

# PE8000

## Vehicle Computer



### *Intel™ 3rd Gen Core i7 Rugged Computer*

The PE8000 General Processor Unit is a fully sealed, conduction-cooled computer designed for harsh environment on-the-move applications. At the heart of the PE8000 is an Intel™ 3rd generation Core-i7 processor providing cutting-edge computing capabilities suitable for the most demanding in-vehicle applications. Being highly integrated and modular in design, the PE8000 can be configured to address a wide range of computational and video processing requirements.

#### **Features:**

- Intel™ 3rd generation Core-i7 processor
- Up to 16GB of DDR3 ECC memory
- Full complement of standard computer interfaces
- Expansion sites for functionality growth
- CANBus and MIL-STD-1553 vehicle interfaces
- Removable hard drive option for data at rest security
- MILS OS/hypervisor support
- Switching of multiple digital and analog video inputs
- Support for digital video recording and video over Ethernet
- Extended temperature range operation

# Technical Information

## Processor Unit

CPU	3rd Gen Dual Core-i7 @ 1.7 GHz or 3rd Gen Quad Core-i7 @ 2.1 GHz
Chipset	Intel™ QM77 with VT-x and VT-d, TXT, TPM
Memory	Up to 16 GB DDR3 with ECC
Graphics	Intel™ Integrated Graphics Controller PEG GPU (nVidia/AMD) embedded option
Storage	Removable Solid State SATA2.0 (64 GB and up) Internal Solid State SATA2.0 (1 GB - 128 GB) mSATA storage embedded option
Security	High Assurance Platform (HAP) MILS support
OS Support	Microsoft Windows, Linux

## Interface

Serial Ports	Up to 8 external serial ports (software configurable RS-232/422/423/485)
Ethernet	Up to 5 Gigabit Ports
USB	Up to 9 USB 2.0 ports
Audio Inputs	2 x Stereo Microphone or Line-in
Audio Outputs	2 x Stereo HD Audio
CANBus	Dual MilCAN option
SAASM GPS	GB-GRAM embedded option
MIL-STD-1553	Embedded option
Wireless	WiFi 802.11 a/b/g/n embedded option
Expansion	1 XMC & 2 mPCIe sites (in-lieu of Embedded Options)

## Physical Characteristics

Size	11.25" w x 10" h x 3" d (nominal)
Weight	< 9 lbs
Connectors	Sealed MIL-C-38999

## Video

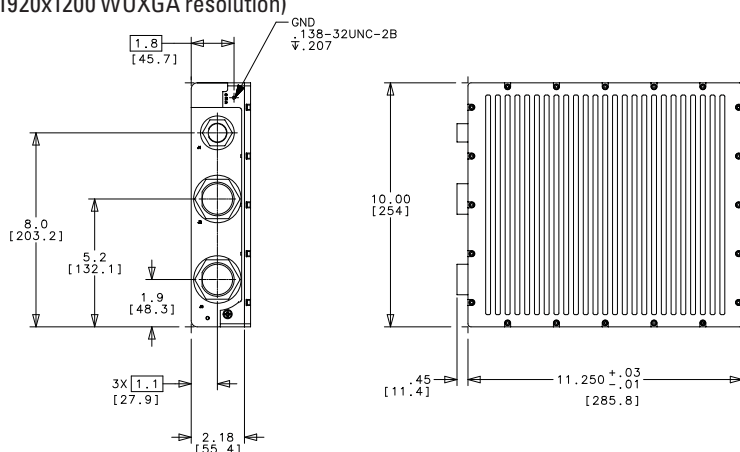
Video Input	Up to 8 NTSC/PAL/RS170A 1 VGA (up to 1920x1200 WUXGA resolution)
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	1 SD, HD or 3G SDI
Video Output	1 VGA (up to 1600x1200 UXGA resolution) 5 NTSC/PAL/RS-170A
Video Switching	Software controlled; external command
Processing	Low latency, processor independent
Viewscape™	Optional Video output drives of picture-in-picture, multi-view, filmstripping and overlays. Contact General Dynamics for details
Video Capture	Optional digitizing and encoding (MPEG4 / H264) of 4 simultaneous video inputs for storage or network distribution

## Environmental Conditions

Operating Temperature	-46°C to +71°C
Storage Temperature	-51°C to +71°C
Vibration	MIL-STD-810G Method 514.5, Procedure 1 Composite Tracked and Wheeled Vehicle
Shock	MIL-STD-810G Operational: Method 516.5, Procedure I Bench Handling: Method 516.5, Procedure VI Crash Hazard: Method 516.5, Procedure V
Water Tightness	MIL-STD-810G Method 512.4, Procedure I
Altitude	MIL-STD-810G Method 500.4, Proc. I & II
Humidity	MIL-STD-810G Method 507.4
Sand Dust	MIL-STD-810G, Method 510.4 Proc. I & II
Explosive Atmosphere	MIL-STD-810G Method 511.4 Procedure I
Salt Fog	MIL-STD-810G, Method 509.4
Power	MIL-STD-1275D
EMI/EMC	MIL-STD-461G
Other	Nuclear Hardened (optional) (WSMR tested)

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.



## GENERAL DYNAMICS

Mission Systems

1941 Robertson Road • Ottawa, Ontario • CANADA • K2H 5B7 • Phone +1 613-596-7000 • info@gd-ms.ca • www.gd-ms.ca