



ELECTRONIC TUBE REFERENCE

1T4

Voltage Pentode or Tetrode (under 100V) electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

PENTODE

Directly heated variable-mu pentode designed for RF and IF amplifier service in battery receivers. Its low-power filament and gain-control characteristic make it a widely applicable portable-receiver signal tube.

GENERAL CHARACTERISTICS

BASE DESIGNATION	8AR	BASE PINS	7
NOMINAL HEATER	1.4 V / 50 mA	PARALLEL HEATER	– / –
HEATING	Direct	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Pentode	
PLATE RESISTANCE	500000 Ω
TRANSCONDUCTANCE	0.0009 S
MAXIMUM PLATE VOLTAGE	90 V
MAXIMUM SCREEN VOLTAGE	90 V
MAXIMUM CATHODE CURRENT	5.5 mA
Remote-cutoff RF pentode for variable-gain battery receiver RF and IF stages.	

Directly heated variable-mu pentode for RF and IF amplifier service in battery receivers.



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 · Pentode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
HeaterOrFilamentVoltage	1.4 V	—
HeaterOrFilamentCurrent	50 mA	—
Transconductance	900 μ S	PlateVoltage=90V;ScreenVoltage=67.5V



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1958 Brimar Radio Valve No 7

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

1958 BRIMAR RADIO VALVE NO 7

Section 1 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	90 V	—
Plate Current	3.5 mA	—
Screen Voltage	67.5 V	—
Screen Current	1.4 mA	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	900 μ S	—
Plate Resistance	500000 ohm	—

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

195X General Electric Essential Characteristics

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

195X GENERAL ELECTRIC ESSENTIAL CHARACTERISTICS

Section 1 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	90 V	ClassA; OperatingPoint1
Screen voltage	67.5 V	ClassA; OperatingPoint1
Control-grid bias	0 V	ClassA; OperatingPoint1
Plate current	3.5 mA	ClassA; OperatingPoint1
Screen current	1.4 mA	ClassA; OperatingPoint1
Plate voltage	90 V	ClassA; OperatingPoint2
Screen voltage	45 V	ClassA; OperatingPoint2
Control-grid bias	0 V	ClassA; OperatingPoint2
Plate current	1.8 mA	ClassA; OperatingPoint2
Screen current	0.67 mA	ClassA; OperatingPoint2
Plate voltage	67.5 V	ClassA; OperatingPoint3
Screen voltage	67.5 V	ClassA; OperatingPoint3
Control-grid bias	0 V	ClassA; OperatingPoint3
Plate current	3.4 mA	ClassA; OperatingPoint3
Screen current	1.5 mA	ClassA; OperatingPoint3
Plate voltage	45 V	ClassA; OperatingPoint4
Screen voltage	45 V	ClassA; OperatingPoint4
Control-grid bias	0 V	ClassA; OperatingPoint4
Plate current	1.7 mA	ClassA; OperatingPoint4
Screen current	0.7 mA	ClassA; OperatingPoint4

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1961 Ferranti Technical Handbook

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

1961 FERRANTI TECHNICAL HANDBOOK

Section 1 · Pentode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
HeaterOrFilamentVoltage	1.4 V	—
HeaterOrFilamentCurrent	50 mA	—
CutoffCharacteristic	Variable μ	—

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1966 Tung Sol Electronic Tubes 1 of 4

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

1966 TUNG SOL ELECTRONIC TUBES 1 OF 4

Section 1 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	90 V	RFIFAmplifier
Screen voltage	67.5 V	RFIFAmplifier
Plate current	2.3 mA	RFIFAmplifier
Screen current	0.7 mA	RFIFAmplifier

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	900 μ S	Section1
Plate resistance	1 M Ω	Section1

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1968 General Electric Co

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

1968 GENERAL ELECTRIC CO

Section 1 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	45 V	ClassA;OperatingPoint1
Screen voltage	45 V	ClassA;OperatingPoint1
Plate current	1.7 mA	ClassA;OperatingPoint1
Screen current	0.7 mA	ClassA;OperatingPoint1
Plate voltage	67.5 V	ClassA;OperatingPoint2
Screen voltage	67.5 V	ClassA;OperatingPoint2
Plate current	3.4 mA	ClassA;OperatingPoint2
Screen current	1.5 mA	ClassA;OperatingPoint2
Plate voltage	90 V	ClassA;OperatingPoint3
Screen voltage	45 V	ClassA;OperatingPoint3
Plate current	1.8 mA	ClassA;OperatingPoint3
Screen current	0.65 mA	ClassA;OperatingPoint3
Plate voltage	90 V	ClassA;OperatingPoint4
Screen voltage	67.5 V	ClassA;OperatingPoint4
Plate current	3.5 mA	ClassA;OperatingPoint4
Screen current	1.4 mA	ClassA;OperatingPoint4

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	350000 ohm	ClassA;OperatingPoint1
Transconductance	700 uS	ClassA;OperatingPoint1
Plate resistance	250000 ohm	ClassA;OperatingPoint2
Transconductance	875 uS	ClassA;OperatingPoint2

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	800000 ohm	ClassA;OperatingPoint3
Transconductance	750 uS	ClassA;OperatingPoint3
Plate resistance	500000 ohm	ClassA;OperatingPoint4
Transconductance	900 uS	ClassA;OperatingPoint4



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

SOURCE PDF

1968 Mazda Belvu

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

1968 MAZDA BELVU

Section 1 · Pentode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater or filament voltage	1.4 V	Published nominal value
Heater or filament current	50 mA	Published nominal value
Transconductance	875 μS	Published operating characteristic
Transconductance	875 μS	67.5 V operating condition