

HIGH-MU TRIODE

Disk-seal lighthouse type used as rf power amplifier and cw oscillator at frequencies up to 1500 Mc. Class C Telegraphy maximum CCS plate dissipation, 12 watts. Requires Octal socket and may be operated in any position. OUTLINE 10, Outlines Section. The 2C43 is used principally for renewal purposes.

2C43

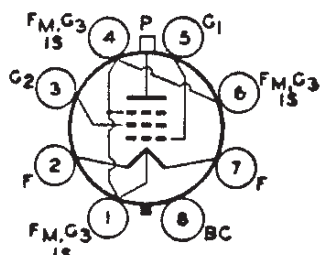
HEATER VOLTAGE (AC/DC)	6.3 \pm 5%	volts
HEATER CURRENT	0.9	ampere
TRANSCONDUCTANCE*	8100	μ mhos
AMPLIFICATION FACTOR*	50	
DIRECT INTERELECTRODE CAPACITANCES:		
Grid to plate	1.8	μ f
Grid to cathode	3.0	μ f
Plate to cathode	0.04 max	μ f
Cathode rf connection to cathode	100	μ f
SEAL TEMPERATURE	175 max	$^{\circ}$ C

* Plate-supply volts, 250; cathode resistor, 100 ohms; plate milliamperes, 21.

RF POWER AMPLIFIER AND OSCILLATOR—Class C Telegraphy

Maximum CCS Ratings:

DC PLATE VOLTAGE	500 max	volts
DC PLATE CURRENT	40 max	ma
DC CATHODE CURRENT	55 max	ma
PLATE DISSIPATION	12 max	watts



BEAM POWER TUBE

Glass-octal type having quick-heating coated filament used as af power amplifier and modulator and as rf power amplifier and oscillator in mobile- and emergency-communications

2E24

equipment. May be used with full input up to 125 Mc and with reduced input up to 175 Mc. Class C Telegraphy maximum plate dissipation, CCS 10 watts, ICAS 13.5 watts.

FILAMENT VOLTAGE (AC/DC)	6.3	volts
FILAMENT CURRENT	0.65	ampere
FILAMENT HEATING TIME	less than 2 seconds	
TRANSCONDUCTANCE*	3200	μ mhos
MU-FACTOR, Grid No.2 to Grid No.1**	7.5	
DIRECT INTERELECTRODE CAPACITANCES: ^o		
Grid No.1 to plate	0.11 max	μ f
Grid No.1 to filament mid-tap, grid No.3, internal shield, and grid No.2	8.5	μ f
Plate to filament mid-tap, grid No.3, internal shield, grid No.2, and base sleeve	6.5	μ f
BULB TEMPERATURE (At hottest point)	210 max	$^{\circ}$ C

* Plate volts, 500; grid-No.2 volts, 200; plate milliamperes, 16.

** Plate and grid-No.2 volts, 200; plate milliamperes, 16.

^o Without external shield; with base sleeve connected to ground.

AF POWER AMPLIFIER AND MODULATOR—Class AB₂

Maximum Ratings:

	CCS	ICAS	
DC PLATE VOLTAGE	400 max	500 max	volts
DC GRID-NO.2 VOLTAGE	200 max	200 max	volts
MAXIMUM-SIGNAL DC PLATE CURRENT	75 max	75 max	ma
MAXIMUM-SIGNAL PLATE INPUT	30 max	37.5 max	watts
MAXIMUM-SIGNAL GRID-NO.2 INPUT	2.5 max	2.5 max	watts
PLATE DISSIPATION	10 max	13.5 max	watts

Typical Operation (Values are for 2 tubes):

DC Plate Voltage	400	500	volts
DC Grid-No.2 Voltage	125	125	volts
DC Grid-No.1 Voltage†	-15	-15	volts
Peak AF Grid-No.1-to-Grid-No.1 Voltage	82	82	volts

RCA Transmitting Tubes

Zero-Signal DC Plate Current.....	18	20	ma
Maximum-Signal DC Plate Current.....	150	150	ma
Zero-Signal DC Grid-No.2 Current.....	0.6	0.6	ma
Maximum-Signal DC Grid-No.2 Current.....	26	28	ma
Effective Load Resistance (Plate to plate).....	7000	9000	ohms
Maximum-Signal Driving Power (Approx.).....	0.43	0.46	watt
Maximum-Signal Power Output (Approx.).....	42	54	watts

Maximum Circuit Values (CCS or ICAS conditions):

Grid-No.1-Circuit Resistance.....	30000† max	ohms
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■ Averaged over any audio-frequency cycle of sine-wave form.

† For ac filament supply.

‡ For operation at less than maximum ratings, this value may be as high as 100000 ohms.

PLATE-MODULATED RF POWER AMPLIFIER—Class C Telephony

Maximum Ratings:	CCS	ICAS	
DC PLATE VOLTAGE.....	400 max	500 max	volts
DC GRID-NO.2 VOLTAGE.....	200 max	200 max	volts
DC GRID-NO.1 VOLTAGE.....	-175 max	-175 max	volts
DC PLATE CURRENT.....	60 max	70 max	ma
DC GRID-NO.1 CURRENT.....	3.5 max	3.5 max	ma
PLATE INPUT.....	20 max	27 max	watts
GRID-NO.2 INPUT.....	1.7 max	2.3 max	watts
PLATE DISSIPATION.....	6.7 max	9 max	watts

Typical Operation:

DC Plate Voltage.....	400	500	volts
DC Grid-No.2 Voltage⊙.....	180	180	volts
From a series resistor of.....	27500	40000	ohms
DC Grid-No.1 Voltage†⊘.....	-45	-45	volts
From a grid-No.1 resistor of.....	18000	18000	ohms
Peak RF Grid-No.1 Voltage.....	61	62	volts
DC Plate Current.....	50	54	ma
DC Grid-No.2 Current.....	8	8	ma
DC Grid-No.1 Current (Approx.).....	2.5	2.5	ma
Driving Power (Approx.).....	0.15	0.16	watt
Power Output (Approx.).....	13.5	18	watts

Maximum Circuit Values (CCS or ICAS conditions):

Grid-No.1-Circuit Resistance.....	30000† max	ohms
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⊙ Obtained preferably from separate source modulated along with plate supply, or from the modulated plate supply through series resistor of value shown.

† For ac filament supply.

⊘ Obtained preferably from grid-No.1 resistor or from a combination of grid-No.1 resistor with either fixed supply or cathode resistor.

‡ For operation at less than maximum ratings, this value may be as high as 100000 ohms.

RF POWER AMPLIFIER AND OSCILLATOR—Class C Telegraphy and

RF POWER AMPLIFIER—Class C FM Telephony

Maximum Ratings:	CCS	ICAS	
DC PLATE VOLTAGE.....	500 max	600 max	volts
DC GRID-NO.2 VOLTAGE.....	200 max	200 max	volts
DC GRID-NO.1 VOLTAGE.....	-175 max	-175 max	volts
DC PLATE CURRENT.....	75 max	85 max	ma
DC GRID-NO.1 CURRENT.....	3.5 max	3.5 max	ma
PLATE INPUT.....	30 max	40 max	watts
GRID-NO.2 INPUT.....	2.5 max	2.5 max	watts
PLATE DISSIPATION.....	10 max	13.5 max	watts

Typical CCS Operation:

	125 Mc		
DC Plate Voltage.....	400	500	volts
DC Grid-No.2 Voltage*.....	200	190	volts
From a series resistor of.....	20000	29000	ohms
DC Grid-No.1 Voltage†*.....	-45	-45	volts
From a grid-No.1 resistor of.....	15000	15000	ohms
Peak RF Grid-No.1 Voltage.....	62	65	volts
DC Plate Current.....	75	60	ma
DC Grid-No.2 Current.....	10	10.5	ma
DC Grid-No.1 Current.....	3	3	ma

Technical Data

Driving Power (Approx.).....	0.19	0.2	watt
Power Output (Approx.).....	20	20	watts
Typical ICAS Operation:			
	125 Mc	160 Mc	
DC Plate Voltage.....	600	350	volts
DC Grid-No.2 Voltage*.....	195	170	volts
From a series resistor of.....	40500	18000	ohms
DC Grid-No.1 Voltage†•.....	-50	-50	volts
From a grid-No.1 resistor of.....	16700	16500	ohms
Peak RF Grid-No.1 Voltage.....	71	70	volts
DC Plate Current.....	66	85	ma
DC Grid-No.2 Current.....	10	10	ma
DC Grid-No.1 Current.....	3	3	ma
Driving Power (Approx.).....	0.21	2	watts
Power Output (Approx.).....	27	16.5	watts

Maximum Circuit Values (CCS or ICAS conditions):

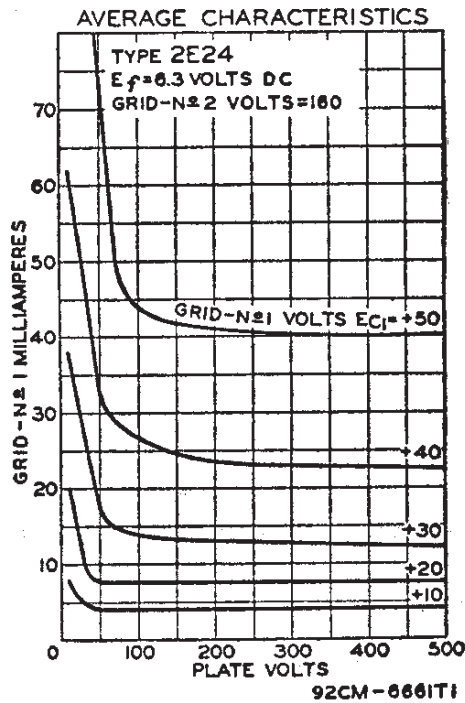
Grid-No.1-Circuit Resistance..... 30000† max ohms

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

† For ac filament supply.

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

‡ For operation at less than maximum ratings, this value may be as high as 100000 ohms.



OPERATING CONSIDERATIONS

Type 2E24 requires Octal socket and may be operated in vertical position with base up or down, or in horizontal position with pins 3 and 7 in vertical plane. Effective rf grounding and simplified shielding of input from output are facilitated by the base sleeve with separate base-pin connection and the single base-pin connection for filament mid-tap, grid No.3, and internal shield. OUTLINE 15, *Outlines* Section.

For operation at 150 Mc, plate voltage and plate input should be reduced to 83 per cent of maximum ratings; at 160 Mc, to 75 per cent; at 175 Mc, to 68 per cent. Plate shows no color when the tube is operated at maximum CCS or ICAS ratings.

