CONSUMER REPORTS

BY ROBERT DAVIDSON

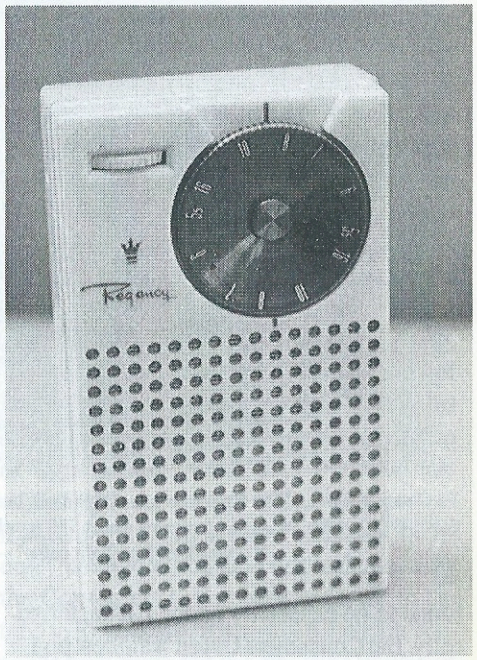
The transistor radios reviewed in consumer product magazines thirty or more years ago are now undergoing a second round of "reviews," this time at radio swap meets and in classified ads and over the phone. Yesterday's carry-around companions have returned as display pieces, and what initially had been marketed as a luxury item has become once again a luxury item — the sets are the same but their usage has changed.

When transistor radios were just products, the true reviewers of the day were their manufacturers and advertisers and the millions of people who purchased the sets. *Consumer Reports* and similar publications had a lot to say about these radios, but judging by how readily the sets sold, the product reviewers didn't appear to have all that much say over the market itself. And while *Consumer Reports* found little good news on transistor sets in the first few years in which it reviewed them, the viewpoint was as much progressive as it was conservative: its editors and technicians held high hopes for the transistor's potential to change radios into products superior to the tube set status quo — their sour tone of voice came from finding so few early transistor sets which could even meet, let alone surpass, that status quo. To make matters worse, the transistor sets cost a lot more than better-performing tube portables, at least in initial purchase price.

A problem noted several times in these early reviews was that transistor radios really could not be expected to match either the performance or price value of tube portables until the transistors which they employed had evolved quite a bit further. With transistors in the mid-fifties on a state-of-the-art par of tubes from decades earlier, semiconductor design and transistor production control both needed considerable refinement before radios which used transistors in their circuits could become truly beneficial to consumers. Size and weight reductions in chassis and cabinet — however marvelous — really didn't improve a radio if the radio didn't play well. The one positive note on early transistor sets was what was then seen as an amazingly long battery life, something which the reviewers believed important for a portable radio but not at the expense of reception quality.

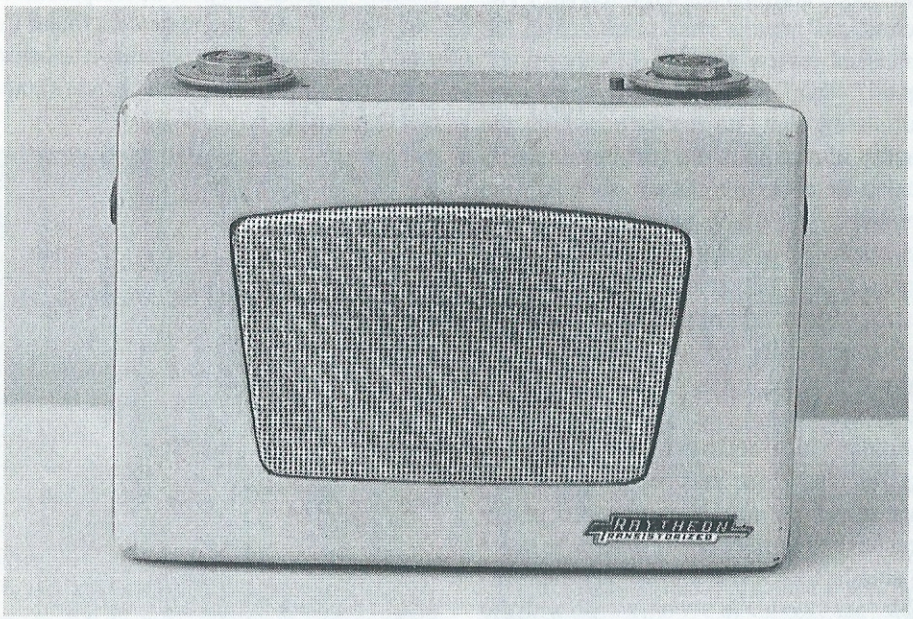
Such cautions and criticisms obviously didn't begin with the advent of transistor radios. Technicians at the Consumers Union had been testing radios for nearly twenty years by the time they began looking at transistor sets. By 1955 almost five hundred radio models had gone from the Union's test bench into its monthly *Reports*, including over 140 portables, and standards for price value and performance were well established by then. Tube and transistor sets alike were tested both for their circuit characteristics and for their utility and performance. Standard tests for sensitivity, selectivity, image rejection and AVC were done inside a Faraday cage called "the screen room," its copper-screened walls and ceiling shielding the radio under test from all RF signals but those generated within the room. (Generally several examples were tested for each model reviewed, the sets having been purchased off-the-shelf by anonymous Consumers Union "buyers" in major cities across the country and then sent to the test lab.) The technicians' results were translated in the published review simply as "very good," "good," "fair," or "poor" for each category. But stating that "no matter how high the quality of a radio in electrical characteristics, it is no better than it sounds," the reviewers placed their heaviest emphasis on the results of jury tests for audio quality. This was especially true for the portable sets tested, whether tube or transistor. For these, both tone quality and speech intelligibility were evaluated (under "blindfold" conditions), with speech intelligibility considered the more critical of the two since the reviewers felt that these sets would often find themselves put to use on crowded, noisy beaches and in other public spaces. In order to simulate such conditions, jury and portables sat together in a room awash with the recorded sounds of a day at the beach while the Consumers Union test transmitter broadcast recorded news programs to the sets themselves. (No mention is made of how the jury members dressed for these exercises.)

When Regency's TR-1 came under review in April '55, neither jury nor technicians could find anything good to say about it. Selectivity was "poor," sensitivity was worse than that of any tube portable recently tested, and for audio performance, "The signal hissed even on strong stations and tended to whistle and squeal at several spots on the dial. At low volume the sound was thin, tinny and high-pitched and at higher volume the distortion increased." Cabinet design also was faulted: The tuning dial was found awkward to work and the volume control lacked a detent for its "off" position, making it easy to leave the radio inadvertently turned on at low volume and run down the battery. (This is something Regency apparently corrected in later production runs.) Acknowledging that the transistor device itself was "one of the electronic wonderworks of the mid-century and carries the promise of great and new developments in communications," the reviewers found the world's first radio incorporating transistors to be "a toy-like novelty" which didn't come at a toy-like price.



Regency TR-1, $49.95. "The consumer who has been waiting for transistor radios to appear would do well to await further developments before buying."
— *Consumer Reports*, April 1955

IEEE *Spectrum*'s article on the development of the TR-1, "The Secret Six-Month Project," relates how Raytheon's engineers regarded their own first transistor set, the 8-TP-1, as being the first "serious" transistor radio. The July '55 *Consumer Reports* review of that radio gave a similar assessment: "The transistors in this set have not been used in an effort to build the smallest radio on the market, and good performance has not been sacrificed to attain this end." The 8-TP-1 was ranked high in nearly all categories, "falling down only in sensitivity." Audio quality matched or exceeded that of many of the tube portables covered in the same review, with speech intelligibility



Raytheon 8-TP-1. "The Raytheon has a high initial cost (about $80 compared to $50 for the [tube] RCA Victor 6-BX-63), but the RCA will consume about $38 worth of batteries by the time the Raytheon has used up its 60¢ worth of flashlight cells." — *Consumer Reports*, July 1955

found to be especially good. Characteristically, the Consumers Union's highest praise came for the Raytheon's battery economy. Operating at about 1/6¢ per hour, it was many times more efficient than any other portable available. Regency's TR-1 by comparison cost about forty times as much in battery usage, and one Arvin tube set reviewed ate its batteries at a rate of 22¢ per hour -- more than a hundred times that of the 8-TP-1. Over the following year the Consumers Union's technicians would find that most new transistor sets approached the 8-TP-1's battery economy and that the Raytheon really was more unique in being a good performing radio which also happened to be a transistor radio.

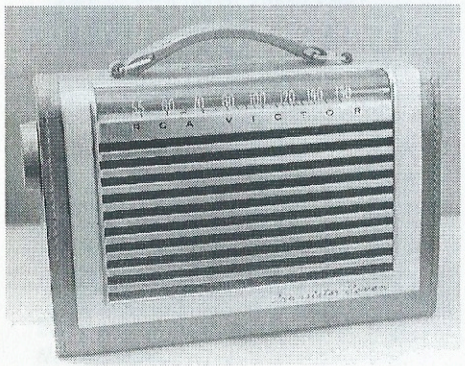
About a year after reviewing the TR-1, *Consumer Reports* published its first full-length survey devoted solely to transistor sets. Well, almost — the May '56 review did include one hybrid radio among the twelve models tested, the Crosley JM-8 book radio (performance: "only mediocre"), but the shift toward transistor sets was by then very visible. With a three or four-month time lag between date of testing and date of publication, all models covered were ones which had been manufactured and marketed the previous year; by the time the May '56 issue reached its readers this transistor trend had grown even stronger.

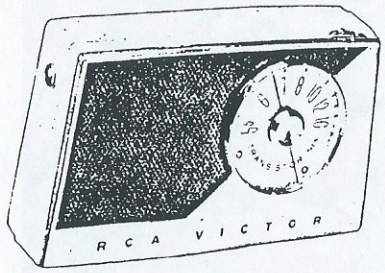
Collectors may find it ironic that, according to the Consumers Union, 1955 wasn't a good year for transistor radios. RCA's 7-BT-9J, DeWald's "Catalin" K-701, Raytheon's T-100 and the Mitchell 1100 series were all found to miss the mark. The hybrid Crosley's one redeeming quality for the reviewers was that it "may appeal to those who would rather be seen carrying a book." Only one of the twelve models was judged to be a good radio, the handbag-sized RCA 7-BT-10K. Zenith's Royal 500 was considered by far the best of the pocket radios tested, but "Compared with the larger

RCA Victor 7-BT-10K, the best of [the pocket sets] is poor." And when evaluated not as *transistor* radios, but simply as radios, none of the twelve came off favorably.

No radio in this group retailed for less than $50: measured against the Consumer Price Index, the equivalent in today's dollars would be around $250. (My parents' monthly mortgage payment on their "starter home" that year was $75, the price of a Zenith 500.) Raytheon's T-2500 went for $89.95. Whatever their performance, good or poor, all radios here were by price luxury items, and it's not surprising that *Consumer Reports* expected more out of them. Acknowledging that even though the sets tested were not very good performers, the reviewers did note that they felt transistor radios as a group had improved substantially in the thirteen months since they first had tested the Regency TR-1, and that the radios could further improve in performance as the transistor device itself improved in design and production methods. But for the time being the transistor was seen as still too new to allow radio manufacturers to make high-quality affordable transistor radios.

This complaint didn't stand long: two years later (July '58) the Consumers Union published its first review of portable radios in which transistor sets were judged on the whole to be better performers than their tube radio counterparts. The reviewers had at last got their wish for some decent transistor radios and could understandably have assumed that the transistor radio had finally found its form. And while various good-performing transistor sets did continue to be marketed over the following few years, new market factors quickly made these sets little more than exceptions to the rule. Their share in the market shrank each year as the market itself wildly expanded through sales of inexpensive Japanese shirtpocket sets and then broadened to include Hong Kong, Taiwan and points beyond. The true era of the transistor radio, as measured in millions of sets purchased, began with the packaging of light weight, small size and low cost capturing more dollars than would performance quality. Such a turn of events, obviously neither anticipated nor welcomed by the Consumers Union, reached back to establish Regency's first — not Raytheon's — as the prototype for the standard transistor radio.





RCA's first transistor sets: Like the Raytheon 8-TP-1, the tube-set-size 7-BT-10K (*left*) came fairly close to meeting the Consumers Union's expectations for transistor radios, at least in terms of performance. The 7-BT-9J (*right*) didn't. Today, this smaller set is considerably more desirable among collectors than is the 7-BT-10K.