



17LP4 KINESCOPE

RECTANGULAR GLASS TYPE

LOW-VOLTAGE FOCUS

MAGNETIC DEFLECTION

17LP4

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

External Conductive Coating to Ultor[•] { 1500 max. μf
750 min. μf

Faceplate, Cylindrical with

Toric Inner Surface† Filterglass

Light Transmission (Approx.) 66%

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

Fluorescence and Phosphorescence White

Persistence of Phosphorescence Short

Focusing Method Electrostatic

Deflection Method Magnetic

Deflection Angles (Approx.):

Diagonal 70°

Horizontal 65°

Vertical 50°

Ion-Trap Gun. Requires External, Single-Field Magnet

Tube Dimensions:

Overall Length 19-3/16" $\pm$ 3/8"

Greatest Diagonal 16-5/8" $\pm$ 1/8"

Greatest Width 15-3/8" $\pm$ 1/8"

Greatest Height 12-1/4" $\pm$ 1/8"

Minimum Screen Dimensions:

Greatest Width 14-1/4"

Greatest Height 10-3/4"

Diagonal 15-5/16"

Weight (Approx.) 19 lbs

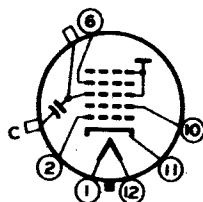
Mounting Position Any

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

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



- Cap—Ultor[•]
- (Grid No.3,
- Grid No.5,
- Collector)
- C—External
- Conductive
- Coating

† The toric surface in the 17LP4 is described by a segment of a circle having a radius of about 60" rotated about a straight line which is (1) parallel to the axis of the outer cylindrical surface, (2) positioned in a plane passing through the axis of the cylindrical surface and the center element thereof, and (3) spaced approximately 24" from the cylindrical surface.

• See next page.



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Maximum Ratings, Design-Center Values:

ULTOR* VOLTAGE	16000 max.	volts
GRID-No.4 VOLTAGE:		
Positive value	1000 max.	volts
Negative value*	500 max.	volts
GRID-No.2 VOLTAGE	500 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

Equipment Design Ranges:

For any ultor voltage (E_u) between 12000 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}	volts
Grid-No.4 Current	-25 to +25	μ amp
Grid-No.2 Current	-15 to +15	μ amp
Field Strength of Single-		
Field Ion-Trap Magnet		
(Approx.)	$\sqrt{\frac{E_u}{12000}} \times 42$	gausses
Field Strength of Adjustable		
Centering Magnet		
	0 to 8	gausses

Examples of Use of Design Ranges:

<i>For ultor voltage of</i>		14000	16000	volts
<i>and grid-No.2 voltage of</i>		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 for				
Visual Extinction of Un-				
deflected Focus Spot .				
	-33 to -77	-33 to -77		volts
Ion-Trap Magnet				
(Rated Strength)	45	50		gausses

Maximum Circuit Values:

Grid-No.1-Circuit Resistance	1.5 max.	megohms
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•, *, #: See next page.



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- In the 17LP4, 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.
- * 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 12000 volts.

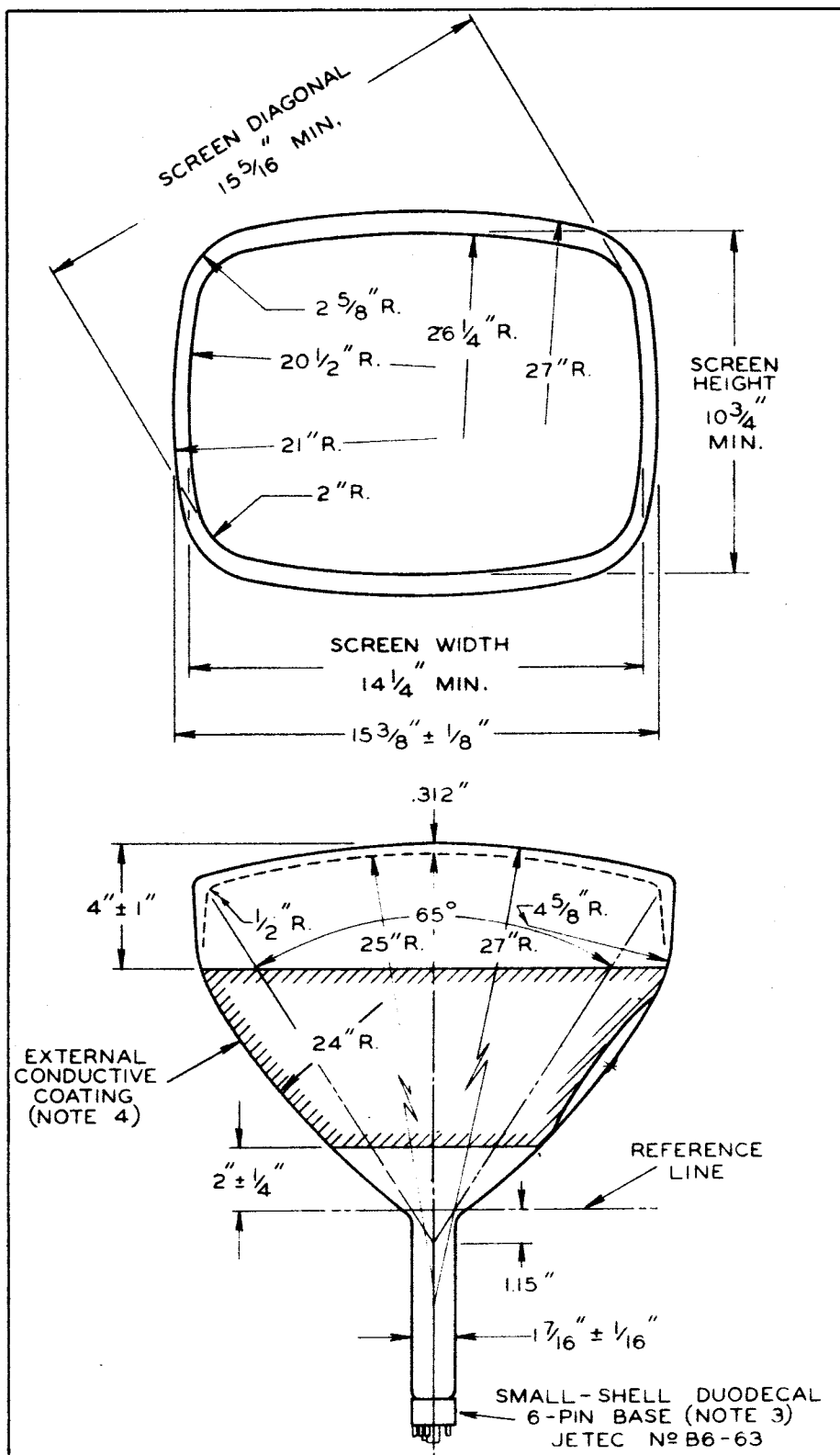
*For x-ray shielding considerations, see sheet
X-RAY PRECAUTIONS FOR CATHODE-RAY TUBES
at front of this Section*

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JULY 1, 1952

TUBE DEPARTMENT
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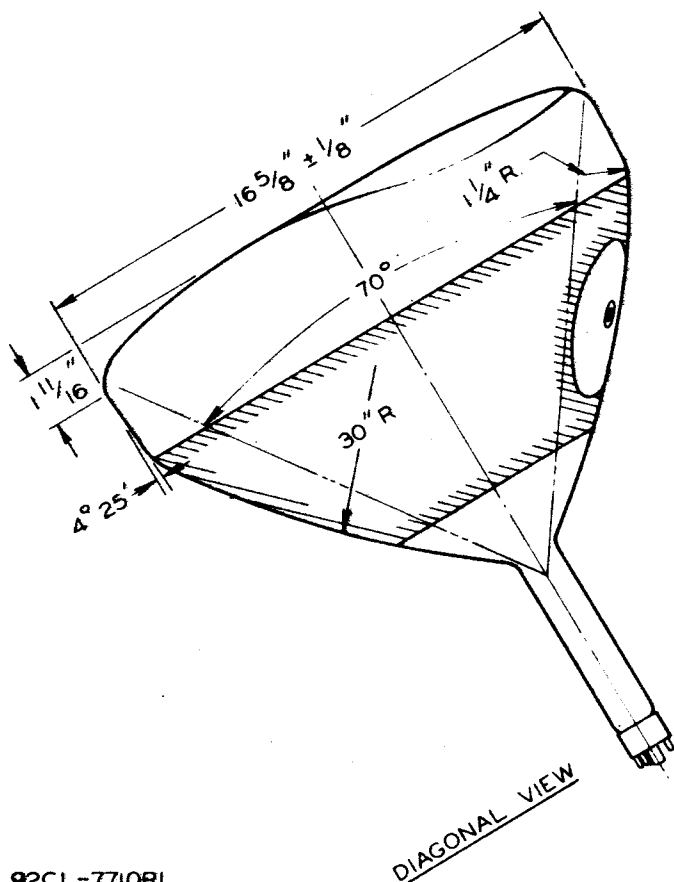
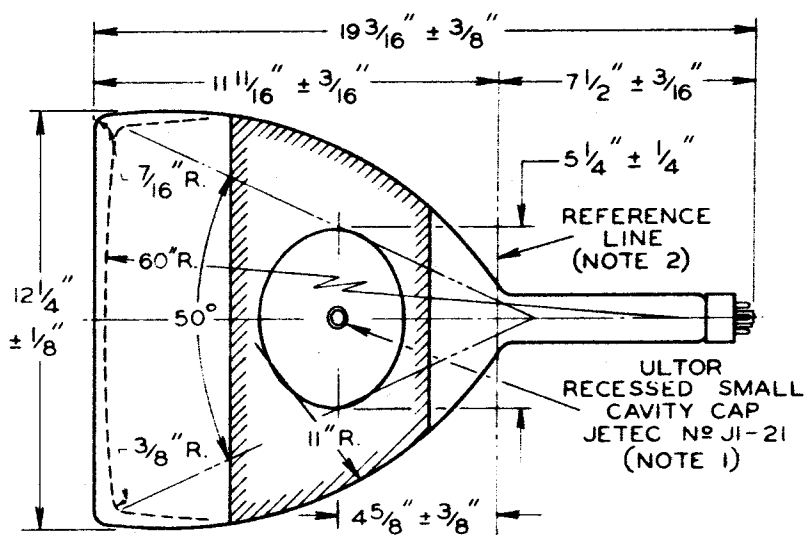
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NOTE 1: THE PLANE THROUGH THE TUBE AXIS AND PIN No.6 MAY VARY FROM THE PLANE THROUGH THE TUBE AXIS AND BULB TERMINAL BY ANGULAR TOLERANCE (MEASURED ABOUT THE TUBE AXIS) OF $\pm 30^\circ$. BULB TERMINAL IS ON SAME SIDE AS PIN No.6.

NOTE 2: 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 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 A CIRCLE CONCENTRIC WITH BULB AXIS AND HAVING A DIAMETER OF 2-3/4".

NOTE 4: EXTERNAL CONDUCTIVE COATING MUST BE GROUNDED.

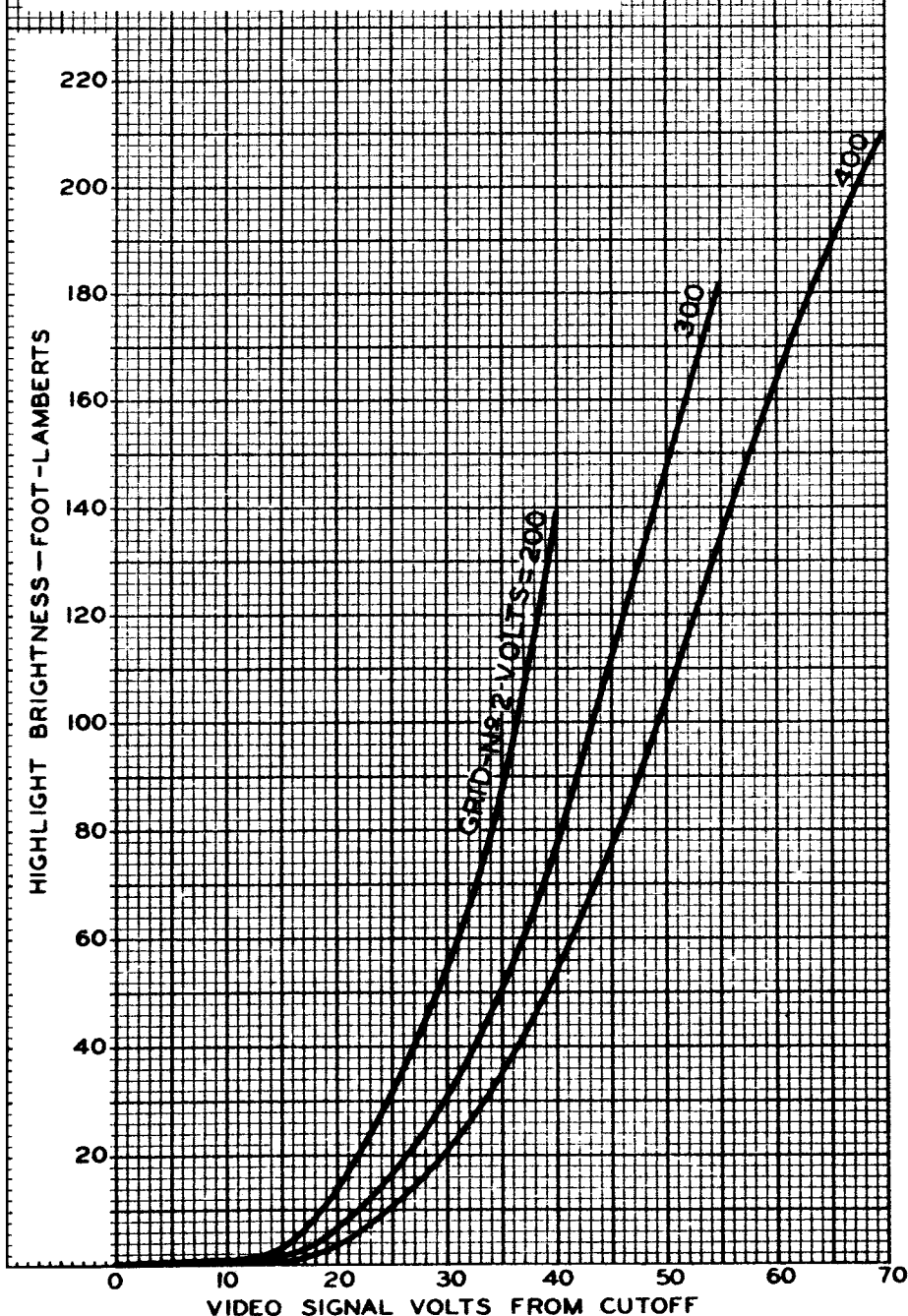


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AVERAGE GRID-DRIVE CHARACTERISTICS

$E_f = 6.3$ VOLTS
ULTOR (GRIDS-№ 3 & № 5
AND COLLECTOR) VOLTS = 14000
GRID-№ 4 VOLTS ADJUSTED TO GIVE FOCUS
AT AVERAGE RASTER BRIGHTNESS
GRID № 1 BIASED TO CUTOFF OF
UNDEFLECTED FOCUSED SPOT
RASTER SIZE = $14 \frac{1}{4}'' \times 10 \frac{3}{4}''$

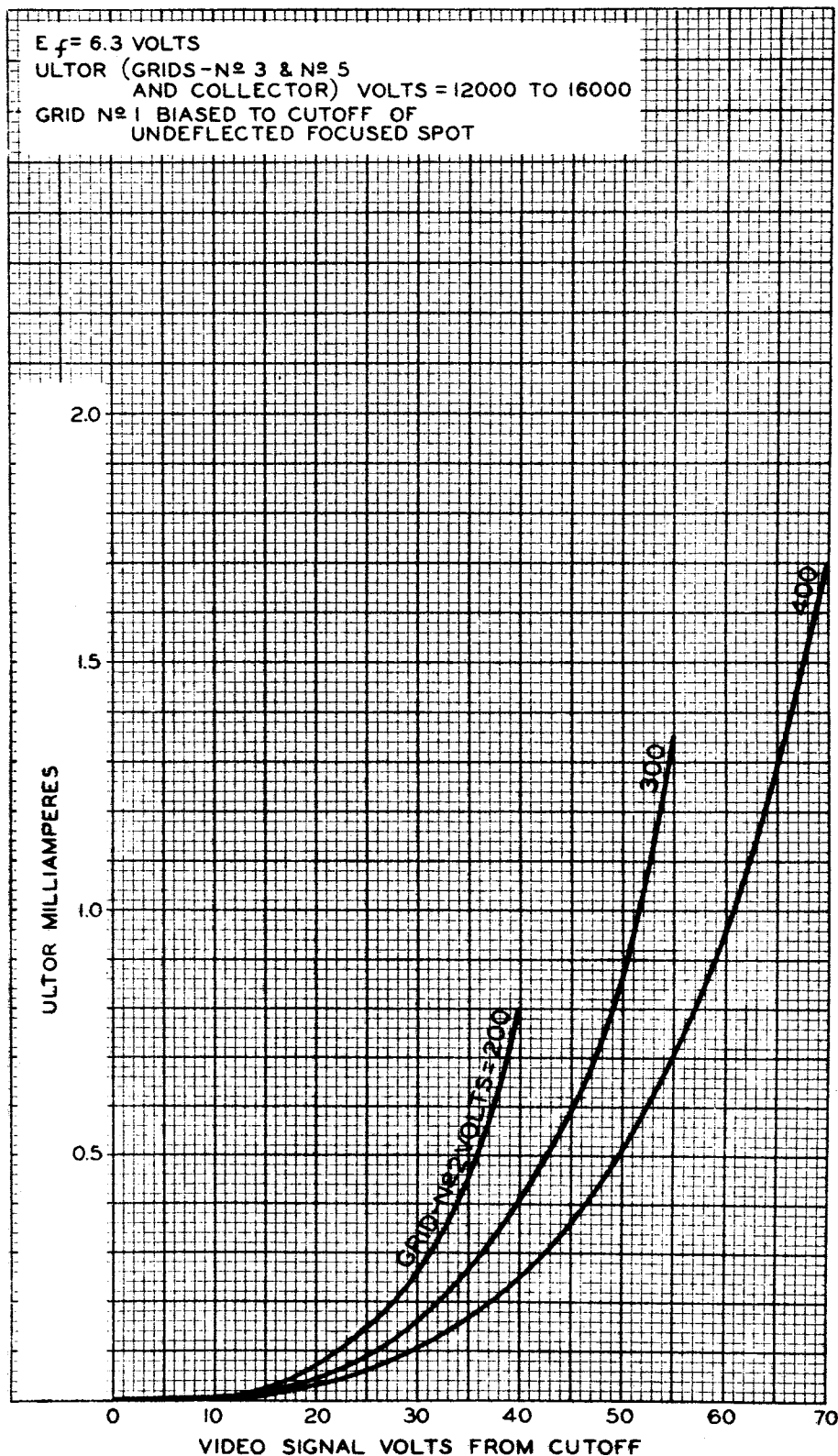


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AVERAGE GRID-DRIVE CHARACTERISTICS



NOV. 12, 1951

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