

EITEL-McCULLOUGH, Inc.
SAN BRUNO, CALIFORNIA

4X500R

POWER TETRODE

The Eimac 4X500A is an external-anode tetrode having a maximum plate dissipation rating of 500 watts. Its small size and low-inductance leads permit efficient operation at relatively large outputs well into the VHF region. The screen grid is mounted on a disc which terminates in a connector ring located between grid and plate, thus making possible effective shielding between the grid and plate circuits. The grid terminal is located at the center of the glass base, to facilitate single-tube operation in coaxial circuits.

The combination of low grid-plate capacitance, low screen-lead inductance and functionally located terminals contributes to the stable operation of the 4X500A at high frequencies, making neutralization unnecessary in most cases and greatly simplifying it in others.

GENERAL CHARACTERISTICS

ELECTRICAL

Filament: Thoriated Tungsten

Voltage - - - - - 5.0 volts

Current - - - - - 13.5 amperes

Screen Grid Amplification Factor (Average) - - - - - 6.2

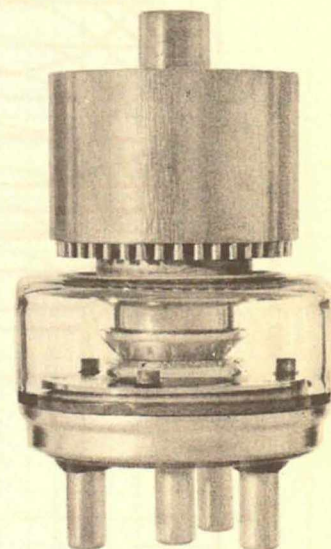
Direct Interelectrode Capacitances (Average)

Electrode Capacitances (Average)																
Grid-Plate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.05 $\mu\mu\text{fd}$

Input	-	-	-	-	-	-	-	-	-	-	-	-	-	12.8	μmfd
-------	---	---	---	---	---	---	---	---	---	---	---	---	---	------	-----------------

Output - - - - - 5.6 μμfd

Transconductance ($i_b=200 \text{ ma.}$, $e_b=2500 \text{ v.}$, $E_c=500 \text{ v.}$) - $5200 \text{ } \mu\text{hmos}$



MECHANICAL

Maximum Overall Dimensions:

Length - - - - - 4.375 inches

Diameter - - - - - 2.563 inches

[illegible]

Shipping Weight (Average) - - - - - - - - - - - - - - - - - 6 pounds

Shipping Weight (Average): 1.00 lb. (0.45 kg)
Mounting Position: - - - - - - - - - - - - - - - Vertical, Base up or down

RADIO FREQUENCY POWER AMPLIFIER AND OSCILLATOR

Class-C FM or Telegraphy (Key-down conditions, 1 tube)

MAXIMUM RATINGS (Frequencies up to 120 Mc.)

[illegible]

TYPICAL OPERATION

(Two-Tubes, push-pull amplifier, 110 Mc.)

D-C Plate Voltage	-	-	-	-	-	2500	3000	volts
D-C Plate Current	-	-	-	-	-	670	600	ma.
D-C Screen Voltage	-	-	-	-	-	500	400	volts
D-C Grid Voltage	-	-	-	-	-	100	95	ma.
D-C Screen Current	-	-	-	-	-	-250	-200	volts
D-C Grid Current	-	-	-	-	-	40	45	ma.
Driving Power (approx.)	-	-	-	-	-	182	182	watts
Plate Power Output (approx.)	-	-	-	-	-	1300	1320	watts
Useful Power Output	-	-	-	-	-	1150	1180	watts

¹ A minimum flow of 22 cubic feet of air per minute must be passed through the plate cooler. The pressure drop across the cooler at this flow equals 1.4 inches of water. The glass at the base of the tube must be cooled by passing air at a minimum velocity of 1000 feet per minute

TYPICAL OPERATION

(Four tubes, push-pull-parallel amplifier, 110 Mc.)

D-C Plate Voltage	-	-	-	-	-	-	4000	volts
D-C Plate Current	-	-	-	-	-	-	1.25	amp.
D-C Screen Voltage	-	-	-	-	-	-	500	volts
D-C Screen Current	-	-	-	-	-	-	160	ma.
D-C Grid Voltage	-	-	-	-	-	-	-250	volts
D-C Grid Current	-	-	-	-	-	-	70	ma.
Driving Power (approx.)	-	-	-	-	-	-	50	watts
Plate Power Output (approx.)	-	-	-	-	-	-	3700	watts
Useful Power Output	-	-	-	-	-	-	3500	watts

across the base. Sufficient air for this purpose will ordinarily be obtained from a small fan or low-pressure centrifugal blower. Cooling air must be supplied to both the plate cooler and base before applying filament voltage.

