



10KP7

OSCILLOGRAPH TUBE

MAGNETIC FOCUS

MAGNETIC DEFLECTION

10KP7

DATA

General:

Heater, for Unipotential Cathode:

Voltage 6.3 ac or dc volts

Current $0.6 \pm 10\%$ amp

Direct Interelectrode Capacitances (Approx.):

Grid No.1 to all other electrodes 6 μmf

Cathode to all other electrodes 5 μmf

Faceplate Filterglass

Light transmission (Approx.) 76% ←

Phosphor (For curves, see front of this section). P7

Fluorescence Blue

Phosphorescence Greenish-Yellow

Persistence Long

Focusing Method Magnetic

Deflection Method Magnetic

Deflection Angle (Approx.) 50° ←

Tube Dimensions:

Overall length. $17-5/8" \pm 3/8"$ ←

Diameter:

At faceplate. $10-1/2" \pm 1/16"$

Maximum, at faceplate seal. $10-5/8"$

Minimum Useful Screen Diameter. 9"

Weight (Approx.) 10 lbs

Operating Position. Any

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

Bulb J-84

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

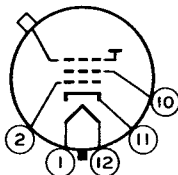
Basing Designation for BOTTOM VIEW. 12D

Pin 1-Heater

Pin 2-Grid No.1

Pin 10-Grid No.2

Pin 11-Cathode



Pin 12-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

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

*,▲: See next page.

← Indicates a change.



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Equipment Design Ranges:

For any ultor voltage (E_{c3}) between 7000* 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. -10.8% to -25.2% of E_{c2} volts

Grid-No.2 Current -15 to +15 μ a

Focusing-Coil Current (DC)⁰⁰. $\left[\sqrt{\frac{E_{c3}}{7000}} \times 99 \right] \pm 15\%$ ma

Spot Position ##

Examples of Use of Design Ranges:

For ultor voltage of	7000	9000	volts
and grid-No.2 voltage of	250	250	volts

Grid-No.1 Voltage for Visual

Extinction of Undelected

Focused Spot. -27 to -63 -27 to -63 volts

Focusing-Coil Current (DC). . 99 $\pm$ 15% 112 $\pm$ 15% ma

Maximum Circuit Values:

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

This value has been specified to take care of applications where grid No.2 is modulated.

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

* Brilliance and definition decrease with decreasing ultor voltage. In general, the ultor voltage should not be less than 7000 volts.

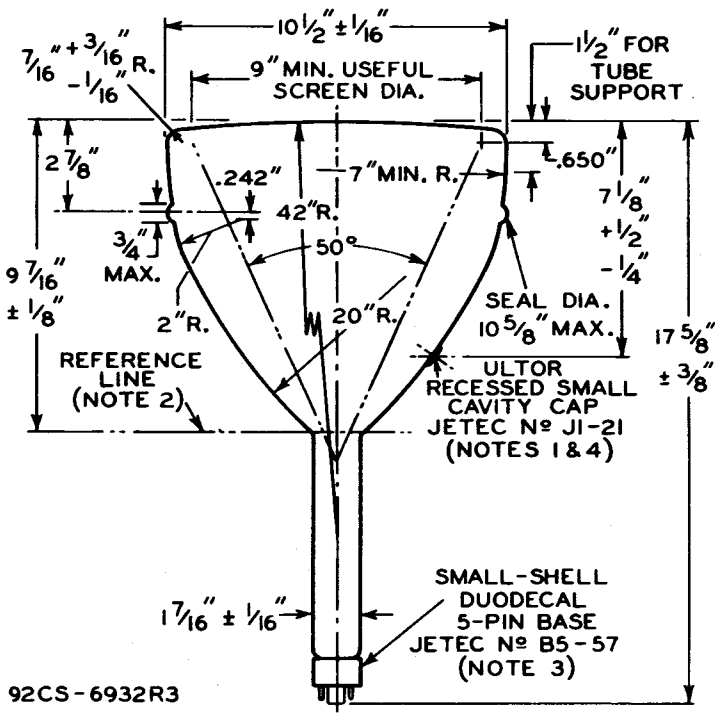
⁰⁰ For specimen focusing coil similar to JETEC Focusing Coil No.106 positioned with air gap toward faceplate and center line of air gap 3-1/4" from Reference Line (See *Dimensional Outline*) and ultor current of 200 microamperes.

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

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NOTE 1: THE PLANE THROUGH THE TUBE AXIS AND VACANT PIN POSITION No.3 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 AS VACANT PIN POSITION No.3.

NOTE 2: REFERENCE LINE IS DETERMINED BY POSITION WHERE REFERENCE-LINE GAUGE (JETEC No. 112) 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: TUBE SUPPORT MUST BE KEPT AT LEAST 2" AWAY FROM ULTOR CAP.

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AVERAGE GRID-DRIVE CHARACTERISTICS

