

MAZDA**30E8****30E8****CATHODE RAY TUBE - ALL ELECTROSTATIC 12" 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)		* 800/V
Average Sensitivity of "Y" Plates (mm/V)		* 800/V

* Where "V" denotes the voltage on the 3rd Anode.

All Maximum Ratings are Absolute values not Design Centres.

INTER-ELECTRODE CAPACITANCES.

X1 Deflecting Plate/all other electrodes (μF)	$C_{x1,all}$	15.2
X2 Deflecting Plate/all other electrodes (μF)	$C_{x2,all}$	15.6
Y1 Deflecting Plate/all other electrodes (μF)	$C_{y1,all}$	14.9
Y2 Deflecting Plate/all other electrodes (μF)	$C_{y2,all}$	15.6
X1 Deflecting Plate/X2 Deflecting Plate (μF)	$C_{x1,x2}$	5.1
Y1 Deflecting Plate/Y2 Deflecting Plate (μF)	$C_{y1,y2}$	4.8
X1+X2 Deflecting Plates/Y1+Y2 Deflecting Plates (μF)	$C_{(X1+X2)(Y1+Y2)}$	2.9
Control Grid (Wehnelt)/all other electrodes (μF)	$C_{g,all}$	9.8

DIMENSIONS

Maximum Overall Length (mm)	640
Maximum Diameter (mm)	312
Nominal Screen Diameter (inches)	12
Approximate Nett Weight (lbs)	7½
Approximate Packed Weight (lbs)	53

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 $+1^\circ$ at any point on the scale, while the four major bearings N.S.E.W. are accurate to $+0.25^\circ$. The scale is graduated to correct for octantal error.

The 30.E.8 is identical to the 30.E.7 except that the N.S.E.W. markings are omitted.

The tube is normally supplied with a green (P1) phosphor having medium persistence characteristics. Other phosphors (see introductory page to this section) and scale arrangements can be supplied by special arrangement.

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TYPICAL OPERATION

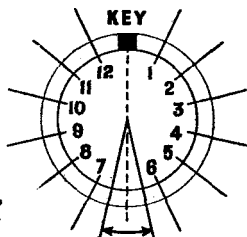
3rd Anode Voltage (volts)	V_{a3}	2,200
2nd Anode Voltage - approximate for focus (volts) *	V_{a2}	450
1st Anode Voltage (volts)	V_{a1}	450
Negative Bias on Control Grid for cut-off of Beam Current (volts)	V_g	30-90

* The voltage required on the 2nd Anode for focus decreases with an increase of beam current and the above figures give the voltage required at low current.

BASE 12 contact Key Base
(BS. 448)

VIEW OF FREE END

**PERMISSIBLE ANGULAR
VARIATION OF MOUNTS $\pm 10^\circ$**

**CONNECTIONS**

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	-	-
Pin 8	Deflecting Plate Y2	Y2
Pin 9	Deflecting Plate Y1	Y1
Pin 10	Anode 3	a3
Pin 11	Deflecting Plate X1	X1
Pin 12	Deflecting Plate X2	X2