VALVE ELECTRONIC

CV1536

MINISTRY OF SUPPLY R.R.E.

Specification MOS/CV1536 Issue 2 dated:- December 1957. To be read in conjunction with K1001 and BS.448	SECURITY Specification: Unclassified Valve: Unclassified

← Indicates a change

TYPE OF VALVE:-	Cathode Ray Tube
TYPE OF DEFLECTION:-	Electrostatic suitable for symmetrical deflections.
TYPE OF FOCUS:-	Electrostatic
BULB:-	Glass, internally coated with conductive coating.
SCREEN:-	BB.3.
PROTOTYPE:-	G.E.C. 1606ABA

MARKING

See K1001/4

BASE

B 12 D
See BS.448. ←

RATING

Heater Voltage	(V)	4
Heater Current	(A)	1
Max. Final Anode Voltage	(kV)	6
→ Max. First Anode Voltage	(kV)	2.2
X plate sensitivity	(mm/V)	620/Va3
Y plate sensitivity	(mm/V)	1200/Va3
TYPICAL OPERATING CONDITIONS		
Final Anode Voltage	(kV)	3.5
Second Anode Voltage	(V)	600
First Anode Voltage	(kV)	2

CONNECTIONS

PIN	ELECTRODE
1	g
2	k
3	h
4	h
5	a_1
6	a_2
7	Internal coating
8	y_2
9	x_2
10	a_3
11	x_1
12	y_1

DIMENSIONS

See Drawing Page 4

NOTES

A. The internal conductive coating may be connected with a_3 to pin 10 of the base and pin 7 left blank.

B. Looking at the screen with the tube positioned such that the base spigot is uppermost, a positive voltage applied to pin 11 shall deflect the spot to the left and a positive voltage applied to pin 12 shall deflect the spot upwards.

To be performed in addition to those applicable in K1001

Clause	Test Conditions	Test	Limits Min.	Limits Max.	No. Tested
a	See K1001/5A.13	**Capacitances** (pf)			
		1. Each x plate to all other electrodes.		25	2%(5)
		2. Each y plate to all other electrodes.		25	2%(5)
		3. Grid to all other electrodes.		25	2%(5)
		4. Each x plate to each y plate.		3	2%(5)
	FOR ALL TESTS GIVEN BELOW V_h = 4.0V				
b		**Heater Current** (A)	0.66	1.2	100%
	FOR ALL TESTS GIVEN BELOW Va1 = 2.0KV and Va3 = 3.5KV				
c	Adjust Va2 for optimum focus and Vg for cut-off. See K1001/5A.10.	**Grid Base**			
		-Vg (V)	30	85	100%
→ d	With a raster scan of convenient size adjust Va2 for optimum focus and Vg for a light intensity of 0.05 "orthochromatic candela".	**Light Intensity and Grid Drive**			
		Change in Vg from that in test "c". (V)		13	100%
→ e	Vg as in test "d". Obtain one setting of Va2 for optimum spot size with the spot undeflected and with it deflected to the four corners of a square of 80 mm. side.	1. **Spot size** at the worst of the five positions. (mm)		0.6	100%
		2. Va2 (V)	450	750	100%
f	(i) Vg -85V. or (ii) See K1001/5A. 3.2. Resister 10 megohms.	**Grid Insulation**			100%
		(i) Leakage Current (uA)		8.5	
		or			
		(ii) Increase in voltmeter reading.		100%	
→ g		**Useful Screen Area**			
		1. X deflection (mm)	±60		100%
		2. Y deflection (mm)	±52.5		100%

TESTS (Contd)

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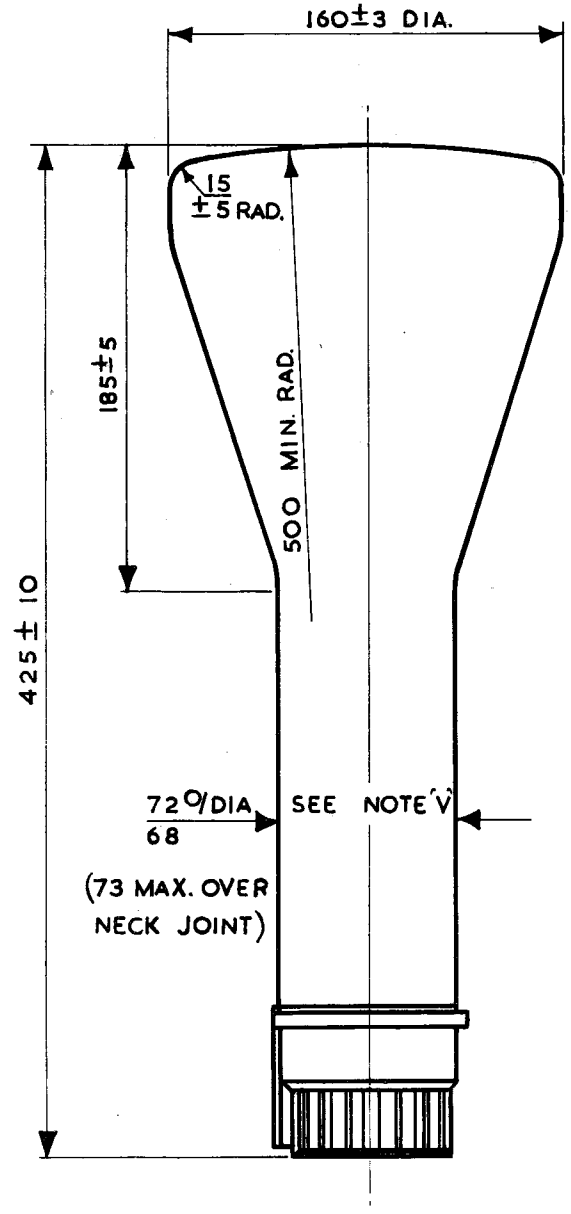
Clause	Test Conditions	Test	Limits Min.	Limits Max.	No. Tested
h		Deflection Sensitivities 1. X plate (mm/V)	520/Va3	720/Va3	10%(10)
		2. Y plate (mm/V)	1050/Va3	1350/Va3	10%(10)
j	See K1001/5A.11.1	Deviation of spot from centre of screen (mm)		10	100%
k		Orientation of deflection Axes 1. Orientation of X axis of deflection relative to G-G' on drawing	80°	100°	100%
		2. Angle between X and Y axes of deflection	88°	92°	100%
l	See K1001/11.5.	Vibration			T.A.
m	Tube to be subjected to the conditions of K1001/10.1. for 28 days.	There shall be no signs of blistering or flaking of the coating.			T.A.

DRAWING NOTES

Y. The glass pinch cavity to be filled with Silicone Insulating Compound made by Midland Silicones Ltd., to Ministry of Supply Specification DTD 900/4298.

Z. From the base to the point of maximum diameter the bulb is to be coated externally to prevent light falling on the back of the fluorescent screen.



NOTES

V. THE NECK DIA. MAY BE REDUCED TO 58MM. MIN. PROVIDED THAT RINGS OF AN APPROVED MATERIAL ARE SUPPLIED WITH THE TUBE TO BRING THE OVERALL DIA. WITHIN 68 TO 72 MM.

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

X. THE O–O' AXIS IS THE DIAMETER OF BASE PASSING THROUGH CENTRE OF BASE KEY.

ALL DIMENSIONS IN MILLIMETRES