

ELECTRONIC TUBE REFERENCE

6EW7

Power - TV Vertical Output electronic tube

CONSOLIDATED TECHNICAL DATA

2 SECTIONS

CONSTRUCTION

TRIODE-TRIODE

Dual triode intended for television vertical-deflection service, combining oscillator/driver and power-output functions where applicable. Manufacturer data emphasize vertical-sweep operation, pulse-voltage capability, and the stronger section's current and dissipation requirements.

GENERAL CHARACTERISTICS

BASE DESIGNATION	9HF	BASE PINS	9
NOMINAL HEATER	6.3 V / 900 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Dissimilar

9HF - TERMINAL PINOUT

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

SECTION RATINGS

SECTION1 Triode	
PLATE RESISTANCE	40000 Ω
TRANSCONDUCTANCE	0.0022 S
AMPLIFICATION FACTOR	80
MAXIMUM PLATE VOLTAGE	330 V
MAXIMUM PLATE DISSIPATION	1.5 W
MAXIMUM CATHODE CURRENT	20 mA
MAXIMUM HEATER-CATHODE VOLTAGE	200 V
WARM-UP TIME	11 s
<i>Published promoted fields populated from the printed semantic headings.</i>	

SECTION2 Triode	
PLATE RESISTANCE	1000 Ω
TRANSCONDUCTANCE	0.0075 S
AMPLIFICATION FACTOR	7.5
MAXIMUM PLATE VOLTAGE	220 V
MAXIMUM PLATE DISSIPATION	10 W
MAXIMUM CATHODE CURRENT	100 mA
MAXIMUM HEATER-CATHODE VOLTAGE	200 V
WARM-UP TIME	11 s
<i>Published promoted fields populated from the printed semantic headings.</i>	

Dissimilar dual triode used as a combined vertical-deflection oscillator and vertical-deflection amplifier in television receivers.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1950 Sylvania

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

1950 SYLVANIA

Section 2 · Triode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage. 6.3! 9.7 Volts	9.7 V	Heater Voltage. 6.3! 9.7 Volts
Heater Current. 900 6002 Ma	6002 mA	Heater Current. 900 6002 Ma
Plate Voltage. 250 150 Volts	150 V	Plate Voltage. 250 150 Volts
Grid No. 1 Voltage. -11 -17.5 Volts	-17.5 V	Grid No. 1 Voltage. -11 -17.5 Volts
Plate Current. 5.5 45 Ma	45 mA	Plate Current. 5.5 45 Ma
Transconductance. , 2000 7500 umhos	7500 umhos	Transconductance. , 2000 7500 umhos
Plate Resistance (approx.)..... 8750 800 Ohms	800 Ohms	Plate Resistance (approx.)..... 8750 800 Ohms

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Heater Current Ranget. _ 560- 640 Ma	-640 mA	Maximum Heater Current Ranget. _ 560-640 Ma
Plate Voltage. 330 330 Volts Max.	330 V	Plate Voltage. 330 330 Volts Max.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak Positive Pulse Plate Voltage..... — 1500 Volts Max.	1500 V	Peak Positive Pulse Plate Voltage..... — 1500 Volts Max.
Peak Negative Pulse Grid Voltage.... . 400 250 Volts Max.	250 V	Peak Negative Pulse Grid Voltage.... . 400 250 Volts Max.
Plate Dissipations. 1.5 10 Watts Max.	10 W	Plate Dissipations. 1.5 10 Watts Max.
Average Cathode Current. 22 50 Ma Max.	50 mA	Average Cathode Current. 22 50 Ma Max.
Peak Cathode Current. ... 77 175 Ma Max.	175 mA	Peak Cathode Current. ... 77 175 Ma Max.



SOURCE DATA APPENDIX

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
Section1PlateVoltage	330 V	Section1

1961 TUNG SOL

Section 2 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Section2PlateVoltage	220 V	Section2



SOURCE DATA APPENDIX

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

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate_voltage	250 V	Section1
Grid_voltage	-11 V	Section1

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate_current	5.5 mA	Section1

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-to-plate capacitance	4.2 pF	—
Input capacitance	2.2 pF	—
Output capacitance	0.6 pF	—

1966 TUNG SOL ELECTRONIC TUBES 2 OF 4

Section 2 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum_DC_plate_voltage	330 V	—
Maximum_peak_cathode_current	175 mA	—
Plate_voltage	150 V	Section2
Grid_voltage	-13.5 V	Section2

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate_current	45 mA	Section2

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-to-plate capacitance	9 pF	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Input capacitance	7 pF	—
Output capacitance	1.2 pF	—



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1971 RCA HB3 Binder 4 of 7

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

1971 RCA HB3 BINDER 4 OF 7

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	250 V	ClassA
Plate current	5.5 mA	ClassA
Maximum plate voltage	330 V	—
DC PLATE VOLTAGE	330 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
PLATE DISSIPATION – published value 1	1 mA	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
PLATE DISSIPATION – published value 2	5 mA	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Heater negative with respect to cathode. 200 max	200 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Heater positive with respect to cathode. 200c max	200 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
bias operation – published value 1	2 mA	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
bias operation – published value 2	2 mA	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
DC PLATE VOLTAGE	330 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
PEAK POSITIVE-PULSE PLATE VOLTAGE ^d	1500 V	Pulse
PEAK NEGATIVE-PULSE GRID VOLTAGE	250 V	Pulse
PLATE DISSIPATION	10 mA	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Heater positive with respect to cathode. 200° max	200 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	8750 ohm	ClassA
Transconductance	2000 uS	ClassA
Amplification factor	17.5	ClassA
Voltage (AC or DC) – published value 1	6 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Voltage (AC or DC) – published value 2	3 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Voltage (AC or DC) – published value 3	10 V	Published datasheet value; multiple numbers 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 numbers on one source row represent separate limits or operating conditions.
Current at 6.3 volts – published value 2	9 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Grid to plate – published value 1	4.2	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Grid to plate – published value 2	9	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid to cathode and heater – published value 1	2.2	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Grid to cathode and heater – published value 2	7	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Plate to cathode and heater – published value 1	0.4	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Plate to cathode and heater – published value 2	1.2	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Plate Voltage – published value 1	250 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Plate Voltage – published value 2	150 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Grid Voltage – published value 1	-11 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Grid Voltage – published value 2	-17.5 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Plate Resistance (Approx) – published value 1	8750 ohm	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Plate Resistance (Approx) – published value 2	800 ohm	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Transconductance – published value 1	2000	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Transconductance – published value 2	7500	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Plate Current – published value 1	5.5 mA	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Plate Current – published value 2	45 mA	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
60 and grid volts = 0 – published value 1	60 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
60 and grid volts = 0 – published value 2	0 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
60 and grid volts = 0 – published value 3	95 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Pin 1 -Plate of – published value 1	1	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Pin 1 -Plate of – published value 2	6	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Pin 2-Grid of – published value 1	2	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Pin 2-Grid of – published value 2	7	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Pin 3-Grid of – published value 1	3	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Pin 3-Grid of – published value 2	8	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Pin 4 -Heater – published value 1	4	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Pin 4 -Heater – published value 2	9	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
PEAK NEGATIVE-PULSE GRID VOLTAGE	400 V	Pulse

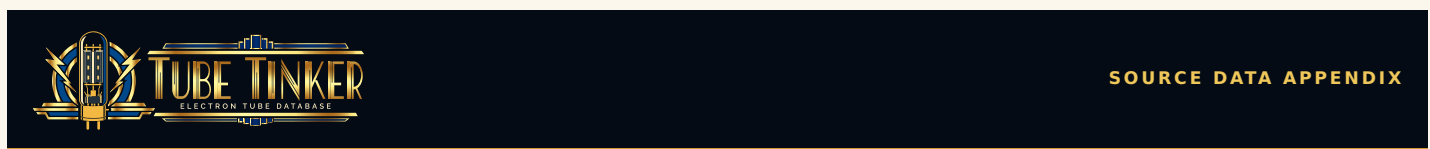
1971 RCA HB3 BINDER 4 OF 7

Section 2 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	150 V	ClassA
Plate current	45 mA	ClassA

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum plate voltage	330 V	—

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	800 ohm	ClassA
Transconductance	7500 uS	ClassA
Amplification factor	6	ClassA
Pin 5 -Heater	5	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.



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 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage (ac/dc) 6.3 9.7	14.8 V	Published in approved 6EW7 target entry; Section1
Heater Current 0.9 0.6	450 mA	Published in approved 6EW7 target entry; Section1
DC Plate Voltage 330	330 V	Published in approved 6EW7 target entry; Section1
Peak Positive-Pulse Plate Voltage*	1500 V	Published in approved 6EW7 target entry; Section1
Peak Negative-Pulse Grid Voltage 400	250 V	Published in approved 6EW7 target entry; Section1
Peak Cathode Current 77	175 mA	Published in approved 6EW7 target entry; Section1
Average Cathode Current 22	50 mA	Published in approved 6EW7 target entry; Section1
Plate Dissipation 1.5	10 W	Published in approved 6EW7 target entry; Section1

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid to Plate 4.2	9 pF	Published in approved 6EW7 target entry; Section1
Grid to Cathode and Heater 2.2	7 pF	Published in approved 6EW7 target entry; Section1
Plate to Cathode and Heater 0.4	1.2 pF	Published in approved 6EW7 target entry; Section1

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage 250	150 V	Published in approved 6EW7 target entry; Section1
-11	-17.5 V	Published in approved 6EW7 target entry; Section1
8750	800 Ω	Published in approved 6EW7 target entry; Section1
2000	7500 μ S	Published in approved 6EW7 target entry; Section1
5.5	45 mA	Published in approved 6EW7 target entry; Section1
Plate Current for plate voltage of	60 V	Published in approved 6EW7 target entry; Section1
Grid Voltage (Approx.) for plate current of 10 / μ A	-20 V	Published in approved 6EW7 target entry; Section1
Grid Voltage (Approx.) for plate current of 100 / μ A	-40 V	Published in approved 6EW7 target entry; Section1

1975 RCA RC30

Section 2 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage (ac/dc) 6.3 9.7	14.8 V	Published in approved 6EW7 target entry; Section2
Heater Current 0.9 0.6	450 mA	Published in approved 6EW7 target entry; Section2
DC Plate Voltage 330	330 V	Published in approved 6EW7 target entry; Section2
Peak Positive-Pulse Plate Voltage*	1500 V	Published in approved 6EW7 target entry; Section2

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak Negative-Pulse Grid Voltage 400	250 V	Published in approved 6EW7 target entry; Section2
Peak Cathode Current 77	175 mA	Published in approved 6EW7 target entry; Section2
Average Cathode Current 22	50 mA	Published in approved 6EW7 target entry; Section2
Plate Dissipation 1.5	10 W	Published in approved 6EW7 target entry; Section2

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid to Plate 4.2	9 pF	Published in approved 6EW7 target entry; Section2
Grid to Cathode and Heater 2.2	7 pF	Published in approved 6EW7 target entry; Section2
Plate to Cathode and Heater 0.4	1.2 pF	Published in approved 6EW7 target entry; Section2

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage 250	150 V	Published in approved 6EW7 target entry; Section2
-11	-17.5 V	Published in approved 6EW7 target entry; Section2
8750	800 Ω	Published in approved 6EW7 target entry; Section2
2000	7500 μS	Published in approved 6EW7 target entry; Section2
5.5	45 mA	Published in approved 6EW7 target entry; Section2
Plate Current for plate voltage of	60 V	Published in approved 6EW7 target entry; Section2
Grid Voltage (Approx.) for plate current of 10 /1A	-20 V	Published in approved 6EW7 target entry; Section2
Grid Voltage (Approx.) for plate current of 100 /iA	-40 V	Published in approved 6EW7 target entry; Section2

TUBE TINKER

An independent reference for electronic tubes, vacuum tubes, and their source documents.

