VT90 – Transmitting Micropup Triode

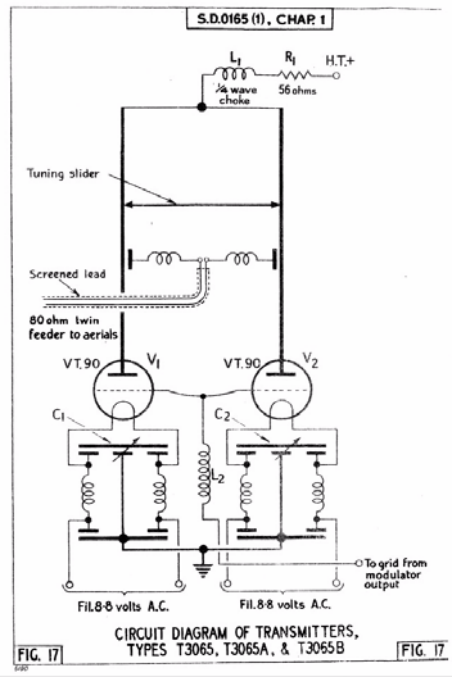
V.T.90 or VT90 was the early micropup power triode, designed to operate as pulsed oscillator at frequencies up to about 300 MHz. It was introduced in 1939 by GEC as E1046. Its design was innovative, based upon an external anode, a short copper tube surrounded by a brazed finned radiator. Two glass domes, sealed by Housekeeper process at both ends, supported respectively the cathode and the grid. The grid itself was of the 'parrot cage' type, formed by short molybdenum or tantalum wires welded all around a shallow dish, held in place by a rigid rod. Initially the cathode was a spiral wound thoriated-tungsten filament, later replaced by an indirect-heated oxide cathode in **NT99** and similar types.

Also coded as 10E/97, 10E/97B it was used in the early AI and ASV radar sets operating around 200 MHz. A couple used also in AN/ARQ-II airborne radar jammer. Since VHF sets were in use in several countries at least until the end of 1942, large quantities of VT90 were manufactured in US, Canada and in Australia with different codes, even with multiple marking. Exhibits include some American equivalents, as the **710A**, the **8011** and the REL **Type 1**. The last two photos above refer to a sample made by National Union, USA.

- **9 kV peak anode voltage**
- **100 W anode dissipation with forced-air cooling.**
- **8.25 V at 7.0 A filament.**
- **Useful in pulsed operation to above 300MHz.**

Approved as **CV46**, **CV62** or **CV1090**, depending upon the use and the specified screening tests.

VHF push-pull oscillator



- This sample, made by Northern Electric for Canadian REL, carries the codings REL #1, V.T.90 and 10E/97B.