

Rogers Electronic Tubes & Components

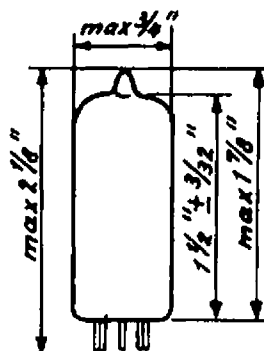
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Description: Pentode for use as I.F. amplifier, oscillator or A.F. amplifier in carradio sets, to be operated directly from a storage battery

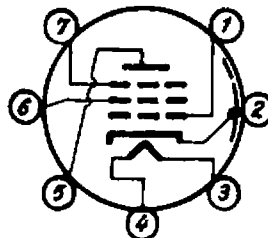
Mechanical data

Cathode	coated, unipotential
Base	E 7-1
Bulb	T 5 1/2
Outline	5 - 2
Basing designation	7 EN
Mounting position	any

TUBE OUTLINE



BOTTOM VIEW OF BASE



BASE PIN No.

1	Grid No. 1
2	Cathode, internal shield
3	Heater
4	Heater
5	Plate
6	Grid No. 2
7	Grid No. 3

ELEMENT

Heater data

Heater voltage	6.3 volts
Heater current	300 mamps

Direct interelectrode capacitances

Grid No. 1 to all other elements except plate	6.7 μ F
Plate to all other elements except grid No. 1	4.0 μ F
Plate to grid No. 1	0.015 μ F
Grid No. 1 to grid No. 2	3.0 μ F

Maximum ratings (design center values)

Plate voltage	50 volts max.
Plate dissipation	0.5 watt max.
Grid No. 2 voltage	50 volts max.
Grid No.2 dissipation	0.5 watt max.
Grid No. 3 voltage	50 volts max.
Cathode current	15 mamps max.
Grid No. 1 circuit resistance	22 megohm max
Grid No. 3 circuit resistance	0.1 megohm max
Voltage between cathode and heater	50 volts max.

Operating characteristics as I.F. amplifier

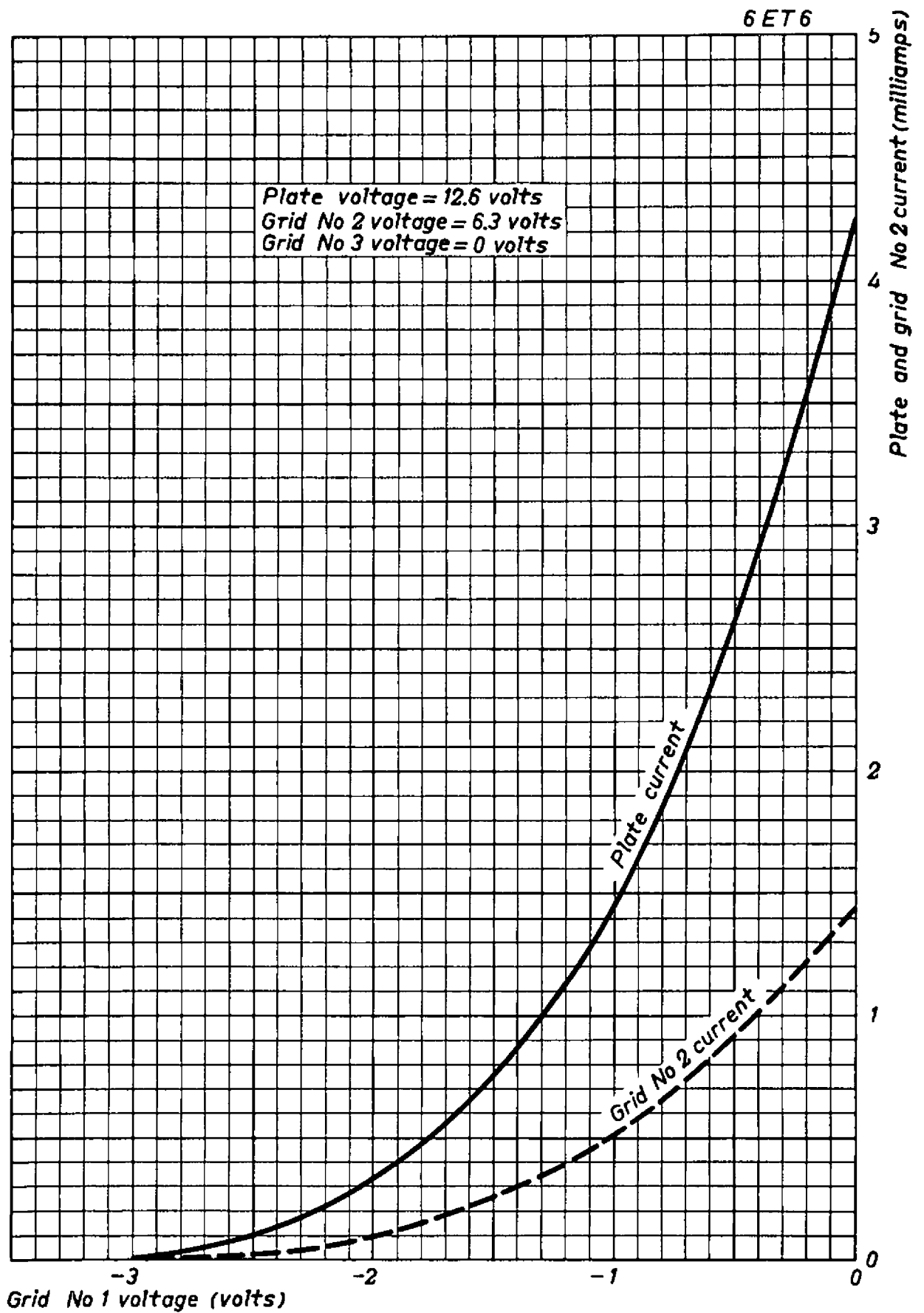
Plate voltage	25	12.6	6.3 volts
Grid No.2 voltage	6.3	6.3	3.2 volts
Grid No.3 voltage	0	0	0 volts
Grid No.1 bias ¹⁾	-0.75	-0.75	-0.8 volt
Plate current	2.2	2	0.6 mamps
Grid No.2 current	0.6	0.7	0.2 mamp
Transconductance	2100	2000	1000 micromhos
Plate resistance	0.09	0.2	0.1 megohm
Amplification factor of grid No. 2 with respect to grid No. 1	4.1	4.1	3.2

Operating characteristics as A.F. driver ³⁾

Plate voltage	25	12.6	14	6.3	7 volts
Grid No.2 voltage	12.6	12.6	14	6.3	7 volts
Grid No.3 voltage ²⁾	25	12.6	14	6.3	7 volts
Grid No.1 voltage ¹⁾	-2	-2.3	-2.4	-1.2	-1.3 volts
Plate + grid No. 3 current	3	2.1	2.5	1.1	1.2 mamps
A.C. load resistance	8000	6000	6000	5800	5800 ohms
Input A.F. voltage	1.2	1	1	0.4	0.4 volts(rms)
Power output	30	11	14	1.2	1.6 mwatts
Total harmonic distortion	10	10	10	10	10 %

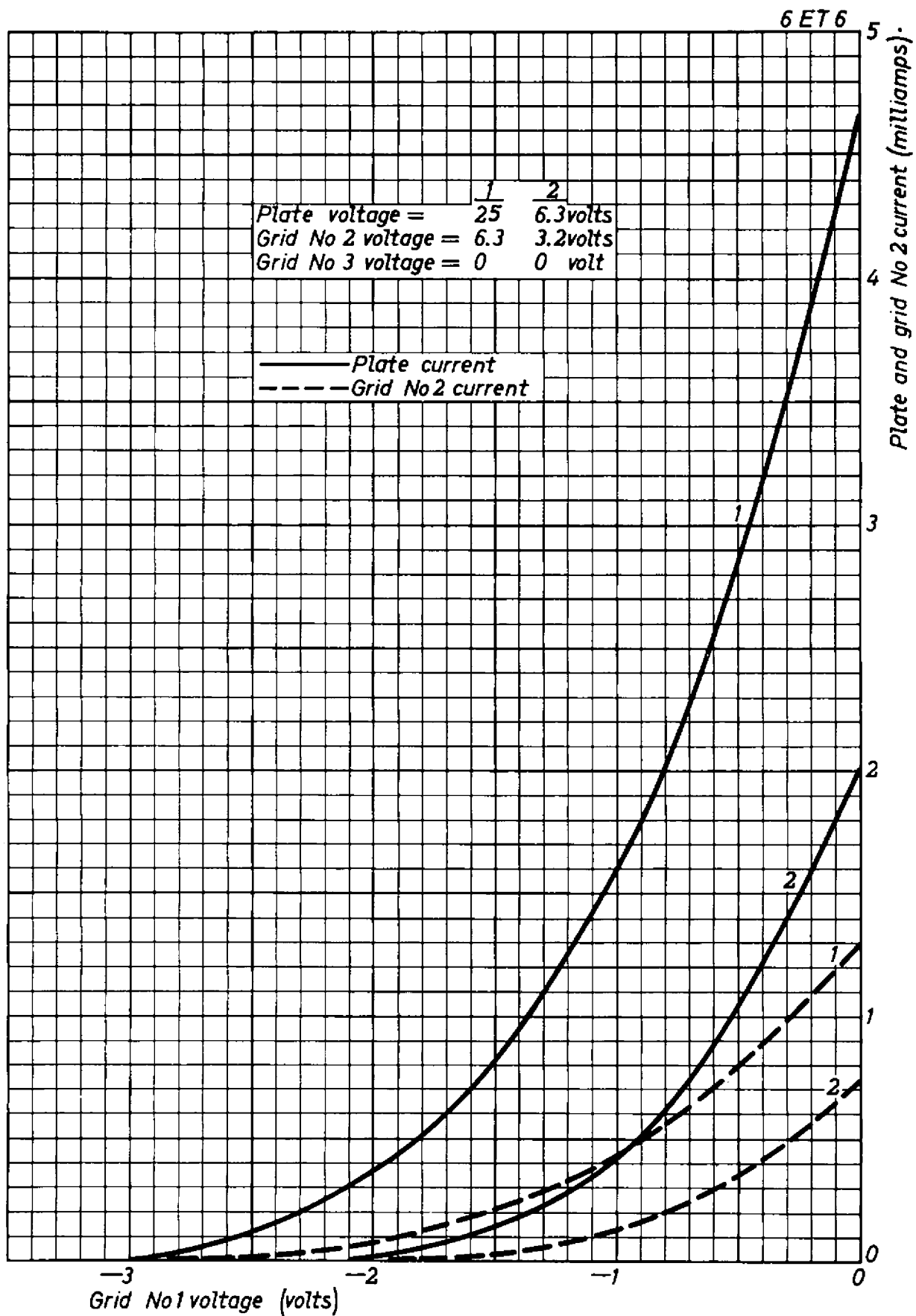
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- ¹) Nearly the same results can be obtained, when the grid No. 1 bias is obtained by grid current biasing with grid No. 1 resistor of 10 megohms
 - ²) Connection of grid No. 3 to anode is preferred
 - ³) Data at supply voltages of 7 volts and 14 volts have been added, because these values are normal praxis when the car is running

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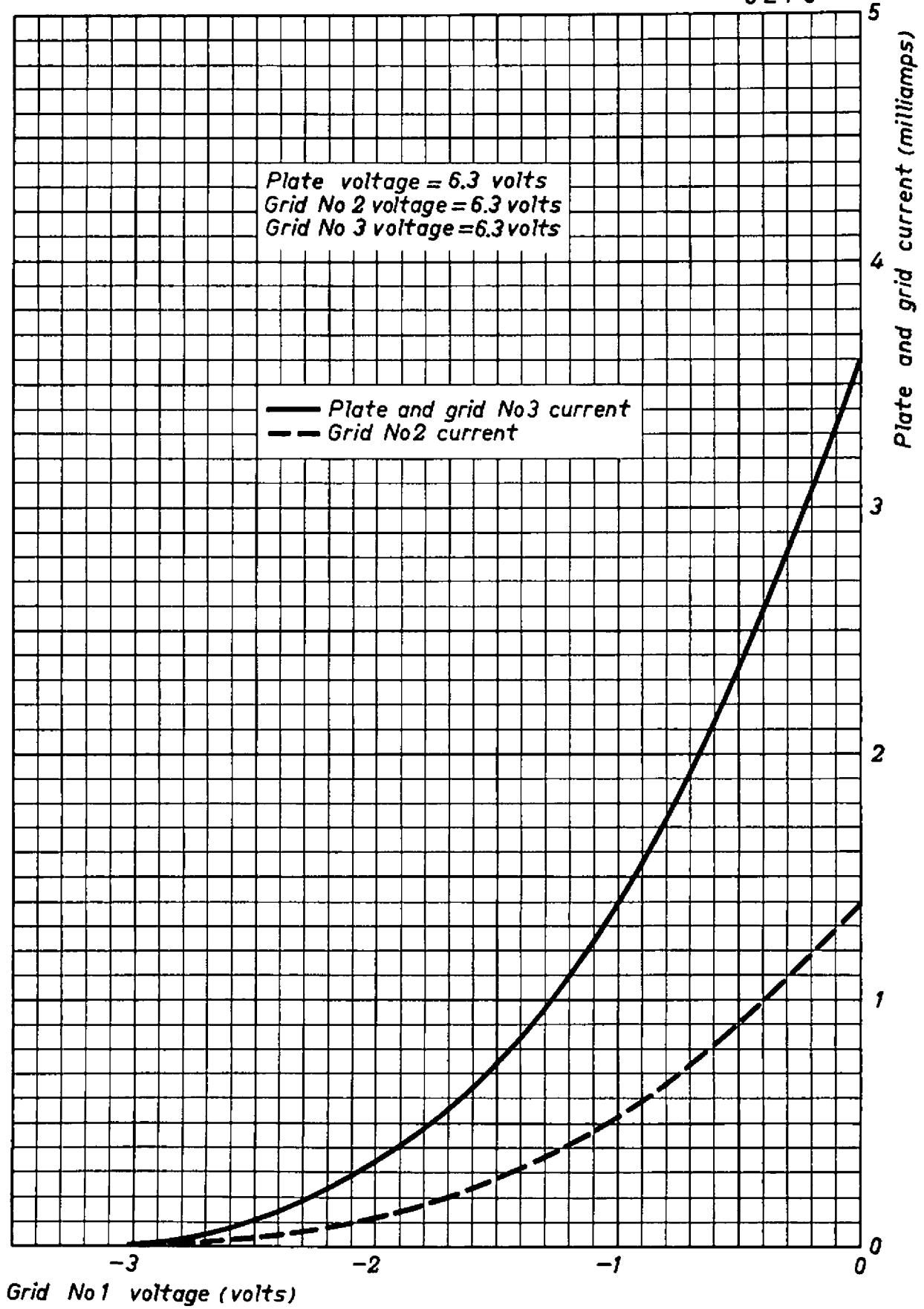


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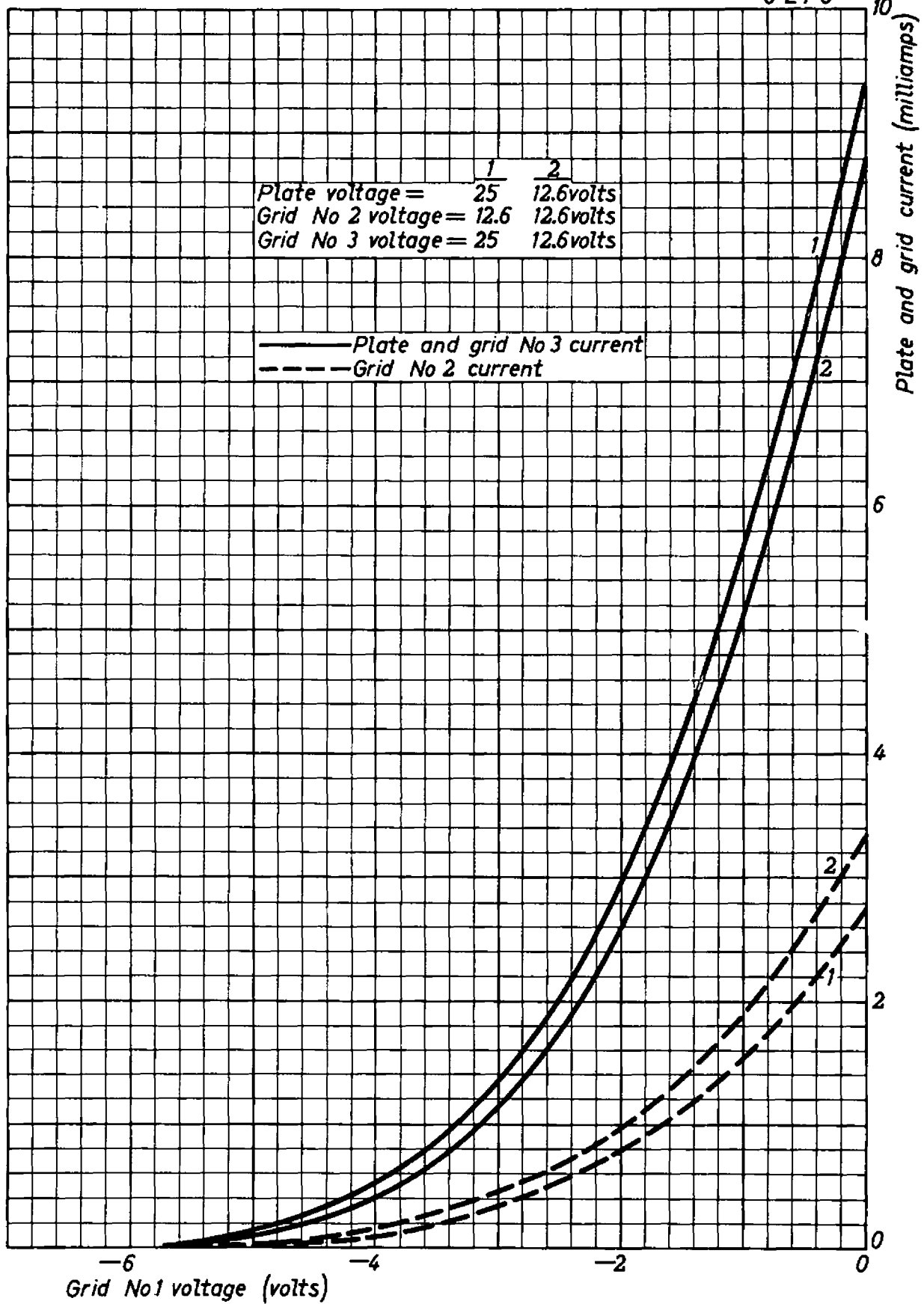
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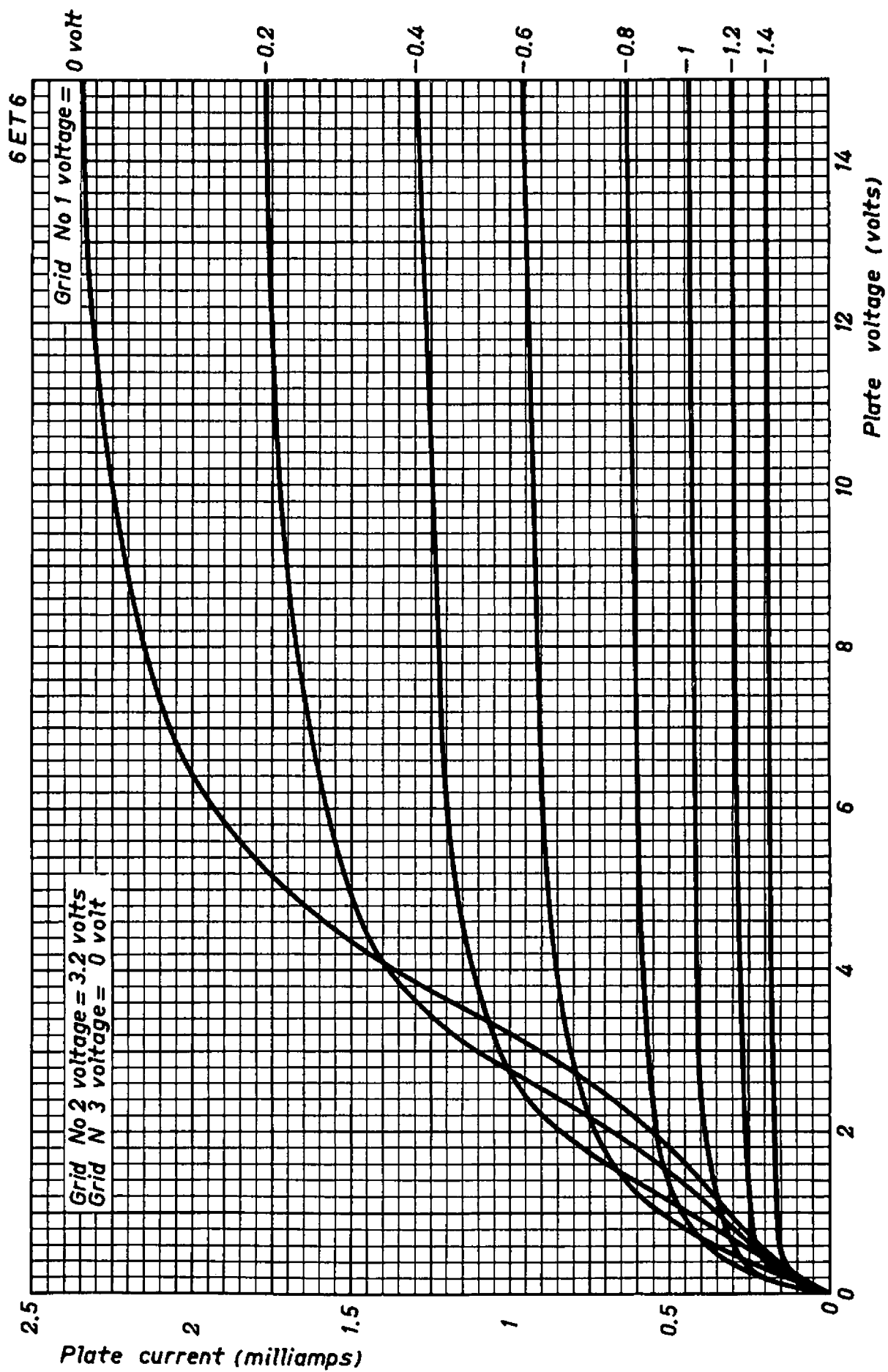


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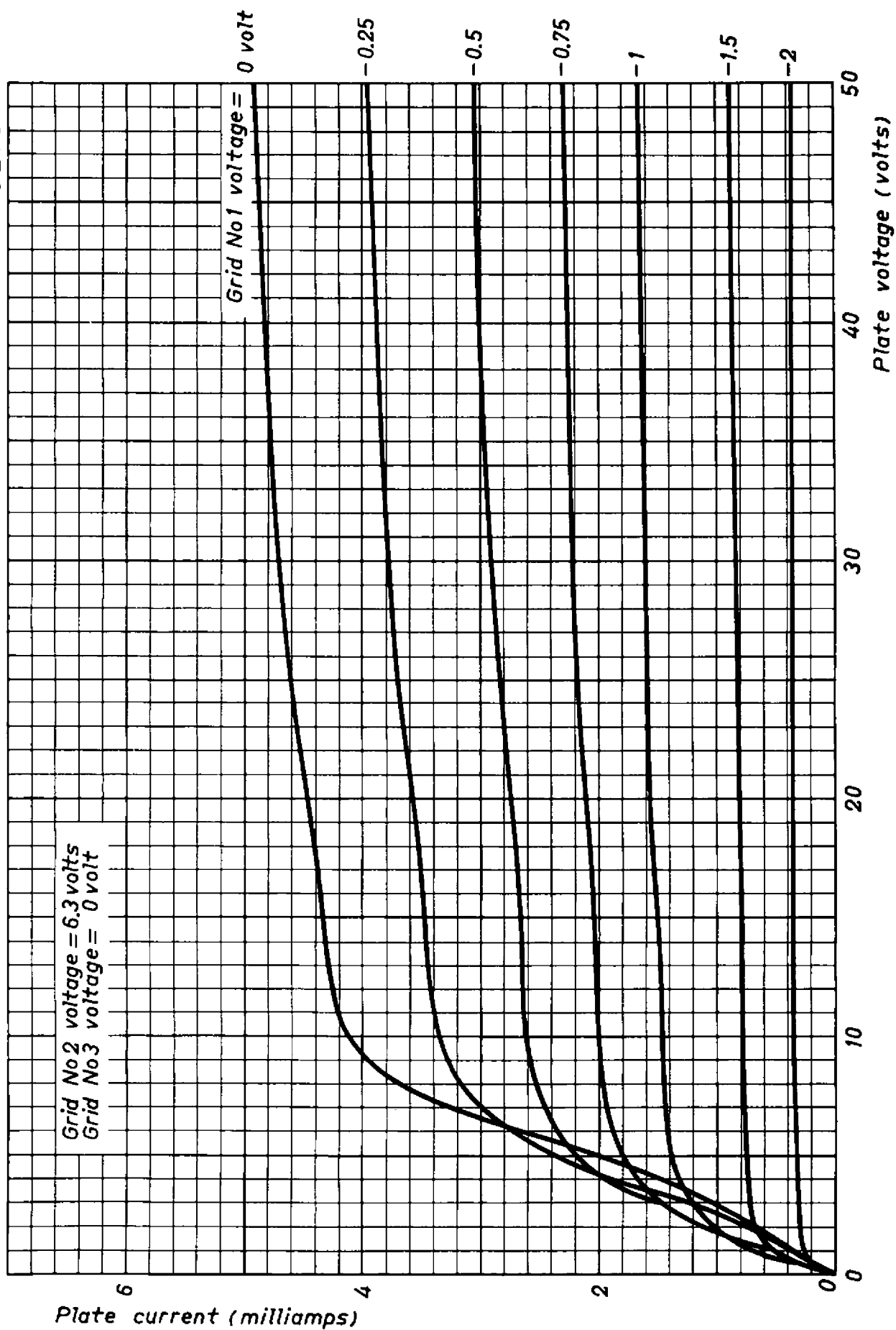


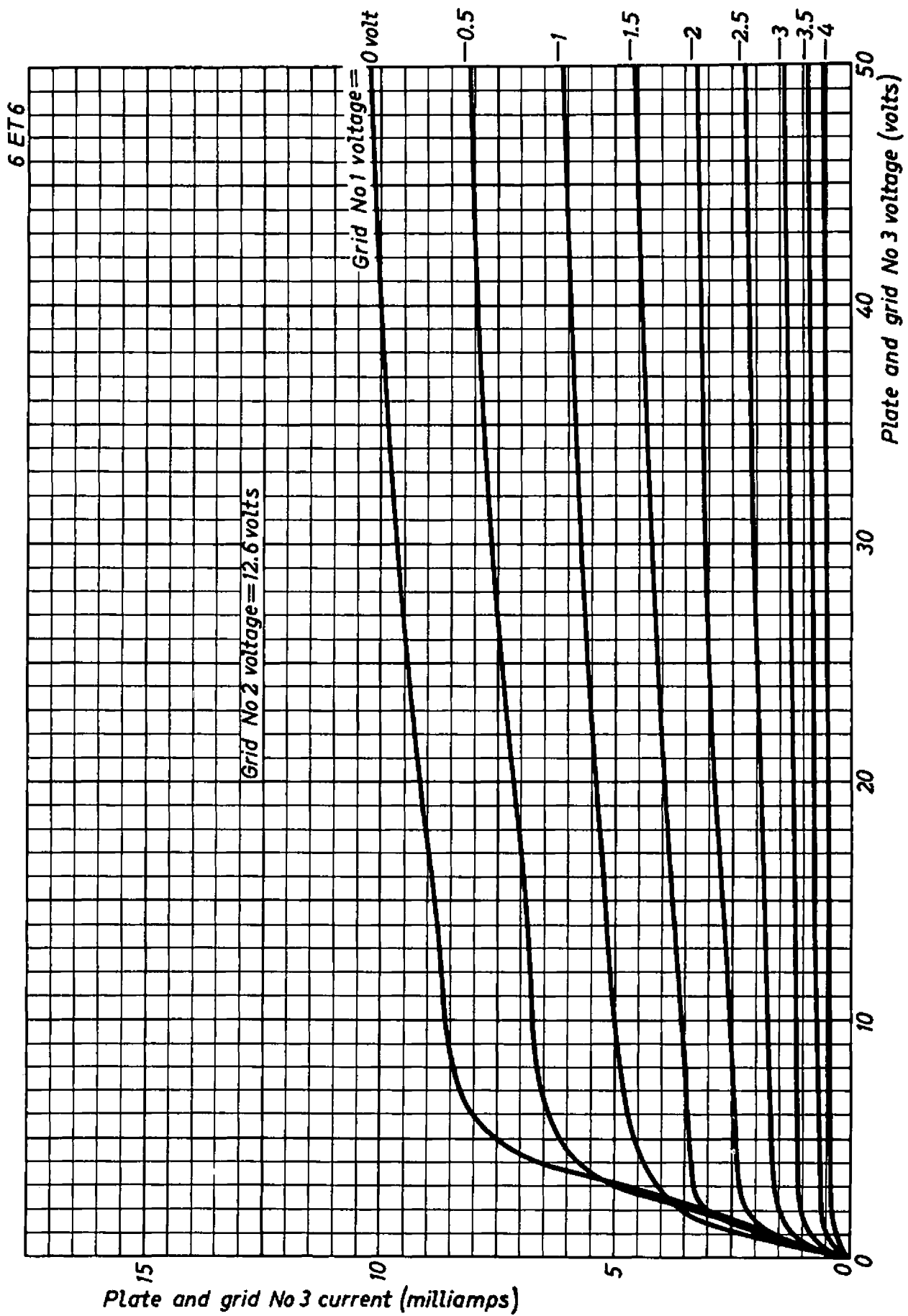
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Plate current (milliamps)

Grid No 2 voltage = 6.3 volts
Grid No 3 voltage = 6.3 volts

Grid No 1 voltage =

0 volt
-0.25
-0.5
-0.75
-1
-1.25
-1.5
-1.75
-2
-2.5

Plate voltage (volts)

25

20

15

10

5

0