

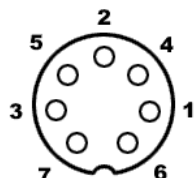
C64 MiniSaver 1.2

This kit provides a voltage surge protector so that the 5 volt supply to a Commodore 64 (or VIC-20 with DIN connector) does not exceed 5.6V and if so, it breaks the supply to the C64. The important components of the design are a 4.7 volt zener diode and two 2N2222 transistors that pull a relay if the voltage remains within the approved level and then supplies 5V to the computer.

What more is needed?

- ◆ Soldering pen (25-40W)
- ◆ Soldering lead
- ◆ Multimeter
- ◆ Magnifying glass
- ◆ Adjustable voltage source
- ◆ Cutter and plier
- ◆ Heat gun

C64 POWER SUPPLY CONNECTOR
(AT THE COMPUTER)



7 PIN DIN 'C' FEMALE at the computer.

| Pin | Name |
|-----|------------------------|
| 1 | |
| 2 | GND (5V negative pole) |
| 3 | |
| 4 | +5V in |
| 5 | +5V in |
| 6 | 9VAC in |
| 7 | 9VAC in |

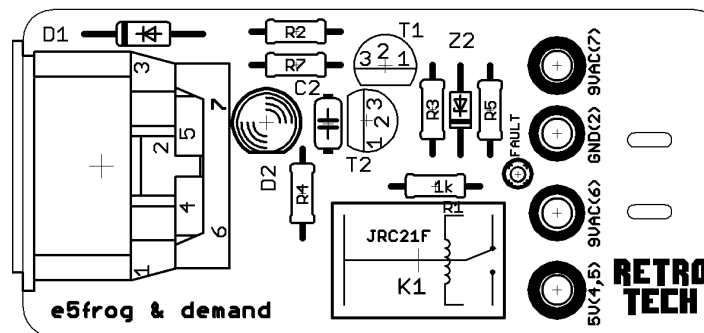
Assembly Begin to mount and solder the components in the order they appears in the component list one row at a time.

Remember to turn D1 (1N4148), D2 (LED) and Z2 (4V7) diodes and T1, T2 transistors in the right direction. The LED has a bevel on the side and it is the one that is marked on the circuit board. The cable is scaled up 8-10 mm at one end and 20-30 mm at the other end. DIN7 male, 5V should go to pins 5 and 4 (yellow, can be bridged in the connector with copper wire but not really needed.), GND should go to pin 2 (green), 9VAC and 9VAC should go to pin 6 and pin 7 respectively (white and brown).

NOTE Do not forget to measure the voltage and double check so that all components are in the correct direction.

Functions testing Connect the 5V and ground to the DIN female on the circuit board. The LED should now light green and you can measure 5 volts at 5V (4,5). Then raise the voltage to 5.4-5.7V then the Saver will do its job and break the voltage and the diode will change color to red and you now have 0 volts at +5V (4,5). The Saver should trip somewhere between 5.3V and 5.6V if everything is correctly done.

Then install the cable tie as strain relief and thread over the shrink tube and gently heat it with the hot air gun.



Component list

- R2 820 ohm resistor
- R3 2k2 ohm resistor
- R1, R4, R5 1k ohm resistor
- R7 220k ohm resistor
- D1 1N4148 Small signal diode
- Z2 4V7 Zenerdiode 4,7 volt
- T1, T2 2N2222 Transistor NPN
- C2 0.22uF Capacitor
- K1 Relay
- X1 DIN 7pin PCB
- D2 RG-LED diffus

Kit also includes:

- 1 x PCB
- Around 15cm cable
- 1 x Cable tie
- DIN7 male
- A bit of copper wire
- A bit of heat shrink tube

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