RD104-GVA

GVA RUGGED DISPLAYS (RD1XX SERIES)

The RD1XX Series is a range of GVA-compliant, cost effective, rugged flat panel displays. 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 10.4 or 15 inch diagonal, high brightness, high resolution LCDs are 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 1000 base-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.

Any RD1XX display can be directly connected to multiple 00-82 compliant video sources (e.g. the 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.

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TECHNICAL SPECIFICATION

Display	10.4" and 15" 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 within available bandwidth
1-off Auxilliary video input port, wired to accept	
	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	-40ºC to +60ºC
Storage	-50ºC to +71ºC

Power

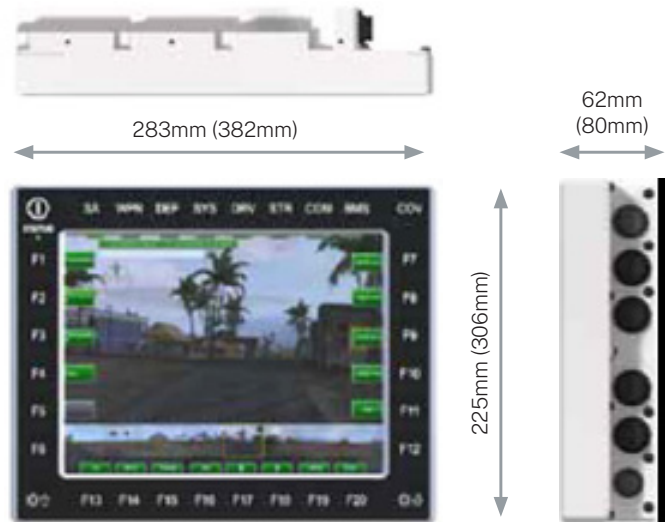|	
Consumption	25W nominal (dependent on configuration), nominally 24V
Compliance	Def Stan 61-5 Issue 6 Part 6
EMC Compliance	Def Stan 59-411 Land Class A

KEY BENEFITS

- A High brightness display providing 1024 x 768 pixel resolution
- Two screen sizes to suit different viewing distances
- 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

DIMENSIONS

Dimensions for 15" version shown in brackets.

283mm (382mm)

62mm (80mm)

225mm (306mm)

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