

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 μ f
Grid #1 to All Other Electrodes	9 μ f
External Conductive Coating to Anode No.2	{ 2500 Max. μ f
	{ 500 Min. μ 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 Milliamperes

MAXIMUM CIRCUIT VALUES

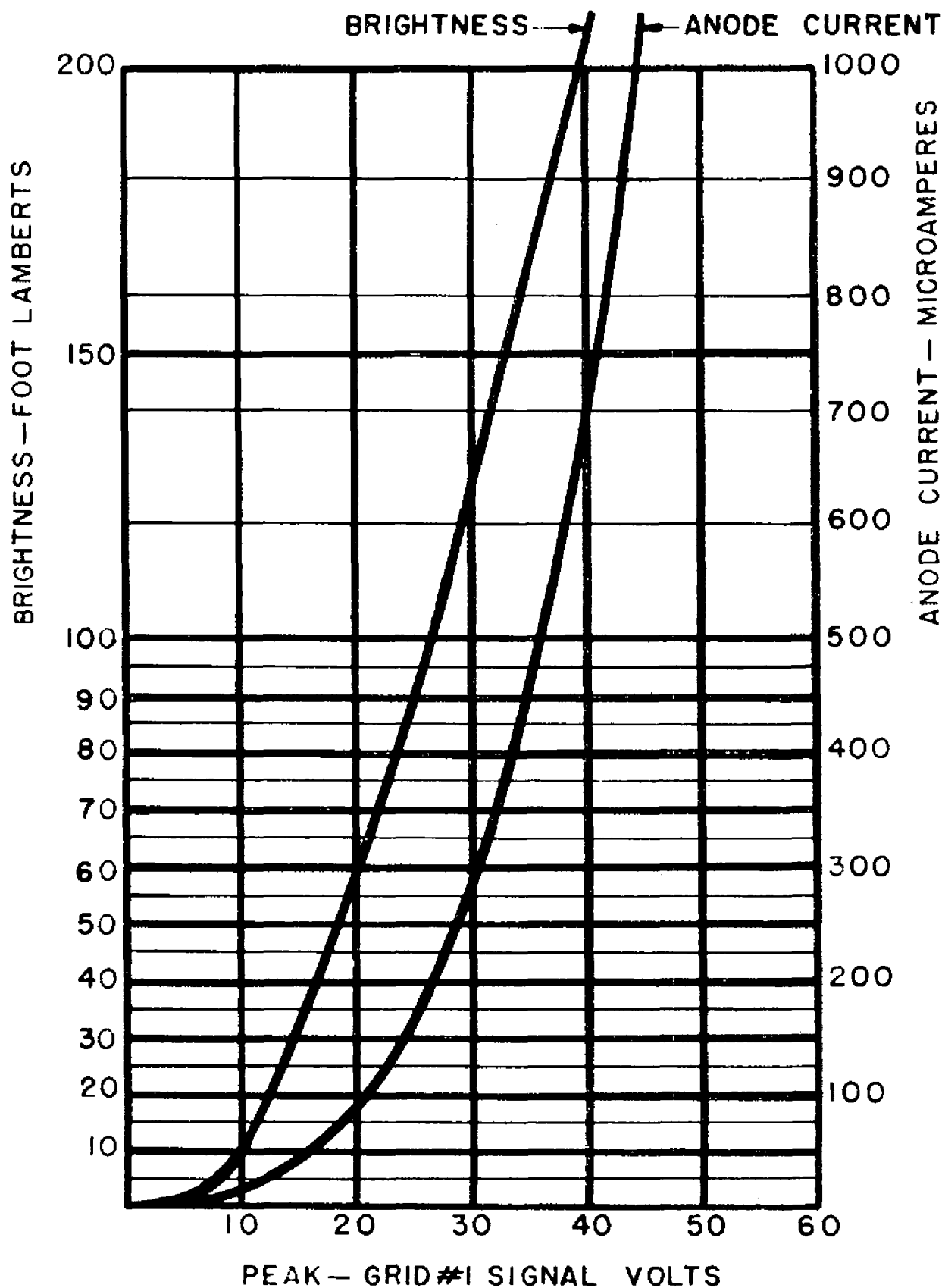
Grid No.1 Circuit Resistance	1.5 Max. Megohms
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- * Cathode should be returned to one side or to the mid-tap of the heater transformer winding.
- ** Visual extinction of undeflected focused spot. Supply should be adjustable to $\geq$ 40 percent of indicated 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.

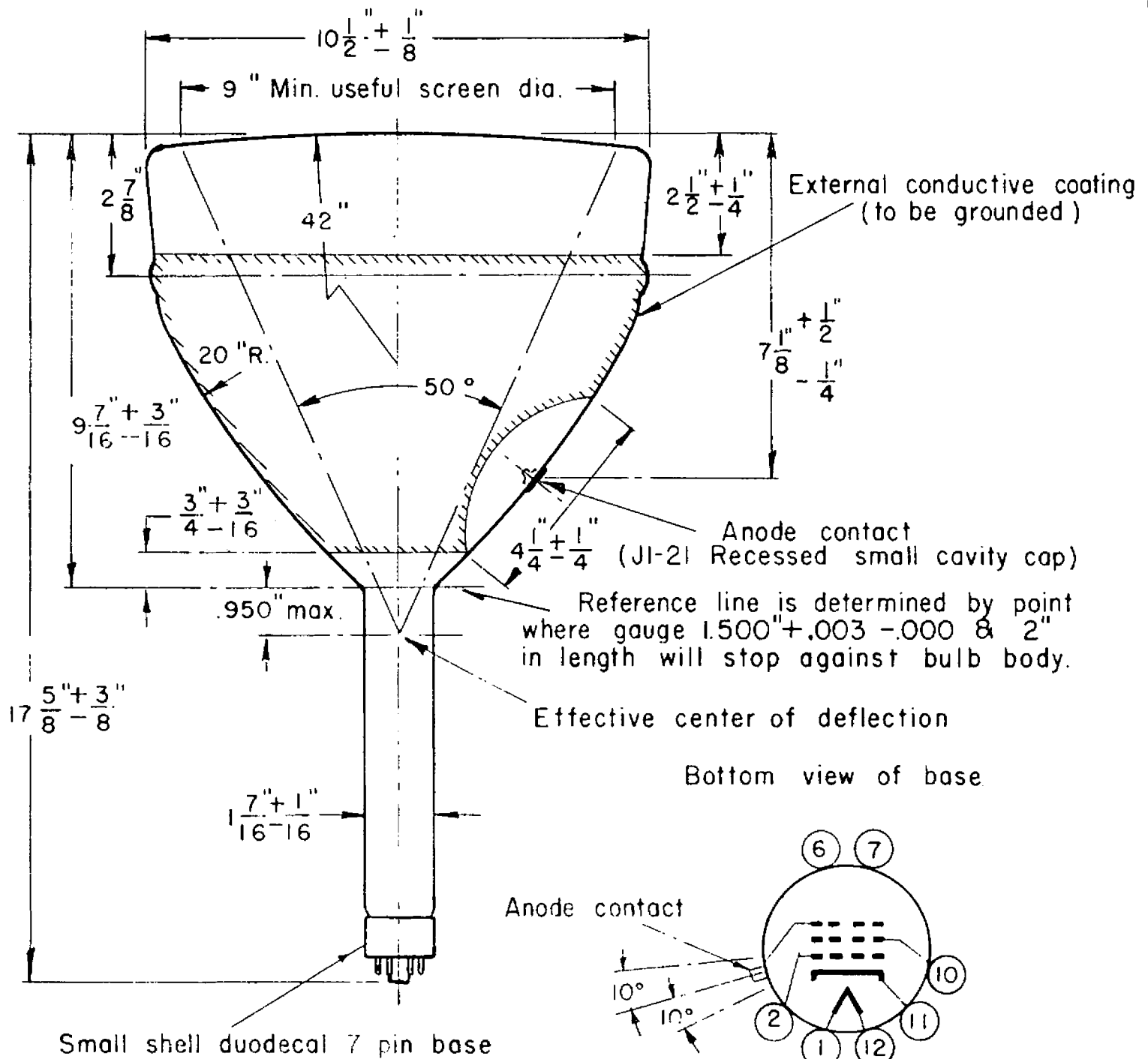
April 14, 1947

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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