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# PULSE AMPLIFIER TETRODE

## GENERAL DATA

### Electrical:

Heater, for Unipotential Cathode:

|                                |          |                |
|--------------------------------|----------|----------------|
| Voltage . . . . .              | 26 ± 2.5 | ac or dc volts |
| Current . . . . .              | 2.1      | amp            |
| Minimum Heating Time . . . . . | 3        | minutes        |

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

|                              |        |     |
|------------------------------|--------|-----|
| Grid No.1 to Plate . . . . . | 2 max. | μmf |
| Input . . . . .              | 37.5   | μmf |
| Output . . . . .             | 7.5    | μmf |

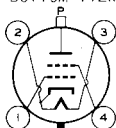
<sup>0</sup> With no external shield.

### Mechanical:

|                             |                                    |
|-----------------------------|------------------------------------|
| Mounting Position . . . . . | Vertical, base up or down          |
| Overall Length . . . . .    | 5-3/4" ± 1/8"                      |
| Seated Length . . . . .     | 5-5/16" ± 1/8"                     |
| Maximum Diameter . . . . .  | 2-9/16"                            |
| Bulb . . . . .              | T-20                               |
| Cap . . . . .               | Medium with Dished Flange          |
| Base . . . . .              | Medium-Ceramic-Wafer Jumboid 4-Pin |

### BOTTOM VIEW

Pin 1 - Grid No.1  
Pin 2 - Heater,  
Cathode



Pin 3 - Heater  
Pin 4 - Grid No.2  
Cap - Plate

MODULATOR - Pulsed Rectangular-Wave  
*With Inductive Load*

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

|   |            |       |
|---|------------|-------|
| DC PLATE SUPPLY VOLTAGE*  | 15000 max. | volts |
| PEAK POSITIVE PLATE VOLTAGE . . . . .   | 18000 max. | volts |
| DC GRID-No.2 (SCREEN) SUPPLY VOLTAGE*   | 1350 max.  | volts |
| DC GRID-No.1 (CONTROL GRID)<br>SUPPLY VOLTAGE . . . . .                             | -1000 max. | volts |
| PEAK GRID-No.1 VOLTAGE:   |            |       |
| Negative Value . . . . .  | 1200 max.  | volts |
| Positive Value . . . . .  | 300 max.   | volts |
| PEAK PLATE CURRENT**, for duty factor <sup>0</sup><br>not exceeding 0.001 . . . . . | 15 max.    | amp   |

\* Continuous Commercial Service.

<sup>0</sup> Duty Factor equals product of pulse duration in seconds and the pulse repetition frequency in cycles per second.

\*\* For peak currents in excess of 5 amperes, the product of peak plate current in amperes and pulse duration in microseconds should not exceed 30, and the tube should not be operated longer than 5 microseconds in any 100-microsecond interval.

For peak currents less than 5 amperes, the duty factor is determined by the maximum plate-dissipation rating of 60 watts.

\*: See next page.

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|                                  |          |       |
|----------------------------------|----------|-------|
| PEAK GRID-No.2 CURRENT . . . . . | 5 max.   | amp   |
| PEAK GRID-No.1 CURRENT . . . . . | 2 max.   | amp   |
| PLATE INPUT . . . . .            | 225 max. | watts |
| GRID-No.2 INPUT . . . . .        | 8 max.   | watts |
| GRID-No.1 INPUT . . . . .        | 1 max.   | watt  |
| PLATE DISSIPATION . . . . .      | 60 max.  | watts |

**Typical Operation:***Duty Factor of 0.001*

|                                 |        |       |
|---------------------------------|--------|-------|
| DC Plate Supply Voltage*        | 15000  | volts |
| DC Grid-No.2 Supply Voltage*    | 1250   | volts |
| DC Grid-No.1 Supply Voltage     | -800   | volts |
| Peak Positive Grid-No.1 Voltage | +225   | volts |
| Plate Current:                  |        |       |
| DC Value                        | 0.015  | amp   |
| Peak Value                      | 15     | amp   |
| DC Grid-No.2 Current            | 0.0015 | amp   |
| DC Grid-No.1 Current            | 0.010  | amp   |
| Load Resistance                 | 800    | ohms  |

CHARACTERISTICS RANGE VALUES FOR EQUIPMENT DESIGN

|   | <u>Note</u> | <u>Min.</u> | <u>Max.</u> |                  |
|---|-------------|-------------|-------------|------------------|
| Heater Current . . . . .                    | 1           | 1.9         | 2.3         | amp              |
| Grid-No.1-to-Plate<br>Capacitance . . . . . | -           | -           | 2           | $\mu\mu\text{f}$ |
| Input . . . . .                             | -           | 30          | 45          | $\mu\mu\text{f}$ |
| Output . . . . .                            | -           | 5           | 10          | $\mu\mu\text{f}$ |

Note 1: With 26 volts on heater.

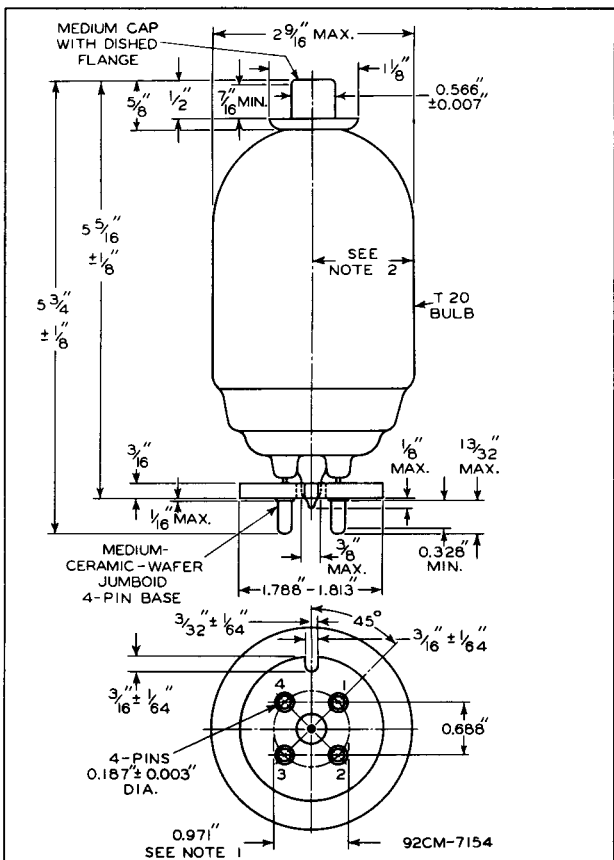
\* For tube protection, it is essential that the dc resistance in series with the plate supply and the grid-No.2 supply should be adequate to limit the short-circuit current to 0.5 ampere in either circuit.



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## PULSE AMPLIFIER TETRODE



**NOTE 1:** PINS WILL FIT A FLAT-PLATE GAUGE HAVING THICKNESS OF 1/4" AND FOUR HOLES 0.2140" ± 0.0005" SO LOCATED ON A 0.9710" ± 0.0005" DIAMETER CIRCLE THAT THE DISTANCE ALONG THE CHORD BETWEEN ANY TWO ADJACENT HOLE CENTERS IS 0.6875" ± 0.0005". GAUGE IS ALSO PROVIDED WITH A 7/16" DIAMETER HOLE CONCENTRIC WITH PIN CIRCLE FOR THE EXHAUST TIP.

**NOTE 2:** WHEN TUBE IS ROTATED ABOUT AXIS OF ITS BASE, THE MAXIMUM RADIAL DISTANCE BETWEEN ANY POINT ON THE BULB AND THE ROTATIONAL AXIS DOES NOT EXCEED 1-13/32".

SEPT. 15, 1949

TUBE DEPARTMENT  
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

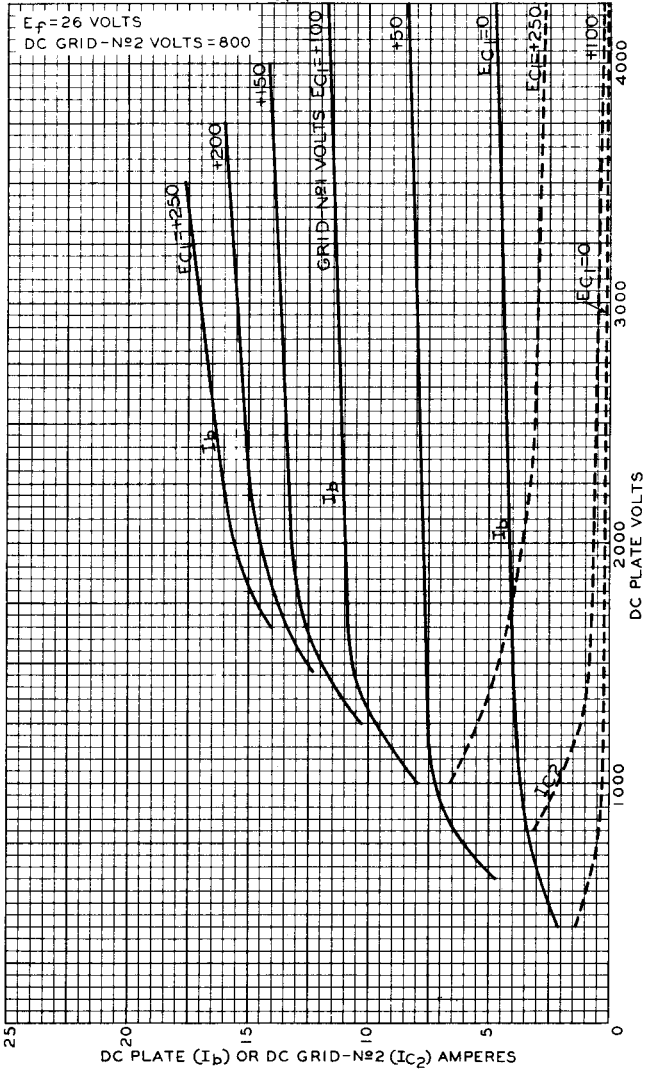
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### AVERAGE PLATE CHARACTERISTICS WITH $E_{C1}$ AS VARIABLE

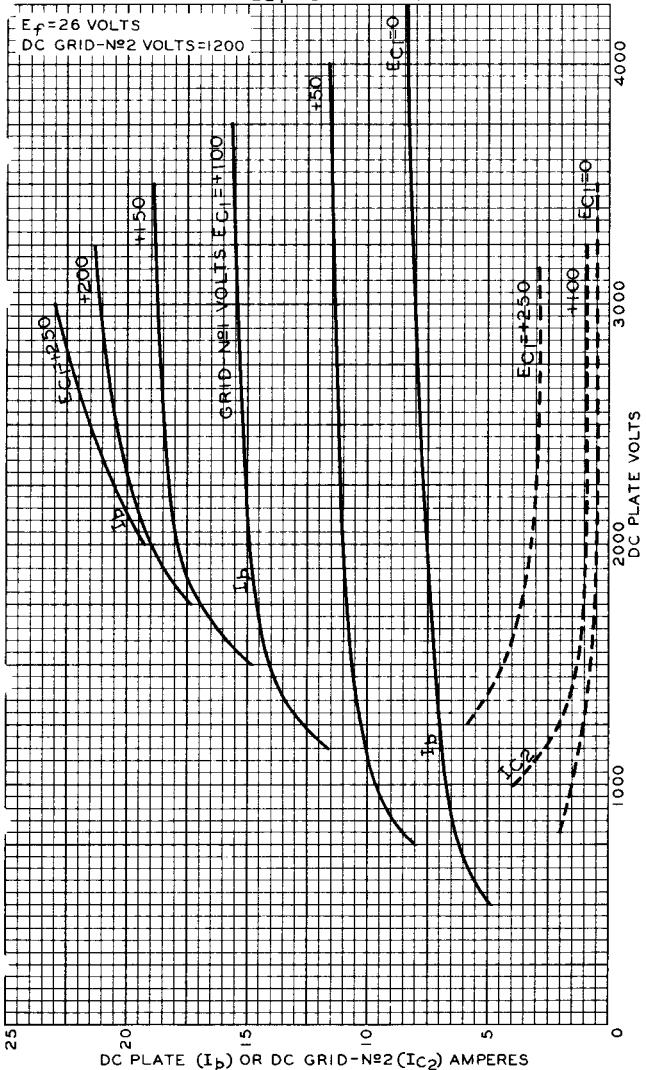




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### AVERAGE PLATE CHARACTERISTICS WITH $E_{C1}$ AS VARIABLE



FEB. 22, 1949

TUBE DEPARTMENT

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### AVERAGE PLATE CHARACTERISTICS WITH $EC_2$ AS VARIABLE



FEB.23,1949

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92CM-7190

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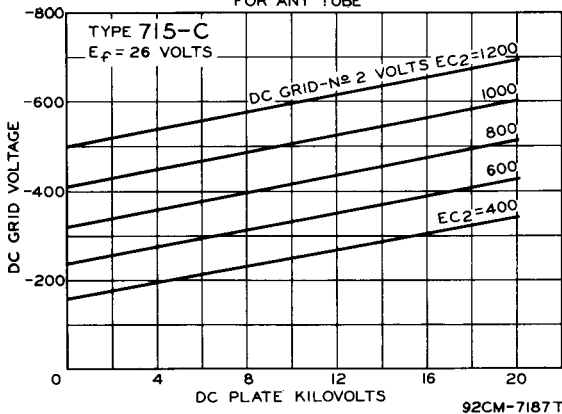


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# PULSE AMPLIFIER TETRODE

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### MAXIMUM CUTOFF CHARACTERISTICS FOR ANY TUBE



### AVERAGE CHARACTERISTICS

