



Upgrade Your CRT Displays with EFI-650 LCDs

L3's EFI-650 Electronic Flight Instrument System (EFIS) display upgrade provides a plug-and-play replacement for the Cathode Ray Tube (CRT) displays installed on a large number of business and regional aircraft. The EFI-650 uses the latest-generation Active Matrix Liquid Crystal Display (AMLCD) technology and solid-state LED backlighting to eliminate the maintenance cost and obsolescence concerns associated with aging CRTs. The EFI-650 displays provide higher reliability, reduced weight and lower life-cycle cost.

FEATURING

THOMAS ADA 2.0
ADAPTIVE DISPLAY
ARCHITECTURE™

Thomas
Global Systems

KEY FEATURES & BENEFITS

- Form/Fit/Function Replacement — requires no aircraft modifications
- Fully interchangeable with legacy displays
- Eliminates Cathode Ray Tube (CRT) and high-voltage power supply for improved reliability
- Reduces life-cycle costs
- Reduces display weight by 50%
- Provides growth provision to accommodate future display functionality such as:
 - ADS-B
 - Graphical Weather
 - SBAS approach
 - Upgrade path for future mandates
- Advanced Thomas ADA 2.0 display processing technology from Thomas Global Systems



LCD Replacement for EFIS Cathode Ray Tube Display

SPECIFICATIONS

OPTICAL PERFORMANCE	
Viewable Area:	3.4" (h) x 4.53" (w)
Addressability:	6-bits per color
Resolution:	640 x 480 (VGA)
Color:	262,144 possible; Video interface supports palette of 13 colors + black
Luminance:	0.1 fL to ~150 fL
Viewing Angles:	±45° horizontal; +45°, -23° vertical
High Amb. Contrast Ratio:	>3:1 across viewing envelope
PHYSICAL DESCRIPTION	
Dimensions (H x W x D):	w/inclinometer: 5.1" x 6.1" x 11.0" w/out inclinometer: 5.1" x 6.1" x 10.5"
Weight:	Approx. 5 lb.
Cooling:	Passive convective
Heating:	Integrated heater
Primary Power:	28VDC per DO-160G, Sec. 16, Cat. B; Operate thru 200 ms power interrupt
Power Consumption:	<20 Watts <35 Watts w/heater on
Bezel Configuration:	Photosensors for automatic dimming in response to ambient light
FUNCTIONAL DESCRIPTION	
Video Interfaces:	Analog (stroke and raster) video
Video Out:	Analog (stroke and raster)
Signal Interfaces:	Analog and discrete
Other (i.e. inclinometer):	Inclinometer is dimmable under control of aircraft lighting bus

ENVIRONMENTAL PERFORMANCE (DO-160G)	
Temperature & Altitude:	Sec. 4, Cat. A2
Low Operating Temp:	Sec. 4.5.2, -20 °C
Low Short-Term Operating Temp:	Sec. 4.5.1, -40 °C
High Short-Term Operating Temp:	Sec. 4.5.3, +70 °C
High Operating Temp:	Sec. 4.5.4, +70 °C
Loss of Cooling Test:	Sec. 4.5.5, 240 min @ 40 °C
Ground Survival Low Temp:	Sec. 4.5.1, -55 °C
Ground Survival High Temp:	Sec. 4.5.3, +85 °C
Altitude:	Sec. 4.6.1, 55,000 ft.
Decompression Test:	Sec. 4.6.2, 55,000 ft.
Overpressure Test:	Sec. 4.6.3, -15,000 ft.
Temperature Variation:	Sec. 5, Cat. C
Humidity:	Sec. 6, Cat. A
Operational Shocks & Crash Safety:	Sec. 7, Cat. B
Vibration:	Sec. 8, Cat. S(M), R(BB1)
Explosion Proofness:	Sec. 9, Cat. X
Waterproofness:	Sec. 10, Cat. W
Fluids Susceptibility:	Sec. 11, Cat. F
Sand and Dust:	Sec. 12, Cat. X
Fungus Resistance:	Sec. 13, Cat. X
Salt Fog:	Sec. 14, Cat. X
Magnetic Effect:	Sec. 15, Cat. Z
Power Input:	Sec. 16, Cat. BRX
Voltage Spike:	Sec. 17, Cat. A
Aud. Freq. Conducted Susceptibility Power Inputs:	Sec. 18, Cat. Z
Induced Signal Susceptibility:	Sec. 19, Cat. ZC/CC
Radio Frequency Susceptibility:	Sec. 20, Cat. MD
Emission of Radio Freq. Energy:	Sec. 21, Cat. M
Lightning Induced Transient Susceptibility:	Sec. 22 Power Bundle: A4G3L3 Signal Wiring: A3J3L3
Lightning Direct Effects:	Sec. 23, Cat. X
Icing:	Sec. 24, Cat. X
Electrostatic Discharge:	Sec. 25, Cat. A
Fire Flammability:	Sec. 26, Cat. C

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L3 Aviation Products is a leading provider of commercial and military avionics, as well as MRO services. We manufacture a diverse line of safety- and efficiency-enhancing products that sets the standard for next-generation cockpit requirements.

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