



6CL8-A

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MEDIUM-MU TRIODE—  
SHARP-CUTOFF TETRODE

9-PIN MINIATURE TYPE

With heater having controlled warm-up time

## GENERAL DATA

## Electrical:

Heater, for Unipotential Cathodes:

|                                  |               |       |
|----------------------------------|---------------|-------|
| Voltage (AC or DC) . . . . .     | 6.3           | volts |
| Current . . . . .                | 0.45 $\pm$ 6% | amp   |
| Warm-up time (Average) . . . . . | 11            | sec   |

Direct Interelectrode Capacitances:

|                                                                                 | Without<br>External<br>Shield | With<br>External<br>Shield <sup>o</sup> |                  |
|---------------------------------------------------------------------------------|-------------------------------|-----------------------------------------|------------------|
| <b>Triode Unit:</b>                                                             |                               |                                         |                  |
| Grid to plate. . . . .                                                          | 1.8                           | 1.8                                     | $\mu\mu\text{f}$ |
| Grid to cathode, tetrode<br>cathode & internal shield,<br>and heater . . . . .  | 2.8                           | 2.8                                     | $\mu\mu\text{f}$ |
| Plate to cathode, tetrode<br>cathode & internal shield,<br>and heater . . . . . | 1.5                           | 2                                       | $\mu\mu\text{f}$ |
| <b>Tetrode Unit:</b>                                                            |                               |                                         |                  |
| Grid No.1 to plate . . . . .                                                    | 0.02 max.                     | 0.01 max.                               | $\mu\mu\text{f}$ |
| Grid No.1 to cathode &<br>internal shield, grid<br>No.2, and heater . . . . .   | 5                             | 5                                       | $\mu\mu\text{f}$ |
| Plate to cathode & internal<br>shield, grid No.2, and<br>heater . . . . .       | 2                             | 3                                       | $\mu\mu\text{f}$ |
| Tetrode grid No.1 to triode<br>plate. . . . .                                   | 0.015 max.                    | 0.01 max.                               | $\mu\mu\text{f}$ |
| Tetrode plate to triode<br>plate. . . . .                                       | 0.15 max.                     | 0.03 max.                               | $\mu\mu\text{f}$ |
| Heater to cathode (Each Unit). . . . .                                          | 3                             | 3 <sup>o</sup>                          | $\mu\mu\text{f}$ |

Characteristics, Class A<sub>1</sub> Amplifier:

|                                                                     | Triode<br>Unit | Tetrode<br>Unit |       |                  |
|---------------------------------------------------------------------|----------------|-----------------|-------|------------------|
| Plate Voltage. . . . .                                              | 125            | 100             | 125   | volts            |
| Grid-No.2 Voltage. . . . .                                          | —              | 70              | 125   | volts            |
| Grid-No.1 Voltage. . . . .                                          | -1             | —               | -1    | volt             |
| Amplification Factor . . . . .                                      | 40             | —               | —     |                  |
| Plate Resistance (Approx.) . . . . .                                | 5000           | —               | 20000 | ohms             |
| Transconductance . . . . .                                          | 8000           | 7000            | 6500  | $\mu\text{mhos}$ |
| Plate Current. . . . .                                              | 14             | —               | 12    | ma               |
| Grid-No.2 Current. . . . .                                          | —              | —               | 4     | ma               |
| Grid-No.1 Voltage (Approx.)<br>for plate $\mu\alpha$ = 20 . . . . . | -9             | —               | -9    | volts            |

← Indicates a change.



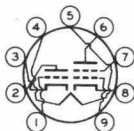
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## Mechanical:

Operating Position. . . . . Any  
 Maximum Overall Length. . . . . 2-3/16"  
 Maximum Seated Length. . . . . 1-15/16"  
 Length, Base Seat to Bulb Top (Excluding tip) 1-9/16"  $\pm$  3/32"  
 Diameter. . . . . 0.750" to 0.875"  
 Dimensional Outline. . . . . See General Section  
 Bulb. . . . . T6-1/2  
 Base. . . . . Small-Button Noval 9-Pin (JEDEC No.E9-1)  
 → Basing Designation for BOTTOM VIEW. . . . . 9FX

Pin 1—Triode Grid  
 Pin 2—Triode Plate  
 Pin 3—Triode  
           Cathode  
 Pin 4—Heater  
 Pin 5—Heater  
 Pin 6—Tetrode Plate



Pin 7—Tetrode  
           Grid No.2  
 Pin 8—Tetrode  
           Cathode,  
           Internal  
           Shield  
 Pin 9—Tetrode  
           Grid No.1

## CONVERTER

### → Maximum Ratings, Design-Maximum Values:

|                                                                 | Triode Unit<br>as Osc. | Tetrode Unit<br>as Mixer |       |
|-----------------------------------------------------------------|------------------------|--------------------------|-------|
| PLATE VOLTAGE. . . . .                                          | 330 max.               | 330 max.                 | volts |
| GRID-No.2 (SCREEN-GRID)<br>SUPPLY VOLTAGE. . . . .              | -                      | 330 max.                 | volts |
| GRID-No.2 VOLTAGE. . . . .                                      | -                      | See Grid-No.2 Input      |       |
| Rating Chart at front of Receiving Tube Section                 |                        |                          |       |
| GRID-No.1 (CONTROL-GRID)<br>VOLTAGE:                            |                        |                          |       |
| Positive-bias value. . . . .                                    | 0 max.                 | 0 max.                   | volts |
| GRID-No.2 INPUT:                                                |                        |                          |       |
| For grid-No.2 voltages<br>up to 165 volts. . . . .              | -                      | 0.55 max.                | watt  |
| For grid-No.2 voltages<br>between 165 and<br>330 volts. . . . . | -                      | See Grid-No.2 Input      |       |
| Rating Chart at front of Receiving Tube Section                 |                        |                          |       |
| PLATE DISSIPATION. . . . .                                      | 2.5 max.               | 3 max.                   | watts |
| PEAK HEATER-CATHODE<br>VOLTAGE:                                 |                        |                          |       |
| Heater negative with<br>respect to cathode. . . . .             | 200 max.               | 200 max.                 | volts |
| Heater positive with<br>respect to cathode. . . . .             | 200 <sup>▲</sup> max.  | 200 <sup>▲</sup> max.    | volts |

→ Indicates a change.



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## Maximum Circuit Values:

|                               | <i>Triode<br/>Unit</i> | <i>Tetrode<br/>Unit</i> |        |
|-------------------------------|------------------------|-------------------------|--------|
| Grid-No.1-Circuit Resistance: |                        |                         |        |
| For fixed-bias operation. . . | 0.5 max.               | 0.25 max.               | megohm |
| For cathode-bias operation. . | 1 max.                 | 1 max.                  | megohm |

○ With external shield JEDEC No.315 connected to cathode of unit under test except as noted.

● With external shield JEDEC No.315 connected to ground.

▲ The dc component must not exceed 100 volts.

