7J7
TRIODE-HEPTODE CONVERTER

GENERAL DATA

Electrical:

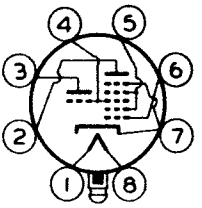
Heater, for Unipotential Cathode:		
Voltage	6.3[□]	ac or dc volts
Current	0.3[□□]	amp
Direct Interelectrode Capacitances:[○]		
Heptode Grid No.1 to Heptode Plate	0.03 max.	μμf
Heptode Grid No.1 to Triode Plate	0.1 max.	μμf
Heptode Grid No.1 to Triode Grid & Heptode Grid No.3	0.3 max.	μμf
Triode Grid & Heptode Grid No.3 to Triode Plate	0.9	μμf
Heptode Grid No.1 to All Other Electrodes (RF Input)	4.6	μμf
Heptode Plate to All Other Electrodes (Mixer Output)	3.2	μμf
Triode Grid & Heptode Grid No.3 to All Other Electrodes Except Triode Plate (Oscillator Input)	7.5	μμf
Triode Plate to All Other Electrodes Except Triode Grid & Heptode Grid No.3 (Oscillator Output)	7.5	μμf

[○] 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.3
Pin 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.

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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.

TUBE DEPARTMENT
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY