**Commodore C64 Power Supply (Replacement) Rev. 2**

**Functional description**

The mains 230VAC are connected to the spade connectors J1 and J2. The primary coil of the transformer TR1 is protected by the fuse F3. C5 is the X2 capacitor for attenuation of interferences/transients.

TR1 is powered by 230VAC, the secondary coils provide 9VAC (nominal) @ 2A. One output is protected by F1. It provides the 9VAC for the C64. D2 acts as an overvoltage protection. It is bidirectional and suitable for AC.

The second output of the transformer is protected by F2. The bi-directional TVS diode D3 is placed for blocking transients. BR1 is a bridge rectifier. Its output voltage is smoothed by C1. IC1 is a dc/dc converter, which generates the+5VDC (max 2A) from its input voltage. C2, C3 and C4 are suppressing interferences. D4 is a reverse protection diode for the dc/dc converter.

The TVS diode D1 is protecting the output against over voltages and transients.

The output voltages are connected to the spade connectors (J4-J7).

The purpose of R2 and C6 is to provide a connection of the GND to PE, which could be connected to J8. This might be helpful in case some peripherals connected to the C64 (such as composite video/HDMI converter) are powered by poorly isolated PSUs. This is still in an experimental stage and not proved.