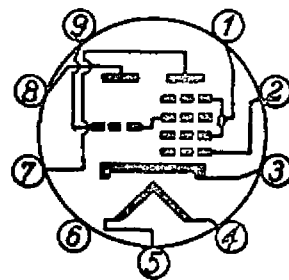


Triode-Hexode Frequency ConverterPhysical Specifications

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	9 Q
Pin 1 - Hexode screen grids	
Pin 2 - Hexode control grid	
Pin 3 - Cathode and internal shield	
Pin 4 - Heater	
Pin 5 - Heater	
Pin 6 - Internal connection	
Pin 7 - Hexode plate	
Pin 8 - Triode plate	
Pin 9 - Triode grid and hexode grid No.3	

General Electrical Data

Heater voltage	6.3	volts
Heater current	0.23	amperes
Direct interelectrode capacitances		
Hexode grid No.1 to all other electrodes	3.8	μF
Hexode plate to all other electrodes	9.2	μF
Between hexode grid No.1 and hexode plate	max. 0.1	μF
Between hexode grid No.1 and heater	max. 0.15	μF
Triode grid + hexode grid No.3 to all other electrodes except triode plate	5.6	μF
Triode plate to all other electrodes except triode grid + hexode grid No.3	2.4	μF
Between triode plate and triode grid + hexode grid No.3	1.4	μF
Between hexode grid No.1 and triode grid + hexode grid No.3	max. 0.35	μF
Between hexode plate and triode grid + hexode grid No.3	max. 0.2	μF

Type 6AN7
(Continued)

Maximum ratings, Design center values

Hexode section

Plate voltage (without current)	550 volts
Plate voltage	250 volts
Plate dissipation	1.5 watts
Grid No.2 and 4 voltage (without current)	550 volts
Grid No.2 and 4 voltage (anode current less than 1 ma)	250 volts
Grid No.2 and 4 voltage (anode current = 3 ma)	125 volts
Grid No.2 and 4 dissipation	0.3 watts
Grid No.1 voltage at grid No.1 current = +0.3 μ a	-1.3 volts
Cathode current	7 ma
External resistance between grid No.1 and cathode	3 megohms
External resistance between grid No.3 and cathode	3 megohms
External resistance between heater and cathode	20 000 ohms
Voltage between heater and cathode	50 volts

Triode section

Plate voltage (without current)	550 volts
Plate voltage	175 volts
Plate dissipation	0.8 watts
Grid voltage at grid current = +0.3 μ a	-1.3 volts
Cathode current	6 ma
External resistance between grid and cathode	3 megohms
External resistance between heater and cathode	20 000 ohms
Voltage between heater and cathode	50 volts

Typical characteristics of the triode section

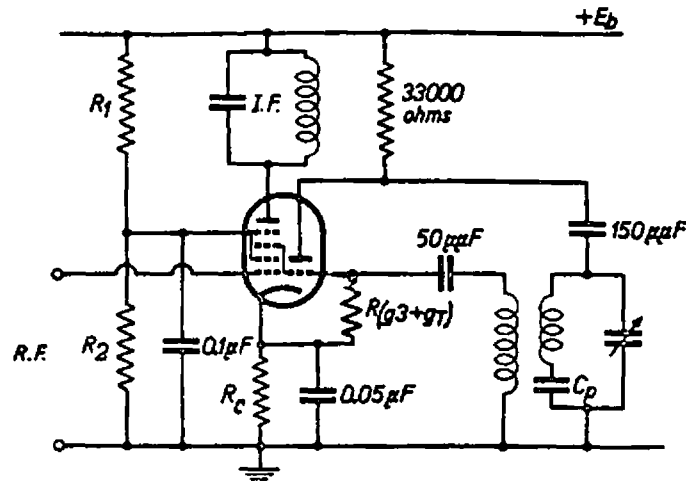
Plate voltage	100 volts
Grid voltage	0 volts
Plate current	10 ma
Transconductance	2800 micromhos
Amplification factor	22

Type 6AN7
(Continued)

Operating characteristics of the triode section as oscillator

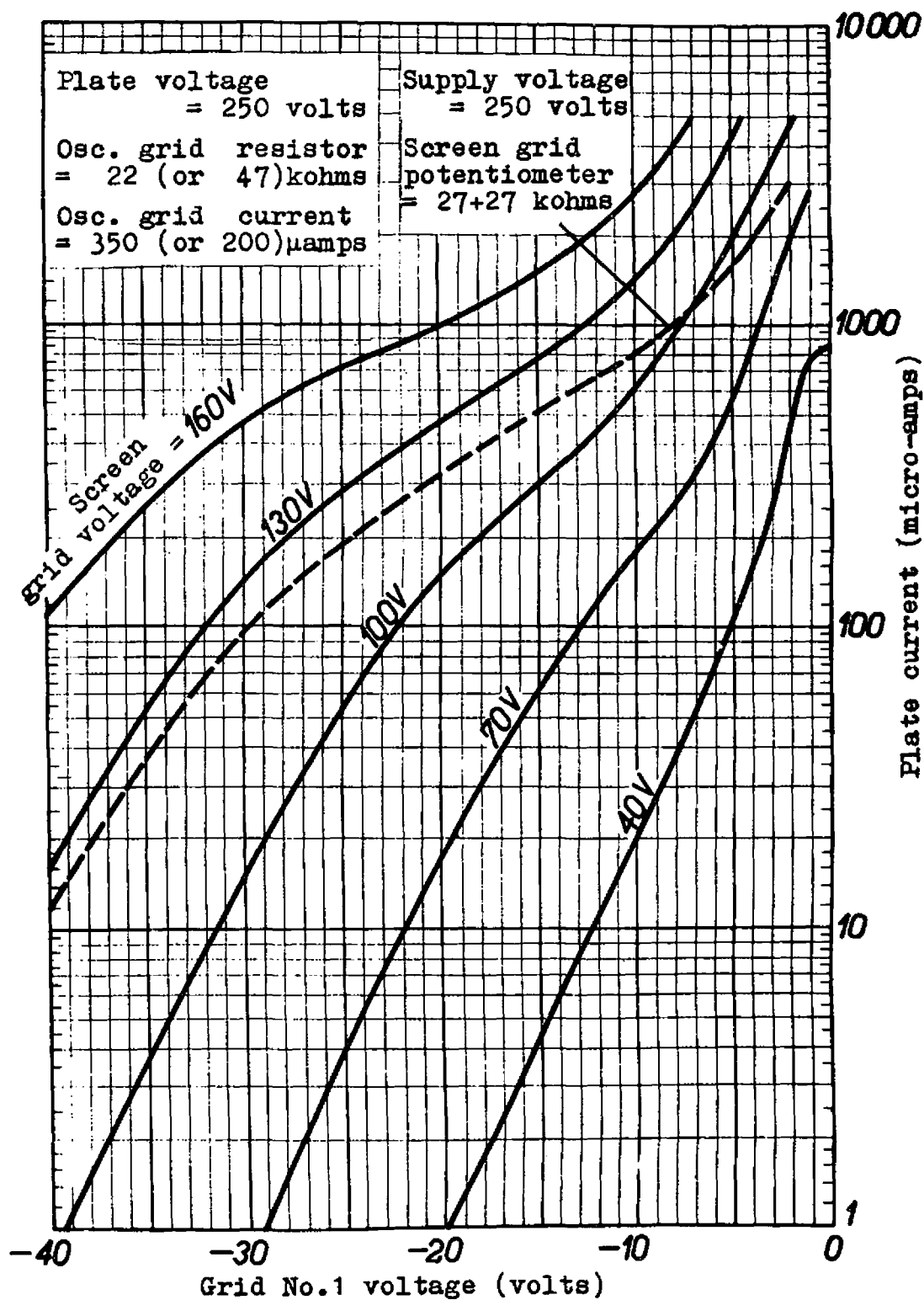
Supply voltage	250	250 volts
Plate resistor	33 000	33 000 ohms
Grid resistor	22 000	47 000 ohms
Grid current	350	200 μ a
Plate current	5.1	4.8 ma
Oscillator voltage	8	8 volts _{rms}
Effective transconductance	600	550 micromhos

Operating characteristics of the hexode section as frequency converter



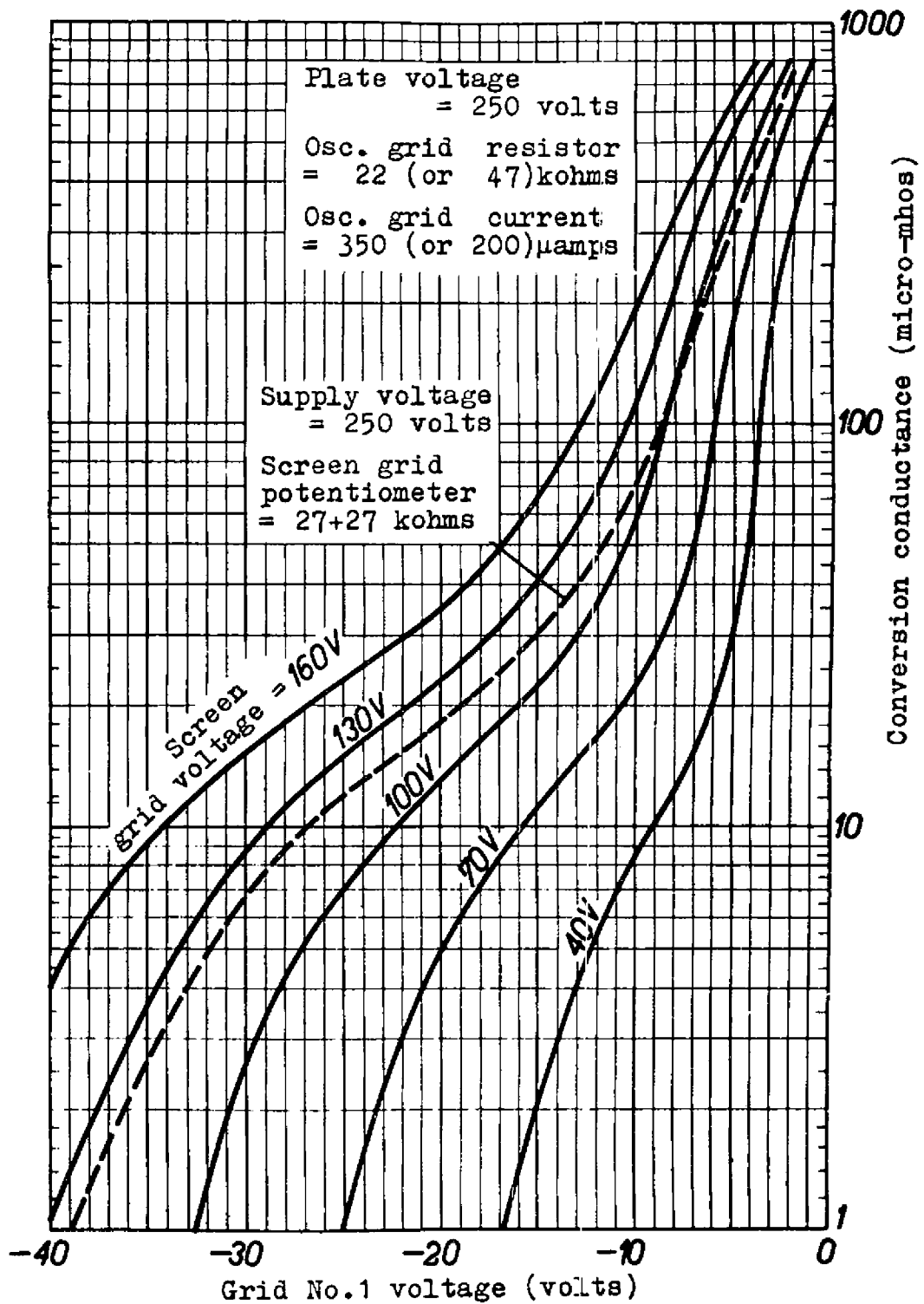
Supply and hexode plate voltage	250	volts
R1 (see circuit diagram)	27 000	ohms
R2 (see circuit diagram)	27 000	ohms
Cathode resistor	180	ohms
Grid No.3 and triode grid resistor	22 000	ohms
Grid No.3 and triode grid current	350 ^{*)}	μ a
Grid No.1 voltage	-2	-29 volts
Grid No.2 and 4 voltage	85	124 volts
Plate current	3.0	- ma
Grid No.2 and 4 current	3.0	- ma
Conversion conductance	750	7.5 micromhos
Plate resistance	min. 1	min. 5 megohms
Equivalent noise resistance	75 000	- ohms

^{*)} If the oscillator grid resistor is chosen to 47 000 ohms, the grid current has to be adjusted to 200 μ a.



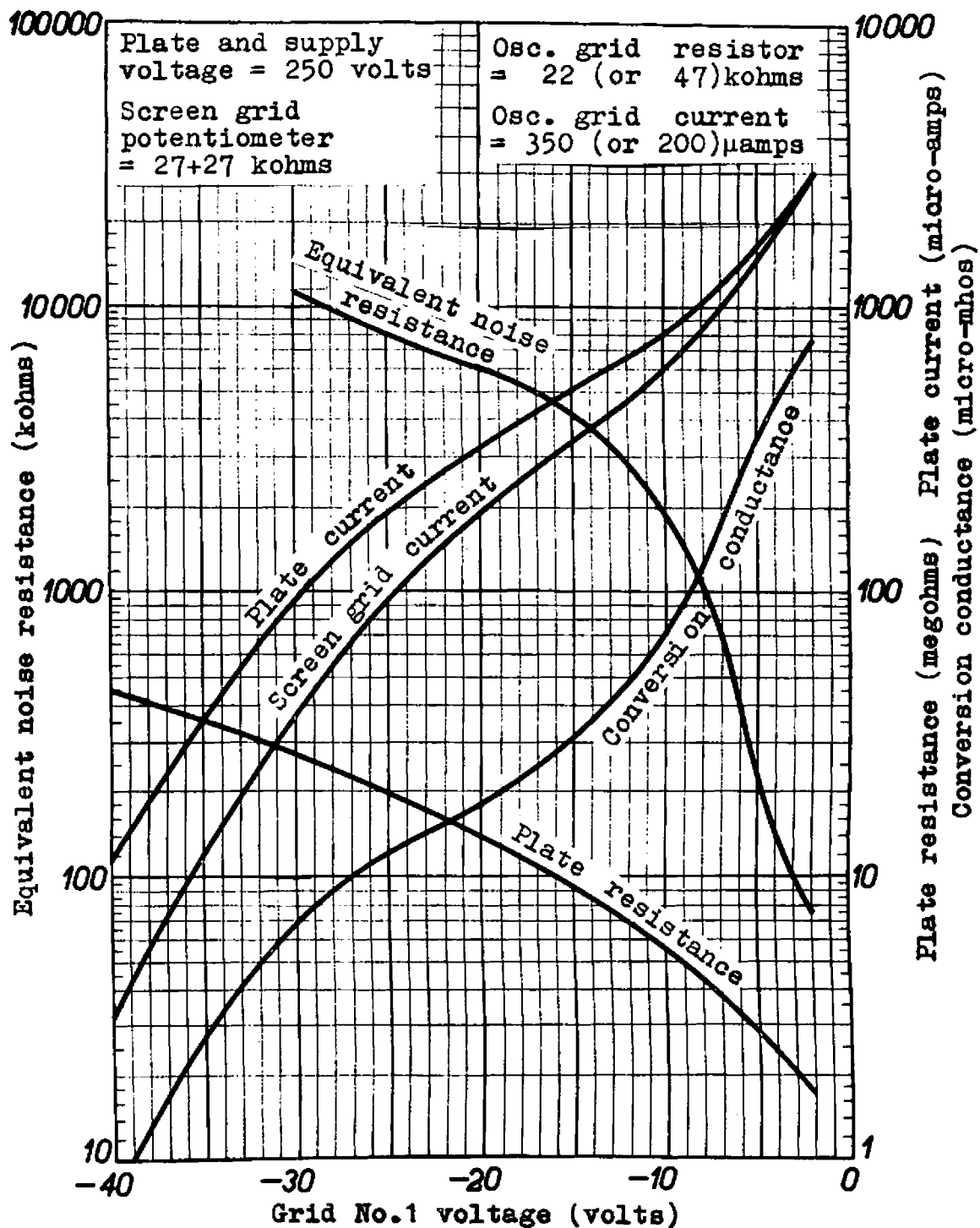
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A.



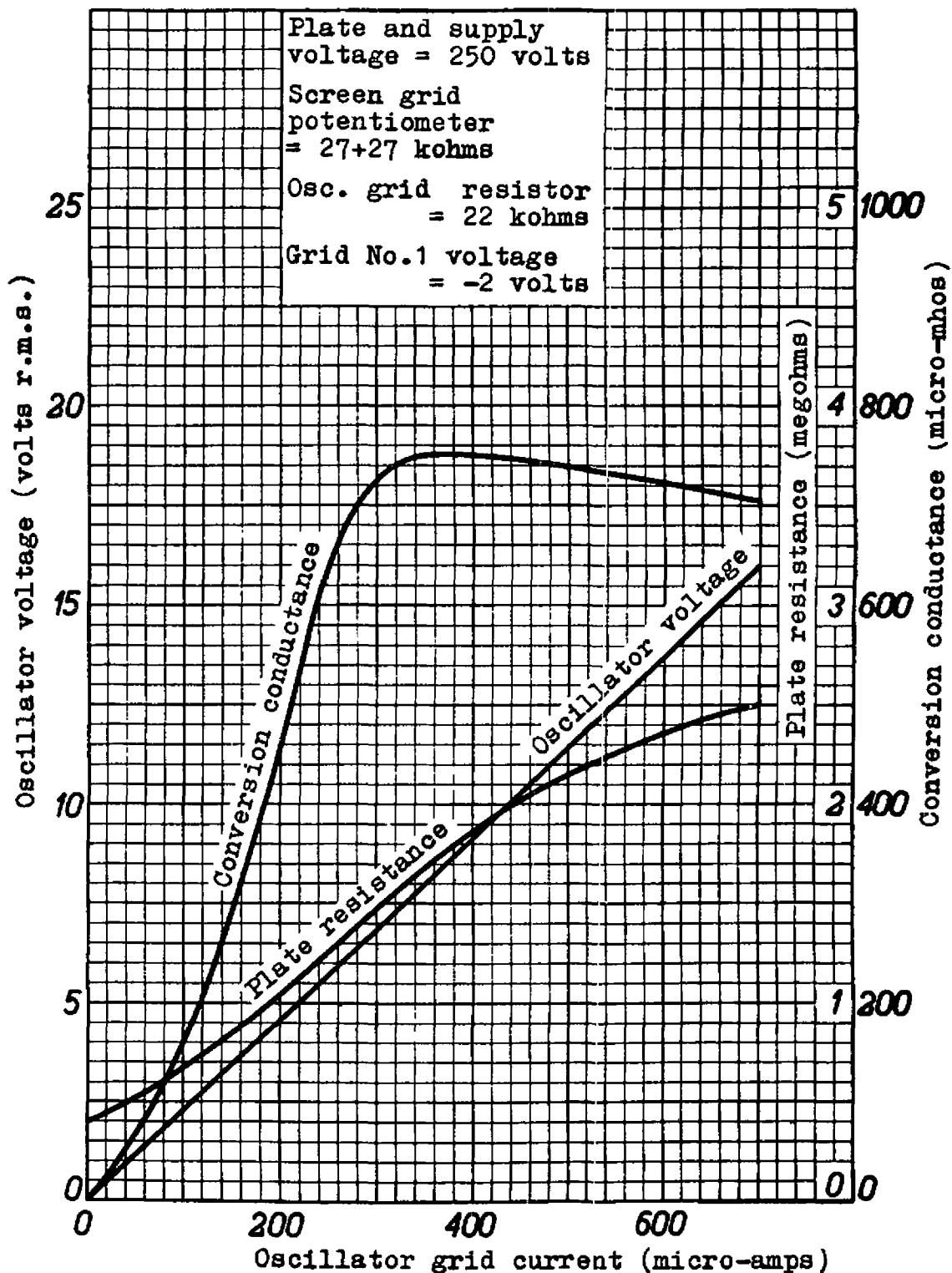
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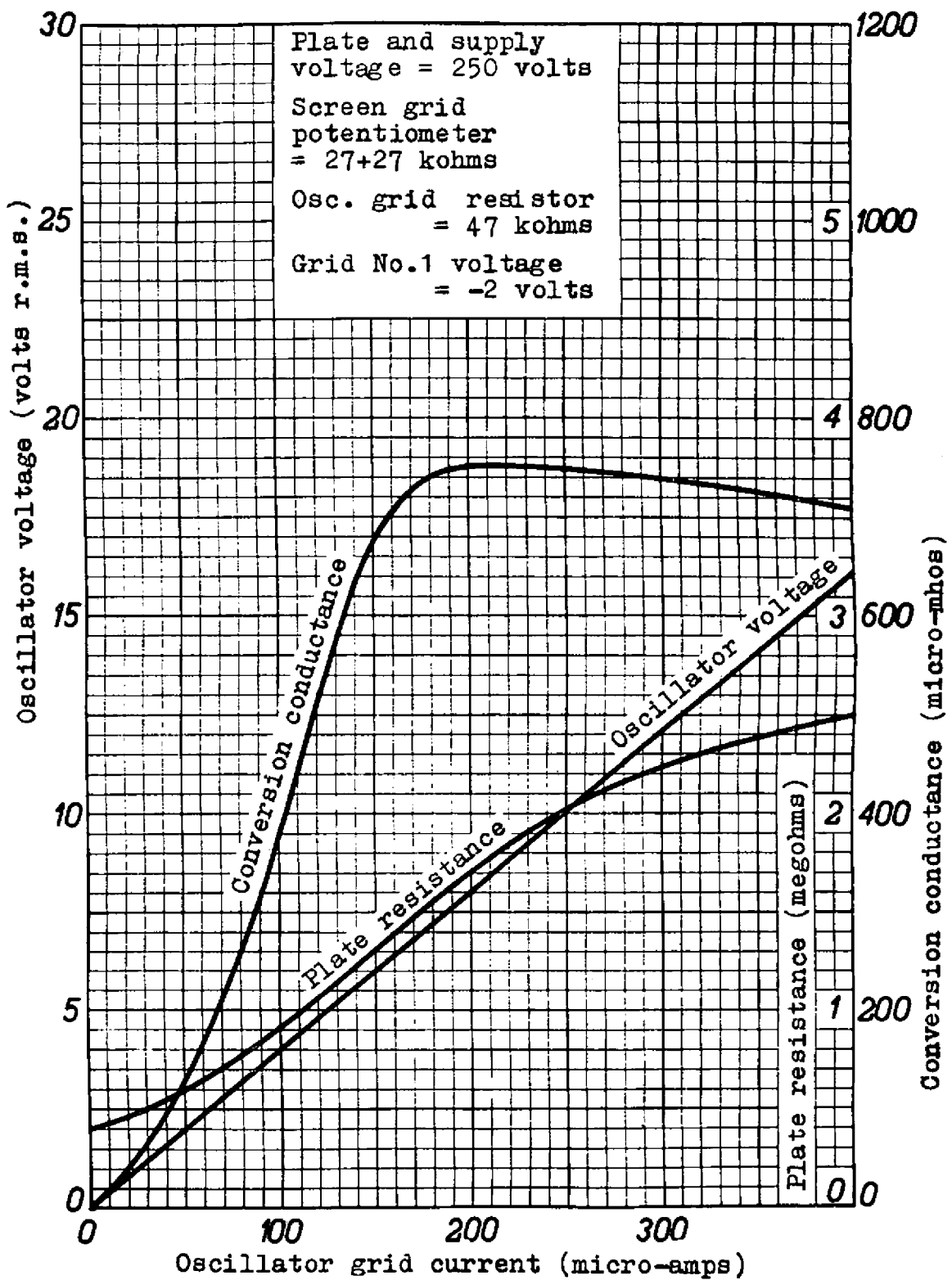
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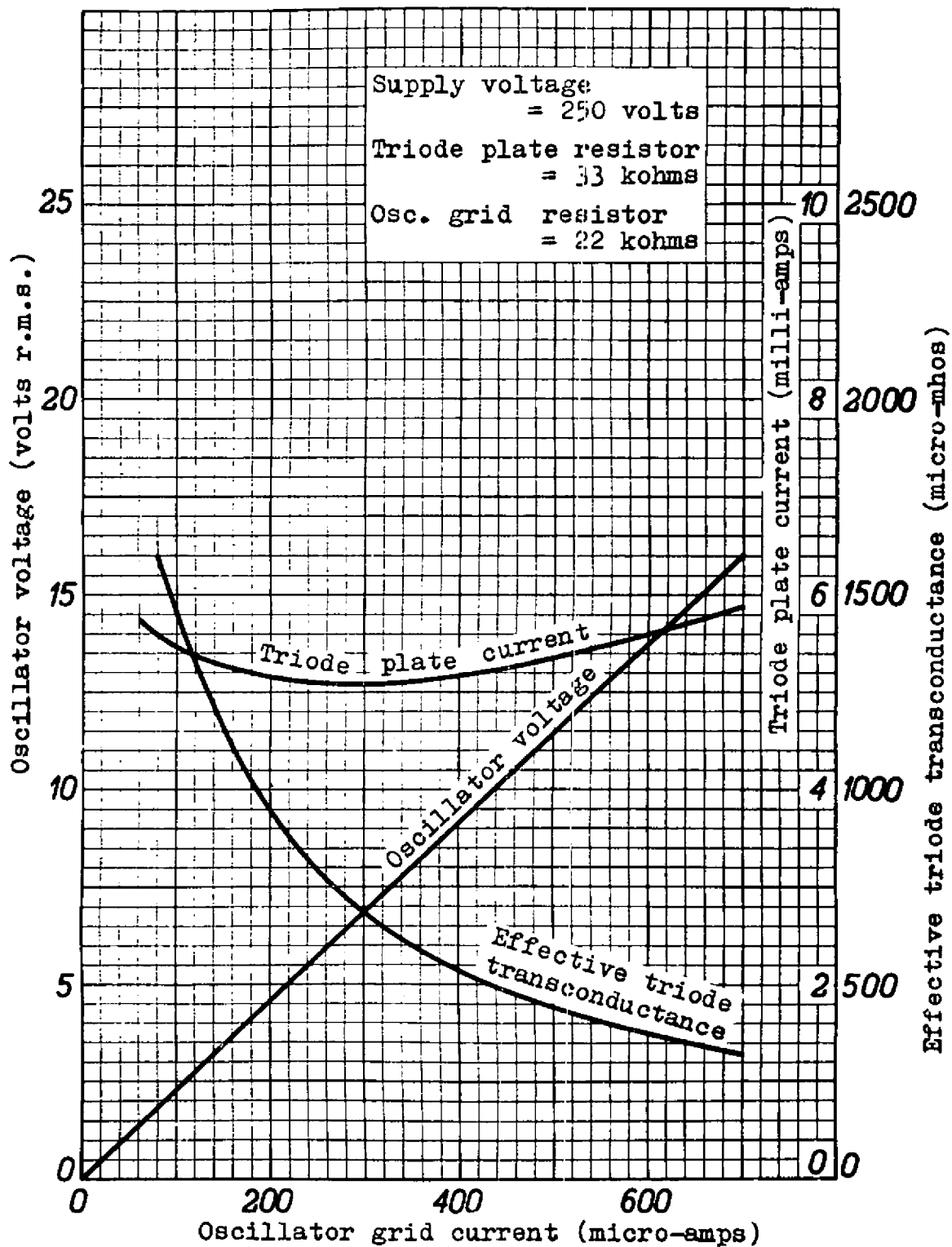
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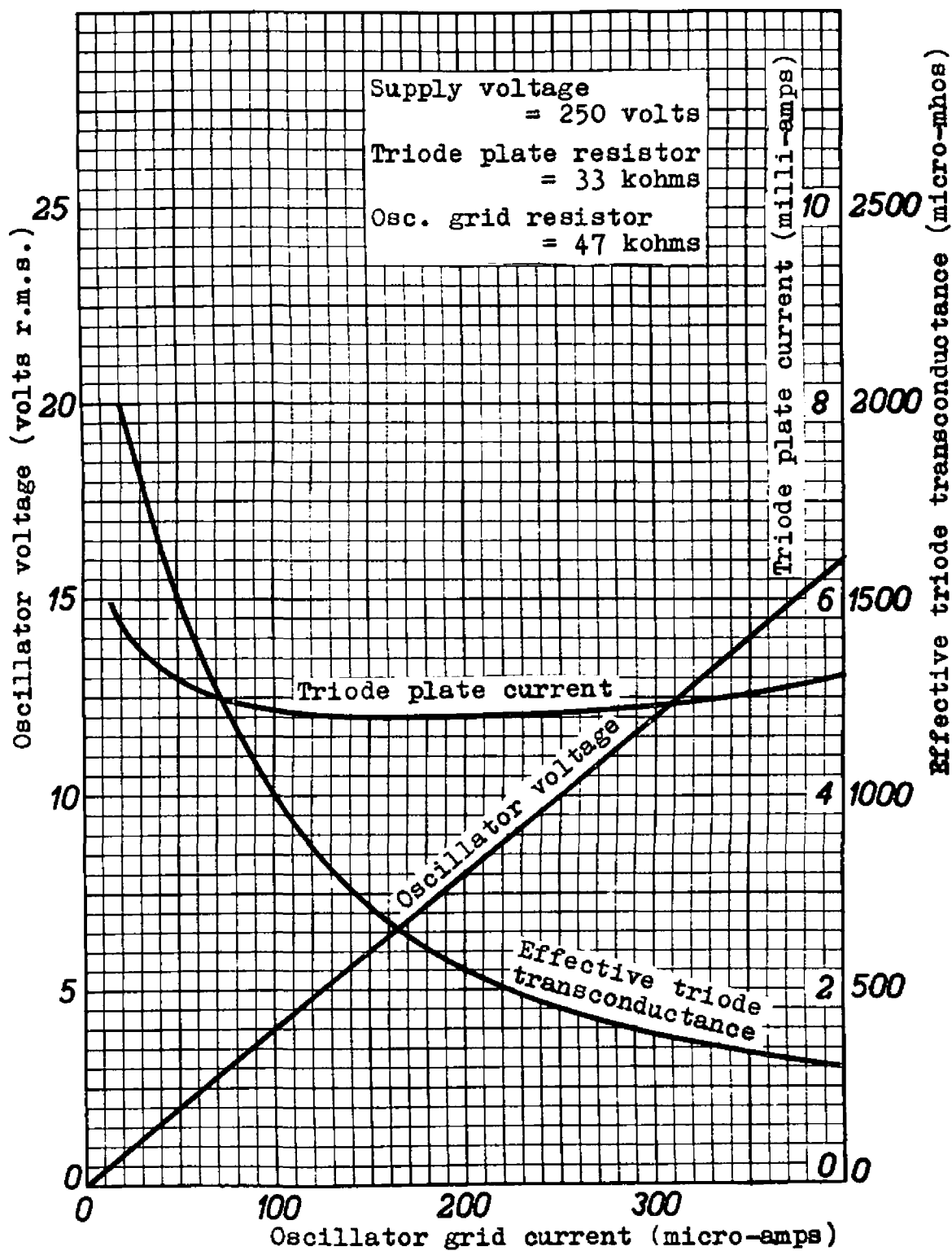
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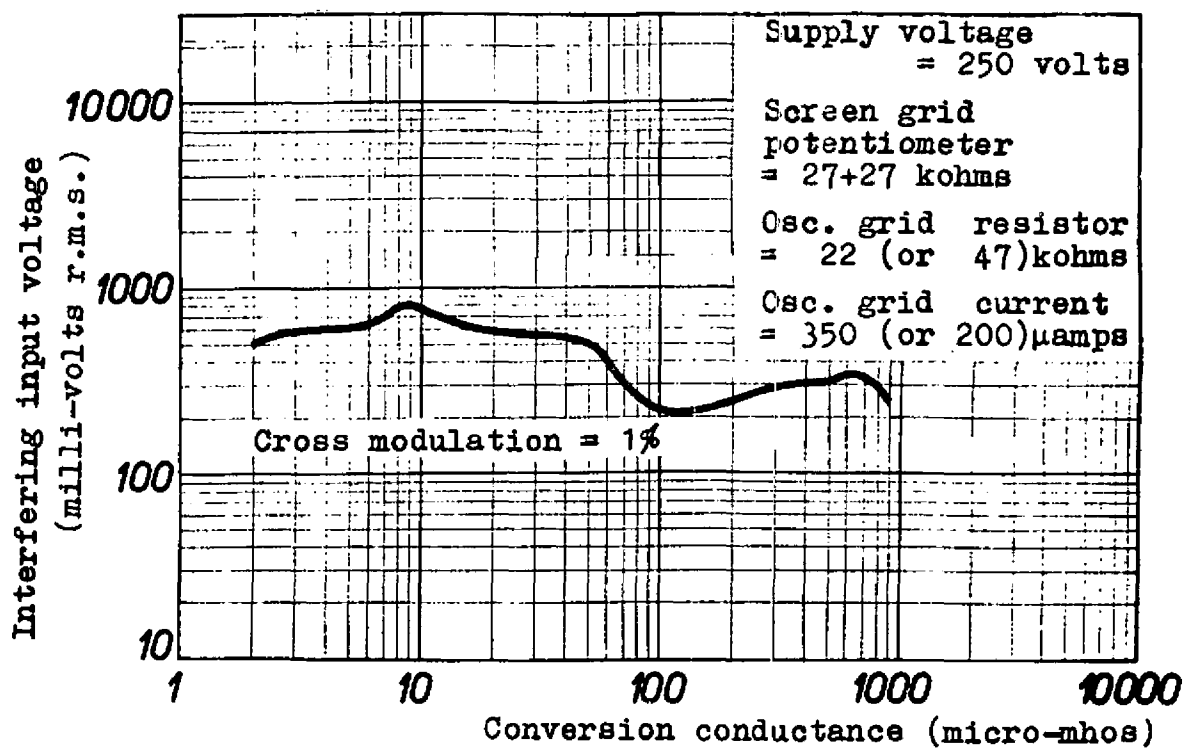
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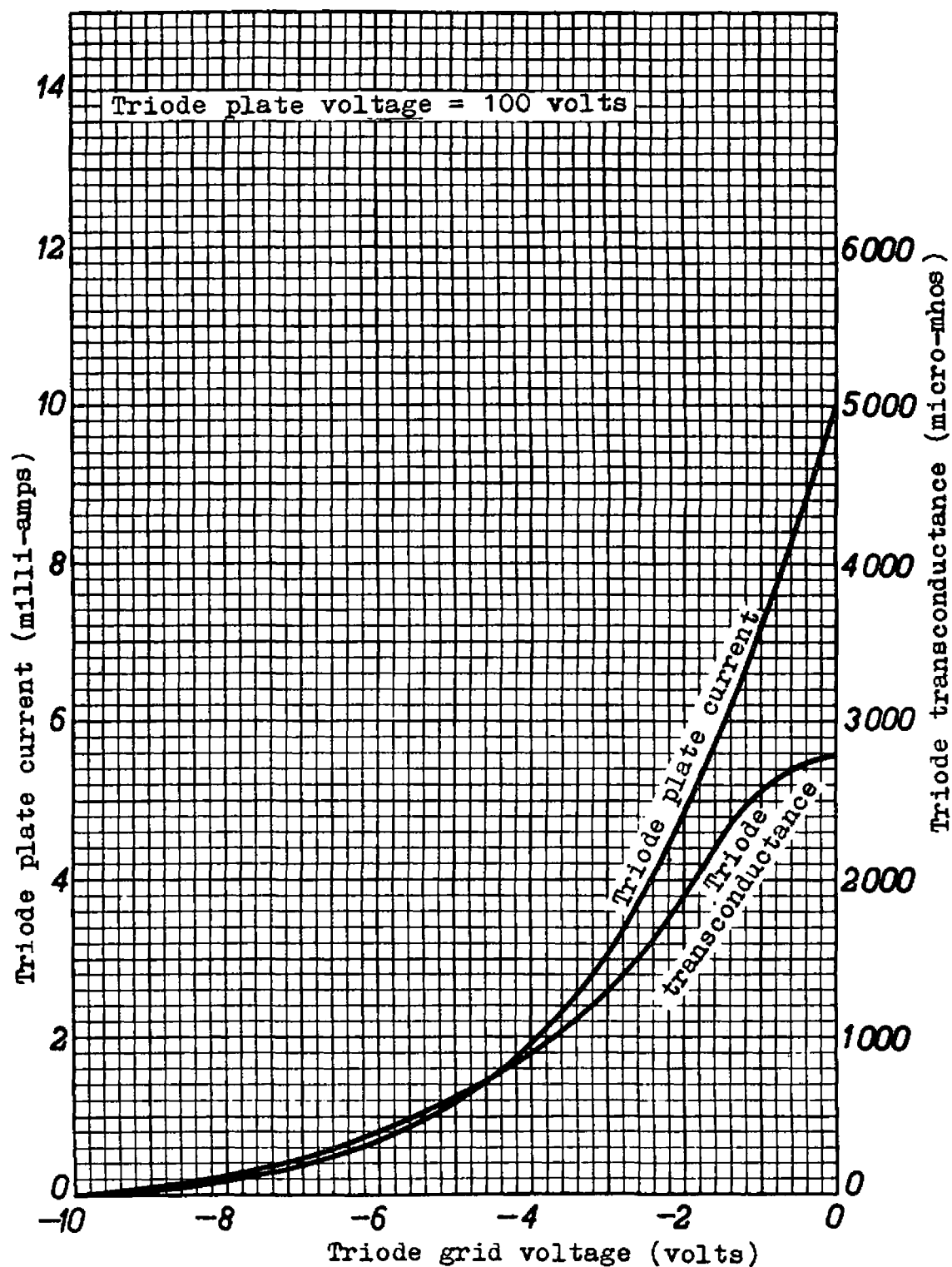
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