

CIRCUIT DESCRIPTION

To better understand how the Power Supply works, follow the circuit on the Schematic Diagram while reading this description.

DC source voltage is applied to the INPUT terminal, and via a hash filter network consisting of choke RFC1 and capacitors C1 and C2, to the vibrator. The Power Supply can be wired to operate from either a 6-volt or 12-volt DC source. In either case, the vibrator coil is operated from 6 volts. For 12-volt operation, resistor R1 is used in series with the vibrator coil to drop the voltage applied to the coil to 6 volts. For 6-volt operation, a wire is connected across resistor R1, and 6 volts is applied directly to the vibrator coil.

The vibrator acts as a mechanical switch, alternately connecting and disconnecting the voltage source to opposite ends of the transformer primary winding at a rate of approximately 115 cps. This results in a rectangular waveform which, due to the step-up effect of the transformer, appears as a high AC voltage in the secondary winding. By using different primary winding taps for 6-volt and 12-volt operation, the step-up ratio of the transformer can be changed so that the same secondary AC voltage results in either case. Buffer capacitor C6 is connected directly across the secondary winding.

AC voltage is applied from the secondary winding, through capacitor C7 to silicon diodes D1 and D2. These diodes with capacitors C7 and C8 are arranged in a half-wave voltage-doubler circuit. Choke RFC2 and capacitor C9 provide hash filtering for the B+ voltage as it is applied to the B+ output terminal.

