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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:⁰Grid No.3 to All Other
Electrodes (RF Input). 6 μf Plate to All Other Elec-
trodes (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

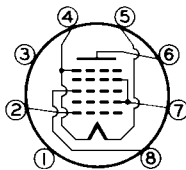
Base Small-Button Sub-minar 8-Pin

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.

SEPT. 15, 1949

TUBE DEPARTMENT

TENTATIVE DATA

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY



PENTAGRID CONVERTER

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 mhos
Grid-No.3 Voltage (Approx.)			
for conversion transconductance			
of 5 μ mhos	-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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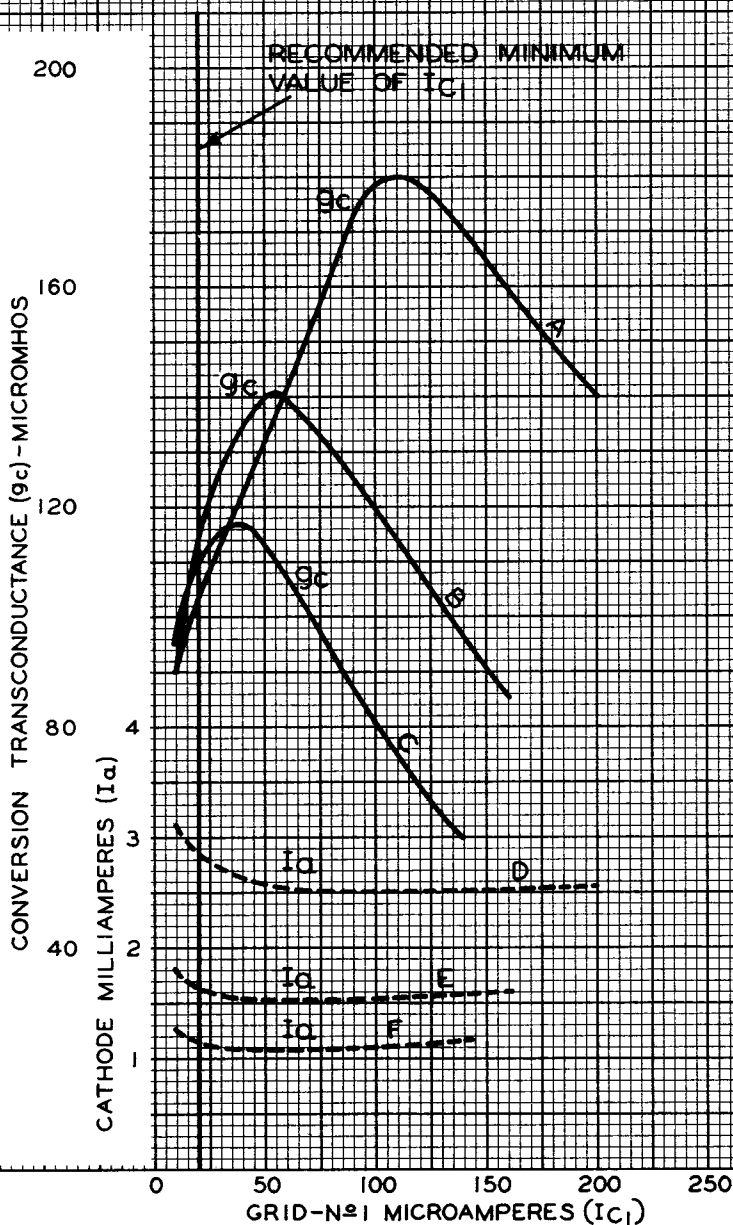
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OPERATION CHARACTERISTICS WITH SEPARATE OSCILLATOR EXCITATION

 $E_f = 1.25$ 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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OPERATION CHARACTERISTICS
WITH SEPARATE OSCILLATOR EXCITATION $E_f = 1.25$ VOLTS D C

CURVE	PLATE VOLTS	GRIDS No 2 & No 4		GRID-No 1 RESISTOR MEGOHMS	GRID-No 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