

ADMIRALTY SURFACE WEAPONS ESTABLISHMENT

CV 6139

Specification AD/CV6139	<u>SECURITY</u>	
Issue 1 dated 1.1.65	<u>Specification</u>	<u>Valve</u>
To be read in conjunction with K1001	Unclassified	Unclassified

TYPE OF VALVE - Cathode Ray Tube					<u>MARKING</u>	
DEFLECTION - Magnetic					See K1001/4	
FOCUS - Electrostatic					<u>BASE</u>	
BULB - Glass with internal conductive coating					BS448/B12A	
SCREEN - GG/2						
PROTOTYPE - M5RK-321						
<u>RATINGS</u>					<u>CONNECTIONS</u>	
All limiting values are absolute					Pin	Electrode
					Note	
Heater Voltage (V)					6.3	1 Heater h
Heater Current (A)					0.5	2 Grid g
Max. Anode 1 and Anode 3 voltage (kV)					10	6 Anode 2 a2
Max. Anode 2 voltage range for focussing (V)					+100	7 External coating
Max. negative Anode 2 voltage (V)					150	10 -
Max. negative heater-cathode voltage (V)					150	11 Cathode k
Typical operating						12 Heater h
Typical operating Conditions						SC Anodes
Anode 1 and 3 voltage (kV)					8	1 and 3 a1,3
Anode 2 voltage (V)					0	
Grid voltage for cut-off (V)					-50	
<u>CAPACITANCES</u>					<u>SIDE CONTACT</u>	
Cg-all (nom) (pf)					9.5	BS448/CT8
Ck-all (nom) (pf)					6.5	
					<u>DIMENSIONS</u>	
					See drawing on page 4	
<u>NOTES</u>						
A. Absolute Maximum Value						
B. The Joint Services Catalogue Number is 5960-99-037-4030.						

To be performed in addition to those applicable in K1001

An interlaced 405 line TV raster may be used when required

Test Conditions - unless otherwise stated:-

Vh (V)
6.3

Va1,3 (kV)
8

Va2
Adjust

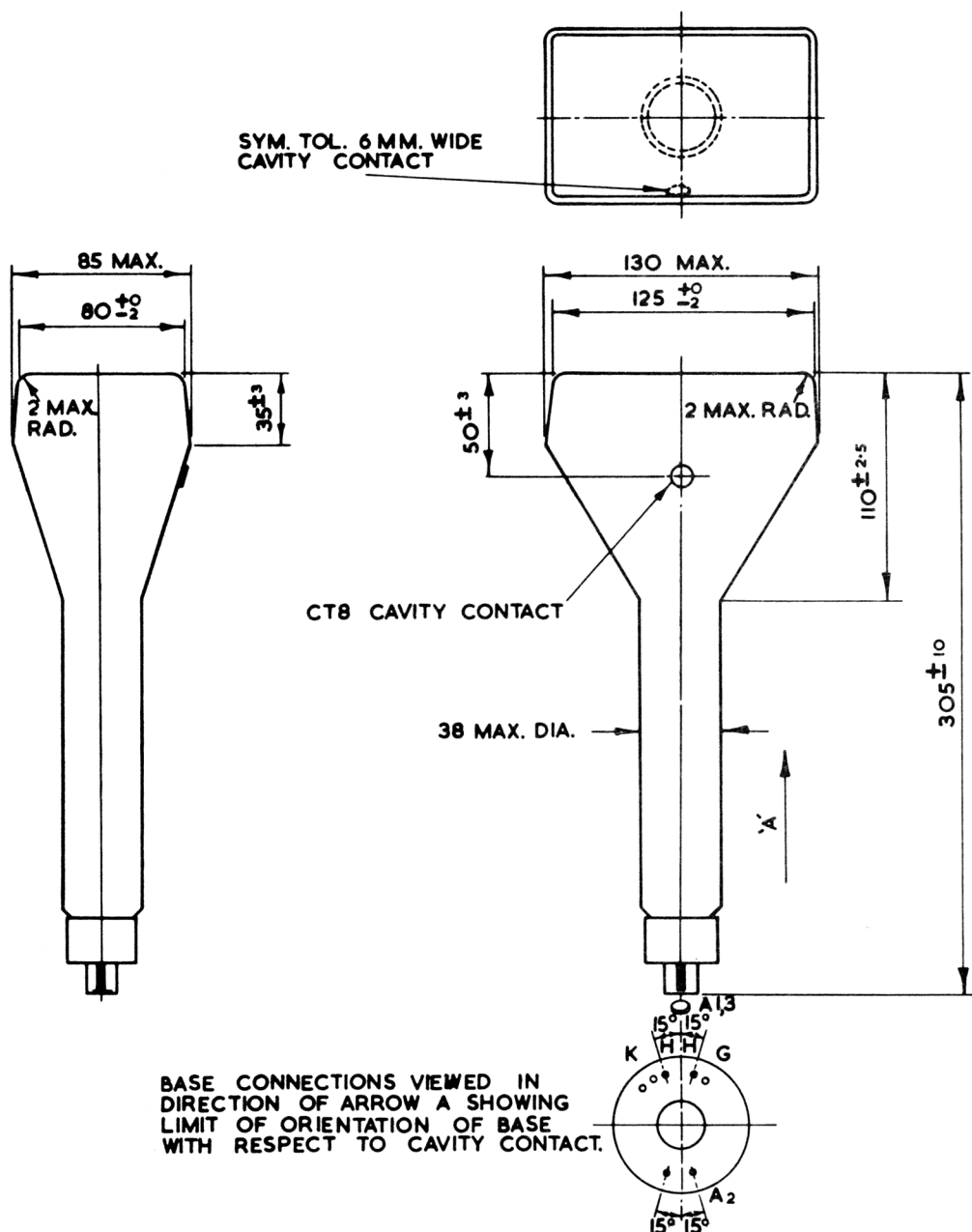
Vg
Adjust

Vhk (V)
0

Test No.	K1001 Issue 6	Test	Test Conditions	Insp. Level	Sym- bol	Limits		Units
						Min.	Max.	
(a)	5A.4.1.1	Electrode Insulation	No voltages	100%				
(b)	5A.4.1.2	Grid Insulation	Vg = -75V	100%	Ig	-	10	μ A
(c)	5A.4.1.3	Heater-Cathode Leakage	Vhk = -150V Va1,3 = 0	100%	Ihk	-	100	μ A
(d)		Heater Current		100%	Ih	0.45	0.55	A
(e)	5A.4.3	Negative Grid Cut-off Voltage	Focussed Spot	100%	Vg	37	75	V
(f)	5A.4.4	Grid Drive	Ik = 100 μ A Screen over-scanned Measure Change of grid voltage from that in test (e)	100%		15	35	V
(g)	5A.5 7.2.2	Focus (i) Line Width	Pulsed line 45 mms long. Grid drive 100 μ S pulses 250 p.p.s. Peak Ik 100 μ A. Optimum focus	100%		-	0.35	mm
		Pulsed Spot Diameter (ii) Focus Voltage	Grid drive 0.2 μ S pulses, 50 p.p.s. Peak Ik = 100 μ A Optimum focus As for (i)	100%	Va2	-100	100	V
(h)	5A.5.1.1	Light Intensity	Focussed Raster of convenient size Ik = 10 μ A	100%		0.25	-	Candela
(j)	5A.6.3	Useful Screen Area		100%		108 x 63	-	mm ²
(k)	5A.4.2	Flashover and Stray Emission	Va1,3 = 10 kV through 1M ohm Vg = -100V Va2 = 100V Tapping rate 4 per sec. for 10 secs.	100%				

Tests (Cont'd.)

Test No.	K1001 Issue 6	Test	Test Conditions	Insp. Level	Sym-bol	Limits		Units
						Min.	Max.	
(1)	AXV	Screen and Faceplate Defects. Size 0.25 to 0.6 mm Size 0.6 to 1 mm Size above 1 mm	Scan over useful area with defocussed raster of convenient brightness.					
					No.		10	
					No.		5	
					No.		0	



DIMENSIONS IN M.M.

ELECTRONIC VALVE SPECIFICATIONS

SPECIFICATION AD/CV.6139, ISSUE 1, DATED 1.1.65.
AMENDMENT NO. 1.

Page 2. Test Clause 'g' Delete existing test and substitute the following:-

Test No.	K1001 Issue 6	Test	Test Conditions	Insp. Level	Sym-bol	Limits		Units
						Min.	Max.	
(g)	5A.5.7.2.2.	Focus		100%				
		(i) Line Width	Pulsed line 45 mm. long. Grid drive 10 μ S. pulses, 250 p.p.s. max. Peak Ik = 100 μ A. Optimum focus.			-	0.55	mm
		<u>or</u> Pulsed Spot Diameter	Grid drive 0.2 μ S. pulses, 50 p.p.s. Peak Ik = 100 μ A. Optimum focus.			-	0.65	mm
		(ii) Focus Voltage	As for test (i) above.		Va.2	-100	100	V

May, 1965.

T.V.C. for A.S.W.E.

[Signature]