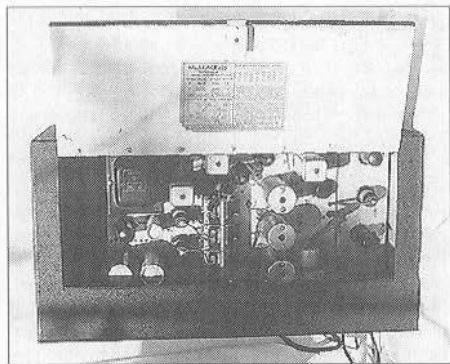
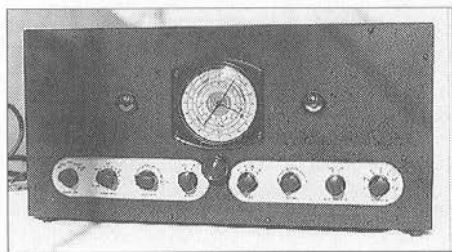


A TRIP DOWN MEMORY LANE WITH RCA's ACR-175 RECEIVER

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In the years prior to World War II the RCA Manufacturing Co. plant at Camden, NJ, comprised many groups or sections. Each was devoted to the design, production, and marketing of the electronic equipment covering the electronics business in its area of specialty.

Today these groups might more rightly be called divisions. Their products were diverse, and included broadcast transmitters, sound Vitaphones and projectors, aviation and mobile radio, parts, test equipment, home and auto receivers, military equipment, and just about every other type of electronic gear.

During this time, radio amateurs were not overlooked. In the 1930s the radio amateur section provided new equipment designs on a yearly basis, with the latest available tubes and circuits going into each design. By 1936 the stream of radio designs from this section produced a modern set which became a prototype for receiver design until the advent of dual conversion and single sideband. The set was of conventional superhet design, with one RF and two IF stages and a crystal filter for added selectivity. Its designation: the ACR-175 (The letters in the designation stood for "Amateur Communications Receiver.")

To insure pin-point tuning in this set, a 4"-diameter "airplane" dial was used—equipped with a two-speed gear arrangement which gave tuning ratios of 40:1 and 100:1. A pair of tuning knobs on concentric shafts enabled these ratios. The frequency range of the ACR-175 is a "stretched" band of 500 kHz to 60 MHz. As older amateurs will remember, the 60-MHz limit permitted direct operation to the top of the old five-meter band.

This receiver was a design far ahead of its time, since it also provided the function of a "selective voltmeter," enabling a rough visual measurement of signal strength by calibrated control. This was pro-

The severity of the ACR-175's businesslike front panel (above left) is broken only by the elegant 2-speed tuning dial with its bold RCA logo. Above, a peek through the top access door of the radio's black-wrinkle-finished cabinet.

vided by a "magic eye" tube and an RF gain control calibrated in μV . To take a measurement, the user advanced the RF control until the eye just started to close, then read the calibrated scale on the RF control, a clever touch in 1936 and a different approach to an "S" meter.

The ACR-175 used the RCA metal-type tubes that had been introduced in 1935. A 6K7 provided RF amplification, feeding a 6L7 first mixer with 6J7 oscillator. Two 6K7s are used in the IF stage, then a 6H6 second detector. The audio lineup is a 6F5 and 6F6 output, while a 6J7 serves as CW beat-oscillator. A 5Z4 rectifier provides DC power.

The photos show the author's restored ACR-175 in its heavy black wrinkle case. "On-the-air" evaluation of the receiver provides an indication of the quality detail built into these older sets. The frequency calibration is superior to that of many receivers from the 1946-52 era that I have restored, while the overall sensitivity and selectivity rate a "9.8" in comparison to many competitors' "9.5." All in all, a superior performer wrapped in yesterday's sheet metal, and preserved for tomorrow!