

EITEL-McCULLOUGH, INC.

SAN BRUNO, CALIFORNIA

3X2500A3

MEDIUM MU TRIODE

The Eimac 3X2500A3 is a medium-mu, forced-air cooled, external-anode transmitting triode incorporating features which make it suitable for effective use at frequencies well into the V. H. F. range, as well as at lower frequencies. The grid of the 3X2500A3 terminates in a ring interposed between the plate and filament, to permit maximum convenience in the use of a tube as a "grounded-grid" amplifier at high frequencies with coaxial plate and filament tank circuits. The tube is also provided with a rugged, low-inductance cylindrical filament-stem structure, which allows a smooth transition between a linear filament tank circuit and the tube. As a result of the use of these unique grid and filament terminal arrangements, it is possible to install or remove the 3X2500A3 without the aid of tools.

The 3X2500A3 is capable of delivering relatively high power output at low plate voltages. A single tube will deliver a radio-frequency output of 5000 watts at 3500 plate volts at low frequencies, and 7500 watts at 4000 plate volts at a frequency of 110 Mc.

GENERAL CHARACTERISTICS

ELECTRICAL

Filament: Thoriated tungsten

Voltage - - - - - 7.5 volts

Current - - - - - 48 amperes

Maximum starting current - - - - - 100 amperes

Amplification Factor (Average) - - - - - 20

Direct Interelectrode Capacitances (Average)

Grid-Plate - - - - - 20 $\mu\text{mfd.}$

Grid-Filament - - - - - 48 $\mu\text{mfd.}$

Plate-Filament - - - - - 1.2 $\mu\text{mfd.}$

Transconductance ($i_b = 830 \text{ ma.}$, $E_b = 3000 \text{ v.}$) - - - - - 20,000 μmhos

MECHANICAL

Cooling - - - - - Forced air¹

Maximum Overall Dimensions:

Length - - - - - 9.0 inches

Diameter - - - - - 4.25 inches

Net Weight - - - - - 5.8 pounds

Shipping Weight (Average) - - - - - 17 pounds

RADIO FREQUENCY POWER AMPLIFIER OR OSCILLATOR (Conventional Neutralized Amplifier)

Class-C Telephony (Key-down conditions, per tube)

► MAXIMUM RATINGS (Frequencies below 50 Mc.)

D-C PLATE VOLTAGE	-	-	-	-	-	5000 MAX VOLTS
D-C PLATE CURRENT	-	-	-	-	-	2.0 MAX. AMPS
PLATE DISSIPATION ¹	-	-	-	-	-	2500 MAX. WATTS
PLATE COOLER CORE TEMPERATURE	-	-	-	-	-	150 MAX. °C
GRID DISSIPATION	-	-	-	-	-	150 MAX. WATTS

► TYPICAL OPERATION (Frequencies below 50 Mc., per tube)

D-C Plate Voltage	-	-	-	-	3500	4000	5000	volts
D-C Grid Voltage	-	-	-	-	-420	-360	-400	volts
D-C Plate Current	-	-	-	-	1.8	1.6	2	amps.
D-C Grid Current	-	-	-	-	500	425	475	ma.
Peak R-F Grid Input Voltage	-	-	-	-	735	630	710	volts
Driving Power (Approx.)	-	-	-	-	325	238	338	watts
Grid Dissipation	-	-	-	-	120	88	148	watts
Plate Input	-	-	-	-	6300	6400	10,000	watts
Plate Dissipation	-	-	-	-	1300	1400	2500	watts
Plate Power Output	-	-	-	-	5000	5000	7500	watts

¹ A minimum flow of 120 cubic feet of air per minute must be passed through the plate cooler. The pressure drop across the cooler at this flow equals 1.6" of water. A minimum air flow of 6 cubic feet per minute must also be directed toward the filament stem structure, be-

RADIO FREQUENCY POWER AMPLIFIER Grounded-Grid Circuit

Class-C F-M Telephony

► MAXIMUM RATINGS (Frequencies between 85 and 110 Mc.)

D-C PLATE VOLTAGE	-	-	-	-	-	4000 MAX. VOLTS
D-C PLATE CURRENT	-	-	-	-	-	2.0 MAX. AMPS
PLATE DISSIPATION ¹	-	-	-	-	-	2500 MAX. WATTS
PLATE COOLER CORE TEMPERATURE	-	-	-	-	-	150 MAX. °C
GRID DISSIPATION	-	-	-	-	-	150 MAX. WATTS

► TYPICAL OPERATION (110 Mc., per tube)

D-C Plate Voltage	-	-	-	-	-	3700	4000	volts
D-C Grid Voltage	-	-	-	-	-	-450	-550	volts
D-C Plate Current	-	-	-	-	-	1.8	1.85	amps.
D-C Grid Current	-	-	-	-	-	225	275	ma.
Driving Power (Approx.)	-	-	-	-	-	1600	1900	watts
Useful Power Output	-	-	-	-	-	6850	7500	watts

tween the inner and outer filament conductors. Cooling air in the above quantities must be supplied to both plate cooler and filament seals before applying filament voltage and should be continued for five minutes after the filament power is removed.

► Indicates change from sheet dated 1-15-47.



