RECTANGULAR RADAR CATHODE RAY TUBE with gray filter glass and metal-backed screen.

HEATING
Indirect by A.C. or D.C.; series or parallel supply

Heater voltage \( V_r = 6.3 \text{ V} \)
Heater current \( I_r = 300 \text{ mA} \)

When the tube is used in a series heater chain, the heater voltage must not exceed 9.5 V when the supply is switched on. A current limiting device may be necessary for this purpose.

CAPACITANCES
Grid No.1 to all other elements \( C_{g_1} \ < \ 8 \text{ pF} \)
Cathode to all other elements \( C_k \ < \ 8 \text{ pF} \)
Grids No.3 and 5 to outer coating \( C(\varepsilon_3+\varepsilon_5)-m = 1100 \text{ pF} \)

SCREEN: metal-backed, filterglass, spherical
Colour orange with
orange afterglow
Useful diagonal \( \text{min.} \ 318 \text{ mm} \)
Useful width \( \text{min.} \ 288 \text{ mm} \)
Useful height \( \text{min.} \ 217 \text{ mm} \)

For curves of the screen properties please refer to front of this section

FOCUSBING: low voltage electrostatic

DEFLECTION: double magnetic

RESOLUTION measured at \( V_{g_3},g_5 = 14 \text{ kV} \) and \( V_{g_2} = 300 \text{ V} \)

The tube will resolve at the centre of the screen a minimum of 650 lines based on a picture height of 217 mm and measured at a brightness of 50 ft. lamberts. The focus voltage is adjusted to obtain the smallest roundest spot. The line width is controlled to 0.38 mm measured at points corresponding to 50 \% of the peak brightness measured on a photomicrometer equipment.
Dimensions in mm

1) Reference line  2) Allowable contact area
3) Cavity contact  4) Maximum extent of shield
5) Position of centring magnet

Base: DUODECAL 7 p.
MOUNTING POSITION: any, except vertical with the screen downward and the axis of the tube making an angle less than 20° with the vertical

REFERENCE LINE GAUGE

The reference line is determined by the plane of the upper edge of the gauge when it is resting on the cone. The inner surface of the coils should not extend into the shaded region.

BEAM CENTRING MAGNET

The beam must be carefully positioned in the aperture by means of the beam centring magnet. This magnet is supplied with the tube together with instructions for mounting.

MAGNETIC SHIELDING

To maintain the beam in the aperture, the region of the neck between 83 and 143 mm from the reference line should be kept free from stray magnetic fields, including those arising from the deflection coils, picture centring magnet and other components. A mu-metal shield may be adequate.

OPERATING CHARACTERISTICS

| Grids No.3 and 5 voltage | $V_{g3, g5} = 14$ kV |
| Grid No.4 voltage | $V_{g4} = -200$ to $+200$ V |
| Grid No.2 voltage | $V_{g2} = 300$ V |
| Grid No.1 voltage for visual cut-off | $-V_{g1} = -30$ to $-70$ V |
| Grid No.4 current | $I_{g4} = -15$ to $+15$ μA |

1) See page 4

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LIMITING VALUES (Absolute limits)

Grids No. 3 and 5 voltage \( V_{g3, g5} \) = max. 15 kV  
Grid No. 4 voltage \( V_{g4} \) = max. 500 V  
Negative grid No. 4 voltage \( -V_{g4} \) = max. 500 V  
Grid No. 2 voltage \( V_{g2} \) = min. 250 V  
Negative grid No. 1 voltage \( -V_{g1} \) = max. 200 V  
Peak positive grid No. 1 voltage \( +V_{g1} \) = min. 0 V  
Grid No. 1 circuit resistance \( R_{g1} \) = max. 1.5 MΩ  
Grid No. 1 circuit impedance at 50 c/s \( Z_{g1} \) = max. 0.5 MΩ  
Voltage between heater and cathode  
cathode negative \( V_{kf} \) = max. 125 V  
cathode positive \( V_{kf} \) = max. 200 V  
cathode positive \( V_{kf} \) = max. 410 V  
Circuit resistance between heater and cathode \( R_{kf} \) = 8  

1) Within this range of focusing voltage an acceptable focus quality can be obtained. If it is required to pass through the point of focus a voltage of at least -300 V to +300 V will be required.  
2) See also page B.  
3) Max. supply source resistance 1.5 MΩ.  
4) Immediately after switching on or off, the grid bias is allowed to rise to +1 V.  
5) At a grid bias of +2 V a grid current of about 2 mA may be expected.  
6) In order to avoid excessive hum, the A.C. component of \( V_{kf} \) should be as low as possible and should not exceed 20 V (R.M.S.)  
7) During a warming-up period not exceeding 45 sec.  
8) When the heater is supplied from a separate transformer \( R_{kf} = \max. \ 1 \) MΩ. When the heater is in a heater chain or earthed, \( Z_k = \max. \ 100 \) kΩ, where \( Z_k \) is the 50 c/s impedance between earth and cathode.
$V_{g_3, g_5} = 9-15 kV$
--- limits of $V_{g_1}$ for visual cut-off
see note 2) page 3

$V_{g_3, g_5} = 9-15 kV$
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