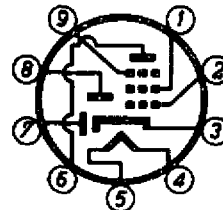


Type 6N8

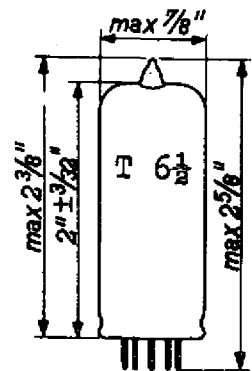
Double Diode-Pentode for R.F., I.F. and A.F. Amplification

Physical Specifications

Cathode	Coated unipotential
Base	Small button noval 9-pin
Bulb	T 6½
Maximum overall length	2-5/8 inches
Maximum seated height	2-3/8 inches
Bulb length excluding tip	2±3/32 inches
Maximum diameter	7/8 inches
Mounting position	any
Basing connections - JETEC basing designation	9T-0-0
Pin 1 - Pentode screen grid	
Pin 2 - Pentode control grid	
Pin 3 - Cathode and internal shield	
Pin 4 - Heater	
Pin 5 - Heater	
Pin 6 - Pentode plate	
Pin 7 - Diode No.1 plate	
Pin 8 - Diode No.2 plate	
Pin 9 - Pentode grid No.3	



9T-0-0



General Electrical Data

Heater voltage	6.3 volts
Heater current	0.3 amperes

Direct interelectrode capacitances

Pentode grid No.1 to all other electrodes	4.0	μμF
Pentode plate to all other electrodes	4.6	μμF
Between pentode plate and pentode grid No.1	max. 0.002	μμF
Between pentode grid No.1 and heater	max. 0.06	μμF
Between diode No.1 plate and cathode	2.15	μμF
Between diode No.2 plate and cathode	2.35	μμF
Between diode plates	max. 0.3	μμF
Between diode No.1 plate and heater	max. 0.02	μμF
Between diode No.2 plate and heater	max. 0.01	μμF

Type 6N8
(Continued)

Direct interelectrode capacitances (continued)

Between diode No.1 plate and grid No.1	max. 0.0008	$\mu\mu\text{F}$
Between diode No.2 plate and grid No.1	max. 0.001	$\mu\mu\text{F}$
Between diode No.1 plate and pentode plate	max. 0.2	$\mu\mu\text{F}$
Between diode No.2 plate and pentode plate	max. 0.1	$\mu\mu\text{F}$

Maximum ratings

Pentode section

Plate voltage (without current)	550 volts
Plate voltage	250 volts
Plate dissipation	2 watts
Screen grid voltage (without current)	550 volts
Screen grid voltage (plate current less than 2.5 ma)	250 volts
Screen grid voltage (plate current = 5 ma)	125 volts
Screen grid dissipation	0.3 watts
Cathode current	10 ma
Grid No.1 voltage at grid No.1 current = +0.3 μa	-1.3 volts
External resistance between grid No.1 and cathode	3 megohms ¹⁾
External resistance between heater and cathode	20,000 ohms
Voltage between heater and cathode	50 volts

Diode sections

Plate voltage (peak value)	200 volts
Plate current	0.8 ma
Plate voltage at plate current = +0.3 μa	-1.3 volts
External resistance between heater and cathode	20,000 ohms
Voltage between heater and cathode	50 volts

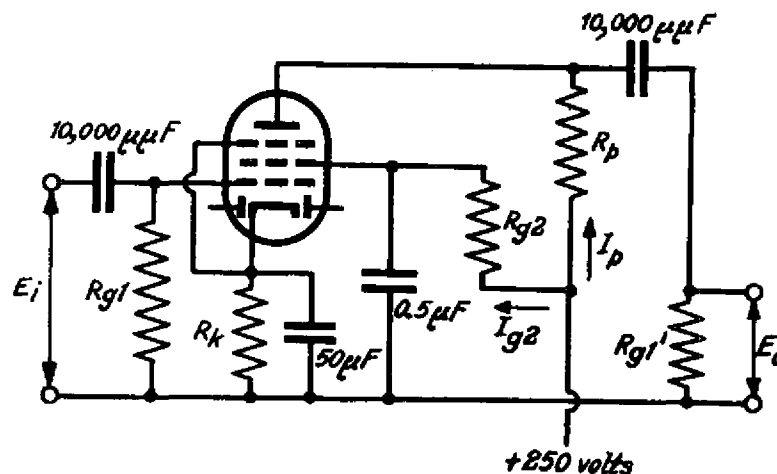
¹⁾ The maximum value of this resistor is 22 megohms if the grid bias is only obtained by the voltage drop across the grid leak.

Type 6N8
(Continued)

Operating characteristics of the pentode section as R.F. or I.F. amplifier

Plate and supply voltage	250	volts
Grid No.3 voltage	0	volts
Screen grid series resistor	95,000	ohms
Cathode resistor	295	ohms
Grid No.1 voltage	-2 -41.5	volts
Screen grid voltage	85 250	volts
Plate current	5 -	milli-amps
Screen grid current	1.75 -	milli-amps
Transconductance	2200 22	micromhos
Plate resistance	1,6 >10	megohms
Amplification factor of grid No.2 with respect to grid No.1	19 19	
Equivalent noise resistance	6,200 -	ohms

Operating characteristics of the pentode section as A.F. amplifier



In circuits with a loudspeaker with an acoustical efficiency of 5% this valve can be used without special precautions against microphony if the input voltage for an output of 50 milli-watts is more than 10 milli-volts

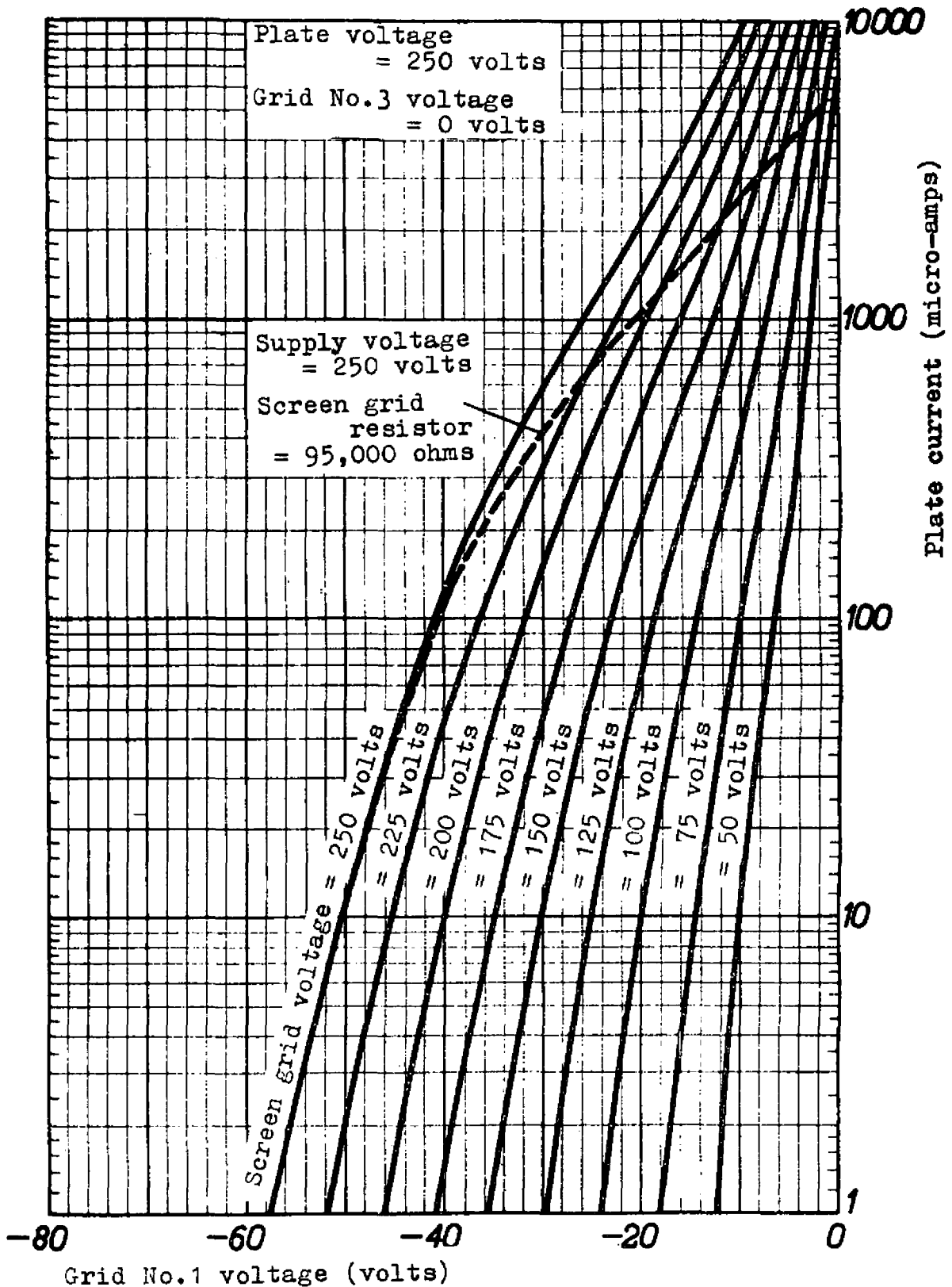
Type 6N8
(Continued)

R_p (MΩ)	R_{g2} (MΩ)	R_{g1} (MΩ)	R_k (Ω)	R'_{g1} (MΩ)	I_p (ma)	I_{g2} (ma)	$\frac{E_o}{E_1}$	Distortion (%) at E_o (r.m.s.) =		
								3volts	5volts	8volts
0.22	0.68	1	1200	0.68	0.88	0.33	150	0,5	0,8	1.2
0.10	0.27	1	560	0.33	1,93	0.75	100	0.45	0,75	1.15
0,22	0.68	10	0	0.68	0.94	0.35	185	0.7	0.9	1,2
0.10	0.27	10	0	0.33	2.04	0.80	125	0.6	0.75	0.9

Operating characteristics of the pentode section as A.F.
amplifier in triode connection
(screen grid connected to plate)

R_p (MΩ)	R_{g1} (MΩ)	R_k (Ω)	R'_{g1} (MΩ)	I_p (ma)	$\frac{E_o}{E_1}$	Distortion (%) at E_o (r.m.s.) =		
						3volts	5volts	8volts
0.1	1	820	0.33	2.08	14.5	1.6	2.5	4.3
0.047	1	560	0.15	4.1	13	1.3	2.0	2.9
0.1	10	0	0.33	2.16	15	2.0	3.1	4.8
0.047	10	0	0.15	4.5	15	1.7	2.7	4.1

Type 6N8

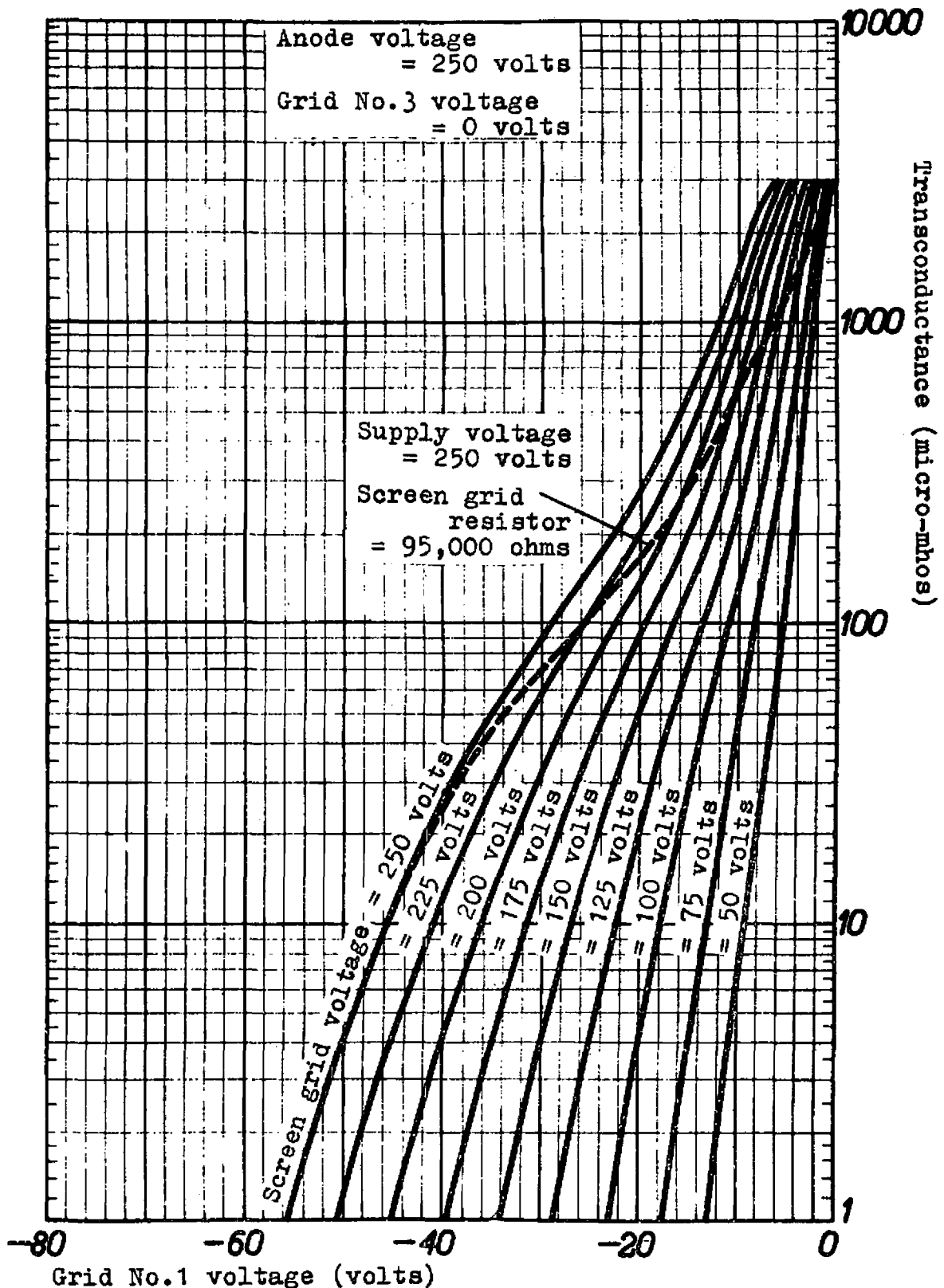


6.6.1949

A.

N.V. PHILIPS' GLOEI LAMPENFABRIEKEN, EINDHOVEN, HOLLAND

Type 6N8

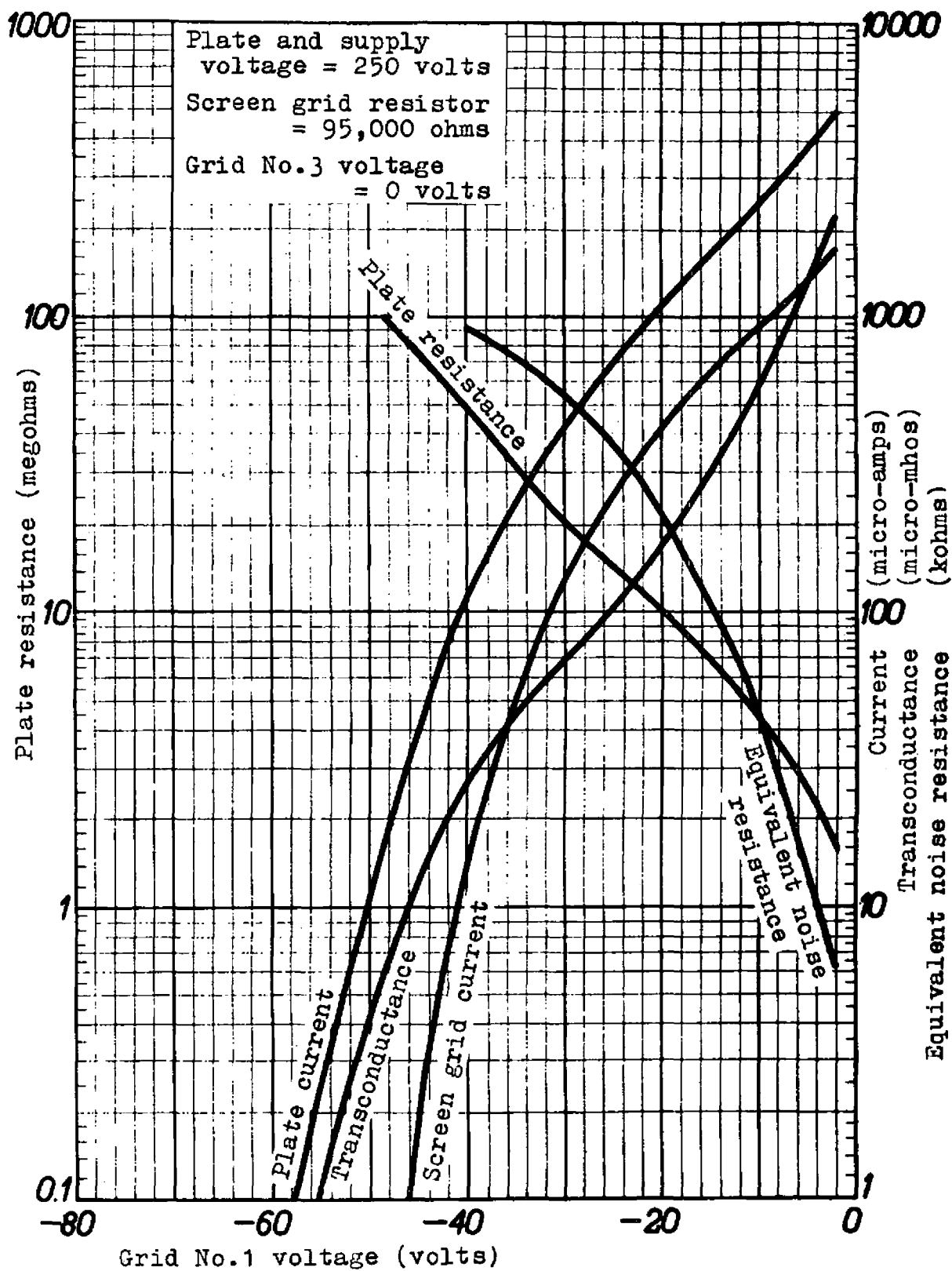


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B.

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Type 6N8

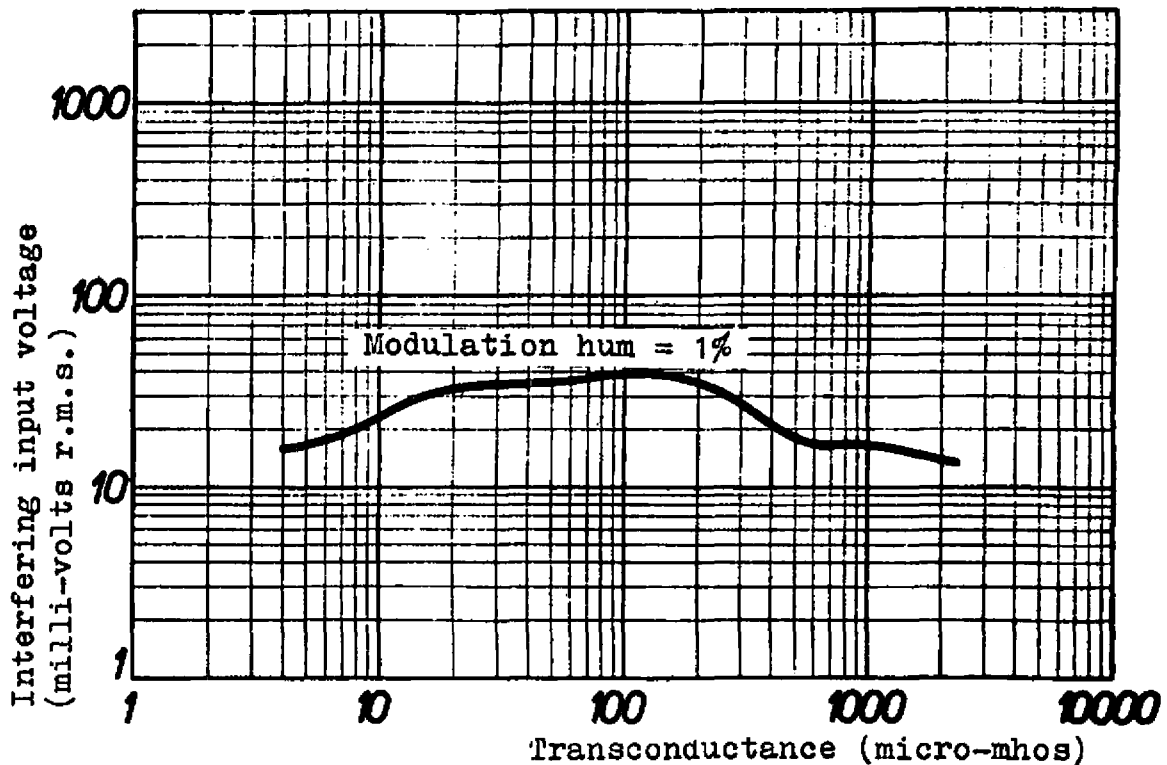
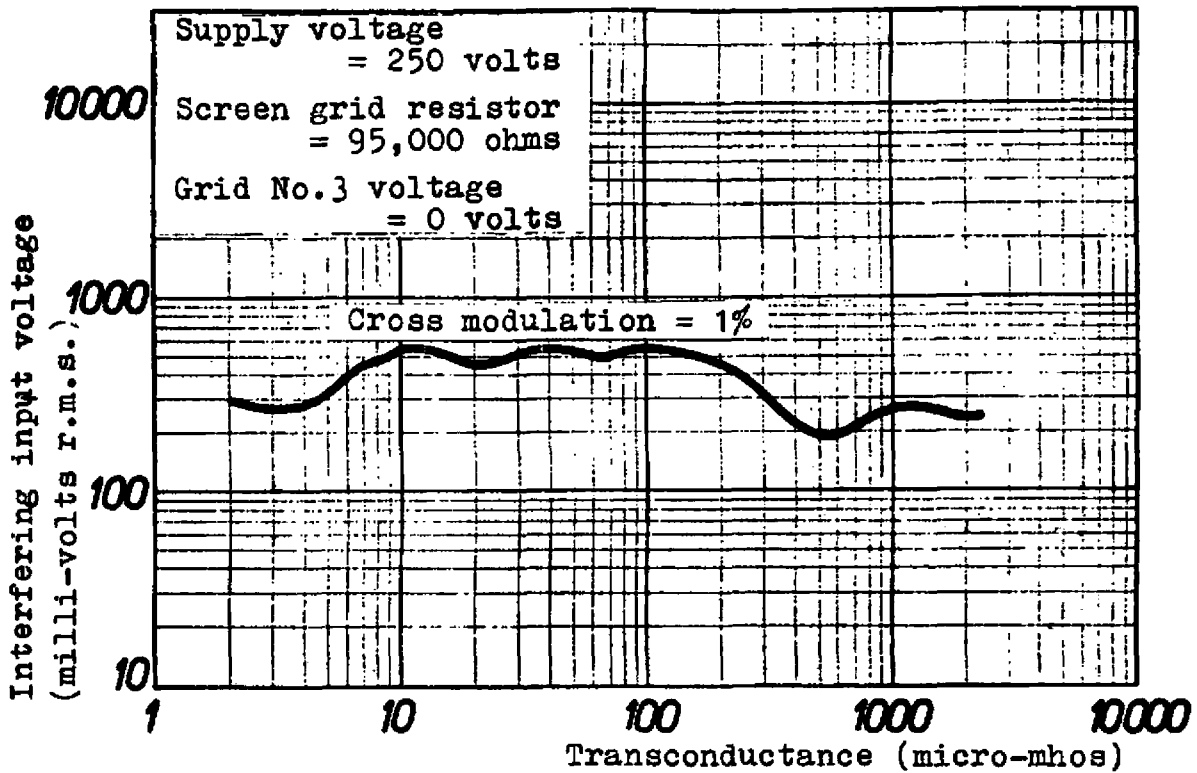


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C.

N.V. PHILIPS' GLOEI LAMPANFABRIEKEN, EINDHOVEN, HOLLAND

Type 6N8

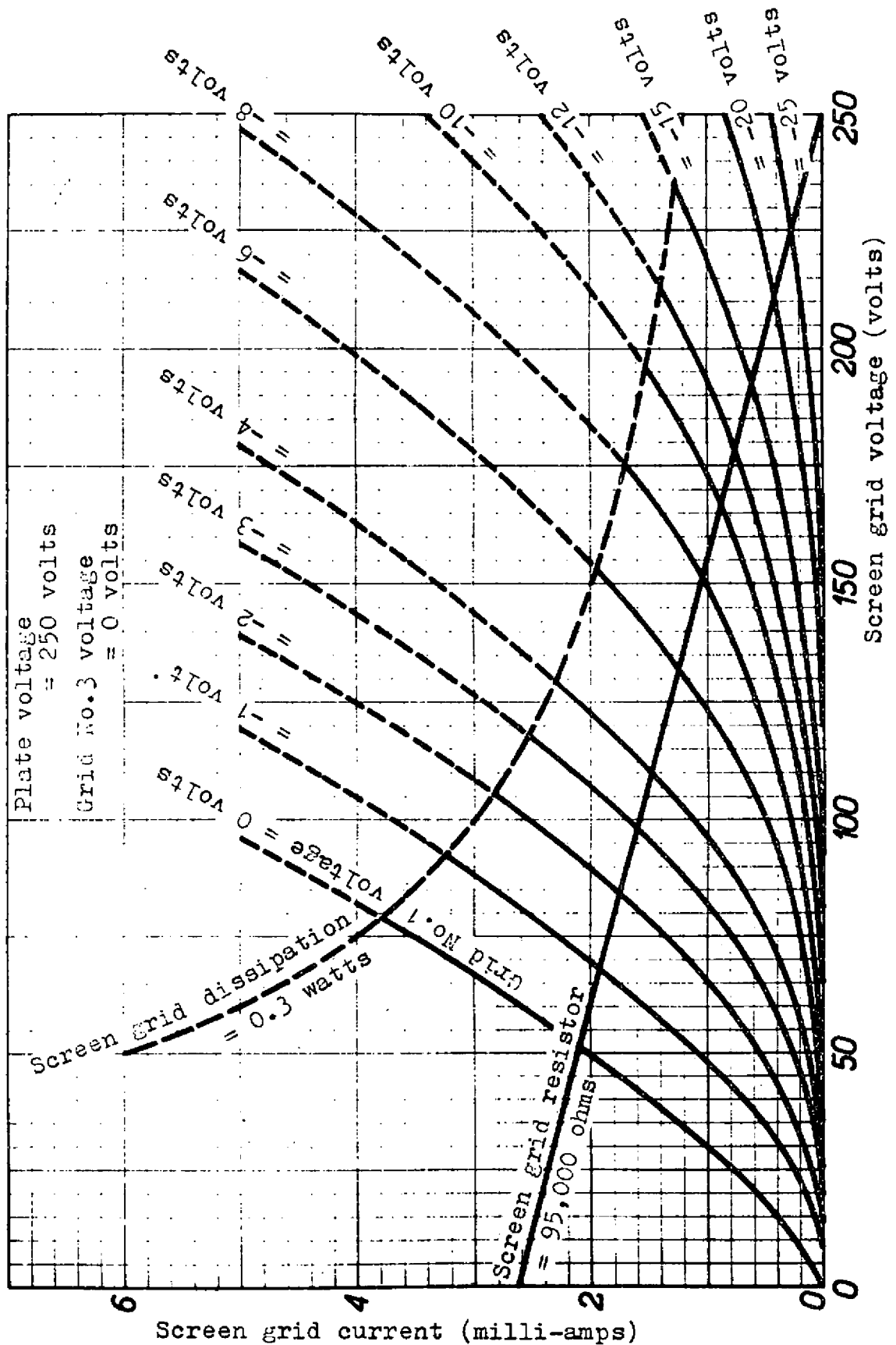


6.6.1949

D.

N.V. PHILIPS' GLOEILAMPENFABRIEKEN, EINDHOVEN, HOLLAND

Type 6N8



6.6.1949

E.

N.V. PHILIPS' GLOEI LAMPEN FABRIEKEN, EINDHOVEN, HOLLAND