

AMPEREX TRANSMITTING TUBE 833-A

R.F. Power Amplifier, Oscillator, A.F. Power Amplifier, or Modulator

MAXIMUM RATINGS AND TYPICAL OPERATING CONDITIONS

A.F. Power Amplifier and Modulator—Class B

	Convection Cooling		Forced-Air Cooling**	
	CCS	CCS	CCS	ICAS
D.C. Plate Volts	3000	4000	4000	4000
D.C. Plate Current, Max.-Sig. (ma.)*	500	500	500	500
Plate Input, Max.-Sig. (watts)*	1125	1600	1800	1800
Plate Dissipation (watts)*	300	400	450	450

Typical Operation:

Unless otherwise specified, values are for 2 tubes.

	CCS	CCS	ICAS
D.C. Plate Voltage	3000	4000	4000
D.C. Plate Current, Zero-Sig. (ma.)	100	100	100
D.C. Plate Current, Max.-Sig. (ma.)	750	800	900
D.C. Grid Voltage†	-70	-100	-100
Grid-to-Grid Voltage, Peak A.F.	400	480	510
Load Resis. (ohms) (per tube)	2375	3000	2750
Effec. Load Resis. (ohms) (Plate to Plate)	9500	12000	11000
Max.-Sig. Drive Power (watts)	20	29	38
Max.-Sig. Power Out. (watts)	1650	2400	2700

R.F. Power Amplifier—Class B

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

	Convection Cooling		Forced-Air Cooling**	
	CCS	CCS	CCS	ICAS
D.C. Plate Voltage	3000	4000	4000	4000
D.C. Plate Current (ma.)	300	300	300	300
Plate Input (watts)	450	600	675	675
Plate Dissipation (watts)	300	400	450	450
Plate Volts and Input Max. % for 20MC	100%	100%	100%	100%
Plate Volts and Input Max. % for 30MC	100%
Plate Volts and Input Max. % for 50MC	98%	97%	97%	97%
Plate Volts and Input Max. % for 75MC	94%	93%	93%	93%
Typical Operation:				
D.C. Plate Voltage	3000	4000	4000	4000
D.C. Plate Current (ma.)	150	150	150	150
D.C. Grid Voltage†	-70	-120	-120	-120
Grid Voltage, Peak R.F.	90	120	130	130
D.C. Grid Current (ma.)	2	2	3	3
Driving Power (watts)§	10	14	21	21
Power Output (watts)	150	225	250	250

Plate Modulated R.F. Power Amplifier Class C

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

	Convection Cooling		Forced-Air Cooling	
	CCS	CCS	CCS	ICAS
D.C. Plate Voltage	2500	3000	4000	4000
D.C. Plate Current (ma.)	400	450	450	450
Plate Input (watts)	835	1250	1800	1800
Plate Dissipation (watts)	200	270	350	350

GENERAL CHARACTERISTICS

Filament Voltage	10
Filament Current (amps)	10
Amplification Factor	35
Direct Interelectrode Capacitances:	
Grid to Plate	6.3 $\mu\mu\text{f}$
Grid to Filament	12.3 $\mu\mu\text{f}$
Plate to Filament	8.5 $\mu\mu\text{f}$

(Continued from Previous Column)

	CCS	CCS	ICAS
Plate Volts and Input Max. % for 20MC	100%	100%	100%
Plate Volts and Input Max. % for 30MC	100%
Plate Volts and Input Max. % for 50MC	90%	83%	83%
Plate Volts and Input Max. % for 75MC	72%	65%	65%
D.C. Grid Voltage	-500	-500	-500
D.C. Grid Current (ma.)	75	100	100

Typical Operation:

D.C. Plate Voltage	2500	3000	4000
D.C. Plate Current (ma.)	335	415	450
D.C. Grid Voltage (fixed)	-300	-300	-325
From Grid Resistor (ohms)	4000	3600	3600
Grid Voltage, Peak R.F.	460	490	520
D.C. Grid Current (ma.)	75	85	90
Driving Power (watts)	30	37	42
Power Output (watts)	635	1000	1500

R.F. Power Amplifier and Oscillator—Class C

Key-down conditions per tube without modulation†

	Convection Cooling		Forced-Air Cooling	
	CCS	CCS	CCS	ICAS
D.C. Plate Voltage	3000	4000	4000	4000
D.C. Plate Current (ma.)	500	500	500	500
Plate Input (watts)	1250	1800	2000	2000
Plate Dissipation (watts)	300	400	450	450
Plate Volts and Input Max. % for 20MC	100%	100%	100%	100%
Plate Volts and Input Max. % for 30MC	100%
Plate Volts and Input Max. % for 50MC	90%	83%	83%	83%
Plate Volts and Input Max. % for 75MC	72%	65%	65%	65%
D.C. Grid Voltage	-500	-500	-500	-500
D.C. Grid Current (ma.)	75	100	100	100

Typical Operation:

D.C. Plate Voltage	3000	4000	4000
D.C. Plate Current (ma.)	415	450	500
D.C. Grid Voltage (fixed)	-200	-200	-225
From Grid Resis. (ohms)	3500	2650	2400
From Cathode Resis. (ohms)	425	380	380
Grid Voltage, Peak R.F.	360	375	415
D.C. Grid Current (ma.)	55	75	95
Driving Power (watts)	20	26	35
Power Output (watts)	1000	1440	1600

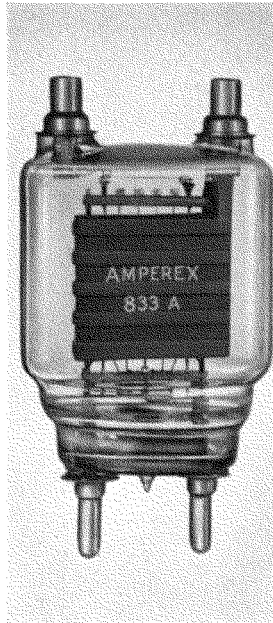
*Averaged over any A.F. cycle of sine-wave form.

**An air flow of 40 cubic feet per minute is required and above temperature must not exceed 145°C.

†Grid voltages are given with respect to the midpoint of filament operated on A-C. If D-C is used, each stated value of grid voltage should be decreased by 7 volts and the circuit returns connected to the negative end of the filament.

‡Modulation essentially negative may be used if the positive peak of the A.F. envelope does not exceed 115% of the carrier.

§At crest of A.F. cycle with modulation factor of 1.0.



AMPEREX

833-A

833-A - AMPEREX TRANSMITTING TUBE

