

Cathode-Ray Tube Type 14AUP4

The 14AUP4 is a 14" 90° rectangular, electrostatic focus and magnetic deflection direct-view picture tube specifically intended for cathode drive television applications. It has a maximum spot cut-off of 50 volts and a minimum cathode current of 1000 microamperes when operated in cathode drive at a Grid No.2 voltage of 50 volts. Other features of this tube are a short overall length, spherical gray filter glass faceplate, metal-backed screen, a construction which does not require an external ion trap magnet, and a high capacity external conductive coating, which when grounded serves as a filter capacitor and aids in the suppression of radiation. This tube is intended for series string operation and has a heater current of 450 milliamperes.

GENERAL DATA

Focusing Method	Electrostatic
Deflection Method	Magnetic
Deflection Angles (approx.)	
Horizontal	85 Degrees
Diagonal	90 Degrees
Phosphor	Aluminized P4
Fluorescence	White
Persistence	Medium
Faceplate	Gray Filter Glass
Light Transmission (approx.)	79%

ELECTRICAL DATA

Heater Voltage	6.3 Volts
Heater Current	0.450 \pm 5% Amperes
Heater Warm-up Time ¹	11 Seconds
Direct Interelectrode Capacitances (approx.)	
Cathode to All Other Electrodes	5 uuf
Grid No.1 to All Other Electrodes	6 uuf
External Conductive Coating to Anode ²	1500 uuf Max. 1000 uuf Min.

MECHANICAL DATA

Overall Length	13 3/16 \pm 5/16 Inches
Greatest Bulb Dimensions	
Diagonal	14 \pm 1/8 Inches
Width	13 1/16 \pm 1/8 Inches
Height	10 9/16 \pm 1/8 Inches
Neck Length	5 1/2 \pm 3/16 Inches
Minimum Useful Screen Dimensions (Maximum Assured)	9 1/2 x 12 1/16 Inches
Minimum Useful Screen Area	104 Sq.Inches
Bulb Contact - Recessed Small Cavity Cap	J1-21
Base - Small Shell Duodecal 6-pin	B6-63
Basing	12L
Bulb Contact Alignment - J1-21 Contact Aligns with Pin Position No.6 \pm 30 Degrees	

MAXIMUM RATINGS (Absolute Maximum Values)

Final Anode Voltage ³	16,500 Volts dc
Grid No.4 Voltage (Focusing Electrode) ⁴	-500 to 1,100 Volts dc
Grid No.2 to Grid No.1 Voltage	70 Volts dc

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MAXIMUM RATINGS (Absolute Maximum Values)

Cathode to Grid No.1 Voltage	
Positive Bias Value	150 Volts
Negative Peak Value	0 Volts
Peak Heater-Cathode Voltage	
During Warm-up Period Not to Exceed 15 Seconds	450 Volts
After Equipment Warm-up Period	200 Volts
Heater Positive with Respect to Cathode	200 Volts

TYPICAL OPERATING CONDITIONS

Anode Voltage	12,000 Volts dc
Grid No.4 to Grid No.1 Voltage for Focus at 100 ua Cathode Current	0 to / 350 Volts dc
Grid No.2 to Grid No.1 Voltage	50 Volts dc
Cathode to Grid No.1 Voltage for cut-off ⁵	30 to 50 Volts dc

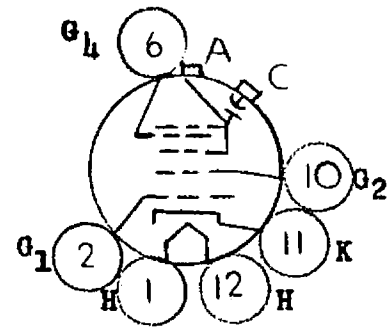
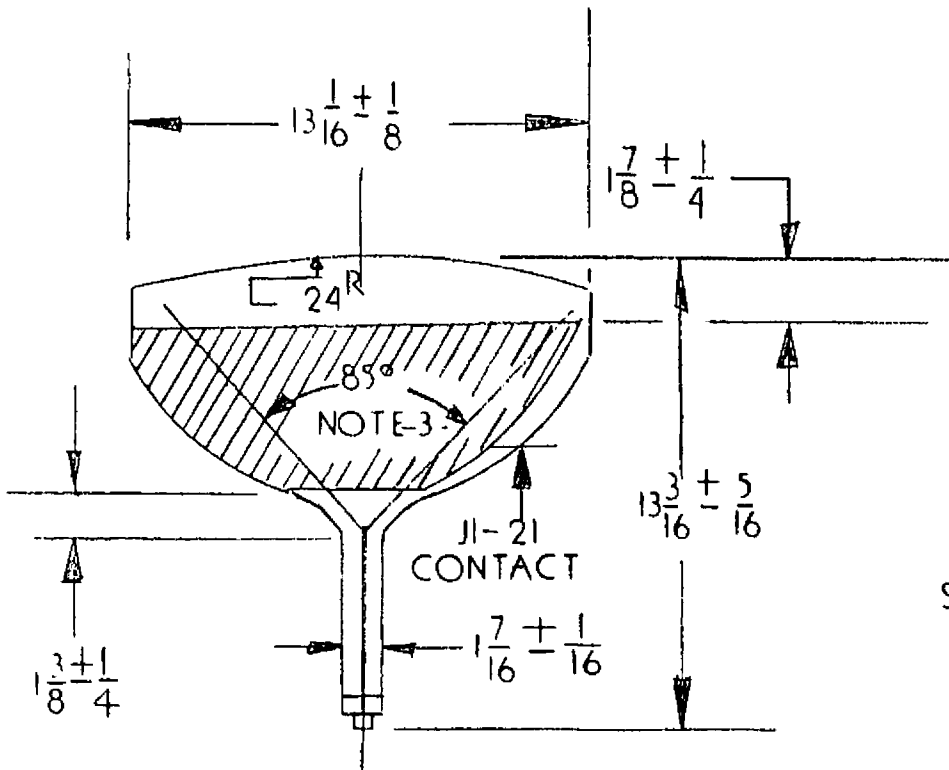
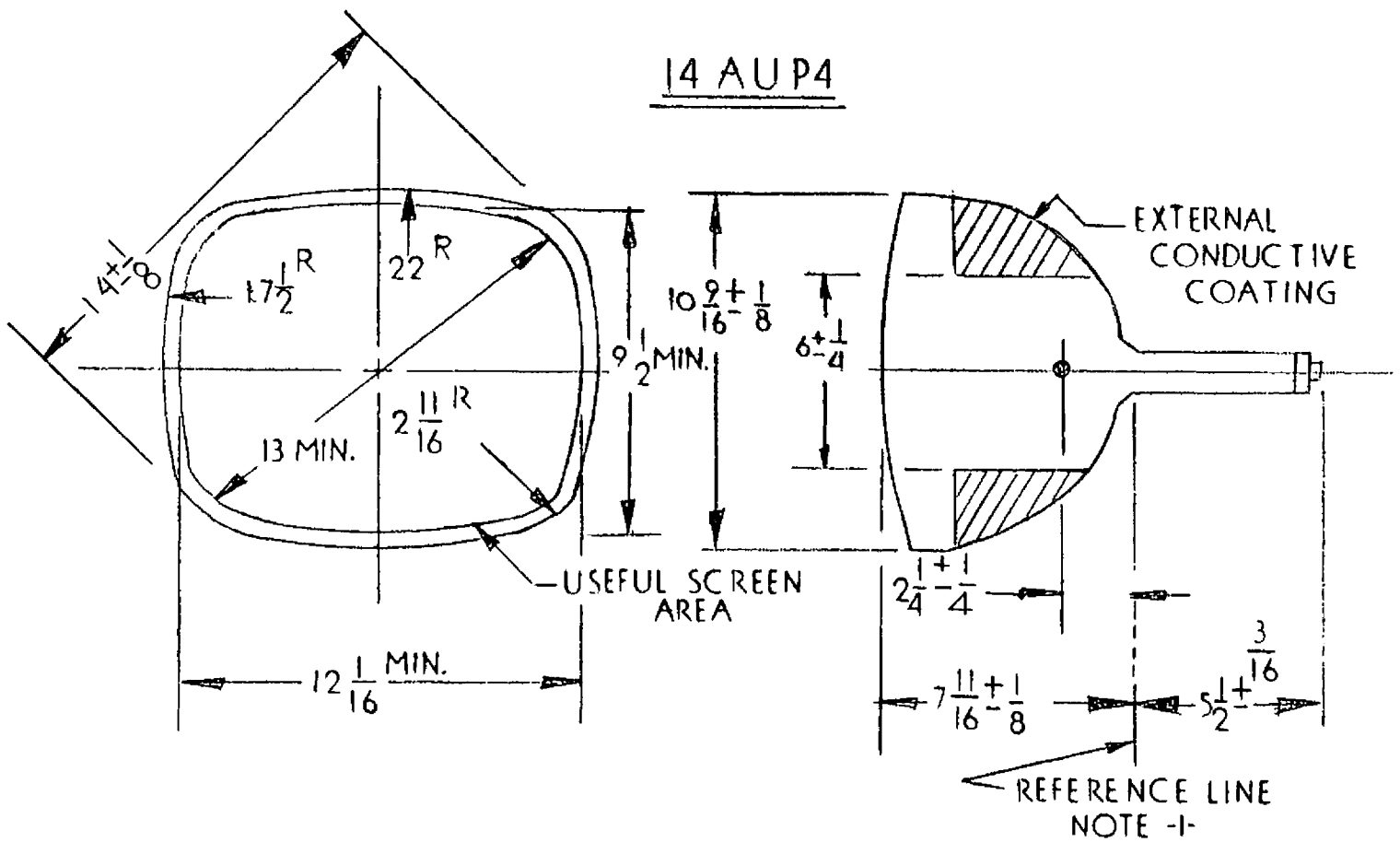
CIRCUIT VALUES

Grid No.1 Circuit Resistance	1.5 Max.Megohms
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NOTES

1. Heater warm-up time is the time required for the voltage across the heater terminals to increase to 5.0 volts in the JETEC test circuit, with E = 25 volts and series R = 42 ohms.
2. External conductive coating must be grounded.
3. Grid No.3, Grid No.5 and the Collector are connected internally and are referred to herein as "Final Anode".
4. The focus electrode may be modulated to improve overall focus.
5. For visual extinction of focused raster. Extinction of stationary focused spot will require that these values be increased approximately 5 volts. The cut-off voltage will change by approximately 2% with 1 KV change of anode voltage.

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SMALL SHELL DUODECAL
6 PIN BASE B6-63-NOTE-2-

NOTES:

1. REFERENCE LINE AS DETERMINED BY PLANE C-C of REFERENCE LINE GAUGE RETMA #116.
2. PIN POSITION No. 6 TO BE ALIGNED WITH ANODE BUTTON $\angle 30^\circ$
3. DIAGONAL DEFLECTION ANGLE IS 90°

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ILL.