



ELECTRONIC TUBE REFERENCE

21AXP22A

Specialized - Cathode Ray electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

CATHODERAY

P22 color television picture tube documented for high-voltage direct-view color display service, using multiple electron guns and a multicolor phosphor screen in the 21AXP22A design.

GENERAL CHARACTERISTICS

BASE DESIGNATION	14AH	BASE PINS	12
NOMINAL HEATER	6.3 V / 1.8 A	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Cathode Ray

MAXIMUM PLATE VOLTAGE	25000 V
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Cathode-ray electron-gun/screen system; anode/ultor maximum promoted to MaxPlateVoltage when explicitly published. Explicit X-ray warning/precaution or X-radiation characteristic is present in the supplied source.

Sylvania 21AXP22A 21-inch color television CRT with three electron guns, magnetic deflection/convergence, electrostatic focus, and P22 phosphor-dot screen. Published maximum ratings, interelectrode capacitances, convergence information, and equipment design ranges were extracted.

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	1.8 A	—
FocusingMethod	Electrostatic	—
DeflectionMethod	Magnetic	—
ConvergenceMethod	Magnetic	—
ElectronGunCount	3	—
Phosphor	Aluminized P22 blue-green-red phosphor-dot	—
Grid1of0neGunToAll0therElectrodes	7 pF	—
CombinedCathodesToAll0therElectrodes	16 pF	—
CommonFocusingGridsToAll0therElectrodes	9 pF	—
PhosphorDotArrangement	Triangular dot trios	—
DisplayType	Three-color phosphor-dot shadow-mask	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
AnodeVoltageMaximum	27500 V	—
FocusingGridVoltageMaximum	6600 V	—
Grid2VoltageMaximum	880 V	—
Grid1NegativeBiasMagnitudeMaximum	440 V	—
Grid1PositivePeakVoltageMaximum	2 V	—
HeaterCathodeVoltageMaximum	450 V	Warmup<=15s;HeaterNegative
HeaterCathodeVoltageMaximum	200 V	AfterWarmup
HeaterCathodeVoltageMaximum	200 V	HeaterPositive

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Anode Voltage	25000 V	EquipmentDesignRangeReference



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1971 RCA HB3 Binder 1 of 7

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

1971 RCA HB3 BINDER 1 OF 7

Section 1 · Cathode Ray

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage	6.3 V	Nominal heater voltage
Heater Current	1.8 A	Nominal heater current
Phosphor	P22	Published phosphor designation
Voltage	6.3 V	Voltage 6.3 ac or dc volts
Current	10 A	Current 1.8 to 10% amp
ULTOR-TO-CATHODE (Of each gun) VOLTAGE	25000 V	ULTOR-TO-CATHODE (Of each gun) VOLTAGE. 25000 max. volts
GRID-No.3-TO-CATHODE (Of each gun) VOLTAGE	6000 V	GRID-No.3-TO-CATHODE (Of each gun) VOLTAGE 6000 max. volts
GRID-No.2-TO-CATHODE VOLTAGE (Each gun)	800 V	GRID-No.2-TO-CATHODE VOLTAGE (Each gun) 800 max. volts
After equipment warm-up period	180 V	After equipment warm-up period 180 max. volts
Heater positive with respect to cathode	180 V	Heater positive with respect to cathode 180 max. volts
(Of each gun) Voltage	21.2 V	(Of each gun) Voltage 15.2% to 21.2 of volts
~ A value of average ultor current per gun higher than	500 μ A	~ A value of average ultor current per gun higher than 500 microamperes
general, the ultor voltage should not be less than	20000 V	general, the ultor voltage should not be less than 20000 volts.
For ultor voltage of 20000 to 50000 volts	0 V	For ultor voltage of 20000 to 50000 volts
Voltage	3600–5300 V	Voltage 3040 to 4240 3600 to 5300 volts
for raster cutoff	130–370 V	for raster cutoff 130 to 370 130 to 370 volts

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
cathode voltage of	-45--100 V	cathode voltage of 200 volts -45 to -100 -45 to -100 volts
50000 ohms. This resistance should be capable of withstanding	50000 Ω	50000 ohms. This resistance should be capable of withstanding
GRID-N~2-TO-CATHODE VOLTS	2 V	GRID-N~2-TO-CATHODE VOLTS
_GRID -N'2 -TO -CATHODE (OF EACH GUN) VOLTS=EC2K _	2 V	_GRID -N'2 -TO -CATHODE (OF EACH GUN) VOLTS=EC2K _
GRID-N'	3 V	GRID-N' 3-TO-CATHODE (OF EACH GUN) VOLTS =ADJUSTED FOR
Voltage	63 V	Voltage 63 ac or dc volts
ULTOR-TO-CATHODE (Of each gun) VOLTAGE	25000 V	ULTOR-TO-CATHODE (Of each gun) VOLTAGE. 25000 max. volts
GRID-No. }TO-CATHODE (Of each gun} VOLTAGE	6000 V	GRID-No. }TO-CATHODE (Of each gun} VOLTAGE. 6000 max. volts
Grid-No. 1-Circuit Resistance (Each gun)	1.5 MΩ	Grid-No. 1-Circuit Resistance (Each gun) 1.5 max. megohms

CONSTRUCTION		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Focusing Method	Electrostatic	Published focusing method
Deflection Method	Magnetic	Published deflection method

TUBE TINKER

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

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