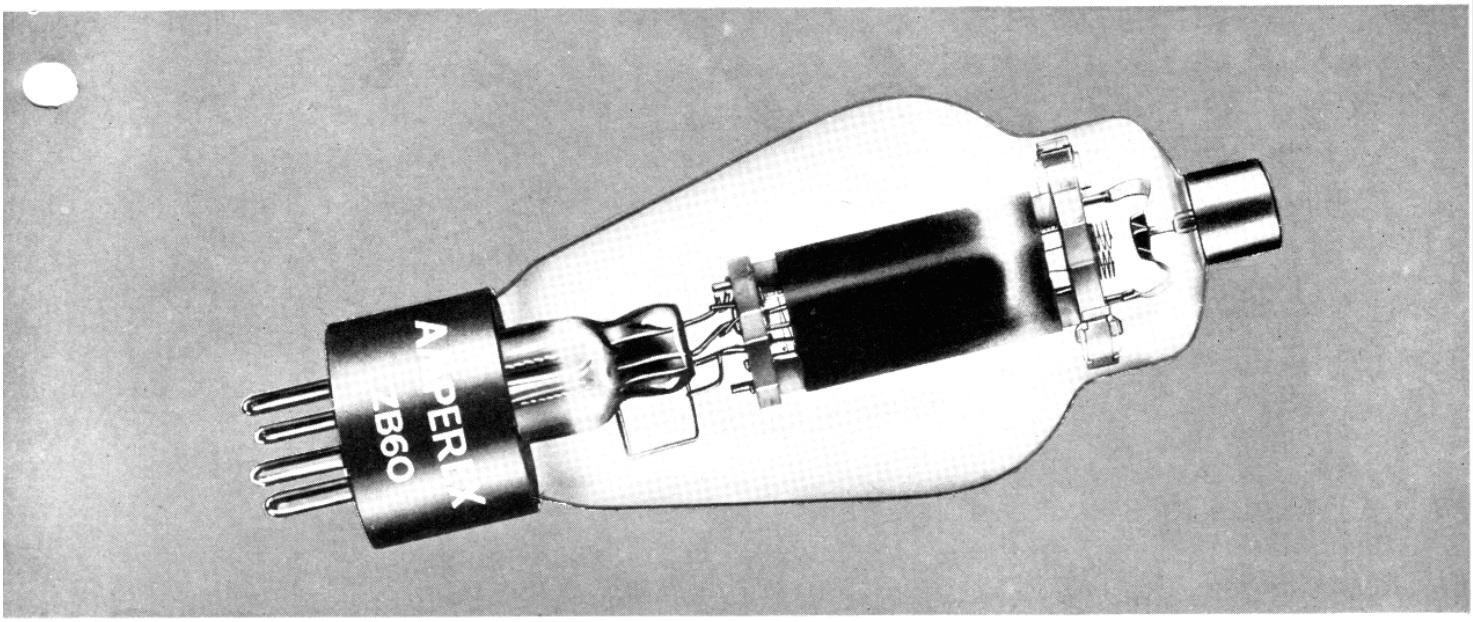
AMPEREX TRANSMITTING TUBE ZB-60



Low Distortion Zero-Bias Class B Amplifier and Modulator
Conventional R.F. Power Amplifier

The ZB-60 is an exclusive Amperex development. In common with other tubes of original Amperex design it is a low voltage high current type and possesses a high ratio of transconductance to interelectrode capacitance. Although it approaches nearer the ideal in a zero-bias class B tube it is also a highly efficient performer in many other classes of service.

GENERAL CHARACTERISTICS

RADIATION COOLED TRIODE

ELECTRICAL

Filament	Thoriated Tungsten
Voltage	10.0 volts
Current	2.5 amperes
Amplification Factor	80
Grid to Plate Transconductance at Plate Current of 150 ma.	6000 micromhos
Direct Interelectrode Capacitances	
Grid to Plate	5.8 $\mu\mu$f
Grid to Filament	6.1 $\mu\mu$f
Plate to Filament	1.85 $\mu\mu$f

MECHANICAL

Maximum Overall Dimensions	
Length	$6\frac{13}{16}$ inches
Diameter	$2\frac{7}{16}$ inches
Base	Standard Medium 4 Pin Bayonet
Mounting Position—Vertical	Base down
Horizontal	Plane of electrodes vertical
Net Weight (approx.)	3 ounces
Shipping Weight (approx.) (one tube)	$1\frac{3}{4}$ pounds

ZB-60—AMPEREX TRANSMITTING TUBE

MAXIMUM RATINGS AND TYPICAL OPERATING CONDITIONS

A.F. Power Amplifier or Modulator—Class B

Unless otherwise specified, values given are for 2 tubes.

	Typical Operation:				Maximum Rating per Tube
D.C. Plate Voltage	750	1000	1250	1500	1600
D.C. Grid Voltage[2]	0	0	0	—9	....
Load Resistance (ohms) (per tube)	1200	1725	2250	2800	....
Effective Load Resistance (ohms) (pl-pl)	4800	6900	9000	11200	....
Zero Sig. D.C. Plate Current (ma)	30	50	70	30	....
Max. Sig. D.C. Plate Current (ma)[1]	310	310	305	305	160
Peak A.F. Grid—Grid Voltage	190	190	190	208	....
Plate Dissipation (watts)[1]	....	....	....	....	75
Max. Sig. Driving Power (watts) (approx.)	11.5	11.5	11.5	12.5	....
Max. Sig. Power Output (watts)	145	200	255	320	....

(Zero-Bias) R.F. Power Amplifier Class B—Telegraphy

Key-down conditions per tube without modulation[3]

Plate Volts & Input Max. %	100	50
For Frequencies Indicated (mc)	30	100

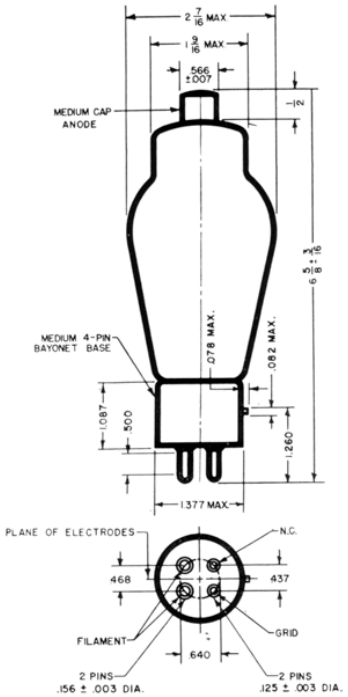
	Typical Operation:		Maximum Rating per Tube
D.C. Plate Voltage	1250	1500	1600
D.C. Grid Voltage[2]	0	0	....
Peak R.F. Grid Voltage	95	85	....
D.C. Plate Current (ma)	160	152	160
D.C. Grid Current (ma) (approx.)	30	30	40
Plate Input (watts)	200	230	255
Plate Dissipation (watts)	65	70	75
Driving Power (watts) (approx.)	3.0	2.5	....
Plate Power Output (watts) (approx.)	135	160	....

R.F. Power Amplifier—Class B—Telephony

Carrier conditions per tube for use with a maximum modulated factor of 1.0.

Plate Volts & Input Max. %	100	50
For Frequencies Indicated (mc)	30	100

	Typical Operation:	Maximum Rating per Tube
D.C. Plate Voltage	1500	1600
D.C. Grid Voltage[2]	0	....
Peak R.F. Grid Voltage	30	....
D.C. Plate Current (ma)	64	100
D.C. Grid Current (ma) (approx.)	7	....
Plate Input (watts)	96	150
Plate Dissipation (watts)	61	75
Driving Power (watts)[4] (approx.)	1.5	....
Plate Power Output (watts)	35	....



R.F. Power Amplifier—Class C—Telegraphy

Key-down condition per tube without modulation[3]

Plate Volts & Input Max. %	100	50
For Frequencies Indicated (mc)	30	100

	Typical Operation:				Maximum Rating per Tube
D.C. Plate Voltage	750	1000	1250	1500	1600
D.C. Grid Voltage[2]	—80	—85	—90	—95	—400
Peak R.F. Grid Voltage	200	205	210	215	....
D.C. Plate Current (ma)	160	160	160	158	160
D.C. Grid Current (ma) (approx.)	35	34	32	31	40
Plate Input (watts)	120	160	200	237	255
Plate Dissipation (watts)	35	40	45	47	75
Driving Power (watts) (approx.)	6.5	6.5	6.5	6.0	....
Plate Power Output (watts) (approx.)	85	120	155	190	....

NOTES:

[1] Averaged over any audio-frequency cycle of sine-wave form.

[2] Grid voltages are given with respect to the mid-point of the filament operated on A.C. If D.C. is used, each stated value of grid voltage must be reduced by 5 volts and the circuit returns made to the negative end of the filament.

[3] Modulation essentially negative may be used if the positive peak of the audio-frequency envelope does not exceed 115% of the carrier conditions.

[4] At crest of audio-frequency cycle with modulation factor of 1.0.

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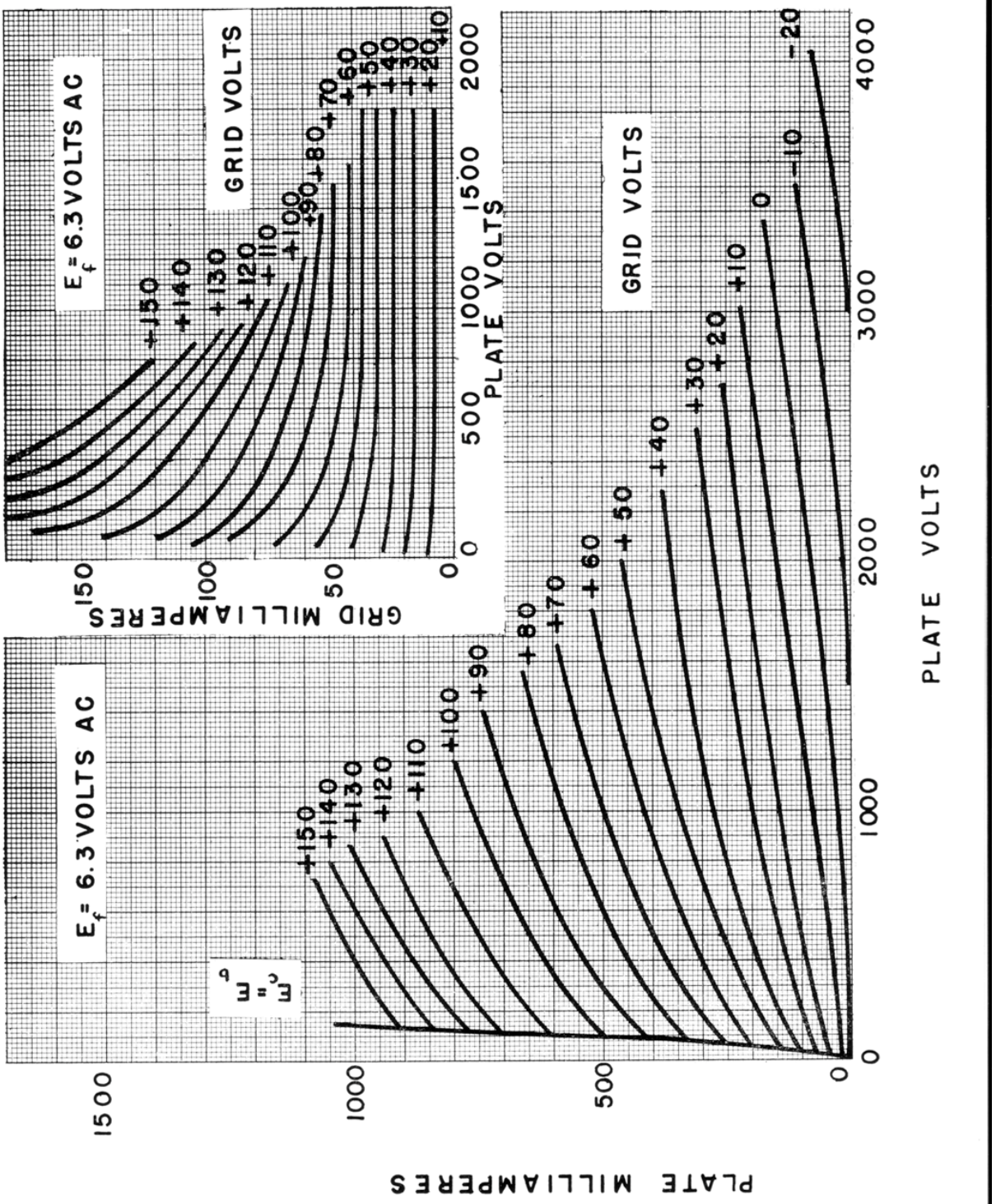

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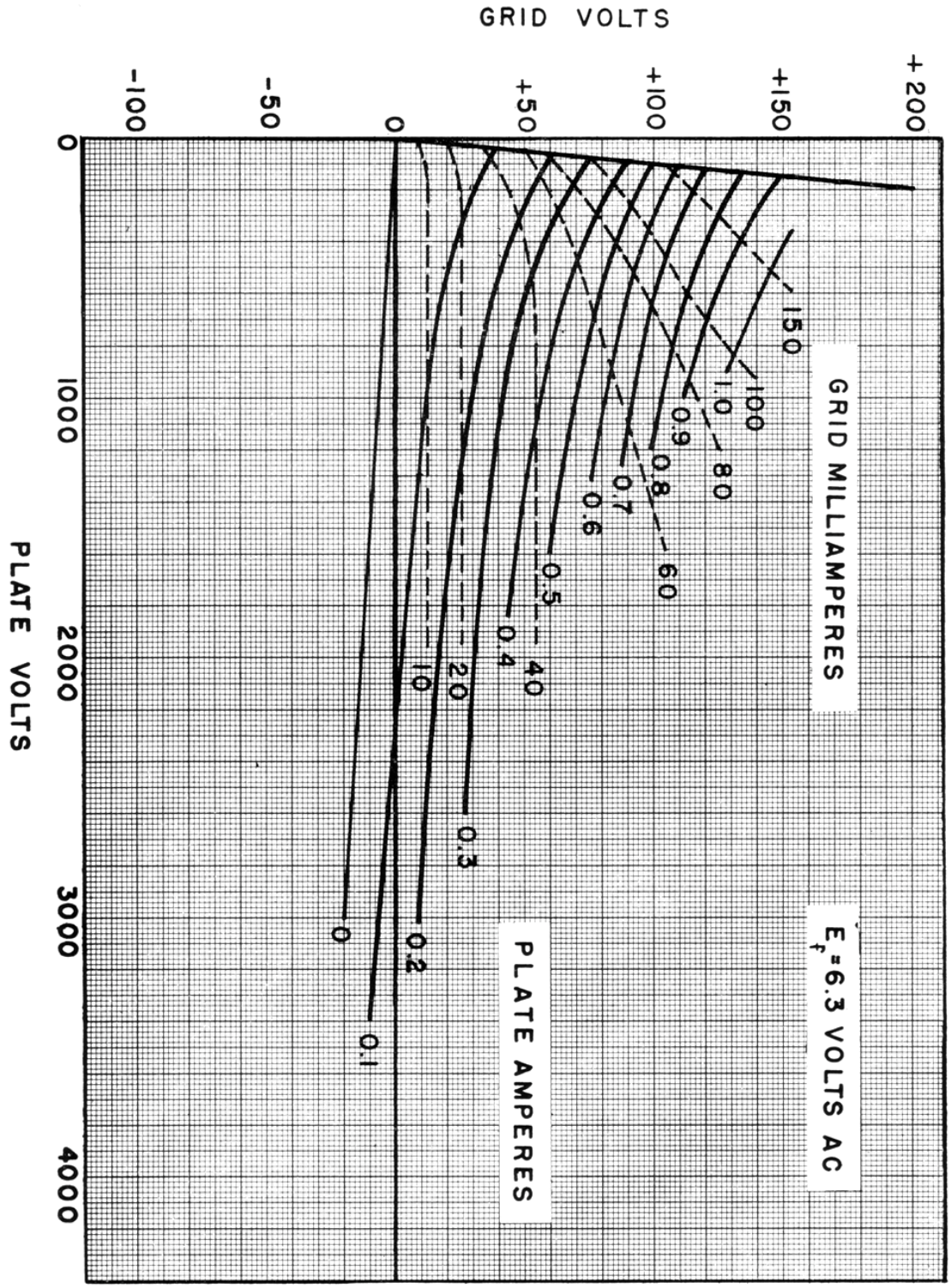

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