

# CRYSTAL RADIOS

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# ANTENNA & GROUND

Antenna

Ground

The antenna with the ground picks up radio signals. We used a longwire antenna about 75 feet long. A longwire antenna is just a long wire. We put it between two trees.

# RESULTS

At first when we hooked the radio up to an antenna we couldn't hear anything. We tried a longer antenna but still didn't hear anything. We then looked at the radio and found that the wire between the crystal and the coil wasn't connected so we fixed it. Then the radio picked up two stations (WAAM in Ann Arbor and WJR in Detroit).

The crystal radio doesn't need batteries because the antenna picks up enough radio power to run the earphone but it needs a long antenna.

# TUNER

Coil

Tuning  
Capacitor

The coil and tuning capacitor work together to pick out the radio channels. In this radio they select channels in the range from 540,000 vibrations per second to 1,600,000 vibrations per second.

# DETECTOR

Crystal

Capacitor

Resistor

The detector converts the radio signal, which we can't hear, into a signal we can hear.

# EARPHONE

Earphone

The earphone converts the electrical signal from the detector into sound.