### **CE-500** series mobile computer



Fixed or Portable • 4.3" or 7" screens • With or Without Telematics Integration



## Rugged + Flexible

#### Powerful, rugged and truly versatile.

The CE-500 series is a game-changing mobile computer. It's the perfect partner for the most demanding software applications and breaks new ground for enterprise mobility. And if you use GPS Tracking in your vehicles, your 'black boxes' just got a whole lot smarter. At last a mobile computer that is compatible with your vehicle fleet and your mobile workforce. Welcome to the future of mobile computing. Together with our partners, we're opening up a whole new business opportunity for powerful mobile software applications. The future of mobile computing is future-proof. That means a fully upgradable platform, ensuring low total cost of ownership (TCO).



# We've included everything you asked for in a single device.

#### You spoke and we listened.

Our mobile computing developments are born from customer insight. This means listening carefully to your needs and requirements and looking for opportunities to deliver superior value and even lower total cost of ownership (TCO). In fact, we send our R&D teams on a host of 'field missions' so they have complete empathy with the real life operational world of our diverse customer base.

Across all industry sectors a clear and unanimous set of customer requirements emerged. You wanted the ability to switch between fixed and portable in an instant. You wanted something that was rugged and all-in-one, replacing all the separate devices that usually need to be installed. And crucially, you wanted a mobile computer that would work seamlessly with your existing telematics/vehicle tracking black-boxes, linking with vehicles' on-board systems. The CE-500 series is everything you asked for, in one rugged, flexible and versatile device.

#### The power to perform

The CE-500 series brings together sophisticated processing power and incredible versatility with absolutely no compromise. It features the industry leading ARM Cortex-A8 microprocessor. In addition the high performance superscalar microarchitecture enhances the efficiency of every task performed. In short - we've powered the CE-500 to perform, even when running the most sophisticated software applications. This breakthrough mobile computer is also packed with powerful functionality, combining the convenience of several pieces of kit in one single device.





Powerful ARM Cortex-A8 microprocessor





#### Rugged. All in one. Versatile

The CE-500 series are breakthrough mobile computers that give you all the power and functionality your applications demand, at an incredible breakthrough price. We've packed the functionality of a host of separate devices into one cost effective solution, offering the flexibility, versatility and ruggedness that your business demands (IP54 rated). It's the perfect partner for all your mobility applications and is based on the Microsoft Windows CE 6.0 Embedded platform.



#### GPS, Voice, Wireless and Bluetooth Capability

We provide multiple integrated wireless options to meet your most demanding communication needs. These include a quad-band GPRS modem, GPS, Wi-Fi (802.11 b/g) and Bluetooth. GSM voice is also supported utilising the internal microphone and speaker. Options such as Bluetooth allow an array of peripherals to be used, such as printers, barcode scanners and headsets.



#### Full telematics black box compatibility

With full telematics integration, Micronet mobile computers can connect to existing 'black boxes', making full use of their GPS location data and GSM/GPRS communication. This reduces the hardware and ongoing communication costs as only one SIM card is required. In addition, the CE-500 series features a CANbus port connecting to critical on-board systems.



#### Fixed or Portable

We give you the flexibility of either a fixed or portable computer, with a choice of cradles to suit your application. With the portable option, the CE-500 series mobile computer becomes truly mobile, allowing software applications to be used inside or outside of the vehicle - whether at a customer site, or inside a warehouse for example. Typical battery life is 2-4 hours, dependent on use, providing power for a full shift during a regular charging cycle.



#### LED Backlit Colour Touchscreen 7" or 4.3"

A choice of 4.3" and 7" display options means you can choose the setup that works perfectly with your software applications and business processes. In addition, shortcut softkeys allow the most frequently used commands to be accessed with ease.



#### Signature Capture and Proof of Delivery

Full signature capture is supported, allowing proof of delivery (POD) or service to be confirmed in real-time. Customers simply sign on the screen using the stylus which stores safely and securely in the device when not being utilised.

## Our sophisticated technology makes it beautifully simple to use.



### We designed our game-changing mobile computer to work with your black boxes

Using the GPS and GSM already built into your black boxes, the CE-500 series offers unlimited possibilities for rich end-to-end telematics solutions and mobility applications. By utilising the communications in your telematics hardware, a separate SIM card isn't needed, avoiding additional costs or complexity.

#### Complete connectivity with on-board systems

Micronet's CE-500 series mobile computer brings together telematics and business mobility into one integrated solution. This means the integration of location data (from your telematics black box), vehicle CANbus data and mobile workforce workflows. By combining these data sources, you are able to offer richer solutions that create more insight and business intelligence than ever before.



### Specifications.



Physical Characteristics	CE-504	CE-507
Height	87mm	162mm
Width	160mm	225mm
Depth	38mm	53mm
Weight with Battery	410g	730g
Weight without Battery	380g	700g
Power	5V DC power input by device side panel connector Direct vehicle battery connection (12V/24V) by cradle or accessory cable SAE J1455 compliant	
Cradle Dimensions (H x W x D)	90mm (110mm with release knob) x 180mm x 50mm (85mm with protective back cover) 225g (275g with protective back cover)	
Platform Core		
Operating System	Microsoft Windows Embedded CE 6 Core Licence Professional license available (optional)	
Application Development Environment	Microsoft Visual Studio 2005 / 2008	
Processor	TI Omap 3503 ARM Cortex - A8 Core	
Memory (RAM)	256MB	
Memory (Flash)	512MB	
Memory card support	SD / MMC (SDHC support) card slot x133 up to 32gb SDIO interface	
Audio Codec	Multi-Channel System audio support Optional GSM Voice and Bluetooth audio support	
Real Time Clock	HW based Device wakeup alarm configuration capability	
Watchdog	SW based for application recovery HW based for system recovery	
User Interface		
Display	4.3" WQVGA Colour TFT LCD (480 x 272mm)	7" WVGA Colour TFT LCD (800 x 480mm)
Display Backlight	Multi-level backlight (white LED)	
Touchscreen	Analog Resistive, 4 wire	
Keypad	Rubber tactile, multi-level backlight	
Internal Speakers	Stereo, 2 x 1W, 90dB nominal @ 0.1m Multi-level volume control	
Internal Microphone	High sensitivity Noise filtered	
Light Sensor	Configurable for device backlight adjustment	
<b>Communication Interfaces</b>		
Rs232 ports	1 x 4 Wire (TX, RX, RTS, CTS) 1 x 2 Wire (TX, RX) 300 - 115200 bps	
USB OTG port	USB 2.0 - low, full and high speeds	
USB Host port	USB 2.0 - low, full and high speeds	
Peripherals Control		
Digital I/O	2 x automotive inputs 1 x open collector output	
Analog Input	OV - 30V	
1-Wire Interface	Dallas ID memory button support	

Mechanical		
Vibration	5 - 1000 Hz, 4g, 3 axis Operational (40g, 11ms, 3 axes)	
Mechanical Shock	Crush safety (75g, 6ms, 3 axes)	
Drop	According to MIL-STD-810F standard	
Device Mounting	Optional RAM® Mounts mounting arm Optional device Cradle available	
Environmental		
Temperature Range	Operating: -20°C to +70°C Storage: -30°C to +80°C Operating with internal battery option: -10°C to +60°C	
Humidity	95% ±5%RH, +40°C, non-condensing	
IP	IP54	
Certifications /Standards	CE Mark, ISO 9001:2008 Quality Management System, IQNet Certified Quality System, FCC Parts 15A, 15B, 15C, EN 301 489, EN 300 328, EN 55022, EN61000, Safety: IEC/EN 60950, Automotive 2004/104/EC, RoHS, Qualitech (ECI), TUV- Rheinland, WEEE, E-Mark (2004/104/EC), IC Canada	
Optional Modules		
Wireless Communication		
GSM/GPRS Modem	Quad Band, GPRS Class 10 GSM voice support	
GPS Module	High sensitivity, 50 channel, -160 dBm	
Wireless LAN / Bluetooth Module	802.11 b/g Including internal on-board antenna	
Bluetooth (part of	Class 2	
Wireless LAN option above)	Data and voice support Including internal on-board antenna	
Internal Battery	Li-Polymer 3AH Providing 2 hours of operation (device configuration dependant)	
Optional Interface Connections		
Ethernet LAN port	LAN 10/100 Mbit/sec	
J1939 port	CANbus V2.0B	
RS422 port	EIA RS422 (replacing RS232 com port 1)	
Accessories		
Device Cradle	Basic or Enhanced connectivity dependant on Optional Interface connections, Optional Protective back cover, Secure device mounting with quick release mechanism. (Enhanced Cradle required for Ethernet, External Audio and J1939 option)	
Wall power adaptor for device	110V / 220V AC to 5V DC	
Wall power adaptor for cradle	110V / 220V AC to 12V DC	
Main interface cable	Device "Con1" to power, USB, serial and I/O connectors	
Enhanced interface cable	Device "Con2" to serial, I/O and LAN connectors	
J1939 (CANbus) interface cable	Device "Con3" to CAN connector	
J1708 Adaptor	RS-232 to J1708 (RS-485) converter box	
RS422 Adaptor	RS-232 to RS-422 converter box	
Mounting arm	Optional RAM® mount for flexible, multi-directional mounting Compatible with cradle or direct device mounting	
SD card protective cover	SD card removal protection	
SIM card protective cover	SIM card removal protection	
Front panel label	Customisable "logo" printout	

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BigChange Mobile Limited. Leeds Innovation Centre 103 Clarendon Road Leeds LS2 9DF United Kingdom

#### +44 (0)113 384 5800 tel fax +44 (0)113 384 5802

email info@micronet-europe.com www.micronet-europe.com



Micronet Global HQ 27 Hametzuda St, Azor 58001, Israel web www.micronet.co.il