

Semiremote-cutoff twin pentode designed as an intermediate-frequency amplifier in television receivers.

GENERAL CHARACTERISTICS

BASE DESIGNATION	12DM	BASE PINS	12
NOMINAL HEATER	6.3 V / 800 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

12DM - TERMINAL PINOUT

TERMINAL	SECTION	ELEMENT	STATUS
PIN1	–	H – Heater	CONNECTED
PIN2	B	P – Plate (Anode)	CONNECTED
PIN3	B	G2 – Screen Grid	CONNECTED
PIN4	B	G3 – Suppressor Grid	CONNECTED
PIN5	B	G1 – Control Grid	CONNECTED
PIN6	B	K – Cathode	CONNECTED
PIN7	A	G3 – Suppressor Grid	CONNECTED
PIN7	–	IS – Internal Screen	CONNECTED
PIN8	A	P – Plate (Anode)	CONNECTED
PIN9	A	G2 – Screen Grid	CONNECTED
PIN10	A	G1 – Control Grid	CONNECTED
PIN11	A	K – Cathode	CONNECTED
PIN12	–	H – Heater	CONNECTED

SECTION RATINGS

SECTION1 Pentode	
PLATE RESISTANCE	200000 Ω
TRANSCONDUCTANCE	0.0105 S
MAXIMUM PLATE VOLTAGE	330 V
MAXIMUM SCREEN VOLTAGE	330 V
MAXIMUM PLATE DISSIPATION	3.1 W
MAXIMUM SCREEN DISSIPATION	0.65 W
MAXIMUM HEATER-CATHODE VOLTAGE	200 V
<i>Promoted from published ratings/characteristics; identical repeated sections compressed where applicable.</i>	

SECTION2 Pentode	
PLATE RESISTANCE	200000 Ω
TRANSCONDUCTANCE	0.0105 S
MAXIMUM PLATE VOLTAGE	330 V
MAXIMUM SCREEN VOLTAGE	330 V
MAXIMUM PLATE DISSIPATION	3.1 W
MAXIMUM SCREEN DISSIPATION	0.65 W
<i>Unit No.2 semiremote-cutoff pentode.</i>	

Semiremote-cutoff twin pentode used as an IF-amplifier tube in television receivers.

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 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage nominal	6.3 V	—
Heater current	800 mA	—
Maximum plate voltage	330 V	ClassA1
Maximum screen supply voltage	330 V	ClassA1
Maximum screen input	0.65 W	ClassA1
Maximum plate dissipation	3.1 W	ClassA1

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate supply voltage	125 V	ClassA1
Screen supply voltage	125 V	ClassA1
Cathode resistor	56 ohm	ClassA1
Plate resistance	200000 ohm	ClassA1
Transconductance	10500 μ S	ClassA1
Plate current	11 mA	ClassA1
Screen current	3.5 mA	ClassA1
Grid voltage for transconductance 50 μ S	-15 V	ClassA1

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid No.1-to-plate capacitance	0.026 pF	—
Plate output capacitance	2.8 pF	—

Section 2 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage nominal	6.3 V	—
Heater current	800 mA	—
Maximum plate voltage	330 V	ClassA1
Maximum screen supply voltage	330 V	ClassA1
Maximum screen input	0.65 W	ClassA1
Maximum plate dissipation	3.1 W	ClassA1

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate supply voltage	125 V	ClassA1
Screen supply voltage	125 V	ClassA1
Cathode resistor	56 ohm	ClassA1
Plate resistance	200000 ohm	ClassA1
Transconductance	10500 μ S	ClassA1
Plate current	11 mA	ClassA1
Screen current	3.5 mA	ClassA1
Grid voltage for transconductance 50 μ S	-15 V	ClassA1

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid No.1-to-plate capacitance	0.026 pF	—
Plate output capacitance	3 pF	—



SOURCE DATA APPENDIX

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 Voltage (ac/dc) 6.3 8.4	11.2 V	Published in approved 8AR11 target datasheet entry; Section1
Heater Current 0.8 0.6	450 mA	Published in approved 8AR11 target datasheet entry; Section1
Heater Warm-up Time (Average) 11	11 seconds	Published in approved 8AR11 target datasheet entry; Section1
Grid-No.3 (Suppressor-Grid) Voltage, Positive value	0 V	Published in approved 8AR11 target datasheet entry; Section1
Grid-No. 2 (Screen-Grid) Supply Voltage	330 V	Published in approved 8AR11 target datasheet entry; Section1
Grid-No. 1 (Control-Grid) Voltage, Positive-bias value	0 V	Published in approved 8AR11 target datasheet entry; Section1
Plate Dissipation	3.1 W	Published in approved 8AR11 target datasheet entry; Section1
For grid-No.2 voltages up to	165 V	Published in approved 8AR11 target datasheet entry; Section1
For grid-No.2 voltages up to 165 volts	0.65 W	Published in approved 8AR11 target datasheet entry; Section1
For grid-No.2 voltages between 165 and	330 V	Published in approved 8AR11 target datasheet entry; Section1
Plate Supply Voltage	125 V	Published in approved 8AR11 target datasheet entry; Section1

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid No.1 to Plate 0.026	0.026 pF	Published in approved 8AR11 target datasheet entry; Section1
No. 3, and Internal Shield 10	10 pF	Published in approved 8AR11 target datasheet entry; Section1
and Internal Shield 2.8	3 pF	Published in approved 8AR11 target datasheet entry; Section1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid No.1 to Plate of Other Unit 0.002	0.002 pF	Published in approved 8AR11 target datasheet entry; Section1
Plate of Unit No.1 to Plate of Unit No.2	0.02 pF	Published in approved 8AR11 target datasheet entry; Section1

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-No.2 Supply Voltage	125 V	Published in approved 8AR11 target datasheet entry; Section1
Cathode-Bias Resistor	56 Ω	Published in approved 8AR11 target datasheet entry; Section1
Plate Resistance (Approx.)	0.2 MΩ	Published in approved 8AR11 target datasheet entry; Section1
Transconductance	10500 μS	Published in approved 8AR11 target datasheet entry; Section1
Plate Current	11 mA	Published in approved 8AR11 target datasheet entry; Section1
Grid-No.2 Current	3.5 mA	Published in approved 8AR11 target datasheet entry; Section1
Grid-No.1 Voltage (Approx.) for transconductance of	50 μS	Published in approved 8AR11 target datasheet entry; Section1

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