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## **Flashlight Communicator**

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This simple, portable, visually-aligned transceiver is quite effective and can be easily built into a flashlight.

The lamp current, modulated at an audio frequency, modulates the light beam. The light beam is detected by a photodarlington transistor and drives a small speaker for audio output.

The lamp is driven by an ac signal which cuts the RMS voltage to about one-third of the six volts, which is why a 1.5 V bulb is used in a 6 V circuit.

The photodarlington can be mounted on the axis of the beam or you may get better sensitivity by placing it so that it faces the reflector of the flashlight just above the bulb (the bulb filament is at the focal point of the reflector).

Fidelity is not high due to the low pass characteristics of the bulb filament, but I have been able to have intelligible conversations at distances up to 30 metres.