



17CP4

KINESCOPE

RECTANGULAR METAL-SHELL TYPE

MAGNETIC FOCUS

MAGNETIC DEFLECTION

DATA

General:

Heater, for Unipotential Cathode:

Voltage. 6.3 ac or dc volts

Current. 0.6 amp

Direct Interelectrode Capacitances (Approx.):

Grid No.1 to All Other Electrodes. 6 μf Cathode to All Other Electrodes. 5 μf

Face Plate (Transmission of about 65%) . . . Frosted Filterglass

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

Fluorescence and Phosphorescence White

Persistence of Phosphorescence Short

Focusing Method. Magnetic

Deflection Method. Magnetic

Deflection Angles (Approx.):

Diagonal 70°

Horizontal 66°

Vertical 50°

Ion-Trap Gun Requires External, Single-Field Magnet

Maximum Overall Length 19"

Greatest Diagonal of Tube at Lip 16-13/16" $\pm$ 3/16"Greatest Width of Tube at Lip. 15-15/16" $\pm$ 1/8"Greatest Height of Tube at Lip 12-1/4" $\pm$ 1/8"

Screen Size. 14-5/8" x 11"

Mounting Position. Any

Anode Terminal Metal-Shell Lip

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

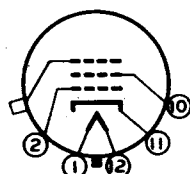
Basing Designation for BOTTOM VIEW 12D1

Pin 1-Heater

Pin 2-Grid No.1

Pin 10-Grid No.2

Pin 11-Cathode



Pin 12-Heater

Metal-Shell Lip:

Anode

Maximum Ratings, Design-Center Values:

ANODE VOLTAGE⁰ 16000 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

⁰ The product of anode voltage and average anode current should be limited to 6 watts.

JAN. 1, 1951

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TENTATIVE DATA

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Typical Operation:

Anode Voltage*	12000	14000	volts
Grid-No.2 Voltage.	300	300	volts
Grid-No.1 Voltage for Visual Extinction of Undelected			
Focused Spot	-33 to -77	-33 to -77	volts
Focusing Coil Current (DC) [▲]	96 ± 6%	104 ± 6%	ma
Field Strength of Single-Field			
Ion-Trap Magnet [§]	45	50	gausses
Ion-Trap Magnet Current (DC, approx.) [#]	70	-	ma

Maximum Circuit Values:

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

Minimum Circuit Values:

The power supply should be of the limited-energy type with inherent regulation to limit the continuous short-circuit current to 5 ma. If the supply permits the instantaneous short-circuit current to exceed 1 ampere, or is capable of storing more than 250 microcoulombs, the effective resistance in circuit between indicated electrode and the output capacitor should be as follows:

Grid-No.1-Circuit Resistance	150 min.	ohms
Grid-No.2-Circuit Resistance	470 min.	ohms
Anode-Circuit Resistance	18000 min.	ohms

The resistors used should be capable of withstanding the applied voltage.

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

▲ For specimen focusing coil similar to JETEC Focusing Coil No.109, positioned with air gap toward kinescope screen, and center line of air gap about 3 inches from Reference Line (see Outline Drawing). The indicated currents are for the condition with the combined grid-No.1 bias voltage and video-signal voltage adjusted to produce a highlight brightness of 30 foot-lamberts on a 14-3/8" x 10-11/16" picture area sharply focused at center of screen.

§ Measured at center of field with General Electric Gauss Meter, Cat. No. 409X51.

For specimen ion-trap magnet similar to JETEC Ion-Trap Magnet No.111, located in optimum position and rotated to give maximum brightness.

OPERATING NOTES

When operated at anode voltages up to 16 kilovolts, the 17CP4 does not produce any harmful x-ray radiation. However, because the rating of the tube permits operation at anode voltages as high as 17.6 kilovolts (absolute value), shielding of the 17CP4 for x-ray radiation may be needed to protect against possible injury from prolonged exposure at close range whenever the operating conditions involve voltages in excess of 16 kilovolts.

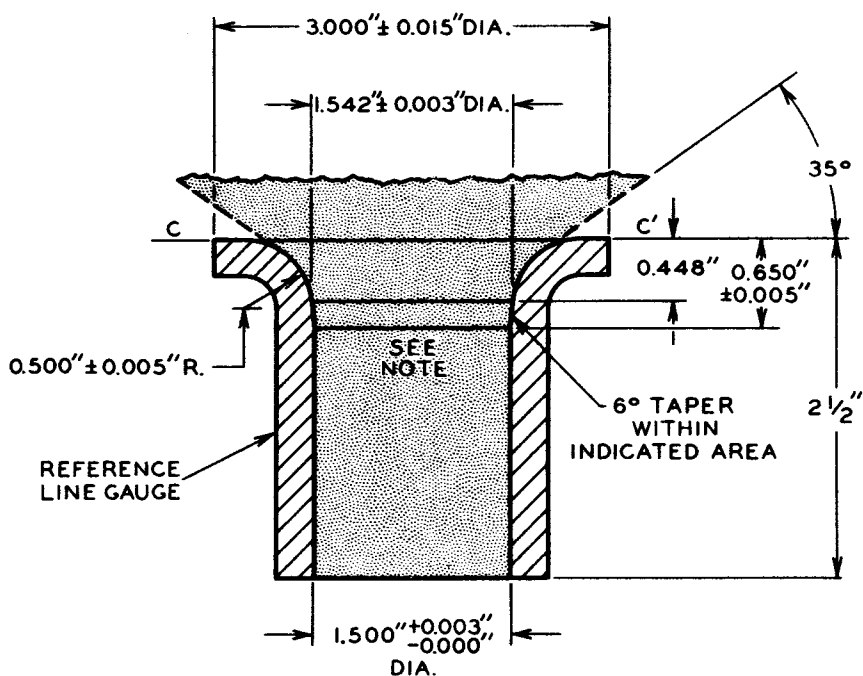


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REFERENCE-LINE GAUGE

Reference-Line Gauge (JETEC No. 110) with Supplementary Information on Recommended Inside Contour of Yoke to Provide Proper Location of Yoke on Neck-Funnel Section



NOTE: INNER SURFACE OF YOKE MUST NOT EXTEND INTO SHADED REGION

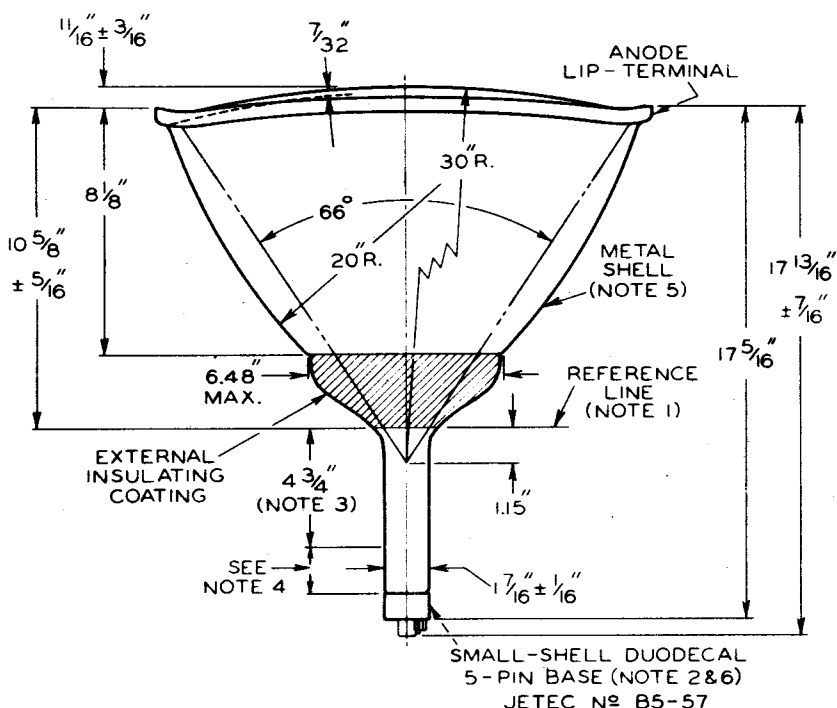
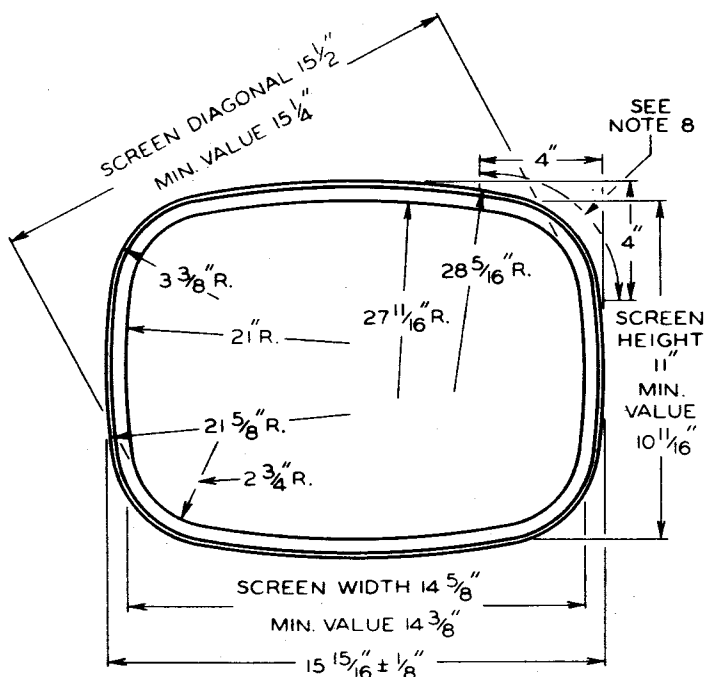
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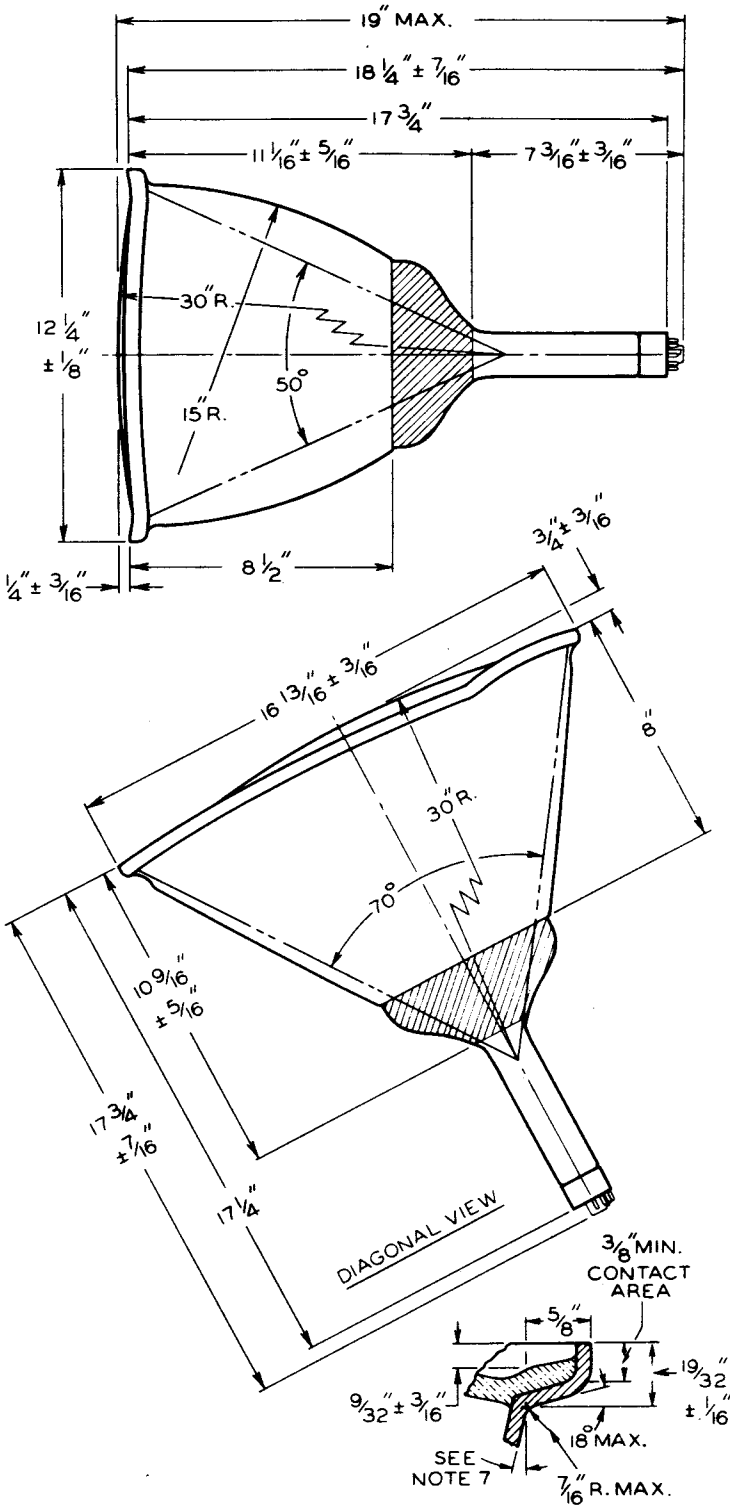
CE-7535A



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92CL-7535

DETAIL OF LIP

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CE-7535B

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NOTE 1: WITH TUBE NECK INSERTED THROUGH FLARED END OF REFERENCE-LINE GAUGE (JETEC No.110) 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 2-3/4".

NOTE 3: LOCATION OF DEFLECTING YOKE AND FOCUSING DEVICE MUST BE WITHIN THIS SPACE.

NOTE 4: KEEP THIS SPACE CLEAR FOR SINGLE-FIELD, ION-TRAP MAGNET. DIRECTION OF THE FIELD OF THE ION-TRAP MAGNET SHOULD BE SUCH THAT THE NORTH POLE IS ADJACENT TO VACANT PIN POSITION No.8 AND THE SOUTH POLE TO PIN No.2.

NOTE 5: METAL SHELL AND GLASS FACE OPERATE AT HIGH VOLTAGE. ANY MATERIAL IN CONTACT WITH THE SHELL OR THE FACE MUST HAVE INSULATING PROPERTIES ADEQUATE TO WITHSTAND THE APPLIED ANODE VOLTAGE PLUS 10%.

NOTE 6: THE PLANE THROUGH THE TUBE AXIS AND VACANT PIN POSITION No.6 MAY VARY FROM THE MAJOR AXIS OF THE GLASS FACE BY AN ANGULAR TOLERANCE (MEASURED ABOUT THE TUBE AXIS) OF 10°.

NOTE 7: IN THIS REGION THE ANGULAR VARIATION AROUND PERIPHERY OF SHELL IS 0° TO 18°.

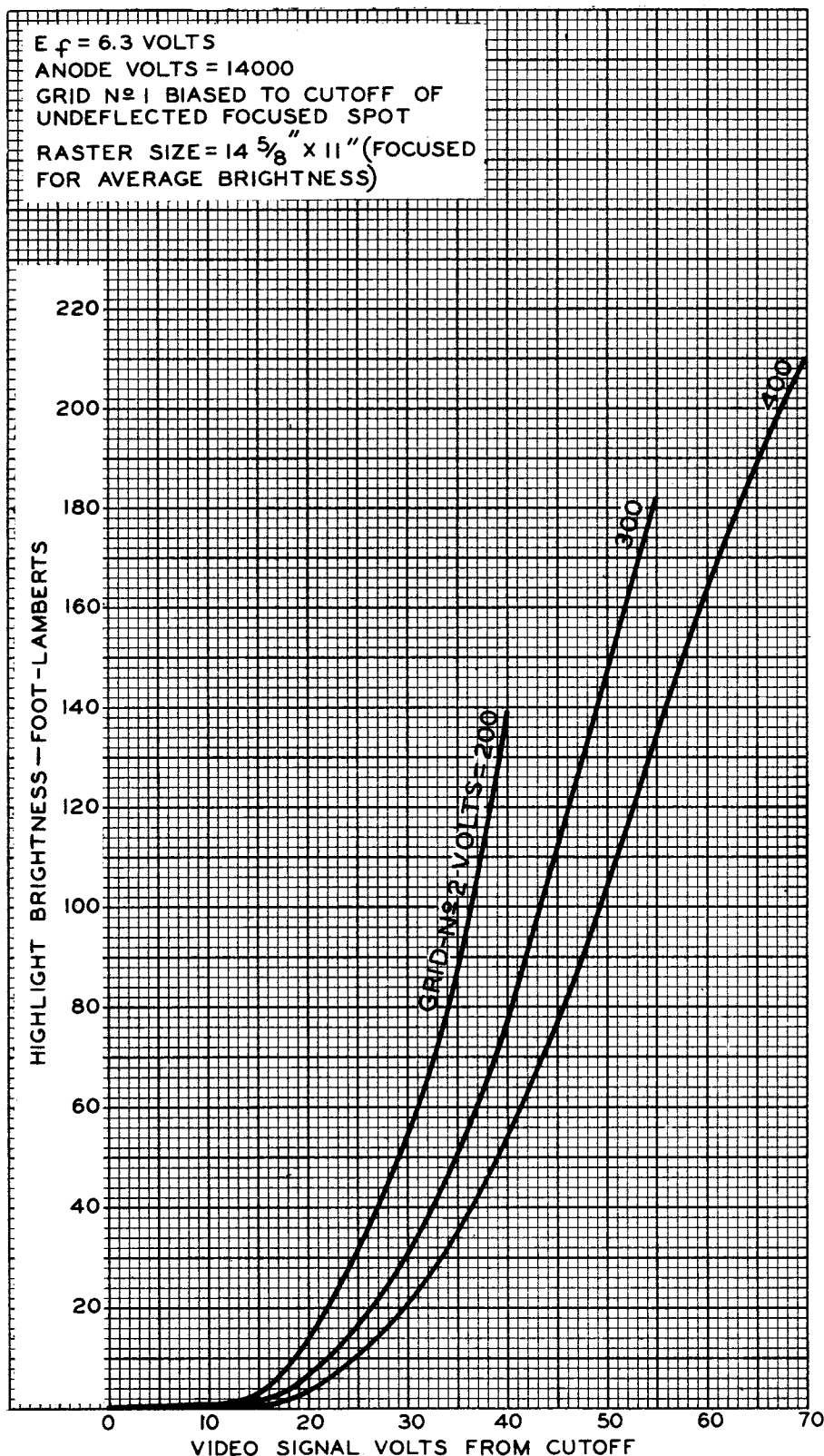
NOTE 8: SUPPORT TUBE BY LIP ONLY AT CORNERS WITHIN THIS SPACE.



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AVERAGE GRID-DRIVE CHARACTERISTICS

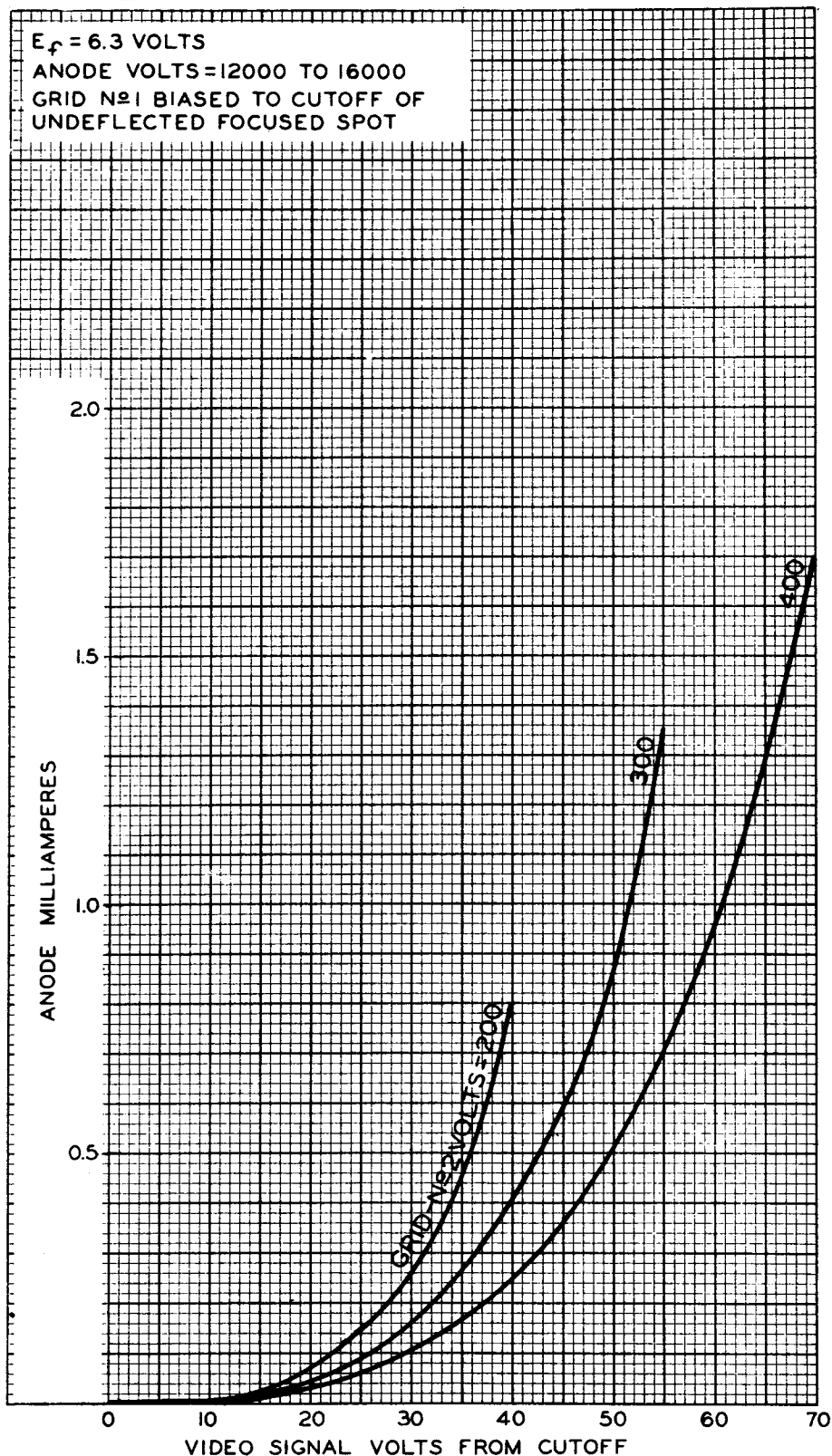


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AVERAGE GRID-DRIVE CHARACTERISTICS



OCT. 3, 1950

TUBE DEPARTMENT

92CM-7548

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