

Tube Of The Month

Electron-Ray Indicator Tube

In 1932, Allen DuMont developed a small cathode ray tube that was inexpensive and could be used as a tuning or bridge balance indicator. The 6E5 of 1935 was the first production tube and this type was commonly used in AM radio receivers and as frequency netting indicators in military transmitters like the ARC-5 series.

The tubes were commonly called “magic eyes”, “cat eyes” and “tuning eyes”. The tubes were constructed with a “V” shaped fluorescent anode at the top. An electrode is placed near the central cathode so as to make a shadow on the anode. When increased voltage is applied to this control electrode, the shadow will appear to “wink” when the voltage is maximum. The AGC circuit can supply this voltage and will indicate when a received signal is on frequency. The tubes were still being used into the 1960s and later. My Heath-Kit Condenser Checker has one. To boost the control voltage, a triode was often constructed inside the envelope.

Visit the museum at <http://n6jv.com>.

