2H ALP4

CATHODE-RAY TUBE

2½-INCH RECTANGULAR GLASS 21-7/16 BY 16-7/8 INCH PICTURE SIZE
FOCUS - ELECTROSTATIC FACEPLATE - SPHERICAL, GRAY
DEFLECTION - MAGNETIC EXTERNAL CONDUCTIVE COATING
110-DEGREE DEFLECTION ANGLE NON-ION-TRAP GUN

ALUMINIZED SCREEN

DESCRIPTION AND RATING

The 2H ALP4 is a 2¾-inch electrostatic-focus and magnetic-deflection glass picture tube. Outstanding features include a short over-all length, a small neck diameter and a non-ion-trap gun. The fluorescent screen is aluminized to increase light output and reduce undesirable screen charging. An external conductive coating is provided to serve as a filter capacitor, when grounded.

GENERAL

ELECTRICAL

Heater Voltage .......................... 6.3 Volts
Heater Current ................................ 0.6 ± 10% Amperes
Heater Warm-up Time * .................. 11 Seconds

Focusing Method - Electrostatic
Deflecting Method - Magnetic
Deflection Angle, approximate
Diagonal .................................. 110 Degrees
Horizontal ................................ 105 Degrees
Vertical .................................. 87 Degrees

Direct Interelectrode Capacitances, approximate
Cathode to All Other Electrodes .................. 5 µµf
Grid-No. 1 to All Other Electrodes ............... 6 µµf
External Conductive Coating to Anode Capacitance
Maximum .................................. 2500 µµf
Minimum .................................. 2000 µµf

OPTICAL

Phosphor Number - Ph4, Sulfide
Fluorescent Color - White
Phosphorescent Color - White
Persistance - Short

Faceplate - Gray
Light Transmission at Center, approximate .......... 76 Percent

GENERAL ELECTRIC COMPANY

from JETEC release #2001, Aug. 23, 1957
MECHANICAL

Overall Length ............................................. 15 7/8 ± 5/16 Inches
Neck Length .................................................. 5 7/16 + 3/16 - 1/8 Inches
Greatest Bulb Dimensions
  Diagonal .................................................... 24 ± 1/8 Inches
  Width ....................................................... 22 11/16 ± 1/8 Inches
  Height ...................................................... 18 1/2 ± 1/8 Inches
Minimum Useful Screen Dimensions
  Diagonal .................................................... 22 13/16 Inches
  Width ....................................................... 21 7/16 Inches
  Height ...................................................... 16 7/8 Inches
  Area .......................................................... 332 Square Inches

Bulb Contact - Recessed Small-cavity Cap, JETEC No. J1-21
Base - Small-button Eightar, 7-Pin, JETEC No. B7-183
Basing Designation - 8HR
Bulb Contact Alignment
  Anode Contact Aligns with Pin-No. 4 Position ± 30 Degrees

Mounting Position - Any
Net Weight, approximate ................................... 27 Pounds

MAXIMUM RATINGS

DESIGN-CENTER VALUES

Anode Voltage .................................................. 20,000 Max Volts DC
Focusing-Electrode Voltage ................................ -500 to +1000 Max Volts DC
Grid-No. 2 Voltage ........................................... 500 Max Volts DC

Grid-No. 1 Voltage
  Negative-Bias Value ..................................... 140 Max Volts DC
  Positive-Bias Value ..................................... 0 Max Volts DC
  Positive-Peak Value ..................................... 2 Max Volts
  Negative-Peak Value ..................................... 200 Max Volts

Peak Heater-Cathode Voltage
  Heater Negative with Respect to Cathode
    During Warm-up Period Not to Exceed 15 Seconds .... 410 Max volts
    After Equipment Warm-up Period ..................... 180 Max Volts
  Heater Positive with Respect to Cathode ............. 180 Max Volts

TYPICAL OPERATING CONDITIONS

Anode Voltage ................................................ 17,000 Volts DC
Focusing-Electrode Voltage for Focus .................... 0 to 500 Volts DC
Focusing-Electrode Current ................................ -15 to +25 Microamperes DC
Grid-No. 2 Voltage ......................................... 300 Volts DC
Grid-No. 1 Voltage ......................................... -28 to -72 Volts DC
MAXIMUM CIRCUIT VALUES

Grid-No. 1 Circuit Resistance ................. 1.5 Max Megohms
Grid-No. 2 Circuit Resistance ................. 0.1 Min Megohms
Focusing-Electrode Circuit Resistance ......... 0.1 Min Megohms

Protective resistance in the grid-No. 2 and focusing-electrode circuits is advisable to prevent damage to the tube. If applicable, one resistor common to both circuits may be used.

* Heater warm-up 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 R = 31.5-ohms.

† The maximum ratings provide a ten-percent safety factor in accordance with the standard design-center system of rating cathode-ray tubes. The tube will withstand the combined effects of variations in line voltage and components provided the design-center values are not exceeded by more than ten percent.

‡ Anode, grid-No. 3, and grid-No. 5, which are connected together within the tube, are referred to herein as anode.

If this tube is operated at voltage in excess of 16,000 volts, x-ray radiation shielding may be necessary to avert possible danger of personal injury from prolonged exposure at close range. The protective face-viewing window of apparatus using tubes of this type may provide such a safeguard. If the radiation measured in contact with this window does not exceed 6.25 milliroentgens per hour, the window will normally provide adequate protection.

§ Brightness and focus quality decrease with decreasing anode voltage. In general, the anode voltage should not be less than 15,000 volts.

▲ For visual extinction of focused raster.
NOTES:

1. THE REFERENCE LINE IS DETERMINED BY THE INTERSECTION OF THE PLANE C-C OF GAGE (RETMA NO.126) WITH THE GLASS FUNNEL.

2. DEFLECTION ANGLE ON THE DIAGONAL IS 110°.

3. ANODE TERMINALAligns WITH PIN NO. 4 ± 30 DEGREES.

4. RECOMMENDED POSITION OF CENTERING MAGNET, IF USED.

5. USE A NON-RIGIDLY MOUNTED SOCKET WITH FLEXIBLE LEADS. BOTTOM CIRCUMFERENCE OF BASE WAFFER WILL FALL WITHIN 1-3/4 INCH DIAMETER CIRCLE CONCENTRIC WITH THE BULB AXIS.