



MAG2A AVIO

3G-SDI GRAPHICS AND VIDEO CAPTURE
MISSION COMPUTER WITH AVIONIC INTERFACES

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MAG is a family of rugged Mission Computers OpenVPX based designed for critical environment applications. The MAG2A AVIO is a high-performance Mission Computer with 3G-SDI graphics & video capture capabilities, and MIL-STD-1553 and ARINC 429 avionic interfaces. 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 AVIO 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 and 2x VGA independent outputs. One VGA output channel from the graphic processor is also buffered to drive two identical sets of video signals. Additionally, a DVI-D single link is brought out from the processor. The graphic processor board is connected to the SBC via PCI Express™. The connection allows video inputs to be transferred into the system memory for manipulation and/or to be recorded into a local SATA SSD supporting a Secure Erase hardware. The MAG2A AVIO Mission Computer includes a number of dedicated avionic interfaces available: dual-channel dual redundant MIL-STD-1553B and 4x TX + 8x RX ARINC 429 serial channels. Furthermore, a large number of 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 AVIO 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 AVIO is compliant to MIL-STD-810/MIL-STD-461 specifications and RTCA/DO-160G.



Product Features

- SWaP-C optimized
- Cold plate dissipation
- 7th Gen Intel® Xeon® processor
- 2 slots 3U VPX architecture
- Avionic interfaces
- Compliant to RTCA/DO-160G

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 graphic 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 split output (replica of a VGA channel) 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 Dual-channel dual-redundant MIL-STD-1553B interfaces 4x ARINC-429 TX channels + 8x ARINC-429 RX channels |
| 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 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 Kg |
| Cooling | Fanless design, conduction cooling through baseplate |
| Interfaces | 3x MIL-DTL-38999 military circular connectors 1x USB 3.0 connector |
| Environmental Features | |
| Operating Temperature | -45°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. B) |
| Shock | 6g shock, 11ms (RTCA/DO-160G S7 CAT. B) |
| Crash Safety | 20g shock, 11ms (RTCA/DO-160G S7 CAT. B) |
| Vibrations | Random, up to 4.76 Grms Frequency Range: 5 ÷ 300Hz (RTCA/DO-160G S8 CAT. U) |
| Environmental Protection | IP65 rated according to EN 60529 |
| Fungus Protection | According to RTCA/DO-160G S13 CAT. F |
| Salt Spray | 5% 35°C 48 hours (RTCA/DO-160G S14 CAT. S) |
| Magnetic Effect | Deviation at 0.3m (RTCA/DO-160G S15 CAT. Z) |
| EMC | Audio frequency 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 |





GOMA ELETTRONICA SpA

Strada Antica di Collegno, 225
10146 Torino - Italia

Tel: +39 011 7725024

Fax: +39 011 712298

www.gomarugged.com

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