

# The Voice of the Crystal: How to Build Working Radio Receiver Components Entirely from Scratch // 1999 // The author, 1999 // 9780967190501

How To Build Working Radio Receiver Components Entirely from Scratch. Softcover, 185 pages, 120 photos. The Voice of the Crystal by H.P. Friedrichs: How To Build Working Radio Receiver Components Entirely from Scratch. " I confess when I first saw the book and read the subtitle, I surmised that this book might be too much of a "niche item," something only for subspecialists of a dying art. But this book is broadly educational in a way I never expected. Whether or not you plan to build your own crystal set, this book is a delightful read. Frankly, I couldn't put it down. To many, crystal radio construction means purchasing electronic components. However, the very best tinkerers can build their own! Very good crystal receivers make use of LC circuits with an unloaded Q above 1000. A high Q also gives a selective receiver. Increasing coil induction The impedance of the LC circuit can also be increased by increasing the coil induction ( $\frac{1}{4}H$  value). These values can then be taken over in calculator 2. Then you can self change in calculator 2 all parameters of the detector circuit (all yellow fields), and calculate the effect of this on sensitivity and loaded Q. Calculator 1: calculate components for maximum sensitivity at weak signals. Frequency  $f =$  kHz. In Voice of the Crystal Pete set himself the goal of building a crystal radio entirely from scratch, using technology available in the golden age of these radios, 1920. Now, I did build a crystal radio over 50 years ago, but that was using a supplied earphone, diode, and Quaker Oats oatmeal box for the coil. Pete writes about making his own headphones from shoeshine polish cans. He explains the basics of how each component in a crystal radio works. For EEs this is pretty elementary stuff, but I imagine a motivated hobbyist could glean a lot of basic electronics from it. I also read Pete's Instruments of Amplification, which, as the name suggests, is all about using active elements. This book starts with a study of amplification, which dates to pre-vacuum tube systems.