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High Performance Anywhere

ZeroPoint

The Benefits.

After many years' experience in the Marine Industry we saw the need to specifically design an advanced & reliable computer for the commercial sector. Marine Equipment faces many environmental and maintenance challenges making reliable and rugged systems essential.

The Benefits of ZeroPoint are we use quality existing component suppliers like Intel and NVIDIA and customize their integration into our purpose built motherboard and power supply optimized for operation in the harsh Marine environment.

Whether your application is general marine systems management, net monitoring, radar systems, or navigation, Zero Point gives you High Performance Anywhere.

- *Processing Power*
- *Graphics*
- *Connectivity*
- *Custom Thermal Design*

High Performance Anywhere

Inside ZeroPoint

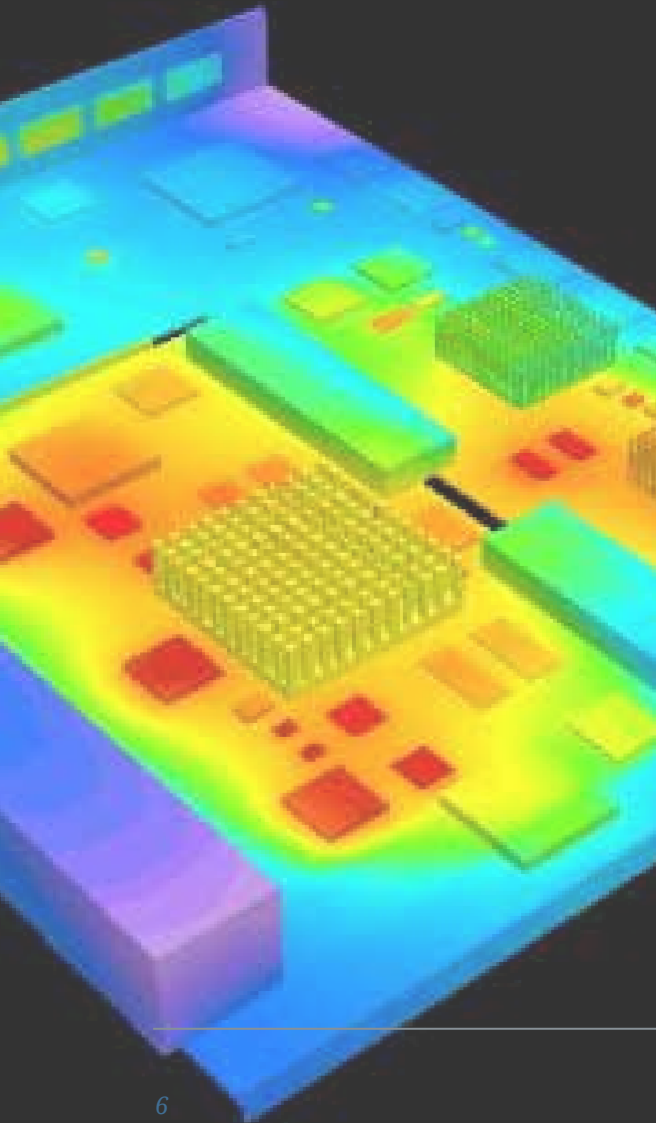|	
Thermal Design	ZeroPoint's thermal management has been custom designed specifically for Marine purposes. Heat dissipation and climate control are one of the biggest contributors to Computer failure at sea. Due to our experience ZeroPoint's case design is one of its defining features.
Processing	4th generation Intel Core i7 processor is perfect for all your demanding tasks.
Graphics	NVIDIA® Quadro® 3000M professional graphics processor which is a true technological breakthrough, based on the NVIDIA Kepler architecture and featuring more NVIDIA CUDA® cores than previous generations in the same power envelope, and up to 4GB of graphics memory.
High Speed Connectivity	With Thunderbolt 2 You can move data to and from peripherals up to 20 times faster than with USB 2 and up to 12 times faster than with FireWire 800.
ESD Protection:	We employ an active protective circuit design to guard your system against electrostatic interference and damage, providing greater component longevity.
Expandability	5 x Easy Swap SSD bays.
Power Supply	ZeroPoint has an internal power supply supporting both AC and galvanically isolated DC

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High Performance Anywhere
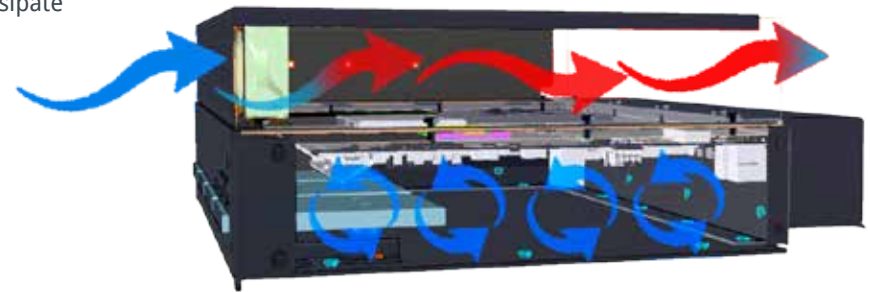
Advanced Thermal Design

Custom Marine Design Solutions.

ZeroPoint's thermal management has been custom designed specifically for Marine purposes. Heat dissipation and climate control are one of the biggest contributors to Computer failure at sea.

Due to our experience ZeroPoint has been designed with thermal Management as one of its defining features. It can operate in temperatures from 0°c - 45°c

- Primary cooling via Six(6) IP68 PWM fans.
- Enclosed electronics bay minimizes external environmental elements.
- Marine Designed Heat Sink to efficiently dissipate heat out of electronics enclosure.

ZeroPoint is designed to work at sea so it will work just about anywhere.

Amazing Performance and Stunning Visuals

4th Generation Intel® Core™ i7 Haswell Refresh Processor, for a difference you can see and feel.

AMAZING PERFORMANCE AND STUNNING VISUALS AT THEIR BEST

Get top-of-the-line performance for your most demanding tasks with a 4th generation Intel® Core™ i7 Haswell Refresh processor. For a difference you can see and feel in HD and 3-D, multitasking and multimedia, the 4th generation Intel Core i7 processor is perfect for all your most demanding tasks.

Delivers noticeable performance advancements, including vastly improved graphics and security.

TURBO BOOST TECHNOLOGY

Intel Core processors feature Intel Turbo Boost Technology 4 2.0, which delivers a burst of processor speed automatically when the workload demands additional performance. Effortlessly move through applications with smart multitasking from Intel Hyper-Threading Technology. Hyper-Threading Technology 4 allows each processor core to work on two tasks at the same time, improving multitasking, speeding up the workflow, and accomplishing more in less time.

4TH GENERATION INTEL CORE PROCESSORS

With 4th gen Intel Core processors, you can boot your PC, load applications, and resume from sleep faster thanks to Intel's responsiveness technologies such as Intel Smart Response Technology 5 and Intel Rapid Start Technology.

The 4th gen Intel Core processor family offers hardware-level security that helps protect your devices, your data, and your online transactions.

Professional Graphics

Designed and Built Specifically for Professional Workstations.

ZeroPoint comes with the option of the newest NVIDIA® Quadro® 3000M professional graphics processor which is a true technological breakthrough, based on the NVIDIA Kepler architecture and featuring more NVIDIA CUDA® cores than previous generations in the same power envelope, and up to 4GB of graphics memory.

Professional High definition graphics provide display options you need for today's enhanced graphics software.

GREATER MODEL COMPLEXITY IN THE DESIGN WORKFLOW

Next-generation streaming multiprocessor (SM) design, called SMX, offers several important architectural changes. You can realize substantial increases in per-clock throughput of key graphics operations that combine to deliver unprecedented performance and power efficiency. Plus, the new Quadro solutions offer up to 8GB frame buffer capacity, letting you work with larger models and assemblies and improving interactive manipulation performance during the design process.

ULTRA- HIGH RESOLUTION VISUALIZATION

You can now drive up to three displays simultaneously and get full support for the next-generation Display Port 1.2 standard—capable of resolutions of 3840x2160 at 60 Hz.

DEEP COLOR PROCESSING AND DISPLAY

Preserve color detail and precision throughout the processing and display pipeline for smooth gradients transitions, even on high dynamic range imagery. Each color component can be processed at up to 32-bit floating point precision and displayed at up to 12-bit precision with supported Display Port 1.2

PRODUCT FEATURES	Quadro 3000M
NVIDIA® CUDA™ Parallel Proces-	1024
Memory Size	4GB
Memory Type	GDDR5
Memory Interface	256-bit
Memory Bandwidth	160GB/sec
Max Power Consumption, TGB	75W
OpenGL	4.5
Shader Model	5.0
PCI-E Generation	3
DirextX	12^2
Display Port	1.2
NVIDIA® 3D Vision® Pro	✓
NVIDIA® Mosaic Technology	✓
NVIDIA® nView® Display Management Technology	✓
NVIDIA® Optimus™ Technology	✓

Quadro solutions combine the most advanced display technologies and interfaces. Easily deploy and manage single or multiple displays.

High Speed Connectivity
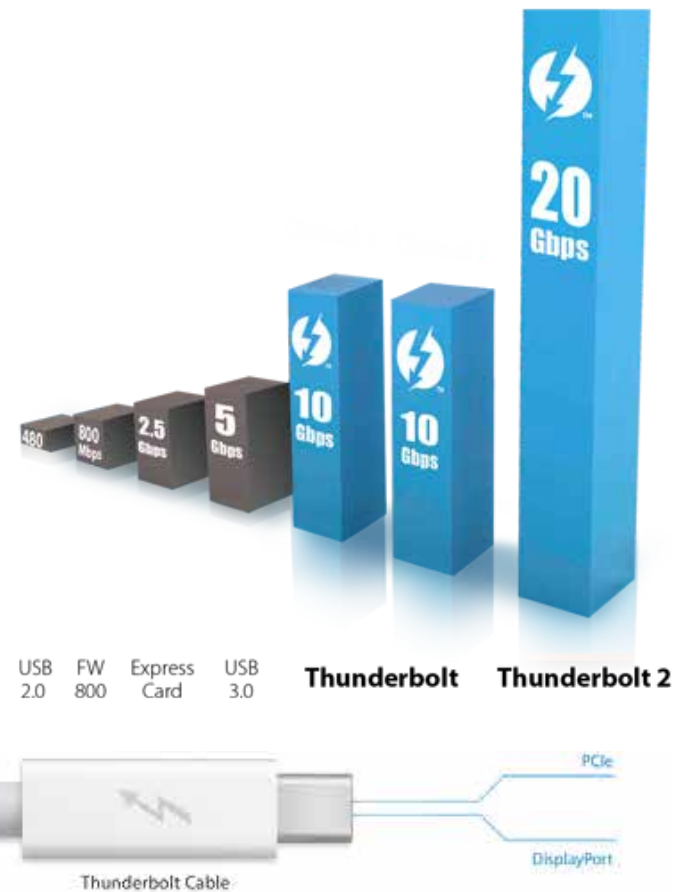The most advanced I/O ever, performance and expansion made faster and smarter.

Thunderbolt™ I/O technology lets you move data between your devices and your computer with a single 20 Gbps bi-directional channel. And it allows you to connect as many as 6 devices, daisy chained, through a single compact port.

With Thunderbolt 2 You can move data to and from peripherals up to 20 times faster than with USB 2 and up to 12 times faster than with FireWire 800.

You also have more than enough bandwidth to daisy-chain multiple high-speed devices without using a hub or switch. For example, you can connect several high-performance external disks, a video capture device and even a display to a single Thunderbolt chain while maintaining maximum throughput.

Thunderbolt 2 also supports 4K video which requires more bandwidth than the original Thunderbolt can accommodate. Thunderbolt 2 is able to stream that 4K video and write it to disk at the same time. Because Thunderbolt technology delivers two full-bandwidth channels, the user can realize high bandwidth on not only the first device attached, but on downstream devices as well.

ESD Protection

ZeroPoint Keeping your Equipment Safe.

Electrostatic Discharge (ESD) is an electrical transient that poses a serious threat to electronic circuits. The most common cause is friction between two dissimilar materials, causing a buildup of electric charges on their surfaces. Typically, one of the surfaces is the human body, and it is not uncommon for this static charge to reach a potential as high as 15,000 volts. At 6,000 static volts, an ESD event will be painful to a person. Lower voltage discharges may go unnoticed, but can still cause catastrophic damage to electronic components and circuit. Much like the shock you receive when rubbing your feet on the carpet and touching something metal. ESD can happen suddenly, and its damaging effects are easily underestimated.

The ZeroPoint has built in ESD Guards for protection from electrostatic discharge. Keeping your equipment safe.

ESD Guards are tested to very high standards, capable of up to +/- 10kV for air discharge and +/-6kV for contact discharge. We employ an active protective circuit design to guard your system against electrostatic interference and damage, providing greater component longevity.

Electrostatic discharges occur · With ESD Guards · S🔒FE

Expandability

5 x Easy Swap SSD's.

ZeroPoint has been designed to make expandability hassle free with 5 Easy Swap SSD bays. No need to open your entire machine to install a new drive, storage and movability has never been faster! The ZeroPoint supports up to Five (5) 2.5" 2TB SSD's and One (1) mSATA up to 240GB.

- Effortlessly install new drives.
- Makes cloning your data simple with appropriate software.
- Easily remove installed drives and take your data with you.

Power Supply

ZeroPoint supports both AC and Galvanically Isolated DC.

ZeroPoint has an internal power supply supporting both AC and galvanically isolated DC. Its features include: input over/under-voltage protection, output over-current protection, output over-voltage protection, and reverse voltage protection.

- DC galvanically isolated preventing unwanted Ground loops.
- galvanically isolated input to output with no common connectivity.
- Dual independent AC and DC inputs.
- Can run off either single AC input or single DC input.
- If both AC and DC inputs are present, AC input is primary source, DC input minimal current drawn. If AC supply is disconnected, DC supply used to provide uninterrupted power to the system.
- AC input 100-240V 50/60 Hz, peak efficiency depending on voltage 110v - 87%, 220v - 90%, 24v - 92%
- DC input 24V, peak efficiency 92% better then 87%
- Under and over voltage protection
- Reverse polarity protection
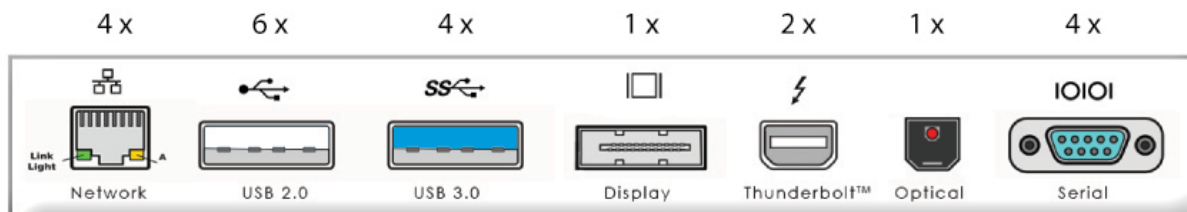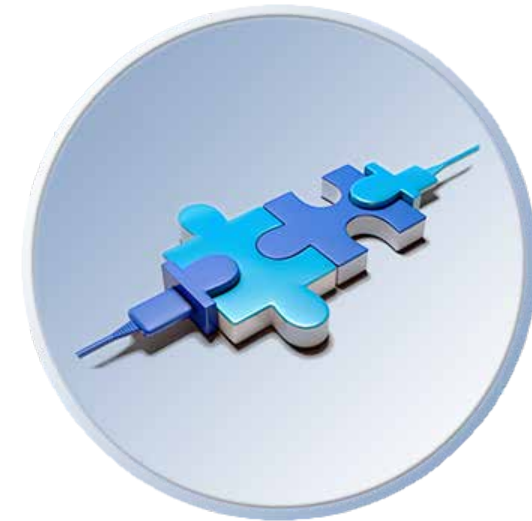- Over temperature protection with auto recovery

Interface Options

Connectivity is a defining feature of ZeroPoint.

ZeroPoint incorporates a rich selection of communication interfaces to streamline your network and easily connect marine-specific devices and subsystems cutting down on overall network complexity.

- 4 x Opto isolated RS-232/422 Serial Ports.

- 1 x Display Port 1.2 Connector.

- 2 x Thunderbolt™ Connectors.

- 6 x USB 2.0, 4 x USB 3.0.

- 1 x Optical Audio Out Connector (SPDIF).

- 4 Network Ports, 1x Intel i217, 3x Intel i210.

4 x	6 x	4 x	1 x	2 x	1 x	4 x
Network	USB 2.0	USB 3.0	Display	Thunderbolt™	Optical	Serial

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