

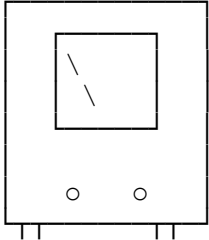
BNOS 12A 13.8V PSU

By G8MNY

(New Dec 12)

(8 Bit ASCII graphics use code page 437 or 850, Terminal Font)

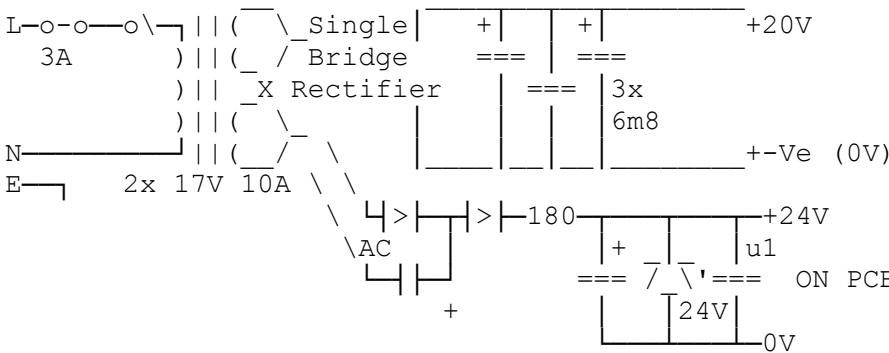
I have repaired some these, the 12A (15A meter) and 30A model are similar.



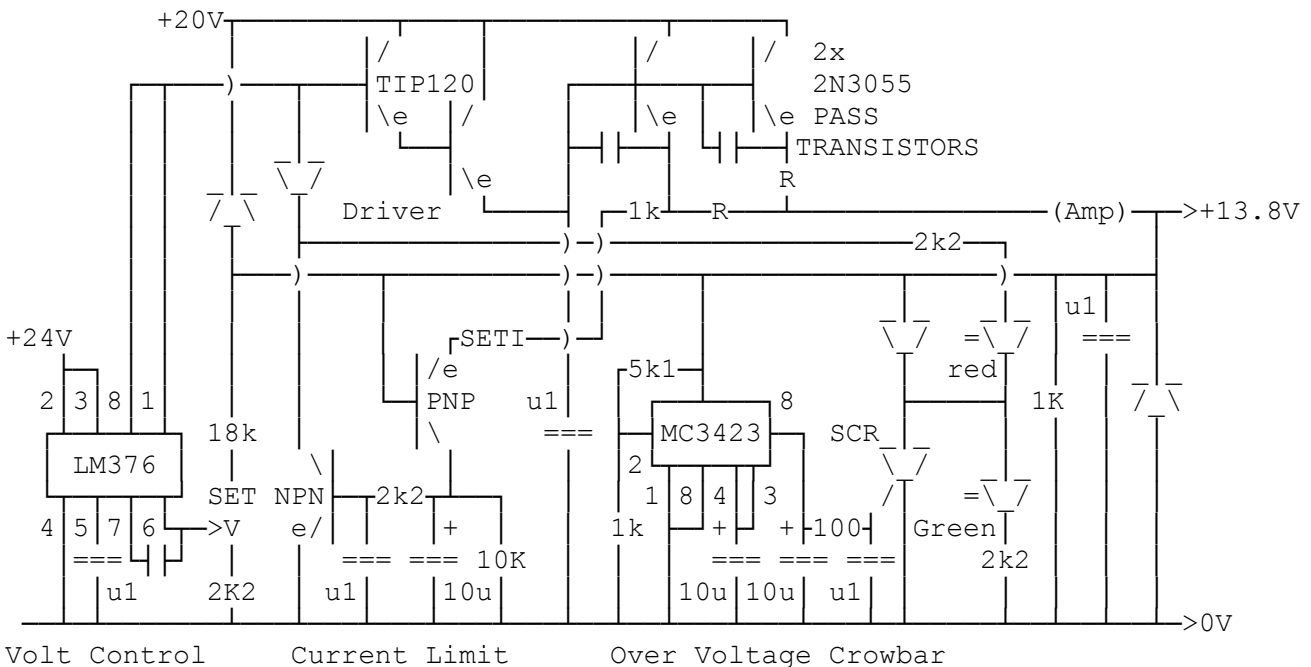
Current limiting  
Over voltage Crowbar @ 14.5V

INPUT CIRCUIT

The mains transformer's 2 secondaries feed a bridge rectifier and then to the capacitor bank. (the bridge can fail on heavy use)



CONTROL CIRCUIT



VOLTAGE CONTROL

The voltage control IC LM376 runs on the voltage doubled supply of 24V. It compares it's internal reference with the preset SET V and drives the TIP120 to drive the 2 heat sinked pass transistors to maintain the output voltage.

## CURRENT LIMITING

The 2 pass transistors have current equalising emitter resistors (R), and when one of these is over the base emitter voltage of the PNP, that turns on a NPN to override the LM376 drive to limit the current.

## OVER VOLTAGE PROTECTION

IC MC3423 is a triggered over voltage IC that fires the crowbar SCR to short the output if is too high. Danger here is when charging batteries if the trip should go causing a fire, also use a fuse with battery!

Why don't U send an interesting bul?

73 De John, G8MNY @ GB7CIP