RCA

10BP4

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	μμf
Cathode to All Other Electrodes	5.0	μμf
External Conductive Coating to Anode No.2	2500 max.	μμf
	500 min.	μμf
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		17-5/8" ± 3/8"
Greatest Diameter of Bulb		10-1/2" ± 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.

10BP4
KINESCOPE

→Typical Operation:

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

Maximum Circuit Values:

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

→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.

° Visual extinction of undeflected focused spot.

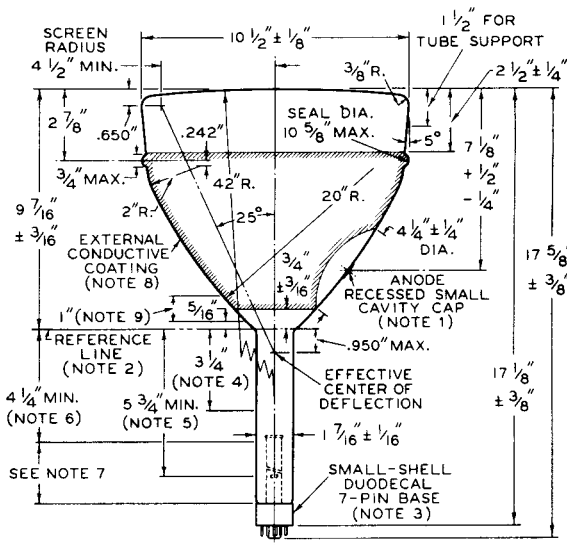
\# The dc current required by this magnet is approx. 109 ma. for the typical operating conditions shown.

♣ 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.

10BP4
KINESCOPE



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.

10BP4
KINESCOPE

(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

RCA

10BP4

AVERAGE CHARACTERISTICS