 VALVE ELECTRONIC

ADMIRALTY SURFACE WEAPONS ESTABLISHMENT

Specification AD/CV5080 Issue 1 reprint "A" dated 29.3.63 To be read in conjunction with K1001 and BS448. Letter symbols as in BS1409	SECURITY Specification Unclassified Valve Unclassified

→ Indicates a change

TYPE OF VALVE: HF Pentode with limited microphony characteristics

CATHODE: Indirectly heated

ENVELOPE: Glass, metallised

PROTOTYPE: EF.37A

MARKING

See K1001/4

BASE

See BS448/B8-0

RATINGS

All limiting values are absolute

			Note
Heater Voltage	(V)	6.3	
Heater Current	(A)	0.2	
Max. Anode Voltage	(V)	300	
Max. Screen Voltage	(V)	125	
Max. Anode Dissipation	(W)	1.0	
Max. Screen Dissipation	(W)	0.3	
Mutual Conductance	(mA/V)	1.8	A
Anode Impedance	(MΩ)	2.0	A

CONNECTIONS

Pin	Electrodes
1	M
2	h
3	a
4	g2
5	g3
6	NC
7	h
8	k
TC	g1

CAPACITANCES (pF)

Ca-g1	(max.)	0.01
Ca-e	(max.)	8.5
Cg1-e	(max.)	5.5

TOP CAP

See BS.448/CT1

DIMENSIONS

See K1001/A.1/D.1

Dimensions (mm)	Min.	Max.
A (Overall length)	95	100
B (Diameter)	-	32
L (Seated height)	-	30

NOTE

A. Measured with V_a = 250V; V_{g2} = 100V; V_{g1} = -2.0V

TESTS

To be performed in addition to those applicable in K1001. Tests are to be performed in the specified order unless otherwise agreed with the Inspecting Authority.

Test Conditions - unless otherwise stated

V_a (V)	V_{g1} (V)	V_{g2} (V)	V_{g3} (V)	V_a (V)
250	-1.4	100	0	6.3

K1001 Ref.	Test	Test Conditions	AQL %	Insp. Level	Symbol	Limits Min.	Limits Max.	Units
	Group "A"							
	Omitted							
	Group "B"							
	Heater Current			100%	Ih	180	220	mA
	Anode Current (1)	V_{g1} = -3.5V		100%	I_a	0.5	1.5	mA
	Anode Current (2)	V_{g1} = 0V		100%	I_a	5.7	9.3	mA
→	Screen Current	V_{g1} = -2.0V		100%	I_{g2}	0.3	1.3	mA
	Control-grid Cut-off volts	Ia = 50 µA (Note 2)		100%	$-V_{g1}$	-	7.5	V
	Group "C"							
	Reverse Grid Current Emission	V_{g1} = -2.0 (Note 1) $V_a = V_{g1} = V_{g2} = V_{g3}$ = 30V a.c.		100%	$-I_{g1}$	-	0.7	µA
				100%	Ie	32	-	mA
	Microphony	V_{g2} = 75V V_a = 100V (Notes 3, 5, 6, 7)	2.5	I	Va Ac	-	300	µV ~~µA~~
	Hum (Grid)	V_{g2} = 75V V_a = 100V (Notes 4, 5, 7)	2.5	I	Hum	-	12.5	µA
	Hum (Cathode)	V_{g2} = 75V V_a = 100V (Notes, 4, 5, 7)	2.5	I	Hum	-	75.0	µA
	Hiss	V_{g2} = 75V V_a = 100V (Notes 5, 6, 7)	2.5	I	Hiss	-	12.5	µA
	Group "D"							
	Capacitances	Measured on a 1 Mc/s bridge with valve mounted in a fully screened socket		6 per week and T.A.	C_{a-g1}	-	0.01	pF
					C_{a-e}	-	8.5	pF
					C_{g1-e}	-	5.5	pF

NOTES

1. Carried out with 0.1 Megohm in the control grid circuit.

2. Carried out with 1 Megohm in the anode circuit.

3. Valves to be lightly tapped with a small rubber headed hammer, the highest reading obtained being the recorded value. The number of valves tested to be in accordance with Inspection Level I and AQL = 2.5%.

4. The valve shall be tested using a low-loss socket. The hum tests shall be conducted by alternately earthing pins 2 and 7. ←

5. The valves shall be tested in amplifier described in Appendix "A" to Specification for CV2901. The limits given refer to the equivalent grid 1 r.m.s. voltage. Copies of the Appendix may be obtained on application to the Specifying Authorities.

6. Microphony and hiss tests may be conducted with d.c. heating of the cathode.

7. The microphony, hum and hiss tests are to be carried out with V_a = 100V; V_{g2} = 75V and R_a = 100kΩ; R_{g1} = 470kΩ: R_{g2} = 680kΩ; R_k = 1.2kΩ. ←