



7J7

TRIODE-HEPTODE CONVERTER

GENERAL DATA**Electrical:**

Heater, for Unipotential Cathode:

Voltage. 6.3[□] ac or dc voltsCurrent. 0.3^{□□} ampDirect Interelectrode Capacitances:[○]Heptode Grid No.1 to Heptode Plate . . . 0.03 max. μf Heptode Grid No.1 to Triode Plate. . . . 0.1 max. μf Heptode Grid No.1 to Triode Grid &
Heptode Grid No.3. 0.3 max. μf Triode Grid & Heptode Grid No.3 to
Triode Plate 0.9 . . μf Heptode Grid No.1 to All Other
Electrodes (RF Input). 4.6 . . μf Heptode Plate to All Other
Electrodes (Mixer Output) 3.2 . . μf Triode Grid & Heptode Grid No.3 to All
Other Electrodes Except Triode
Plate (Oscillator Input) 7.5 . . μf Triode Plate to All Other Electrodes
Except Triode Grid & Heptode
Grid No.3 (Oscillator Output). 7.5 . . μf [○] With external shield connected to cathode.**Mechanical:**

Mounting Position. Any

Maximum Overall Length 2-25/32"

Maximum Seated Length. 2-1/4"

Maximum Diameter 1-3/16"

Bulb T-9

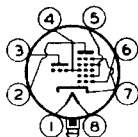
Base Lock-in 8-Pin

Basing Designation for BOTTOM VIEW 8BL

Pin 1 - Heater

Pin 2 - Heptode Plate

Pin 3 - Triode Plate

Pin 4 - Triode Grid,
Heptode
Grid No.3Pin 5 - Heptode
Grids No.2
& No.4

Pin 6 - Heptode

Grid No.1

Pin 7 - Cathode,

Heptode
Grid No.5,
Internal
Shield

Pin 8 - Heater

Plug - Base Shell

CONVERTER**Maximum Ratings, Design-Center Values:**

HEPTODE PLATE VOLTAGE. 300 max. volts

HEPTODE GRIDS-No.2 & No.4

(SCREEN) VOLTAGE . . . 100 max. volts

[□] Nominal voltage = 7.0 volts.^{□□} Nominal current = 0.32 ampere.

← Indicates a change.

DEC. 30, 1947

TUBE DEPARTMENT
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

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HEPTODE GRIDS-No.2 & No.4		
SUPPLY VOLTAGE	300 max.	volts
HEPTODE GRID-No.1 (CONTROL- GRID) VOLTAGE:		
Positive bias value.	0 max.	volts
HEPTODE PLATE DISSIPATION.	0.5 max.	watt
HEPTODE GRIDS-No.2 & No.4 DISSIPATION. . .	0.3 max.	watt
TRIODE PLATE VOLTAGE	150 max.	volts
TRIODE PLATE-SUPPLY VOLTAGE.	300 max.	volts
TRIODE PLATE DISSIPATION	1.25 max.	watts
TOTAL CATHODE CURRENT.	14 max.	ma
→ PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode. .	90 max.	volts
Heater positive with respect to cathode. .	90 max.	volts

→ Typical Operation:

Heptode Plate Voltage.	100	250	volts
Heptode Grids-No.2 & No.4 Voltage. . .	100	100	volts
Heptode Grid-No.1 Voltage.	-3	-3	volts
Triode (Oscillator) Plate-Supply Volt.	100	250†	volts
Triode Grid & Heptode			
Grid-No.3 Resistor	50000	50000	ohms
Heptode Plate Resistance	0.5	1.5	megohms
Heptode Plate Current.	1.5	1.4	ma
Heptode Grids-No.2 & No.4 Current. . .	2.6	2.8	ma
Triode Plate Current	3.2	5	ma
Triode Grid & Heptode			
Grid-No.3 Current.	0.3	0.4	ma
Conversion Conductance	280	290	μmhos
Conversion Conductance (Approx.) for heptode grid-No.1 bias of -20 volts .	2	2	μmhos
Total Cathode Current.	7.7	9.6	ma

† Applied through a 20000-ohm dropping resistor, properly bypassed.

NOTE: The transconductance of the triode section, not oscillating, is approximately 1400 μmhos under the following conditions: triode plate voltage = 150; triode-grid & heptode grid-No.3 volts = -3. Under the same conditions, triode plate current is 6.6 ma., triode plate resistance is 10700 ohms, and amplification factor is 15.

→ Indicates a change.

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