

from RMA release # 464, Jan. 10, 1946

Reservation No. _____

Registration No. _____

Reservation Date _____

Registration Date _____

Type 5E23

Transmitting Tetrode, Power Amplifier, Oscillator

GENERAL CHARACTERISTICS

Electrical

Filament	Thoriated tungsten
Voltage	5.0 volts
Current	14.7 amps

Average Static Characteristics at (Eb-2000v):
Ec₁ - -15v); (Ec₂ - 500v); (Ef - 5v)

Gm	3600 umhos
Plate Current	150 ma
Screen Current	12 ma
Mu	150

Direct Interelectrode Capacitances

Grid-Plate no external shielding	(max.) 0.41 uuf
Input, grid-filament	(max.) 15.0 uuf
Output, plate-filament	(max.) 6.0 uuf

Frequency for Maximum Ratings 45 Mc

MECHANICAL

Type of Cooling

Convection (Maximum Ambient 60C)
Forced Air Cooling for High Frequency Operation

Base Description Jumbo 4 Pin Bayonet

Maximum Overall Dimensions	(See outline drawing)
Length	9.146 in.
Diameter	3.900 in.

Base Connections (See outline drawing)

CLASS C R-F POWER AMPLIFIER AND OSCILLATOR, PLATE MODULATED

	<u>Typical Operation</u>	<u>Max. Ratings</u>
D-C Plate Voltage	2500 volts	2500 volts
D-C Grid Voltage (E_{c1})	-150 volts	-150 volts
D-C Grid Voltage (E_{c2})		500 volts
Screen Resistor (Note 1)	30,000 Ohms	
D-C Plate Current	200 ma	200 ma
D-C Grid Current	22 ma	30 ma
D-C Screen Current	70 ma	
Plate Input Power		500 watts
Screen Dissipation		57 watts
Plate Dissipation		140 watts
Peak R-F Grid Voltage	320 Volts	
Driving Power	6.3 Watts	
Carrier Power Output	380 Watts	

Note 1: Connected to plate end of modulation transformer and by-passed for R-F only.

CLASS C R-F POWER AMPLIFIER AND OSCILLATOR, TELEGRAPHY

	<u>Typical Operation</u>	<u>Max. Ratings</u>
D-C Plate Voltage	3000 volts	3000 volts
D-C Grid Voltage (E_{c1})	-100 volts	-150 volts
D-C Grid Voltage (E_{c2})	400 volts	500 volts
D-C Plate Current	240 ma	250 ma
D-C Grid Current, approx.	24 ma	40 ma
D-C Screen Current	70 ma	
Plate Input Power	720 watts	750 watts
Screen Dissipation	28 watts	35 watts
Plate Dissipation	210 watts	215 watts
Peak R-F Grid Input Voltage approx.	280 volts	
Driving Power, approx.	6.0 watts	
Plate Power Output	510 watts	

FREQUENCY LIMITS

The upper frequency limit at which the type RK-65 tube may be operated at the ratings given above is 45 Mc. It may be operated above this frequency if the plate voltage and power input are appropriately decreased as the operating frequency is increased and if adequate ventilation of the bulb is provided.

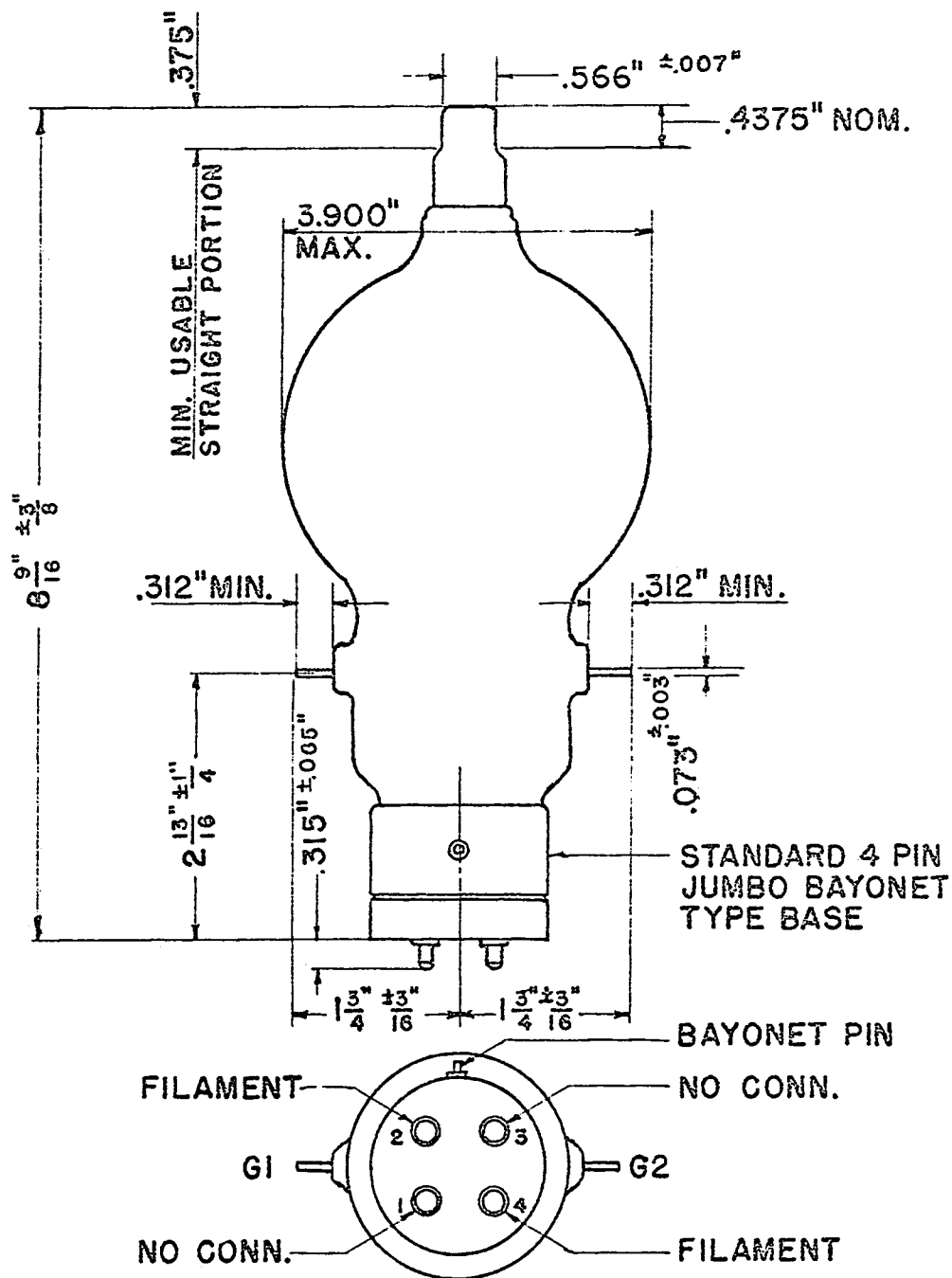
The maximum values of plate voltage and power input at which the tube may be operated at the higher frequencies is given below in which these maximum values are expressed as per cent of the rated values given above.

SERVICE

	<u>Class C Plate Modulated</u>	<u>Class C Unmodulated</u>
Max. Frequency - 45 Mc.	100%	100%
@65 Mc.	75	75
@85 Mc	50	50

Sponsor: Raytheon Manufacturing Company, Waltham, Massachusetts

TECHNICAL INFORMATION
TRANSMITTING TETRODE
OUTLINE DRAWING



BOTTOM VIEW OF BASE