V 2.9 A 70 W
RDS(on) < 3.5 ohm
Vgs +/− 20 V

STP4NK60Z (4 A)
STP5NK60Z (5 A)
IRFBC30PBF (3.6A)

UC3844
Broken: p5−6 2 ohm
Working: p5−6 16M ohm

1: 5 V constant after 600 ms
2: 0 V
3: 1 V pulse after 1 s
4: 3 V 69 kHz (15 us) signal after 600 ms
5: 0 V
6: 13 V PWM
7: 16 V linear charge over 600 ms, drops to 11 V
8: 5.4 V after 600 ms

P−No: 391029−02
Board: 30501−001 A
Rating: UK 220−240 V 300 mA
Based on the A500 PSU schematic by Greg McCarthy
Nick Bolton

Sheet: /
File: a1200−psu.kicad_sch

Title: Amiga A1200 PSU (UK)

Size: A3	Date: 2023−02−10	**Rev: 1C**
KiCad E.D.A. kicad (6.0.10)		Id: 1/1