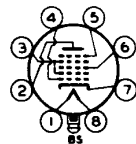


## PENTAGRID CONVERTER

Heater ■		Coated Unipotential Cathode	
Voltage	6.3 <sup>□</sup>	a-c or d-c volts	
Current	0.3 <sup>□□</sup>	amp.	
Direct Interelectrode Capacitances: <sup>○</sup>			
Grid #3 to All Other Electrodes & Base Shell (R-F Input)	9.0	μf	
Plate to All Other Electrodes & Base Shell (Mixer Output)	9.0	μf	
Grid #1 to All Other Electrodes & Base Shell	7.0	μf	
Grid #3 to Plate	0.20 max.	μf	
Grid #1 to Grid #3	0.20 max.	μf	
Grid #1 to Plate	0.15 max.	μf	
Grid #1 to All Other Electrodes & Base Shell Except Cathode	5.0	μf	
Grid #1 to Cathode	2.2	μf	
Cathode to All Other Electrodes & Base Shell Except Grid #1	6.0	μf	
Maximum Overall Length	2-25/32"		
Maximum Seated Height	2-1/4"		
Maximum Diameter	1-3/16"		
Bulb	T-9		
Base	Lock-in 8-Pin		
Pin 1 - Heater	Pin 6 - Grid #3		
Pin 2 - Plate	Pin 7 - Cathode		
Pin 3 - Grids #2 & #4	Pin 8 - Heater		
Pin 4 - Grid #1	Plug - Base Shell		
Pin 5 - Grid #5			
Mounting Position	BOTTOM VIEW (8AL)	Any	
<u>CONVERTER SERVICE</u>			
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 & Grids #2 & #4 Dissipation (total)	2.0 max.	watts	
Grids #2 & #4 Dissipation	1.0 max.	watt	
Total Cathode Current	14 max.	ma.	
Characteristics with Separate Excitation: *			
Plate Voltage	100	250	volts
Grids #2 & #4 Voltage	100	100	volts
Grid #3 (Control) Voltage	-2	-2	volts
Grid #5 Voltage	0	0	volts
Grid #1 Resistor	20000	20000	ohms
Plate Resistance	0.5	1	approx. megohm
Conversion Transcond.	525	550	μmhos
Conversion Transcond. with Grid #3 Bias of -35 volts	2	2	approx. μmhos
Plate Current	3.3	3.5	ma.
Grids #2 & #4 Current	8.5	8.5	ma.
Grid #1 Current	0.5	0.5	ma.
Total Cathode Current	12.3	12.5	ma.



■, □, □□, ●, ○, \* : See next page.

May 1, 1941

RCA RADIOTRON DIVISION  
RCA MANUFACTURING COMPANY, INC.

TENTATIVE DATA

7Q7



7Q7

## PENTAGRID CONVERTER

(continued from preceding page)

NOTE: The transconductance between Grid #1 and Grids #2 & #4 connected to plate (not oscillating) is approximately 4500  $\mu$ mhos under the following conditions: Grids #1, #3, and #5 at 0 volts; Grids #2 & #4 and plate at 100 volts.

- 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.
- Nominal voltage = 7.0 volts.
- Nominal current = 0.32 ampere.
- With shield-can connected to cathode.
- With self-excited oscillator.
- \* These characteristics correspond very closely to those obtained with zero bias in a self-excited oscillator circuit.

*A typical self-excited converter circuit is shown under type 6SA7.*

May 1, 1941

RCA RADIOTRON DIVISION  
RCA MANUFACTURING COMPANY, INC.

TENTATIVE DATA