CATHODE RAY

THE 16UP4 IS A DIRECT-VIEW PICTURE TUBE DESIGNED FOR USE IN TELEVISION APPLICATIONS. ITS FEATURES INCLUDE:

- UNIPOTENTIAL CATHODE
- MAGNETIC FOCUS & DEFLECTION
- EXTERNAL SINGLE FIELD ION TRAP
- GREY FILTER FACEPLATE
- 10 1/8" X 13 1/2" MASTER SIZE
- RECTANGULAR GLASS CONSTRUCTION

ELECTRICAL DATA

FOCUSING METHOD: MAGNETIC
DEFLECTING METHOD: MAGNETIC
DEFLECTION ANGLE (APPROX.):
- HORIZONTAL: 65 DEGREES
- VERTICAL: 50 DEGREES
- DIAGONAL: 70 DEGREES

OPTICAL DATA

- PHOSPHOR NUMBER: NO. 4
- FLUORESCENT COLOR: WHITE
- PHOSPHORESCENT COLOR: WHITE
- PERSISTENCE: MEDIUM
- FACEPLATE LIGHT TRANSMISSION AT CENTER (APPROX.): 70 PERCENT

MECHANICAL DATA

- OVERALL LENGTH: 18 1/8 ± 1/2 INCHES
- GREATEST DIMENSIONS OF BULB:
  - DIAGONAL: 16 1/8 INCHES
  - WIDTH: 14 3/4 INCHES
  - HEIGHT: 11 1/2 INCHES
- MINIMUM USEFUL SCREEN DIMENSIONS:
  - DIAGONAL: 15 INCHES
  - WIDTH: 13 19/32 INCHES
  - HEIGHT: 10 3/16 INCHES
- BULB CONTACT: RECESSED SMALL CAVITY CAP
- BASE: SMALL SHELL DUODECAL 5 PIN
- BASING: 85-57
- BULB CONTACT ALIGNMENT: J4-21 CONTACT ALIGNS WITH PIN POSITION #3 ± 10 DEGREES

PIN CONNECTIONS

- PIN 1 - HEATER
- PIN 2 - GRID NO. 1
- PIN 10 - GRID NO. 2
- PIN 11 - CATHODE
- PIN 12 - HEATER
- ANODE CAP

CONTINUED ON FOLLOWING PAGE
RATINGS
DESIGN CENTER VALUES

HEATER VOLTAGE
HEATER CURRENT
MAXIMUM DC ANODE VOLTAGE
MAXIMUM DC GRID #2 VOLTAGE
MAXIMUM GRID #1 VOLTAGE:
DC NEGATIVE-BIAS VALUE
DC POSITIVE-BIAS VALUE
POSITIVE-PEAK VALUE
MAXIMUM DC PEAK HEATER-CATHODE VOLTAGE:
HEATER NEGATIVE WITH RESPECT TO CATHODE
DURING WARM-UP PERIOD NOT TO EXCEED 15 SECONDS
AFTER EQUIPMENT WARM-UP PERIOD
HEATER POSITIVE WITH RESPECT TO CATHODE

6.3 VOLTS
0.6 AMP.
15000 VOLTS
410 VOLTS
125 VOLTS
0 VOLTS
2 VOLTS
410 VOLTS
125 VOLTS
125 VOLTS

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

DC ANODE VOLTAGE
DC GRID #2 VOLTAGE
DC GRID #1 VOLTAGE^A
DC FOCUSING COIL CURRENT (APPROX.)^B
ION TRAP MAGNET (RATED STRENGTH)

12000 VOLTS
300 VOLTS
-27 TO -63 VOLTS
100 MA.
23 GAUSSES

^A VISUAL EXTINCTION OF UNDEFOCUSED FOCUSED SPOT.

^B FOR STANDARD FOCUS COIL #109, OR EQUIVALENT, WITH THE COMBINED GRID #1 BIAS VOLTAGE AND VIDEO SIGNAL VOLTAGE ADJUSTED TO PRODUCE A HIGHLIGHT BRIGHTNESS OF 20 FOOT LAMBERTS ON A 16 1/8" BY 13 1/2" PICTURE SIZE. DISTANCE FROM REFERENCE LINE TO CENTER OF AIR GAP ON FOCUS COIL SHALL BE 3 INCHES.

CIRCUIT VALUES

MAXIMUM GRID #1 CIRCUIT RESISTANCE

1.5 MEGOHMS