

ELECTRONIC TUBE REFERENCE

21HB5A

Power - TV Horizontal Output (sweep) electronic tube

CONSOLIDATED TECHNICAL DATA
1 SECTION
CONSTRUCTION
BEAMPOWER

Compactron beam-power pentode designed for television horizontal-deflection amplifier service, with high sweep-pulse voltage capability.

GENERAL CHARACTERISTICS

BASE DESIGNATION	12BJ	BASE PINS	12
NOMINAL HEATER	21 V / 450 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

12BJ - TERMINAL PINOUT

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

TERMINAL	SECTION	ELEMENT	STATUS
PIN12	—	H – Heater	CONNECTED

SECTION RATINGS

SECTION1 Beam Power		
PLATE RESISTANCE		9900 Ω
TRANSCONDUCTANCE		0.009 S
AMPLIFICATION FACTOR		4.8
MAXIMUM PLATE VOLTAGE		770 V
MAXIMUM SCREEN VOLTAGE		220 V
MAXIMUM PLATE DISSIPATION		18 W
MAXIMUM SCREEN DISSIPATION		3.5 W
MAXIMUM CATHODE CURRENT		230 mA
Promoted characteristics use the published 130 V average-characteristics column; amplification factor is for triode connection. MaxPlateVoltage is the published DC plate-supply design maximum; pulse limits are parameters.		

21HB5A is a beam-power tube for television deflection or power-amplifier service. The supplied RCA manual excerpt was reviewed for heater data, physical sections, maximum ratings, electrical characteristics, capacitances, and stated operating conditions.



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1968 General Electric Co

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

1968 GENERAL ELECTRIC CO

Section 1 · Beam Power

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak Positive Pulse Plate Voltage	6000 V	HorizontalDeflection
Peak Negative Pulse Plate Voltage	1500 V	HorizontalDeflection
Peak Cathode Current	800 mA	HorizontalDeflection
Heater Warm-up Time	11 s	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Current	46 mA	Plate=130V;Screen=130V;Grid1=-20V
Screen Current	1.8 mA	Plate=130V;Screen=130V;Grid1=-20V



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 · Beam Power

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
0.45; warm-up time (average),	11 s	0.45; warm-up time (average), 11 seconds; maximum

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
amperes, 0.45; average warm-up time,	11 s	amperes, 0.45; average warm-up time, 11 seconds;
Plate Supply Voltage	770 V	Plate Supply Voltage 770 volts
Peak Positive-Pulse Plate Voltage*	6500 V	Peak Positive-Pulse Plate Voltage* 6500 volts
Peak Negative-Pulse Plate Voltage	1500 V	Peak Negative-Pulse Plate Voltage 1500 volts
DC Grid-No.3 Voltage, Positive-bias value	70 V	DC Grid-No.3 Voltage, Positive-bias value 70 volts
Grid-No.2 Voltage	220 V	Grid-No.2 Voltage 220 volts
DC Grid-No.1 Voltage, Negative-bias value	55 V	DC Grid-No.1 Voltage, Negative-bias value 55 volts
Peak Negative-Pulse Grid-No.1 Voltage	330 V	Peak Negative-Pulse Grid-No.1 Voltage 330 volts
Peak Cathode Current	800 mA	Peak Cathode Current 800 mA
Average Cathode Current	230 mA	Average Cathode Current 230 mA
Plate Dissipation*	18 W	Plate Dissipation* 18 watts
Grid-No.2 Input	3.5 W	Grid-No.2 Input 3.5 watts
Grid-No.1-Circuit Resistance	1 Mohm	Grid-No.1-Circuit Resistance 1 megohm
# Pulse duration must not exceed 15% of a horizontal scanning cycle (	10 us	# Pulse duration must not exceed 15% of a horizontal scanning cycle (10 microseconds).
Maximum plate/supply voltage	6500 V	Published section value
Maximum screen-grid voltage	770 V	Published section value
Maximum plate dissipation	18 W	Published section value

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage 5000 50 130	130 V	Plate Voltage 5000 50 130 130 volts
Grid-No.2 (Screen-Grid) Voltage 130 130 130	130 V	Grid-No.2 (Screen-Grid) Voltage 130 130 130 130 volt*
Plate Resistance (Appiox.) —	9900 ohm	Plate Resistance (Appiox.) — — 9900 ohms
plate current of	1 mA	plate current of 1 mA —64 — —32 — volt*
Plate Voltage 13) 5000 50	130 V	Plate Voltage 13) 5000 50 130 volts
Grid-No.2 (Screen-Grid) Voltage — 130 130	130 V	Grid-No.2 (Screen-Grid) Voltage — 130 130 130 volts

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Resistance (Approx.) — — —	9900 ohm	Plate Resistance (Approx.) — — — 9900 ohms
Plate Current — — 450	46 mA	Plate Current — — 450 46 mA
Grid-No.2 Current — — 29	1.8 mA	Grid-No.2 Current — — 29 1.8 mA
current of	1 mA	current of 1.0 mA — —64 — —32 volts
Plate resistance	9900 ohm	Published section value
Amplification factor	4.8	Published section value

TUBE TINKER

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