

ELECTRONIC TUBE REFERENCE

10WP7

Specialized - Cathode Ray electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION
CONSTRUCTION
CATHODERAY

Ten-inch cathode-ray display tube with electrostatic focusing and magnetic deflection. Its P7 screen combines blue fluorescence with long yellow phosphorescence, providing a persistent afterglow useful for viewing transient or slowly refreshed information.

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	
AMPLIFICATION FACTOR	1
MAXIMUM PLATE VOLTAGE	13200 V
Values promoted from published ratings/characteristics where identifiable.	

Ten-inch radar CRT with low-voltage electrostatic focus and magnetic deflection.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1938 Raytheon

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

1938 RAYTHEON

Section 1 · Cathode Ray

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage	6.3 volts	Heater Voltage 6.3 volts
During warm-up period not to exceed	12 volts	During warm-up period not to exceed 15 sec. 410 volts DC 12M
After equipment warm - up period	180 volts	After equipment warm - up period 180 volts DC
Heater Positive with Respect to Cathode	180 volts	Heater Positive with Respect to Cathode 180 volts DC
Collector Voltage A	0 volts	Collector Voltage A 10,000 volts DC
Grid #	300 volts	Grid #4 Voltage (Focusing Electrode) ® 0 to 300 volts DC
Grid #	300 volts	Grid #2 Voltage 300 volts DC
Grid #	-72 volts	Grid #1Voltage @ -28 to -72 volts DC

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Collector Voltage A	0 volts	Collector Voltage A 12,000 volts DC
Grid #	1000 volts	Grid #4 Voltage (Focusing Electrode) - 500 to + 1000 volts DC
Grid #	700 volts	Grid #2 Voltage 700 volts DC
Negative - Bias Value	180 volts	Negative - Bias Value 180 volts DC
Positive	0 volts	Positive 0 volts DC
Positive - Peak Value	0 volts	Positive - Peak Value 0 volts
power to	19 watts	power to 6 watts, The screen of the 10WP19 can be permanently damaged should the current density

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
decreasing collector voltages. In general, collector vltage should not be less than	0 volts	decreasing collector voltages. In general, collector vltage should not be less than 7,000 volts.



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1960 Du Mont

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

1960 DU MONT

Section 1 · Cathode Ray

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage	6.3 V	—
Heater Current	600 mA	—
Focusing Method	Electrostatic text	—
Deflection Method	Magnetic text	—
Phosphor	P7 text	—
Fluorescence	Blue/white text	—
Persistence	Long text	—
Deflection Angle	50 deg	Approximate



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

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1963 Ferranti

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1963 FERRANTI

Section 1 · Cathode Ray

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Focusing method	Electrostatic	—
Deflection method	Magnetic	—
Fluorescence	Blue; yellow afterglow	—
Persistence	Long	—

CONSTRUCTION		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Phosphor type	J/P7	—

APPLICATION		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Application	Radar / monitor / display CRT	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
First-anode voltage maximum	600 V	—
Second/fourth-anode voltage maximum	13200 V	—
Third-anode positive voltage maximum	1000 V	—
Third-anode negative voltage maximum	-500 V	—
First-anode operating voltage	300 V	—
Third-anode focus voltage minimum	-300 V	—
Third-anode focus voltage maximum	300 V	—

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Cathode-to-all capacitance maximum	8 pF	—
Grid-to-all capacitance maximum	8 pF	—

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

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage	6.3 V	—
Heater Current	600 mA	—
Focusing Method	Electrostatic text	—
Deflection Method	Magnetic text	—
Deflection Angle	50 deg	Approximate
Phosphor	P7 text	—
Fluorescence	Blue text	—
Persistence	Long text	—
Screen Aluminized	No text	—
Light Transmittance	76 percent	Approximate
Phosphorescence	Yellow text	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Anode Voltage	13200 V	—
Focus Electrode Voltage Minimum	-550 V	Grid4
Focus Electrode Voltage Maximum	1100 V	Grid4
Maximum Grid2 Voltage	550 V	—
Maximum Heater-Cathode Voltage During Warmup	450 V	Duration<=15s
Maximum Heater-Cathode Voltage After Warmup	200 V	—
Anode Voltage	10000 V	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Focus Voltage Minimum	0 V	Grid4
Focus Voltage Maximum	300 V	Grid4
Grid2 Voltage	300 V	—
Grid1 Cutoff Voltage Minimum	-72 V	—
Grid1 Cutoff Voltage Maximum	-28 V	—
Maximum Grid1 Circuit Resistance	1.5 Mohm	—

TUBE TINKER

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

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