



21MP4 KINESCOPE

RECTANGULAR METAL-SHELL TYPE

LOW-VOLTAGE FOCUS

MAGNETIC DEFLECTION

21MP4

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 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. Electrostatic

Deflection Method. Magnetic

Deflection Angles (Approx.):

Diagonal 70°

Horizontal 66°

Vertical 50°

Ion-Trap Gun Requires External, Single-Field Magnet

Tube Dimensions:

Maximum Overall Length 22-5/8"

Greatest Diagonal. 20-3/4" $\pm$ 1/4"

Greatest Width 19-23/32" $\pm$ 1/8"

Greatest Height. 15-5/16" $\pm$ 1/8"

Screen Dimensions:

Greatest Width 18-3/8"

Greatest Height. 14"

Diagonal 19-3/8"

Weight (Approx.) 18 lbs

Mounting Position. Any

Ultor* Terminal. Metal-Shell Lip

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

BOTTOM VIEW

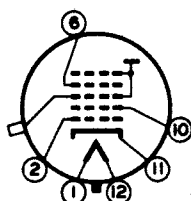
Pin 1—Heater

Pin 2—Grid No.1

Pin 6—Grid No.4

Pin 10—Grid No.2

Pin 11—Cathode



Pin 12—Heater

Metal-Shell Lip—

Grid No.3,

Grid No.5,

Collector

Maximum Ratings, Design-Center Values:

ULTOR* VOLTAGE 16000 max. volts

* In the 21MP4, grid No.5 which has the ultor function, grid No.3, and collector are connected together within the tube and are conveniently referred to collectively as "ultor." The "ultor" in a cathode-ray tube is the electrode, or the electrode in combination with one or more additional electrodes connected within the tube to it, to which is applied the highest dc voltage for accelerating the electrons in the beam prior to its deflection.

MAY 1, 1952

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TENTATIVE DATA

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

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GRID-No.4 VOLTAGE:

Positive value	1000 max.	volts
Negative value*	500 max.	volts

GRID-No.2 VOLTAGE	500 max.	volts
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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

Equipment Design Ranges:

For any ultor voltage (E_u) between 14000* and 16000 volts
and grid-No.2 voltage (E_{c2}) between 150 and 500 volts

Grid-No.4 Voltage for Focus

with Ultor Current of

100 μ amp -0.4% to +2.2% of E_u volts

Grid-No.1 Voltage for Visual

Extinction of Undelected

Focused Spot 11% to 25.7% of E_{c2} voltsGrid-No.4 Current -25 to +25 μ ampGrid-No.2 Current -15 to +15 μ amp

Field Strength of Single-Field

Ion-Trap Magnet (Approx.) . . $\sqrt{\frac{E_u}{14000}} \times 45$ gaussess

Field Strength of Adjustable

Centering Magnet 0 to 8 gaussess

Examples of Use of Design Ranges:

For ultor voltage of 14000 16000 volts

and grid-No. 2 voltage of 300 300 volts

Grid-No.4 Voltage for Focus

with Ultor Current of

100 μ amp -55 to +300 -65 to +350 volts

Grid-No.1 Voltage† -33 to -77 -33 to -77 volts

Ion-Trap Magnet

(Rated Strength) 45 50 gaussess

Maximum Circuit Values:

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

* This value has been specified to take care of the condition where an ac voltage is provided for dynamic focusing.

† Brilliance and definition decrease with decreasing ultor voltage. In general, the ultor voltage should not be less than 14000 volts.

† For visual extinction of undeflected focused spot.

For x-ray shielding considerations, see sheet

X-RAY PRECAUTIONS FOR CATHODE-RAY TUBES

at front of this Section

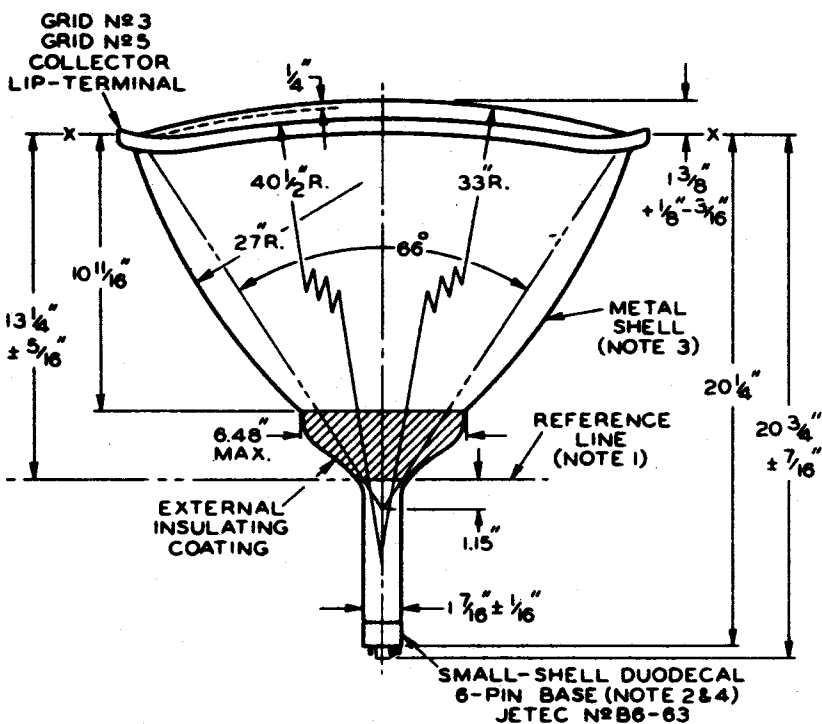
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CE-7646R1A



CE-7646R1B

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2IMP4 KINESCOPE

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 METAL-SHELL AXIS AND HAVING A DIAMETER OF 3-1/4".

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.

NOTE 4: THE PLANE THROUGH THE TUBE AXIS AND PIN NO. 6 MAY VARY FROM THE HORIZONTAL AXIS OF THE GLASS FACE BY AN ANGULAR TOLERANCE (MEASURED ABOUT THE TUBE AXIS) OF $\pm 10^\circ$.

NOTE 5: SUPPORT TUBE IN LIP REGION ONLY AT CORNERS WITHIN THIS SPACE.

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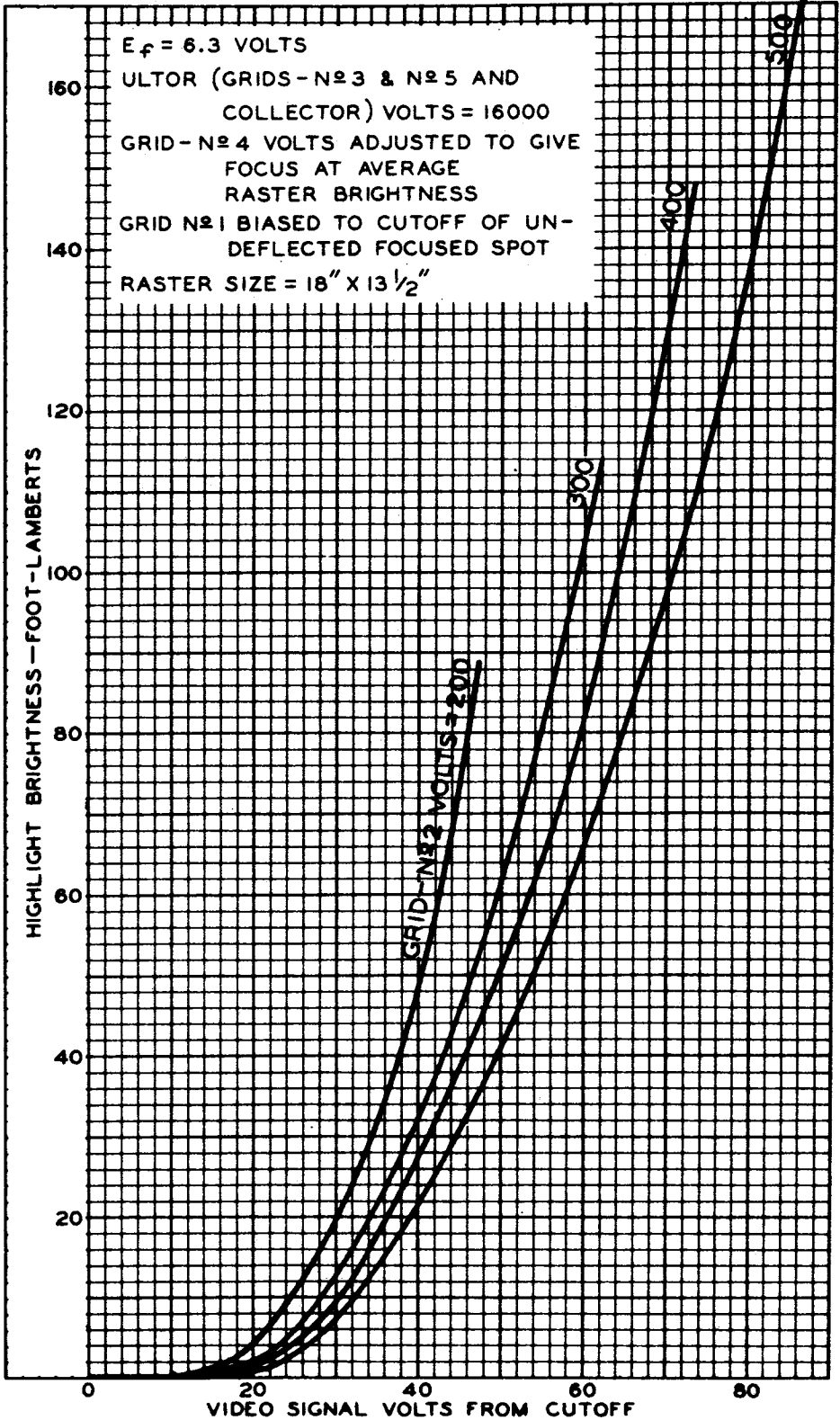
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AVERAGE GRID-DRIVE CHARACTERISTICS





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