

# **CE-307**

## **Mobile Data Terminal**



## **Platform Data Sheet**

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# Introduction

## CE-307 Platform Overview

The CE-307 provides Original Equipment Manufacturers (OEMs) and Telematics Service Providers (TSP's) with a rugged and versatile vehicle-centric mobile-computing platform for a variety of Mobile Resource Management (MRM) applications.

The platform features Microsoft Windows Embedded CE 6 operating system that supports Compact Framework 3.5 and offers comprehensive development environment for independent application programming and system integration.

The CE-307 device architecture provides a solid and cost-effective design by simplifying maintenance tasks, significantly extending product life expectancy, and lowering a total cost of ownership (TCO).

The CE-307 **Base Model configuration** is the standard set of features and functions of the MDT. There is a range of optional Extensions, add-ons and Accessories to enhance the CE-307 capabilities, serving advanced fleet management solutions.

The CE-307 is built to withstand the rough commercial automotive environment, including operation in a wide temperature range, vibration, shock, and endure the rough working environment for many years.

## CE-307 Device Models

Micronet implemented the CE-307 platform in three product models supporting different set of physical options. The Base device model supports the key feature set described below while the Enhanced and Full models provides additional interfaces.

Optional features like enhanced processor frequency and WinCE Professional OS license are available for all the device models.

## Physical Interfaces

The CE-307 provide the following physical interfaces:

- USB
- Serial RS232/RS422 ports
- Dedicated interface for Dallas ID button reader
- Analog and digital control I/O signals
- Interfaces for vehicle and peripheral devices connectivity

## Optional Wireless Module

The Full device model supports combined Wi-Fi/Bluetooth wireless module

The Wi-Fi/Bluetooth module provided with internal antenna.

## Development Tool Kit

Micronet's CE-307 Developers Package provides all tools required for application development quick-start, product testing, and product evaluation. The Developers Package includes 20 hours of technical support and contains all essential hardware and software components as described in the following sections.

### Hardware

- Power supply adaptors
- Accessory cables
- Mounting accessories and tools
- Mechanical and interface connection accessories

### Software

- Software Development Kit (SDK) provides a set of software tools, API, and documentation for programming in Visual Studio .NET for C++, C#, and VB development environment.
- C# Demo samples of some device features, including the source code

- Additional software tools support the CE-307's numerous interfaces

## Documentation

- Hardware and software guides
- Getting Started guide
- Certification approvals and declarations

## Usefull links

Micronet web site: <http://www.micronet.co.il/>

# CE-307 Platform Key Feature Specifications

## Base Model configuration

Base configuration features	Details
<b>Platform Core</b>	
<b>Operating system</b>	Microsoft Windows Embedded CE 6 Core License
<b>Application development environment</b>	Microsoft Visual Studio 2005 / 2008
<b>Processor</b>	- TI Omap 3703 600Mhz - ARM Cortex™ - A8 Core
<b>RAM</b>	256MB
<b>Flash</b>	512MB
<b>Memory card support</b>	- SD / MMC (SDHC support) card slot x133 up to 32GB - SDIO interface
<b>Audio CODEC</b>	- Multi-channel - System audio support
<b>Real Time Clock</b>	- HW based - Device Wakeup alarm configuration capability
<b>Watchdog</b>	- SW based for application recovery - HW based for system recovery
<b>User Interface</b>	
<b>Display</b>	Color TFT LCD, WVGA (800 X 480)
<b>Display Backlight</b>	Multi-level backlight (white LED)
<b>Touch screen</b>	Analog Resistive, 4 wire
<b>Keypad</b>	Rubber tactile, multi-level backlight
<b>Internal speakers</b>	- Mono, 2 X 1W, 90 dB nominal @ 0.1m - Multi-level volume control
<b>Communication Interfaces</b>	
<b>Rs232 ports</b>	- 1 X 5 Wire (TX, RX, RTS, CTS, GND), 300 - 115200 bps - 1 X 3 Wire (TX, RX, GND), 300 - 115200 bps
<b>USB OTG port</b>	USB 2.0 - low, full and high speeds
<b>Peripherals Control</b>	
<b>Digital I/O</b>	- 1 X automotive input (for ignition switch control) - 1 X open collector output
<b>Analog Input</b>	0V – 30V
<b>1-Wire Interface</b>	Dallas ID memory button support

Base configuration features	Details
<b>Power</b>	
<b>Input power</b>	<ul style="list-style-type: none"> <li>- Direct vehicle battery connection (12V / 24V)</li> <li>- ISO 7637 compliant</li> </ul>
<b>Mechanical</b>	
<b>Vibration</b>	10 - 500 Hz, ~1g rms, 3 axis
<b>Mechanical Shock</b>	<ul style="list-style-type: none"> <li>- Operational (20g, 11ms, 3 axes)</li> <li>- Crash safety (75g, 6ms, 3 axes)</li> </ul>
<b>Device Mounting</b>	RAM® Mounts mounting arm compatible
<b>Environmental</b>	
<b>Temperature range</b>	<ul style="list-style-type: none"> <li>- Operating: -4 °F to +158 °F (-20 °C to +70 °C)</li> <li>- Storage: -22 °F to +176 °F (-30 °C to +80 °C)</li> </ul>
<b>Humidity</b>	95% ±5%RH, +40°C, non-condensing
<b>IP</b>	IP54
<b>RoHS</b>	Compliant
<b>Certifications</b>	
<b>Standards compliance</b>	FCC, CE

## Enhanced Model configuration

Supports all the Base Model features Plus -	Details
<b>Interface Connections</b>	
<b>USB Host port1</b>	<ul style="list-style-type: none"> <li>- USB 2.0 - low, full and high speeds</li> <li>- 500mA</li> <li>- Connected to the Main device connector</li> </ul>
<b>USB Host port2 On the Device panel</b>	<ul style="list-style-type: none"> <li>- USB 2.0 - low, full and high speeds</li> <li>- 500mA</li> <li>- Connected to the Panel USB connector</li> </ul>
<b>Audio</b>	
<b>External speaker connection</b>	Mono
<b>Power</b>	
<b>Super Capacitors</b>	protecting data Storage from abrupt power cut-offs

## Full Model configuration

Supports all the Enhanced Model features Plus -	Details
<b>Wireless Communication</b>	
<b>Wireless LAN</b>	<ul style="list-style-type: none"> <li>- 802.11 b/g</li> <li>- Including internal on-board antenna</li> </ul>
<b>Bluetooth (combined with Wireless LAN option above)</b>	<ul style="list-style-type: none"> <li>- Class 2</li> <li>- Data transport support only</li> <li>- Including internal on-board antenna</li> </ul>

## CE-307 Platform Optional key features

Features	Details
<b>Platform Core</b>	
<b>Operating system</b>	Microsoft Windows Embedded CE 6 Professional license
<b>Processor</b>	TI Omap 3703 800Mhz

## CE-307 Platform Accessories

Features	Details
<b>Power Supply</b>	
<b>Wall power adaptor</b>	110V / 220V AC to 12V DC
<b>Peripheral Cables</b>	
<b>Main interface cable</b>	Providing Power, USB1, serial1, and I/O connectors
<b>Mechanical Accessories</b>	
<b>Mounting arm</b>	Optional RAM® mount, flexible, multi-directional mounting
<b>SD card protective cover</b>	SD card removal protection
<b>Front panel label</b>	Customizable "logo" printout

# CE-307 Physical Characteristics

Features	Details	
<b>CE-307 Dimensions &amp; Weight</b>		
<b>Width</b>	8.80 inch	225 mm
<b>Height</b>	6.40 inch	162 mm
<b>Depth</b>	2.10 inch	53 mm
<b>Weight (w Battery)</b>	25.80 oz.	730 Gram
<b>Weight (w/o Battery)</b>	24.70 oz.	700 Gram

## CE-307 Additional OEM Customizable Optional key features\*

\* Requires minimum volume of 1,000+ units quantity

Features	Details
<b>Platform Core</b>	
<b>Flash</b>	512MB
<b>Flash</b>	1GB
<b>User Interface</b>	
<b>Light sensor</b>	Configurable for device backlight adjustment
<b>Interface Connections</b>	
<b>Rs232 port2</b>	- 1 X 2 Wire (TX, RX) - 307 - 115200 bps
<b>RS422 port</b> (replacing RS232 Com Port 1)	EIA RS422
<b>Ethernet LAN port</b>	LAN 10/100 Mbit/sec
<b>Audio</b>	
<b>Internal microphone</b>	- High sensitivity - Noise filtered
<b>External microphone connection</b>	Mono
<b>Wireless Communication+Audio</b>	
<b>Bluetooth+Voice support</b> (combined with Wireless LAN option)	- Class 2 - Data and voice support - Including internal on-board antenna