

Typical Operation:

DC Plate Voltage	750	500	750	500	750	750	volts
DC Grid-No.2 Voltage*	190	200	200	200	200	200	volts
From series resistor of	40000	13000	32000	13000	32000	27500	ohms
DC Grid-No.1 Voltage ^Δ	-50	-45	-50	-45	-50	-50	volts
From grid-No.1 resistor of	12500	3000	7200	3000	7200	4200	ohms
From cathode resistor of	360	170	270	170	270	200	ohms
Peak RF Grid-No.1-to-Grid-No.1 Voltage	116	128	124	128	124	134	volts
DC Plate Current	120	230	160	230	160	200	ma
DC Grid-No.2 Current	14	23	17	23	17	20	ma
DC Grid-No.1 Current (Approx.)	4	15	7	15	7	12	ma
Driving Power (Approx.)	0.3	0.9	0.4	0.9	0.4	0.8	watt
Power Output (Approx.)	70	83	90	83	90	115	watts

Maximum Circuit Values (CCS or ICAS conditions):

Grid-No.1-Circuit Resistance	15000 max	ohms
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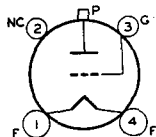
Key-down conditions per tube without amplitude modulation. Amplitude modulation essentially negative may be used if the positive peak of the audio-frequency envelope does not exceed 115 per cent of the carrier conditions.

* Obtained preferably from separate source, from plate-voltage supply with a voltage divider, or through series resistor of value shown. The grid-No.2 voltage must not exceed 600 volts under key-up conditions.

Δ Obtained from fixed supply, by grid-No.1 resistor, by cathode resistor, or by combination methods.

POWER TRIODE

Thoriated-tungsten-filament type used as af power amplifier and modulator and as rf power amplifier and oscillator. May be used with full input up to 15 Mc and with reduced input up to 60 Mc. Requires Small four-contact socket and may be mounted in vertical position with base down, or in horizontal position with pins 1 and 4 in vertical plane. OUTLINE 43, Outlines Section. Plate shows no color when tube is operated at maximum CCS ratings. The 830-B is used principally for renewal purposes.



830-B

FILAMENT VOLTAGE (AC/DC)	10	volts
FILAMENT CURRENT	2	amperes
AMPLIFICATION FACTOR	25	
DIRECT INTERELECTRODE CAPACITANCES:		
Grid to plate	11	μf
Grid to filament	5	μf
Plate to filament	1.8	μf

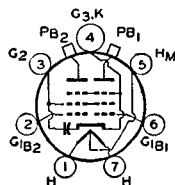
Maximum CCS Ratings:

	Class B Modulator	Class C Telegraphy#	
DC PLATE VOLTAGE	1000 max	1000 max	volts
DC GRID VOLTAGE		-300 max	volts
DC PLATE CURRENT	150*■ max	150 max	ma
DC GRID CURRENT		30 max	ma
PLATE INPUT	150*■ max	150 max	watts
PLATE DISSIPATION	60 max	60 max	watts

Key-down conditions per tube without amplitude modulation. Amplitude modulation essentially negative may be used if the positive peak of the audio-frequency envelope does not exceed 115 per cent of the carrier conditions.

* For maximum-signal conditions.

■ Averaged over any audio-frequency cycle of sine-wave form.



TWIN BEAM POWER TUBE

Heater-cathode type having mid-tapped heater used as rf power amplifier and oscillator. May be used with full input up to 200 Mc. For operation at 250 Mc, plate voltage and plate

832-A

input should be reduced to 89 per cent of maximum ratings. Class C Telegraphy maximum plate dissipation (per tube), CCS 15 watts, ICAS 20 watts. Requires

RCA Transmitting Tubes

Septar seven-contact socket and may be mounted in any position. OUTLINE 12, Outlines Section. Plates show no color when tube is operated at maximum CCS or ICAS ratings.

HEATER ARRANGEMENT	Series	Parallel	
HEATER VOLTAGE (AC/DC)	12.6 ± 10%	6.3 ± 10%	volts
HEATER CURRENT	0.8	1.6	amperes
TRANSCONDUCTANCE (Each unit)*	3500		μmhos
MU-FACTOR, Grid No.2 to Grid No.1 (Each unit)**	6.5		
DIRECT INTERELECTRODE CAPACITANCES (Each unit): [□]			
Grid No.1 to plate	0.07 max		μμf
Grid No.1 to cathode, grid No.3, grid No.2, and heater mid-tap	8.0		μμf
Plate to cathode, grid No.3, grid No.2, and heater mid-tap	3.8		μμf
Grid No. 2 to cathode (including internal Grid-No. 2 by-pass capacitor)	65		μμf

* Plate volts 250; grid-No.2 volts, 135; plate milliamperes, 30.

** Plate and grid-No.2 volts, 250; plate milliamperes, 30.

□ With external shield in plane of seal flange.

PLATE-MODULATED PUSH-PULL RF POWER AMPLIFIER—Class C Telephony

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

Maximum Ratings:	CCS	ICAS	
DC PLATE VOLTAGE	600 max	600 max	volts
DC GRID-No.2 (SCREEN-GRID) VOLTAGE	250 max	250 max	volts
DC GRID-No.1 (CONTROL-GRID) VOLTAGE	-175 max	-175 max	volts
DC PLATE CURRENT	75 max	95 max	ma
DC GRID-No.1 CURRENT	6 max	6 max	ma
PLATE INPUT	22 max	36 max	watts
GRID-No.2 INPUT	3.4 max	5 max	watts
PLATE DISSIPATION	10 max	15 max	watts
PEAK HEATER-CATHODE VOLTAGE:			
Heater negative with respect to cathode	100 max	100 max	volts
Heater positive with respect to cathode	100 max	100 max	volts

Typical Operation:

DC Plate Voltage	425	600	600	volts
DC Grid-No.2 Voltage [‡]	200	200	200	volts
From series resistor of	14000	25000	20000	ohms
DC Grid-No.1 Voltage [§]	-60	-65	-70	volts
From grid-No.1 resistor of	25000	25000	23000	ohms
Peak RF Grid-No.1-to-Grid-No.1 Voltage	140	150	160	volts
DC Plate Current	52	36	60	ma
DC Grid-No.2 Current	16	16	20	ma
DC Grid-No.1 Current (Approx.)	2.4	2.6	3	ma
Driving Power (Approx.)	0.15	0.18	0.21	watt
Power Output (Approx.)	16	17	26	watts

Maximum Circuit Values (CCS or ICAS conditions):

Grid-No.1-Circuit Resistance	25000 max	ohms
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[‡] Obtained preferably from separate source modulated along with the plate supply or from the modulated plate supply through series resistor of value shown.

[§] Obtained from grid-No.1 resistor of value shown or from a combination of grid-No.1 resistor with either fixed supply or cathode resistor.

PUSH-PULL RF POWER AMPLIFIER AND OSCILLATOR—Class C Telegraphy#

and

PUSH-PULL RF POWER AMPLIFIER—Class C FM Telephony

Maximum Ratings:	CCS	ICAS	
DC PLATE VOLTAGE	750 max	750 max	volts
DC GRID-No.2 VOLTAGE	250 max	250 max	volts
DC GRID-No.1 VOLTAGE	-175 max	-175 max	volts
DC PLATE CURRENT	90 max	115 max	ma
DC GRID-No.1 CURRENT	6 max	6 max	ma
PLATE INPUT	36 max	50 max	watts
GRID-No.2 INPUT	5 max	5 max	watts
PLATE DISSIPATION	15 max	20 max	watts
PEAK HEATER-CATHODE VOLTAGE:			
Heater negative with respect to cathode	100 max	100 max	volts
Heater positive with respect to cathode	100 max	100 max	volts

Typical Operation:

DC Plate Voltage	500	750	750	volts
DC Grid-No.2 Voltage*	200	200	200	volts
From series resistor of	21000	37000	25000	ohms
DC Grid-No.1 Voltage ^Δ	-65	-65	-50	volts
From grid-No.1 resistor of	25000	23000	12500	ohms
From cathode resistor of	730	1000	550	ohms
Peak RF Grid-No.1-to-Grid-No.1 Voltage	150	150	130	volts
DC Plate Current	72	48	65	ma
DC Grid-No.2 Current	14	15	22	ma
DC Grid-No.1 Current (Approx.)	2.6	2.8	4.0	ma
Driving Power (Approx.)	0.18	0.19	0.24	watt
Power Output (Approx.)	26	26	35	watts

Maximum Circuit Values (CCS or ICAS conditions):

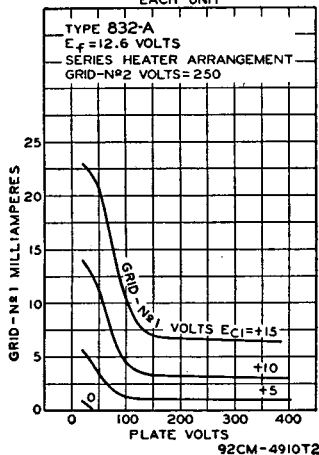
Grid-No.1-Circuit Resistance..... 25000 max ohms

Key-down conditions per tube without amplitude modulation. Amplitude modulation essentially negative may be used if the positive peak of the audio-frequency envelope does not exceed 115 per cent of the carrier conditions.

* Obtained from separate source, from plate-voltage supply with a voltage divider, or from series resistor of value shown. The grid-No.2 voltage must not exceed 600 volts under key-up conditions.

^Δ Obtained from fixed supply, by grid-No. 1 resistor, by cathode resistor, or by combination methods.

TYPICAL CHARACTERISTICS EACH UNIT



AVERAGE CHARACTERISTICS EACH UNIT

