



12SP7

12SP7

OSCILLOGRAPH TUBE

ELECTROSTATIC FOCUS

MAGNETIC DEFLECTION

DATA

General:

Heater, for Unipotential Cathode:

Voltage. 6.3 ac or dc volts
 Current. 0.6 amp

Direct Interelectrode Capacitances:

Grid No.1 to All Other Electrodes. 6 μf
 Cathode to All Other Electrodes. 5 μf

Phosphor P7

Fluorescence Blue

Phosphorescence. Greenish-Yellow

Persistence. Long

Focusing Method. Magnetic

Deflection Method. Magnetic

Deflection Angle (Approx.) 54° Overall Length $18\text{-}3/4" \pm 3/8"$ Greatest Diameter of Bulb. $12\text{-}7/16" \pm 1/8"$

Minimum Useful Screen Diameter 11"

Mounting Position. Any

Cap. Recessed Small Cavity (JETEC No.J1-21)

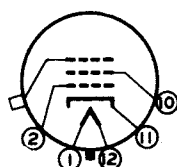
Base Small-Shell Duodecal 5-Pin (JETEC No.B5-57)

BOTTOM VIEW

Pin 1-Heater

Pin 2-Grid No.1

Pin 10-Grid No.2



Pin 11-Cathode

Pin 12-Heater

Cap-Anode

Maximum Ratings, Design-Center Values:

ANODE VOLTAGE. 10000 max. volts

GRID-No.2 VOLTAGE:

Positive value (DC or Peak AC) 410 max. volts

Negative value (DC or Peak AC) 180 max. volts

GRID-No.1 VOLTAGE:

Negative bias value. 180 max. volts

Positive bias value* 0 max. volts

Positive peak value. 2 max. volts

PEAK GRID-No.1 DRIVE FROM CUTOFF 65 max. volts

PEAK HEATER-CATHODE VOLTAGE:

Heater negative with respect to cathode. 125 max. volts

Heater positive with respect to cathode. 125 max. volts

Typical Operation:

Anode Voltage* 9000 volts

Grid-No.2 Voltage. 250 volts

* At or near this rating, the effective resistance of the anode supply should be adequate to limit the anode input power to 6 watts.

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

AUG. 1, 1951

TUBE DEPARTMENT

TENTATIVE DATA

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

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Grid-No.1 Voltage for Visual Extinction of Undelected Focused Spot.	-27 to -63	volts
Grid-No.2 Current.	-15 to +15	μ amp
Focusing-Coil Current (DC)**	107 $\pm$ 10%	ma
Spot Position.	##	

Maximum Circuit Values:

Grid-No.1-Circuit Resistance	1.5 max.	megohms
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** For specimen focusing coil similar to JETEC No.106 with air gap toward tube face, center line of air gap 3-1/4" from Reference Line (see Outline Drawing), and total anode current of 200 microamperes.

The center of the undeflected, unfocused spot will fall within a circle having 18-mm radius concentric with the center of the tube face.

OPERATING NOTES

X-Ray Warning. When operated at or below the maximum ratings shown in the tabulated data, the 12SP7 does not produce any harmful x-ray radiation. All types of cathode-ray tubes may be operated at voltages (if ratings permit) up to 16 kilovolts (absolute value) without personal injury on prolonged exposure at close range. Above 16 kilovolts, special shielding precautions for x-ray radiation may be necessary.

AUG. 1, 1951

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TENTATIVE DATA



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Technical drawing of a small-shell duodecal assembly. Key dimensions and features include:

- Top diameter: $12 \frac{7}{16} \pm \frac{1}{8}$ inches
- Screen diameter: 11" MIN.
- Seal diameter: $12 \frac{7}{16}$ " MAX.
- Total height: $18 \frac{3}{4} \pm \frac{3}{8}$ inches
- Reference line (NOTE 2) at the base of the tube
- Effective center of deflection
- Small-shell duodecal 5-pin base (NOTE 3) JETEC N°B5-57
- Anode
- Recessed small cavity cap (NOTE 1&4) JETEC N°J1-21
- Dimensions: $7 \frac{1}{16} \pm \frac{3}{16}$ R., 0.900 , $2 \frac{3}{4} \pm \frac{1}{2}$, $10 \frac{1}{2} \pm \frac{1}{4}$, $3 \pm \frac{3}{8}$, $1 \frac{7}{16} \pm \frac{1}{16}$, 0.930 MAX., 40 " R., 20 " R., 54° , 2 " MAX. FOR TUBE SUPPORT

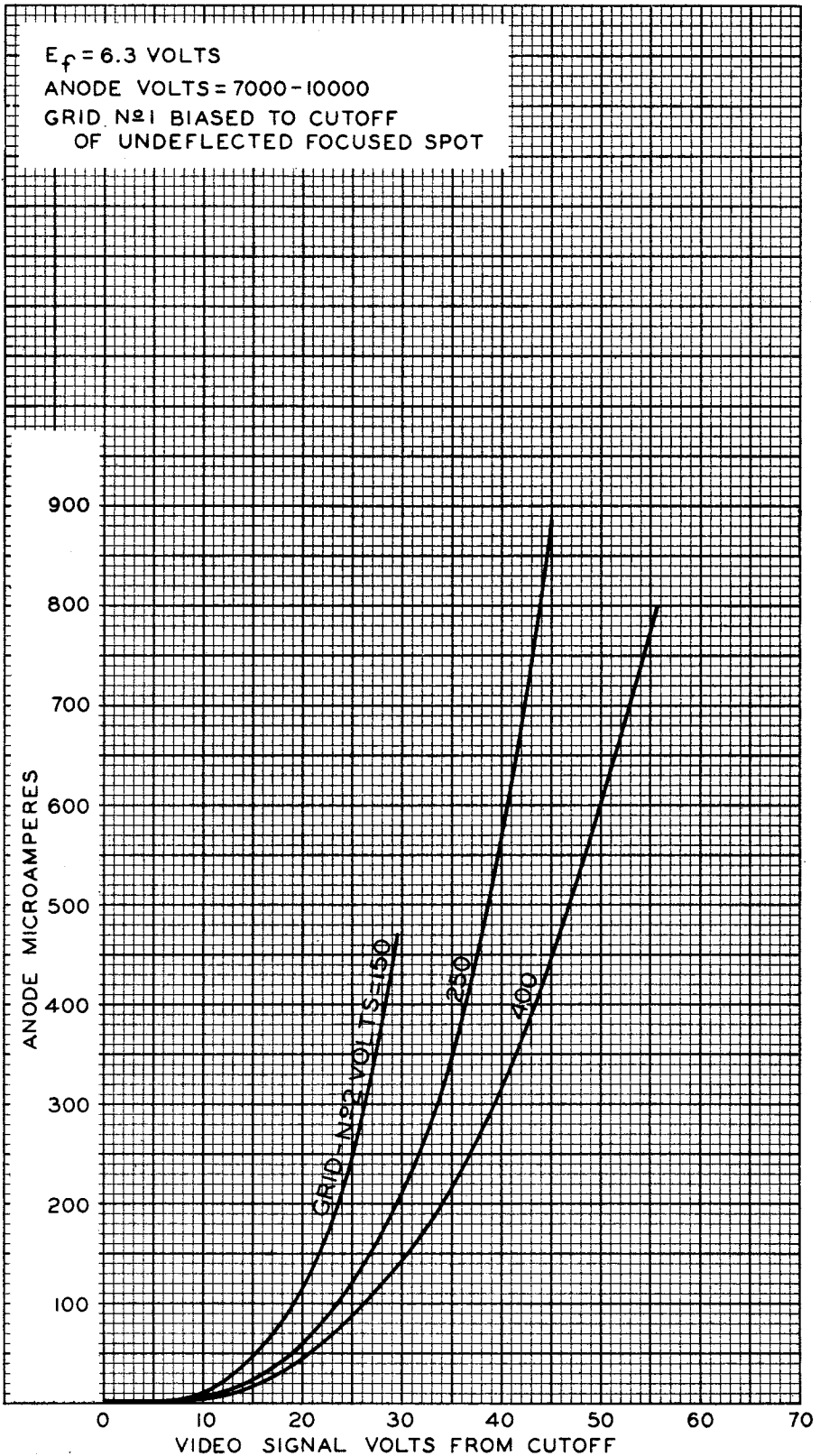
NOTE 4: TUBE SUPPORT MUST BE KEPT AT LEAST 2" AWAY FROM ANODE CAP.

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AVERAGE GRID-DRIVE CHARACTERISTICS



MAR. 20, 1951

TUBE DEPARTMENT

92CM-7615

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