



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

⁰ with no external shield.**Mechanical:**

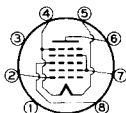
Mounting Position	Any
Maximum Overall Length	1-3/4"
Maximum Seated Length	1-1/2"
Length, Base Seat to Bulb Top (excluding tip)	1.200" $\pm$ 0.060"
Maximum Diameter	0.4"
Bulb	T-3
Base	Small-Button Sub-minar 8-Pin

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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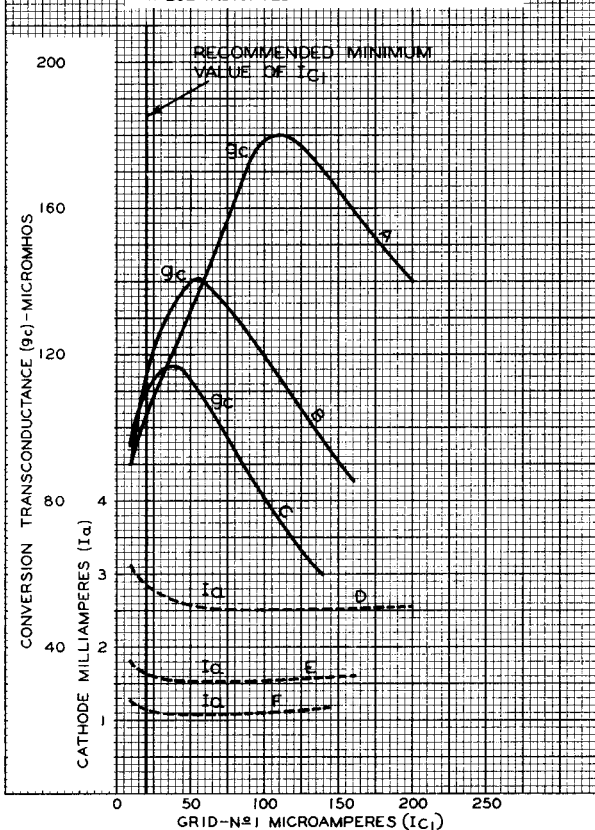
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OPERATION CHARACTERISTICS WITH SEPARATE OSCILLATOR EXCITATION

 $E_f = 1.25$ 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



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TUBE DEPARTMENT
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

92CM-7165

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OPERATION CHARACTERISTICS WITH SEPARATE OSCILLATOR EXCITATION

$E_f = 1.25$ VOLTS D C

CURVE	PLATE VOLTS	GRIDS №2 & №4		GRID-№1 RESISTOR MEGOHMS	GRID-№1 CURRENT μ AMP*
		SUPPLY VOLTS [□]	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

[□]APPLIED THROUGH SERIES RESISTOR OF VALUE INDICATED

