



5FPI4-A

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OSCILLOGRAPH TUBE

MAGNETIC FOCUS

MAGNETIC DEFLECTION

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. 8 μf Cathode to all other electrodes. 5 μf

Faceplate, Spherical Clear Glass

Phosphor (For curves, see front of this Section) P14

Fluorescence Purple

Phosphorescence. Orange

Persistence. Medium Long

Focusing Method. Magnetic

Deflection Method. Magnetic

Deflection Angle (Approx.) 53° Overall Length $11\frac{1}{8}'' \pm \frac{3}{8}''$ Greatest Diameter of Bulb. $4\frac{15}{16}'' \pm \frac{3}{32}''$ Minimum Useful Screen Diameter $4\frac{1}{4}''$

Weight (Approx.) 1 lb 2 oz

Mounting Position. Any

Cap. Recessed Small Ball (JETEC No. J1-22)

Bulb J39-1/2

Base Medium-Shell Octal 8-Pin (JETEC No. B8-11)

Basing Designation for BOTTOM VIEW 5AN

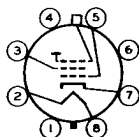
Pin 1—No Connection

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—Ultror
(Grid No.3,
Collector)

Maximum Ratings, Design-Center Values:

ULTROR VOLTAGE. 8000 max. volts

GRID-No.2 VOLTAGE. 700 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 HEATER-CATHODE VOLTAGE:

Heater negative with respect to cathode. 125 max. volts

Heater positive with respect to cathode. 125 max. volts

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



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Equipment Design Ranges:

With any ultor voltage (E_{c3}) between 4000[#] and 8000 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) ^{oo}	$\left[\sqrt{E_{c3}/4000} \times 96 \right] \pm 15\%$	ma
Spot Position	**	

Examples of Use of Design Ranges:

With ultor voltage of	4000	5000	volts
and grid-No.2 voltage of	250	250	volts
Grid-No.1 Voltage for Visual Extinction of Undelected Focused			
Spot	-25 to -70	-25 to -70	volts
Focusing-Coil Current (DC) .	96 $\pm$ 15%	107 $\pm$ 15%	ma

Maximum Circuit Values:

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

SPECIAL PERFORMANCE DATA

Line Width:

For Ultor Voltage of 4000 Volts. 0.010 max.[▲] inch
For Ultor Voltage of 5000 Volts. 0.009 max.[▲] inch

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

^{oo} For specimen focusing coil similar to JETEC Focusing Coil No.106 positioned with air gap toward faceplate and center line of air gap 2-3/4" from Reference Line (See Dimensional Outline) and ultor current of 200 microamperes.

^{**} With the tube shielded from extraneous fields, the center of the undelected, unfocused, low-intensity spot will fall within a circle having a 9-mm radius concentric with the center of the tube face.

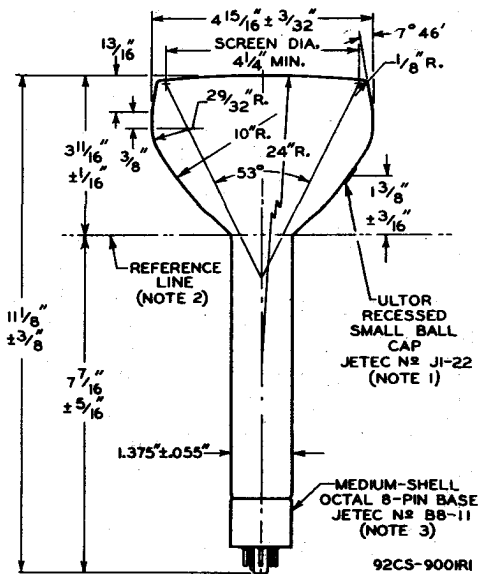
[▲] With JETEC Deflecting Yoke No.120, or equivalent, and under the following conditions: heater voltage of 6.3 volts, ultor current of 200 microamperes, grid-No.2 voltage of 250 volts, and a 49-line raster. Raster width is adjusted to 11.4 cm and focusing-coil current is adjusted to give sharpest focus at center of tube face. Raster height is contracted until individual scanning lines are just barely distinguishable. Line width is expressed as the quotient of the contracted raster height measured at the center line of the tube face divided by the number of scanning lines (49).



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NOTE 1: THE PLANE THROUGH THE TUBE AXIS AND PIN 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 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: CENTER LINE OF BULB WILL NOT DEVIATE MORE THAN 2° IN ANY DIRECTION FROM THE PERPENDICULAR ERECTED AT THE CENTER OF THE BOTTOM OF THE BASE.

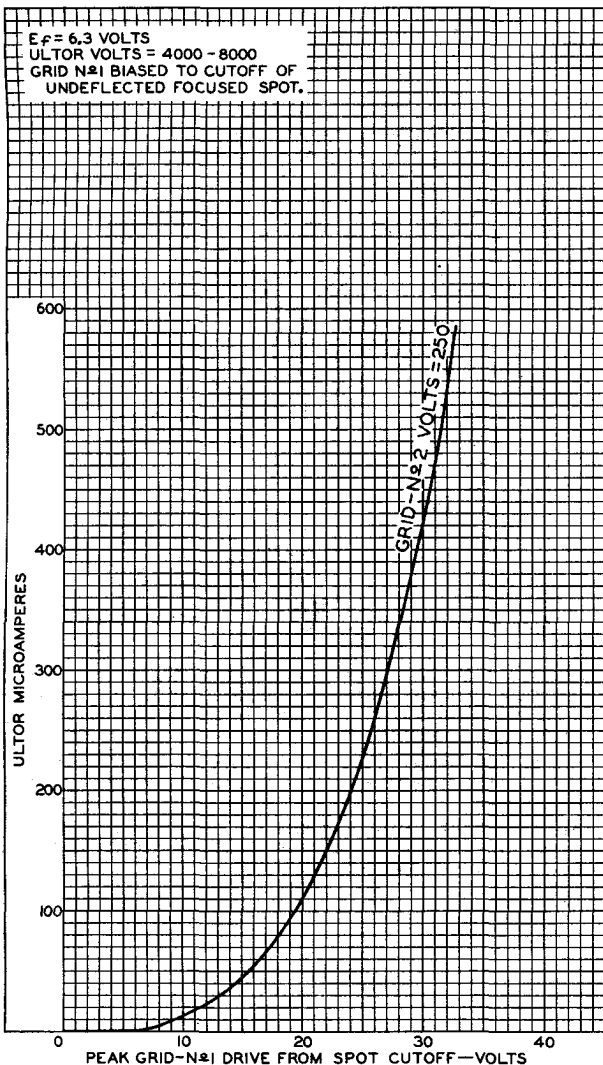
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AVERAGE GRID-DRIVE CHARACTERISTIC

$E_f = 6.3$ VOLTS
 ULTOR VOLTS = 4000 - 8000
 GRID-N₂ BIASED TO CUTOFF OF
 UNDEFLECTED FOCUSED SPOT.



TUBE DIVISION

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

92CM-9002