

2K50 - K-Band Reflex Klystron



Even if this klystron was registered to Western Electric in December 1948, according to the RMA release record [723](#) its reservation had been made since December 1944. Indeed this device is fully described in the Volume 7 of the M.I.T. Radiation Laboratory Series, 'Klystrons and microwave triodes' published in 1946.

2K50 derived from a design performed by Neher at Radiation Lab and improved at the Bell Telephone Labs. as replacement for [2K33](#). The latter, basically a disc sealed bulb, was characterized by simple manufacture but operated at about 1800 volts. 2K50 required precision parts and complicated assembly procedures to give similar performances at as little as 300 volts. Another feature of 2K50 was the electronic tuning by electron bombardment, a solution already exploited in the X-band [2K45](#). A strut in the tuner assembly is heated by emission from a separate cathode and its thermal expansion causes the motion of reflector and upper grid. Metal case with octal base and top waveguide flange.

- 23,2 to 24,7 GHz tuning range
- 300 volts at 19 milliamperes resonator
- 600 MHz per second tuning speed
- 13 to 18 mW typical output

