



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. μ fHeptode Grid No.1 to Triode Plate. . . . 0.1 max. μ fHeptode Grid No.1 to Triode Grid &
Heptode Grid No.3. 0.3 max. μ fTriode Grid & Heptode Grid No.3 to
Triode Plate 0.9 . . μ fHeptode Grid No.1 to All Other
Electrodes (RF Input). 4.6 . . μ fHeptode Plate to All Other
Electrodes (Mixer Output) 3.2 . . μ fTriode Grid & Heptode Grid No.3 to All
Other Electrodes Except Triode
Plate (Oscillator Input) 7.5 . . μ fTriode Plate to All Other Electrodes
Except Triode Grid & Heptode
Grid No.3 (Oscillator Output). 7.5 . . μ f[○] 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

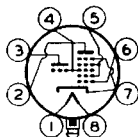
Base Lock-in 8-Pin

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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TRIODE-HEPTODE CONVERTER

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 μ mhos

Conversion Conductance (Approx.) for

heptode grid-No.1 bias of -20 volts 2 2 μ mhos

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 μ mhos 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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