

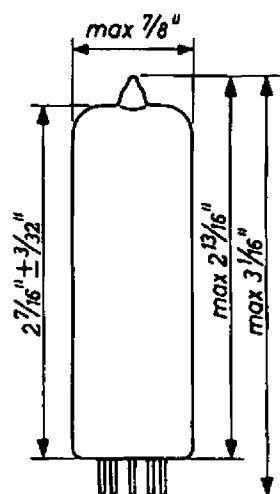
45B5

POWER PENTODE

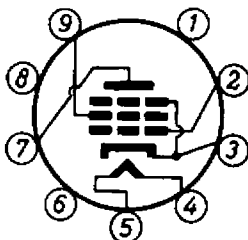
MECHANICAL DATA

Cathode	Coated unipotential
Base	E9-1
Bulb	T6½
Mounting position	Any
RETMA basing designation	9CV

TUBE OUTLINE



BOTTOM VIEW OF BASE



BASE PIN No.

ELEMENT

1	Internally connected
2	Grid No.1
3	Cathode, grid No.3
4	Heater
5	Heater
6	Internally connected
7	Plate
8	Internally connected
9	Grid No.2

ELECTRICAL DATA

HEATER DATA

Heater voltage	45 volts
Heater current	100 mamps

DIRECT INTERELECTRODE CAPACITANCES

Grid No.1 to all other elements except plate	12 μF
Plate to all other elements except grid No.1	6 μF
Plate to grid No.1	max. 0.6 μF
Grid No.1 to heater	max. 0.25 μF

MAXIMUM RATINGS (Design Center Values)

Plate voltage	250 volts
Plate voltage without plate current	550 volts
Plate dissipation	12 watts
Grid No.2 voltage	200 volts
Grid No.2 voltage without current	550 volts
Grid No.2 dissipation	1.75 watts
Grid No.2 peak dissipation	6 watts

MAXIMUM RATINGS (Design Center Values) continued

Cathode current	100 mamps
Grid No.1 circuit resistance with automatic bias	1 megohm
Voltage between heater and cathode	200 volts

TYPICAL CHARACTERISTICS

Plate voltage	100	170	200 volts
Grid No.2 voltage	100	170	- volts
Grid No.2 supply voltage	-	-	200 volts
Grid No.2 series resistor	-	-	470 ohms ¹⁾
Grid No.1 bias	-6.7	-12.5	-17.3 volts
Plate current	43	70	60 mamps
Grid No.2 current	3.0	5.0	4.1 mamps
Transconductance	9 000	10 000	8800 micromhos
Plate resistance	23 000	23 000	28 000 ohms
Amplification factor of grid No.2 with respect to grid No.1	8	8	8

OPERATING CHARACTERISTICS class A, one tube

Plate voltage	100	170	200 volts
Grid No.2 voltage	100	170	- volts
Grid No.2 supply voltage	-	-	200 volts
Grid No.2 series resistor	-	-	470 ohms ¹⁾
Grid No.1 bias	-6.7	-12.5	-17.3 volts
Plate load resistance	2400	2400	2400 ohms
Input A.F. grid No.1 voltage	4.3	7.0	7.8 volts(rms)
Zero-signal plate current	43	70	60 mamps
Max. signal plate current	43	70	62.5 mamps
Zero-signal grid No.2 current	3.0	5.0	4.1 mamps
Max.signal grid No.2 current	11	22	12.5 mamps
Total harmonic distortion	10	10	10 percents
Power output	1.9	5.6	5.2 watts

¹⁾Not bypassed

<u>OPERATING CHARACTERISTICS</u> class B push-pull, two tubes		
Plate voltage	100	170 volts
Grid No.2 voltage	100	170 volts
Grid No.1 bias	-11.4	-20.5 volts
Load resistance, plate to plate	3500	3500 ohms
Input A.F. grid No.1 voltage	7.9	14.6 volts(rms)
Zero-signal plate current	2x10	2x15 mamps
Max.-signal plate current	2x30.5	2x57.5 mamps
Zero-signal grid No.2 current	2x0.55	2x0.7 mamp
Max.-signal grid No.2 current	2x7.1	2x20.5 mamps
Total harmonic distortion	2.8	4.8 percents
Power output	3.7	13.5 watts

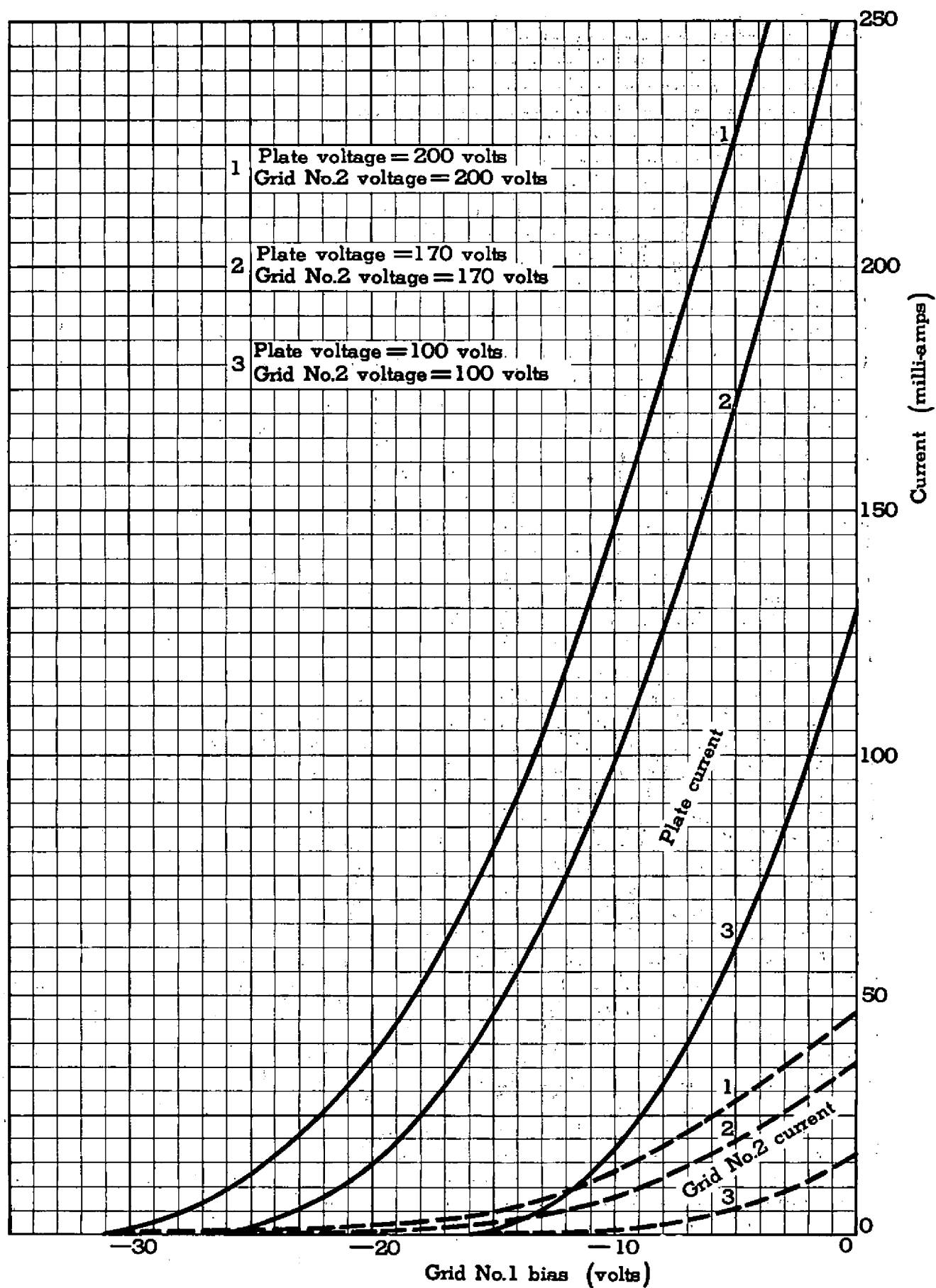
<u>OPERATING CHARACTERISTICS</u> class AB push-pull; two tubes		
Plate voltage	100	170 volts
Grid No.2 voltage	100	170 volts
Common cathode resistor	135	120 ohms
Load resistance, plate to plate	3500	3500 ohms
Input A.F. grid No.1 voltage	7.0	13.1 volts(rms)
Zero-signal plate current	2x29	2x56.5 mamps
Max.-signal plate current	2x31	2x57.5 mamps
Zero-signal grid No.2 current	2x1.6	2x3.0 mamps
Max.-signal grid No.2 current	2x7.0	2x20.5 mamps
Total harmonic distortion	3.0	4.5 percents
Output power	3.6	13.0 watts

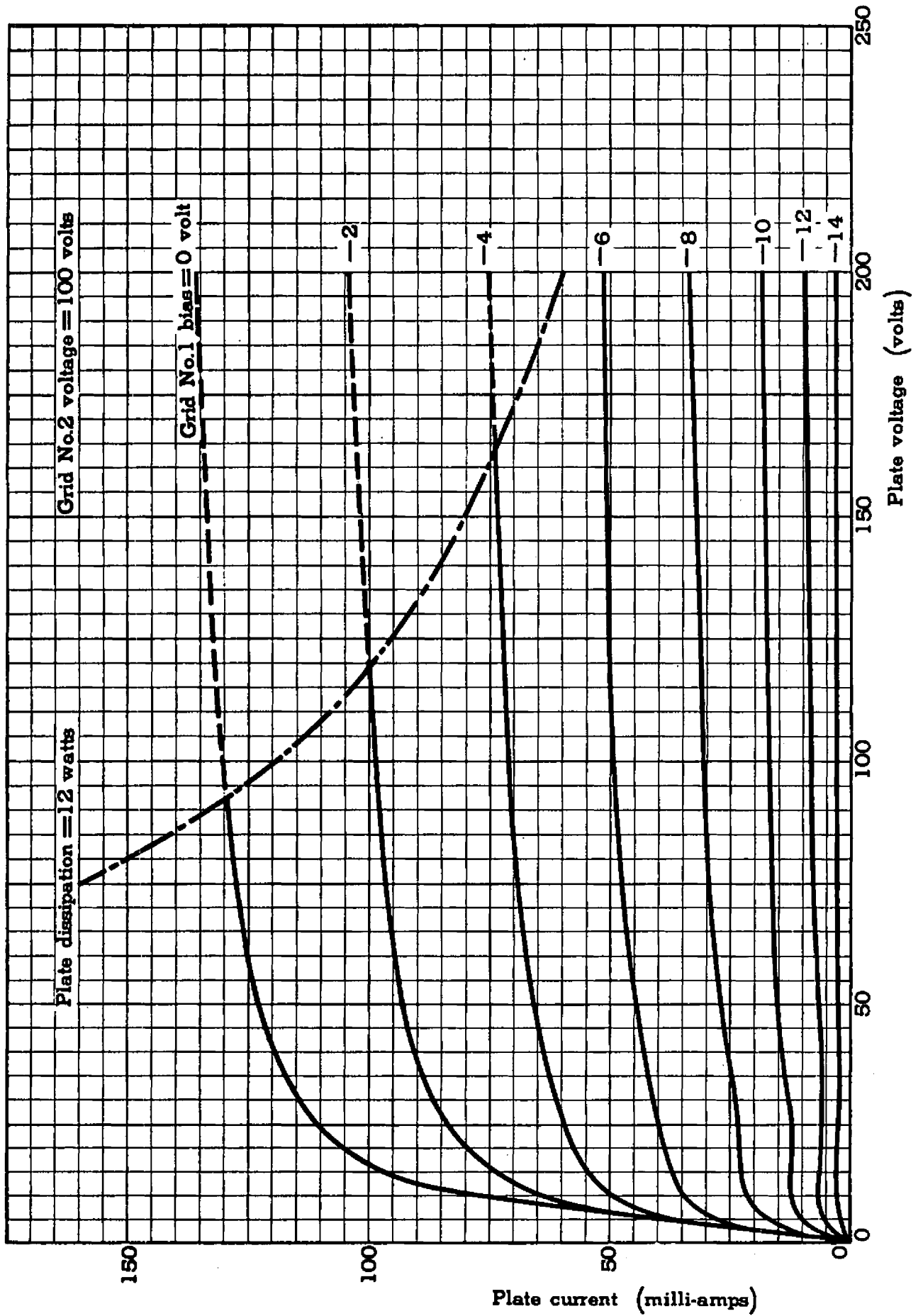
OPERATING CHARACTERISTICS IN TRIODE CONNECTION class A, one tube (Grid No.2 connected to plate)

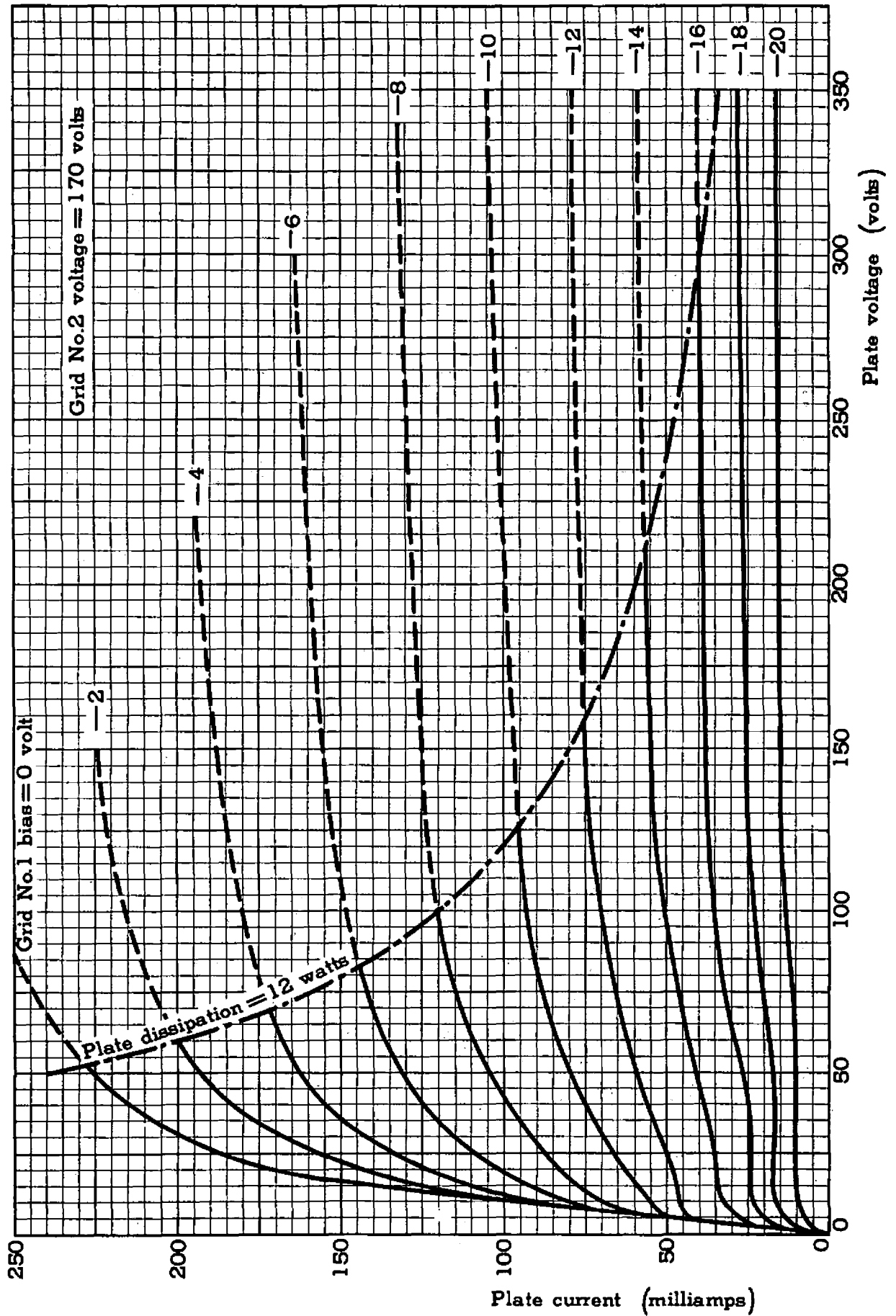
Plate voltage	100	170 volts
Grid bias	-8.0	-15.1 volts
Plate load resistance	1200	1200 ohms
Input A.F. grid voltage	5.7	10.8 volts(rms)
Zero-signal plate current	30	50 mamps
Max.-signal plate current	36.1	62 mamps
Total harmonic distortion	10	10 percents
Output power	0.52	2.1 watts

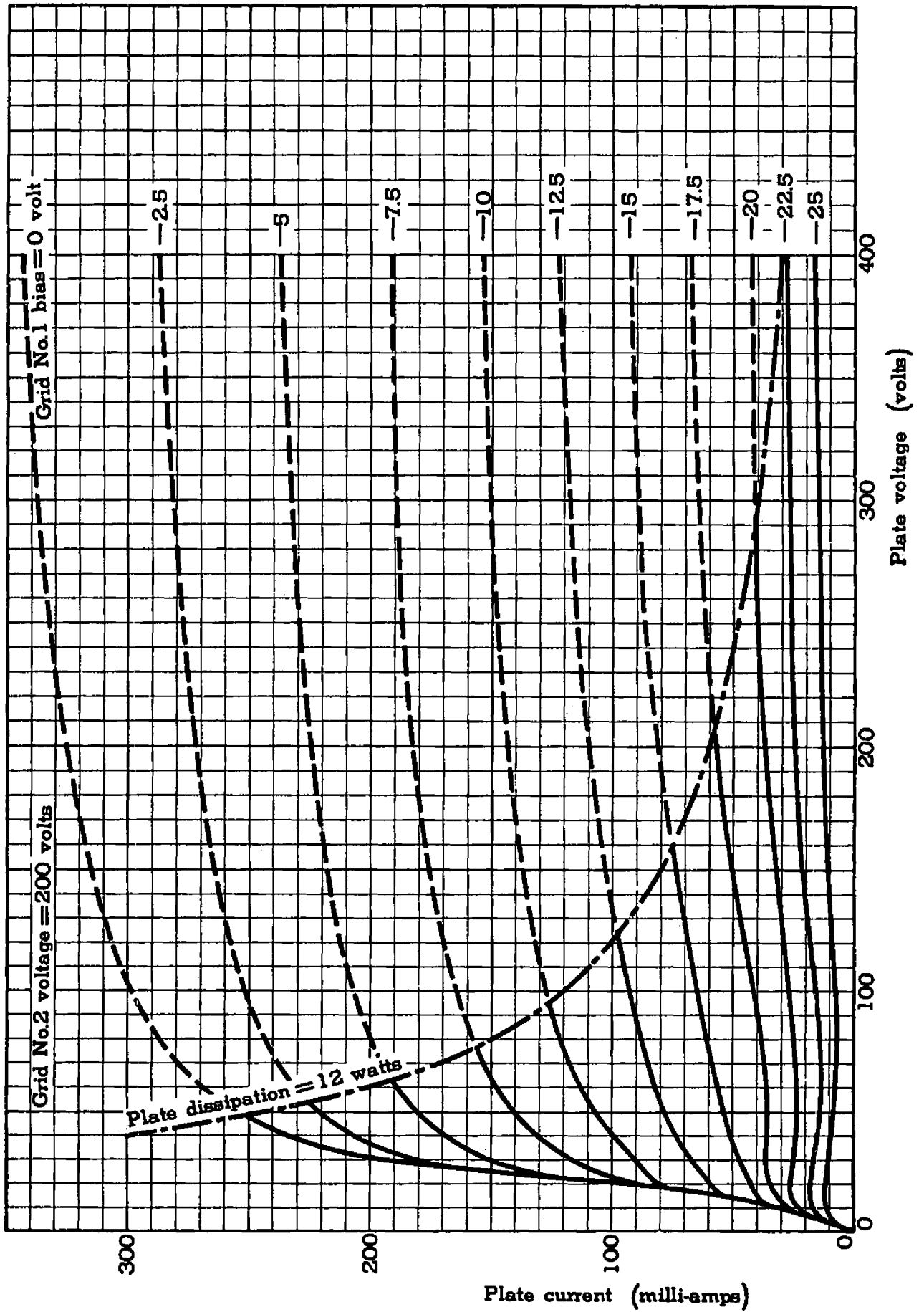
OPERATING CHARACTERISTICS IN TRIODE CONNECTION class AB push-pull, two tubes (Grid No.2 connected to plate)

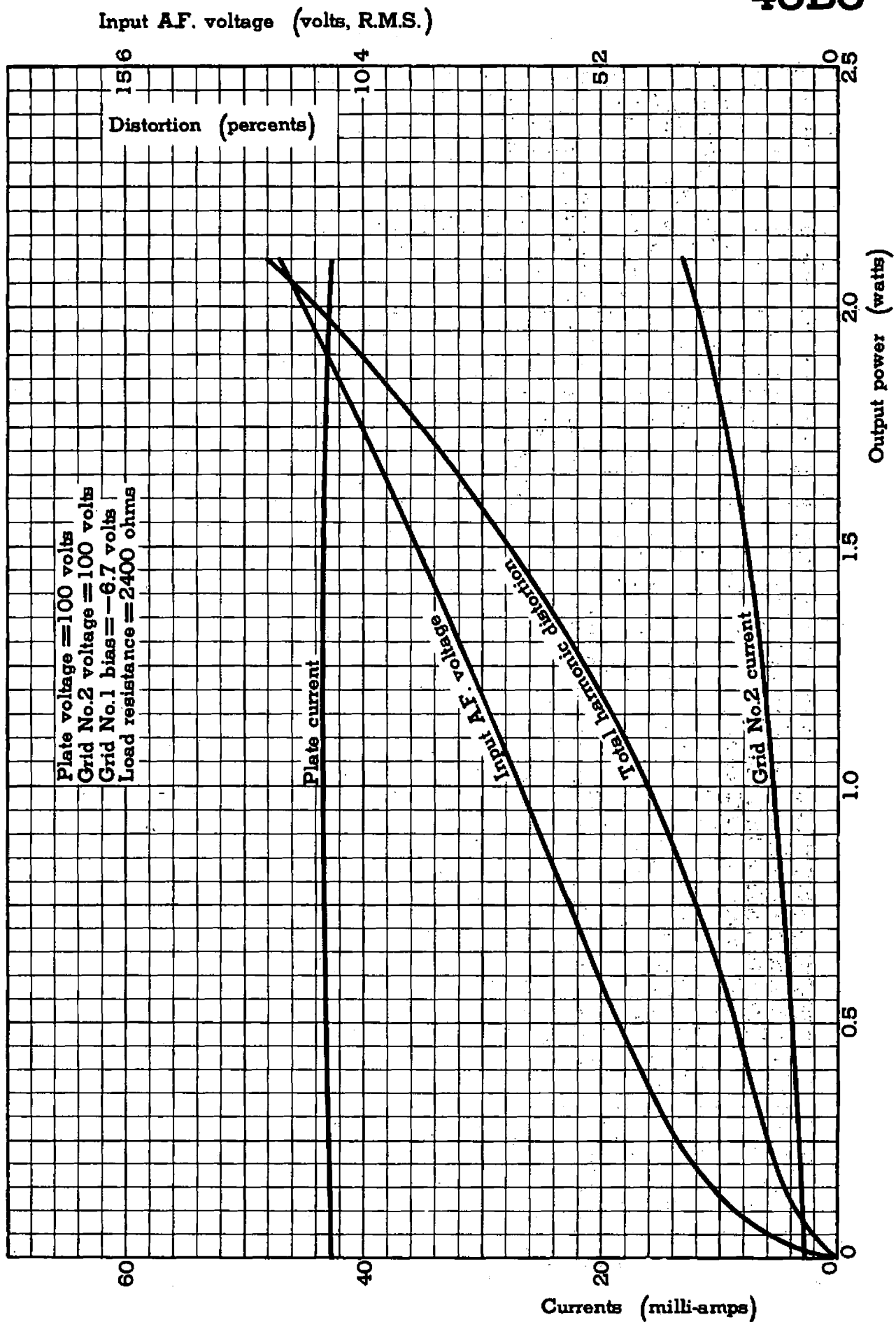
Plate voltage	100	170 volts
Cathode resistor	270	270 ohms
Load resistance, plate to plate	3500	3500 ohms
Input A.F. grid voltage	7.3	13.4 volts(rms)
Zero-signal plate current	2x18	2x32.5 mamps
Max.-signal plate current	2x20	2x36 mamps
Total harmonic distortion	3.2	3.8 per cents
Output power	1.0	3.9 watts

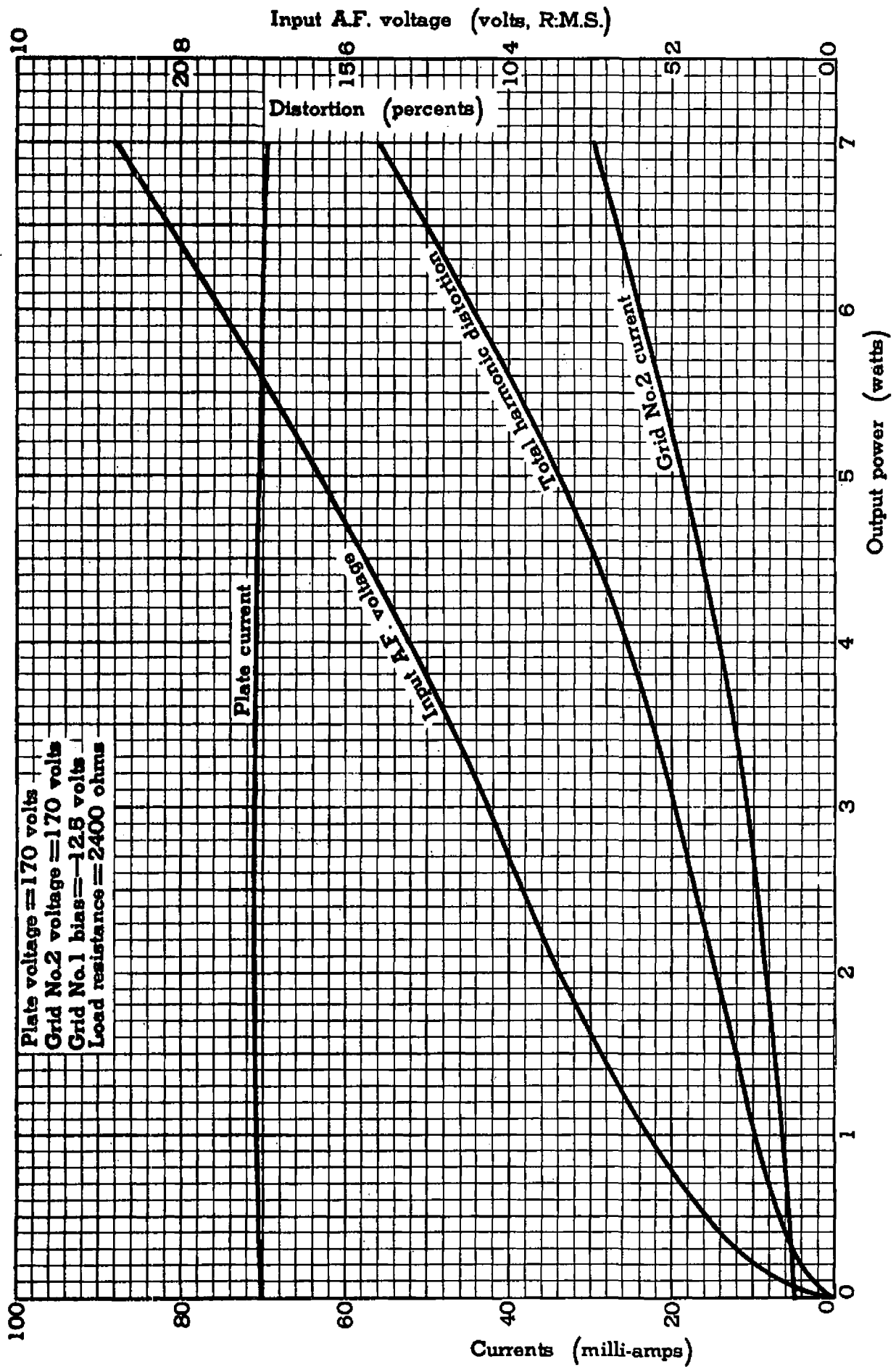


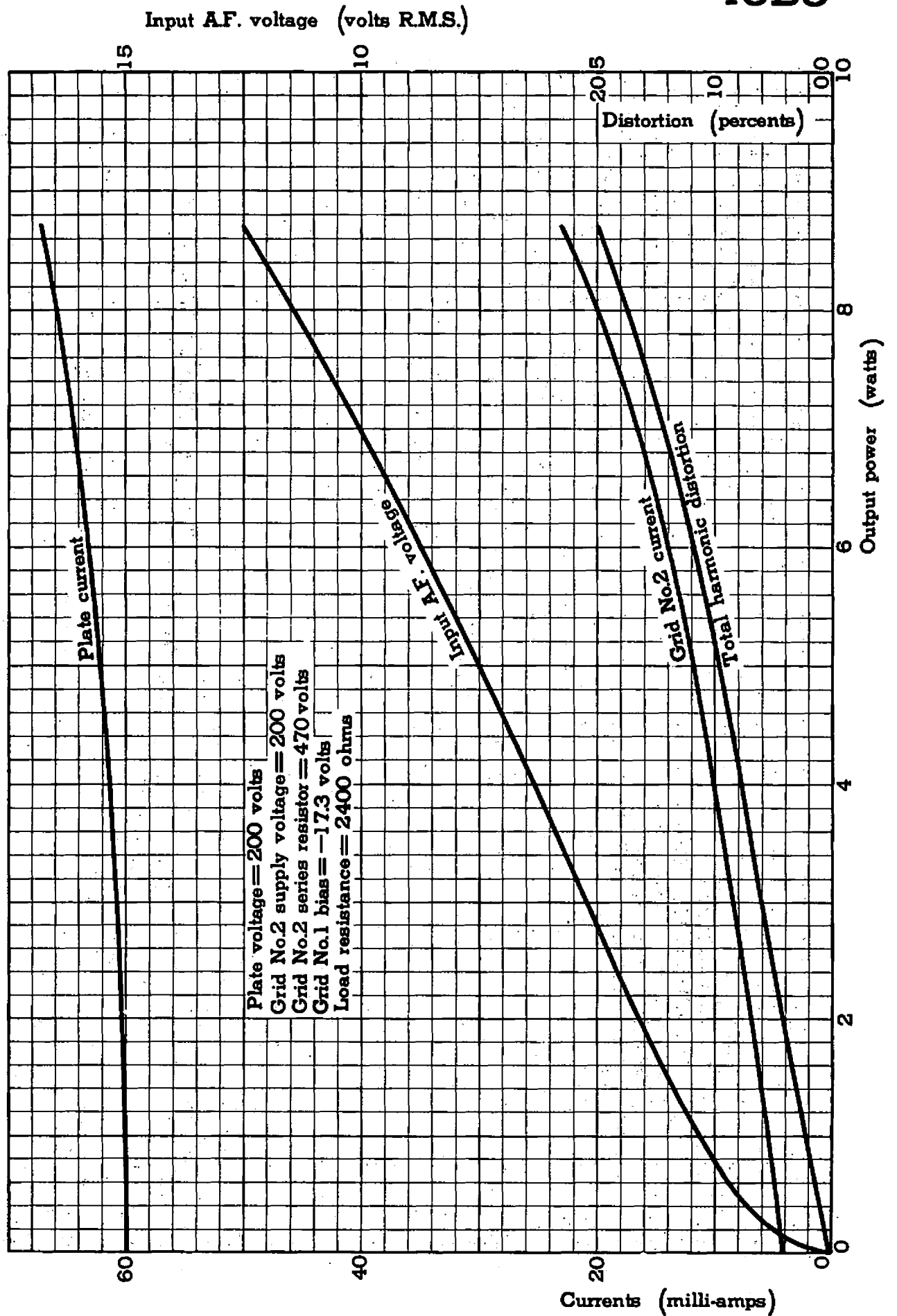












Input A.F. voltage (volts, RMS.)

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