CATHODE RAY

THE 27GP4 IS A DIRECT-VIEW PICTURE TUBE DESIGNED FOR USE IN TELEVISION APPLICATIONS. ITS FEATURES INCLUDE:

GREY FILTER FACEPLATE  SPHERICAL FACEPLATE
MAGNETIC FOCUS & DEFLECTION  UNIPOTENTIAL CATHODE
RECTANGULAR GLASS CONSTRUCTION  EXTERNAL SINGLE FIELD ION TRAP
18 1/8" X 24 1/4" RASTER SIZE

ELECTRICAL DATA

FOCUSING METHOD  MAGNETIC
DEFLECTING METHOD  MAGNETIC
DEFLECTION ANGLE (APPROX.) DIAGONAL  90 DEGREES
DIRECT INTERELECTRODE CAPACITANCES (APPROX.):
  CATHODE TO ALL OTHER ELECTRODES  5 µµf
  GRID #6 TO ALL OTHER ELECTRODES  6 µµf

OPTICAL DATA

PHOSPHOR NUMBER  NO. 4
FLUORESCENT COLOR  WHITE
PHOSPHORESCENT COLOR  WHITE
PERSISTENCE  MEDIUM
FACEPLATE LIGHT TRANSMISSION AT CENTER (APPROX.)  66 PERCENT

MECHANICAL DATA

OVERALL LENGTH  23 1/16 ± 3/8 INCHES
GREATEST DIMENSIONS OF BULB:
  DIAGONAL  26 13/16 INCHES
  WIDTH  25 9/32 INCHES
  HEIGHT  20 7/32 INCHES
MINIMUM USEFUL SCREEN DIMENSIONS:
  WIDTH  24 1/4 INCHES
  HEIGHT  18 1/8 INCHES
BULB CONTACT  RECESSED SMALL CAVITY CAP
  BASE  SMALL SHELL DUODECAL 5 PIN
  BASING  85-57
  BULB CONTACT ALIGNMENT J1-21 CONTACT ALIGNS WITH PIN POSITION #6 ± 30 DEGREES

PIN CONNECTIONS

PIN 1 - HEATER
PIN 2 - GRID NO. 1
PIN 10 - 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 22 500 VOLTS
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

*A 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 16 000 VOLTS
DC GRID #2 VOLTAGE 300 VOLTS
DC GRID #1 VOLTAGE -33 TO -77 VOLTS
DC FOCUSING COIL CURRENT (APPROX.) 95 ± 20% MA.
DC ION TRAP CURRENT STANDARD COIL #111 (APPROX.) 100 MA.

B IF THIS TUBE IS OPERATED AT VOLTAGES IN EXCESS OF 16,000 VOLTS, X-RAY RADIATION SHIELDING MAY BE NECESSARY TO PROTECT AGAINST POSSIBLE INJURY FROM PROLONGED EXPOSURE AT CLOSE RANGE. SUCH PROTECTION MAY BE PROVIDED BY THE PROTECTIVE FACE VIEWING WINDOW OF APPARATUS USING TUBES OF THIS TYPE.

C VISUAL EXTINCTION OF UNDEFELECTED FOCUSED 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 20 FOOT LAMBERTS ON A 24 1/4" BY 18 1/8" 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