



IE 8

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PENTAGRID CONVERTER

SUBMINIATURE TYPE

GENERAL DATA

Electrical:

Filament, Coated:

Voltage	1.25	dc volts
Current	0.04	amp

Direct interelectrode Capacitances:⁰

Grid No.3 to All Other Electrodes (RF Input).	6	μ f
Plate to All Other Electrodes (Mixer Input) .	5	μ f
Grid No.1 to All Other Electrodes (Osc. Input)	2.4	μ f
Grid No.3 to Plate . . .	0.4 max.	μ f
Grid No.3 to Grid No.1 .	0.2 max.	μ f

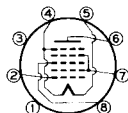
⁰ with no external shield.

Mechanical:

Mounting Position	Any
Maximum Overall Length	1-3/4"
Maximum Seated Length	1-1/2"
Length, Base Seat to Bulb Top (excluding tip)	1.200" \pm 0.060"
Maximum Diameter	0.4"
Bulb	T-3
Base	Small-Button Sub-minar 8-Pin

BOTTOM VIEW

- Pin 1 - Internal Connection- Do Not Use
- Pin 2 - Grid No.1
- Pin 3 - No Connection



- Pin 4 - Filament (-), Grid No.5
- Pin 5 - Filament (+)
- Pin 6 - Plate
- Pin 7 - Grid No.2, Grid No.4
- Pin 8 - Grid No.3

CONVERTER

Maximum Ratings, Design-Center Values:

PLATE VOLTAGE	67.5 max.	volts
GRIDS-No.2 & No.4 (SCREEN) VOLTAGE . . .	45 max.	volts
GRIDS-No.2 & No.4 SUPPLY VOLTAGE	67.5 max.	volts
TOTAL CATHODE CURRENT	4.0 max.	ma

Characteristics - Separate Excitation:#

Plate Voltage	30	45	67.5	volts
Grids-No.2 & No.4 Supply Voltage	30	45	67.5	volts
Grids-No.2 & No.4 Resistor	10000	15000	20000	ohms

The characteristics shown under separate excitation approximate those obtained in a self-excited oscillator operating with zero bias.

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Grid-No.3 (Control-Grid)			
Voltage	0	0	0 volts
Grid-No.1 (Oscillator-Grid)			
Resistor	0.1	0.1	0.1 megohm
Plate Resistance (Approx.)	0.3	0.4	0.4 megohm
Conversion Transconductance	115	140	150 μ hos
Grid-No.3 Voltage (Approx.) for conversion transconductance of 5 μ hos	-7	-8	-9 volts
Plate Current	0.3	0.6	1.0 ma
Grids-No.2 & No.4 Current	0.8	1.1	1.5 ma
Grid-No.1 Current	30	50	70 μ amp
Total Cathode Current	1.1	1.7	2.5 ma

NOTE: The transconductance between grid No.1 and grids No.2 & No.4 connected to plate (not oscillating) is approximately 730 micromhos under the following conditions: signal applied to grid No.1 at zero bias; grids No.2 & No.4 and plate at 30 volts; and grid No.3 grounded. Under the same conditions, the total cathode current is 3 milliamperes and the amplification factor is 3.9.



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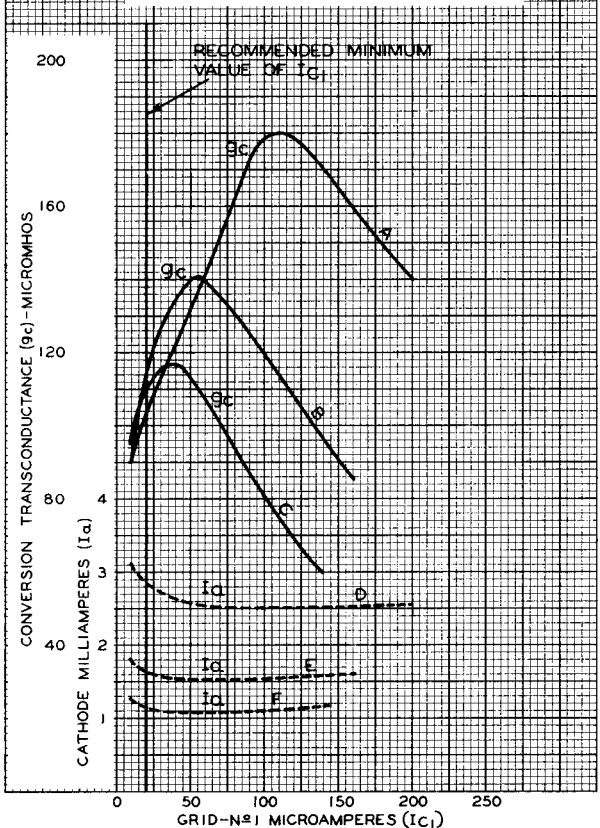
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OPERATION CHARACTERISTICS WITH SEPARATE OSCILLATOR EXCITATION

 $E_f = 1.25$ VOLTS DC

CURVE	PLATE VOLTS	GRIDS N ^o 2 & N ^o 4		GRID-N ^o 1 RESISTOR MEGOHMS
		SUPPLY VOLTS ^o	SERIES RESISTOR OHMS	
A, D	67.5	67.5	20000	0.1
B, E	45	45	15000	0.1
C, F	30	30	10000	0.1

^o APPLIED THROUGH SERIES RESISTOR OF VALUE INDICATED



1E8



1E8

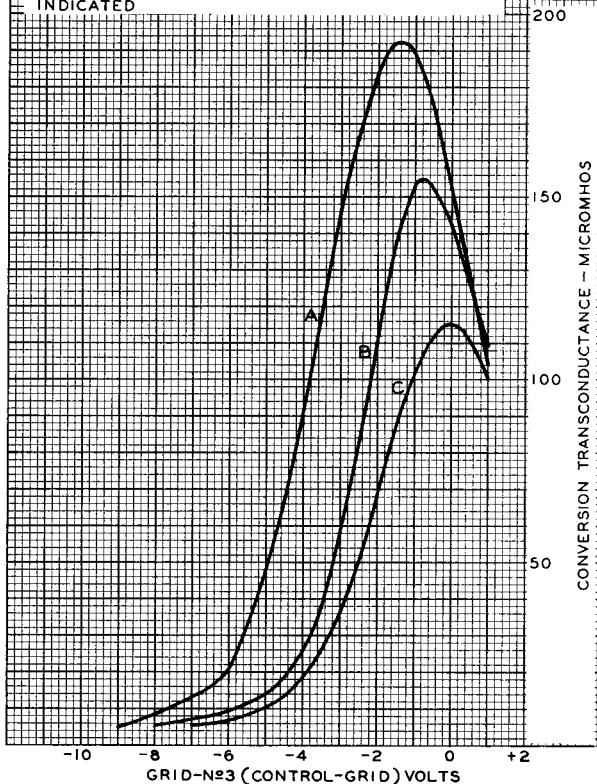
OPERATION CHARACTERISTICS WITH SEPARATE OSCILLATOR EXCITATION

 $E_p = 1.25$ VOLTS D C

CURVE	PLATE VOLTS	GRIDS №2 & №4		GRID-№1 RESISTOR MEGOHMS	GRID-№1 CURRENT μ AMP*
		SUPPLY VOLTS ^D	SERIES RESISTOR OHMS		
A	30	30	10000	0.1	30
B	45	45	15000	0.1	50
C	67.5	67.5	20000	0.1	70

* OBTAINED BY ADJUSTMENT OF OSCILLATOR GRID VOLTAGE TO GIVE INDICATED VALUES

^D APPLIED THROUGH SERIES RESISTOR OF VALUE INDICATED



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