POWER TRIODE
FORCED-AIR-COOLED, GROUNDED-GRID TYPE

GENERAL DATA

**Electrical:**
- Filament, Multistrand Thoriated Tungsten:
  - Excitation... Single-Phase AC or DC
  - Voltage .... 6.0 ....... ac or dc volts
  - Current .... 285 ....... amp
  - Starting Current: The filament current should never exceed 425 amperes, even momentarily.
- Cold Resistance ... 0.0025 ....... ohms
- Amplification Factor ... 32
- Direct Interelectrode Capacitances (Approx.):
  - Grid to Plate .... 34 ....... μμf
  - Grid to Filament ... 62 ....... μμf
  - Plate to Filament ... 1,0 ....... μμf

**Mechanical:**
- Terminal Connections:

```
F-A Millent Posts
G-Grid-Flange
Terminal

P-Radiator-
Cooled Plate
Terminal
```

- Mounting Position ... Vertical, Filament End Up
- Maximum Overall Length ... 17-3/8"
- Maximum Diameter ... 12-3/8"
- Radiator ... Integral Part of Tube

**Air Flow:**
- Upward through Radiator ... 500 min. cfm
  - The specified air flow at a pressure of 3-3/4 inches of water should be delivered by a blower vertically upward through the radiator before and during the application of any voltages.
- To Filament Seals ... 10 cfm
  - The specified air flow must be directed into the filament header before and during the application of any voltages in order to limit the temperature of the filament and grid seals to the maximum value.

- Output-Air Temperature (from Radiator) ... 70 max. °C
- Radiator Temperature
  - (measured in thermometer well) ... 180 max. °C
- Bulb Temperature ... 180 max. °C
- Seal Temperature (filament, grid, and plate) ... 165 max. °C

**AF POWER AMPLIFIER & MODULATOR—Class B**

**Maximum CCS® Ratings, Absolute Values:**
- DC PLATE VOLTAGE ... 11500 max. volts
- MAX.—SIGNAL DC PLATE CURRENT* ... 2.5 max. amp
- MAX.—SIGNAL PLATE INPUT* ... 20 max. kw
- PLATE DISSIPATION* ... 7.5 max. kw

*: See next page.

APRIL 15, 1947
TUBE DEPARTMENT
TENTATIVE DATA 1
Typical Operation:

Values are for 2 tubes

DC Plate Voltage .................................... 8000 . volts
DC Grid Voltage ...................................... -200 . volts
Peak AF Grid-to-Grid Voltage ..................... 1030 . volts
Zero-Signal DC Plate Current .................... 0.8 . amp
Max.-Signal DC Plate Current .................... 4.5 . amp
Effective Load Resistance (plate-to-plate) ........ 4000 . ohms
Max.-Signal Driving Power (Approx.) ............. 1000 . watts
Max.-Signal Power Output (Approx.) .............. 25 . kw

RF POWER AMPLIFIER—Class B Telephony
Carrier conditions per tube for use with a max. modulation factor of 1.0

Maximum CCS° Ratings, Absolute Values:

DC PLATE VOLTAGE .................................. 11500 max. volts
DC PLATE CURRENT ................................. 2 max. amp
PLATE INPUT ........................................... 11.5 max. kw
PLATE DISSIPATION .................................... 7.5 max. kw

Typical Operation in Grounded-Filament Circuit:

DC Plate Voltage .................................... 7500 . volts
DC Grid Voltage ...................................... -175 . volts
Peak RF Grid Voltage ............................... 275 . volts
DC Plate Current .................................... 1.5 . amp
DC Grid Current (Approx.)* ....................... 0.026 . amp
Driving Power (Approx.)** ....................... 350 . watts
Power Output (Approx.) ............................. 4 . kw

Typical Operation in Grounded-Grid Circuit:

Same values as for Grounded-Filament Circuit
with the following exceptions:

Driving Power (Approx.):
Carrier ............................................... 318 . watts
Crest° .................................................. 1600 . watts
Power Output (Approx.) ............................. 4.3 . kw

PLATE-MODULATED RF POWER AMPLIFIER—Class C Telephony
Carrier conditions per tube for use with a max. modulation factor of 1.0

Maximum CCS° Ratings, Absolute Values:

DC PLATE VOLTAGE .................................. 9000 max. volts
DC GRID VOLTAGE .................................... -2000 max. volts
DC PLATE CURRENT .................................. 2 max. amp
DC GRID CURRENT .................................... 0.5 max. amp
PLATE INPUT ......................................... 13 max. kw
PLATE DISSIPATION ................................... 5 max. kw

*° See next page.

APRIL 15, 1947
TUBE DEPARTMENT
RADIO CORPORATION OF AMERICA, MARRISON, NEW JERSEY
TENTATIVE DATA
**POWER TRIODE**

**Typical Operation in Grounded-Filament Circuit:**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC Plate Voltage</td>
<td>7500</td>
</tr>
<tr>
<td>DC Grid Voltage:</td>
<td></td>
</tr>
<tr>
<td>from a fixed supply of</td>
<td>-600</td>
</tr>
<tr>
<td>from a grid resistor of</td>
<td>1450</td>
</tr>
<tr>
<td>Peak RF Grid Voltage</td>
<td>960</td>
</tr>
<tr>
<td>DC Plate Current</td>
<td>1.7</td>
</tr>
<tr>
<td>DC Grid Current (Approx.)</td>
<td>0.41</td>
</tr>
<tr>
<td>Driving Power (Approx.)</td>
<td>355</td>
</tr>
<tr>
<td>Power Output (Approx.)</td>
<td>10.5</td>
</tr>
</tbody>
</table>

**Typical Operation in Grounded-Grid Circuit:**

Same values as for Grounded-Filament Circuit with the following exceptions:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driving Power (Approx.)</td>
<td>3600</td>
</tr>
<tr>
<td>Power Output (Approx.)</td>
<td>12</td>
</tr>
</tbody>
</table>

**RF POWER AMPLIFIER & OSCILLATOR—Class C Telegraphy**

Key-down conditions per tube without amplitude modulation.**

Maximum CCS® Ratings, Absolute Values:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC PLATE VOLTAGE</td>
<td>11500</td>
</tr>
<tr>
<td>DC GRID VOLTAGE</td>
<td>-2000</td>
</tr>
<tr>
<td>DC PLATE CURRENT</td>
<td>2.5</td>
</tr>
<tr>
<td>DC GRID CURRENT</td>
<td>0.5</td>
</tr>
<tr>
<td>PLATE INPUT</td>
<td>20</td>
</tr>
<tr>
<td>PLATE DISSIPATION</td>
<td>7.5</td>
</tr>
</tbody>
</table>

**Typical Operation in Grounded-Filament Circuit:**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC Plate Voltage</td>
<td>7500</td>
</tr>
<tr>
<td>DC Grid Voltage:</td>
<td></td>
</tr>
<tr>
<td>from a fixed supply of</td>
<td>-400</td>
</tr>
<tr>
<td>from a grid resistor of</td>
<td>1450</td>
</tr>
<tr>
<td>from a cathode resistor of</td>
<td>210</td>
</tr>
<tr>
<td>Peak RF Grid Voltage</td>
<td>675</td>
</tr>
<tr>
<td>DC Plate Current</td>
<td>1.6</td>
</tr>
<tr>
<td>DC Grid Current (Approx.)</td>
<td>0.28</td>
</tr>
<tr>
<td>Driving Power (Approx.)</td>
<td>170</td>
</tr>
<tr>
<td>Power Output (Approx.)</td>
<td>9</td>
</tr>
</tbody>
</table>

**Typical Operation in Grounded-Grid Circuit:**

Same values as for Grounded-Filament Circuit with the following exceptions:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driving Power (Approx.)</td>
<td>3100</td>
</tr>
<tr>
<td>Power Output (Approx.)</td>
<td>11</td>
</tr>
</tbody>
</table>

* o ** 0 @: See next page.

APRIL 15, 1947  TUBE DEPARTMENT
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY  TENTATIVE DATA 2
RF POWER AMPLIFIER—Class C FM Telephony

Maximum CCS® Ratings, Absolute Values:

- DC PLATE VOLTAGE: 11500 max. volts
- DC GRID VOLTAGE: -2000 max. volts
- DC PLATE CURRENT: 2.5 max. amp
- DC GRID CURRENT: 0.5 max. amp
- PLATE INPUT: 20 max. kw
- PLATE DISSIPATION: 7.5 max. kw

Typical Operation in Grounded-Grid Circuit:

- DC Plate Voltage: 7500 .. volts
- DC Grid Voltage:
  - from a fixed supply of: -400 .. volts
  - from a grid resistor of: 1450 .. ohms
  - from a cathode resistor of: 210 .. ohms
- Peak RF Grid Voltage: 675 .. volts
- DC Plate Current: 1.6 .. amp
- DC Grid Current (Approx.)**: 0.28 .. amp
- Driving Power (Approx.)**: 3100 .. watts
- Power Output (Approx.): 11 .. kw

- CCS = Continuous Commercial Service.
- * Averaged over any audio-frequency cycle of sine-wave form.
- ** Subject to wide variations depending on the impedance of the plate circuit. High-impedance plate circuits require more grid current and driving power to obtain the desired output. Low-impedance plate circuits need less grid current and driving power, but plate-circuit efficiency is sacrificed. The driving stage should have a tank circuit of good regulation and should be capable of supplying considerably more than the required driving power.
- Ø At crest of audio-frequency cycle with modulation factor of 1.0.
- ▲ Carrier power of driver modulated 100%.
- ◊ Modulation essentially negative may be used if the positive peak of the audio-frequency envelope does not exceed 115% of the carrier conditions.

Data on operating frequencies for the 9C26 are given on the sheet TRANS. TUBE RATINGS vs. FREQUENCY.

CURVES

- AVERAGE FILAMENT CHARACTERISTIC,
- AVERAGE PLATE CHARACTERISTIC,
- AND
- TYPICAL GRID CHARACTERISTIC

are the same as those for Type 9C27
POWER TRIODE

TOP VIEW

SEE NOTE
2 FILAMENT POSTS
.676" ± .010" DIA.

7.328"
± .015"

30° ± .5'

3 1/8"

7 3/4"
± 1/16"

6 1/4"
MAX.

CLEARANCE HOLE
FOR NO. 8 SCREW
(12 HOLES)

SEE NOTE
GRID TERMINAL

1 13/16"

1/16" APPROX.

7 3/4"
MAX.

PLATE

13 7/8"
± 3/16"

THERMOMETER
WELL

5/16" DIA. 1 1/2" DEEP

17 3/8"
MAX.

9 1/4"

4 3/4"

AIR-COOLED
RADIATOR

8 1/8" ± 1/16"

9 1/8" ± 1/16"

12 3/8" MAX.

NOTE: FLEXIBLE CONNECTIONS ARE REQUIRED.

92CM-6751

APRIL 15, 1947

TUBE DEPARTMENT
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

CE-6751