11BP4

CATHODE RAY TUBE

11 INCH, RECTANGULAR, GLASS
FOCUS -- ELECTROSTATIC
DEFLECTION -- MAGNETIC
110 DEGREE DEFLECTION ANGLE
FACEPLATE -- SPHERICAL GRAY
NON ION TRAP GUN
ALUMINIZED SCREEN
EXTERNAL CONDUCTIVE COATING

-------------------------------DESCRIPTION AND RATING-------------------------------

The 11BP4 is an 11-inch electrostatic focus and magnetic deflection glass lightweight picture tube. Outstanding features include a short overall length, a small neck diameter and a non ion trap gun designed for operation at an inter-
mEDIATE Grid no. 2 voltage for use in cathode drive circuits. 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.

ELECTRICAL DATA

Focusing Method ........ Electrostatic
Deflection Angle, Approximate
  Horizontal ............. 99 degrees
  Vertical ............... 82 degrees
  Diagonal ............... 110 degrees
Direct Interelectrode Capacitance
  Cathode to all other electrodes, approx. .... 0.5 uuf
  Grid #1 to all other electrodes, approx. .... 0.6 uuf
  External Conductive Coating to Anode ........ 700 max. uuf
                                                400 min. uuf
Heater Current at 6.3 volts ................... 450 + 23 ma.
Heater Warm-up time ......................... 11 sec.

OPTICAL DATA

Phosphor Number .................. P4 Aluminized
Light Transmittance at Center (Approximate) .. 80 Percent
MECHANICAL DATA

Overall Length .................................. 8-15/16 + 1/4 inches
Greatest Dimensions of Tube
  Diagonal ........................................ 10-7/8 + 1/8 inches
  Width .......................................... 9-3/4 - 1/8 inches
  Height ......................................... 8 + 1/8 inches
Minimum Useful Screen Dimensions (Projected)
  Diagonal ....................................... 10-1/4 inches
  Horizontal Axis ............................... 9 inches
  Vertical Axis ................................ 7-1/16 inches
  Area ........................................... 60 sq. inches
Neck Length .................................... 4-1/4 + 1/8 inches
Bulb Contact ................................... JEDEC No. J1-21
Base .............................................. JEDEC No. B7-208
Basing............................................ 8HR
Bulb Contact Alignment
  Anode Contact Aligns with Base Pin No. 4 + 30 degrees

RATINGS (Design Maximum System)

Unless otherwise specified, voltage values are positive and measured with respect to Grid No. 1.

Maximum Anode Voltage .......................... 15,000 volts
Minimum Anode Voltage .......................... 9,000 volts
Maximum Grid #4 (Focusing Electrode) Voltage ...... +500 to +1000 volts
Minimum Grid #2 Voltage ......................... 100 volts
Maximum Grid #2 Voltage ......................... 250 volts
Cathode Voltage
  Maximum Positive Value ....................... 140 volts DC
  Maximum Positive Peak Value ................ 200 volts
  Maximum Negative Value ...................... 0 volts DC
  Maximum Negative Peak Value ............... 2 volts
Maximum Heater Voltage ........................ 6.9 volts
Minimum Heater Voltage ......................... 5.7 volts
Maximum Heater-cathode Voltage
  Heater Negative with respect to Cathode
    During Warm-up period not to exceed 15 sec. .... 410 volts
    After equipment warm-up period ................ 200 volts
  Heater Positive with respect to Cathode ........ 200 volts

TYPICAL OPERATING CONDITIONS (Cathode-Drive Service)

Anode Voltage ................................. 11,000 volts DC
Grid #4 Voltage (Focusing Electrode, Notes 2&3) ... 200 volts DC
Grid #2 Voltage ................................ 150 volts DC
Cathode to Grid #1 Voltage for cut-off (Note 1) ... 31 to 49 volts
MAXIMUM CIRCUIT VALUES

Maximum Grid #1 Circuit Resistance .......................... 1.5 max. megohm
Grid #2 Circuit Resistance .................................... 0.1 min. megohm
Focusing Electrode Circuit Resistance ......................... 0.1 min. megohm

Protective resistance in Grid #2 and focusing electrical circuits is advisable to prevent damage to tube. If applicable, one resistor common to both circuits may be used.

NOTES:

1. Visual extinction of focused raster.

2. With the combined Grid #1 bias voltage and video-signal voltage adjusted to give an anode current of 150 ua on a 9" x 7-1/16" pattern from RCA 2F21 monoscope or equivalent.

3. Individual tubes will have satisfactory focus at some value between 0 and 400 volts.
1. The reference line is determined by the intersection of the plane C-C of gage (EIA No. 126) with the glass funnel.

2. Deflection angle on the diagonal is 110°.

3. Anode terminal aligns with pin no. 4 ±30 degrees.

4. Use a non-rigidly mounted socket with flexible leads. Bottom circumference of base wafer will fall within 1-3/4 inch diameter circle concentric with the bulb axis.