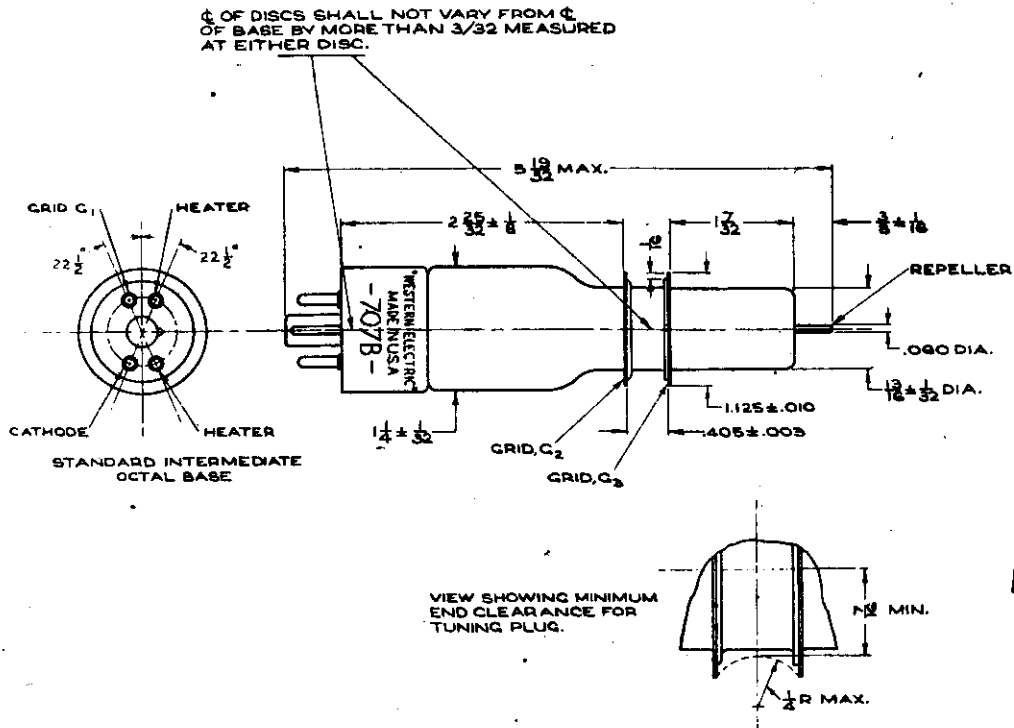


TECHNICAL INFORMATION
WESTERN ELECTRIC 707B VACUUM TUBE

~~CONFIDENTIAL~~



UNCLASSIFIED

Reference: Army-Navy Electron
Tube Security Classification Lists
15 May 1945, 1 Nov. 1945, File 3.3
Signed *[Signature]* Date *7/7/54*

CLASSIFICATION

The 707B vacuum tube is an ultra high frequency oscillator tube. It has been developed for operation over approximately one half of the "S" wavelength band.

MOUNTING

This vacuum tube employs an intermediate four pin octal type base. A resonant cavity D-150359 has been designed to show one type of cavity which is safe to use with the tube from a mechanical standpoint. The tube may be mounted in either a horizontal or vertical position. The tube should be mounted in such a manner that it receives its sole support from the resonant cavity which is in turn supported rigidly from the chassis. Free circulation of air should be permitted to cool the tube.

HEATER RATING

Heater voltage	6.3 volts
Nominal heater current	0.65 ampere

MAXIMUM RATINGS

Resonant cavity voltage, G ₂ & G ₃	300 volts
Accelerator grid voltage, G ₁	300 volts

OPERATING CONDITIONS AND CHARACTERISTICS

	Normal	Max. Rating
Heater voltage	6.3	6.3 volts
Potential difference between heater and cathode	0	50 volts
Accelerator grid voltage, G ₁	250	300 volts
Resonant cavity voltage, G ₂ & G ₃	250	300 volts
*Cathode current	25	40 milliamperes
**Repeller voltage range	0 to -250	0 to -300 volts
Nominal power output	40	80 milliwatts
***Nominal wavelength range with suitable cavity	lower half of "S" band	

With a suitable cavity, under maximum oscillating conditions, and with the repeller voltage held constant, the frequency of this tube should not drift more than 0.2 megacycle for each degree centigrade of temperature change.

- * The cathode current is all of the electron current from the cathode.
- ** There will be two or three oscillating conditions within these repeller voltage ranges. The frequency of these will be determined by the resonant cavity and will be the same.
- *** For optimum oscillation, the frequency may be varied approximately 5 megacycles by a 10 volt change in the repeller to cathode voltage.

For optimum frequency stability, the supply voltages must be constant and thermostatic control of the cavity temperature is required.

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