ADMIRALTY SIGNAL ESTABLISHMENT

VALVE ELECTRONIC **CV956** (NC7)

Specification AD/CV956/Issue 3.
Dated 12.6.47.
To be read in conjunction with K1003.

SECURITY	
Specn.	Valve
Restricted	Unclassified

TYPE OF VALVE:- Cathode ray tube.
TYPE OF DEFLECTION:- Electrostatic. See Note A.
TYPE OF FOCUS:- Electrostatic. See Note B.
BULB:- Internally coated with conducting material.
SCREEN:- See Note C.
PROTOTYPE:- 4602.

MARKING
See K1003/7.

BASE
Standard 12-contact

Contact	Electrode
1	Mod;
2	No connection
3	H, C.
4	H.
5	A1 (See Note F below)
6	A2
7	Coating
8	Y2
9	X2
10	A3
11	X1
12	Y1

RATING

			Note
Heater Voltage	(V)	4.0	
Heater Current	(A)	1.0	
Max. Va1	(kV)	2.0	
Approx. Va2 (focus)	(kV)	1.2	
Max. Va3	(kV)	6.0	B
Modulator Voltage	(V)	-1 to -50	
Sensitivity, back or X-plates	(mm/V)	$\frac{1490}{Va3}$	A
Sensitivity, front or Y-plates	(mm/V)	$\frac{1270}{Va3}$	A

DIMENSIONS
See Drawing, Page 4. Note D.

PACKAGING
See K1005.

NOTES

A. The front or Y-plates, defined as those nearer the screen, shall be suitable for operation with asymmetrical deflecting voltages, and the back or X-plates with symmetrical deflecting voltages.

B. The tube shall be of three anode construction.

C. The fluorescence shall be green, with an afterglow which is negligible after an interval not exceeding 0.2 sec. from the cessation of excitation.

D. The tube shall be supplied fitted with a magnetic shield (length $7\frac{1}{2}$", int.dia. $3\frac{3}{4}$"), secured by rubber spacers and a rubber ring, and fitted with a connecting terminal.

E. Screen blemishes which impair the performance of the tube must not appear within a rectangle of length 230 mm symmetrical with the X-axis, and width 100 mm. symmetrical with the Y-axis.

F. Contact No.5 may be left blank, A1 being connected to A2 on contact No.6. Tubes with this type of connection are to be marked with a yellow splash, but may be included in normal deliveries.

TESTS

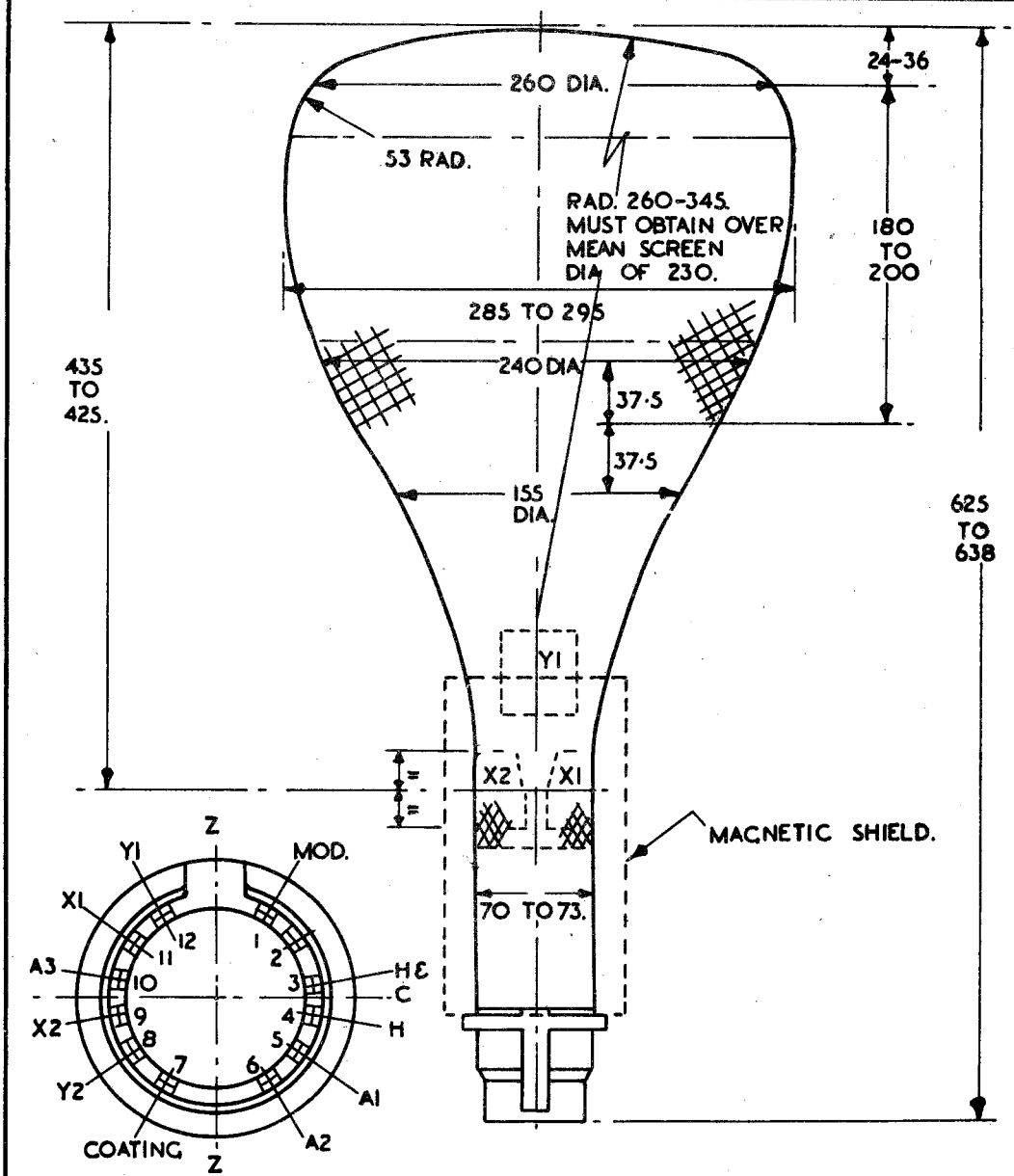
To be performed in addition to those applicable in K1003.

	Test Conditions					Test	Limits		No. Tested
	Vh (V)	Vmod (V)	Va1 (kV)	Va2 (V)	Va3 (kV)		Min.	Max.	
a						Capacitances (pF.)			
						i. Each back plate to all other electrodes including graphite screen.	-	20	6 per week
						ii. Each front plate to all other electrodes including graphite screen.	12	20	
b	4.0 AC or DC					Ih (A)	0.9	1.2	100%
c	4.0	Adjusted	1.7	Read	6.0	i. Focus	See K1003/5.7.		100%
	Deflecting voltages, asymmetrical for front plates and symmetrical for back plates, applied to produce a raster 100 mm square. Vmod adjusted to give a brightness equal to that of standard tube. See K1003/5.7.					ii. Va2 (V)	960	1440	
						iii. Sensitivities			
						X-plates (back) (mm/V)	$\frac{1280}{Va3}$	$\frac{1700}{Va3}$	10% (2)
						Y-plates (front) (mm/V)	$\frac{1145}{Va3}$	$\frac{1400}{Va3}$	
						iv. Useful Screen Area			
						Along X-axis (mm)	230	-	100%
						Along Y-axis (mm)	100	-	

TESTS (CONTD.)

CV956

	Test Conditions					Test	Limits		No. Tested
	Vh (V)	Vmod (V)	Va1 (kV)	Va2 (V)	Va3 (kV)		Min.	Max.	
d	4.0	Adjusted	1.7	As test 'c'	6.0	Vmod for cut-off (V)	-22	-50	100%
	See K1003/5.8								
e	4.0		1.7	As test 'c'	6.0	i. Cathode current (μA)	-	600	100%
	Raster as in test 'c'. Vmod made more +ve by ≯25V. to a value not to be +ve with respect to the cathode.					ii. Ib measured in graphite lead (μA)	40	-	
f	4.0		1.7	As test 'c'	6.0	Departure of Y-axis from axis ZZ on Drawing, Page 4.	-	15°	100%
	Deflecting voltages applied								
g	4.0		1.7	As test 'c'	6.0	Deviation of spot from centre of screen (mm)	-	25	100%
	See K1003/5.10								



VIEW OF UNDERSIDE OF BASE.

NOTES :- VIEWING THE SCREEN OF THE TUBE WITH THE BASE SPIGOT UPPERMOST AS SHOWN IN THE VIEW OF THE UNDERSIDE OF BASE, A POSITIVE POTENTIAL APPLIED TO CONTACT No 11 (X1) SHALL DEFLECT THE SPOT TO THE LEFT, AND A POSITIVE POTENTIAL APPLIED TO CONTACT No.12 (Y1) SHALL DEFLECT THE SPOT UPWARDS.

2. ALL DIMENSIONS ARE IN MILLIMETRES.