

Half-wave rectification of alternating current

The electrical sockets in a house supply current which is called alternating current. Many appliances, such as computers, radios and other audio equipment, run on direct current which is the type of current obtained from a battery. A diode can be used to change alternating current to an uneven form of direct current. This is called half-wave rectification.

The diode only allows current to flow in one direction. With alternating current, the current flows in one direction for half a cycle and in the opposite direction for the other half cycle. This means that for half a cycle the diode is forward biased and so a current will pass through. For the next half cycle the current reverses, so the diode is now reversed biased and so the current will not flow. The result is that only current in one direction can pass through so the alternating current has become a direct current.