



31E12

12" RADAR CATHODE RAY TUBE

Electrostatic Focus—Magnetic Deflection

GENERAL

The 31E12 is a 12" aluminised cathode ray tube having a long afterglow T6 or T7 aluminised screen suitable for radar PPI display. The tube has a substantially flat face.

RATING

Heater Voltage (volts)	V_h	6.3
Heater Current (amps)	I_h	0.6
Maximum Final Anode Voltage (kV)	$V_{a2} + 4(\text{max})$	12*
Minimum Final Anode Voltage (kV)	$V_{a2} + 4(\text{min})$	8
Maximum First Anode Voltage (volts)	$V_{a1}(\text{max})$	400
Maximum Heater/Cathode Voltage (Heater Negative) (D.C.) (volts)	$V_{h-k}(\text{max})$	150

* The maximum rating of 12kV is a Design Centre Rating.
The Absolute Maximum of 14kV must not be exceeded.

INTER-ELECTRODE CAPACITANCES (pF)

Grid/Earth	c_{g-E}	9
Cathode/Earth	c_{k-E}	7
Second and Fourth Anode/External Conductive Coating	c_{a2+4-M}	1500

These Capacities include an Ediswan Clix holder CRT 92/7.

DIMENSIONS

Maximum Overall Length	(mm)	485
Maximum Diameter	(mm)	307
Maximum Neck Diameter	(mm)	35.5
Approximate Nett Weight	(lbs)	$11\frac{3}{4}$
Approximate Packed Weight	(lbs)	$23\frac{1}{2}$

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TYPICAL OPERATION

Final Anode Voltage (kV)	V_{a2+4}	12
First Anode Voltage (volts)	V_{a1}	300
Third Anode Voltage for focus (mean) (volts)	V_{a3}	0
Grid Bias for cut-off of 250mm focussed line (volts)	V_g	33—77
Average peak to peak modulating voltage for modulation up to 150 μA^*		24
Persistence T6 Screen (secs)		50†
Persistence T7 Screen (secs)		175†

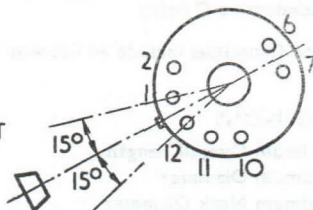
† Persistence is defined as the time taken from the cessation of continuous excitation for the luminance to decay from 1 Foot-Lambert to approximately 1% of that value.

* The T7 screen is liable to burn if a stationary or slowly moving spot is used even with low values of mean current.

The 31E12 is available with either a T6 Long Yellow Afterglow Screen or a T7 Very Long Orange Afterglow Screen.

BASE—Duodecal (B12A)

ANODE CAP IN
LINE WITH SPIGOT
 $\pm 15^\circ$



Viewed from free end of pins.

CAP—Cavity (CT8)



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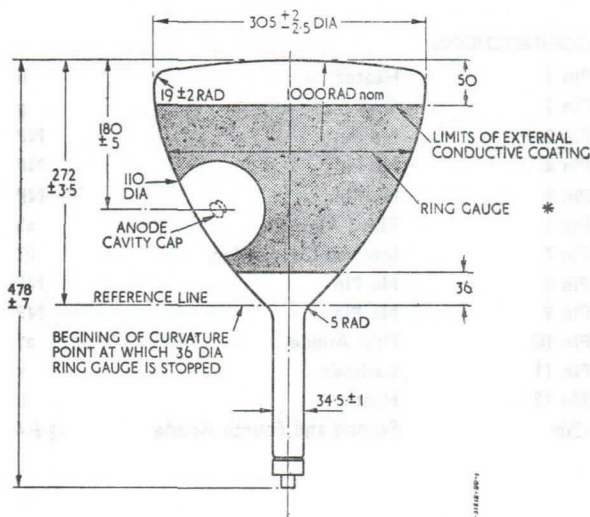
CONNECTIONS

Pin 1	Heater	h
Pin 2	Grid	g
Pin 3	No Pin	NP
Pin 4	No Pin	NP
Pin 5	No Pin	NP
Pin 6	Third Anode	a3
Pin 7	Internal Connection	IC
Pin 8	No Pin	NP
Pin 9	No Pin	NP
Pin 10	First Anode	a1
Pin 11	Cathode	k
Pin 12	Heater	h
Cap	Second and Fourth Anode	a2 + 4

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* Ring Gauge (mm)	Distance from centre of Screen (mm)
280	93 $\pm$ 10
230	150 $\pm$ 9
180	191 $\pm$ 8
130	222 $\pm$ 7
80	249 $\pm$ 6
36	272 $\pm$ 3.5

All dimensions in mm