MINISTRY OF AIRCRAFT PRODUCTION (D.C.D.)

CATHODE RAY TUBE TYPE

# CV1525
# VCR525

Specification MAP/CV1525/Issue 2.
Dated 21. 7. 45.
To be read in conjunction with K1003.

SECURITY

| Specification | Tube |
|---|---|
| RESTRICTED | RESTRICTED |

TYPE OF DEFLECTION - Electrostatic suitable for symmetrical deflection.

BULB - Internally coated with conductive coating.

SCREEN - Afterglow (GGM27 or YYM36)

MARKING
VCR525
CV1525

BASE
12 pin spigot

| RATING | | Note |
|---|---|---|
| Heater Voltage (V) | 4.0 | |
| Heater Current (A) | 1.1 | |
| Max. Final Anode Voltage (kV) | 1.5 | A |
| X plate sensitivity (mm/V) | 170/Va3 | |
| Y plate sensitivity (mm/V) | 170/Va3 | |
| Typical Operating Conditions | | |
| Third Anode Voltage (V) | 800 | |
| Second Anode Voltage (V) | 135 | |
| Beam Current ($\mu$A) | 3 | |

| CONNECTIONS | |
|---|---|
| Pin | Electrode |
| 1 | C |
| 2 | G |
| 3 | H |
| 4 | H |
| 5 | $A_2$ |
| 6 | Pin omitted |
| 7 | $Y_2$ |
| 8 | $X_2$ |
| 9 | $A_3$ |
| 10 | $X_1$ |
| 11 | $Y_1$ |
| 12 | Pin omitted |

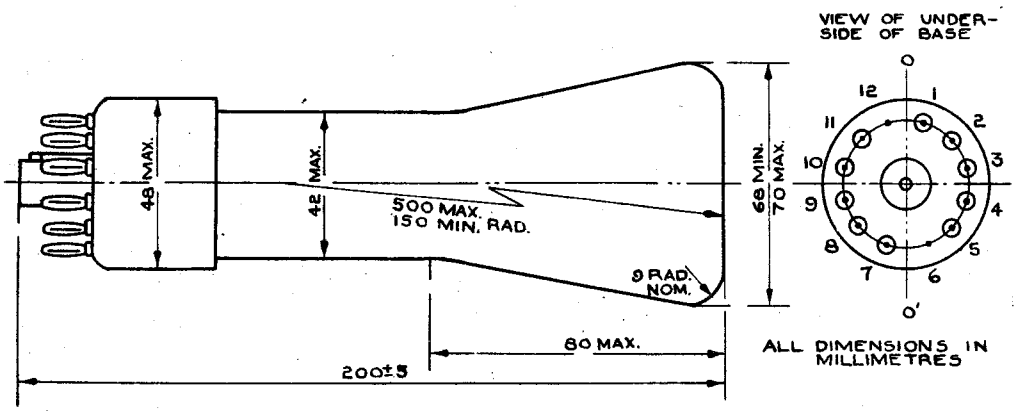
NOTES

A:- The tube shall be capable of operating satisfactorily under conditions of reduced pressure equivalent to 6" of mercury at 15°C.

B:- The tube shall be adequately free from microphony.

C:- Viewing the screen of the tube with the key of the base uppermost, a positive potential applied to pin $X_2$ shall deflect the spot to the right and a positive potential applied to pin $Y_2$ shall deflect the spot downwards.

D:- The internal conductive coating shall be of such dimensions that it functions effectively but does not obscure the useful screen area.




Indicates a change.

| Clause | Test Conditions | | | | | Test | Limits | | No. Tested |
|---|---|---|---|---|---|---|---|---|---|
| | $V_h$ | $Va_3$ | $Va_2$ | $Va_1$ | $V_g$ | | Min. | Max. | |
| | Deflection voltages shall be applied symmetrically in all cases. | | | | | | | | |
| (a) | | | | | | INTER-ELECTRODE CAPACITANCES (pF)<br>1. Each X or Y plate to all other electrodes.<br>2. Grid to all other electrodes.<br>3. $X_1$ to $Y_1$ plate.<br>4. $X_2$ to $Y_2$ plate<br>5. $X_1$ to $Y_2$ plate<br>6. $X_2$ to $Y_1$ plate | <br><br>-<br>-<br>-<br>-<br>-<br>- | <br><br>15<br>20<br>3<br>3<br>2<br>2 | <br><br>T/A<br>T/A<br>0.5%(5)<br>0.5%(5)<br>0.5%(5)<br>0.5%(5) |
| (b) | 4.0 | 0 | 0 | 0 | 0 | $I_h$ (A) | 0.95 | 1.25 | 5%(10) |
| (c) | 4.0 | 800 | Adjust for optimum focus. | 800 | Adjust | 1. Line Width | Not greater than standard tube. | | 100% |
| | Adjust Vg to give a spot brilliance equal to that of a standard tube on a line of length of 55 mm in the X and Y directions successively. | | | | | 2. $Va_2$(V) | 50 | 175 | 5%(10) |
| (d) | 4.0 | 800 | ditto | 800 | ditto | Vg(V) | To be at least 1V (-) ve to Cathode | | 100% |
| | Adjust Vg to give a light output of 0.001 candles on a closed raster | | | | | | | | |
| (e) | 4.0 | 800 | ditto | 800 | Adjust to cut off. | Vg(V) | -10 | -20 | 100% |
| (f) | 4.0 | 800 | Any convenient value | 800 | -20 | GRID INSULATION<br>1. Leakage Current ($\mu$A)<br>2. Increase in voltmeter reading | <br>-<br>- | <br>4<br>100% | <br>100%<br>100% |
| | Recommended method:- K1003/5.4.2.<br>Resistor = 5 megohms | | | | | | | | |
| (g) | 4.0 | 800 | Adjust for optimum focus | 800 | Any convenient value | DEFLECTION SENSITIVITIES<br>1. X - plate (mm/V)<br>2. Y - plate (mm/V) | <br>$145/Va_3$<br>$145/Va_3$ | <br>$195/Va_3$<br>$195/Va_3$ | <br>5%(10)<br>5%(10) |
| (h) | 4.0 | 800 | ditto | 800 | ditto | Deviation of spot from centre of screen. | - | 5 | 100% |
| (j) | 4.0 | 800 | ditto | 800 | ditto | USEFUL SCREEN AREA<br>Diameter (mm) | 55 | - | 100% |
| | Deflections to cover stated circle centred on centre of screen. | | | | | | | | |
| (k) | 4.0 | 800 | ditto | 800 | ditto | 1. Orientation of X axis of deflection relative to OC' on drg.<br>2. Angle between X and Y axes | <br>80°<br>85° | <br>100°<br>95° | <br>100%<br>100% |
| (l) | Test to be carried out in Test Set 331 | | | | | Afterglow (secs) | Results to be collated | | 10% |