



12DP7-B

OSCILLOGRAPH TUBE

MAGNETIC FOCUS

MAGNETIC DEFLECTION

Supersedes Type 12DP7-A

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 9 μf Cathode to All Other Electrodes 6 μf

Faceplate (With about 66% light transmission) Filterglass

Phosphor (For Curves, see front of this Section) P7

Fluorescence Blue

Persistence Short

Phosphorescence Greenish-Yellow

Persistence Long

Focusing Method Magnetic

Deflection Method Magnetic

Deflection Angle (Approx.) 50° Overall Length $19-5/8" \pm 1/2"$ Greatest Diameter $12" \pm 3/16"$

Minimum Useful Screen Diameter 10"

Weight (Approx.) 8 lbs

Mounting Position Any

Cap Medium (JETEC No.C1-5)

Bulb J96K

Base Long Medium-Shell Octal 8-Pin (JETEC No.BB-65)

BOTTOM VIEW

Pin 1-No

Connection

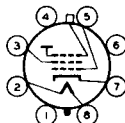
Pin 2-Heater

Pin 3-Grid No.2

Pin 4-No

Connection

Pin 5-Grid No.1



Pin 6-No

Connection

Pin 7-Cathode

Pin 8-Heater

Cap-Ultor

(Grid No.3,
Collector)

Maximum Ratings, Design-Center Values:

ULTOR* VOLTAGE. 10000 max. volts

GRID-No.2 VOLTAGE:

Positive value (DC or Peak AC). 700 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

* In the 12DP7-B, grid No.3 which has the ultor function and collector are connected together within the tube and are conveniently referred to collectively as "ultor". The "ultor" in a cathode-ray tube is the electrode, or the electrode in combination with one or more additional electrodes connected within the tube to it, to which is applied the highest dc voltage for accelerating the electrons in the beam prior to its deflection.

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

SEPT. 1, 1952

TUBE DEPARTMENT

TENTATIVE DATA

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY



12DP7-B

OSCILLOGRAPH TUBE

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

Equipment Design Ranges:

For any ultor voltage (E_u) between 4000 and 10000 volts
 and grid-No.2 voltage (E_{c2}) between 150 and 700 volts*

Grid-No.1 Voltage for Visual
 Extinction of Undelected

Focused Spot. 10% to 28% of E_{c2} volts

Grid-No.2 Current. -15 to +15 μ amp

Focusing-Coil Current (DC)⁰⁰ $\left[\sqrt{\frac{E_u}{4000}} \times 88.5 \right] \pm 15\%$ ma

Spot Position ##

Examples of Use of Design Ranges:

<i>For ultor voltage of . .</i>	<i>4000</i>	<i>7000</i>	<i>volts</i>
<i>and grid-No.2 voltage of</i>	<i>250</i>	<i>250</i>	<i>volts</i>

Grid-No.1 Voltage for Visual
 Extinction of Undelected

Focused Spot. -25 to -70 -25 to -70 volts

Focusing-Coil Current (DC) . 88.5 $\pm$ 15% 117 $\pm$ 15% ma

Maximum Circuit Values:

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

* Brilliance and definition decrease with decreasing ultor voltage. In general, the ultor voltage should not be less than 4000 volts.

⁰⁰ For specimen focusing coil similar to JETEC Focusing Coil No.106 positioned with air gap toward faceplate and center line of air gap 4-1/8" from Reference Line (see *Outline Drawing*) and ultor current of 200 microamperes.

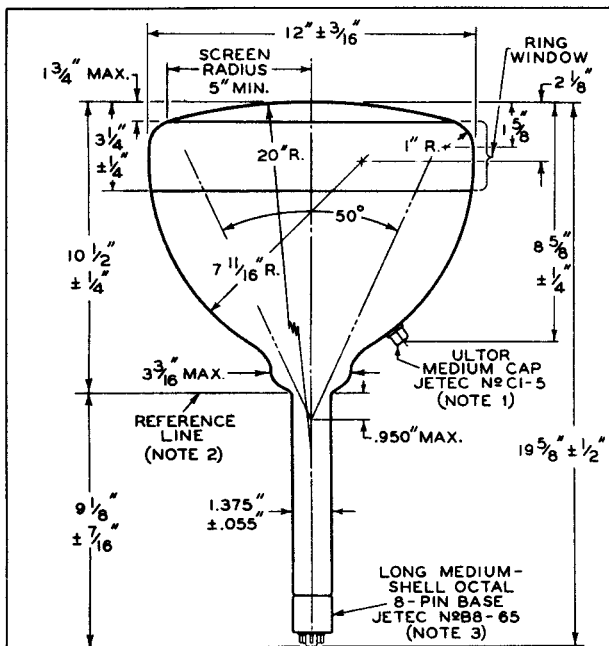
The center of the undeflected, unfocused spot will fall within a circle having a 20-mm radius concentric with the center of the tube face.



12DP7-B

OSCILLOGRAPH TUBE

12DP7-B



NOTE 1: THE PLANE THROUGH THE TUBE AXIS AND PIN No.5 MAY VARY FROM THE PLANE THROUGH THE TUBE AXIS AND ULTOR TERMINAL BY AN ANGULAR TOLERANCE (MEASURED ABOUT THE TUBE AXIS) OF $\pm 10^\circ$. ULTOR TERMINAL IS ON SAME SIDE OF TUBE AS PIN No.5.

NOTE 2: REFERENCE LINE IS DETERMINED BY POSITION WHERE GAUGE $1.430'' + .003'' - .000''$ I.D. AND 2" LONG WILL REST ON BULB CONE.

NOTE 3: ϕ OF BULB WILL NOT DEVIATE MORE THAN 2° IN ANY DIRECTION FROM THE PERPENDICULAR ERECTED AT THE CENTER OF THE BOTTOM OF THE BASE.

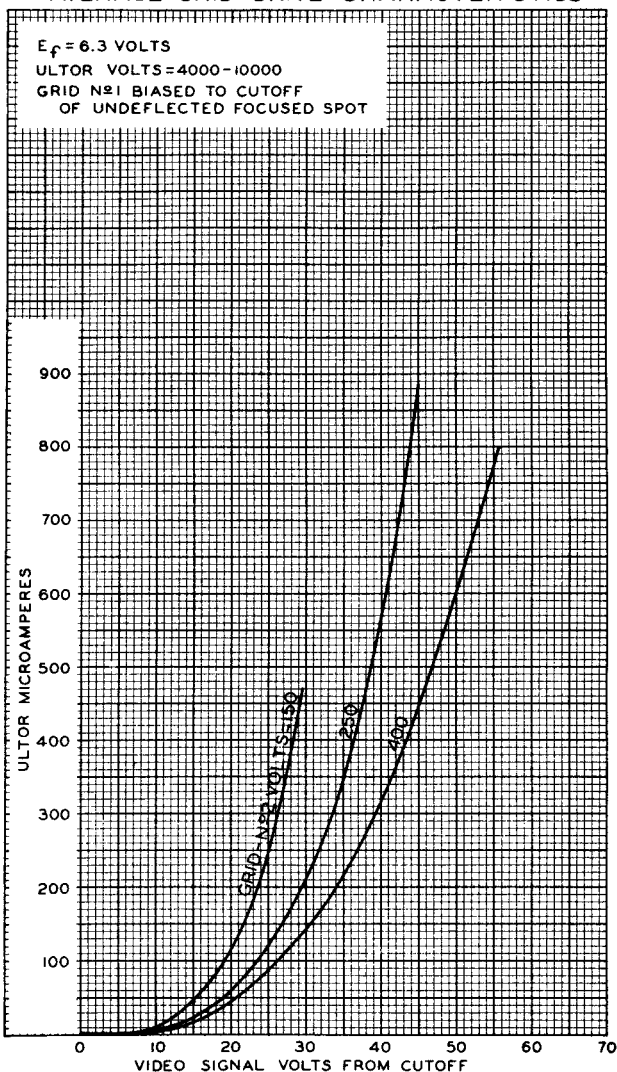
92CM-6375R5

12DP7-B



12DP7-B

AVERAGE GRID-DRIVE CHARACTERISTICS



APRIL 9, 1952

TUBE DEPARTMENT
 RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

92CM-6943RI