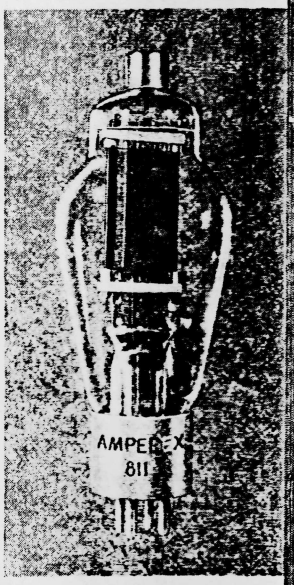
AMPEREX TRANSMITTING TUBE 811

AF Power Amplifier and Modulator
RF Power Amplifier and Oscillator



GENERAL CHARACTERISTICS

Filament	Thoriated Tungsten
Voltage	6.3 volts (ac or dc)
Current	4 amperes
Amplification Factor	160
Direct Interelectrode Capacitances	
Grid to Plate	5.5 $\mu\mu f$
Grid to Filament	5.5 $\mu\mu f$
Plate to Filament	0.6 $\mu\mu f$

MAXIMUM CCS AND ICAS RATINGS AND TYPICAL OPERATING CONDITIONS

CCS = Continuous Commercial Service

ICAS = Intermittant Commercial and Amateur Service

A.F. Power Amplifier and Modulator—Class B

	Maximum Rating per Tube		Typical Operation Two Tubes	
	CCS	ICAS	CCS	ICAS
D.C. Plate Voltage	1250	1500	1250	1500
D.C. Grid Voltage	....	....	0	—9
Peak A.F. Grid to Grid Voltage	....	....	130	150
Zero Sig. D.C. Plate Current (ma)	....	....	48	20
Max. Sig. D.C. Plate Current (ma)[1]	150	150	200	200
Load Resistance (ohms) (per tube)	....	....	3600	4400
Effective Load Resistance (ohms) (pl-pl)	....	....	14400	17600
Max. Sig. Plate Input (watts)[1]	125	150	....	....
Plate Dissipation (watts)[1]	40	50	....	....
Max. Sig. Driving Power (watts) (approx.)	....	....	2.6	3.0
Max. Sig. Power Output (watts) (approx.)	....	....	175	220

R.F. Power Amplifier—Class B—Telephony

Plate Volts & Input Max. %	100	90	83
For Frequencies Indicated	60	80	100

	Maximum Rating per Tube		Typical Operation One Tube	
	CCS	ICAS	CCS	ICAS
D.C. Plate Voltage	1250	1500	1250	1500
D.C. Grid Voltage	....	....	0	—6
Peak R.F. Grid Voltage	....	....	26	35
D.C. Plate Current (ma)	60	60	48	50
Plate Input (watts)	60	75	....	....
D.C. Grid Current (ma) (approx.)	....	....	6	6
Plate Dissipation (watts)	40	50	....	....
Driving Power (watts) (approx.)[2]	....	....	1	1.5
Power Output (watts) (approx.)	....	....	20	25

Plate Modulated R.F. Power Amplifier Class C—Telephony

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

Plate Volts & Input Max. %	100	75	60
For Frequencies Indicated (mc)	60	80	100

(continued)

	Maximum Rating per Tube		Typical Operation One Tube	
	CCS	ICAS	CCS	ICAS
D.C. Plate Voltage	1000	1250	1000	1250
D.C. Grid Voltage	—200	—200	—100	—125
From Grid Resistor (ohms)	....	....	2000	2500
Peak R.F. Grid Voltage	....	....	195	230
D.C. Plate Current (ma)	105	125	105	125
Plate Input (watts)	105	155	....	....
D.C. Grid Current (ma) (approx.)	50	50	50	50
Plate Dissipation (watts)	27	40	....	....
Driving Power (watts) (approx.)	....	....	9	11
Power Output (watts) (approx.)	....	....	82	120

R.F. Power Amplifier and Oscillator—Class C

Key-down conditions without modulation[3]

Plate Volts & Input Max. %	100	75	60
For Frequencies Indicated (mc)	60	80	100

	Maximum Rating per Tube		Typical Operation One Tube	
	CCS	ICAS	CCS	ICAS
D.C. Plate Voltage	1250	1500	1250	1250
D.C. Grid Voltage	—200	—200	—87.5	—113
From Grid Resistor (ohms)	....	....	2500	3200
Or Cathode Resistor (ohms)	....	....	550	610
Peak R.F. Grid Voltage	....	....	180	225
D.C. Plate Current (ma)	125	150	125	150
Plate Input (watts)	155	225	....	....
D.C. Grid Current (ma) (approx.)	50	50	35	35
Plate Dissipation (watts)	40	55	....	....
Driving Power (watts) (approx.)	....	....	7	8
Power Output (watts) (approx.)	....	....	115	170

NOTES:

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

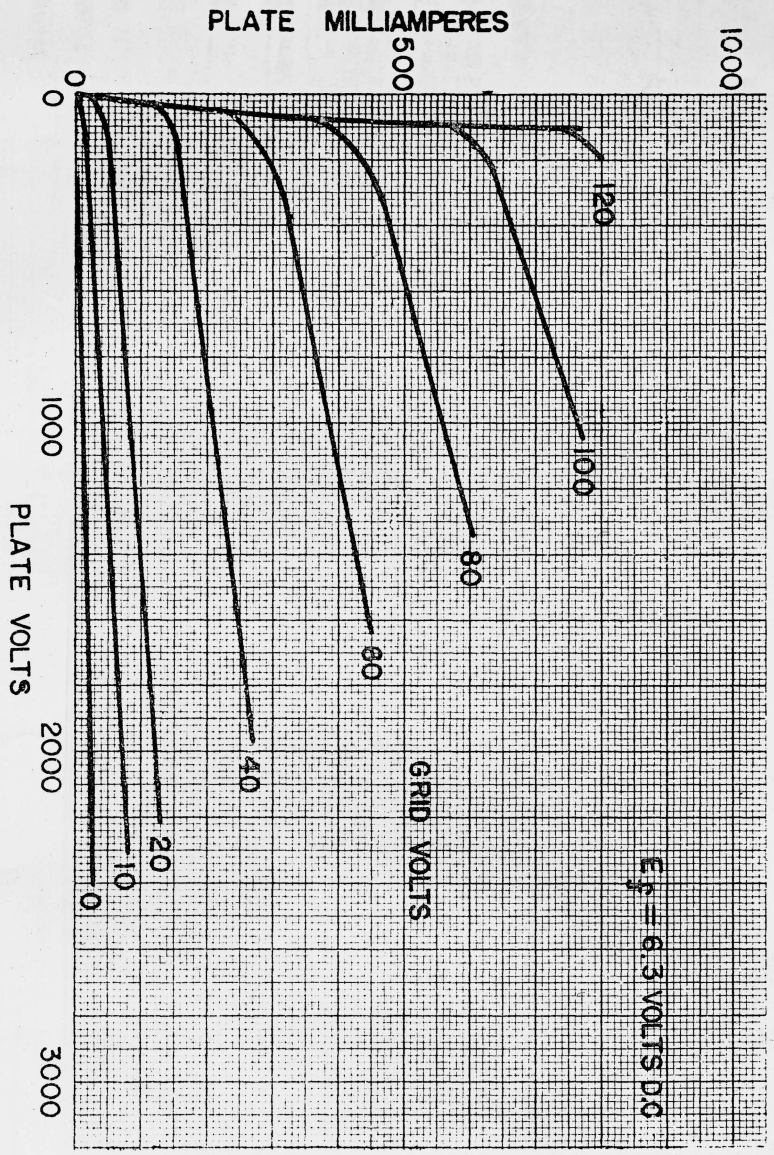
[2]At crest of audio-frequency cycle of sine-wave form.

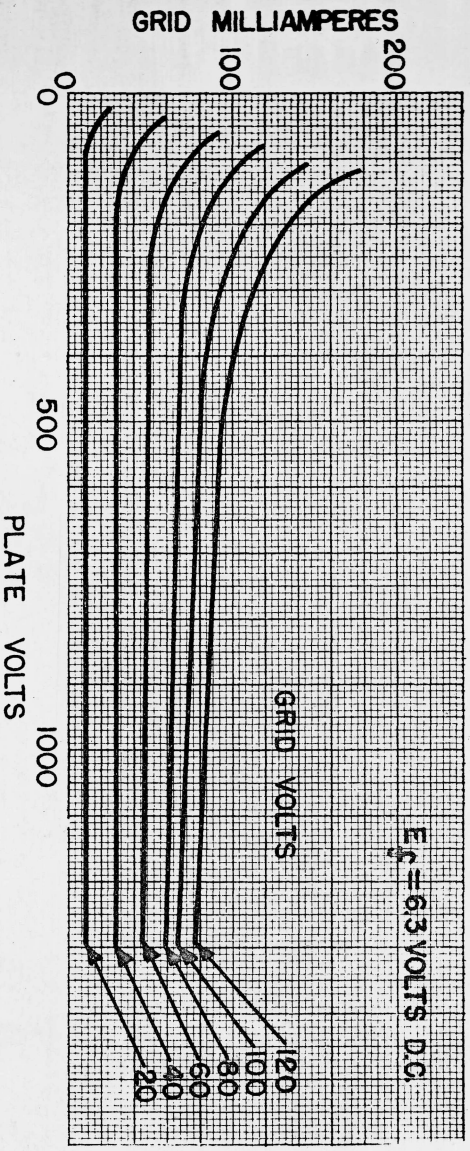
[3]Modulation essentially negative may be used if the positive peak of the audio-frequency envelope does not exceed 115% of the carrier conditions.

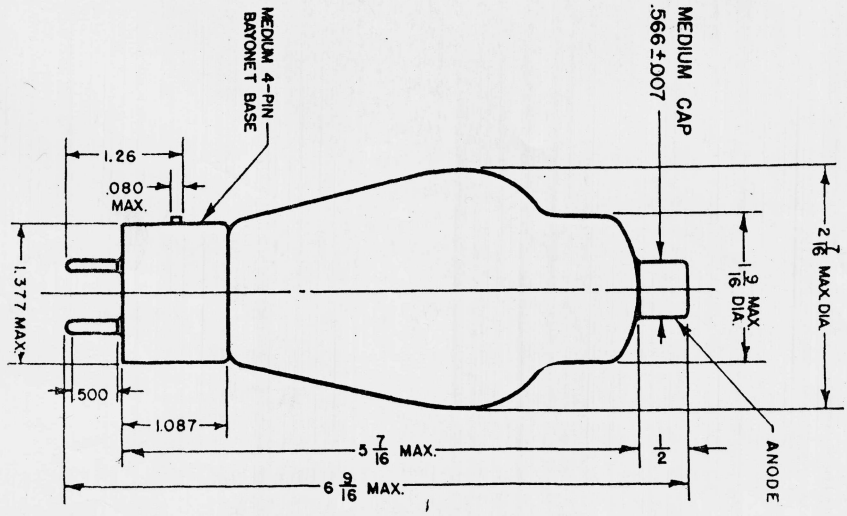
WATER AND FORCED-AIR COOLED POWER TUBES

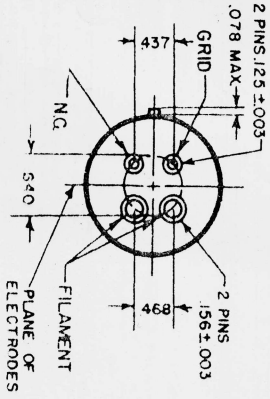
811

811—AMPEREX TRANSMITTING TUBE









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