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## History of Innovation

### First Commercial Transistor Radio

#### TI Supplying Transistors for First "Pocket Size" Radio

TI's part in the production of the first commercial transistorized radio receiver will be announced beginning today in newspapers throughout the country.

The "pocket size" radio has four TI transistors. It also uses a TI subminiature output transformer.

The transistors - technically known as n-p-n grown junction germanium triodes - are made in the Semiconductor Products Division. The transformer is a product of the Components Division.

Their application to the new radio receiver accounts for a large part of the increased production and employment in the two divisions in recent weeks. The Apparatus Division has also had a hand in the tiny radio, having worked on engineering problems and the machining and fabricating of models for the plastic case.

The receiver is being assembled and marketed by the Regency Division of Industrial Development Engineering Associates, Inc., Indianapolis. It will be available this week to the public through sales outlets in Los Angeles and New York City. When production permits, it will be sold in cities throughout the country. For competitive reasons it was decided to keep the development of the radio, including TI's part in it, "under wraps" until the unit was ready for marketing.

The radio receiver measures 5 x 3 x 1 1/4 inches - the smallest set commercially available - with the semiconductor devices themselves occupying less than 1/10 of a cubic inch. The "pocket size" is a significant achievement since it includes a high fidelity, high volume speaker and a single battery supply as well as all associated receiver circuit components.

Gain at radio frequency with the germanium transistor is sufficient to permit a combined mixer-oscillator stage. Only two intermediate frequency stages are required and, following a germanium diode detector, one audio amplifier stage. Audio volume fidelity and reception range are the equal of or superior to that of the small vacuum tube-equipped portable radios.

The introduction of this first mass production item to use the tiny transistor to replace the fragile vacuum tube leads the way for the long-predicted transistorization and miniaturization of many other mass production consumer devices. TIers can justly be proud of being the first to produce a high-gain transistor at a cost permitting its application to the high-volume commercial market.


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