



19-5/16" x 15-1/4" Screen
24-51/64" Max. Bulb Diagonal
18-7/8" Max. Overall Length

23BKP4 6-61
Printed in U.S.A.



a The "ultor" in a cathode-ray tube is the electrode to which is applied the highest dc voltage for accelerating the electrons in the beam prior to its deflection. In this tube type, the ultor function is performed by grid No.5. Since grid No.3, grid No.5, and collector are connected together within the tube, they are collectively referred to simply as "ultor" for convenience in presenting data and curves.

b Cathode drive is the operating condition in which the video signal varies the cathode potential with respect to grid No.1 and the other electrodes.

c The maximum ratings in the tabulated data are established in accordance with the following definition of the Design-Maximum Ratings System for rating electron tubes.

Design-Maximum ratings are limiting values of operating and environmental conditions applicable to a bogey electron device of specified type as defined by its published data, and should not be exceeded under the worst probable conditions.

The device manufacturer chooses these values to provide acceptable serviceability of the device, taking responsibility for the effects of changes in operating conditions due to variations in device characteristics.

The equipment manufacturer should design so that initially and throughout life no Design-Maximum value for the intended service is exceeded with a bogey device under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, equipment control adjustment, load variation, signal variation, and environmental conditions.

d The grid-No.4-to-grid-No.1 voltage required for optimum focus of any individual tube will have a value anywhere between 0 and 400 volts, is independent of ultor current and will remain essentially constant for values of ultor-to-grid-No.1 voltage or grid-No.2-to-grid-No.1 voltage within the design-maximum ratings shown for these items.

e Distance from Reference Line for suitable PM centering magnet should not exceed 2-1/4 inches. The specified centering magnet compensates only for the effect which mechanical tube tolerances may have on the location of the undeflected, focused spot with respect to the center of the tube face. Maximum field strength of adjustable centering magnet equals

$$\sqrt{\frac{E_{c501} \text{ (volts)}}{16000 \text{ (volts)}}} \times 10 \text{ gauss}$$

The equipment manufacturer must determine and supply additional compensation for the effects of the earth's magnetic field and extraneous fields due to choice of circuitry and components. The additional compensation should preferably be applied as part of the magnetic field of the deflecting yoke.

OPERATING CONSIDERATIONS

X-Ray Warning. When operated at ultor voltages up to 16 kilovolts, the 238KP4 does not produce any harmful X-ray radiation. However, because the rating of this type permits operation

at voltages as high as 25 kilovolts (design-maximum value), shielding of the 238KP4 for X-ray radiation may be needed to protect against possi-

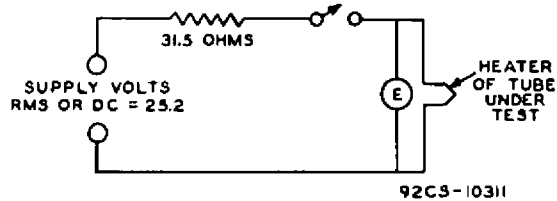


Fig. 1 - Test Circuit for Determining Heater Warm-Up Time.

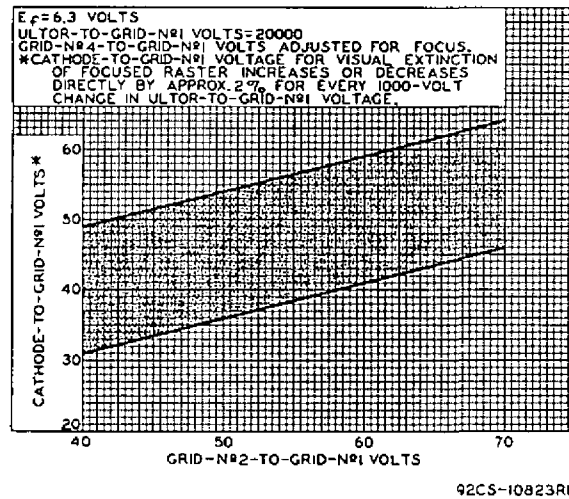


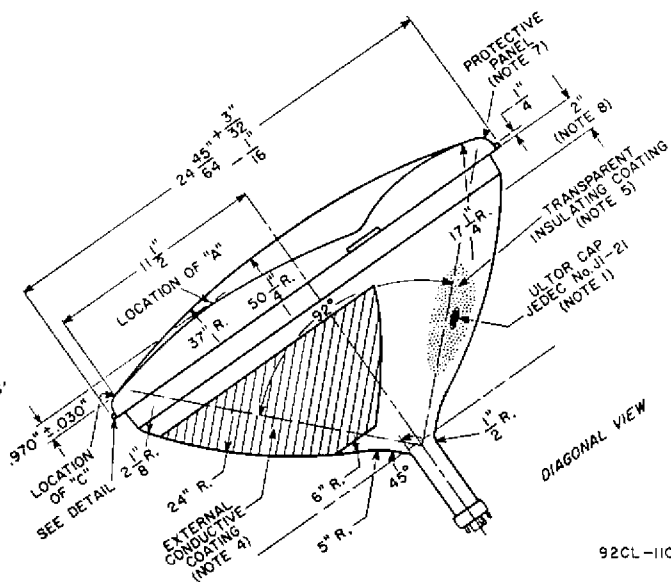
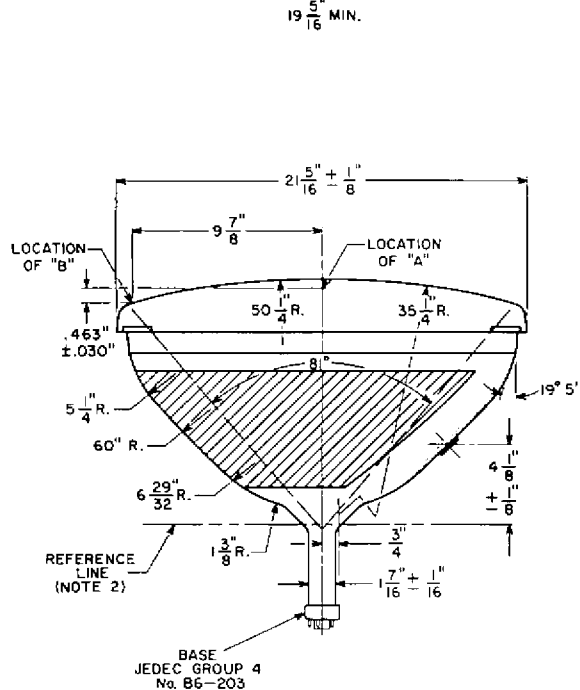
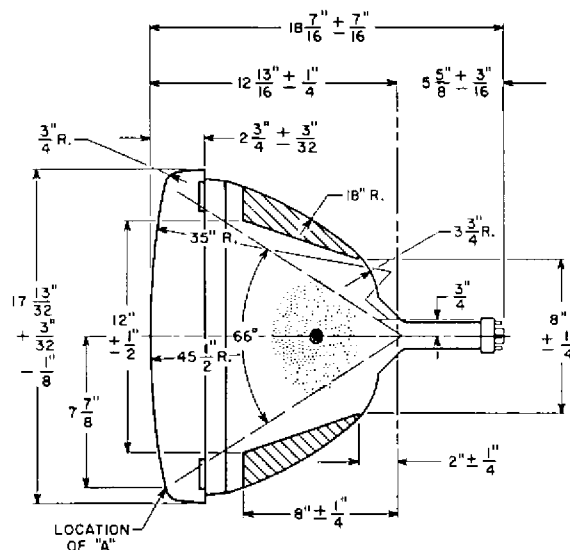
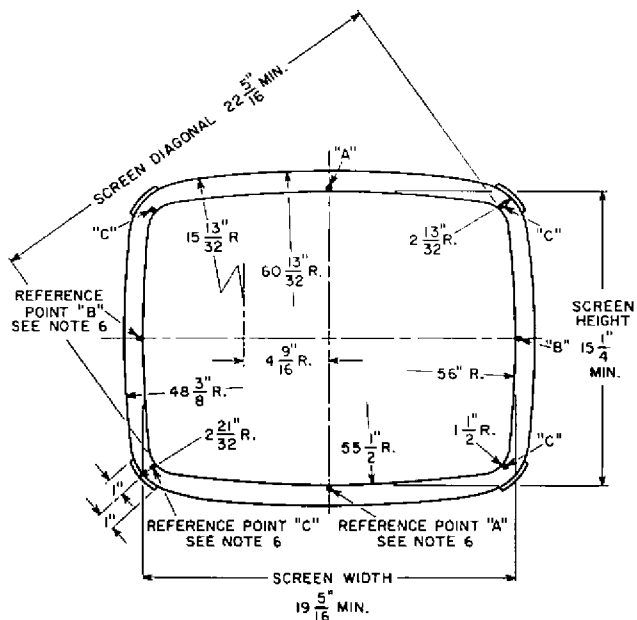
Fig. 2 - Raster-Cutoff-Range Chart for Type 238KP4.

ble injury from prolonged exposure at close range whenever the operating conditions involve voltages in excess of 16 kilovolts.

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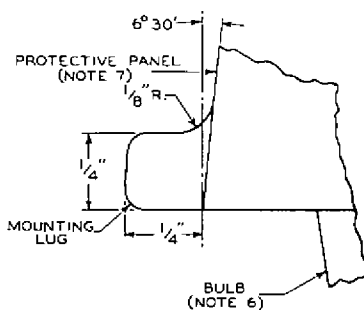


DIMENSIONAL OUTLINE



92CL-11087

DETAIL OF MOUNTING LUG





NOTE 4: EXTERNAL CONDUCTIVE COATING MUST BE GROUNDED.

NOTE 9: ADEQUATE TUBE SUPPORT IS OBTAINED BY CLAMPING TO THE MOUNTING LUGS PROVIDED AT EACH CORNER OF THE PROTECTIVE PANEL. TUBE MOUNTING AND YOKE SUPPORT CLAMPS MUST BE SPACED FROM THE TUBE BY USE OF CUSHIONING PADS MADE OF MATERIAL SUCH AS ASPHALT-IMPREGNATED FELT, OR EQUIVALENT.

BASING DIAGRAM

Bottom View

