VALVE ELECTRONIC CV2175

ADMIRALTY SIGNAL AND RADAR ESTABLISHMENT

| Specification AD/CV2175 | SECURITY | | |
|---|-------------------------------|------------------------------|--|
| Issue No. 5 dated 6.1.56 To be read in conjunction with K1001, BS448 and BS1409 | Specification Unclassified | <u>Valve</u> Unclassified | |

| S. | Indicates | a. | change |
|----|-----------|----|--------|
|----|-----------|----|--------|

| TYPE OF VALVE: - Cathode Ray Tube | MARKING | | | | | |
|---|---------------|------------------|--|--|--|--|
| TYPE OF DEFLECTION: - Electrostatic Symmetrical. | See K1001/4 | | | | | |
| TYPE OF FOCUS: - Electrostatic | | | | | | |
| BULB: - Glass. Internally coated we conductive coating. | BASE | | | | | |
| SCREEN DIAMETER: - 24 inches (appro | B. S. 448/B9G | | | | | |
| SCREEN: - GG5 | | | | | | |
| PROTOTYPE: - DG7-5 | | | | | | |
| RATING | Note | | | | | |
| Heater Voltage (V) 6.3 | 1 | Pin Electrode | | | | |
| Heater Current (A) 0.31 | | 1 handk | | | | |
| Max. Second Anode Voltage (V) 1000 | A | 2 y 1 | | | | |
| Max. First Anode Voltage (V) 400 | A | 3 y 2 | | | | |
| Max. Negative Grid Voltage (V) 100 | | 4 a2 and Coating | | | | |
| Min. Sensitivity x Plates (mm/V) 104/Va2 | | 5 x2 | | | | |
| Min. Sensitivity y | | 5 x1 | | | | |
| Plates (mm/V) 168/Va2 | | 7 a1 | | | | |
| Max. Voltage between x Plates (V) 750 | A | 8 g | | | | |
| Max. Voltage between y Plates (V) 450 | A | 9 h | | | | |
| TYPICAL WORKING CONDITIONS | | DIMENOTANO | | | | |
| Second Anode Voltage (V) 800 | | DIMENSIONS | | | | |
| First Anode Voltage (V) 200 to 300 | | | | | | |
| Negative Grid Voltage (V) 0 to 50 | | ` | | | | |
| Beam Current (yuA) 0 to 10 | 0 | | | | | |
| NO TE | | | | | | |
| A. Absolute Maximum Value. | | | | | | |

Amil-1

To be performed in addition to those applicable in K1001. The cathode illumination text Kipol 15 A 3-9-2 shall not apply

| 1 | | - \ne | cathole o | lluminat | ion that K | 1001 SA-3-9-2 shall not ap | phy | | |
|---------------|---|--|---------------------|--------------------------------------|--|--|--------------------------|-----------------------------------|----------|
| | | | Test Con | | | | Limits | | No. |
| | | Vh (V) | Va2 (V) | Va1 (V) | (V) | Test | Min. | Max. | Tested |
| Amout | a | See K1001/ 5A.13 Տռ.Կ.ն | | | | Capacitances (pF) i. Each x or y plate to all other elect- rodes (except the other x or y plate which should be earthed). | _ | 7•0 | 5% |
| | | · described de Venhaudensk | ************ | ************************ | - | ii. Both x plates to both y plates. iii. Grid to Cathode. | - - | 0•15 12 | 5% 5% |
| \rightarrow | ъ | 6.3 | 0 | 0 | 0 | Ih (A) | 0.28 | 0.34 | 100% |
| | С | 6.3 | 800 | Adjust to opt: focus | Adjust to cut-off | Cut-off Negative Vg. (V) | - | 48 | 100% |
| | đ | 6.3 | 800 | -do- | - 50 | Grid Insulation (a) Leakage Current (ALA) | _ | 10 | 100% |
| Amel) | | or (b) With recommended method of K1001/54.3.2 and using 5 megohms resistor. | | (b) Increase in Voltmeter reading | - | 100% | 100% | | |
| | е | 6.3 | 800 | -do- | Adjust | i. Negative Vg. (V) ii. Va1 (V) | 1 | - | 5% |
| | | Vg adjusted to give light output of 0.014 candels on an optimum focus close raster of area 40 mm x 40 mm. | | | | ii. Va1 (V) | 160 | 3 40 | |
| | f | 6.3 | 800 | -do- | Adjust | Line Width at Ia2 = 0.5 /uA | | | |
| | | The trace on the screen shall be a circle of 50 mm.diameter and the trace frequency shall be 50 c/s. | | | | (mm) at Ia2 = 10.0 /uA (mm) | - | 0.8 1.2 | 100% |
| | g | 6.3 | 800 | -do- | Adjust to give just visible spot | Deflection Sensitivities x Plate (mm/V) y Plate (mm/V) | 104 Va2 168 Va2 | 152 Va2 224 V a 2 | 5% |
| | h | 6.3 | 800 | -do- | -do- | Spot Displacement Deviation of spot from centre of Screen. (mm) | - | 3 • 5 | 100% |

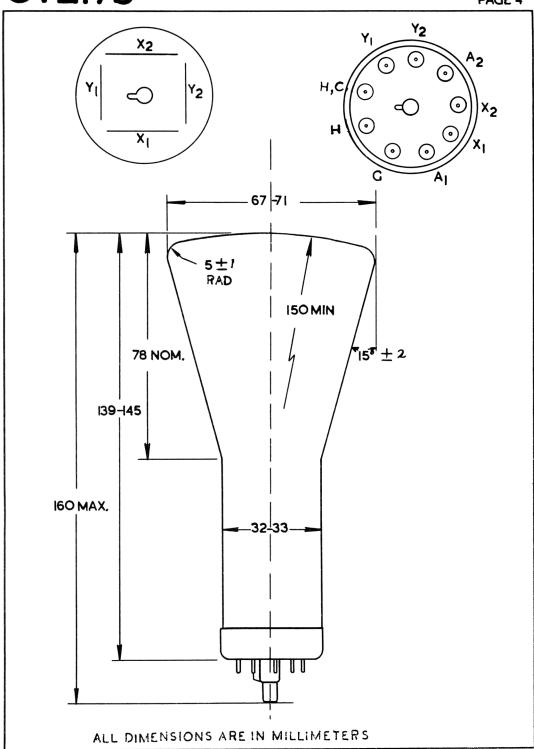
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TESTS

To be performed in addition to those applicable in K1001.

| П | Test Conditions | | | | Limits | | No. | |
|---|--|------------|----------------------------|--|--|-------------------------|--------------|----------|
| | Vh (V) | Va2 (V) | Va1 (V) | Vg (V) | Test | Min. | Max. | Tested |
| Ĵ | 6.3 | 800 | Adjust to opt: focus | Adjust to give just visible spot. | Useful Screen Area Diameter (mm) | 61 | - | 100% |
| | Deflection to cover circle of stated diameter centred on centre of screen. | | | | | | | |
| k | 6.3 | 800 | -do- | -do- | i. Orientation of x axis of deflection relative to a plane through base spigot key and pin 5. ii. Angle between x and y axis of deflection. | 79 [°] 88•5 | 101° 91.5 | 5% 5% |
| 1 | 6.3 | 800 | -do- | -do- | Trapezoidal Distortion | | | |
| | A screen area of at least 40 mm x 40 mm to be scanned. | | | i. Angle between adjacent sides. | 87•5° | 92.5° | 5% | |
| | | | | | ii. Angle between opposite sides. | 175° | 185° | |

CV. 2175/5/3



CV2175/5/4

ELECTRONIC VALVE SPECIFICATIONS

SPECIFICATION AD/CV2175 ISSUE NO. 5., DATED 6.1.56

AMENDMENT NO. 1

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December 1964.

- (i) After, "To be performed in addition to those applicable in K1001," insert "The cathode illumination test K1001/5A.3.9.2. shall not apply."
 - <u>Test Clause (a)</u>: In the column headed "Test Conditions," $\underline{\text{delete}}$ "K1001/5A.13" and $\underline{\text{substitute}}$ "K1001/5A.4.6." (ii)
 - Test Clause (d): In the column headed "Test Conditions," (iii) <u>delete</u> "K1001/5A.3.2" and substitute "K1001/5A.4.1.2."

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

NJ.253565.