

CHARACTERISTICS

GENERAL DATA

Focusing Method	Electrostatic
Deflecting Method	Magnetic
Deflection Angle (approx.)	
Horizontal	65 Degrees
Diagonal	70 Degrees
Phosphor	P4
Fluorescence	White
Persistence	Medium
Faceplate	Gray Filter Glass
Light Transmittance (approx.)	72 Percent

ELECTRICAL DATA

Heater Voltage	6.3 Volts
Heater Current (approx.)	0.6 Ampere
Direct Interelectrode Capacitances (approx.)	
Cathode to All Other Electrodes	5 μmf
Grid No. 1 to All Other Electrodes	6 μmf
Ion Trap Magnet	External, Single Field Type

MECHANICAL DATA

Minimum Useful Screen Dimensions	19 $\frac{1}{8}$ x 14 $\frac{3}{16}$ Inches
Bulb Contact (Recessed Small Cavity Cap).	J1-21
Base (Small Shell Duodecal 6-Pin)	B6-63
Basing	12M

RATINGS

MAXIMUM RATINGS (Design Center Values)

Anode Voltage	18,000 Volts dc
Grid No. 4 (Focusing Electrode) Voltage	-500 to +1000 Volts dc
Grid No. 2 Voltage	500 Volts dc
Grid No. 1 Voltage	
Negative Bias Value	125 Volts dc
Positive Bias Value	0 Volts dc
Positive Peak Value	2 Volts
Peak Heater-Cathode Voltage	
Heater Negative with Respect to Cathode	
During Warm-up Period Not to Exceed 15 Seconds	410 Volts
After Equipment Warm-up Period	180 Volts
Heater Positive with Respect to Cathode	180 Volts

RECOMMENDED OPERATING CONDITIONS

Anode Voltage	16,000 Volts dc
Grid No. 4 Voltage	-64 to +350 Volts dc
Grid No. 2 Voltage	300 Volts dc
Grid No. 1 Voltage ¹ Required for Cutoff	-28 to -72 Volts dc
Ion Trap Magnet Strength (approx.)	35 Gauss

CIRCUIT VALUES

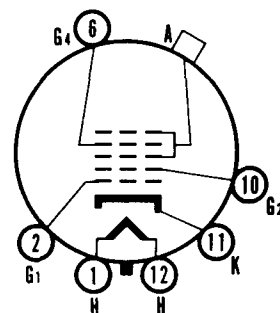
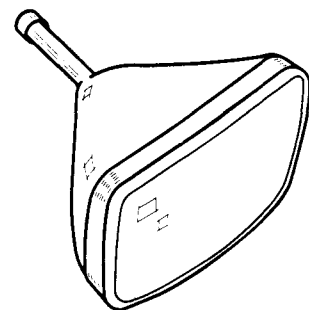
Grid No. 1 Circuit Resistance	1.5 Megohms Max.
---	------------------

NOTES:

1. Visual extinction of focused raster. Extinction of the stationary focused spot will require that these values be about 5 volts more negative.

QUICK REFERENCE DATA

Television Picture Tube
21" Direct Viewed
Rectangular Glass Type
Spherical Faceplate
Gray Filter Glass
Magnetic Deflection
Low Voltage Electrostatic Focus
Single Field Ion Trap
(21YP4, 21YP4A have an
 External Conductive Coating)
(21YP4A has an Aluminized
 Screen)



12-M

SYLVANIA ELECTRIC
PRODUCTS INC.

TELEVISION PICTURE TUBE
DIVISION
SENECA FALLS, NEW YORK

Prepared and Released By The
TECHNICAL PUBLICATIONS SECTION
EMPORIUM, PENNSYLVANIA

OCTOBER 1953

21YP4, 21YP4A



- ## 21YP4

The diagram shows a cross-section of a vacuum tube. At the top, there is a control grid labeled G1 (6) and a screen grid labeled G2 (10). Between them is a control electrode labeled A (7). To the right, there is a cathode labeled C (8) with a heater filament connected to it. Below the grids is a suppressor grid labeled K (11). At the bottom, there are two anodes labeled H (1) and H (12). The entire assembly is housed in a cylindrical envelope, with various internal structures and connections labeled with numbers 1 through 12 and letters A, C, G1, G2, K, H.

21YP4A

WARNING:

X-ray radiation shielding may be necessary to protect against possible danger of personal injury from prolonged exposure at close range if this tube is operated at higher than the manufacturer's Maximum Rated Anode Voltage or 16,000 volts, whichever is less.