

## CARMEL PRO – OEM Board

**Reduce COSTS, SPACE and HARDWARE with  
Mennen Medical's new integrated embedded platform**

**Replace several boards by just ONE single board and develop your own system including full vital signs parameters at low cost !!!**

Mennen Medical's, the CARMEL PRO platform, is a single board monitoring platform that integrates high quality technology to provide a flexible solution for a variety of medical devices.

This convenient product, integrates all monitor functionalities such as: mother board, video board, power units, wireless, audio amplifier, SD card interface, touch screen interface, and battery charger, together with vital sign acquisition functionalities; allowing to drastically reduce costs, space and hardware while simplifying and accelerating the development process.

This novel technology, with extremely low power consumption, supports your own development (GUI and application) with a dedicated driver to support all platform features (Linux, QNX6, WinCE, etc.) and provides real time waveforms and numeric values of all patient vital signs required for high quality patient monitoring.

Thanks to its integrated application and Universal Connector Interface the platform can be interfaced with host devices such as ventilators, anesthesia machines, CCO devices, anesthesia gas sensors, patient monitors, ECP systems, Hemodynamic Monitoring System, and many other medical devices. This integration allows to show vital signs parameters on the local display reducing the technology demand and development efforts.

Measuring only 195mm x 160mm x 35mm, The CARMEL PRO platform constitutes an excellent solution for device manufacturers who want to include full patient monitoring into their products. The CARMEL PRO board is isolated to ensure patient safety and can be incorporated into any host device.

The CARMEL PRO predecessor, the CIPAM board, has been awarded for its technology and is being used in CE and FDA approved medical monitors and Cathlab devices.

***CARMEL PRO Board***



# CARMEL PRO FEATURES

## The board can include the following

### Physiological Parameters:

- 3, 5 or 12 lead ECG, Heart Rate
- ST and Arrhythmia detection
- Respiration and apnea detection
- 2 x Temperature measurement
- Non Invasive Blood pressure measurement
- SpO2 and pulse rate (Masimo/Nellcor)
- 2 or 4 Invasive Blood Pressure inputs
- Cardiac Output – by thermodilution
- EtCO2 – Oridion
- 2 x UIM (allowing to interface to other vendor devices such as Andros 4800, EVITA, BISx, Vigilance, Vigileo, Matisse, Saturn Evo, IRMA, CritiCool, PiCCO2, Leon Plus, and others)

### Board Technical Features:

- Integrated ARM Cortex A8 1GHZ 256MB flash / 256MB Ram.
  - » Operating System: QNX6/ Linux/WinCE and etc.
- LAN 10/100BT
- Analog output (4 Channels)
- Remote control interface
- Supports local recorder
- Display Interface:
  - » HDMI Interface
  - » LVDS Interface
- Audio amplifier 2W/8 Ohm
- Accelerometer 3D (Optional)
- 2 x USB channels
- User interface channel
- Integrated LCD inverter power circuit (Optional)
- SD card Interface
- Touch screen interface (Serial)
- Integrated Wireless 802.11 b/g (Optional)
- Battery Charger
- Battery Interface
- Integrated calendar

*CARMEL PRO can be successfully integrated in a variety of products, such as:*

**Patient Monitors**

**Anesthesia Machines**

**Anesthesia Gas Sensors**

**Ventilators**

**Hemodynamic Monitoring System**

**CCO Devices**

**ECP Systems**

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