SECRET

CV 1087 CATHODE RAY TUBE V.C.R.87.

MINISTRY OF AIRCRAFT PRODUCTION (DCD)

SPECIFICATION DCD. WT.1291 Issue 2 Date : 2. 2. 44.	Tube Security Secret	To be read in conjunction with K1003

TYPE OF DEFLECTION: Suitable for Electrostatic or magnetic symmetrical deflection

BULB: Internally coated with conductive coating.

SCREEN: Afterglow - A Screen.

MARKING

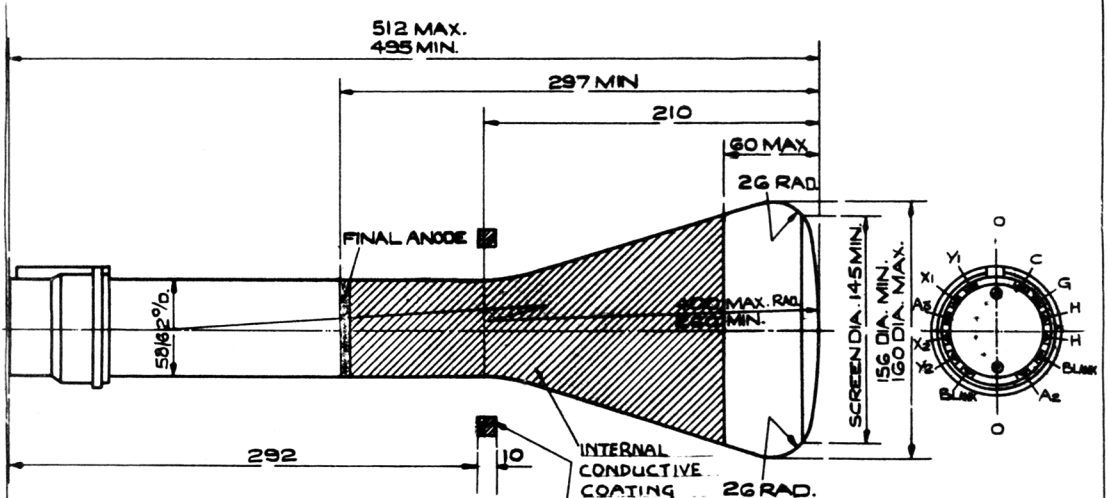
VCR 87
10E/13.

RATING		Note
Heater voltage (v)	4.0	
Heater current (A)	1.1	
Maximum Final Anode Voltage (kV)	5.5	
'X' plate Sensitivity (mm/v)	700/va3	
'Y' plate Sensitivity (mm/v)	750/va3	
Typical Operating Conditions		
Final Anode Voltage (kV)	3.0	
Second Anode Voltage (v)	700	
Beam Current (μA)	40	

BASE
12 Contact Key base

DIMENSIONS & CONNECTIONS

See drawing below.



Note 1 When viewing the screen with the tube positioned such that the base spigot is uppermost, a positive voltage to X_1 plate shall deflect the spot to the right and a positive voltage applied to Y_2 plate shall deflect the spot downwards.

Note 2. The tube must have A_1 and internal conductive coating tied internally to A_3.

ALL DIMENSIONS IN MILLIMETRES.

TESTS

To be performed in addition to those applicable in K1003

Clause	Test Conditions				Test	Limits		No. Tested
	Vh	Va3(kv)	Va2	Vg		Min.	Max.	
(a)	See K1003 clause 5.12				Capacitances (pf) 1. Each X or Y plate to all other electrodes 2. Grid to all other electrodes 3. One X to Y plate	 - - -	 20) 20) 5)	 5% (10)
(b)	4.0	0	0	0	Ih (A)	-	1.2	100%
(c)	4.0 See K1003/5.7 Scan length:100 mm. in the X and Y directions successively.	3.0	-	-	1. Line width. 2. Va2(v) 3. Vg	Not greater than standard tube 0 At least 5v negative to cathode	700	100%
(d)	4.0	3.0	As in (c)	Adjusted to give cut-off	1.Vg(v) 2.Increase in negative Vg compared with value in (c) 3.	-25 -	-65 50	100%
(e)	4.0 Recommended method:- See K1003, Clause 5.4.2. Insert resistor = 5 megohms.	3.0	As in (c)	-65	Grid Insulation. 1. Grid leakage current (uA) 2. Increase in voltmeter reading	- -	13 100%	100%
(f)	4.0	3.0	As in (c)	Any convenient value	Deflection Sensitivies 1. X plates (mm/V) 2. Y plates (mm/V)	 400/Va3 500/Va3	 1000/Va3 1000/Va3	5 (10%)
(g)	4.0	3.0	As in (c)	Any convenient value	Deviation of spot from centre of screen (mm)	-	10	100%
(h)	4.0 Deflections to cover the stated rectangle with the longer axis in the X and Y directions successively.	3.0	As in (c)	Any convenient value	Useful screen Area Rectangle (mm)	120x60	-	100%
(j)	4.0 Angle measured relative to axis OO' in drawing on page 1	3.0	As in (c)	Any convenient value	Orientation of Y axis of deflection.		±10°	100%
(k)	4.0	3.0	As in (c)	Any convenient value	Angle between X and Y axes	850	950	5% (10)
(l)	Test to be carried out in Test Set 62				The screen shall not be worse for graininess, uniformity and afterglow than the corresponding standard tubes.			100%
(m)	4.0 Normal brightness and continuous spot movement over a raster of size 120mm x 60 mm.	5.0	As in test (c)	-	Life Test. At the end of 500 hours the tube shall meet the specification requirements.			1%