

## SD8112

### Smart Display Unit



### Industrial 12" Vehicle Display and Processor

The SD8112 is a lightweight vehicle smart display for on-the-more applications.

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

The SD8112's wide range of open-standard I/Os allow seamless integration with open standard vehicle architectures as well as most legacy systems.

Designed for operation in the most demanding vehicle environments ranging from Light Wheeled to Heavy Tracked Vehicles.

#### Features:

- Direct sunlight readable 12" touchscreen display with function keys.
- Intel® Xeon® processor with 6-Cores suitable for mission-critical applications.
- Display multiple sensor imagery.
- Optional air-gapped secondary processor with KVM for segregation of applications with different levels of security.
- Open-standards based.
- Embedded video processing with CPU-independent visualization.
- Embedded H.264 video encoder/decoder provides sensor video distribution, recording and playback.
- Embedded Gigabit LAN switch.
- Removable hard drive for portable storage.
- Expansion provisions enable platform customizations.
- Highly integrated LRU reduces Size, Weight, Power and Cost (SWaP-C) relative to distributed architectures.
- Sustained life cycle support for multi-year production orders.

# Technical Information

## Main Processor

|                 |   |
|-----------------|---|
| CPU             | 9th generation Intel® Xeon® processor<br>9th generation Intel® Core™ i3 processor |
| Info. Assurance | Secure UEFI BIOS and TPM 2.0  |
| Memory          | 32 GB DDR4 SDRAM with ECC   |
| Graphics        | Intel® UHD graphics<br>NVIDIA/AMD GPU option                                      |
| Mass Storage    | Removable SSD/AES-256 SED: 128GB-2TB<br>Embedded SSD/AES-256 SED: 8GB-256GB       |
| Ethernet        | 4 Gigabit Network Interface Controller (NIC)<br>3 Gigabit switch Ports            |
| USB             | 1 USB 3.1<br>6 USB 2.0  |
| CAN bus         | 2 J1939 or MilCAN   |
| Serial Ports    | 8 RS232/422/485   |
| Audio           | Intel® HD Audio   |
| GPIO            | 10 contact closure, logic level or isolated 28V                                   |

## Embedded Expansion

|       |   |
|-------|---|
| XMC   | GPU options<br>Secondary processor<br>SDI and/or advanced video capture |
| mSATA | Storage options   |
| mPCIe | I/O customization<br>Video capture<br>Wireless 3G/LTE/WiFi/BT           |

## Optical Characteristics

|                |  |
|----------------|--|
| Resolution     | 1024 x 768 (XGA)   |
| Size           | 12.1"  |
| Contrast Ratio | 1000:1, HACR >5.6  |
| Brightness     | 1000cd/m <sup>2</sup>  |
| Dimming Range  | <0.15 to 1000 cd/m <sup>2</sup>                                  |
| Viewing Angle  | ±70°H, ±570°V at full brightness in all axes                     |
| Touch Screen   | Resistive  |
| Bezel          | 32 backlit key options<br>Custom button configurations available |

## Video

|              |  |
|--------------|--|
| Processing   | FPGA-based instant-on video<br>Picture-in-picture and multi-view display                                   |
| Text overlay | Chroma-keyed or alpha-blended graphics overlay   |
| Video Inputs | 8 RS-170A analog composite: NTSC/PAL<br>1 VESA VGA analog component<br>1 DVI-D digital<br>2 3G-SDI digital |
| Video Output | 5 RS-170A analog composite: NTSC/PAL<br>1 VESA VGA analog component  |
| Embedded VoE | Dedicated video over ethernet processor<br>Multi-channel H.264 encoder and decoder                         |

## Physical Characteristics

|                  |  |
|------------------|--|
| Size (w x h x d) | 324 x 281 x 82 mm (12.8" x 11.1" x 3.2") |
| Weight           | 7.8 kg (17.25 lbs)                       |
| Connectors       | Rugged circular                          |
| Input Power      | 12 to 32 VDC, 75 W typ.                  |

## Environmental Specifications

|                       |                                 |
|-----------------------|---------------------------------|
| Operating temperature | -46°C to +71°C (-51°F to 160°F) |
| Storage temperature   | -51°C to +71°C (-60°F to 160°F) |
| Vibration             | MIL-STD-810                     |
| Shock                 | MIL-STD-810                     |
| Water tightness       | IP67                            |
| Humidity              | MIL-STD-810                     |
| Sand dust             | MIL-STD-810                     |
| EMI/EMC               | MIL-STD-461                     |
| Other                 | Wrench drop and bootkick        |

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.