TELEVISION PICTURE TUBE TYPE 19ALP4

114° Magnetic Deflection
Rectangular Glass
Aluminized Screen
Gray Filter Glass

6.3 Volt, 300 Ma. Heater
Electrostatic Focus
Short Neck Length

External Conductive Coating
Spherical Faceplate
No Ion Trap
12" x 15-1/8" Screen Size

ELECTRICAL:
Focusing Method .................................. Low Voltage Electrostatic
Deflection Method .................................. Magnetic
Deflection Angles (Approx.):
  Horizontal .................................. 103 Degrees
  Vertical .................................. 86 Degrees
  Diagonal .................................. 114 Degrees
Direct Interelectrode Capacitances:
  Cathode to all other electrodes, (Approx.) .... 5 µf
  Grid 1 to all other electrodes, (Approx.) .... 6 µf
  External Conductive Coating to Anode:
    Maximum .................................. 1500 µf
    Minimum .................................. 1000 µf
Heater Current at 6.3 volts .................. 300 ± 5% Ma.
Heater Warm-up Time* ......................... 18 Seconds

OPTICAL:
Phosphor Number .................................. Aluminized P4
Light Transmittance at Center, Approximate .... 78 Percent

MECHANICAL:
Overall Length .................................. 11-3/8 ± 1/4 Inches
Greatest Dimensions of Tube:
  Diagonal .................................. 18-5/8 ± 1/8 Inches
  Width .................................. 16-13/32 ± 1/8 Inches
  Height .................................. 12-11/32 ± 1/8 Inches
Minimum Useful Screen Dimensions (Projected):
  Diagonal .................................. 17-9/16 Inches
  Horizontal .................................. 15-1/8 Inches
  Vertical .................................. 12 Inches
  Area .................................. 172 Sq. Inches
Neck Length .................................. 4-1/8 ± 1/8 Inches
Bulb .................................. J149
Bulb Contact .................................. J1-21
Base .................................. B7-208
Basing .................................. 8HR
Weight .................................. 13-1/2 Lbs.

RATINGS:
Design Maximum System
  Unless Otherwise Specified, Voltage Values are Positive
  with Respect to Grid 1.
  Maximum Anode Voltage .................. 22000 Volts
  Minimum Anode Voltage .................. 12000 Volts
  Maximum Grid 4 Voltage (Focusing)
    Electrode .................................. +1100, -550 Volts
  Maximum Grid 2 Voltage .................. 700 Volts
  Cathode Voltage:
    Maximum Negative Value .............. 0 Volts DC
    Maximum Positive Value .............. 154 Volts DC
    Maximum Positive Peak Value ........ 220 Volts
  Maximum Heater-Cathode Voltage
    Heater negative with respect to cathode
      During warm-up period not to exceed
        45 seconds .................................. 450 Volts
      After equipment warm-up period .......... 200 Volts
    Heater positive with respect to cathode ...... 200 Volts

TYPICAL OPERATING CONDITIONS:

CATHODE DRIVE SERVICE:
  Unless Otherwise Specified, All Voltage Values
  are Positive with Respect to Grid 1.
  Anode Voltage .......................... 14000 Volts DC
  Grid 4 Voltage (Focusing Electrode) .... 0 to 400 Volts DC
  Grid 2 Voltage .......................... 500 Volts DC
  Cathode Voltage for raster cutoff .......... 45 to 95 Volts DC

LIMITING CIRCUIT VALUES:
  Maximum Grid 1 Circuit Resistance ........ 1.5 Megohms
  Minimum Grids 2 & 4 Circuit Resistance† .... 10000 Ohms

* Heater warm-up time is defined as the time required for the
  voltage across the heater to reach 80% of its rated value after
  applying 4 times rated heater voltage to a circuit consisting of
  the tube heater in series with a resistance equal to 3 times rated
  heater voltage divided by rated heater current.

† Brilliance and definition decrease with decreasing anode voltage.
  Operation with anode voltage less than 12000 volts in not rec-
  ommended.

X-RAY WARNING: Operation with voltages in excess of 16KV may
  require shielding to limit radiation of very soft x-rays.
NOTE 1: Yoke Reference Line is determined by plane surface of flared end of JEDEC Reference-Line Gauge No. 126 when seated on funnel of tube. With a minimum neck length tube, the PM centering magnet (0 to 8 Gauss) should extend no more than 2-1/8" from Yoke Reference Line.

NOTE 2: Lateral strains on the base pins must be avoided. The socket should have flexible leads permitting free movement. The perimeter of the base wafer will be inside a 1-3/4" diameter circle concentric with tube axis.

NOTE 3: External conductive coating forms supplementary filter capacitor and must be grounded.

NOTE 4: Neck diameter may be a maximum of 1.168" at the splice.

NOTE 5: Anode terminal alignment with pin 4 has angular tolerance about tube axis of ± 30°.