Selex ES
A Finmeccanica Company

Optronics Systems

RD104-GVA-4X
FLAT PANEL DISPLAY

The RD104-GVA-4x is a full GVA-compliant yet cost effective, rugged 10.4" flat panel display. Its compact dimensions, Ethernet and Middleware interfaces mean that a multifunction GVA crew station can now be accommodated in the most confined spaces, even in legacy vehicles lacking a video network infrastructure.

The proven, high brightness, high resolution LCD, is complemented by the latest user and digital interfaces being adopted by open-standards-based mission systems, as required by Def Stan 23-09 Generic Vehicle Architecture (GVA).

The bezel keys follow the GVA Human Machine Interface layout requirements and conform to Def Stan 00-250 for gloved operation in a mobile vehicle. A touch screen, and combinations of either internal or external graphics generation, give the flexibility for an intuitive common user interface across dissimilar mission systems, with the associated potential for through life training benefits.
Of particular note is the innovative Def Stan 00-82 digital video solution supporting low latency image display direct from up to four 1000base-T Ethernet ports.

For efficient visualisation of panoramic camera array outputs, up to nine real-time video streams can be presented simultaneously using the built in scaling, tiling, and cropping functions. The display will also accept external VGA, SVGA, XGA or SXGA sources via two separate input ports and these images can be scaled to the screen or act as overlays. The quad-core ARM-A9 with Neon co-processor gives DDS middleware and Land Data Model support as well as enabling internal Open GL generation of graphic overlays. In addition to Ethernet, communication with this processor can be via CAN bus, USB, and discrete digital I/O.

The RD104-GVA-4x can be directly connected to multiple 00-82 compliant video sources (e.g. the Selex ES DNVS4 range) without the need for any external network switch, video or graphics processing, or adapter units. This enables simple GVA ready systems to be configured in advance of full infrastructure procurement, yet the same units may later be used in more complex GVA systems.

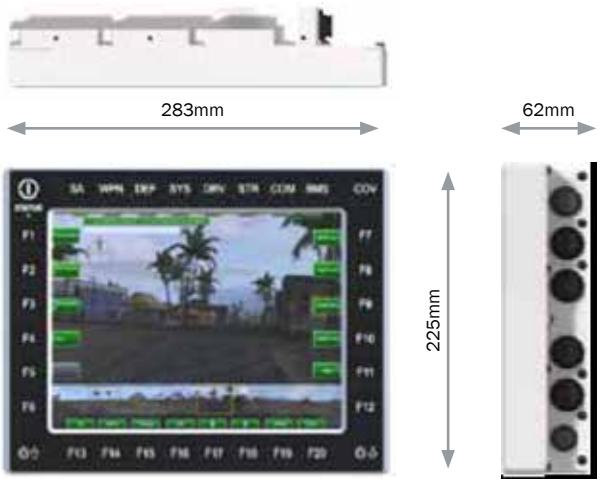
KEY BENEFITS

- A High brightness display providing 1024 x 768 pixel resolution
- GVA Bezel keys (Def Stan 00-250)
- GVA Video multi-channel I/O with Low latency (Def Stan 00-82)
- GVA Middleware DDS and Land Data Model support
- GVA HMI application and graphics software embedded
- GVA Power Supply (Def Stan 61-5 part 6 Issue 6)
- Integrated 4 port 1G (1000Base-T) Layer 2 Ethernet switch with IGMP Snooping
- Simultaneous display of up to nine video input streams
- Built in video tiling, scaling, cropping, chroma-key and alpha blend functions
- Quad Core ARM-A9 processor for flexible graphics and applications support
- Two DVI / VGA / Composite video inputs for overlay and auxiliary video
- USB and CAN bus interfaces
- Compact dimensions with connector interfaces left or right.

TECHNICAL SPECIFICATIONS

Display	10.4" diagonal, XGA (1024x768 pixels), 8-bits per colour, 450cd/m2
Keys	GVA Bezel (8 pre-assigned and 20 unassigned 'Function' keys) Def Stan 23-09 Dedicated brightness, covert, power/standby
Touchscreen	Resistive 4 wire
Inputs	
Video	4-off GVA Ethernet ports; Def Stan 00-82 digital video: - 9 simultaneous streams - Mono, RGB, YUV - Any resolution supported within available bandwidth 1-off Auxilliary video input port, wired to accept any one of: - DVI-D - Analogue VGA - Composite - PAL/NTSC 50/60Hz - Resolutions supported VGA (640 x 480) up to SXGA (1280 x 1024)
External Overlay	1-off independent DVI-D Hi-res - VGA (640 x 480) up to SXGA (1280 x 1024)
Video Handling	Low latency all-firmware LCD drive Programmable flexible multi-stream video tiling Programmable Chroma-Key Multiple Programmable Alpha Blend Regions Built-in Scale/Crop Programmable dark-adaption mode Region of Interest (ROI) Support using Def Stan 00-82 MIB features
Embedded Software	Def Stan 00-82 SNMP Agent 1-wire IP address assignment GVA middleware - Data Distribution Service (DDS) Land Data Model support Internal graphics overlay generation using Open GL GVA compliant Graphical User Interface
Outputs	
Video	1-off Def Stan 00-82 output channel (firmware option to distribute real-time copy of displayed image)
Power	4-off 28Vdc out (local peripheral device supply; eg cameras)
Ethernet	
Speed	1000Base-T
Ports	4 external
Switch	Integrated, Layer 2 with IGMP Snooping
Other Communication	2-off USB, 2-off CAN
Discretes	
Inputs	4, programmable opto-isolated
Outputs	4, programmable opto-isolated
Processor	Quad Core ARM-A9 with NEON Co-processor
Temperature	
Operating	-40°C to +60°C
Storage	-50°C to +71°C
Power	
Consumption	25W nominal (dependent on configuration), nominally 24V
Compliance	Def Stan 61-5 Issue 6 Part 6
EMC Compliance	Def Stan 59-411 Land Class A

DIMENSIONS



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