



ELECTRONIC TUBE REFERENCE

21CBP4

Specialized - Cathode Ray electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION
CONSTRUCTION
CATHODERAY

Large P4 monochrome television picture tube documented for high-voltage direct-view service, using magnetic deflection and manufacturer-specified focusing and beam-control arrangements for type 21CBP4.

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	22000 V
MAXIMUM SCREEN VOLTAGE	550 V
Published Sylvania high-voltage CRT ratings and typical operating conditions promoted/extracted from supplied datasheet.	

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](#)

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 anode voltage	18000 V	—
Maximum grid 2 voltage	550 V	—
Typical anode voltage	14000 V	Typical operating conditions
Typical grid 2 voltage	550 V	Typical operating conditions

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Vertical deflection angle	68 deg	—

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Cathode to all other electrodes	5 pF	Approximate
Grid 1 to all other electrodes	4 pF	Approximate

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1965 Sylvania Electronic Tubes Vol3

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

1965 SYLVANIA ELECTRONIC TUBES VOL3

Section 1 · Cathode Ray

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage	6.3 V	—
Heater Current	600 mA	—
FocusingMethod	Electrostatic	—
DeflectionMethod	Magnetic	—
Phosphor	Aluminized P4 white	—
DeflectionAngles	large-angle magnetic	—
Cathode To All Capacitance	5 pF	—
Grid1 To All Capacitance	6 pF	—
ExternalConductiveCoatingToAnodeCapacitanceMaximum	2500 pF	—
ExternalConductiveCoatingToAnodeCapacitanceMinimum	2000 pF	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
AnodeVoltageMaximum	22000 V	—
AnodeVoltageMinimum	10000 V	—
FocusingElectrodeVoltageRangeMaximum	-550 to +1100 V	—
Grid2VoltageMaximum	550 V	—
Grid2VoltageMinimum	200 V	—
Grid1NegativeBiasMagnitudeMaximum	155 V	—
Grid1PositivePeakVoltageMaximum	2 V	—
HeaterCathodeVoltageMaximum	450 V	Warmup<=15s;HeaterNegative
HeaterCathodeVoltageMaximum	200 V	AfterWarmup
HeaterCathodeVoltageMaximum	200 V	HeaterPositive
Anode Voltage	16000 V	—
FocusingElectrodeVoltage	-50 to +350 V	—
Grid1VoltageForCutoff	-28 to -72 V	—
Grid1CircuitResistanceMaximum	1.5 Mohm	—



SOURCE DATA APPENDIX

1965 Westinghouse Data Book

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

1965 WESTINGHOUSE DATA BOOK
Section 1 · Cathode Ray

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage	6.3 V	—
Heater Current	600 mA	—
Heater Warm-up Time	11 s	—
Focusing Method	Low Voltage Electrostatic text	—
Deflection Method	Magnetic text	—
Horizontal Deflection Angle	85 deg	Approximate
Vertical Deflection Angle	68 deg	Approximate
Diagonal Deflection Angle	90 deg	Approximate
Phosphor	Aluminized P4 text	—
Fluorescence	White text	—
Persistence	Short to Medium text	—
Light Transmittance	73 percent	Approximate
Cathode-to-All Capacitance	5 pF	Approximate
Grid1-to-All Capacitance	6 pF	Approximate
External Coating-to-Anode Capacitance Minimum	2000 pF	—
External Coating-to-Anode Capacitance Maximum	2500 pF	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Anode Voltage	18000 V	—
Minimum Anode Voltage	11000 V	—
Maximum Focus Electrode Voltage Positive	1100 V	Grid4
Maximum Focus Electrode Voltage Negative	-550 V	Grid4

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Grid2 Voltage	500 V	—
Minimum Grid2 Voltage	200 V	—
Maximum Heater-Cathode Voltage During Warmup	450 V	Duration<=15s
Maximum Heater-Cathode Voltage After Warmup	180 V	—
Typical Anode Voltage	14000 V	CathodeDrive
Typical Focus Voltage Minimum	0 V	Grid4
Typical Focus Voltage Maximum	400 V	Grid4
Typical Grid2 Voltage	300 V	CathodeDrive
Cathode Voltage for Raster Cutoff Minimum	28 V	CathodeDrive
Cathode Voltage for Raster Cutoff Maximum	72 V	CathodeDrive
Maximum Grid1 Circuit Resistance	1.5 Mohm	—



SOURCE DATA APPENDIX

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

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
19 1/16" X iS 1/16" RASTER SIZE – value 1	16	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
19 1/16" X iS 1/16" RASTER SIZE – value 2	1	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
19 1/16" X 1/16" RASTER SIZE – value 3	16	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
GRID #1 TO ALL OTHER ELECTRODES	1	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
HEATER VOLTAGE	6.3 V	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
HEATER CURRENT – value 1	0.6	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
HEATER CURRENT – value 2	10	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
HEATER CURRENT – value 3	6	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
HEATER POSITIVE WITH RESPECT TO CATHODE	180 V	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
DC GRID #4 VOLTAGE – value 1	4 V	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
DC GRID #4 VOLTAGE – value 2	55 V	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
DC GRID #4 VOLTAGE – value 3	300 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	3 V	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
DC GRID #1 VOLTAGE A – value 1	1 V	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
DC GRID #1 VOLTAGE A – value 2	28 V	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
DC GRID #1 VOITAGE A – value 3	72 V	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
MAXIMUM EXTERNAL CONDUCTIVE COATING TO ANODE	2500 mA	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
MAXIMUM DC ANODE VOLTAGE	18 V	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
MAXIMUM DC GRID #4 VOLTAGE – value 1	4 V	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
MAXIMUM DC GRID #4 VOLTAGE – value 2	500 V	Published CRT datasheet value; multiple values on a row correspond to separate source-table conditions or limits.
MAXIMUM DC GRID #4 VOLTAGE – value 3	1000 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	550 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 #i CIRCUIT RESISTANCE	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.

[Catalog](#) [Tube types](#) [Full books](#) [Blog](#) [Feedback & corrections](#)

© 2026 Tube Tinker