



COLOR PICTURE TUBE

A56-160X

TENTATIVE DATA

The Hitachi A56-160X is a 560 mm (22 inch), 110° ultra-rectangular color picture tube. The wider deflection angle results in a tube 84 mm shorter than 90° type. The smaller neck diameter minimizes the increase in power required for the wider deflection angle. Useful minimum screen height is 336.7 mm (13.26 inch), and useful minimum screen width is 445.4 mm (17.54 inch).

FEATURES

- Wide angle deflection — 110°
- Shorter overall length — 388.7 mm (15.30 inch)
- Narrow neck diameter — 29.1 mm (1.146 inch)
- Internal magnetic shield
- Ultra-rectangular — 4 x 3 aspect ratio
- For PST (Precision Static Toroid) deflection yoke
- Banded type implosion protection for "Push through" cabinet design

ELECTRICAL DATA

Electron guns, three with axes
 Tilted toward tube axis Red, blue, green
 Heater current at 6.3 volts 750 mA
 Focusing method Electrostatic
 Focus lens Bi-potential
 Deflection method Magnetic
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 Deflection angles (approx.):
 Diagonal 110 deg.
 Direct interelectrode capacitances (approx.)
 Grid-No. 1 of any gun to all other electrodes 5 pF
 All cathodes to all other electrodes 15 pF
 Grid-No. 3 to all other electrodes 4 pF
 External conductive coating to anode 2200 pF max.
 (Including implosion protection hardware) 1000 pF min.

OPTICAL DATA

Light transmission at center (approx.) 52.0 %
 Screen, on inner surface of faceplate Aluminized,
 Tricolor, phosphor-dot
 Phosphor (three separate phosphors,
 collectively) P22-new rare-earth (red),
 sulfide (blue & green) type
 Dot arrangement Triangular group consisting of
 red dot, blue dot and green dot
 Spacing between centers of adjacent
 dot trios (approx.) 0.69 mm (0.027 in.)

MECHANICAL DATA

Minimum useful screen area 1459 cm² (226 sq. in.)

Funnel EIAJ No. J560C1
 Panel EIAJ No. J560H1
 Gun Position Alignment Blue gun aligns approx.
 with anode contact
 Implosion protection "Push through" banded type
 Weight (approx.) 15.0 kg (33.1 lbs.)

MAGNETIC SHIELDING, DEGAUSSING

The tube is provided with an internal magnetic shield. The internal magnetic shield and the shadow-mask with its suspension system may be provided with an automatic degaussing system, consisting of two coils covering top and bottom cone parts. For proper degaussing an initial m.m.f. of 450 ampere-turns is required in each of the coils. This m.m.f. has to be gradually decreased by appropriate circuitry. To prevent beam landing disturbances by line-frequency currents induced in the degaussing coils, these coils should be shunted by a capacitor of sufficiently high value. In the steady state no significant m.m.f. should remain in the coils (<0.5 A.t.). To ease the mounting of the coils, the rimband is provided with rectangular holes.

MAXIMUM AND MINIMUM RATINGS

(Design-maximum values)

Unless otherwise specified, voltage values are for each gun and values are positive with respect to cathode.
 Anode voltage 27,500 volts max.
 20,000 volts min.
 Total anode current, long-term average 1,000 μA max.
 Grid No. 3 (focusing electrode) voltage 6,000 volts max.
 Peak grid-No. 2 voltage,
 including video signal voltage 1,000 volts max.
 Grid-No. 1 voltage:
 Negative bias value 400 volts max.
 Negative operating cutoff value 200 volts max.
 Positive bias value 0 volts max.
 Positive peak value 2 volts max.
 Heater voltage (AC or DC) 6.9 volts max.
 5.7 volts min.
 Under standby conditions 5.5 volts max.
 Peak heater-cathode voltage:
 Heater negative with respect to cathode:
 During equipment warm-up period
 not exceeding 15 seconds 450 volts max.
 After equipment warm-up period 200 volts max.
 Heater positive with respect to cathode:
 AC component 200 volts max.
 DC component 0 volt max.

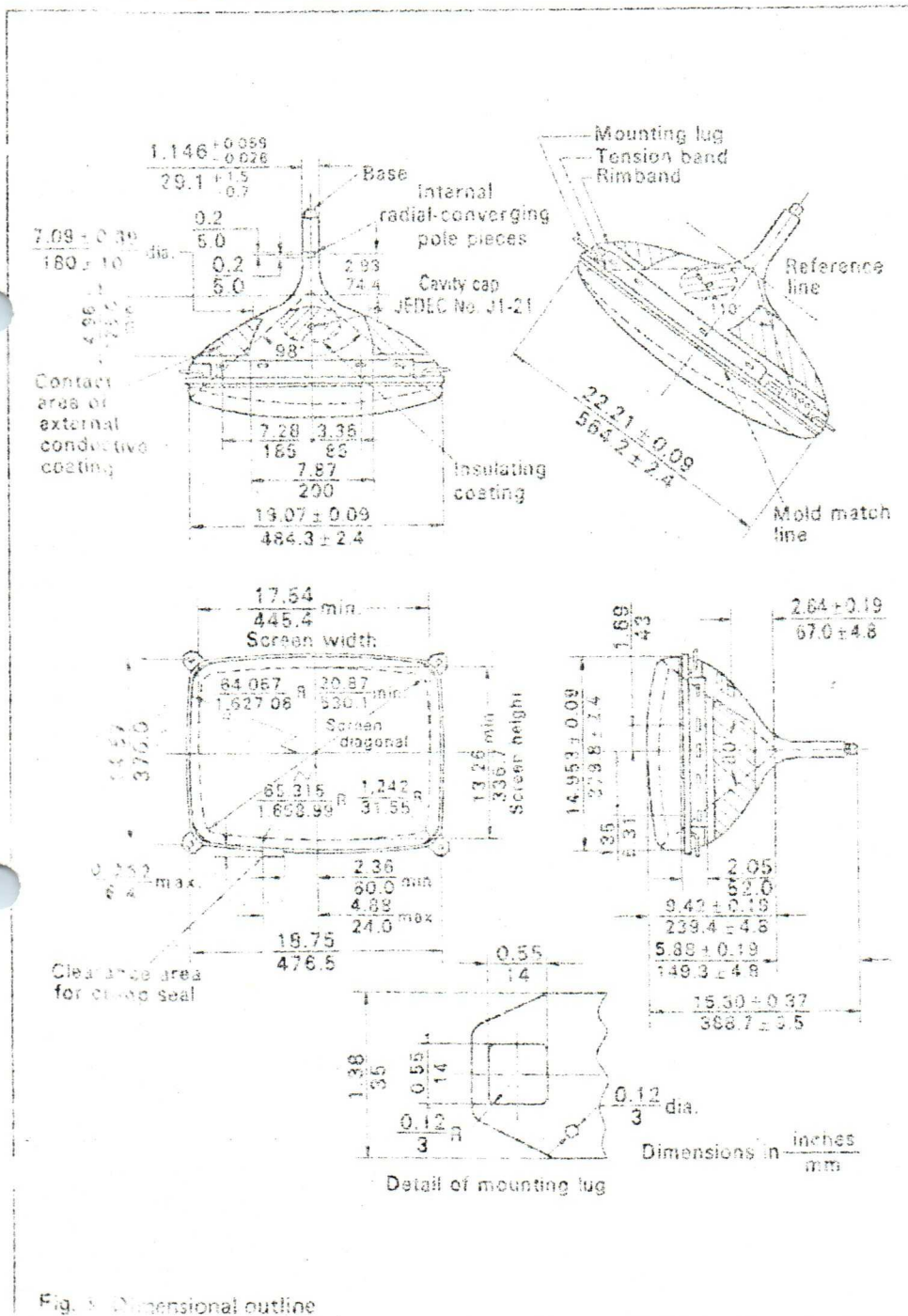
EXAMPLES OF USE OF DESIGN RANGES

Unless otherwise specified, voltage values are for each gun and are positive with respect to cathode.

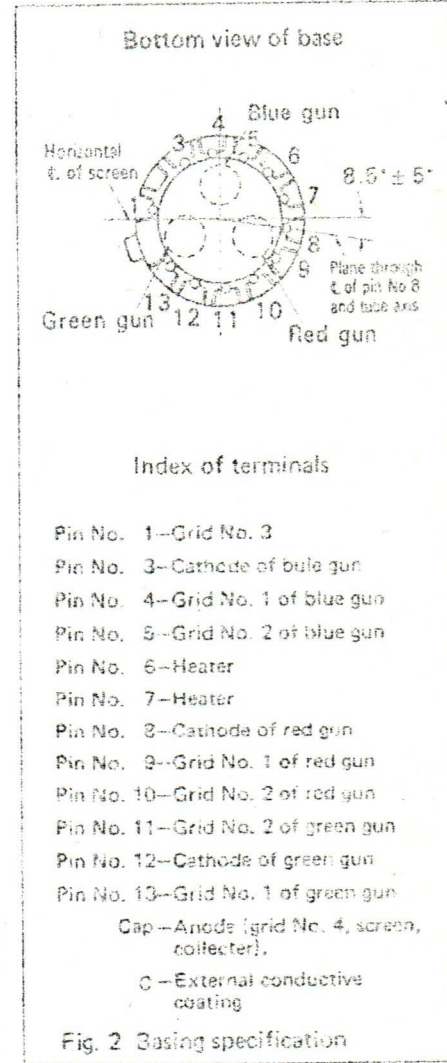
- Anode voltage 25,000 volts
- Grid-No. 1 (focusing electrode) voltage . . . 4,200 to 5,000 volts
- Grid-No. 2 voltage when circuit design utilizes grid-No. 1 voltage of -150 volts

- for visual extinction of focused spot 285 to 685 volts
- Grid-No. 1 voltage for visual extinction of focused spot when circuit design utilizes grid-No. 2 voltage of 400 volts . . -95 to -190 volts
- Heater voltage:
 - Under operating condition 6.3 volts
 - Under standby condition 5.0 volts

DIMENSIONAL OUTLINE



BASING SPECIFICATION



ANNEX
ML-TE
CRT74/11-12
CRT75/01

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