



16GP4-B

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KINESCOPE

ROUND METAL-SHELL TYPE

MAGNETIC FOCUS

MAGNETIC DEFLECTION

DATA

General:

Heater, for Unipotential Cathode:

Voltage. 6.3 ac or dc volts

Current. $0.6 \pm 10\%$ amp ←

Direct Interelectrode Capacitances:

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

Faceplate, Spherical Frosted Filterglass

Light transmission (Approx.) 66% ←

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

Fluorescence White

Phosphorescence. White ←

Persistence. Short ←

Focusing Method. Magnetic

Deflection Method. Magnetic

Deflection Angle (Approx.) 70°

Ion-Trap Gun Requires External Single-Field Magnet

Tube Dimensions:

Maximum overall length 17-11/16"

Greatest diameter. $15\text{-}7/8" \pm 1/8"$

Minimum Useful Screen Diameter 14-3/8" ←

Weight (Approx.) 11 lbs ←

Mounting Position Any

Ultor Terminal Metal-Shell Lip

Base Small-Shell Duodecal 5-Pin (JETEC No.B5-57) ←

Basing Designation for BOTTOM VIEW 12D ←

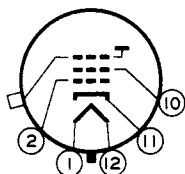
Pin 1 - Heater

Pin 2 - Grid No.1

Pin 10 - Grid No.2

Pin 11 - Cathode

Pin 12 - Heater

Metal-Shell Lip -
Ultor
(Grid No.3,
Collector)

Maximum Ratings, Design-Center Values:

ULTOR VOLTAGE. 14000 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 150 max. volts

Heater positive with respect to cathode. 150 max. volts

← Indicates a change.

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→ Equipment Design Ranges:

With any ultor voltage (E_{c3}) between 12000* and 14000 volts
and grid-No.2 voltage (E_{c2}) between 200 and 410 volts

Grid-No.1 Voltage for Visual Extinction of Focused Raster.	-9.3% to -24% of E_{c2}	volts
Grid-No.1 Video Drive from Raster Cutoff (Black Level):		
White-level value (Peak positive)	9.3% to 24% of E_{c2}	volts
Grid-No.2 Current	-15 to +15	μ amp
Focusing-Coil Current (DC) ^o	$\left[\sqrt{\frac{E_{c3}}{14000}} \times 107 \right] \pm 10\%$	ma
Ion-Trap Magnet Current (Average)**	$\sqrt{\frac{E_{c3}}{14000}} \times 28$	ma
Minimum Field Strength of PM Ion-Trap Magnet§	$\sqrt{\frac{E_{c3}}{14000}} \times 31$	gausses
Field Strength of Adjustable Centering Magnet.	0 to 8	gausses

→ Examples of Use of Design Ranges:

With ultor voltage of 12000 volts
and grid-No.2 voltage of 300 volts

Grid-No.1 Voltage for Visual Extinction of Focused Raster.	-28 to -72	volts
Grid-No.1 Video Drive from Raster Cutoff (Black Level):		
White-level value (Peak positive)	28 to 72	volts
Focusing-Coil Current (DC).	99 $\pm$ 10%	ma
Minimum Field Strength of PM Ion-Trap Magnet.	29	gausses

* Brilliance and definition decrease with decreasing ultor voltage. In general, the ultor voltage should not be less than 12000 volts.

^o For specimen focusing coil similar to JETEC Focusing Coil No.109 positioned with airgap toward kinescope screen and center line of air gap 3 inches from Reference Line (See *Dimensional Outline*). The indicated current is for condition with sharp focus at center of picture area and combined grid-No.1 voltage and video-signal voltage adjusted to produce a highlight brightness of 30 foot-lamberts measured on an Indian Head Test Pattern set for a 10" x 13-1/4" picture size.

** For JETEC Ion-Trap Magnet No.117, or equivalent, located with the trailing edge of the pole pieces located over the gap between grid No.1 and grid No.2 and rotated to give maximum brightness.



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Maximum Circuit Values:

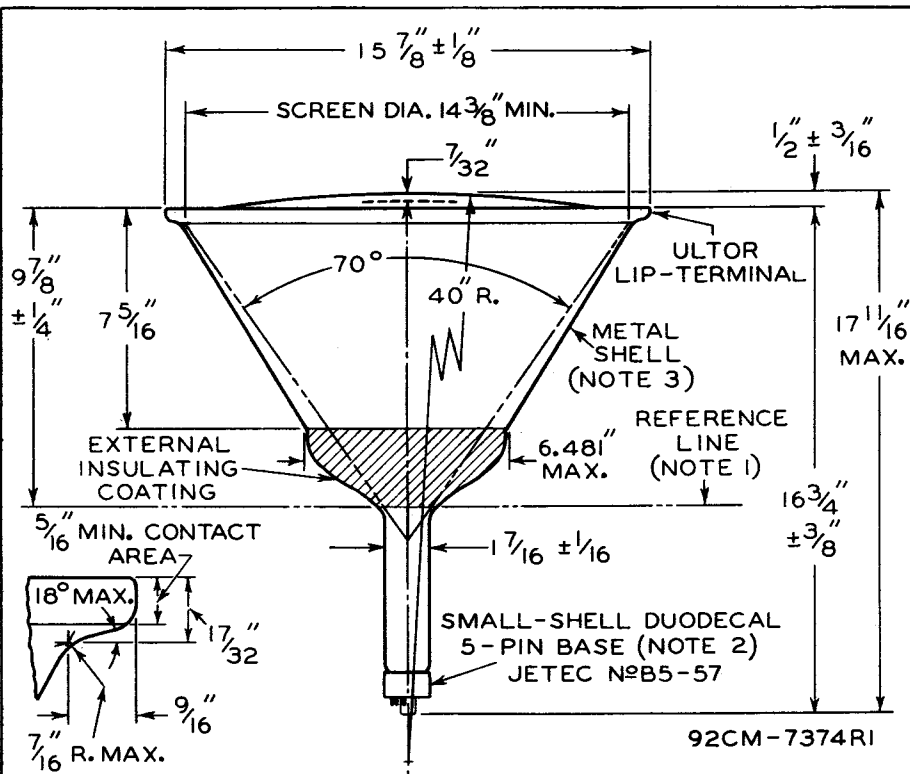
Grid-No.1-Circuit Resistance. 1.5 max. megohms

§ For specimen PM ion-trap magnet, such as Heppner Model No.E437, or equivalent, located in optimum position and rotated to give maximum brightness. For a given equipment application, the tolerance range for the strength of the PM ion-trap magnet should be added to the minimum value. The maximum strength of this magnet should not exceed the specified minimum value by more than 6 gauss. This procedure will insure use of a PM ion-trap magnet allowing adequate adjustment to permit satisfactory performance without loss of highlight brightness.

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



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DETAIL OF LIP

NOTE 1: WITH TUBE NECK INSERTED THROUGH FLARED END OF REFERENCE—LINE GAUGE JETEC No.110 (SHOWN AT FRONT OF THIS SECTION) AND WITH TUBE SEATED IN GAUGE, THE REFERENCE LINE IS DETERMINED BY THE INTERSECTION OF THE PLANE CC' OF THE GAUGE WITH THE GLASS FUNNEL.

NOTE 2: 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 A CIRCLE CONCENTRIC WITH BULB AXIS AND HAVING A DIAMETER OF 2-1/2".

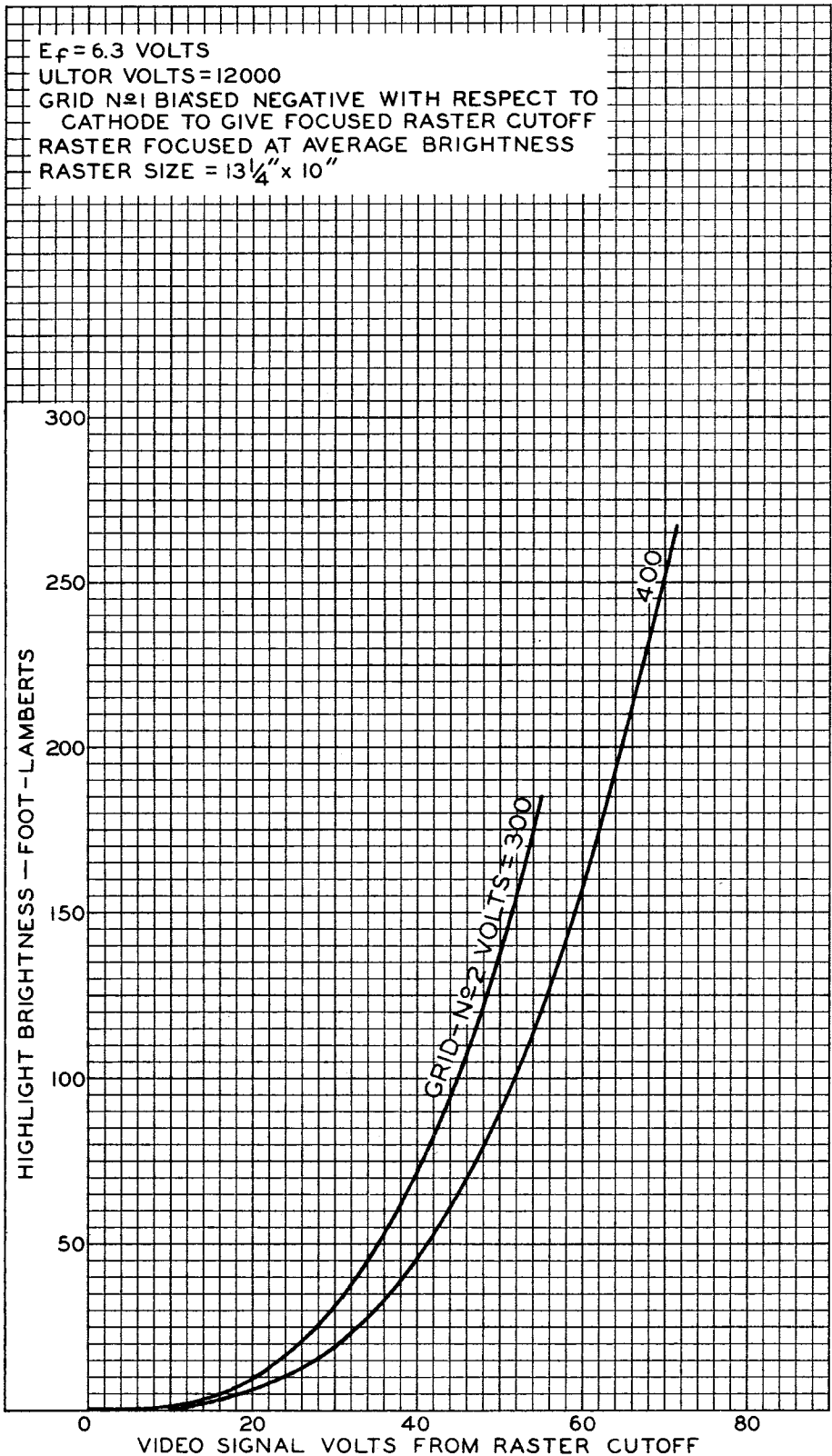
NOTE 3: METAL SHELL AND GLASS FACE OPERATE AT HIGH VOLTAGE. ANY MATERIAL IN CONTACT WITH THE SHELL OR THE FACE MUST BE INSULATED TO WITHSTAND THE MAXIMUM APPLIED ULTOR VOLTAGE.



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AVERAGE GRID-DRIVE CHARACTERISTICS



TUBE DIVISION

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

92CM-8875

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AVERAGE GRID-DRIVE CHARACTERISTICS

$E_f = 6.3$ VOLTS
ULTOR VOLTS = 12000 TO 14000
GRID N₂ BIASED NEGATIVE WITH
RESPECT TO CATHODE TO GIVE
FOCUSED RASTER CUTOFF

