



CORPORATION

5600 WEST JARVIS AVENUE

CHICAGO 48, ILLINOIS

TELEPHONE MULBERRY 5-5000

TELETYPE 312-265-1293

19EKP4**DESCRIPTION**

19" Direct View	Filled Rim Implosion Protection
Rectangular Glass Envelope	114° Magnetic Deflection
Gray Filter Glass	Electrostatic Focus
Aluminized Screen	External Conductive Coating
6.3 Volts, 450 Ma. Heater	No Ion Trap
Cathode Drive Design	Low G ₂ Voltage (45V)
Rim Provides Mounting Holes	

SPECIAL CHARACTERISTICS-Anode Penetration Current 150ua Max.
(Note 4)

ELECTRICAL DATA

Focusing Method	Electrostatic
Deflection Angles (approx.)	
Horizontal	103 Degrees
Vertical	86 Degrees
Diagonal	114 Degrees
Direct Interelectrode Capacitances	
Cathode to all other electrodes (approx)	5 uuf
Grid #1 to all other electrodes (approx)	6 uuf
External Conductive Coating to Anode	1,500 max. uuf
(Including implosion protection hardware)	1,000 min. uuf
Heater Current at 6.3 Volts	450 ± 5% Ma.
Heater Warm-up time	11 Seconds

OPTICAL DATA

Phosphor Number	P4 Aluminized
Light Transmittance at Center (approx.)	49%

MECHANICAL DATA

Overall Length	11 5/8" ± 1/4"
Greatest Dimensions of Tube (Metal Rim)	
Diagonal	20 13/16" ± 3/32"
Width	17 5/32" ± 1/16"
Height	14 3/32" ± 1/16"
Minimum Useful Screen Dimensions (Projected)	
Diagonal	17 9/16"
Horizontal Axis	15 1/8"
Vertical Axis	12"
Area	172 Sq. in.
Neck Length	4 3/8" ± 1/8"
Bulb	J149F1
Bulb Contact	J1-21
Base	B6-214
Basing	7FA
Bulb Contact Alignment	
J1-21 contact aligns with pin position #7 ± 30 Degrees	

RATINGS (Design Maximum System)

Unless otherwise specified, voltage values are positive and measured with respect to Grid #1

Maximum Anode Voltage	19,800 Volts
Minimum Anode Voltage	12,000 Volts
Maximum Grid #4 (Focusing Electrode) Voltage	+1100-500
Maximum Grid #2 Voltage	55 Volts
Minimum Grid #2 Voltage	30 Volts
Cathode Voltage	100 Volts
Maximum Heater Voltage	7 Volts
Minimum Heater Voltage	5.8 Volts
Maximum Heater-Cathode Voltage	
Heater negative with respect to cathode	
During warm-up time not to exceed 15 sec.	410 Volts
After equipment warm-up period	180 Volts
Heater positive with respect to cathode	180 Volts

TYPICAL OPERATING CONDITIONS

CATHODE DRIVE SERVICE

Unless otherwise specified, all voltage values are positive with respect to Grid #1

Anode Voltage	16,000 Volts DC
Grid #4 (Focusing Electrode) voltage	
(Notes 2 and 3)	250 Volts DC
Grid #2 Voltage	45 Volts DC
Cathode Voltage (Note 1)	35 to 50 Volts DC

MAXIMUM CIRCUIT VALUES

Maximum Grid #1 circuit resistance	1.5 Megohms
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NOTES

1. Visual extinction of focused raster.
2. With the combined Grid #1 bias voltage and video-signal voltage adjusted to give an anode current of 150 micro-amperes on a 15 1/8" X 12" pattern from RCA 2F21 Monoscope or equivalent.
3. Individual tubes will have satisfactory focus at some value between 0 and 500 volts.
4. This is the maximum beam current with 19,800 volts (design max.) applied to Anode, zero voltage applied to Cathode, Grid #1, and Grid #2, all other elements to have nominal voltages.

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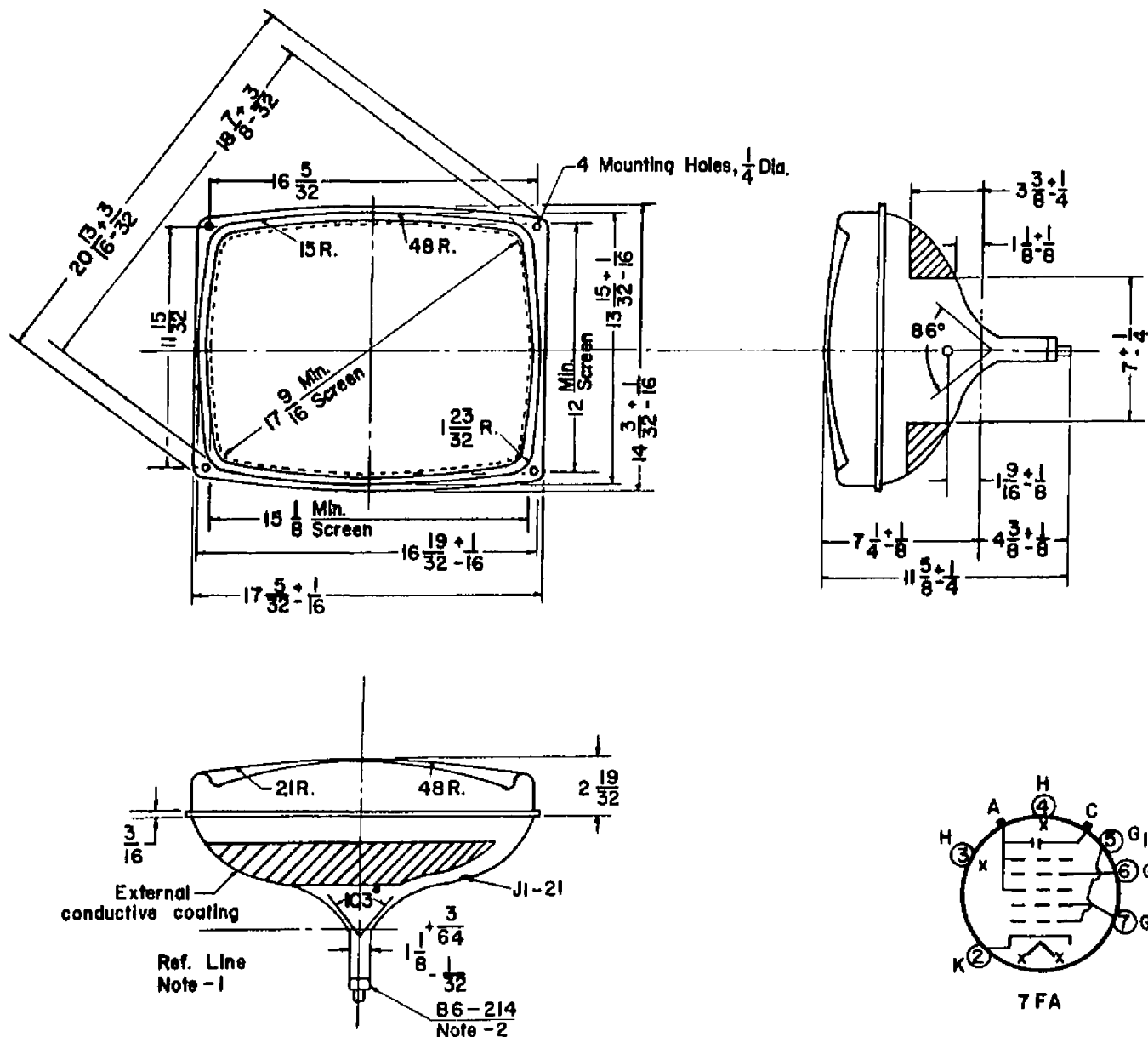
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NOTE

1. Reference line as determined by plane C-C' of JEDEC Reference Line Gauge no. 126.
2. Base pin no. 7 aligns with anode contact within 30° .