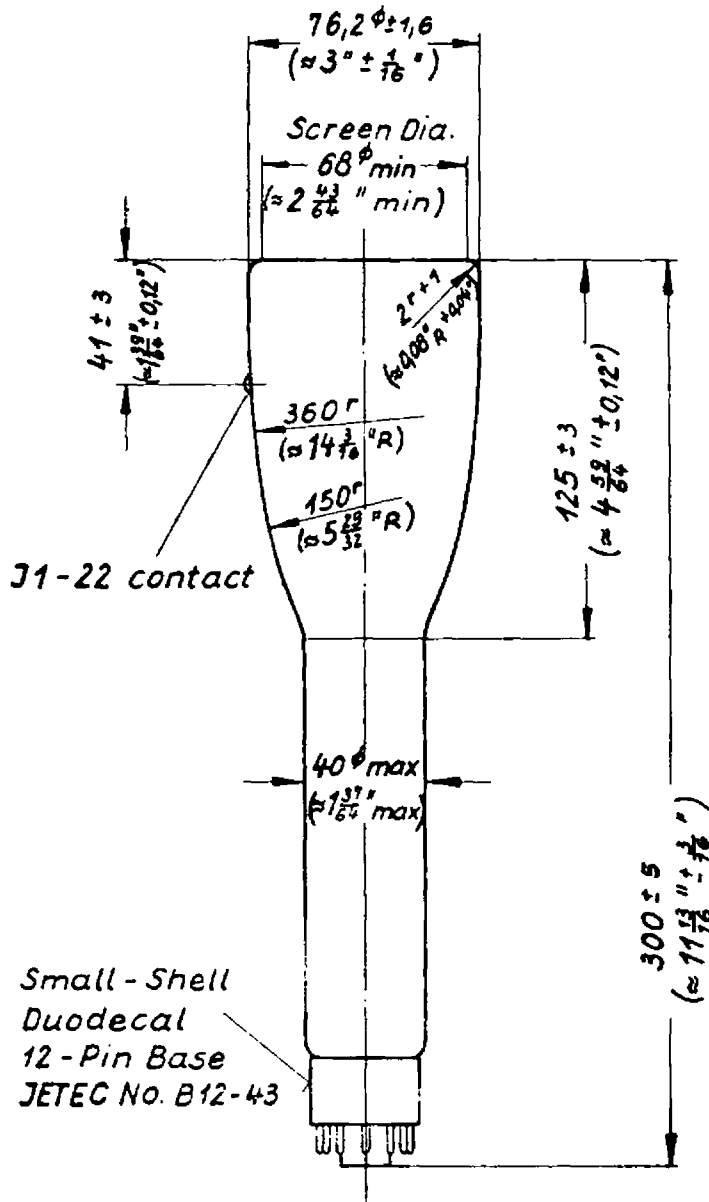
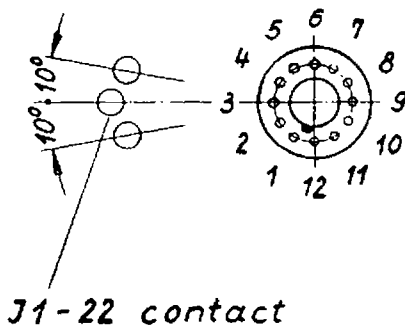


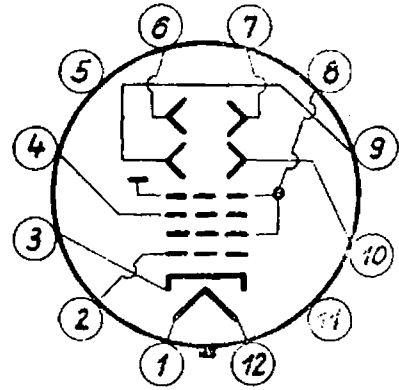
Dimensional Outline



View of underside of base



Socket Connections Bottom View



- Pin 1: Heater
- Pin 2: Grid No. 1
- Pin 3: Cathode
- Pin 4: Focusing Electrode
- Pin 5: Internal Connection
- Pin 6: Deflecting Electrode D1
- Pin 7: Deflecting Electrode D2
- Pin 8: Accelerator
- Pin 9: Deflecting Electrode D3
- Pin 10: Deflecting Electrode D4
- Pin 11: Internal Connection
- Pin 12: Heater

J1-22 contact aligns with trace of D1 D2 $\pm 10^\circ$
 J1-22 contact on same side as pin No. 3

D1 D2 trace aligns with pin No. 3 and tube axis $\pm 10^\circ$

Positive voltage on D1 deflects beam approximately toward pin No. 3

Positive voltage on D3 deflects beam approximately toward pin No. 6

Angle between D3 D4 and D1 D2 traces $90^\circ \pm 1^\circ$

16.6.1959

B. H. H.

TELEFUNKEN

RöWU



Cathode Ray Tube
 3 ARP 1

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DATA FORM - CATHODE RAY TUBEDESCRIPTIVE PARAGRAPH

The Telefunken Type 3 ARP 1 is a three inch, flat face, single beam, electrostatic deflection and focus Cathode-Ray-Tube. Post-acceleration provides high light output, high deflection sensitivity and small spot size.

Focusing Method	electrostatic
Deflecting Method	electrostatic
Direct Interelectrode Capacitances, Approximate	
Cathode to all other electrodes	6,0 μ f
Grid 1 to all other electrodes	8,0 μ f
D1 to D2	2,0 μ f
D3 to D4	1,8 μ f
D1 to all other electrodes	5,7 μ f
D2 to all other electrodes	5,7 μ f
D3 to all other electrodes	4,6 μ f
D4 to all other electrodes	3,8 μ f

OPTICAL DATA

Phosphor Number	P ₁
Fluorescent Color	Green
Phosphorescent Color	-
Persistence	Medium

MECHANICAL DATA

Overall Length	11 13/16 $\pm$ 3/16	Inches
Greatest Diameter of Bulb 3	$\pm$ 1/16	Inches
Minimum Useful Screen Diameter	2 43/64	Inches
Bulb Number	special Bulb	
Bulb Contact	J1-22	
Base (Small Shell 12-pin Duodecal)	B12-43	
Basing	special	
Bulb Contact Alignment		
J1-22 contact aligns with trace of D1D2	$\pm$	10 Degrees
J1-22 contact on same side as pin No. 3		
Base Alignment		
D1D2 trace aligns with pin No. 3 and tube axis	$\pm$	10 Degrees
Positive voltage on D1 deflects beam approximately toward pin No. 3		
Positive voltage on D3 deflects beam approximately toward pin No. 6		
Angle between D3D4 and D1D2 traces	90 $\pm$	1 Degrees

RATINGS (design Center Values)

Heater Voltage	6,3 Volts
Heater current at 6,3 volts	0,3 ± 10% Ampere
Post-accelerator Voltage	2000 Max Volts DC
Anode Voltage	1000 Max Volts DC
Ratio Post-accelerator Voltage to Anode Voltage	2 Max
Anode Input	1 Max Watt
Grid 3 (Focusing Electrode) Voltage	500 Max Volts DC
Grid 1 Voltage	
Negative-Bias Value	-250 Max Volts DC
Positive-Bias Value	0 Max Volts DC
Positive-Peak Value	0 Max Volts
Peak-Heater-Cathode Voltage	
Heater negative with respect to cathode	
During warm-up period not to exceed 15 seconds	180 Max Volts
After equipment warm-up period	180 Max Volts
Heater positive with respect to cathode	180 Max Volts
Peak Voltage between Anode and any Deflection Electrode	500 Max Volts

TYPICAL OPERATING CONDITIONS

Post-accelerator		1000 Volts
Anode Voltage		500 Volts
Grid 3 Voltage (Focusing Electrode)	50 to 110	Volts
Grid 1 Voltage (Note 2)	-36 to -25	Volts
Deflection Factors:		
D1 and D2	31,8 to 36,8	Volts DC per inch
D3 and D4	18 to 22,2	Volts DC per inch
Focusing Electrode Current for any operating condition	-10 to +10	Microamperes
Spot Position (undeflected) (Note 4)	3,5	Max Millimeters

For Anode Voltage not shown in the preceding table,
the following can be used as a guide:

Focusing electrode Voltage 10 % to 22 % of Anode Volts
Grid 1 Voltage (Note 2) - 7,2% to -5,0 % of Anode Volts

Deflection Factors:

Post-accelerator = Twice Anode
D1 and D2 63,6 to 73,6 Volts DC per inch per Kilovolt of Anode
D3 and D4 36 to 44,4 Volts DC per inch per Kilovolt of Anode

MAXIMUM CIRCUIT VALUES

Grid 1 Circuit Resistance	10 Max Megohms
Resistance in any Deflecting - Electrode Circuit (Note 3)	5 Max Megohms

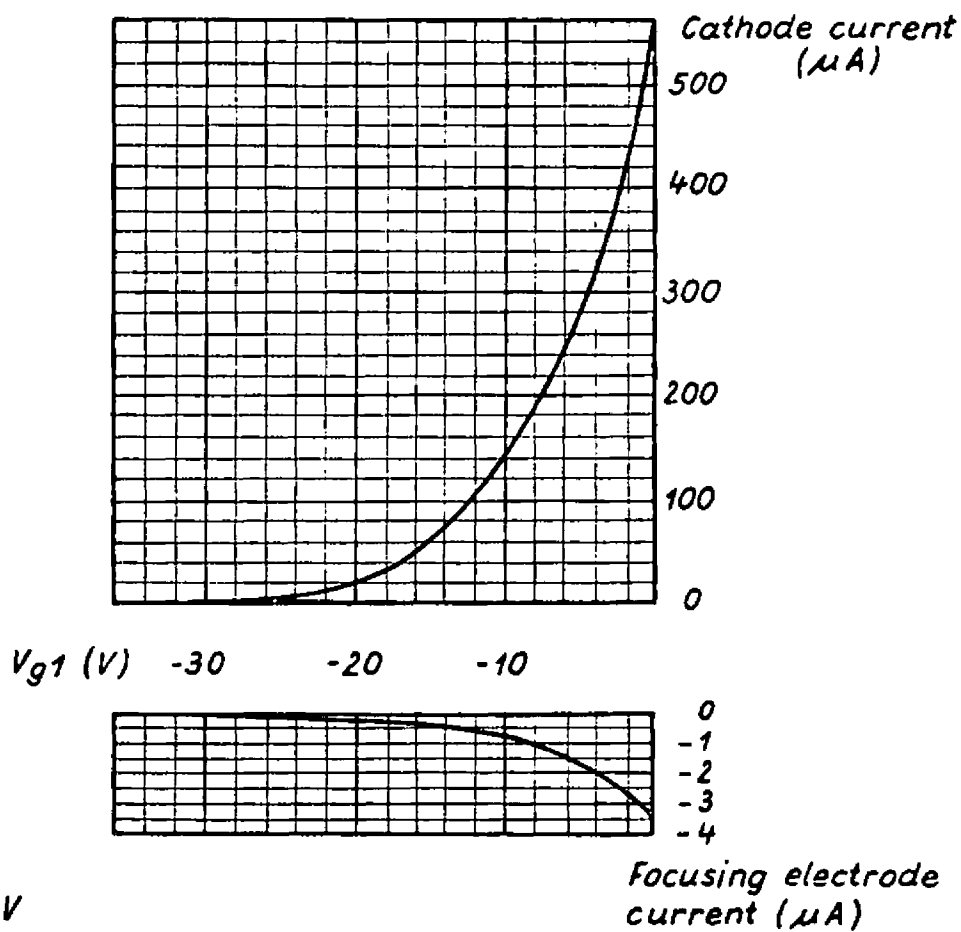
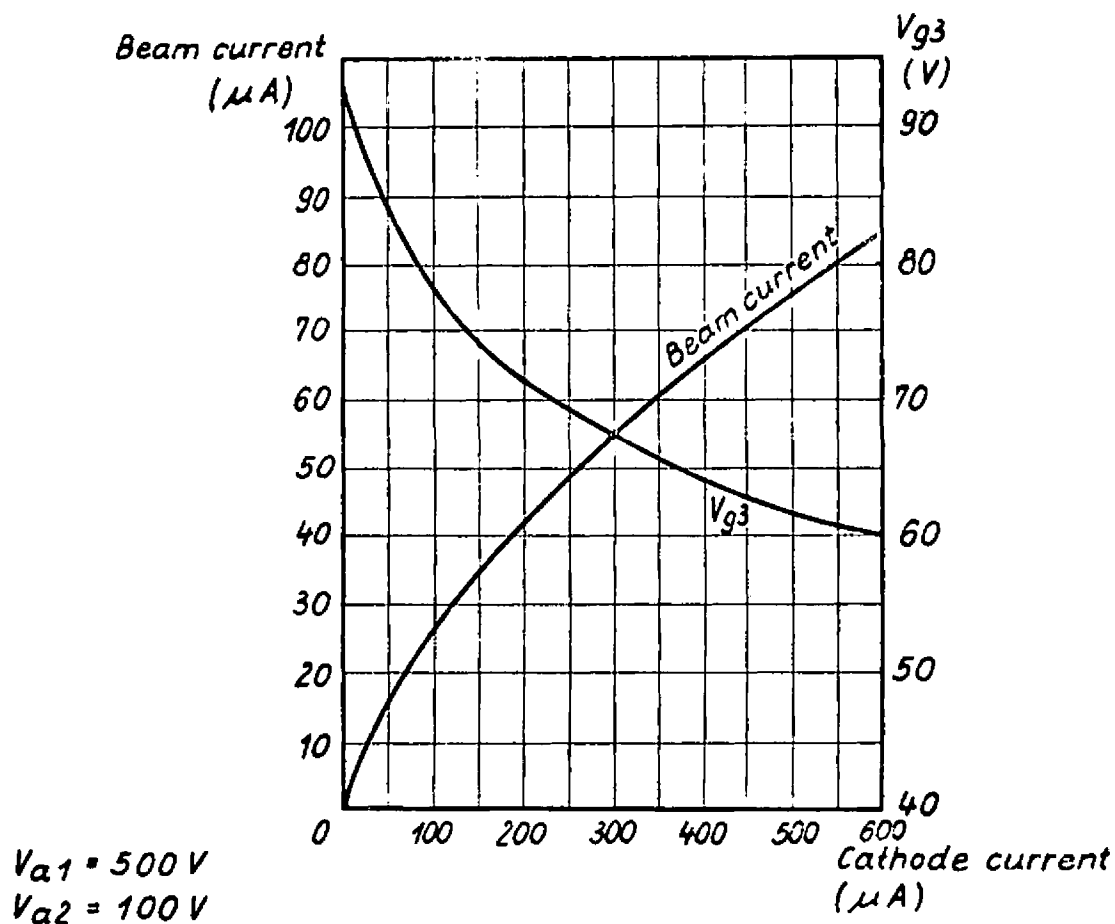
Pin Connection

Pin No. 1	Heater
Pin No. 2	Grid No. 1
Pin No. 3	Cathode
Pin No. 4	Focusing Electrode
Pin No. 5	Internal Connection
Pin No. 6	Deflecting Electrode D1
Pin No. 7	Deflecting Electrode D2
Pin No. 8	Accelerator
Pin No. 9	Deflecting Electrode D3
Pin No. 10	Deflecting Electrode D4
Pin No. 11	Internal Connection
Pin No. 12	Heater

CATHODE RAY TUBE CHARACTERISTICS NOTES

1. Visual extinction of focused raster.
2. Visual extinction of undeflected focused spot.
3. It is recommended that the deflecting-electrode-circuit resistance be approximately equal.
4. Connect free deflecting electrodes to anode.

T e l e f u n k e n G.m.b.H., R ö h r e n v e r t r i e b
U l m (D o n a u) , G e r m a n y



$V_{a1} = 500 V$
 $V_{a2} = 1000 V$

TELEFUNKEN



Cathode Ray Tube
3 ARP 1

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