

# 19FJP4A

## Picture Tube

PAN-O-PLY—INTEGRAL IMPLOSION PROTECTION  
LOW-VOLTAGE ELECTROSTATIC FOCUS 114° MAGNETIC DEFLECTION

### ELECTRICAL

#### Direct Interelectrode Capacitances

|                                                             |                                   |          |
|-------------------------------------------------------------|-----------------------------------|----------|
| Cathode to all other electrodes . . . . .                   | 5                                 | pF       |
| Grid No.1 to all other electrodes . . . . .                 | 6                                 | pF       |
| External conductive coating to anode <sup>a</sup> . . . . . | { 1750 max<br>1250 min            | pF<br>pF |
| Heater Current at 6.3 V . . . . .                           | 450 ±20                           | mA       |
| Heater Warm-Up Time (Average) . . . . .                     | 11                                | s        |
| Electron Gun. . . . .                                       | Type Requiring No Ion-Trap Magnet |          |

### OPTICAL

|                                                 |                             |
|-------------------------------------------------|-----------------------------|
| Phosphor. . . . .                               | P4—Sulfide Type, Aluminized |
| For curves, see front of this section           |                             |
| Faceplate . . . . .                             | Filterglass                 |
| Light transmission at center (approx.). . . . . | 48%                         |

### MECHANICAL

|                                   |                   |
|-----------------------------------|-------------------|
| Weight (Approx.). . . . .         | 15 lb             |
| Overall Length. . . . .           | 11.625 ± 0.250 in |
| Neck Length . . . . .             | 4.375 ± 0.125 in  |
| Projected Area of Screen. . . . . | 172 sq in         |
| External Conductive Coating       |                   |

|                                     |                     |
|-------------------------------------|---------------------|
| Type. . . . .                       | Regular-Band        |
| Contact area for grounding. . . . . | Near Reference Line |

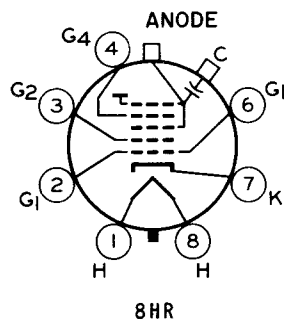
#### For Additional Information on Coatings and Dimensions

See *Picture-Tube Dimensional-Outlines and Bulb J149 F* sheets at front of this section

|               |                                                                    |
|---------------|--------------------------------------------------------------------|
| Cap . . . . . | Recessed Small Cavity (JEDEC No.J1-21)                             |
| Base. . . . . | Small-Button Neoeightar 7-Pin,<br>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



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## MAXIMUM AND MINIMUM RATINGS, DESIGN-MAXIMUM VALUES

*Unless otherwise specified, voltage values  
are positive with respect to cathode*

|                                          |                          |        |
|------------------------------------------|--------------------------|--------|
| Anode Voltage . . . . .                  | { 18000 max<br>10000 min | V<br>V |
| Grid-No.4 (Focusing) Voltage             |                          |        |
| Positive value. . . . .                  | 1100 max                 | V      |
| Negative value. . . . .                  | 550 max                  | V      |
| Grid-No.2 Voltage . . . . .              | { 550 max<br>200 min     | V<br>V |
| Grid-No.1 Voltage                        |                          |        |
| Negative peak value . . . . .            | 220 max                  | V      |
| Negative bias value . . . . .            | 155 max                  | V      |
| Positive bias value . . . . .            | 0 max                    | V      |
| Positive peak value . . . . .            | 2 max                    | V      |
| Heater Voltage. . . . .                  | { 6.9 max<br>5.7 min     | V<br>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 and 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 . . . . .                  | 16000    | V |
| Grid-No.4 Voltage <sup>b</sup> . . . . . | 200      | V |
| Grid-No.2 Voltage . . . . .              | 400      | V |
| Cathode Voltage . . . . .                | 40 to 76 | V |
| For visual extinction of focused raster  |          |   |

## MAXIMUM CIRCUIT VALUE

|                                       |         |    |
|---------------------------------------|---------|----|
| Grid-No.1-Circuit Resistance. . . . . | 1.5 max | MΩ |
|---------------------------------------|---------|----|

<sup>a</sup> External conductive coating and implosion protection hardware must be grounded.

<sup>b</sup> The grid-No.4 voltage required for optimum focus of any individual tube will have a value anywhere between 0 and +400 volts with the combined grid-No.1 voltage and video-signal voltage adjusted to give an anode current of 100 microamperes on a 10-1/2-inch by 14-inch pattern from an RCA-2F21 monoscope, or equivalent.

For X-radiation shielding considerations, see sheet  
*X-RADIATION PRECAUTIONS FOR CATHODE-RAY TUBES*  
at front of this section

