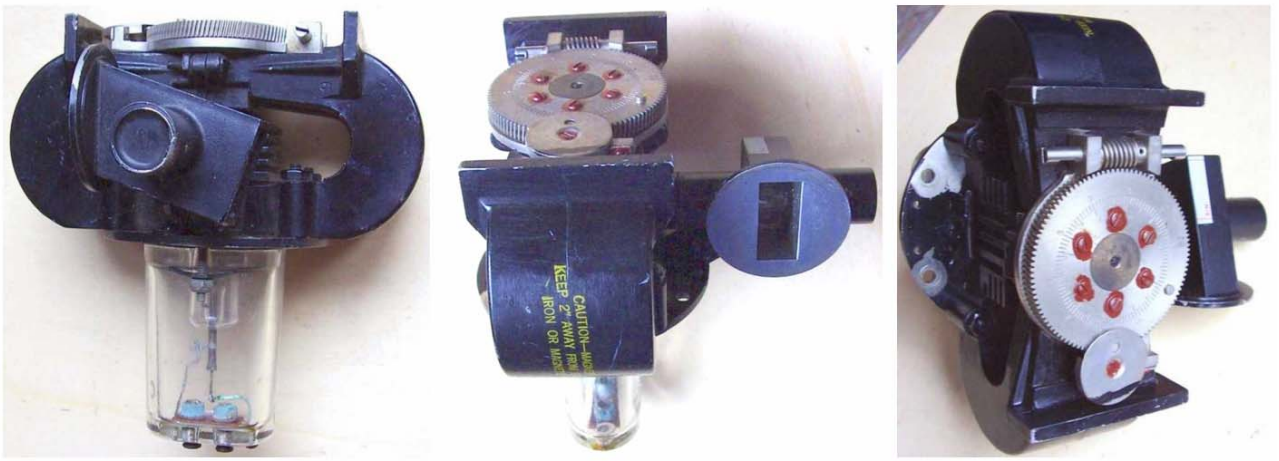
2J51A / 2J51AH – X-Band Tunable Magnetron



Forced-Air-Cooled X-band Magnetron. Mechanically tunable from 8.5 to 9.6 GHz. Tuning is accomplished by 12 copper pins entering to a controlled depth into the anode cavities. Integral magnet variant of 725A.

2J51A generates 20 to about 70 kW peak output power, depending upon voltage and current of input pulses and upon the magnetic field, adjustable by means of four magnetic shunts. 40 kW typical power with 14.3 kV, 16 A input pulses.

6.3 Volts at 1.0 Ampere heater.

This sample is a 2J51AH, built by Thomson-CSF. Click to enlarge.

Registered to Western Electric in October 1948 but already described in the Volume 6 of the M.I.T. Radiation Laboratory Series, Microwave Magnetrons, edited by G. B. Collins. According to what reported in the BSTJ, April 1946, the design of a tunable packaged magnetron started at the Columbia University in 1943 and later moved to Western Electric. The magnetron had to be fully compatible with existing fixed frequency types. Operation with input pulses of 10 kV at 10A, 12 kV at 12 A and even 14 kV at 14 A were specified. The solution was found adding the four removable magnetic shunts. A description of the WE design is given in this **reprint of 1946 BSTJ**. Data given in the RMA record **699**.