# MAZDA

## 30.C.8

## CATHODE RAY TUBE - ALL ELECTROSTATIC. 7" Dia.
## Indirectly heated - for Radio D.F. Compass

### RATING

| | | |
|---|---|---|
| Heater Voltage (volts) | $V_h$ | 4.0 |
| Heater Current (amps) | $I_h$ | 0.72 |
| Maximum 1st Anode Voltage (volts) | $V_{a1(max)}$ | 500 |
| Maximum 2nd Anode Voltage (volts) | $V_{a2(max)}$ | 1,000 |
| Maximum 3rd Anode Voltage (volts) | $V_{a3(max)}$ | 4,000 |
| Average Sensitivity of "X" Plates (mm/V) | | ‡ 520/V |
| Average Sensitivity of "Y" Plates (mm/V) | | ‡ 520/V |

‡ Where "V" dénotes the voltage on the 3rd Anode.

### INTER-ELECTRODE CAPACITANCES

| | | |
|---|---|---|
| XE Deflecting Plate/All other electrodes (μμF) | $C_{xe,all}$ | 14.6 |
| XW Deflecting Plate/All other electrodes (μμF) | $C_{xw,all}$ | 14.0 |
| YN Deflecting Plate/All other electrodes (μμF) | $C_{yn,all}$ | 14.9 |
| YS Deflecting Plate/All other electrodes (μμF) | $C_{ys,all}$ | 13.8 |
| XE Deflecting Plate/XW Deflecting Plate (μμF) | $C_{xe,xw}$ | 4.5 |
| YN Deflecting Plate/YS Deflecting Plate (μμF) | $C_{yn,ys}$ | 4.4 |
| XE+XW Deflecting Plates/YN+YS Deflecting Plates (μμF) | $C_{(xe+xw)-(yn+ys)}$ | 2.7 |
| Control Grid (Wehnelt)/All other electrodes (μμF) | $C_{g,all}$ | 8.6 |

### DIMENSIONS

| | |
|---|---|
| Maximum Overall Length (mm) | 495 |
| Maximum Diameter (mm) | 175 |
| Nominal Screen Diameter (inches) | 7 |
| Approximate Nett Weight (lbs) | 2¼ |
| Approximate Packed Weight (lbs) | 11¾ |

### NOTES

This is a Cathode Ray Tube with a compass scale affixed to the screen. It is a precision constructed and calibrated instrument which provides bearings with an error not exceeding 1% at any point on the scale while the four cardinal bearings, N,S,E,W, are accurate to ± 0.25°.

Normally the tube is supplied with a green phosphor (P1) having medium persistence characteristics. Other phosphors (see Introductory Page 1. to this section) and scale arrangements can be supplied by special arrangement.

The gun system is capable of providing the high beam currents required for "Pulse D.F."

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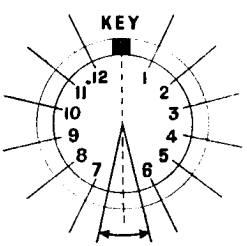
TYPICAL OPERATION

| | | |
|---|---|---|
| 3rd Anode Voltage (volts) | $V_{a3}$ | 2,200 |
| 2nd Anode Voltage-approximate, for focus (volts) ¶ | $V_{a2}$ | 440 |
| 1st Anode Voltage (volts) | $V_{a1}$ | 450 |
| Negative Bias on Control Grid for cut-off of Beam Current (volts) | $V_g$ | 60 |

¶ The voltage required on the 2nd Anode for focus decreases with an increase of beam current and the above figure gives the voltage required at low currents.

BASE 12 Contact Key Base (BS.448)

**VIEW OF FREE END**




**PERMISSIBLE ANGULAR VARIATION OF MOUNTS ± 10°**

CONNEXIONS

| | | |
|---|---|---|
| Pin 1 | Control Grid | g |
| Pin 2 | Cathode | k |
| Pin 3 | Heater | h |
| Pin 4 | Heater | h |
| Pin 5 | Anode 1 | a1 |
| Pin 6 | Anode 2 | a2 |
| Pin 7 | Blank | - |
| Pin 8 | Deflecting Plate YS | ys |
| Pin 9 | Deflecting Plate YN. | yn |
| Pin 10 | Anode 3 | a3 |
| Pin 11 | Deflecting Plate XE | xe |
| Pin 12 | Deflecting Plate XW | xw |