



7JP4 KINESCOPE

ELECTROSTATIC FOCUS—ELECTROSTATIC DEFLECTION

*Supersedes Type 7GP4**

7JP4

General:

Heater, for Unipotential Cathode:

Voltage. $6.3 \pm 10\%$ ac or dc volts
Current. 0.6 amp

Direct Interelectrode Capacitances (Approx.):

Grid No.1 to All Other Electrodes. 8.5 μf
Cathode to All Other Electrodes. 9.5 μf
DJ₁ to DJ₂ 3.5 μf
DJ₃ to DJ₄ 2.0 μf
DJ₁ to All Other Electrodes. 11.0 μf
DJ₂ to All Other Electrodes. 11.0 μf
DJ₃ to All Other Electrodes. 8.0 μf
DJ₄ to All Other Electrodes. 8.0 μf

Phosphor (For Curves, see front of this Section) No.4

Fluorescence White
Persistence. Medium

Focusing Method. Electrostatic

Deflection Method. Electrostatic

Overall Length $14\frac{1}{2}'' \pm \frac{3}{8}''$

Greatest Diameter of Bulb. $7'' \pm \frac{1}{8}''$

Minimum Useful Screen Diameter 6"

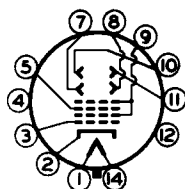
Raster Size. 4" x $5\frac{1}{2}''$

Mounting Position. Any

Base Medium-Shell Diheptal 12-Pin

Basing Designation for BOTTOM VIEW 14-G

Pin 1—Heater
Pin 2—Cathode
Pin 3—Grid No.1
Pin 4—No
Connection
Pin 5—Anode No.1
Pin 7—Deflecting
Electrode
DJ₃
Pin 8—Deflecting
Electrode
DJ₄



Pin 9—Anode No.2,
Grid No.2
Pin 10—Deflecting
Electrode
DJ₂
Pin 11—Deflecting
Electrode
DJ₁
Pin 12—Internal
Connection—
Do Not Use
Pin 14—Heater

*DJ₁ and DJ₂ are nearer the screen
DJ₃ and DJ₄ are nearer the base*

With DJ₁ positive with respect to DJ₂, the spot is deflected toward pin 5. With DJ₃ positive with respect to DJ₄, the spot is deflected toward pin 2.

The plane through the tube axis and pin 5 may vary from the trace produced by DJ₁ and DJ₂ by an angular tolerance (measured about the tube axis) of 10°.

The angle between the trace produced by DJ₁ and DJ₂ and the trace produced by DJ₃ and DJ₄ is 90° ± 3°.

* The 7JP4 replaces the 7GP4 provided no connections are made to the 7GP4 socket contacts for pins 4 and 12.

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Maximum Ratings, Design-Center Values:

ANODE-No.2 & GRID-No.2 VOLTAGE	6000 max.	volts
ANODE-No.1 VOLTAGE	2800 max.	volts
GRID-No.1 (CONTROL ELECTRODE) VOLTAGE:		
Negative bias value	200 max.	volts
Positive bias value#	0 max.	volts
Positive peak value	2 max.	volts
PEAK VOLTAGE BETWEEN ANODE No.2 AND ANY DEFLECTING ELECTRODE. . .	750 max.	volts
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode:		
During equipment warm-up period not exceeding 15 seconds . . .	410 max.	volts
After equipment warm-up period . . .	125 max.	volts
Heater positive with respect to cathode.	125 max.	volts

Equipment Design Ranges:

For any anode-No.2 voltage (E_{b2}) between 3000* and 6000 volts

Anode-No.1 Voltage		
for Focus [□]	27% to 40% of E_{b2}	volts
Grid-No.1 Voltage for		
Visual Cutoff	1.2% to 2.8% of E_{b2}	volts
Anode-No.1 Current for Any		
Operating Condition	-15 to +10	μ amp
Deflection Factors:		
DJ ₁ & DJ ₂	31 to 41	v dc/in./kv of E_{b2}
DJ ₃ & DJ ₄ •	25 to 34	v dc/in./kv of E_{b2}

Examples of Use of Design Ranges:

For anode-No.2 voltage of 6000 volts

Anode-No.1 Voltage	1620 to 2400	volts
Grid-No.1 Voltage for Visual Cutoff	-72 to -168	volts
Deflection Factors:		
DJ ₁ & DJ ₂	186 to 246	volts dc/in.
DJ ₃ & DJ ₄	150 to 204	volts dc/in.

Maximum Circuit Values:

Grid-No.1-Circuit Resistance	1.5 max.	megohms
Resistance in Any Deflecting		
Electrode Circuit [°]	5.0 max.	megohms

Minimum Circuit Values:

When the output capacitor of the power supply is capable of storing more than 250 microcoulombs, and when the inherent regulation of the power supply permits the instantaneous short-circuit current to exceed 1 ampere, the effective resistance in circuit between indicated electrode and the output capacitor should be as follows:

Grid-No.1-Circuit Resistance	220 min.	ohms
Anode-No.1-Circuit Resistance	3000 min.	ohms
Anode-No.2-Circuit Resistance	6800 min.	ohms

#, *, □, °: See next page.

SEPT. 2, 1947

TUBE DEPARTMENT
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

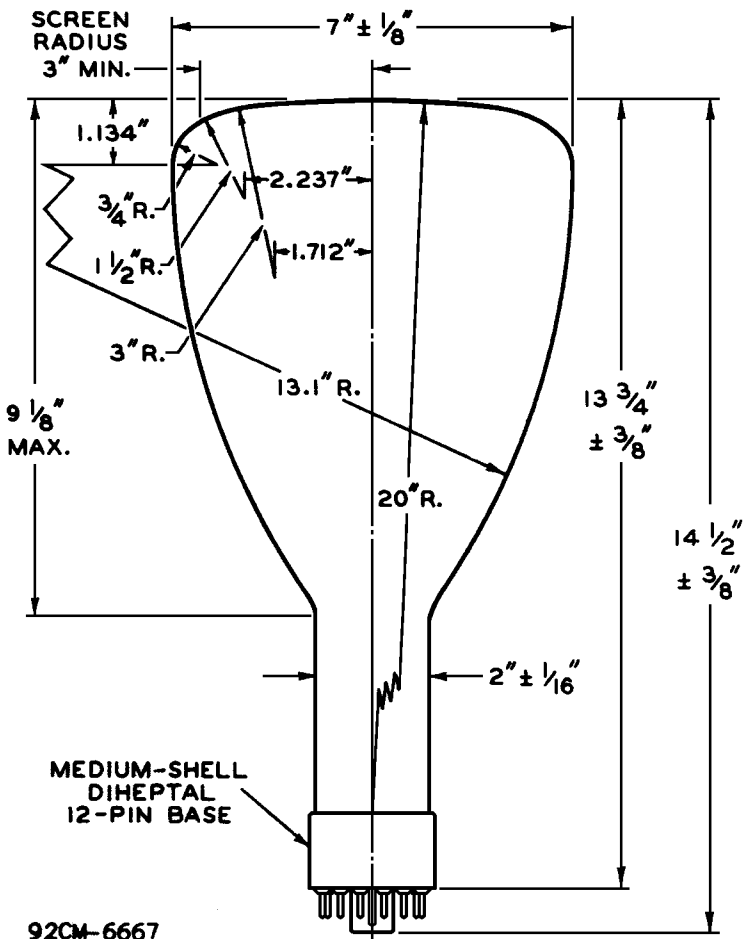
TENTATIVE DATA



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- # At or near this rating, with 4000 to 6000 volts on anode No.2, the effective resistance of the anode-No.2 supply should be adequate to limit the anode-No.2 input power to 6 watts.
- * Brilliance and definition decrease with decreasing anode-No.2 voltage.
- With the combined grid-No.1 bias voltage and video-signal voltage adjusted for a highlight brightness of 12 foot-lamberts on a 4" x 5-1/2" picture area.
- It is recommended that the deflecting-electrode-circuit resistances be approximately equal.
- The 7JP4 is designed to be used in television circuits with horizontal deflection applied to deflecting electrodes DJ₃ and DJ₄, and should be so used to obtain maximum picture width. When the 7JP4 is operated in this way, the deflecting voltage required to produce the vertical height is approximately the same as that required to produce the horizontal width of a television picture of standard proportions.



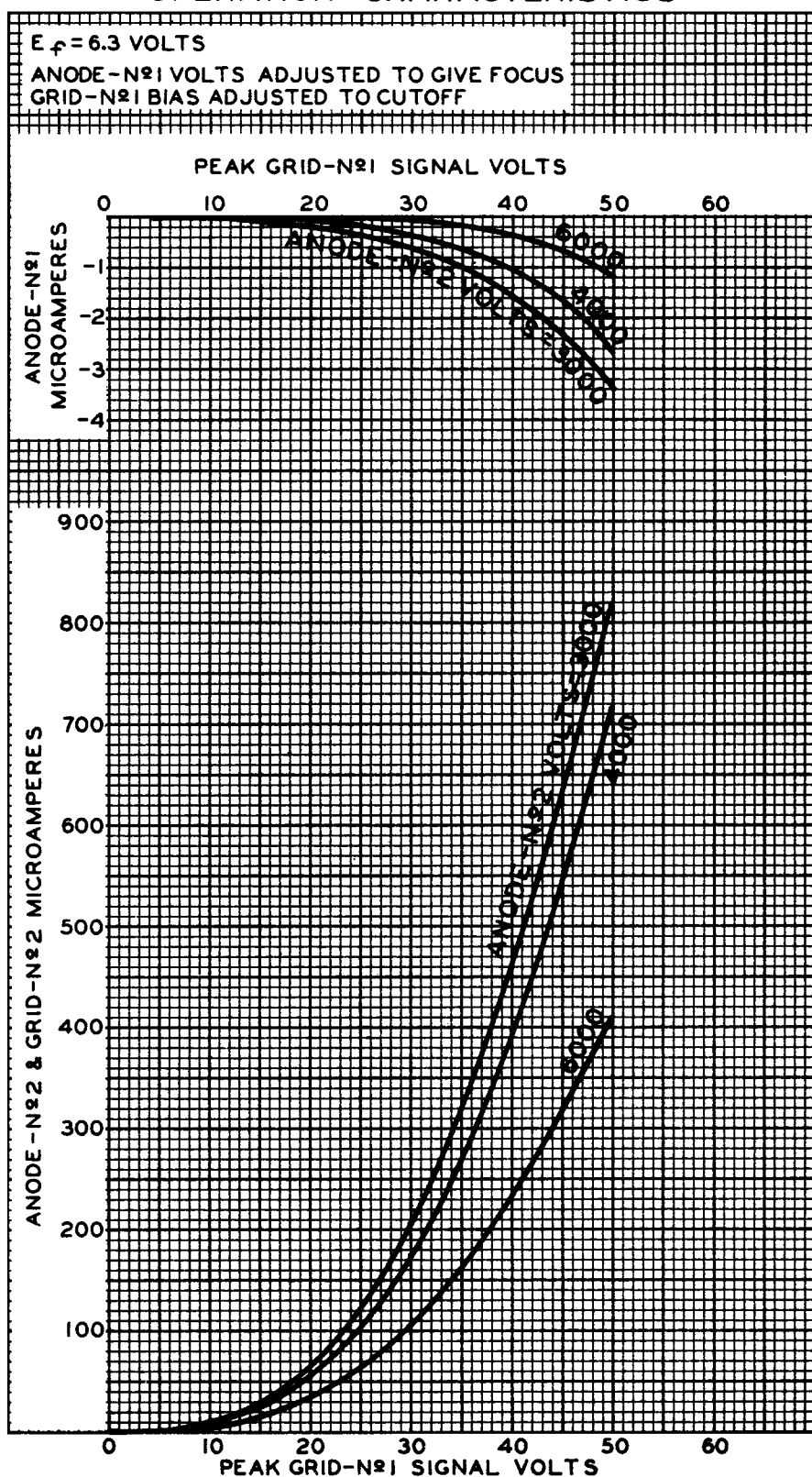
OF BULB WILL NOT DEViate MORE THAN 2° IN ANY DIRECTION FROM THE PERPENDICULAR ERECTED AT THE CENTER OF BOTTOM OF THE BASE.

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OPERATION CHARACTERISTICS



AUG. 21, 1947

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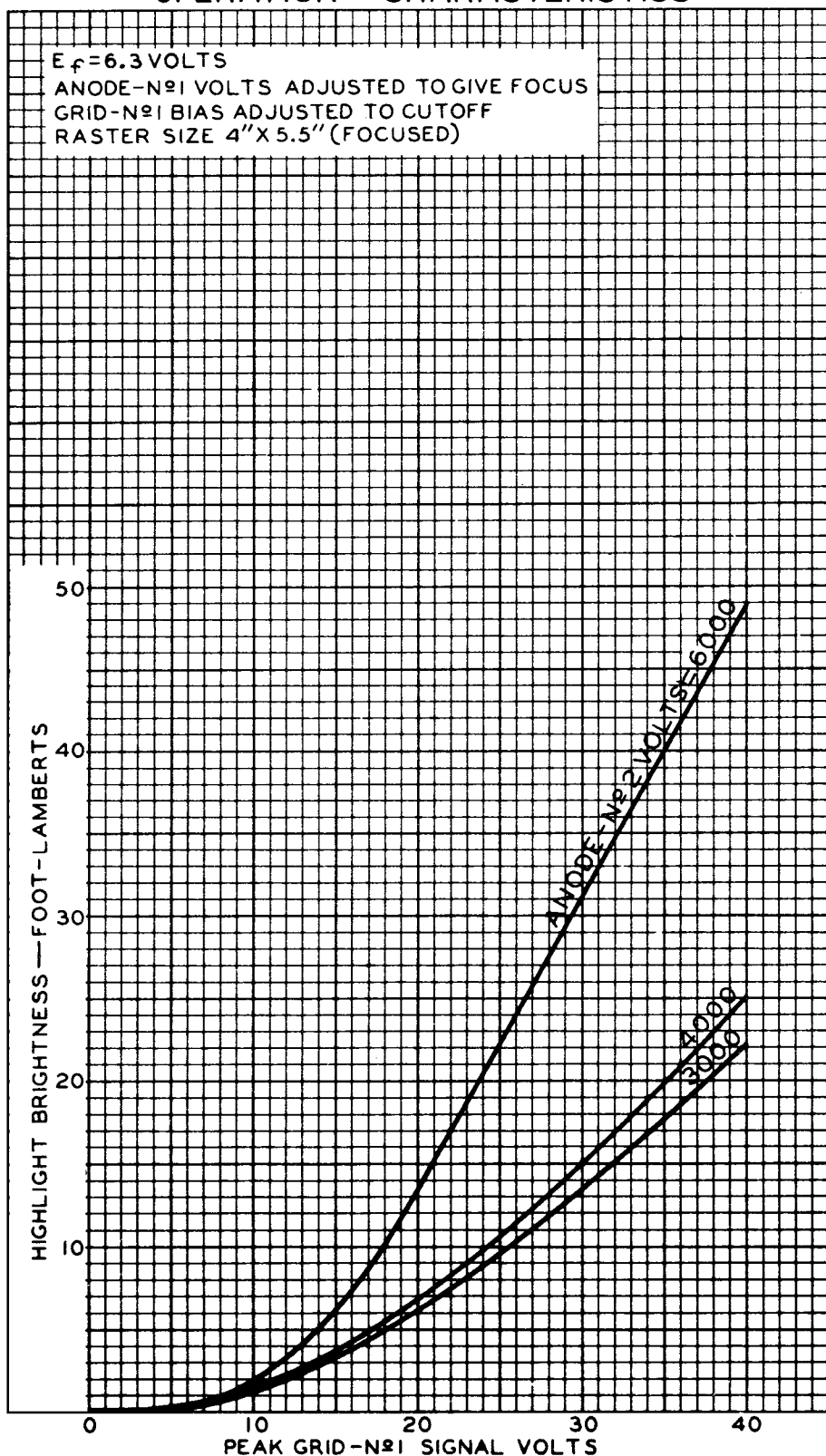
92CM-6890



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