20SP4

Picture Tube

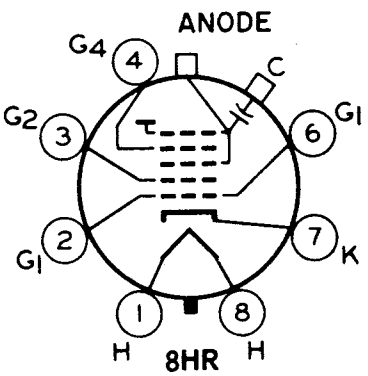
Pan-o-Ply Type **Low-Voltage Electrostatic Focus**
114° Magnetic Deflection **Low Grid-No.2 Voltage**

Direct Interelectrode Capacitances:		
Cathode to all other electrodes	5	pF
Grid No.1 to all other electrodes	6	pF
External conductive coating to anode[a]	2000 max. 1400 min.	pF pF
Heater Current at 6.3 volts	450 ± 20	mA
Heater Warm-Up Time (Average)	11	seconds

Electron Gun . . . . . Type Requiring No Ion-Trap Magnet
Focus Lens . . . . . Unipotential
Phosphor . . . . . P4—Sulfide Type, Aluminized
Faceplate . . . . . Filterglass
Light Transmission at Center (Approx.) 44%
Weight (Approx.) . . . . . 16.5 lb
Overall length . . . . . 12.269" ± .250"
Neck length . . . . . 4.375" ± .125"
Projected Area of Screen . . . . . 184 sq. in.
Cap Designation . . . . . Recessed Small Cavity (JEDEC No.J1-21)
Base Designation . . . . . Small-Button Neoeightar 7-Pin, Arrangement 1, (JEDEC No.B7-208)

TERMINAL DIAGRAM (Bottom View)

Pin 1: Heater
Pin 2: Grid No.1
Pin 3: Grid No.2
Pin 4: Grid No.4
Pin 6: Grid No.1
Pin 7: Cathode
Pin 8: Heater
Cap: Anode (Grid No.3, Grid No.5, Screen, Collector)
C: External Conductive Coating



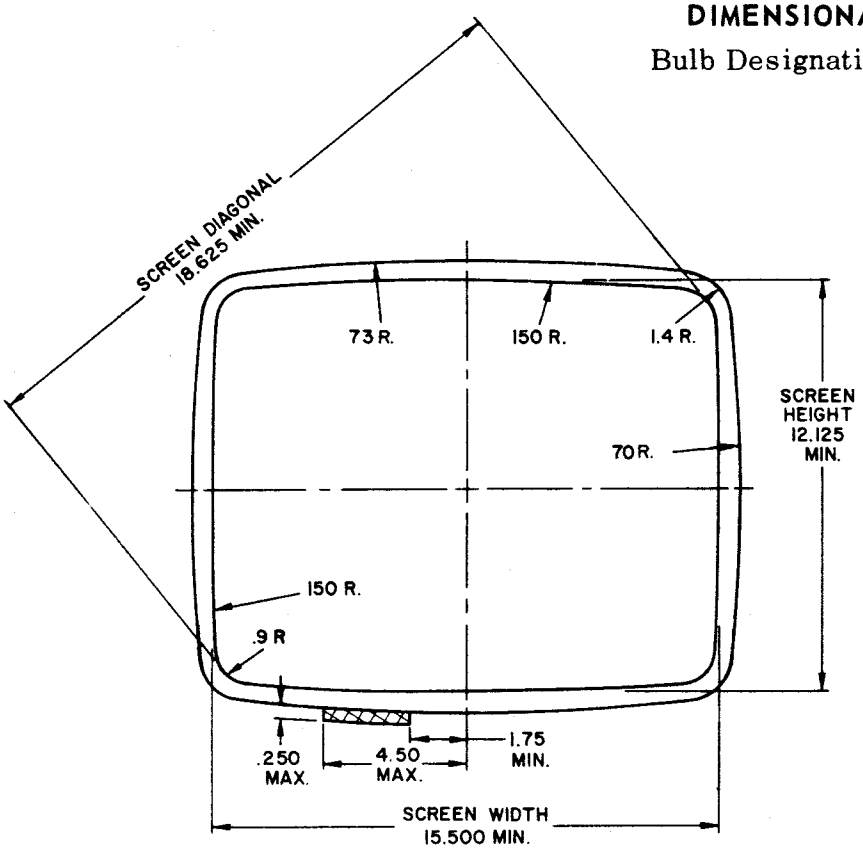
MAXIMUM AND MINIMUM RATINGS, DESIGN-MAXIMUM VALUES

Unless otherwise specified, voltage values are positive with respect to grid No.1

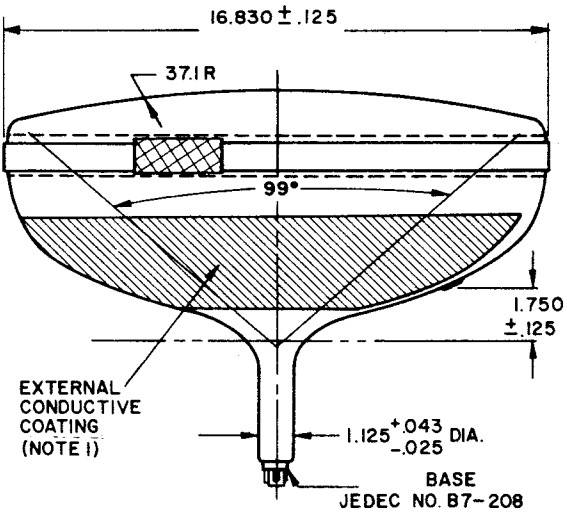
Anode Voltage	23,000 max. 11,000 min.	V V
Grid-No.4 Voltage:		
Positive value	1250 max.	V
Negative value	400 max.	V

DIMENSIONAL

Bulb Designation

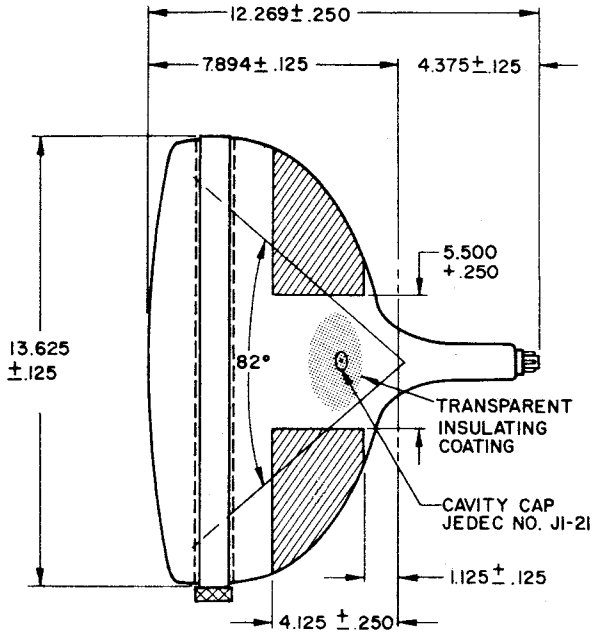


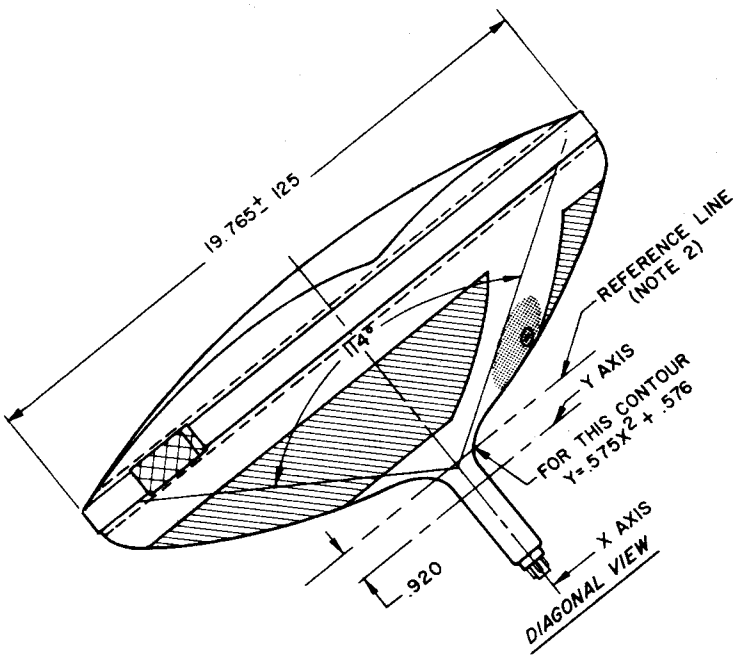
▨ KEEP THIS SPACE CLEAR OF ANY MEHANICAL OBSTRUCTION



OUTLINE

JEDEC NO.J157-1/2 A1





DIMENSIONS IN INCHES

92LL-1914R1

Note 1: External conductive coating and implosion protection hardware must be grounded.

Note 2: Determined by Gauge JEDEC No.G-126.

MAXIMUM AND MINIMUM RATINGS (CONT'D)

Grid-No.2 Voltage	60 max.	V
	20 min.	V
Cathode Voltage:		
Negative peak value	2 max.	V
Negative bias value	0 max.	V
Positive bias value	100 max.	V
Positive peak value	150 max.	V
Heater Voltage	6.9 max.	V
	5.7 min.	V
Peak Heater-Cathode Voltage:		
Heater negative with respect to cathode:		
During equipment warm-up period not exceeding 15 seconds	450 max.	V
After equipment warm-up period	300 max.	V
Heater positive with respect to cathode:		
Combined AC & DC voltage	200 max.	V
DC Component	100 max.	V

TYPICAL OPERATING CONDITIONS FOR CATHODE-DRIVE SERVICE

Unless otherwise specified, voltage values are positive with respect to grid No.1

Anode Voltage	16,000	V
Grid-No.4 Voltage[b]	100	V
Grid-No.2 Voltage	30	V
Cathode Voltage for visual extinction of focused raster	22 to 40	V
Field Strength of required adjustable Centering Magnet	0 to 8	G

MAXIMUM CIRCUIT VALUE

Grid-No.1 Circuit Resistance	1.5 max.	MΩ

[a]Includes implosion protection hardware.

[b]The grid-No.4 voltage required for optimum focus of any individual tube will have a value anywhere between −100 and +300 volts with the combined grid-No.1 voltage and video-signal voltage adjusted to give an anode current of 100 microamperes on a 11.25-inch by 15-inch pattern from an RCA-2F21 monoscope, or equivalent.

See *X-RADIATION PRECAUTIONS* at front of this section