

# Backbox computer MCU1121



## MDU Backbox Computer

The MDU Backbox Computer is a rugged backbox customized for its demanding environment. The backbox contain a full computing processor and comes with a flexible layout of interfaces, depending on the customers needs.

### Built to take a beating

The Backbox is built to withstand the harshest conditions over the long haul. It features aluminium casing, rugged MIL connectors for easy integration and will operate down to -20 C.

### Guaranteed performance

Our products always come with a lifetime support to ensure your equipment maintains peak performance for many missions to come. We also serve units and stock spare parts for 5 years end-of-life.

### Features

- Up to 8 GB RAM
- Intel Atom E3900
- 12-36 VDC
- Passively cooled

### Options

- MIL-connectors or Industrial
- VGA, DVI, HDMI, DisplayPort, 3G/HD/SD-SDI
- Operational and Storage: Low temperature -40C

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## Connector Interfaces

<b>X5 DC IN</b> (bottom)	• 1x Power
<b>X3</b> (bottom)	• 1x ETH 1000BASE-T
<b>SERVICE</b> (left side)	• 1x RS232 Service
<b>X2</b> (bottom)	• 2x RS232
<b>X1</b> (bottom)	• 1x USB 2.0
<b>X4</b> (bottom)	• 1x USB3.0

## Other Interfaces

- 1x MilDef M.2 Disk Slot (left side)
- 1x Status indicator (bottom)
- 1x MilDef Backbox Interface (back)

## Technical Specification

<b>Computer Memory</b>	Up to 8 GB RAM
<b>Computer Processor</b>	Intel Atom E3900
<b>Graphics resolution</b>	Max 1920 x 1080.
<b>MIL-STD-1275D</b>	5.3.2.2 5.3.2.3 5.3.2.4
<b>Polarity protection</b>	Protected against polarization failure on the power input in the voltage range of normal operation.
<b>Power consumption</b>	40W
<b>Power input</b>	12-36 VDC
<b>Coating and color</b>	Dupont AE0305-6603120 (RAL6031)
<b>Cooling</b>	Passively cooled
<b>Earth point</b>	M6 12mm
<b>Surface treatment chassis</b>	Chromit-Al

## Environmental Specification (\* designed to meet)

<b>High temperature - Operating*</b>	MIL-STD-810G, Method 501.5, Procedure II - Operation 55 °C (131 °F)
<b>High temperature - Storage*</b>	MIL-STD-810G, Method 501.5, Procedure I - Storage 71 °C (160 °F)
<b>IP Class (Solid Particle Protection)*</b>	IP Class 6X
<b>IP Class (Water)*</b>	IP Class X5
<b>Low air pressure - Rapid Decompression*</b>	MIL-STD-810G, Method 500.5, Procedure III - Rapid Decompression 75.2kPa, corresponding to 2,438m (8.000 ft) 17kPa, corresponding to 12192m (40.000 ft)

<b>Low air pressure - Operating*</b>	MIL-STD-810G, method 500.5, Procedure II - Operation/Air Carriage 4572m (15.000 ft)
<b>Low temperature - Operating*</b>	MIL-STD-810G, method 502.5, Procedure II - Operation -20 °C (-4 °F)
<b>Low temperature - Storage*</b>	MIL-STD-810G, method 502.5, Procedure I - Storage -20 °C (-4 °F)
<b>Noise level*</b>	Maximum noise level of 40dB SPL A-weighting @ 1m (3,3 ft) distance
<b>Salt fog*</b>	MIL-STD-810G Method: 509.5 5% +- 1% (by weight) Two cycles, 24h wet + 24h dry /cycle
<b>Temperature Shock - Operating*</b>	The unit shall pass MIL-STD 810G, method 503.5 procedures I - C, - Multi-cycle shocks from constant extreme temperature. 55 °C - 20 °C
<b>Transit drop, in shipping package*</b>	MIL-STD-810G, method 516.6, Procedure IV - Transit Drop. Table 516.6-VI, Transit drop test, < 45.4 kg (100 lbs), < 91 cm (36 inch), Manpacked or man-portable
<b>Vibration - Helicopter*</b>	MIL-STD-810G. Method 514.6, Procedure I - General vibration, Category 14 - Rotary wing aircraft - helicopter
<b>Vibration - Loose Cargo*</b>	MIL-STD-810G. Method 514.6, Procedure II - Loose cargo transportation, Category 5 - Truck/trailer - loose cargo
<b>Vibration - Tracked Vehicles*</b>	MIL-STD-810G. Method: 514.6 , Procedure 1 - General Vibration, Category 20 - Ground vehicles - ground mobile, tracked vehicles
<b>Vibration - Wheeled Vehicle*</b>	MIL-STD-810G. Method: 514.6 , Procedure 1 - General Vibration, Category 20 - Ground vehicles - ground mobile, wheeled vehicles
<b>EMC Specification (* designed to meet)</b>	
<b>CE EMC*</b>	EMC Directive 2014/30/EU.
<b>EMI conducted CE102</b>	MIL-STD-461F, Method CE102 BASIC CURVE 10kHz to 10MHz
<b>EMI radiated RE102</b>	MIL-STD-461F 2MHz - 18Ghz Navy Mobile & Army
<b>EMS conducted CS101</b>	MIL-STD-461F, Method CS101, conducted susceptibility, power leads CURVE #1

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	30Hz to 150kHz
<b>EMS conducted CS114</b>	MIL-STD-461F 10kHz - 200MHz Army, Ground
<b>EMS conducted CS115</b>	MIL-STD-461F Conducted susceptibility, bulk cable injection, impulse excitation
<b>EMS conducted CS116</b>	MIL-STD-461F 10 kHz to 100 MHz
<b>EMS radiated RS103</b>	MIL-STD-461F 2MHz to 1GHz Army
<b>ESD</b>	EN61000-4-2:2009 Level 3 EN50024:1998 Performance criteria B + A1:2001 + A2:2003