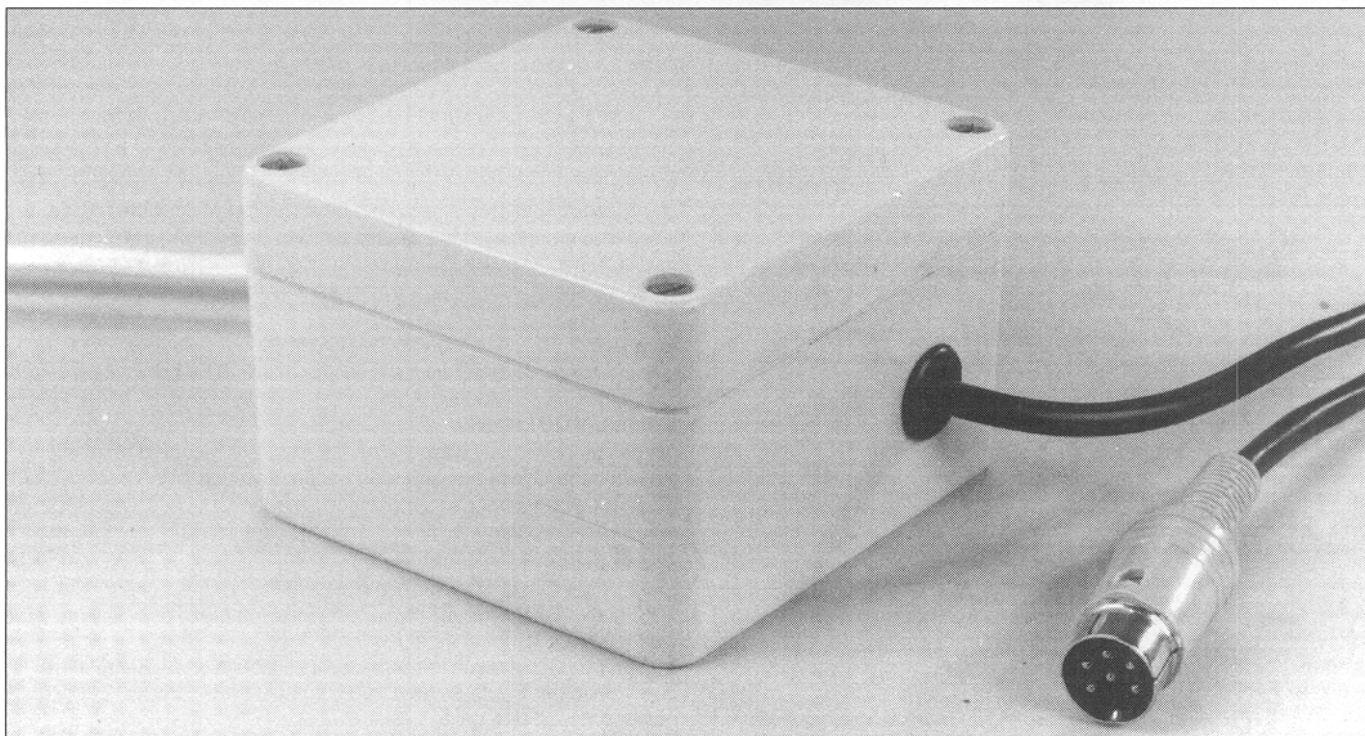




# EPROM PROGRAMMER AND EPROM EMULATOR POWER SUPPLY



***This handy little power supply unit was designed by Paul Stenning for his EPROM programmer and emulator projects, but could be used for a wide range of different applications.***

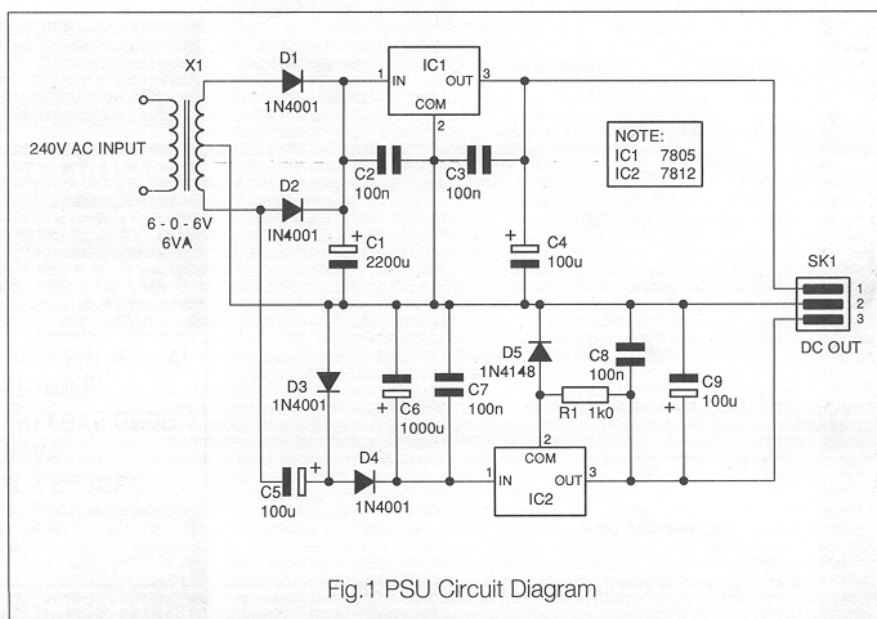
**T**his simple power supply unit was designed for use with the EPROM Programmer, featured elsewhere in this issue. It is equally suitable for powering the matching EPROM Emulator which will appear next month.

We are printing this as a separate article to avoid confusion with component reference numbers. The unit produces 5V at up to 500mA, and 12.6V at up to 250mA. At currents over about 250mA from the 5V rail, a heatsink will be needed for IC1 - this is not needed if the unit is used with the projects listed above.

## How it Works.

The circuit is shown in Figure 1. Transformer X1 produces 6V AC from the mains input. This is rectified by D1 and D2, and smoothed by C1 giving about 8.5V DC. IC1 is a standard three-pin 5V regulator, which does just that!

For the 12.6V supply, we have used a voltage doubler circuit (D3, D4, C5 and C6)



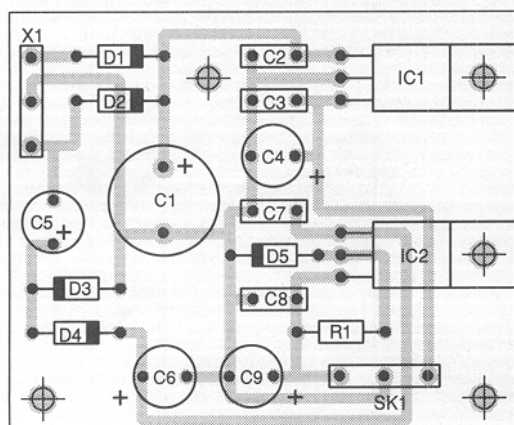
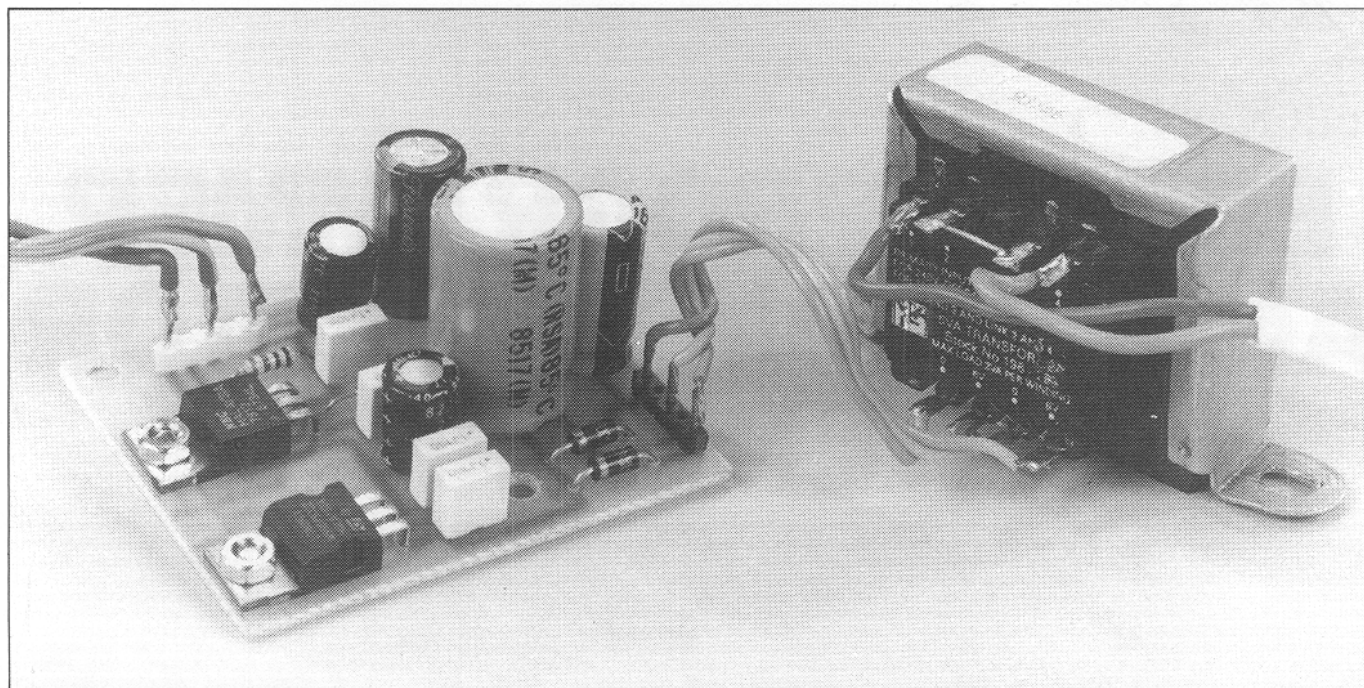


Fig. 2 PSU component overlay

giving about 16V. This is regulated by a 12V regulator, with a diode (D5) in the ground lead to increase the voltage by 0.6V. EPROMs require either 12.5V or 12.75V with a tolerance of 0.25V for programming. 12.6V will comply with either of these requirements.

A 6V transformer was used to reduce the power dissipation in the 5V regulator, IC1. A voltage doubler circuit operates very well when a lower current is required, as is the case with the 12.6V rail.

### Construction.

All the components, except the transformer, are mounted on a small PCB, the foil for which is shown in the Foils section at the back of the magazine (the author can supply ready-made PCBs; see the end of the EPROM programmer project article for details). The component overlay is shown in Figure 2.

No heatsinks are required for the intended use. If you are likely to use the unit for other purposes, it would be a good idea to fit a heatsink on IC1.

The prototype was fitted in a small plastic box, 80 x 80 x 55mm. This was rather a tight squeeze, so something a little larger is recommended.

The mains input arrives via a length of 2 core mains flex. The DC output is connected to a 6-pin DIN plug via a length of 3-core mains flex. A matching 6-pin DIN socket is fitted on the EPROM Programmer and other projects.

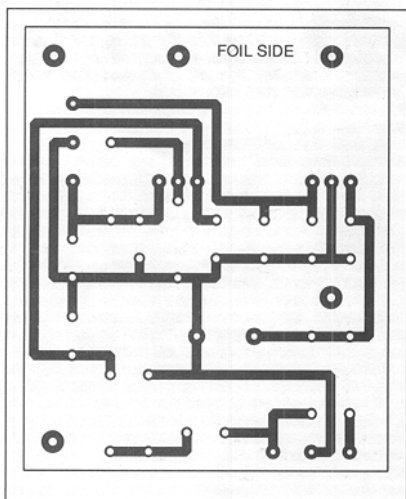
## PARTS LIST

IC1	7805
IC2	7812
D1,2,3,4	1N4001
D5	1N4148
R1	1K0
C1	2200uF 16V
C2,C3,C7,C8	100nF
C4,C9	100uF 16V
C5,C6	1000uF 25V
SK1	DC OUTPUT
X1	6-0-6V 6VA

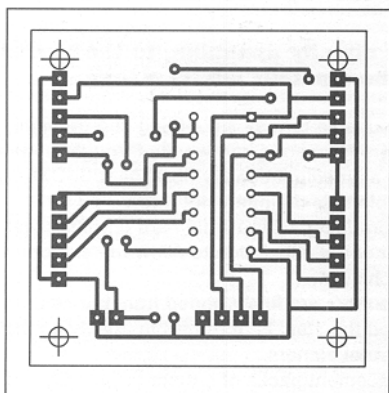
Case, PCB, cable, 13A plug with 3A fuse.

### NEXT MONTHS

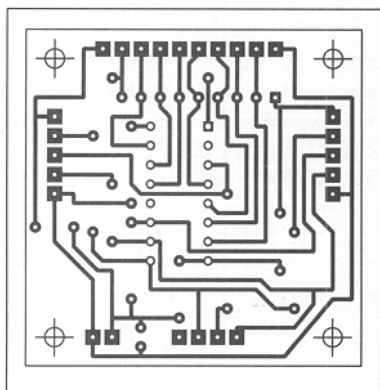
This power supply will be used in next months Eprom, Emulator project



**Eprom programmer &  
Eprom emulator  
power supply**



**Parallel output**



**Parallel input**