

Radioear— Fiftieth Anniversary Year

HEARING INSTRUMENTS congratulates
Radioear on 50 successful years.
The following article was prepared by the
Radioear staff



A HARDCOURT BRACE JOVANOVIICH PUBLICATION

HEARING INSTRUMENTS

JUNE 1974

Radioear— Fiftieth Anniversary Year

HEARING INSTRUMENTS congratulates Radioear on 50 successful years. The following article was prepared by the Radioear staff especially for this issue

■ On June 25, 1974 and throughout the year, Radioear Corp. is celebrating its 50th Anniversary. The company was founded in 1924 by Edward A. Myers, affectionately known as "E. A." by his associates. Myers began his career in 1896 as an attorney in Indiana and had become an exceptionally able trial lawyer when he developed a serious bilateral sensori-neural hearing impairment shortly after the turn of the century.

At that time, hearing aids were not adequate for courtroom work so he entered and successfully pursued another field, that of engine manufacturing, including the manufacture of the "Great Western" automobile.

Coming to Pittsburgh in 1912, he continued in various phases of the engine and automobile business. As a resident of Pittsburgh, "E. A." was exposed to the first broadcasting in the world from radio station KDKA. The problem was that with a 75 or 80 dB hearing loss, he couldn't hear a thing on a "crystal" set. "E. A.'s" desire to hear radio increased immensely when it became known that the Democratic National Convention was to be broadcast in 1924. Through a former associate in the engine business, he was introduced to George F. Harrington, then an electrical development engineer for Westinghouse. In cooperation with Harrington, a vacuum tube operated radio set was constructed—in a cabinet almost six feet long! It was powered by a car automobile type "A" battery and three very large "B" batteries providing a total of 135 volts, and had provision for high amplification.

When June 25, 1924 arrived, the radio set was brought to the living room of the Myers' home in Pittsburgh. With his family and Harrington present, "E. A." put on a pair of large headphones connected to the set, and made the necessary adjustments. Miraculously, he heard radio for the first time and heard it well.

The concept of Radioear was born and tried that same day. "E. A." reasoned that if he heard distant voices so clearly and easily on this device, why couldn't he hear voices originating in the room as well or better? That same night, the first preliminary experiments were made. By using the magnetic "horn" loudspeaker of the radio set as a makeshift magnetic microphone feeding into the audio amplifier, he and George Harrington were soon talking easily with one another through the specially constructed radio.

Many months of painstaking experimentation followed before a suitable circuit and a moving-coil dynamic mi-

crophone were developed. Success did come and a 185 pound cabinet model hearing aid was turned on in Myers' office on September 15, 1924. Appropriately, he called it "Radioear."

Word of this first Radioear spread rapidly. Its performance contrasted strongly with that of "carbon" hearing aids then available because it had much wider frequency range, freedom from carbon "hiss" and excellent amplitude linearity. Orders for duplicate devices started to appear and Myers decided to go into the hearing aid business.

Prior to the decision to start manufacturing hearing instruments, E. J. Myers became actively involved and worked closely with his father in the new venture. Later E. J. became the chief executive officer for Radioear and remained in this capacity until his retirement in 1970. He also was very active in industry activities. Shortly after its founding in 1943 and again in 1954, he served as president of the American Hearing Aid Assn., the predecessor of the Hearing Aid Industry Conference.

The first production Radioears were made in a small second floor laboratory in Wilkinsburg, Pa., a suburb of Pittsburgh, with about 300 feet of floor space. In these early days of Radioear, the success of the products was due in no small part to the mechanical genius of Alfred E. Pelz, a highly skilled experimental mechanic whose philosophy was that every part could be made right and had to be made right. He later became production superintendent and remained in that capacity until his retirement.

In 1926, the company moved to larger quarters at 3400 Forbes Street, Pittsburgh, and was producing hearing aids for both individuals and for schools, particularly schools for the deaf. "E. A." became a strong exponent for the acoustic method for teaching and for the development of speech and hearing of children attending schools for the deaf. Both he and E. J. did considerable traveling to give lectures and demonstrations on the subject of auditory training of the residual hearing of children. At one time, over 500 hard-of-hearing pupils of private and public schools received daily training on Radioear group-teaching sets.

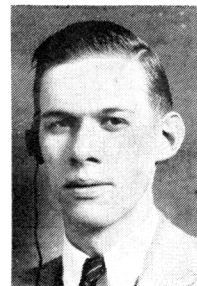
George L. Haller joined Radioear as chief engineer in 1929, shortly after the untimely death of George Harrington. In the next few years, development of teaching sets was actively pursued and units for large groups were manufactured. Also, in addition to speech audiometers, which were a feature of every teaching

set, a large pure-tone and speech audiometer was developed and built for the Mayo Clinic (1931).

In early 1929, Sam Lybarger joined Radioear on a part-time basis as a laboratory assistant and became a full-time employee in June of 1930 after graduating from Carnegie-Mellon University. He continued to work full-time for Radioear some 44½ years until his retirement at the end of 1973. He now continues as an acoustic consultant for the company.

By 1930, the company was outgrowing its facilities at 3400 Forbes Street, in spite of the fact that a large basement room had been rented for an acoustics laboratory. In December 1930, the whole operation was moved into a brand new building in Mt. Lebanon, a suburb south of Pittsburgh. There was adequate room for offices, laboratory, manufacturing and storage (including a built-in dumbwaiter so that the large teaching sets could be moved from the manufacturing floor to the laboratory for testing). Radioear's first walk-in sound room was also completed at this location in 1931, not totally anechoic, but surprisingly good for free-field measurements.

In 1930, with the depression having hit sales of large teaching sets rather severely, Radioear entered the wearable hearing aid field. At that time, the only wearable aids were "carbon" aids. The simplest form was one or two microphones using carbon diaphragms about



E. A. Myers
L. M. Myers

E. J. Myers
S. F. Lybarger, 1930

2½ inches in diameter, with small carbon spheres making contact between the diaphragm and pockets in a carbon "backplate". A battery and a miniature magnetic telephone receiver completed the system. The gain of such devices was perhaps 25 dB and the frequency range typically 300 to 2800 Hz. To get more gain a booster or intensifier was used. These were carbon amplifiers capable of adding 10 or 20 dB to the system gain.

About 1934, Radioear introduced a new concept in distribution, the "Laboratory made-to-order" hearing aid. This was accomplished by a device called a Selex-A-Phone, which permitted switching in various microphones, amplifiers and receivers to determine optimum



Radioear teaching set in classroom at Western Pennsylvania School for the Deaf. (1927)

hearing combinations and then supplying a hearing aid calibrated to the same response as determined by the Selex-A-Phone.

Refinements in the design and manufacture of carbon hearing aids—including the development of several bone conduction aids, continued until 1939, by which time miniature hearing aid type vacuum tubes, along with crystal microphones, became available. The combination of crystal microphones, vacuum-tube amplifier (requiring both A and B batteries) and either crystal or magnetic receivers, was extremely effective and met a high degree of success in solving problems of the hard-of-hearing.

In 1942, in the course of developing a new vacuum-tube model, the idea of building an aid in units which could be easily and separately serviced appeared feasible and this idea was incorporated into the Model 45 Radioear.

Shortly after the beginning of World War II, L. M. Myers, the eldest son of E. A. Myers, who had previously been in the automotive field, joined Radioear. L. M. concentrated in marketing and accounting areas and served as president of the company for many years prior to his retirement late in 1970. L. M., working closely with Dick Tatum, played a large role in the successful expansion of the Radioear dealer organization.

In 1946, due to the relatively high rate of failure of crystal microphones, a type of microphone new to the hearing aid industry, the magnetic microphone, was introduced by Radioear. (Incidentally, it was directional). This magnetic microphone was first used with vacuum tube amplifiers; later the magnetic type became standard for transistor amplifiers. Also, the first magnetic microphone hearing aid mentioned above included the first built-in telephone pickup coil system known to have been manufactured.

With the advent of the transistor late in 1952, the hearing aid industry made tremendous technological progress and Radioear is proud to have made substantial contributions in transistor hearing aid development. A vigorous research and development program continues.

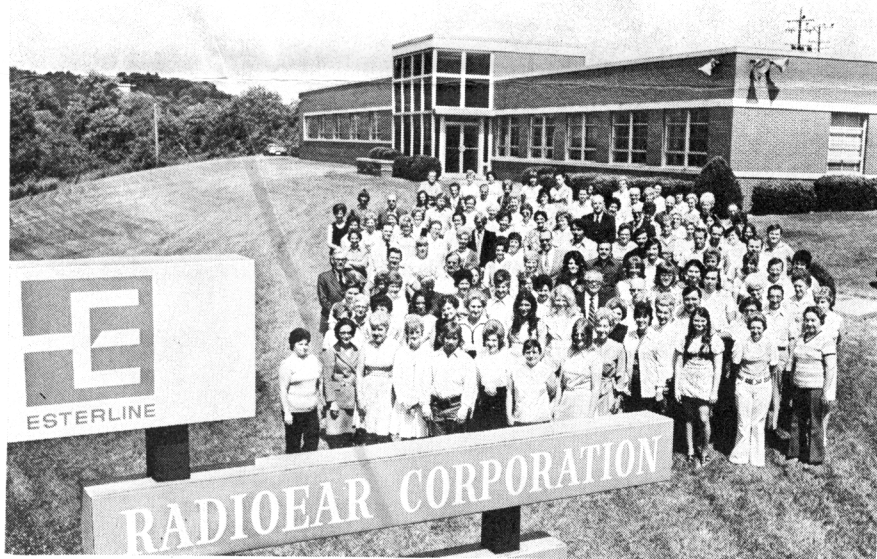
Today, Radioear Corp. is located in Peters Township, Washington County, Pa., near Canonsburg. All its facilities are in a plant that was built in 1956. It is now a division of Esterline Corp.

Space does not permit mentioning all those who are currently contributing to Radioear's progress or who have made important contributions in the past that have advanced greatly Radioear's ability to serve the hard-of-hearing. It is interesting to note, however, that approximately 40 percent of its employees have been with the company for more than ten years and almost 60 percent for more than five years.

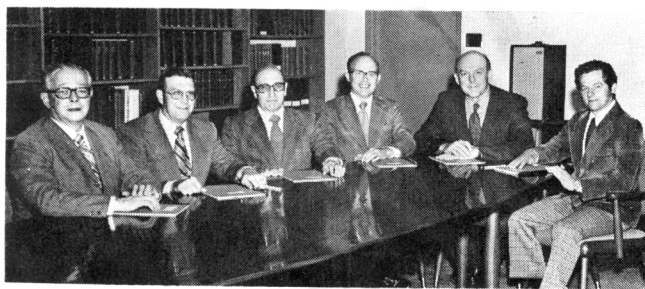
Radioear executives attribute a most important part of the success of the company to its dealer group consisting of approximately 250 dealers. Over 50 percent of these dealers have been associated with the company more than ten years.

At this important point in Radioear's history, the company is starting the next 50 years with sound, long range planning. In 1974 three new hearing aids will be introduced and a new line of bone vibrators was recently put on the market. The company will make major expenditures for instrumentation that will be added to the quality control department and service section of the company. It is expanding the export of hearing aids with representatives already established in Europe and Australia with more distributorships being developed throughout the world.

Hugh C. Cameron, present president of Radioear states "We are moving ahead with the same sound philosophies regarding products and practices that have made Radioear's first 50 years ones of accomplishment and growth." ■



Present Radioear Plant near Canonsburg, Pa., and employees.



Present Radioear management, Left to right, R. M. Tatum, vice president marketing; R. W. Meredith, controller; R. K. Taylor, vice president of manufacturing; W. F. Balmer, vice president of engineering; H. C. Cameron, president; and H. R. Holsopple, purchasing manager.



E. A. Myers with original type Radioear. (About 1926) Extreme left E. J. Myers. Extreme right L. M. Myers.

RADIOEAR...

50 years a maker of fine hearing aids

INTRODUCES THE MODEL 1050

The Most Powerful Behind-the-Ear Hearing Aid Ever Introduced by Radioear!

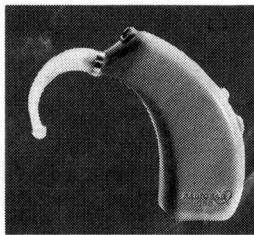
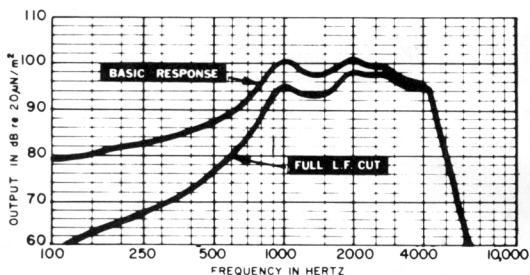
The powerful Model 1050 is specifically designed to help those with moderate and severe hearing losses. The Radioear Model 1050 has a wide range of important features:



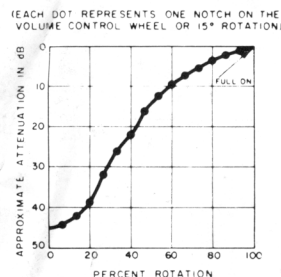
- **More Gain.** The new 1050 has more gain than any other Radioear head-worn hearing aid.
- **Adjustable Power.** A simple screw switch will cut the saturation power by 6 dB.
- **Tone Setting.** 10 dB low frequency cut at 500 Hz.
- **Forward Facing Electret Microphone.**
- **Compact.** Powerful, light weight Radioear tri-taper case fits comfortably.
- **Excellent Telephone Pickup.** Radioear's famous Phonemaster®. Wearer can hold the telephone in a normal position.
- **Integrated Circuit Amplifier.**

The Radioear 1050 could be the most effective answer to your client's hearing problem. Write for free engineering bulletin.

M-1050 RESPONSE CURVES



MODEL 1050
TYPICAL VOLUME CONTROL TAPER



RADIOEAR®

A UNIT OF ESTERLINE CORPORATION

Radioear Corporation
375 Valley Brook Road
Canonsburg, Pa. 15317