CATHODE RAY

THE 16KP4 AND 16KP4A ARE DIRECT-VIEW PICTURE TUBES DESIGNED FOR USE IN TELEVISION APPLICATIONS. THEY ARE IDENTICAL EXCEPT FOR THE ALUMINIZED SCREEN ON THE 16KP4A.

UNIPOTENTIAL CATHODE
MAGNETIC FOCUS & DEFLECTION
EXTERNAL SINGLE FIELD ION TRAP

GREY FILTER FACEPLATE
EXTERNAL CONDUCTIVE COATING
RECTANGULAR GLASS CONSTRUCTION

13 1/2" X 10 1/8" RASTER SIZE

ELECTRICAL DATA

FOCUSING METHOD: MAGNETIC
DEFLECTING METHOD: MAGNETIC
DEFLECTION ANGLE (APPROX.):
   HORIZONTAL: 66 DEGREES
   DIAGONAL: 70 DEGREES

DIRECT INTERELECTRODE CAPACITANCES (APPROX.):
   CATHODE TO ALL OTHER ELECTRODES: 5 μμf
   GRID #1 TO ALL OTHER ELECTRODES: 6 μμf
   MAXIMUM EXTERNAL CONDUCTIVE COATING TO ANODE: 1500 μμf
   MINIMUM EXTERNAL CONDUCTIVE COATING TO ANODE: 750 μμf

OPTICAL DATA

PHOSPHOR NUMBER: SULFIDE TYPE NO. 4
FLUORESCENT COLOR: WHITE
PHOSPHORESCENT COLOR: WHITE
PERSISTENCE: SHORT
FACEPLATE LIGHT TRANSMISSION AT CENTER (APPROX.): 72 PERCENT

MECHANICAL DATA

OVERALL LENGTH: 18 3/4 ± 3/8 INCHES
GREATEST DIMENSIONS OF BULB:
   DIAGONAL: 16 1/8 ± 1/8 INCHES
   WIDTH: 14 3/4 ± 1/8 INCHES
   HEIGHT: 11 1/2 ± 1/8 INCHES
MINIMUM USEFUL SCREEN DIMENSIONS:
   DIAGONAL: 14 7/8 INCHES
   WIDTH: 13 1/2 INCHES
   HEIGHT: 10 1/8 INCHES
BULB CONTACT: RECESSED SMALL CAVITY CAP J1-21
BASE: SMALL SHELL DUODECAL 5 PIN 8S-57
BASING: 42N
BULB CONTACT ALIGNMENT:
   J1-21 CONTACT ALIGNS WITH PIN POSITION #6 ± 30 DEGREES

PIN CONNECTIONS

PIN 1 - HEATER
PIN 2 - GRID NO. 1
PIN 4O - GRID NO. 2
PIN 11 - CATHODE

PIN 12 - HEATER.
ANODE CAP:
   GRID NO. 3

BOTTOM VIEW

CONTINUED ON FOLLOWING PAGE
RATINGS
DESIGN CENTER VALUES

HEATER VOLTAGE 6.3 VOLTS
HEATER CURRENT 0.6 AMP.
MAXIMUM DC ANODE, GRID #3 VOLTAGE A 16 000 VOLTS
MAXIMUM DC GRID #2 VOLTAGE 410 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 B
HEATER NEGATIVE WITH RESPECT TO CATHODE
DURING WARM-UP PERIOD NOT TO EXCEED 15 SECONDS 410 VOLTS
AFTER EQUIPMENT WARM-UP PERIOD 150 VOLTS
HEATER POSITIVE WITH RESPECT TO CATHODE 150 VOLTS

A IF THIS TUBE IS OPERATED AT VOLTAGES IN EXCESS OF 16,000 VOLTS, X-RAY RADIATION SHIELDING MAY BE NECESSARY TO AVOID POSSIBLE DANGER OF INJURY FROM PROLONGED EXPOSURE AT CLOSE RANGE.

B CATHODE SHOULD BE RETURNED TO ONE SIDE OR TO THE MID-TAP OF THE HEATER TRANSFORMER WINDING.

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

DC ANODE, GRID #3 VOLTAGE 12 000 VOLTS
DC GRID #2 VOLTAGE 300 VOLTS
DC GRID #1 VOLTAGE C -53 TO -77 VOLTS
DC FOCUSING COIL CURRENT D (APPROX.) 90 ± 20% MA.
DC ION TRAP CURRENT STANDARD COIL #111 (APPROX.) 75 ± 50% MA.

C VISUAL EXTINCTION OF UNDEFOCUSED SPOT.

D 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 35 FOOT LAMBERTS ON A 10 1/8" BY 13 1/2" PICTURE SIZE. DISTANCE FROM REFERENCE LINE TO CENTER OF AIR GAP OR FOCUS COIL SHALL BE 3.0 INCHES.

CIRCUIT VALUES

MAXIMUM GRID #1 CIRCUIT RESISTANCE 1.5 MEGOHMS