Rectifiers Encyclopedia Article

Rectifiers

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Rectifiers

Without rectifiers we could not use the **electricity** supplied to our homes to **power** any of our electronic devices such as televisions, **computers**, **microwaves**, battery chargers, etc. With few exceptions, these types of devices require direct current (DC) power to function as a result of their incorporation of integrated circuits in their design, which require uninterrupted DC power. However, the power supplied to our homes is transmitted as an alternating current (AC) signal, and the polarity of this supplied power reverses at 60 hertz (in the United States).

So how is AC turned into DC? A simple circuit device called a rectifier does the trick. The sole purpose of rectifiers is to turn alternating current into direct current. Through the use of **diodes**, which only pass current in one direction, rectifiers are able to take an AC signal as input and then output a DC signal that can be used by electronic devices.

There are two general types of rectifiers: half-wave and full-wave. Half-wave rectifiers simply block one half of the AC signal to the output so that only half the input signal is used. Full-wave rectifiers use the full input signal, but by diverting half of the input the output signal is of a single polarity.

While the rectifier part of any electronic device is relatively small, its importance cannot be over emphasized. Without rectifiers, the power we get from a power station cannot be coupled to the electronic devices upon which we have come to depend.