

white bream

UNIGO mobile computer system



Introduction:

UNIGO is a new way of mobile computing. By employing a split motherboard architecture combined with an industry-standard processor module, a very flexible system is realized.

Many configurations are possible on the processor side, from low cost Geode™ and Via Eden™ processors up to high-performance Intel® Core 2 Duo processors running at 2GHz with 2GB of memory.

The split part of the **UNIGO** motherboard provides the I/O capabilities of the computer, except for the primary connections such as display, power, global positioning (GPS) and build-in wireless network or cellphone for wireless data communications.

The system contains a special programmable DC/DC power supply. This power supply allows **UNIGO** to operate from most common car, boat and truck board nets of 12 and 24V.

Application specific connections:

Industrial and mobile computer solution often require specific interfaces like RS485 or CAN to connect with various peripheral devices.

Thanks to the modular structure of the I/O connections on the **UNIGO**, these specific requirements can be designed at relative low non-recurring engineering cost.

On the **UNIGO** motherboard a variety of interfaces is present, ready to be wired to outside connections. Among these interfaces are 4 x RS232C, 4 x USB 2.0, CAN, I²C and parallel. In case these are not enough, there is still the possibility to add a dedicated PCI-based extension board to implement additional interfaces.

The default board for industrial and logistic applications provides one standard serial port, USB ports, one switchable RS232 or RS485 port and ethernet.

Applications:

- Data management in logistics,
- Industrial automation,
- Navigation computer,
- Mobile data acquisition.

Software:

Since **UNIGO** is based on normal Intel processors, most Intel-compatible software and operating systems can be executed on **UNIGO**, including, but not limited to Microsoft® Windows® XP, XPe, CE and Linux.

Logistic opportunity:

1. collect data from truck or van,
2. merge this with GPS position information,
3. store data at hard drive or solid state storage,
4. send high-priority data to back-office with GSM/GPRS,
5. upload low-priority data at 5pm using wireless LAN.

At the same time the driver can be provided with navigation features, coordinated by GPS positioning data combined with TMC traffic information.

Power management:

The on board power controller takes care of starting and shutting down **UNIGO**. When power is applied to the remote control input line, the system is started.

After this remote control input line is deactivated and the programmable delay has expired, a shutdown event is issued to the operating system. A watchdog forces system power off after three minutes when the system fails to shutdown inadvertently.

To safeguard the battery against drainage, the input voltage is monitored. When this voltage gets too low, the system is switched off completely. First gently by a system power event, later by cutting power if necessary.

Dedicated circuitry protects the electronics against high voltage spikes (ISO7637, 12V and 24V) that may occur in car applications.

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Specifications and product appearance are subject to change.

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Base unit specifications:

- Intel® Mobile Celeron® M, Core Duo or Core 2 Duo,
- Optionally with other processors Intel Atom*, Via Eden™ or AMD Geode™ processors,
- 1024MB or 2048MB DDR2 SODIMM memory,
- Up to 320GB 2.5" ATA hard disk storage,
- Internal Compact Flash type I socket (typically up to 32GB),
- Galileo ready fast-rate (4Hz) µBlox GPS receiver with high sensitivity (-160dBm),
- Build-in FM RDS/TMC tuner,
- DVI analog/digital monitor out (digital optional),
- Power, USB and audio over DVI technology,
- Optional build-in GSM/GPRS or UMTS/HSDPA* modem,
- Optional build-in wireless network,
- Optional 3-axis compass/acceleration module*,
- Front USB 2.0 socket,
- Mini USB 2.0 with host-to-host support,
- Proprietary PCI expansion socket,
- CAN Interface (SJA1000) with silent mode support*,
- Remote control in- and output, 4 auxiliary in- and 2 outputs,
- Power, in- & outputs and CAN on Molex® MicroFit,
- Heater for hard disk at sub 5 °C temperatures,
- Temperature controlled fans,
- 9 to 33V input range (operating), 65 Watt max,
- Short time input range 6.5V to 36V,
- Power Properties extension for Windows,
- Programmable startup and shutdown control,
- Flexible power-off delay times,
- Adjustable low battery protection for battery,
- Operating temperature range: -10 to +50 °C,
- Limited time temperature range: -20 to +80 °C,
- Non-operating temperature range: -45 to +85 °C,
- Humidity: 5% to 95%, non condensing,
- MTBF: 60000 hours,
- 2-year limited warranty,
- 2004/104/EC and R10/UN automotive certified*,
- 108 x 45 x 168 mm aluminum case,
- System weight: 850 grams,
- Mounting flanges available,
- Custom color and logo engraving for OEM/ODM.

Quad USB I/O configuration:

- RS232C serial port with 5/12V (Sub-D 9-pin male),
- RS232A/RS485 port with 12V (4-pin MicroFit),
- Quad USB 2.0 (standard A-socket),
- 10/100Mbps Ethernet (RJ45).

Quad serial configuration:

- RS232C serial port with 5/12V (Sub-D 9-pin male),
- 3 x RS232A/RS485 port with 12V (4-pin MicroFit),
- Dual USB 2.0 (standard A-socket),
- 10/100Mbps Ethernet (RJ45).

Custom connection possibilities:

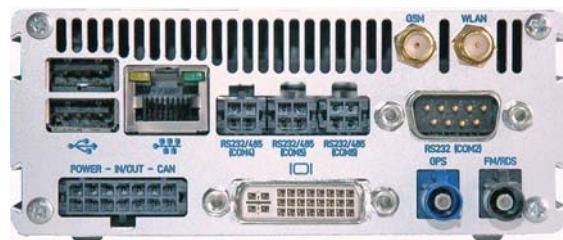
- 2 or 4 x RS232/RS422/RS485,
- 4 x USB 2.0, CAN, I²C,
- Parallel, audio line out, TV-out, power,
- Rear panel area 95 x ~13 mm max.

* Pending development

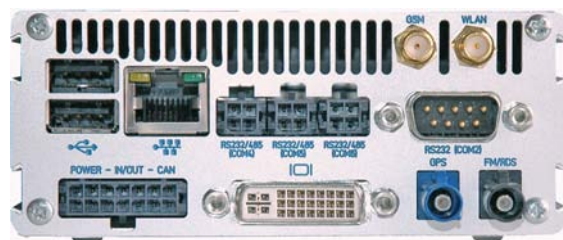
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Base unit rear panel connections (rectangle shows available area for custom connections)



Quad USB rear panel connections



Quad serial rear panel connections

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