

Fixed-Tuned Oscillator Triode

PENCIL TYPE WITH INTEGRAL RESONATORS
For Radiosonde Service at 1680 Mc

GENERAL DATA

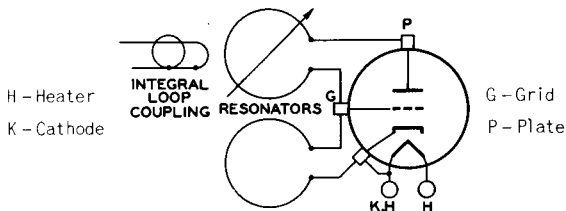
Electrical:

Heater, for Unipotential Cathode:

Voltage range (AC or DC)	5.2 to 6.6 ^a	volts
Current at heater volts = 6.0	0.160	amp
Frequency (Approx.)	1680	Mc
Frequency Adjustment Range.	$\pm 12^b$	Mc
RF Coaxial Output Terminal:		
Characteristic impedance (Approx.). . .	50	ohms

Mechanical:

Operating Position. Any
Dimensions. See *Dimensional Outline*
Resonators (Two). Integral Part of Tube
Terminal Connections (See *Dimensional Outline*):



FIXED-TUNED OSCILLATOR SERVICE

Maximum and Minimum Ratings, *Absolute-Maximum Values*:

DC PLATE VOLTAGE.	120 max.	volts
DC PLATE CURRENT.	34 max.	ma
DC GRID CURRENT.	8 max.	ma
PLATE INPUT.	4 max.	watts
PLATE DISSIPATION.	3.6 max.	watts
AMBIENT-TEMPERATURE RANGE.	-55 to +75	$^{\circ}\text{C}$

Operating Frequency Drift:

Maximum Frequency Drift:

For heater voltage range of 5.2 to 6.6 volts, plate voltage range of 95 to 117 volts, and ambient-temperature range of $+22^{\circ}$ to -40° C +4 to -1 Mc

^a This range of heater voltage is for radiosonde applications in which the heater is supplied from batteries and in which the equipment design requirements of minimum size, light weight, and high efficiency are the primary considerations even though the average life expectancy of the 6562/5794A in such service is only a few hours.

^b As supplied, tubes are adjusted to 1680 ± 4 megacycles.



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CHARACTERISTICS RANGE VALUES FOR EQUIPMENT DESIGN

	Note	Min.	Av.	Max.	
Heater Current.	1	0.135	0.148	0.157	amp
Power Output.	2,4	-	600	-	mw
Power Output.	3,4	300	-	-	mw

Note 1: With 5.2 volts ac on heater.

Note 2: With ac heater voltage of 6.6 volts, dc plate voltage of 117 volts, frequency of 1680 Mc, and grid resistor having resistance value within the range of 1300 to 2400 ohms, such that the dc plate current will not exceed 34 milliamperes. The value used for any individual tube is stamped on the tube and is one of the following standard values: 1300, 1500, 1800, 2200, or 2400 ohms.

Note 3: With ac heater voltage of 5.2 volts, dc plate voltage of 95 volts, frequency of 1680 Mc, and grid-resistor value specified in Note 2 above. When this value of resistance is used, the dc plate current will not exceed 34 milliamperes under the specified operating conditions.

Note 4: Measured with a coaxial-type load having an impedance of approximately 50 ohms and adjusted for a maximum voltage standing wave ratio of 1.1.

OPERATING CONSIDERATIONS

The *flexible heater leads* of the 6562/5794A are usually soldered to the circuit elements. Soldering of these connections should not be made closer than 3/4" from the end of the tube (excluding cathode tab). If this precaution is not followed, the heat of the soldering operation may crack the glass seals of the leads and damage the tube. Under no circumstances should any of the electrodes be soldered to the circuit elements. Connections to the electrodes should be made by spring contact only.

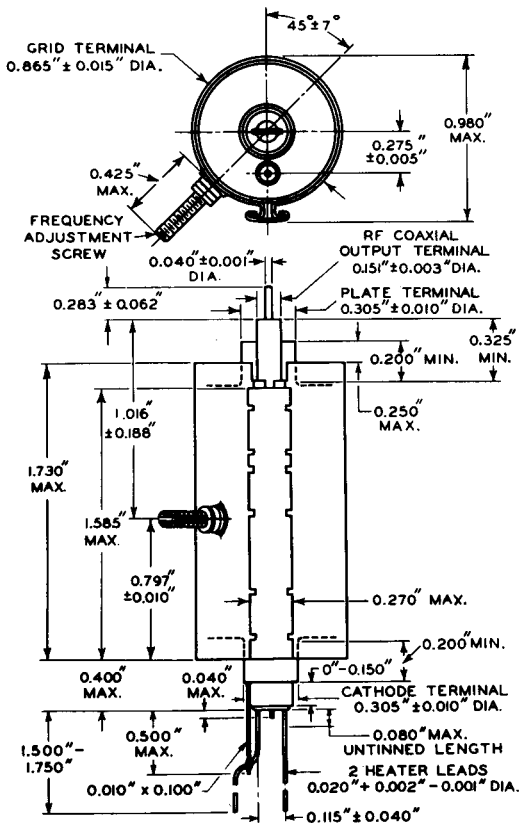
The 6562/5794A should be supported by a suitable clamp around the metal shell either above or below the frequency-adjustment screw. It is essential, however, that the pressure exerted on the shell by the clamp be held to a minimum because excessive pressure can distort the resonators and result in a change of frequency.

The *plate connection* should have a flexible lead which will accommodate variations in the relative position of the plate terminal in individual tubes.

The 6562/5794A may be mechanically tuned by adjustment of the frequency-adjustment screw located on the metal shell of the tube. A clockwise rotation of the frequency-adjustment screw will decrease the frequency, while a counter-clockwise rotation will increase the frequency. The range of adjustment provided by the screw is ± 12 Mc.



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92CM-8747RI

