

ELECTRONIC TUBE REFERENCE

21AP4

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	—	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

SECTION1 Cathode Ray	
MAXIMUM PLATE VOLTAGE	18000 V
MAXIMUM SCREEN VOLTAGE	5 V
Published maximum ratings and electrical characteristics promoted from the approved source.	

Direct-view cathode-ray picture tube for television display service. Electrical ratings, operating conditions, capacitances, optical data, and construction details were extracted from the supplied datasheet.



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1940 RCA

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

1940 RCA

Section 1 · Cathode Ray

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
HeaterVoltageNominal	6.3 V	Nominal
HeaterCurrentNominal	600 mA	Nominal
Maximum Plate Voltage	18000 V	—
UltorVoltageMaximum	18000 V	—
GridNo2VoltageMaximum	500 V	—



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 anode voltage	18000 V	Typical operating conditions
Typical grid 2 voltage	300 V	Typical operating conditions

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Vertical deflection angle	50 deg	—
Diagonal deflection angle	70 deg	—

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



SOURCE OPERATING CONDITIONS

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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

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
UNIPOTENTIAL CATHODE	6 mA	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
EXTERNAL – value 1	13	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
EXTERNAL – value 2	15	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
EXTERNAL – value 3	16	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
FACEPLATE LIGHT TRANSMISSION	66 percent	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
OC GRID #3, GRID #5, COLLECTOR VOLTAGE – value 1	3 V	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
OC GRID #3, GRID #5, COLLECTOR VOLTAGE – value 2	5 V	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
OC GRID #3, GRID #5, COLLECTOR VOLTAGE – value 3	14000 V	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
DC GRID #2 VOLTAGE – value 1	2 V	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
DC GRID #2 VOLTAGE – value 2	300 V	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
DC IJN TRAP CURRENT STANDARD COIL #111 (APPROX.) – value 1	111 mA	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
DC IJN TRAP CURRENT STANDARD COIL #111 (APPROX.) – value 2	9 mA	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
SIGNAL VOLTAGE A0 JU STED TO PRODUCE A HIGHLIGHT BRIGHTNESS OF 30 FOOT LAMBERTS OM A 18 3/8" BY – value 1	30 V	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
SIGNAL VOLTAGE A0 JU STED TO PRODUCE A HIGHLIGHT BRIGHTNESS OF 30 FOOT LAMBERTS OM A 18 3/8" BY – value 2	18 V	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
SIGNAL VOLTAGE A0 JU STED TO PRODUCE A HIGHLIGHT BRIGHTNESS OF 30 FOOT LAMBERTS OM A 18 3/8" BY – value 3	3 V	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
13 15/16" PICTURE SIZE. DISTANCE FROM REF Eft ENCE LINE TO CENTER OF AIR GAP OX FOCUS COIL SMALL – value 1	13 mA	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
13 15/16" PICTURE SIZE. DISTANCE FROM REF Eft ENCE LINE TO CENTER OF AIR GAP OX FOCUS COIL SMALL – value 2	15 mA	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
13 15/16" PICTURE SIZE. DISTANCE FROM REF Eft ENCE LINE TO CENTER OF AIR GAP OX FOCUS COIL SMALL – value 3	16 mA	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
MAXIMUM DC GRID #5, GRID #5, COLLECTOR VOLTAGE – value 1	5 V	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
MAXIMUM DC GRID #5, GRID #5, COLLECTOR VOLTAGE – value 2	5 V	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
MAXIMUM DC GRID #2 VOLTAGE – value 1	2 V	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
MAXIMUM DC GRID #2 VOLTAGE – value 2	5 V	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
MAXIMUM GRID #1 VOLTAGE	1 V	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
MAXIMUM GRID #1 CIRCUIT RESISTANCE – value 1	1 mA	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
MAXIMUM GRID #1 CIRCUIT RESISTANCE – value 2	1.5 mA	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.

TUBE TINKER

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

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