**Medium-Mu Twin Triode**

**7-PIN MINIATURE TYPE**

*With Heater Having Controlled Warm-Up Time*

**GENERAL DATA**

**Electrical:**

- **Heater, for Unipotential Cathode:**
  - Voltage (AC or DC) ............ 6.3 volts
  - Current ..................... 0.45 ± 6% amp
  - Warm-up time (Average) .......... 11 sec

**Direct Interelectrode Capacitances (Approx.):**

<table>
<thead>
<tr>
<th>Without External Shield</th>
<th>With External Shield</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unit No. 1</strong></td>
<td></td>
</tr>
<tr>
<td>Grid to plate. .........</td>
<td>1.6 μf</td>
</tr>
<tr>
<td>Grid to cathode and heater</td>
<td>2.2 μf</td>
</tr>
<tr>
<td>Plate to cathode and heater</td>
<td>0.4 μf</td>
</tr>
</tbody>
</table>

| **Unit No. 2**          |                      |
| Grid to plate. ......... | 1.6 μf               |
| Grid to cathode and heater | 2.2 μf               |
| Plate to cathode and heater | 0.4 μf               |

**Characteristics, Class A\textsubscript{1} Amplifier (Each Unit):**

- **Plate Supply Voltage** ............ 100 volts
- **Cathode Resistor** .............. 50 ohms
- **Amplification Factor** .......... 38
- **Plate Resistance (Approx.)** ...... 7100 ohms
- **Transconductance** ............ 5300 μhos
- **Plate Current** .............. 8.5 ma

**Mechanical:**

- **Operating Position** ............ *Any*
- **Maximum Overall Length** ........ 2-1/8"
- **Maximum Seated Length** ........ 1-7/8"
- **Length, Base Seat to Bulb Top (Excluding tip)** 1-1/2" ± 3/32"
- **Diameter** ..................... 0.650" to 0.750"
- **Dimensional Outline** ........ See General Section
- **Bulb** ......................... T5-1/2

**Base** .................. Small-Button Miniature 7-Pin (JEDEC No.E7-1)

**Basing Designation for BOTTOM VIEW** ........ 7BF

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**Diagram:**

- Pin 1 – Plate of Unit No. 2
- Pin 2 – Plate of Unit No. 1
- Pin 3 – Heater
- Pin 4 – Heater
- Pin 5 – Grid of Unit No. 1
- Pin 6 – Grid of Unit No. 2
- Pin 7 – Cathode
AMPLIFIER — Class A₁

Values are for Each Unit

Maximum Ratings, Design-Center Values:

PLATE VOLTAGE: .......................... 300 max. volts
GRID VOLTAGE:
  Positive-bias value: ........................... 0 max. volts
PLATE DISSIPATION: ......................... 1.5 max. watts
PEAK HEATER-CATHODE VOLTAGE:
  Heater negative with respect to cathode: 100 max. volts
  Heater positive with respect to cathode: 100 max. volts

Maximum Circuit Values:

Grid-Circuit Resistance:
  For cathode-bias operation: ........................... 0.5 max. megohm

RF POWER AMPLIFIER & OSCILLATOR — Class C Telegraphy

Key-down conditions per tube without modulation

Values are for Each Unit

Maximum Ratings, Design-Center Values:

DC PLATE VOLTAGE: .......................... 300 max. volts
DC GRID VOLTAGE:
  Negative-bias value: ........................... 40 max. volts
  Positive-bias value: ........................... 0 max. volts
DC PLATE CURRENT: .......................... 15 max. ma
DC GRID CURRENT: ........................... 8 max. ma
DC PLATE INPUT: ............................... 4.5 max. watts
PLATE DISSIPATION: ........................... 1.5 max. watts
PEAK HEATER-CATHODE VOLTAGE:
  Heater negative with respect to cathode: 100 max. volts
  Heater positive with respect to cathode: 100 max. volts

Typical Push-Pull Operation at Frequencies up to 50 Mc: d

Values are for Both Units

DC Plate Voltage: ............................ 150 volts
DC Grid Voltage:
  From a fixed supply of: ........................ -10 volts
  From a grid resistor of: ........................ 625 ohms
  From a cathode resistor of: ........................ 220 ohms
DC Plate Current: ............................ 30 ma
DC Grid Current (Approx.) e: ........................... 16 ma
Driving Power (Approx.) e: .......................... 0.35 watt
Useful Power Output (Approx.): .......................... 3.5 watts

a With external shield JEDEC No.316 connected to cathode.
b Fixed-bias operation is not recommended.
c Value is for both units operating at the specified conditions.
d Approximately 1 watt can be obtained when the 6J6A is used at 250 Mc as a push-pull oscillator with a plate voltage of 150 volts, with maximum-rated plate dissipation, and with a grid resistor of 2000 ohms common to both units.
e For effect of load resistance on grid current and driving power, refer to TUBE RATINGS—Grid Current and Driving Power in the General Section.
AVERAGE PLATE CHARACTERISTICS
Each Unit

$E_F = 6.3$ VOLTS

PLATE MILLIAMPERES

PLATE VOLTS

92CM-6402RI

RADIO CORPORATION OF AMERICA
Electron Tube Division    Harrison, N. J.
AVerAGE CHARACTERISTICS
Each Unit

$E_{f} = 6.3$ VOLTS

AMPLIFICATION FACTOR ($\mu$)

$E_B = 200$
$E_B = 150$
$E_B = 100$

PLATE RESISTANCE ($r_p$) — MEGOHMS

1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.01
0

GRID VOLTS

-12 -10 -8 -6 -4 -2 0

7000
6000
5000
4000
3000
2000
1000

TRANSCONDUCTANCE ($g_m$) — MICROMHOES

50
30
10

92CM-7672RI

RADIO CORPORATION OF AMERICA
Electron Tube Division
Harrison, N. J.

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