

## Display

Viewing area	7" diagonal, 16:9
Resolution	1366x768
Display	Colour TFT LED Back-light
Brightness	Display clearly viewable with 350 cd/m2
Ambient Light Sensor	32 Steps Automatic Regulation
Touchscreen	Full Automotive Rugged Touchscreen with configurable touch areas. Extended Temperature Range Finger Type

## Memory

Ram Memory	128MB RAM Memory
Internal Flash Memory	128MB up to 256MB capacity
External Memory	microSDHC (High Capacity compatible) socket

## Communication

Modem	<p>GSM / GPRS / EDGE Class 12</p> <p>2 Hardware RS232 Serial Ports available on the modem (Hardware MUX) allow both RAS and AT command from user applications</p> <p>Modem can be powered on when the terminal is off</p> <p>Wake-up on ring programmable features</p> <p>Board to Board connector pin to pin compatible with UMTS (option) retrofit upgradable</p> <p>Warm reset and cold reset (dedicated electronic circuit) available through API calls</p> <p>2 Sim Card slots with Software switcher available through API calls</p> <p>Support international standard protocol (ETSI AT command set)</p> <p>Supports RAS (Remote Access Service) dialup function</p> <p>GPS / GPRS / EDGE Rugged Combo antenna (option)</p>
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<b>Positioning</b>	
Model	U-Blox 6 GPS Receiver
Channel	50 channels
Supported Positioning System	Hybrid GPS, GALILEO and SBAS (WAAS, EGNOS, MSAS, GAGAN) engine
Antenna Monitor	Disconnection and Short Circuit Detection / Protection
Protocols	Supports international NMEA standard format and proprietary UBX Binary protocol
Reset	Warm reset and cold reset (dedicated electronic circuit) available through API calls
A-GPS	Assisted GPS available
Antenna	GPS / GPRS / EDGE Rugged Combo antenna (option)
Acquisition	Cold starts: 29 s Warm starts: 29 s Aided starts: < 1s Hot starts: < 1 s
Accuracy	Position 2.5 m CEP SBAS 2.0 m CEP
Correlators	Over 2 million effective correlators
Time to First Fix	Under 1 second Time-To-First-Fix for Hot and Aided Starts
Sensitivity	SuperSense® Indoor GPS: -160 dBm tracking sensitivity
Update Rate	5 Hz position update rate
Security	High immunity to jamming
<b>Wireless Connections</b>	
Bluetooth	National Semiconductor LMX9838, Complete Bluetooth 2.0 Stack including (option)
<b>Hardware Keys</b>	
General Purpose Keys	6 Lighted and Software programmable Hardware Buttons

Power on key	1 Power On/Off button
<b>Inputs and Outputs</b>	
USB Host Ports	2 USB Host, with USB Support for Mouse and Keyboard
USB Device Ports	1 USB Device
I/O ports connection	3 Digital Inputs 3 + 5 Power Output Ports Dedicated Ignition input Dedicated Emergency Switch input
<b>Alarm and Security</b>	
Stealth Mode	Stealth Mode Controller (system ON display, audio and lightings off) with Panic Button input
Stealth Display Feature	Fully Programmable Stealth display mode, Screen saver mode and sleeping mode by:  Power Button Hardware Key API Enable Switching Off LCD without powering down MDT unit
<b>Multimedia</b>	
Multimedia	Speaker and Microphone Supports wave speaker volume control API provided Playback wave and speech files
<b>Boot</b>	
Dual Boot	available from Flash Disk and microSDHC Card
Boot Time	< 10 sec
Splash Screen	Customizable Boot Up Splash Screen with End-User Logo
<b>Software Reset, Restore and Update</b>	

Soft/Hard Reset	<p>Soft Reset available through HW switch</p> <p>Soft Reset available through API calls</p> <p>Hard Reset available through microSDHC Card (Factory default)</p>
Safe Windows shutdown procedure	<p>Preshutdown notification</p> <p>Disk Activity Signal Control</p> <p>External UPS (option)</p>
OS Image Loader	Over The Air (OTA) OS image loader or microSDHC Card Image Loader
System Update Fleet Management	<p>Professional OTA (Over The Air) CLIENT allows the update of the whole Operating System and all the CPUs Firmware (option)</p> <p>Professional OTA (Over The Air) SERVER with vehicles enrolling, group management and selective update, remote debugging and logging. Web based user interface (option)</p>

**Operating System**

Android	Shareware Framework
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**Software's and Tools**

Shareware Framework	<p>Shareware Libraries:</p> <ul style="list-style-type: none"> <li>GPS</li> <li>GPRS</li> <li>VoiceCall</li> <li>I/O</li> <li>Odometer</li> <li>Taximeter</li> <li>Hardware Keys</li> <li>WatchDog</li> <li>OTA</li> <li>Windows Status</li> <li>Stealth Mode Controller</li> <li>Logs</li> <li>Backup And Restore</li> </ul>
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	<p>Light Dimmer</p> <p>Hardware Identification</p> <p>Splash Screen</p> <p>Alarm</p> <p>Card Reader and Windows Status</p>
Development Tools	<p>ActiveSync 4.5 (last version available) and USB debugging with ActiveSync support</p> <p>SDK for Embedded Visual C++ 4.0 (EVC4)</p> <p>Sample code for SDK in C++</p> <p>Compact Framework 3.5 supported</p> <p>Serial port driver and test tools</p> <p>Digital I/O driver, API (DLL) and test tool</p> <p>Read/Write Windows CE registry application and API to Supports permanent saving of system settings into registry</p> <p>Software controllable Warm Restart and test tool</p> <p>GPRS modem driver and test tool</p> <p>GPS driver and test tool</p> <p>Speaker and MIC test tool, wave playback and voice recorder</p> <p>Contactless / NFC reader driver and test tool</p> <p>Backlight control API and test tools</p> <p>Ping tool</p> <p>Dialup network</p> <p>GSM phone dialer</p> <p>Support network protocol TCP/UDP, IP, PPP</p> <p>Virtual keypad</p> <p>Text file editor</p> <p>Explorer</p>
Text-To-Speech	Support 3rd party Text-To-Speech
Software Navigation	Support 3rd party map application and navigation software with SDK
<b>Diagnostic and Maintenance</b>	
System diagnostic tools	On Field Test (OFT) OnBoard Diagnostic Utilities with Customizable Checklist

	<p>to make tests of:</p> <ul style="list-style-type: none"> <li>GPS Fix</li> <li>GPS Antenna</li> <li>GPRS Connectivity and Base Station Signal Quality</li> <li>Odometer</li> <li>Ignition</li> <li>Panic Button</li> <li>Touch Screen calibration</li> <li>Hardware Keys</li> <li>Ambient Light Sensor</li> <li>Device version</li> <li>OS Version</li> <li>AITP Version</li> <li>Taximeter</li> <li>UPS and Battery Status</li> <li>Roof Light</li> <li>Navigation Software</li> </ul> <p>All On Field Tests and enrolling features can be used during first installation and swap of devices</p>
Taximeter	Embedded Hardware Taximeter (Option) Full Firmware and TARIF OTA Programmable
Power Supply	8 - 32 V with Surge Protector
Battery	External UPS Battery Package, Standard Battery Pack 1 hour (option)
<b>Mounting</b>	
Sealing	All the External Connectors, Accessible slots (such as SIM Card, microSDHC, USB, etc.) and Screws are Sealed