R-F POWER AMPLIFIER

Filament
Thoriated Tungsten
Voltage 7.5 a-c or d-c volts
Current 3.1 amp.
Amplification Factor 10.5
Direct Interelectrode Capacitances:
Grid to Plate 2.6 μf
Grid to Filament 2.2 μf
Plate to Filament 0.6 μf
Maximum Overall Length 6-7/8" 2-11/16" 20-11/16"
Bulb S-21
Base Medium 4-Pin, Bayonet
RCA Socket (Type UR-542A) Stock No.9919
Cooling— Forced air from fan directed at middle and upper portions of bulb is recommended for all classes of service above 60 Wc.

Maximum Ratings Are Absolute Values

MAXIMUM RATINGS and TYPICAL OPERATING CONDITIONS

R-F POWER AMPLIFIER—Class B Telephony

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

D-C Plate Voltage 1250 max. volts
D-C Plate Current 100 max. ma.
Plate Input 75 max. watts
Plate Dissipation 50 max. watts

Typical Operation:

D-C Plate Voltage 750 1000 1250 volts
D-C Grid Voltage # -70 -90 -115 volts
Peak R-F Grid Voltage 90 100 115 volts
D-C Plate Current 50 50 50 ma.
D-C Grid Current ** 1.0 0.5 0 approx. ma.
Driving Power O ** 3.3 3.1 3.0 approx. watts
Power Output 11 16 20 approx. watts

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

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

D-C Plate Voltage 1000 max. volts
D-C Grid Voltage -400 max. volts
D-C Plate Current 100 max. ma.
D-C Grid Current 20 max. ma.
Plate Input 100 max. watts
Plate Dissipation 35 max. watts

Typical Operation:

D-C Plate Voltage 750 1000 volts
D-C Grid Voltage * (14500 17700 ohms
Peak R-F Grid Voltage 415 435 volts
D-C Plate Current 90 90 ma.
D-C Grid Current ** 20 17.5 approx. ma.
Driving Power ** 7.5 6.5 approx. watts
Power Output 42 58 approx. watts

* Obtained by grid-leak resistor or by partial self-bias methods.
O At crest of a-f cycle with modulation factor of 1.0.
** See next page. Indicates a change.

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## R-F POWER AMPLIFIER

(continued from preceding page)

### R-F POWER AMPLIFIER & OSCILLATOR—Class C Telegraphy

<table>
<thead>
<tr>
<th>Key-down conditions per tube without modulation**</th>
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</thead>
<tbody>
<tr>
<td>D-C Plate Voltage</td>
</tr>
<tr>
<td>D-C Grid Voltage</td>
</tr>
<tr>
<td>D-C Plate Current</td>
</tr>
<tr>
<td>D-C Grid Current</td>
</tr>
<tr>
<td>Plate Input</td>
</tr>
<tr>
<td>Plate Dissipation</td>
</tr>
</tbody>
</table>

### Typical Operation:

<table>
<thead>
<tr>
<th>D-C Plate Voltage</th>
<th>750</th>
<th>1000</th>
<th>1250</th>
<th>volts</th>
</tr>
</thead>
<tbody>
<tr>
<td>D-C Grid Voltage</td>
<td>175</td>
<td>-200</td>
<td>-225</td>
<td>volts</td>
</tr>
<tr>
<td>8750</td>
<td>11400</td>
<td>15000</td>
<td>ohms</td>
<td></td>
</tr>
<tr>
<td>1600</td>
<td>1850</td>
<td>2150</td>
<td>ohms</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Peak R-F Grid Voltage</th>
<th>300</th>
<th>325</th>
<th>350</th>
<th>volts</th>
</tr>
</thead>
<tbody>
<tr>
<td>D-C Plate Current</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>ma.</td>
</tr>
<tr>
<td>D-C Grid Current **</td>
<td>20</td>
<td>17.5</td>
<td>15 approx. ma.</td>
<td></td>
</tr>
<tr>
<td>Driving Power **</td>
<td>5.5</td>
<td>5.0</td>
<td>4.5 approx. watts</td>
<td></td>
</tr>
<tr>
<td>Power Output</td>
<td>42</td>
<td>58</td>
<td>75 approx. watts</td>
<td></td>
</tr>
</tbody>
</table>

### Notes:
- For a-c filament supply, if d.c. is used, the stated voltage values should be decreased by approx. one-half of the rated filament voltage.
- Obtained from fixed supply, by grid resistor (8750, 11400, 15000), or cathode resistor (1600, 1850, 2150).
- Modulation essentially negative may be used if the positive peak of the audio-frequency envelope does not exceed 115% of the carrier conditions.
- Subject to wide variations as explained on sheet TRANS. TUBE RATINGS.

Data on operating frequencies for the 834 are given on the sheet TRANS. TUBE RATINGS vs FREQUENCY. See also "Cooling" under this type.

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### Diagram

- **Notes:** Connections to tips P and G should be made by means of radiating connectors to which flexible circuit leads should be clamped.

### Bottom View of Socket Connections

- Pin 1 - Filament +
- Pin 2 - No Connection
- Pin 3 - No Connection
- Pin 4 - Filament -
- Pin P - Plate
- Pin G - Grid

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RCA Radiotron Division
RCA Manufacturing Company, Inc.