

SD9112H

Smart Display Unit



Rugged vehicle display with Intel® Xeon® processing

The SD9112H 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 SD9112H'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

Technical Information

Main Processor

CPU	9 th generation Intel® Xeon™ processor
Info. assurance	Signed embedded firmware Secure UEFI BIOS and TPM 2.0 Secure/measured boot Secure firmware update
Memory	16 GB DDR4 SDRAM with ECC
Graphics	Intel® UHD graphics
Ethernet	4 Gigabit Network Interface Controller (NIC) 2 Gigabit switch ports
USB	3 USB 2.0
CANBus	2 J1939 or MilCAN
Serial ports	2 RS232/422/485
Audio	Intel® HD Audio outputs
GPIO	8 contact closure, logic level or 28V sense

Embedded Expansion

Mass storage	Removable SSD/AES-256 SED: 128GB-2TB
Video	3 RS-170A analog composite inputs: NTSC/PAL 3 RS-170A analog composite outputs: NTSC/PAL 1 VESA VGA analog component input

Optional 2 nd processor	Intel® Quad Core™ Atom® 8GB memory 256GB SSD/AES-256 SED Embedded KVM switch
Optional network	Dual redundant MIL-STD-1553

Optical Characteristics

Resolution	2560 x 1700
Size	12.9"
Contrast ratio	1000:1
HACR	5:1
Brightness	500 cd/m ²
Dimming range	<0.15 to 500 cd/m ²
Viewing angle	±70°H, ±70°V
Touch screen	Resistive
Bezel	32 backlit buttons

Physical Characteristics

Size (w x h x d)	324 x 254 x 91.4mm (12.75" x 10.00" x 3.60")
Weight	7.8 kg (17.25 lbs)
Connectors	Rugged circular
Input power	MIL-STD-1275, 75W (typical)

Video

Processing	FPGA-based instant-on video Picture-in-picture and multi-view display
Interfaces	2 3G/6G/12G SDI inputs 2 3G/6G/12G SDI outputs
Text overlay	Chroma-keyed or alpha-blended graphics overlay
Optional VoE	Dedicated video over Ethernet processor Multi-channel H.264/H.265 encoder and decoder

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
CBRN	FM 3-11 hardened
Nuclear	Weapons effects hardened

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.