CATHODE RAY TUBE

19 INCH, RECTANGULAR, GLASS

FACE PLATE — SPHERICAL GRAY

FOCUS — ELECTROSTATIC

NON ION TRAP GUN

DEFLECTION — MAGNETIC

ALUMINIZED SCREEN

11¼ DEGREE DEFLECTION ANGLE

EXTERNAL CONDUCTIVE COATING

The 19ZPu is a 19 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.

ELECTRICAL DATA

Focusing Method

Electrostatic

Deflection Angle, Approximate

Horizontal

102 degrees

Vertical

87 degrees

Diagonal

11¼ degrees

Direct Interelectrode Capacitance

Cathode to all other electrodes, approximate

5 uuf

Grid #1 to all other electrodes, approximate

6 uuf

External Conductor Coating to Anode

1500 max. uuf

1000 min. uuf

Heater Current at 6.3 volts

600 ± 10% ma.

Heater Warm Up Time

11 sec.

OPTICAL DATA

Phosphor Number

P1 Aluminized

Light Transmittance at Center Approx.

76 Percent
MECHANICAL DATA

Overall Length 11 1/2 ± 5/16 inches
Greatest Dimensions of Tube
  Diagonal 18 5/8 ± 1/8 inches
  Width 16 13/32 ± 1/8 inches
  Height 13 11/32 ± 1/8 inches
Minimum Useful Screen Dimensions (Projected)
  Diagonal 17 9/16 inches
  Horizontal Axis 15 1/8 inches
  Vertical Axis 12 inches
  Area 172 sq inches
Neck Length \( \frac{1}{4} \) 1/4 ± 3/16 inches
Bulb J12-11
Bulb Contact JETEC No. J1-21
Base JETEC No. B6-226
Basing 8JS
Bulb Contact Alignment
  Anode Contact Aligns with Rev. No. 4 ± 30 degrees

RATINGS (Design Maximum System)

Unless otherwise specified, voltage values are positive and measured with respect to cathode.

Maximum Anode Voltage 20,000 volts
Minimum Anode Voltage 15,000 volts
Maximum Grid 4 (Focusing Electrode) Voltage -500 to +1000 volts
Minimum Grid 2 Voltage 400 volts
Maximum Grid 2 Voltage 700 volts
Grid 1 Voltage
  Maximum Negative Value 140 volts DC
  Maximum Negative Peak Value 200 volts
  Maximum Positive Value 0 volts DC
  Maximum Positive 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 180 volts
  Heater positive with respect to cathode 180 volts

TYPICAL OPERATING CONDITIONS

Anode Voltage 16,500 volts DC
Grid #4 Voltage (Focusing Electrode(Notes 2 & 3)) 250 volts DC
Grid #2 Voltage 150 volts DC
Grid #1 Voltage (Note 1) -28 to -72 volts DC
MAXIMUM CIRCUIT VALUES

Maximum Grid #1 Circuit Resistance 1.5 max. megohm
Grid No. 2 Circuit Resistance 0.1 min. megohm
Focusing Electrode Circuit Resistance 0.1 min. megohm

Protective resistance in Grid No. 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 microamperes on a 15 1/8 x 11 15/16" pattern from RCA 2F21 monoscope or equivalent.

3. Individual tubes will have satisfactory focus at some value between 0 and 500 volts.

4/11/60
DIAGRAM NOTES

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 114°.

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.

CATHODE RAY TUBE DEPARTMENT
GENERAL ELECTRIC COMPANY
SYRACUSE, NEW YORK