

Note:

Dual connections for each filament lead are provided within the base of each 450TH and 450TL (see basing diagram within the data sheet). Corresponding socket terminals must be connected in parallel to provide proper distribution of filament and RF charging currents. Adequate ventilation or air cooling must be provided so that the seals and envelope do not exceed 200° C. under operating conditions.

LOUGH, INC.

CALIFORNIA

450TH

HIGH-MU TRIODE

MODULATOR
OSCILLATOR
AMPLIFIER

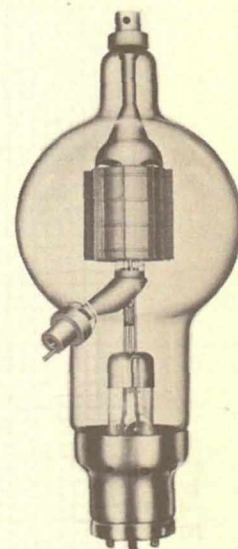
GENERAL CHARACTERISTICS

ELECTRICAL

Filament: Thoriated tungsten	
Voltage - - - - -	7.5 volts
Current - - - - -	12.0 amperes
Amplification Factor (Average) - - - - -	38
Direct Interelectrode Capacitances (Average)	
Grid-Plate - - - - -	5.0 $\mu\mu\text{f}$
Grid-Filament - - - - -	8.8 $\mu\mu\text{f}$
Plate-Filament - - - - -	0.8 $\mu\mu\text{f}$
Transconductance ($I_b=500$ ma., $E_b=4000$, $e_c=-45$)	6650 μmhos
Frequency for Maximum Ratings - - - - -	40 mc

MECHANICAL

Base - - - - -	4 pin, No. 5002B
Basing - - - - -	RMA type 4AQ
Maximum Overall Dimensions:	
Length - - - - -	12.625 inches
Diameter - - - - -	5.125 inches
Net weight - - - - -	1 pound
Shipping weight (Average) - - - - -	4 pounds



AUDIO FREQUENCY POWER AMPLIFIER AND MODULATOR Class B

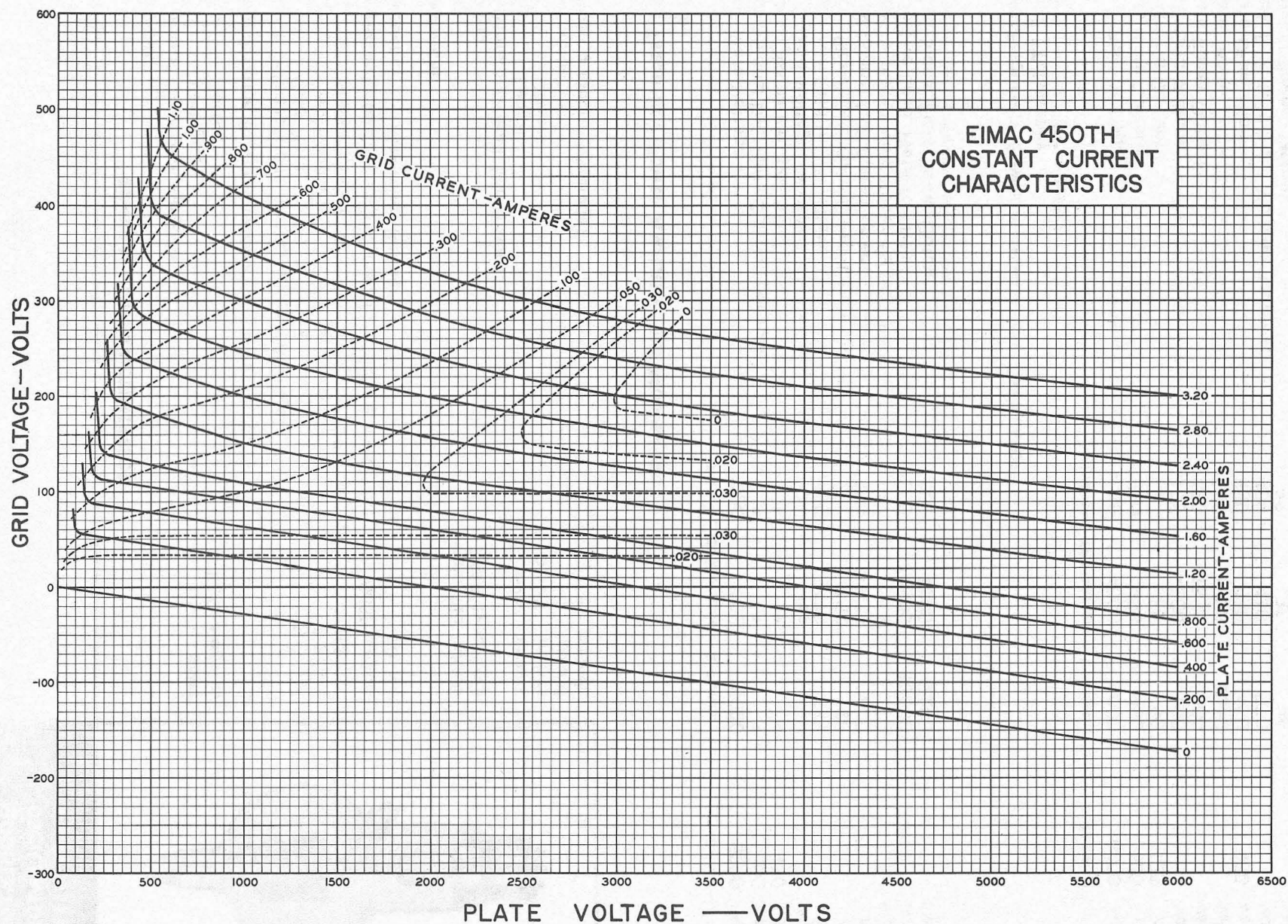
	TYPICAL OPERATION—2 TUBES			MAX. RATING	
D-C Plate Voltage - - - - -	3000	4000	5000	6000	volts
Max.-Signal D-C Plate Current, per tube* - -	•	•	•	600	ma.
Plate Dissipation, per tube* - - - - -	•	•	•	450	watts
D-C Grid Voltage (approx.) - - - - -	-50	-85	-115		volts
Peak A-F Grid Input Voltage - - - - -	450	470	535		volts
Zero-Signal D-C Plate Current - - - - -	200	150	120		ma.
Max.-Signal D-C Plate Current - - - - -	770	675	620		ma.
Max.-Signal Driving Power (approx.) - - - -	17	14	10		watts
Effective Load, Plate-to-Plate - - - - -	7800	12800	18600		ohms
Max.-Signal Plate Power Output - - - - -	1400	1800	2200		watts

*Averaged over any sinusoidal audio frequency cycle.

RADIO FREQUENCY POWER AMPLIFIER AND OSCILLATOR Class-C *Telegraphy (Key down conditions without modulation)

	TYPICAL OPERATION—1 TUBE			MAX. RATING	
D-C Plate Voltage - - - - -	3000	4000	5000	6000	volts
D-C Plate Current - - - - -	500	450	450	600	ma.
D-C Grid Current - - - - -	95	85	90	125	ma.
D-C Grid Voltage - - - - -	-175	-200	-300		volts
Plate Power Output - - - - -	1050	1350	1800		watts
Plate Input - - - - -	1500	1800	2250		watts
Plate Dissipation - - - - -	450	450	450	450	watts
Peak R. F. Grid Input Voltage, (approx.) - -	400	410	570		volts
Driving Power, (approx.) - - - - -	35	35	46		watts

*The above figures show actual measured tube performance, and do not allow for variations in circuit losses.



DRIVING POWER vs. POWER OUTPUT

The three charts on this page show the relationship of plate efficiency, power output and grid driving power at plate voltages of 3000, 4000, and 5000 volts. These charts show combined grid and bias losses only. The driving power and power output figures do not include circuit losses. The plate dissipation in watts is indicated by P_p .

Points A, B, and C are identical to the typical Class C operating conditions shown on the first page under 3000, 4000, and 5000 volts respectively.

