The 19DHP4 is a 19"-114° banded tube with a 4 3/8" neck length. This tube has a 600 milliampere, 6.3 volt filament, a straight gun which requires no ion trap, and 50 volt G2 for cathode drive design.

**ELECTRICAL DATA**

Focusing Method
Electrostatic

Deflection Angles, Approximate
- Horizontal: 102 Degrees
- Vertical: 86 Degrees
- Diagonal: 114 Degrees

Direct Interelectrode Capacitances
- Cathode to all other electrodes, approximate: 5 uuf
- Grid #1 to all other electrodes, approximate: 6 uuf
- External Conductive Coating to Anode: 1500 Max. uuf; 1000 Min. uuf

Heater Current at 6.3 Volts
- 600 ± 30 Ma

Heater Warm-up Time
- 11 Seconds

**OPTICAL DATA**

Phosphor Number JEDEC Designation
- P4 Aluminized

Light Transmittance at Center, Approximate
- 49 Percent

**MECHANICAL DATA**

Overall Length
- 11 5/8 +1/4 Inches

Greatest Diameter of Tube

Greatest Dimensions of Tube
- Diagonal: 18 7/8 Max. Inches
- Width: 16 11/16 Max. Inches
- Height: 13 39/64 Max. Inches

Minimum Useful Screen Diameter (Projected)

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: 4 3/8 +1/8 Inches

Bulb EIA Designation or equivalent (including shield designation)
- J-149-F1

Bulb Contact
- JEDEC Designation: J1-21

Base
- JEDEC Designation: B7-208

Basing
- JEDEC Designation: 8HR

Bulb Contact Alignment
- J1-21 contact aligns with pin position #4 ± 30 Degrees

from JEDEC release #4255, Amy 13, 1963
RATINGS (Design Maximum System)

Unless otherwise specified, voltage values are positive and measured with respect to Grid #1

Maximum Anode Voltage  20,000 Volts
Minimum Anode Voltage   10,000 Volts

Maximum Grid #4 (Focusing Electrode) Voltage  +1100 -500 Volts
Maximum Grid #2 Voltage  60 Volts
Minimum Grid #2 Voltage  25 Volts
Cathode Voltage
  Maximum Negative Value   0 Volts DC
  Maximum Negative Peak Value  2 Volts
  Maximum Positive Value    100 Volts DC
  Maximum Positive Peak Value 150 Volts
Maximum Heater Voltage    6.9 Volts
Minimum Heater Voltage     5.8 Volts
Maximum Heater-Cathode Voltage
  Heater negative with respect to cathode
  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

CATHODE DRIVE SERVICE

Unless otherwise specified, all voltage values are positive with respect to Grid #1.

Anode Voltage  16,000 Volts DC
Grid #4 Voltage (Focusing Electrode) (Notes 2 & 3)  250 Volts DC
(Notes 2 & 3)
Grid #2 Voltage  50 Volts DC
Cathode Voltage (Note 1)  35 to 55 Volts DC

MAXIMUM CIRCUIT VALUES

Maximum Grid #1 Circuit Resistance  1.5 Megohms

GRAPHS AND DRAWINGS

Tube Outline with essential dimensions and tolerances.

Pin Connections:

Pin 1 - Heater  Pin 6 - Grid No. 1
Pin 2 - Grid No. 1  Pin 7 - Cathode
Pin 3 - Grid No. 2  Pin 8 - Heater
Pin 4 - Grid No. 4

Page 2
11.2 R
12.591
12.841
35° 21' 38"
1.5315 ± .0625
15.815
16.065
MIN. USEFUL SCREEN 15.125
42.9375 R.
13.607 MAX. NOTE 6
85°
3.5 DIA. MAX.
11.5 5/8 - 4
7 1/4 + 1/8
4 3/4 - 4
4 3/4 - 4

TENSION BAND

RIM BAND

16.691 MAX.
NOTE 6

102°

1.125 + .031 - .025 DIA.

B7-208 BASE NOTE 3
EXTERNAL CONDUCTIVE COATING
NOTE 4

REF. LINE
NOTE 2

ANODE TERMINAL
JI-21

MIN. USEFUL SCREEN 175835

2" MAX. DIA. HOLE
CUT IN CLOTH FOR
ANODE TERMINAL

SOCKET CONNECTIONS

PIN 1: HEATER
PIN 2: GRID NO. 1
PIN 3: GRID NO. 2
PIN 4: GRID NO. 4
PIN 6: GRID NO. 1
PIN 7: CATHODE
PIN 8: HEATER
CAP: ULTOR (GRID NO.3, GRID NO.5,
COLLECTOR)
C: EXTERNAL CONDUCTIVE COATING

DRAWN BY
A.L. PRIBYL

SCALE
3-23-63

EFFECTIVE

DISTRIBUTION

DRAWING NO.
19DHP4
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 100 microamperes on a 15 1/8" X 12" pattern from RCA 2F21 Monoscope or equivalent.

3. Individual tubes will have satisfactory focus at some value between 0 and +400 volts.

NOTES FOR DIMENSIONAL OUTLINE:

1. With tube neck inserted through flared end of reference-line gauge JEDEC No. G-126 and with tube seated in gauge, the reference-line is determined by the intersection of the Plane CC' of the gauge with the glass funnel.

2. The plane through the tube axis and Pin No. 4 may vary from the plane through the tube axis and ultor terminal by angular tolerance (measured about the tube axis) of +30°. Ultor terminal is on the same side as Pin No. 4.

3. Socket for this base should not be rigidly mounted; it should have flexible leads and be allowed to move freely. The design of the socket should be such that the circuit wiring cannot impress lateral strains through the socket contacts on the base pins. Bottom circumference of base wafer will fall within a circle concentric with bulb axis and having a diameter of 1 3/4".

4. External conductive coating must be grounded.

5. To clean this area, wipe only with soft dry lint-less cloth.

6. Measured to include rim band and tension strap.