

ELECTRONIC TUBE REFERENCE

6HS6

Voltage - Radio Detector Converter electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION
CONSTRUCTION
PENTODE

Miniature pentode designed as an intermediate-frequency amplifier and limiter in FM receivers.

GENERAL CHARACTERISTICS

BASE DESIGNATION	7BK	BASE PINS	7
NOMINAL HEATER	6.3 V / 450 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

7BK - TERMINAL PINOUT

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

SECTION RATINGS

SECTION1 Pentode	
PLATE RESISTANCE	500000 Ω
TRANSCONDUCTANCE	0.0095 S
AMPLIFICATION FACTOR	50
MAXIMUM PLATE VOLTAGE	330 V
MAXIMUM SCREEN VOLTAGE	330 V
<i>Published maximum ratings and characteristic values promoted where applicable; additional table values retained in TUBE_SECTION_PARAMETER.</i>	

Miniature type used as if-amplifier and limiter tube in FM receivers. Outlines section, 5C; requires miniature 7BK 7-contact socket. Heater Voltage (ac/dc) 6.

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
Plate voltage	150 V	ClassA
Plate current	8.8 mA	ClassA
Maximum plate voltage	330 V	—
Maximum screen-grid voltage	330 V	—
respect to cathode	200 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
respect to cathode	200 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Grid No.1 to plate – published value 1	0 mA	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Grid No.1 to plate – published value 2	6 mA	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
PLATE VOLTAGE	300 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
SUPPLY VOLTAGE	300 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Negative-bias value	50 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Positive-bias value	0 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.

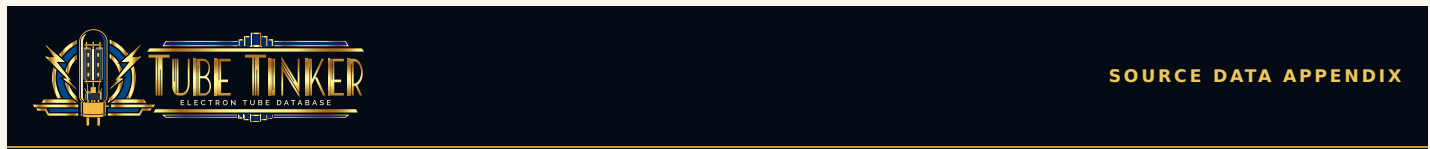
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
For grid-No.2 voltages up to 150 volts – published value 1	150 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
For grid-No.2 voltages up to 150 volts – published value 2	1 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
PLATE DISSIPATION	3 mA	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
For fixed-bias operation	0.5 mA	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
For cathode-bias operation	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	500000 ohm	ClassA
Transconductance	9500 uS	ClassA
Amplification factor	50	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	6.3 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Voltage (AC or DC) – published value 3	0.6 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Current – published value 1	450 mA	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Current – published value 2	30 mA	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Current – published value 3	450.6 mA	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Warm-up time (Average)	11	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
and heater	8.8	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
internal shield, grid No:2,	2	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
and heater	5.2	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Plate Supply Voltage – published value 1	75 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Plate Supply Voltage – published value 2	150 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Grid-No.2 Supply Voltage – published value 1	75 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Grid-No.2 Supply Voltage – published value 2	75 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Grid-No.1 Supply Voltage – published value 1	0 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Grid-No.1 Supply Voltage – published value 2	0 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Cathode Resistor – published value 1	68 ohm	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Cathode Resistor – published value 2	68 ohm	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Plate Resistance (Approx)	0.5 Mohm	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Transconductance	9500	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Plate	8.8 mA	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-No.2 Current	2.8 mA	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Pin 1 -Grid No.1 – published value 1	1	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Pin 1 -Grid No.1 – published value 2	4	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Pin 2-Grid No.3, – published value 1	2	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Pin 2-Grid No.3, – published value 2	5	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Internal	6	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Shield	7	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Pin 3-Heater	3	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
For grid-No.2 voltages between 150 and	150 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
300 volts	300 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
a AL heater amperes = 0.450	450 mA	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
t! At heater volts = 6.j	6 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
GRID-No.2 VOLTS=75	75 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
PLATE VOLTS=150	150 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
GRID-No.2 VOLTS=75	75 V	Published datasheet value; multiple values 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 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Warm-up Time (Average)	11 seconds	Heater Warm-up Time (Average) 11 seconds
Grid No.1 to Plate	0.006 volts	Grid No.1 to Plate 0.006 max volts
Grid No.1 to Cathode, Heater, Grid No	3	Grid No.1 to Cathode, Heater, Grid No.2, Grid No.3, and
Plate to Cathode, Heater, Grid No	3	Plate to Cathode, Heater, Grid No.2, Grid No.3, and
Plate Dissipation	3 volts	Plate Dissipation 3 volts
Grid-No	2	Grid-No.2 Input:
Grid No	3	Grid No.3 Connected to cathode at socket
• Grid No	2	• Grid No.2 connected to plate.

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Supply Voltage	300 volts	Plate Supply Voltage 300 volts
Grid-No	0 volts	Grid-No.3 (Suppressor-Grid) Voltage, Positive Value . 0 volts
Grid-No	300 volts	Grid-No.2 (Screen-Grid) Supply Voltage 300 volts
Grid-No	300	Grid-No.2 Voltage See curve page 300
For grid-No	1 volts	For grid-No.2 voltages up to 150 volts 1 watt

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
For grid-No	300 volts	For grid-No.2 voltages between 150 and 300 volts . . See curve page 300
Plate Supply Voltage	150 volts	Plate Supply Voltage 75 150 volts
Grid-No	75 volts	Grid-No.2 Supply Voltage 75 75 volts
Grid-No.1 Supply Voltage	0 volts	Grid-No.1 Supply Voltage 0 0 volts
Amplification Factor*	50	Amplification Factor* 50
Plate Resistance (Approx.)	0.5 megohm	Plate Resistance (Approx.) 0.5 megohm
Transconductance	9500	Transconductance 9500 /tmhos
Plate Current	8.8 mA	Plate Current 8.8 mA
Grid-No	2.8 mA	Grid-No.2 Current 2.8 mA

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