



ELECTRONIC TUBE REFERENCE

21ACP4

Specialized - Cathode Ray electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

CATHODERAY

Twenty-one-inch direct-view monochrome television picture tube designed for large-screen receiver service. Manufacturer data documents its magnetic scanning system, high-voltage operation, and picture-tube optical and electrical characteristics.

GENERAL CHARACTERISTICS

BASE DESIGNATION	12N	BASE PINS	5
NOMINAL HEATER	6.3 V / 600 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Cathode Ray	
MAXIMUM PLATE VOLTAGE	20000 V
MAXIMUM SCREEN VOLTAGE	500 V
<i>CRT section; Magnetic focus with magnetic deflection.</i>	

Direct-view television picture tube with magnetic focus, magnetic deflection, P4 white phosphor, and published high-voltage CRT operating data.



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1961 Tung Sol

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

1961 TUNG SOL

Section 1 · Cathode Ray

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	6.3 V	Nominal
Heater current	600 mA	Nominal
Maximum grid 2 voltage	500 V	—
Typical grid 2 voltage	500 V	Typical operating conditions

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Horizontal deflection angle	85 deg	—
Vertical deflection angle	68 deg	—
Diagonal deflection angle	30 deg	—

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Cathode to all other electrodes	7 pF	Approximate



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1966 Tung Sol Electronic Tubes 4 of 4

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

1966 TUNG SOL ELECTRONIC TUBES 4 OF 4

Section 1 · Cathode Ray

CONSTRUCTION		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Focusing method	Magnetic	—
Deflecting method	Magnetic	—
Phosphor	P4	White

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Horizontal deflection angle	85 deg	Approximate
Diagonal deflection angle	90 deg	Approximate
Persistence	Short	—
Faceplate light transmission at center	71 %	Approximate

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Cathode to all other electrodes capacitance	5 pF	Approximate
Grid #1 to all other electrodes capacitance	6 pF	Approximate

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	6.3 V	—
Heater current	600 mA	—
Maximum DC anode voltage	20000 V	—
Maximum DC grid #2 voltage	500 V	—
Maximum grid #1 negative bias magnitude	125 V	—
Maximum grid #1 positive DC bias	0 V	—
Maximum grid #1 positive peak	2 V	—
Maximum heater-cathode voltage during warm-up	410 V	HeaterNegative;Warmup<=15s
Maximum heater-cathode voltage after warm-up	150 V	HeaterNegative

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum heater-cathode voltage heater positive	150 V	HeaterPositive
Typical DC anode voltage	16000 V	TelevisionPictureTube
Typical DC grid #2 voltage	300 V	TelevisionPictureTube
Typical grid #1 visual-extinction range	-28 to -72 V	VisualExtinction
Focusing coil current	117 mA	Approximate
Ion trap setting	40 gauss	Approximate
X-ray shielding note	May be necessary above 16000 V	HighVoltageOperation



SOURCE DATA APPENDIX

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 · Cathode Ray

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Typical Anode Voltage	16000 V	—
Typical Grid No. 2 Voltage	300 V	—
Grid No. 1 Maximum Negative Bias	125 V	—
Grid No. 1 Maximum Positive Peak	2 V	—

TUBE TINKER

An independent reference for electronic tubes, vacuum tubes, and their source documents.

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