



ELECTRONIC TUBE REFERENCE

31E12

Specialized - Cathode Ray electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION
CONSTRUCTION
CATHODERAY

Twelve-inch aluminized radar cathode-ray tube with electrostatic focusing, magnetic deflection, and long-afterglow screen options. Designed for radar display service, it retains echo information between successive sweeps.

GENERAL CHARACTERISTICS

BASE DESIGNATION	B12A	BASE PINS	12
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	12000 V
CRT electrode ratings and operating data preserved in parameter rows.	

Twelve-inch aluminised radar cathode-ray tube with electrostatic focus, magnetic deflection and long-afterglow screen options.



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1960 Mazda

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

1960 MAZDA

Section 1 · Cathode Ray

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
MinimumFinalAnodeVoltage	8 kV	—
MaximumFirstAnodeVoltage	400 V	—
Maximum Heater Cathode Voltage	130 V	HeaterNegative
TypicalFinalAnodeVoltage	12 kV	—
TypicalFirstAnodeVoltage	300 V	—



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1961 AEI Industrial Valves

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

1961 AEI INDUSTRIAL VALVES

Section 1 · Cathode Ray

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
MaximumFinalAnodeVoltage	12 kV	DesignCentre; absolute maximum 14 kV
MinimumFinalAnodeVoltage	8 kV	—
MaximumFirstAnodeVoltage	400 V	—
Maximum Heater Cathode Voltage	150 V	HeaterNegative DC
TypicalFinalAnodeVoltage	12 kV	—
TypicalFirstAnodeVoltage	300 V	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
TypicalThirdAnodeFocusVoltage	0 V	Mean
GridBiasCutoff	-77--33 V	250mm focused line
PeakToPeakModulatingVoltage	24 V	Modulation up to 150 uA

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid Earth Capacitance	9 pF	—
CathodeEarthCapacitance	7 pF	—
SecondFourthAnodeToExternalCoatingCapacitance	1500 pF	Includes CRT92/7 holder
T6ScreenPersistence	50 s	Long yellow afterglow
T7ScreenPersistence	175 s	Very long orange afterglow
MaximumOverallLength	485 mm	—
MaximumDiameter	307 mm	—
MaximumNeckDiameter	35.5 mm	—



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

SOURCE PDF

1961 Associated Electrical Industries

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

1961 ASSOCIATED ELECTRICAL INDUSTRIES

Section 1 · Cathode Ray

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
MinimumFinalAnodeVoltage	8 kV	—
MaximumFirstAnodeVoltage	400 V	—
Maximum Heater Cathode Voltage	130 V	HeaterNegative
TypicalFinalAnodeVoltage	12 kV	—
TypicalFirstAnodeVoltage	300 V	—

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
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TUBE TINKER

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and their source documents.

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