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_f = 6.3 V
Heater current	I_f = 300 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 pF
Cathode to all other elements	C_k	<	8 pF
Grids No.3 and 5 to outer coating	$C_{(g_3+g_5)-m}$	=	1100 pF

SCREEN: metal-backed, filterglass, spherical

Colour	orange with orange afterglow
Useful diagonal	min. 318 mm
Useful width	min. 288 mm
Useful height	min. 217 mm

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

FOCUSING: low voltage electrostatic

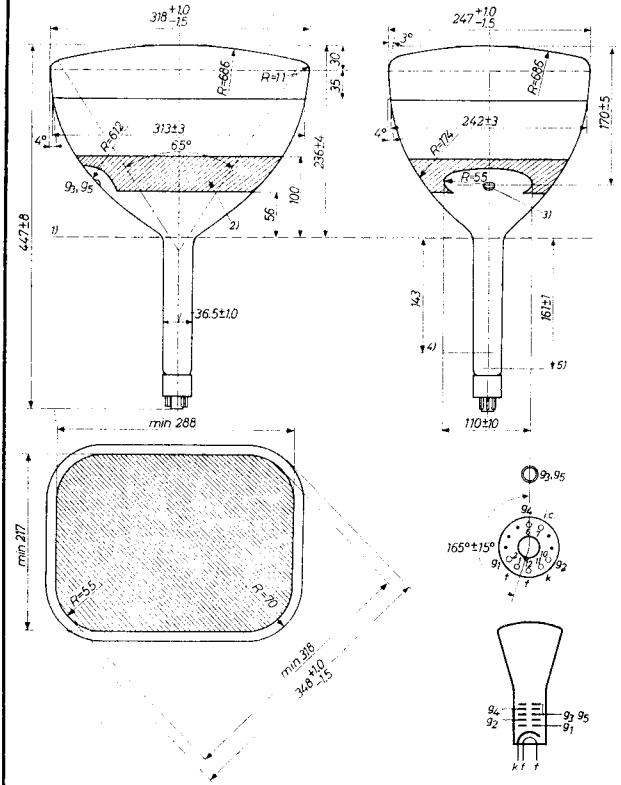
DEFLECTION: double magnetic

RESOLUTION measured at V_{g_3,g_5} = 14 kV and V_{g_2} = 300 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.

PHILIPS

Dimensions in mm

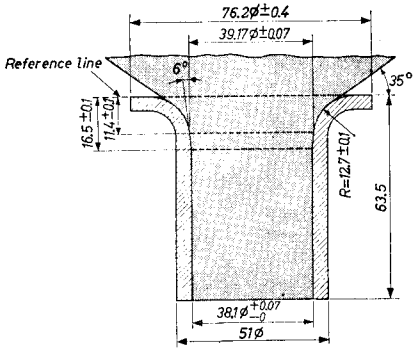


Base: DUODECAL 7 p.

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

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 1)
Grid No.2 voltage	V_{g2} =	300 V
Grid No.1 voltage for visual cut-off	$-V_{g1}$ =	-30 to -70 V 2)
Grid No.4 current	I_{g4} =	-15 to +15 µA

1)2) See page 4

LIMITING VALUES (Absolute limits)

Grids No.3 and 5 voltage	$V_{g3,g5}$	= max. 15 kV = min. 9 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}	= max. 500 V [3] = min. 250 V
Negative grid No.1 voltage	$-V_{g1}$	= max. 200 V = min. 0 V [4]
Peak positive grid No.1 voltage	$+V_{g1\ p}$	= max. 2 V [5]
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 [6]
cathode positive	V_{kf}	= max. 200 V [6]
cathode positive	V_{kf}	= max. 410 V [7]
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.

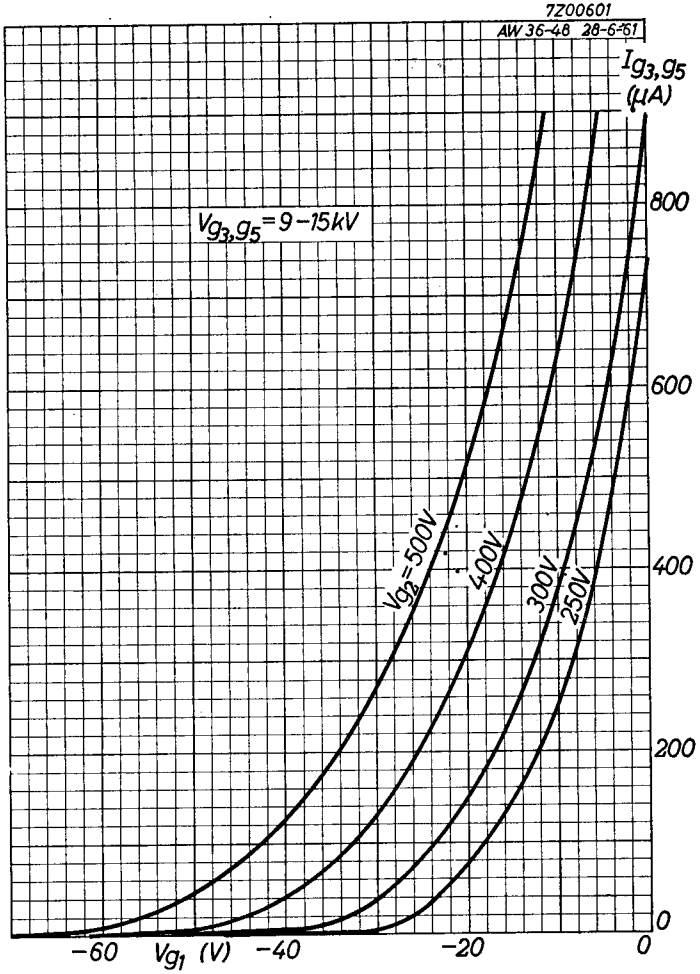
4) Immediately after switching on or off, the grid bias is allowed to rise to +1 V.

5) At a grid bias of +2 V a grid current of about 2 mA may be expected.

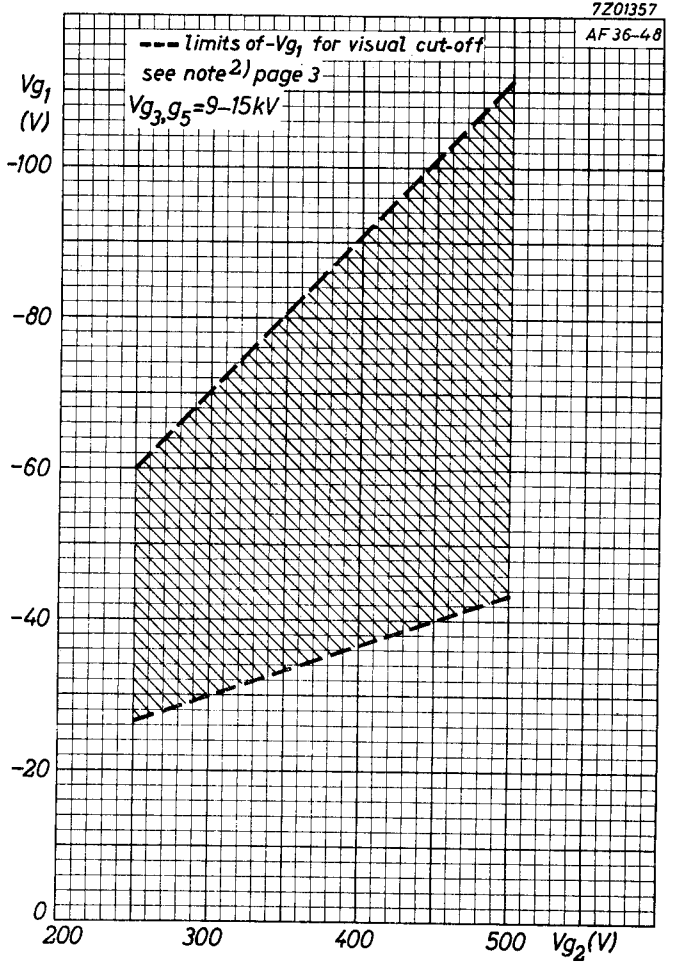
6) In order to avoid excessive hum, the A.C. component of V_{kf} should be as low as possible and should not exceed 20 V (R.M.S.)

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


7Z00601
AW 36-48 28-6-61
$I_{g3,g5}$ (μA)
800
600
400
200
0
$V_{g3,g5}$ = 9 – 15 kV
V_{g2} = 500V
400V
300V
250V
–60
V_{g1} (V)
–40
–20
0

PHILIPS


7Z01357
AF36-48
--- limits of -Vg1 for visual cut-off
see note 2) page 3
Vg3,g5=9–15kV
Vg1 (V)
-100
-80
-60
-40
-20
0
200
300
400
500
Vg2(V)

PHILIPS

Electronic Tube

HANDBOOK

AF36-48

page	sheet	date
1	1	1962.12.12
2	2	1962.12.12
3	3	1962.12.12
4	4	1962.12.12
5	A	1962.12.12
6	B	1962.12.12
7	FP	2000.03.06