



6SA7, 6SA7-GT/G

PENTAGRID CONVERTER

6SA7
6SA7-GT/G

Heater ■ Coated Unipotential Cathode
 Voltage 6.3 a-c or d-c volts
 Current 0.3 amp.

Direct Interelectrode Capacitances:	6SA7	6SA7-GT/G	
Grid #3 to All Other Electrodes (R-F Input)	9.5 [▲]	11 ^{▲▲}	μf
Plate to All Other Electrodes (Mixer Output)	12 [▲]	11 ^{▲▲}	μf
Grid #1 to All Other Electrodes (Osc. Input)	7 [▲]	8 ^{▲▲}	μf
Grid #3 to Plate	0.13 max. [▲]	0.5 max. ^{▲▲}	μf
Grid #3 to Grid #1	0.15 max. [▲]	0.4 max. ^{▲▲}	μf
Grid #1 to Plate	0.06 max. [▲]	0.2 max. ^{▲▲}	μf
Grid #1 to Shell, Grid #5, and All Other Electrodes except Cathode	4.4	-	μf
Grid #1 to All Other Electrodes except Cathode & Grid #5	-	5	μf
Grid #1 to Cathode	2.6	-	μf
Grid #1 to Cathode & Grid #5	-	3	μf
Cathode to Shell, Grid #5, and All Other Electrodes except Grid #1	5	-	μf
Cathode and Grid #5 to All Other Electrodes except Grid #1	-	14	μf
Maximum Overall Length	2-5/8"	3-5/16"	
Maximum Seated Height	2-1/16"	2-3/4"	
Maximum Diameter	1-5/16"	1-5/16"	
Bulb			

Metal Shell MT-8

T-9

Base

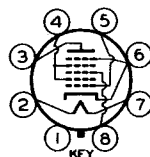
- Pin 1 { 6SA7, Shell, Grid #5
 6SA7-GT/G, No Conn.
 Pin 2 - Heater
 Pin 3 - Plate
 Pin 4 - Grids #2 & #4
 Pin 5 - Grid #1
 Pin 6 { 6SA7, Cathode
 6SA7-GT/G, Cathode & Grid #5
 Pin 7 - Heater
 Pin 8 - Grid #3

Mounting Position

{ Small Wafer { Interm. Sh.
 { Octal 8-Pin { Octal 8-Pin



BOTTOM VIEW (8R)



BOTTOM VIEW (G-8AD)

Any

Maximum And Minimum Ratings Are Design-Center Values

CONVERTER SERVICE

Plate Voltage	300 max. volts
Grids #2 & #4 Voltage	100 max. volts
Grids #2 & #4 Supply Voltage	300 max. volts
Grid #3 Voltage *	0 min. volts
Plate Dissipation	1.0 max. watt
Screen Dissipation	1.0 max. watt
Total Cathode Current	14 max. ma.

- In circuits where the cathode is not directly connected to the heater, the potential difference between heater and cathode should be kept as low as possible.
 ▲ With shell connected to cathode.
 ▲▲ With external shield connected to cathode.
 * For self-excited oscillator.
 ← Indicates a change.

Jan. 1, 1943

RCA VICTOR DIVISION

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

DATA

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6SA7-GT/G



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PENTAGRID CONVERTER

(continued from preceding page)

Characteristics:

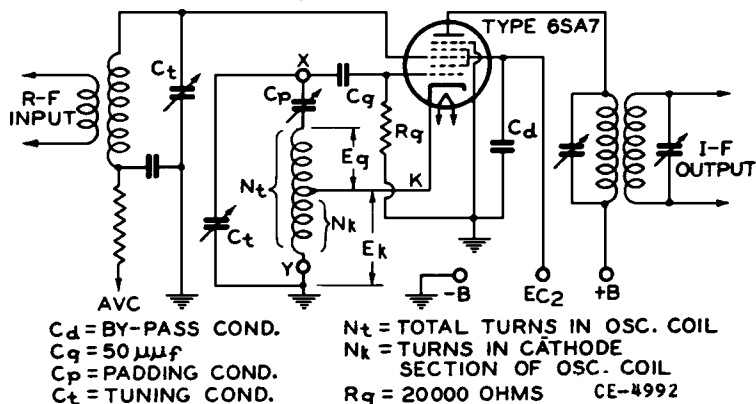
	Self-excitation*		Separate Excitation		
Plate Voltage	100	250	100	250	volts
Grids #2 & #4 Volt.	100	100	100	100	volts
Grid #3 (Control) Volt.	0	0	-2	-2	volts
Grid #1 Resistor	20000	20000	20000	20000	ohms
Plate Res. (Approx.)	0.5	1.0	0.5	1.0	megohm
Conversion Transcond.	425	450	425	450	μ mhos
Conversion Transcond. (Approx.) ‡	2	2	2	2	μ mhos
Plate Current	3.3	3.5	3.3	3.5	ma.
Grids #2 & #4 Current	8.5	8.5	8.5	8.5	ma.
Grid #1 Current	0.5	0.5	0.5	0.5	ma.
Total Cathode Current	12.3	12.5	12.3	12.5	ma.

NOTE: The transconductance between Grid #1 and Grids #2 & #4 connected to plate (not oscillating) is approximately 4500 μ mhos under the following conditions: Grids #1, #3, and shell at 0 volts; Grids #2 & #4 and plate at 100 volts.

* Characteristics are approximate only and are shown for a Hartley circuit with a feedback of approximately 2 volts peak in the cathode circuit.

‡ With Grid #3 bias of -35 volts.

TYPICAL SELF-EXCITED CONVERTER CIRCUIT FOR TYPE 6SA7



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Jan. 1, 1943

RCA VICTOR DIVISION
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

DATA



6SA7

6SA7

OPERATION CHARACTERISTICS WITH SELF-EXCITATION

$E_f = 6.3$ VOLTS

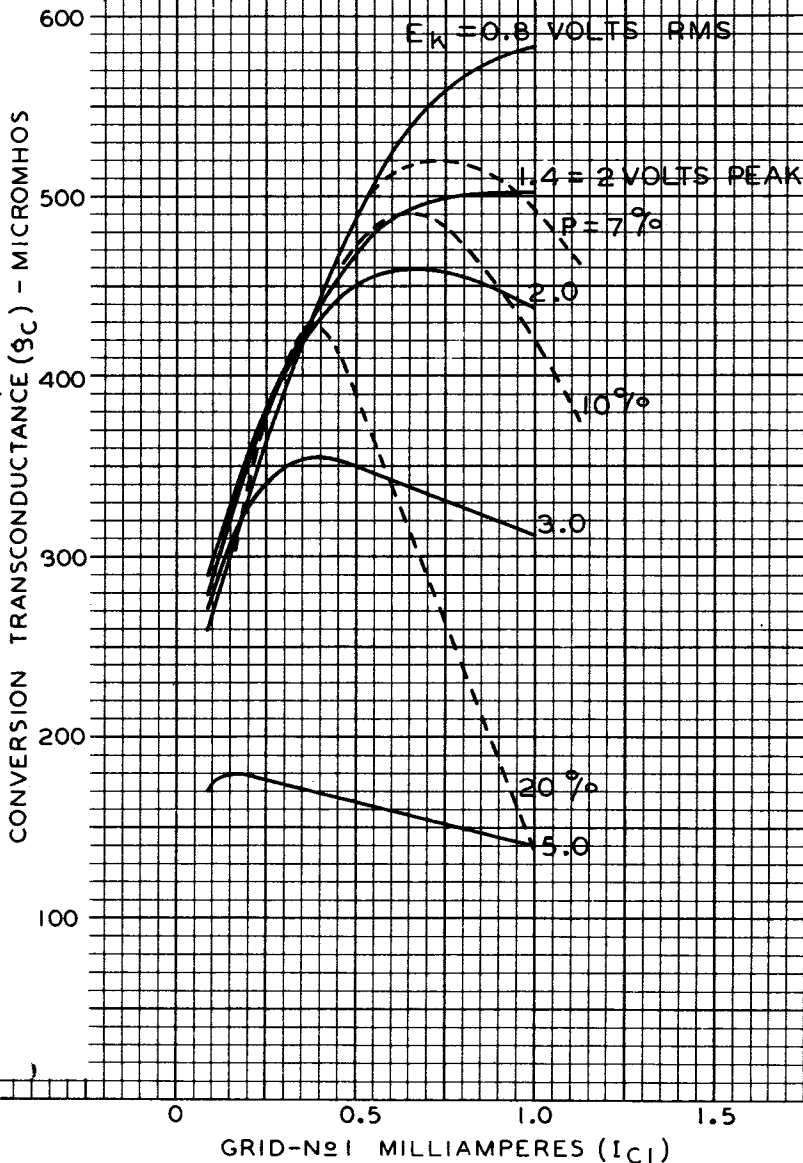
PLATE VOLTS = 250

GRIDS-No 2 & No 4 VOLTS = 100

GRID-No 3 (CONTROL GRID) VOLTS = -1

GRID-No 1 RESISTOR-OHMS = 20000

P = PERCENTAGE RATIO OF E_k TO $E_k + E_g$: SEE CIRCUIT



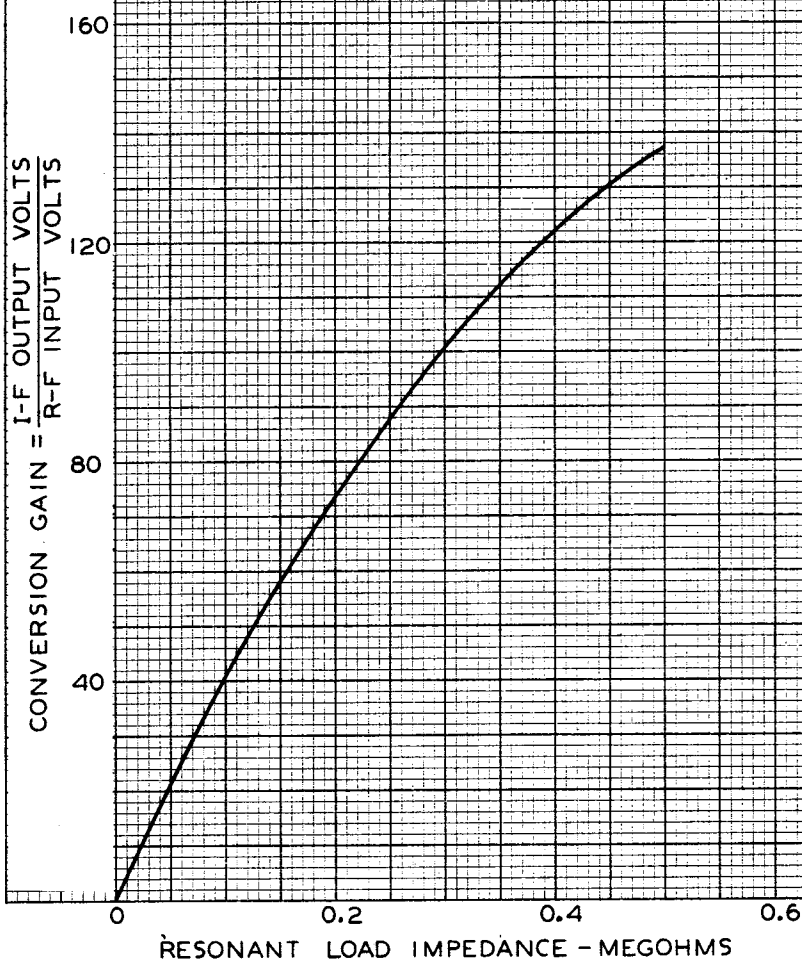
6SA7



6SA7

OPERATION CHARACTERISTIC
WITH SELF-EXCITATION

$E_f = 6.3$ VOLTS
PLATE VOLTS = 250
GRIDS No 2 & No 4 VOLTS = 100
GRID No 3 (CONTROL GRID) VOLTS = 0
GRID No 1 RESISTOR - OHMS = 20000
GRID No 1 MILLIAMPERES = 0.5



APR. 25, 1941

RCA RADIOTRON DIVISION
RCA MANUFACTURING COMPANY, INC.

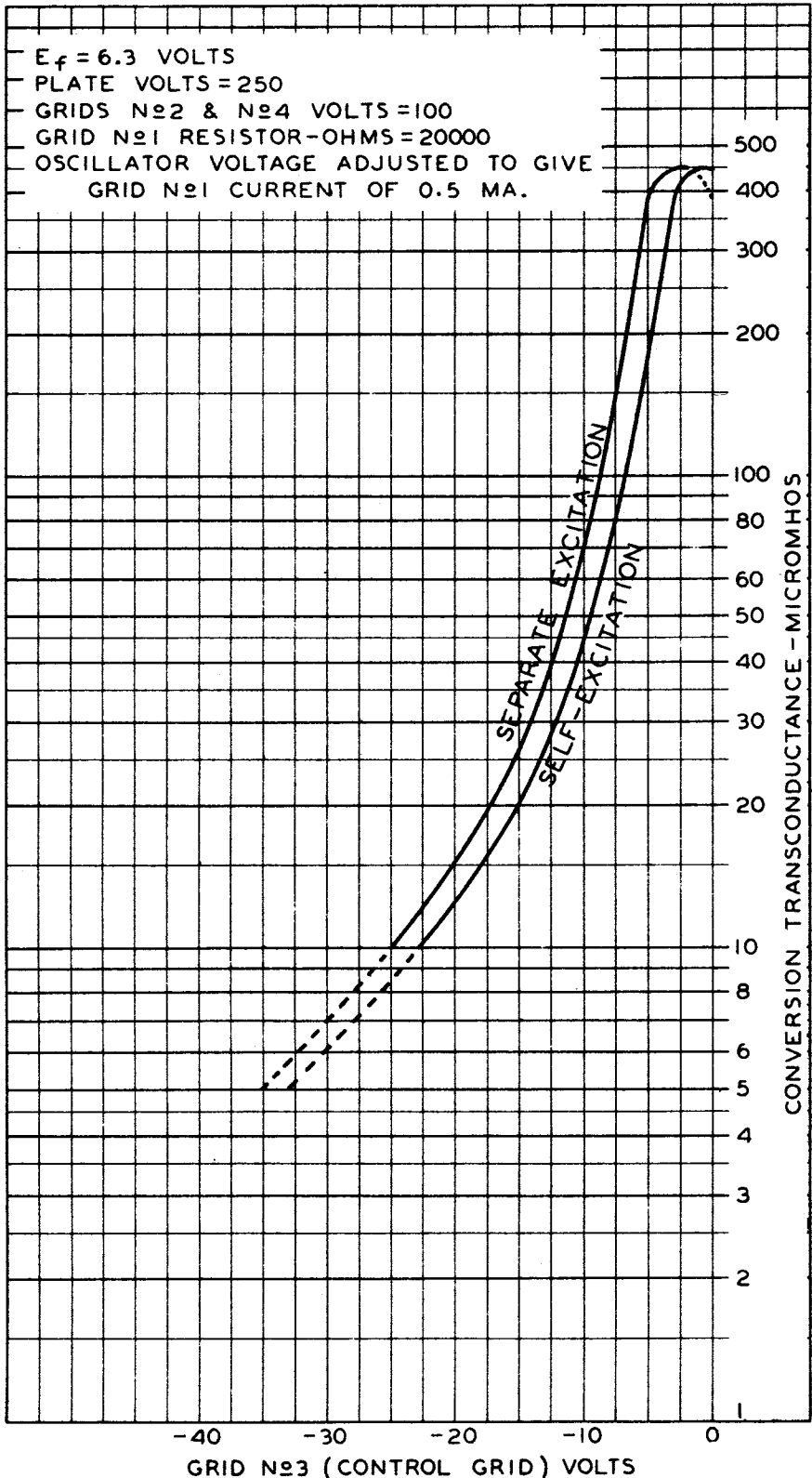
CE-4994



6SA7

6SA7

OPERATION CHARACTERISTICS



6SA7



6SA7

OPERATION CHARACTERISTICS WITH SEPARATE OSCILLATOR EXCITATION

$E_f = 6.3$ VOLTS
 PLATE VOLTS = 250
 GRIDS-No2 & No4 VOLTS = 100
 GRID-No3 (CONTROL GRID) VOLTS = -2
 GRID-No1 RESISTOR-OHMS = 20000
 GRID-No1 CURRENT VARIED BY ADJUSTMENT
 OF OSCILLATOR VOLTAGE

