

ELECTRONIC TUBE REFERENCE

7S7

Voltage - Triode (with diode, heptode or hexode) electronic tube

CONSOLIDATED TECHNICAL DATA

2 SECTIONS
CONSTRUCTION
HEPTODE-TRIODE

Receiver oscillator-converter combining local oscillation and signal mixing for superheterodyne frequency conversion. Its multi-grid structure integrates the front-end frequency-changing functions in one envelope.

GENERAL CHARACTERISTICS

BASE DESIGNATION	8BL	BASE PINS	8
NOMINAL HEATER	6.3 V / 300 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Common cathode	SECTION CONSTRUCTION	Dissimilar

SECTION RATINGS

SECTION1 Heptode	
PLATE RESISTANCE	1250000 Ω
TRANSCONDUCTANCE	0.00055 S
MAXIMUM PLATE VOLTAGE	300 V
MAXIMUM SCREEN VOLTAGE	100 V
MAXIMUM PLATE DISSIPATION	0.6 W
MAXIMUM SCREEN DISSIPATION	0.4 W
MAXIMUM CATHODE CURRENT	14 mA
MAXIMUM HEATER-CATHODE VOLTAGE	90 V
Published promoted fields populated by semantic section ownership; identical repeated sections compressed.	

SECTION2 Triode	
PLATE RESISTANCE	44000 Ω
TRANSCONDUCTANCE	0.0016 S
AMPLIFICATION FACTOR	70
MAXIMUM PLATE VOLTAGE	175 V
MAXIMUM PLATE DISSIPATION	1 W
MAXIMUM CATHODE CURRENT	14 mA
MAXIMUM HEATER-CATHODE VOLTAGE	90 V
<i>Published promoted fields populated by semantic section ownership; identical repeated sections compressed.</i>	

Loctal triode-heptode frequency changer with high conversion and efficient operation to about 100 MHz.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1948 Brimar Radio Valve Manual

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1948 BRIMAR RADIO VALVE MANUAL

Section 1 · Heptode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heptode Plate Voltage	250 V	HeptodeSection
Heptode Plate Current	1.9 mA	HeptodeSection
Heptode Screen Voltage	100 V	HeptodeSection
Heptode Screen Current	3 mA	HeptodeSection
Heptode Grid Voltage	-2 V	HeptodeSection

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heptode Plate Resistance	1.25 Mohm	HeptodeSection
Conversion Conductance	530 μ S	HeptodeSection

1948 BRIMAR RADIO VALVE MANUAL

Section 2 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Triode Supply Voltage	250 V	TriodeSection
Triode Plate Voltage	150 V	TriodeSection
Triode Plate Current	5 mA	TriodeSection

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Operating Frequency	100 MHz	—

1958 Brimar Radio Valve No 7

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1958 BRIMAR RADIO VALVE NO 7

Section 1 · Heptode

APPLICATION		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Application	Frequency changer / mixer	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum operating frequency	100 MHz	—

1958 BRIMAR RADIO VALVE NO 7

Section 2 · Triode

APPLICATION		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Application	Oscillator	—



SOURCE DATA APPENDIX

195X General Electric Essential Characteristics

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195X GENERAL ELECTRIC ESSENTIAL CHARACTERISTICS

Section 1 · Heptode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	250 V	Converter
Screen-grid voltage	100 V	Converter
Grid voltage	-2 V	Converter
Plate current	1.8 mA	Converter

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Screen-grid current	3 mA	Converter

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	1250000 ohm	Converter
Conversion transconductance	525 uS	Converter

195X GENERAL ELECTRIC ESSENTIAL CHARACTERISTICS

Section 2 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Oscillator plate supply voltage	250 V	Converter;OscillatorSection
Oscillator plate series resistor	20000 ohm	Converter;OscillatorSection
Oscillator plate current	5 mA	Converter;OscillatorSection
Oscillator grid current	0.4 mA	Converter;OscillatorSection
Oscillator grid resistor	50000 ohm	Converter;OscillatorSection



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

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1961 Ferranti Technical Handbook

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1961 FERRANTI TECHNICAL HANDBOOK

Section 1 · Heptode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	250 V	FrequencyChanger
Screen Voltage	100 V	FrequencyChanger
Plate Current	1.8 mA	FrequencyChanger
Screen Current	3 mA	FrequencyChanger

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Conversion Transconductance	525 μ S	FrequencyChanger

1961 FERRANTI TECHNICAL HANDBOOK

Section 2 · Triode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	100 V	—
Plate Current	6.5 mA	—
Transconductance	1650 μ S	—
Plate Resistance	11000 ohm	—
Amplification Factor	18 ratio	—



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1961 Tung Sol

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1961 TUNG SOL

Section 1 · Heptode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Conversion Transconductance	550 μ S	Section1

1961 TUNG SOL

Section 2 · Triode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
TriodeTransconductance	1600 μ S	Section2