

CV35 – S-Band Reflex Klystron



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With its frequency variant CV 36, it was the result of a deep design review by EMI of the original ‘Sutton tube’ oscillator, the first reflex klystron ever made. Early production was delivered by November 1941. The geometry of the ‘[Sutton tube](#)’ was deeply revised, with much smaller diameter of the resonator interaction gap and a smaller reflector mounted very close to the resonator upper surface. The electron gun was simplified, with the focusing electrode operating at the cathode potential. Due to the new cavity gap geometry, this new design still required a quite high resonator voltage, 1 to 1.5 kV, but was more stable than the [NR89](#).

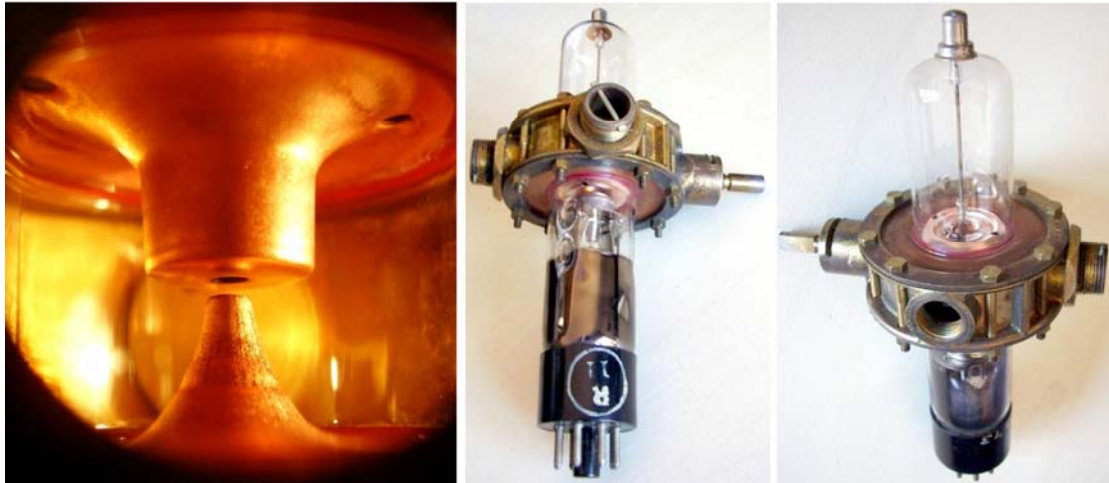
The collection includes some samples, including a very early one, presumably made in 1941, with bakelite top spacer.

CV35 was manufactured by EMI and, after initial assembly by the Radiophysics division of the Australian Council for Scientific Research, by Australian Standard Telephones Pty in New South Wales from 1942.

Factory installed external cavity; 2970 to 3095 MHz tuning. 100 mW minimum output power. Typical reflector voltage from –230 to –320 volts.

4 volts at 1.45 amps heater.

[CV35 spec sheet.](#)



- Left, close-up view of the modified interaction gap. Right, two photos of a sample from later productions, without top bakelite spacer. Click on image to enlarge.