

ELECTRONIC TUBE REFERENCE

6HF8

Voltage - Triode Pentode electronic tube

CONSOLIDATED TECHNICAL DATA
2 SECTIONS
CONSTRUCTION
PENTODE-TRIODE

High-mu triode plus high-transconductance pentode for television amplifier and synchronization service.

GENERAL CHARACTERISTICS

BASE DESIGNATION	9DX	BASE PINS	9
NOMINAL HEATER	6.3 V / 750 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Dissimilar

9DX - TERMINAL PINOUT

TERMINAL	SECTION	ELEMENT	STATUS
PIN1 – 2K	B	K – Cathode	CONNECTED
PIN2 – 2G1	B	G1 – Control Grid	CONNECTED
PIN3 – 2P	B	P – Plate (Anode)	CONNECTED
PIN4 – H	–	H – Heater	CONNECTED
PIN5 – H	–	H – Heater	CONNECTED
PIN6 – 1G3	A	G3 – Suppressor Grid	CONNECTED
PIN6 – IS	A	IS – Internal Screen	CONNECTED
PIN6 – 1K	A	K – Cathode	CONNECTED
PIN7 – 1G1	A	G1 – Control Grid	CONNECTED
PIN8 – 1G2	A	G2 – Screen Grid	CONNECTED
PIN9 – 1P	A	P – Plate (Anode)	CONNECTED

SECTION RATINGS

SECTION1 Triode	
PLATE RESISTANCE	37000 Ω
TRANSCONDUCTANCE	0.0027 S
AMPLIFICATION FACTOR	100
MAXIMUM PLATE VOLTAGE	330 V
MAXIMUM PLATE DISSIPATION	1 W
<i>Published maximum ratings and characteristic values promoted where applicable; additional table values retained in TUBE_SECTION_PARAMETER.</i>	

SECTION2 Pentode	
PLATE RESISTANCE	75000 Ω
TRANSCONDUCTANCE	0.0125 S
MAXIMUM PLATE VOLTAGE	330 V
MAXIMUM SCREEN VOLTAGE	330 V
MAXIMUM PLATE DISSIPATION	5 W
MAXIMUM SCREEN DISSIPATION	1.1 W
<i>Published maximum ratings and characteristic values promoted where applicable; additional table values retained in TUBE_SECTION_PARAMETER.</i>	

High-mu triode plus high-transconductance pentode for television amplifier and sync service.

SOURCE OPERATING CONDITIONS

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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 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Screen Voltage	2 V	Published operating/characteristic table
Grid Voltage	0 V	Published operating/characteristic table
Cathode Resistor	68 ohm	Published operating/characteristic table

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Current	26 mA	Published operating/characteristic table
Screen Current	7 mA	Published operating/characteristic table
Transconductance	12500 uS	Published operating/characteristic table
Amplification Factor	70	Published operating/characteristic table
Plate Resistance	75000 ohm	Published operating/characteristic table

1961 TUNG SOL

Section 2 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Screen Voltage	2 V	Published operating/characteristic table
Grid Voltage	0 V	Published operating/characteristic table
Cathode Resistor	68 ohm	Published operating/characteristic table

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Current	26 mA	Published operating/characteristic table
Screen Current	7 mA	Published operating/characteristic table
Transconductance	12500 uS	Published operating/characteristic table

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Amplification Factor	70	Published operating/characteristic table
Plate Resistance	75000 ohm	Published operating/characteristic table



SOURCE DATA APPENDIX

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 · Triode

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-to-plate capacitance	3.5 pF	—
Input capacitance	2.8 pF	—
Output capacitance	2.6 pF	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate supply voltage	200 V	ClassA1
Grid 1 voltage	-2 V	ClassA1
Plate current	4 mA	ClassA1

1966 TUNG SOL ELECTRONIC TUBES 2 OF 4

Section 2 · Pentode

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid 1 to plate capacitance	0.1 pF	—
Input capacitance	10 pF	—
Output capacitance	4.2 pF	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate supply voltage	200 V	ClassA1
Screen supply voltage	125 V	ClassA1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate current	25 mA	ClassA1



SOURCE DATA APPENDIX

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 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	200 V	ClassA
Plate current	4 mA	ClassA
Maximum plate voltage	330 V	—
Grid No.1 to plate	0.1 mA	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
PLATE VOLTAGE – published value 1	330 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
PLATE VOLTAGE – published value 2	330 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
SUPPLY VOLTAGE	330 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Positive-bias value – published value 1	0 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Positive-bias value – published value 2	0 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
PLATE DISSIPATION – published value 1	1 mA	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
PLATE DISSIPATION – published value 2	5 mA	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
respect to cathode – published value 1	200 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
respect to cathode – published value 2	200 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
respect to cathode – published value 1	200 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
respect to cathode – published value 2	200 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
For fixed-bias operation – published value 1	0.5 mA	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
For fixed-bias operation – published value 2	0.25 mA	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
For cathode-bias operation – published value 1	1 mA	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
For cathode-bias operation – published value 2	1 mA	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	17500 ohm	ClassA
Transconductance	4000 uS	ClassA
Amplification factor	70	ClassA
Voltage (AC or DC) – published value 1	6.3 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Voltage (AC or DC) – published value 2	10 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Current at 6.3 volts – published value 1	6.3 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Current at 6.3 volts – published value 2	0 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Current at 6.3 volts – published value 3	75 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Grid to plate	3.5	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
and heater	2.8	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
and heater	2.6	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
heater	10	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
No.2, and heater	4.2	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
1 Plate Supply Voltage – published value 1	1 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
1 Plate Supply Voltage – published value 2	200 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
1 Plate Supply Voltage – published value 3	45 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
1 Plate Supply Voltage – published value 4	200 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Grid-No.2 Supply Voltage – published value 1	125 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Grid-No.2 Supply Voltage – published value 2	125 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Grid-No.1 Voltage – published value 1	-2 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Grid-No.1 Voltage – published value 2	0 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Cathode Resistor	68 ohm	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Plate Resistance (Approx) – published value 1	17500 ohm	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Plate Resistance (Approx) – published value 2	75000 ohm	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Transconductance – published value 1	4000	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Transconductance – published value 2	12500	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Plate Current – published value 1	4 mA	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Plate Current – published value 2	40 mA	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Plate Current – published value 3	25 mA	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Grid-No.2 Current – published value 1	15 mA	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Grid-No.2 Current – published value 2	7 mA	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
for plate $\mu_a = 100$ – published value 1	100 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
for plate $\mu_a = 100$ – published value 2	-9 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
for plate – published value 1	20 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
for plate – published value 2	-6 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Pin 2 -Triode	2	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Pin 4 -Heater	4	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
PLATE VOLTS=200	200 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
GRID-N'2 VOLTS=125 – published value 1	2 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
GRID-N'2 VOLTS=125 – published value 2	125 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.

1971 RCA HB3 BINDER 5 OF 7

Section 2 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	200 V	ClassA
Plate current	25 mA	ClassA
Maximum plate voltage	330 V	—
Maximum screen-grid voltage	330 V	—
Triode grid to pentode plate	0.015 mA	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	75000 ohm	ClassA
Transconductance	12500 uS	ClassA
Plate	7	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Pin 5 -Heater – published value 1	5	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Pin 5 -Heater – published value 2	8	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.

SOURCE OPERATING CONDITIONS

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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 · Triode

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid to Plate	3.6 pF	Grid to Plate 3.6 pF

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid to Cathode, Heater, Pentode Cathode, Grid No	3	Grid to Cathode, Heater, Pentode Cathode, Grid No.3,
Plate to Cathode, Heater, Pentode Cathode, Grid No	3	Plate to Cathode, Heater, Pentode Cathode, Grid No.3,
Plate Dissipation	5 watts	Plate Dissipation 1 5 watts
Grid-No	2	Grid-No.2 Input:
Plate Dissipation	2 watts	Plate Dissipation 1.5 2 watts
Grid-No	0.5 watt	Grid-No.2 Input - 0.5 watt

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	330 volts	Plate Voltage 330 330 volts
Grid-No	330 volts	Grid-No.2 (Screen-Grid) Supply Voltage - 330 volts
Grid-No	2	Grid-No.2 Voltage
For grid-No	165 volts	For grid-No.2 voltages up to 165 volts -
For grid-No	330 volts	For grid-No.2 voltages between 165 and 330 volts
Plate Supply Voltage	200 volts	Plate Supply Voltage 200 45 200 volts
Grid-No	125 volts	Grid-No.2 Supply Voltage - 125 125 volts
Grid-No.1 Voltage	2	Grid-No.1 Voltage -- 2
Amplification Factor	70	Amplification Factor 70 - -

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Resistance (Approx.)	75000 ohms	Plate Resistance (Approx.) 17500 - 75000 ohms
Transconductance	12500	Transconductance 4000 - 12500 /xmhos
Plate Current	25 mA	Plate Current 40* 25 mA
Grid-No	2	Grid-No.2 Current
Plate Voltage	250 volts	Plate Voltage 125 250 volts
Grid-No	150 volts	Grid-No.2 (Screen-Grid) Voltage - 150 volts
Cathode Current	18	Cathode Current 16 18
Plate Voltage	170 volts	Plate Voltage 100 170 volts
Grid-No	160 volts	Grid-No.2 Voltage - 160 volts
Voltage	-1.2 volts	Voltage -3 -1.2 volts
Amplification Factor	17	Amplification Factor 17 -

1975 RCA RC30

Section 2 · Pentode

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid No.1 to Plate	0.1 pF	Grid No.1 to Plate 0.1 max pF
Triode Grid to Pentode Plate	0.016 pF	Triode Grid to Pentode Plate 0.016 max pF

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid No.1 to Cathode, Heater, Grid No	3	Grid No.1 to Cathode, Heater, Grid No.2, Grid No.3,
Plate to Cathode, Heater, Grid No	3	Plate to Cathode, Heater, Grid No.2, Grid No.3,
Peak Heater-Cathode Voltage ±	100 volts	Peak Heater-Cathode Voltage ±100 max ±100 max ±100 max volts

TUBE TINKER

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