

CATHODE RAY TUBE for oscilloscopes with flat face and high sensitivity

SCREEN

For screen properties please refer to front of this section

HEATING

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

Heater voltage

$$V_f = 6.3 \text{ V}$$

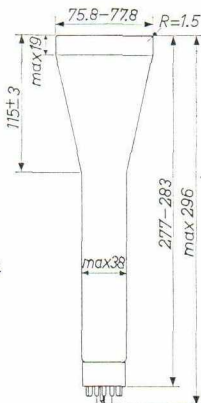
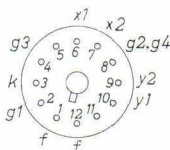
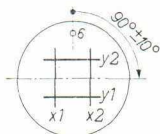
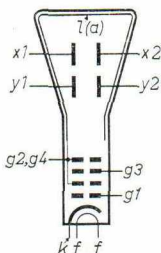
Heater current

$$I_f = 0.3 \text{ A}$$

Dimensions in mm

Base: DUODECAL 12 p.

Net weight 370 g



CAPACITANCES

Grid No. 1 to all other electrodes

$$C_{g1} = 5.7 \text{ pF}$$

Cathode to all other electrodes

$$C_k = 3.3 \text{ pF}$$

x₁ plate to all other electrodes
except x₂ plate

$$C_{x1} = 6.0 \text{ pF}$$

x₂ plate to all other electrodes
except x₁ plate

$$C_{x2} = 6.0 \text{ pF}$$

y₁ plate to all other electrodes
except y₂ plate

$$C_{y1} = 4.7 \text{ pF}$$

y₂ plate to all other electrodes
except y₁ plate

$$C_{y2} = 4.7 \text{ pF}$$

x₁ plate to x₂ plate

$$C_{x1-x2} = 1.9 \text{ pF}$$

y₁ plate to y₂ plate

$$C_{y1-y2} = 1.7 \text{ pF}$$

DB7-36
DG7-36
DN7-36

PHILIPS

FOCUSING Electrostatic

For optimum focus the average potentials of the deflection plates and grids No.2 and 4 should be equal

DEFLECTION Double electrostatic

Both x and y plates for symmetrical operation

Angle between x and y traces $90^\circ \pm 1^\circ$

LINE WIDTH measured on a circle of 50 mm diameter

Grids No.2 and 4 voltage	$V_{g2,g4} = 1500 \text{ V}$
Beam current	$I_b = 0.5 \mu\text{A}$
Line width	$= 0.4 \text{ mm}$

UNDEFLECTED SPOT POSITION. With the tube shielded the spot will be within a circle of 4 mm radius, the circle being centered with respect to the tube face

OPERATING CHARACTERISTICS

Grids No.2 and 4 voltage	$V_{g2,g4} = 1500 \text{ V}$
Grid No.3 voltage	$V_{g3} = 247-397 \text{ V } ^1)$
Negative grid No.1 voltage for visual extinction of focused spot	$-V_{g1} = 40-80 \text{ V}$
Deflection factor { x plates	$M_x = 24.5-30.0 \text{ V/cm}$
{ y plates	$M_y = 17.0-20.5 \text{ V/cm}$
Useful scan { x plates	$= \text{min. } 68 \text{ mm}$
{ y plates	$= \text{min. } 57 \text{ mm}$

Deviation of the linearity of deflection. The sensitivity of the deflection plates at a deflection smaller than 75 % of the useful scan will not differ from the sensitivity at a deflection of 25 % of the useful scan by more than 2 %

Pattern distortion. The length of the edges of a raster pattern, whose mean dimensions are smaller than 75 % of the useful scan will not deviate from these mean dimensions by more than 2.5 %

¹⁾ For calculation of the grid No.3 voltage potentiometer a grid No.3 current of min. $-15 \mu\text{A}$ and max. $+10 \mu\text{A}$ must be taken into account

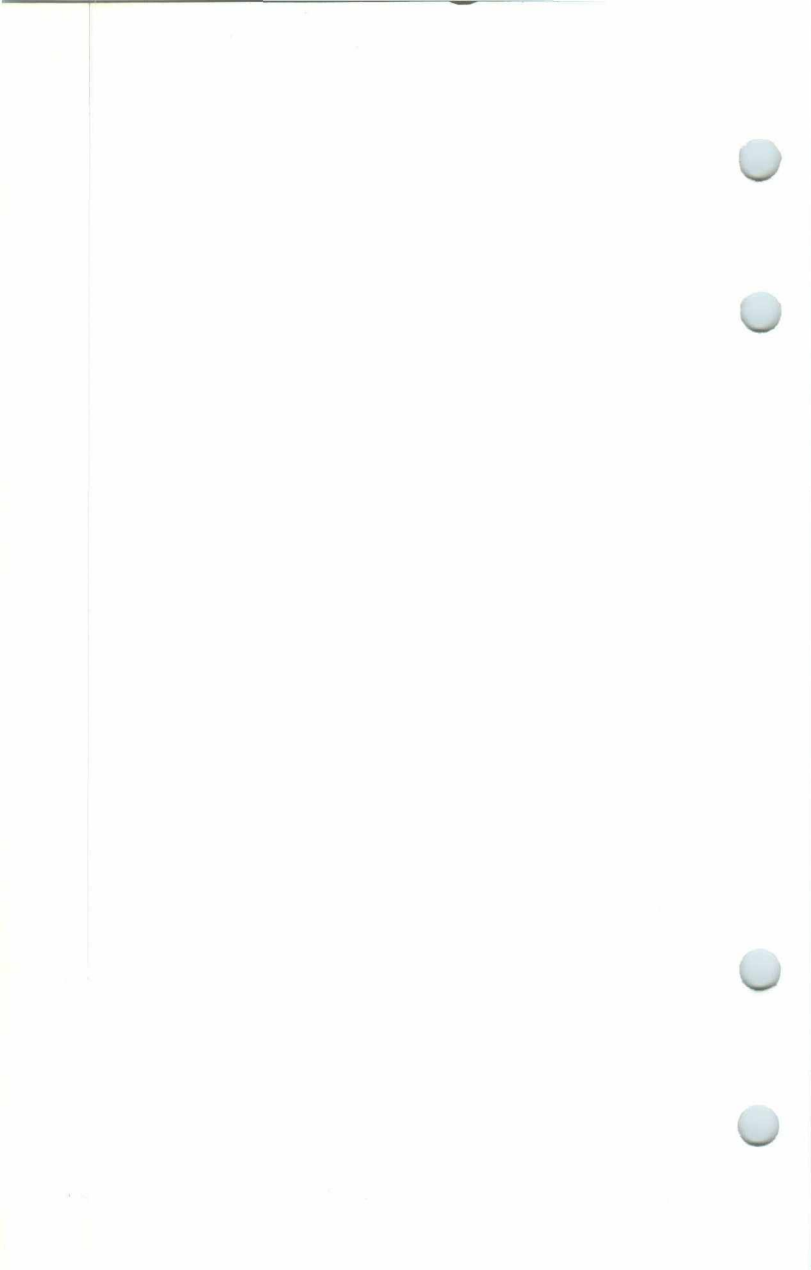
LIMITING VALUES (Design centre limits)

Grids No.2 and 4 voltage	$V_{g2,g4}$	= max. 2500 V = min. 1000 V
Grid No.3 voltage	V_{g3}	= max. 1000 V
Grid No.1 voltage		
Negative value	$-V_{g1}$	= max. 200 V
Positive value	$+V_{g1}$	= max. 0 V
Peak positive value	$+V_{g1} p$	= max. 2 V
Peak voltage between grids No.2 and 4 and any deflection plate	$V_{x-g2,g4} p$ $V_{y-g2,g4} p$	= max. 500 V = max. 500 V
Voltage between heater and cathode	V_{kf}	= max. 180 V
Grids No.2 and 4 dissipation	$W_{g2,g4}$	= max. 6 W
Screen dissipation	W_{ℓ}	= max. 3 mW/cm ²

CIRCUIT DESIGN VALUES

Grid No.3 voltage	$V_{g3} =$	165-265 V	} per kV of $V_{g2,g4}$
Negative grid No.1 voltage for visual extinction of focused spot	$-V_{g1} =$	27-53 V	
Deflection factor	$M_x =$ $M_y =$	16.3-20.0 V/cm 11.2-13.7 V/cm	
Grid No.1 circuit resistance	$R_{g1} =$	max. 1.5 M Ω	
Deflection plate resistance	$R_x = R_y =$	max. 5 M Ω	

The deflection plate resistances should be approximately equal



PHILIPS

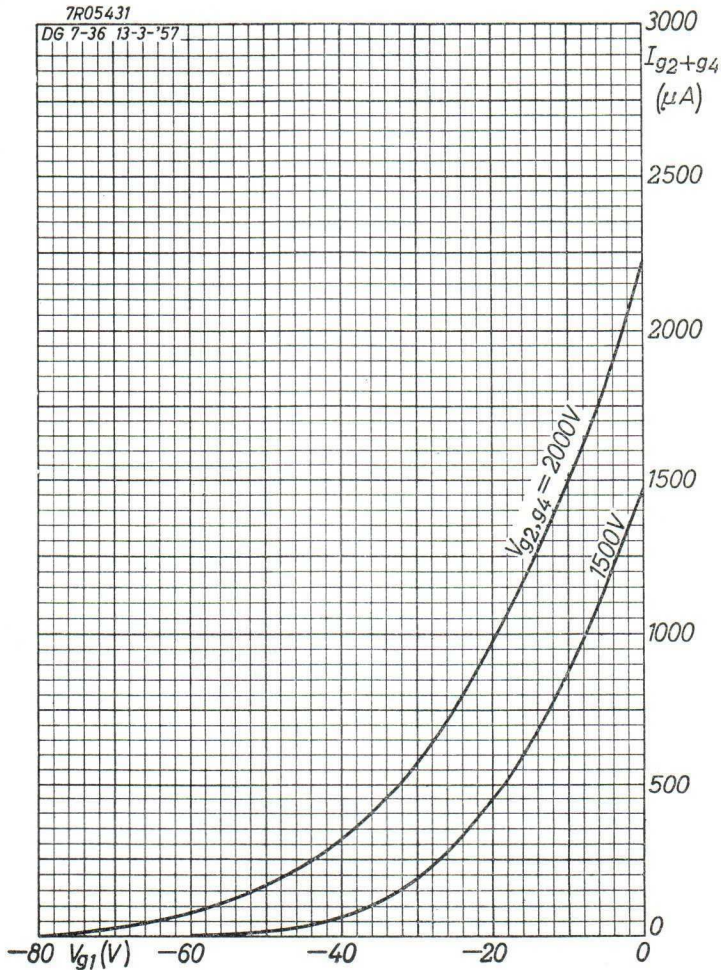
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PHILIPS

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