

PHILIPS

1AC6

PENTAGRID CONVERTER

Physical specifications

Filament	Coated
Base	Miniature button 7-pin
Bulb	T5½
Maximum overall length	2 1/8"
Maximum seated height	1 7/8"
Bulb length excluding tip	1 1/2" ± 3/32"
Maximum diameter	3/4"
Mounting position	any
Basing connections -	
JETEC basing designation	7DH

Pin 1 - filament

Bottom view of base

Tube outline

Pin 2 - plate

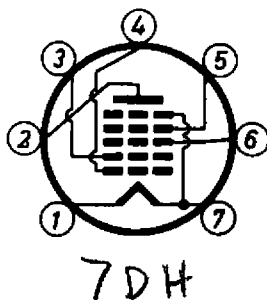
Pin 3 - grid No.2

Pin 4 - grid No.1

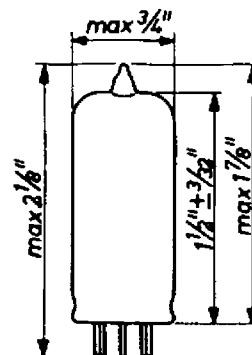
Pin 5 - grid No.4

Pin 6 - grid No.3

Pin 7 - +filament
and grid No.5



7DH



5-2

General Electrical Data

Filament voltage	1.4 volts
Filament current	50 m amps

Direct Interelectrode Capacitances

Plate to all other electrodes	8.4 μF
Grid No.3 to all other electrodes	7.5 μF
Grid No.2 to all other electrodes	4.8 μF
Grid No.1 to all other electrodes	3.9 μF
Plate to grid No.1	max. 0.11 μF

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Direct Interelectrode Capacitances (continued)

Plate to grid No.3	max.	0.36 $\mu\mu\text{F}$
Plate to grid No.2	max.	0.3 $\mu\mu\text{F}$
Grid No.2 to grid No.3		1.6 $\mu\mu\text{F}$
Grid No.1 to grid No.3	max.	0.2 $\mu\mu\text{F}$
Grid No.1 to grid No.2		3 $\mu\mu\text{F}$

Ratings (Design center values)

Battery voltage	max.	90 volts ¹⁾
Plate voltage	max.	90 volts
Plate dissipation	max.	0.15 watt
Grid No.4 voltage	max.	90 volts
Grid No.4 dissipation	max.	0.03 watt
Grid No.2 voltage	max.	60 volts
Grid No.2 dissipation	max.	0.2 watt
Cathode current	max.	4 ma
Grid No.3 circuit resistance	max.	3 megohms
Grid No.1 circuit resistance		max. 35,000 ohms
Grid No.1 current starting point.		
Grid No.1 voltage at grid No.1 current = +0.3 μ amp	max.	-0.2 volt
Filament voltage	min.	1.1 volts
Filament voltage	max.	1.6 volts

Characteristics of the oscillator section

(grid No.1 connected to +filament)

Plate voltage	63.5	85 volts
Grid No.4 voltage	63.5	60 volts
Grid No.3 voltage	0	0 volt
Grid No.2 voltage	30	30 volts
Grid No.2 current	2.2	2.5 ma
Transconductance of grid No.1 with respect to grid No.2	800	900 micromhos
Amplification factor of grid No. 2 with respect to grid No.1	7.5	7.5

¹⁾ Absolute permissible value of the battery voltage is max. 110 volts.

Operating characteristics

(separate excitation, no impedance in grid No.2 lead)

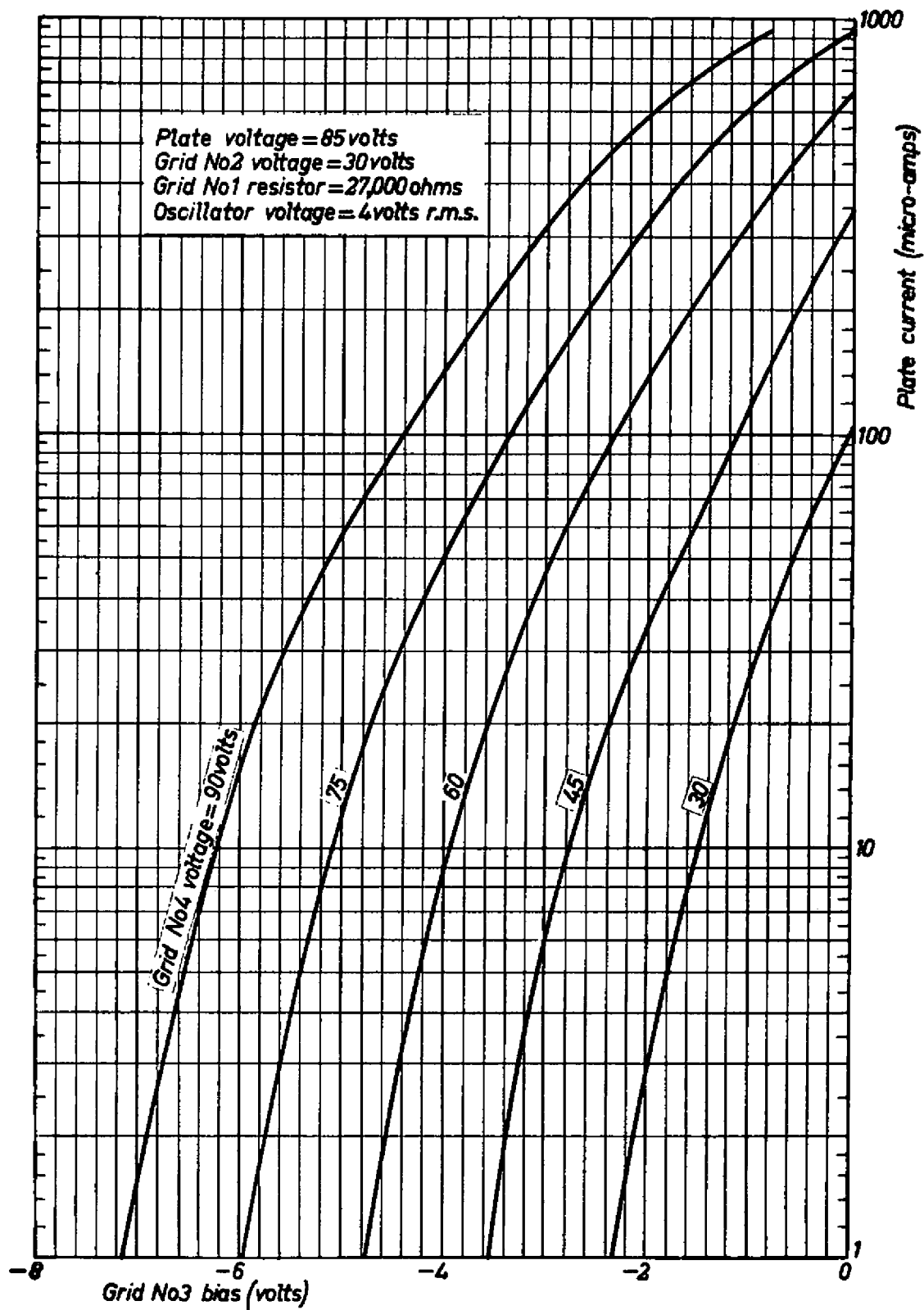
Anode voltage ¹⁾	63.5	85 volts
Grid No.4 voltage	63.5	60 volts
Grid No.4 resistor	0	0.18 megohm
Grid No.3 voltage	0	0 volts
Grid No.2 voltage	30	30 volts
Grid No.2 resistor	22,000	33,000 ohms
Grid No.1 A.C.voltage	4	4 volts,rms
Grid No.1 resistor	27,000	27,000 ohms ²⁾
Plate current	0.70	0.65 ma
Grid No.4 current	0.15	0.14 ma
Grid No.2 current	1.55	1.65 ma
Grid No.1 current	130	130 μ amp
Cathode current	2.5	2.6 ma
Conversion conductance	300	325 micromhos
Conversion conductance (grid No.3 voltage = -6 volts)	-	3.25 micromhos
Conversion conductance (grid No.3 voltage = -4 volts)	3.0	- micromhos
Plate resistance	0.9	1.0 megohm

¹⁾ Based on a battery voltage of 67.5 or 90 volts decreased with the negative bias for the output tube.

²⁾ Connected to +filament.

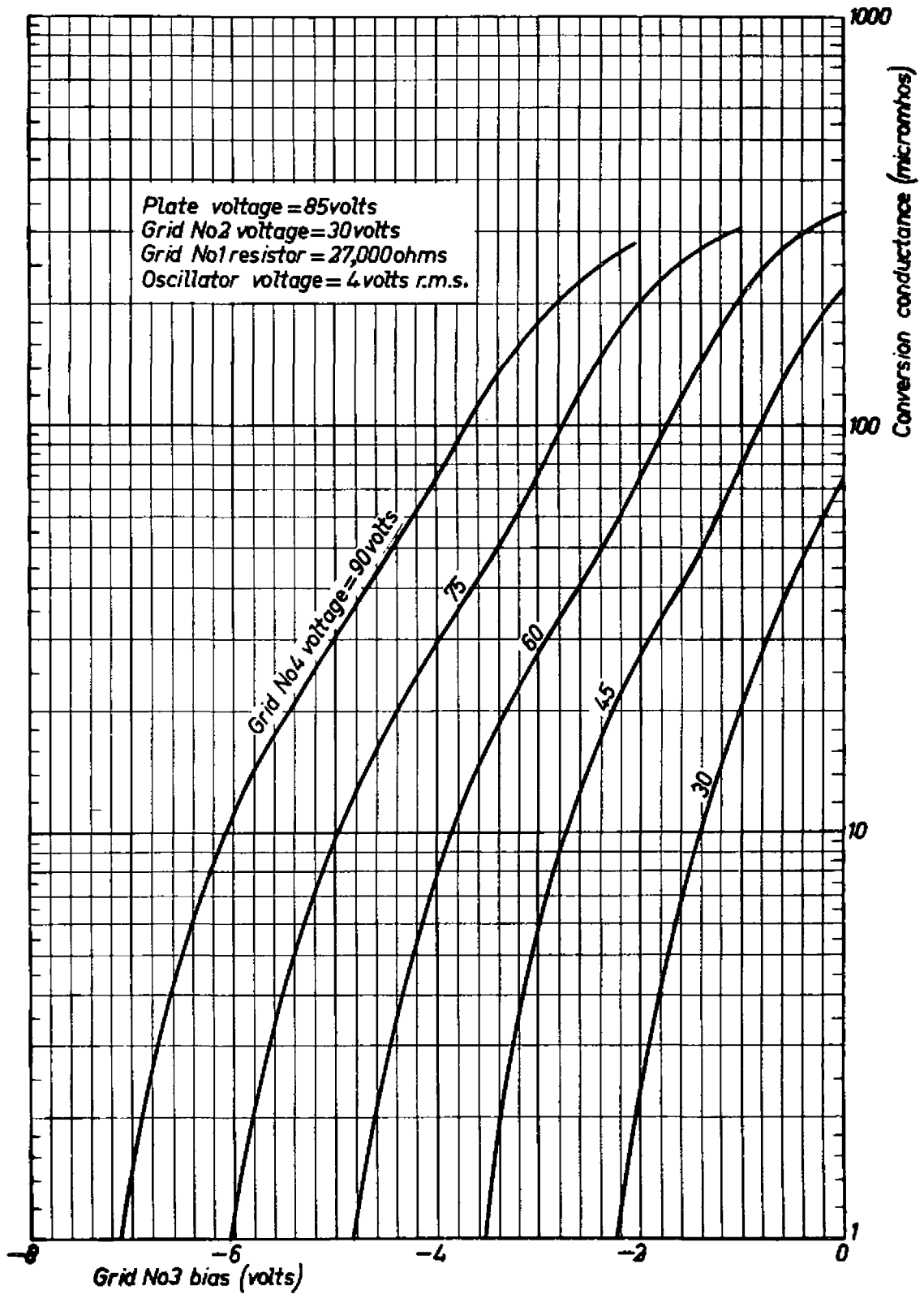
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