

## Crystal Set Projects

*Pulling music and human speech out of thin air using some wire remains pure magic. I found the home-brew crystal radio projects in this book to be even simpler and easier to understand than those in the venerable Radios that Work for Free. The contest run by the publishers, The Xtal Set Society, seems to be to see who can build a working radio with the least number of parts. For kids it's a wonderful antidote to their usual plug-and-play mode.*

—KK

### Crystal Set Projects

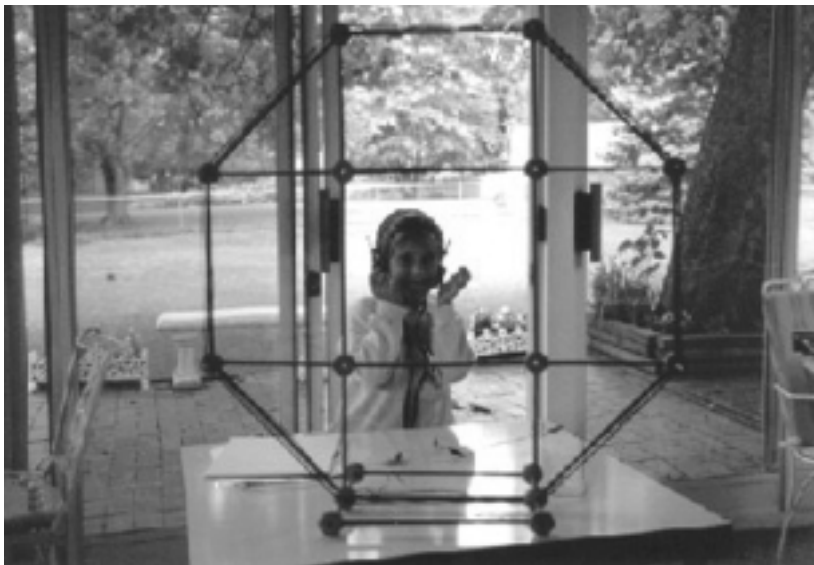
#### 15 Radio Projects You Can Build

1997, 160 pages  
\$15  
The Xtal Set Society  
800-927-1771  
www.midnightscience.com



Crystal set radios pick up AM radio without batteries or electricity. In simplest terms, the broadcast station puts out enough power in the form of a radio signal to be picked up by a crystal set. The set's antenna captures this electromagnetic energy, and the signal then passes through the crystal detector and comes out as audio in the earphones. This mysterious process first intrigued great inventors such as Braun, Marconi, and Pickard, and it continues to fascinate electronics buffs, amateur radio operators, and engineers today.

The hobby of building and listening to crystal radio had its first and biggest craze in the 1920s. Once radio stations began broadcasting all over the country, people began buying and building crystal radio kits. At that time a true mineral crystal was used as the detector. The most popular crystal was galena, and a fine piece of wire called a "cat's whisker" was used to touch the crystal and find the "hot spot" on the rock where a station would come in. These days, many hobbyists use the modern-day diode instead of a crystal, but there are still experimenters who strive for the thrill of getting Radio Japan on a rock.



From "Low Budget Xtal Set," by William Simes. Bill's neighbor testing out the set she helped build.

## Live Wire

*Do-it-yourself neon. This thin wire glows very brightly. You can bend it easily, tie it to anything. It produces essentially no heat. Best of all it runs on batteries, meaning you can wear it or use it on your bicycle. We make signs with it and, of course, some wild costumes. Live Wire has been used to great effect in the night parades at Burning Man; I still have vivid memories of an animated neon kangaroo (mounted on the side of a bike) galloping across the desert. It comes in various lengths from .5 m to 10 m (you can't cut it) and in eight colors. You can also make it strobe. The makers call it the world's most flexible light. It is very cool stuff.*

—KK

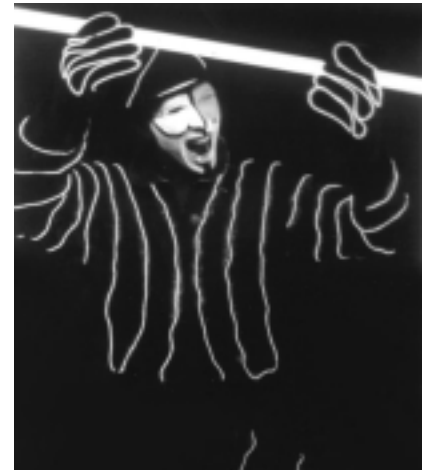
### Live Wire Pak

Contains 20 feet of wire, belt clip, strobe controller, DC jack.

\$70  
From Edmund Scientifics  
800-728-6999  
www.scientificsonline.com

Live Wire  
718-544-4400  
www.livewireent.com

Spectacles by Live Wire



Costume by Ted E.

Light sculpture below by Anita Thatcher.



The completed high performance crystal set with IN34A diode installed in detector clips for testing operation.

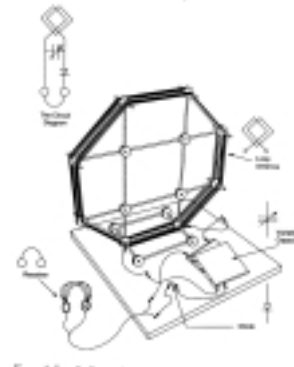


Diagram for low-budget xtal set using foil-lined paper protectors.