



IOSP4

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MONITOR KINESCOPE

ALUMINIZED SCREEN

ELECTROSTATIC FOCUS

MAGNETIC DEFLECTION

DATA

General:

Heater, for Unipotential Cathode:

Voltage. 6.3 ac or dc volts

Current. 0.6 amp

Direct Interelectrode Capacitances:

Grid No.1 to all other electrodes. 6 μf Cathode to all other electrodes. 5 μf

Faceplate, Spherical Filterglass

Light transmission (Approx.) 76%

Phosphor (For curves, see front of this Section). . . P4—Sulfide Type
Aluminized

Fluorescence White

Phosphorescence. White

Persistence. Short

Focusing Method. Electrostatic

Deflection Method. Magnetic

Deflection Angle (Approx.) 50°

Overall Length 16-5/8" $\pm$ 3/8"Greatest Diameter of Bulb. 10-1/2" $\pm$ 1/16"

Minimum Useful Screen Diameter 9-1/8"

Picture Size (Within minimum useful screen area) . . 8" x 6"

Weight (Approx.) 10 lbs

Operating Position Any

Cap. Recessed Small Cavity (JETEC No.J1-21)

Bulb J84

Base Small-Shell Duodecal 6-Pin (JETEC No.B6-63)

Basing Designation for BOTTOM VIEW 12Q

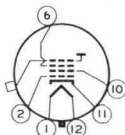
Pin 1—Heater

Pin 2—Grid No.1

Pin 6—Grid No.3

Pin 10—Grid No.2

Pin 11—Cathode



Pin 12—Heater

Cap—Ultror

(Grid No.4,
Collector)

Maximum Ratings, Design-Center Values:

ULTOR VOLTAGE. 20000 max. volts

GRID—No.3 VOLTAGE. 3000 max. volts

GRID—No.2 VOLTAGE. 410 max. volts

GRID—No.1 VOLTAGE:

Negative bias value. 125 max. volts

Positive bias value. 0 max. volts

Positive peak value. 2 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 180 max. volts

Heater positive with respect to cathode. 180 max. volts

← indicates a change.



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Equipment Design Ranges:

→ For any ultor voltage (E_{C4}) between 10000* and 20000 volts
and grid-No.2 voltage (E_{C2}) between 150 and 410 volts

Grid-No.3 Voltage for focus with ultor current of 100 μ a.	11.7% to 15.9% of E_{C4}	volts
Grid-No.1 Voltage for visual extinction of 8" x 6" raster	9% to 24% of E_{C2}	volts
Maximum Grid-No.3 Current**	See Curves	
Grid-No.2 Current.	-15 to +15	μ a
Field Strength of Adjustable Centering Magnet	0 to 8	gausses

Examples of Use of Design Ranges:

For ultor voltage of	12000	14000	volts
and grid-No.2 voltage of	200	200	volts
Grid-No.3 Voltage for focus with ultor current of 100 μ a.	1400 to 1900	1640 to 2225	volts
Grid-No.1 Voltage for visual extinction of 8" x 6" raster	-18 to -48	-18 to -48	volts

Maximum Circuit Values:

Grid-No.1-Circuit Resistance	1.5 max.	megohms
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* Brilliance and definition decrease with decreasing ultor voltage. In general, the ultor voltage should not be less than 10,000 volts.

** Grid-No.3 current increases as the ultor voltage is decreased.

For X-ray shielding considerations, see sheet
X-RAY PRECAUTIONS FOR CATHODE-RAY TUBES
at front of this Section

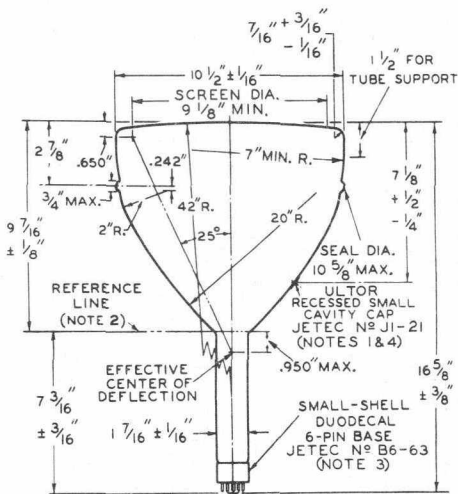
→ Indicates a change.



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NOTE 1: THE PLANE THROUGH THE TUBE AXIS AND PIN 6 MAY VARY FROM THE PLANE THROUGH THE TUBE AXIS AND ULTOR TERMINAL BY AN ANGULAR TOLERANCE (MEASURED ABOUT THE TUBE AXIS) OF $\pm 10^\circ$. ULTOR TERMINAL IS ON SAME SIDE AS PIN 6.

NOTE 2: REFERENCE LINE IS DETERMINED BY POSITION WHERE REFERENCE-LINE GAUGE (JETEC No. 112) $1.500'' + 0.003'' - 0.000''$ I.D. AND $2''$ LONG WILL REST ON BULB CONE.

NOTE 3: SOCKET FOR THIS BASE SHOULD NOT BE RIGIDLY MOUNTED; IT SHOULD HAVE FLEXIBLE LEADS AND BE ALLOWED TO MOVE FREELY. BOTTOM CIRCUMFERENCE OF BASE SHELL WILL FALL WITHIN CIRCLE CONCENTRIC WITH BULB AXIS AND HAVING DIAMETER OF $1-7\frac{7}{8}''$.

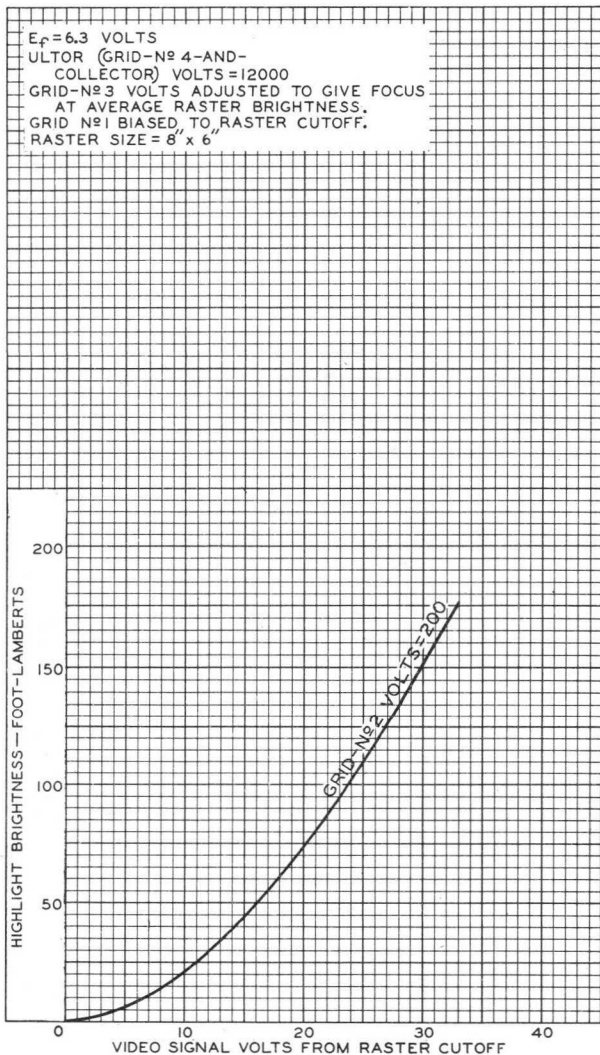
NOTE 4: TUBE SUPPORT MUST BE KEPT AT LEAST $2''$ AWAY FROM BULB TERMINAL.

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AVERAGE GRID-DRIVE CHARACTERISTIC

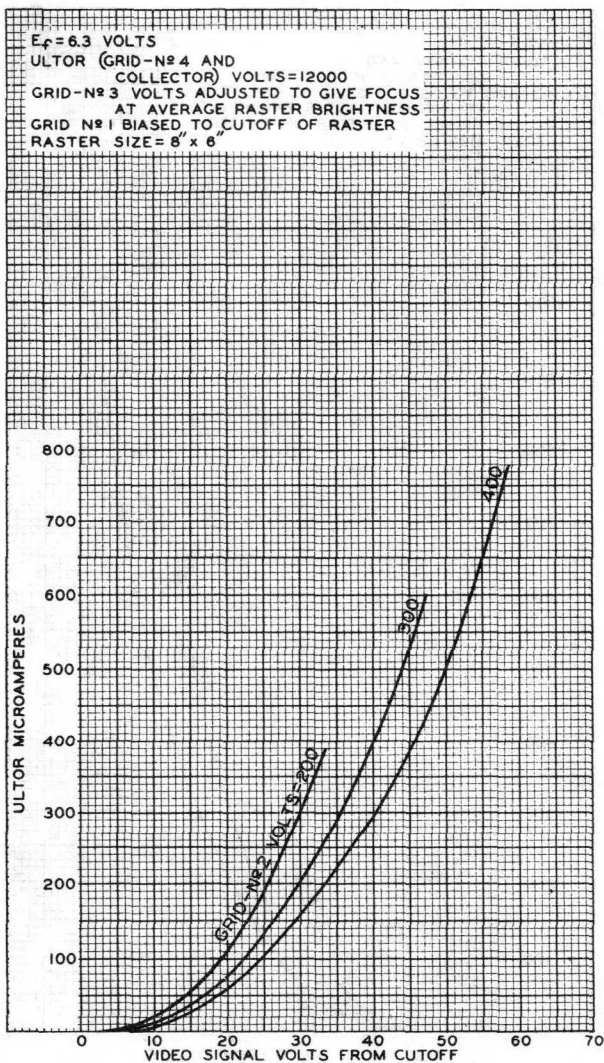




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AVERAGE GRID-DRIVE CHARACTERISTICS



MAR. 21, 1952

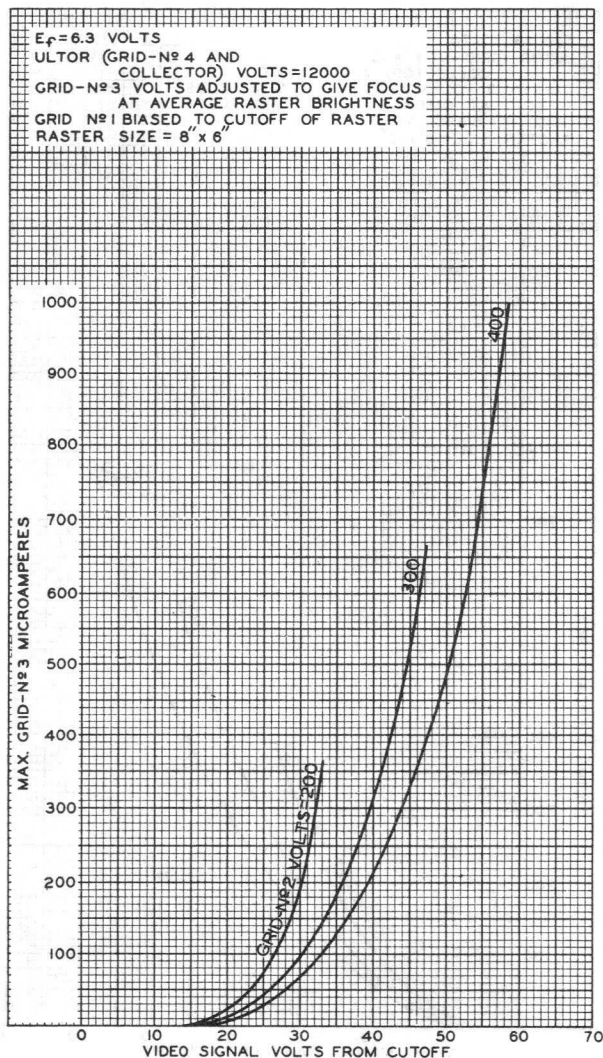
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RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

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GRID-DRIVE CHARACTERISTICS



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