

History of Hearing Aids Mid 1940's thru 1960's

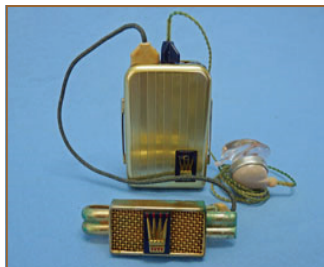
By Sue Sherman

In the late 1940s, manufacturers combined vacuum tubes with two innovations from World War II - printed circuit boards and button batteries-to produce more compact and reliable models. Batteries, amplifier, and microphone were combined in a single unit that could fit in a person's shirt pocket or even hidden in a woman's hairdo.



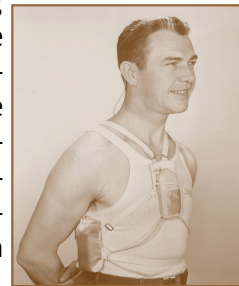
The Acousticon A-200 (Barrette) hearing aid required both barrettes to contain all the electronic components and batteries.

The Acousticon 180 tie clasp hearing aid attached to a tie and the transistor was in pocket. They ran the wire inside their shirt.



But the devices were not invisible, despite users' attempts to camouflage them by hiding the microphones in their hair or using them as tie clasps, brooches, and the like. The hearing-impaired wanted a true one-piece unit that could be worn at the ear, but, of course, this was impossible even with the smallest subminiature vacuum tubes.

A solution came in 1948 with the invention of the transistor by Bell Telephone Laboratories. Krim recognized its potential, and by 1952 Raytheon was manufacturing and selling junction transistors (under license from Bell Labs) to hearing-aid companies. More than 200,000 transistorized hearing aids were sold in 1953 by companies such as Beltone, Sonotone, and Zenith, eclipsing the sales of vacuum tube-based models.



In the late 1950s, Otariion Electronics, in Chicago, introduced the first hearing aid worn entirely at the ear-the Otariion Listener. The company did this by putting the electronics in the temple pieces of a pair of eyeglasses. Lee De Forest, himself, by then 84 years old and hard of hearing, appeared in ads in 1957 endorsing the product, saying, "It overcomes all of the objections I previously had to wearing a hearing aid."



Other manufacturers, such as Beltone and Sonotone, introduced their own versions, and by 1959 "hearing glasses" had captured about half the market. The glasses were even worn by people with perfect eyesight.

In the 1960s, hearing glasses gave way to the smaller hearing aids familiar today. In 1964, Zenith Radio, a longtime hearing-aid manufacturer in Chicago*, sold a behind-the-ear model using an integrated circuit amplifier and a 1.2-volt button battery.



It weighed just 7 grams, and Zenith claimed it was 500 times more reliable than hearing aids built with discrete transistors. The microphone, placed inside the ear, was connected by a wire to the amplifier and battery unit, which was clipped to the ear.

In-the-ear (ITE) and in the canal (ITC) hearing aids were introduced in the late 1950s and early 1960s and even smaller completely-in-the-canal (CIC) hearing aids entered the market in the 1980s and 1990s. These models provided more opportunity for concealment with acoustic benefit for many users.

