



16GP4

KINESCOPE

METAL-CONE ENVELOPE

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 Δ RCA "Filterglass"

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

Fluorescence and Phosphorescence White

Persistence of Phosphorescence Medium

Focusing Method. Magnetic

Deflection Method. Magnetic

Deflection Angle (Approx.) 70°

Ion-Trap Gun Requires External, Single-Field Magnet

Maximum Overall Length 17-11/16"

Greatest Diameter. 15-7/8" $\pm$ 1/8"

Screen Diameter. 14-5/8"

Mounting Position. Any

Anode Terminal Metal-Cone Lip

Base Small-Shell Duodecal 5-Pin

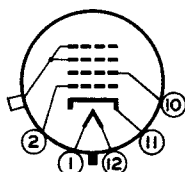
BOTTOM VIEW

Pin 1—Heater

Pin 2—Grid No.1

Pin 10—Grid No.2

Pin 11—Cathode



Pin 12—Heater

Metal-Cone Lip:

Anode,

Grid No.3

Maximum Ratings, Design-Center Values:

ANODE^o VOLTAGE* 14000 max. volts

GRID—No.2 VOLTAGE. 410 max. volts

GRID—No.1 (CONTROL-ELECTRODE) 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

^o Anode and grid No.3, which are connected together with tube, are referred to herein as anode.

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

Δ Has transmission factor of about 65%.

16GP4



16GP4 KINESCOPE

Typical Operation:

Anode Voltage**	12000	volts
Grid-No.2 Voltage	300	volts
Grid-No.1 Voltage for Visual Extinction of Undelected Focused Spot	-33 to -77	volts
Focusing-Coil Current (DC, approx.) ^{oo}	100	ma
→ Field Strength of Single-Pole, Ion-Trap Magnet#	45	gausses

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	16000 min.	ohms

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

^{oo} For JETEC Focusing Coil No.109 positioned with air gap toward kinescope screen, and center line of air gap 3 inches from Reference Line (see Outline Drawing). The indicated current is for condition with combined grid-No.1 bias voltage and video-signal voltage adjusted to produce a highlight brightness of 30 foot-lamberts on a 10" x 13-1/4" picture area.

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

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

→ Indicates a change.

JULY 3, 1950

TUBE DEPARTMENT
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

TENTATIVE DATA



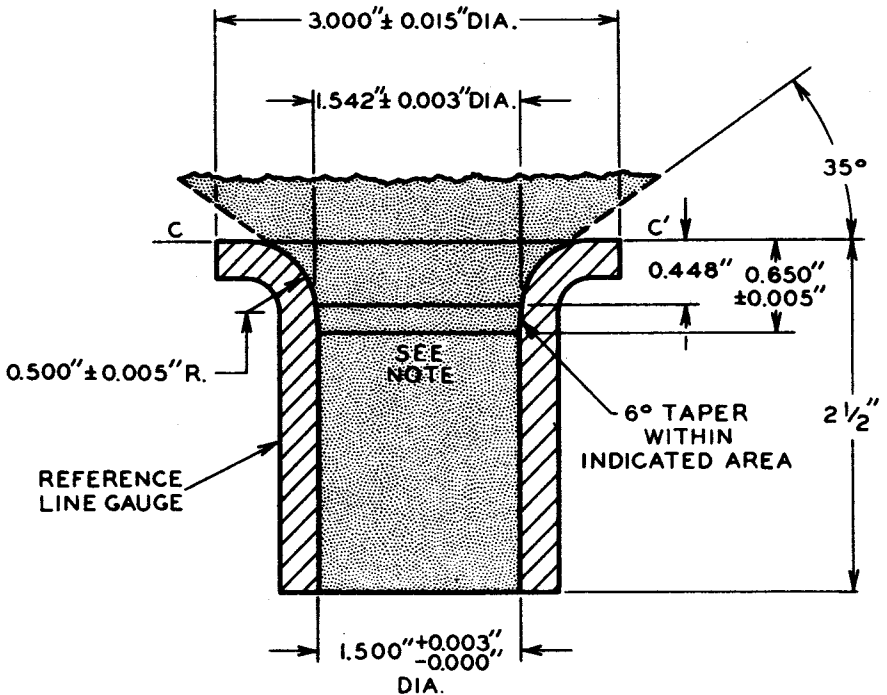
16GP4

KINESCOPE

16GP4

REFERENCE-LINE GAUGE

*Reference-Line Gauge with Supplementary Information
on Recommended Inside Contour of Yoke to
Provide Proper Location of Yoke
on Neck-Cone Section*



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

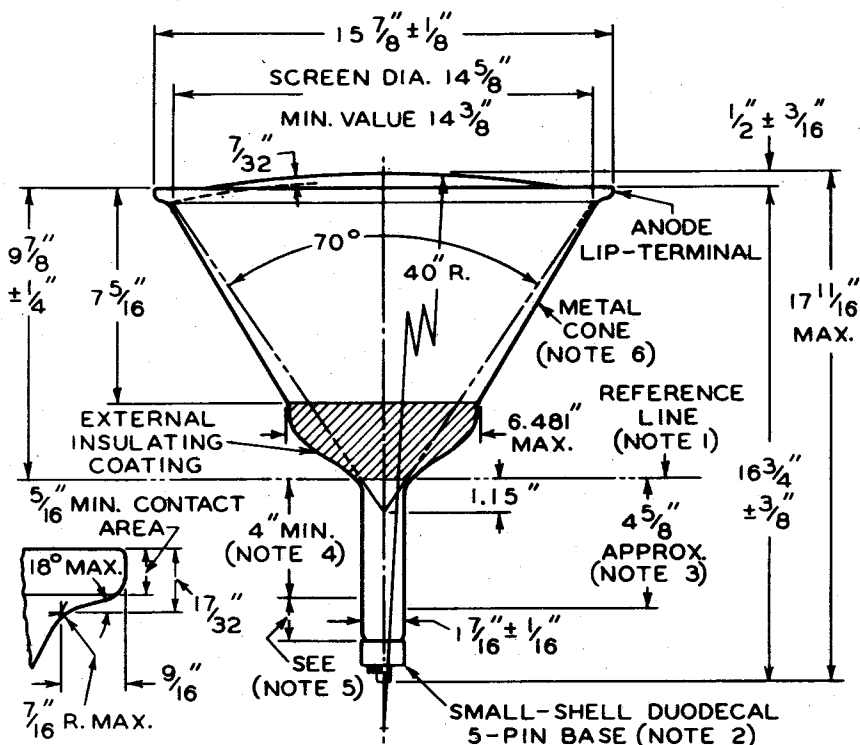
92CS-7391

16GP4



16GP4

KINESCOPE



DETAIL OF LIP

NOTE 1: WITH TUBE NECK INSERTED THROUGH FLARED END OF GAUGE SHOWN ON PRECEDING PAGE AND WITH TUBE SEATED IN GAUGE, THE REFERENCE LINE IS DETERMINED BY THE INTERSECTION OF THE PLANE CC' OF THE GAUGE WITH THE GLASS CONE.

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 CONE AXIS AND HAVING A DIAMETER OF 2-1/2".

NOTE 3: DISTANCE FROM REFERENCE LINE FOR LOCATING CENTER OF ION-TRAP MAGNETIC FIELD. DIRECTION OF FIELD OF THE ION-TRAP MAGNET SHOULD BE SUCH THAT NORTH POLE IS ADJACENT TO VACANT PIN POSITION No.8 AND SOUTH POLE TO PIN No.2.

NOTE 4: LOCATION OF DEFLECTING YOKE AND FOCUSING COIL MUST BE WITHIN THIS SPACE.

NOTE 5: KEEP THIS SPACE CLEAR FOR SINGLE-FIELD, ION-TRAP MAGNET.

NOTE 6: METAL CONE AND GLASS FACE OPERATE AT HIGH VOLTAGE. ANY MATERIAL IN CONTACT WITH THE CONE OR THE FACE MUST HAVE INSULATING PROPERTIES ADEQUATE FOR 15500 VOLTS.

92CM-7374

FEB 1, 1950

TUBE DEPARTMENT
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

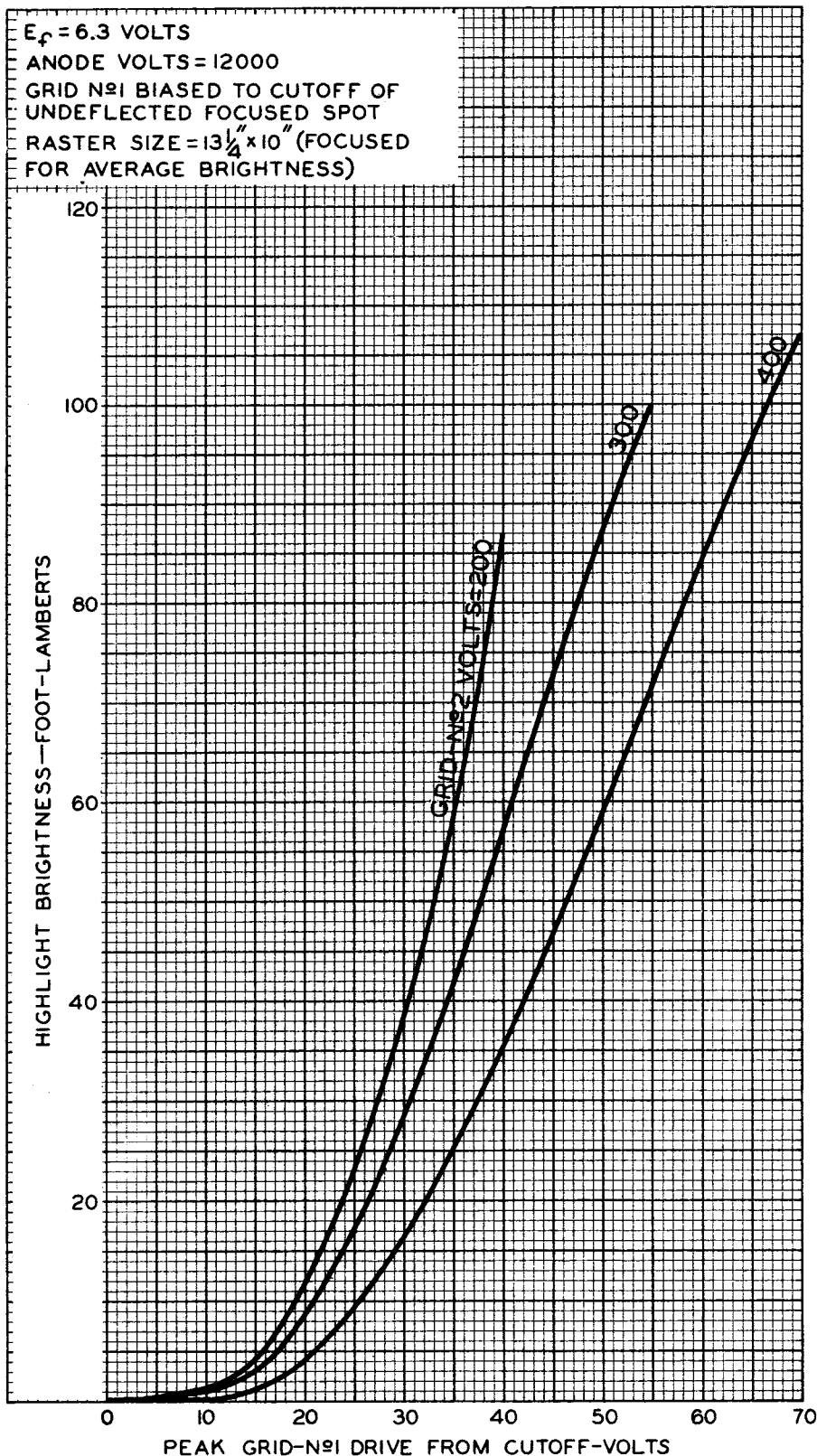
CE-7374



16GP4

16GP4

AVERAGE GRID-DRIVE CHARACTERISTICS



APRIL 10, 1950

TUBE DEPARTMENT
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

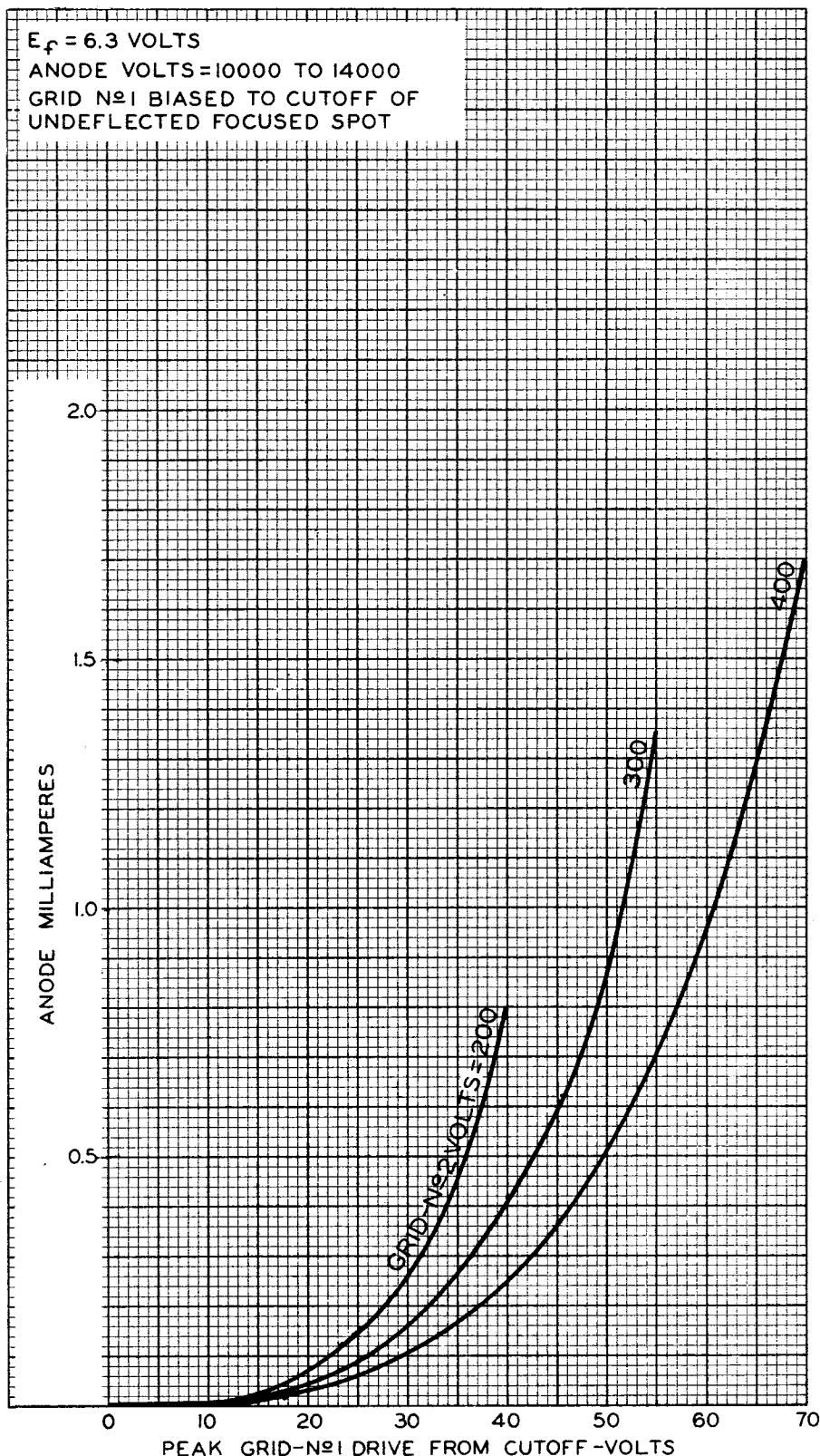
92CM-7351R1

16GP4



16GP4

AVERAGE GRID-DRIVE CHARACTERISTICS



APRIL 10, 1950

TUBE DEPARTMENT
 RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

92CM-7353R1