



ELECTRONIC TUBE REFERENCE

12SP7

Specialized - Cathode Ray electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION
CONSTRUCTION
CATHODERAY

Twelve-inch P7 long-persistence cathode-ray tube with magnetic focusing and deflection. RCA identifies oscillograph service, while later documentation supports radar-style persistent display use with blue-white fluorescence and yellow afterglow.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
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	10000 V
<i>Cathode-ray oscillograph system with magnetic focus and deflection.</i>	

Twelve-inch radar CRT with magnetic focus and deflection and long-persistence P7 screen.



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

APPLICATION

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Application	Oscillograph text	—



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1950 Sylvania

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

1950 SYLVANIA

Section 1 · Cathode Ray

OTHER

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Plate Voltage	11000 V	—
Typical Anode Voltage	9000 V	—

CHARACTERISTIC

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Phosphor	P7	—
Focusing Method	Magnetic	—
Deflecting Method	Magnetic	—



1960 Du Mont

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1960 DU MONT

Section 1 · Cathode Ray

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage	6.3 V	—
Heater Current	600 mA	—
Focusing Method	Magnetic text	—
Deflection Method	Magnetic text	—
Phosphor	P7 text	—
Fluorescence	Blue/white text	—
Persistence	Long text	—
Deflection Angle	55 deg	Approximate



SOURCE DATA APPENDIX

1965 Sylvania Electronic Tubes Vol3

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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	Magnetic text	—
Deflection Method	Magnetic text	—
Fluorescence	Blue-White text	—
Persistence	Long text	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Phosphorescence	Yellow text	—
Deflection Angle	54 deg	Approximate
Screen Aluminized	No text	—
Faceplate	Gray Filter Glass text	—
Maximum Undelected Spot Radius	20 mm	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Anode Voltage	11000 V	—
Maximum Grid2 Voltage	450 V	—
Maximum Grid1 Negative Bias	140 V	—
Maximum Grid1 Positive Peak	2 V	—
Maximum Heater-Cathode Voltage	150 V	EitherPolarity
Anode Voltage	9000 V	—
Grid2 Voltage	250 V	—
Grid1 Cutoff Voltage Minimum	-63 V	—
Grid1 Cutoff Voltage Maximum	-27 V	—
Focusing Coil Current	110 mA	Approximate
Maximum Grid1 Circuit Resistance	1.5 Mohm	—