CATHODE RAY

THE 24XP4 IS A DIRECT-VIEW PICTURE TUBE DESIGNED FOR USE IN TELEVISION APPLICATIONS. ITS FEATURES INCLUDE:

UNIPOTENTIAL CATHODE
RECTANGULAR GLASS
16 3/8" X 21 1/8" RASTER SIZE

GREY FILTER FACEPLATE
EXTERNAL SINGLE FIELD ION TRAP
MAGNETIC FOCUS & DEFLECTION

ELECTRICAL DATA

FOCUSING METHOD: MAGNETIC
DELECTING METHOD: MAGNETIC
DEFLECTION ANGLE (APPROX.):
  HORIZONTAL 85 DEGREES
  VERTICAL 68 DEGREES
  DIAGONAL 90 DEGREES

DIRECT INTERELECTRODE CAPACITANCES (APPROX.):
  CATHODE TO ALL OTHER ELECTRODES 5 μF
  GRID #1 TO ALL OTHER ELECTRODES 6 μF

OPTICAL DATA

PHOSPHOR NUMBER: NO. 4
FLUORESCENT COLOR: WHITE
PHOSPHORESCENT COLOR: WHITE
PERSISTENCE: MEDIUM
FACEPLATE LIGHT TRANSMISSION AT CENTER (APPROX.): 68 PERCENT

MECHANICAL DATA

OVERALL LENGTH: 21 1/8 ± 3/8 INCHES
GREATEST DIMENSIONS OF BULB:
  DIAGONAL 24 ± 3/16 INCHES
  WIDTH 22 11/16 ± 3/16 INCHES
  HEIGHT 18 7/16 ± 3/16 INCHES
MINIMUM USEFUL SCREEN DIMENSIONS:
  WIDTH 21 1/4 INCHES
  HEIGHT 16 3/4 INCHES
BULB CONTACT: RECESSED SMALL CAVITY CAP J1-21
BASE: SMALL SHELL DUODECAL 5 PIN 85-57 12D

PIN CONNECTIONS

PIN 1 - HEATER
PIN 2 - GRID NO. 4
PIN 10 - GRID NO. 2
PIN 11 - CATHODE
PIN 12 - HEATER ANODE CAP

CONTINUED ON FOLLOWING PAGE
**RATINGS**

**DESIGN CENTER VALUES**

- **HEATER VOLTAGE**: 6.3 VOLTS
- **HEATER CURRENT**: 0.6 AMP.
- **MAXIMUM DC GRID #2 VOLTAGE**: 500 VOLTS
- **MAXIMUM GRID #1 VOLTAGE:**
  - DC NEGATIVE-BIAS VALUE: 125 VOLTS
  - DC POSITIVE-BIAS VALUE: 0 VOLTS
  - POSITIVE-PEAK VALUE: 2 VOLTS
- **MAXIMUM DC PEAK HEATER-CATHODE VOLTAGE:**
  - HEATER NEGATIVE WITH RESPECT TO CATHODE DURING WARM-UP PERIOD NOT TO EXCEED 15 SECONDS: 410 VOLTS
  - AFTER EQUIPMENT WARM-UP PERIOD: 180 VOLTS
  - HEATER POSITIVE WITH RESPECT TO CATHODE: 180 VOLTS

**TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS**

- **DC ANODE VOLTAGE**: 18,000 VOLTS
- **DC GRID #2 VOLTAGE**: 300 VOLTS
- **DC GRID #1 VOLTAGE**: -28 TO -72 VOLTS
- **DC FOCUSING COIL CURRENT (APPROX.)**: 125 ± 20% MA.
- **DC ION TRAP CURRENT STANDARD COIL #117 (APPROX.)**: 35 ± 40% MA.

**A** VISUAL EXTINCTION OF UNDEDUCTED 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 24 1/4" BY 16 3/4" PICTURE SIZE. DISTANCE FROM REFERENCE LINE TO CENTER OF AIR GAP ON FOCUS COIL SHALL BE 3.0 INCHES.

**CIRCUIT VALUES**

- **MAXIMUM GRID #1 CIRCUIT RESISTANCE**: 1.5 MEGOHMS