



7DP4

KINESCOPE

ELECTROSTATIC FOCUS

MAGNETIC DEFLECTION

7DP4

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
External Conductive Coating to Anode No.2	{ 1500 max.	μf
	{ 400 min.	μf

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

Fluorescence and Phosphorescence White

Persistence of Phosphorescence Medium

Focusing Method. Electrostatic

Deflection Method. Magnetic

Deflection Angle (Approx.) 50°

Ion Trap Magnetic

External Coating Conductive

Overall Length 14-1/16" ± 3/8"

Greatest Diameter of Bulb. 7-3/16" ± 1/8"

Minimum Useful Screen Diameter 6"

Raster Size (Approx.) 4" x 5-1/2"

Mounting Position. Any

Cap. Recessed Small Cavity

Base Small-Shell Duodecal 7-Pin

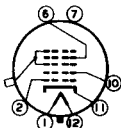
BOTTOM VIEW

Pin 1 - Heater

Pin 2 - Grid No.1

Pin 6 - Anode No.1

Pin 7 - Internal Con.-
Do Not Use



Pin 10 - Grid No.2

Pin 11 - Cathode

Pin 12 - Heater

Cap - Anode No.2,
Grid No.3

Maximum Ratings, Design-Center Values:

ANODE-No.2[■] VOLTAGE[●] 8000 max. volts

ANODE-No.1 VOLTAGE 2400 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
--	----------------

■, ●: See next page.

← Indicates a change.

7DPA



7DPA

KINESCOPE

Typical Operation:

Anode-No.2 Voltage*	6000	volts
Anode-No.1 Voltage for Focus ^o	1215 to 1645	volts
Grid-No.2 Voltage	250	volts
Grid-No.1 Voltage for Visual Cutoff**	-27 to -63	volts
Max. Anode-No.1 Current Range	-15 to +10	μ amp

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-No.1-Circuit Resistance	2700 min.	ohms
Anode-No.2-Circuit Resistance	9100 min.	ohms

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

Components:

Ion-Trap Magnet [#]	RCA Type No.203D1
→ Deflecting Yoke [*]	RCA Type No.201D12

■ Anode No.2 and grid No.3, which are connected together within tube, are referred to herein as anode No.2.

● The product of anode-No.2 voltage and average anode-No.2 current should never exceed 6 watts.

* Brilliance and definition decrease with decreasing anode-No.2 voltage. In general, anode-No.2 voltage should not be less than 5000 volts.

o With the combined grid-No.1 bias voltage and video-signal voltage adjusted to produce a highlight brightness of 12 foot-lamberts on a 4" x 5-1/2" picture area.

** Visual extinction of undeflected focused spot.

The dc current required by this magnet is approx. 70 ma. for the typical operating conditions shown.

* The horizontal deflecting-coil current required by this yoke to produce 5-1/2" picture width is approx. 410 ma. peak-to-peak under the typical operating conditions shown. The current varies directly as the square root of the anode-No.2 voltage.

→ Indicates a change.

NOV. 15, 1949

TUBE DEPARTMENT

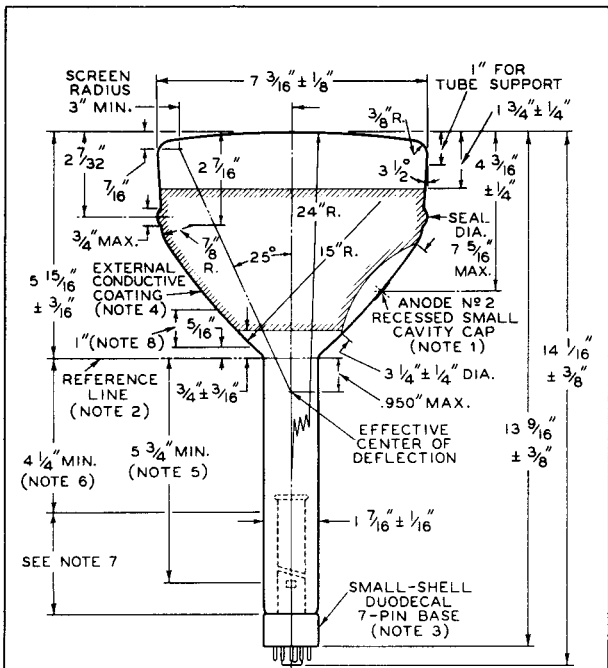
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

DATA



7DP4 KINESCOPE

7DP4



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 No. 2 TERMINAL BY AN ANGULAR TOLERANCE (MEASURED ABOUT THE TUBE AXIS) OF 10°. ANODE No. 2 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: EXTERNAL CONDUCTIVE COATING MUST BE GROUNDED.

NOTE 5: DISTANCE TO INTERNAL POLE PIECES. PLANE THROUGH

7DP4



7DP4 KINESCOPE

(continued from preceding page)

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.

NOTE 6: LOCATION OF DEFLECTING YOKE MUST BE WITHIN THIS SPACE.

NOTE 7: KEEP THIS SPACE CLEAR FOR ION-TRAP MAGNET.

NOTE 8: FOR TUBE SUPPORT WHICH MUST NOT COVER SPECIFIED CLEAR AREA AROUND ANODE CAP.

92CM-6664R1



7DP4

7DP4

AVERAGE CHARACTERISTICS

