

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

Specification MOSA/CV.1526 Issue 4 Dated 21.7.53 To be read in conjunction with K.1001	<table> <tr> <th colspan="2">SECURITY</th></tr> <tr> <td>Specification</td><td>Valve</td></tr> <tr> <td>UNCLASSIFIED</td><td>UNCLASSIFIED</td></tr> </table>	SECURITY		Specification	Valve	UNCLASSIFIED	UNCLASSIFIED
SECURITY							
Specification	Valve						
UNCLASSIFIED	UNCLASSIFIED						

—————> Indicates a change

TYPE OF VALVE - Cathode Ray Tube				<u>MARKING</u>	
TYPE OF DEFLECTION - Electrostatic				See K.1001/4.	
BULB - Internally coated with conductive coating				<u>BASE</u>	
SCREEN - GGN35				12 pin spigot.	
PROTOTYPE - VCR526					
<u>RATING</u>				<u>CONNECTIONS</u>	
				Note	
				Pin	Electrode
Heater Voltage	(V)	4.0		1	C
Heater Current	(A)	1.0		2	G
Max. Fourth Anode Voltage	(kV)	3.0	A	3	H
Max. Third Anode Voltage	(kV)	1.5	A	4	H
				5	A ₂
				6	Pin omitted
<u>Typical Operating Conditions</u>				7	Y ₂
Fourth Anode Voltage	(kV)	2.5		8	X ₂
Third Anode Voltage	(kV)	1.3		9	A ₁ , A ₃ and conductive coating
Second Anode Voltage	(V)	100			
Working Beam Current Peak	(μA)	200		10	X ₁
Peak Cathode Current	(μA)	1000		11	Y ₁
X-plate Sensitivity	(mm/V)	.215		12	Pin omitted
Y-plate Sensitivity	(mm/V)	.215		Side Contact	A ₄
				<u>SIDE CONTACT</u>	
				Snap Terminal	
				<u>DIMENSIONS</u>	
				See drawing on page 4.	
<u>NOTES</u>					
A. The valve shall be capable of operating with first and third anode voltages of 1500 V and fourth anode voltage of 3.0 kV at a pressure equivalent to 5.77" of mercury at 15°C.					
B. The tube shall be of the post deflector accelerated type and of a design such that a change of ±10% in the V _{a2} voltage shall not produce an appreciable change in the cut-off voltage.					
C. The tube shall be adequately free from microphony.					

To be performed in addition to those applicable in K.1001

Test Conditions						Test	Limits		No. Tested
Vh	Va4 (kV)	Va1 Va3 (kV)	Va2	Vg	Min.		Max.		
In all cases symmetrical deflecting voltages shall be applied to the Y plates and asymmetrical deflecting voltages to the X plates.									
a	See K.1001/5A.13.					<u>CAPACITANCES (pF)</u> 1. Each X or Y plate to all other electrodes. 2. One X to one Y plate. 3. Grid to all other electrodes.	-	13 24	5% (5)
b	4.0	0	0	0	0	Ih (A)	0.8 0.9	1.1	5%(10)
c	4.0	2.5	1.3	Adjusted for optimum focus	Adjusted to cut-off	Vg Value to be noted (V)	-	105	100%
d	4.0	2.5	1.3	ditto	-	(1) Vg (V) (2) Change in value of Vg from test "c". (V)	-1 -	- 45	100% 100%
e	4.0	2.5	1.3	ditto	-	(1) Line width (mm) (2) Va2 (V)	- 50	1.2 200 130	100% 5%(10)
<u>DEFLECTION</u> With a sine wave time base of 10 kc/s nom. and a line length of 55 mm in the X and Y directions successively. The line width to be measured at the centre of the trace. <u>GRID</u> The grid will be pulsed positively from cut-off with amplitude equal to the value obtained in test d(2), the nominal values of pulse duration and recurrence being 100 μ secs and 100 c/s respectively.									
f	4.0	2.5	1.3	Any convenient value	-105	<u>GRID INSULATION</u> 1. Leakage Current (μ A) 2. Increase in voltmeter reading.	- -	21 100%	100% 100%
Recommended method:- See K.1001/5A.3.2. Resistor = 5 Megohms.									

Ampl 1

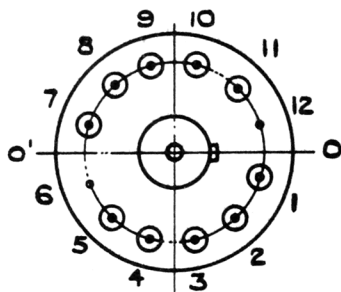
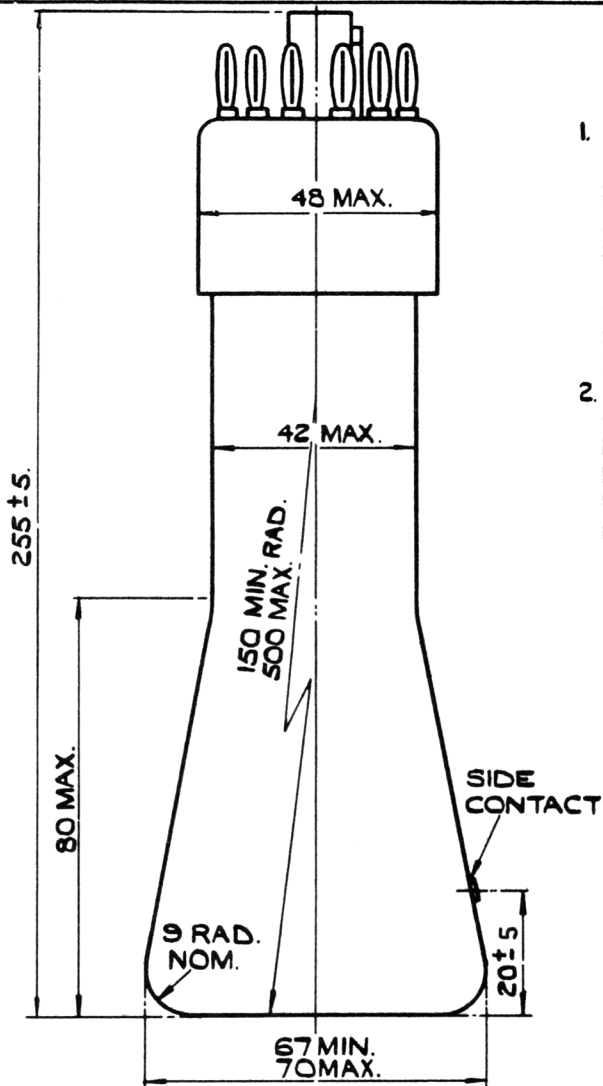
Ampl 2

Ampl 2

	Test Conditions					Test	Limits		No. Tested
	Vh	Va4 (kV)	Va3 Va1 (kV)	Va2	Vg		Min.	Max.	
g	4.0	-	-	Any con- veni- ent value	-	<u>HEATER CATHODE INSULATION</u> Leakage Current (μA)	-	200	100%
See K.1001/5A.3.3. A voltage of 100 V shall be applied between heater and cathode.									
h	4.0	2.5	1.3	ditto	Any con- veni- ent value	<u>DEFLECTION SENSITIVITIES</u> 1. X-plate (mm/V) 2. Y-plate (mm/V)	0.17 0.17	0.26 0.26	5% (10)
j	4.0	2.5	1.3	ditto	ditto	Deviation of spot from centre of screen (mm)	-	7.0	100%
k	4.0	2.5	1.3	ditto	ditto	<u>USEFUL SCREEN AREA</u> Diameter (mm)	55	-	100%
Deflection to cover stated circle centred on centre of screen.									
l	4.0	2.5	1.3	ditto	ditto	Angle between X and Y axis of deflection	85°	95°	100%
m	4.0	2.5	1.3	ditto	ditto	1. Orientation of Y axis of deflection relative to 00' on drawing. 2. Orientation of dia- meter line through snap terminal rela- tive to Y axis.	- -	+10° +10°	100% 100%
n	4.0	2.5	1.3	ditto	ditto	1. The screen shall be no worse for graini- ness than a standard pattern. 2. The variation of brightness over any part of the area shall not exceed a 2:1 ratio.			100% 100%
Deflecting voltages to give a raster covering the useful screen area. The spot shall be de- focussed such that separate lines shall not be discernable on the raster.									

NOTES

1. VIEWING THE SCREEN OF THE TUBE WITH THE KEY OF THE BASE UPPERMOST, A POSITIVE POTENTIAL APPLIED TO PIN X_2 SHALL DEFLECT THE SPOT TO THE RIGHT, AND A POSITIVE PONTENTIAL APPLIED TO PIN Y_2 SHALL DEFLECT THE SPOT DOWNWARDS.
2. THE INTERNAL CONDUCTIVE COATINGS SHALL BE OF SUCH DIMENSIONS THAT THEY FUNCTION EFFECTIVELY BUT DO NOT OBSCURE THE USEFUL SCREEN AREA.



VIEW OF UNDERSIDE
OF BASE.

ALL DIMENSIONS IN MILLIMETRES.

ELECTRONIC VALVE SPECIFICATIONS

SPECIFICATION CV1526

ISSUE 4. DATED 21.7.53

AMENDMENT NO.1

Page 2. Test Clause "a" CAPACITANCES (pF)

1. Amend the Limits Max. of 21pF for "Each X or Y plate to all other electrodes" to read "13pF".
2. Amend the Limits Max. of 13pF for "Grid to all other electrodes" to read "21pF".

March 1960
N.16437

Royal Aircraft Establishment

FILE 9760

ELECTRONIC VALVE SPECIFICATIONS

SPECIFICATION MOSA/CV.1526 ISSUE NO.4 DATED 21.7.53

AMENDMENT NO.2

Page 2

Test Clause (b) 1h.

In the column headed "Limits, Min." delete: "0.9" and substitute: "0.85".

Test Clause (e)(2) Va2.

In the column headed "Limits Max" delete "200" and substitute in Min.column "50" and the Max. Column "130".

November, 1963.
NP.152578.

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

Ans
12/1/64