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MAG4C PRO

ADVANCED 3G-SDI VIDEO CAPTURE, GPGPU MISSION COMPUTER WITH MULTIFUNCTION I/O

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MAG4C PRO Advanced 3G-SDI Video Capture, GPGPU Mission Computer with Multifunction I/O

The **MAG4C PRO** is an advanced VPX based 3G-SDI Video Capture and GPGPU Mission Computer with Multifunction I/O options, engineered to meet the rigorous demands of GPGPU computing, AI processing, deep learning, and H.265/H.264 encoding and decoding applications. It features advanced hardware and robust cooling, making it ideal for use in challenging environments.

At its core, the **MAG4C PRO** is powered by a 8-Core Intel® Xeon® W-11865MRE Tiger Lake-H processor and is equipped with 32GB of DDR4 ECC SDRAM, ensuring reliable, error-correcting memory performance. For video processing, the system includes an NVIDIA Ampere RTX A2000 GPU with 2,560 CUDA cores, meeting strict data integrity requirements for mission-critical applications with uncompromised computing accuracy and reliability.
The video I/O is comprehensive, with 3x 3G-SDI inputs, 3x 3G-SDI outputs, and 1x VGA output. The **MAG4C PRO**'s connectivity is extensive, featuring 4x Gigabit LAN ports, 12x ARINC429 configurable TX/RX channels, 2x MIL-STD-1553 channels, 3x USB 2.0 ports, and 2x USB 3.0 Type-A circular connector ports. Additional I/O includes 8x serial ports, 2x audio stereo inputs, 1x audio stereo output, and 6x discrete isolated I/O. For maintenance, there are 1x RS232 port and 1x LAN port, with other I/O options available upon request. Internal storage options include a 64GB SATA on-board SSD and an internal 2.5" SATA SSD with Secure ERASE functionality via a hardware trigger, providing secure and swift data handling. The system operates with a standard power input of +28Vdc, accommodating a range from +20V to +36V, and can extend to an extreme operating range of +16V to +50V. It adheres to MIL-STD-704F standards, with a 50 ms power hold-up capability for enhanced reliability during power fluctuations.

Physically, the **MAG4C PRO** is designed to be robust and compact, featuring a conduction-cooled architecture that is supported by an integrated forced air cooling system via a removable fan module. This design ensures consistent performance even under high thermal loads. Connectivity is supported by 4x MIL-DTL-38999 military circular connectors and 2x USB 3.0 Type-A circular connectors. The unit is designed for repairability at 2LM, with simplified operations for the replacement of internal boards, power supply, and fan module.

The **MAG4C PRO** is built to endure extreme conditions, supporting operational temperatures from -40°C to +70°C and storage temperatures from -45°C to +85°C.
The system meets IP65 environmental protection standards and is qualified according to RTCA/DO-160G standards, ensuring robust performance in the most extreme conditions.

- **SWaP-C optimized**
- **Forced air cooling dissipation**
- **11th Gen Intel® Xeon® CPU**
- **4 slots 3U VPX architecture**
- **Multiple Input / Output Video Format**
- **Multifunction I/O options**
- **RTCA/DO-160G certified**



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Technical Specifications

System	
Processor Module	8-Core Intel® Xeon® W-11865MRE Tiger Lake-H @ 2.6 GHz
Memory	32GB DDR4 ECC SDRAM
Video Processing Module	NVIDIA Ampere RTX A2000 GPU with 2560 CUDA cores and 8GB of GDDR6 graphics memory
Video Ports	3x 3G-SDI inputs & 3x 3G-SDI outputs 1x VGA output
I/O Ports	4x Gigabit LAN (copper) 12x ARINC429 configurable TX/RX 2x MIL-STD-1553 channels (Dual Redundant) 3x USB 2.0 ports 2x USB 3.0 ports 8x serial ports (RS232/RS422/RS485) 2x Audio stereo Input and 1x Audio stereo output 6x I/O isolated discretes 6x OUT isolated discretes 1x Maintenance RS232 1x Maintenance LAN (copper)
Internal Storage Devices	64GB SATA III On-Board SSD Chip Internal 2.5" SATA SSD w/ Secure ERASE option (hardware trigger)
Management Features	Power BIT, continuous BIT Internal temperature monitoring Internal voltage monitoring Fan monitoring and control
Software	Windows® 11, Windows® 10, Linux
Power Section	
Power Input	+28Vdc standard (+20V to +36V) Extreme operating range: +16V to +50V Compliant to MIL-STD-704F with 50 msec power hold-up
Power Consumption	Estimated Maximum Power consumption < 300W
Voltage Spike	600V (RTCA/DO-160G S17 CAT. A)
Mechanical Features	
Dimensions (W x D x H)	184 mm x 354 mm x 159 mm
Weight	< 8.5 Kg
Cooling	Forced air cooling via removable fan module
Interfaces	4x MIL-DTL-38999 military circular connectors 2x USB 3.0 type A circular connector
Environmental Features	
Operating Temperature	-40°C to +70°C (RTCA/DO-160G S4 CAT. B2)
Storage Temperature	-45°C to +85°C (RTCA/DO-160G S4 CAT. B2)
Altitude	Operative: Max 35.000 feet (RTCA/DO-160G S4 CAT. C2)
Rapid Decompression	Operative: 35.000 – 8000 feet (RTCA/DO-160G S4 CAT. C2)
Humidity	Up to 95% (RTCA/DO-160G S6 CAT. B)
Shock	6g shock, 11ms (RTCA/DO-160G S7 CAT. B)
Crash Safety	20g shock, 11ms and 20g sustained acceleration (RTCA/DO-160G S7 CAT. B)
Vibrations	According to RTCA/DO-160G S8 CAT. U Curve G (Rotary Wings) According to RTCA/DO-160G S8 CAT. R Curve Y (Fixed Wings)
Explosive Atmosphere	According to RTCA/DO-160G S9 CAT. E
Environmental Protection	IP65 rated according to EN 60529
Fungus Protection	According to RTCA/DO-160G S13 CAT. F
Salt Spray	According to RTCA/DO-160G S14 CAT. S
Magnetic Effect	According to RTCA/DO-160G S15 CAT. Z
EMC	Audio frequency conducted susceptibility: RTCA/DO-160G S18 CAT. Z Induced signal susceptibility: RTCA/DO-160G S19 CAT. ZC Radio frequency susceptibility: RTCA/DO-160G S20 CAT. T Emission of radio frequency energy: RTCA/DO-160G S21 CAT. M Electrostatic discharge: RTCA/DO-160G S25 CAT. A

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