

white bream

MERGO® maritime computer system

preliminary



Introduction:

MERGO is a new way of mobile computing for maritime applications. This single-box computer unit dedicated to maritime usage can replace various devices including the GPS, interface converters for NMEA, power converter and much of the associated cabling.

The system can be equipped with various processor configurations, from low cost Geode™ and Via Eden™ processors up to high-performance Intel® Pentium® M processors running at 2GHz with 1GB of memory.

Key features for marine:

MERGO has a build-in high-sensitivity GPS receiver with the Antaris® 4 chipset. Only a standard GPS antenna is needed to use this receiver. With glassfibre based decks, this antenna does not even have to be outside the hull.

The optional compass module measures the earth magnetic field and gravity / acceleration in three directions. This is used to calculate magnetic heading as well as tilt and roll information. Software can use the global position information to transform the magnetic heading into true heading very accurately.

Existing ship instruments can be connected to the **MERGO** system directly. This can be done using three classic NMEA inputs, a NMEA output, a (NMEA2000) CAN interface and one generic RS232/RS485 serial port.

A universal antenna socket is provided on the rear which can be used to feed an antenna signal to a PCI expansion board. Different PCI radio configurations will be made, including AIS and NavTex receivers.

Applications:

- Navigation computer,
- Chart plotter,
- Trip data logging for racing,
- MP3 and video playback for leisure,
- Data acquisition for vessels,
- Processor in surveying applications.

Power management:

MERGO contains a high efficiency low-voltage DC power supply. This allows **MERGO** to operate from typical boat board nets of 12 or 24V. Dedicated circuitry protects the system against reverse battery and voltage spikes that may occur in mobile powered applications.

The integrated power controller takes care of starting and shutting down **MERGO**. When power is applied to the remote control input line, for instance by switching on the main instrument power switch, the system is started.

After this remote control input line is switched off and a 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. No other user intervention or switching is needed after the system has shut down since it consumes only a very low standby current.

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.

Software:

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

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Specifications and product appearance are subject to change.

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Base unit specifications:

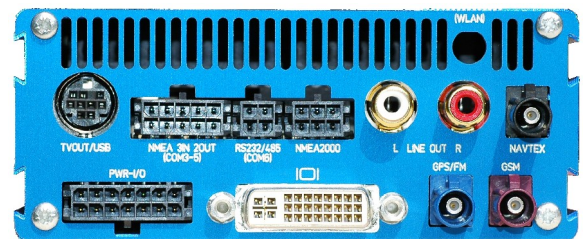
- Intel® Mobile Celeron® M processor 1.5GHz,
- Optionally with Intel® Mobile Pentium® M, Via Eden™ or AMD Geode™ processors,
- 128MB to 1024MB SODIMM memory,
- Up to 160GB 2.5" hard disk storage,
- Internal Compact Flash type I socket (typically up to 8GB),
- Build-in fast-rate (4Hz) GPS receiver with high sensitivity (-158dBm),
- 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 modem,
- Optional build-in wireless network,
- Internal 3-axis compass/acceleration module,
- 3 x NMEA 0183 optical isolated input and
- 1 x NMEA 0183 differential output (8-pin Molex® MicroFit),
- RS232A/RS485 switchable serial port (4-pin Molex® MicroFit),
- Non-isolated NMEA2000 (CAN) interface,
- Front USB 2.0 socket,
- Mini USB 2.0 with host-to-host support,
- Dual USB 2.0 socket on rear,
- Stereo line-out on RCA sockets,
- TV-out, USB and line-out socket,
- Proprietary PCI expansion socket,
- Spare antenna plug for optional PCI AIS/Navtex/Weatherfax receiver,
- Automatic heater for hard disk at sub 5 °C temperatures,
- 9 to 36V input range (operating), 65 watts max,
- Remote control in- and output, 4 auxiliary in- and 2 outputs,
- Power, CAN, inputs and outputs on 14-pin Molex® MicroFit,
- 108 x 45 x 168 mm aluminum case,
- Operating temperature range : 0 to +50 °C,
- Non-operating temperature range: -45 to +125 °C,
- Power Properties shell extension for Windows XP,
- Programmable startup and shutdown control,
- Flexible power-off delay times,
- Adjustable low battery protection for battery.



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Accessories:

- 10.4" SVGA touchscreen monitor,
- Flexible miniature keyboard,
- Windows XP Home/Professional,
- Marine GPS antenna,
- WLAN module and antenna,
- GSM/GPRS radio module,
- Power amplifier,
- Mobile USB DVD player,
- ISO and DIN antenna adaptors,
- Multiband PCI marine receiver,
- Mounting flanges.



Rear panel layout subject to change

It's in a name:

The name **MERGO**® is a spinoff of the trademark **CARGO**, the marketing name the mobile computer system for automotive navigation and entertainment purposes. For the maritime market the association with automotive (CAR) has been dropped in favor for 'MER', the french word for 'sea'. Hence **MERGO**; go sea!

Your White Bream supplier: _____

**Preliminary documentation,
not for distribution.**

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