



ELECTRONIC TUBE REFERENCE

6HS8

Voltage - Dual Pentode electronic tube

CONSOLIDATED TECHNICAL DATA

2 SECTIONS

CONSTRUCTION

PENTODE-PENTODE

Twin pentode designed for television AGC, sync separation, sync clipping, and noise-limiting circuits in color and monochrome receivers.

GENERAL CHARACTERISTICS

BASE DESIGNATION	9FC	BASE PINS	9
NOMINAL HEATER	6.3 V / 300 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Common cathode	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION1 Pentode	
PLATE RESISTANCE	4600 Ω
TRANSCONDUCTANCE	0.0011 S
AMPLIFICATION FACTOR	300
MAXIMUM PLATE VOLTAGE	300 V
MAXIMUM SCREEN VOLTAGE	150 V
MAXIMUM PLATE DISSIPATION	1.1 W
MAXIMUM SCREEN DISSIPATION	0.75 W
MAXIMUM CATHODE CURRENT	12 mA
Each equal section; shared control/screen/cathode structure.	

SECTION2 Pentode	
PLATE RESISTANCE	4600 Ω
TRANSCONDUCTANCE	0.0011 S
AMPLIFICATION FACTOR	300
MAXIMUM PLATE VOLTAGE	300 V
MAXIMUM SCREEN VOLTAGE	150 V
MAXIMUM PLATE DISSIPATION	1.1 W
MAXIMUM SCREEN DISSIPATION	0.75 W
MAXIMUM CATHODE CURRENT	12 mA
<i>Second physical pentode section; electrically identical twin section.</i>	

Miniature type used in age amplifier, sync, and noise- limiting circuits of color and black-and-white television receivers. One pentode unit is used as combined sync separator and sync clipper; second pentode unit is used as age amplifier. Outlines section, 6E; requires miniature 9-contact socket. Types 3HS8 and 4HS8 are identical with type 6HS8 except for heater ratings.



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
Plate Voltage	100 V	Published operating/characteristic table
Screen Voltage	67.5 V	Published operating/characteristic table
Grid Voltage	1 V	Published operating/characteristic table



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1965 Westinghouse Data Book

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

1965 WESTINGHOUSE DATA BOOK

Section 1 · Pentode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage	6.3 V	—
Heater Current	300 mA	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Plate Voltage	300 V	—
Maximum Plate Dissipation	1.1 W	—
Maximum Grid3 Positive Voltage	3 V	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Grid3 Negative Voltage	-50 V	—
Maximum Screen Voltage	150 V	—
Maximum Screen Dissipation	0.75 W	—
Plate Voltage	100 V	—
Screen Voltage	67.5 V	—



SOURCE OPERATING CONDITIONS

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1966 Tung Sol Electronic Tubes 2 of 4

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

1966 TUNG SOL ELECTRONIC TUBES 2 OF 4

Section 1 · Pentode

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid 3 to plate capacitance	2 pF	—
Grid 1 total capacitance	6 pF	—
Grid 3 total capacitance	3.6 pF	—
Plate total capacitance	3 pF	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	200 V	EachSectionSeparately
Screen voltage	67.5 V	EachSectionSeparately
Plate current	2 mA	EachSectionSeparately

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid 3 transconductance	450 μ S	EachSectionSeparately
Grid 1 transconductance	1100 μ S	EachSectionSeparately

SOURCE OPERATING CONDITIONS

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1971 RCA HB3 Binder 5 of 7

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

1971 RCA HB3 BINDER 5 OF 7

Section 1 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Voltage (AC or DC)	6.3 V	Published table value column 1
Voltage (AC or DC)	0.6 V	Published table value column 2
Current at heater volts =	6.3 V	Published table value column 1
Current at heater volts =	0.3 V	Published table value column 2
respect to cathode	200 V	Published table value
Grid No	3 pF	Published table value column 1
Grid No	2 pF	Published table value column 2
Grid No.1 to all other electrodes	6 pF	Published table value
Plate Voltage	100 V	Published table value column 1
Plate Voltage	100 V	Published table value column 2
Grid-No	3 V	Published table value column 1
Grid-No	0 V	Published table value column 2
Grid-No	0 V	Published table value column 3
Grid-No	2 V	Published table value column 1
Grid-No	67 V	Published table value column 2
Grid-No	5 V	Published table value column 3
Grid-No	67.5 V	Published table value column 4
Grid-No.1 Voltage	0 V	Published table value
Grid-No	3 μS	Published table value column 1
Grid-No	450 μS	Published table value column 2
Plate Current	2 mA	Published table value
plate μa =	100 V	Published table value column 1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
plate μ_a =	-3.5 V	Published table value column 2
plate μ_a =	-2.3 V	Published table value column 2
Plate Voltage (Each unit)	100 V	Published table value column 1
Plate Voltage (Each unit)	100 V	Published table value column 2
Grid-No	-10 V	Published table value column 2
Plate Current (Each unit)	2 mA	Published table value
Grid-No	2 mA	Published table value column 1
Grid-No	7 mA	Published table value column 2
Grid-No	4.4 mA	Published table value column 3
Cathode Current	7 mA	Published table value column 1
Cathode Current	1 mA	Published table value column 2
Cathode Current	8.5 mA	Published table value column 3
PLATE VOLTAGE (Each unit)	300 V	Published table value
GRID-No	2 V	Published table value column 1
GRID-No	150 V	Published table value column 2
CATHODE CURRENT	12 mA	Published table value

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-No.1-to-Plate Transconductance	1100 μS	Published table value



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1975 RCA RC30

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

1975 RCA RC30

Section 1 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Warm-up Time (Average)	11 seconds	Heater Warm-up Time (Average) 11 11 seconds

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Dissipation (Each Unit)	1.1 watts	Plate Dissipation (Each Unit) 1.1 watts
Grid-No	0.75 watt	Grid-No. 2 Input 0.75 watt
• With plate and grid No	3	• With plate and grid No.3 of other unit connected to ground.
Grid No	2	Grid No.2 (Beam Plate) Connected to cathode at socket

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid No	2 pF	Grid No.3 to Plate (Each Unit) 2 pF
Grid No.1 to All Other Electrodes	6 pF	Grid No.1 to All Other Electrodes 6 pF
Grid No	3.6 pF	Grid No.3 (Each Unit) to All Other Electrodes 3.6 pF
Grid No	2 pF	Grid No.3 (Unit No.1) to Grid No.3 (Unit No.2) pF

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage (Each Unit)	300 volts	Plate Voltage (Each Unit) 300 volts
Grid-No	3	Grid-No.3 (Suppressor-Grid) Voltage (Each Unit) :
Grid-No	150 volts	Grid-No.2 (Screen-Grid) Voltage 150 volts
Grid-No.1 (Control-Grid) Voltage, Negative-bias value	50 volts	Grid-No.1 (Control-Grid) Voltage, Negative-bias value . . . 50 volts
Cathode Current	12 mA	Cathode Current 12 mA
Plate Voltage	100 volts	Plate Voltage 100 100 volts
Grid-No	0 volts	Grid-No.3 Voltage 0 0 volts
Grid-No	67.5 volts	Grid-No 2 Voltage 67.5 67.5 volts
Grid-No.1 Voltage	0 volts	Grid-No.1 Voltage 0 volts
Transconductance, Grid No	450	Transconductance, Grid No.3 to Plate 450 /i mhos
Transconductance, Grid No.1 to Plate	1100	Transconductance, Grid No.1 to Plate 1100 /imhos
Plate Current	2 mA	Plate Current 2 mA
Grid-No	3	Grid-No.3 Voltage (Approx.) plate current of

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-No	1	Grid-No 1 Voltage (Approx.) plate current of
Grid-No	3	Grid-No.3 Voltage (Each Unit)
Grid-No	2	Grid-No.2 Voltage
Plate Current (Each Unit)	2 mA	Plate Current (Each Unit) - 2 mA
Grid-No	4.4 mA	Grid-No.2 Current 7 4.4 mA
Cathode Current	8.5 mA	Cathode Current 7.1 8.5 mA
Grid-No.S-Circuit Resistance (Each Unit)	0.5 megohm	Grid-No.S-Circuit Resistance (Each Unit) 0.5 megohm
Grid-No.l-Circuit Resistance	0.5 megohm	Grid-No.l-Circuit Resistance 0.5 megohm
• Adjusted to give grid-No.l current of	0.1	• Adjusted to give grid-No.l current of 0.1 milliampere.
Pulse Plate Voltage*	3500 volts	Pulse Plate Voltage* 3500 volts
Grid-Voltage, Negative-bias value	4.4 volts	Grid-Voltage, Negative-bias value +200 4.4 volts
Peak Plate Current	300 mA	Peak Plate Current 300 mA
Amplification Factor	300	Amplification Factor 300
Transconductance	65000	Transconductance 65000 /xmhos
Plate Resistance (Approx.)	4600 ohms	Plate Resistance (Approx.) 4600 ohms
Grid Voltage (Approx.) for plate current of	13 mA	Grid Voltage (Approx.) for plate current of 1 mA - 13 volts
Peak Plate Voltage*	5500 volts	Peak Plate Voltage* 5500 volts

TUBE TINKER

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