

EITEL-McCULLOUGH, INC.

SAN BRUNO, CALIFORNIA

304TH

MEDIUM-MU TRIODE

MODULATOR
OSCILLATOR
AMPLIFIER

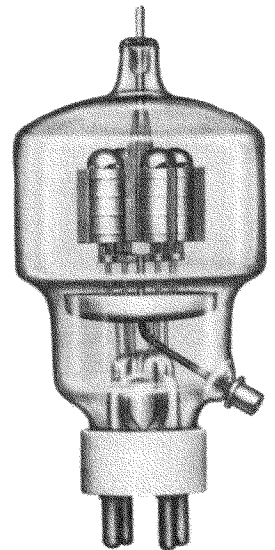
GENERAL CHARACTERISTICS

ELECTRICAL

Filament: Thoriated tungsten	
Voltage - - - - -	5.0 or 10.0 volts
Current - - - - -	25.0 or 12.5 amperes
Amplification Factor (Average) - - - - -	20
Direct Interelectrode Capacitances (Average)	
Grid-Plate - - - - -	10.2 $\mu\mu\text{f}$
Grid-Filament - - - - -	13.5 $\mu\mu\text{f}$
Plate-Filament - - - - -	0.7 $\mu\mu\text{f}$
Transconductance ($I_b=1.0$ amp., $E_b=3000$, $e_c=-40$)	16,700 μmhos
Frequency for Maximum Ratings - - - - -	40 mc

MECHANICAL

Base - - - - -	Special 4 pin, No. 5000B
Basing - - - - -	RMA type 4BC
Maximum Overall Dimensions:	
Length - - - - -	7.625 inches
Diameter - - - - -	3.563 inches
Net weight - - - - -	12 ounces
Shipping weight (Average) - - - - -	3.0 pounds



AUDIO FREQUENCY POWER AMPLIFIER AND MODULATOR

Class B

	TYPICAL OPERATION—2 TUBES			MAX. RATING	
	1500	2000	3000		
D-C Plate Voltage - - - - -	1500	2000	3000	3000	volts
Max.-Signal D-C Plate Current, per tube* - -	•	•	•	900	ma.
Plate Dissipation, per tube* - - - - -	•	•	•	300	watts
D-C Grid Voltage (approx.) - - - - -	-65	-90	-150		volts
Peak A-F Grid Input Voltage - - - - -	330	350	420		volts
Zero-Signal D-C Plate Current - - - - -	267	200	134		ma.
Max.-Signal D-C Plate Current - - - - -	1066	900	667		ma.
Max.-Signal Driving Power (approx.) - - - -	17	12	6		watts
Effective Load, Plate-to-Plate - - - - -	2840	4820	10200		ohms
Max.-Signal Plate Power Output - - - - -	1000	1200	1400		watts

*Averaged over any sinusoidal audio frequency cycle.

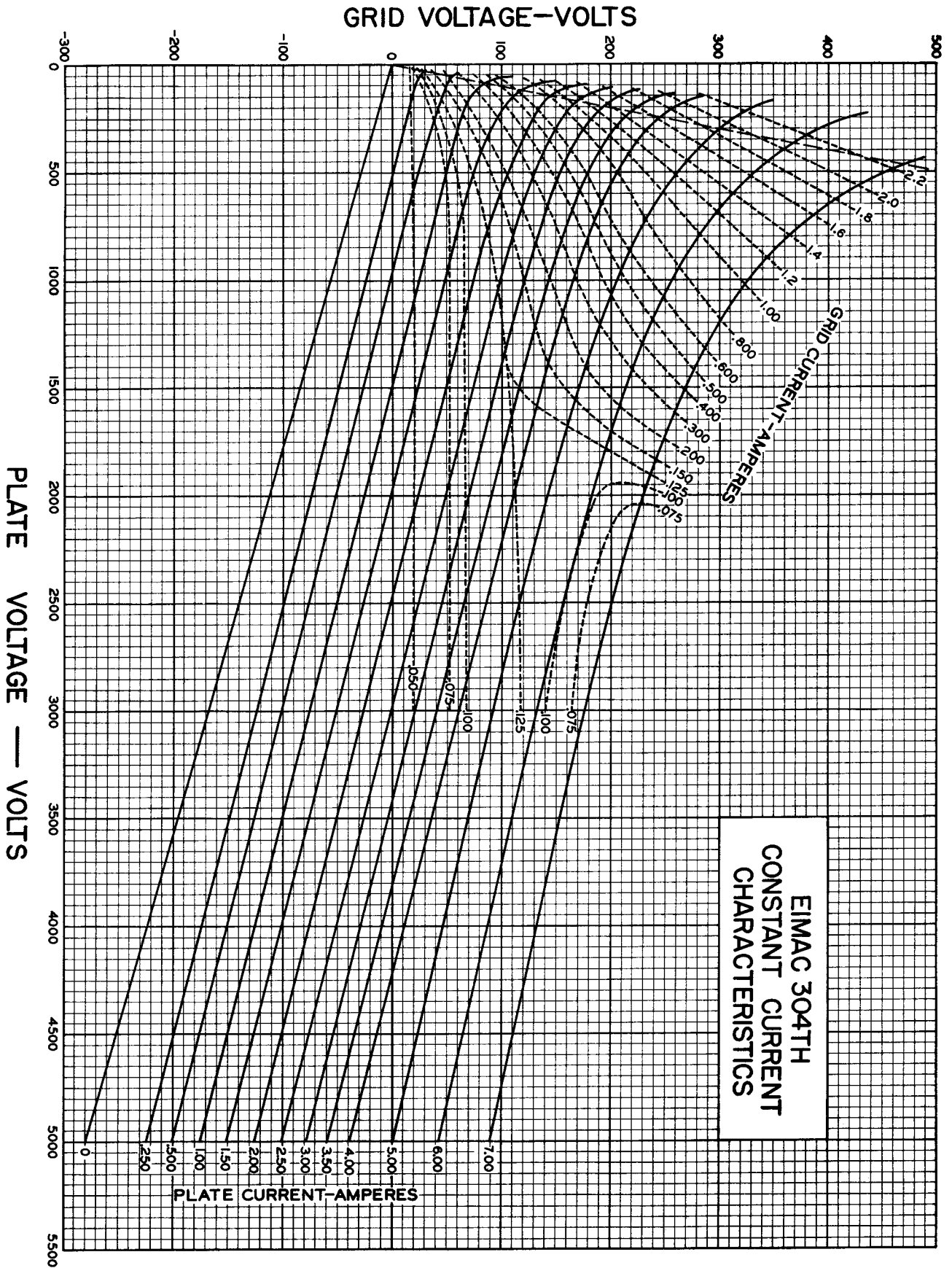
RADIO FREQUENCY POWER AMPLIFIER AND OSCILLATOR

Class-C *Telegraphy

(Key down conditions without modulation)

	TYPICAL OPERATION—1 TUBE			MAX. RATING	
	1500	2000	3000		
D-C Plate Voltage - - - - -	1500	2000	3000	3000	volts
D-C Plate Current - - - - -	667	600	500	900	ma.
D-C Grid Current - - - - -	115	125	135	170	ma.
D-C Grid Voltage - - - - -	-125	-200	-300		volts
Plate Power Output - - - - -	700	900	1200		watts
Plate Input - - - - -	1000	1200	1500		watts
Plate Dissipation - - - - -	300	300	300	300	watts
Peak R. F. Grid Input Voltage, (approx.) - -	250	325	395		volts
Driving Power, (approx.) - - - - -	25	39	53		watts

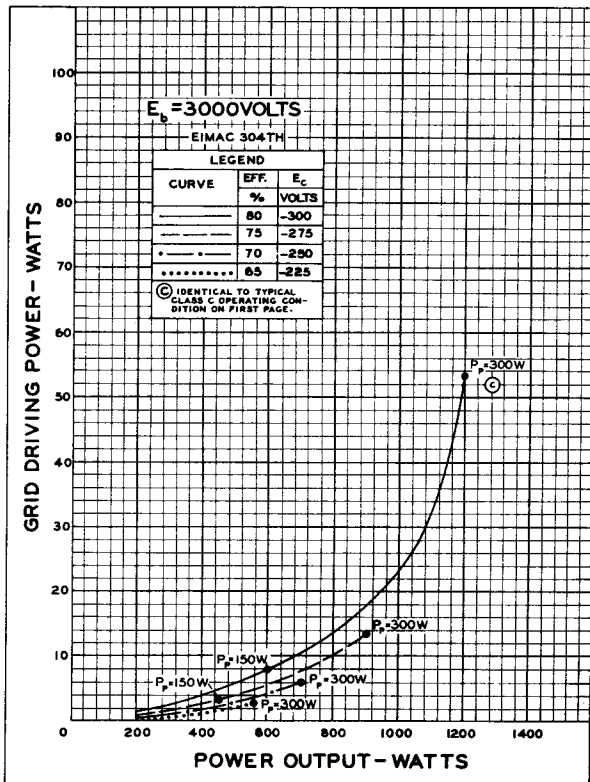
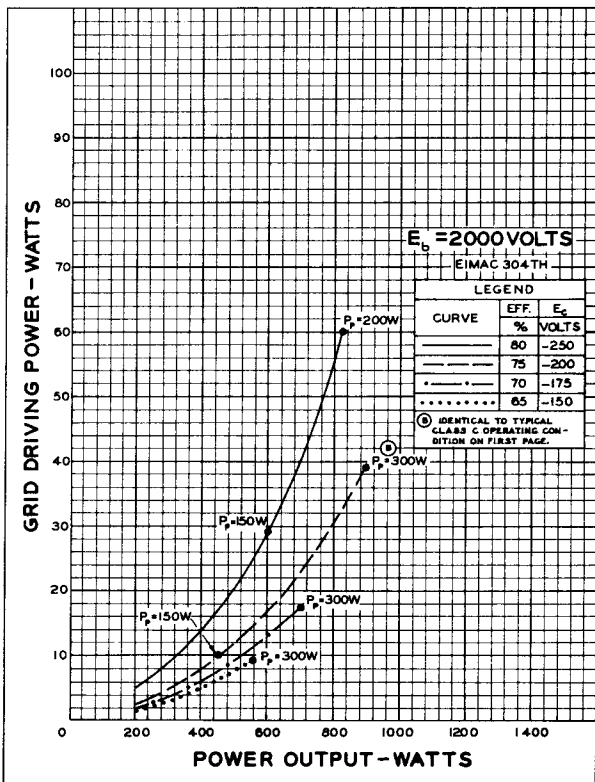
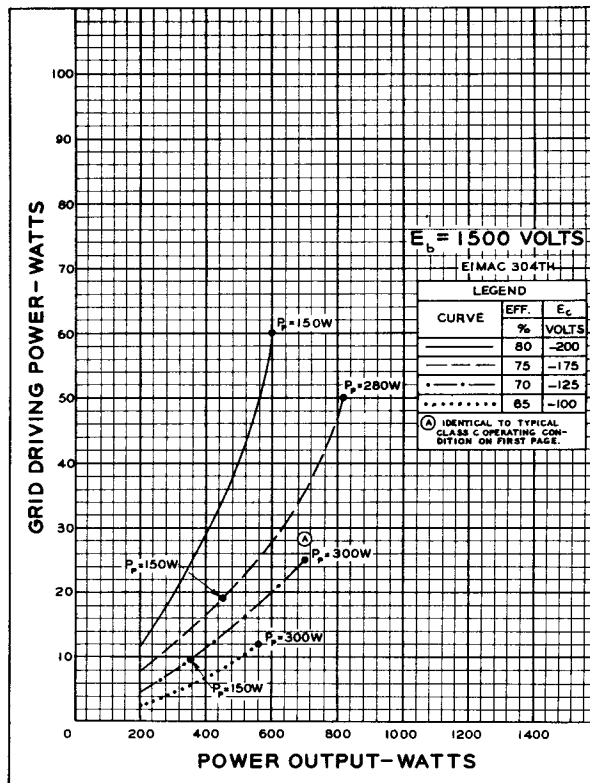
*The above figures show actual measured tube performance, and do not allow for variations in circuit losses.



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 1500, 2000 and 3000 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 1500, 2000, and 3000 volts respectively.



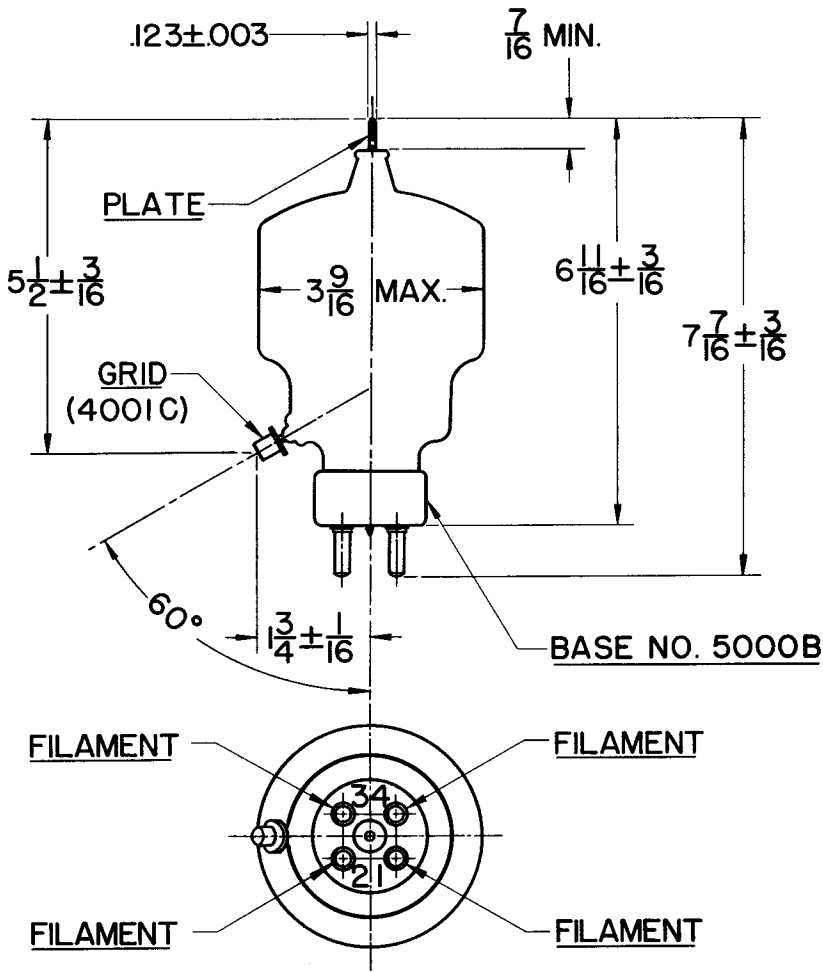
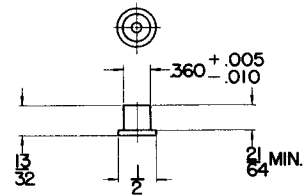
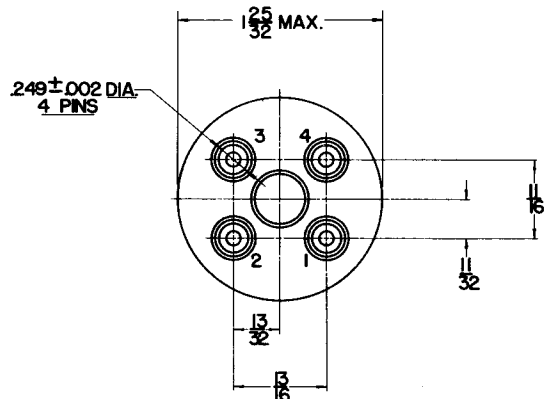
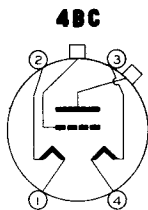
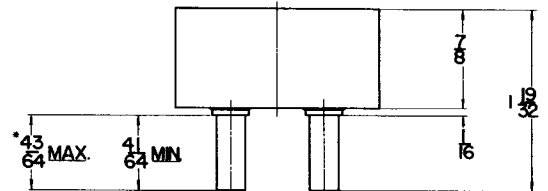


PLATE CAP
 (SEE TUBE OUTLINE DRAWING)

GRID CAP
NO. 4001C



BASE NO. 5000B



*ON FINISHED TUBE ADD .060 FOR SOLDER