SMART MULTI FUNCTION DISPLAY

The SMD-55 is a 5 inches by 5 inches high performance Active Matrix Liquid Crystal Display with full colour capability under all conditions, from full sunlight to NVG operations. The SMD unit includes twenty soft keys.

The Smart MFD is designed to:

- Manage dual redundant 1553B bus used to receive controls and real time symbology parameter update and to transmit internal status and soft key inputs
- Accept two selectable RGB video input according to STANAG 3350 Class B or C
- Generate synthetic imageries by using the state-of the art digital technology. The on-the-board symbol generator is based on high performance “SHARK 21060 DSP” and on the last generation of Graphic Co-processor ASICs.

The active thermal management allows the unit to operate in the full environmental range without external cooling.

The SMD-55 is especially optimized for avionics application using the best AMLCD technology today available and ultrabright LEDs for backlight. Optical filters are used to redirect light into the specified viewing angle.

KEY FEATURES

- 5 inches by 5 inches usable screen area
- RGB pixel structure
- High resolution
- High brightness
- AMLCD technology to prevent ripple effect
- Customizable viewing angle
- Integrated multifunction soft keys
- Ultra-bright LEDs backlight
- Dual RGB video input and dual 1553B connection to support system redundant configuration
- COTS Graphics SW Factories
- Advanced anti-aliasing technique optimized for the digital interface (LCD Matrix)
- High Reliability
- Self Test and BIT
- NVG compatible.

SMD-55

TECHNICAL CHARACTERISTICS

PHYSICAL CHARACTERISTICS	
Dimensions	224 mm (L) x 166 mm (W, behind the bezel) x 176 mm (H)
Weight	5,25Kg max.
Cooling system	Natural convection with onboard cooling fan
Controls	Twenty momentary pushbuttons
	Rocker switches for brightness, contrast and balance controls.

DISPLAY CHARACTERISTICS				
Display Type		Colour Active Matrix Lyquid Crystal (AMLCD)		
Active Area		5,03" x 5,03"		
Resolution		600 x 600 RGB triads.		
		Roughly 120 colour group per inch		
Grey levels		255 grey level per primary colour		
		>16.000.000 colours		
Contrast		> 500 in dark > 5 at 100800 lux ambient, 2000 fL incident		
Viewing Angle		Customizable from wide to narrow angles		
Colour Coordinates		u'	v'	r
	Red	0,392	0,525	0,03
	Blue	0,128	0,346	0,03
	Green	0,160	0,557	0,03
Luminance		Up to 1000 cd/m2		
Anti-reflection		Coating MIL-C-14806		
NVIS Compatibility		Type I, class B, MIL - STD-3009		
Dimming range		Up to 6000 : 1		

ELECTRICAL INTERFACE	
Video Input	Two RGB video input STANAG 3350 B or C
Video Output	One RGB video output STANAG 3350 B or C (interface to a video recorder)
System Communications	One dual redundant 1553B RT interface
	Two RS422 serial links
General I/O	Eight general purpose digital input
Power	28 VDC aircraft according to MIL-STD-704E
	28 VDC lighting power for illuminated legends
Power consumption	<100 W in normal operations
	<200 W during cold start

ENVIRONMENTAL CHARACTERISTICS	
Temperature	-40°C, +70°C - MIL-STD-810E (operating)
	-55°C, +90°C - MIL-STD-810E (storage)
Vibration	0.033 g2/Hz, MIL-STD-810E, Method 514.4, Procedure I
Altitude	Operating in continuous duty from 107.9 kPa at sea level to 14.7 kPa approximating an altitude of 45.000 ft.
Humidity	As per MIL-STD-810E, Method 507.3, Procedure II or III
Shock	As per MIL-STD-810, Method 516.4, Procedures I and V
EMI/EMC	As per MIL-STD-461D / MIL-STD-462D
Reliability	> 4000 hrs

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