![ScioTeq logo]

RDU-4138

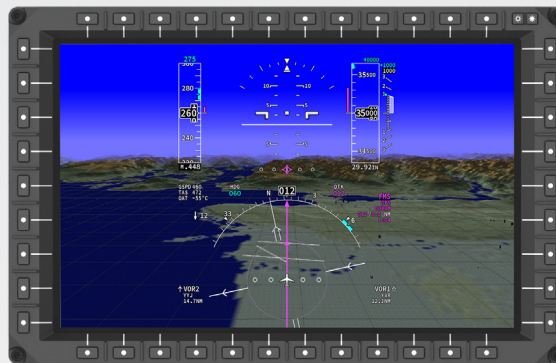## 15.4" (13"x 8") Rugged Display Unit for Harsh Environments

Main features:

- Best-in-class true 8-bit AMLCD for superior color rendering and best-in-class FLIR imagery

- Very wide viewing angles – ideal for cross-cockpit viewability

- Brightness up to 275fL, making it suitable for installation in helicopters and open cockpit aircraft

- NVIS Class B compatibility

- Guaranteed brightness and color range over the operating temperature of the display and over its lifetime

- 2 video inputs standard

- Several control options (RS-422, ARINC-429, discretes)

- Continuous operations at up to 71C without external cooling

- Quiet by design, thanks to its closed and fan-less architecture

The RDU-4138's proprietary Active Matrix Liquid Crystal Display and LED backlight technology deliver a visual performance second to none: true 8-bit color depth with high contrast ratio and superior color stability, very wide viewing angles and superior brightness in Day, Night and NVIS modes. And there is even more: the optical quality is guaranteed over the complete operating temperature range and lifetime of the display, thanks to ScioTeq's proprietary control mechanisms. As an option, the light can be collimated to reduce reflections on the windshield or canopy.

The software and firmware of the RDU-4138 are developed according to DO-178C and DO-254 respectively, up to and including Design Assurance Level (DAL) A. This display is therefore an ideal candidate for Part 23, Part 25, Part 27 and Part 29 electronic flight instrument systems or mission displays.

Technical specifications

	RDU-4138
Electro-optical	
Panel type	Active matrix LCD (normally black)
Panel active area	15.4" diagonal (13"x8")
Panel resolution	1680x1050 (WSXGA+) The WSXGA+ resolution creates a close match to the combined resolution of two 10.4" XGA displays placed side-by-side in portrait orientation.
Color depth	True 8-bit – 16,777,216 colors and 256 grayscales
Viewing angle	H: +/- 80° V: +/- 80° Can be tailored to program requirements, such as the addition of specific collimation to reduce canopy reflections, etc.
Backlight	LED backlight
Luminance	0.1 up to 275fL (non-NVIS mode) 0.03 up to 2fL (NVIS mode) Luminance stabilized over the life time and the complete temperature range of the display
Sunlight readability	Contrast ratio >14:1 @ 10,000 fC
NVG compatibility	MIL-STD-3009 Type I/II, NVIS Class B
Heater	Heater for display startup at extremely cold temperatures (optional)
Interfaces	
Video inputs[1]	Dual video inputs are standard Default Inputs: 2x DVI-D Other video inputs possible (Arinc 818, HD-SDI, etc.)
Video outputs[1]	• Video source/mode selection and BIT data retrieval via either RS-422 or A429 • Discretes for display configuration, lighting mode selection, etc. • ARINC 429 control • RS-232 maintenance interface
Controls	
Brightness control	ALS sensors, bezel control, or remote
Bezel controls[1]	Available with custom bezels
Touch screen	Multi-touch capability through PCAP with built-in mechanisms for certifiable touch interface (optional)
General specifications	
Power supply	28VDC, MIL-STD-704A
Power consumption	60W @ 250fL (20C ambient)
Weight	6.2 kg / 13.6 lbs
Cooling	Passive cooling (no requirement for forced external cooling) – fan-less design
Built-in testing	PBIT / CBIT / IBIT
Software	developed to RTCA/DO-178, capable of supporting DAL-A functions
Hardware	developed to RTCA/DO-254, capable of supporting DAL-A functions
Environmental conditions	
Compliance	DO-160G; MIL-STD-810G & MIL-STD-461E (optional)
High temperature	+71C operational / +85C short-time / +85C ground survival
Low temperature	-45C operational / -55C ground survival
Altitude	50,000 ft
Water proofness, salt fog, sand & dust	Withstands the harshest environments - closed and fan-less unit design

[1] Please contact ScioTeq for other possible options

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