

## PE9112

### *Processing Element Unit*



#### Vehicle Computer with Intel® Xeon® Processing

The PE9112 is a lightweight, ultra-rugged, High Performance Embedded Computer / Video processor for tactical and combat vehicles.

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

The PE9112'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 combat vehicle environments ranging from Light Tactical Wheeled to Heavy-Brigade Tracked Vehicles.

#### Features:

- Intel® Xeon® processor with 6-Cores suitable for mission-critical C4ISR applications.
- Open-standards based VICTORY or GVA ready architecture.
- Embedded video processing with lowest latency CPU-independent visualization.
- Embedded 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 <sup>th</sup> Generation Intel® Xeon® Processor 9 <sup>th</sup> Generation Intel® Core™ i3 Processor
Info. Assurance	Signed embedded firmware Secure UEFI BIOS and TPM 2.0
Memory	32 GB DDR4 SDRAM with ECC
Graphics	Intel® UHD Graphics NVIDIA/AMD GPU option
Mass Storage	Removable SSD/AES-256 SED: 128GB-2TB Embedded SSD/AES-256 SED: 8GB-256GB
Ethernet	4 Gigabit Network Interface Controller (NIC) 3 Gigabit switch Ports
USB	1 USB 3.0 6 USB 2.0
CANBus	2 J1939 or MilCAN
Serial Ports	8 RS232/422/485
Audio	Intel® HD Audio
GPIO	8 contact closure, logic level or 28V sense

## Embedded Expansion

Secondary Processor	Intel® Quad Core™ Atom® -E3950 8GB Memory 256GB SSD/AES-256 SED Embedded KVM switch
GPS	GB-GRAM/ GB-GRAM-M SAASM PolarisLink COTS GPS
Wireless	WiFi 3G/LTE
MIL-STD-1553	

## 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	MIL-C-38999
Input Power	65W (typical) MIL-STD-1275

## Video

Processing	FPGA-based video processing 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 1 VESA VGA analog component 1 DVI-D digital 2 3G-SDI digital
Video Output	1 Display Port 1.2 4 RS-170A analog composite: NTSC/PAL 1 VESA VGA analog component
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 Specifications

Operating Temperature	-46°C to +71°C (-51°F to 160°F)
Storage Temperature	-51°C to +71°C (-52 °F to 160°F)
Vibration	MIL-STD-810G Method 514.6, Procedure I » Category 4 Composite Wheeled vehicles » Category 20 Tracked vehicles
Shock	Operational: MIL-STD-810G Method 516.6, Procedure I Crash Hazard: Method 516.6, Procedure V Bench Handling: Method 516.6, Procedure VI
Immersion	MIL-STD-810G Method 512.5, Procedure I
Altitude	MIL-STD-810G Method 500.5, Procedures I & II
Humidity	MIL-STD-810G Method 507.5 Procedure II, Aggravated
Sand Dust	MIL-STD-810G, Method 510.5, Procedures I & II
Salt Fog	MIL-STD-810G, Method 509.5
EMI/EMC	MIL-STD-461F
Touchscreen Display	Wrench Drop and Bootkick
CBRN	FM 3-11 hardened
Nuclear	Weapons Effects Hardened

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