VALVE ELECTRONIC **CV1952**

ADMIRALTY SIGNAL & RADAR ESTABLISHMENT

Specification AD/CV1952/Issue 5. Dated : 5. 11. 53. To be read in conjunction with K1001.	SECURITY Specification: Unclassified Valve: Unclassified

→ indicates a change

TYPE OF VALVE : Cathode Ray Tube
TYPE OF DEFLECTION : Magnetic
TYPE OF FOCUS : Magnetic
SCREEN : 008 (with aluminium backing). See Note "B"
PROTOTYPE : VCRX267

MARKING
See K1001/4.

BASE
B7B

RATING			Note
Heater Voltage	(V)	6.3	
Heater Current	(A)	0.6	
Max. First Anode Voltage	(V)	600	
Max. Final Anode Voltage	(kV)	15	
Persistence (average)	(secs)	40	
Max. Heater-Cathode Voltage	(V)	150	

CONNECTIONS	
Pin	Electrode
1	Int. Conn.
2	A1
3	G
4	Int. Conn.
5	H2
6	C
7	H1
SC	A2 (See Note C).

SIDE CONTACT
See K1001/A1/D5.1.

DIMENSIONS
See Drawing, Page 4. ←

NOTES

A. To prevent damage to the screen material and to ensure that maximum life is obtained from cathode and screen, the tube should not be operated with a stationary, or slowly moving, spot. The tube should be run at the minimum useful brightness.

B. The fluoride screen shall not contain berylium.

C. In the central 180 mm. dia. of the tube face there shall not be more than 15 screen blemishes or bubbles up to 1 mm. dia. (Neglect all blemishes and bubbles below ½ mm. dia.). There shall be no bubble more than 2 mm. dia. in the central 235 mm. dia. of the tube face. There shall not be heavy veins in the glass and the outer surface shall be free from ripple over the central 235 mm. dia.

d. The front surface shall be of regular form and within the central 235 mm. dia. the deviations from flat over any 6" shall be ± 20 thousand max.

TESTS

To be performed in addition to those applicable in K1001.

	Test Conditions				Test	Limits Min.	Limits Max.	No. Tested	Note
a	See K1001/5A.13.				Capacitances (pF) Grid to all other electrodes. Cathode to all other electrodes.	- -	15 8	5%(20) 5%(20)	
	Vh (V)	Va2 (kV)	Va1 (V)	Vg (V)					
b	6.3	0	0	0	Ih (A)	0.40	0.66	100%	
c	6.3	15	300	Adjust to Cut-off.	-Vg (V)	25	60	100%	
d	6.3 Vg adjusted to give a light output = 0.3 candles, using a close raster of convenient size	15	300	-	Light Output and Beam Current Ib Ib (μA)	-	10	100%	
e	6.3 Spot to be deflected off the usable screen area. Adjust Vg to give Ib = 50 μA.	15	300	-	1. -Vg (V) 2. Change in Vg from value found in Test 'c' (V) 3. The beam current shall increase smoothly from Ib = 0 to Ib = 50 μA.	1 10	- 25	100% 100%	
f	6.3 Focus adjusted for optimum. Deflection With a sine wave scan of 10 kc/s, or a linear trace of 10,000 p.r.f. and a line of length 250 mm, the line width will be measured at the centre of the trace. Grid The grid will be pulsed positively from cut-off with amplitude equal to the value obtained in test 'e' 2., the nominal value of pulse duration and recurrence rate being 100 μsec, and 100 c/s respectively.	15	300	-	1. Line Width (mm) 2. Focus Coil Current	(Limits to be specified later)	0.8	100%	

CV1952

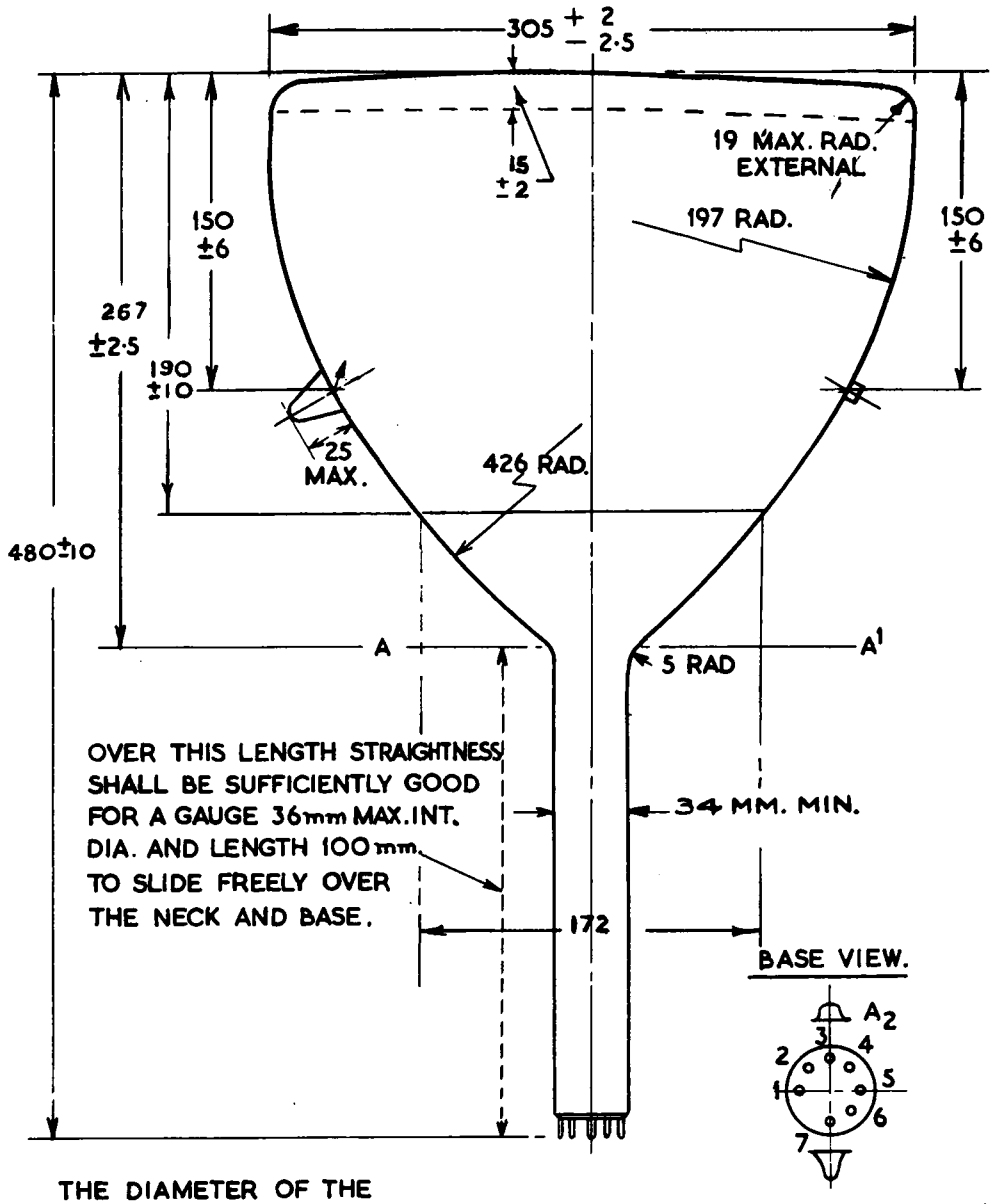
TESTS (Contd.)

	Test Conditions Vh (V)	Va2 (kV)	Va1 (V)	Vg (V)	Test	Limits Min.	Limits Max.	No. Tested	Note
g	6.3	15	300	60	**Grid Insulation**			-	
	Recommended method : See K1001/5A.3.2. Resister = 10 Megohms.				1. Leakage Current (μA)	-	6	100%	
					2. Increase in voltmeter reading.	-	100%	100%	
h	6.3	15	300	Adjust	**Useful Screen Area**				
	Adjust for optimum focus. Deflection to cover the stated circle centred on the centre of the screen.				Diameter (mm)	250	-	100%	
j	6.3	15	300	Near cut-off	Deviation of spot from centre of screen. (mm)	-	15	100%	
	No focus coil energisation								
k	6.3	15	300	Adjust	**Persistence**				
	Test to be performed with Test Set Type 331, using a close raster of convenient size.				Filter N3 (secs)	28	-	10%(20)	3
					Filter N4	84	-		
					Results to be recorded and collated				
l	6.3	-	-	-	**Heater Cathode Insulation**				
	See K1001/5A.3.3. A voltage of 150 V shall be applied between Heater and Cathode.				Leakage Current (μA)	-	150	100%	

NOTES

1. The Deflection and Focussing coils used in the tests are to be of an approved type.
2. The position of the focus coil to be such that the centre of the gap is 81 mm. from AA1 and the scan coil assembly shall be advanced as far as possible to the neck of the tube and then be retracted 1/10.
3. These are alternatives, the test may be carried out with only one filter if desired.

CV1952



THE DIAMETER OF THE "FLAT" AREA OF THE SCREEN IS TO BE 235 MINIMUM.

A_2 AND EXHAUST PIP TO BE WITHIN ± 15° OF LINE THROUGH PINS 3 & 7.

ALL DIMENSIONS ARE IN MILLIMETRES.