VALVE ELECTRONIC

CV955

(NC6)

ADMIRALTY SIGNAL AND RADAR ESTABLISHMENT

Specification AD/CV955/Issue 5. Dated 10.4.52. To be read in conjunction with K1001 (1952)	SECURITY Specn. Unclassified Valve Unclassified

→ Indicates a change

TYPE OF VALVE:-	Cathode Ray Tube
TYPE OF DEFLECTION:-	Electrostatic, and symmetrical
TYPE OF FOCUS:-	Electrostatic
BULB:-	Internally coated with conducting material
SCREEN:-	GG5
PROTOTYPE:-	4409

RATING			Note
Heater Voltage	(V)	4.0	
Heater Current	(A)	1	
Max. Va1	(kV)	2.0	
Max. Va3	(kV)	4.0	A
X-plate sensitivity	(mm/V)	$\frac{320}{Va3}$	
Y-plate sensitivity	(mm/V)	$\frac{480}{Va3}$	
TYPICAL OPERATING CONDITIONS			
Va1	(V)	1450	
Va2 approx.	(V)	600	
Va3	(kV)	3.0	
Ib approx.	(μA)	10	

MARKING

See K1001/4.1.

BASE

Standard 12-contact

Contact	Electrode
1	Mod.
2	No connection
3	H.C.
4	H
5	A1
6	A2
7	Coating
8	X2
9	No connection
10	A3
11	No connection
12	X1
Side Conn.	Y1) See page 3 and Y2) Note C.

DIMENSIONS

See Drawing, Page 3.

PACKAGING

See K1005.

NOTES

A. The tube shall be of three anode construction.

→ B. Focus quality measured as follows:- With Va3 = 3000 V and Va2 and Vg adjusted to give an optimum-focus raster of convenient size and of light-output 0.1 candela, the positive grid drive from Vg (blackout) is noted (= x). Then, with the beam just "blacked-out", a nominally square wave positive pulse of peak value x volts and of width 100 μsecs and repetition frequency 100 c.p.s. applied between cathode and grid, and with the high frequency time base set to produce a line 40 mms long in both X and Y axes successively (with no adjustment of focus between measurements in the two axes), the line width as measured at the centre of the trace must not exceed 1.5 mm.

→ C. The Y Plate side contacts may be either flush-type or projecting type (as shown) provided that the tubes with flush type contacts are supplied with appropriate adaptors so that no modification will be required to existing equipment.

CV955

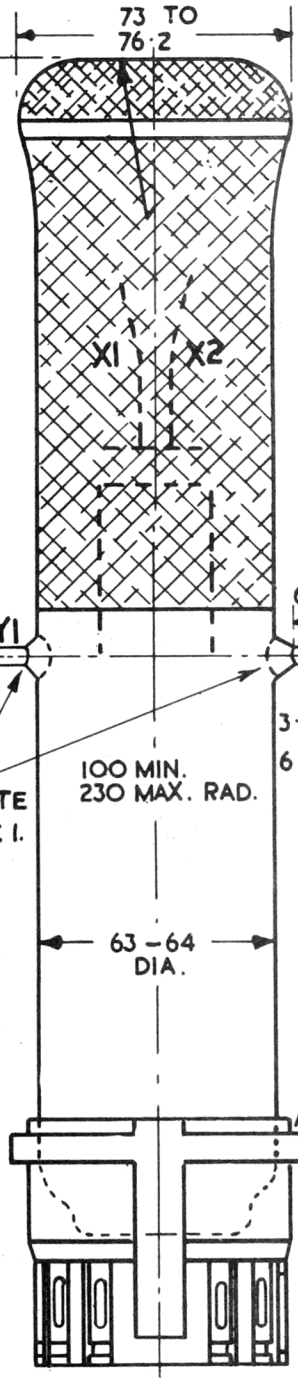
TESTS

To be performed in addition to those applicable in K1001 (1952.)

	Test Conditions					Test	Limits Min.	Limits Max.	No. Tested
a	See K1001/App.3.					Capacitances (pF.) Each deflector plate to all other electrodes including graphite screen	-	15	6 per week
→	Vh (V)	Vg (V)	Va1 (V)	Va2 (V)	Va3 (V)				
b	4.0					Ih (A)	0.8	1.2	100%
c	4.0		1450	Adjusted	3000	i. Vg	To be at least 1V-VE to cathode.		
→	Adjust Vg and Va2 to give a light output of 0.1 candela from an optimum-focus raster of convenient size.					ii. Va2 (V)	450	750	100%
						iii. Line width to be measured as desired in Note B.	Not to exceed 1.5 mm at the centre		
d	4.0	Adjusted	1450	As test 'c'	3000				
	See K1001/5A.10.					Vg for blackout (V)	-	-90	100%
e	4.0		1450	As test 'c'	3000				
→	Vg adjusted for light output of 0.1 candela.					Change in Vg from test 'd' (V)	-	25	100%
f	4.0		1450	As test 'c'	3000	Sensitivities (mm/V)			
	Sensitivities measured					i. X-plates	$\frac{240}{Va3}$	-	5% (1)
						ii. Y-plates	$\frac{350}{Va3}$	-	
g	4.0		1450	As test 'c'	3000	Deviation of spot from centre of screen (mm)	-	5	100%
	See K1001/5A.11.1.								
h	4.0		1450	As test 'c'	3000				
	Deflection voltages applied					Angle between Y-axis and diameter of base passing thro' spigot	-	15°	100%
→ j	See K1001/5A.3.2.					Grid Insulation Resistance (MΩ)	5	-	100%

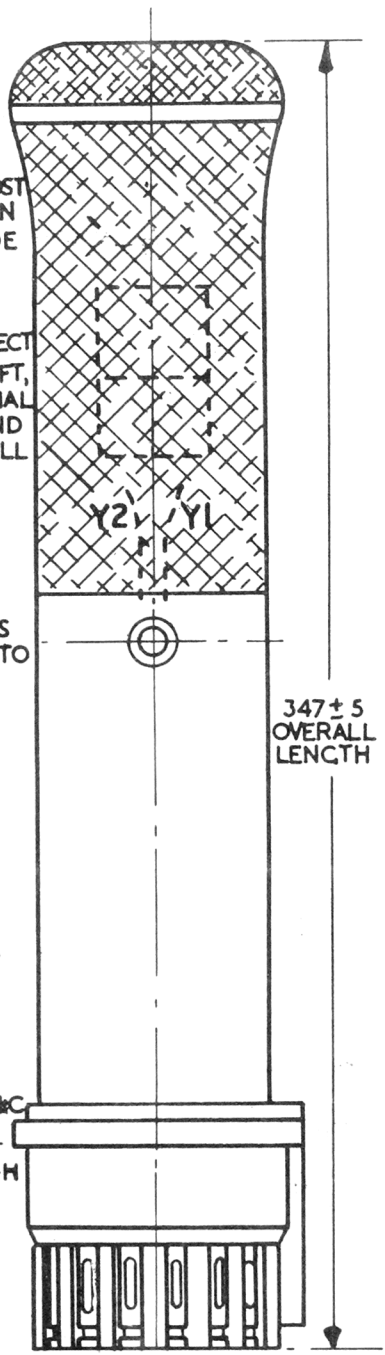
OUTLINE DIMENSIONS.

CV955

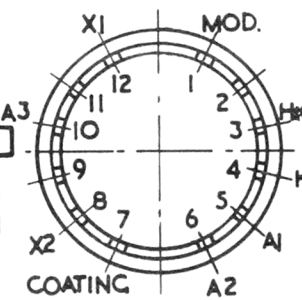


NOTE.

VIEWING THE SCREEN OF THE TUBE WITH THE BASE-SPIGOT UPPERMOST AS SHOWN IN THE PLAN VIEW OF THE UNDERSIDE OF THE BASE, A POSITIVE POTENTIAL APPLIED TO CONTACT No. 8 (X2) SHALL DEFLECT THE SPOT TO THE LEFT, AND A POSITIVE POTENTIAL APPLIED TO RIGHT HAND SIDE CONTACT (Y1) SHALL DEFLECT THE SPOT UPWARDS.



BASE CONNECTIONS.



ALL DIMENSIONS ARE IN MILLIMETRES.