ELECTRONIC TUBE REFERENCE

21AXP22

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 21AXP22 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

SECTION1 Cathode Ray

MAXIMUM PLATE VOLTAGE	25000 V

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 21AXP22 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**	—
Grid1OfOneGunToAllOtherElectrodes	**7 pF**	—
CombinedCathodesToAllOtherElectrodes	**16 pF**	—
CommonFocusingGridsToAllOtherElectrodes	**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 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 do volts
Current	10 A	Current 1.8 t 10% amp
ULTOR-TO-CATHODE lOf each gun) VOLTAGE	25000 V	ULTOR-TO-CATHODE lOf 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 oP average ultor current per gun higher than	500 µA	~ A value oP average ultor current per gun higher than 500 microamperes
general, the ultor voltage should not De less than	20000 V	general, the ultor voltage should not De less than 20000 volts.
For ultor voltage of a0000 a5000 volts	0 V	For ultor voltage of a0000 a5000 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 do 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. l-Circuit Resistance (Each gunl	**1.5 MΩ**	Grid-No. l-Circuit Resistance (Each gunl 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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