



**EIZO Rugged Solutions**  
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# Condor GR3 3U VPX



## Rugged 3U VPX GPGPU / SBC Solution with CUDA Support

The Condor GR3 3U VPX is a rugged conduction cooled 3U VPX GPGPU Solution designed for SWaP (Size Weight Power) constrained applications. It hosts a GPU module and has an XMC site for interfacing with an XMC Single Board Computer (SBC). The board is designed to be a highly efficient GPGPU solution taking up a single 3U VPX slot. It hosts the leading edge NVIDIA® GeForce® GTX 950M GPU based on the NVIDIA® Maxwell™ GPU architecture with 640 CUDA® cores and 1.271 TFLOPs of floating-point performance. Currently there are two SBC options. One is a 5th generation Intel i7 for customers demanding higher performance (GR3-X7). The second SBC option is a 6th generation Intel i3 for customers that need a lower power solution (GR3-C3).

Normally an XMC graphics board plugs into a 3U VPX SBC, but the XMC form factor is limiting to GPGPU performance because of size, power limitations and cooling issues. By using an XMC based SBC on the GR3, a more powerful GPU can be used and the single slot 3U VPX solution becomes easier to cool.

The 3U VPX form factor has a higher power availability as compared to an XMC solution and hence offers higher performance. It also offers very high GPGPU performance using either CUDA® 5.0 or OpenCL™ 1.2.

One DVI, one VGA and one DisplayPort++ video output are available from the rear VPX P1/P2 connectors. An XMC site on the 3U VPX board can host an XMC Single Board Computer that complies to VITA 42.3 for PCIe. Two 1Gbps Ethernet, two USB 2.0, two RS-232, two SATA, 8 lane PCIe and other signals from the SBC are routed to the rear VPX connectors. The board can consume up to 50W based on the application (not including the hosted XMC SBC).

The Condor GR3 3U VPX GPGPU solution is ideal for a variety of compute intensive applications. The board is designed to be modular to allow for graphics performance upgrades in the future.

Many customizations are possible such as different video outputs from the rear VPX connectors or a front I/O configuration. Please contact EIZO Rugged Solutions for more information.

This product is designed to withstand high temperature, shock and vibration environments. The board meets MIL-STD-810G standards.

EIZO Rugged Solutions is a pioneer in providing video, graphics, encoding and recording solutions for nearly three decades. Responsiveness has been the key to our success. Product customizations or new designs can be developed in a short time to meet your needs. The product comes with EIZO Rugged Solutions' long term commitment of availability and support.

### Key Features

- 3U VPX form factor (conduction cooled)
- Designed for SWaP constrained applications
- NVIDIA® Maxwell™ GPU
- GeForce® GTX 950M
- XMC site for hosting an XMC form factor computer
- GR3-C3 : 6th generation Intel® Core™ i3-6102E or GR3-X7 : 5th generation Intel® Core™ i7-5700EQ
- Supports NVIDIA® CUDA® and OpenCL™ 1.2
- 640 CUDA cores, 1.271 TFLOPs shader performance
- 4GB GDDR5 graphics memory
- DirectX® 12, OpenGL® 4.5, Shader 5.0
- 8 or 4 lane PCI Express 2.0
- DVI, VGA and DisplayPort outputs on VPX P1/P2
- Two 1Gbps Ethernet, Two USB 2.0, Two RS-232 and Two SATA
- Long term product availability
- Ideal for rugged applications
- Windows or Linux drivers

# Condor GR3 3U VPX Specifications

<b>Form Factor</b>	3U VPX. Conduction Cooled
<b>Graphics Processor</b>	900 Series NVIDIA® Maxwell™ GPU Architecture NVIDIA® GeForce® GTX 950M (multiple options available) DirectX® 12, OpenGL® 4.5, Shader 5.0 4GB GDDR5 memory
<b>GPGPU Capabilities</b>	CUDA® 5.0, OpenCL™ 1.2, CUDA® C, CUDA® C++ 640 Shaders, 1.271 TFLOPs floating-point performance
<b>CPU Interface</b>	Support for XMC based Single Board Computers following VITA 42.3 for x8 PCIe
<b>CPU Options (XMC based Single Board Computer)</b>	GR3-C3 : 2-core 6 <sup>th</sup> generation 1.9 GHz Intel® Core™ i3-6102E (25W). Up to 16 GB DDR4. 64GB soldered Micro SSD <hr/> GR3-X7 : 5th generation 2.4 GHz Intel® Core™ i7-5700EQ (40W). Up to 8GB DDR3L-1600 ECC SDRAM. Up to 32GB NAND flash
<b>I/O Interfaces</b>	8 lane PCIe 2.0 XMC Site for hosting an XMC Single Board Computer Two 1Gbps Ethernet, Two RS-232, Two USB 2.0, Two SATA
<b>Video Outputs (Rear VPX)</b>	One DVI, One VGA and One DisplayPort++
<b>Maximum Video Output Resolution</b>	1920x1200@60
<b>Power Rating</b>	50W (not including XMC based Single Board Computer)
<b>Operating Temperature</b>	-40°C to 85°C (Rugged Conduction Cooled)
<b>Non-operating Temperature</b>	-55°C to 105°C
<b>Vibration (MIL-STD-810G)</b>	0.1 g <sup>2</sup> /Hz (15-2K Hz)
<b>Shock (MIL-STD-810G)</b>	40g peak
<b>Conformal Coating</b>	Included
<b>Humidity</b>	95% without condensation
<b>Software/Platform Support</b>	Windows or Linux

***Bringing your projects to life®***



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