



5618

5618

## VHF POWER PENTODE

MINIATURE TYPE

GENERAL DATA**Electrical:**

Filament, Coated:

| <i>Filament Arrangement</i> | <i>Series*</i> | <i>Parallel**</i> |                |
|-----------------------------|----------------|-------------------|----------------|
| Voltage. . . . .            | $6.0 \pm 10\%$ | $3.0 \pm 10\%$    | ac or dc volts |
| Current. . . . .            | 0.23           | 0.46              | amp            |

Direct Interelectrode Capacitances:<sup>0</sup>

|                              |      |  |               |
|------------------------------|------|--|---------------|
| Grid No.1 to Plate . . . . . | 0.24 |  | $\mu\text{f}$ |
| Input. . . . .               | 7.0  |  | $\mu\text{f}$ |
| Output . . . . .             | 5.0  |  | $\mu\text{f}$ |

<sup>0</sup> With no external shield.**Mechanical:**

Mounting Position. . . . . Vertical, or Horizontal with pins No.1 &amp; No.5 in a horizontal plane

Maximum Overall Length . . . . . 2-5/8"

Maximum Seated Length. . . . . 2-3/8"

Length from Base Seat to Bulb Top (excluding tip). . . . . 2"  $\pm$  3/32"

Maximum Diameter . . . . . 3/4"

Bulb . . . . . T-5-1/2

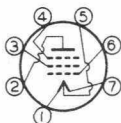
Base . . . . . Small-Button Miniature 7-Pin

Basing Designation for BOTTOM VIEW . . . . . 7CU

Pin 1-Filament (-)

Pin 2-Plate

Pin 3-Grid No.2

Pin 4-Grid No.3,  
Int. Shield

Pin 5-Filament

Mid-Tap

Pin 6-Grid No.1

Pin 7-Filament (+)

AF POWER AMPLIFIER & MODULATOR—Class A<sub>1</sub>**Maximum ICAS\*\* Ratings, Absolute Values:**

|                                        |          |       |
|----------------------------------------|----------|-------|
| DC PLATE VOLTAGE . . . . .             | 300 max. | volts |
| DC GRID-No.2 (SCREEN) VOLTAGE. . . . . | 125 max. | volts |
| GRID-No.2 INPUT. . . . .               | 2 max.   | watts |
| PLATE DISSIPATION. . . . .             | 5 max.   | watts |

**Typical Operation:**

| <i>Filament Arrangement</i>                                    | <i>Series*</i> | <i>Parallel**</i> |       |
|----------------------------------------------------------------|----------------|-------------------|-------|
| DC Plate Voltage . . . . .                                     | 250 *          | 250               | volts |
| DC Grid-No.3 Voltage . . . . .                                 | 0 *            | 0 **              | volts |
| DC Grid-No.2 Voltage . . . . .                                 | 75             | 75                | volts |
| DC Grid-No.1 (Control-<br>Grid) Voltage <sup>‡</sup> . . . . . | -8             | -8                | volts |
| Peak AF Grid-No.1-to-<br>Grid-No.1 Voltage. . . . .            | 8              | 8                 | volts |

\*, \*\*, ‡: See next page.

OCTOBER 15, 1947

TUBE DEPARTMENT

TENTATIVE DATA 1

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

5618



5618

## VHF POWER PENTODE

|                                                    |       |       |           |
|----------------------------------------------------|-------|-------|-----------|
| Zero-Signal DC Plate Current . .                   | 16    | 19    | ma        |
| Max.-Signal DC Plate Current . .                   | 17.5  | 20.5  | ma        |
| Zero-Signal DC Grid-No.2 Current                   | 1.5   | 2.0   | ma        |
| Max.-Signal DC Grid-No.2 Current                   | 3.5   | 4.5   | ma        |
| Transconductance . . . . .                         | 3500  | 3600  | $\mu$ hos |
| Effective Load Resistance<br>(plate to plate). . . | 12000 | 12000 | ohms      |
| Total Harmonic Distortion. . . .                   | 10    | 10    | %         |
| Max.-Signal Power Output . . . .                   | 1.2   | 1.4   | watts     |

## Circuit Values:

|                                        |   |             |      |
|----------------------------------------|---|-------------|------|
| Grid-No.1-Circuit Resistance . . . . . | { | 5000 min.   | ohms |
|                                        |   | 100000 max. | ohms |

RF POWER AMPLIFIER & OSCILLATOR—Class C Telegraphy<sup>DD</sup>  
and

RF POWER AMPLIFIER—Class C FM Telephony

Maximum ICAS<sup>DD</sup> Ratings, Absolute Values:

|                                            |           |       |
|--------------------------------------------|-----------|-------|
| DC PLATE VOLTAGE . . . . .                 | 300 max.  | volts |
| DC GRID-No.2 (SCREEN) VOLTAGE. . . . .     | 125 max.  | volts |
| DC GRID-No.1 (CONTROL-GRID) VOLTAGE. . . . | -125 max. | volts |
| DC PLATE CURRENT . . . . .                 | 30 max.   | ma    |
| DC GRID-No.1 CURRENT . . . . .             | 3 max.    | ma    |
| PLATE INPUT. . . . .                       | 7.5 max.  | watts |
| GRID-No.2 INPUT. . . . .                   | 2 max.    | watts |
| PLATE DISSIPATION. . . . .                 | 5 max.    | watts |

Typical Operation:<sup>DD</sup>

|                                                            | Up to<br>40 Mc | At<br>80 Mc |       |
|------------------------------------------------------------|----------------|-------------|-------|
| DC Plate Voltage . . . . .                                 | 300            | 300         | volts |
| DC Grid-No.3 Voltage <sup>DD</sup> . . . . .               | 0              | 0           | volts |
| DC Grid-No.2 Voltage <sup>DD</sup> . . . . .               | { 75           | 75          | volts |
|                                                            | { 32000        | 32000       | ohms  |
| DC Grid-No.1 Voltage <sup>DD</sup> <sup>DD</sup> . . . . . | { -45          | -45         | volts |
|                                                            | { 30000        | 30000       | ohms  |
|                                                            | { 1400         | 1400        | ohms  |
| Peak RF Grid-No.1 Voltage. . . . .                         | 65             | 65          | volts |
| DC Plate Current . . . . .                                 | 25             | 25          | ma    |
| DC Grid-No.2 Current . . . . .                             | 7              | 7           | ma    |
| DC Grid-No.1 Current (Approx.) . . . . .                   | 1.5            | 1.5         | ma    |
| Driving Power (Approx.) . . . . .                          | 0.2            | 0.3         | watt  |
| Power Output (Approx.) $\blacklozenge$ . . . . .           | 5.4            | 5.2         | watts |

## Circuit Values:

|                                        |   |             |      |
|----------------------------------------|---|-------------|------|
| Grid-No.1-Circuit Resistance . . . . . | { | 5000 min.   | ohms |
|                                        |   | 100000 max. | ohms |

$\blacklozenge$  Useful power output is approximately 5.0 watts for 40 Mc and 4.5 watts for 80 Mc.

\*, \*\*,  $\bullet\bullet$ ,  $\square$ ,  $\square\square$ ,  $\blacksquare$ ,  $\blacksquare\blacksquare$ ,  $\oplus$ : See next page.

OCTOBER 15, 1947

TUBE DEPARTMENT

TENTATIVE DATA 1

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY



5618

5618

## VHF POWER PENTODE

## FREQUENCY MULTIPLIER

## Maximum ICAS\*\* Ratings, Absolute Values:

|                                              |           |       |
|----------------------------------------------|-----------|-------|
| DC PLATE VOLTAGE . . . . .                   | 300 max.  | volts |
| DC GRID-No.2 (SCREEN) VOLTAGE. . . . .       | 125 max.  | volts |
| DC GRID-No.1 (CONTROL-GRID) VOLTAGE. . . . . | -125 max. | volts |
| DC PLATE CURRENT . . . . .                   | 30 max.   | ma    |
| DC GRID-No.1 CURRENT . . . . .               | 3 max.    | ma    |
| PLATE INPUT. . . . .                         | 7.5 max.  | watts |
| GRID-No.2 INPUT. . . . .                     | 2 max.    | watts |
| PLATE DISSIPATION. . . . .                   | 5 max.    | watts |

## Typical Operation:®

|                                             | Doubler<br>to 80 Mc | Tripler<br>to 80 Mc |       |
|---------------------------------------------|---------------------|---------------------|-------|
| DC Plate Voltage . . . . .                  | 300                 | 300                 | volts |
| DC Grid-No.3 Voltage® . . . . .             | 0                   | 0                   | volts |
| DC Grid-No.2 Voltage®. . . . .              | 75                  | 75                  | volts |
|                                             | 41000               | 41000               | ohms  |
| DC Grid-No.1 Voltage <sup>†</sup> . . . . . | -125                | -125                | volts |
|                                             | 68000               | 68000               | ohms  |
| Peak RF Grid-No.1 Voltage. . . . .          | 160                 | 160                 | volts |
| DC Plate Current . . . . .                  | 25                  | 25                  | ma    |
| DC Grid-No.2 Current . . . . .              | 5.5                 | 5.5                 | ma    |
| DC Grid-No.1 Current (Approx.) . . . . .    | 1.85                | 1.85                | ma    |
| Driving Power (Approx.) . . . . .           | 0.75                | 0.75                | watt  |
| Power Output (Approx.)♦♦ . . . . .          | 4.2                 | 3.4                 | watts |

## Circuit Values:

|                                        |                                      |
|----------------------------------------|--------------------------------------|
| Grid-No.1-Circuit Resistance . . . . . | { 5000 min. ohms<br>100000 max. ohms |
|----------------------------------------|--------------------------------------|

♦♦ Useful power output is approximately 3.5 watts for doubler service and 2.7 watts for tripler operation.

\* For series filament arrangement, filament voltage is applied between pins No.1 and No.7. The grid-No.1 voltage is referred to pin No.1, and grid-No.3 (pin No.4) is connected to pin No.1.

\*\* For parallel filament arrangement, filament voltage is applied between pin No.5 and pins No.1 and No.7 connected together. The grid-No.1 voltage is referred to pin No.5 and grid No.3 (pin No.4) is connected to pin No.5.

• Intermittent Commercial and Amateur Service.

■ For dc filament supply.

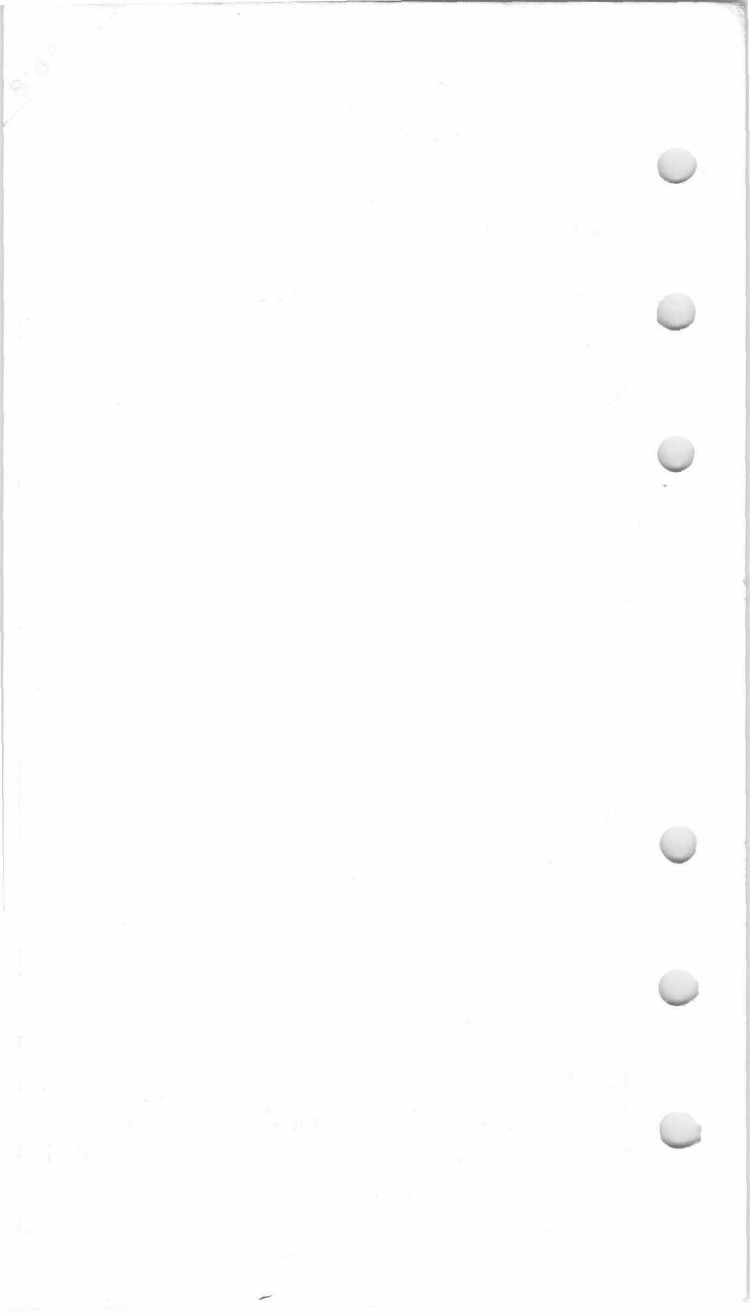
■ Obtained from a fixed supply or by a grid-No.1 resistor (30000) or cathode resistor (1400).

□ Obtained from a separate source, or from the plate voltage supply with a voltage divider. Series screen resistor of value shown should be used only where the 5618 is employed as a buffer amplifier and is not keyed.

□□ Key-down conditions per tube without amplitude modulation. Modulation essentially negative may be used if the positive peak of the audio-frequency envelope does not exceed 115% of the carrier conditions.

® Filament may be connected in either parallel or series arrangement. With parallel connection, grid No.3 (pin No.4) is connected to pin No.5; for series operation, connect pin No.4 to pin No.1.

† Obtained from a fixed supply, or by a grid-No.1 resistor of value shown.

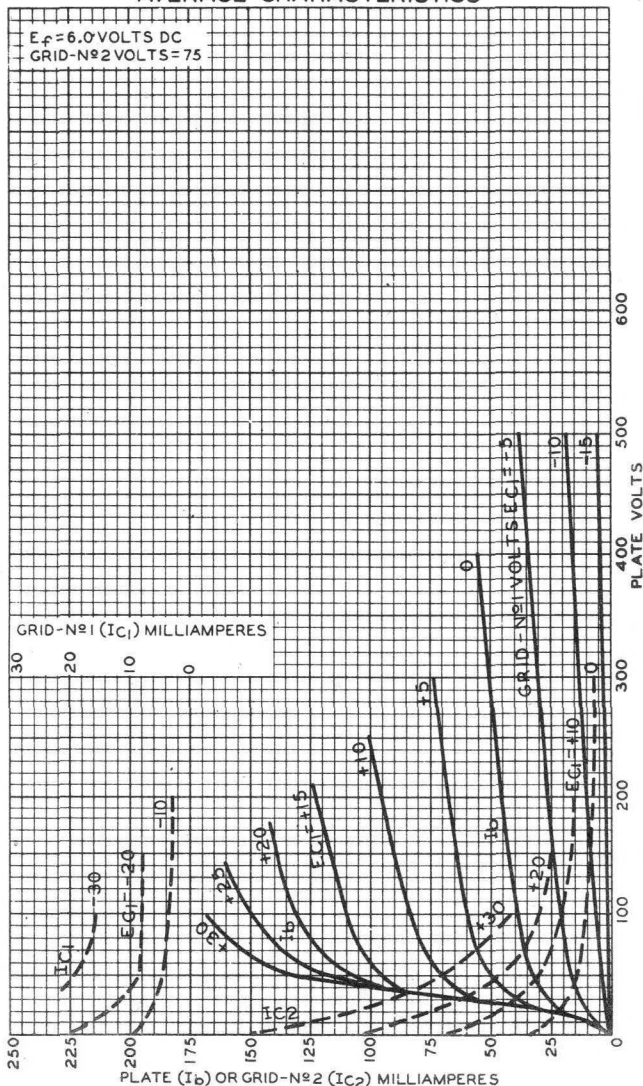




5618

5618

## AVERAGE CHARACTERISTICS



AUG. 1, 1947

TUBE DEPARTMENT

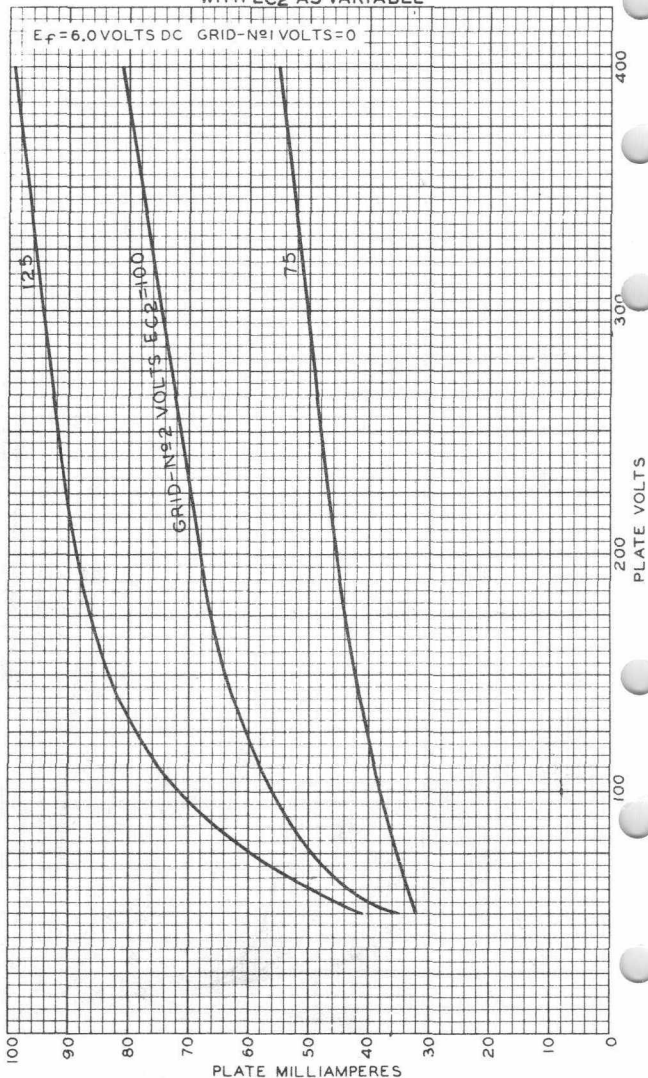
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

92CM-6881

5618



5618

AVERAGE PLATE CHARACTERISTICS  
WITH  $EC_2$  AS VARIABLE

AUG. 12, 1947

TUBE DEPARTMENT  
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

92CM-6882