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)	$V_{a2+4(max)}$	12*
Minimum Final Anode Voltage (kV)	$V_{a2+4(min)}$	8
Maximum First Anode Voltage (volts)	$V_{a1(max)}$	400
Maximum Heater/Cathode Voltage (Heater Negative) (D.C.) (volts)	$V_{h-k(max)}$	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)	11¾
Approximate Packed Weight	(lbs)	23¼

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Electronic Components Division

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TYPICAL OPERATION

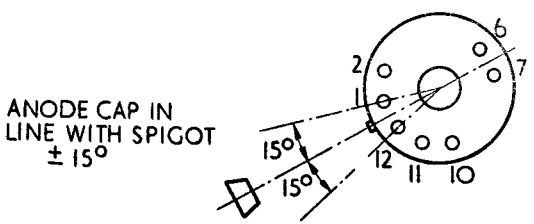
Final Anode Voltage (kV)	V_{a2+4}	12
First Anode Voltage (volts)	V_{a1}	300
Third Anode Voltage for focus (mean) (volts)	V_{a3}	0
Grid Bias for cut-off of 250mm focussed line (volts)	V_g	33—77
Average peak to peak modulating voltage for modulation up to 150 μA*		24
Persistence T6 Screen (secs)		50†
Persistence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



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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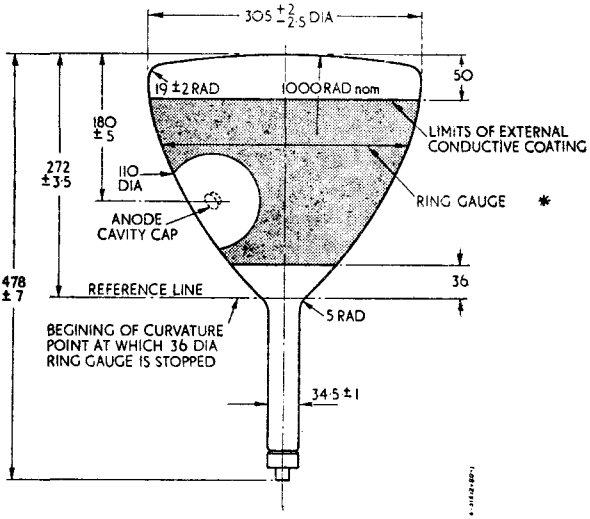

* Ring Gauge (mm)	Distance from centre of Screen (mm)
280	93 ± 10
230	150 ± 9
180	191 ± 8
130	222 ± 7
80	249 ± 6
36	272 ± 3.5

All dimensions in mm

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