

Adjustable power supply up to + or -12V and 800mA

The circuit shows a power supply which is adjustable up to 12 volts with either positive or negative polarity. The current source is also adjustable up to about 800mA and it is short circuit proof. I have used this circuit successfully for an antenna rotating motor to turn in either direction. I have also used it as a power supply for either polarity as the need has arisen.

The output voltage is set by means of the 500 ohm potentiometer, between the limits of + and -12V, with 0V in the mid position. When the potentiometer is turned towards the negative side, the PNP transistor conducts, while the NPN transistor is blocked. The reverse applies when the potentiometer is turned in the opposite

direction.

By means of the respective transistor in the current circuit, with its 100 ohm preset potentiometer, the circuit is protected against overload. The voltage drop across the one ohm resistor will block the transistor when the current exceeds the preset value. The circuit works as a constant current source up to about 800mA.

I made the two one ohm resistors from a piece of heater element but one ohm resistors obtained commercially could be substituted. The two-power transistors must be mounted on a heat-sink of adequate proportions.

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