GENERAL DYNAMICS
Mission Systems

SD9112
Smart Display Unit

Rugged vehicle display with Intel® Xeon® processing

The SD9112 is a lightweight and ultra-rugged, smart display capable of high performance computing and visualization of high-resolution sensors for on-the-move applications.

Combining mission-critical display, processing and vehicle interfaces in a size, weight, power and cost effective package.

The SD9112's wide range of open-standard I/O allows seamless integration with open standard vehicle electronic architectures as well as most legacy subsystems.

Designed for operations in the most demanding vehicle environments ranging from light wheeled to heavy tracked vehicles.

Features:

- High-resolution, sunlight readable touchscreen display
- Intel® Xeon® processor up to 6-cores/12-thread suitable for critical applications
- Natively display high-resolution sensor imagery
- Optional air-gapped secondary processor with KVM for segregation of applications with different levels of security
- Open-standards based architecture
- Embedded video processing with lowest latency CPU-independent visualization
- Optional H.265 video encoder/decoder provides sensor video distribution, recording and playback
- Embedded Gigabit LAN switch
- Expansion provisions enable platform customizations
- Highly integrated LRU reduces Size, Weight, Power and Cost (SWaP-C) relative to distributed architectures
- Sustained life cycle support
- ITAR-free

Main Processor

CPU	9th generation Intel© Xeon™ or Core™ processor
Info. assurance	Signed embedded firmware
	Secure UEFI BIOS and TPM 2.0
	Secure/measured boot
	Secure firmware update
Memory	32 GB DDR4 SDRAM with ECC
Graphics	Intel© UHD graphics
Ethernet	4 Gigabit Network Interface Controller (NIC)
	3 Gigabit switch ports
USB	1 USB 3.1
	6 USB 2.0
CANBus	2 J1939 or MilCAN
Serial ports	8 RS232/422/485
Audio	Intel© HD Audio
GPIO	10 contact closure, logic level or 28V sense

Embedded Expansion

Mass storage	Removable SSD/AES-256 SED: 128GB-2TB
	Embedded SSD/AES-256 SED: 8GB-1TB
Video	8 RS-170A analog composite inputs: NTSC/PAL
	4 RS-170A analog composite outputs: NTSC/PAL
	1 VESA VGA analog component input/output
	1 DVI-D digital input/output
	4 3G-SDI digital input/output
Second processor	Intel© Quad Core™ Atom®-E3950
	8GB memory
	256GB SSD/AES-256 SED
	Embedded KVM switch
GPS	Polaris™Link COTS GPS
Networking	WiFi
	3G/LTE
	10G network interface controller
Graphics	NVIDIA/AMD GPU option

Optical Characteristics

Resolution	2560 x 1700
Size	12.9"
Contrast ratio	800:1
HACR	5.66:1
Brightness	1000 cd/m^2
Dimming range	<0.15 to 500 cd/m^2
Viewing angle	±70°H, ±70°V
Touch screen	Resistive multi-touch or single-touch
Bezel	32 backlit buttons

Physical Characteristics

Size (w x h x d)	324 x 281 x 82.3 mm (12.75" x 11.07" x 3.24")
Weight	7.8 kg (17.25 lbs)
Connectors	Rugged circular
Input power	75W (typical) MIL-STD-1275

Video

Processing	FPGA-based instant-on video
	Picture-in-picture and multi-view display
Interfaces	4 12G SDI input or output
	1 display port 1.2 input or output
Text overlay	Chroma-keyed or alpha-blended graphics overlay
Embedded VoE	Dedicated video over Ethernet processor
	Multi-channel H.264/H.265 encoder and decoder
	Uncompressed VIVOE decoder per DEF STAN 00-82

Environmental Conditions

Operating temperature	-40°C to +60°C
Storage temperature	-51°C to +71°C
Vibration	MIL-STD-810H Method 514.8, Procedure I
	» Category 4 composite wheeled vehicles
	» Category 20 tracked vehicles
Shock	Operational: MIL-STD-810H Method 516.8, Procedure I
	Crash hazard: Method 516.8, Procedure V
	Bench handling: Method 516.8, Procedure VI
Immersion	MIL-STD-810H Method 512.6, Procedure I
Altitude	MIL-STD-810H Method 500.6, Procedures I, II, & III
Humidity	MIL-STD-810H Method 507.6, Procedure II - aggravated
Sand dust	MIL-STD-810H, Method 510.7, Procedures I & II
Salt fog	MIL-STD-810H, Method 509.7
EMI/EMC	MIL-STD-461F
Touchscreen display	Wrench drop and pendulum impact

The smart display described here represents a general configuration of this family of products. Specifications are configurable for specific customer requirements. For pricing and availability interfaces, bezel buttons, casings, connectors and other information, please contact your General Dynamics representative.

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