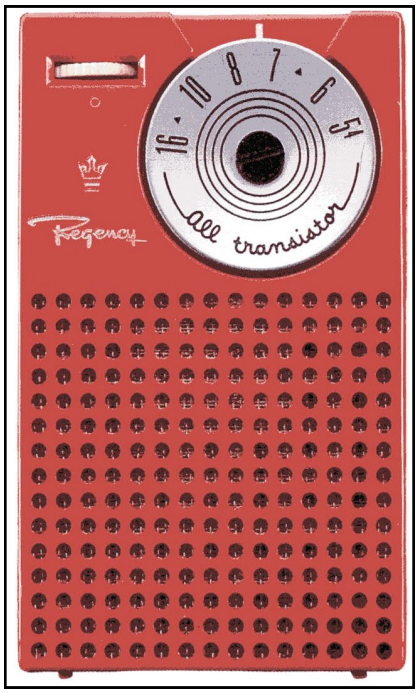
National Capital Radio & Television Museum

Artifact of the Week:

Regency TR-1



This week's artifact represents a radio milestone—the first transistor radio offered to American consumers!

The transistor had been invented at AT&T's Bell Laboratories in the late 1940s. Texas Instruments was one of the first companies to negotiate a patent license agreement with AT&T to manufacture transistors. Early transistors were expensive and did not perform as well as vacuum tubes, but had the advantages of dramatically smaller size, weight, and power consumption, so an early application was in guided missiles and avionics equipment where these attributes were critically important.

While TI's transistor sales for military applications were strong, it envisioned growing its business by finding new civilian applications. A compact portable radio seemed like a logical contender. Large consumer electronics companies such as RCA, Philco, and Zenith were also experimenting with transistors, but at the time considered them still too expensive for consumer products, and at first, manufacturing yields were poor. Low-cost vacuum tube radios were selling *very* well, so why take a risk with a new technology?

In May 1954, TI general manager Pat Haggerty chose Paul Davis, one of the company's best engineers, to design an all-transistor AM radio that would perform well enough to be a potential consumer product. His team had a working prototype within a matter of days. Haggerty knew that the big companies were risk averse with regard to transistor radios, but he found the little I.D.E.A. Company of Indianapolis (brand name Regency) willing to give it a try. The two firms partnered and production of the TR-1 began in October, so the radios could be on store shelves in time for the Christmas selling season. Thousands were sold at the list price of $49.95 ($480 today). In spite of the high cost many stores sold out, and eventually about 100,000 TR-1s were made. The big electronics companies, embarrassed at having been scooped, had to rush to develop and market their own transistor models, which they quickly did. Transistor performance steadily improved, and, with mass production, prices dropped dramatically.

Measuring 3 by 5 by 1¼ inches, the TR-1 was sometimes called a "pocket radio." While it might barely slip into a large overcoat pocket, it was too large for a typical shirt pocket. But it was very compact and lightweight (12 ounces) compared to tube portables. A big plus was that the batteries in a TR-1 lasted *much* longer than those in a vacuum tube portable. At a time when Rock 'n Roll music was on the rise every teenager wanted a transistor radio. Listening to Elvis Presley on your lightweight transistor radio anywhere you were was cool! It was not long before vacuum tube radios fell by the wayside, and the transistor revolution changed electronics forever.

We appreciate your support of the museum so that historical artifacts like this one, and the stories that go with them, can be preserved for future generations. THANKS!