



ELECTRONIC TUBE REFERENCE

21GUP22

Specialized - Cathode Ray electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

CATHODERAY

Twenty-one-inch color television picture tube with electrostatic focusing, magnetic deflection, and a P22 color screen. Its high-voltage direct-view construction is designed for color receiver service and carries published X-ray precautions.

GENERAL CHARACTERISTICS

BASE DESIGNATION	J164-1	BASE PINS	12
NOMINAL HEATER	6.3 V / 1.9 A	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Cathode Ray	
MAXIMUM PLATE VOLTAGE	27500 V
<i>CRT maximum accelerating/anode/ultor voltage is promoted to MaxPlateVoltage; additional electrode ratings, capacitances, operating conditions, focus/deflection and optical data are preserved as parameters. Electrical data inherited from explicitly referenced 21GVP22 sheet.</i>	

21GUP22 is a color picture tube using electrostatic focusing and magnetic deflection. The source specifies a P22 screen and publishes CRT accelerating/anode ratings, control and focusing-electrode limits, heater-cathode limits, capacitances, and operating or deflection characteristics. The datasheet explicitly directs use of 21GVP22 electrical data except for the stated screen, optical, or mechanical differences.

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

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid 3 to all other electrodes	12 pF	—
Cathode to all other electrodes	16 pF	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Minimum anode/ultor voltage	20000 V	—
Maximum grid 3 voltage	6000 V	—
Maximum grid 1 negative-bias voltage	400 V	NegativeBias
Maximum grid 1 negative operating cutoff voltage	200 V	NegativeCutoff
Maximum grid 1 positive-bias voltage	0 V	PositiveBias
Maximum grid 1 positive-peak voltage	2 V	PositivePeak
Peak heater-cathode voltage	200 V	HeaterPositive
Grid 3 focus voltage as percent of anode voltage	16.8–20 %	Focus
Maximum grid 3 circuit resistance	7.5 MΩ	—
Projected screen area	267 in ²	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid 2 current	5–5 μA	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Faceplate light transmission	39 %	Approximate
Faceplate light transmission	72 %	Approximate

TUBE TINKER

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and their source documents.

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