



ELECTRONIC TUBE REFERENCE

1E7G

Voltage Dual Pentode electronic tube

CONSOLIDATED TECHNICAL DATA

2 SECTIONS

CONSTRUCTION

PENTODE-PENTODE

Directly heated twin power pentode containing two identical sections for push-pull audio output in battery-operated receivers.

GENERAL CHARACTERISTICS

BASE DESIGNATION	G-8C	BASE PINS	8
NOMINAL HEATER	2 V / 240 mA	PARALLEL HEATER	– / –
HEATING	Direct	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Common cathode	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION1 Pentode	
PLATE RESISTANCE	260000 Ω
TRANSCONDUCTANCE	0.001425 S
AMPLIFICATION FACTOR	370
MAXIMUM PLATE VOLTAGE	135 V
MAXIMUM SCREEN VOLTAGE	135 V
Representative row for two electrically identical pentode sections; promoted characteristics use first listed Class A1 condition.	

SECTION2 Pentode	
PLATE RESISTANCE	260000 Ω
TRANSCONDUCTANCE	0.001425 S
AMPLIFICATION FACTOR	370
MAXIMUM PLATE VOLTAGE	135 V
MAXIMUM SCREEN VOLTAGE	135 V
<i>Second physical pentode section; electrically identical twin section.</i>	

Directly heated twin-pentode power-amplifier tube; electrically identical pentode sections are compressed to one section row.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1937 Raytheon Radio Receiving Tubes

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

1937 RAYTHEON RADIO RECEIVING TUBES

Section 1 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Plate Voltage	135 V	Published ratings
Maximum Screen Voltage	135	Published ratings
Plate Voltage	135.6 V	ClassA
Screen Voltage	135	ClassA
Grid Bias	-4.5 V	ClassA
Amplification Factor	350	ClassA
Plate Resistance Q	0.22 Mohm	ClassA
Transconductance	1600 uS	ClassA
Plate Current	7.5 mA	ClassA
Screen Current	2 mA	ClassA; Column1
Screen Current	1 mA	ClassA; Column2
Plate Voltage	135.6 V	ClassA; PushPull; TwoTubes
Screen Voltage	135 V	ClassA; PushPull; TwoTubes
Grid Bias	-7.5 V	ClassA; PushPull; TwoTubes
No-Signal Plate Current (total)	6.5 mA	ClassA; PushPull; TwoTubes
No-Signal Screen Current (total)	2 mA	ClassA; PushPull; TwoTubes
Load Resistance	24000 ohm	ClassA; PushPull; TwoTubes
Total Harmonic Distortion	5 %	ClassA; PushPull; TwoTubes

1950 Sylvania

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

1950 SYLVANIA
Section 1 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Current	7.5 mA	ClassA; OneSection; Plate 135 V
Power Output	0.29 W	ClassA; OneSection
Power Output	0.575 W	ClassA; PushPull; TwoSections



SOURCE DATA APPENDIX

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
Maximum plate voltage	135 V	EachSection
Maximum screen-grid voltage	135 V	EachSection
Plate voltage	135 V	ClassA EachSection
Screen-grid voltage	135 V	ClassA EachSection
Control-grid voltage	-4.5 V	ClassA EachSection
Plate current	7.5 mA	ClassA EachSection
Screen-grid current	2.2 mA	ClassA EachSection
Plate resistance	260000 Ohm	ClassA EachSection
Transconductance	1425 uS	ClassA EachSection
Load resistance	16000 Ohm	ClassA EachSection

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Power output	0.29 W	ClassA EachSection
Plate voltage	90 V	ClassA EachSection 90V
Screen-grid voltage	90 V	ClassA EachSection 90V
Control-grid voltage	-3 V	ClassA EachSection 90V
Plate current	3.8 mA	ClassA EachSection 90V
Screen-grid current	1.1 mA	ClassA EachSection 90V
Plate resistance	340000 Ohm	ClassA EachSection 90V
Transconductance	1150 uS	ClassA EachSection 90V
Load resistance	20000 Ohm	ClassA EachSection 90V
Power output	0.11 W	ClassA EachSection 90V
Plate voltage	135 V	ClassA PushPull TwoSections
Screen-grid voltage	135 V	ClassA PushPull TwoSections
Control-grid voltage	-7.5 V	ClassA PushPull TwoSections
Plate current	7 mA	ClassA PushPull TwoSections
Screen-grid current	2 mA	ClassA PushPull TwoSections
Load resistance	24000 Ohm	ClassA PushPull TwoSections
Power output	0.575 W	ClassA PushPull TwoSections



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1961 Tung Sol

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

1961 TUNG SOL

Section 1 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Filament Voltage	2 V	Nominal
Filament Current	240 mA	Nominal
Plate Voltage	90 V	ClassA1;EachPentode;PlateVoltage=90V
Screen Voltage	90 V	ClassA1;EachPentode;PlateVoltage=90V

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Control Grid Voltage	-3 V	ClassA1;EachPentode;PlateVoltage=90V
Zero Signal Plate Current	3.8 mA	ClassA1;EachPentode;PlateVoltage=90V
Zero Signal Screen Current	1.1 mA	ClassA1;EachPentode;PlateVoltage=90V
Load Resistance	20000 ohm	ClassA1;EachPentode;PlateVoltage=90V
PeakSignalVoltage	3 V	ClassA1;EachPentode;PlateVoltage=90V
Total Distortion	5.5 %	ClassA1;EachPentode;PlateVoltage=90V
Power Output	0.11 W	ClassA1;EachPentode;PlateVoltage=90V
Plate Voltage	135 V	ClassA1;EachPentode;PlateVoltage=135V
Screen Voltage	135 V	ClassA1;EachPentode;PlateVoltage=135V
Control Grid Voltage	-4.5 V	ClassA1;EachPentode;PlateVoltage=135V
Zero Signal Plate Current	7.5 mA	ClassA1;EachPentode;PlateVoltage=135V
Zero Signal Screen Current	2.2 mA	ClassA1;EachPentode;PlateVoltage=135V
Load Resistance	16000 ohm	ClassA1;EachPentode;PlateVoltage=135V
PeakSignalVoltage	4.5 V	ClassA1;EachPentode;PlateVoltage=135V
Total Distortion	4.5 %	ClassA1;EachPentode;PlateVoltage=135V
Power Output	0.29 W	ClassA1;EachPentode;PlateVoltage=135V
Plate Voltage	135 V	ClassA1;PushPull;TwoPentodeSections
Screen Voltage	135 V	ClassA1;PushPull;TwoPentodeSections
Control Grid Voltage	-7.5 V	ClassA1;PushPull;TwoPentodeSections
Zero Signal Plate Current	14 mA	ClassA1;PushPull;TwoPentodeSections
Maximum Signal Plate Current	21 mA	ClassA1;PushPull;TwoPentodeSections
Maximum Signal Screen Current	7 mA	ClassA1;PushPull;TwoPentodeSections
PlateToPlateLoadResistance	24000 ohm	ClassA1;PushPull;TwoPentodeSections
PeakSignalVoltageGridToGrid	15 V	ClassA1;PushPull;TwoPentodeSections
Total Distortion	5.5 %	ClassA1;PushPull;TwoPentodeSections
Power Output	0.474 W	ClassA1;PushPull;TwoPentodeSections

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	1150 uS	ClassA1;EachPentode;PlateVoltage=90V
Amplification Factor	390	ClassA1;EachPentode;PlateVoltage=90V
Transconductance	1425 uS	ClassA1;EachPentode;PlateVoltage=135V

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Amplification Factor	370	ClassA1;EachPentode;PlateVoltage=135V

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
ControlGridToFilamentCapacitance	1.5 pF	Section1
ControlGridToFilamentCapacitance	7.5 pF	Section2
Plate To Filament Capacitance	12 pF	Section1
Plate To Filament Capacitance	12 pF	Section2
ControlGridToPlateCapacitance	0.9 pF	Section1
ControlGridToPlateCapacitance	0.9 pF	Section2
ControlGridAToControlGridBCapacitance	0.3 pF	BetweenSections
PlateAToPlateBCapacitance	2 pF	BetweenSections
ControlGridBToPlateACapacitance	0.16 pF	BetweenSections
ControlGridAToPlateBCapacitance	0.16 pF	BetweenSections