



ELECTRONIC TUBE REFERENCE

23EQP4

Specialized - Cathode Ray electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION
CONSTRUCTION
CATHODERAY

Twenty-three-inch 110-degree RCA Pan-O-Ply monochrome television CRT with low-voltage electrostatic focus and magnetic deflection. Wide-angle scanning and integral implosion protection support shallow large-screen receiver cabinets.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	7
NOMINAL HEATER	6.9 V / 20 A	PARALLEL HEATER	— / —
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION1 Cathode Ray	
MAXIMUM PLATE VOLTAGE	23000 V
MAXIMUM SCREEN VOLTAGE	300 V
CRT-specific ratings, operating conditions, capacitances, focus/deflection, cutoff, optical, and screen data are retained in section parameters.	

23-inch 110-degree RCA Pan-O-Ply monochrome television CRT with low-voltage electrostatic focus.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1964 RMA EIA

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

1964 RMA EIA

Section 1 · Cathode Ray

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Focusing method	Electrostatic	—
Deflection method	Magnetic	—
Horizontal deflection angle	99 deg	—
Vertical deflection angle	82 deg	—
Diagonal deflection angle	110 deg	—
Heater voltage	6.3 V	—
Heater current	450 mA	—

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Cathode-to-all capacitance	5 pF	—
Grid1-to-all capacitance	6 pF	—
External coating capacitance minimum	1700 pF	—
External coating capacitance maximum	2500 pF	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Anode voltage maximum	23000 V	—
Anode voltage minimum	12000 V	—
Typical anode voltage	18000 V	—
Typical focus-electrode voltage	250 V	—
Typical grid2 voltage	50 V	—

APPLICATION		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Application	Monochrome television picture display	—


SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1971 RCA HB3 Binder 1 of 7

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

1971 RCA HB3 BINDER 1 OF 7

Section 1 · Cathode Ray

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
LOW-VOLTAGE ELECTROSTATIC FOCUS – published value 1	1 V	Published CRT datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
LOW-VOLTAGE ELECTROSTATIC FOCUS – published value 2	14 V	Published CRT datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Grid No.1 to all other electrodes	6 pF	Published CRT datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
External conductive coating to anode°	1700 pF	Published CRT datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Heater Current at 6.3 volts – published value 1	6.3 V	Published CRT datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Heater Current at 6.3 volts – published value 2	450 V	Published CRT datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Heater Current at 6.3 volts – published value 3	20 V	Published CRT datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Heater Warm-Up Time (Average)	11	Published CRT datasheet value; multiple numbers on one source row represent separate limits or operating conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Light Transmission (Approx.)	42	Published CRT datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Projected Area of Screen	282	Published CRT datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Anode Voltage	18000 V	Published CRT datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Grid-No.4 Voltage	200 V	Published CRT datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Grid-No.2 Voltage	300 V	Published CRT datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
focused raster – published value 1	28 V	Published CRT datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
focused raster – published value 2	62 V	Published CRT datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
grid-No.1 and vitleo-sign al -voltage adjusted to give a 200-microampere	200 V	Published CRT datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Grid No.1 to all other electrodes	6 pF	Published CRT datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
External conductive coating to anode. .1700 min –2500 max pF	2500 mA	Published CRT datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Heater Current at 6.3 volts – published value 1	6.3 V	Published CRT datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Heater Current at 6.3 volts – published value 2	450 V	Published CRT datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Heater Current at 6.3 volts – published value 3	20 V	Published CRT datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Light Transmission (Approx)	42	Published CRT datasheet value; multiple numbers on one source row represent separate limits or operating conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Projected Area of Screen	282	Published CRT datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Anode Voltage – published value 1	1 V	Published CRT datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Anode Voltage – published value 2	1000 V	Published CRT datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Anode Voltage – published value 3	23000 V	Published CRT datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Grid-No.2 Voltage – published value 1	200 V	Published CRT datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Grid-No.2 Voltage – published value 2	550 V	Published CRT datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Heater Voltage – published value 1	5.7 V	Published CRT datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Heater Voltage – published value 2	6.9 V	Published CRT datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Combined AC and DC voltage	200 V	Published CRT datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Anode Voltage	18000 V	Published CRT datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Grid-No.4 Voltageb	200 V	Published CRT datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Grid-No.2 Voltage	300 V	Published CRT datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
focused raster – published value 1	28	Published CRT datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
focused raster – published value 2	62	Published CRT datasheet value; multiple numbers on one source row represent separate limits or operating conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-No. 1 Circuit Resistance	1.5 mA	Published CRT datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
grid-No.1 and video-signal-voltage adj us cad co give a 200-microampere	200 V	Published CRT datasheet value; multiple numbers on one source row represent separate limits or operating conditions.

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Anode Voltage	23000 V	Published CRT datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Combined AC and DC voltage	200 V	Published CRT datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Grid-No.1 Circuit Resistance	1.5 mA	Published CRT datasheet value; multiple numbers on one source row represent separate limits or operating conditions.

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