

ELECTRONIC VALVE SPECIFICATIONS

SPECIFICATION AD/CV2302

ISSUE 2 DATED 19.11.58.

AMENDMENT No.1.

Page 2 Clause (a) Capacitances (pF)

In the columns headed "Limits Min." and "Limits Max."
Amend the following capacitances as shown:-

i	Grid	to all - from 5.0 min., 7.5 max. to 4.5 min., 6.7
ii	Cathode	to all - from 8.0 min., 10.0 max. to 8.5 min., 10.5
iv	X1	to all - from 5.0 min., 7.0 max. to 3.5 min., 5.5
v	X2	to all - from 5.0 min., 7.0 max. to 3.5 min., 5.5

May, 1960

Admiralty Surface Weapons Establishment

N.17173/D

ELECTRONIC VALVE SPECIFICATIONS

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AMENDMENT NO. 2

Page 1

PROTOTYPE

Amend "1CP1" to "1CP31"

March, 1961

Admiralty Surface Weapons Establishment

N.56396,D

VALVE ELECTRONICADMIRALTY SIGNAL AND RADAR ESTABLISHMENT

CV2302

Specification AD/CV2302 Issue No. 2 dated 19th November, 1958. To be read in conjunction with K1001	<u>SECURITY</u>	
	<u>Specification</u>	<u>Valve</u>
	Unclassified	Unclassified

→ Indicates a change

<u>TYPE OF VALVE:</u> Cathode Ray Tube			<u>MARKING</u>	
<u>TYPE OF DEFLECTION:</u> Electrostatic: symmetrical for X-plates, asymmetrical for Y-plates.			See K1001/4	
<u>TYPE OF FOCUS:</u> Electrostatic: Fixed			<u>BASE</u>	
<u>BULB:</u> Internally coated with conductive coating			B8G (See BS.448; 1953)	
<u>SCREEN:</u> GG5: See Note B			<u>BASE CONNECTIONS</u>	
<u>PROTOTYPE:</u> 1GFI				
<u>RATINGS</u>		Note	Pin	Electrode
Heater Voltage	(V)	6.3	1	H
Heater Current	(A)	0.6	2	A1, A3, Y2 and conductive coating
Max. A3 Voltage	(V)	1000	A	
Min. A3 Voltage	(V)	350	C	Y1
Max. Vhc (Heater positive or negative to cathode)	(V)	250	A	X2
Max. Rgc	(MR)	1	A	G
Max. Resistance between any deflecting electrode and A3	(MR)	5	A	X1 C and A2 H
<u>DIMENSIONS</u>				
Average X-Plate Sensitivity	(mm/V)	$\frac{95}{V_{a3}}$	See drawing page 3	
<u>MOUNTING POSITION</u>				
Average Y-Plate Sensitivity	(mm/V)	$\frac{110}{V_{a3}}$	Any	
<u>NOTES</u>				
A. Absolute maximum value.				
B. Between the glass face-plate and the screen phosphor there is a transparent conducting film which is connected to A3. This film enables the tube to be operated with A3 at other than earth potential without the trace on the screen being distorted when an earthed body is brought near the screen. It also enables the tube to be used at low A3 voltages without the trace being disturbed or obliterated by charges accumulating on the screen.				
C. Because trace brightness and definition decrease rapidly with decreasing A3 voltage, the recommended minimum A3 voltage is 350V. However, an A3 voltage as low as 250V may be used when the ambient light level is low; but, at such low anode voltages, the brightness of the trace and, hence, the beam current, should always be kept as low as possible because such low-energy electron beams are particularly liable to "burn" the screen.				
D. When the screen is viewed with the tube axis horizontal and the tube positioned so that Pin 5 is uppermost, a positive voltage applied to Pin 6 deflects the spot horizontally to the left and a positive voltage applied to Pin 3 deflects the spot vertically upwards.				

TESTS

To be performed in addition to those applicable in K1001

	Test Conditions			Test	Limits		No. Tested
	Vh (V)	Va1 and Va3 (V)	Vg (V)		Min.	Max.	
a	See K1001/5A.13			<u>Capacitances (pF)</u> i. Grid to all other electrodes ii. Cathode to all other electrodes iii. Y1 to all other electrodes iv. X1 to all other electrodes v. X2 to all other electrodes vi. Y1 to X1 (other electrodes earthed) vii. Y1 to X2 (other electrodes earthed) viii. X1 to X2 (other electrodes earthed)	5.0 8.0 2.5 5.0 5.0 - - 0.5	7.5 10.0 4.5 7.0 7.0 0.2 0.3 2.0	5%
b	6.3	0	0	Ih (A)	0.5	0.6	100%
c	6.3	500	Adjust to cut-off	<u>Grid Cut-Off Voltage</u> Negative Vg (V)	-	25	100%
d	6.3	500	Adjust Vg adjusted to give a light output of 0.004 candela on a close raster of area 18 mm x 18mm	<u>Light Intensity</u> 1. Negative Vg (V) 2. Note, for use in test "e", the value of Vg for a light output of 0.001 candela.	1	-	100%
e	6.3	500	Adjust Spot to be deflected by a 10 kc/s (nom.) linear time-base voltage along lines 30 mm long in the X and in the Y directions successively, with Vg adjusted to the value for 0.001 candela noted in test "d" (2).	<u>Line Width</u> Measured at centre of each trace (mm)		0.8	100%
f	6.3	500	-25 Or, 2 with recommended method of K1001/5A.3.2 and with 1 megohm resistor.	<u>Grid Insulation</u> 1. Leakage current (μ A) 2. Increase in voltmeter reading.	-	25 100%	100% 100%
g	6.3	500	Adjust to any convenient value	<u>Deflection Sensitivities</u> X-Plate (mm/V) Y-Plate (mm/V)	$\frac{70}{Va3}$ $\frac{80}{Va3}$	$\frac{120}{Va3}$ $\frac{140}{Va3}$	10%
h	6.3	500	- do -	<u>Deviation of Spot from Screen Centre</u> (mm)	-	1.5	100%
j	6.3	500	- do - Deflection to cover circle of stated diameter centred on centre of screen	<u>Useful Screen Area</u> Diameter (mm)	24	-	100%
k	6.3	500	- do -	Angle between X and Y axes of deflection	85°	95°	100%

