

Meet The Tube

The elusive TYPE 50

RCA Cunningham Radiotron RADIO TUBES

RCA-50
POWER AMPLIFIER

50

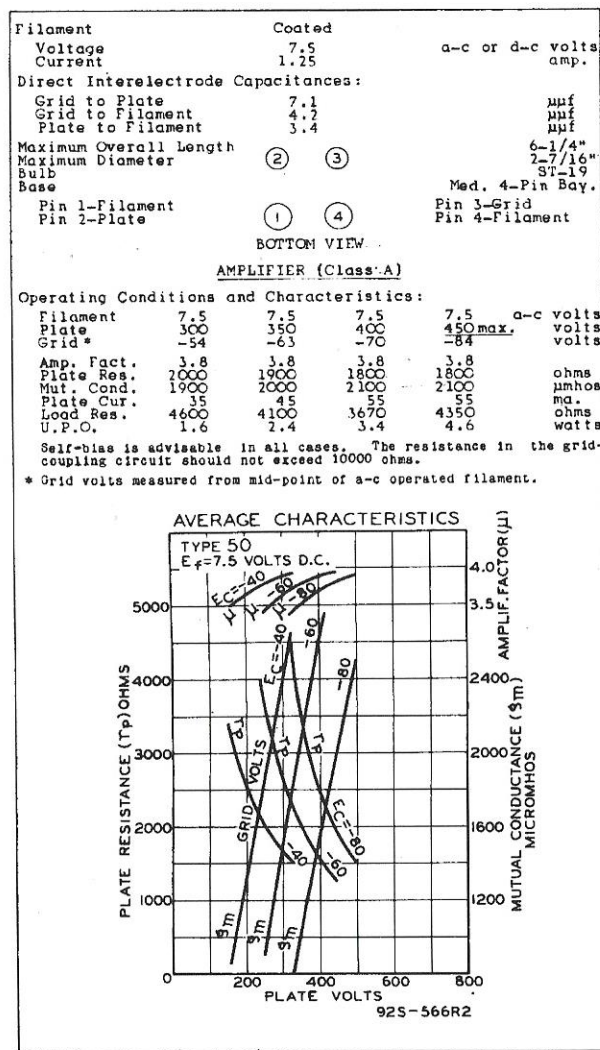
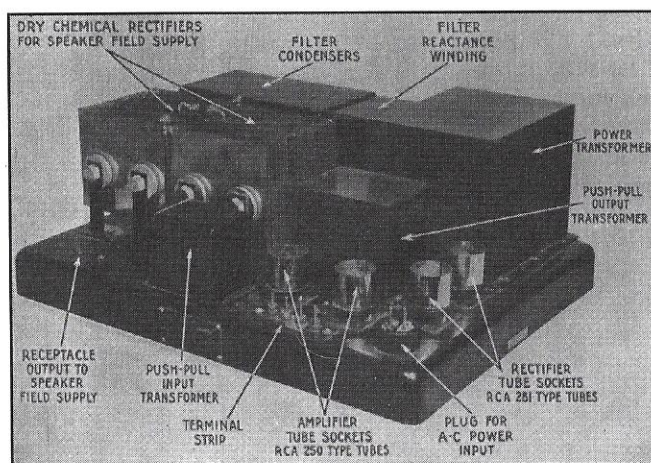
Until its purchase of Victor Talking machine factory in 1929, RCA was only a sales organization for General Electric and Westinghouse radio products made to its specifications. The two manufacturing companies could engineer and propose new designs, but RCA had final say on marketing any new tubes or equipment. Because of patent cross-licensing among GE, RCA, Westinghouse, and (for commercial use only, no sales to the general public) Western Electric, RCA had a virtual monopoly on tube designs. As a rule, the smaller independent tube manufacturers would only produce what RCA standardized. Most radio makers would use nothing else anyway.

During the late 1920s, more and more radios incorporated electrodynamic speakers in order to satisfy the public demand for boom-boom bass power. However, only one tube was suitable to drive these new speakers, the GE designed 10 which was limited to 1.5 watts output. The 10 used a thoriated tungsten filament as was common in tubes of the day.

Westinghouse engineers substituted a more efficient oxide cathode and managed to get 10 Watts from a tube of roughly the same dimensions and heater power. RCA began offering the 50 in early 1928.

The 50 enjoyed a short vogue until the advent of the 45 tube in 1929. A push pull pair of 45s would deliver the same power as a 50, enough for any radio in the average home, plus it required a far cheaper rectifier and filter system since it ran on 250 Volts instead of 450 and a smaller output transformer was required. In an internal company report in March 1929, GE engineers snickered at the 50 and distanced themselves from it. The 50 lingered in commercial service for a while but by 1930 it was gone from home radios. Not surprisingly then, 50s have never been easy to find - modern claims of wondrous performance are based on a scarcity of samples and abundance of wishful thinking.

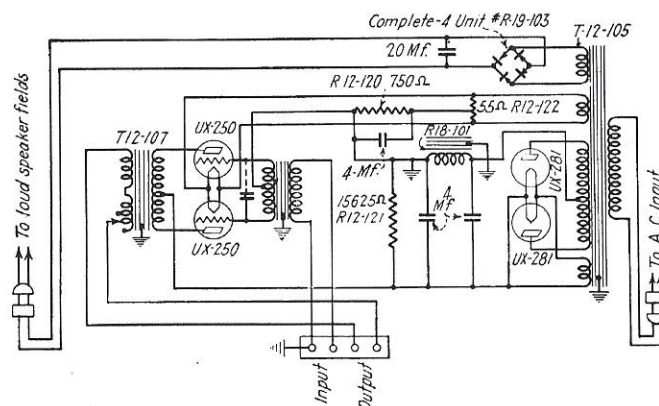
Alan Douglas



JULY 1, 1935

RCA RADIOTRON DIVISION
RCA MANUFACTURING COMPANY, INC.

DATA



RCA PK-1 Photophone theater amplifier from the early 1930s. The PK-1 features a step-up transformer at the input and one stage of push-pull amplification employing a pair of UX-250s