1624

TRANSMITTING BEAM POWER AMPLIFIER

Filament	Coated	
Voltage	2.5	a-c or d-c volts
Current	2.0	amp.
Transconductance for plate current of 50 ma.	4000 approx.	μmhos
Direct Interelectrode Capacitances:		
Grid to Plate	0.25 max.⊛	μμf
Input	11	μμf
Output	7.5	μμf
Maximum Overall Length		5-3/4"
Maximum Diameter		2-1/16"
Bulb		ST-16
Cap		Small Metal
Base		Medium 5-Pin
RCA Socket		Stock No.9920

Maximum Ratings Are Absolute Values

MAXIMUM RATINGS and TYPICAL OPERATING CONDITIONS

PUSH-PULL AMPLIFIER - Class AB_2 ††

D-C Plate Voltage	600 max.	volts
D-C Screen Voltage (Grid #2)	300 max.	volts
Max.-Sig. D-C Plate Current *	90 max.	ma.
Max.-Sig. Plate Input *	54 max.	watts
Screen Input *	3.5 max.	watts
Plate Dissipation *	25 max.	watts

Typical Operation (Fixed bias):

Unless otherwise specified, values are for 2 tubes

D-C Plate Voltage	400	600	volts
D-C Screen Voltage	300	300	volts
D-C Grid Voltage (Grid #1) □ o	-16.5	-25	volts
Peak A-F Grid-to-Grid Voltage	77	106	volts
Zero-Sig. D-C Plate Current	75	42	ma.
Max.-Sig. D-C Plate Current	150	180	ma.
Zero-Sig. D-C Screen Current	6.5	5	ma.
Max.-Sig. D-C Screen Current	11.5	15	ma.
Load Resistance (per tube)	1500	1870	ohms
Effective Load Res. (plate to plate)	6000	7500	ohms
Peak Grid Input Power	0.4	1.2	watts
Max.-Sig. Power Output **	36	72	approx.watts

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

o For a-c filament supply, if d.c. is used, the stated voltages should be decreased by 1.75 volts.

□ Driver stage should be capable of supplying the grids of the class AB_2 stage with the specified peak grid voltage at low distortion. The effective resistance per grid circuit should be kept below 500 ohms and the effective impedance at the highest desired response frequency should not exceed 700 ohms.

** With zero-impedance driver and perfect regulation, plate-circuit distortion does not exceed 2%. In practice, plate-voltage regulation, screen-voltage regulation, and grid-bias regulation should not be greater than 5%, 5%, and 3%, respectively.

⊛ With external shielding.

†† See end of tabulation.

GRID-MODULATED R-F POWER AMPLIFIER - Class C Telephony

Carrier conditions per tube for use with a max. modulation fact. of 1.0

D-C Plate Voltage		600 max.	volts
D-C Screen Voltage (Grid #2)		300 max.	volts
D-C Grid Voltage (Grid #1)		-200 max.	volts
D-C Plate Current		75 max.	ma.
Plate Input		37.5 max.	watts
Screen Input		2.5 max.	watts
Plate Dissipation		25 max.	watts
Typical Operation:			
D-C Plate Voltage	400	600	volts
D-C Screen Voltage #	250	300	volts
D-C Grid Voltage +	-50	-60	volts
Peak R-F Grid Voltage	58	58	volts
Peak A-F Grid Voltage	30	30	volts
D-C Plate Current	31	40	ma.
D-C Screen Current	1.5	2.5	ma.

\# Obtained from a fixed supply or from a separate source.

+ See end of tabulation.

← Indicates a change

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TRANSMITTING BEAM POWER AMPLIFIER

(continued from preceding page)

D-C Grid Current	1.2	0	approx.ma.
Driving Power °°	0.25	0.4	approx.watt
Power Output	3.8	8	approx.watts

°° At crest of audio-frequency cycle with modulation factor of 1.0.

PLATE-MODULATED R-F POWER AMPLIFIER - Class C Telephony

Carrier conditions per tube for use with a max. modulation fact. of 1.0

D-C Plate Voltage		500 max.	volts
D-C Screen Voltage (Grid #2)		300 max.	volts
D-C Grid Voltage (Grid #1)		-200 max.	volts
D-C Plate Current		75 max.	ma.
D-C Grid Current		5 max.	ma.
Plate Input		37.5 max.	watts
Screen Input		2.5 max.	watts
Plate Dissipation		16.5 max.	watts
Typical Operation:			
D-C Plate Voltage □	325	500	volts
D-C Screen Voltage	285	275	volts
D-C Grid Voltage ★ +	-50	-50	volts
	18000	15000	ohms
Peak R-F Grid Voltage	70	80	volts
D-C Plate Current	62	75	ma.
D-C Screen Current	7.5	9	ma.
D-C Grid Current	2.8	3.3	approx.ma.
Driving Power	0.18	0.25	approx.watt
Power Output	13	24	approx.watts

□ Obtained preferably from a modulated fixed supply.

★ Obtained by grid resistor of value shown or by suitable combination of grid resistor with either fixed supply or cathode resistor.

R-F POWER AMPLIFIER & OSCILLATOR - Class C Telegraphy

Key-down conditions per tube without modulation ##

D-C Plate Voltage		600 max.	volts
D-C Screen Voltage (Grid #2)		300 max.	volts
D-C Grid Voltage (Grid #1)		-200 max.	volts
D-C Plate Current		90 max.	ma.
D-C Grid Current		5 max.	ma.
Plate Input		54 max.	watts
Screen Input		3.5 max.	watts
Plate Dissipation		25 max.	watts
Typical Operation:			
D-C Plate Voltage	400	600	volts
D-C Screen Voltage ●	300	300	volts
D-C Grid Voltage ◊ +	-55	-60	volts
	11000 ⊕	12000 ⊕	ohms
	610 ⊕	570 ⊕	ohms
Peak R-F Grid Voltage	80	95	volts
D-C Plate Current	75	90	ma.
D-C Screen Current	10.5	10	ma.
D-C Grid Current	5	5	approx. ma.
Driving Power	0.36	0.43	approx. watt
Power Output	19.5	35	approx. watts

● Obtained preferably from a fixed supply of value shown.

◊ Obtained by grid leak(⊕) or cathode resistor (⊕) of values shown, fixed supply, or by combination methods.

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

\+ The total effective grid-circuit resistance should not exceed 25000 ohms.

†† Subscript (2) indicates that grid current flows during a part of input cycle.

◄ Indicates a change

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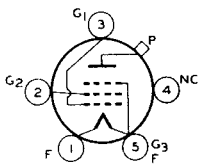
OUTLINE DIMENSIONS for the 1624 are the same as those for the 807. For CURVES, refer to Type 1619.

Data on operating frequencies for the 1624 are given on the sheet TRANS. TUBE RATINGS vs FREQUENCY. ←

BOTTOM VIEW OF
SOCKET CONNECTIONS



Pin 1 – Filament
Pin 2 – Grid No.2
Pin 3 – Grid No.1
Pin 4 – No Connection
Pin 5 – Filament –, Grid No.3
Cap – Plate

MOUNTING POSITION

VERTICAL: Base up or down.
HORIZONTAL: No.

← Indicates a change.

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