

Tube Of The Month

VT-158

Early high power RADARs during WWII were relatively low frequency. Ring oscillators were made using several specially designed triodes and would work at about 200 MHz. This was very high frequency for the early 1940s. These units were very large and not very portable. The need for more portable RADAR units for the Army had the research department at Fort Monmouth, NJ dedicated to the problem. Major Zahl developed the idea of building a single tube that would combine the power of multiple tubes in the same envelope. This was nothing new except for the size and the incorporation of tuned lines as part of the unit. Prototypes were made and tested and eventually the new tubes designated the VT-158 were produced by Eimac, Machlett and H&K.

The early low frequency RADAR units were easily jammed by the enemy. There was a race on by both sides to get higher power at higher frequency that the other side couldn't jam. New equipment was quickly obsolete. The VT-158 operated at 600 MHz so was a big jump in frequency. By the time it was fielded in the AN/TPS-3 RADAR, new equipment was already making it obsolete. This unit had a pulsed output of 240 KW and was triggered by a rotary spark gap. The tube was mounted in a wooded box so the operator was getting cooked as well as shot at.

A push pull/parallel tube operating only at 600 MHz had no application in amateur radio after the war so they became very scarce. Today this odd tube is a must have for the glass tube collector and the source of many stories about the life and work of Major Zahl.

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