



5FP15-A

5FP15-A 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). P15

Fluorescence--

Visible radiation Blue-Green

Invisible radiation Near-Ultraviolet

Phosphorescence--

Persistence of visible radiation. Very Short

Persistence of invisible radiation. Extremely Short

Focusing Method Magnetic

Deflection Method Magnetic

Deflection Angle (Approx.). 53°

Tube Dimensions:

Overall length. $11-1/8" \pm 3/8"$

Greatest diameter of bulb $4-15/16" \pm 3/32"$

Minimum Useful Screen Diameter. $4-1/4"$

Weight (Approx.). 1 lb 2 oz

Mounting Position Any

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

Bulb. J-39-1/2

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

Basing Designation for BOTTOM VIEW. 5AN

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|-----------------------|--|------------------------|
| Pin 1 - No Connection | | Pin 6 - No Connection |
| Pin 2 - Heater | | Pin 7 - Cathode |
| Pin 3 - Grid No.2 | | Pin 8 - Heater |
| Pin 4 - No Connection | | Cap - Ultor |
| Pin 5 - Grid No.1 | | (Grid No.3, Collector) |

Maximum Ratings, Design-Center Values:

ULTOR 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 ultor supply should be adequate to limit the effective ultor input power to 6 watts.



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Equipment Design Ranges:

For 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} . $[\sqrt{E_{c3}/4000} \times 96] \pm 15\%$		ma
Spot Position	**	

Examples of Use of Design Ranges:

For 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). .	82 to 110	91 to 123	ma

Maximum Circuit Values:

Grid-No.1-Circuit Resistance.	1.5 max.	megohms
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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 undeflected, unfocused, low-intensity spot will fall within a circle having a 9-mm radius concentric with the center of the tube face.

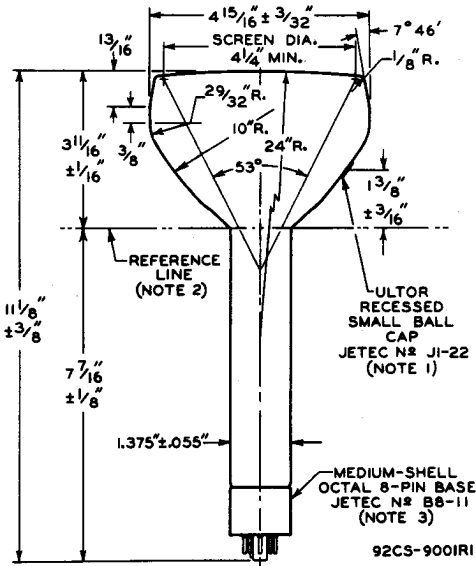
▲ With JETEC Deflecting Yoke No.120, or equivalent, and under the following conditions: heater voltage of 6.3 volts, ultor current of 200 microamperes, grid-No.2 voltage of 250 volts, and a 49-line raster. Raster width is adjusted to 11.4 cm and focusing-coil current is adjusted to give sharpest focus 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 centerline 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 ULTROR TERMINAL BY AN ANGULAR TOLERANCE (MEASURED ABOUT THE TUBE AXIS) OF $\pm 10^\circ$. ULTROR 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.

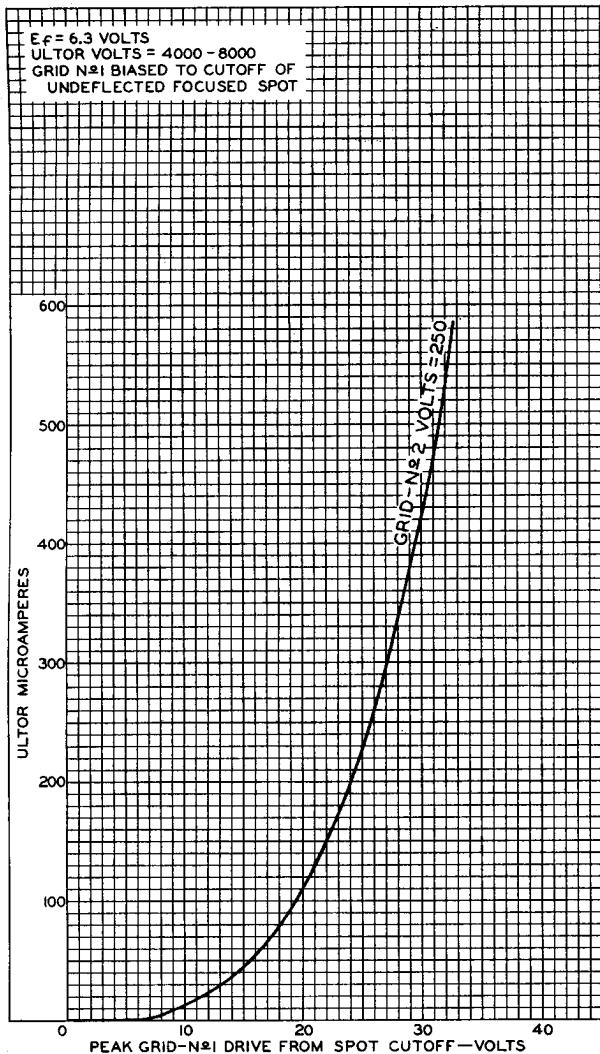
NOTE 3: CENTER LINE OF BULB WILL NOT DEVIATE MORE THAN 2° IN ANY DIRECTION FROM THE PERPENDICULAR ERECTED AT THE CENTER OF THE BOTTOM OF THE BASE.

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AVERAGE GRID-DRIVE CHARACTERISTIC



TUBE DIVISION

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

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