

white bream

CARGO vehicle multimedia computer

preliminary



Introduction:

This multimedia edition of **CARGO** has extensive audio connections and features for in-car entertainment applications. Together with the standard feature set of the system, this results in one of the most advanced car computer solutions.

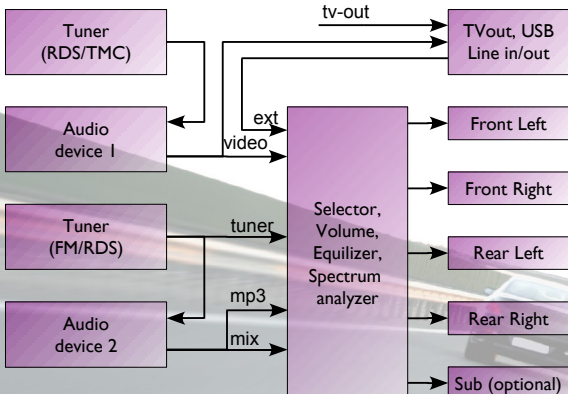
Many processor configurations are possible, from low cost Geode™ and Via Eden™ processors up to high-performance Intel® Pentium® M processors running at 2GHz with 1GB of memory.

CARGO connects directly to the board net of the vehicle and to various control signals, such as the parking-break contact to block video playback while driving.

Thanks to the single-cable monitor connection, removal of the monitor (against theft) is easy and straightforward.

Car multimedia:

CARGO employs advanced head-unit electronics to implement multiple audio sources. Up to three different sources can be played simultaneously. For instance movie playback on the rear audio channels and FM radio mixed with navigation voice on the front channels.



The computer can be used with the optional power amplifier or with any other aftermarket power amplifier.

Applications:

- Navigation,
- MP3 jukebox / car audio,
- Video playback,

Software:

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



Power management:

The on board power controller takes care of starting and shutting down **CARGO**. 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 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:

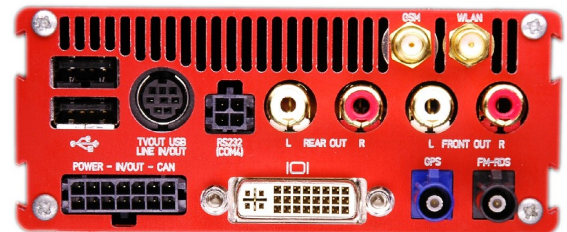
- Intel® Mobile Celeron® M processor 1.5GHz,
- Optionally with Intel® Mobile Pentium® M, Via Eden™ or AMD Geode™ processors,
- 128MB to 1024MB SODIMM memory,
- Up to 160GB 2.5" hard disk storage,
- Internal Compact Flash type I socket (typically up to 8GB),
- Build-in fast-rate (4Hz) GPS receiver with high sensitivity (-158dBm),
- Build-in dual 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,
- Optional 3-axis compass/acceleration module,
- Dual audio device for independent front/rear audio,
- 4-Channel line-out on RCA sockets,
- Hardware equalizer and spectrum analyzer,
- Optional subwoofer output,
- TV-out with headphones audio for rear-seat video,
- Support for USB and line-in on TV-out,
- Front USB 2.0 socket,
- Mini USB 2.0 with host-to-host support,
- Dual USB 2.0 socket on rear,
- RS232A Serial port (4-pin Molex® MicroFit),
- Proprietary PCI expansion socket,
- CAN Interface (SJA1000) with silent mode support,
- Remote control in- and output, 4 auxiliary in- and 2 outputs,
- Power, inputs, outputs and CAN on 14-pin Molex® MicroFit,
- Heater for hard disk at sub 5 °C temperatures,
- 9 to 36V input range (operating), 65 Watt max,
- Power Properties shell extension for Windows XP,
- Programmable startup and shutdown control,
- Flexible power-off delay times,
- Adjustable low battery protection for battery,
- Operating temperature range : 0 to +50 °C,
- Non-operating temperature range: -45 to +125 °C,
- 108 x 45 x 168 mm aluminum case.

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Accessories:

- 7 Inch widescreen VGA touchscreen monitor,
- Flexible miniature keyboard,
- Windows XP Home/Professional,
- GSM/GPS combo antennas,
- WLAN module and antenna,
- GSM/GPRS radio module,
- 4 x 50W class-D power amplifier,
- Mobile USB DVD player,
- ISO and DIN antenna adaptors,
- Mounting flanges.



Rear panel connections

It's in a name:

The name **CARGO** has been chosen as the marketing name for this mobile computer because this name binds the two most appealing mobile computing areas together. First there is the typical car computer implementation for navigation and entertainment purposes. This kind of computers is often referred to as 'carpc'. Second, we have the relation with logistics. A field of work where cargo is usually the single most important business objective.

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**Preliminary documentation,
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