

SPECIFICATION MOS/CV2486  
ISSUE 1, DATED 2.10.58

AMENDMENT NO. 1

Page 2 Clause (a), 1st Line

In column headed "Test Conditions",

Delete "58" Substitute "56"

In column headed "Limits Min.",

Delete "62" Substitute "60"

In column headed "Limits Max.",

Delete "74" Substitute "72".

October, 1960  
..34244/D

T.V.C. for S.R.D.E.

Specification MOS(A)/CV2286 Issue 2 Dated 1. 4. 54. To be read in conjunction with K1001	<u>SECURITY</u>	
	<u>Specification</u>	<u>Valve</u>
	UNCLASSIFIED	UNCLASSIFIED

—————> Indicates a change

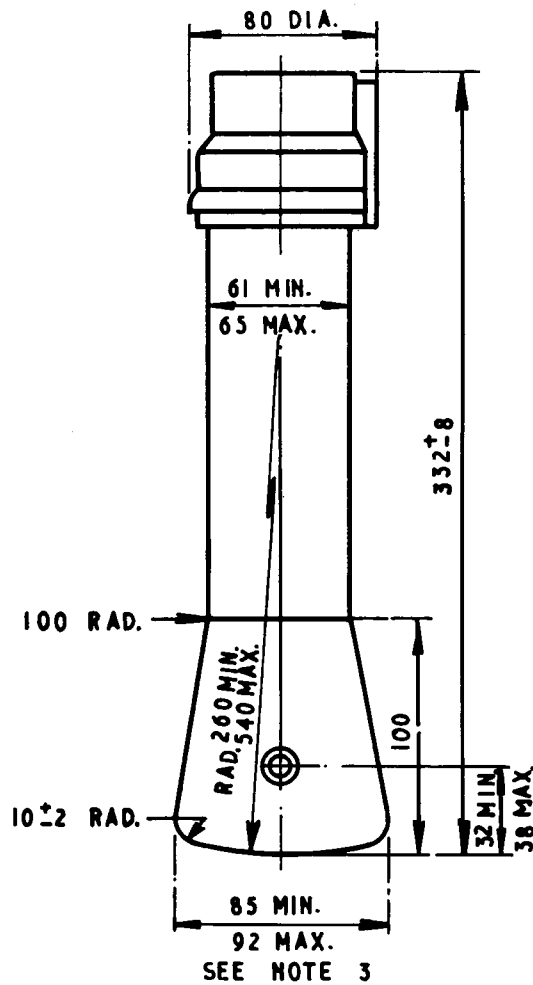
TYPE OF VALVE - Cathode Ray Tube TYPE OF DEFLECTION - Electrostatic, symmetrical TYPE OF FOCUS - Electrostatic BULB - Internally coated with conductive coating SCREEN - YY6 PROTOTYPE - VCRX393	<u>MARKING</u>	
	Sec K1001/4	
	<u>BASE</u>	
	B12D	
<u>CONNECTIONS</u>		
<u>RATING</u>		
	Pin	Electrode
	1	G
	2	C
	3	H
	4	H
	5	A1
	6	A2
	7	Internally coated (See Note D)
	8	Y2
	9	X2
	10	A3
	11	X1
	12	Y1
	S.C.	A4
	<u>SIDE CONTACT</u>	
	Snap Terminal.	
	<u>DIMENSIONS AND CONNECTIONS</u>	
	See Drawing on Page 4	
	Note	
Heater Voltage (V)	4.0	
Heater Current (A)	1.1	
Max. Fourth Anode Voltage (kV)	6.0	A
Max. Third Anode Voltage (kV)	4.0	A
Max. First Anode Voltage (kV)	2.5	A
<u>Typical Operating Conditions</u>		
Fourth Anode Voltage (kV)	4.0	
Third Anode Voltage (kV)	2.0	
Second Anode Voltage (V)	350	
First Anode Voltage (kV)	2.0	
X-plate Sensitivity (mm/V)	0.18	
Y-plate Sensitivity (mm/V)	0.24	

- NOTES
- A. The tube shall operate with  $V_{a1} = 2.5 \text{ kV}$ ,  $V_{a3} = 5 \text{ kV}$ , and  $V_{a4} = 6 \text{ kV}$  under conditions of reduced pressure equivalent to 6 ins of mercury at  $15^\circ\text{C}$ .
  - B. The tube shall be adequately free from microphony.
  - C. The tube shall be of the post deflection acceleration type, and the design shall be such that with  $V_{a1} = 2.5 \text{ kV}$  the focus shall be substantially unaffected by varying the value of  $V_{a4}$  to that of  $V_{a3}$ . A change of  $\pm 10\%$  in  $V_{a2}$  shall not produce an appreciable change in cut-off voltage.
  - D. The tube will normally be operated with A3 and conductive coating tied, and if the manufacturer so desires these electrodes may be strapped internally with the connection omitted from contact marked "internal coating".

To be performed in addition to those applicable in K1001

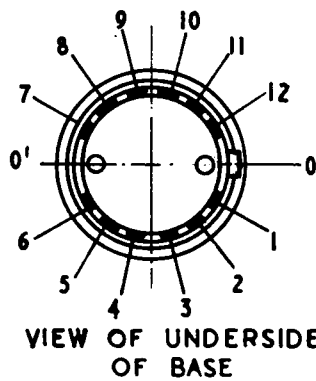
	Test Conditions						Test	Limits		No. Tested	Note
	Vh (V)	Va4 (kV)	Va3 (kV)	Va2 (kV)	Va1 (kV)	Vg (V)		Min.	Max.		
Deflection voltages shall be applied symmetrically in all cases.											
a	See K1001/5A.13						Capacitances (pF)				
							1. Each X or Y-plate to all other electrodes.	-	25	5%(10)	
							2. One X-plate to one Y-plate	-	6	5%(10)	
							3. Grid to all other electrodes.	-	25	5%(10)	
b	4.0	0	0	0	0	0	Ih (A)	0.8	1.3	100%	
c	4.0	4.0	2.0	Adjust for optimum focus	2.0	Adjust to cutoff	Vg (V) Value to be noted	-	-100	100%	
d	4.0	4.0	2.0	As for Test (c)	2.0	-	1. Vg (V)	-1	-	100%	
							2. Change in Vg from Test (c) (V)	-	35	100%	
							3. Within the range of grid voltage from cut-off to standard light output the beam current shall increase continuously.	-	-	100%	
e	4.0	4.0	2.0	As for Test (c)	2.0	-	1. Line Width (mm)	-	0.6	100%	
							2. Va2 (V)	100	425	100%	
<p><u>DEFLECTION</u> - With a sine wave time-base of 10 kc/s nom. and line length of 66 mm in the X direction and 70 mm in the Y direction successively, the line width shall be measured at the centre of the trace.</p> <p><u>GRID</u> - The grid will be pulsed positively from cut-off with amplitude equal to the value obtained in Test (d.2). Nom. Tp = 100 usecs. Nom. PRF = 100 c/s.</p>											

	Test Conditions						Test	Limits		No. Tested	Note	
	Vh (V)	Va4 (kV)	Va3 (kV)	Va2 (kV)	Va1 (kV)	Vg (V)		Min.	Max.			
f	4.0	4.0	2.0	Any convenient value	2.0	-80	<u>Grid Insulation</u> 1. Leakage current ( $\mu$ A) 2. Increase in voltmeter reading	-	8	100%		
Recommended method: See K1001/5A.3.2, Resistor = 10 megohms								-	100%	100%		
g	4.0	4.0	2.0	As for Test (f)	2.0	Any convenient value	<u>Deflection Sensitivities</u> 1. X-plate (mm/V) 2. Y-plate (mm/V)	0.16 0.21	0.20 0.27	5%(10) 5%(10)		
h	4.0	4.0	2.0	As for Test (f)	2.0	As for Test (g)	Deviation of spot from centre of screen (mm)	-	6	100%		
j	4.0	4.0	2.0	As for Test (f)	2.0	As for Test (g)	<u>Useful Screen Area</u> 1. Deflections to cover stated rectangle 2. Deviation of centre of boundary lines of raster from a true rectangle (mm)	-	-	-	5%	
Measurement to be made on a raster 50 x 55 mm in the X and Y directions successively.								-	$\pm 2$	5%		
k	4.0	4.0	2.0	As for Test (f)	2.0	As for Test (g)	1. Orientation of X axis of deflection relative to 00' on drawing 2. Orientation of the diameter through the centre of the snap terminal relative to 00'	80° 80°	100° 100°	100% 100%		
m	4.0	4.0	2.0	As for Test (f)	2.0	As for Test (g)	Angle between X and Y axes of deflection	88°	92°	100%		
n	4.0	4.0	2.0	As for Test (f)	2.0	Adjust	Persistence (secs)	4	16	100%		
Test shall be performed using approved test gear and a close raster of convenient size.												



**NOTES**

1. THE INTERNAL CONDUCTIVE COATINGS SHALL BE OF SUCH DIMENSIONS THAT THEY FUNCTION EFFECTIVELY BUT DO NOT OBSCURE THE REQUIRED USEFUL SCREEN AREA.
2. WHEN VIEWING THE SCREEN WITH THE TUBE POSITIONED SUCH THAT THE SPIGOT IS UPPERMOST, A POSITIVE VOLTAGE APPLIED TO TERMINAL X<sub>1</sub>, SHALL DEFLECT THE SPOT TO THE LEFT, AND A POSITIVE VOLTAGE APPLIED TO TERMINAL Y<sub>1</sub>, SHALL DEFLECT THE SPOT UPWARDS.
3. THIS DIA. SHALL INCLUDE ANY PROTRUSION DUE TO SIDE CONTACT.



ALL DIMENSIONS IN MILLIMETRES.

CV 2286/2/4