

PE8110

Vehicle Computer



Vehicle computer with Intel® Xeon® processing

The PE8110 is a lightweight, ultra-rugged, 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 PE8110's wide range of open-standard I/Os allow seamless integration with open standard vehicle electronic architectures and legacy subsystems.

Designed for operators in the most demanding combat vehicle environments ranging from light tactical wheeled to heavy-brigade tracked vehicles.

The PE8110 general processor unit is a fully sealed, convection-cooled computer designed for harsh environment on-the-move applications. At the heart of the PE8110 is an Intel® 9th generation Xeon® processor providing cutting-edge computing capabilities suitable for the most demanding in-vehicle applications. Being highly integrated and modular in design, the PE8110 can be configured to address a wide range of computational and video processing requirements.

Features:

- Intel® Xeon® processor with 6-cores suitable for mission critical C4ISR application
- Open standards based VICTORY or GVA ready architecture
- Embedded video processing with CPU-independent H.264 video encoder/decoder provides sensor video distribution, recording and playback
- Removable hard drive for data at rest security
- 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

Technical Information

Processor Unit

CPU	9 th generation Intel® Xeon® Processor
Info. Assurance	Secure UEFI BIOS and TPM 2.0
Memory	16 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	2 Gigabit Network Interface Controller (NIC) 2 Gigabit switch ports
USB	3 USB 2.0
CANBus	2J1939 or MilCAN
Serial Ports	3 RS232/422/485
Audio	Intel® HD audio
GPIO	8 contact closure

Physical Characteristics

Size	11.25" w x 10" h x 3" d (nominal)
Weight	< 9 lbs
Connectors	Sealed MIL-C-38999
Input Power	65W (typical) MIL-STD-1275

Video

Processing	FPGA-based instant-on video Picture-in-picture and multi-view display
Text Overlay	Chroma-keyed or alpha-blended graphics overlay
Video Inputs	4 RS-170A analog composite: NTSC/PAL 1 VESA VGA analog component
Video Output	3 RS-170A analog composite: NTSC/PAL 1 VESA VGA analog component
Embedded VoE	Dedicated video over ethernet processor Multi-channel H.264 encoder and decoder

Environmental Conditions

Operating Temperature	-46°C to +71°C
Storage Temperature	-51°C to +71°C
Vibration	MIL-STD-810G Method 514.6, Procedure 1 > 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, Procedure I & II
Humidity	MIL-STD-810G Method 507.5, Procedure II, Aggravated
Sand Dust	MIL-STD-810G Method 510.5, Procedure I & II
Salt Fog	MIL-STD-810G Method 509.5
EMI/EMC	MIL-STD-461F
CBRN	FM 3-11 hardened
Nuclear	Weapons effects hardened

General Dynamics products are based on proven, configurable modules and are available in standard or custom configurations. This product sheet describes many of the options for this product family. For availability and details of specific configurations or for custom requirements, please contact General Dynamics.