MINISTRY OF SUPPLY, R.R.E.

VALVE ELECTRONIC

CV2108

Specification MOS/CV2108 Issue 3 16th December, 1958. To be read in conjunction with K1001 and BS448	SECURITY	
	Specification	Valve
	Unclassified	Unclassified

→ Indicates a change

TYPE OF VALVE:- Cathode Ray Tube

TYPE OF DEFLECTION:- Magnetic

TYPE OF FOCUS:- Magnetic

SCREEN:- 008 Aluminium Backed

RATING		
Heater voltage	(V)	6.3
Heater current	(A)	0.6
Maximum anode voltage	(kV)	11.0
TYPICAL OPERATING CONDITIONS		
Anode voltage	(kV)	10.0
Peak beam current	(uA)	100

MARKING

See K1001/4

BASE

B.S.448 B 8-0
With metal shell

CONNECTIONS

Pin	Electrode
1	No connection
2	h
3	No pin
4	No pin
5	g
6	No pin
7	h
8	k
Side Contact	a

SIDE CONTACT

B.S. 448 CT1

DIMENSIONS

See drawing page 5

NOTES

→ A. To prevent damage to the screen material the tube should be operated at its minimum useful brightness.

B. The fluoride screen shall not contain beryllium.

C. The tube shall be capable of being used with Anode or Cathode earthed.

Z.18442

CV2108 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.	Capacitance (pf) Grid to all other electrodes		15	5%(5)
	FOR ALL TESTS BELOW Vh = 6.3 Volts				
b		Heater Current (A)	0.28	0.66	100%
	FOR ALL TESTS BELOW Va = 10 kV				
c	Adjust for optimum focus. Adjust Vg for cut-off. See K1001/5A.10 and Note 1	Grid Base -Vg (V) (Value to be noted)	75	120	100%
d	Adjust Vg to give a light intensity of 0.12 candela, using a focussed raster of any convenient size. See Note 1.	Screen Efficiency Beam Current (uA)		5	100%
e	Defocussed beam, scanned or deflected off usable screen area. Adjust Vg to give Ib = 100 uA	Grid Drive 1. Change in Vg (V) from value found in test "c". 2. The beam current shall increase smoothly from cut-off to Ib = 100 uA.		35	100% 100%
f	Adjust for optimum focus. Line scan of length 190 mm. nominal and 100 uS duration. Grid drive from cut-off by 100 uS pulse and amplitude as found in test "e.1" at 100 p.p.s. See Note 1	1. Line width measured at the centre of the trace (mm) 2. Focus Coil Current (mA)	 15	0.6 35	100% T.A.
g	(i) Vg - 120V. OR (ii) See K1001/5A.3.2 Resistor 10 megohm	Grid Insulation (i) Leakage current (uA) OR (ii) Increase in voltmeter reading.		12 100%	100%

TESTS (Cont'd)

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Clause	Test Conditions	Test	Limits Min.	Limits Max.	No. Tested
h	Adjust for optimum focus. Vg as in test "e". Deflection to cover the useful screen area. See Notes 1 and 2.	Useful Screen Area Diameter on the geometric centre of the screen (mm)	195		100%
j	No focus or deflecting fields. Vg any convenient value.	Spot Centring Deviation of the spot from the geometric centre of the screen (mm)		10	100%
k	Screen to be scanned with an interlaced 405 line. T.V. raster of convenient size. No focus field. Adjust Vg for a screen brightness of 2 foot lamberts. Excitation time 120 secs. ± 15 secs.	Afterglow Decay time to 0.014 foot lamberts at 15°C. (secs) To allow for screen temperature coefficient the minimum decay time limit at any temperature between 15°C and 30°C which is "n" degrees above 15°C is 152 $(1-0.046)^n$ seconds.	152		5%(5)
l	Va = 13 kV Vg = -150V Preheat cathode at Vh 6.3V for 10 minutes. The tube to be held with the screen horizontal and uppermost. Focus field as in clause f. The tube to be viewed for 10 seconds in a dark room or box whilst the neck of the tube is tapped with an approved forked rubber covered wooden hammer at a minimum of 4 taps per second.	Flash Over and Stray Emission Any flashover or stray Emission can be ignored during the first 5 seconds when any emission shall be deflected off the screen. During the remaining 5 seconds, when there shall be no deflecting field the tube shall be rejected if flashover or stray emission causes visible screen excitation.			100%
m	With a defocussed raster covering the useful screen area. See note 3.	Blemishes. Stones, Bubbles and Screen Defects). Above 1.0 mm. diameter 1.0 mm to 0.5 mm. dia. Spacing between blemishes (mm)	None 15	6	100%

NOTES

1. For tests c, d, f, and h, the focussing field shall be obtained by an approved unit with the focus coil in its mean position.

2. Deflection to be obtained with an approved unit.

→ 3. If two or more blemishes including those below 0.5 mm., are separated by a distance not greater than the maximum dimension of the largest blemish in the group, then the group of blemishes shall be considered as one blemish of dimension equal to the maximum overall dimension of the group.

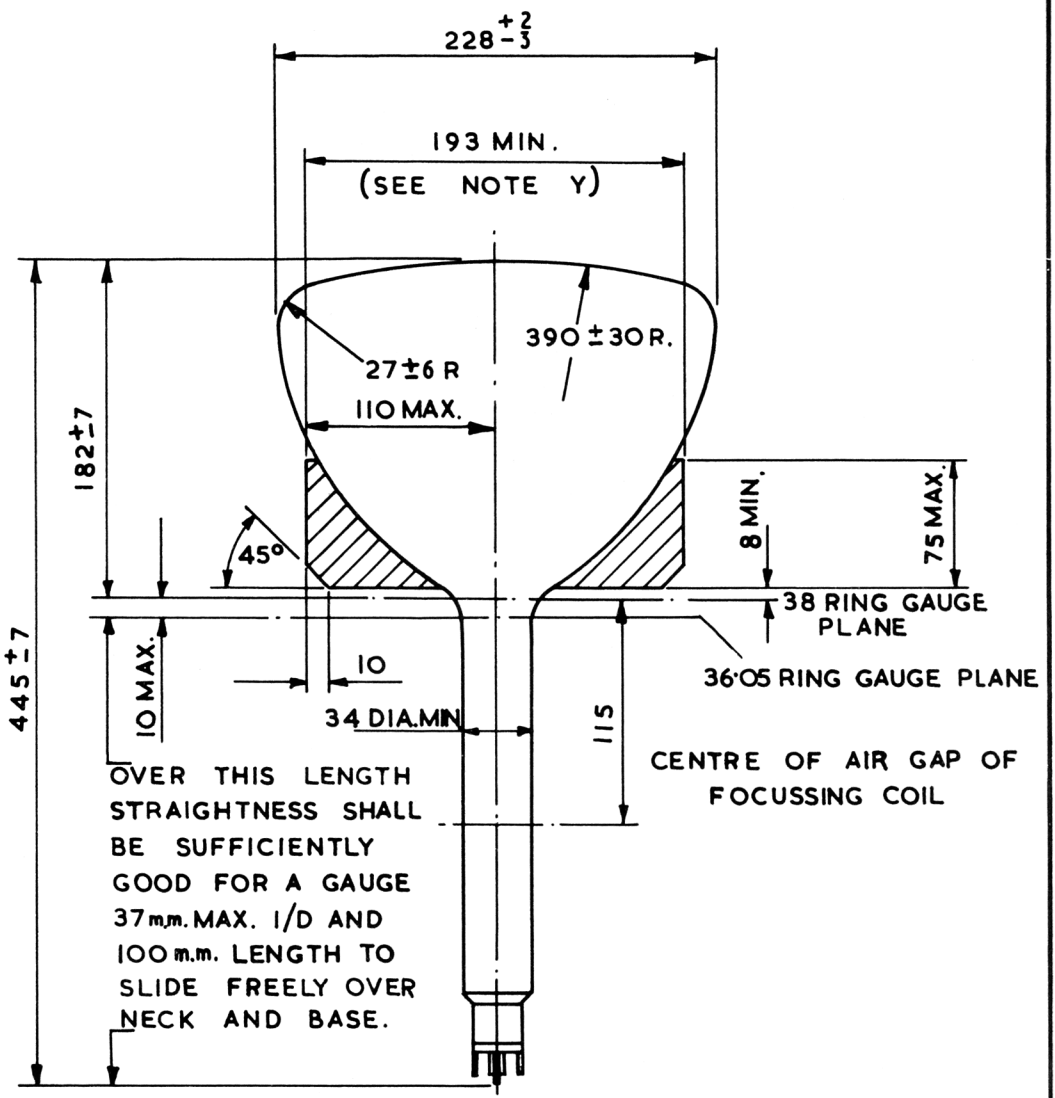
DRAWING NOTES

X. The angle between plane through anode cap and axis of tube and plane through base spigot and axis of tube shall not exceed 15°.

→ Y. The radius of curvature of the face of the tube shall apply over the 193 mm. Dia. Scan.

Z. Any protuberance of seal or anode cap must lie within the shaded area.

CV 2108



ALL DIMENSIONS IN M.M.