

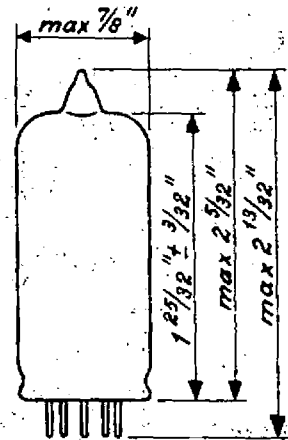
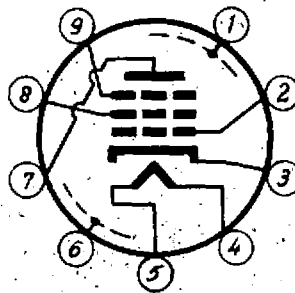
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R.F. PENTODE with variable transconductance for use as R.F., I.F. or A.F. amplifier

PHYSICAL SPECIFICATIONS

Cathode	Coated unipotential
Base	Small button noval 9-pin
Maximum overall length	2 13/32"
Maximum seated height	2 5/32"
Bulb length excluding tip	1 25/32" ± 3/32"
Maximum diameter	7/8"
Mounting position	any
Basing connections - JETEC basing designation	9BA

- Pin 1 - Internal shield
- Pin 2 - Grid No.1
- Pin 3 - Cathode
- Pin 4 - Heater
- Pin 5 - Heater
- Pin 6 - Internal shield
- Pin 7 - Plate
- Pin 8 - Grid No.2
- Pin 9 - Grid No.3



GENERAL ELECTRICAL DATA

Heater voltage	6.3 volts
Heater current	0.2 ampere

DIRECT INTERELECTRODE CAPACITANCES

Grid No.1 to all other elements	5.5 μF
Plate to all other elements	5.1 μF
Plate to grid No.1	max. 0.002 μF
Grid No.1 to heater	max. 0.05 μF

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MAXIMUM RATINGS (design center values)

Plate voltage	300 volts
Plate voltage (without current)	550 volts
Plate dissipation	2.25 watts
Grid No.2 voltage	300 volts
Grid No.2 voltage (without current)	550 volts
Grid No.2 dissipation	0.45 watt
Cathode current	16.5 mamps
Grid No.1 circuit resistance	+) 3 megohms
Grid No.1 current starting point. (Grid No.1 voltage at grid No.1 current = +0.3 μ amp)	-1.3 volts
External resistance between heater and cathode	20,000 ohms
Voltage between heater and cathode	100 volts
Grid No. 3 circuit resistance	10,000 ohms

TYPICAL CHARACTERISTICS

Plate voltage	250	250	170	volts
Grid No.2 voltage	100	85	100	volts
Grid No.3 voltage	0	0	0	volt
Plate current	9	9	12	mamps
Grid No.1 voltage	-2	-1 [*])	-1 [*])	volts
Grid No.2 current	3	3.2	4.4	mamps
Transconductance	3600	4000	4400	micromhos
Plate resistance	1 min.	0.8 min.	0.3	megohm

Amplification factor of
grid No.2 with respect
to grid No.1

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+) In case of grid current biasing max. 22 megohms

*) In this case grid current may occur. If grid current is not permissible, the negative grid bias should be increased to a value of 1.5 volts at least.

OPERATING CHARACTERISTICS as R.F. or I.F. amplifier

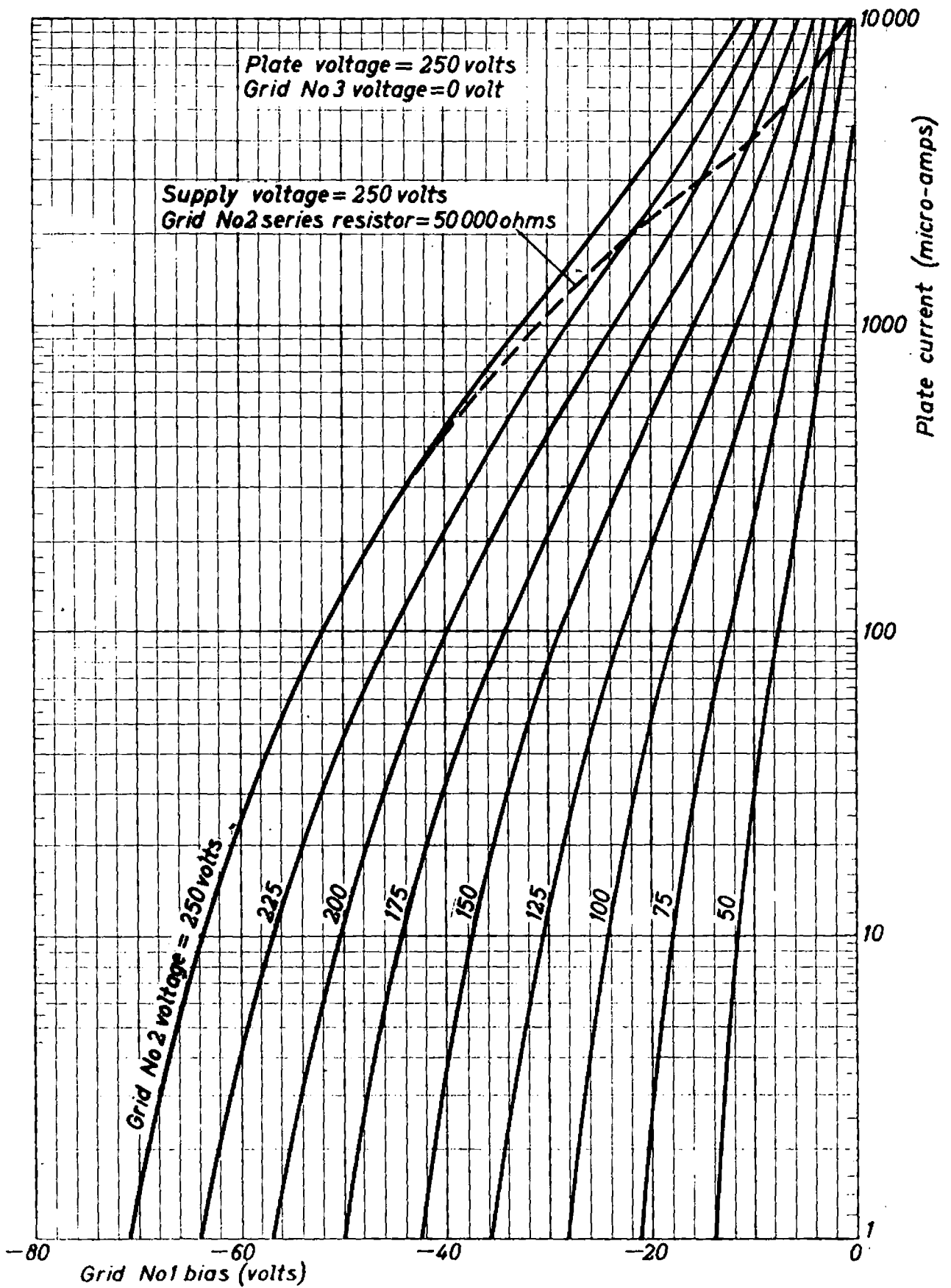
Supply voltage	250		200	volts	
Plate voltage	250		200	volts	
Grid No.3 voltage	0		0	volt	
Grid No.2 series resistor	51,000		24,000	ohms	
Cathode resistor	160		130	ohms	
Grid No.1 bias	-1.95	-20	-1.95	-20	volts
Plate current	9	-	11.1	-	mamps
Grid No.2 current	3	-	3.8	-	mamps
Transconductance	3500	240	3850	160	micromhos
Plate resistance	1	-	0.6	-	megohm
Equivalent noise resistance	4200	-	4200	-	ohms
Supply voltage	250		200	volts	
Plate voltage	250		200	volts	
Grid No.3 voltage	0		0	volt	
Grid No.2 series resistor	62,000		33,000	ohms	
Cathode resistor	0 ^x)		0 ^x)	ohm	
Grid No.1 resistor	1		1	megohm	
Grid No.1 voltage	0	-20	0	-20	volts
Plate current	9	-	11.25	-	mamps
Grid No.2 current	2.9	-	3.9	-	mamps
Transconductance	4700	220	5150	150	micromhos
Plate resistance	0.825	-	0.55	-	megohm
Equivalent noise resistance	2400	-	2500	-	ohms

^x) Grid current may occur when no A.V.C. voltage is applied.

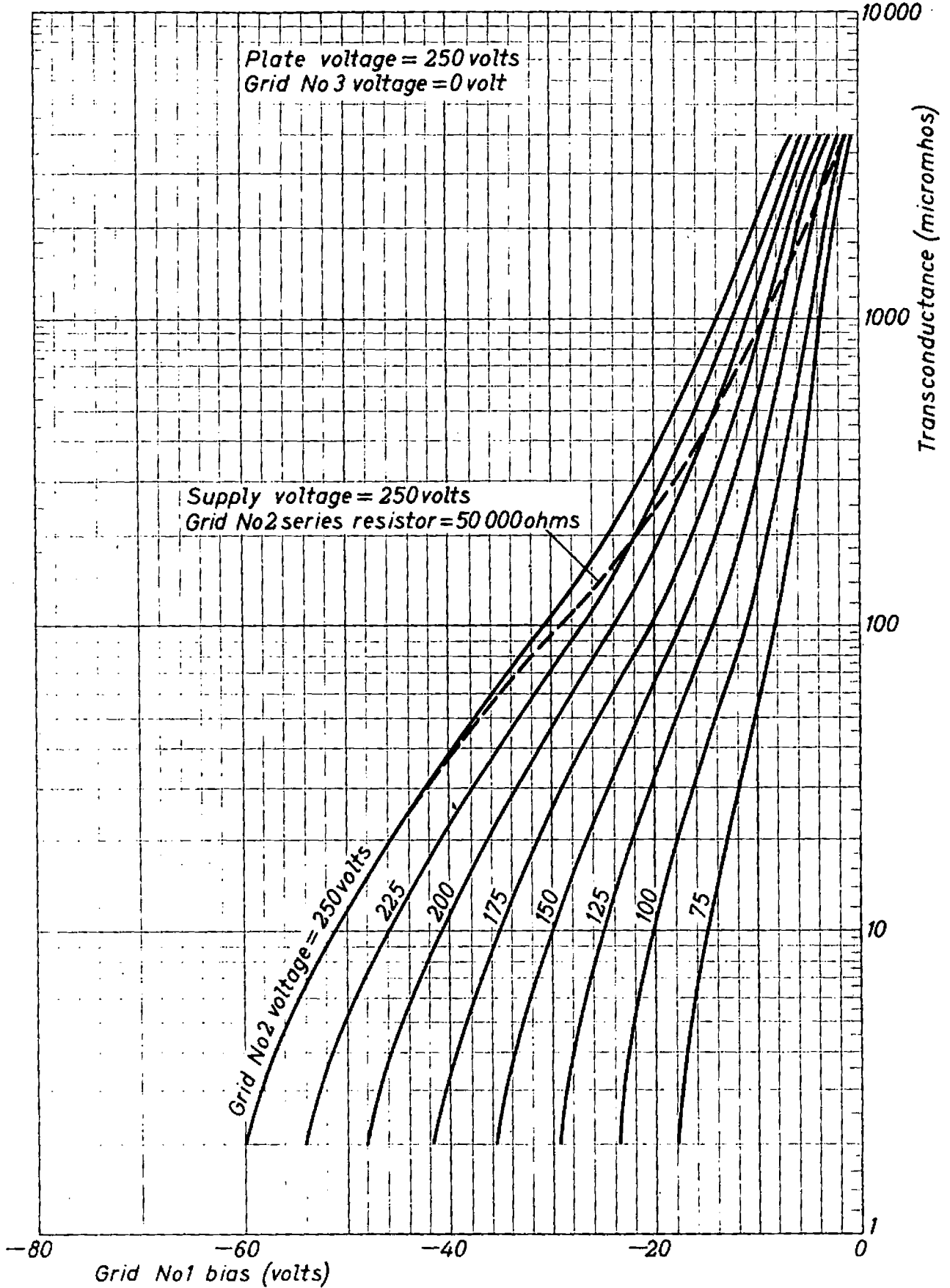
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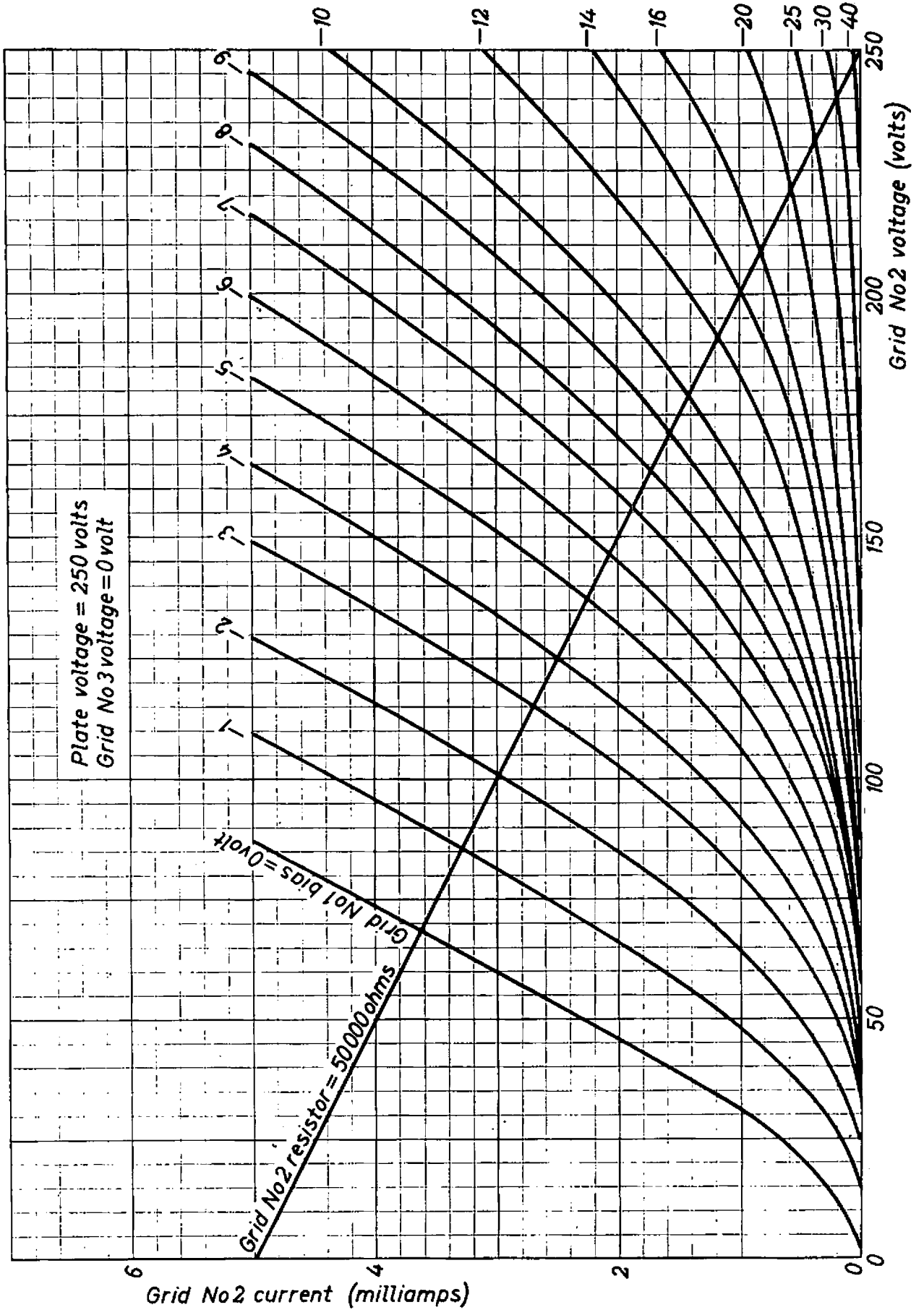
OPERATING CHARACTERISTICS as A.F. amplifier

Supply voltage	250	250	250	250 volts
Plate resistor	0.22	0.1	0.22	0.1 megohm
Grid No.2 series resistor	0.68	0.27	1.0	0.47 megohm
Grid No.1 resistor	1	1	10	10 megohms
Grid No.1 resistor of the following tube	1	1	1	1 megohm
Cathode resistor	1200	560	0	0 ohm
Plate current	0.92	2.05	0.79	1.50 mamps
Grid No.2 current	0.30	0.70	0.24	0.49 mamps
Voltage gain	135	115	240	170
Distortion at an out-put voltage of 3 V rms	0.35	0.2	0.5	0.85 percent
5 V rms	0.6	0.35	0.85	1.3 percent
8 V rms	1.05	0.5	1.3	1.9 percent
Supply voltage	200	200	200	200 volts
Plate resistor	0.22	0.1	0.22	0.10 megohm
Grid No.2 series resistor	0.68	0.27	1.2	0.47 megohm
Grid No.1 resistor	1	1	10	10 megohms
Grid No. 1 resistor of the following tube	1	1	1	1 megohm
Cathode resistor	1500	680	0	0 ohm
Plate current	0.73	1.60	0.55	1.20 mamp
Grid No.2 current	0.23	0.55	0.16	0.39 mamp
Voltage gain	112	100	200	150
Distortion at an out-put voltage of 3 V rms	0.6	0.5	0.65	0.85 percent
5 V rms	1.0	0.65	1.0	1.4 percent
8 V rms	1.6	0.7	1.55	2.1 percent



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