



5734

5734

## MECHANO-ELECTRONIC TRANSDUCER

TRIODE TYPE

GENERAL DATA**Electrical:**

Heater, for Unipotential Cathode:

Voltage. . . . . 6.3 . . . . . ac or dc volts

Current. . . . . 0.15 . . . . . amp

**Mechanical:**

Mounting Position. . . . . Any

Maximum Angular Deflection of Plate Shaft . . . . .  $\pm 0.5$  degree

Maximum Overall Length (Excluding flexible leads). . . . . 1.300"

Maximum Diameter . . . . . 0.328"

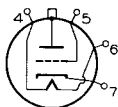
Envelope . . . . . Metal Shell MT-2-1/4

Terminal Connections, **BOTTOM VIEW**

Lead 4 - Heater

Lead 5 - Grid

Lead 6 - Heater

Lead 7 - Cathode,  
Internal  
Shield

Shell - Plate

**Maximum Ratings, Design-Center Values:**

DC PLATE-SUPPLY VOLTAGE. . . . . 300 max. . . volts

DC PLATE CURRENT . . . . . 5 max. . . ma

PLATE DISSIPATION. . . . . 0.4 max. . . watt

**PEAK HEATER-CATHODE VOLTAGE:**Heater negative with  
respect to cathode. . . . . 90 max. . . voltsHeater positive with  
respect to cathode. . . . . 90 max. . . volts**Typical Operation:**

DC Plate-Supply Voltage. . . . . 300 . . . . . volts

DC Grid Voltage. . . . . 0 . . . . . volts

Amplification Factor<sup>▲</sup> . . . . . 20Plate Resistance<sup>▲</sup> . . . . . 72000 . . . . . ohmsTransconductance<sup>▲</sup> . . . . . 275 . . . micromhosDC Plate Current<sup>▲</sup> . . . . . 1.5 . . . . . ma

Load Resistance. . . . . 75000 . . . . . ohms

Deflection Sensitivity<sup>◆</sup> . . . . .  $\left\{ \begin{array}{l} 40 \\ 2300 \end{array} \right.$  . volts/degree  
. volts/radian**Moment of Inertia**of Plate<sup>●</sup> . . . . . 3.4 milligram cm<sup>2</sup>Rotational Compliance<sup>◆</sup> } . . . . .  $\left\{ \begin{array}{l} 0.0013 \\ 0.075 \end{array} \right. \times 10^{-3}$  radian/dyne cm  
of Diaphragm<sup>●</sup> } . . . . . degree/gram cm<sup>▲</sup> For plate shaft in undeflected position.<sup>◆</sup> Average change in voltage across 75000-ohm plate-load resistor when the plate shaft is deflected from  $-0.5$  to  $+0.5$  degree. The plane of deflection of the plate shaft must coincide with the plane through terminal no. 5 and the axis of the tube.<sup>●</sup> Based on external plate-shaft length of  $1/8$ " and the center of the diaphragm as pivot.

5734



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### OPERATING PRINCIPLES

The plate shaft extends through the center of a thin metal diaphragm. Angular displacement of the plate shaft changes the distance between the fixed grid and the plate and results in a change in the plate current. The plane of deflection of the plate shaft coincides with the plane through terminal No.5 and the axis of the tube.

The part of the plate shaft within the tube has a minimum free cantilever resonance of 12000 cycles per second permitting, with suitable mechanical coupling to the external end of the plate shaft, measurements of vibration up to 12000 cycles per second.

### OPERATING NOTES

The 5734 may be mounted by means of a supporting clamp which should firmly grip the metal shell of the tube within the designated clamping space indicated on the Outline Drawing. It is essential, however, that the pressure exerted on the shell by the clamp be held to a minimum to prevent possible fracture of the seals.

Under no circumstances should the plate shaft be displaced from its normal position by more than 0.5 degree. A larger displacement of the plate shaft will distort the flexible diaphragm and may damage the tube electrodes.

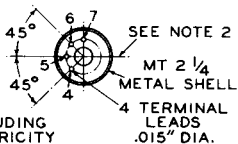
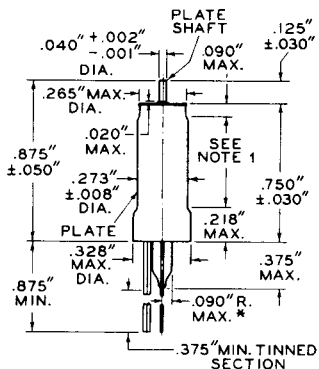
A non-corrosive flux must be used in soldering the actuating stylus to the plate shaft. Unless this precaution is observed, the plate shaft and the diaphragm will be damaged.



5734

5734

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\* INCLUDING ECCENTRICITY

BOTTOM VIEW

**NOTE 1:** TUBE SUPPORTING CLAMP ON METAL SHELL MUST BE WITHIN THIS SPACE, AND SHOULD BE FASTENED ONLY TIGHT ENOUGH TO INSURE GOOD CONTACT FOR THE PLATE CONNECTION.

**NOTE 2:** THE PLANE OF DEFLECTION OF THE PLATE SHAFT WILL COINCIDE WITH THE PLANE THROUGH TERMINAL LEAD No. 5 AND THE AXIS OF THE TUBE.

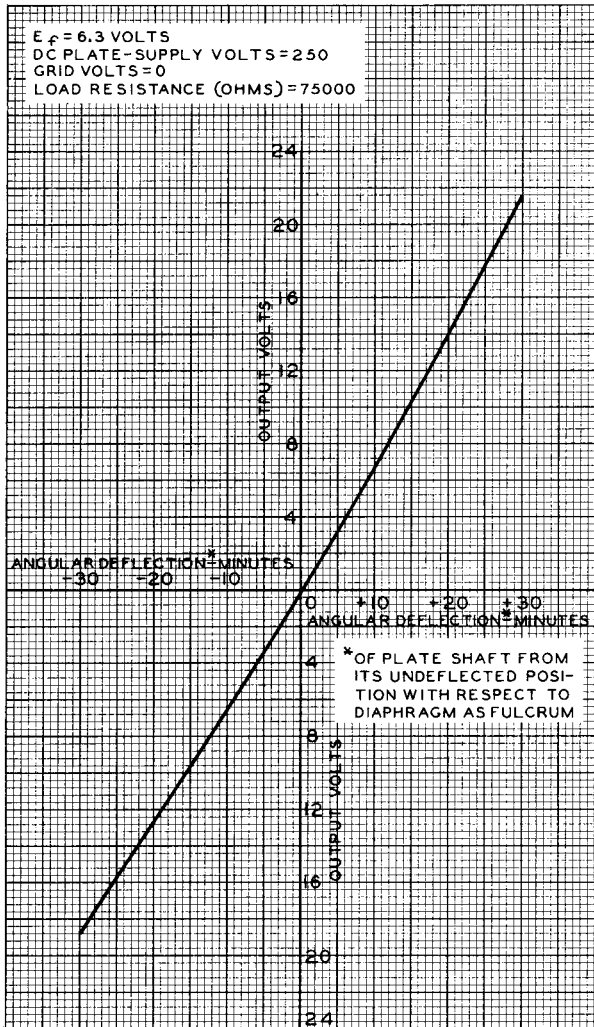
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## AVERAGE CHARACTERISTIC



AUG. 13, 1948

TUBE DEPARTMENT

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

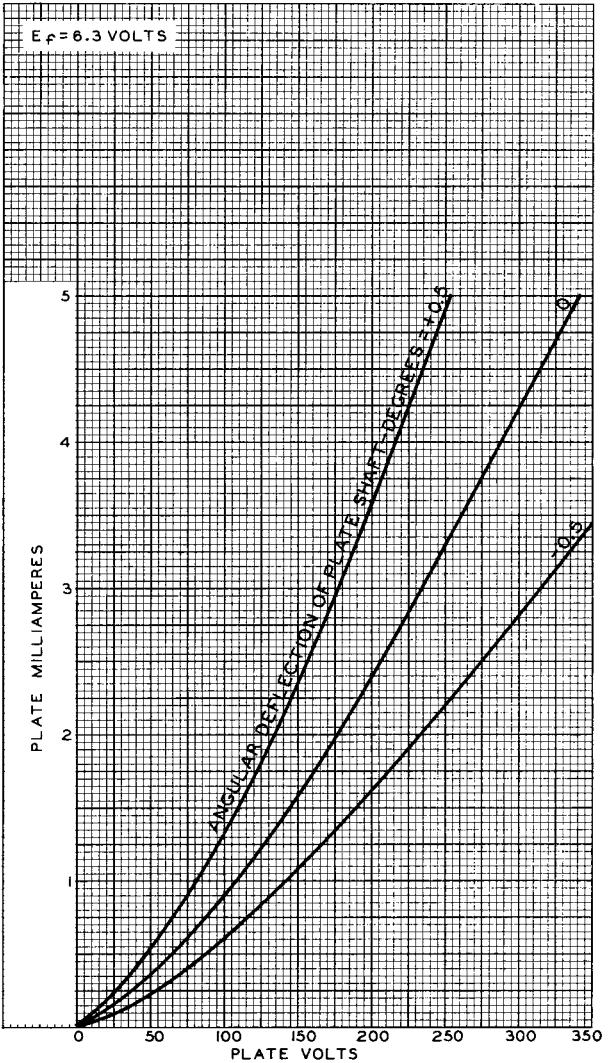
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5734

5734

### AVERAGE CHARACTERISTICS



AUG. 17, 1948

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92CM-7059



## AVERAGE CHARACTERISTICS

