

### Features

#### General Features:

- Designed to be compliant with EN50155 vehicle standards
- Rugged sealed enclosure and connectors; IP65
- Structural heat dissipation, wide temperature range
- Wide choice of x86 processors
- Supports Linux, Windows CE and XPe operating systems
- WLAN (IEEE 802.11 a/b/g)
- WWAN (GSM/GSM-R/GPRS/EDGE/UMTS/HSPDA/HSUPA/CDMA2000/EV-DO)
- 12 Channel GPS receiver
- Ethernet, USB, RS232/422/485, CAN BUS, MVB
- Analog & Digital I/O

- **Robust.** Can withstand extreme operational conditions on board any type of vehicle.

- **Extended temperature range.** Ideal for in-vehicle operations in any environment EN 50155 class T1: -25 ~ +55°C (-13° ~ +131°F); +70°C (+158°F) for 10 minutes

- **Standards.** Designed to be compliant with:
  - EN 50155 (Railway applications)
  - 2004/104/EC (Automotive applications)

- **Fanless.** Designed to operate without the need of a cooling fan/filter; avoids excessive internal heating due to obstructed air filters.

- **Designed for mobility.** Always connected thanks to the integrated radio sub-systems:
  - WLAN (IEEE 802.11 a/b/g)
  - WWAN (GSM/GPRS/GSM-R/HSPDA/HSUPA/CDMA2000/ EV-DO)

- **12 Channel GPS receiver** for context aware applications

- **Modular Flexible Design.** The systems architecture is based on the PC/104 standard so the base unit can be easily customized for the user's needs.

- **Up to 50 GB Hard Disk.** Certified for use in harsh environments (-40 ~ +85°C; -40 ~ +185°F).

- **Multiple I/O.** Up to 5 Fast Ethernet Ports, Multi-Serial Ports, Isolated Digital I/O and hi-speed USB 2.0 ports.



#### Applications:

- **Vehicle computing and data processing**
- **Fleet and asset management and monitoring**
- **Surveillance and video recording**
- **Public announcement**
- **Digital signage**
- **Condition based maintenance**

The DuraCOR family of Rugged Mobile Computers is a purpose-built mobile system that targets demanding vehicle installations such as those found within rail networks and rolling stock, buses, vessels etc. Due to high integration, the systems are very compact and will withstand the mechanical and temperature stresses commonly encountered in harsh environmental conditions.

One of the fundamental benefits of the DuraCOR family is its inherent modularity and versatility in enclosure form factors. Application specific configurations are easy to implement and our systems design team is ready to assist in the creation of custom systems using standard board-level products manufactured by Eurotech.

The rear panel of the system is dedicated to the field application signal interfacing. The front panel is dedicated to maintenance interfaces that are accessible by removing a protective service panel; this can be done without disconnecting the system from the field.

Thanks to the various I/O interfaces it can be integrated in any location within a vehicle, allowing the connection of various kinds of peripheral.

For further information on Eurotech rugged mobile computers and accessories, please visit our website: <http://www.eurotech.com/en/products/mobile+devices>.

# DuraCOR 1xxx

## Architecture

The DuraCOR family is based on a modular assembly of PC/104 boards and peripherals mounted on a single carrier board. There are two types of carrier board: one with two PC/104 slots and the other with four PC/104 slots.

The first slot is always used by the CPU board, which can be chosen among a variety of low power CPU boards, specifically designed for fan-less applications.

The other slots can be used by a variety of multi-function boards that allow you to build up a custom-made solution.

The assembly is enclosed in a rugged sealed (IP65) case available in 3 mechanical heights:

- Size LL 57 mm (2.24")
- Size LH83 mm (3.27")
- Size HH109 mm (4.29")

Every DuraCOR computer has the connectors for power and I/O signals on the rear panel and a maintenance panel with keyboard and video interfaces on the front panel.

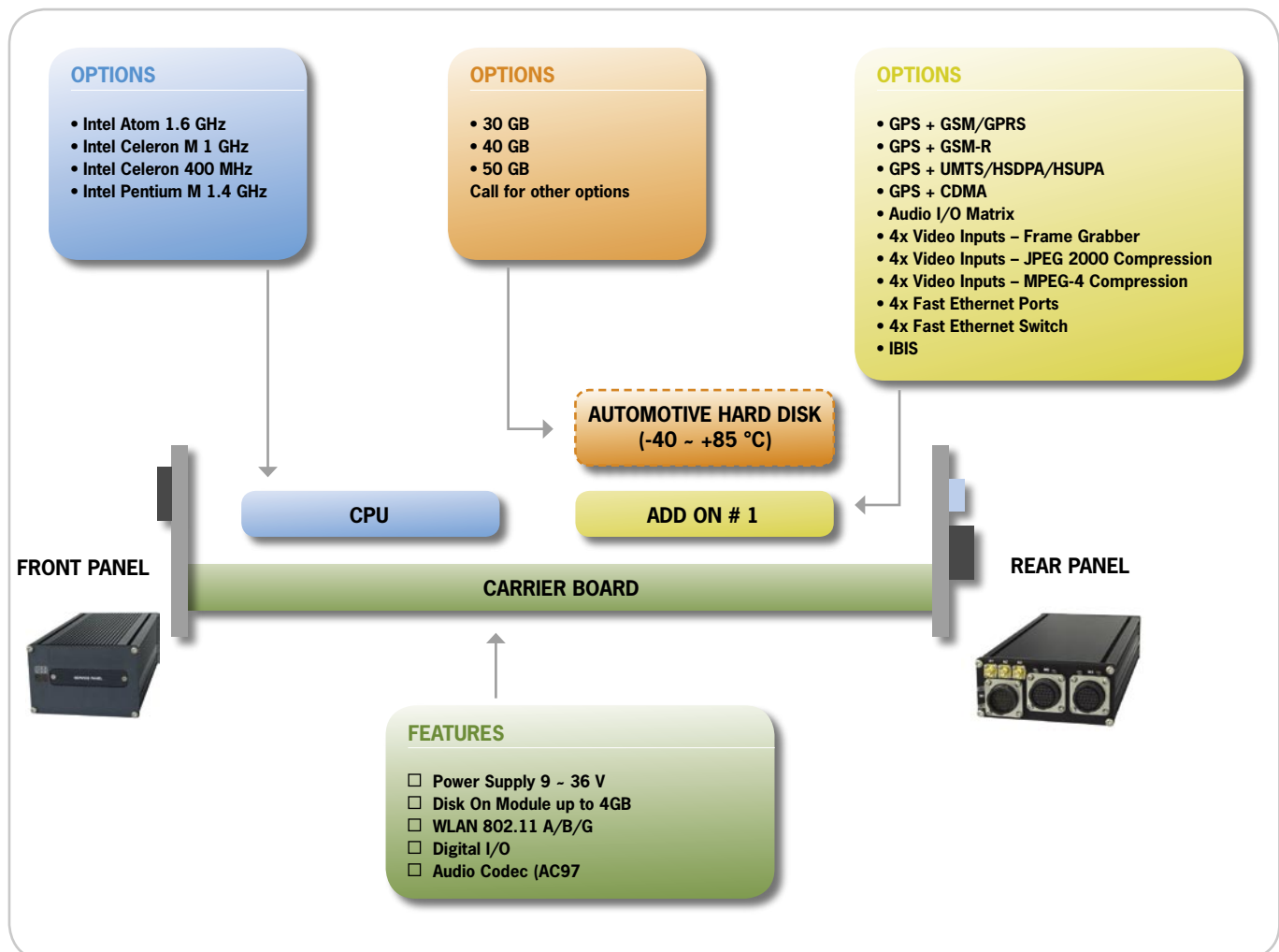


Figure 1 – Boards assembly for low profile (LL) models

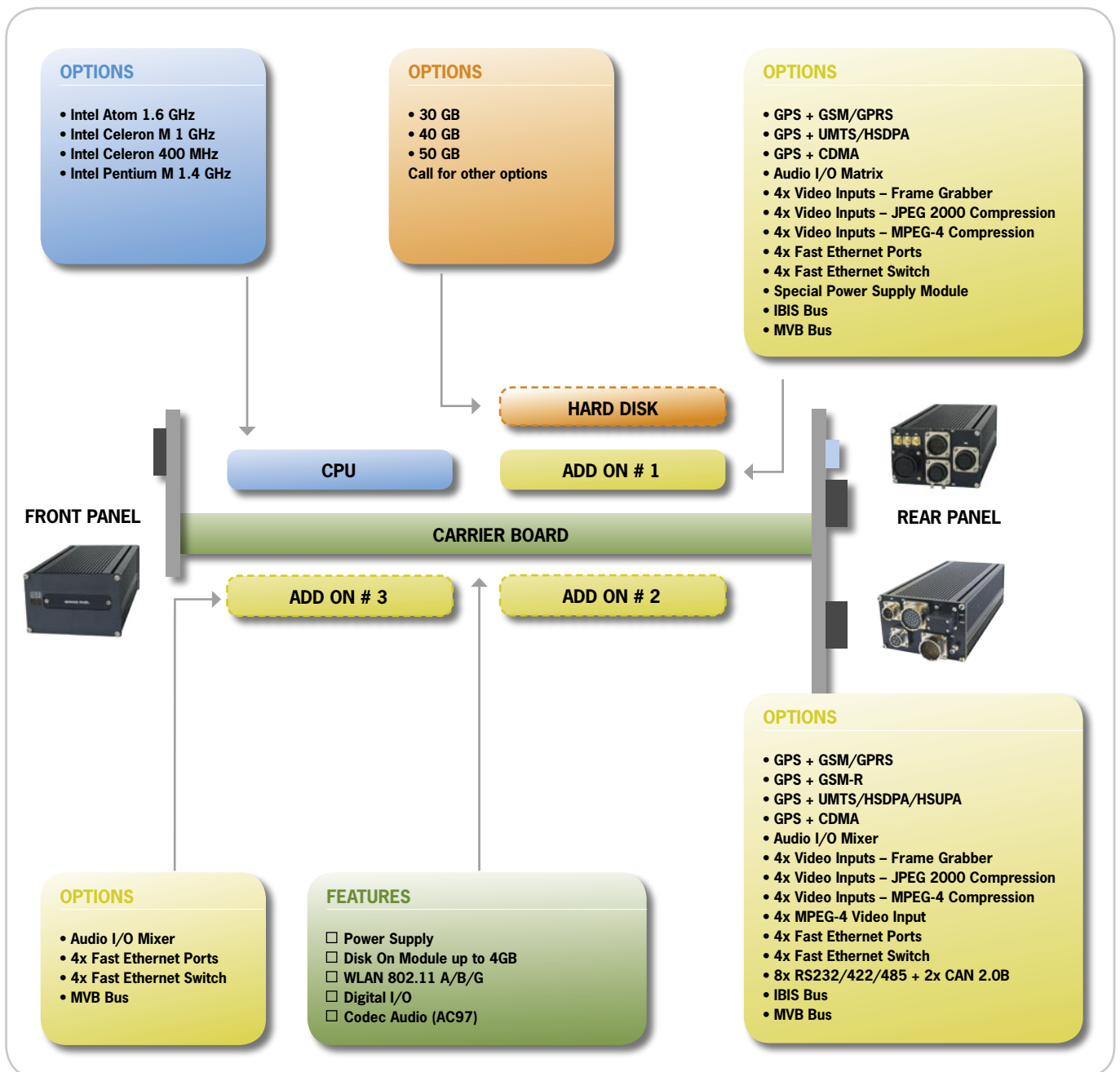


Figure 2 – Boards assembly for medium and high profile (LH and HH) models

The following figure shows the layout of both the rear and front panels. The connectors have conventional identification: “A” type for antennas. “J” type BNC connectors for video applications. “M” type circular I/O connectors carrying the input/output signals of the standard interfaces as well as the power in pins.

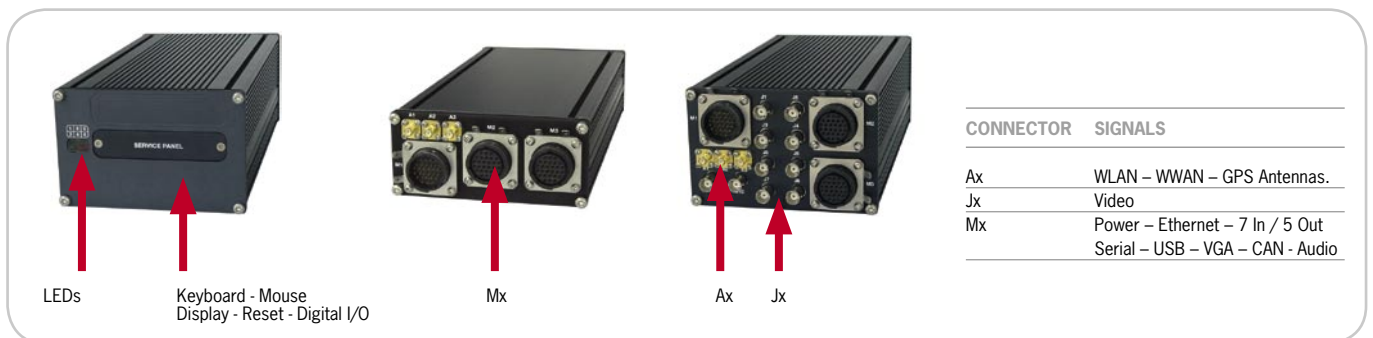


Figure 3 – Rear and front panels

# DuraCOR 1xxx

## Specifications

|                  |  |
|------------------|--|
| PROCESSOR        | Intel Atom 1.6 GHz<br>Intel Celeron M @ 1 GHz<br>Intel Celeron @ 400 MHz<br>Intel Pentium M 1.4 GHz  |
| MEMORY           | Up to 2 GB RAM depending on selected processor<br>Up to 4 GB Flash memory (Disk On Module)<br>Solid State Disk and/or Automotive class Hard Disk |
| OPERATING SYSTEM | Windows XPE, Windows CE 5.0<br>Linux (kernel 2.6)  |
| I/O              | 10/100/1000 Mbps Ethernet<br>USB 2.0 and USB 1.1<br>CAN bus<br>MVB bus<br>RS 232 / 422 / 485<br>Isolated Digital Inputs/Outputs                  |
| WLAN             | Integrated IEEE 802.11 a/b/g - external antenna required   |
| WWAN             | GSM/GSM-R/GPRS/UMTS/HSDPA/HSUPA<br>External SIM holder (optional)<br>External antenna  |
| GPS              | 12 channels high sensitivity – external antenna  |
| AUDIO            | Up to 8 Stereo Audio Input balanced/unbalanced<br>Up to 8 Stereo Audio Output balanced/unbalanced<br>Microphone in                               |
| VIDEO IN         | 4 Video inputs - Frame Grabber<br>4/8 Video inputs – MPEG-4 compression<br>4/8 Video inputs – JPEG2000 compression                               |
| VIDEO OUT        | Analog CRT Monitor   |
| LED INDICATORS   | Power ON<br>Power good<br>4 user programmable  |

|                                  |   |
|----------------------------------|---|
| SERVICE PANEL INTERFACES         | LEDS: Power on, Power good, 4 User programmable<br>Mini-DIN for keyboard and mouse<br>DB 15 Analog CRT Monitor<br>Reset button<br>I2C port for status monitor and debugging   |
| POWER SUPPLY                     | 9 ~ 36 Vdc (12 Vdc or 24 Vdc nominal)<br>72/110 Vdc optional  |
| POWER CONSUMPTION                | < 15W (TBD)   |
| DIMENSIONS (L x W x H)           |   |
| LOW PROFILE:                     | 255 x 129 x 57 mm (10.04" x 5.08" x 2.24")  |
| MEDIUM PROFILE:                  | 255 x 129 x 83 mm (10.04" x 5.08" x 3.27")  |
| HIGH PROFILE:                    | 255 x 129 x 109 mm (10.04" x 5.08" x 4.29")   |
| WEIGHT                           | < 3 kg  |
| OPERATING TEMPERATURE            | -25 ~ +55 °C (-13 ~ +131°F)<br>+70°C (+158°F) for 10 minutes  |
| STORAGE TEMPERATURE              | -40 ~ +85°C (-40 ~ +185°F)  |
| HUMIDITY                         | 95% relative humidity non condensing  |
| ENVIRONMENTAL                    | IP 65 (NEMA 4X)   |
| ROHS                             | Fully RoHS (2002/95/CE) Compliant   |
| COMPLIANCE<br>(CALL FOR DETAILS) | EN 50155 (Railway applications)<br>2004/104/EC (Automotive applications)<br>EN 55011 (Industrial, scientific and medical (ISM) radio-frequency Equipment. Electromagnetic disturbance characteristics. Limits and methods of measurement)<br>EN 61373 (Vibrations & Shocks)<br>EN 60950 (Safety)<br>EN 61000 (Immunity, Emission)<br>EN 60068 (Environmental testing) |
| PERIPHERALS &<br>ACCESSORIES     | Cable set and antennas  |



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ETH\_COR-1xxx\_DS101109

North America  
sales.na@eurotech.com

Europe, Middle East, and Africa  
sales.emea@eurotech.com

Latin America  
sales.la@eurotech.com

Asia Pacific  
sales.ap@eurotech.com

