



3RPI

ELECTROSTATIC DEFLECTION



OSCILLOGRAPH TUBE

Maximum Ratings, Design-Center Values:

ANODE-No.2 • VOLTAGE#	2500 max.	volts
ANODE-No.1 VOLTAGE	1000 max.	volts
GRID-No.1 VOLTAGE:#		
Negative bias value.	200 max.	volts
Positive bias value.	0 max.	volts
Positive peak value.	2 max.	volts
PEAK VOLTAGE BETWEEN ANODE No.2 AND ANY DEFLECTING ELECTRODE. .	500 max.	volts
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode.	125 max.	volts
Heater positive with respect to cathode.	125 max.	volts

Equipment Design Ranges:

For any anode-No.2 voltage (E_{b2}) between 500* and 2500 volts

Anode-No.1 Voltage . . .	16.5% to 31% of E_{b2}	volts
Maximum Grid-No.1 Volt- age for Visual Cutoff .	6.75% of E_{b2}	volts
Anode-No.1 Cur. for any Operating Condition. .	-15 to +10	microamperes
Deflection Factors:		
DJ ₁ & DJ ₂	73 to 99	v dc/in./kv of E_{b2}
DJ ₃ & DJ ₄	52 to 70	v dc/in./kv of E_{b2}
Spot Position.	▲	

Examples of Use of Design Ranges:

For anode-No.2 voltage of	1000	2000	volts
Anode-No.1 Voltage . . .	165-310	330-620	volts
Maximum Grid-No.1 Volt- age for Visual Cutoff .	-67.5	-135	volts
Deflection Factors:			
DJ ₁ & DJ ₂	73-99	146-198	volts dc/in.
DJ ₃ & DJ ₄	52-70	104-140	volts dc/in.

Maximum Circuit Values:

Grid-No.1-Circuit Resistance	1.5 max.	megohms
Resistance in Any Deflecting- Electrode Circuit ^o	5.0 max.	megohms

• Anode No.2 and grid No.2 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 be limited to 6 watts.

* Brilliance and definition decrease with decreasing anode-No.2 voltage. A value as low as 500 volts is recommended only for low-velocity deflection and low ambient light levels.

▲ The center of the undeflected, focused spot will fall within a circle having 7.5-mm radius concentric with the center of the tube face.

o It is recommended that the deflecting-electrode-circuit resistances be approximately equal.

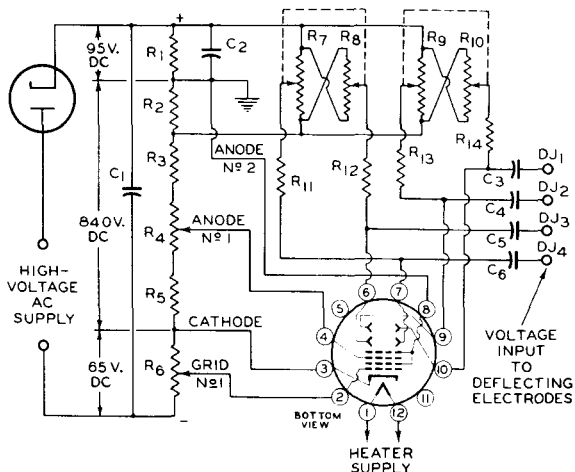


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OSCILLOGRAPH TUBE

TYPICAL OSCILLOGRAPH CIRCUIT



92CS-6777

C1: 0.2 μ f
 C2: 1.0 μ f
 C3 C4 C5 C6: 0.05- μ f Blocking
 Capacitors
 R1 R2: 2.5 Megohms, 0.5 Watt
 R3: 2.5 Megohms, 1 Watt

R4: 1.0-Megohm Potentiometer
 R5: 0.5 Megohm, 0.5 Watt
 R6: 0.35 Megohm, 0.5 Watt
 R7 R8: Dual 5-Megohm Potentiometer
 R9 R10: Dual 5-Megohm Potentiometer
 R11 R12 R13 R14: 2 Megohms, 0.5 watt

* 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.

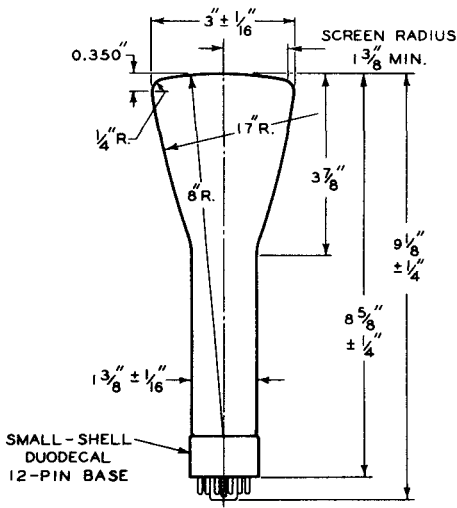
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3RPI



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OSCILLOGRAPH TUBE



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

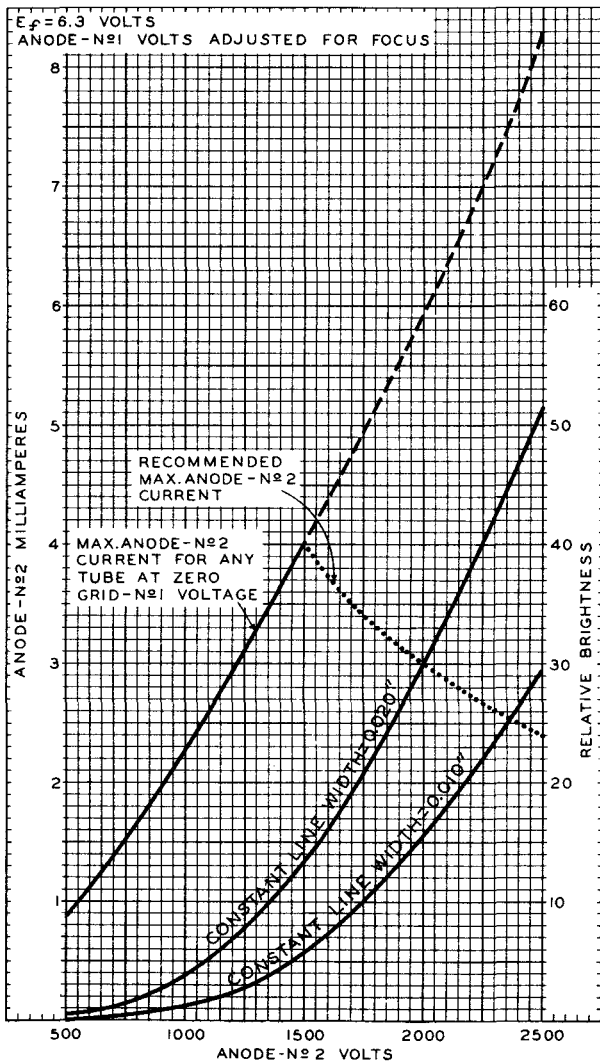
92CM-7119



3RP1

3RP1

CHARACTERISTICS

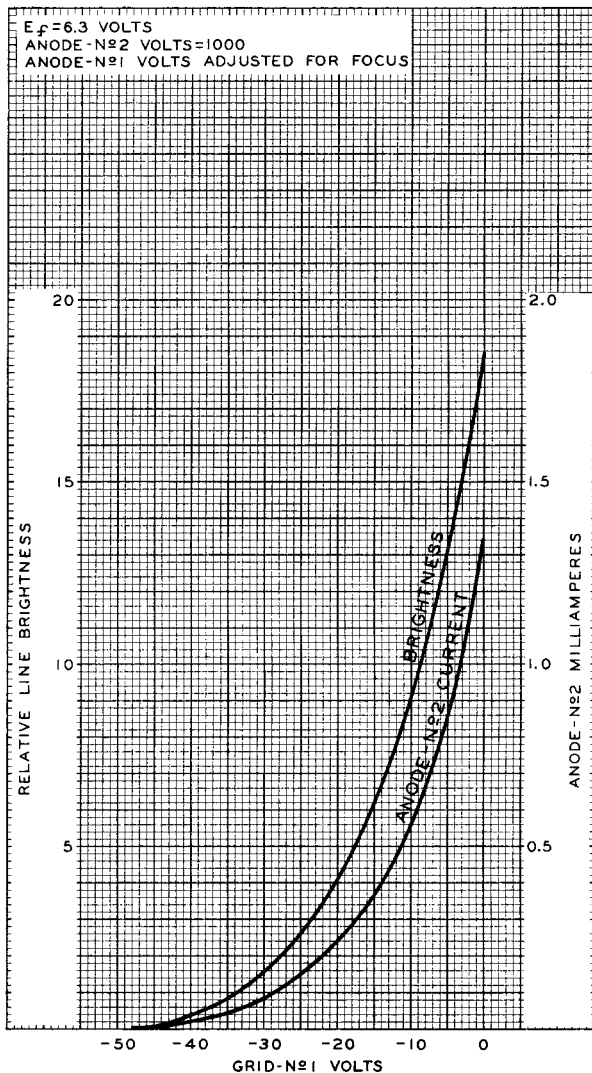


3RP1



3RP1

AVERAGE CHARACTERISTICS



DEC. 9, 1948

TUBE DEPARTMENT

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

92CM-7141



3RP1

OSCILLOGRAPH TUBE

ELECTROSTATIC FOCUS

ELECTROSTATIC DEFLECTION

3RP1

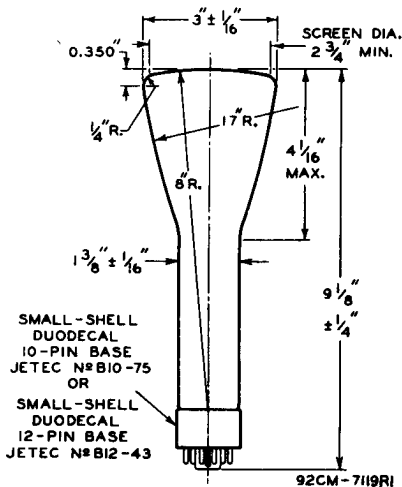
The 3RP1 is the same as the 3RP1-A except for the following items:

General:

Faceplate. Spherical Clear Glass

Bulb J-24P1

Weight (Approx.) 7 oz



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