



IOBP 4

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KINESCOPE

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. 6.5 μmf Cathode to All Other Electrodes. 5.0 μmf External Conductive Coating to Anode No.2 $\left\{ \begin{array}{l} 2500 \text{ max.} \\ 500 \text{ min.} \end{array} \right. \mu\text{mf}$

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

Fluorescence and Phosphorescence White

Persistence of Phosphorescence Medium

Focusing Method. Magnetic

Deflection Method. Magnetic

Deflection Angle (Approx.) 50°

Ion Trap Magnetic

External Coating Conductive

Overall Length $17\text{--}5/8" \pm 3/8"$ Greatest Diameter of Bulb. $10\text{--}1/2" \pm 1/8"$

Minimum Useful Screen Diameter 9"

Raster Size (Approx.) 6" x 8"

Mounting Position. Any

Cap. Recessed Small Cavity

Base Small-Shell Duodecal 7-Pin

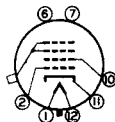
BOTTOM VIEW

Pin 1-Heater

Pin 2-Grid No.1

Pin 6-No Connection

Pin 7-No Connection



Pin 10-Grid No.2

Pin 11-Cathode

Pin 12-Heater

Cap - Anode,
Grid No.3

Maximum Ratings, Design-Center Values:

ANODE VOLTAGE[■] 10000 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 125 max. volts

Heater positive with respect to cathode. 125 max. volts

■ See next page.

← Indicates a change.

MAR. 15, 1948

TUBE DEPARTMENT

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

DATA



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→ Typical Operation:

Anode Voltage*	9000 . . .	volts
Grid-No.2 Voltage.	250 . . .	volts
Grid-No.1 Voltage ^o	-27 to -63	volts

Maximum Circuit Values:

Grid-No.1-Circuit Resistance	1.5 max.	megohms
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→ Minimum Circuit Values:

When the output capacitor of the power supply is capable of storing more than 250 microcoulombs, and when the inherent regulation of the power supply permits the instantaneous short-circuit current to exceed 1 ampere, 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	11000 min.	ohms

The resistors used should be capable of withstanding the voltages involved.

Components:

Ion-Trap Magnet#	RCA Type No.203D1
Deflection Yoke [*]	RCA Type No.201D1
Focusing Coil ^{**}	RCA Type No.202D1

■ The anode and grid No.3 which are connected together within tube are referred to herein as anode.

* Brilliance and definition decrease with decreasing anode voltage. In general, the anode voltage should not be less than 8000 volts.

o Visual extinction of undeflected focused spot.

The dc current required by this magnet is approx. 109 ma. for the typical operating conditions shown.

* The horizontal deflecting-coil current required by this yoke to produce 8" picture width is approx. 470 ma. peak-to-peak under the typical operating conditions shown. The current varies directly as the square root of the anode voltage.

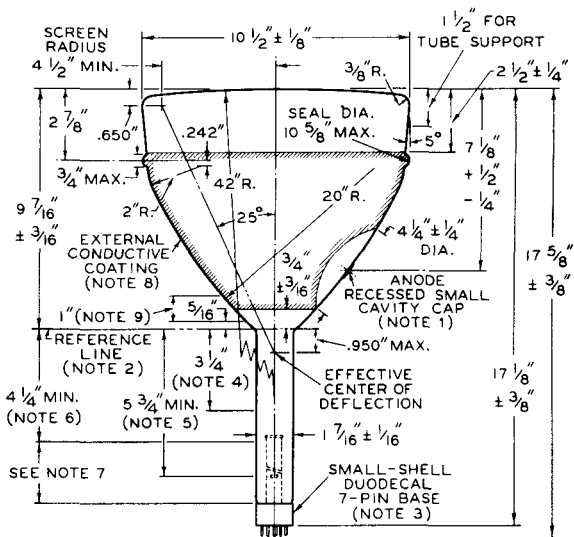
** The dc current required by this coil is approx. 115 ma. for the typical operating conditions shown and using combined grid-No.1 bias voltage and video-signal voltage adjusted to produce a highlight brightness of 20 foot-lamberts on a 6" x 8" picture area. Distance from reference line (see Outline Drawing) to center line of air gap is approx. 3-1/4".

→ Indicates a change.

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NOTE 1: THE PLANE THROUGH THE TUBE AXIS AND VACANT PIN POSITION No.3 MAY VARY FROM THE PLANE THROUGH THE TUBE AXIS AND ANODE TERMINAL BY AN ANGULAR TOLERANCE (MEASURED ABOUT THE TUBE AXIS) OF 10° . ANODE TERMINAL IS ON SAME SIDE AS VACANT PIN POSITION No.3.

NOTE 2: REFERENCE LINE IS DETERMINED BY POSITION WHERE
HINGED GAUGE 1.500" + .003" - .000" I.D. AND 2" LONG
WILL REST ON BULB CONE.

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 CIRCLE CONCENTRIC WITH BULB AXIS AND HAVING DIAMETER OF 1-7/8".

NOTE 4: APPROX. DISTANCE TO CENTER OF FOCUSING-COIL AIR GAP.

NOTE 5: DISTANCE TO INTERNAL POLE PIECES. PLANE THROUGH PIN No.6 AND TUBE AXIS PASSES THROUGH LINE JOINING CENTERS OF POLE PIECES. DIRECTION OF PRINCIPAL FIELD OF ION-TRAP MAGNET SHOULD BE SUCH THAT NORTH POLE IS ADJACENT TO PIN No.6 AND SOUTH POLE TO PIN No.12.

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(continued from preceding page)

- NOTE 6:** LOCATION OF DEFLECTING YOKE AND FOCUSING-COIL AIR GAP MUST BE WITHIN THIS SPACE.
- NOTE 7:** KEEP THIS SPACE CLEAR FOR ION-TRAP MAGNET.
- NOTE 8:** EXTERNAL CONDUCTIVE COATING MUST BE GROUNDED.
- NOTE 9:** FOR TUBE SUPPORT WHICH MUST NOT COVER SPECIFIED AREA AROUND ANODE CAP.

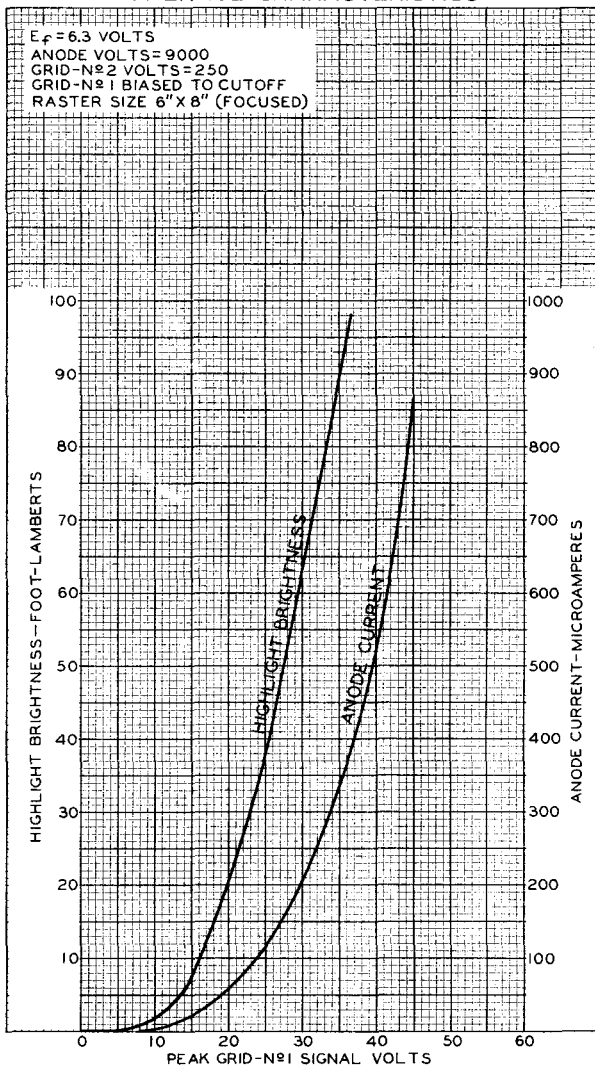
92CM-6663R2



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AVERAGE CHARACTERISTICS



OCT. 9, 1947

TUBE DEPARTMENT
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

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