

**Rauland**

CORPORATION

**19EZP4**

5600 WEST JARVIS AVENUE

CHICAGO 48, ILLINOIS

TELEPHONE MULBERRY 5-5000

TELETYPE 312-265-1293

**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 <sub>2</sub> Voltage (45V.)
Rim Provides Mounting Holes	

**SPECIAL CHARACTERISTICS—Anode Penetration Current 150 ua 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 7/16" + 3/32"
Width	16 7/8" + 1/16"
Height	13 13/16" ± 1/16"
Minimum Useful Screen Dimensions (projected)	
Diagonal	17 9/16"
Horizontal Axis	15 1/8"
Vertical Axis	12"
Area	172 Sq. inches
Neck Length	4 3/8" ± 1/8"
Bulb	J149F1
Bulb Contact	J1-21
Base	B6-214
Basing	7FA
Weight (approx.)	15 lb. 8 oz.
Bulb Contact Alignment	
J1-21 contact aligns with pin position #7 ± 30 Degrees	

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## 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 microamperes 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.

