



2AP1-A

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HIGH-VACUUM CATHODE-RAY TUBE

Supersedes Type 2AP1

General:

Heater, for Unipotential Cathode:

Voltage $6.3 \pm 10\%$ ac or dc volts
Current 0.6 amp.

Direct Interelectrode Capacitances (Approx.):

Grid No.1 to All Other Electrodes.	8.0	. . . . .	$\mu\mu\text{f}$
Cathode to All Other Electrodes.	5.5	. . . . .	$\mu\mu\text{f}$
DJ1 to DJ2	0.6	. . . . .	$\mu\mu\text{f}$
DJ3 to DJ4	1.1	. . . . .	$\mu\mu\text{f}$
DJ1 to All Other Electrodes.	8.5	. . . . .	$\mu\mu\text{f}$
DJ3 to All Other Electrodes.	9.0	. . . . .	$\mu\mu\text{f}$
DJ1 to All Other Electrodes except DJ2	8.0	. . . . .	$\mu\mu\text{f}$
DJ2 to All Other Electrodes except DJ1	4.6	. . . . .	$\mu\mu\text{f}$
DJ3 to All Other Electrodes except DJ4	7.5	. . . . .	$\mu\mu\text{f}$
DJ4 to All Other Electrodes except DJ3	6.0	. . . . .	$\mu\mu\text{f}$

Phosphor (For Curves, see front of this Section) No.1

Fluorescence Green
Persistence Medium

Focusing Method. Electrostatic

Deflection Method. Electrostatic

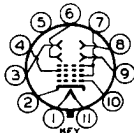
Overall Length $7\text{-}7/16" \pm 3/16"$ Greatest Diameter of Bulb. $2" \pm 1/16"$ Minimum Useful Screen Diameter $1\text{-}3/4"$

Mounting Position. Any

Base Small Shell Magnal 11-Pin

Basing Designation for BOTTOM VIEW 11L

Pin 1-Heater		Pin 8-Deflecting Electrode DJ2
Pin 2-Cathode		Pin 9-Deflecting Electrode DJ3
Pin 3-Deflecting Electrode DJ1		Pin 10-Grid No.1
Pin 4-Anode No.1		Pin 11-Heater
Pin 5-No Connection		
Pin 6-Deflecting Electrode DJ4		
Pin 7-Anode No.2, Grid No.2		

*DJ₁ and DJ₂ are nearer the screen**DJ₃ and DJ₄ are nearer the base*

With DJ₁ positive with respect to DJ₂, the spot is deflected toward pin 4. With DJ₃ positive with respect to DJ₄, the spot is deflected toward pin 1.

The angle between the trace produced by DJ₃ and DJ₄ and its intersection with the plane through the tube axis and pin 1 does not exceed 10°.

The angle between the trace produced by DJ₃ and DJ₄ and the trace produced by DJ₁ and DJ₂ is 90° ± 4°.

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Maximum Ratings, Absolute Values:

ANODE-NO.2 & GRID-NO.2 VOLTAGE	1100 max.	volts
ANODE-NO.1 VOLTAGE	550 max.	volts
GRID-NO.1 (CONTROL ELECTRODE) VOLTAGE:		
Negative Value	125 max.	volts
Positive Value	0 max.	volts
PEAK VOLTAGE BETWEEN ANODE NO.2 AND ANY DEFLECTING ELECTRODE	660 max.	volts
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode	125 max.	volts
Heater positive with respect to cathode	10 max.	volts

Typical Operation:

Anode-No.2 & Grid-No.2 Voltage*	500	1000	volts
Anode-No.1 Voltage for Focus at 75% of Grid-No.1 Volt- age for Cutoff*	125	250	volts
Grid-No.1 Volt. for Visual Cutoff#	-30	-60	volts
Max. Anode-No.1 Current Range^	Between -50 and +10		μamp.

Deflection Sensitivity:

DJ ₁ and DJ ₂	0.220	0.110	mm/v dc
DJ ₃ and DJ ₄	0.260	0.130	mm/v dc

Deflection Factor:**

DJ ₁ and DJ ₂	115	230	v dc/in.
DJ ₃ and DJ ₄	98	196	v dc/in.

- * Brilliance and definition decrease with decreasing anode-No.2 voltage. In general, anode-No.2 voltage should not be less than 500 volts.
- Individual tubes may require between +20% and -45% of the values shown with grid-No.1 voltages between zero and cutoff.
- # Visual extinction of stationary focused spot. Supply should be adjustable to ± 50% of these values.
- ▲ See curve for average values.
- ** Individual tubes may vary from these values by ± 20%.

Spot Position:

The undeflected focused spot will fall within a 10-mm square centered at the geometric center of the tube face and having one side parallel to the trace produced by DJ₁ and DJ₂. Suitable test conditions are: anode-No.2 voltage, 1000 volts; anode-No.1 voltage, adjusted for focus; deflecting-electrode resistors, 1 megohm each, connected to anode No.2; the tube shielded from all extraneous fields. To avoid damage to the tube, grid-No.1 voltage should be near cutoff before application of anode voltages.

Maximum Circuit Values:

Grid-No.1-Circuit Resistance	1.5 max.	megohms
Impedance of Any Deflecting-Electrode Circuit at Heater-Supply Frequency	1.0 max.	megohm



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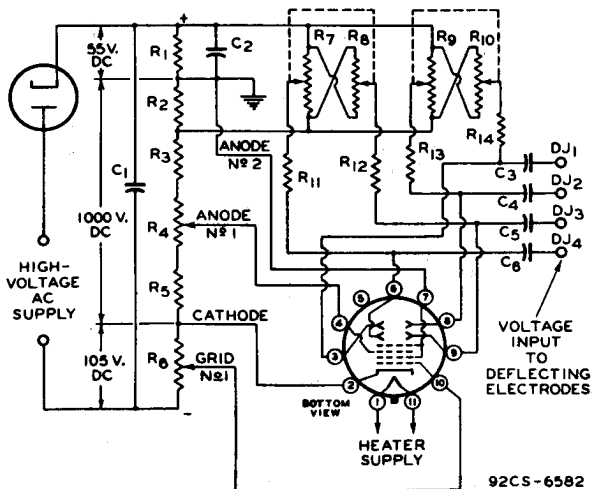
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Resistance in Any Deflecting-Electrode Circuit^{▲▲} 5.0 max. megohms^{▲▲} It is recommended that all deflecting-electrode-circuit resistances be approximately equal.

TYPICAL OSCILLOGRAPH CIRCUIT



C1: 0.1 μ f
 C2: 1.0 μ f
 C3 C4 C5 C6: 0.05- μ f Blocking
 Capacitor*

R1 R2: 0.5 Megohm
 R3: 3.0 Megohms

R4: 1.0-Megohm Potentiometer
 R5: 0.5 Megohm
 R6: 0.5-Megohm Potentiometer
 R7 R8: Dual 5-Megohm Potentiometer
 R9 R10: Dual 5-Megohm Potentiometer
 R11 R12 R13 R14: 2 Megohms

* When cathode is grounded, capacitors should have high voltage rating; when anode No. 2 is grounded, they may have low voltage rating. For dc amplifier service, deflecting electrodes should be connected direct to amplifier output. In this service, it is preferable usually to remove deflecting-electrode resistors to minimize loading effect on amplifier. In order to minimize spot defocusing, it is essential that anode No. 2 be returned to a point in the amplifier system which will give the lowest possible potential difference between anode No. 2 and the deflecting electrodes.

The license extended to the purchaser of tubes appears in the License Notice accompanying them. Information contained herein is furnished without assuming any obligations.

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RCA VICTOR DIVISION
 RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

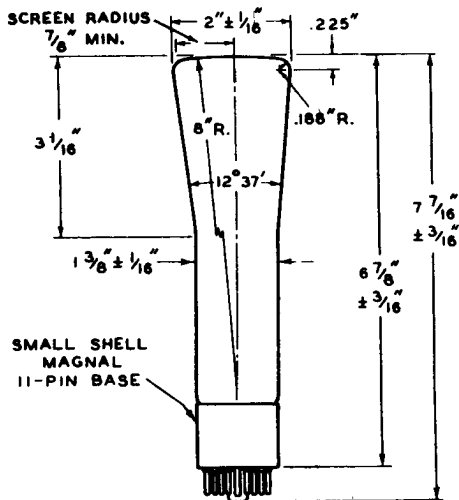
DATA 2

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92CM-6368R2

☉ OF BULB WILL NOT DEVIATE MORE THAN 2°
IN ANY DIRECTION FROM PERPENDICULAR
ERECTED AT CENTER OF BOTTOM OF BASE