VALVE ELECTRONIC **CV1085**

MINISTRY OF ~~SUPPLY~~ AVIATION D.L.R.D.(~~E~~)/R.A.E.

Amdt 1

Specification MOA/CV1085 Issue 6 Dated 26.11.1953 To be read in conjunction with K1001	SECURITY	
	Specification	Valve
	UNCLASSIFIED	UNCLASSIFIED

Amdt 1

→ Indicates a change

TYPE OF VALVE - Cathode Ray Tube

TYPE OF DEFLECTION - Electrostatic: suitable for symmetrical operation

BULB - Internally coated with conductive coating

SCREEN - BYL 34

PROTOTYPE - VCR 85

MARKING

See K1001/4

RATINGS

			Note
Heater Voltage	(V)	4	
Heater Current	(A)	1	
Max. Final Anode Voltage	(kV)	7	
Max. First Anode Voltage	(kV)	2	
X-plate Sensitivity	(mm/V)	1345/Va3	
Y-plate Sensitivity	(mm/V)	1300/Va3	
TYPICAL OPERATING CONDITIONS			
Final Anode Voltage	(kV)	6	
Second Anode Voltage	(kV)	1.6	
First Anode Voltage	(kV)	1.8	
Beam Current	(μA)	20	

BASE

B12D

CONNECTIONS

Pin	Electrode
1	Cathode
2	Grid
3	Heater
4	Heater
5	A_1
6	A_2
7	Internal Conductive Coating
8	Y_2
9	X_2
10	A_3
11	X_1
12	Y_1

DIMENSIONS

See drawings on page 4

CV1085

TESTS

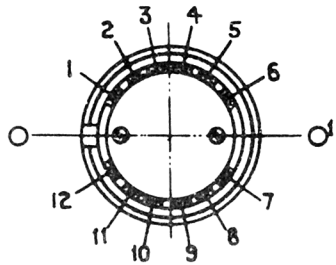
To be performed in addition to those applicable in K1001

	Test Conditions					Test	Limits Min.	Limits Max.	No. Tested	Note
a	See K1001/5A.13					CAPACITANCES (pF) (1) Each X or Y plate to all other electrodes (2) Grid to all other electrodes (3) One X to one Y plate	 - - -	 20 25 10	 5%(10)	
	Vh	Va (kV)	Va2	Va1 (kV)	Vg					
b	4.0	0	0	0	0	Ih (A)	0.8	1.3	100%	
c	4.0	6.0	Adjusted for optimum focus	1.8	Adjusted to give cut-off	Vg (V)	-30	-100	100%	
d	4.0	6.0	As in test (c)	1.8	-	(1) Vg (V) (2) Change in value of Vg from test (c)	-3 -	- 60	100%	
	Vg adjusted to give a light output of 0.02 candelas, through a C2 filter, on a close raster									
e	4.0	6.0	As in test (c)	1.8	As in (d)	(1) Line width (mm) (2) Va2 (V)	- 800	1.3 1800	100%	
	With sinusoidal deflecting voltages to give a 210mm. line at a frequency of 50 cps. and Duty Ratio = 1. Measurements to be made in X and Y deflection directions successively.									
f	4.0	6.0	As in test (c)	1.8	-100	GRID INSULATION Grid Leakage Current (μA) Increase in voltmeter reading	 - -	 10 100%	 100% 100%	
	Recommended method : See K1001/5A.3.2. Resister = 10MΩ									
g	4.0	6.0	As in test (c)	1.8	Any convenient value	DEFLECTION SENSITIVITIES X-plate (mm/V) Y-plate (mm/V)	 $\frac{1090}{Va3}$ $\frac{1000}{Va3}$	 $\frac{1660}{Va3}$ $\frac{1600}{Va3}$	 5% (10)	
h	4.0	6.0	As in test (c)	1.8	Any convenient value	Deviation of spot from centre of screen (mm)	-	25	100%	

TESTS (Continued)

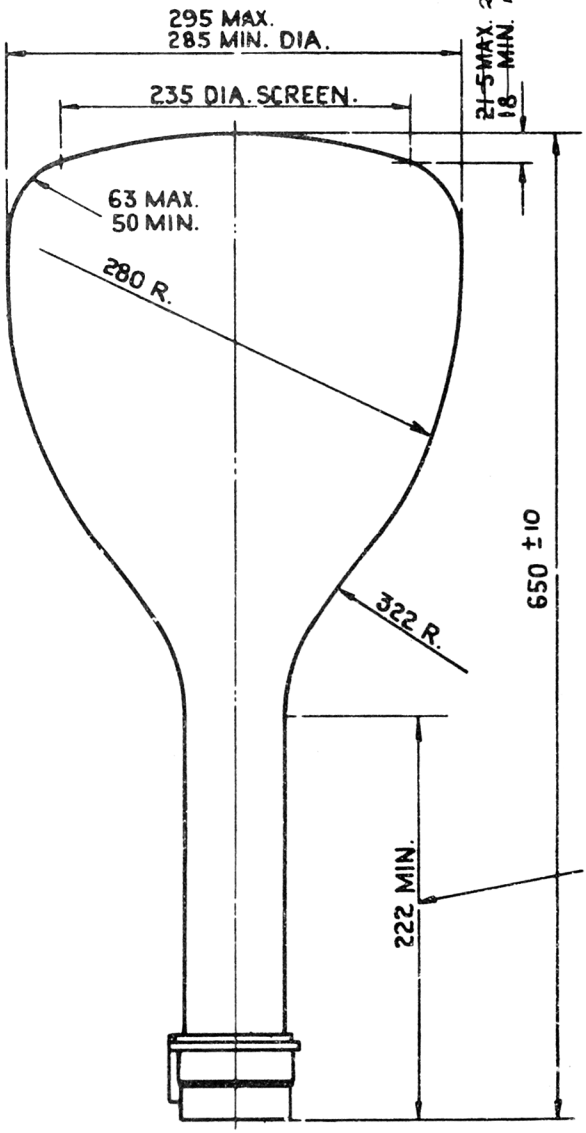
CV1085

	Test Conditions					Test	Limits		No. Tested	Note
	Vh	Va (kV)	Va2	Val (kV)	Vg		Min.	Max.		
j	4.0	6.0	As in test (c)	1.8	Any convenient value	USEFUL SCREEN AREA X-deflection (mm) Y-deflection (mm)	 ±105 ±105	 - -	 100%	
	Deflections measured from centre of screen									
k	4.0	6.0	As in test (c)	1.8	Any convenient value	Orientation of Y axis of deflection	-	±10°	100%	
	Angles measured relative to axis 00' in drawing on page 4									
l	4.0	6.0	As in test (c)	1.8	Any convenient value	Angle between X and Y axes of deflection	85°	95°	5%(10)	
m	4	6	As in test (c)	1.8	Any convenient value	The screen shall not be worse for graininess than a standard pattern			100%	
	Deflection voltages to give a raster covering the useful screen area. The spot shall be defocussed such that separate lines shall not be discernible on the raster.									
n	4	6	As in test (c)	1.8	-	LIFE HOURS At the end of 1000 hours the tube shall meet the specification requirements			1%	
	Normal brightness and continuous spot movement over a raster of size 210 x 100 mm.									
o	Tests to be performed using Test Set 331, with a close raster of convenient size.					AFTERGLOW (seconds) N_3 Filter N_4 Filter	 20	 30		



VIEW OF UNDERSIDE OF BASE.

Amdt. 1



ALL DIMENSIONS IN MILLIMETRES.

NOTES

1. THE INTERNAL CONDUCTIVE COATING SHALL BE OF SUCH DIMENSIONS THAT IT FUNCTIONS EFFECTIVELY BUT DOES NOT OBSCURE THE REQUIRED USEFUL SCREEN AREA.

2. WHEN VIEWING THE SCREEN WITH THE TUBE POSITIONED SO THAT THE BASE SPIGOT IS UPPERMOST, A POSITIVE VOLTAGE APPLIED TO THE TERMINAL X_1 SHALL DEFLECT THE SPOT TO THE RIGHT AND A POSITIVE VOLTAGE APPLIED TO THE TERMINAL Y_1 SHALL DEFLECT THE SPOT DOWNWARDS.

ELECTRONIC VALVE SPECIFICATIONS

SPECIFICATION MOSA/CV1085 ISSUE 6 DATED 26.11.1953

AMENDMENT NO. 1

1. Page 1. Top of Page

   (a) Amend the Specification Authority "MINISTRY OF SUPPLY D.L.R.D.(A)/R.A.E." to read "MINISTRY OF AVIATION D.L.R.D./ R.A.E.".

   (b) Amend the Specification Title "Specification MOSA/CV1085" to read "Specification MOA/CV1085".

2. Page 4. Outline Drawing

   Amend the Chord Height of Screen dimensions of "Min 18" and "Max. 21.5" to read "Min. 17.5" and "Max. 25".

June 1965. T.V.C. for R.A.E.

N.229663

✓ AMB 19/8/65