

April 24, 1959

CATHODE RAY DISPLAY TUBE TYPE 21EWP4

The 21EWP4 is a magnetically focused, magnetically deflected cathode ray display tube featuring a high resolution gun. The 21EWP4 is primarily useful for high resolution, high brightness monitor display where a large screen is required.

The screen is aluminized for increased brightness and the tube has a gray-glass face for improved contrast.

ELECTRICAL:

Cathode	Coated Unipotential
Heater:	
Voltage	6.3 Volts
Current	0.6 Ampere
Direct Interelectrode Capacitance:	
Grid 1 to All Other Electrodes	6 $\mu\mu\text{f}$
Cathode to All Other Electrodes	5 $\mu\mu\text{f}$
Screen:	
Phosphor	Aluminized P-4
Fluorescence	White
Persistence	Short
Focusing Method	Magnetic
Deflection Method	Magnetic
Horizontal Angle (approx.)	67°
Vertical Angle (approx.)	53°
Diagonal Angle (approx.)	72°
No Ion Trap	No magnet required

MECHANICAL:

Mounting Position	Any
Useful Screen Dimensions:	
Height	15-1/16" Min.
Width	19-1/16" Min.
Diagonal	20-1/4" Min.
Faceplate	Spherical
Glass	Neutral Gray
Transmission	74% Approx.
Bulb Dimensions:	
Height	16-3/8" $\pm$ 1/8"
Width	20-1/4" $\pm$ 1/8"
Diagonal	21-3/8" $\pm$ 1/8"
Overall Length	23-1/32" $\pm$ 3/8"
Neck Length	7-1/2" $\pm$ 3/16"
Anode Terminal	J1-21
Base	B5-57
Basing	12D

MAXIMUM RATINGS

Design Center Values

Anode Voltage	20,000 max. Volts
Grid 2 Voltage	1,000 max. Volts
Grid 1 Voltage:	
Positive Peak Value	0 max. Volts
Positive Bias Value	0 max. Volts
Negative Peak Value	200 max. Volts
Negative Bias Value	140 max. Volts
Peak Heater Cathode Voltage:	
Heater Negative with respect to cathode	
During warmup not to exceed 15 sec.	410 max. Volts
After equipment warmup	180 max. Volts
Heater positive with respect to cathode	180 max. Volts

TYPICAL OPERATING CONDITIONS:

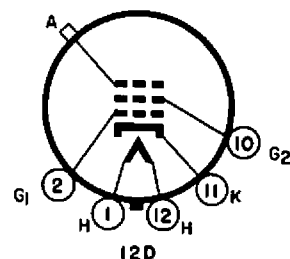
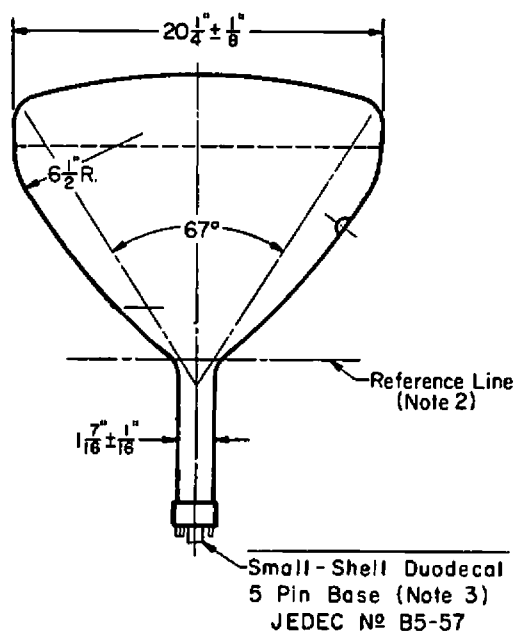
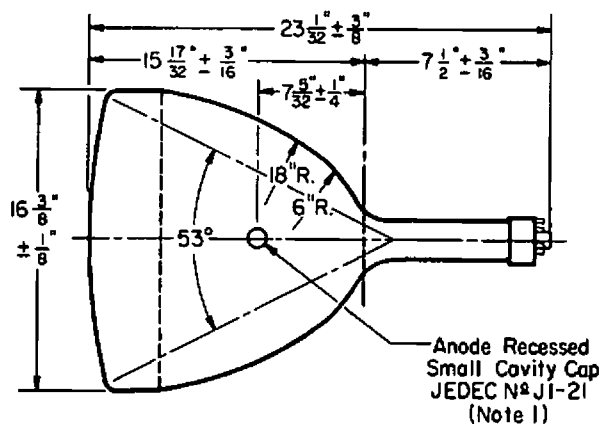
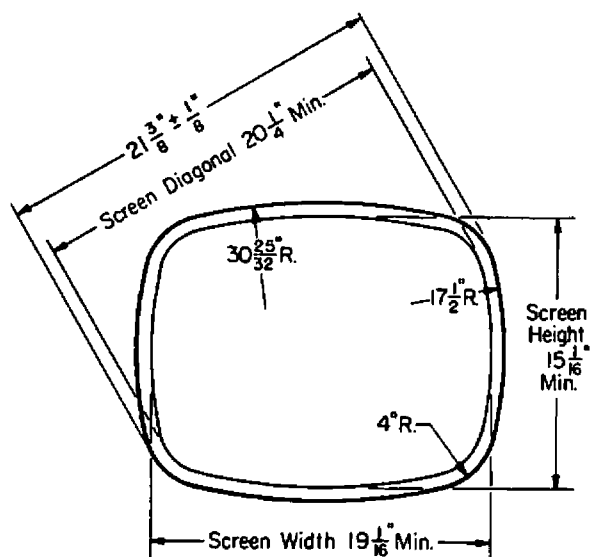
Anode Voltage	18,000	16,000	Volts
Grid 2 Voltage	300	300	Volts
Grid 1 Voltage for			
Spot Cutoff	-33 to -75	-33 to -75	Volts
Focus Coil Current			
(approx.) Δ	115 $\pm$ 20%	108 $\pm$ 20%	Ma.
Line Width Δ	.018	.018	Inch

LIMITING CIRCUIT VALUES:

Grid 1 Circuit Resistance	1.5 max. Megohms
Grid 2 Circuit Resistance	10,000 min. Ohms

Δ Using an eye-corrected photocell, the light output level is set to 40 foot-lamberts. Typical line width at center of faceplate, using half-amplitude points of the light energy distribution of a single line, is 0.018".

Δ For JEDEC focusing coil #109 or equivalent located 3-1/4" from reference line.



CE-C1488

NOTE 1: Anode terminal alignment with vacant base-pin position 3 has angular tolerance about tube axis of $\pm 30^\circ$.

NOTE 2: Yoke Reference Line is determined by plane of flared end of JEDEC Reference-Line Gauge No. 110 when seated on funnel of tube.

NOTE 3: The socket should not be mounted rigidly but should be allowed to move freely and have flexible leads.

X-RAY WARNING: Operation with voltages in excess of 16KV may require shielding to limit radiation of very soft x-rays.