



1624

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.° | μuf |
| Input | 11 | μuf |
| Output | 7.5 | μuf |
| 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 AB₂ ††

| | | |
|-------------------------------|----------|-------|
| 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) □ ° | -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.

° 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 AB₂ 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

Jan. 1, 1943

RCA VICTOR DIVISION

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

DATA



TRANSMITTING BEAM POWER AMPLIFIER

(continued from preceding page)

| | | | |
|-----------------------------|------|-----|----------------------|
| D-C Grid Current | 1.2 | 0 | <u>approx. ma.</u> |
| Driving Power ^{oo} | 0.25 | 0.4 | <u>approx. watt</u> |
| Power Output | 3.8 | 8 | <u>approx. watts</u> |

^{oo} 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 |
| | | 18000 | 15000 |
| Peak R-F Grid Voltage | | 70 | 80 |
| D-C Plate Current | | 62 | 75 |
| D-C Screen Current | | 7.5 | 9 |
| D-C Grid Current | | 2.8 | 3.3 |
| Driving Power | 0.18 | 0.25 | <u>approx. watt</u> |
| Power Output | 13 | 24 | <u>approx. watts</u> |

[□] 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 |
| | | 11000 ⊕ | 12000 ⊕ |
| | | 610 ⊕ | 570 ⊕ |
| Peak R-F Grid Voltage | | 80 | 95 |
| D-C Plate Current | | 75 | 90 |
| D-C Screen Current | | 10.5 | 10 |
| D-C Grid Current | | 5 | 5 |
| Driving Power | 0.36 | 0.43 | <u>approx. watt</u> |
| Power Output | 19.5 | 35 | <u>approx. watts</u> |

● 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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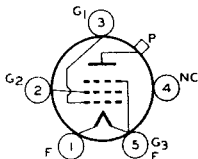
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TRANSMITTING BEAM POWER AMPLIFIER

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.

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