# VALVE ELECTRONIC CV1997

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

Specification MOSA/CV1997	SECURITY			
Issue 3 Dated 25.3.57 To be read in conjunction with BS.448, BS.1409 and K1001 excluding Clause 11.5.	Specification UNCLASSIFIED			

excruding orange in. ).											
		<del></del>	Indic	ates a	change						
TYPE OF VALVE - Cathode Ray Tube						MARKING					
TYPE OF FOCUS	Electrostatic			See K.1001/4							
TYPE OF DEFLECTION	TYPE OF DEFLECTION - Electrostatic						BASE				
BULB	BULB - Internally coated with conductive coating					BS.448/B9G					
SCREEN - G. G. 5						CONNECTIONS					
PROTOTYPE - VCRX.307											
R	TING	ł		Note	Pin	Electrode					
Heater Voltage Heater Current Max. Third Anode Voltage Max. Peak Cathode Current  x-plate Sensitivity  y-plate Sensitivity  (mm/V)  TYPICAL OPERATING CONDITIONS  Third Anode Voltage Second Anode Voltage (approx.) Beam Current  (mA)  (v)  (v)  (v)  (v)  (v)  (v)  (v)  (					1 2 3 4 5 6 7 8 9 Se	Cathode, Heater k + Grid g Heater h Anode 2 a2 X1 x1 Y1 y1 Anode 1.Anode 3 a1 + a Y2 y2 X2  DIMENSIONS See Drawing on page 4  MOUNTING POSITION Any					

#### NOTE

A. When viewing the screen with the tube positioned such that the keyway on the base spigot is at 30° to the left of the vertical, a positive potential on Pin 8 will deflect the spot upwards.

TESTS

To be performed in addition to those applicable in Kl001

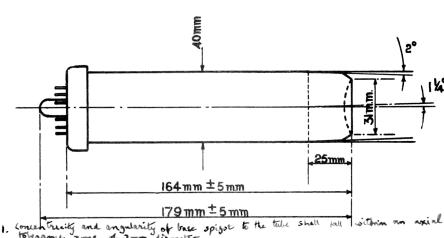
	Test Conditions					mh		its	No.	Note	1
		γh (γ)	Va3 (kV)	▼a2 (▼)	∇g (∇)	Test	Min.	Max.	Tested	Note	
	-	All def	lecting	voltages s	hall be sy	pmmetrical					
<b>→</b>	G ¥7007 (ATT			CAPACITANCES (pF)  1. Each x and each y plate to all other electrodes.  2. Each x plate to each y plate.  3. Grid to all other electrodes.		3.0 20	5%(5) 5%(5) 5%(5)		Amele		
	ъ	4.0	0	0	0	Ih (A)	0.85	1.2	100% or S		Amelts
	С	4.0	1.5	Adjusted for optimum focus	Adjusted for cut-off	Vg (V) Value to be noted	-40	-100	100%		
	đ	4.0 Vg adju of .009	1.5 sted to	ditto give a lig as on a clo	Adjust the output see raster.	Change in value of  Vg from test c.  1. Tubes having  Vgl cut-off  -40 (V)  2. Tubes having  Vgl cut-off  -100 (V)  5. Intermediate  values shall be proportional	-	20 31	100%		
	0	base of length directi width a centre Grid T positiv amplitu obtaine values recurre	of 31 m ons suchall be of the The grid rely from the equal of in te- of puls	ditto  th a sine was nome, and min x and cessively, measured a trace. shall be reducted to the value st (d), the e duration e being 100 spectively.	the line oulsed rith clue e nome and oper sec.	1. Line Width (mm) 2. Va <sub>2</sub> (V)	40	0.5	100%		

### TESTS (Contd.)

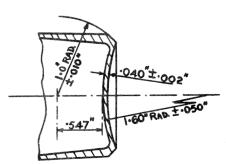
		Test C	onditions		_	Limi	ts	No.	N
	у <sub>ћ</sub> (V)	Vа3 (kV)	Va2 (V)	∇g (∇)	Tes	Min.	Max.	Tested	Note
f	For rece see K100 Resistor	01/5A. 3	.2.	-120	Grid Insulation  1. Leakage Current (μΑ)  2. Increase in voltmeter reading	-	12 100%	100% 100%	
g	4.0	1.5	ditto	Any convenient value	Deflection Sensitivities 1. x Plate (mm/V) 2. y Plate (mm/V)	155 Va3 165 Va3	195 Va3 205 Va3	5%(20) 5%(20)	
h	4.0	1.5	ditto	ditto	Deviation of spot (mm) from centre of screen	-	3	100%	
j	4.0	1.5	ditto	ditto	Useful Screen Area Diameter (mm)	31	1	100%	
k	4.0	1.5	ditto	ditto	Angle between x and y axis of deflection	88°	92 <b>°</b>	100%	
m	4.0	1.5	ditto	ditto	Orientation of y axis of deflection relative to axis through keyway on base spigot	200	40°	100%	
n					Vibration			T.A.	1

#### NOTE

1. With the tube operating with normal electrode potentials applied, the vibration test will be performed in accordance with: - R.A.E. Tech. Note Vib.13. "Aircraft Equipment and Instrument Vibration Panel" in equipment which shall be approved by the Design Authority.



- 1 The tube axis and base spigot shall be concentric within 2 mm.
- 2 The angle between the C/L of the base spigot and the C/L of the tube shall not exceed 20
- 2 \$ Angle between \$\infty L of tube and that of the pressed glass screen shall be not greater than 1 4. The two centre lines shall not be laterally displaced by more than Im.m.



The finished tube shall be examined to ensure that if a line be drawn from the centre of the base spigot to the centre of the curvature of the I'Radius, the angle between this line and a line tangential to the screen at its centre shall be 90°±11/2°

This test shall be performed by an approved method.

3. The pressed glass screen is to be of such dimension that when it is registered against the inside of a 90° cone, with the centre line passing through the apex of the cone, the distance between the apex and the screen shall be 0.867" + 0.001".

### ELECTRONIC VALVE SPECIFICATIONS

## SPECIFICATION CV1997

# ISSUE 3 DATED 25.3.57

### AMENDMENT NO. 1

Page 2 Test Clause a. CAPACITANCES

In column headed "Limits Max.",

Amend "12" (pF) to "14" (pF).

July 1960. ROYAL AIRCRAFT ESTABLISHMENT.

N.33426.

AKS

# ELECTRONIC VALVE SPECIFICATIONS

### SPECIFICATION/MOS(A) CV1997 ISSUE 3 DATED 25.3.57 AMENDMENT No. 2

Page 4 Notes Delete all reference to Notes 1 and 2 and substitute 1) the following as Note 1.

"Concentricity and angularity of base spigot to the tube shall fall within an axial tolerance zone of 2 m.m.

diameter". Renumber existing "Note 3" to read "Note 2" excepting the 2) final paragraph (commencing "The pressed glass screen ....") which

becomes "Note 3".

Royal Aircraft Establishment. October, 1960 N. 34243

JAN 21/61

# ELCTRONIC VALVE SPECIFICATION

SPECIFICATION CV.1997 ISSUE 3 DATED 25-3-1957

AMENDMENT NO.3

Clause "b" Ih Limits:-

November, 1963.

NP.152582.

Page 2

DELETE: MIN. 1.0

INSERT: MIN.O.85

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