GOMA
RUGGED SOLUTIONS



MAG2A IO

GRAPHIC & VIDEO CAPTURE COLD PLATE MISSION COMPUTER WITH MULTIPLE I/O

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MAG2A IO

Graphic & Video Capture Cold Plate Mission Computer w/multiple I/O

MAG is a family of Rugged Mission Computers OpenVPX based designed for applications in critical environments.
The **MAG2A IO** is a high-performance Mission Computer with 3G-SDI graphics & video capture capabilities and Multiple I/O offering, designed for GPGPU computing, AI processing, deep learning and H.265/H.264 encoding & decoding applications. At the heart of the unit there is a Quad Core Intel® Xeon® E3-1505M v6 processor, with a 16GB DDR4 and a 64GB Flash memory. The **MAG2A IO** is powered by a NVIDIA Pascal Quadro P2000 dedicated video processor with a 4GB GDDR5 memory, and a rich video I/O selection including 2x 3G-SDI outputs, 2x 3G-SDI inputs, 2x VGA independent outputs.

The **MAG2A IO** Mission Computer includes a number of standard I/O such as 3x Gigabit Ethernet ports, 2x USB 2.0 ports, 1x USB 3.0 port, 4x serial COM (RS232/RS422/RS485) and up to 4 configurable digital I/O are also available. The **MAG2A IO** can be configured with additional I/O functions from a list of selected modules, such as COM ports, CAN bus (with ARINC 825 support), GbE ports, analog video inputs, 1553 and ARINC429 interfaces. The **MAG2 IO** can host a further internal 2.5" Serial-ATA III SSD with the capability of triggering a hardware Secure Erase signal. **MAG Series** Mission Computers employ conduction cooled cards inside a sealed chassis, using baseplate cooling for heat dissipation.

The **MAG2A IO** Mission Computer is qualified according to RTCA/DO-160G standards, ensuring robust performance in the most extreme conditions.

- **SWaP-C optimized**
- **Cold plate dissipation**
- **7th Gen Intel® Xeon® Processor**
- **2 slots 3U VPX architecture**
- **Multiple I/O options**
- **RTCA/DO-160G certified**

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Technical Specifications

System	
Processor Module	Quad Core Intel® Xeon® E3-1505M v6 (4C @ 3.0 GHz)
Memory	16GB DDR4 ECC DRAM
Video Processing Module	Based on NVIDIA Pascal Quadro P2000 GP107 GPU with 768 CUDA cores Integrate 4GB GDDR5 graphics memory with 128-bit memory width and 96GB/s memory bandwidth
Video Ports	2x 3G-SDI inputs & 2x 3G-SDI outputs 2x VGA (1920×1200) independent outputs 1x VGA replicated output 1x DVI Output (from CPU board)
I/O Ports	3x Gigabit LAN (copper) 2x USB 2.0 Ports 1x USB 3.0 Port 4x Serial Ports (RS232/RS422/RS485) 2x Isolated discrete IN + 2x Isolated discrete OUT Configurable I/O options (contact Factory): Up to 4 x isolated or not isolated RS232, RS422, RS485 2x CANbus (with ARINC 825 support) 8x Analog Video Inputs 2x GbE Ports 2x MIL-STD-1553 interfaces 8x ARINC 429 RX + 4x ARINC 429 TX interfaces
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
Software	Windows 11, Windows 10, Linux

Power Section	
Power Input	+28Vdc standard (+20V to +36V) Extreme operating range: +16V to +50V Compliant to RTCA/DO-160G S16 CAT. Z and MIL-STD-704F
Power Consumption	Power consumption (average) 110W Power peak up to 150W
Voltage Spike	600V (RTCA/DO-160G S17 CAT. A)

Mechanical Features	
Dimensions (W x D x H)	167.0 mm x 219.0 mm x 97.0 mm
Weight	4.0 Kg
Cooling	Fanless design, conduction cooling through baseplate
Interfaces	3x MIL-DTL-38999 SIII style circular connectors 1x Rugged USB 3.0 connector

Environmental Features	
Operating Temperature	-40°C to +70°C (RTCA/DO-160G S4 CAT. B2)
Storage Temperature	-50°C to +85°C (RTCA/DO-160G S4 CAT. B2)
Altitude	Operative: Max 25.000 feet (RTCA/DO-160G S4 CAT. B2)
Humidity	Up to 95% (RTCA/DO-160G S6 CAT. 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
Environmental Protection	IP65 rated according to EN 60529
Fungus Protection	According to RTCA/DO-160G S13 CAT. F
Salt Spray	5% NaCl 48 hours (RTCA/DO-160G S14 CAT. S)
Magnetic Effect	Deviation at 0.3m (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 S21CAT. M Electrostatic discharge: RTCA/DO-160G S25 CAT. A

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