DUAL POWER SUPPLY

This simple regulated supply is suitable for most projects requiring a dual voltage.

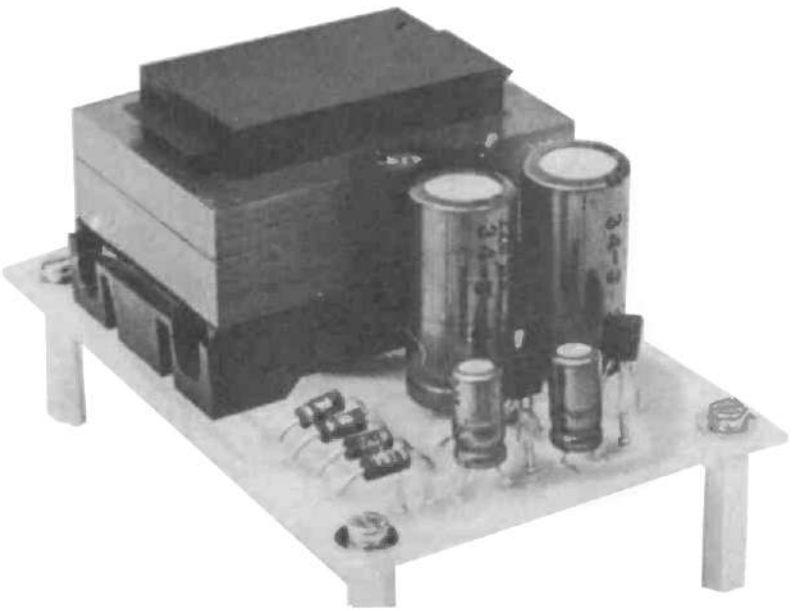
WITH THE PRICE of operational amplifiers being so low today, their use is becoming very popular among home constructors. These devices, however, normally need a dual power supply voltage, usually +15 and −15 volts.

A simple rectified and filtered supply suffers from the drawback that if it is designed to supply the correct voltage at a reasonable current, when a light load is connected the output may rise to an over-voltage condition. This problem is aggravated by variations in mains voltage. The regulated supply takes care of this problem, and also offers better hum rejection as the ripple voltage is also 'regulated'.

Most of the projects undertaken do not use more than 10 or so ICs and a high powered supply is not required. This simple supply has all the components mounted on the PC board including the transformer. Either of two regulators can be used giving either 40mA or 150mA outputs.

If a different output voltage is required regulators of the desired voltage can be used along with a different voltage transformer. If only a single output is required the unwanted components can be deleted.

To drive a power indicator LED we have provided a current limiting resistor R1. This comes from the unregulated supply so as not to load the regulator.



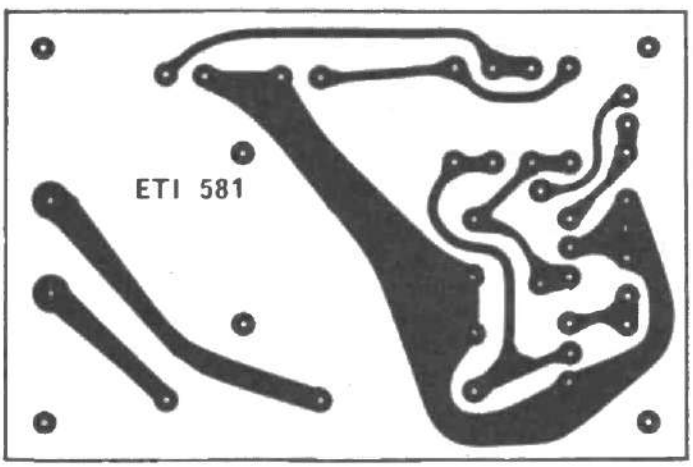


Fig. 1. Printed circuit layout. Full size 90 x 60 mm.

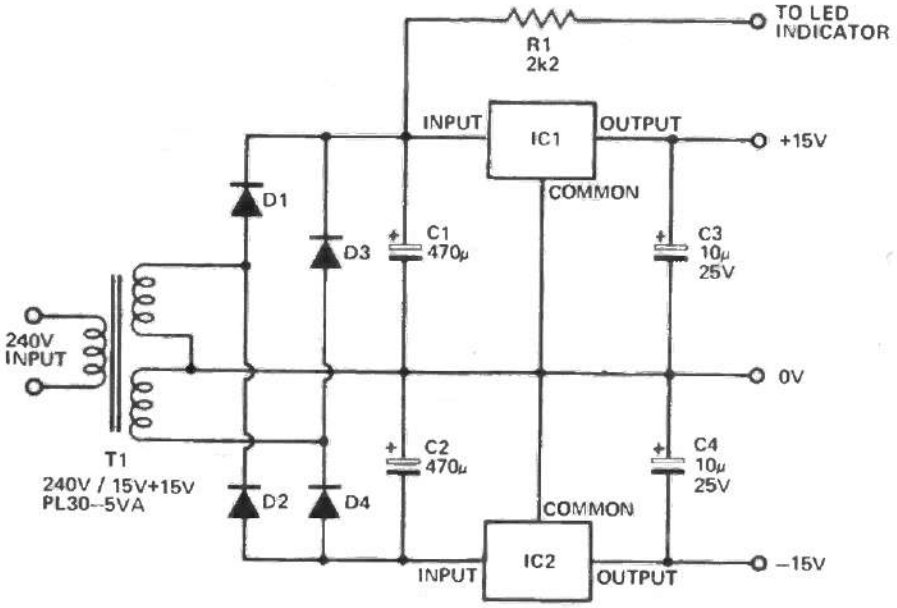


Fig. 2. Circuit diagram of the supply.

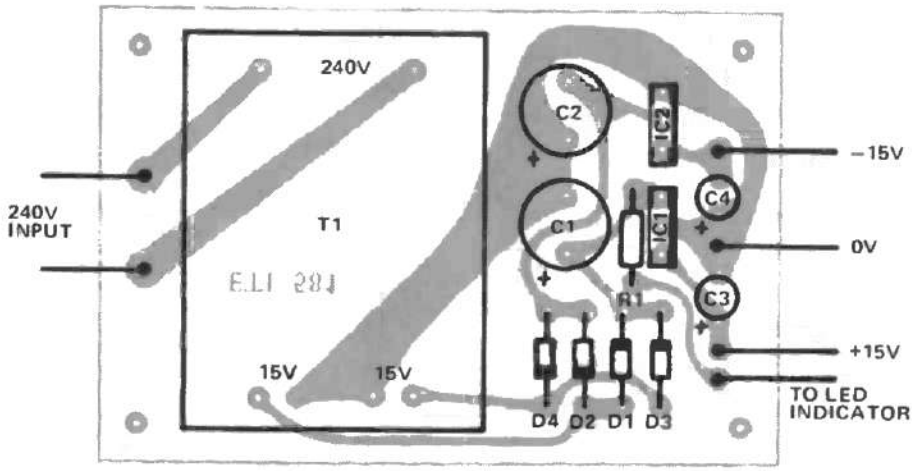
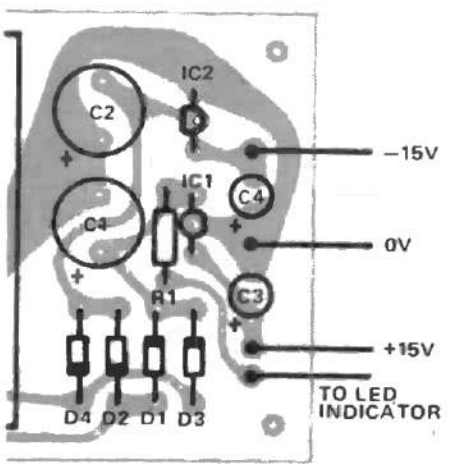


Fig. 3. Component overlay of the higher powered version.

Fig. 4. Changes in the overlay for the low power version.



PARTS LIST – ETI 581

R1	Resistor	2k2 ½W 5%
C1,2	Capacitor	470μ 35V electro
C3,4	"	10μ 25 V "
D1–D4	Diodes	1N4001
LED1	Indicator	
IC1	Regulator	7815 *
IC2	"	7915 *
T1	Transformer	PL30–5VA

* 78L15 and 79L15 can be used if less than 40mA is required