

THE RAULAND CORPORATION

Cathode-Ray Tube 10FP4 -- Description and Rating

The 10FP4 is a ten-inch cathode-ray tube with a direct-view screen and semi-flat face for television receiving applications. Features of this tube are a metal-backed screen to prevent screen burning by ions and to increase light output, and an outside conductive coating which when grounded serves as a filter capacitor.

GENERAL DESIGN

Electrical

Heater Voltage 6.3  $\pm$  10% Volts  
 Heater Current 0.6  $\pm$  10% Amperes

Focusing Method - Magnetic  
 Deflecting Method - Magnetic  
 Maximum Deflecting Angle 50 Degrees

Phosphor - P4

Fluorescence - White  
 Persistence - Medium

Direct Interelectrode Capacitances, Nominal

Cathode to All Other Electrodes 8  $\mu$ f  
 Grid #1 to All Other Electrodes 9  $\mu$ f  
 External Conductive Coating to Anode No.2 { 2500 Max.  $\mu$ f  
 { 500 Min.  $\mu$ f

Mechanical

Overall Length 17 5/8  $\pm$  3/8 Inches  
 Greatest Diameter of Bulb 10 1/2  $\pm$  1/8 Inches  
 Minimum Useful Screen Diameter 9 Inches  
 Bulb Contact Recessed Small-Cavity Cap  
 Base Small-Shell Duodecal 7 Pin  
 Length of Deflection Coil from Reference Line 2 Inches Max.

MAXIMUM RATINGS Design Center Values

Anode Voltage 10,000 Max. Volts D-C  
 Grid No.2 Voltage 410 Max. Volts D-C  
 Negative-Bias Value 125 Max. Volts D-C  
 Positive-Bias Value 2 Max. Volts D-C  
 Peak Heater-Cathode Voltage \*  
 Heater Negative With Respect to Cathode 125 Max. Volts D-C  
 Heater Positive With Respect to Cathode 125 Max. Volts D-C  
 Heater Negative With Respect to Cathode  
 During warm-up Period Not Exceeding 15  
 seconds 410 Max. Volts

TYPICAL OPERATING CONDITIONS

Anode Voltage 9000 Volts D-C  
 Grid No.2 Voltage 250 Volts D-C

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## TYPICAL OPERATING CONDITIONS (Continued)

Grid No.1 Voltage**	-45 Volts D-C
Focusing Coil Current*** D-C Approximate	100 Milliampere

## MAXIMUM CIRCUIT VALUES

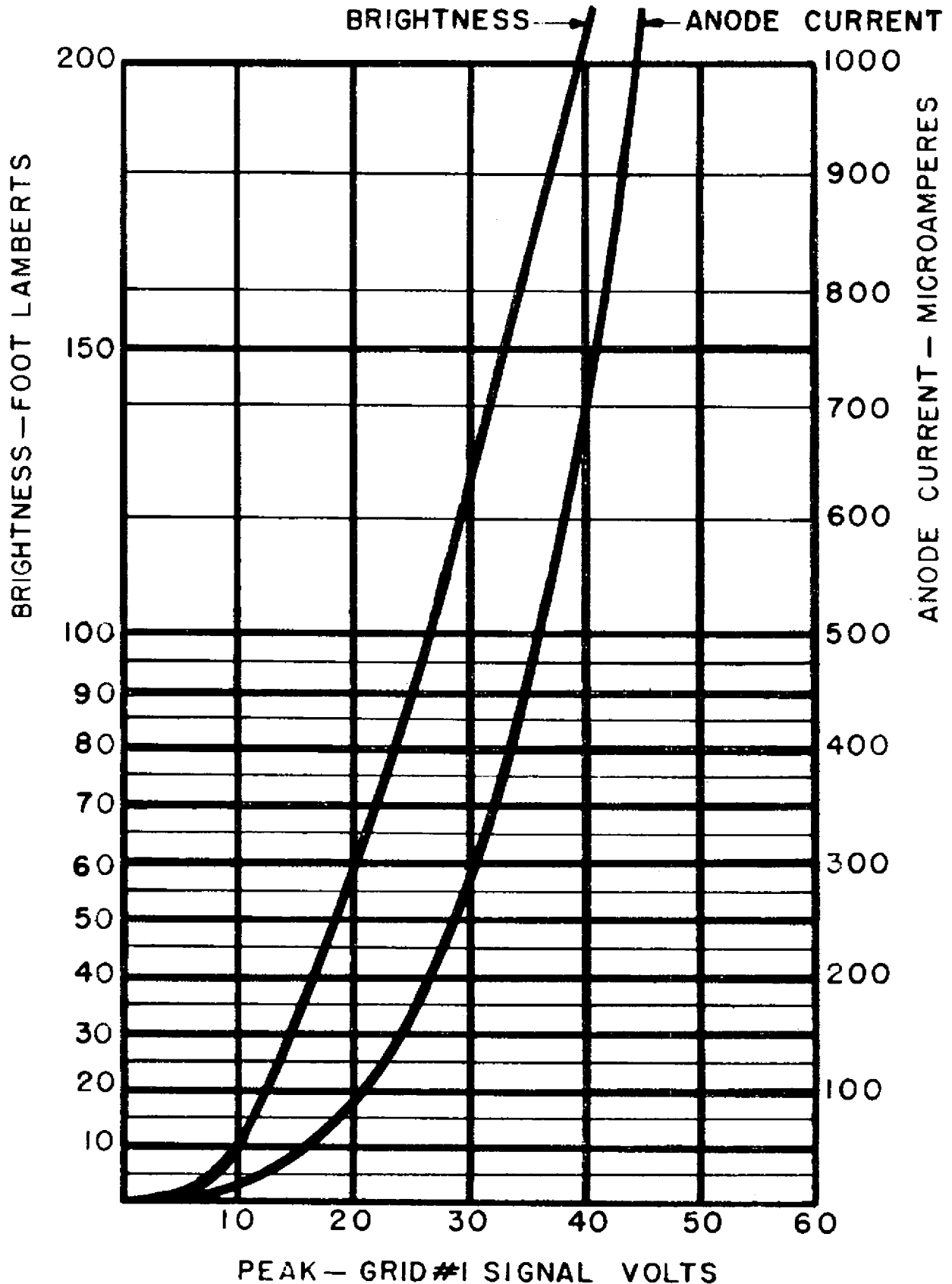
Grid No.1 Circuit Resistance	1.5 Max. Megohms
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- \* Cathode should be returned to one side or to the mid-tap of the heater transformer winding.
- \*\* Visual extinction of undeflected focused spot. Supply should be adjustable to  $\leq$  40 percent of indicated value.
- \*\*\* For standard focus coil or equivalent, with the combined grid-No.1 - bias voltage and video-signal voltage adjusted to produce a highlight brightness of 12 foot-lamberts on a 6" x 8" picture area. Distance (D) shall be 2 3/4 inches.

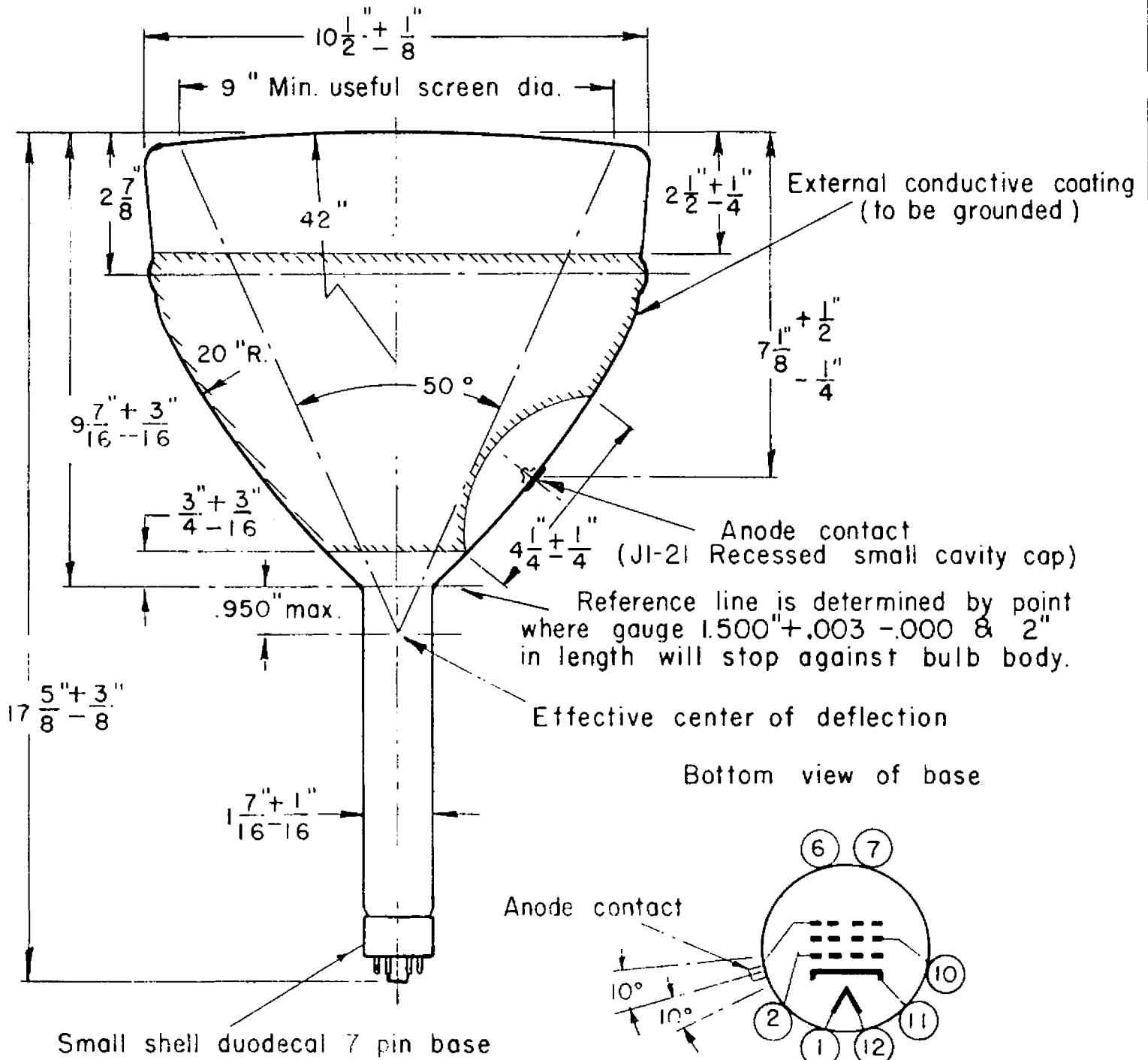
April 14, 1947

# AVERAGE CHARACTERISTICS

$E_f = 6.3$  VOLTS  
ANODE VOLTS = 9000  
GRID No.2 VOLTS = 250  
GRID No.1 BIASED TO CUTOFF  
RASTER SIZE 6" X 8" (FOCUSED)



# 10FP4 / R6025



Pin No. 1	Heater	Pin No. 10	Grid No. 2
Pin No. 2	Grid No. 1	Pin No. 11	Cathode
Pin No. 6	No connection	Pin No. 12	Heater
Pin No. 7	No connection	Cap	Anode

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