

**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)	11 $\frac{3}{4}$
Approximate Packed Weight	(lbs)	23 $\frac{1}{2}$

**31E12**  
**12" RADAR CATHODE RAY TUBE**  
**Electrostatic Focus—Magnetic Deflection**

**TYPICAL OPERATION**

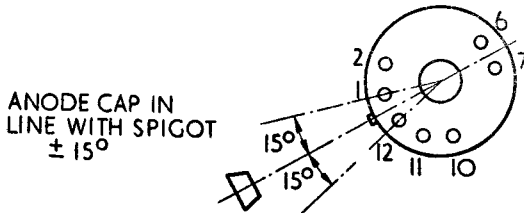
Final Anode Voltage (kV)	$V_{a2+4}$	12
First Anode Voltage (volts)	$V_{a1}$	300
Third Anode Voltage for focus (mean) (volts)	$V_{a3}$	0
Grid Bias for cut-off of 250mm focussed line (volts)	$V_g$	33—77
Average peak to peak modulating voltage for modulation up to 150 $\mu$ A*		24
Persistence T6 Screen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



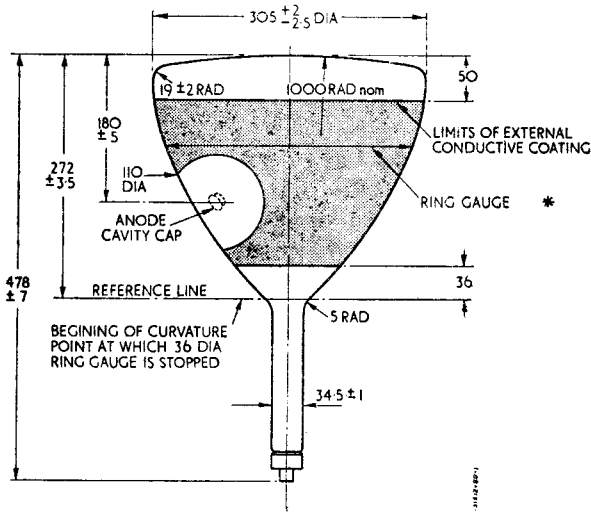
---

**31E12**  
**12" RADAR CATHODE RAY TUBE**  
**Electrostatic Focus—Magnetic Deflection**

**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

**31E12**  
**12" RADAR CATHODE RAY TUBE**  
 Electrostatic Focus—Magnetic Deflection



* 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