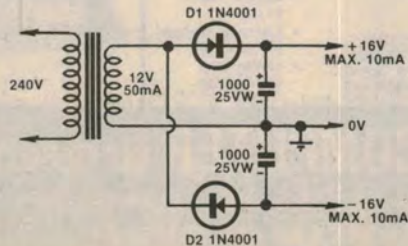


Simple symmetrical power supply

Normally, a centre tapped transformer and a bridge rectifier are used to construct a symmetrical power supply. This seems such a natural solution that it is often overlooked that it can be done in a much simpler way. The accompanying circuit diagram shows the simpler version. A disadvantage is that the half-wave rectification makes it necessary to use a larger smoothing capacitor to prevent mains hum.



With the values shown, a maximum of 10mA can be supplied at a ripple voltage of about 0.2V peak-to-peak. By using the formula below, values for other currents and ripple voltages can be calculated.

$$V_{\text{ripple}} = (20 \times I) / C$$

where V_{ripple} is in volts peak-to-peak, derived current I in mA and C in μF .
(From "Elektor", July/August, 1980.)