

ADVANCE ELECTRON TUBE DATA SHEET

WESTERN ELECTRIC 554I ELECTRON TUBE

**554I**  
**TRIODE**  
**AIR-COOLED**

DESCRIPTION

The Western Electric 554I is a forced-air-cooled triode designed especially for FM service at frequencies up to 110 megacycles. For other types of services, the tube is also applicable to R-F use within the ratings. The tube is rated at 10 KW plate dissipation at maximum ratings.

While the terminal arrangement has been designed for grounded-plate use, the tube can also be used in grounded-grid applications. Circuit inductance has been kept at a minimum in the grid as well as in all other internal connections. The filament is oriented with respect to the grid structure to minimize the required R-F driving power.

The cathode is a thoriated tungsten filament, generally acknowledged as the most efficient emitter for power tubes of these ratings. The filament structure of these tubes is self-supporting, and employs no sliding contacts, insulators, or tension springs. Rugged connecting rods support the grid structure and provide great mechanical strength as well as low electrical loss. Kovar, an alloy having a temperature expansion coefficient matching that of the glass, is used for glass-to-metal seals. The plate fin structure is designed to provide efficient cooling by a forced air stream generated by a standard type blower unit.

ELECTRICAL DATA - GENERAL

Filament Voltage, A-C .....	7.5 volts
Filament Current .....	55 amperes
Amplification Factor .....	26
Grid - Plate Transconductance at $E_b = 3.6$ kv; $I_b = 2.75$ amp. ....	22000 micromhos
Interelectrode Capacitances	
Plate - Grid .....	25.0 $\mu$ pf
Plate - Filament .....	1.5 $\mu$ pf
Grid - Filament .....	21.0 $\mu$ pf

MECHANICAL DATA - GENERAL\*

Mounting Position .....	Vertical, plate end down
Type of Cooling .....	Forced-air
Air Flow, Minimum .....	500 c.f.m.
Pressure Drop, Inches of Water (Total) .....	1 inch
Net Weight, Approximate.....	30 pounds

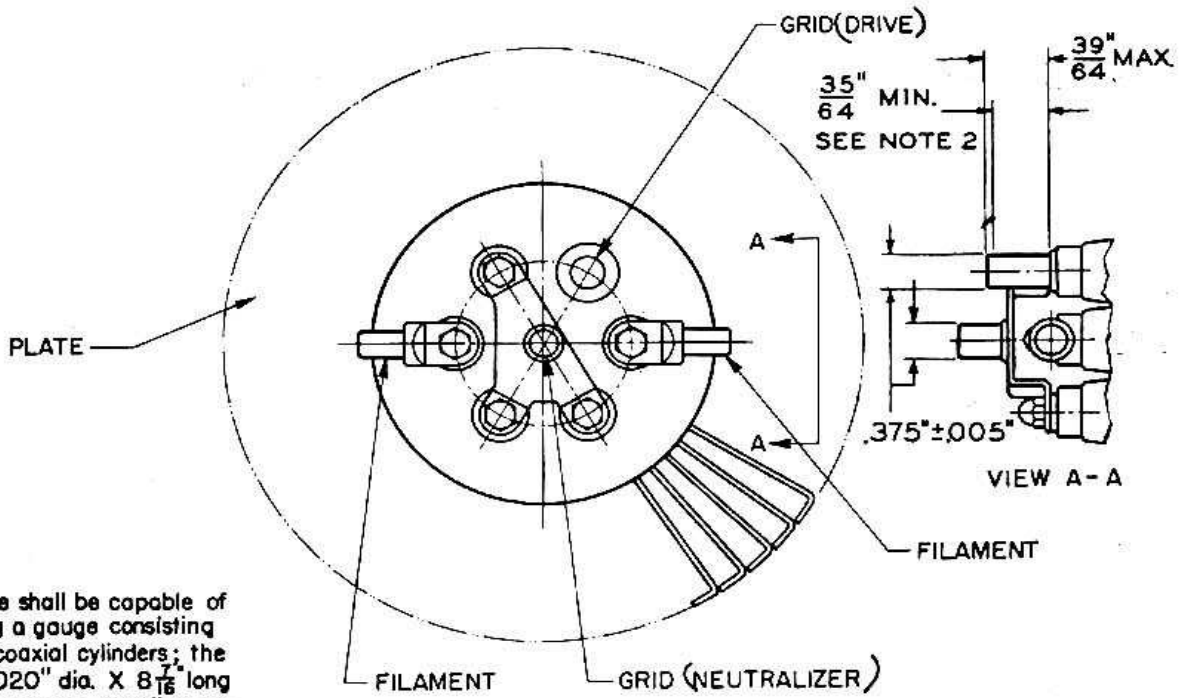
MAXIMUM RATINGS, ABSOLUTE VALUES

(Apply at frequencies up to 110 megacycles)

D-C Plate Voltage .....	8500 volts
D-C Plate Current .....	2.75 amperes
Plate Dissipation .....	10 kilowatts

\*Dimensional outline drawing shown on reverse side of this sheet.





**Note 1**  
 The tube shall be capable of entering a gauge consisting of two coaxial cylinders; the first  $8.020''$  dia. X  $8\frac{7}{16}''$  long and the second  $.500''$  dia. X  $\frac{1}{2}''$  long.

**Note 2**  
 Length of contact surface.

