

Tube of the Month

RK-20

In late 1925, a small company called the American Appliance Co. began marketing a cold cathode rectifier called the type "B". They also used the brand name "Raytheon" on the tube. Raytheon sounded better than American Appliance, so the next month they changed the company name to Raytheon. During the winter of 1932-33, a group of hams at Raytheon started getting ideas to produce transmitting tubes for the ham market. More interesting and fun than rectifiers.

The technical staff at ARRL headquarters made several suggestions including the need for a tube that would operate at high frequency, require little drive and could be screen modulated. This was the Depression and money was tight. A tube that would put out good power as an amplifier or oscillator would simplify the transmitter circuitry as would screen modulation. Plate modulation was expensive. My father was using link modulation and burning his lips on the hot microphone.

A relatively inexpensive pentode was developed in 1934 called the RK-20. It was rated at 40 watts dissipation and could be used at full power to 30 MHz. The new tube was a big success and RCA seemed to get jealous. They soon produced a tube that looked like the RK-20 and called it the 804. The 804 never seemed to catch on as it was only good to 15 MHz and everyone wanted to operate on 10 Meters. RCA eventually made the 814 that took market share away from Raytheon especially when the military gave it the VT-154 number. It's handy for RCA when your company's president is an Army general.

Not wanting to miss a chance to capitalize on RCA's marketing, Raytheon started marking some of their RK-20s as 804s. RCA had made their 804 to look like the 20, so they copied the copier. Later Raytheon RK-20As were marked RK-20A/804.

Raytheon tubes were famous for being rugged. Extra supports were built into the element mounting presses. This example is the second variety where the classic wide cap was first incorporated. This variety also had arms with small insulators to the ends that were attached to the plate and limited vibration.

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R-20

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