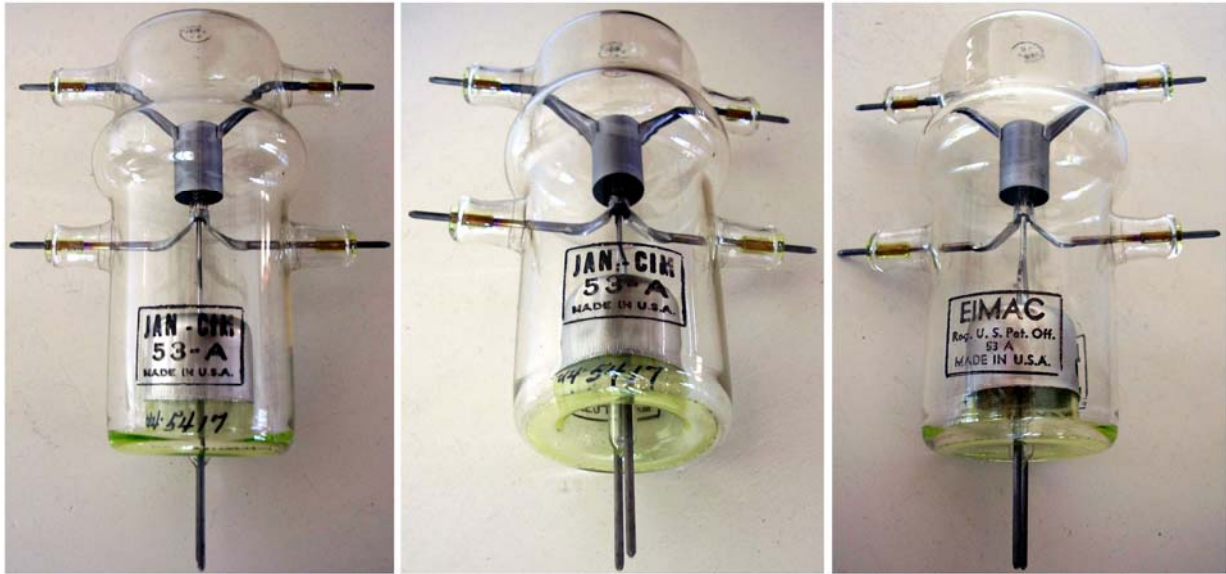


53-A EIMAC - VHF Power Triode



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This VHF transmitting triode looks to be a little brother of other EIMAC tubes with similar shape, [227](#), [227A](#), [327A](#) and [VT-127A](#), all used in ring oscillators in the transmitter section of early VHF radar sets. Even if built in volume, today all these tubes can be considered rare, since at the end of the war large quantities were scrapped to reclaim grid platinum wire, sometimes used to prevent emission when grid was heavily driven positive during pulses. Very few can be found today on this tube, probably due to the fast evolution up to the complete obsolescence of VHF airborne radar sets during the early years of war, until they were replaced by microwave sets. We know that the first airborne sets introduced in America after the Tizard Mission were the British ASV Mark II, also manufactured by Philco Corporation and By Canadian REL, and AI Mark IV, this latter also manufactured by Western Electric and known as SCR-540. Other sets, designed in America to special requirements, gradually entered in service in those years.

EIMAC 53-A was probably designed to be used in the transmitter section of the US Navy ASB airborne radar, installed on the late 1942 production of Grumman TBF-1 Avenger aircraft. From 1943 ASB was replaced by the microwave version ASD in the TBF-1D, mainly intended for antisubmarine warfare. Performances of ASB were quite moderate, being capable of intercept ship-size targets at few miles. Not known whether the transmitter used just a couple of triodes in a push-pull circuit or four tubes in a ring oscillator, as in other more powerful sets.

53-A uses an electrode structure probably derived from that of [35T](#). Infact it was rated for 35 W average plate dissipation. The close-up views below show the large emitter surface, obtained by the shiny helical-wound filament, and the squirrel-cage grid, in the images quite spaced vertical black wires all around the filament and reinforced by a long pitched helix. The tube could be operated at 15 kV peak plate voltage, with 15 A peak emission.



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