
# 2013
# Mobile Computing Solutions

- Vehicle Telematics Computer
- Vehicle Mount Computer
- Vehicle Mount Display
- Train Computer
- Rugged Tablet Computer

www.nexcom.com

# MCS

## Mobile Computing Solutions

Vehicle Telematics Computer

Vehicle Mount Computer

Vehicle Mount Display

Train Computer

Rugged Mobile Computer

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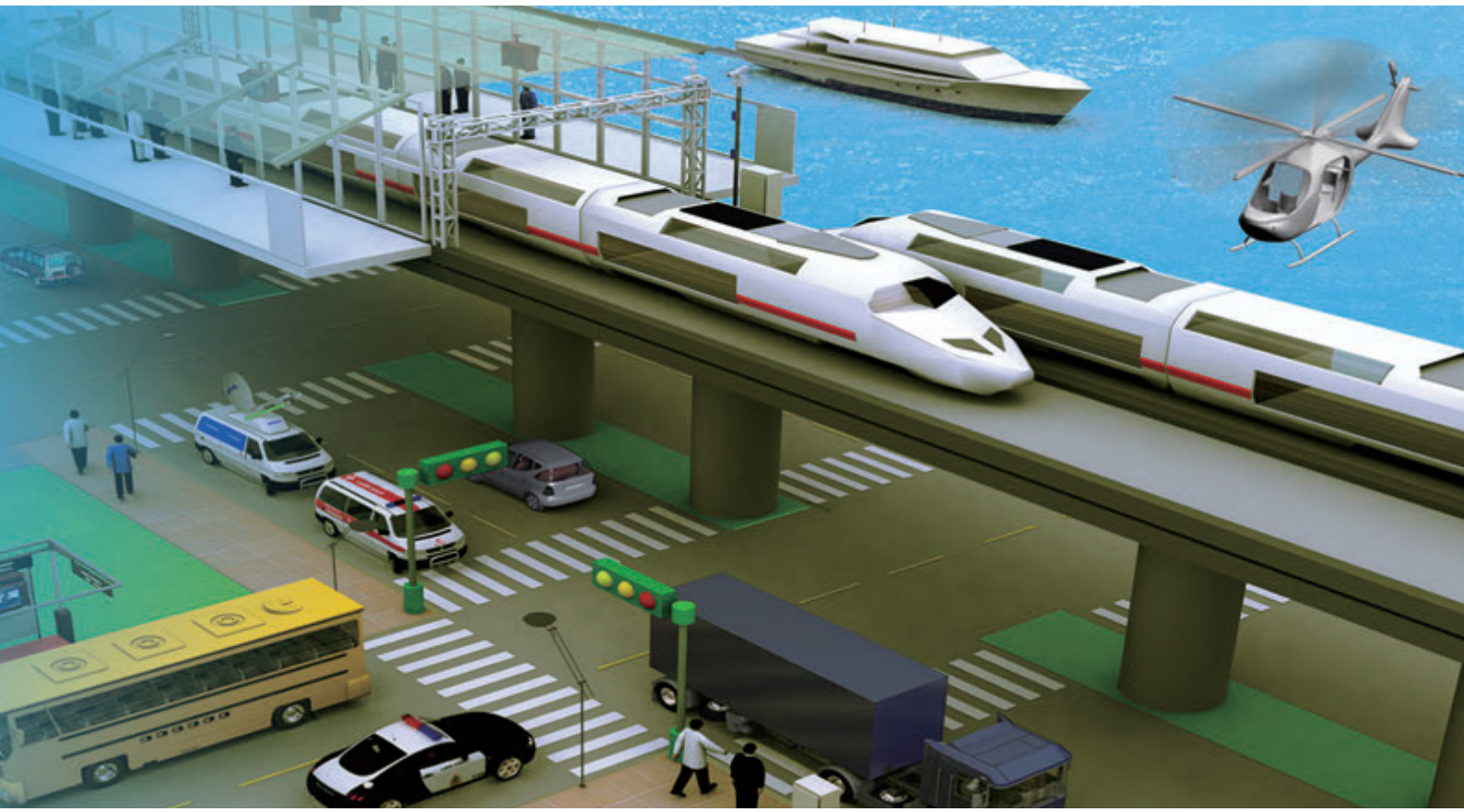

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# About NEXCOM

## Reliable Partner for Building the Digital Infrastructure

Founded in 1992 and headquartered in Taipei, Taiwan, NEXCOM is committed to being your trustworthy partner in building the digital infrastructure. To surpass customers' expectations, NEXCOM makes the difference by utilizing its decades of industrial computing experience, a highly talented R&D team, and by providing exceptional levels of customer service. With these core strengths, NEXCOM has enabled its customers to win key projects in a diverse range of industries.

With its focus on delivering these core values to better serve customers, NEXCOM integrates its capabilities and operates four global businesses, which are Multi-Media Solutions (MMS), Mobile Computing Solutions (MCS), Industrial Computing Solutions (ICS), Network and Communication Solutions (NCS), and Intelligent Digital Security (IDS). This strategic deployment enables NEXCOM to offer time-to-market, time-to-solution products and service without compromising cost.

In addition, the service-to-market business model gives NEXCOM core competence to build a strong world-class service network by providing customized service, global logistics, local access, and real-time support. Operating seven subsidiaries, from China, France, Germany, Italy, Japan, the United States, to the United Kingdom, NEXCOM is able to better facilitate customers' requirements as well as closely work with global partners in different regions.


Partners should also be assured that NEXCOM's Taiwan based Headquarters and subsidiary offices in China, UK and USA have obtained ISO 9001:2008 Certification.

| | |
|---|---|
| ICS | EmbeddedPro Solutions: Embedded Computer, Single Board Computer, Computer-on-Module<br>Panel PC: Industrial PPC, Applied PPC, Multimedia PPC, Factory PPC, Medical PPC, Industrial PPC, In-Wall PPC<br>Industrial Fanless Controller (NISE)<br>Point of Services<br>Industrial Wireless<br>Machine Automation (MA)<br>Factory Automation (FA) |
| IDS | Intelligent Digital Security: IP Cam, NVR, Mobile Server Platform |
| MCS | Mobile Computing Solutions: Rugged Computer Devices, Rugged Mobile Computer<br>Vehicle Telematics Computer: Car PC, Train PC |
| MMS | Multimedia Solutions: Digital Signage |
| NCS | Network and Communication Solutions: Network Security, VoIP, HPC, Telecommunication, Storage, Industrial Firewall |

## Corporate Mission

- An Innovative Supplier in Vertical Application Markets
- A Quality Partner in Engineering, Manufacturing, and Services

## Corporate Vision

To become the industrial leader in building the digital infrastructure, NEXCOM utilizes its industry leading technology, localized customer support and worldwide logistics services. This will be achieved by

- Great Team Work
- Cooperation with trusted partners
- Growth through innovation.

## Business Strategy

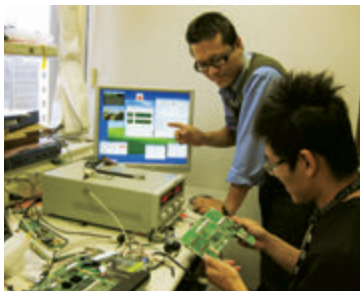
Aim to better support the activities of all its partners, NEXCOM divides its sales force into four dedicated business units to target rapidly expanding vertical markets. This enhances each business unit concentrating on strategic channel accounts and on repeat order business. Moreover, NEXCOM's business units have been set up to serve the requirements of key project accounts, where product ODM and project support are frequently required.

NEXCOM is working with embedded computing solution providers to envision new opportunities for growth. We'll help you deliver reliable vertical industry platform (VIP) solutions, optimized for the next wave of low power, small footprint embedded applications.

# Research and Development

## Speed, Quality, Innovation and One-stop Service

Over a decade ago, NEXCOM successfully launched the PEAK series of Single Board Computers onto the IPC market, and in doing so, gained a solid reputation for product quality and innovation. In subsequent years, NEXCOM has enhanced its reputation for R&D excellence with a multitude of high-end technology products, which has cemented NEXCOM as one of the industry leaders for R&D and innovation.



The mission of NEXCOM R&D team is to design exceptional products that meet the stringent requirements of today's global markets. In order to achieve this goal, we have recruited hundreds of talented engineers who have the knowledge and expertise to make NEXCOM's products stand out in this highly competitive market.

In 2012, NEXCOM R&D will develop solutions within the following categories, fanless computers, Panel PCs, video analytic, self-service platform, vehicle telematics computers, rugged mobile tablet computers, digital signage platform solutions, and ATCA platforms for telecommunications. The team is encouraged to "Think with New Ideas" and "Know how to make it and do it right first time". In addition, the size of NEXCOM's R&D team has been expanded to over 130 members and remains as one of core competences of the company.

## Versatile Design Capabilities

- Leading industrial fanless computer
- High availability network security platform, blade, and cPCI
- Rugged tablet computer and car PC
- Ultra small footprint computer-on-module
- High speed networking
- Isolated and non-isolated power system
- Isolated and non-isolated industrial I/O
- Wide range of operating temperature

# 24/7 Production Line

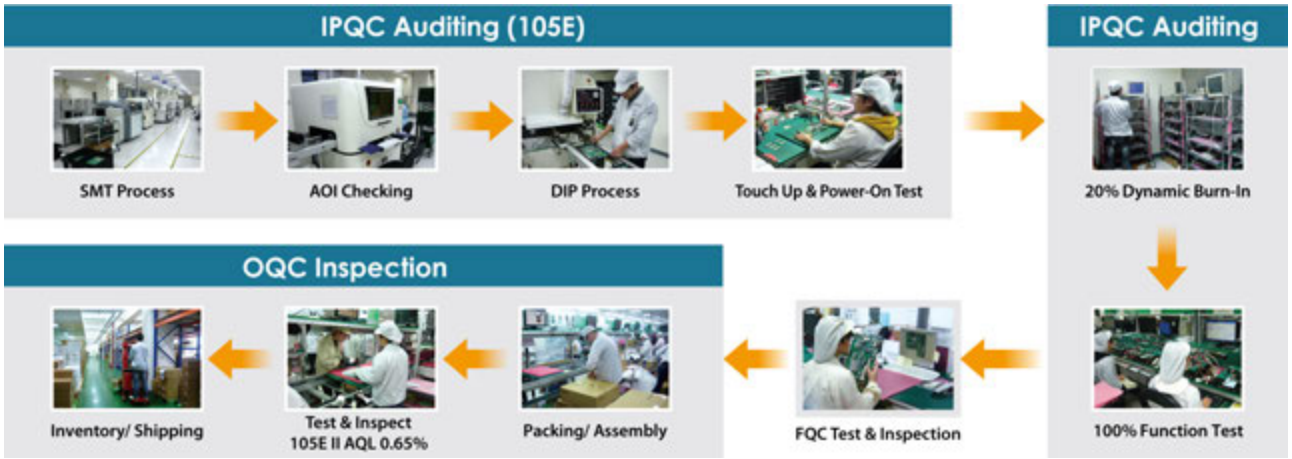
## Optimal Manufacturing Efficiency

The manufacturing of delicate products requires a high-level technology, craftsmanship, standards and time-to-market efficiency. Over years continual investment in advanced manufacturing equipment and systemic training programs has enabled NEXCOM to obtain optimal manufacturing efficiency.

To fulfill the increasing market demand for NEXCOM's products, the company has opened a 24/7 production line. This investment not only furthers the quality of products, but also reduces production lead-time for all global customers.


## Quality Assurance

Under a strict Quality Assurance System, product design and reliability are controlled to support all critical solutions, and ensure Total Quality Assurance (TQA) implementation for all NEXCOM products and service. Furthermore, NEXCOM technical support team aims to provide feedback within 24 hours to ensure technical issues are resolved in the shortest possible time.




**Closed-Loop Quality Assurance System**

## Green Policy

As a global citizen, NEXCOM is committed to providing green products and services, which are compliant with WEEE and RoHS legislation. NEXCOM continues to proactively work with industry peers and suppliers, to clarify standards, and identify compatible technologies and practices that help reduce hazardous substances from our products and manufacturing processes.

# Global Fulfillment Service

Product delivery and customer support are always more effective when delivered locally. NEXCOM localizes support and provides a global customer service network to handle all aspects of global business, from presales, order taking, and system assembly to logistics. For expeditious product delivery, NEXCOM has established four regional service centers: Taiwan (for Asia), USA (for North America and South America), the United Kingdom (for Europe) and China. Therefore, NEXCOM customers benefit from quality assured product assembly and four service centers.

NEXCOM has invested heavily to establish operational infrastructures, including advanced equipment and facilities, not only at its global headquarters but also at subsidiary offices. Today, each of our service centers, with ISO 9001:2008 certification, has a purpose built assembly line, RMA/ DOA center and warehouse storage capability.


**NEXCOM Global Service Network**

## Assembly Line Operation

NEXCOM offers custom-built products based on customers' specific requirements through the build-to-order services. A dedicated 24/7 assembly line and Quality Assurance System are installed in the services center to ensure exceptional production efficiency and superb product performance and reliability.

## Service Pledge and Connection

As a reliable industrial computing platform provider for vertical markets, NEXCOM provides the very best products and the most expeditious service to help customers build the digital infrastructure. Comprehensive types of service are provided to promptly satisfy varying requirements. In addition to the headquarters in Taiwan, seven subsidiaries and distributors in strategic worldwide locations are at your service.

## Service Types

- Quotation
- Project Consultant
- Technical Support
- Solution Alliance
- RMA/DOA
- Assembly/ Test
- Global Logistics
- Customization
- ODM Original Design Manufacturing

# Your Truly Global Information Resource

### www.nexcom.com

www.nexcom.com is your one-stop platform for the latest information on all NEXCOM products and services. The rejuvenated website not only contains product relevant information and data, solutions/ products demo, up-to-date news, but incorporates online downloads, publications, and technical service supports, such as RMA/ DOA centre. Furthermore to localize service and support, seven NEXCOM sister websites remain to serve visitors in diverse geographical regions.


# Get the Latest Updates Anytime, Anywhere

### m.nexcom.com

At the end of the year 2011, NEXCOM launches its mobile site, m.nexcom.com. The site aims to cross time and space boundaries by allowing users to access the latest innovation and information of NEXCOM via smartphones. On this website, users will easily find our latest products, news, application stories, white papers, and videos. The mobile site now supports iOS and Android system. Please visit us at m.nexcom.com.

# Design and Manufacturing Services (DMS)

## Customized Service for Tailor-Made Solutions

NEXCOM provides cost-effective and time-to-market Design and Manufacturing Services (DMS). The DMS offers product customization from core modular designs to finished products based on customers' specifications in all kinds of industrial field. The levels of the service include manufacturing new CPU boards and system based products to fulfill customers' unique applications.

## Unique DMS Features

With vast experience, the know-how, leading technology and innovative design capabilities, NEXCOM DMS incorporates the following features:

### Prompt Time-to-Market

NEXCOM posses a dedicated project management team to monitor and ensure each DMS project is delivered on schedule. Thus, a quick time-to-market solution can be offered with time-scales varying from one-three months for the design phase, with an average six month period from design to market.

### Flexible Design and Manufacturing

NEXCOM posses a complete R&D team to design and engineer the latest industrial grade products. As R&D engineers grouped into small cross-functional teams, they can develop more reliable products with flexible designs and quicker response to customers' requirements. In addition to our R&D capabilities, the state of art manufacturing facility and production lines enables NEXCOM to offer a flexible manufacturing with highly skilled factory staff.

### Rigid Quality Control

NEXCOM is pledged to deliver high quality products, from design to manufacture, and safeguard against defective products by implementing a rigid Quality Assurance System. In this system, at the end of each process, NEXCOM performs various tests to ensure that the product passes the industrial standard before it enters into next stage. Finally, additional tests are performed to ensure all board and system level products function correctly. Tests include "Failure Mode and Effects Analysis", "Vibration test", "Burn-in Chambers", "Drop test", and "AC power source test".

### Extensive DMS Experience


We set higher standards! NEXCOM surpasses your tailor-made product requirements with extensive DMS experiences. We are specialized in X86 architecture and have accumulated invaluable experience and know-how in real working environments. Moreover, with a superb reputation, NEXCOM has under its belt many ODM projects in diverse fields, such as gaming, medical, POS, network security, transportation, marine, blade servers, and Linux BIOS etc.

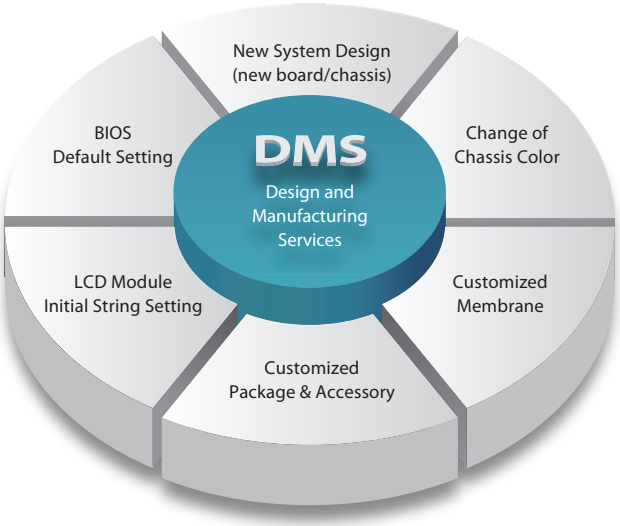
# Scope of DMS Work

## Original Design Manufacturing Service (ODMS)

NEXCOM offers a complete ODM Service starting from the brand new product design right through to the finished product. We can design products based on the customer's unique specifications and application requirements.

## Customization to Order Service (CTOS)

NEXCOM also provides CTOS, which is a quick-to-market solution by modifying the existing products to fit your business requirements, such as BIOS setting, component change by using current PCM layout, chassis color change, and packing accessories etc.




# Service of DMS

With decades of industrial computing experience, NEXCOM has the capability to provide different levels of customized service to manufacture innovative products with exceptional high quality. We can assist you to differentiate from competitors, and save significant time and efforts.

| | | |
|---|---|---|
| Level 1 | Logo Re-brand | We provide the service to change the membrane to re-brand the company logo on the front panel. Customers need to provide Membrane drawing with all color pantone number. There is a service charge involved. |
| Level 2 | Customerized Build | Customers can change the membrane and chassis color to re-brand the packing. NEXCOM can offer dedicated part numbers and BOM. MOQ and service charge are required. |
| Level 3 | Manufacturing Service | Contract manufacturing. The service scope includes system assembly & burn-in, software loading & testing. MOQ and manufacturing service charge are required. |
| Level 4 | New Project | The design of new board & system is available. NRE and quantity commitment are required. |

# Professional Conformal Coating Solution

## Get Ruggedized with NEXCOM Cost-Effective Conformal Coating Service for Hash Environment Protection

### Prompt Time-to-Market

NEXCOM recognizes the harsh reality that many embedded systems find themselves operating in unusual hostile environments. When conformal coating is required to protect your application against substantial humidity, dust, chemicals or temperature extremes, we can help!

### Cost Effective Service to Apply Coating Solution in Vertical Market Segments

In addition to the usual military and harsh industrial environments that demand conformal coating, NEXCOM expand our conformal coating to Vehicle Telematic Computing, outdoor traffic control/surveillance, and off-shore Marine applications. These applications demand embedded computing performance with increased reliability through conformal coating process.

To support a wide range of applications in vertical markets, NEXCOM has engineered a diverse range of platforms, which incorporate the latest.

### "State of the Art" Conformal Coating Line

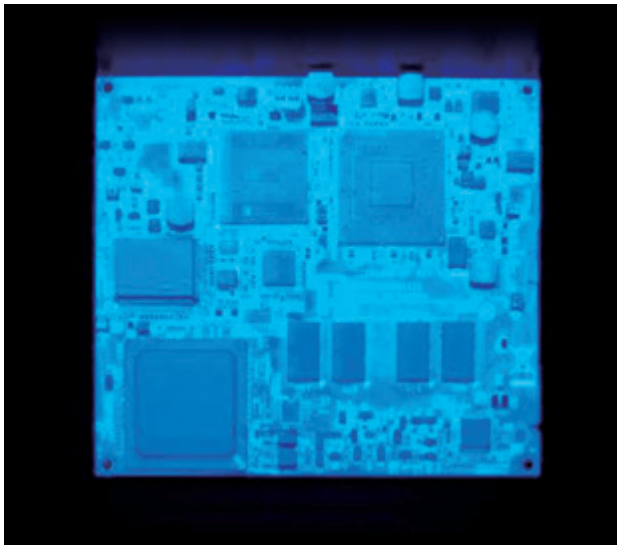
NEXCOM uses automated Conformal Coater equipment for applications that require a high level of accuracy and repeatability in moderate to high volume manufacturing environments. "State of the Art"coating line is a closed-loop robotic platform featuring optical encoder feedback on all axes.

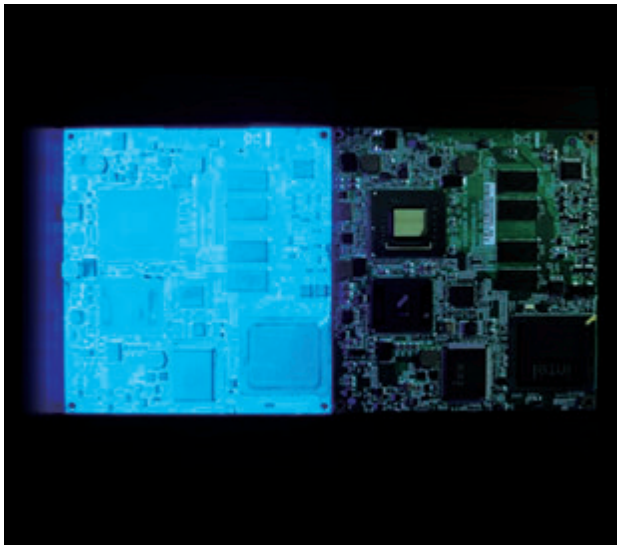
### Smart Masking Technology

Our smart masking technology can pin point specific area on the PCBA for coating. The green, programmable conformal coater equipment allow user to only coat the area selected, which save labor/ material costs.

## De-Flux Cleaning

To prepare a PCB for conformal coating, the circuits need to be cleaned. NEXCOM uses automatic defluxing and cleanliness testing systems. The deflux system is equipped with an automatic chemical management system that automatically doses and mixes defluxing chemicals at the turn of a keyed switch.





## Real Time Cleanliness Testing

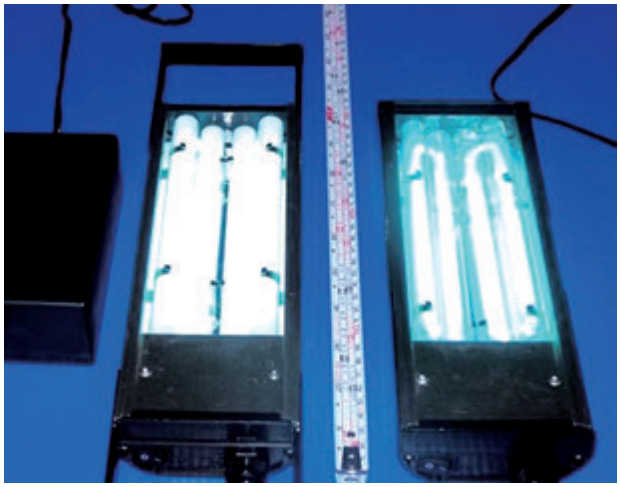
NEXCOM's deflux cleaning system is also equipped with an onboard cleanliness testing system which allows a user to program a desired cleanliness level. This assures that cleanliness levels will be consistent batch after batch.

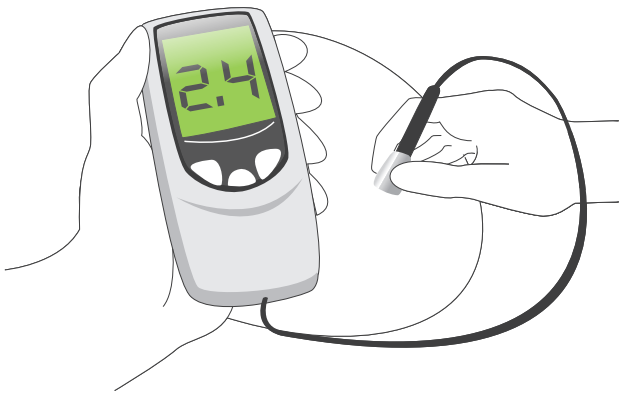
## De-Coating RMA Service

NEXCOM offer De-Coating RMA service upon request. This new service allows you to further cost down and generate higher ROI.

## Quality Assurance Policy and Consistency Guarantee

Conformal coating inspection is a critical factor in determining successful coating application and long term reliability of PCBs. Using the IPC standards allows the coating operator to monitor the coating application performance. NEXCOM offers 100% manual screening by examining the PCB under white and UVA light and Thickness Gauge.





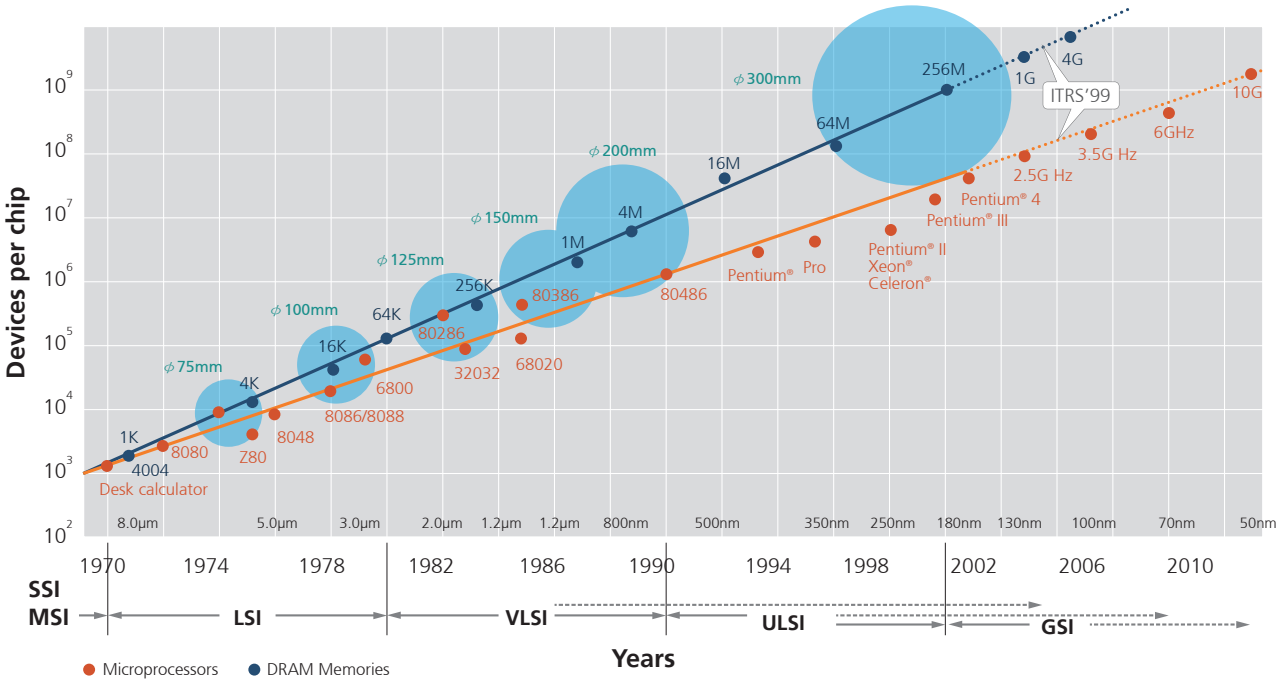

NEXCOM follows IPC-A 610, IPC-CC-830, IPC J-STD-001E regulations to generate consistent, adjustable coating thickness and cleanliness.

# The Rise of SoC Technology

SoC is a concept that appeared in the early 1990s. SoC stands for system-on-chip, the packaging of all the necessary electronic circuits and parts for a "complete system" on a single integrated circuit. It includes on-chip memory (RAM and ROM), one or more microprocessors, DSP, peripheral interfaces, I/O logic control, data converters, and other components that comprise a complete computer system. With the technology enhancement of foundry, from the SSI, MSI, LSI, VLSI, to 025 µm, 0.18 µm, 0.13 µm process, the logic gate count may be larger than 100 millions today. We can integrate more mature and reusable IP, like digital circuit, analog circuit, digital-analog mixed-signal circuit, and on-chip programmable logic into one SoC. The trend of SoC technology is to integrate MEMS, and SiP cores together to meet the complex single chip requirments.

The advantages of SoC are compact and simple system design, lighter weight, high performance with lower power consumption, multiple functions and cost-competitive. SoC are widely adopted in computers, communications, consumer, industrial, transportation, and other products. According to the forecast, the CAGR of SoC sales is expected to grow by more than 20% still in the coming 5 years.

The SoC industry has developed rapidly over the last 20 years from producing VLSI devices that integrated a processor and a few memory and peripheral components onto a single chip to today's high-performance SoCs that incorporate hundreds of IP blocks. This progress is a consequence of Moore's Law:
"The performance of an IC, including the number components on it, doubles every 18-24 months with the same chip price ..." - Gordon Moore – 1960




The SoC is usually divided into three categories according to the implementation technology adopted: CSoC (Configurable SoC), SoPC (System-on-a-Programmable-Chip), and ASIC SoC for final mass-production.

It is a trend to integrate multiple processor IP in recent SoC design. It increases the complexity of system verification, especially when multiple software running on the processors concurrently. To build prototype on the FPGA prototype is widely adopted to verify these IP. Many IC vendors have provided well-integrated SoPC (FPGA, EPGA), which includes processor, memory, bus logic, IO logic, and programmable logic. The Engineer can therefore verify high level software application on such platform. This solution can reduce the risk of new SoC development, offer high flexibility, and shorten the development cycle.

The SoC may adopt any kind of instruction set, Intel X86 core (e.g. NS SC2200, SiS550), MIPS core (e.g. AMD AU1500), PowerPC core (e.g. IBM PPC405), ARM 7/9/11 cores, or new ARM Cortex-M/A series.

In addition to the reusable IP modules, the most important feature of SoC is its bus architecture for the inter-connection between IP modules.

Each vendor adopt their own bus architectures, such as the AMBA bus (ARM), AXI bus (AMBA extension), EC bus (MIPS), CoreFram bus (MIPS), CoreConnect bus (IBM), Wishbone bus (Silicore). It is almost impossible to interconnect IP cores based on different bus architecture. Today, some companies devote efforts to establish a common on-chip bus architecture VSIA (Virtual Socket Interface Association). It needs an efficient routing algorithm as basis.

## Demands of SoC in Intelligent Industrial Control

Some demands make the SoC widely adopted in the industrial control,

1. Higher computing power: the SOA (Service Oriented Architecture) is widely adopted. Comparing to the traditional server/client architecture, the thin device needs higher computing power.
2. Wireless communication: because ubiquitous WIFI network, GSM network, the cloud computing becomes necessary. We need a system integrating network connection capability, security protection. The SoC is the better choice.
3. Compact size: no matter how many functions integrated, smaller size is a always need. It's reasonable to choose SoC.
4. Everything portable: to realize this feature, we need lower power consumption, reliable battery support.
5. Rapid response (real-time response): most precise equipments, or critical devices, need very rapid response after data analysis. The SoC is the most reliable solution in such application.
6. Multi-cores (distributed, or pipeline) computing: in complex system, it may need individual processor (or DSP) for each application. Like a GPU is dedicated for graphic operations, graphic accelerator, video codec, a RTU for data acquisition. Finally, there are 5 processors in ST's DVD recorder, 8 processors in HDTV, more than 10 processors in a mobile handset. To integrate these processors as one SoC is a necessary solution.

## NEXCOM SoC-based Platforms and Customizing Services

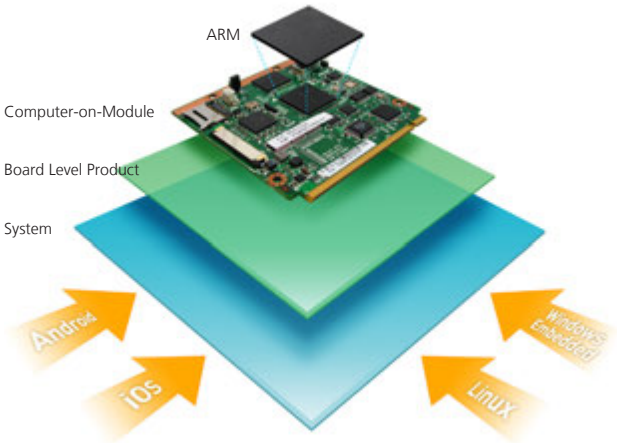
Since the mobile device application is becoming popular, the technology for SoC platform is enhancing fast. The performance of SoC based CPU is much higher than before and it is still with the benefits of low energy, compact size, easy to design. These features are also beneficial for industrial application. As the features of ARM based CPU, it can be designed as small form factor devices like box PC, panel PC, embedded board, vehicle computer, and even in network security appliance. The focus market can be industrial automation, POS/KIOSK, M2M and so on. NEXCOM provides the service for standard models, OEM/ODM service for system and board products. By leveraging our strong designing experience in versatile industrial applications, we can offer the complete service for meeting customers' requirements in SoC based platform.

## Features and Benefits

- Low Power Consumption
- Compact size form factor
- Cost Effective
- Flexible Design and Manufacturing

## Application and Market Focus

- Factory Automation Controller
- Machine Automation Controller
- Data Acquisition Server
- Communication Gateway
- HMI platform for Industrial Automation
- POS/ KIOSK Application
- Hardware device for M2M application
- Digital signage appliance
- In vehicle computing appliance
- Network security appliance



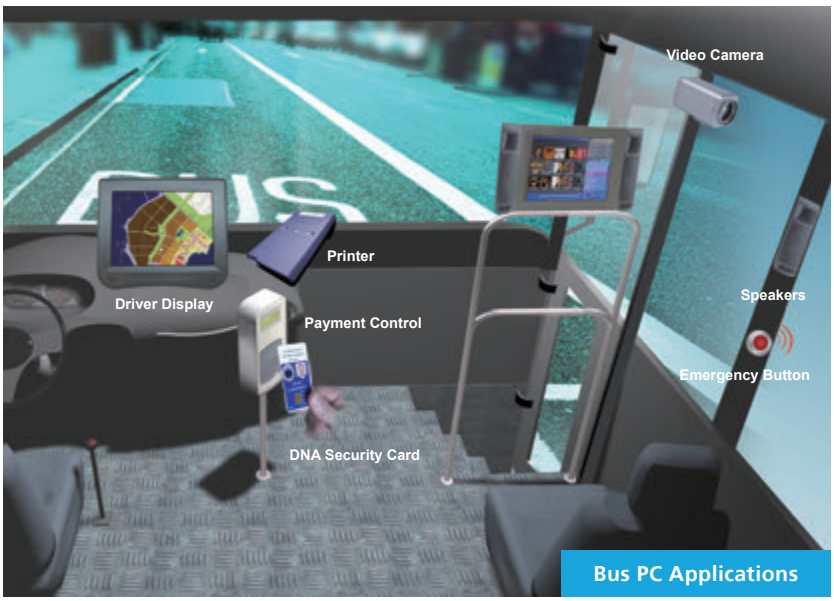
# In-Vehicle Computing Solutions

## Connected and Intelligent Service

In-vehicle computing solutions have changed business activities, engaged staff and encouraged new working practices. It allows users to focus on delivering the best service to customers by creating seamless service experience.

### Applications of in-vehicle computing

- Vehicle tracking and monitoring
- Real-time communication, positioning and navigator
- Computer-aided dispatch
- Secure and safe public transportation
- Passenger infotainment systems
- Emergency services
- Fleet management



# On-Road and Off-Road Vehicle Computing Solution

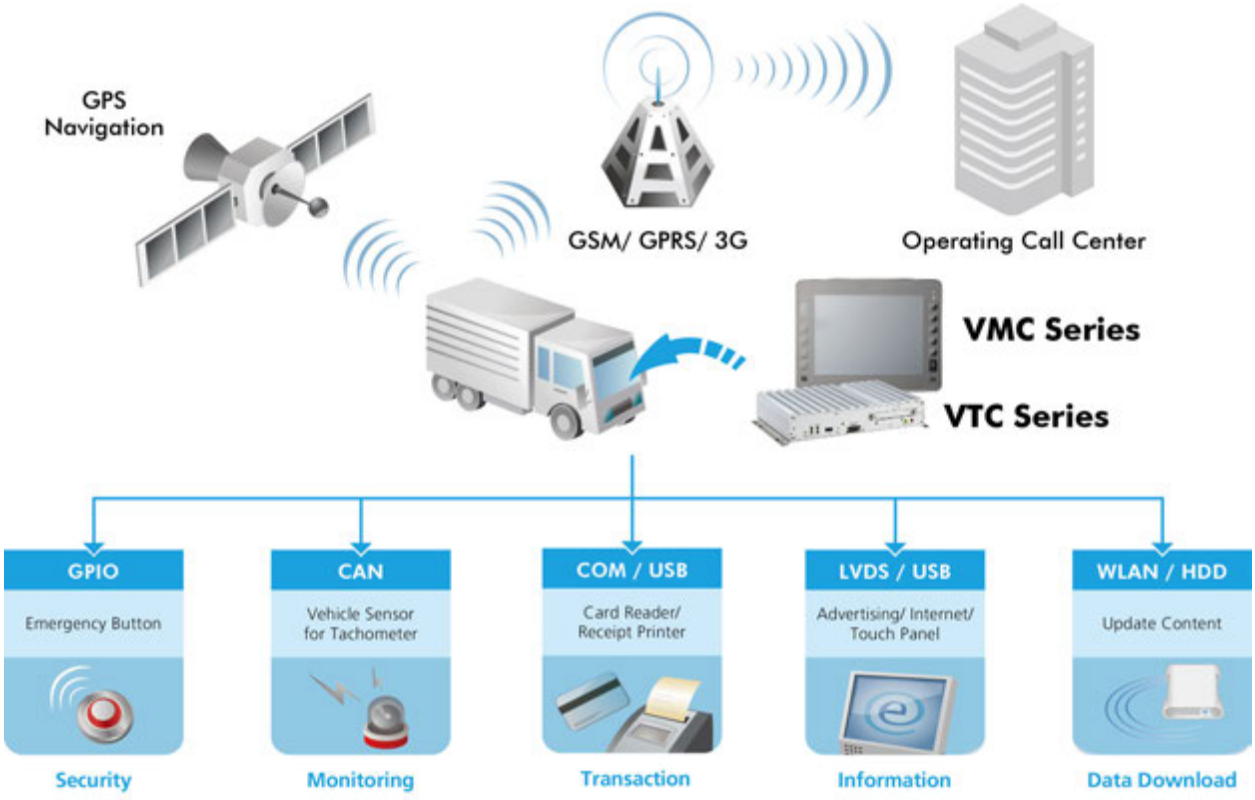
## The Intelligent Vehicle Computer for Mobile Workforce

VTC and VMC series are tailer-made in-vehicle computers which are suitable for a wide variety of applications within buses, trucks, police cars, taxi cabs and numerous other vehicles.

Based on the latest processor technology, the VTC and VMC series are fully compliant with most industry standards for in-vehicle usage. Designed for usage in even the most extreme environments, the VTC and VMC series are capable of operating at extended temperature, and can withstand dramatic levels of shock and vibration. An optional IP65 enclosure further enhances the systems ruggedness.

For in-vehicle infotainment and digital signage applications the VTC series boasts a multitude of display interface connections to drive more contacts. Other features include a PCI-104 expansion slot for CAN bus or other I/O interfaces and optional Mini-PCI express WLAN/ WWAN. And to facilitate mobile communication and navigation, the VTC and VMC series also have integrated GSM, GPRS, UMTS, HSDPA and GPS.

With built-in power ignition on/ off delay control, the VTC and VMC series can adapt to various power supply conditions within transportation environments. For increased flexibility, the series have a wide range power input with an external smart battery backup for uninterrupted power support.




## Main Features

- Fanless, compact and rugged design
- Integrated WLAN/ WWAN/ PAN and GPS for mobile communication and navigation
- Wide range of Power ignition control, battery low-voltage protection
- Dual display out outputs
- Flexible I/O connection options and PCI-104 expansion
- Accessory: anti-vibration kit, back-up battery kit and cooler kit

# Rolling Stock Computing Solutions

## The Rolling Stock Computing for Rail Application

Railway has been playing the role as the mass transportation system either for goods or for people. Nowadays, along with the advanced technology, the vehicles on the rolling stock are not only the train but also subway, underground, tram and so on. To increase its safety and productivity, it has become one of the most important concerns to make the intelligent transportation system by the advanced electronics information systems.

NEXCOM positioning itself as a platform provider in vehicle market has been award the customer trust. To meet the customer demand and request with the full product line, NEXCOM leverages its existing in-vehicle telematics technical knowledge with several-year experiences in field to rolling stock computer. Nexcom has presented nROK series for rolling stock application.

### Target Market

1. Infotainment
2. Mobile Surveillance
3. Control and Monitor

nROK series is targeted for the rolling stock market with special design scheme to meet the criteria of installation in the vehicle


on the rolling stock. They pass numerous environmental tests and are compliant EN50155 standard. Rapid transit system, metropolitan rail, commuter rail, high speed rail, tram, and train will make the best use of nROK.

Different voltage standards in the application of the rolling stock, such as 24V, 110V and so on, nROK products reserve the design to provide variety voltage. In addition, the operating temperature is the key point for different world, all nORK products has undergone rigorous testing based on EN50155 TX standards which is capable of operating from -40 to 70°C. Furthermore, there are many different application address, such as ISCS (Integrated Supervision & Control System), AFC (Automatic Fare Collection System, PIS (Passenger Information System), FAS (Fire Alarm System), Infotainment System and Surveillance System, each application for computing performance and mounting forms have different requirements. nROK product lines done with the needs of customers, provide different options for varied application features.

nROK series are designed to make installation, maintenance, and upgrade simple. I/O ports with lockable connectors are available on the front side for easy cabling. Reserved general USB ports with cover protection for field engineers maintain easily. The removable storage tray is convenient for replacement of storage unit without disassembling the entire device. Chassis BOX ingress protection is compliant with IP65 to withstand in the harsh environment.

nROK series also offer the powerful computing platform with rack mount form factor to install in the cabinet. It is packed with the eight PoE LAN ports and multiple storage bays with SATA interface and RAID capability for large media program. I/O connections are securely fixed with locks, averting system breakdown caused by loose ends. Wireless communication design is reserved to supports GPS function and WiFi and WWAN connection.


## Main Features

- Fanless and rugged design
- Support ignition signal for delay-time control
- Rich I/O interface with secure lock
- Varity DC power input with isolated protection
- Support ignition signal for delay-time control
- Wide range operating temperature and meet Tx grade
- Design Compliant with EN50155

# Rugged Mobile Computer

## Managing Operations Efficiently

Mobile rugged computer provides mobility solution to enables field workers to connect to corporate systems, improves real-time communication, increases information accuracy and empowers field-based decision making.

### Applications of in-vehicle computing

- Field service
- Warehouse management
- Store operations
- Stock pickup/ distribution
- Portable POS
- Mobile inspection
- Healthcare
- Fleet management
- Public safety

# The Rugged Mobile Tablet Computer for Field Application

The MRC series is designed for mobile workers requiring real-time information who can not access desktop PC or laptop. Its integrated wireless technology enables field technicians to access job assignments, order parts, conduct research and instantly log service reports. With the powerful 3.5G mobile broadband engine, the MRC series can benefit users by efficiently utilizing existing broadband whilst expanding service coverage.

Some MRC Models also have a hot-swappable battery which further increases the battery life to extend service hours. The IP-54 rated rugged design makes the durable MRC series suitable for use in even harsh environments. For logistic and warehouse management applications, the MRC series is equipped with a built-in barcode scanner and RFID reader.

Onboard GPS and sunlight readable LCD make the MRC series ideal for outdoor applications. Typical applications include, but are not limited to asset management, building automation, mobile CRM, meter reading, on-site troubleshooting, AVL/ GIS/ mapping, field data collection, plant operations, quality control, WIP tracking, surveillance/ inspection, surveying, mobile POS, shelf labeling, fleet management, marine navigation, shipping/ receiving, health care services, etc.


## Main Features

- Daylight reliable display
- Resistive touch LCD display
- Integrated 1D/2D barcode scanner or RFID reader
- Integrated GPS, WLAN, WWAN, and Bluetooth
- Rugged design for MIL-STD810F and IP54
- Drop resistant from a height of 4 feet
- Integrated CMOS
- One navigation key and four programmable function keys
- Hot swappable battery

# 2013 New Products

## VTC 7100 Series

In-Vehicle Computer

- Intel® Atom™ D2550/ Core™ i7 2610UE/ Celeron® 847E processor
- Fanless and rugged design
- Support two Ethernet LAN ports
- Removable 2.5" SSD tray
- Optional CAN bus in support of SAE J1939 or J1708
- Optional isolation digital input and output
- 9~36V wide range DC input
- Smarter ignition power on/off, delay-time and low voltage protection
- Optional 4 or 8-channel PoE

Coming Soon

## nROK 5500 Series

Train Computer

- High performance processor with Intel® Core™ i7 3615QE/3517UE
- Fanless and rugged design
- Support ignition signal with delay-time control
- Support Hardware base RAID 0/1/5/10
- Four Removable 2.5" SSD tray with 1Grms vibration
- Isolation RS-232/ 422/ 485 and GPIO
- 24V/ 110V DC input with isolated protection
- Support 8 channels POE with IEEE802.3af
- Support dual PCI express x8 expansion slot
- Certified by EN50155 with TX grade temperature standard

## VMC 3000 Series

Vehicle Mount Computer

- 10.4" XGA TFT LCD with LED backlight
- Compact and fanless design
- Intel® Core™ i7 2610UE/ Atom™ D2550 processor
- Wake on RTC/ SMS/ LAN
- GPS receiver on board
- Variety wireless communication options
- 9~36V wide Range DC input
- Compliant with IP65/ IP67 optional
- Certified by CE/ FCC

## VMD 2000 Series

Vehicle Mount Display

- 8" SVGA TFT LCD monitor
- Automatic/ Manual brightness control
- Remote system power control
- Support USB 2.0 and card reader
- Camera sensor on front panel (Optional)
- Sunlight readable solution with 800 nits LCD display
- Front panel compliant with IP54

# Intelligent Vehicle Telematics Computer

The VTC Series is innovative telematics PCs, which have been specifically designed for in-vehicle operation within trucks, buses, trains and marine vehicles. This rugged PC based series is housed in an ultra-compact aluminum chassis which has excellent resistance to shock and vibration. Based on the energy-efficient Intel® processor, this compact series has an extremely wide operating temperature and is compliant with most industry standards for in-vehicle operation including eMark.

In addition to telematics and mobile digital signage application, the latest released new VTC7 series is capable to handle the video capture either through the analog signal or digital signal. It can support up to 8-channel POE for surveillance application.

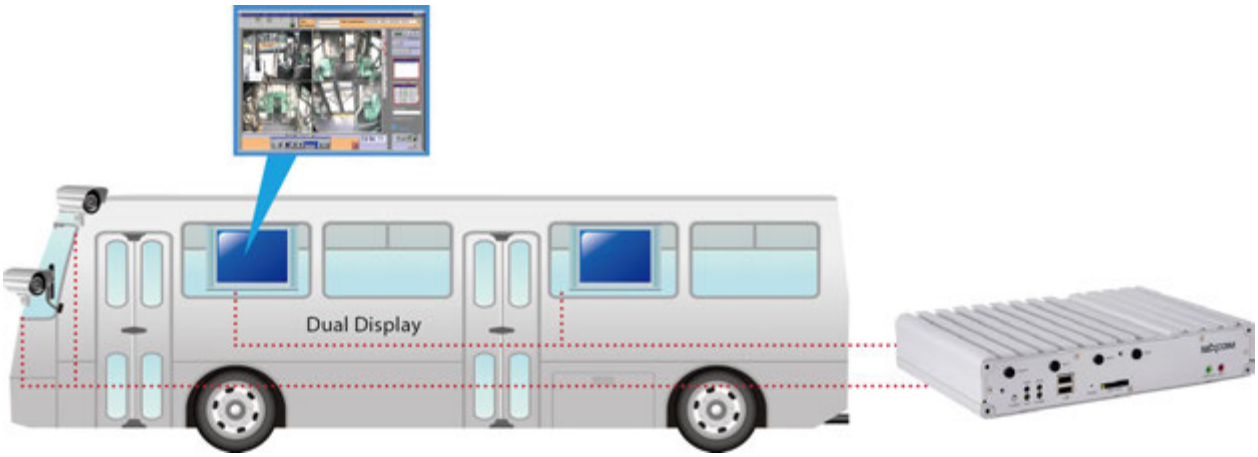
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Powerful | | | |  VTC 7100 | |  VTC 7120 |  VTC 7110 |
| Classic | |  VTC 6100 |  VTC 6200/6200-NI | |  VTC 6110 | | |
| Value |  VTC 1000 |  VTC 2000 |  VTC 2100 | | | | |
| Intel® Processor | Atom™ E640 | Atom™ N270 | Atom™ D510<br>Atom™ D410 | Atom™ D2550 | Core™ Duo | Core™ 2 Duo | Core™ i7-2610UE |

# Robust All-In-One Vehicle Mount Computer

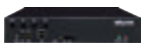
VMC series is the all-in-one computer integrated with high quality LCD and touch sensor. In addition to the friendly human interface with the intuition touch input, it provides the warning LEDs to monitor the system condition and ten programmable keys to the medium size VMC series. The smart power management and wake on SMS/ RTC is the standard feature in all VMC series.

VMC series also offer the flexible configuration to meet the various demand via the CPU board selection, optional CAN bus and IO board. Last but not least, is with design including appearance material and features in anti-vibration and anti-shock compliant with MIL-STD-810F to ensure VMC working on the bumping road without losing its functionality. Its housing is well protected to withstand the dusty and water - IP54 or IP65.

VMC series is the ideal product for the application in harsh environment. Not only suit for transportation vehicle but also for construction truck, forestry truck, agricultural machine, and crane truck those moving on the bumping road.



# In-Vehicle Computer

| Model |  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|---|
| | VTC 100 | VTC 1000 | VTC 2000 | VTC 2100 | VTC 6100 | VTC 6100-DK | VTC 6110 |
| CPU | ARM Cortex™-A8 | Intel® Atom™ E640 | Intel® Atom™ N270 | Intel® Atom™ D410 | Intel® Atom™ N270 | Intel® Atom™ N270 | Intel® Core™ Duo L2400 |
| Chipset | N/A | EG20T | 945GSE+ICH-7M | ICH-8M | 945GSE+ICH-7M | 945GSE+ICH-7M | 945GME+ICH-7M |
| Memory | 256MB DDR2 On-board up to 512MB | 1GB DDR2 on board up to 2GB | DDR2 SO-DIMM up to 2GB | DDR2 SO-DIMM up to 2GB | DDR2 SO-DIMM up to 2GB | DDR2 SO-DIMM up to 2GB | DDR2 SO-DIMM up to 2GB |
| Storage | 4GB Micro SDHC up to 16GB | 2.5" SATA SDD tray | 2.5" SATA SDD tray | 2.5" SATA SDD tray | 2.5" SATA SDD tray | 2.5" SATA SDD tray | 2.5" SATA SDD tray |
| CF Socket | N/A | N/A | 1 (Internal) | N/A | 1 (Internal) | 1 (Internal) | 1 (Internal) |
| SATA DOM | N/A | N/A | N/A | x1 | N/A | N/A | No |
| Power Input | DC 9V to 36V | DC 6V to 36V | DC 6V to 36V | DC 6V to 36V | DC 6V to 36V | DC 6V to 36V | DC 6V to 36V |
| Ignition Control | Yes w/ 8 level delay time setting | Yes w/ 8 level delay time setting | Yes w/ 8 level delay time setting | Yes w/ 8 level delay time setting | Yes w/ 8 level delay time setting | Yes w/ 8 level delay time setting | Yes w/ 8 level delay time setting |
| Power Management | Battery deep discharge protection | Battery deep discharge protection | Battery deep discharge protection | Battery deep discharge protection | Battery deep discharge protection | Battery deep discharge protection | Battery deep discharge protection |
| DC Output | N/A | 5V (1A), 12V (1A) | 5V (1A), 12V (1A) | 5V (1A), 12V (1A) | 5V (1A), 12V (1A) | 5V (1A), 12V (1A) | 5V (1A), 12V (1A) |
| GPS | Built-in | Built-in | Built-in | Built-in | Built-in | Built-in | Built-in |
| WWAN | Optional | Optional | Optional | Optional | Optional | Optional | Optional |
| Wi-Fi | Optional | Optional | Optional | Optional | Optional | Optional | Optional |
| BT | Optional | 1 | 1 | 1 | 1 | 1 | 1 |
| USB | USB2.0 x 2 (Front) | USB2.0 x 2 (Front) | USB2.0 x 3 (Rear) | USB2.0 x 2 (Front), x 2 (Rear) | USB2.0 x 1 (Front), x 2 (Rear) | USB2.0 x 1 (Front), x 2 (Rear) | USB2.0 x 1 (Front), x 2 (Rear) |
| COM | RS-232 x 1<br>RS-485 x 1 | RS-232 x 1 (Front)<br>RS-422/ 485 x 2 (Rear)or RS-232/422/485 x 1 | RS-232 x 2<br>RS-232/ 485 x 1 | RS-232 x 2<br>RS-485 x 1 | RS-232 x 2<br>RS-232/ 485 x 1 | RS-232 x 1<br>RS-232/ 485 x1 | RS-232 x 2<br>RS-232/485 x 1 |
| CAN Bus | Optional | Optional | N/A | N/A | N/A | N/A | N/A |
| Video Output | VGA | VGA or LVDS | DVI-D, VGA | LVDS, VGA x 2 | LVDS, DVI, VGA | LVDS, DVI, VGA | LVDS, DVI, VGA |
| Ethernet | 10/100/1000 x 1 | 10/100/1000 x 1 | 10/100/1000 x 1 | 10/100/1000 x 1 | 10/100/1000 x 1 | 10/100/1000 x 1 | 10/100/1000 x 1 |
| Audio | Mic-in x 1,<br>Line-out x 1 | Mic-in x 1,<br>Line-out x 1 | Mic-in x 1,<br>Line-out x 1 | Mic-in x 2,<br>Line-out x 2 | Mic-in x 2,<br>Line-out x 2 | Mic-in x 2,<br>Line-out x 2 | Mic-in x 2,<br>Line-out x 2 |
| GPIO | In x 3, Out x 3 | In x 4, Out x 4 | In x 4, Out x 4 | In x 4, Out x 4 | In x 4, Out x 4 | In x 4, Out x 4 | In x 4, Out x 4 |
| PCI-104 | N/A | N/A | N/A | 1 | 1 | 1 | 1 |
| Mini-Card | N/A | 1 | 1 | 1 | 1 | 1 | 1 |
| Dimension (mm) (W x D x H) | 180 x 110 x 45 | 185 x 120 x 40 | 272 x 190 x 44 | 248.8 x 175.2 x 47 | 260 x 176 x 50 | 260 x 176 x 50 | 260 x 176 x 50 |
| Certification | CE, FCC Class B | CE, FCC Class B, e13 | CE, FCC Class A | CE, FCC Class B, e13 | CE, FCC Class B, e13 | CE, FCC Class B, e13 | CE, FCC Class B, e13 |
| Operation Temperature | -20°C to 70°C | -20°C to 60°C | -10°C to 45°C | -10°C to 50°C | -30°C to 60°C | -30°C to 60°C | -30°C to 50°C |

|  |  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|---|
| **VTC 6120** | **VTC 6200** | **VTC 6200-NI** | **VTC 6200-NI-DK** | **VTC 6200-VR4** | **VTC 6201** | **VTC 7100-B** | **VTC 7100-D1** |
| Intel® Core™ 2 Duo SL9400 | Intel® Atom™ D510 | Intel® Atom™ D510 | Intel® Atom™ D510 | Intel® Atom™ D510 | Intel® Atom™ D510 | Intel® Atom™ D2550 | Intel® Atom™ D2550 |
| GS45 +ICH-9M SFF | ICH-8M | ICH-8M | ICH-8M | ICH-8M | ICH-8M | ICH10R | ICH10R |
| DDR2 SO-DIMM up to 2GB | DDR2 SO-DIMM up to 2GB | DDR2 SO-DIMM up to 2GB | DDR2 SO-DIMM up to 2GB | DDR2 SO-DIMM up to 2GB | DDR2 SO-DIMM up to 2GB | DDR3 SO-DIMM up to 4GB | DDR3 SO-DIMM up to 4GB |
| 2.5" SATA SDD tray | 2.5" SATA SDD tray | 2.5" SATA SDD tray | 2.5" SATA SDD tray | 2.5" SATA SDD tray | 2.5" SATA SDD tray | 2.5" SATA SDD tray | 2.5" SATA SDD tray |
| 1 (Internal) | N/A | N/A | N/A | N/A | N/A | 1 x CFast | 1 x CFast |
| No | x1 | x1 | x1 | x1 | x1 | No | No |
| DC 6V to 36V | DC 8V to 60V | DC 8V to 60V | DC 8V to 60V | DC 8V to 60V | DC 8V to 60V | DC 9V to 36V | DC 9V to 36V |
| Yes w/ 8 level delay time setting | Yes w/ 8 level delay time setting | Yes w/ 8 level delay time setting | Yes w/ 8 level delay time setting | Yes w/ 8 level delay time setting | Yes w/ 8 level delay time setting | Yes w/ 8 level delay time setting | Yes w/ 8 level delay time setting |
| Battery deep discharge protection | Battery deep discharge protection | Battery deep discharge protection | Battery deep discharge protection | Battery deep discharge protection | Battery deep discharge protection | Battery deep discharge protection | Battery deep discharge protection |
| 5V (1A), 12V (1A) | 5V (1A), 12V (1A) | 5V (1A), 12V (1A ) | 5V (1A), 12V (1A) | 5V (1A), 12V (1A) | 5V (1A), 12V (1A) | 12V (4A) | 12V (4A) |
| Built-in | Built-in | Built-in | Built-in | Built-in | Built-in | Built-in | Built-in |
| Optional | Optional | Optional | Optional | Optional | Optional | Optional | Optional |
| Optional | Optional | Optional | Optional | Optional | Optional | Optional | Optional |
| 1 | 1 | 1 | 1 | 1 | 1 | Optional | Optional |
| USB2.0 x 1 (Front), x 2 (Rear) | USB2.0 x 2 (Front), x 2 (Rear) | USB2.0 x 2 (Front), x 2 (Rear) | USB2.0 x 2 (Front), x 2 (Rear) | USB2.0 x 2 (Front), x 2 (Rear) | USB2.0 x 2 (Front), x 2 (Rear) | USB2.0 x 1 (Front), x 2 (Rear) | USB2.0 x 1 (Front), x 2 (Rear) |
| RS-232 x 2 RS-232/ 485 x 1 | RS-232 x 4 (COM1, COM2 with Isolation) RS-485 x 1 with Isolation" | RS-232 x 2 RS-485 x 1 | RS-232 x 1 RS-485 x 1 | RS-232 x 1 RS-485 x 1 | RS-232 x 2 RS-485 x 1 | RS-232 x 1 RS-485/ 422 x1 | RS-232 x 1 RS-485/ 422 x1 Isolation RS-232 x 3 Isolation RS-485/ 422 x 2 |
| N/A | N/A | N/A | N/A | N/A | N/A | Optional (replace with RS232) | Optional (up to two) |
| LVDS, DVI, VGA | LVDS, VGA x 2 (Clone mode) | LVDS, VGA x 2 (Clone mode) | LVDS, VGA x 2 (Clone mode) | LVDS, VGA x 2 (Clone mode) | LVDS, VGA x 2 (Clone mode) | VGA, LVDS or DVI-D | VGA, LVDS or DVI-D |
| 10/100/1000 x 1 | 10/100/1000 x 1 | 10/100/1000 x 1 | 10/100/1000 x 1 | 10/100/1000 x 1 | 10/100/1000 x 3 | 10/100/1000 x 2 | 10/100/1000 x 2 |
| Mic-in x 2, Line-out x 2 | Mic-in x 2, Line-out x 2 | Mic-in x 2, Line-out x 2 | Mic-in x 2, Line-out x 2 | Mic-in x 2, Line-out x 2 | Mic-in x 2, Line-out x 2 | Mic-in x 2, Line-out x 2 | Mic-in x 2, Line-out x 2 |
| In x 4, Out x 4 | In x 4, Out x 4 | In x 4, Out x 4 | In x 4, Out x 4 | In x 4, Out x 4 | In x 4, Out x 4 | In x 4, Out x 4 | In x 4, Out x 4 Isolation In x 8, Out x 8 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 |
| 260 x 176 x 50 | 260 x 176 x 70 | 260 x 176 x 50 | 260 x 176 x 50 | 260 x 176 x 50 | 260 x 176 x 50 | 260 x 176 x 50 | 260 x 176 x 73.6 |
| CE, FCC Class B | CE, FCC Class B, e13 | CE, FCC Class B, e13 | CE, FCC Class B, e13 | CE, FCC Class B, e13 | CE, FCC Class B, e13 | CE, FCC Class A | CE, FCC Class A |
| -30°C to 50°C | -30°C to 60°C | -30°C to 60°C | -30°C to 60°C | -30°C to 50°C | -30°C to 60°C | -30°C to 50°C | -30°C to 50°C |

| Model |  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|---|
| | VTC 7100-C8 | VTC 7110-B | VTC 7110-D1 | VTC 7110-C4 | VTC 7120-B | VTC 7120-D1 | VTC 7120-C4 |
| CPU | Intel® Atom™ D2550 | Intel® Core™ i7 2610UE | Intel® Core™ i7 2610UE | Intel® Core™ i7 2610UE | Intel® Celeron® 847E | Intel® Celeron® 847E | Intel® Celeron® 847E |
| Chipset | ICH10R | QM67 | QM67 | QM67 | QM67 | QM67 | QM67 |
| Memory | DDR3 SO-DIMM up to 4GB | DDR3 SO-DIMM up to 8GB | DDR3 SO-DIMM up to 8GB | DDR3 SO-DIMM up to 8GB | DDR3 SO-DIMM up to 8GB | DDR3 SO-DIMM up to 8GB | DDR3 SO-DIMM up to 8GB |
| Storage | 2.5" SATA SDD tray | 2.5" SATA SDD tray | 2.5" SATA SDD tray | 2.5" SATA SDD tray | 2.5" SATA SDD tray | 2.5" SATA SDD tray | 2.5" SATA SDD tray |
| CF Socket | 1 x CFast | 1 x CFast | 1 x CFast | 1 x CFast | 1 x CFast | 1 x CFast | 1 x CFast |
| SATA DOM | No | No | No | No | No | No | No |
| Power Input | DC 9V to 36V | DC 9V to 36V | DC 9V to 36V | DC 9V to 36V | DC 9V to 36V | DC 9V to 36V | DC 9V to 36V |
| Ignition Control | Yes w/ 8 level delay time setting | Yes w/ 8 level delay time setting | Yes w/ 8 level delay time setting | Yes w/ 8 level delay time setting | Yes w/ 8 level delay time setting | Yes w/ 8 level delay time setting | Yes w/ 8 level delay time setting |
| Power Management | Battery deep discharge protection | Battery deep discharge protection | Battery deep discharge protection | Battery deep discharge protection | Battery deep discharge protection | Battery deep discharge protection | Battery deep discharge protection |
| DC Output | 12V (4A) | 12V (4A) | 12V (4A) | 12V (4A) | 12V (4A) | 12V (4A) | 12V (4A) |
| GPS | Built-in | Built-in | Built-in | Built-in | Built-in | Built-in | Built-in |
| WWAN | Optional | Optional | Optional | Optional | Optional | Optional | Optional |
| Wi-Fi | Optional | Optional | Optional | Optional | Optional | Optional | Optional |
| BT | Optional | Optional | Optional | Optional | Optional | Optional | Optional |
| USB | USB2.0 x 1 (Front), x 2 (Rear) | USB2.0 x 1 (Front), x 2 (Rear) | USB2.0 x 1 (Front), x 2 (Rear) | USB2.0 x 1 (Front), x 2 (Rear) | USB2.0 x 1 (Front), x 2 (Rear) | USB2.0 x 1 (Front), x 2 (Rear) | USB2.0 x 1 (Front), x 2 (Rear) |
| COM | RS-232 x 1 RS-485/ 422 x1 | RS-232 x 1 RS-485/ 422 x1 | RS-232 x 1 RS-485/ 422 x1 Isolation RS-232 x 3 Isolation RS-485/ 422 x 2 | RS-232 x 1 RS-485/ 422 x1 | RS-232 x 1 RS-485/ 422 x1 | RS-232 x 1 RS-485/ 422 x1 Isolation RS-232 x 3 Isolation RS-485/ 422 x 2 | RS-232 x 1 RS-485/ 422 x1 |
| CAN Bus | Optional (replace with RS232) | Optional (replace with RS232) | Optional (up to two) | Optional (replace with RS232) | Optional (replace with RS232) | Optional (up to two) | Optional (replace with RS232) |
| Video Output | VGA, LVDS or DVI-D | VGA, LVDS or DVI-D | VGA, LVDS or DVI-D | VGA, LVDS or DVI-D | VGA, LVDS or DVI-D | VGA, LVDS or DVI-D | VGA, LVDS or DVI-D |
| Ethernet | 10/100/1000 x 10 (PoE x 8) | 10/100/1000 x 2 | 10/100/1000 x 2 | 10/100/1000 x 6 (PoE x 4) | 10/100/1000 x 2 | 10/100/1000 x 2 | 10/100/1000 x 6 (PoE x 4) |
| Audio | Mic-in x 2, Line-out x 2 | Mic-in x 2, Line-out x 2 | Mic-in x 2, Line-out x 2 | Mic-in x 2, Line-out x 2 | Mic-in x 2, Line-out x 2 | Mic-in x 2, Line-out x 2 | Mic-in x 2, Line-out x 2 |
| GPIO | In x 4, Out x 4 | In x 4, Out x 4 | In x 4, Out x 4 Isolation In x 8, Out x 8 | In x 4, Out x 4 | In x 4, Out x 4 | In x 4, Out x 4 Isolation In x 8, Out x 8 | In x 4, Out x 4 |
| PCI-104 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Mini-Card | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Dimension (mm) (W x D x H) | 260 x 176 x 73.6 | 260 x 176 x 50 | 260 x 176 x 73.6 | 260 x 176 x 73.6 | 260 x 176 x 50 | 260 x 176 x 73.6 | 260 x 176 x 73.6 |
| Certification | CE, FCC Class A | CE, FCC Class A | CE, FCC Class A | CE, FCC Class A | CE, FCC Class A | CE, FCC Class A | CE, FCC Class A |
| Operation Temperature | -30°C to 50°C | -30°C to 50°C | -30°C to 50°C | -30°C to 50°C | -30°C to 50°C | -30°C to 50°C | -30°C to 50°C |

# Vehicle Mount Computer

| Model | Coming Soon |  |  |  |
|---|---|---|---|---|
| | VMC 100 | VMC 1000 | VMC 3000/ 3500/ 3600 | VMC 3001/ 3501/ 3601 |
| LCD Size | 7" TFT LCD | 7" TFT LCD | 10.4" TFT LCD | 10.4" TFT LCD |
| Resolution | 800 x 480 | 800 x 480 | 1024 x 768 | 1024 x 768 |
| Brightness | 400cd/m² | 500cd/m² | 400cd/m² | 400cd/m² |
| Contrast Ratio | 600:1 | 600:1 | 500:1 | 500:1 |
| View Angle | V:60/ 60 H:70/ 70 | V:60/ 60 H:70/ 70 | V:60/ 60 H:70/ 70 | V:60/ 60 H:70/ 70 |
| Brightness Adjustment | Auto via ligth sensor | Auto via ligth sensor | Auto via ligth sensor | Auto via ligth sensor |
| Audio | Built-in Speaker x 2 | Built-in Speaker x 2 | Built-in Speaker x 2 | Built-in Speaker x 2 |
| Touch Screen | 4-wire antiglare | 4-wire antiglare | 5-wire antiglare | 5-wire antiglare |
| Camera | 1 (option) | 1 (option) | N/A | N/A |
| Control Button | Power button x 1<br>Brightness control x 2<br>Volume control x 2 | Power button x 1<br>Brightness control x 2<br>Volume control x 2 | Power button x 1<br>Brightness control x 2 | Power button x 1<br>Brightness control x 2 |
| Mounting | VESA 75 | VESA 75 | VESA 75/ 100 | VESA 75/ 100 |
| CPU | ARM Cortex™-A9 | Intel® Atom™ E640 | Intel® Atom™ D2550/<br>Core™ i7 2610UE/ Celeron® 847E | Intel® Atom™ D2550/<br>Core™ i7 2610UE/ Celeron® 847E |
| Chipset | N/A | EG20T | ICH10R/ QM67/ QM67 | ICH10R/ QM67/ QM67 |
| Memory | 256 DDR3 on board | 1GB DDR2 on board | 1GB DDR3 SO-DIMM, up to 4GB | 2GB DDR3 SO-DIMM, up to 8GB |
| Storage | 4GB Micro SDHC<br>up to 16GB | mSATA socket x 1 | 2.5" SATA SSD tray x 1<br>CFast x 1 | 2.5" SATA SSD tray x 1<br>CFast x 1 |
| Power Input | DC 9V to 36V | DC 6V to 36V | DC 9V to 36V | DC 9V to 36V |
| Ignition Control | Yes w/ 8 level delay<br>time<br>setting | Yes w/ 8 level delay time<br>setting | Yes w/ 8 level delay time<br>setting | Yes w/ 8 level delay time<br>setting |
| Power Management | Battery deep discharge protection | Battery deep discharge protection | Battery deep discharge protection | Battery deep discharge protection |
| GPS | Built-in | Built-in | Built-in | Built-in |
| WWAN | Optional | Optional | Optional | Optional |
| BT | N/A | N/A | Optional | Optional |
| Wi-Fi | Optional | Optional | Optional | Optional |
| USB | USB2.0 x 1 | USB2.0 x3 | USB2.0 x3 | USB2.0 x3 |
| COM | RS232 x 2<br>RS-485 x 1 | RS232 x 1<br>RS-232/ RS-422/ RS-485 x 1 | RS-232 x 2<br>(COM1 with 0/5/12V) | RS-232 x 2<br>(COM1 with 0/5/12V) |
| CAN Bus | Optional | N/A | Optional<br>(up to two) | Optional<br>(up to two) |
| Ethernet | 10/100/1000 x 1 | 10/100/1000 x 1 | 10/100/1000 x 1 | 10/100/1000 x 1 |
| Audio | Mic-in x 1, Line-out x 1 | Mic-in x 1, Line-out x 1 | Mic-in x 1, Line-out x 1 | Mic-in x 1, Line-out x 1 |
| GPIO | N/A | In x 3, Out x 3 | In x 3, Out x 3 | In x 3, Out x 3 |
| Mini-Card | 1 | 1 | 1 | 1 |
| Ingress Protection | Front Panel IP65 | IP54 | Front Panel IP65 | Front Panel IP65 |
| Dimension (mm)<br>(W x H x D) | TBD | 182 x 138 x 50 | 290 x 230 x 68 | 290 x 230 x 68 |
| Certification | CE, FCC Class B | CE, FCC Class B, e13 | CE, FCC Class B | CE, FCC Class B |
| Operation Temperature | -20°C to 70°C | -20°C to 50°C | -30°C to 60°C/<br>-30°C to 50°C/ -30°C to 50°C | -30°C to 60°C/<br>-30°C to 50°C/ -30°C to 50°C |

# Vehicle Mount Display

| Model |  |  |  |  | Coming Soon |
|---|---|---|---|---|---|
| | **VMD 1000** | **VMD 1001** | **VMD 2000** | **VMD 2002** | **VMD 3002** |
| LCD Size | 7" WVGA TFT LCD | 7" VGA TFT LCD | 8" SVGA TFT LCD | 8" SVGA TFT LCD | 10.4" XGA TFT LCD |
| Brightness | 500cd/m² | 500cd/m² | 400cd/m² | 400cd/m² | 1200cd/m² |
| Sunlight Readable | Low reflection Touch Screen | Low reflection Touch Screen | 800nits (panel) | 800nits (panel) | 1200nits (panel) |
| Contrast Ratio | 600:1 | 600:1 | 500:1 | 500:1 | 500:1 |
| View Angle | V:60/60 H:70/70 | V:60/60 H:70/70 | V:50/70 H:70/70 | V:50/70 H:70/70 | V:60/60 H:70/70 |
| Brightness Adjustment | Auto via ligth sensor | Auto via ligth sensor | Auto via ligth sensor | Auto via ligth sensor | Auto via ligth sensor |
| Audio | Built-in Speaker x 2 | Built-in Speaker x 2 | Built-in Speaker x 2 | Built-in Speaker x 2 | Built-in Speaker x 2 |
| Touch Screen | 4-wire antiglare | 4-wire antiglare | 4-wire antiglare | 4-wire antiglare | Projected Capacitive |
| Camera | 1 (option) | 1 (option) | 1 (option) | 1 (option) | 1 (option for front or rear) |
| Control Button | Monitor power button x 1<br>Brightness control x 2<br>Volume control x 2 | Monitor power button x 1<br>Brightness control x 2<br>Volume control x 2 | Monitor power button x 1<br>Brightness control x 2<br>Volume control x 2 | Monitor power button x 1<br>Brightness control x 2<br>Volume control x 2 | Monitor power button x 1<br>Brightness control x 2<br>Volume control x 2 |
| Mounting | VESA 75 | VESA 75 | VESA 75 | VESA 75 | VESA 75/100 |
| Dimension (mm) (W x D x H) | 182 x 138 x 36.3 | 182 x 138 x 36.3 | 207 x 173 x 36.7 | 207 x 173 x 36.7 | TBD |
| Power Input | 12V (via LVDS connector) | 6 - 36V | 12V (via LVDS connector) | 9 ~ 36V | 9 ~ 36V |
| Remote Power Button | Yes | N/A | Yes | N/A | Yes |
| Interface | DVI connector x 1 (Integrate LVDS, USB, 12V, 5V) | VGA x 1 | DVI connector x 1 (Integrate LVDS, USB, 12V, 5V) | VGA x 1 | VGA/ DVI/ HDMI x 1<br>CVBS x 1 (up to 4 input) |
| Audio | Mic-in x 1, Mic-out x 1, Line-in x 1, Line-out x 1 | Mic-in x 1, Mic-out x 1, Line-in x 1, Line-out x 1 | Mic-in x 1, Mic-out x 1, Line-in x 1, Line-out x 1 | Mic-in x 1, Mic-out x 1, Line-in x 1, Line-out x 1 | Mic-in x 1, Mic-out x 1, Line-in x 1, Line-out x 1 |
| USB | 1 | 1 | 1 | 1 | 2 |
| Extension Storage | SD/ MMC/ MS Card Reader x 1 | SD/ MMC/ MS Card Reader x 1 | SD/ MMC/ MS Card Reader x 1 | SD/ MMC/ MS Card Reader x 1 | N/A |
| Ingress Protection | Front panel IP54 | Front panel IP54 | Front panel IP54 | Front panel IP54 | Front panel IP65 |
| Certification | CE, FCC Class B | CE, FCC Class B | CE, FCC Class B | CE, FCC Class B | CE, FCC Class B |
| Operation Temperature | -20°C to 70°C | -20°C to 70°C | -20°C to 60°C | -20°C to 60°C | -20°C to 70°C |

# Accessories

| Model |  |  |  |  |
|---|---|---|---|---|
| | **VTK 61P** | **VTK 61B** | **VTK 33V** | **VTK 71F** |
| Description | Anti-dust & waterproof kit | Backup Battery for VTC series | Anit-vibration Kit | Anit-vibration Kit |
| SPEC | IP65 compliant | Input voltage:<br>6~36V with ignition control;<br>Output voltage: 12V;<br>Battery pack capacity:<br>around 107W | 2G@10~500Hz with automotive HDD;<br>3G@5~500Hz random with CF | 0.5G@5~500Hz with automotive HDD;<br>3G@5~500Hz random with SSD |
| Operation Temperature | -20°C to 60°C | 0°C to 55°C | -20°C to 60°C | -20°C to 60°C |
| Dimension (mm) | 260 x 306 x 50<br>(containing the main device) | 238 x 150 x 25 | 320 x 180 x 86.5 | 320 x 180 x 86.5 |

# Reliable Rolling Stock Computer

nROK series, truly rugged computers, is specially designed for train application. Its rugged design not only presents in the anti-vibration/ shock but also in the protection from surge, electrostatic discharge and transient burst and electromagnetic compatibility as well. The most concern in power supplies including the variation of voltage supplies and Class S2 interruption support is integrated in ROK series. nROK series testing is compliant with EN50155 standard.

Nexcom provide different form factor to fit the varied application on rolling stock. The rugged box computer can be used to control and monitor the peripheral devices on train to secure the operating safety. The rack mount computer installed in the cabinet is applied for passenger infotainment or mobile surveillance.

## Train PC

| Model |  |  | Coming Soon |
|---|---|---|---|
| | **nROK 500** | **nROK 3000** | **nROK 5500** |
| CPU | Intel® Atom™ D525 | Intel® Atom™ D525 | Intel® Core™ i7 3615QE/ 3517UE |
| Chipset | ICH-8M | ICH-8M | QM77 |
| Memory | 2GB DDR2 | 1GB DDR3 SO-DIMM<br>up to 2GB | 2GB DDR3 SO-DIMM<br>up to 16GB |
| Storage | 2.5" SATA SSD tray x 1<br>CF socket x 1 | Removable 2.5" SATA SSD tray x 1<br>CFast socket x 1 | Removable 2.5" SATA HDD tray x 4 |
| Power Input | DC 24V<br>(w/ Isolation protection) | DC 24V<br>(w/ Isolation protection)<br>Optional DC 110V | DC 110V<br>(w/ Isolation protection)<br>Optional DC 24V |
| Ignition Control | Yes | Optional | Yes |
| Power Management | ATX (Support WoL) | Battery deep discharge protection | Battery deep discharge protection |
| GPS | N/A | Internal (Sirf Star III module) | Optional |
| WWAN | Optional | Optional | Optional |
| BT | 0 | 1 | Optional |
| USB | USB 2.0 x 2 | USB 2.0 x 3 | USB 3.0 x 2, USB 2.0 x 2 |
| COM | RS-232 x 1<br>RS-232/422/485 x 1 | RS-232 x 1<br>RS-422 x 1, RS-485 x 2 | RS-232 x 2 (Isolation Optional)<br>RS-422/485 x 1 (Isolation Optional) |
| Video Output | VGA x1 | VGA x 1, DVI-D x 1 | HDMI x 2 |
| Ethernet | 10/100 x 1 | 10/100 x 3 | 10/100/1000 x 2 (PoE x 8 optional) |
| Audio | Mic-in x 1, Line-out x 1 | Mic-in x 1, Line-out x 1 | Mic-in x 1, Line-out x 1, Line-in x 1 |
| GPIO | Internal, In x 4, Out x 4 | In x 4, Out x 4 | In x 4, Out x 4 |
| Expansion | Mini-PCIe x 1 | Mini-PCIe x 1<br>PCI-104 x 1 | Mini-PCIe x 2<br>PCIe x 2 (x8, Optional) x 1 |
| Ingress Protection | N/A | IP65 | IP40 |
| Dimension (mm) (W x D x H) | 264 x 142 x 65 | 260 x 178 x 70 | 482.6 x 400 x 88 |
| Certification | CE, FCC Class A, EN50155 | CE, FCC Class A, EN50155 | CE, FCC Class A, EN50155 |
| Operation Temperature | -25°C to 55°C | -40°C to 70°C<br>(Compliance EN50155 TX standard) | -40°C to 70°C<br>(Compliance EN50155 TX standard) |

# Rugged Mobile Computer

## Increased Connectivity for Mobile Computing

NEXCOM Mobile Computing Solutions (MCS) product series has been introduced to focus on the mobile computing market, which is committed to enhancing the integration of wireless, portable and durable computing technologies. The NEXCOM product line up fulfills customer requirements for mobility, performance and versatility. Furthermore, to enable a broad spectrum of applications to be addressed, NEXCOM offers a wide variety of accessories including a vehicle docking station, holding bracket, desktop docking station with integrated one slot of battery charger. The MCS product series is therefore the perfect companion for field service, warehousing, logistics, and retail applications.

| Environment | **Energy Efficient Series** Atom™ Z Series | **Performance Series** Atom™ N Series |
|---|---|---|
| Outdoor |  MRC 2100-E |  MRC 2300 |
| Indoor |  MRC 2000-E |  MRC 2200 |

## Various Choices for Accessories- Desktop Docking Station

The desktop docking station is equipped with USB ports and Ethernet port for fast internet connection. The desktop docking station is available with an integrated battery charger which enables users to charge the additional battery pack whilst working on the Tablet PC. Whilst the docking station's thoughtful adjustable docking feet enable users to view the screen at the optimum angle. This wonderful docking station makes the MRC Series suitable for both mobile and desk based applications.

## The Ideal Rugged Tablet PC Designed for Mobile Applications

NEXCOM has expanded its range of Mobile Computing Solutions with the launch of the Intel® Luna Pier Refresh based MRC 2200/ 2300 Tablet PC which feature the Intel ® Atom™ N450 processor and ICH8M chipset. Featuring an 8" TFT with LED backlight, MRC 2200/ 2300 has a number of features including low power consumption, a 5-wire touch screen and outstanding endurance and reliability in any tough environment.

Specially designed for greater efficiency, MRC 2200/ 2300 supports a hot swappable battery which enables users to continue working for longer without having to power down the Tablet PC. In addition, an optional backup battery can support operation of between 6 and 8 hours. Customers can choose between MRC 2200 which is suitable for in-store/ warehouse applications and MRC 2300 which is designed for in-field/ outside use. MRC 2200 is therefore suitable for stock picking and distribution, warehouse management or in-store operations, whilst MRC 2300 contains a special sunlight readable screen, so is the ideal rugged computing solution for field service, fleet management, public safety and other external applications.

## Various Choices for Accessories- Vehicle Docking Station

To enable MRC 2200/ 2300 Tablet PC to be installed into a diverse number of locations, a vehicle docking station is available which is RAM and VESA mount compatible. The docking station supports USB ports, COM and Ethernet with IP-67 sealed connectors. In addition, the docking station is equipped with SMA type RF connectors which enable the GPS signal to pass from internal antenna to external antenna for improved and accurate connection performance. An internal mini card slot for expansion and a wide range of DC power inputs from 9V to 36V, make this feature packed docking station ideal for operation within forklift trucks and other vehicles.

| Model |  |  | Coming Soon |
|---|---|---|---|
| | **MRC 2200** | **MRC 2300** | **MRC 3000** |
| LCD | 8" SVGA TFT (LED type) | 8" SVGA TFT (LED type) | 10.4" SVGA TFT (LED type) |
| Touch | 5-wire Resistive | 5-wire Resistive w/ Sunlight Readable | 5-wire Resistive |
| CPU | Intel® Atom™ N450 1.6GHz | Intel® Atom™ N450 1.6GHz | Intel® Atom™ Z670 1.5GHz |
| Memory | 1GB DDR2-667 | 1GB DDR2-667 | 1GB DDR2-1333 |
| Storage | 8G SSD<br>SATA interface | 8G SSD/120G HDD<br>SATA interface | 1.8" HDD/SSD<br>SATA interface |
| Wireless | 802.11 b/g/n<br>Option: BT v2.0<br>GSM/ GPRS/ 3.5G | 802.11 b/g/n<br>BT v2.0<br>Option: GSM/ GPRS/ 3.5G | 802.11 b/g/n<br>Option: BT v2.0<br>GSM/ GPRS/ 3.5G |
| GPS | Optional | Built in GPS | Optional |
| Battery | Removable Li-on Battery | Removable Li-on Battery | Removable Li-on Battery/ Support swappable (Optional dual batteries) |
| Optional Modules | Rear: 2.0M pixel CCD or<br>Front: 2M pixel CCD (Option) | Rear: 2.0M pixel CCD or<br>Front: 2M pixel CCD (Option) | Rear: 2.0M pixel CCD or<br>Front: 2M pixel CCD (Option) |
| | Barcode Scanner or RFID module/ Mobile Board Band Module | Barcode Scanner or RFID module/ Mobile Board Band Module | Barcode Scanner or RFID module/ Mobile Board Band Module |
| Power | DC in 19V/ 3.42A | DC in 19V/ 3.42A | DC in 12V/ 5A |
| IO Interface | Mic-in/ Line-out/ 4 programming keys/ USB 2.0 x 2; USB client x 1 Finger Print | Mic-in/ Line-out/ 4 programming keys/ USB 2.0 x 2; USB client x 1 Finger Print | 5-Way Navigation Keyt/ Control Buttons:<br>1 x WLAN / BT Switch on/ off<br>1 x Function Key<br>2 x Programmable Keys<br>1 x Security Button (work as ctrl-alt-del) |
| IP Rating | IP54 | IP54 | IP54 |
| O.P Temperature | -20°C to 50°C operating temperature | -20°C to 50°C operating temperature | 0°C to 40°C operating temperature |
| Wieght | 2.3LB w/o Rubber | 2.3LB w/o Rubber | 1.8LB w/o Rubber |

# MRC Docking

| Model |  |  |
|---|---|---|
| | **MTK-DOCK-01** | **MTK-DOCK-02** |
| Power Input | 9 ~ 36V | 19V |
| USB 2.0 | 2 (IP67 & lockable connector) | 4 |
| LAN | 1 10/100 base-T (IP67& lockable connector) | 1 10/100/1000 base-T |
| COM | 1 | Optional |
| Expension | 1 mini card socket | 1 memory card slot (option) |
| OP Temperature | -20°C to 50°C | -20°C to 50°C |
| Support Mounting Hole | RAM202C & VESA 75 | VESA 75 |
| Deimension (mm) | 296 x 268 x 109 | 235.7 x 207 x 150 |

# VTC 100

**ARM Cortex™-A8 8 Fanless In-Vehicle Computer**

## Main Features

- Compact and fanless design
- ARM Cortex™-A8 Processor with 720MHz frequency
- Variety Wireless communication options
- Built-in CAN Bus V2.0b; Optional support for J1939/J1708
- Wide range DC input from 9~ 36V
- Smart power management with Ignition on/off delay via software Control and low voltage protection
- Operating System Support WEC 7 and Linux 3.1 driver

## Product Overview

VTC 100, a compact rugged computer box, is designed for the transportation segment, especial for the vehicle with limited space to house the computer system. Same as all VTC series, the fanless and wide temperature support are reserved in VTC 100 design. VTC 100 adopts the Cortex™-A8 Processor with 720MHz frequency. VTC 100 does not compromise with its space to scarify its functional features. An advanced GPS receiver with dead reckoning is available as an option as well as the wireless communication. VTC 100 is the best choice with the cost effective solution for your vehicle application.

## Specifications

### MPU
- ARM Cortex™-A8 Processor with 720MHz frequency

### Memory
- On-board DDR2 256MB

### Expansion
- 1 x CAN Bus module with J1939/J1708 for option
- 1 x Mini-PCIe socket (USB) x 1 for WWAN option
- 1 x Bundle GPS module

### I/O Interface-Front
- 2 x USB 2.0 host type A connector
- 1 x Line-out, 1 x Mic-in
- 1 x System reset button
- 2 x LED's for power, storage
- 1 x Power button
- 1 x SIM card socket
- 4 x Antenna hole reserved for SMA-type antenna connector (WWAN/ WLAN)

### I/O Interface-Rear
- 1 x 9~36VDC input with Ignition and 6W typical power consumption
- 1 x DB9 RS-232 (COM1)
- 1 x DB9 RS-485 (COM2)
- 1 x DB9 female connector for 3GPI and 3GPO
- 1 x DB15 VGA
- 1 x RJ45 with LEDs for 10/ 100/ 1000Mbps Ethernet
- 1 x SMA-type GPS antenna connector
- 1 x Antenna hole reserved for SMA-type antenna connector (WWAN/ WLAN)

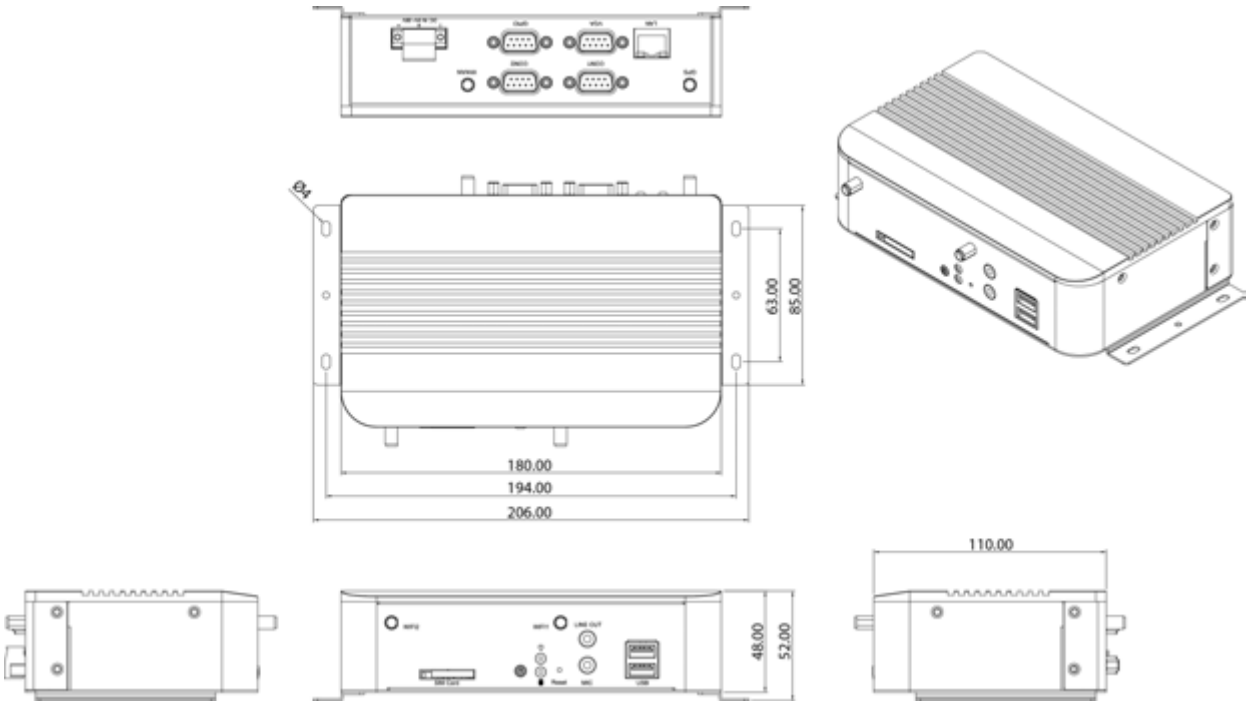
### Expandable Storage
- Micro SDHC Slot (Bundle with 4GB)

### Power Management
- Selectable boot-up & shut-down voltage for low power protection
- HW design ready for 8-level delay time on/off at user's self configuration
- Power on/off ignition, software detectable

### Operation System
- Windows Embedded Compact 7
- Linux 3.1

### Dimensions
- 180mm (W) x 110mm (D) x 45mm (H)
- 0.5 Kg (1.10 Lb)

## Dimension Drawing




**Construction**

- Aluminum top case with metal sheet

**Environment**

- Operating temperatures
  Ambient with air: -20°C to 70°C
- Storage temperatures: -40°C to 80°C
- Relative humidity: 10% to 90% (non-condensing)
- Vibration (random): 2g @5~500 Hz
- Vibration:
  Operating: MIL-STD-810G, Method 514.6, Category 20, Ground Vehicle – Highway Truck
  Storage: MIL-STD-810G, Method 514.6, Category 24, Integrity Test
- Shock:
  Operating: MIL-STD-810G, Method 516.6, Procedure I, Trucks and semi-trailers= 20g
  Crash hazard: MIL-STD-810G, Method 516.6, Procedure V, Ground equipment= 75g

**Standards/ Certifications**

- CE approval
- FCC Class B

## Ordering Information

- **VTC 100-A0E (P/N: TBD)**
  ARM® Cortex™-A8 720MHz Processor with 256MB DDR2 and WEC7 system
- **VTC 100-A1E (P/N: 10V00010000X0)**
  ARM® Cortex™-A8 720MHz Processor with 256MB DDR2, GPS and WEC7 system
- **VTC 100-A1U (P/N: 10V00010001X0)**
  ARM® Cortex™-A8 720MHz Processor with 256MB DDR2, GPS and Linux Ubuntu
- **VTC 100-A5E (P/N: TBD)**
  ARM® Cortex™-A8 720MHz Processor with 256MB DDR2, GPS , CAN bus and WEC7 system

# VTC 1000

**Intel® Atom™ E640 Fanless In-Vehicle Computer**

## Main Features

- Compact and fanless design
- Built-in GPS receiver with pptional dead reckoning function
- Variety Wireless communication options
- Wake on RTC/ SMS via WWAN Module (Option)
- Wide range DC input from 6~ 36V
- Smart power management with Ignition on/off delay via software Control and low voltage protection
- Certified by CE/ FCC/ e13 Mark

## Product Overview

VTC 1000, a compact rugged computer box, is designed for the transportation segment, especial for the vehicle with limited space to house the computer system. Same as all VTC series, the fanless and wide temperature support are reserved in VTC 1000 design. VTC 1000 adopts Intel® Atom™ E640 processor. VTC 1000 does not compromise with its space to scarify its functional features. An advanced GPS receiver with dead reckoning is available as an option as well as the wireless communication. VTC 1000 is the best choice with the cost effective solution for your vehicle application.

## Specifications

### CPU
- Intel® Atom™ E640 1.0GHz

### Main Chipset
- EG20T

### Memory
- On-board DDR2 up to 2GB

### Expansion
- 1 x Mini-PCIe socket (PCIe + USB) for WLAN option
- 1 x Mini-PCIe socket (USB) x 1 for WWAN option
- 1 x Bluetooth module for option
- 1 x Bundle GPS module or optional GPS with dead reckoning

### I/O Interface-Front
- 1 x Power button
- 2 x LED indicators for power and storage
- 1 x System reset button
- 2 x USB 2.0 host type A connector
- 1 x RJ45 with LEDs for 10/ 100/ 1000Mbps Ethernet
- 1 x DB9 RS-232
- 1 x SIM card socket
- 1 x Line-out, 1 x Mic-in
- 3 x Antenna hole reserved for SMA-type antenna connector (WWAN/ WLAN/ BT)

### I/O Interface-Rear
- 1 x 6~36VDC input with Ignition and 15W typical power consumption
- 1 x 5V/1A and 12V/1A DC output, SMBus
- 1 x DB9 female connector for 4GPI and 4GPO
- 1 x DB9 dual RS-485 (optional 2 x RS-422, or 1 x RS-422 and 1 x RS-485)
- 1 x DB15 VGA (optional DB26 LVDS interface with 12V and USB2.0)
- 1 x SMA-type GPS antenna connector

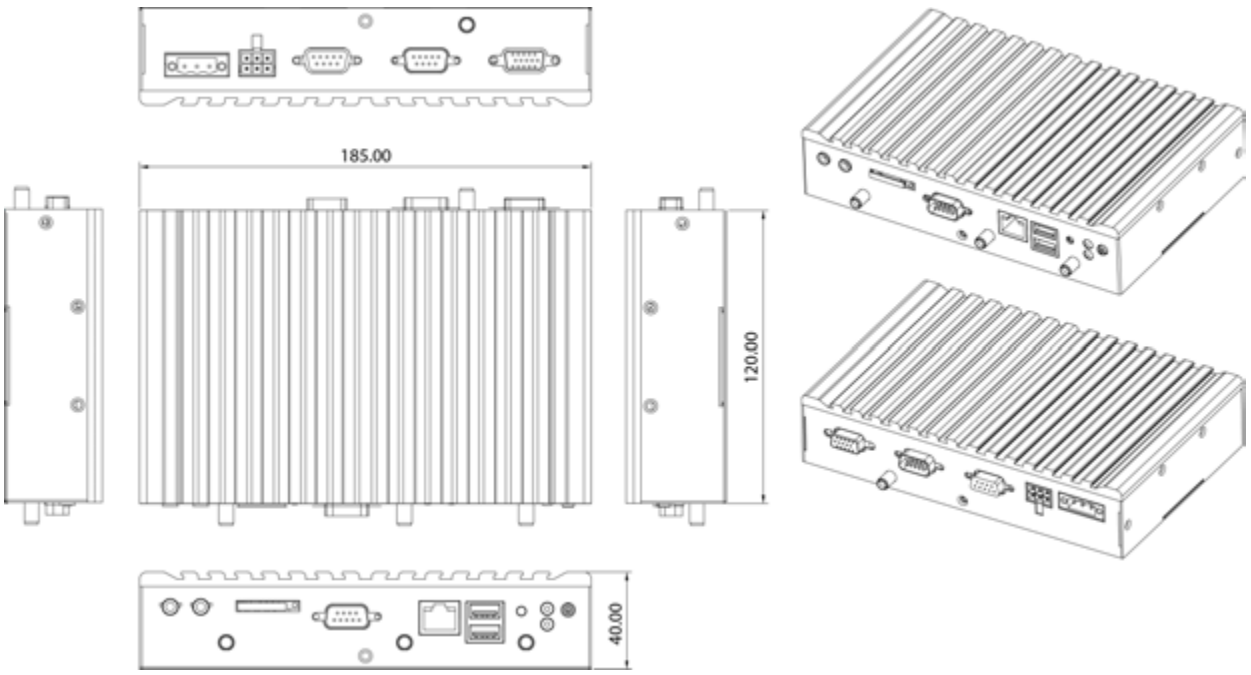
### Expandable Storage
- 1 x 2.5" SATA II SSD Bay

### Operating System
- Windows XP/ WES2009
- WinXP Pro for Embedded
- Win7 Pro for Embedded

### Power Management
- Selectable boot-up & shut-down voltage for low power protection
- HW design ready for 8-level delay time on/off at user's self configuration
- Power on/off ignition, software detectable
- Support S4 suspend mode; wake on RTC/ SMS

### Dimensions
- 185 mm (W) x 120 mm (D) x 40 mm (H) (7.3" x 4.7" x 1.6")
- 1 Kg (2.20 Lb)

## Dimension Drawing




### Construction

- Aluminum top case with sheet metal

### Environment

- Operating temperatures:
  Ambient with air: -20°C to 70°C
- Storage temperatures: -40°C to 80°C
- Relative humidity: 10% to 90% (non-condensing)
- Vibration (random): 2g @5~500 Hz
- Vibration:
  Operating: MIL-STD-810F, Method 514.5, Category 20, Ground Vehicle – Highway Truck
  Storage: MIL-STD-810F, Method 514.5, Category 24, Integrity Test

### Shock

- Operating: MIL-STD-810F, Method 516.5, Procedure I, Trucks and semi-trailers= 20g
- Crash hazard: MIL-STD-810F, Method 516.5, Procedure V, Ground equipment= 75g

### Standards/ Certifications

- CE approval
- FCC Class B
- e13 Mark

## Ordering Information

- **VTC 1000 (P/N: 10V00100001X0)**
  Intel® Atom™ E640 1.0GHz processor with 1GB DDR2, GPS module and GPS antenna, and VGA output
- **VTC 1000-2G (P/N: 10V00100002X0)**
  Intel® Atom™ E640 1.0GHz processor with 2GB DDR2, GPS module and GPS antenna, and VGA output
- **VTC 1000-LV (P/N: 10V00100003X0)**
  Intel® Atom™ E640 1.0GHz processor with 1GB DDR2, GPS module and GPS antenna, and LVDS output
- **VTC 1000-DK (P/N: 10V00100004X0)**
  Intel® Atom™ E640 1.0GHz processor with 1GB DDR2, GPS module in support of dead-reckoning and GPS antenna, and VGA output
- **VTC 1000-D1 (P/N: 10V00100007X0)**
  Intel® Atom™ E640 1.0GHz processor with 1GB DDR2, GPS module and GPS antenna, and VGA and LVDS output
- **Optional Accessories**

| Part No. | Description |
|---|---|
| 10VD0100000X0 | VMD 1000-B 7" monitor w/ touch screen |
| 10VD0100101X0 | VMD 1001-B 7" Monitor w/ touch screen, VGA interface |
| 10VD0200000X0 | VMD 2000-B 8" Monitor w/ touch screen |
| 10VD0200200X0 | VMD 2002-B 8" Monitor w/ touch screen, cable integration |
| 10VK0061B00X0 | VTK 61B, back-up battery kit for 4 hours in system full loading |
| 10VK0006013X0 | Wireless mini card kit, Ralink 802.11b/g/n 2T2R, QCOM: Q802XKN5F, w/ antenna & cable (without assembly in NEXCOM) |
| 10VK0WWAN01X0 | Cinterion PHS8-P kit, Five bands, UMTS/HSPA (850/800, 900, 1900 and 2100 MHz), Quad-Band GSM w/ internal cable, antenna & packing (without assembly in NEXCOM) |
| 10VK00GPS00X0 | SKYTRAQ GPS + GLONASS, w/ antenna & cable |
| 10VK0006007X0 | Bluetooth kit, QCOM: QBTM400-01(V7), w/ antenna & cable (without assembly in NEXCOM) |
| 7400120002X00 | Power adapter FSP: 120-AAB (N09001), 120W 19V/ 6.3A |
| 60233SAM03X00 | Internal cable for GSM/ WLAN/ GPS antenna connection MOQ: 20 pcs |
| 60233SAM05X00 | GPS antenna/ 5m/ SMA180P |
| 60233SAM07X00 | GSM/ GPRS antenna, SMA, support 850, 900, 1800, 1900 |
| 60233SMA30X00 | GPS+GSM combo antenna 5M/ SMA180P |
| 60233SAM17X00 | GPRS/ UMTS/ HSDPA antenna, SMA, support 850, 900, 1800, 1900 and 2100 MHz |

# VTC 2000

**Intel® Atom™ N270 Fanless In-Vehicle Computer**

## Main Features

- Intel® Atom™ N270 processor
- Availability of GSM/ GPRS/ UMTS/ HSDPA/ GPS/ BT
- e13 certification
- Power ignition on/off and delay-time control
- Low voltage protection
- High anti-vibration performance

## Product Overview

VTC 2000 is designed as a low cost, ultra reliable solution for in-vehicle digital signage applications. Based on a low power Intel® Atom™ processor, the VTC 2000 boasts high availability, a wide operating temperature and improved vibration protection. In addition, the design is certified to eMark standards enabling it to be utilized within vehicles. The integrated power ignition feature is one of the unique points that differentiate VTC 2000 from off-the-shelf assembled products. The VTC 2000 has an integrated GPS function and can be further expanded with WLAN and Bluetooth module.

## Specifications

**CPU**
- Intel® Atom™ N270 1.6GHz

**Main Chipset**
- 945GSE/ ICH7M

**Memory**
- One 200-pin DDR2 667MHz SO-DIMM slot (up to 2GB)

**Expansion**
- 1 x Mini-PCIe socket (PCIe + USB) for WLAN option
- 1 x Mini-PCIe socket (USB) x 1 for WWAN option
- 1 x Bluetooth module for option
- 1 x Bundle GPS module or optional GPS with dead reckoning
- 1 x internal SIM card socket

**I/O Interface-Front**
- 2 x LED indicators for power status and storage

**I/O Interface-Rear**
- 1 x Power button
- 1 x 6~36VDC input with Ignition and 17W typical power consumption
- 1 x 5V/1A and 12V/1A DC output, SMBus
- 3 x USB 2.0 host type A connector
- 2 x DB9 RS-232 (COM1, COM2)
- 1 x DB9 RS-485 w/ auto flow control (optional RS-232, COM3)
- 1 x DB9 female connector for 4GPI and 4GPO
- 1 x DB15 VGA
- 1 x DVI-D
- 1 x Line-out, 1 x Mic-in
- 1 x RJ45 with LEDs for 10/ 100/ 1000Mbps Ethernet
- 4 x Antenna hole reserved for SMA-type antenna connector (GPS/ WWAN/ WLAN/ BT)

**Expandable Storage**
- 1 x 2.5" SATA II HDD bay
- 1 x Type II CompactFlash socket

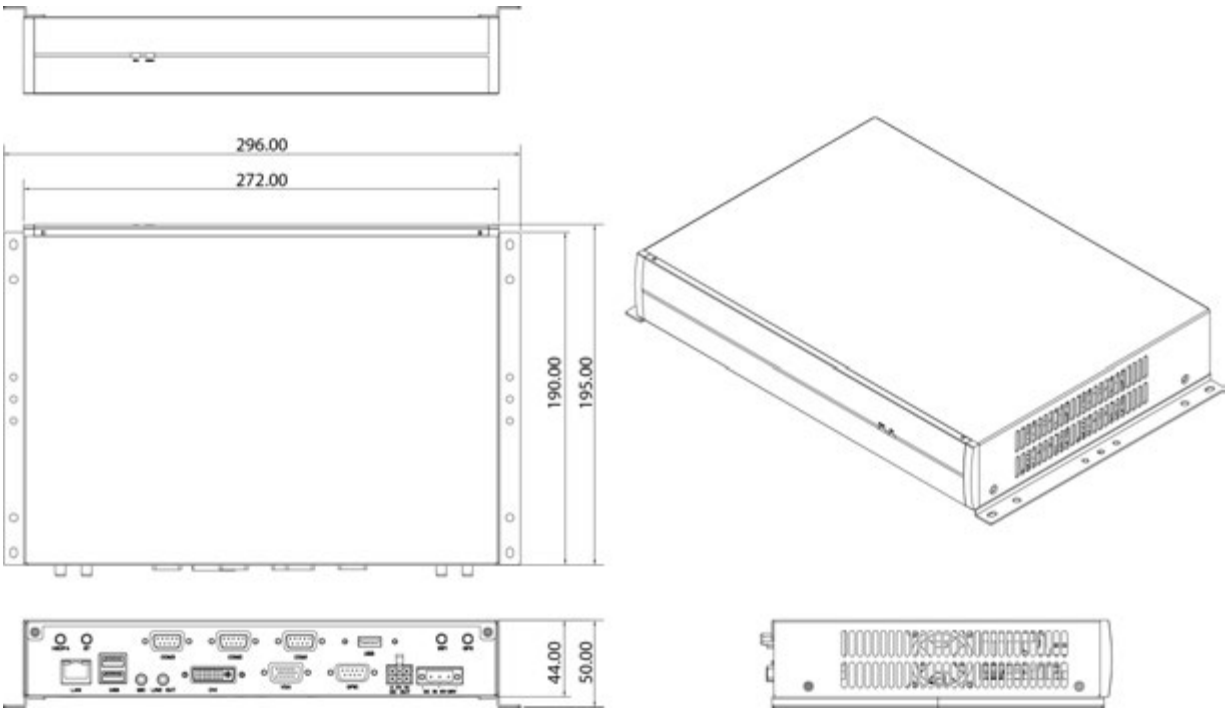
**Power Management**
- Boot-up & shut-down voltage setting selectable for low power protection by software
- Setting 8-level on/off delay time by software
- Status of ignition and low voltage status can be detected by software

**Operating System**
- Windows XP/ WES2009
- WES 7E

**Dimensions**
- 272mm (W) x 195mm (D) x 44mm (H) (10.7" x 7.68" x 1.73")
- 2.2 Kg (4.85 Lb)

**Construction**
- Metal sheet

## Dimension Drawing




**Environment**

- Operating temperature:
  -10°C to +45°C
- Storage temperature:
  -20°C to +80°C@relative humidity 10% to 90% non-condensing
  Relative humidity: 10% to 90% (non-condensing)
- Vibration (in operation):
  2G@5~500Hz random with CF/ SSD
  1G@5~500Hz random with automotive HDD

**Standards/ Certifications**

- CE approval
- FCC class A
- e13 Mark

## Ordering Information

- **VTC 2000 (P/N: 10V00200000X0)**
  Intel® Atom™ N270 1.6GHz processor, 1GB DDR2, GPS module and GPS antenna

- **Optional Accessories**

| Part No. | Description |
|---|---|
| 10VD0100000X0 | VMD 1000-B 7" monitor w/ touch screen |
| 10VD0100101X0 | VMD 1001-B 7" Monitor w/ touch screen, VGA interface |
| 10VD0200000X0 | VMD 2000-B 8" Monitor w/ touch screen |
| 10VD0200200X0 | VMD 2002-B 8" Monitor w/ touch screen, cable integration |
| 10VK0061B00X0 | VTK 61B, back-up battery kit for 4 hours in system full loading |
| 10VK0006013X0 | Wireless mini card kit, Ralink 802.11b/g/n 2T2R, QCOM: Q802XKN5F, w/ antenna & cable (without assembly in NEXCOM) |
| 10VK0WWAN01X0 | Cinterion PHS8-P kit, Five bands, UMTS/HSPA (850/800, 900, 1900 and 2100 MHz), Quad-Band GSM w/ internal cable, antenna & packing (without assembly in NEXCOM) |
| 10VK00GPS00X0 | SKYTRAQ GPS + GLONASS, w/ antenna & cable |
| 10VK0006007X0 | Bluetooth kit, QCOM: QBTM400-01(V7), w/ antenna & cable (without assembly in NEXCOM) |
| 7400120002X00 | Power adapter FSP: 120-AAB (N09001), 120W 19V/ 6.3A |
| 60233SAM03X00 | Internal cable for GSM/ WLAN/ GPS antenna connection MOQ: 20 pcs |
| 60233SAM05X00 | GPS antenna/ 5m/ SMA180P |
| 60233SAM07X00 | GSM/ GPRS antenna, SMA, support 850, 900, 1800, 1900 |
| 60233SMA30X00 | GPS+GSM combo antenna 5M/ SMA180P |
| 60233SAM17X00 | GPRS/ UMTS/ HSDPA antenna, SMA, support 850, 900, 1800, 1900 and 2100 MHz |

# VTC 2100

**Intel® Atom™ D410 Fanless In-Vehicle Computer**

## Main Features

- Build-in Intel® Atom™ D410 1.6GHz processor
- Internal wireless communication (3.5G, GSM/ GPRS, WLAN, BT)
- Smarter ignition power on/off, delay-time and low voltage protection
- PCI-104 and mini card for expansion
- 8~60V wide range DC power input
- Dual VGA output (Clone mode)
- Fanless design
- Support 2 x RS-232/ 1 x RS-485

## Product Overview

The VTC 2100 is an economic version of car pc with high performace  for use in transportation application. The VTC 2100 system is designed in a very compact form factor, yet maintaining the industrial requirements for high availability, wide operation temperature range, and better vibration protection. The design also follows the in-vehicle industrial standard, like eMark. More features required for in-vehicle operations, such as power ignition delay control, low-power protection, SMBus connection and capture module, etc., are continued from others of NEXCOM's in-vehicle computer products. The GPS is an integrated function of VTC 2100. With expansion capability, the 3.5G, Bluetooth, etc., can be added to cover varieties of application requirements. Dual VGA display connections make the VTC 2100 an ideal choice for in-vehicle signage platforms as well.

## Specifications

### CPU
- Intel® Atom™ D410 Single Core 1.6GHz

### Main Chipset
- ICH8M

### Memory
- One 200-pin DDR2 667/ 800MHz SO-DIMM slot (up to 2GB)

### Expansion
- 1 x Mini-PCIe socket (PCIe + USB) for WLAN option
- 1 x Mini-PCIe socket (USB) x 1 for WWAN option
- 1 x Bluetooth module for option
- 1 x Bundle GPS module or optional GPS with dead reckoning
- 1 x PCI-104 x 1

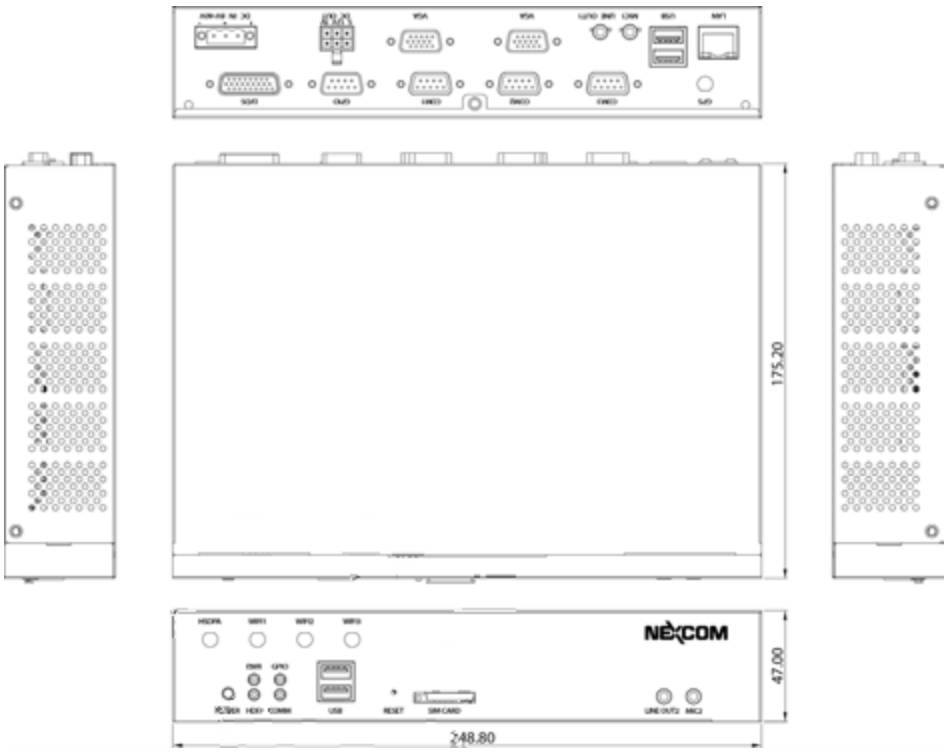
### I/O Interface-Front
- 1 x Line-out, 1 x Mic-in
- 1 x SIM card socket
- 1 x System reset button
- 2 x USB 2.0 host type A connector
- 4 x LED's for power, storage, WLAN/ HSDPA and GPIO
- 1 x Power button
- 4 x Antenna hole reserved for SMA-type antenna connector (WWAN/ WLAN/ BT)

### I/O Interface-Rear
- 1 x 8~60VDC input with Ignition and 23W typical power consumption
- 1 x 5V/1A and 12V/1A DC output, SMBus
- 1 x DB26 LVDS interface with 12V and USB2.0
- 1 x DB9 female connector for 4GPI and 4GPO
- 2 x DB9 RS-232 (COM1, COM2)
- 1 x DB9 RS-485 w/ auto flow control (COM3, optional RS-232)
- 2 x DB15 VGA (clone mode)
- 1 x Line-out, 1 x Mic-in
- 2 x USB 2.0 host type A connector
- 1 x RJ45 with LEDs for 10/ 100/ 1000Mbps Ethernet
- 1 x SMA-type GPS antenna connector

### Expandable Storage
- 1 x 2.5" SATA II HDD Bay

### Power Management
- Selectable boot-up & shut-down voltage for low power protection
- HW design ready for 8-level delay time on/off at user's self configuration
- Power on/off ignition, software detectable
- Support S3/ S4 suspend mode

## Dimension Drawing




### Operating System
- Windows XP/ WES2009
- WES 7E

### Dimensions
- 248.8mm (W) x 175.2mm (D) x 47mm (H) (9.8" x 6.9" x 1.85")
- 1.49 Kg (3.28 Lb)

### Construction
- Metal sheet

### Environment
- Operating temperatures:
  Ambient with air:
  -10°C to 50°C (SSD)
  -10°C to 50°C (HDD)
- Storage temperatures: -40°C to 80°C
- Relative humidity: 10% to 90% (non-condensing)
- Vibration (random): 2g@5~500 Hz with SSD; 1g@5~500 Hz with HDD (In operation)
- Vibration:
  Operating: MIL-STD-810F, Method 514.5, Category 20, Ground Vehicle – Highway Truck
  Storage: MIL-STD-810F, Method 514.5, Category 24, Integrity Test
- Shock:
  Operating: MIL-STD-810F, Method 516.5, Procedure I, Trucks and semi-trailers=20g
  Crash hazard: MIL-STD-810F, Method 516.5, Procedure V, Ground equipment=75g

### Standards/ Certifications
- CE approval
- FCC Class B
- e13 Mark

## Ordering Information

- **VTC 2100 (P/N: 10V00210000X0)**
  Intel® Atom™ D410 1.6GHz processor w/ 1GB DDR2, GPS module and GPS antenna

- **Optional Accessorie**

| Part No. | Description |
|---|---|
| 10VD0100000X0 | VMD 1000-B 7" monitor w/ touch screen |
| 10VD0100101X0 | VMD 1001-B 7" Monitor w/ touch screen, VGA interface |
| 10VD0200000X0 | VMD 2000-B 8" Monitor w/ touch screen |
| 10VD0200200X0 | VMD 2002-B 8" Monitor w/ touch screen, cable integration |
| 10VK0061B00X0 | VTK 61B, back-up battery kit for 4 hours in system full loading |
| 10VK0006013X0 | Wireless mini card kit, Ralink 802.11b/g/n 2T2R, QCOM: Q802XKN5F, w/ antenna & cable (without assembly in NEXCOM) |
| 10VK0WWAN01X0 | Cinterion PHS8-P kit, Five bands, UMTS/HSPA (850/800, 900, 1900 and 2100 MHz), Quad-Band GSM w/ internal cable, antenna & packing (without assembly in NEXCOM) |
| 10VK00GPS00X0 | SKYTRAQ GPS + GLONASS, w/ antenna & cable |
| 10VK0006007X0 | Bluetooth kit, QCOM: QBTM400-01(V7), w/ antenna & cable (without assembly in NEXCOM) |
| 7400120002X00 | Power adapter FSP: 120-AAB (N09001), 120W 19V/ 6.3A |
| 60233SAM03X00 | Internal cable for GSM/ WLAN/ GPS antenna connection MOQ: 20 pcs |
| 60233SAM05X00 | GPS antenna/ 5m/ SMA180P |
| 60233SAM07X00 | GSM/ GPRS antenna, SMA, support 850, 900, 1800, 1900 |
| 60233SMA30X00 | GPS+GSM combo antenna 5M/ SMA180P |
| 60233SAM17X00 | GPRS/ UMTS/ HSDPA antenna, SMA, support 850, 900, 1800, 1900 and 2100 MHz |

# VTC 6100

**Intel® Atom™ N270 Fanless In-Vehicle Computer**

VTC 6100 with optional IP65 enclosure

## Main Features

- Build-in Intel® Atom™ N270 processor
- Availability of GSM/ GPRS/ WCDMA/ HSDPA/ GPS
- e13 mark certifi cation
- External smart battery back up support
- Power ignition on/off delay control
- Circuitry design for low power protection
- 6~36V DC power input
- 1 PCI-104 expansion slot
- Multiple display interface connections (VGA, DVI-D and LVDS)
- Optional IP65 enclosure

## Product Overview

The VTC 6100 is an innovative in-vehicle computer for use in any car, truck, or even for maritime applications. The design itself makes the system available as a complete system allowed the user easily defi ne and build requirements. Thanks to the extremely-low power consumption nature from Intel® Atom™ processor, the VTC 6100 mechanical design is even more compact yet reach wider operating temperature range than ever. The VTC 6100 fulfills vehicle industry requirements. The design itself is in compliance with vehicle industrial standard such as eMark. More features required for in-vehicle operations, such as power ignition delay control, low-power protection and SMBus connection, etc., are continued from others of NEXCOM's in-vehicle computer products. The GPS function navigates drivers to ultimate the fl eet management. Optional 802.11b/g/n, 3.5G, and Bluetooth availability make the VTC 6100 ready for wider coverage and future trend. Multiple display connections make the VTC 6100 an ideal choice for in-vehicle signage platforms as well.

## Specifications

### CPU
- Intel® Atom™ N270 1.6GHz

### Main Chipset
- 945 GSE + ICH7M

### Memory
- One 200-pin DDR2 667MHz SO-DIMM slot (up to 2GB)

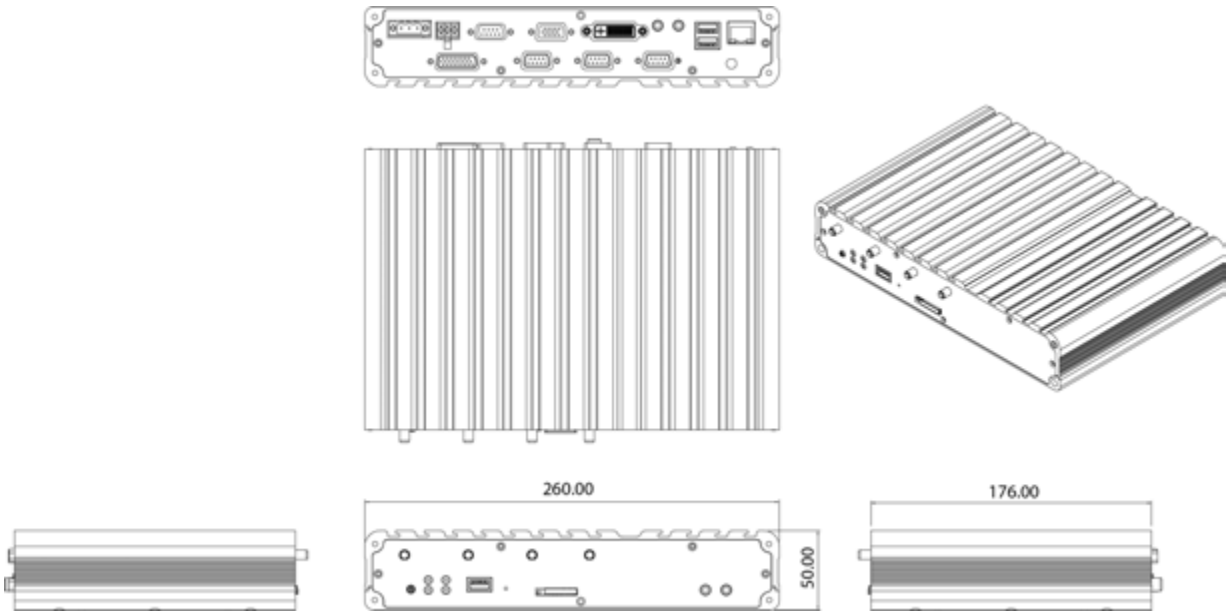
### Expansion
- 1 x Mini-PCIe socket (PCIe + USB) for WLAN option
- 1 x Mini-PCIe socket (USB) x 1 for WWAN option
- 1 x Bluetooth module for option
- 1 x PCI-104

### I/O Interface-Front
- 1 x Line-out, 1 x Mic-in
- 1 x SIM socket
- 1 x System Reset switch
- 1 x USB 2.0 host type A connector
- 1 x Power button
- 4 x LED's for Stand-by, storage, WLAN/ WWAN and GPIO
- 4 x Antenna hole reserved for SMA-type antenna connector (WWAN/ WLAN/ BT)

### I/O Interface-Rear
- 1 x 6V~36VDC input with Ignition and 17W typical power consumption
- +5V/+12V DC output, SMBus
- 5V DC (1A), 12V DC (1A), without VTK 33M-01
- 5V DC (0.5A), 12V DC (0.5A), with VTK 33M-01
- 1 x DB9 female connector for 4GPI and 4GPO
- 1 x DB15 VGA
- 1 x DVI-D
- 1 x DB26 LVDS interface with 12V and USB2.0
- 2 x DB9 RS-232
- 1 x DB9 RS-232/485 w/ auto flow control
- 1 x Line-out, 1 x Mic-in
- 2 x USB 2.0 host type A connector
- 1 x RJ45 with LEDs for 10/ 100/ 1000Mbps Ethernet
- 1 x SMA-type GPS antenna connector

### Expandable Storage
- 1 x 2.5" SATA II HDD bay
- 1 x Type II CompactFlash socket

## Dimension Drawing




### Power Management
- Boot-up & shut-down voltage setting selectable for low power protection by software
- Setting 8-level on/off delay time by software
- Status of ignition and low voltage status can be detected by software

### Operating System
- Windows XP/ WES2009
- WES 7E

### Dimensions
- 260mm (W) x 176mm (D) x 50mm (H) (10.24" x 6.93" x 1.97")
- 2.42 Kg (5.34 Lb)

### Construction
- Aluminum enclosure with fanless design

### Environment
- Operating temperature:
  -30°C to +60°C with CF or automotive HDD
- Storage temperature:
  -40°C to +80°C@relative humidity 10% to 90% non-condensing
- Vibration (w/o vibration kit):
  2G@5-500Hz random with CF
  1G@5-500Hz random with automotive HDD
  MIL-STD-810F Method 514.5 Category 20
  Ground vehicle-highway truck (in operation)
- Shock:
  Operating: MIL-STD-810F Method 516.5, Procedure I, Trucks and semi-trailers=20g
  Non-operating: MIL-STD-810F, Method 516.5, Procedure V, Ground equipment=75g

### Ingress Protection
- IP65 compliant (w/ VTK 61P)

### Standards/ Certifications
- CE approval
- FCC Class B
- e13 Mark

## Ordering Information

- **VTC 6100 (P/N: 10V00610000X0)**
  Intel® Atom™ N270 1.6GHz processor & 1GB DDR2 memory & GPS module & GPS antenna
- **VTC 6100-DK (P/N: 10V00610011X0)**
  Intel® Atom™ N270 1.6GHz processor, 1GB DDR2 memory, dead reckoning GPS module and GPS antenna
- **Optional Accessories**

| Part No. | Description |
|---|---|
| 10VD0100000X0 | VMD 1000-B 7" monitor w/ touch screen |
| 10VD0100101X0 | VMD 1001-B 7" Monitor w/ touch screen, VGA interface |
| 10VD0200000X0 | VMD 2000-B 8" Monitor w/ touch screen |
| 10VD0200200X0 | VMD 2002-B 8" Monitor w/ touch screen, cable integration |
| 10VK0033V00X0 | VTK 33V, anti-vibration / fan Kit |
| 10VK0061B00X0 | VTK 61B, back-up battery kit for 4 hours in system full loading |
| 10VK0060P00X0 | VTK 60P, IP65 protection kit for VTC 6000 |
| 10VK0061P00X0 | VTK 61P, IP65 protection kit for VTC 61XX series & VTC 6200-NI |
| 10VK0006013X0 | Wireless mini card kit, Ralink 802.11b/g/n 2T2R, QCOM: Q802XKN5F, w/ antenna & cable (without assembly in NEXCOM) |
| 10VK0WWAN01X0 | Cinterion PHS8-P kit, Five bands, UMTS/HSPA (850/800, 900, 1900 and 2100 MHz), Quad-Band GSM w/ internal cable, antenna & packing (without assembly in NEXCOM) |
| 10VK00GPS00X0 | SKYTRAQ GPS + GLONASS, w/ antenna & cable |
| 10VK0006007X0 | Bluetooth kit, QCOM: QBTM400-01(V7), w/ antenna & cable (without assembly in NEXCOM) |
| 7400120002X00 | Power adapter FSP: 120-AAB (N09001), 120W 19V/ 6.3A |
| 60233SAM03X00 | Internal cable for GSM/ WLAN/ GPS antenna connection MOQ: 20 pcs |
| 60233SAM05X00 | GPS antenna/ 5m/ SMA180P |
| 60233SAM07X00 | GSM/ GPRS antenna, SMA, support 850, 900, 1800, 1900 |
| 60233SMA30X00 | GPS+GSM combo antenna 5M/ SMA180P |
| 60233SAM17X00 | GPRS/ UMTS/ HSDPA antenna, SMA, support 850, 900, 1800, 1900 and 2100 MHz |

# VTC 6110

**Intel® Core™ Duo L2400 Fanless In-Vehicle Computer**

VTC 6110 with optional IP65 enclosure

## Main Features

- Build-in Intel® Core™ Duo L2400 processor
- Availability of GSM/ GPRS/ WCDMA/ HSDPA/ GPS
- External smart battery back up support
- Power ignition on/off delay control
- Circuitry design for low power protection
- 6~36V DC power input
- 1 PCI-104 expansion slot
- Multiple display interface connections (VGA, DVI-D and LVDS)
- Certified by AT&T
- Optional IP65 enclosure

## Product Overview

The VTC 6110 is an innovative in-vehicle computer for use in any car, truck, or even for maritime applications. The design itself makes the system available as a complete system allowed the user easily define and build requirements. The VTC 6110 fulfills vehicle industry requirements. The design itself is in compliance with vehicle industrial standard such as eMark. More features required for in-vehicle operations, such as power ignition delay control, low-power protection and SMBus connection, etc., are continued from others of NEXCOM's in-vehicle computer products. The GPS function navigates drivers to ultimate the fleet management. Optional 802.11b/g/n, 3.5G, and Bluetooth availability make the VTC 6110 ready for wider coverage and future trend. Multiple display connections make the VTC 6110 an ideal choice for in-vehicle signage platforms as well.

## Specifications

### CPU
- Intel® Embedded LV/ ULV Processor Core™ Duo L2400

### Main Chipset
- Intel® 945GME and ICH7M

### Memory
- One 200-pin DDR2 667MHz SO-DIMM slot (up to 2GB)

### Expansion
- 1 x Mini-PCIe socket (PCIe + USB) for WLAN option
- 1 x Mini-PCIe socket (USB) x 1 for WWAN option
- 1 x Bluetooth module for option
- 1 x Bundle GPS module or optional GPS with dead reckoning
- 1 x PCI-104 x 1

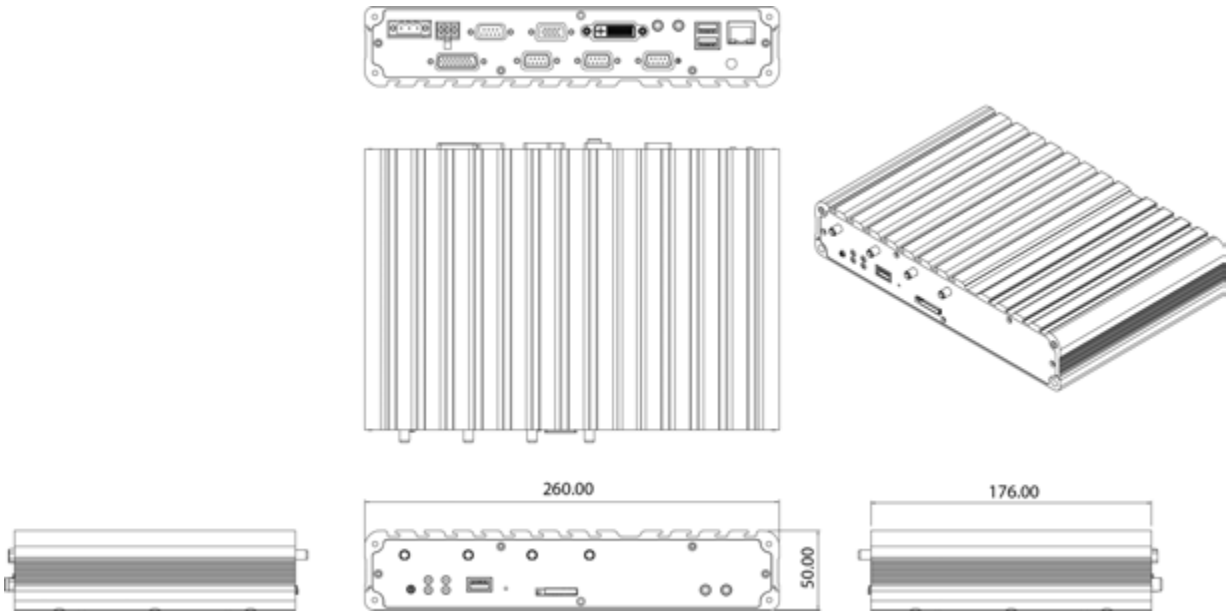
### I/O Interface-Front
- 1 x Line-out, 1 x Mic-in
- 1 x SIM card socket
- 1 x System reset button
- 1 x USB 2.0 host type A connector
- 4 x LED's for power, storage, WLAN/ WWAN and GPIO
- 1 x Power button
- 4 x Antenna hole reserved for SMA-type antenna connector (WWAN/ WLAN/ BT)

### I/O Interface-Rear
- 1 x 6~36VDC input with Ignition and 34W typical power consumption
- 1 x 5V/1A and 12V/1A DC output, SMBus
- 1 x DB26 LVDS interface with 12V and USB2.0
- 2 x DB9 RS-232 (COM1, COM2)
- 1 x DB9 RS-485 w/ auto flow control (optional RS-232, COM3)
- 1 x DB9 female connector for 4GPI and 4GPO
- 1 x DB15 VGA
- 1 x DVI-D
- 1 x Line-out, 1 x Mic-in
- 2 x USB 2.0 host type A connector
- 1 x RJ45 with LEDs for 10/ 100/ 1000Mbps Ethernet
- 1 x SMA-type GPS antenna connector

### Expandable Storage
- 1 x 2.5" SATA II HDD bay
- 1 x Type II CompactFlash socket

### Power Management
- Boot-up & shut-down voltage setting selectable for low power protection by software
- Setting 8-level on/off delay time by software
- Status of ignition and low voltage status can be detected by software

## Dimension Drawing




### Operating System
- Windows XP/ WES2009
- WES 7E

### Dimensions
- 260mm (W) x 176mm (D) x 50mm (H) (10.24" x 6.93" x 1.97")
- 2.42 Kg (5.34 Lb)

### Construction
- Aluminum enclosure with fanless design

### Environment
- Operating temperature:
  -30°C to 50°C with CF or automotive HDD
- Storage temperature:
  -40°C to 80°C@relative humidity 10% to 90% non-condensing
- Vibration (w/o vibration kit):
  2G@5-500Hz random with CF
  1G@5-500Hz random with automotive HDD
  MIL-STD-810F Method 514.5 Category 20
  Ground Vehicle-Highway Truck (in operation)
- Shock:
  Operating: MIL-STD-810F Method 516.5, Proceure I, Trucks and semi-trailers=20g
  Non-operating: MIL-STD-810F, Method 516.5, Procedure V, Ground equipment=75g

### Ingress Protection
- IP65 compliant (w/ VTK 61P)

### Standards/ Certifications
- CE approval
- FCC Class B
- e13 mark

## Ordering Information

- **VTC 6110 (P/N: 10V00611000X0)**

  Intel® Embedded LV/ ULV Processor Core™ Duo L2400 w/ 1GB DDR2, GPS module and GPS antenna

- **Optional Accessories**

| Part No. | Description |
|---|---|
| 10VD0100000X0 | VMD 1000-B 7" monitor w/ touch screen |
| 10VD0100101X0 | VMD 1001-B 7" Monitor w/ touch screen, VGA interface |
| 10VD0200000X0 | VMD 2000-B 8" Monitor w/ touch screen |
| 10VD0200200X0 | VMD 2002-B 8" Monitor w/ touch screen, cable integration |
| 10VK0033V00X0 | VTK 33V, anti-vibration / fan Kit |
| 10VK0061B00X0 | VTK 61B, back-up battery kit for 4 hours in system full loading |
| 10VK0060P00X0 | VTK 60P, IP65 protection kit for VTC 6000 |
| 10VK0061P00X0 | VTK 61P, IP65 protection kit for VTC 61XX series & VTC 6200-NI |
| 10VK0006013X0 | Wireless mini card kit, Ralink 802.11b/g/n 2T2R, QCOM: Q802XKN5F, w/ antenna & cable (without assembly in NEXCOM) |
| 10VK0WWAN01X0 | Cinterion PHS8-P kit, Five bands, UMTS/HSPA (850/800, 900, 1900 and 2100 MHz), Quad-Band GSM w/ internal cable, antenna & packing (without assembly in NEXCOM) |
| 10VK00GPS00X0 | SKYTRAQ GPS + GLONASS, w/ antenna & cable |
| 10VK0006007X0 | Bluetooth kit, QCOM: QBTM400-01(V7), w/ antenna & cable (without assembly in NEXCOM) |
| 7400120002X00 | Power adapter FSP: 120-AAB (N09001), 120W 19V/ 6.3A |
| 60233SAM03X00 | Internal cable for GSM/ WLAN/ GPS antenna connection MOQ: 20 pcs |
| 60233SAM05X00 | GPS antenna/ 5m/ SMA180P |
| 60233SAM07X00 | GSM/ GPRS antenna, SMA, support 850, 900, 1800, 1900 |
| 60233SMA30X00 | GPS+GSM combo antenna 5M/ SMA180P |
| 60233SAM17X00 | GPRS/ UMTS/ HSDPA antenna, SMA, support 850, 900, 1800, 1900 and 2100 MHz |

# VTC 6120

**Intel® Core™ 2 Duo SL9400 Fanless In-Vehicle Computer**

VTC 6110 with optional IP65 enclosure

## Main Features

- Support Intel® Core™ 2 Duo SL9400 processors
- Availability of GSM/ GPRS/ WCDMA/ HSDPA/ GPS
- External smart battery back up support
- Power ignition on/off delay control
- Circuitry design for low power protection
- 6~36V DC power input
- 1 PCI-104 expansion slot
- Multiple display interface connections (VGA, DVI-D and LVDS)
- Optional IP65 enclosure

## Product Overview

The VTC 6120 is an innovative in-vehicle computer for use in any car, truck, or even for maritime applications. The design itself makes the system available as a complete system allowed the user easily define and build requirements. The VTC 6120 fulfills vehicle industry requirements. The design itself is in compliance with vehicle industrial standard such as eMark. More features required for in-vehicle operations, such as power ignition delay control, low-power protection and SMBus connection, etc., are continued from others of NEXCOM's in-vehicle computer products. The GPS function navigates drivers to ultimate the fleet management. Optional 802.11b/g/n, 3.5G, and Bluetooth availability make the VTC 6120 ready for wider coverage and future trend. Multiple display connections make the VTC 6120 an ideal choice for in-vehicle signage platforms as well.

## Specifications

### CPU
- Intel® Core™ 2 Duo SL9400 processors

### Main Chipset
- Intel® GS45 and ICH9M

### Memory
- One 204-pin DDR3 1066/ 1333MHz SO-DIMM slot (up to 2GB)

### Expansion
- 1 x Mini-PCIe socket (PCIe + USB) for WLAN option
- 1 x Mini-PCIe socket (USB) x 1 for WWAN option
- 1 x Bluetooth module for option
- 1 x Bundle GPS module or optional GPS with dead reckoning
- 1 x PCI-104 x 1

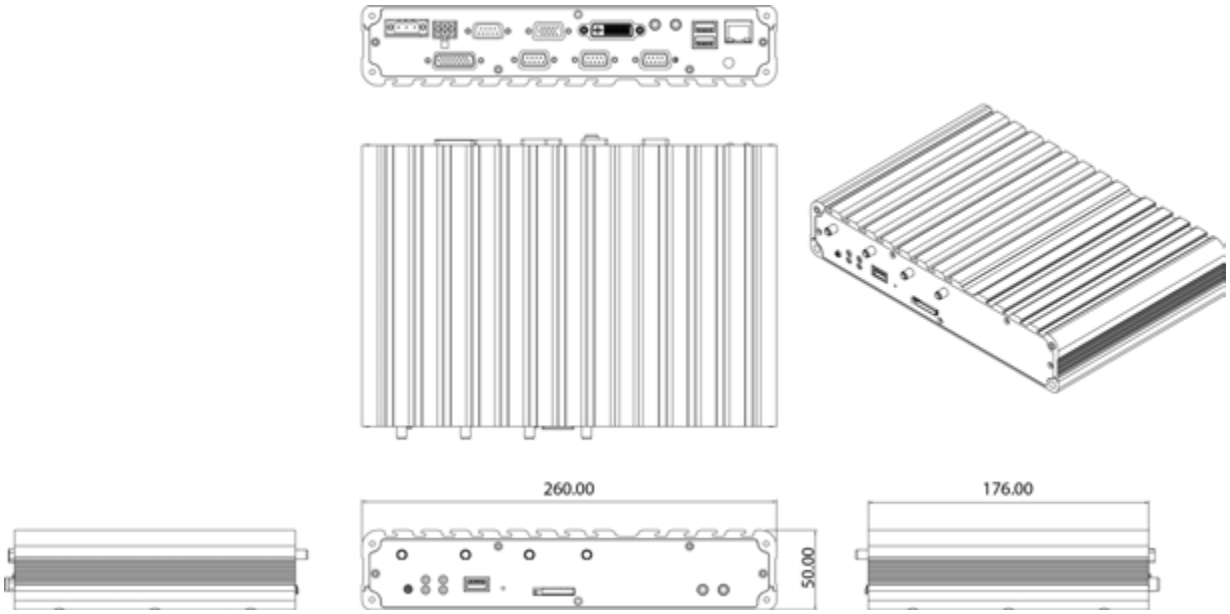
### I/O Interface-Front
- 1 x Line-out, 1 x Mic-in
- 1 x SIM card socket
- 1 x System reset button
- 1 x USB 2.0 host type A connector
- 4 x LED's for power, storage, WLAN/ HSDPA and GPIO
- 1 x Power button
- 4 x Antenna hole reserved for SMA-type antenna connector (WWAN/ WLAN/ BT)

### I/O Interface-Rear
- 1 x 6~36VDC input with Ignition and 34W typical power consumption
- 1 x 5V/1A and 12V/1A DC output, SMBus
- 1 x DB26 LVDS interface with 12V and USB2.0
- 2 x DB9 RS-232 (COM1, COM2)
- 1 x DB9 RS-485 w/ auto flow control (optional RS-232, COM3)
- 1 x DB9 female connector for 4GPI and 4GPO
- 1 x DB15 VGA
- 1 x DVI-D
- 1 x Line-out, 1 x Mic-in
- 2 x USB 2.0 host type A connector
- 1 x RJ45 with LEDs for 10/ 100/ 1000Mbps Ethernet
- 1 x SMA-type GPS antenna connector

### Expandable Storage
- 1 x 2.5" SATA II HDD bay
- 1 x Type II CompactFlash socket

### Power Management
- Boot-up & shut-down voltage setting selectable for low power protection by software
- Setting 8-level on/off delay time by software
- Status of ignition and low voltage status can be detected by software

## Dimension Drawing




### Operating System
- Windows XP/ WES2009
- WES 7E

### Dimensions
- 260mm (W) x 176mm (D) x 50mm (H) (10.24" x 6.93" x 1.97")
- 2.42 Kg (5.34 Lb)

### Construction
- Aluminum enclosure with fanless design

### Environment
- Operating temperatures:
  -30°C to 50°C (SSD)
  -30°C to 45°C (commercial HDD)
- Storage temperatures: -40°C to 80°C
- Relative humidity: 10% to 90% (non-condensing)
- Vibration:
  (random) : 2g @ 5~500 Hz with SSD; 1g @ 5~500 Hz with HDD (in operation)
  (sine): 2g @ 5~500 Hz with SSD; 2g @ 5~500 Hz with HDD (non operation)
- Vibration (with SSD):
  Operating: MIL-STD-810F, Method 514.5, Category 20, Ground Vehicle - Highway Truck
  Storage: MIL-STD-810F, Method 514.5, Category 24, Integrity Test
- Shock (with SSD):
  Operating: MIL-STD-810F Method 516.5, Proceure I, Trucks and semi-trailers=20g
  Non-operating: MIL-STD-810F, Method 516.5, Procedure V, Ground equipment=75g

### Ingress Protection
- IP65 compliant (w/ VTK 61P)

### Standards/ Certifications
- CE approval
- FCC Class B
- e13 Mark

## Ordering Information

- **VTC 6120 (P/N: 10V00612000X0)**
  Intel® Core™ 2 Duo SL9400 processor, 1GB DDR3, GPS module and GPS antenna

- **Optional Accessories**

| Part No. | Description |
|---|---|
| 10VD0100000X0 | VMD 1000-B 7" monitor w/ touch screen |
| 10VD0100101X0 | VMD 1001-B 7" Monitor w/ touch screen, VGA interface |
| 10VD0200000X0 | VMD 2000-B 8" Monitor w/ touch screen |
| 10VD0200200X0 | VMD 2002-B 8" Monitor w/ touch screen, cable integration |
| 10VK0033V00X0 | VTK 33V, anti-vibration / fan Kit |
| 10VK0061B00X0 | VTK 61B, back-up battery kit for 4 hours in system full loading |
| 10VK0060P00X0 | VTK 60P, IP65 protection kit for VTC 6000 |
| 10VK0061P00X0 | VTK 61P, IP65 protection kit for VTC 61XX series & VTC 6200-NI |
| 10VK0006013X0 | Wireless mini card kit, Ralink 802.11b/g/n 2T2R, QCOM: Q802XKN5F, w/ antenna & cable (without assembly in NEXCOM) |
| 10VK0WWAN01X0 | Cinterion PHS8-P kit, Five bands, UMTS/HSPA (850/800, 900, 1900 and 2100 MHz), Quad-Band GSM w/ internal cable, antenna & packing (without assembly in NEXCOM) |
| 10VK00GPS00X0 | SKYTRAQ GPS + GLONASS, w/ antenna & cable |
| 10VK0006007X0 | Bluetooth kit, QCOM: QBTM400-01(V7), w/ antenna & cable (without assembly in NEXCOM) |
| 7400120002X00 | Power adapter FSP: 120-AAB (N09001), 120W 19V/ 6.3A |
| 60233SAM03X00 | Internal cable for GSM/ WLAN/ GPS antenna connection MOQ: 20 pcs |
| 60233SAM05X00 | GPS antenna/ 5m/ SMA180P |
| 60233SAM07X00 | GSM/ GPRS antenna, SMA, support 850, 900, 1800, 1900 |
| 60233SMA30X00 | GPS+GSM combo antenna 5M/ SMA180P |
| 60233SAM17X00 | GPRS/ UMTS/ HSDPA antenna, SMA, support 850, 900, 1800, 1900 and 2100 MHz |

# VTC 6200

**Intel® Atom™ D510 Fanless In-Vehicle Computer**

## Main Features

- Built-in Intel® Atom™ D510 Dual Core 1.6GHz processor
- Internal wireless communication (3.5G, GSM/ GPRS, WLAN, BT)
- Smarter ignition power on/off, delay-time and low voltage protection
- PCI104, MiniPCIe socket, and proprietary PCIe module expansion
- 8~60V wide range DC power input
- Dual VGA output (clone mode)
- Rugged fanless design to meet IP65 and MIL standard
- Flexible chassis design for PCI-104 and HDD can be used at the same time
- Support 2 x isolated RS-232 ports (COM1, COM2)
- Isolated GPIO

## Product Overview

NEXCOM's popular VTC Series range has been extended with the launch of VTC 6200, a dedicated computing solution for in-vehicle surveillance applications. The VTC 6200 utilizes the powerful video processing capability of the of Intel® Atom™ D510 processer which can support Dual Core technology. With additional Video Capture Module, VTC 6200 is the ideal solution for in-vehicle surveillance applications.

## Specifications

### CPU
- Intel® Atom™ D510 Dual Core 1.6GH

### Main Chipset
- ICH8M

### Memory
- One 200-pin DDR2 667/ 800MHz SO-DIMM slot (up to 2GB)

### Expansion
- 1 x Mini-PCIe socket (PCIe + USB) for WLAN option
- 1 x Mini-PCIe socket (USB) x 1 for WWAN option
- 1 x Bluetooth module for option
- 1 x Bundle GPS module or optional GPS with dead reckoning
- 1 x PCI-104 x 1

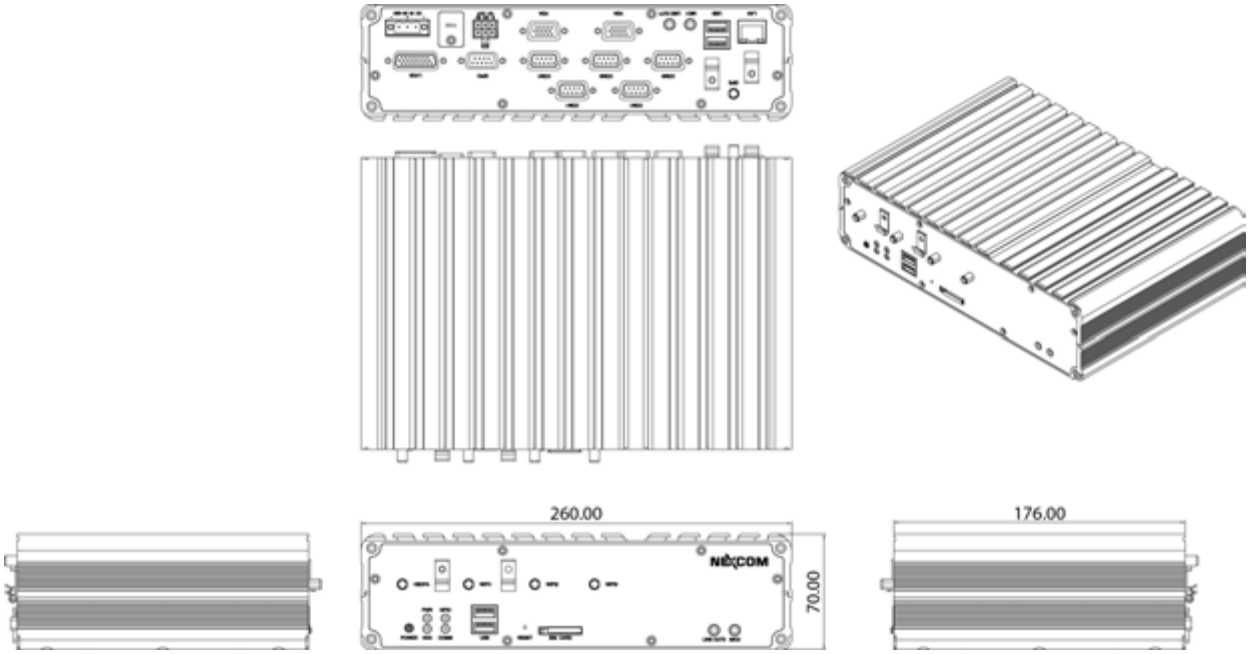
### I/O Interface-Front
- 1 x Line-out, 1 x Mic-in
- 1 x SIM card socket
- 1 x System reset button
- 2 x USB 2.0 host type A connector
- 4 x LED's for power, storage, WLAN/ HSDPA and GPIO
- 1 x Power button
- 4 x Antenna hole reserved for SMA-type antenna connector (WWAN/ WLAN/ BT)

### I/O Interface-Rear
- 1 x 8~60VDC input with Ignition and 23W typical power consumption
- 1 x 5V/1A and 12V/1A DC output, SMBus
- Fuse
- 1 x DB26 LVDS interface with 12V and USB2.0
- 1 x DB9 female connector for isolated 4GPI and 4GPO
- 2 x DB9 isolated RS-232 port (COM1, COM2)
- 2 x DB9 RS-232 (COM3, COM4)
- 1 x DB9 isolated RS-485 (COM5)
- 2 x DB15 VGA (clone mode)
- 1 x Line-out, 1 x Mic-in
- 2 x USB 2.0 host type A connector
- 1 x RJ45 with LEDs for 10/ 100/ 1000Mbps Ethernet
- 1 x SMA-type GPS antenna connector
- Mounting hole reserved:
  For RF Coax to SMA Bulkhead x 1 (for GPS) reference, signal connect to function board

### Expandable Storage
- 1 x 2.5" SATA II HDD bay
- 1 x SATA DOM

### Power Management
- Selectable boot-up & shut-down voltage for low power protection
- HW design ready for 8-level delay time on/off at user's self configuration
- Power on/off ignition, software detectable
- Support S3/ S4 suspend mode

## Dimension Drawing




### Operating System
- Windows XP/ WES2009
- WES 7E

### Dimensions
- 260mm (W) x 176mm (D) x 70mm (H) (10.24" x 6.93" x 2.75")
  (support HDD and PCI-104 at the same time)
- 2.65 Kg (5.84 Lb)

### Construction
- Aluminum enclosure with fanless design

### Environment
- Operating temperatures:
  Ambient with air:
  -30°C to 60°C (SSD)
  -30°C to 50°C (HDD)
- Storage temperatures: -40°C to 80°C
- Relative humidity: 10% to 90% (Non-condensing)
- Vibration (random): 2g@5~500 Hz with SSD; 1g@5~500 Hz with HDD (in operation)
- Vibration:
  Operating: MIL-STD-810F, Method 514.5, Category 20, Ground Vehicle – Highway Truck
  Storage: MIL-STD-810F, Method 514.5, Category 24, Integrity Test
- Shock:
  Operating: MIL-STD-810F, Method 516.5, Procedure I, Trucks and semi-trailers=20g
  Crash hazard: MIL-STD-810F, Method 516.5, Procedure V, Ground equipment=75g

### Standards/ Certifications
- CE approval
- FCC Class B
- e13 Mark

## Ordering Information

- **VTC 6200 (P/N: 10V00620000X0)**
  Intel® Atom™ D510 1.66GHz processor, 1GB DDR2, GPS module and GPS antenna

- **Optional Accessories**

| Part No. | Description |
|---|---|
| 10VD0100000X0 | VMD 1000-B 7" monitor w/ touch screen |
| 10VD0100101X0 | VMD 1001-B 7" Monitor w/ touch screen, VGA interface |
| 10VD0200000X0 | VMD 2000-B 8" Monitor w/ touch screen |
| 10VD0200200X0 | VMD 2002-B 8" Monitor w/ touch screen, cable integration |
| 10VK0033V00X0 | VTK 33V, anti-vibration / fan Kit |
| 10VK0061B00X0 | VTK 61B, back-up battery kit for 4 hours in system full loading |
| 10VK0006013X0 | Wireless mini card kit, Ralink 802.11b/g/n 2T2R, QCOM: Q802XKN5F, w/ antenna & cable (without assembly in NEXCOM) |
| 10VK0WWAN01X0 | Cinterion PHS8-P kit, Five bands, UMTS/HSPA (850/800, 900, 1900 and 2100 MHz), Quad-Band GSM w/ internal cable, antenna & packing (without assembly in NEXCOM) |
| 10VK00GPS00X0 | SKYTRAQ GPS + GLONASS, w/ antenna & cable |
| 10VK0006007X0 | Bluetooth kit, QCOM: QBTM400-01(V7), w/ antenna & cable (without assembly in NEXCOM) |
| 7400120002X00 | Power adapter FSP: 120-AAB (N09001), 120W 19V/ 6.3A |
| 60233SAM03X00 | Internal cable for GSM/ WLAN/ GPS antenna connection MOQ: 20 pcs |
| 60233SAM05X00 | GPS antenna/ 5m/ SMA180P |
| 60233SAM07X00 | GSM/ GPRS antenna, SMA, support 850, 900, 1800, 1900 |
| 60233SMA30X00 | GPS+GSM combo antenna 5M/ SMA180P |
| 60233SAM17X00 | GPRS/ UMTS/ HSDPA antenna, SMA, support 850, 900, 1800, 1900 and 2100 MHz |

# VTC 6200-NI

**Intel® Atom™ D510 Fanless In-Vehicle Computer**

## Main Features

- Built-in Intel® Atom™ D510 Dual Core 1.66GHz processor
- Internal wireless communication (3.5G, GSM/ GPRS, WLAN, BT)
- Smarter ignition power on/off, delay-time and low voltage protection
- PCI-104 and mini card expansion interface
- 8~60V wide range DC power input
- Dual VGA output (clone mode)
- Rugged fanless design to meet MIL standard

## Product Overview

NEXCOM's popular VTC Series range has been extended with the launch of VTC 6200-NI, a dedicated computing solution for in-vehicle surveillance applications. The VTC 6200-NI utilizes the powerful video processing capability of the of Intel® Atom™ D510 processer which can support Dual Core technology. With additional Video Capture Module, VTC 6200-NI is the ideal solution for in-vehicle surveillance applications.

## Specifications

### CPU
- Intel® Atom™ D510 Dual Core 1.6GHz

### Main Chipset
- ICH8M

### Memory
- One 200-pin DDR2 667/ 800MHz SO-DIMM slot (up to 2GB)

### Expansion
- 1 x Mini-PCIe socket (PCIe + USB) for WLAN option
- 1 x Mini-PCIe socket (USB) x 1 for WWAN option
- 1 x Bluetooth module for option
- 1 x Bundle GPS module or optional GPS with dead reckoning
- 1 x PCI-104

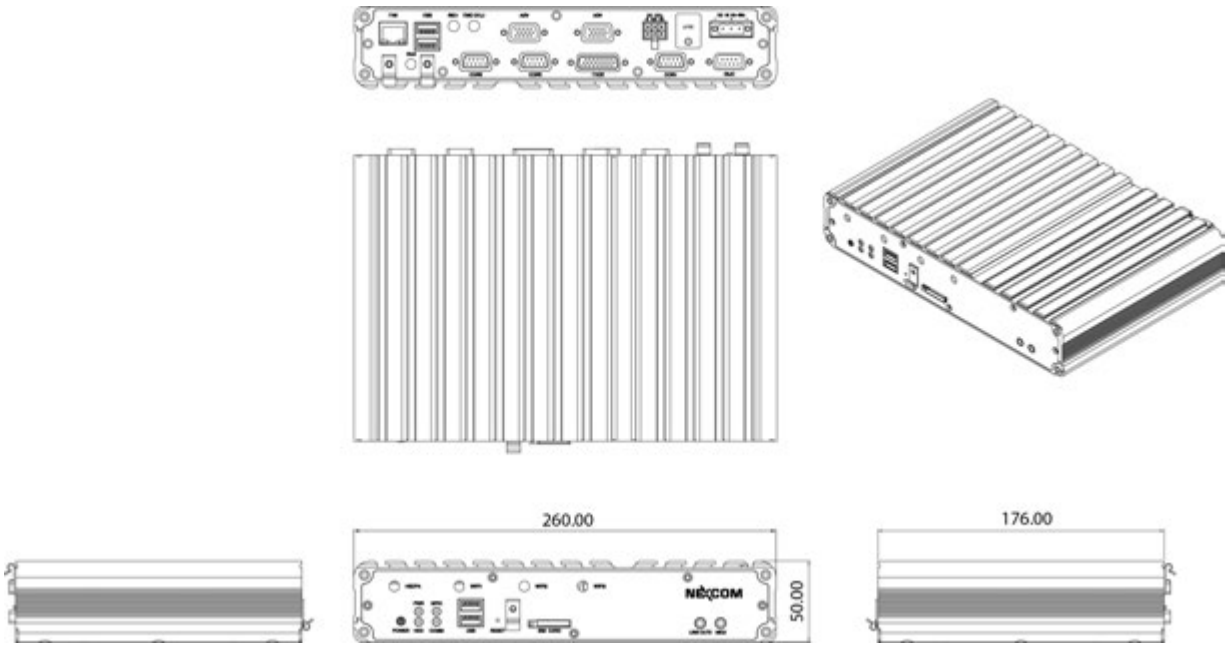
### I/O Interface-Front
- 1 x Line-out, 1 x Mic-in
- 1 x SIM card socket
- 1 x System reset button
- 2 x USB 2.0 host type A connector
- 4 x LED's for power, storage, WLAN/ HSDPA and GPIO
- 1 x Power button
- 4 x Antenna hole reserved for SMA-type antenna connector (WWAN/ WLAN/ BT)

### I/O Interface-Rear
- 1 x 8~60VDC input with Ignition and 23W typical power consumption
- 1 x 5V/1A and 12V/1A DC output, SMBus
- Fuse
- 1 x DB9 female connector for isolated 4GPI and 4GPO
- 2 x DB15 VGA (clone mode)
- 1 x DB26 LVDS interface with 12V and USB2.0
- 2 x DB9 RS-232 (COM1, COM2)
- 1 x DB9 RS-485 (COM3)
- 1 x Line-out, 1 x Mic-in
- 2 x USB 2.0 host type A connector
- 1 x RJ45 with LEDs for 10/ 100/ 1000Mbps Ethernet
- 1 x SMA-type GPS antenna connector

### Expandable Storage
- 1 x 2.5" SATA II HDD bay
- 1 x SATA DOM

### Power Management
- Selectable boot-up & shut-down voltage for low power protection by software
- Setting 8-level on/off delay time by software
- Status of ignition and low voltage status can be detected by software
- Support S3/ S4 suspend mode

## Dimension Drawing




### Operating System
- Windows XP/ WES2009
- WES 7E

### Dimensions
- 260mm (W) x 176mm (D) x 50mm (H) (10.24" x 6.93" x 1.97")
- 2.19 Kg (4.82 Lb)

### Construction
- Aluminum enclosure with fanless design

### Environment
- Operating temperatures:
  Ambient with air:
  -30°C to 60°C (SSD)
  -30°C to 50°C (HDD)
- Storage temperatures: -40°C to 80°C
- Relative humidity: 10% to 90% (Non-condensing)
- Vibration (random): 2g@5~500 Hz with SSD; 1g@5~500 Hz with HDD (in operation)
- Vibration (with SSD):
  Operating: MIL-STD-810F, Method 514.5, Category 20, Ground Vehicle – Highway Truck
  Storage: MIL-STD-810F, Method 514.5, Category 24, Integrity Test
- Shock (with SSD):
  Operating: MIL-STD-810F, Method 516.5, Procedure I, Trucks and semi-trailers=20g
  Crash hazard: MIL-STD-810F, Method 516.5, Procedure V, Ground equipment=75g

### Standards/ Certifications
- CE approval
- FCC Class B
- e13 Mark

## Ordering Information

- **VTC 6200-NI (P/N: 10V00620002X0)**
  Intel® Atom™ D510 1.66GHz processor, 1GB DDR2, GPS module and GPS antenna
- **VTC 6200-NI-DK (P/N: 10V00620006X0)**
  Intel® Atom™ D510 1.66GHz processor, 1GB DDR2, dead reckoning GPS module and GPS antenna
- **VTC 6200-VR4 (P/N: 10V00620009X0)**
  Intel® Atom™ D510 1.66GHz processor, 1GB DDR2, GPS module, GPS antenna and 4CH Capture card
- **Optional Accessories**

| Part No. | Description |
|---|---|
| 10VD0100000X0 | VMD 1000-B 7" monitor w/ touch screen |
| 10VD0100101X0 | VMD 1001-B 7" Monitor w/ touch screen, VGA interface |
| 10VD0200000X0 | VMD 2000-B 8" Monitor w/ touch screen |
| 10VD0200200X0 | VMD 2002-B 8" Monitor w/ touch screen, cable integration |
| 10VK0033V00X0 | VTK 33V, anti-vibration / fan Kit |
| 10VK0061B00X0 | VTK 61B, back-up battery kit for 4 hours in system full loading |
| 10VK0060P00X0 | VTK 60P, IP65 protection kit for VTC 6000 |
| 10VK0061P00X0 | VTK 61P, IP65 protection kit for VTC 61XX series & VTC 6200-NI |
| 10VK0006013X0 | Wireless mini card kit, Ralink 802.11b/g/n 2T2R, QCOM: Q802XKN5F, w/ antenna & cable (without assembly in NEXCOM) |
| 10VK0WWAN01X0 | Cinterion PHS8-P kit, Five bands, UMTS/HSPA (850/800, 900, 1900 and 2100 MHz), Quad-Band GSM w/ internal cable, antenna & packing (without assembly in NEXCOM) |
| 10VK00GPS00X0 | SKYTRAQ GPS + GLONASS, w/ antenna & cable |
| 10VK0006007X0 | Bluetooth kit, QCOM: QBTM400-01(V7), w/ antenna & cable (without assembly in NEXCOM) |
| 7400120002X00 | Power adapter FSP: 120-AAB (N09001), 120W 19V/ 6.3A |
| 60233SAM03X00 | Internal cable for GSM/ WLAN/ GPS antenna connection MOQ: 20 pcs |
| 60233SAM05X00 | GPS antenna/ 5m/ SMA180P |
| 60233SAM07X00 | GSM/ GPRS antenna, SMA, support 850, 900, 1800, 1900 |
| 60233SMA30X00 | GPS+GSM combo antenna 5M/ SMA180P |
| 60233SAM17X00 | GPRS/ UMTS/ HSDPA antenna, SMA, support 850, 900, 1800, 1900 and 2100 MHz |

# VTC 6201

**Intel® Atom™ D510 Fanless In-vehicle Computer with three GigaLAN and two sim card slots support**

## Main Features

- Build-in Intel® Atom™ D510 Dual Core 1.66GHz processor
- Support three Ethernet LAN Ports
- Dual Sim card slots available for vary carriers
- Variety Wireless Communication (WLAN/BT/WWAN)
- Dual VGA output (clone mode)
- PCI-104 and mini card expansion interface
- 8~60V wide range DC power input
- Smarter ignition power on/ off, delay-time and low voltage protection
- Rugged fanless design to meet MIL standard

## Product Overview

With the launch of VTC 6201, VTC series has extended its market from in-vehicle to rail application. Keeping the same mechanical housing as VTC 6200-NI and utilize Intel® Atom™ D510 processor, VTC 6201 additionally supports multiple Ethernet LAN ports and dual sim card slot. Moreover, it provides the optional M12 connectors to replace RJ45 to enforce its connectivity in the server vibration environment.

## Specifications

### CPU
- Intel® Atom™ D510 Dual Core 1.66GHz

### Main Chipset
- ICH8M

### Memory
- One 200-pin DDR2 667/ 800MHz SO-DIMM slot (up to 2GB)

### Expansion
- 1 x Mini-PCIe socket (PCIe + USB) for WLAN option
- 1 x Mini-PCIe socket (USB) x 1 for WWAN option
- 1 x Bluetooth module for option
- 1 x Bundle GPS module or optional GPS with dead reckoning
- 1 x PCI-104

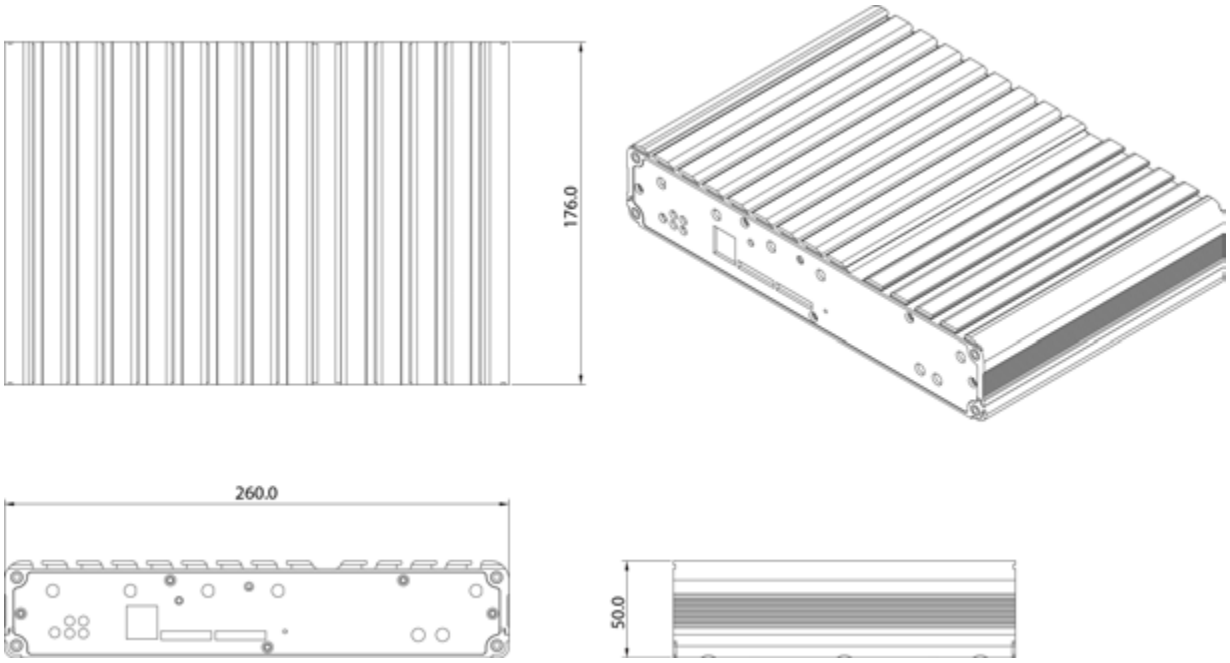
### I/O Interface-Front
- 1 x Line-out, 1 x Mic-in
- 1 x System reset button
- 2 x SIM card sockets
- 2 x USB 2.0 host type A connector
- 1 x Power button
- 4 x Antenna hole reserved for SMA-type antenna connector (WWAN/ WLAN/ BT)
- 4 x LED's for power, storage, WLAN/ WWAN and GPIO

### I/O Interface-Rear
- 1 x 8~60VDC input with ignition and 23W typical power consumption
- 1 x 5V/1A and 12V/1A DC output, SMBus
- 2 x DB15 VGA (clone mode)
- 2 x USB 2.0 host type A connector
- 1 x Line-out, 1 x Mic-in
- 3 x RJ45 with LED's for 10/ 100/ 1000Mbps Ethernet (optional M12 connectors x 2)
- 2 x DB9 RS-232 (COM1, COM2)
- 1 x DB9 RS-485 (COM3)
- 1 x DB26 LVDS interface with 12V and USB 2.0
- 1 x SMA antenna hole for GPS
- 1 x DB9 FEMALE CONNECTOR FOR 4GPI and 4GPO
- 1 x FUSE

### Expandable Storage
- 1 x 2.5" SATA II HDD Bay or SATA DOM x 1

### Power Management
- Selectable boot-up & shut-down voltage for low power protection by software
- Setting 8-level on/ off delay time by software
- Status of ignition and low voltage status can be detected by software
- Support S3/ S4 suspend mode

## Dimension Drawing




### Operating System
- Windows XP/ WES2009
- WES 7E

### Dimensions
- 260mm (W) x 176mm (D) x 50mm (H) (10.24" x 6.93" x 1.97")
- 2.19 Kg (4.82 Lb)

### Construction
- Aluminum enclosure with fanless design

### Environment
- Operating temperatures:
  Ambient with air: -30°C to 60°C (SSD)
  -30°C to 50°C (HDD)
- Storage temperatures: -40°C to 80°C
- Relative humidity: 10% to 90% (Non-condensing)
- Vibration (random): 2g@5~500 Hz with SSD; 1g@5~500 Hz with HDD (in operation)
- Vibration (with SSD): Operating: MIL-STD-810F, Method 514.5, Category 20, Ground Vehicle – Highway Truck
  Storage: MIL-STD-810F, Method 514.5, Category 24, Integrity Test
- Shock (with SSD):
  Operating: MIL-STD-810F, Method 516.5, Procedure I, Trucks and semi-trailers=20g
  Crash Hazard: MIL-STD-810F, Method 516.5, Procedure V, Ground equipment=75g

### Protection Grade
- Optional protection kit for IP65 rating

### Standards/ Certifications
- CE approval
- FCC Class B
- e13 Mark

## Ordering Information

- **VTC 6201 (P/N: 10V00620100X0)**
  Intel® Atom™ D510 1.66GHz processor, 1GB DDR2, GPS module and GPS antenna and in support of three GigaLAN and two sim card slots
- **VTC 6201-M (P/N: 10V00620101X0)**
  Intel® Atom™ D510 1.66GHz processor, 1GB DDR2, GPS module and GPS antenna and in support of two 10/100Mbps Ethernet LAN port with M12 connectors and two sim card slots
- **Optional Accessories**

| Part No. | Description |
|---|---|
| 10VD0100000X0 | VMD 1000-B 7" monitor w/ touch screen |
| 10VD0100101X0 | VMD 1001-B 7" Monitor w/ touch screen, VGA interface |
| 10VD0200000X0 | VMD 2000-B 8" Monitor w/ touch screen |
| 10VD0200200X0 | VMD 2002-B 8" Monitor w/ touch screen, cable integration |
| 10VK0033V00X0 | VTK 33V, anti-vibration / fan Kit |
| 10VK0061B00X0 | VTK 61B, back-up battery kit for 4 hours in system full loading |
| 10VK0060P00X0 | VTK 60P, IP65 protection kit for VTC 6000 |
| 10VK0061P00X0 | VTK 61P, IP65 protection kit for VTC 61XX series & VTC 6200-NI |
| 10VK0006013X0 | Wireless mini card kit, Ralink 802.11b/g/n 2T2R, QCOM: Q802XKN5F, w/ antenna & cable (without assembly in NEXCOM) |
| 10VK0WWAN01X0 | Cinterion PHS8-P kit, Five bands, UMTS/HSPA (850/800, 900, 1900 and 2100 MHz), Quad-Band GSM w/ internal cable, antenna & packing (without assembly in NEXCOM) |
| 10VK00GPS00X0 | SKYTRAQ GPS + GLONASS, w/ antenna & cable |
| 10VK0006007X0 | Bluetooth kit, QCOM: QBTM400-01(V7), w/ antenna & cable (without assembly in NEXCOM) |
| 7400120002X00 | Power adapter FSP: 120-AAB (N09001), 120W 19V/ 6.3A |
| 60233SAM03X00 | Internal cable for GSM/ WLAN/ GPS antenna connection MOQ: 20 pcs |
| 60233SAM05X00 | GPS antenna/ 5m/ SMA180P |
| 60233SAM07X00 | GSM/ GPRS antenna, SMA, support 850, 900, 1800, 1900 |
| 60233SMA30X00 | GPS+GSM combo antenna 5M/ SMA180P |
| 60233SAM17X00 | GPRS/ UMTS/ HSDPA antenna, SMA, support 850, 900, 1800, 1900 and 2100 MHz |

# VTC 7100-B

**Intel® Atom™ D2550 Fanless In-Vehicle Computer**

## Main Features

- Build-in Intel® Atom™ D2550 1.86GHz processor
- Support two Ethernet LAN ports
- Removable SSD tray and CFast slot
- Optional CAN bus in support of SAE J1939 or J1708
- Support two SIM card sockets
- 9~36V wide range DC power input
- Smarter power management and low voltage protection
- Support 4 digital input and 4 digital output
- Rugged fanless design to meet MIL standard
- Internal wireless communication (3.5G, GSM/ GPRS, WLAN, BT)

## Product Overview

VTC 7100-B, adopting the high performance processor, Intel® Atom™ D2550, is a new generation of VTC series. In additional to keep the advantage of existing VTC series, it offers dual LAN ports for redundancy, two high speed interface for storage, 2.5" SATA and CFast. The storage is easily accessible from the front side for maintenance concern. Furthermore, it offers the CAN bus for heavy duty truck such as SAE J1939/ J1708. With the rich features, VTC7100-B can satisfy your demand in vehicle applications.

## Specifications

### CPU
- Intel® Atom™ D2550 1.86GHz

### Main Chipset
- ICH10R

### Memory
- One 204-pin DDR3 1333MHz SO-DIMM slot (up to 4GB)

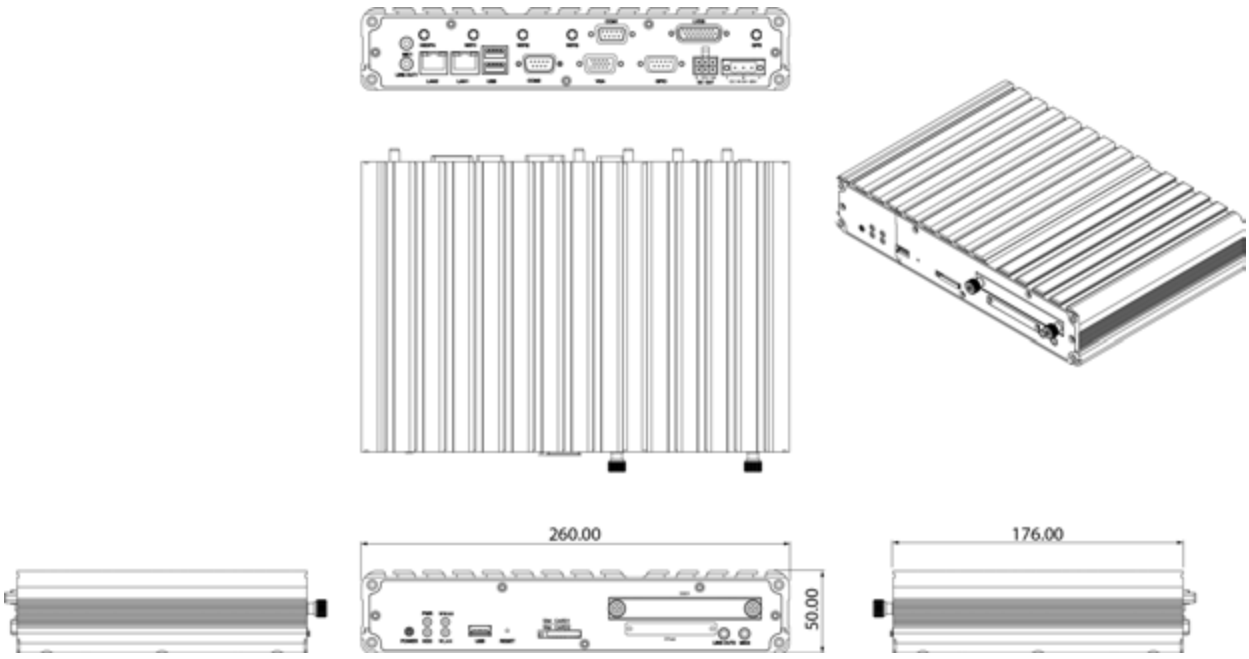
### Expansion
- 1 x Mini-PCIe socket (PCIe + USB) for WLAN option
- 1 x Mini-PCIe socket (USB) x 1 for WWAN option
- 1 x Bluetooth module for option
- 1 x Bundle GPS module or optional GPS with dead reckoning

### I/O Interface-Front
- 1 x Line-out, 1 x Mic-in
- 2 x SIM card socket
- 1 x System reset button
- 1 x USB 2.0 host type A connector
- 1 x Power button
- 1 x CFast with protection cover
- 1 x Accessible 2.5" SATA II SSD tray
- 4 x LED's for power, storage, WLAN/ HSDPA and GPIO

### I/O Interface-Rear
- 1 x 9~36VDC input with Ignition and 23W typical power consumption
- 1 x 12V/4A DC output, SMBus
- 1 x DB26 LVDS interface with 12V and USB2.0 or optional with DVI-D
- 1 x DB9 RS-232 (COM1) or optional with CAN bus
- 1 x DB9 RS-422/ 485 (COM2)
- 1 x DB9 female connector for 4GPI and 4GPO
  Digital Input (source type; 0~30V)
  Digital Output (sink type; 20mA max)
- 1 x DB15 VGA
- 2 x USB 2.0 host type A connector
- 2 x RJ45 with LEDs for 10/ 100/ 1000Mbps Ethernet
- 1 x Line-out, 1 x Mic-in
- 1 x SMA-type GPS antenna connector
- 4 x Antenna hole reserved for SMA-type antenna connector (WWAN/ WLAN/ BT)

### Operating System
- WES 7E
- Win7 Pro for Embedded

## Dimension Drawing




### Power Management

- Selectable boot-up & shut-down voltage for low power protection by software
- Setting 8-level on/off delay time by software
- Status of ignition and low voltage status can be detected by software
- Support S3/ S4 suspend mode

### Dimensions

- 260mm (W) x 176mm (D) x 50mm (H) (10.24"x 6.93"x 1.97")
- 2.3 Kg (5.07 Lb)

### Construction

- Aluminum enclosure with fanless design

### Environment

- Operating temperatures:
  Ambient with air: -30°C to 50°C
- Storage temperatures: -35°C to 85°C
- Relative humidity: 10% to 90% (non-condensing)
- Vibration (random): 1g@5~500 Hz (in operation)
- Vibration:
  Operating: MIL-STD-810F, Method 514.5, Category 20, ground vehicle- highway truck
  Storage: MIL-STD-810F, Method 514.5, Category 24, integrity test
- Shock:
  Operating: MIL-STD-810F, Method 516.5, Procedure I, trucks and semi-trailers=20g
  Crash hazard: MIL-STD-810F, Method 516.5, Procedure V, ground equipment=75g

### Standards/ Certifications

- CE approval
- FCC Class A

## Ordering Information

- **VTC 7100-BK (P/N: 10V00710003X0)**
  Intel® Atom™ D2550 1.86Ghz, 2GB DDR3 SODIMM, LVDS/ VGA Output, 1 RS-232, 1 RS-485/422
- **VTC 7100-B1K (P/N: TBD)**
  Intel® Atom™ D2550 1.86Ghz, 2GB DDR3 SODIMM, LVDS/ VGA Output, 1 RS-485/422, 1 DB9 for SAE J1939
- **VTC 7100-B2K (P/N: TBD)**
  Intel® Atom™ D2550 1.86Ghz, 2GB DDR3 SODIMM, DVI-D/ VGA Output, 1 RS-232, 1 RS-485/422
- **Optional Accessories**

| Part No. | Description |
|---|---|
| 10VD0100000X0 | VMD 1000-B 7" monitor w/ touch screen |
| 10VD0100101X0 | VMD 1001-B 7" Monitor w/ touch screen, VGA interface |
| 10VD0200000X0 | VMD 2000-B 8" Monitor w/ touch screen |
| 10VD0200200X0 | VMD 2002-B 8" Monitor w/ touch screen, cable integration |
| 10VK0071F00X0 | VTK 71F, anti-vibration / fan Kit |
| 10VK0006013X0 | Wireless mini card kit, Ralink 802.11b/g/n 2T2R, QCOM: Q802XKN5F, w/ antenna & cable (without assembly in NEXCOM) |
| 10VK0WWAN01X0 | Cinterion PHS8-P kit, Five bands, UMTS/HSPA (850/800, 900, 1900 and 2100 MHz), Quad-Band GSM w/ internal cable, antenna & packing (without assembly in NEXCOM) |
| 10VK00GPS00X0 | SKYTRAQ GPS + GLONASS, w/ antenna & cable |
| 10VK0006007X0 | Bluetooth kit, QCOM: QBTM400-01(V7), w/ antenna & cable (without assembly in NEXCOM) |
| 7400120002X00 | Power adapter FSP: 120-AAB (N09001), 120W 19V/ 6.3A |
| 60233SAM03X00 | Internal cable for GSM/ WLAN/ GPS antenna connection MOQ: 20 pcs |
| 60233SAM05X00 | GPS antenna/ 5m/ SMA180P |
| 60233SAM07X00 | GSM/ GPRS antenna, SMA, support 850, 900, 1800, 1900 |
| 60233SMA30X00 | GPS+GSM combo antenna 5M/ SMA180P |
| 60233SAM17X00 | GPRS/ UMTS/ HSDPA antenna, SMA, support 850, 900, 1800, 1900 and 2100 MHz |
| 60233SAM07X00 | GSM/ GPRS antenna, SMA, support 850, 900, 1800, 1900 |
| 60233SMA30X00 | GPS+GSM combo antenna 5M/ SMA180P |
| 60233SAM17X00 | GPRS/ UMTS/ HSDPA antenna, SMA, support 850, 900, 1800, 1900 and 2100 MHz |

# VTC 7100-D1

**Intel® Atom™ D2550 Fanless In-Vehicle Computer with Isolation GPIO, COM and Dual CAN Bus**

## Main Features

- Build-in Intel® Atom™ D2550 1.86GHz processor
- Support two Ethernet LAN ports
- Removable 2.5" SSD tray and CFast slot
- CAN bus in support of SAE J1939 or J1708 up to dual
- Support two SIM card sockets
- 9~36V wide range DC power input
- Smarter power management and low voltage protection
- Support isolation digital input and output
- Rugged fanless design to meet MIL standard
- Support 3 x Isolation RS-232 and 2 x RS-422/485

## Product Overview

VTC 7100-D1, adopting the high performance processor, Intel® Atom™ D2550, is a new generation of VTC series. In additional to keep the advantage of existing VTC series, it offers dual LAN ports for redundancy, two high speed interface for storage, 2.5" SATA and CFast. The storage is easily accessible from the front side for maintenance concern. Furthermore, it offers the CAN bus for heavy duty truck such as SAE J1939/ J1708 and isolation digital input, output, RS-232 and RS-422/485. With the rich features, VTC7100-D1 can satisfy your demand in vehicle applications.

## Specifications

### CPU
- Intel® Atom™ D2550 1.86GHz

### Main Chipset
- ICH10R

### Memory
- One 204-pin DDR3 1333MHz SO-DIMM slot (up to 4GB)

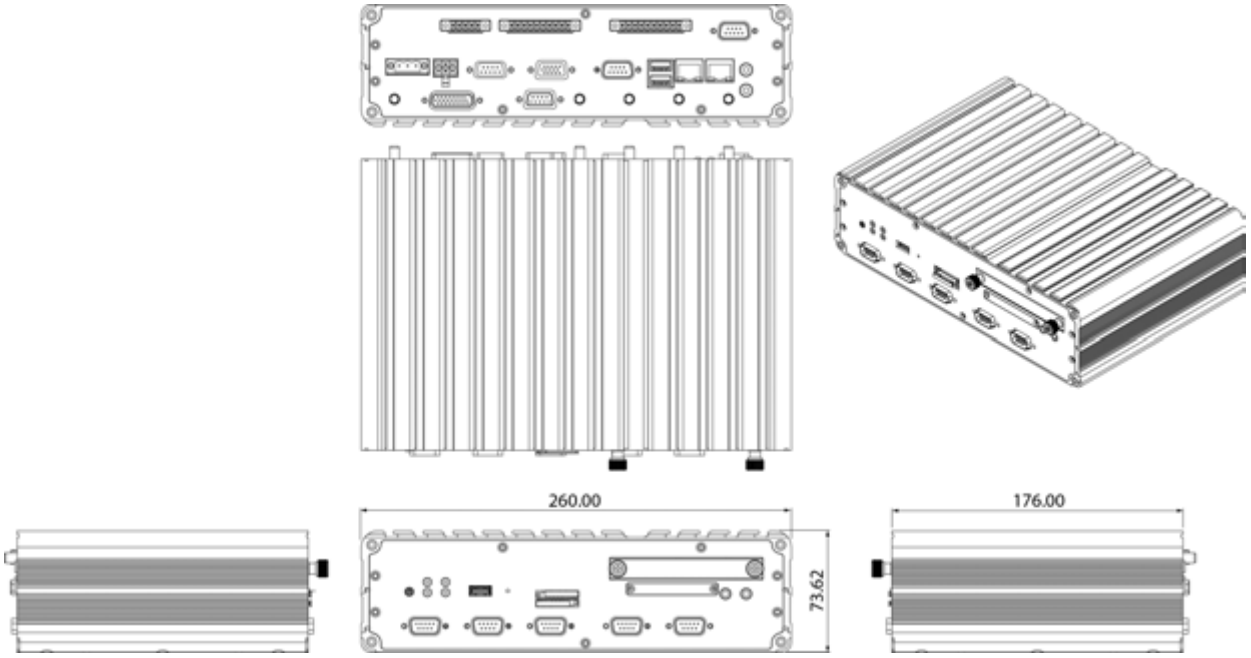
### Expansion
- 1 x Mini-PCIe socket (PCIe + USB) for WLAN option
- 1 x Mini-PCIe socket (USB) x 1 for WWAN option
- 1 x Bluetooth module for option
- 1 x Built-in on board GPS module or optional GPS with dead reckoning

### I/O Interface-Front
- 1 x Line-out, 1 x Mic-in
- 2 x SIM card socket
- 1 x System reset button
- 1 x USB 2.0 host type A connector
- 1 x Power button
- 1 x CFast with protection cover
- 1 x Accessible 2.5" SATA II SSD tray
- 2 x DB9 isolation RS-422/ 485
- 3 x DB9 isolation RS-232
- 4 x LED's for power, storage, WLAN/ WWAN and GPIO

### I/O Interface-Rear
- 1 x 9~36VDC input with Ignition and 30W typical power consumption
- 1 x 12V/4A DC output, SMBus
- 1 x DB26 LVDS interface with 12V and USB2.0 or optional with DVI-D
- 1 x DB15 VGA
- 1 x DB9 RS-232 (COM1) or optional with CAN bus
- 1 x DB9 RS-422/ 485 (COM2)
- 1 x DB9 female connector for 4GPI and 4GPO
  Digital Input (source type; 0~30V)
  Digital Output (sink type; 20mA max)
- 2 x USB 2.0 host type A connector
- 2 x RJ45 with LEDs for 10/ 100/ 1000Mbps Ethernet
- 1 x Line-out, 1 x Mic-in
- 8 x Isolation digital inputs
- 8 x Isolation digital outputs
- 4 x Isolation differential analog inputs
- 1 x DB9 male connector for 2 CAN bus modules
- 1 x SMA-type GPS antenna connector
- 4 x Antenna hole reserved for SMA-type antenna connector (WWAN/ WLAN/ BT)

### Power Management
- Selectable boot-up & shut-down voltage for low power protection by software
- Setting 8-level on/off delay time by software
- Status of ignition and low voltage status can be detected by software
- Support S3/ S4 suspend mode

## Dimension Drawing




### Operating System
- WES 7E
- Win7 Pro for Embedded

### Dimensions
- 260mm (W) x 176mm (D) x 73.6mm (H) (10.24"x 6.93"x 2.9")
- 4.5 Kg (9.92 Lb)

### Construction
- Aluminum enclosure with fanless design

### Environment
- Operating temperatures:
  Ambient with air: -30°C to 50°C
- Storage temperatures: -35°C to 85°C
- Relative humidity: 10% to 90% (non-condensing)
- Vibration (random): 1g@5~500 Hz (in operation)
- Vibration:
  Operating: MIL-STD-810F, Method 514.5, Category 20, ground vehicle- highway truck
  Storage: MIL-STD-810F, Method 514.5, Category 24, integrity test
- Shock:
  Operating: MIL-STD-810F, Method 516.5, Procedure I, trucks and semi-trailers=20g
  Crash hazard: MIL-STD-810F, Method 516.5, Procedure V, ground equipment=75g

### Standards/ Certifications
- CE approval
- FCC Class A

## Ordering Information

- **VTC 7100-D1 (P/N: 10V00711001X0)**
  Intel® Atom™ D2550 1.86Ghz, 1GB DDR3 SODIMM, LVDS/ VGA Output, 1 RS-232, 1 RS-485/422 with isolation DI/DO, COM and dual CAN bus

- **Optional Accessories**

| Part No. | Description |
|---|---|
| 10VD0100000X0 | VMD 1000-B 7" monitor w/ touch screen |
| 10VD0100101X0 | VMD 1001-B 7" Monitor w/ touch screen, VGA interface |
| 10VD0200000X0 | VMD 2000-B 8" Monitor w/ touch screen |
| 10VD0200200X0 | VMD 2002-B 8" Monitor w/ touch screen, cable integration |
| 10VK0071F00X0 | VTK 71F, anti-vibration / fan Kit |
| 10VK0006013X0 | Wireless mini card kit, Ralink 802.11b/g/n 2T2R, QCOM: Q802XKN5F, w/ antenna & cable (without assembly in NEXCOM) |
| 10VK0WWAN01X0 | Cinterion PHS8-P kit, Five bands, UMTS/HSPA (850/800, 900, 1900 and 2100 MHz), Quad-Band GSM w/ internal cable, antenna & packing (without assembly in NEXCOM) |
| 10VK00GPS00X0 | SKYTRAQ GPS + GLONASS, w/ antenna & cable |
| 10VK0006007X0 | Bluetooth kit, QCOM: QBTM400-01(V7), w/ antenna & cable (without assembly in NEXCOM) |
| 7400120002X00 | Power adapter FSP: 120-AAB (N09001), 120W 19V/ 6.3A |
| 60233SAM03X00 | Internal cable for GSM/ WLAN/ GPS antenna connection MOQ: 20 pcs |
| 60233SAM05X00 | GPS antenna/ 5m/ SMA180P |
| 60233SAM07X00 | GSM/ GPRS antenna, SMA, support 850, 900, 1800, 1900 |
| 60233SMA30X00 | GPS+GSM combo antenna 5M/ SMA180P |
| 60233SAM17X00 | GPRS/ UMTS/ HSDPA antenna, SMA, support 850, 900, 1800, 1900 and 2100 MHz |
| 60233SAM07X00 | GSM/ GPRS antenna, SMA, support 850, 900, 1800, 1900 |
| 60233SMA30X00 | GPS+GSM combo antenna 5M/ SMA180P |
| 60233SAM17X00 | GPRS/ UMTS/ HSDPA antenna, SMA, support 850, 900, 1800, 1900 and 2100 MHz |

# VTC 7100-C8

**Intel® Atom™ D2550 Fanless In-Vehicle Computer with 8-channel PoE**

## Main Features

- Build-in Intel® Atom™ D2550 1.86GHz processor
- Support two Ethernet LAN ports
- Dual removable 2.5" SSD tray and CFast slot
- Optional CAN bus in support of SAE J1939 or J1708
- Support two SIM card sockets
- 9~36V wide range DC power input
- Smarter power management and low voltage protection
- Support 4 digital input and 4 digital oupout
- Rugged fanless design to meet MIL standard
- Support 8 channels POE with IEEE802.3af

## Product Overview

VTC 7100-C8, adopting the high performance processor, Intel® Atom™ D2550, is a new generation of VTC series. In additional to keep the advantage of existing VTC series, it offers dual LAN ports for redundancy, Three high speed interface for storage, 2.5" SATA and CFast. The storage is easily accessible from the front side for maintenance concern. Furthermore, it offers the CAN bus for heavy duty truck such as SAE J1939/ J1708, and support 8-channel PoE. . With the rich features, VTC7100-C8 can satisfy your demand in vehicle applications.

## Specifications

### CPU
- Intel® Atom™ D2550 1.86GHz

### Main Chipset
- ICH10R

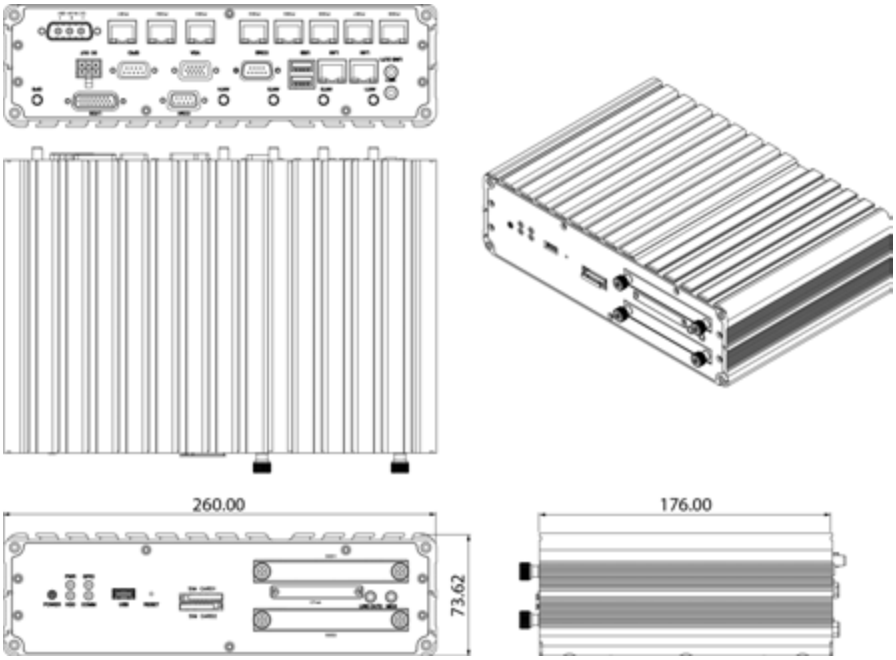
### Memory
- One 204-pin DDR3 1333MHz SO-DIMM slot (up to 4GB)

### Expansion
- 1 x Mini-PCIe socket (PCIe + USB) for WLAN option
- 1 x Mini-PCIe socket (USB) x 1 for WWAN option
- 1 x Bluetooth module for option
- 1 x Built-in on board GPS module or optional GPS with dead reckoning

### I/O Interface-Front
- 1 x Line-out, 1 x Mic-in
- 2 x SIM card socket
- 1 x System reset button
- 1 x USB 2.0 host type A connector
- 1 x Power button
- 1 x CFast with protection cover
- 2 x Accessible 2.5" SATA II SSD tray
- 4 x LED's for power, storage, WLAN/ HSDPA and GPIO

### I/O Interface-Rear
- 1 x 9~36VDC input with Ignition and 36W typical power consumption
- 1 x 12V/4A DC output, SMBus
- 1 x DB26 LVDS interface with 12V and USB2.0 or optional with DVI-D
- 1 x DB15 VGA
- 1 x DB9 RS-232 (COM1) or optional with CAN bus
- 1 x DB9 RS-422/ 485 (COM2)
- 1 x DB9 female connector for 4GPI and 4GPO
  Digital Input (source type; 0~30V)
  Digital Output (sink type; 20mA max)
- 2 x USB 2.0 host type A connector
- 2 x RJ45 with LEDs for 10/ 100/ 1000Mbps Ethernet
- 8 x RJ45 with LEDs for 10/100/1000Mbps Ethernet and support IEEE802.3af PoE
- 1 x Line-out, 1 x Mic-in
- 1 x SMA-type GPS antenna connector
- 4 x Antenna hole reserved for SMA-type antenna connector (WWAN/ WLAN/ BT)

## Dimension Drawing




### Power Management
- Selectable boot-up & shut-down voltage for low power protection by software
- Setting 8-level on/off delay time by software
- Status of ignition and low voltage status can be detected by software
- Support S3/ S4 suspend mode

### Operating System
- WES 7E
- Win7 Pro for Embedded

### Dimensions
- 260mm (W) x 176mm (D) x 73.6mm (H) (10.24"x 6.93"x 2.9")
- 4.5 Kg (9.92 Lb)

### Construction
- Aluminum enclosure with fanless design

### Environment
- Operating temperatures:
  Ambient with air: -30°C to 50°C
- Storage temperatures: -35°C to 85°C
- Relative humidity: 10% to 90% (non-condensing)
- Vibration (random): 1g@5~500 Hz (in operation)
- Vibration:
  Operating: MIL-STD-810F, Method 514.5, Category 20, ground vehicle- highway truck
  Storage: MIL-STD-810F, Method 514.5, Category 24, integrity test
- Shock:
  Operating: MIL-STD-810F, Method 516.5, Procedure I, trucks and semi-trailers=20g
  Crash hazard: MIL-STD-810F, Method 516.5, Procedure V, ground equipment=75g

### Standards/ Certifications
- CE approval
- FCC Class A

## Ordering Information

- **VTC 7100-C8K (P/N: 10V00710005X0)**
  Intel® Atom™ D2550 1.86Ghz, 2GB DDR3 SODIMM, LVDS/ VGA Output, 1 RS-232, 1 RS-485/422 with 8-channel POE

- **Optional Accessories**

| Part No. | Description |
|---|---|
| 10VD0100000X0 | VMD 1000-B 7" monitor w/ touch screen |
| 10VD0100101X0 | VMD 1001-B 7" Monitor w/ touch screen, VGA interface |
| 10VD0200000X0 | VMD 2000-B 8" Monitor w/ touch screen |
| 10VD0200200X0 | VMD 2002-B 8" Monitor w/ touch screen, cable integration |
| 10VK0071F00X0 | VTK 71F, anti-vibration / fan Kit |
| 10VK0006013X0 | Wireless mini card kit, Ralink 802.11b/g/n 2T2R, QCOM: Q802XKN5F, w/ antenna & cable (without assembly in NEXCOM) |
| 10VK0WWAN01X0 | Cinterion PHS8-P kit, Five bands, UMTS/HSPA (850/800, 900, 1900 and 2100 MHz), Quad-Band GSM w/ internal cable, antenna & packing (without assembly in NEXCOM) |
| 10VK00GPS00X0 | SKYTRAQ GPS + GLONASS, w/ antenna & cable |
| 10VK0006007X0 | Bluetooth kit, QCOM: QBTM400-01(V7), w/ antenna & cable (without assembly in NEXCOM) |
| 7400120002X00 | Power adapter FSP: 120-AAB (N09001), 120W 19V/ 6.3A |
| 60233SAM03X00 | Internal cable for GSM/ WLAN/ GPS antenna connection MOQ: 20 pcs |
| 60233SAM05X00 | GPS antenna/ 5m/ SMA180P |
| 60233SAM07X00 | GSM/ GPRS antenna, SMA, support 850, 900, 1800, 1900 |
| 60233SMA30X00 | GPS+GSM combo antenna 5M/ SMA180P |
| 60233SAM17X00 | GPRS/ UMTS/ HSDPA antenna, SMA, support 850, 900, 1800, 1900 and 2100 MHz |
| 60233SAM07X00 | GSM/ GPRS antenna, SMA, support 850, 900, 1800, 1900 |
| 60233SMA30X00 | GPS+GSM combo antenna 5M/ SMA180P |
| 60233SAM17X00 | GPRS/ UMTS/ HSDPA antenna, SMA, support 850, 900, 1800, 1900 and 2100 MHz |

# VTC 7110-B

**Intel® Core™ i7 Fanless In-Vehicle Computer**

## Main Features

- Build-in Intel® Core™ i7 2610UE 1.5G Hz processor
- Support two Ethernet LAN ports
- Removable 2.5" SSD tray and CFast slot
- Optional CAN bus in support of SAE J1939 or J1708
- Support two SIM card slots
- 9~36V wide range DC power input
- Smarter power management and low voltage protection
- Support 4 digital input and 4 digital output
- Rugged fanless design to meet MIL standard
- Internal wireless communication (3.5G, GSM/ GPRS, WLAN, BT)

## Product Overview

VTC 7110-B, adopting the high performance processor, Intel® Core™ i7, is a new generation of VTC series. In additional to keep the advantage of existing VTC series, it offers dual LAN ports for redundancy, two high speed interface for storage, 2.5" SATA and CFast. The storage is easily accessible from the front side for maintenance concern. Furthermore, it offers the CAN bus for heavy duty truck such as SAE J1939/ J1708 and support 4 digital input and 4 digital output for device connectivity.  With the rich features, VTC7110-B can satisfy your demand in vehicle applications.

## Specifications

### CPU
- Intel® Core™ i7 2610UE 1.5GHz

### Main Chipset
- QM67

### Memory
- One 204-pin DDR3 1333MHz SO-DIMM slot (up to 8GB)

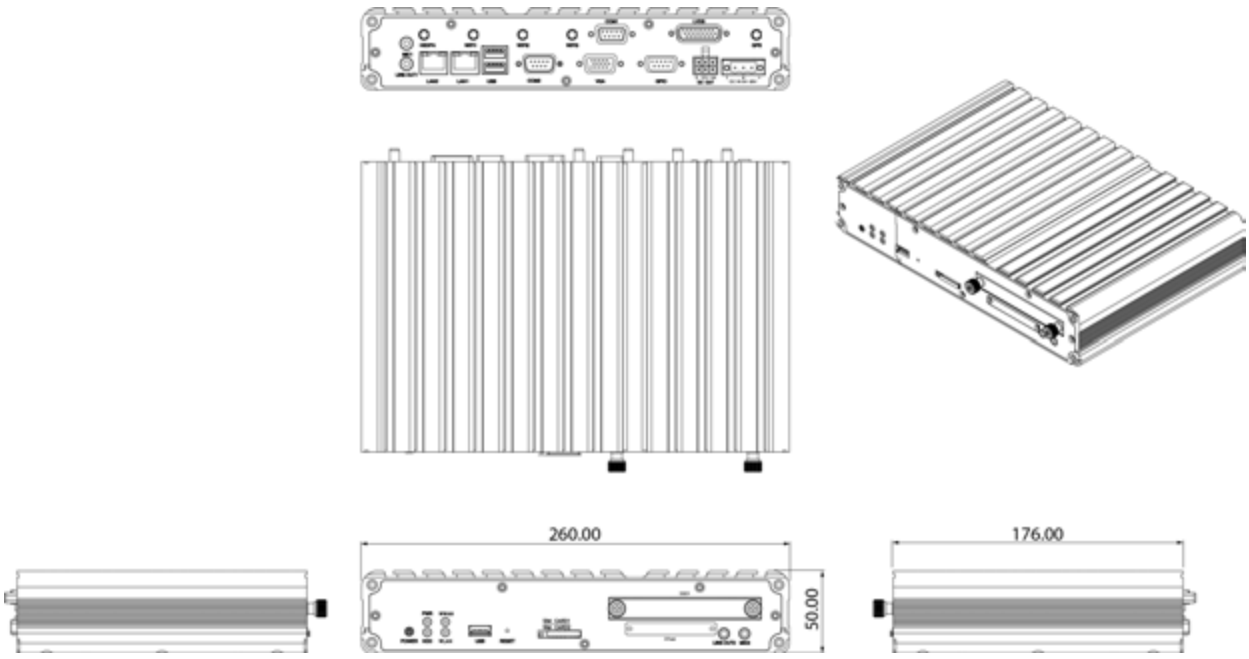
### Expansion
- 1 x Mini-PCIe socket (PCIe + USB) for WLAN option
- 1 x Mini-PCIe socket (USB) x 1 for WWAN option
- 1 x Bluetooth module for option
- 1 x Bundle GPS module or optional GPS with dead reckoning
- Built-in on board GPS module or optional GPS with dead reckoning

### I/O Interface-Front
- 1 x Line-out, 1 x Mic-in
- 2 x SIM card socket
- 1 x System reset button
- 1 x USB 2.0 host type A connector
- 1 x Power button
- 1 x CFast with protection cover
- 1 x Accessible 2.5" SATA II SSD tray
- 4 x LED's for power, storage, WLAN/ WWAN and GPIO

### I/O Interface-Rear
- 1 x 9~36VDC input with Ignition and 28W typical power consumption
- 1 x 12V/4A DC output, SMBus
- 1 x DB26 LVDS interface with 12V and USB2.0 or optional with DVI-D
- 1 x DB9 RS-232 (COM1) or optional with CAN bus
- 1 x DB9 RS-422/ 485 (COM2)
- 1 x DB9 female connector for 4GPI and 4GPO
  Digital Input (source type; 0~30V)
  Digital Output (sink type; 20mA max)
- 1 x DB15 VGA
- 2 x USB 2.0 host type A connector
- 2 x RJ45 with LEDs for 10/ 100/ 1000Mbps Ethernet
- 1 x Line-out, 1 x Mic-in
- 1 x SMA-type GPS antenna connector
- 4 x Antenna hole reserved for SMA-type antenna connector (WWAN/ WLAN/ BT)

### Power Management
- Selectable boot-up & shut-down voltage for low power protection by software
- Setting 8-level on/off delay time by software
- Status of ignition and low voltage status can be detected by software
- Support S3/ S4 suspend mode

## Dimension Drawing




**Operating System**
- Windows XP/ WES2009
- WES 7E
- Win7 Pro for Embedded

**Dimensions**
- 260mm (W) x 176mm (D) x 50mm (H) (10.24"x 6.93"x 1.97")
- 2.3 Kg (5.07 Lb)

**Construction**
- Aluminum enclosure with fanless design

**Environment**
- Operating temperatures:
  Ambient with air: -30°C to 50°C
- Storage temperatures: -35°C to 85°C
- Relative humidity: 10% to 90% (non-condensing)
- Vibration (random): 1g@5~500 Hz (in operation)
- Vibration:
  Operating: MIL-STD-810F, Method 514.5, Category 20, ground vehicle- highway truck
  Storage: MIL-STD-810F, Method 514.5, Category 24, integrity test
- Shock:
  Operating: MIL-STD-810F, Method 516.5, Procedure I, trucks and semi-trailers=20g
  Crash hazard: MIL-STD-810F, Method 516.5, Procedure V, ground equipment=75g

**Standards/ Certifications**
- CE approval
- FCC Class A

## Ordering Information

- **VTC 7110-BK (P/N: 10V00711006X0)**
  Intel® Core™ i7 1.5Ghz, 2GB DDR3 SODIMM, LVDS/ VGA Output, 1 RS-232, 1 RS-485/422
- **VTC 7110-B1K (P/N: 10V00711009X0)**
  Intel® Core™ i7 1.5Ghz, 2GB DDR3 SODIMM, LVDS/ VGA Output, 1 RS-232, 1 RS-485/422, 1 DB9 for SAE J1939
- **VTC 7110-B2K (P/N: 10V00711010X0)**
  Intel® Core™ i7 1.5Ghz, 2GB DDR3 SODIMM, DVI-D/ VGA Output, 1 RS-232, 1 RS-485/422, 1 DB9 for SAE J1939
- **VTC 7110-B3 (P/N: 10V00711005X0)**
  Intel® Core™ i7 1.5Ghz, 1GB DDR3 SODIMM, LVDS/ VGA Output, 1 RS-232, 1 RS-485/422 and GPS with dead reckoning
- **Optional Accessories**

| Part No. | Description |
|---|---|
| 10VD0100000X0 | VMD 1000-B 7" monitor w/ touch screen |
| 10VD0100101X0 | VMD 1001-B 7" Monitor w/ touch screen, VGA interface |
| 10VD0200000X0 | VMD 2000-B 8" Monitor w/ touch screen |
| 10VD0200200X0 | VMD 2002-B 8" Monitor w/ touch screen, cable integration |
| 10VK0071F00X0 | VTK 71F, anti-vibration / fan Kit |
| 10VK0006013X0 | Wireless mini card kit, Ralink 802.11b/g/n 2T2R, QCOM: Q802XKN5F, w/ antenna & cable (without assembly in NEXCOM) |
| 10VK0WWAN01X0 | Cinterion PHS8-P kit, Five bands, UMTS/HSPA (850/800, 900, 1900 and 2100 MHz), Quad-Band GSM w/ internal cable, antenna & packing (without assembly in NEXCOM) |
| 10VK00GPS00X0 | SKYTRAQ GPS + GLONASS, w/ antenna & cable |
| 10VK0006007X0 | Bluetooth kit, QCOM: QBTM400-01(V7), w/ antenna & cable (without assembly in NEXCOM) |
| 7400120002X00 | Power adapter FSP: 120-AAB (N09001), 120W 19V/ 6.3A |
| 60233SAM03X00 | Internal cable for GSM/ WLAN/ GPS antenna connection MOQ: 20 pcs |
| 60233SAM05X00 | GPS antenna/ 5m/ SMA180P |
| 60233SAM07X00 | GSM/ GPRS antenna, SMA, support 850, 900, 1800, 1900 |
| 60233SMA30X00 | GPS+GSM combo antenna 5M/ SMA180P |
| 60233SAM17X00 | GPRS/ UMTS/ HSDPA antenna, SMA, support 850, 900, 1800, 1900 and 2100 MHz |
| 60233SAM07X00 | GSM/ GPRS antenna, SMA, support 850, 900, 1800, 1900 |
| 60233SMA30X00 | GPS+GSM combo antenna 5M/ SMA180P |
| 60233SAM17X00 | GPRS/ UMTS/ HSDPA antenna, SMA, support 850, 900, 1800, 1900 and 2100 MHz |

# VTC 7110-D1

**Intel® Core™ i7 Fanless In-Vehicle Computer with Isolation GPIO, COM and Dual CAN Bus**

## Main Features

- Build-in Intel® Core™ i7 2610UE 1.5G Hz processor
- Support two Ethernet LAN ports
- Removable 2.5" SSD tray and CFast slot
- CAN bus in support of SAE J1939 or J1708 up to dual
- Support two SIM card slots
- 9~36V wide range DC power input
- Smarter power management and low voltage protection
- Support isolation digital input and output
- Rugged fanless design to meet MIL standard
- Support Isolation RS-232 and RS-422/485

## Product Overview

VTC 7110-D1, adopting the high performance processor, Intel® Core™ i7, is a new generation of VTC series. In additional to keep the advantage of existing VTC series, it offers dual LAN ports for redundancy, two high speed interface for storage, 2.5" SATA and CFast. The storage is easily accessible from the front side for maintenance concern. Furthermore, it offers the CAN bus for heavy duty truck such as SAE J1939/ J1708 and isolation digital input, output, RS-232 and RS-422/485. With the rich features, VTC7110 can satisfy your demand in vehicle applications.

## Specifications

### CPU
- Intel® Core™ i7 2610UE 1.5GHz

### Main Chipset
- QM67

### Memory
- One 204-pin DDR3 1333MHz SO-DIMM slot (up to 8GB)

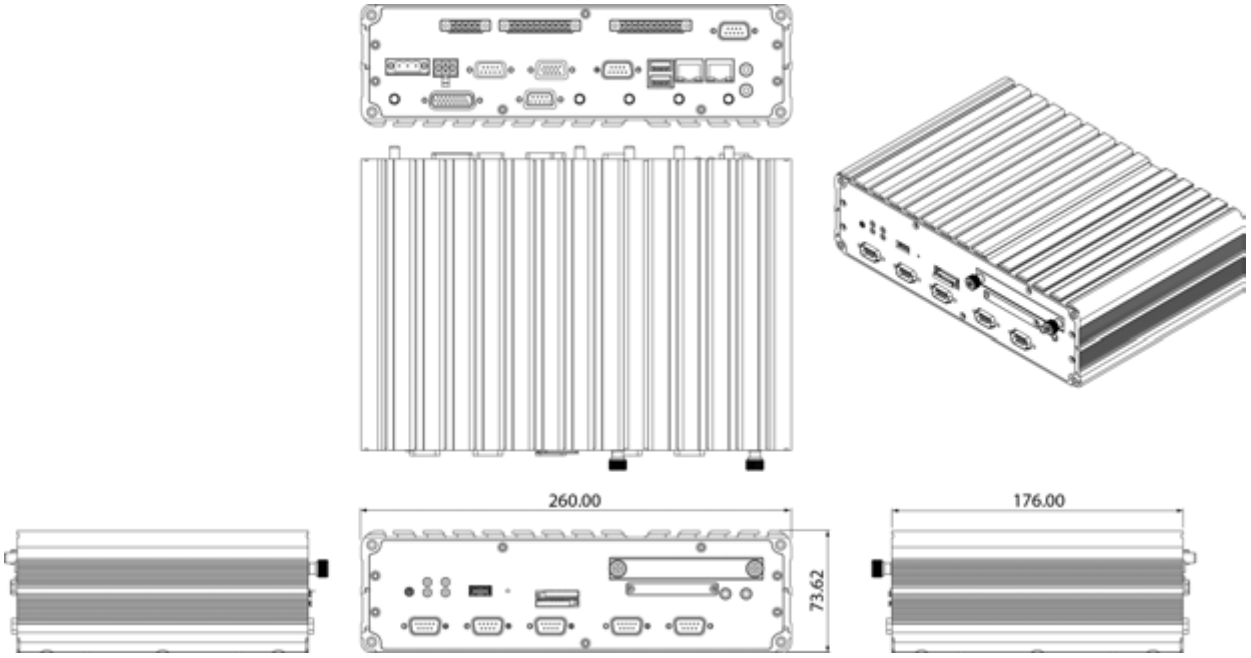
### Expansion
- 1 x Mini-PCIe socket (PCIe + USB) for WLAN option
- 1 x Mini-PCIe socket (USB) x 1 for WWAN option
- 1 x Bluetooth module for option
- 1 x Built-in on board GPS module or optional GPS with dead reckoning

### I/O Interface-Front
- 1 x Line-out, 1 x Mic-in
- 2 x SIM card socket
- 1 x System reset button
- 1 x USB 2.0 host type A connector
- 1 x Power button
- 1 x CFast with protection cover
- 1 x Accessible 2.5" SATA II SSD tray
- 2 x DB9 isolation RS-422/ 485
- 3 x DB9 isolation RS-232
- 4 x LED's for power, storage, WLAN/ WWAN and GPIO

### I/O Interface-Rear
- 1 x 9~36VDC input with Ignition and 36W typical power consumption
- 1 x 12V/4A DC output, SMBus
- 1 x DB26 LVDS interface with 12V and USB2.0 or optional with DVI-D
- 1 x DB15 VGA
- 1 x DB9 RS-232 (COM1) or optional with CAN bus
- 1 x DB9 RS-422/ 485 (COM2)
- 1 x DB9 female connector for 4GPI and 4GPO
  Digital Input (source type; 0~30V)
  Digital Output (sink type; 20mA max)
- 2 x USB 2.0 host type A connector
- 2 x RJ45 with LEDs for 10/ 100/ 1000Mbps Ethernet
- 1 x Line-out, 1 x Mic-in
- 8 x Isolation digital inputs
- 8 x Isolation digital outputs
- 4 x Isolation differential analog inputs
- 1 x DB9 male connector for 2 CAN bus modules
- 1 x SMA-type GPS antenna connector
- 4 x Antenna hole reserved for SMA-type antenna connector (WWAN/ WLAN/ BT)

### Power Management
- Selectable boot-up & shut-down voltage for low power protection by software
- Setting 8-level on/off delay time by software
- Status of ignition and low voltage status can be detected by software
- Support S3/ S4 suspend mode

# Dimension Drawing




**Operating System**
- Windows XP/ WES2009
- WES 7E
- Win7 Pro for Embedded

**Dimensions**
- 260mm (W) x 176mm (D) x 73.6mm (H) (10.24"x 6.93"x 2.9")
- 4.5 Kg (9.92 Lb)

**Construction**
- Aluminum enclosure with fanless design

**Environment**
- Operating temperatures:
  Ambient with air: -30°C to 50°C
- Storage temperatures: -35°C to 85°C
- Relative humidity: 10% to 90% (non-condensing)
- Vibration (random): 1g@5~500 Hz (in operation)
- Vibration:
  Operating: MIL-STD-810F, Method 514.5, Category 20, ground vehicle- highway truck
  Storage: MIL-STD-810F, Method 514.5, Category 24, integrity test
- Shock:
  Operating: MIL-STD-810F, Method 516.5, Procedure I, trucks and semi-trailers=20g
  Crash hazard: MIL-STD-810F, Method 516.5, Procedure V, ground equipment=75g

**Standards/ Certifications**
- CE approval
- FCC Class A

# Ordering Information

- **VTC 7110-D1 (P/N: 10V00711007X0)**
  Intel® Core™ i7 1.5Ghz, 1GB DDR3 SODIMM, LVDS/ VGA Output, 1 RS-232, 1 RS-485/422 with isolation DI/DO, COM and dual CAN bus

- **Optional Accessories**

| Part No. | Description |
|---|---|
| 10VD0100000X0 | VMD 1000-B 7" monitor w/ touch screen |
| 10VD0100101X0 | VMD 1001-B 7" Monitor w/ touch screen, VGA interface |
| 10VD0200000X0 | VMD 2000-B 8" Monitor w/ touch screen |
| 10VD0200200X0 | VMD 2002-B 8" Monitor w/ touch screen, cable integration |
| 10VK0071F00X0 | VTK 71F, anti-vibration / fan Kit |
| 10VK0006013X0 | Wireless mini card kit, Ralink 802.11b/g/n 2T2R, QCOM: Q802XKN5F, w/ antenna & cable (without assembly in NEXCOM) |
| 10VK0WWAN01X0 | Cinterion PHS8-P kit, Five bands, UMTS/HSPA (850/800, 900, 1900 and 2100 MHz), Quad-Band GSM w/ internal cable, antenna & packing (without assembly in NEXCOM) |
| 10VK00GPS00X0 | SKYTRAQ GPS + GLONASS, w/ antenna & cable |
| 10VK0006007X0 | Bluetooth kit, QCOM: QBTM400-01(V7), w/ antenna & cable (without assembly in NEXCOM) |
| 7400120002X00 | Power adapter FSP: 120-AAB (N09001), 120W 19V/ 6.3A |
| 60233SAM03X00 | Internal cable for GSM/ WLAN/ GPS antenna connection MOQ: 20 pcs |
| 60233SAM05X00 | GPS antenna/ 5m/ SMA180P |
| 60233SAM07X00 | GSM/ GPRS antenna, SMA, support 850, 900, 1800, 1900 |
| 60233SMA30X00 | GPS+GSM combo antenna 5M/ SMA180P |
| 60233SAM17X00 | GPRS/ UMTS/ HSDPA antenna, SMA, support 850, 900, 1800, 1900 and 2100 MHz |
| 60233SAM07X00 | GSM/ GPRS antenna, SMA, support 850, 900, 1800, 1900 |
| 60233SMA30X00 | GPS+GSM combo antenna 5M/ SMA180P |
| 60233SAM17X00 | GPRS/ UMTS/ HSDPA antenna, SMA, support 850, 900, 1800, 1900 and 2100 MHz |

# VTC 7110-C4

**Intel® Core™ i7 Fanless In-Vehicle Computer with 4-channel PoE**

## Main Features

- Build-in Intel® Core™ i7 2610UE 1.5G Hz processor
- Support two Ethernet LAN ports
- Dual removable 2.5" SSD tray and CFast slot
- Optional CAN bus in support of SAE J1939 or J1708
- Support two SIM card slots
- 9~36V wide range DC power input
- Smarter power management and low voltage protection
- Support 4 digital input and 4 digital oupout
- Rugged fanless design to meet MIL standard
- Support 4 channels POE with IEEE802.3af

## Product Overview

VTC 7110-C4, adopting the high performance processor, Intel® Core™ i7, is a new generation of VTC series. In additional to keep the advantage of existing VTC series, it offers dual LAN ports for redundancy, Three high speed interface for storage, 2.5" SATA and CFast. The storage is easily accessible from the front side for maintenance concern. Furthermore, it offers the CAN bus for heavy duty truck such as SAE J1939/ J1708, support 4 digital input and 4 digital output and 4-channel PoE. . With the rich features, VTC7110 can satisfy your demand in vehicle applications.

## Specifications

### CPU
- Intel® Core™ i7 2610UE 1.5GHz

### Main Chipset
- QM67

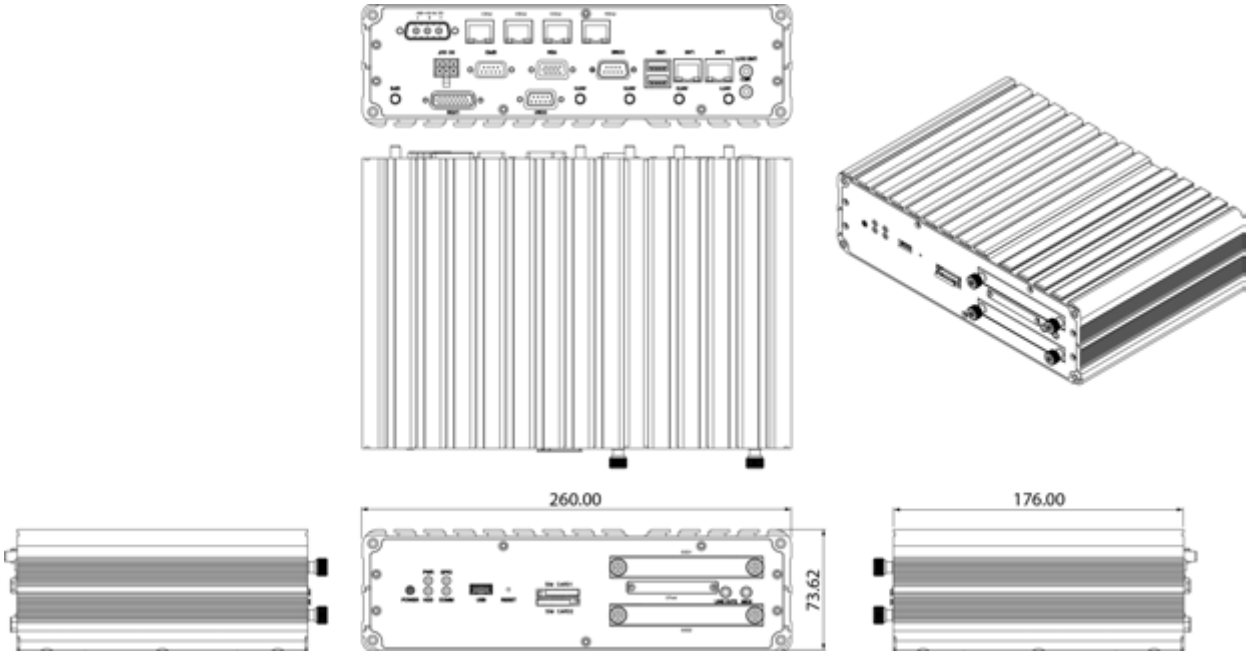
### Memory
- One 204-pin DDR3 1333MHz SO-DIMM slot (up to 8GB)

### Expansion
- 1 x Mini-PCIe socket (PCIe + USB) for WLAN option
- 1 x Mini-PCIe socket (USB) x 1 for WWAN option
- 1 x Bluetooth module for option
- 1 x Built-in on board GPS module or optional GPS with dead reckoning

### I/O Interface-Front
- 1 x Line-out, 1 x Mic-in
- 2 x SIM card socket
- 1 x System reset button
- 1 x USB 2.0 host type A connector
- 1 x Power button
- 1 x CFast with protection cover
- 2 x Accessible 2.5" SATA II SSD tray
- 4 x LED's for power, storage, WLAN/ WWAN and GPIO

### I/O Interface-Rear
- 1 x 9~36VDC input with Ignition and 41W typical power consumption
- 1 x 12V/4A DC output, SMBus
- 1 x DB26 LVDS interface with 12V and USB2.0 or optional with DVI-D
- 1 x DB15 VGA
- 1 x DB9 RS-232 (COM1) or optional with CAN bus
- 1 x DB9 RS-422/ 485 (COM2)
- 1 x DB9 female connector for 4GPI and 4GPO
  Digital Input (source type; 0~30V)
  Digital Output (sink type; 20mA max)
- 2 x USB 2.0 host type A connector
- 2 x RJ45 with LEDs for 10/ 100/ 1000Mbps Ethernet
- 4 x RJ45 with LEDs for 10/100/1000Mbps Ethernet and support IEEE802.3af PoE
- 1 x Line-out, 1 x Mic-in
- 1 x SMA-type GPS antenna connector
- 4 x Antenna hole reserved for SMA-type antenna connector (WWAN/ WLAN/ BT)

## Dimension Drawing




### Power Management
- Selectable boot-up & shut-down voltage for low power protection by software
- Setting 8-level on/off delay time by software
- Status of ignition and low voltage status can be detected by software
- Support S3/ S4 suspend mode

### Operating System
- Windows XP/ WES2009
- WES 7E
- Win7 Pro for Embedded

### Dimensions
- 260mm (W) x 176mm (D) x 73.6mm (H) (10.24"x 6.93"x 2.9")
- 4.5 Kg (9.92 Lb)

### Construction
- Aluminum enclosure with fanless design

### Environment
- Operating temperatures:
  Ambient with air: -30°C to 50°C
- Storage temperatures: -35°C to 85°C
- Relative humidity: 10% to 90% (non-condensing)
- Vibration (random): 2g@5~500 Hz (in operation)
- Vibration:
  Operating: MIL-STD-810F, Method 514.5, Category 20, ground vehicle- highway truck
  Storage: MIL-STD-810F, Method 514.5, Category 24, integrity test
- Shock:
  Operating: MIL-STD-810F, Method 516.5, Procedure I, trucks and semi-trailers=20g
  Crash hazard: MIL-STD-810F, Method 516.5, Procedure V, ground equipment=75g

### Standards/ Certifications
- CE approval
- FCC Class A

## Ordering Information

- **VTC 7110-C4K (P/N: 10V00711008X0)**
  Intel® Atom™ D2550 1.86Ghz, 2GB DDR3 SODIMM, LVDS/ VGA Output, 1 RS-232, 1 RS-485/422 with 8-channel POE

- **Optional Accessories**

| Part No. | Description |
|---|---|
| 10VD0100000X0 | VMD 1000-B 7" monitor w/ touch screen |
| 10VD0100101X0 | VMD 1001-B 7" Monitor w/ touch screen, VGA interface |
| 10VD0200000X0 | VMD 2000-B 8" Monitor w/ touch screen |
| 10VD0200200X0 | VMD 2002-B 8" Monitor w/ touch screen, cable integration |
| 10VK0071F00X0 | VTK 71F, anti-vibration / fan Kit |
| 10VK0006013X0 | Wireless mini card kit, Ralink 802.11b/g/n 2T2R, QCOM: Q802XKN5F, w/ antenna & cable (without assembly in NEXCOM) |
| 10VK0WWAN01X0 | Cinterion PHS8-P kit, Five bands, UMTS/HSPA (850/800, 900, 1900 and 2100 MHz), Quad-Band GSM w/ internal cable, antenna & packing (without assembly in NEXCOM) |
| 10VK00GPS00X0 | SKYTRAQ GPS + GLONASS, w/ antenna & cable |
| 10VK0006007X0 | Bluetooth kit, QCOM: QBTM400-01(V7), w/ antenna & cable (without assembly in NEXCOM) |
| 7400120002X00 | Power adapter FSP: 120-AAB (N09001), 120W 19V/ 6.3A |
| 60233SAM03X00 | Internal cable for GSM/ WLAN/ GPS antenna connection MOQ: 20 pcs |
| 60233SAM05X00 | GPS antenna/ 5m/ SMA180P |
| 60233SAM07X00 | GSM/ GPRS antenna, SMA, support 850, 900, 1800, 1900 |
| 60233SMA30X00 | GPS+GSM combo antenna 5M/ SMA180P |
| 60233SAM17X00 | GPRS/ UMTS/ HSDPA antenna, SMA, support 850, 900, 1800, 1900 and 2100 MHz |
| 60233SAM07X00 | GSM/ GPRS antenna, SMA, support 850, 900, 1800, 1900 |
| 60233SMA30X00 | GPS+GSM combo antenna 5M/ SMA180P |
| 60233SAM17X00 | GPRS/ UMTS/ HSDPA antenna, SMA, support 850, 900, 1800, 1900 and 2100 MHz |

# VTC Series Accessories

## VTK 61B

### Main Features

- Back up smart battery + charger
- Thermal control
- SMBus interface
- For VTC 6xxxx series

### Specifications

**Back up smart battery + Charger**

- Battery back-up for 4 hours in system full loading (1.4A/ 12V)
- Battery status is detectable by S/ W
- 2 x LED indicators for the battery status
- Input voltage: 6-36V with ignition control
- Output voltage: 12V with ignition for VTC Series System

**Operation Temperature**

- 0°C to +55°C

**Certification**

- CE approval
- FCC

**Dimensions**

- 238mm (W) x 150mm (L) x 25mm (H)
- 1.75 Kg (3.86 Lb)

### Ordering Information

- **VTK 61B (P/N: 10VK0061B00X0)**
- **VTK 61B1 (P/N: 10VK0061B02X0, for VTC1000 only)**

## VTK 61P

### Main Features

- IP65 compliant, anti-dust & anti-water protection kit
- Cables and antennas can be connected on VTC 6000 with external peripheral devices
- LED status is readable through window
- VTK 61P designed for VTC 6100/ VTC 6110/ VTC 6120/ VTC 6200-NI
- Available on customization for VTC71xx-Bx series

### Specifications

**Dimensions**

- 260mm (L) x 306mm (W) x 50mm (H)
- 2.8 Kg (6.18 Lb)

### Ordering Information

- **VTK 61P (P/N: 10VK0061P00X0)**

# VTK 33V

## Main Features

- Unique 3D X-Y-Z axis anti-vibration design
- Integrated 3600RPM fan x 2
- VTK 33V for VTC 3300E, VTC 6000, VTC 6100, VTC 6110

## Specifications

**Vibration**

- VTC 3300E, VTC 6000, VTC 6100, VTC 6110 (operating)
  2G@10~500 Hz with automotive HDD
  3G@5~500 Hz random with CF

**Thermal**

- 2 x fan (60 x 60mm, 12V) for lowing surface temperature of VTC series

**Dimensions**

- 320mm (W) x 180mm (L) x 86.5mm (H)
- 1.48 Kg (3.3 Lb)

## Ordering Information

- **VTK 33V (P/N: 10VK0033V00X0)**

# VTK 71F

## Main Features

- Integrated 3600RPM fan x 2

## Specifications

**Thermal**

- 2 x fan (60 x 60mm, 12V) for lowing surface temperature

**Dimensions**

- 320mm (W) x 180mm (L) x 86.5mm (H)
- 1.48 Kg (3.3 Lb)

## Ordering Information

- **VTK 71F (P/N: 10VK0071F00X0)**

# VMC 100

**7" Vehicle Computer with ARM Cortex™-A9 and Touch Screen**

Coming Soon

## Main Features

- 7" WVGA TFT LCD with LED backlight
- Compact and fanless design
- ARM Cortex™-A9 Processor with 1GHz frequency
- Variety Wireless communication options
- Built-in CAN Bus V2.0b; Optional support for J1939/J1708
- Wide range DC input from 9~ 36V
- Smart power management via software Control and low voltage protection
- GPS receiver on board
- Operating System Support WEC 7 and Linux 3.1 drive

## Product Overview

VMC 100, a 7-inch all in one vehicle computer, is designed for the transportation application. Same as all VMC series, the fanless and wide temperature support are reserved in VMC 100 design. VMC 100 adopts the Cortex™-A9 Processor with 1GHz frequency., it integrates the high resolution LCD with the brightness of 400 nits and 4-wire resistive touch sensor. VMC 100 does not compromise with its space to scarify its functional features. It provides RS-232/422/485, USB 2.0, GPIO and LAN signal. Its mounting hole is compatible with VESA75 and can be installed in the vehicle with limited space via RAM mount kits.

## Specifications

### General
- Cooling: System Fanless
- Enclosure: Plastic PC + ABS
- Mounting: Support VESA 75, stand mounting
- Power Input: 9~36VDC input with Ignition
- Power Consumption: 8W typical
- Ingress Protection: Front panel IP65
- Dimension: 185.4mm (W) x 141.4mm (H) x 50.42mm (D) (7.3" x 5.57" x 1.99")
- Weight: 1Kg, 2.20Lb

### LCD Panel
- 7-inch TFT LCD Panel with LED Backlight
- 800 x 480 pixels (WVGA)
- Brightness: 500 cd/m² (typical)
- Contrast ratio: 600:1 (typical)

### Touch Screen Sensor
- 4-wire resistant touch
- Anti-glare coating surface
- Transmission rate: 82 ± 3%

### MPU
- ARM Cortex™-A9 Processor with 1GHz frequency

### Memory
- On-board DDR2 256MB

### Expandable Storage
- Micro SDHC Slot (Bundle with 4GB)

### Expansion
- 1 x CAN Bus module with J1939/J1708 for option
- 1 x Mini-PCIe socket (USB) for WWAN option
- 1 x GPS module for option

### I/O Interface-Front
- 5 x Control buttons
  Power on/off
  Brightness control (+/-)
  Volume control (+/-)
- 1 x Light Sensor
- 2 x LED indicators (Power on/off, Storage)
- 2 x Built-in 1W speakers

### I/O Interface-Lateral
- 1 x Line-out, 1 x Mic-in
- 1 x USB 2.0 host type A connector
- 1 x System reset button

### I/O Interface-Bottom
- 2 x DB9 RS-232
- 1 x DB9 RS-485
- 1 x Power connector

## Dimension Drawing

Coming Soon

**Expandable Storage**
- 4GB Micro SD

**Power Management**
- Selectable boot-up & shut-down voltage for low power protection
- HW design ready for 8-level delay time on/off at user's self configuration
- Power on/off ignition, software detectable
- Support S4 suspend mode; wake on RTC/ SMS

**Operation System**
- Windows Embedded Compact 7
- Linux 3.1

**Environment**
- Operating temperatures
- Ambient with air: -20°C to 70°C
- Storage temperatures: -40°C to 80°C
- Relative humidity: 10% to 90% (non-condensing)
- Vibration (random): 2g @5~500 Hz
- Vibration:
  Operating: MIL-STD-810F, Method 514.5, Category 20, Ground Vehicle – Highway Truck
  Storage: MIL-STD-810F, Method 514.5, Category 24, Integrity Test Shock
- Operating: MIL-STD-810F, Method 516.5, Procedure I, Trucks and semi-trailers= 20g
- Crash hazard: MIL-STD-810F, Method 516.5, Procedure V, Ground equipment= 75g

**Standards/ Certifications**
- CE approval
- FCC Class B
- e13 Mark

## Ordering Information

- **VMC 100-E (P/N: TBD)**
  7" Vehicle Computer with ARM Cortex™-A8, Touch Screen and WEC 7 system
- **VMC 100-L (P/N: TBD)**
  7" Vehicle Computer with ARM Cortex™-A8, Touch Screen and Linux system

# VMC 1000

**7" All-In-One Vehicle Computer with Touch Screen and Smart Brightness Control**

## Main Features

- 7" WVGA TFT LCD with LED backlight
- Compact and fanless design
- Built-in Intel® Atom™ E640 1.0GHz processor
- Wake on RTC/ SMS
- GPS receiver on board
- Variety wireless communication options
- Wide Range DC input from 9~36V
- Compliant with IP54
- Certified by CE/ FCC/ e13 Mark

## Product Overview

VMC 1000, a 7-inch all in one vehicle computer, is designed for the transportation application. Adopting the latest low power consumption processor, Intel® Atom™ E640, it integrates the high resolution LCD with the brightness of 400 nits and 4-wire resistive touch sensor. VMC 1000 does not compromise with its space to scarify its functional features. It provides RS-232/422/485, USB 2.0, GPIO and LAN signal via DB37 connector to secure the cable simultaneously in the vehicle vibration. Its mounting hole is compatible with VESA75 and can be installed in the vehicle with limited space via RAM mount kits.

## Specifications

### General
- Cooling: System Fanless
- Enclosure: Plastic PC + ABS with aluminum die casting heatsink
- Mounting: Support VESA 75, stand mounting
- Dual SMA Type antenna connectors of BT/ Wi-Fi / WWAN
- Power Input: 9~36VDC input with Ignition
- Power Consumption: 16W
- Ingress Protection: IP54
- Dimension: 185.4mm (W) x 141.4mm (H) x 50.42mm (D) (7.3" x 5.57" x 1.99")
- Weight: 1Kg, 2.20Lb

### LCD Panel
- 7-inch TFT LCD Panel with LED Backlight
- 800 x 480 pixels (WVGA)
- Brightness: 500 cd/m² (typical)
- Contrast ratio: 600:1 (typical)

### Touch Screen Sensor
- 4-wire resistant touch
- Anti-glare coating surface
- Transmission rate: 82 ± 3%

### CPU & Chipset
- Intel® Atom™ E640 1.0GHz
- EG20T

### Memory
- On-board DDR2 1GB

### Expandable Storage
- 1 x mSATA

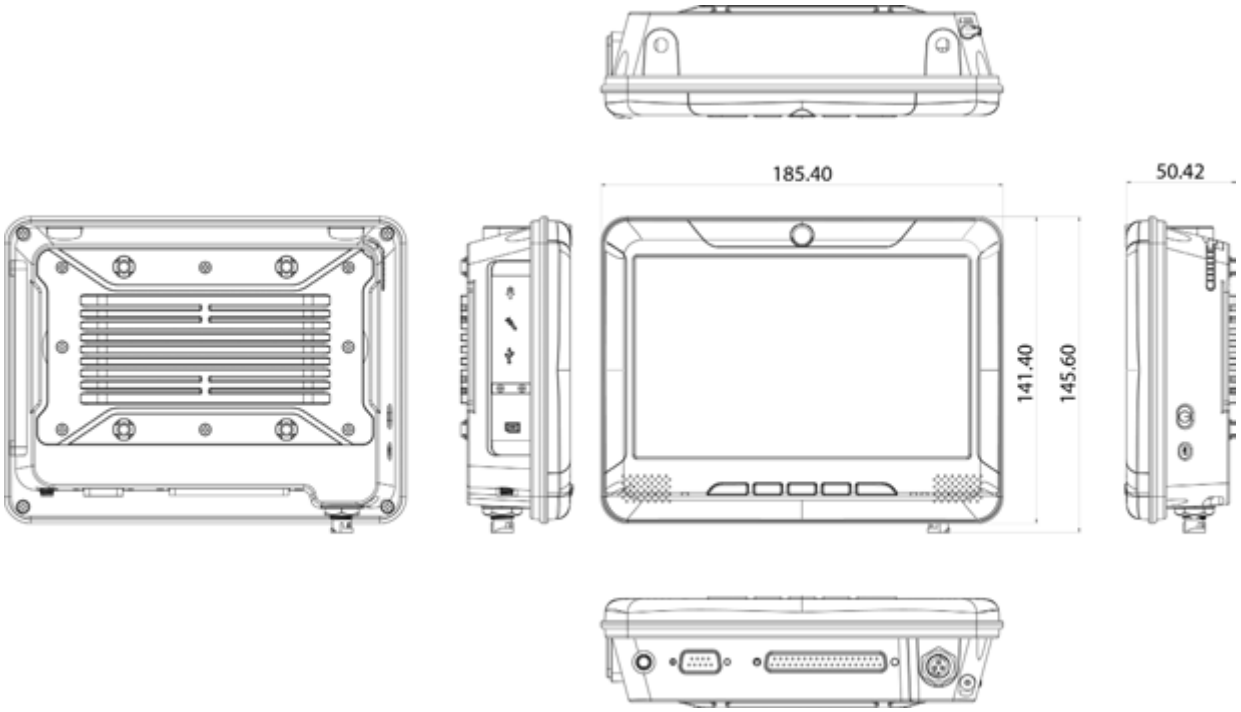
### Expansion
- 1 x Mini-PCIe socket (PCIe + USB + SATA) for WLAN option
- 1 x Mini-PCIe socket (USB) x 1 for WWAN option)

### I/O Interface-Front
- 5 x Control buttons
  Display on/off
  Brightness control (+/-)
  Volume control (+/-)
- Light Sensor
- 2 x LED indicators (Power on/off, Auto brightness control)
- 2 x Built-in 1W speakers

### I/O Interface-Lateral
- 1 x Line-in
- 1 x Line-out
- 1 x USB 2.0 host type A connector
- 1 x SIM card socket
- 1 x Power button
- 1 x System reset button

### I/O Interface-Bottom
- 1 x DB9 RS-232
- 1 x DB37 female connector
  (1 x LAN; 2 x USB; 1x RS-232; 1 x RS422/ 485; 6 x GPIO)
- M12 connector 3-pin (power, ignition, ground)
- 1 x SMA-type GPS antenna connector

## Dimension Drawing




### Communication Module
- 1 x GPS module
- 1 x WLAN and Bluetooth combo module for optional
- 1 x WWAN module for optional

### Power Management
- Selectable boot-up & shut-down voltage for low power protection
- HW design ready for 8-level delay time on/off at user's self configuration
- Power on/off ignition, software detectable
- Support S4 suspend mode; wake on RTC/ SMS

### Operating System
- WES2009
- WES 7E
- XP Pro Embedded
- Win7 Pro Embedded

### Environment
- Operating temperatures ambient with air: -20°C to 50°C
- Storage temperatures: -30°C to 80°C
- Relative humidity: 10% to 90% (non-condensing)
- Vibration (random): 2g @5~500Hz
- Vibration
  Operating: MIL-STD-810F, Method 514.5, Category 20, Ground Vehicle – Highway Truck
  Storage: MIL-STD-810F, Method 514.5, Category 24, Integrity Test

### Shock
- Operating: MIL-STD-810F, Method 516.5, Procedure I, Trucks and semi-trailers= 20g
- Crash hazard: MIL-STD-810F, Method 516.5, Procedure V, Ground equipment= 75g

### Standards/ Certifications
- CE approval
- FCC Class B
- e13 Mark

## Ordering Information

- **VMC 1000 (P/N: 10VC0100000X0)**
  7-inch all-in-one vehicle mount computer with touch screen and smart brightness control and Intel® Atom™ E640 1.0GHz processor with 1GB DDR2, GPS module and GPS antenna

- **Bundle Accessories**
  Power cable (13cm)
  DB37 cable (30cm)
  GPS antenna (5M)
  External heatsink
  Driver CD

- **Optional Accessories**

| Part No. | Description |
|---|---|
| 10VK0006013X0 | Wireless mini card kit, Ralink 802.11b/g/n 2T2R, QCOM: Q802XKN5F, w/ antenna & cable (without assembly in NEXCOM) |
| 10VK0WWAN01X0 | VTK-WWAN: Cinterion PHS8-P kit, Five bands, UMTS/ HSPA (850/800, 900, 1900 and 2100 MHz), Quad-Band GSM w/ internal cable, antenna & packing (without assembly in NEXCOM) |
| 60233SAM05X00 | GPS antenna/ 5m/ SMA180P |
| 60233SAM07X00 | GSM/ GPRS antenna, SMA, support 850/ 900/ 1800/ 1900 |
| 60233SAM30X00 | GPS+GSM combo antenna 5M/ SMA180P |
| 60233SAM17X00 | GPRS/ UMTS/ HSDPA antenna, SMA, support 850/ 900/ 1800/ 1900/ 2100 |

# VMC 3000/3001

**10.4" Rugged Vehicle Mount Computer with Intel® Atom™, Touch Screen and IP65**

## Main Features

- 10.4" XGA TFT LCD monitor
- Compact and fanless design
- Built-in Intel® Atom™ D2550 processor
- Automatic/ manual brightness control
- On screen F1~F10 function key
- Wake on RTC/ SMS/ LAN
- Variety wireless communication options
- Robust design with Die-cast aluminum
- All enclosure compliant with IP65
- Wide range DC input from 9~36V
- Optional sunlight readable solution with 1200nits

## Product Overview

VMC 3000/3001, 10.4-inch all in one robust vehicle mount computer, is designed for the transportation, warehouses and material handling application. Adopting the latest high performance processor Intel® Atom™, it integrates the high resolution LCD with the brightness of 400 nits and 5-wire resistive touch sensor.

VMC 3000/3001 is extreme ruggedness, the aluminum enclosure compliant with NEMA4/ IP65 is designed against vibration, dust, moisture and chemical impacts. It does not compromise with its space to scarify its functional features. It provides RS-232, USB 2.0, CFast, LAN and two Mini-PCIe extensions for variety communication options.

The latitude of mounting methods offers easy installation in the vehicles. Thus, the VMC 3000/3001 is an ideal solution for vehicle terminal on forklifts, straddle carriers, truck, mining vehicles, construction machines and marine.

## Specifications

### General
- Cooling System: Fanless
- Enclosure: Die-cast aluminum
- Mounting: Support VESA 75/100, Panel and stand mounting
- Three SMA Type antenna connectors of BT/ Wi-Fi / WWAN
- Power Input: 9~36VDC input with Ignition
- Power Consumption: 26W typical
- Ingress Protection: IP65
- Dimension: 290mm (W) x 230mm (H) x 68mm (D) (11.4" x 9" x 2.7")
- Weight: 3Kg, 6.61Lb

### LCD Panel
- 10.4-inch TFT LCD panel with LED backlight
- 1024x 768 pixels (XGA)
- Brightness: 400 cd/m² (typical)
- Optional high brightness for sunlight-readable with 1200cd/m²
  After touch screen is 960cd/m²
- Contrast ratio: 500:1 (typical)

### Touch Screen Sensor
- 5-wire resistant touch
- Anti-glare coating surface
- Transmission rate: 81 ± 3%

### CPU & Chipset
- Intel® Atom™ D2550 1.86GHz
- Intel® ICH10R

### Memory
- One 204-pin DDR3 1333MHz SO-DIMM slot (up to 4GB)

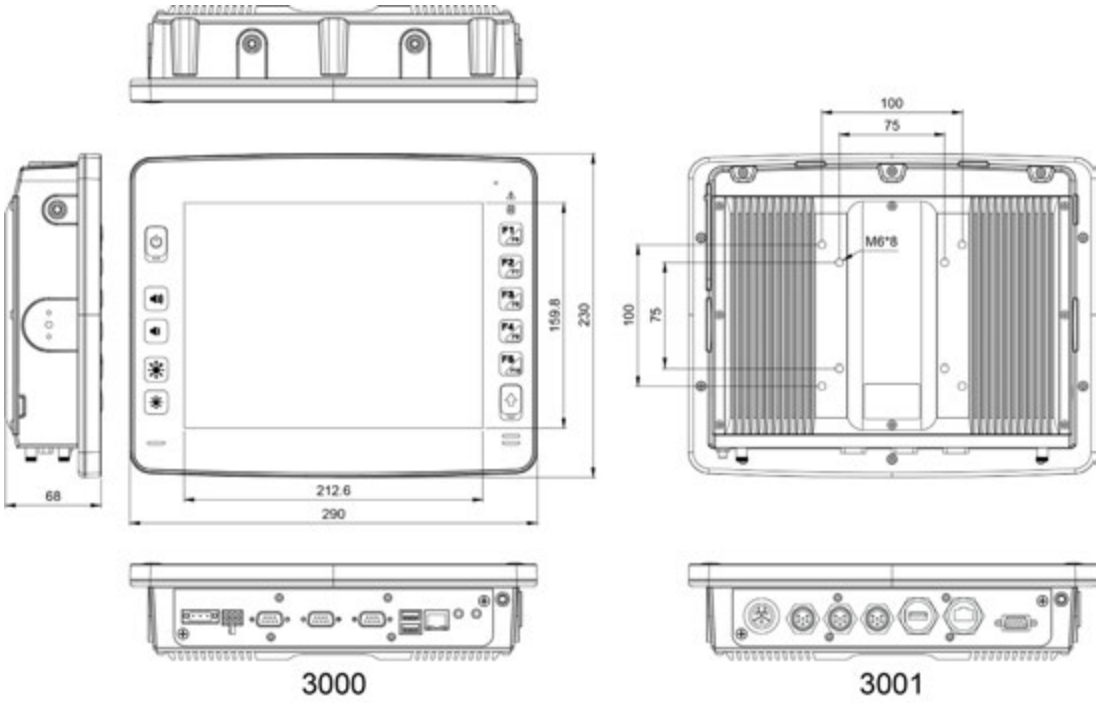
### Expandable Storage
- 1 x CFast
- 1 x 2.5" SATA SSD bay

### Expansion
- 1 x Mini-PCIe socket (PCIe + USB) for WLAN option
- 1 x Mini-PCIe socket (USB) x 1 for WWAN option
- 2 x CAN Bus module with J1939/J1708 for option

### I/O Interface-Front
- On screen display buttons x 5
  Power on/off
  Volume control (+/-)
  Brightness control (+/-)
- Light sensor
- 4 x LED indicators (Power on/off, Storage, Warning, Shift)
- F1~ F10 functions key
- 2 x Built-in 2W speakers

### I/O Interface-Lateral
- 1 x CFast card slot
- System reset button
- USB 2.0 host type A connector

## Dimension Drawing




**I/O Interface-Bottom**

- Power connector (power, ignition, ground)
- 1 x RS-232 (VMC 3000 only)
- 1 x RS-232 with either 0, 5 or 12V on pin 9 for external devices
- 2 x USB 2.0 host (VMC 3501 only one USB)
- 1 x 10/100/1000Base-T
- 1 x Mic-in, 1 x Line-out
- 1 x 3GPI and 3GPO or CAN Bus with J1939/J1708 optional
  Digital Input (source type; 0~30V)
  Digital Output (sink type; 20mA max)
- SMBus to support VTK 61B back up smart battery with charger
- 1 x SMA-type GPS antenna connector

**Communication Module**

- 1 x GPS module
- 1 x WLAN and Bluetooth combo module for optional
- 1 x WWAN module for optional

**Power Management**

- Selectable boot-up & shut-down voltage for low power protection
- HW design ready for 8-level delay time on/off at user's self configuration
- Power on/off ignition, software detectable
- Support S3/S4 suspend mode; wake on RTC/ SMS/ LAN

**Operating System**

- WES2009
- WES 7E
- XP Pro Embedded
- Win7 Pro Embedded

**Environment**

- Operating temperatures ambient with air: -30°C to 60°C
- Storage temperatures: -30°C to 70°C
- Relative humidity: 10% to 90% (non-condensing)
- Vibration (random): 2g @5~500Hz
- Vibration
  Operating: MIL-STD-810G, 514.6 Procedure 1, Category 4
  Storage: MIL-STD-810G, 514.6 Procedure 1, Category 24

**Shock**

- Operating: MIL-STD-810G, Method 516.6, Procedure I, trucks and semi-trailers= 20g
- Crash hazard: MIL-STD-810G, Method 516.6, Procedure V, ground equipment= 75g

**Standards/ Certifications**

- CE approval
- FCC Class B

## Ordering Information

- **VMC 3000 (P/N: 10VC0300003X0)**
  10.4" rugged vehicle mount computer with Intel® Atom™ D2550, 1G DDR3, touch screen, Front Panel IP65
- **VMC 3001 (P/N: 10VC0300100X0)**
  10.4" rugged vehicle mount computer with Intel® Atom™ D2550, 1G DDR3, touch screen, IP65
- **Bundle Accessories**
  SSD bracket and screws
  GPS antenna (5M)
  Power connector
  Driver CD
- **Optional Accessories**

| Part No. | Description |
|---|---|
| 4NCPF00315X00 | Power input connector |
| 4NCPF00613X00 | Power output and SM bus connector |
| 4NBDF00907X00 | DB9 connector |
| 4NBQF01001X00 | GPIO connector |
| 4NBQF00601X00 | Audio connector |
| 5060600230X00 | RJ45 connector |
| 60233US110X00 | USB CABLE 100cm |

# VMC 3500/3501

**10.4" Rugged Vehicle Mount Computer with Intel® Core™ i7, Touch Screen and IP65**

## Main Features

- 10.4" XGA TFT LCD monitor
- Compact and fanless design
- Built-in Intel® Core™ i7-2610UE processor
- Automatic/ manual brightness control
- On screen F1~F10 function key
- Wake on RTC/ SMS/ LAN
- Variety wireless communication options
- Robust design with Die-cast aluminum
- All enclosure compliant with IP65
- Wide range DC input from 9~36V
- Optional sunlight readable solution with 1200nits

## Product Overview

VMC 3500/3501, 10.4-inch all in one robust vehicle mount computer, is designed for the transportation, warehouses and material handling application. Adopting the latest high performance processor Intel® Core™ i7, it integrates the high resolution LCD with the brightness of 400 nits and 5-wire resistive touch sensor.

VMC 3500/3501 is extreme ruggedness, the aluminum enclosure compliant with IP65 is designed against vibration, dust, moisture and chemical impacts. It does not compromise with its space to scarify its functional features. It provides RS-232, USB 2.0, CFast, LAN and two Mini-PCIe extensions for variety communication options.

The latitude of mounting methods offers easy installation in the vehicles. Thus, the VMC 3500/3501 is an ideal solution for vehicle terminal on forklifts, straddle carriers, truck, mining vehicles, construction machines and marine.

## Specifications

### General
- Cooling System: Fanless
- Enclosure: Die-cast aluminum
- Mounting: Support VESA 75/100, Panel and stand mounting
- Three SMA Type antenna connectors of BT/ Wi-Fi / WWAN
- Power Input: 9~36VDC input with Ignition
- Power Consumption: 32W typical
- Ingress Protection: IP65
- Dimension: 290mm (W) x 230mm (H) x 68mm (D) (11.4" x 9" x 2.7")
- Weight: 3Kg, 6.61Lb

### LCD Panel
- 10.4-inch TFT LCD panel with LED backlight
- 1024x 768 pixels (XGA)
- Brightness: 400 cd/m² (typical)
- Optional high brightness for sunlight-readable with 1200cd/m²
  After touch screen is 960cd/m²
- Contrast ratio: 500:1 (typical)

### Touch Screen Sensor
- 5-wire resistant touch
- Anti-glare coating surface
- Transmission rate: 81 ± 3%

### CPU & Chipset
- Intel® Core™ i7 2610UE 1.5GHz
- Intel® QM67

### Memory
- One 204-pin DDR3 1333MHz SO-DIMM slot (up to 8GB)

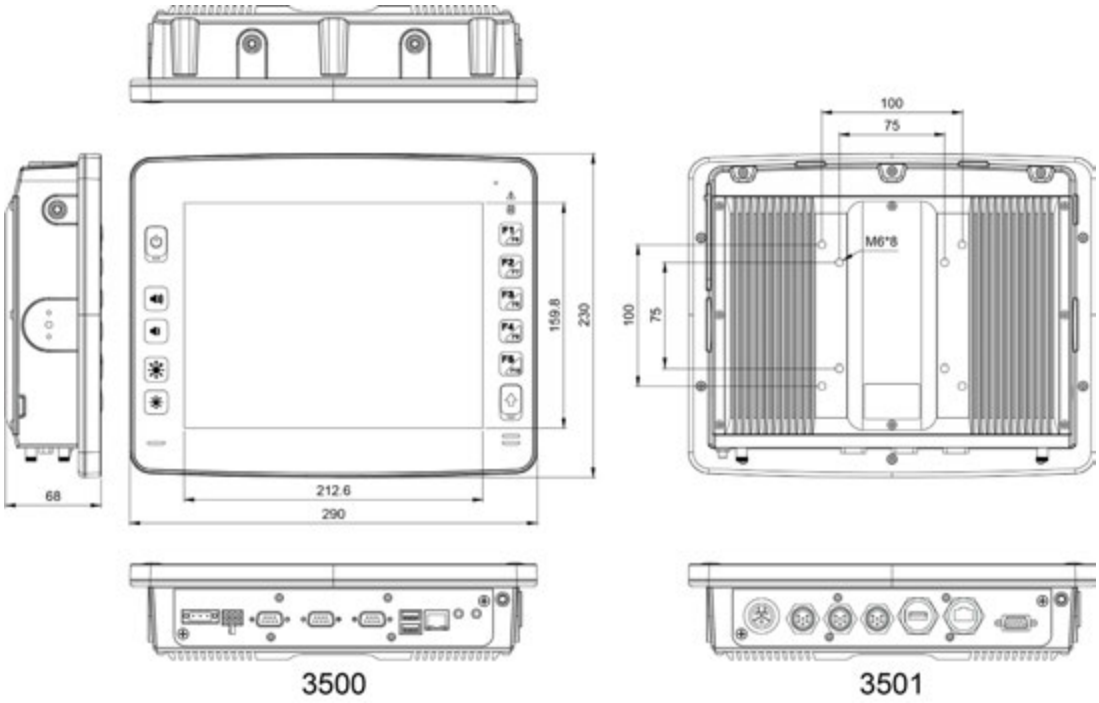
### Expandable Storage
- 1 x CFast
- 1 x 2.5" SATA SSD bay

### Expansion
- 1 x Mini-PCIe socket (PCIe + USB) for WLAN option
- 1 x Mini-PCIe socket (USB) x 1 for WWAN option
- 2 x CAN Bus module with J1939/J1708 for option

### I/O Interface-Front
- On screen display buttons x 5
  Power on/off
  Volume control (+/-)
  Brightness control (+/-)
- Light sensor
- 4 x LED indicators (Power on/off, Storage, Warning, Shift)
- F1~ F10 functions key
- 2 x Built-in 2W speakers

### I/O Interface-Lateral
- 1 x CFast card slot
- System reset button
- USB 2.0 host type A connector

## Dimension Drawing




**I/O Interface-Bottom**

- Power connector (power, ignition, ground)
- 1 x RS-232 (VMC 3500 only)
- 1 x RS-232 with either 0, 5 or 12V on pin 9 for external devices
- USB 2.0 host (VMC 3501 only one USB)
- 1 x 10/100/1000Base-T
- 1 x Mic-in, 1 x Line-out
- 1 x 3GPI and 3GPO or CAN Bus with J1939/J1708 optional
  Digital Input (source type; 0~30V)
  Digital Output (sink type; 20mA max)
- SMBus to support VTK 61B back up smart battery with charger
- 1 x SMA-type GPS antenna connector

**Communication Module**

- 1 x GPS module
- 1 x WLAN and Bluetooth combo module for optional
- 1 x WWAN module for optional

**Power Management**

- Selectable boot-up & shut-down voltage for low power protection
- HW design ready for 8-level delay time on/off at user's self configuration
- Power on/off ignition, software detectable
- Support S3/S4 suspend mode; wake on RTC/ SMS/ LAN

**Operating System**

- Windows XP/ WES2009
- WES 7E
- Linux (Kernel 2.6.X )

**Environment**

- Operating temperatures ambient with air: -30°C to 50°C
- Storage temperatures: -30°C to 70°C
- Relative humidity: 10% to 90% (non-condensing)
- Vibration (random): 2g @5~500Hz
- Vibration
  Operating: MIL-STD-810G, 514.6 Procedure 1, Category 4
  Storage: MIL-STD-810G, 514.6 Procedure 1, Category 24

**Shock**

- Operating: MIL-STD-810G, Method 516.6, Procedure I, trucks and semi-trailers= 20g
- Crash hazard: MIL-STD-810G, Method 516.6, Procedure V, ground equipment= 75g

**Standards/ Certifications**

- CE approval
- FCC Class B

## Ordering Information

- **VMC 3500 (P/N: 10VC0350000X0)**
  10.4" rugged vehicle mount computer with Intel® Core™ i7, 2GB DDR3, touch screen, Front Panel IP65
- **VMC 3501 (P/N: 10VC0350100X0)**
  10.4" rugged vehicle mount computer with Intel® Core™ i7, 2GB DDR3, touch screen, IP65
- **Bundle Accessories**
  SSD bracket and screws
  GPS antenna (5M)
  Power connector
  Driver CD
- **Optional Accessories**

| Part No. | Description |
|---|---|
| 4NCPF00315X00 | Power input connector |
| 4NCPF00613X00 | Power output and SM bus connector |
| 5060600230X00 | RJ45 Waterproof connector |
| 60233US110X00 | USB CABLE 100cm |
| 4NBDF00907X00 | DB9 connector |

# VMC 4000/4001

**12.1" Rugged Vehicle Mount Computer with Intel® Atom™, Touch Screen and IP65**


## Main Features

- 12.1" SVGA TFT LCD monitor
- Compact and fanless design
- Built-in Intel® Atom™ D2550 processor
- Automatic/ manual brightness control
- On screen F1~F10 function key
- Wake on RTC/ SMS/ LAN
- Variety wireless communication options
- Robust design with Die-cast aluminum
- All enclosure compliant with IP65
- Wide range DC input from 9~36V

## Product Overview

VMC 4000/4001, 12.1-inch all in one robust vehicle mount computer, is designed for the transportation, warehouses and material handling application. Adopting the latest high performance processor Intel® Atom™, it integrates the high resolution LCD with the brightness of 400 nits and 5-wire resistive touch sensor.

VMC 4000/4001 is extreme ruggedness, the aluminum enclosure compliant with NEMA4/ IP65 is designed against vibration, dust, moisture and chemical impacts. It does not compromise with its space to scarify its functional features. It provides RS-232, USB 2.0, CFast, LAN and two Mini-PCIe extensions for variety communication options.

The latitude of mounting methods offers easy installation in the vehicles. Thus, the VMC 4000/4001 is an ideal solution for vehicle terminal on forklifts, straddle carriers, truck, mining vehicles, construction machines and marine.

## Specifications

### General
- Cooling System: Fanless
- Enclosure: Die-cast aluminum
- Mounting: Support VESA 75/100, Panel and stand mounting
- Three SMA Type antenna connectors of BT/ Wi-Fi / WWAN
- Power Input: 9~36VDC input with Ignition
- Power Consumption: 26W typical
- Ingress Protection: IP65
- Dimension: 290mm (W) x 230mm (H) x 68mm (D) (11.4" x 9" x 2.7")
- Weight: 3.5Kg, 7.72Lb

### LCD Panel
- 12.1-inch TFT LCD panel with LED backlight
- 800 x 600 pixels (XGA)
- Brightness: 400 cd/m² (typical)
- Contrast ratio: 500:1 (typical)

### Touch Screen Sensor
- 5-wire resistant touch
- Anti-glare coating surface
- Transmission rate: 81 ± 3%

### CPU & Chipset
- Intel® Atom™ D2550 1.86GHz
- Intel® ICH10R

### Memory
- One 204-pin DDR3 1333MHz SO-DIMM slot (up to 4GB)

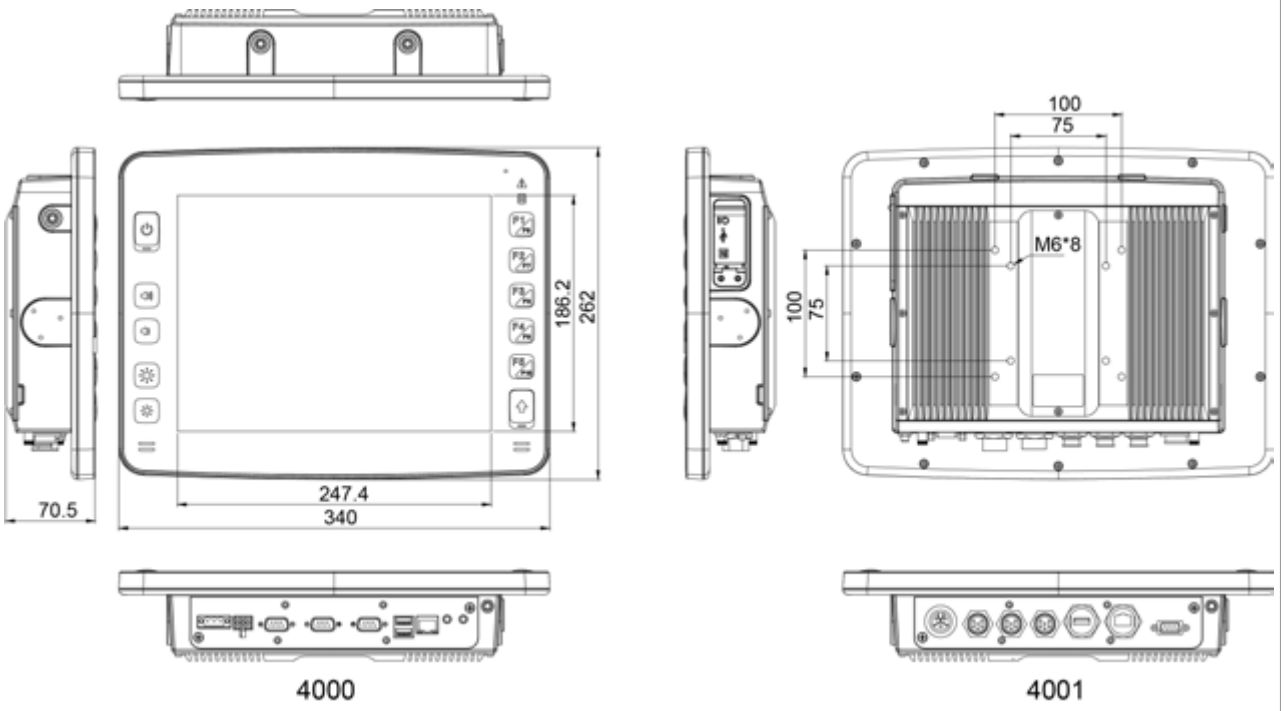
### Expandable Storage
- 1 x CFast
- 1 x 2.5" SATA SSD bay

### Expansion
- 1 x Mini-PCIe socket (PCIe + USB) for WLAN option
- 1 x Mini-PCIe socket (USB) x 1 for WWAN option
- 2 x CAN Bus module with J1939/J1708 for option

### I/O Interface-Front
- On screen display buttons x 5
  Power on/off
  Volume control (+/-)
  Brightness control (+/-)
- Light sensor
- 4 x LED indicators (Power on/off, Storage, Warning, Shift)
- F1~ F10 functions key
- 2 x Built-in 2W speakers

### I/O Interface-Lateral
- 1 x CFast card slot
- System reset button
- USB 2.0 host type A connector

## Dimension Drawing




**I/O Interface-Bottom**

- Power connector (power, ignition, ground)
- 1 x RS-232 (VMC 4000 only)
- 1 x RS-232 with either 0, 5 or 12V on pin 9 for external devices
- 2 x USB 2.0 host (VMC 4001 only one USB)
- 1 x 10/100/1000Base-T
- 1 x Mic-in, 1 x Line-out
- 1 x 4GPI and 4GPO or CAN Bus with J1939/J1708 optional
  Digital Input (source type; 0~30V)
  Digital Output (sink type; 20mA max)
- SMBus to support VTK 61B back up smart battery with charger
- 1 x SMA-type GPS antenna connector

**Communication Module**

- 1 x GPS module
- 1 x WLAN and Bluetooth combo module for optional
- 1 x WWAN module for optional

**Power Management**

- Selectable boot-up & shut-down voltage for low power protection
- HW design ready for 8-level delay time on/off at user's self configuration
- Power on/off ignition, software detectable
- Support S3/S4 suspend mode; wake on RTC/ SMS/ LAN

**Environment**

- Operating temperatures ambient with air: -30°C to 60°C
- Storage temperatures: -30°C to 70°C
- Relative humidity: 10% to 90% (non-condensing)
- Vibration (random): 2g @5~500Hz
- Vibration
  Operating: MIL-STD-810G, 514.6 Procedure 1, Category 4
  Storage: MIL-STD-810G, 514.6 Procedure 1, Category 24

**Shock**

- Operating: MIL-STD-810G, Method 516.6, Procedure I, trucks and semi-trailers= 20g
- Crash hazard: MIL-STD-810G, Method 516.6, Procedure V, ground equipment= 75g

**Operating System**

- WES2009
- WES 7E
- XP Pro Embedded
- Win7 Pro Embedded

**Standards/ Certifications**

- CE approval
- FCC Class B

## Ordering Information

- **VMC 4000 (P/N: TBD)**
  12.1" rugged vehicle mount computer with Intel® Atom™ D2550, 1GB DDR3, touch screen, Front Panel IP65
- **VMC 4001 (P/N: TBD)**
  12.1" rugged vehicle mount computer with Intel® Atom™ D2550, touch screen, IP65
- **Bundle Accessories**
  SSD bracket and screws
  GPS antenna (5M)
  Power connector
  Driver CD
- **Optional Accessories**

| Part No. | Description |
|---|---|
| 4NCPF00315X00 | Power input connector |
| 4NCPF00613X00 | Power output and SM bus connector |
| 5060600230X00 | RJ45 Waterproof connector |
| 60233US110X00 | USB CABLE 100cm |
| 4NBDF00907X00 | DB9 connector |

# VMC 4500/4501

**12.1" Rugged Vehicle Mount Computer with Intel® Core™ i7, Touch Screen and IP65**


## Main Features

- 12.1" XGA TFT LCD monitor
- Compact and fanless design
- Built-in Intel® Core™ i7-2610UE processor
- Automatic/ manual brightness control
- On screen F1~F10 function key
- Wake on RTC/ SMS/ LAN
- Variety wireless communication options
- Robust design with Die-cast aluminum
- All enclosure compliant with IP65
- Wide range DC input from 9~36V

## Product Overview

VMC 4500/4501, 12.1-inch all in one robust vehicle mount computer, is designed for the transportation, warehouses and material handling application. Adopting the latest high performance processor Intel® Core™ i7, it integrates the high resolution LCD with the brightness of 400 nits and 5-wire resistive touch sensor.

VMC 4500/4501 is extreme ruggedness, the aluminum enclosure compliant with IP65 is designed against vibration, dust, moisture and chemical impacts. It does not compromise with its space to scarify its functional features. It provides RS-232, USB 2.0, CFast, LAN and two Mini-PCIe extensions for variety communication options.

The latitude of mounting methods offers easy installation in the vehicles. Thus, the VMC 4500/4501 is an ideal solution for vehicle terminal on forklifts, straddle carriers, truck, mining vehicles, construction machines and marine.

## Specifications

### General
- Cooling System: Fanless
- Enclosure: Die-cast aluminum
- Mounting: Support VESA 75/100, Panel and stand mounting
- Three SMA Type antenna connectors of BT/ Wi-Fi / WWAN
- Power Input: 9~36VDC input with Ignition
- Power Consumption: 26W typical
- Ingress Protection: IP65
- Dimension: 290mm (W) x 230mm (H) x 68mm (D) (11.4" x 9" x 2.7")
- Weight: 3.5Kg, 7.72Lb

### LCD Panel
- 12.1-inch TFT LCD panel with LED backlight
- 1024 x 768 pixels (XGA)
- Brightness: 400 cd/m² (typical)
- Contrast ratio: 500:1 (typical)

### Touch Screen Sensor
- 5-wire resistant touch
- Anti-glare coating surface
- Transmission rate: 81 ± 3%

### CPU & Chipset
- Intel® Core™ i7 2610UE 1.5GHz
- Intel® QM67

### Memory
- One 204-pin DDR3 1333MHz SO-DIMM slot (up to 4GB)

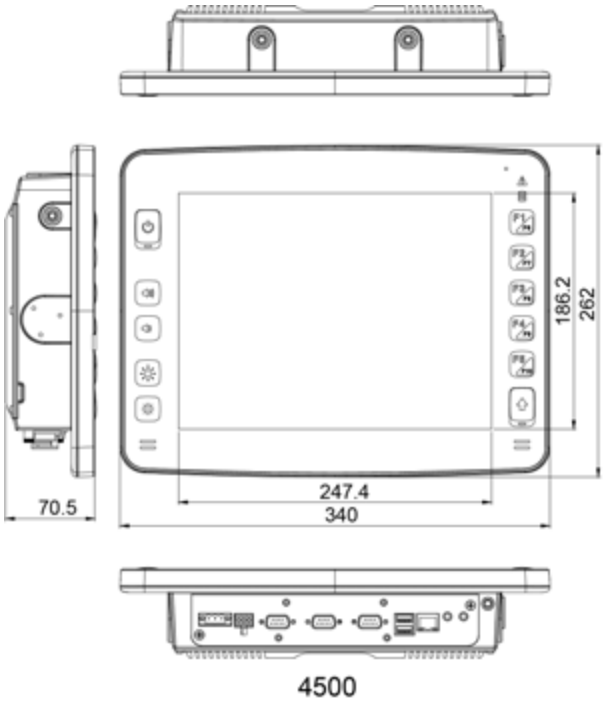
### Expandable Storage
- 1 x CFast
- 1 x 2.5" SATA SSD bay

### Expansion
- 1 x Mini-PCIe socket (PCIe + USB) for WLAN option
- 1 x Mini-PCIe socket (USB) x 1 for WWAN option
- 2 x CAN Bus module with J1939/J1708 for option

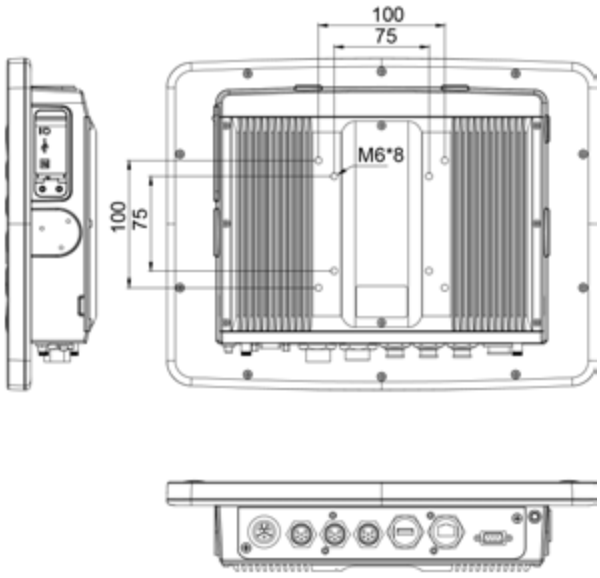
### I/O Interface-Front
- On screen display buttons x 5
  Power on/off
  Volume control (+/-)
  Brightness control (+/-)
- Light sensor
- 4 x LED indicators (Power on/off, Storage, Warning, Shift)
- F1~ F10 functions key
- 2 x Built-in 2W speakers

### I/O Interface-Lateral
- 1 x CFast card slot
- System reset button
- USB 2.0 host type A connector

## Dimension Drawing




4500




4501

**I/O Interface-Bottom**

- Power connector (power, ignition, ground)
- 1 x RS-232 (VMC 4500 only)
- 1 x RS-232 with either 0, 5 or 12V on pin 9 for external devices
- 2 x USB 2.0 host (VMC 4501 only one USB)
- 1 x 10/100/1000Base-T
- 1 x Mic-in, 1 x Line-out
- 1 x 4GPI and 4GPO or CAN Bus with J1939/J1708 optional
  Digital Input (source type; 0~30V)
  Digital Output (sink type; 20mA max))
- SMBus to support VTK 61B back up smart battery with charger
- 1 x SMA-type GPS antenna connector

**Communication Module**

- 1 x GPS module
- 1 x WLAN and Bluetooth combo module for optional
- 1 x WWAN module for optional

**Power Management**

- Selectable boot-up & shut-down voltage for low power protection
- HW design ready for 8-level delay time on/off at user's self configuration
- Power on/off ignition, software detectable
- Support S3/S4 suspend mode; wake on RTC/ SMS/ LAN

**Environment**

- Operating temperatures ambient with air: -30°C to 50°C
- Storage temperatures: -30°C to 70°C
- Relative humidity: 10% to 90% (non-condensing)
- Vibration (random): 2g @5~500Hz
- Vibration
  Operating: MIL-STD-810G, 514.6 Procedure 1, Category 4
  Storage: MIL-STD-810G, 514.6 Procedure 1, Category 24

**Shock**

- Operating: MIL-STD-810G, Method 516.6, Procedure I, trucks and semi-trailers= 20g
- Crash hazard: MIL-STD-810G, Method 516.6, Procedure V, ground equipment= 75g

**Operating System**

- WES2009
- WES 7E
- XP Pro Embedded
- Win7 Pro Embedded

**Standards/ Certifications**

- CE approval
- FCC Class B

## Ordering Information

- **VMC 4500 (P/N: TBD)**
  12.1" rugged vehicle mount computer with Intel® Core™ i7, 2GB DDR3, touch screen, Front Panel IP65
- **VMC 4501 (P/N: TBD)**
  12.1" rugged vehicle mount computer with Intel® Core™ i7, 2GB DDR3, touch screen, IP65
- **Bundle Accessories**
  SSD bracket and screws
  GPS antenna (5M)
  Power connector
  Driver CD
- **Optional Accessories**

| Part No. | Description |
|---|---|
| 4NCPF00315X00 | Power input connector |
| 4NCPF00613X00 | Power output and SM bus connector |
| 5060600230X00 | RJ45 Waterproof connector |
| 60233US110X00 | USB CABLE 100cm |
| 4NBDF00907X00 | DB9 connector |

# PIM 10

**10.1-inch All in One Vehicle Panel PC with 5-wire Touch Screen**

## Main Features

- 10.1" WSVGA TFT LCD with LED backlight
- Compact and slim design
- Built-in Intel® Atom™ processor D2550 1.86GHz
- GPS receiver on board
- Various wireless communication options
- Front panel compliant with IP54
- Certified by FCC

## Product Overview

PIM10, a 10.1-inch all in one vehicle panel computer, is designed for the passenger infotainment system. Adopting the low-power consumption Intel® Atom™ processor D2550, it integrates the wide resolution LCD and 5-wire resistive touch sensor. Its design is neat by reserving the basic required interface such as RS232, GPIO and USB on the bottom side for convenient installation inside the vehicle. Its broadband wireless feature can be achieved via WWAN module to get the connection to the real world.  PIM10 is ideally for the system integrator to integrate the payment system, advertisement and infotainment into one device.

## Specifications

### General
- Cooling System: Fanless
- Enclosure: Plastic case with extruded aluminum heat sink
- Mounting: Support VESA 75/100, Panel and stand with mounting kit
- Power Input: 12VDC input
- Power Consumption: 15W typical
- Ingress Protection: IP54
- Dimension: 262mm (W) x 167mm (H) x 35mm (D) (10.3" x 6.6" x 1.4")
- Weight: 1.6Kg, 3.53Lb

### LCD Panel
- 10.1-inch TFT LCD panel with LED backlight
- 1024 x 600 pixels (WSVGA)
- Brightness: 200 cd/m² (typical)
- Contrast ratio: 500:1 (typical)

### Touch Screen Sensor
- 5-wire resistant touch
- Anti-glare coating surface
- Transmission rate: 80 ± 3%

### CPU & Chipset
- Intel® Atom™ processor D2550 1.86GHz
- Intel® ICH10R

### Memory
- One 204-pin DDR3 1333MHz SO-DIMM slot (up to 2GB)

### Expandable Storage
- 1 x 2.5" SATAII SSD bay

### Expansion
- 1 x Mini-PCIe socket (PCIe + USB) for WLAN option
- 1 x Mini-PCIe socket (USB) x 1 for WWAN option

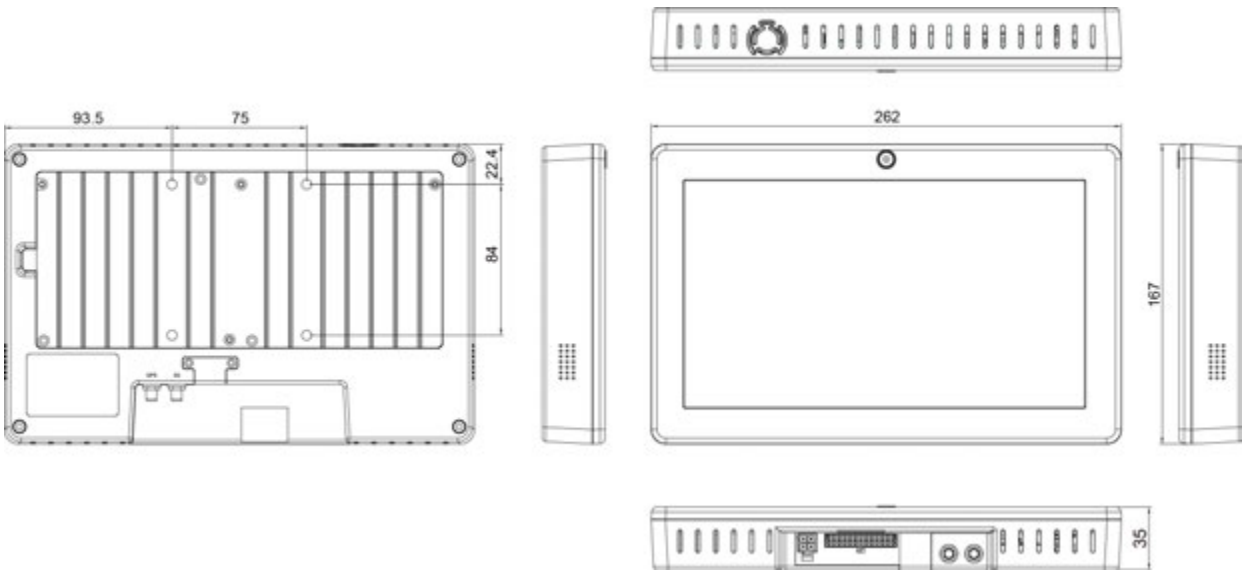
### I/O Interface-Front
- USB2.0 camera sensor

### I/O Interface-Bottom
- 2 x USB 2.0 type A connector
- 1 x 24-pin IO connector (RS232/ LAN/ GPIO/ Line Out)
- 1 x Power connector for 12VDC input
- 2 x SMA-type GPS/ WWAN antenna connector

### Communication Module
- 1 x WLAN 802.11 b/g/n module for optional
- 1 x WWAN module for option
- 1 x GPS module

### Environment
- Operating temperatures ambient with air: -10°C to 40°C
- Storage temperatures: -20°C to 60°C
- Relative humidity: 10% to 90% (non-condensing)
- Vibration (random): 2g @5~500 Hz

## Dimension Drawing




**Operating System**

- WES 7E
- Windows7 Pro for Embedded

**Standards/ Certifications**

- FCC Class B

## Ordering Information

- **PIM 10-N (P/N: TBD)**

# VMD 1000

**7" WVGA Vehicle Mount Display with Touch Screen and LVDS Interface**

## Main Features

- 7" WVGA TFT LCD monitor
- Automatic/ manual brightness control
- Remote system power control
- On screen control buttons
- Support USB 2.0 and card reader
- Camera sensor on front panel (Optional)
- Optional daylight readable touch support
- Front panel compliant with IP54

## Product Overview

VMD 1000 is a 7-inch TFT LCD monitor with 4 wire resistant touch screen sensor. With the high brightness display and automatically brightness control, it is designed for in-vehicle application. It also provides USB and card reader features, and reserves camera sensor as an option. Those friendly interfaces benefit the technicians during maintenances. Its front panel is compliant to IP54 to meet with industrial application. VMD 1000 can perfectly match with any VTC series devices via the 26-pin LVDS cable.

## Specifications

### General

- Enclosure: Plastic PC + ABS
- Mounting: Support VESA 75, panel and wall mounting
- Power Input: 12VDC
- Power Consumption: 12W
- Ingress Protection: Front panel IP54
- Dimension: 182mm (W) x 138mm (H) x 36.3mm (D) (7.17" x 5.43" x 1.43")
- Weight (Net): 0.45Kg, 0.99Lb

### LCD Panel

- 7-inch TFT LCD panel with LED backlight
- 800 x 480 pixels (WVGA)
- Brightness: 500 cd/m² (typical)
- Contrast ratio: 600:1 (typical)

### Touch Screen Sensor

- 4-wire resistant touch
- Anti-glare coating surface
- Transmission rate: 82 ± 3%

### I/O Interface-Front

- 5 x Control buttons
  Power on/off
  Volume control (+/-)
  Brightness control (+/-)
- Light sensor
- 2 x LED indicators
- 2 x Built-in speakers (1W)

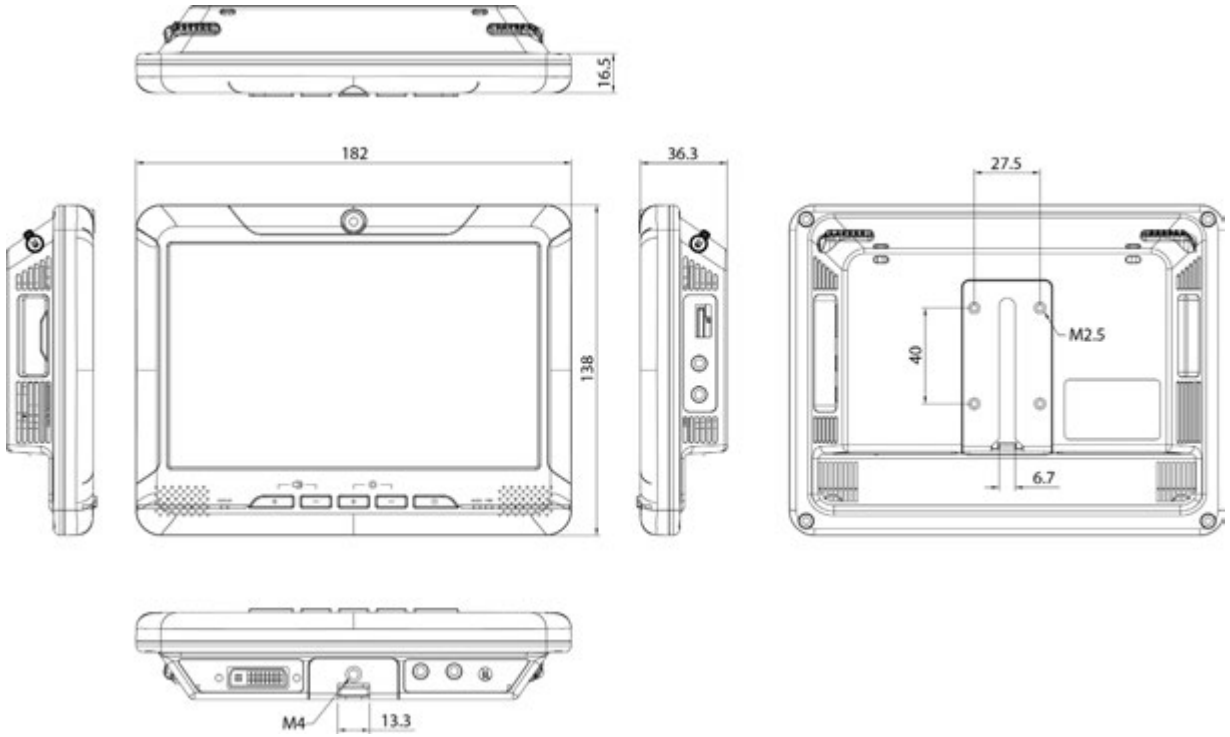
### I/O Interface-Lateral

- 1 x SD/ MMC/ MS Card Reader
- 1 x USB type A for Storage
- 1 x Line-out (switch to external speaker by auto detection)
- 1 x Mic-in (from external microphone)

### I/O Interface-Bottom

- Remote System Power On/ Off Button
- 1 x Mic-out
- 1 x Line-in
- 1 x LVDS Connector (integrating LVDS, USB x 1 and 12Vdc x 1)

## Dimension Drawing




**Environment**

- Operating temperature: -20°C to 70°C
- Storage temperature: -30°C to 80°C
- Vibration (random): 5g@5~500 Hz
- Vibration
  Operating: MIL-STD-810F, Method 514.5, Category 20, Ground Vehicle – Highway Truck
  Storage: MIL-STD-810F, Method 514.5, Category 24, Integrity Test
- Shock
  Operating: MIL-STD-810F, Method 516.5, Procedure I, Trucks and semi-trailers= 20g
  Crash hazard: MIL-STD-810F, Method 516.5, Procedure V, Ground equipment= 75g

**Optional Features**

- 2.0M pixels CCD camera on front panel
- Sunlight-readable touch screen (4 wires resistive w/ anti-glare coating)
- Support VESA 75, wall and stand mount kit

**Environment**

- Operating temperature: -20°C to 70°C
- Storage temperature: -30°C to 80°C

**Standards/ Certifications**

- CE approval
- FCC Class B

## Ordering Information

- **VMD 1000-B (P/N: 10VD0100000X0)**
  7" WVGA vehicle mount display with touch screen and LVDS interface
- **VMD 1000-BS (P/N: 10VD0100003X0)**
  7" WVGA vehicle mount display with touch screen, LVDS and daylight readable
- **VMD 1000-P (P/N: TBD)**
  7" WVGA vehicle mount display with touch screen, LVDS and CCD camera
- **VMD 1000-PS (P/N: 10VD0100002X2)**
  7" WVGA vehicle mount display with touch screen, LVDS, CCD camera and daylight readable
- **Bundle Accessories**
  LVDS cable (1.5M)
  Metal stand kit
  Cable fastener
  Driver CD

# VMD 1001

**7" VGA Vehicle Mount Display with Touch Screen and VGA Interface**

## Main Features

- 7" VGA TFT LCD monitor
- Automatic/ manual brightness control
- Wide range DC input from 9~36V
- Direct VGA input interface
- Support USB 2.0 and card reader
- Camera sensor on front panel (Optional)
- Optional daylight readable touch support
- Front panel compliant with IP54

## Product Overview

VMD 1001 is a 7-inch TFT LCD monitor with 4 wire resistant touch screen sensor. With the high brightness display and automatically brightness control, it is designed for in-vehicle application. In support of standard VGA interface, it can be configured to link to the most of vehicle computers. It also provides USB and card reader features, and reserves camera sensor as an option. Those friendly interfaces benefit the technicians during maintenances. Its front panel is compliant to IP54, and wide range power input and operating temperature to meet with industrial application.

## Specifications

### General

- Enclosure: Plastic PC + ABS
- Mounting: Support VESA 75, panel and wall mounting
- Power Input: 9 ~ 36VDC
- Power Consumption: 18W
- Ingress Protection: Front panel IP54
- Dimension: 182mm (W) x 138mm (H) x 36.3mm (D) (7.17" x 5.43" x 1.43")
- Weight (Net): 0.45Kg, 0.99Lb

### LCD Panel

- 7-inch TFT LCD panel with LED backlight
- 640 x 480 pixels (VGA)
- Brightness: 500 cd/m² (typical)
- Contrast ratio: 600:1 (typical)

### Touch Screen Sensor

- 4-wire resistant touch
- Anti-glare coatingsurface
- Transmission rate: 82 ± 3%

### I/O Interface-Front

- 5 x Control buttons
  Power on/off
  Volume control (+/-)
  Brightness control (+/-)
- Light sensor
- 2 x LED indicators
- 2 x Built-in speakers (1W)

### I/O Interface-Lateral

- 1 x SD/ MMC/ MS card reader
- 1 x USB type A for storage
- 1 x Line-in
- 1 x Line-out (automatic detection/ switch to external speaker)

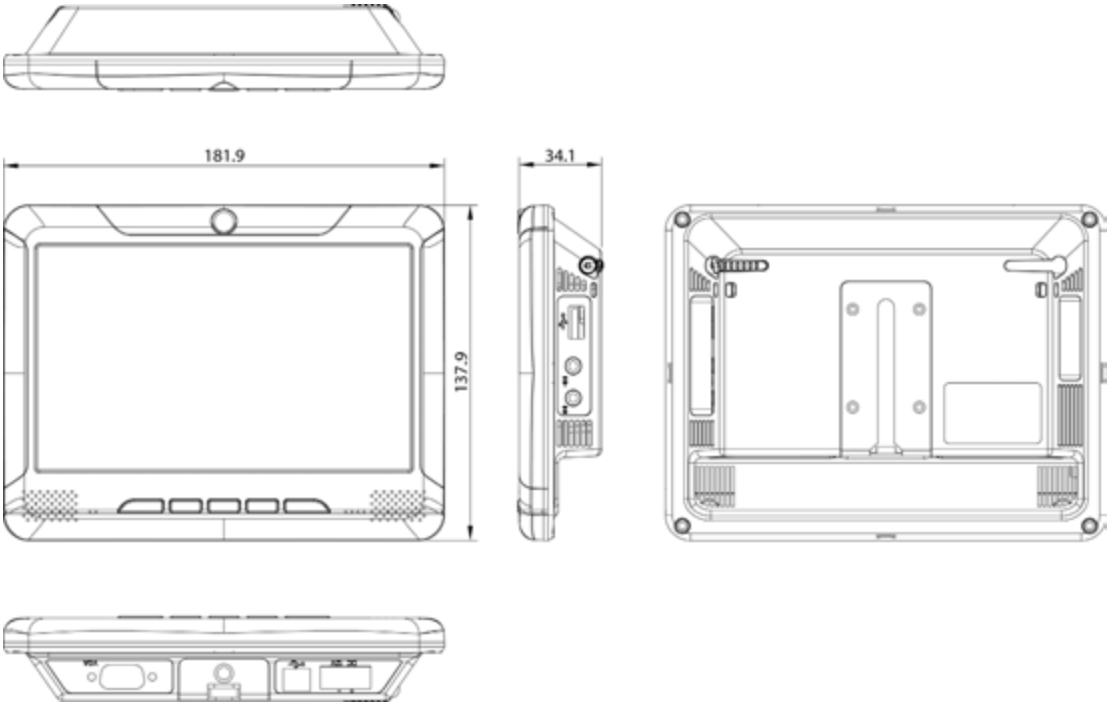
### I/O Interface-Bottom

- 1 x Power connector
- 1 x USB type B for touch screen and USB hub
- 1 x VGA

### Optional Features

- 2.0M pixels CCD camera on front panel
- Sunlight-readable touch screen (4 wires resistive w/ anti-glare coating)
- Support VESA 75, wall and stand mount kit

## Dimension Drawing




**Environment**

- Operating temperature: -20°C to 70°C
- Storage temperature: -30°C to 80°C
- Vibration (random): 5g@5~500 Hz
- Vibration
  Operating: MIL-STD-810F, Method 514.5, Category 20, Ground Vehicle – Highway Truck
  Storage: MIL-STD-810F, Method 514.5, Category 24, Integrity Test
- Shock
  Operating: MIL-STD-810F, Method 516.5, Procedure I, Trucks and semi-trailers= 20g
- Crash hazard: MIL-STD-810F, Method 516.5, Procedure V, Ground equipment= 75g

**Standards/ Certifications**

- CE approval
- FCC Class B

## Ordering Information

- **VMD 1001-B (P/N: 10VD0100101X0)**
  7" VGA vehicle mount display with touch screen and VGA interface
- **VMD 1001-BS (P/N: 10VD0100102X0)**
  7" VGA vehicle mount display with touch screen, VGA and daylight readable
- **VMD 1001-P (P/N: TBD)**
  7" VGA vehicle mount display with touch screen, VGA and CCD camera
- **VMD 1001-PS (P/N: TBD)**
  7" VGA vehicle mount display with touch screen, VGA, CCD camera and daylight readable
- **Bundle Accessories**
  VGA cable (1.5M)
  USB cable (1.5M )
  Metal stand kit
  Cable fastener
  Power connector
  Driver CD

# VMD 2000

**8" SVGA Vehicle Mount Display with Touch Screen and LVDS Interface**

## Main Features

- 8" SVGA TFT LCD monitor
- Automatic/ Manual brightness control
- Remote system power control
- On screen control buttons
- Support USB 2.0 and card reader
- Camera sensor on front panel (Optional)
- Sunlight readable solution with 800cd/m² high brightness support
- Front panel compliant with IP54

## Product Overview

VMD 2000 is an 8-inch TFT LCD monitor with 4 wire resistant touch screen sensor. With the high brightness display and automatically brightness control, it is designed for in-vehicle applications. It also provides USB and card reader features, and reserves camera sensor as an option. Those friendly interfaces benefit the technicians during maintenances. Its front panel is compliant to IP54 to meet with industrial applications. VMD 2000 can perfectly match with any VTC series devices via the 26-pin LVDS cable.

## Specifications

### General

- Enclosure: Plastic PC + ABS
- Mounting: Support VESA 75, panel and wall mounting
- Power Input: 12VDC
- Power Consumption: 15W
- Ingress Protection: Front panel IP54
- Dimension: 207mm (W) x 173mm (H) x 36.7mm (D) (8.15" x 6.81" x 1.44")
- Weight (Net): 0.7Kg, 1.54Lb

### LCD Panel

- 8-inch TFT LCD panel with LED backlight
- 800 x 600 pixels (SVGA)
- Brightness: 500 cd/m² (typical)
- Optional high brightness for sunlight-readable with 800cd/m² After touch screen is 640cd/m²
- Contrast ratio: 500:1 (typical)

### Touch Screen Sensor

- 4-wire resistant touch
- Anti-glare coating surface
- Transmission rate: 82 ± 3%

### I/O Interface-Front

- On screen display buttons x 5
  Power on/off
  Brightness control (+/-)
  Volume control (+/-)
- Light sensor
- 2 x LED indicators
- 2 x Built-in speakers (1.2W)

### I/O Interface-Lateral

- 1 x SD/ MMC/ MS card reader
- 1 x USB type A for storage
- 1 x Line-out (automatic detection/ switch to external speaker)
- 1 x Mic-in

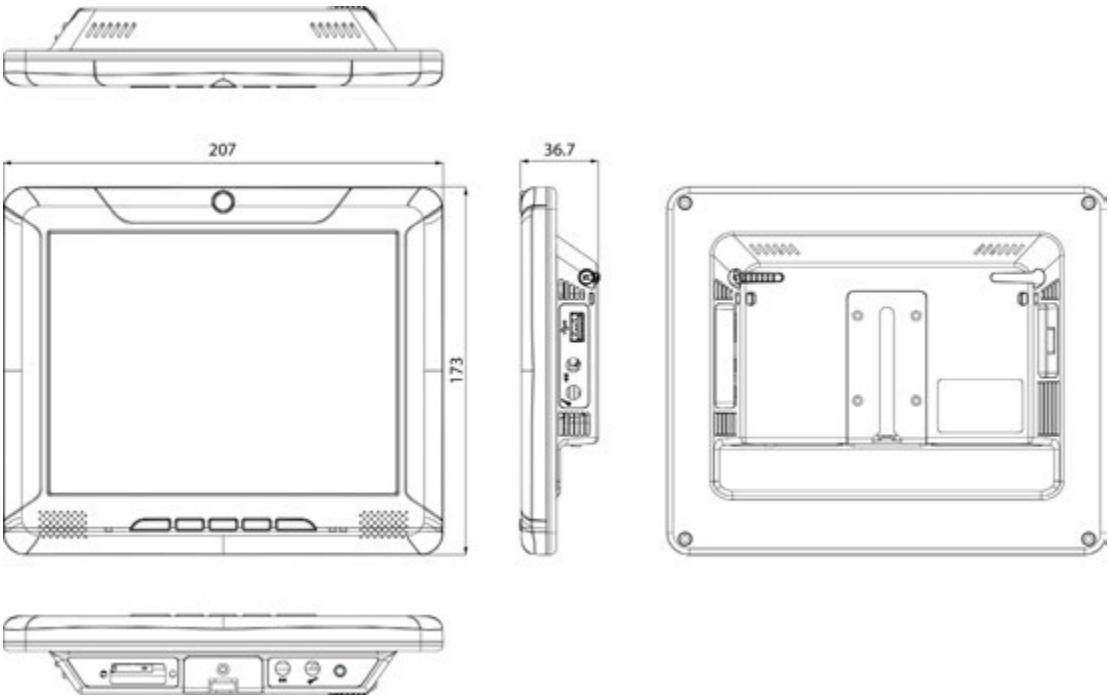
### I/O Interface-Bottom

- Remote System Power On/ Off Button
- 1 x Mic-out
- 1 x Line-in
- 1 x LVDS Connector (integrating LVDS, USB x 1 and 12Vdc x 1)

### Optional Features

- 2.0M pixels CCD camera on front panel
- Sunlight-Readable Display with High Brightness LCD (800 cd/m²)
- Support Panel and wall mount kit

## Dimension Drawing




**Environment**

- Operating temperature: -20°C to 60°C
- Storage temperature: -30°C to 70°C
- Vibration (random): 2.5g@5~500 Hz
- Vibration
  Operating: MIL-STD-810F, Method 514.5, Category 20, Ground Vehicle – Highway Truck
  Storage: MIL-STD-810F, Method 514.5, Category 24, Integrity Test
- Shock
- Operating: MIL-STD-810F, Method 516.5, Procedure I, Trucks and semi-trailers= 20g
- Crash hazard: MIL-STD-810F, Method 516.5, Procedure V, Ground equipment= 75g

**Standards/ Certifications**

- CE approval
- FCC Class B

## Ordering Information

- **VMD 2000 (P/N: 10VD0200000X0)**
  8" SVGA vehicle mount display with touch screen and LVDS interface
- **VMD 2000-BS (P/N: 10VD0200001X0)**
  8" SVGA vehicle mount display with touch screen, LVDS and sunlight readable
- **VMD 2000-P (P/N: 10VD0200002X0)**
  8" SVGA vehicle mount display with touch screen, LVDS and CCD camera
- **VMD 2000-PS (P/N: 10VD0200003X0)**
  8" SVGA vehicle mount display with touch screen, LVDS, CCD camera and sunlight readable
- **Bundle Accessories**
  LVDS cable (1.5M)
  Audio cable
  Cable fastener
  Driver CD

# VMD 2002

**8" SVGA Vehicle Mount Display with Touch Screen and USB, VGA and Power cable integrated**

## Main Features

- 8" SVGA TFT LCD Monitor
- Automatic/ Manual brightness control
- Wide range DC input from 9~36V
- On screen control buttons
- Support USB 2.0 and card reader
- Camera sensor on front panel (Optional)
- Sunlight readable solution with 800cd/m² high brightness LCD support
- Front panel compliant with IP54

## Product Overview

VMD 2002 is an 8-inch TFT LCD monitor with 4 wire resistant touch screen sensor. With the high brightness display and automatically brightness control, it is designed for in-vehicle applications. In support of standard VGA interface, it can be configured to link to the most of vehicle computers. It also provides USB and card reader features, and reserves camera sensor as an option. Those friendly interfaces benefit the technicians during maintenances. Its front panel is compliant to IP54, and wide range power input and operating temperature to meet with industrial applications.

## Specifications

### General

- Enclosure: Plastic PC + ABS
- Mounting: Support VESA 75, panel and wall mounting
- Power Input: 9~36VDC
- Power Consumption: 15W
- Ingress Protection: Front panel IP54
- Dimension: 207mm (W) x 173mm (H) x 36.7mm (D) (8.15" x 6.81" x 1.44")
- Weight (Net): 0.7Kg, 1.54Lb

### LCD Panel

- 8-inch TFT LCD panel with LED backlight
- 800 x 600 pixels (SVGA)
- Brightness: 400 cd/m² (typical)
- Optional high brightness for sunlight-readable with 800cd/m² After touch screen is 640cd/m²
- Contrast ratio: 500:1 (typical)

### Touch Screen Sensor

- 4-wire resistant touch
- Anti-glare coating surface
- Transmission rate: 82 ± 3%

### I/O Interface-Front

- On screen display buttons x 5
  Power on/off
  Brightness control (+/-)
  Volume control (+/-)
- Light sensor
- 2 x LED indicators
- 2 x Built-in speakers (1.2W)

### I/O Interface-Lateral

- 1 x SD/ MMC/ MS card reader
- 1 x USB type A Host
- 1 x Line-out (automatic detection/ switch to external speaker)
- 1 x Mic-in

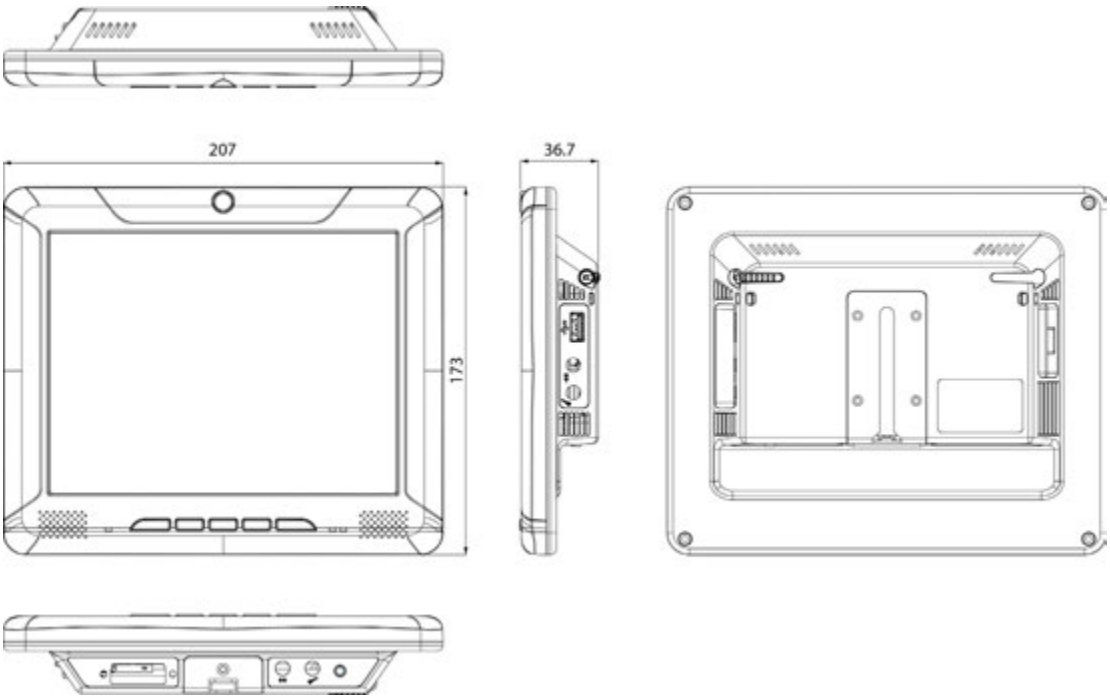
### I/O Interface-Bottom

- 1 x Mic-out
- 1 x Line-in
- 1 x DVI-D Connector (integrating LVDS, USB x 1 and 12Vdc x 1)

### Optional Features

- 2.0M pixels CCD camera on front panel
- Sunlight-Readable Display with High Brightness LCD (800 cd/m²)
- Support Panel and wall mount kit

## Dimension Drawing




**Environment**

- Operating temperature: -20°C to 60°C
- Storage temperature: -30°C to 70°C
- Vibration (random): 2.5g@5~500 Hz
- Vibration
  Operating: MIL-STD-810F, Method 514.5, Category 20, Ground Vehicle – Highway Truck
  Storage: MIL-STD-810F, Method 514.5, Category 24, Integrity Test
- Shock
- Operating: MIL-STD-810F, Method 516.5, Procedure I, Trucks and semi-trailers= 20g
  Crash hazard: MIL-STD-810F, Method 516.5, Procedure V, Ground equipment= 75g

**Standards/ Certifications**

- CE approval
- FCC Class B

## Ordering Information

- **VMD 2002-B (P/N: 10VD0200202X0)**
  8" SVGA vehicle mount display with touch screen and USB, VGA and Power cable integrated
- **VMD 2002-BS (P/N: 10VD0200203X0)**
  8" SVGA vehicle mount display with touch screen, USB, VGA, Power cable integrated and sunlight readable
- **VMD 2002-P (P/N: TBD)**
  8" SVGA vehicle mount display with touch screen, USB, VGA, Power cable integrated and CCD camera
- **VMD 2002-PS (P/N: TBD)**
  8" SVGA vehicle mount display with touch screen, USB, VGA, Power cable integrated, CCD camera and sunlight readable
- **Bundle Accessories**
  VGA, USB and Power integrated cable (1.5M)
  Audio cable
  Cable fastener
  Driver CD

# VMD 3002

**10.4" XGA Vehicle Mounted Display with Touch Screen and VGA/DVI/HDMI and CVBS Interfaces**

Coming Soon

## Main Features

- 10.4" XGA TFT LCD monitor
- Support verity display interface with VGA, DVI and HDMI
- Slim bezel and compact design
- Wide range DC input from 9~36V
- Multi-touch with projected capacitive touch screen
- Support CVBS input to connect rear view camera
- 1200cd/m² high brightness display for outdoor applications
- Front panel compliant with NEMA4/ IP65

## Product Overview

VMD 3002 is an 10.4-inch TFT LCD monitor with projected capacitive touchscreen sensor. With the 1200nits high brightness display and automatically brightness control, it is designed for in-vehicle and outdoor applications. In support of standard VGA, DVI and HDMI interface, it can be configured to link to the most of vehicle computers. It also provides CVBS interface, it can connect reversing cameras or rear view cameras. If you drive a large vehicle with significant blind spots, will make backing up safer and easier. Its front panel is compliant to IP65, and wide range power input and operating temperature to meet with industrial applications.

## Specifications

### General

- Enclosure: Rear cover: Metal
- Mounting: Support VESA 75/100, Panel and stand mounting
- Power Input: 9~36VDC
- Power Consumption: 18W
- Ingress Protection: Front panel IP65
- Dimension: 290mm (W) x 230mm (H) x 68mm (D) (11.4" x 9" x 2.7")
- Weight: 3Kg, 6.61Lb

### LCD Panel

- 10.4-inch TFT LCD panel with LED backlight
- 1024 x 768 pixels (XGA)
- Brightness: 400 cd/m² (typical)
- Contrast Ratio: 500:1 (typical)

### Touch Screen Sensor

- Projected capacitive touchscreen
- Surface Hardness: >Mohs 5
- Two points of contact

### I/O Interface-Front

- 1 x LED indicators (Power on/off)

### I/O Interface-Bottom

- 1 x 50pin connector
  (integrating VGA/DVI/HDMI, USB and 9 ~ 36Vdc)
- 1 x CVBS connector (up to 4input)
- Stereo audio (Line-out) x 1
  (automatic detection/ switch to external speaker)
- 1 x Audio input
- 1 x USB
- 2 x Built-in 3W speakers (Lateral)

### Optional Features

- Support Panel and wall mount kit

### Environment

- Operating temperature: -20°C to 70°C
- Storage temperature: -30°C to 80°C
- Vibration (random): 2.5g@5~500 Hz
- Vibration
  Operating: MIL-STD-810F, Method 514.5, Category 20, Ground Vehicle – Highway Truck
  Storage: MIL-STD-810F, Method 514.5, Category 24, Integrity Test
- Shock
  Operating: MIL-STD-810F, Method 516.5, Procedure I, Trucks and semi-trailers= 20g
  Crash hazard: MIL-STD-810F, Method 516.5, Procedure V, Ground equipment= 75g

## Dimension Drawing

Coming Soon

**Standards/ Certifications**

- CE approval
- FCC Class B

## Ordering Information

- **VMD 3002-BS (P/N: TBD)**

  10.4" XGA vehicle mount display with touch screen and VGA/DVI/ HDMI and CVBS Interfaces

- **Bundle Accessories**

  Driver CD

- **Optional Accessories**

| Part No. | Description |
|---|---|
| TBD | VGA, USB and Power integrated cable (5M) |
| TBD | DVI, USB and Power integrated cable (5M) |
| TBD | HDMI, USB and Power integrated cable (5M) |
| TBD | Audio cable (5M) |

# nROK 500

**Intel® Atom™ D525 1.8GHz Fanless Railway System**

## Main Features

- Built-in Intel® Atom™ D525 Dual Core 1.8GHz processor
- Fanless and rugged design
- 1 x M12 LAN port
- 1 x external CF socket and one external SIM card holder
- DC power input with 500V isolated protection
- Support ignition signal for delay-time control
- Support WoL & PXE function
- Certified by EN50155

## Product Overview

nROK 500 fanless computer with EN50155 certified is specially designed for transportation computing solution especially in railway related applications. Based on Intel® Atom™ D525 processor, nROK 500 is designed with isolated DC input protection to ensure stable operation in harsh environments. Adopting lock concept, all connectors, for example M12 Ethernet connector, on nROK 500 are designed against vibration. Equipped with a SIM card holder, CF socket and mini-PCIe socket for optional 3G wireless module, nROK 500 allows data to be transmitted over network and stored in a convenient SSD (Solid-State Drive) or CF card for better vibration and shock protection. EN50155 certified nROK 500 is a reliable accredited solution for railway applications.

## Specifications

**CPU**
- Intel® Atom™ D525 Dual Core 1.8GHz

**Main Chipset**
- Intel® ICH8M chipsets

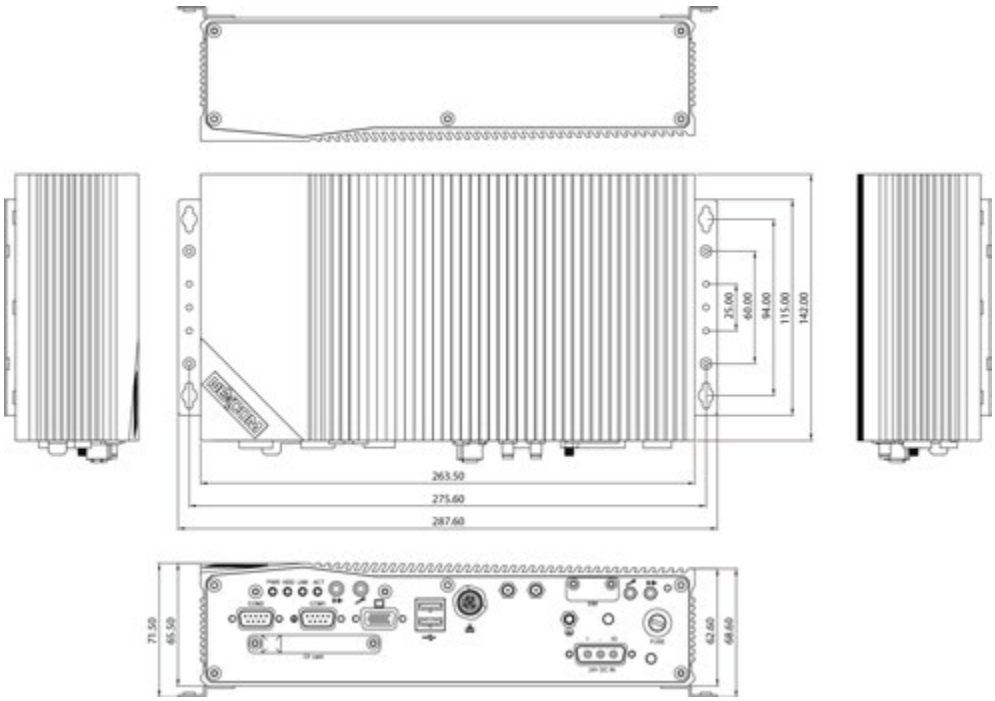
**Memory**
- 2GB DDR2 667MHz SODIMM (up to 2GB)

**Storage**
- CF Card socket: External accessible type, screwed with CF card cover
- 1 x 2.5" SSD drive bay

**Expansion**
- 1 x Mini-PCIe socket (for 3.5G module option)

**I/O Interface-Front**
- 1 x VGA Output
  DB15 x 1, support analog monitor with pixel resolution up to 2048 x 1536@75 Hz
- 2 x RS-232 COM Port
  DB9 x 2, support 115.2 Kbps baud rate
- 2 x USB Port
  2 x USB 2.0 ports, 500mA per port, covered with plastic cover to against the dust
- 1 x Mic-in & 1 x Speaker-out
  - Audio controller: High definition audio controller, Realtek: ALC888-GR
  - 1 x Speaker-out, Dia. 3.5mm phone jack, covered with plastic cover to against the dust
  - 1 x Mic-in, Dia. 3.5mm phone jack, covered with plastic cover to against the dust
- 1 x 10/ 100 M12 LAN Port
  - LAN Controller: Intel® WG82574L LAN controller x 1
  - Support wake on LAN and boot from LAN function
- Wireless communication
  - 1 x External accessible SIM card socket
  - 1 x Mic-in for wireless communication use
  - 1 x Speaker-out for wireless communication use
  - 2 x Antenna holes (for 3G/ 3.5G mobile wireless module)
- LEDs
  - 1 x LED for power status
  - 1 x LED for HDD status
  - 1 x LED for 10/ 100 LAN link
  - 1 x LED for 10/ 100 LAN active
- DC Input
  - Nominal Voltage: 24V (Range: 16.8V ~ 30V)
  - Ignition signal input (24V, nominal; 0~10.5V = off, rest = on)
  - 500V Isolated design on DC Input
  - 1 x External fuse

## Dimension Drawing




**Operating System**
- Windows Embedded Standard 2009
- Windows Embedded Standard 7

**System Dimension**
- 264mm (W) x 142mm (D) x 65.5mm (H)

**Environment**
- Operating temperature
  Ambient with air: -25°C to 55°C (EN50155 Class T1)
- Storage temperature: -40°C to 80°C
- Damp heat test: 95% at 55 °C, compliance with EN50155
- Relative humidity: 0% to 90% (non-condensing)
- Vibration (Random): Compliance with EN61373 Category 1, Class B
- Shock: Compliance with EN61373 Category 1, Class B

**Ingress Protection**
- IP52

**Certifications**
- CE
- EN50155

## Ordering Information

- **nROK 500 (P/N: 10A00050000X0)**
  Intel® Atom™ D525 1.8GHz Fanless Railway Computer with 2G memory pre-installed and Isolated 24VDC Input

# nROK 3000

**Intel® Atom™ D525 Fanless Railway Computer with IP65 and EN50155 Compliance**

## Main Features

- Built-in Intel® Atom™ D525 Dual Core 1.8GHz processor
- Fanless and rugged design
- Support ignition signal for delay-time control
- Easy maintenance
- Rich I/O interface with secure lock
- Removable 2.5" SSD tray
- Isolation RS-232/ 422/ 485 and GPIO
- DC power input with isolated protection
- Compliant with IP65 design
- Certified by EN50155

## Product Overview

The latest transportation computing solution nROK 3000 fanless computer certified with EN50155 is specially designed for railway related applications. Based on Intel® Atom™ D525 processor, nROK 3000 is designed with isolated DC input protection to ensure stable operation in harsh environments. Adopting lock concept, all connectors, such as M12 Ethernet connector on nROK 3000, are designed for anti-vibration. Equipped with a SIM card holder, CFast socket and mini-PCIe socket for optional 3G wireless module, nROK 3000 allows data to be transmitted over network and stored in a convenient SSD (Solid-State Drive) or CFast card for better vibration and shock protection. The EN50155-certified nROK 3000 is a reliable solution for railway applications.

## Specifications

### CPU
- Intel® Atom™ D525 Dual Core 1.8GHz

### Main Chipset
- Intel® ICH8M chipsets

### Memory
- 1GB DDR3 1333MHz SODIMM (up to 4GB)

### Expansion
- 1 x Mini-PCIe socket (PCIe + USB) for WLAN option
- 1 x Mini-PCIe socket (USB) for 3.5G module option
- 1 x GPS module

### I/O Interface-Front
- 1 x DVI-I connector with DVI-D and VGA output
- 1 x 26-pin circular connector in support of RS232/ 422/ 485 with isolation, 4-channel digital input and 4-channel digital output
- 1 x USB 2.0 with M12 connector
- 1 x Mic-in & 1 x Line-out
- 3 x 10/ 100 Ethernet with M12 connector
- Wireless communication
  1 x External accessible SIM card socket
  3 x Antenna holes for WWAN/ WLAN/ GPS
- 4 x LED for power, SSD, WWAN and WLAN
- DC Input
  nROK3000-A: 24V with 500V isolated (range: 16.8V ~ 30V)
  nROK3000-F: 110V with 1.5KV isolation (range: 66V ~ 154V)

### I/O Interface-Rear
- 1 x 2.5" accessible SATA SSD tray
- 2 x USB 2.0

### Expandable Storage
- 1 x 2.5" SATA SSD tray
- 1 x CFast slot with protection cover

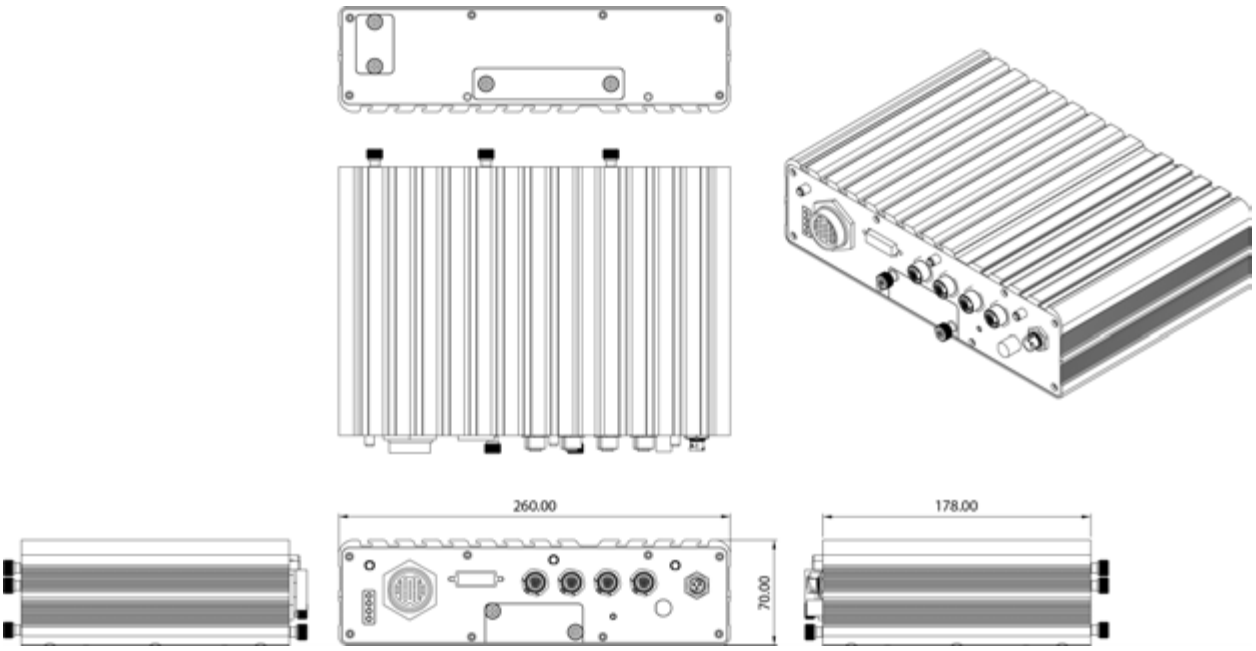
### Power Management
- Selectable boot-up & shut-down voltage for low power protection by software
- Setting 8-level on/off delay time by software
- Status of ignition and low voltage status can be detected by software

### Operating System
- Windows Embedded Standard 2009
- Windows Embedded Standard 7

### System Dimension
- 260mm (W) x 178mm (D) x 70mm (H) (10.24"x 7"x 2.76")

### Construction
- Aluminum enclosure with fanless design

## Dimension Drawing




### Environment

- Operating temperatures
  Ambient with air: -40°C to 70 °C (EN50155 Class TX)
- Storage temperatures: -40°C to 80°C
- Damp heat test: 55°C, 95% RH (non-operating, EN 50155)
- Relative humidity: 0% to 90% (non-condensing)
- Vibration (random):
  Compliance with EN61373 Category 1 Class B
- Shock:
  Compliance with EN61373 Category 1 Class B

### Ingress Protection

- IP65 rating

### Standards/ Certifications

- CE
- FCC Class A
- Compliance with EN50155

## Ordering Information

- **nROK 3000-A (P/N: 10A00300000X0)**
  Intel® Atom™ D525 fanless railway computer with 24VDC isolation power input
- **nROK 3000-F (P/N: 10A00300001X0)**
  Intel® Atom™ D525 fanless railway computer with 110VDC isolation power input
- **Optional Accessories**

| Part No. | Description |
|---|---|
| 10VK0006013X0 | Wireless mini card kit, Ralink 802.11b/g/n 2T2R, QCOM: Q802XKN5F, w/ antenna & cable (without assembly in NEXCOM) |
| 10VK0WWAN01X0 | VTK-WWAN: Cinterion PHS8-P kit, Five bands, UMTS/HSPA (850/800, 900, 1900 and 2100 MHz), Quad-Band GSM w/ internal cable, antenna & packing |
| 10VK0006007X0 | Bluetooth kit, QCOM: QBTM400-01 (V7), w/ antenna & cable (without assembly in NEXCOM) |
| 10VK0006004X0 | GPS kit, GlobalSat: EM-313 w/ antenna & cable (without assembly in NEXCOM) |
| 60233SAM03X00 | Internal cable for GSM/ WLAN/ GPS antenna connection MOQ: 20 pcs |
| 60233SAM05X00 | GPS antenna/ 5m/ SMA180P |
| 60233SAM07X00 | GSM/ GPRS antenna, SMA, support 850/ 900/ 1800/ 1900 |
| 60233SMA30X00 | GPS+GSM combo antenna 5M/ SMA180P |
| 60233SAM17X00 | GPRS/ UMTS/ HSDPA antenna, SMA, support 850/ 900/ 1800/ 1900/ 2100 |
| 60233PW243X00 | POWER CABLE: Waterproof 4P L:300mm |
| 60233USB89X00 | M12 TO USB CABLE: Waterproof M12 TO USB CON L:200mm |
| 60233AUD27X00 | AUDIO CABLE: Waterproof MINI SIZE 6P TO DC3.5mm FEMALEx2 L:300mm |
| 60233DVI26X00 | DVI Y-CABLE: Waterproof DVI(24+5P) to DVI(24+5P)/ D-SUB(15P) L:100mm |
| 6023331451X00 | COM CABLE: Waterproof 31PIN to DB9 MALEx4/DB9 FEMALEx1 L=150mm |

# nROK 5500

**Intel® Core™ i7 Fanless Railway Computer with EN50155 Compliance for Rackmount**

Coming Soon

## Main Features

- High performance processor with Intel® Core™ i7 3615QE/3517UE
- Fanless and rugged design
- Support ignition signal for delay-time control
- Support Hardware base RAID 0/1/5/10
- Isolation RS-232/ 422/ 485 and GPIO for optional
- Four Removable 2.5" SSD tray with 1Grms vibration
- DC power input with isolated protection
- Support 8 channels POE with IEEE802.3af for optional
- Support dual PCI express x8 expansion slot for optional
- Certified by EN50155 with TX grade temperature standard

## Product Overview

nROK series is targeted for the rolling stock market with special design scheme to meet the criteria of installation in the vehicle on the rolling stock. They pass numerous environmental tests and are compliant EN50155 standard. Rapid transit system, metropolitan rail, commuter rail, high speed rail, tram, and train will make the best use of nROK.

nROK 5500 series also offer the powerful computing platform with rack mount form factor to install in the cabinet. It is packed with the eight PoE LAN ports and multiple storage bays with SATA interface and RAID capability for large media program. I/O connections are securely fixed with locks, averting system breakdown caused by loose ends. Wireless communication design is reserved to supports GPS function and WiFi and WWAN connection.

## Specifications

### CPU
- Intel® Core™ i7 3615QE 3.3GHz/ 3517UE 1.7GHz

### Main Chipset
- Intel® QM77 chipsets

### Memory
- 2GB DDR3 1333MHz SODIMM with ECC (up to 16GB)

### Expansion
- 2 x Mini-PCIe socket (PCIe + USB) for WLAN option
- 1 x Mini-PCIe socket (USB) for 3.5G module option
- 1 x GPS or GPS with dead reckoning option

### I/O Interface-Front
- 7 x LED for power, storage, WWAN, WLAN, GPS, LAN1 and LAN2
- Power on/off switch
- The system rest button
- 1 x 10/ 100/ 1000 Ethernet with M12 connector and support iAMT8.0
- 2 x USB 3.0 type A connector
- 1 x DB15 VGA connector

### I/O Interface-Rear
- 2 x USB 2.0 with M12 connector
- 2 x HDMI connector
- 2 x DB9 RS-232 connector
- 1 x DB9 RS-422/485 connector
- 1 x DB9 GPIO connector
- 1 x Mic-in & 1 x Line-out
- 1 x 10/ 100/ 1000 Ethernet with M12 connector
- 1 x Line-in, 1 x Line-out, 1 x Mic-in
- 1 x Power input connector
- 5 x Antenna holes for WWAN/ WLAN/ GPS/ BT

### Expandable Storage
- 4 x 2.5" SATA HDD/SDD removable tray

### Power Management
- Selectable boot-up & shut-down voltage for low power protection by software
- Setting 8-level on/off delay time by software
- Status of ignition and low voltage status can be detected by software

### Operating System
- Windows Embedded Standard 7

## Dimension Drawing

Coming Soon

**System Dimension**
- 482.6mm (W) x 400mm (D) x 88mm (H) (19" x 15.75" x 3.46")

**Construction**
- Sheet metal with heat sink

**Environment**
- Operating temperatures
  Ambient with air: -40°C to 70°C (EN50155 Class TX)
- Storage temperatures: -40°C to 80°C
- Damp heat test: 55°C, 95% RH (non-operating, EN 50155)
- Relative humidity: 0% to 90% (non-condensing)
- Vibration (random):
  Compliance with EN61373 Category 1 Class B
- Shock:
  Compliance with EN61373 Category 1 Class B

**Ingress Protection**
- IP40 rating

**Standards/ Certifications**
- CE
- FCC Class A
- Compliance with EN50155

## Ordering Information

- **nROK 5500 (P/N: TBD)**
  Intel® Core™ i7 rackmount Railway Computer with EN50155 Compliance

# MRC 2200

**8" Rugged Tablet PC with Intel® Atom™ Processor/ 5-Wires Resistive Touch Screen/ Wi-Fi**

## Main Features

- 8" LCD with 5-wires resistive touch screen
- Intel® Atom™ N450 1.6GHz processor
- Wireless LAN support Wi-Fi 802.11 b/ g/ n
- WWAN support GSM/ GPRS/ HSDPA/ WCDMA (Optional)
- Integrated GPS module (Optional)
- Integrated laser barcode scanner (1D/ 2D) or HF type RFID (Optional)
- Integrated 2M pixel camera in rear or in front bezel (Optional)
- Compliant with IP54 and MIL-STD-810F

## Product Overview

The MRC 2200 is an 8" semi-rugged tablet PC with low power consumption processor. Based on the fanless design and IP54 rating, it can survive in the industrial environment. It retains the same features as MRC 2200 provides but improves the battery design. No need to completely power off the system, while replacing the battery. It means you can replace the battery through stand by. Moreover, there is one option for battery hot swap. It is right for the mobile worker to easily replace the battery pack without screw. With these two more features, the MRC 2200 can be applied in the field service for mobile engineers.

## Specifications

### CPU Support
- Intel® Atom™ N450 1.6GHz processor
- 667MHz FSB

### Chipset
- Intel® System Controller Hub ICH8M

### Memory
- 1GB DDR2 SDRAM- 667MHz, support up to 2GB (optional)

### Storage
- 8GB Solid State Drive/ SATA interface, support up to 64GB

### Audio
- Intel® high definition audio
- AC '97 compatible
- 2 x 2W built-in speakers
- 1 x external Mic-in and 1 x external Line-out
- 1 x Internal microphone

### Display
- 8" TFT LCD with LED backlight
  Resolution: 800 x 600 pixels (SVGA)
  Luminance: 320nits
  Contrast ratio: 500:1
- 5-wries resistant touch screen
- Auto dimming via ambient light sensor

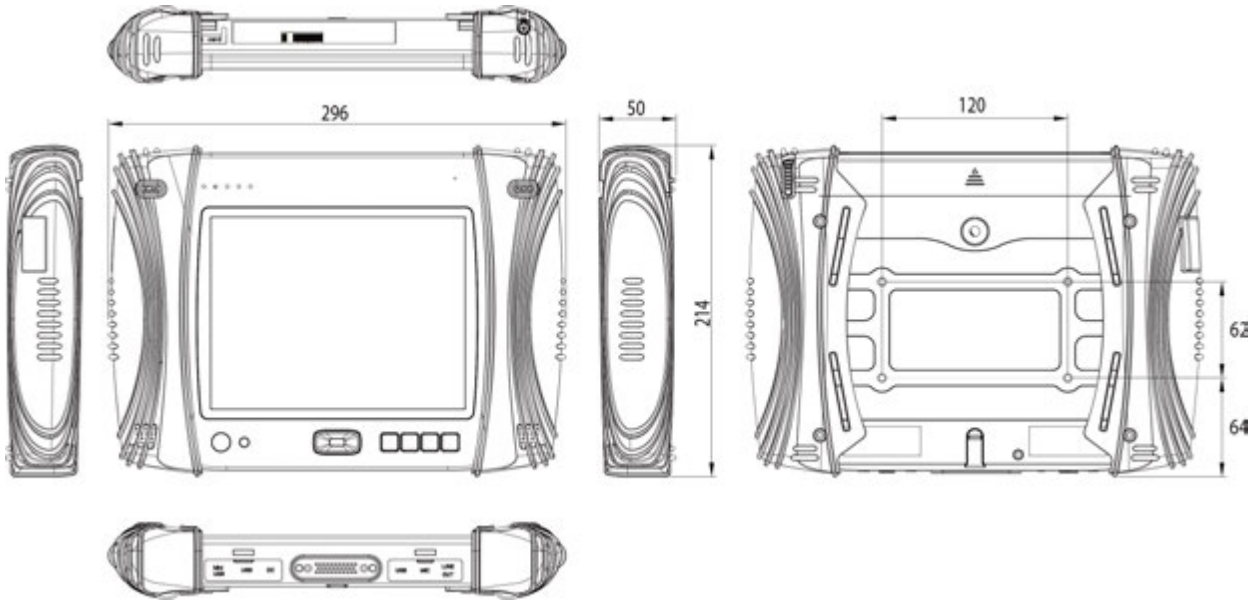
### I/O Interface
- 2 x USB 2.0 type A port; 1 x mini USB connector
- 1 x MIC-in
- 1 x Line-out
- 1 x 19V DC power input
- 1 x Docking connector

### Communication
- IEEE 802.11 b/g/n Wi-Fi module with built-in antenna
- Bluetooth module class 2 v2.1 + EDR (optional)
- WWAN support of GSM/ GPRS/ HSDPA/ WCDMA (optional)

### Data Capture
- GPS receiver with built-in internal antenna (optional)
- 2M pixel CMOS camera
- HF RFID reader compliant with ISO14443A/B and ISO 15693 (optional)
- 1D/ 2D laser barcode engine (optional)

### Indicators and Buttons
- Four color LED indictors - power on/off, battery, WLAN and HDD
- Four programmable function keys
- Five buttons – navigation key, power button, wireless switch button, camera shot button and barcode scanner button

## Dimension Drawing




**Power Input**
- Power input voltage: DC 19V/ 3.42A
- AC adapter: 100V-240V AC, 50Hz/60Hz
- Rechargeable lithium ion smart battery pack: 2600 mAh@11/1V, 28.86W/hr; support hot swap (optional)

**Dimensions**
- 296mm (W) x 214mm (H) x 50mm (D) with rubber
- 280mm (W) x 205mm (H) x 37mm (D) without rubber
- 1.44Kg with rubber; 1.2Kg without rubber

**Enclosure**
- Plastic housing (ABS + PC)
- Color: black

**Environment**
- Operating temperature: -20°C to 50°C
- Storage temperature: -30°C to 60°C
- Rel. humidity: 0% to 95%

**Rugged Grade**
- IP 54
- Compliance with MIL-STD-810F

**Certifications**
- CE approval
- FCC Class B

## Ordering Information

- **MRC 2200 (P/N: 10U00220000X0)**

  8" Rugged tablet PC with Intel® Atom™ 1.6GHz processor/ 8GB SSD/ 1GB memory/ 5-wires touch screen/ Wi-Fi

- **Optional Features for MRC 2200**

  1D Laser Barcode Scanner: RIOTEC (P/N: 88U00220001X0)
  2D Laser Barcode Scanner: Opticon (P/N: 88U00220003X0)
  WWAN Module with internal antenna: Sierra MC8790V (P/N: 88U00210006X0)
  HF RFID Reader 13.56MHz (P/N: 88U00220002X0)
  Bluetooth Pack w/ Antenna (P/N: 88U00210007X0)
  GPS Pack w/ Antenna (P/N: 88U00220000X0)
  Windows XP Pro for Embedded Software Kit (P/N: 88U00220004X0)
  Windows Embedded Standard 2009 Software Kit (P/N: 88U00220005X0)

- **Optional Accessories for MRC 2200**

  Vehicle Docking Station (P/N: 10UK0DOCK00X0)
  Desktop Docking Station (P/N: 10UK0DOCK02X0)
  Holding Bracket (P/N: 50501A0325X00)
  4 Slots Battery Charger (P/N: 10UK0BATT00X0)
  Carry Case (P/N: 6019900015X00)
  Spare Battery Pack (3S1P) (P/N: 4ZTSS26301X00)
  Vehicle Cigarette Adaptor Charger (P/N: 7400060010X00)
  USB to VGA Adaptor (P/N: 7500VGA004X00)
  Power Cable (US) (P/N: 60233POW38X00)
  Power Cable (EU) (P/N: 60233POW39X00)
  Power Cable (UK) (P/N: 60233POW40X00)

# MRC 2300

**8" Rugged Tablet PC with Intel® Atom™ Processor/ Daylight Readable Display/ 5-Wires Resistive Touch Screen/ Wi-Fi/ Bluetooth/ GPS**

## Main Features

- Fanless Design with low power consumption processor
- Daylight readable display
- Wireless connectivity of WLAN/ WWAN/ Bluetooth
- WWAN support GSM/ GPRS/ HSDPA/ WCDMA (Optional)
- Integrated GPS receiver with built-in antenna
- Integrated laser barcode scanner (1D/ 2D) or HF RFID (Optional)
- Optional battery hot swap support
- IP54 compliance for dust and water protection
- Compliant with MIL-STD-810F

## Product Overview

The MRC 2300, an 8" semi-rugged tablet PC, is an advance version of the MRC 2300. The MRC 2300 adapts the low power consumption processor, Intel® N450, and integrates an 8" daylight readable display and GPS receiver. It also provides the easy access of battery pack without screw and an option for battery hot swap. The MRC 2300 can be applied not only in logistical management and vehicle application, but also suits for the mobile engineers working at outdoor through vary wireless connectivity. It is built with the rugged design, compliant with MIL-STD-810F and IP54 rating, to withstand in the harsh environment.

## Specifications

### CPU Support
- Intel® Atom™ N450 1.6GHz processor 667MHz FSB

### Chipset
- Intel® System Controller Hub ICH8M

### Memory
- 1GB DDR2 SODIMM 667MHz, support up to 2GB (optional)

### Storage
- 8GB solid state drive/SATA interface, support up to 64GB or 120GB 1.8" HDD/ SATA interface

### Audio
- Intel® high definition audio
- AC '97 Compatible
- 2 x 2W built-in speakers
- 1 x external Mic-in and 1 x external Line-out
- 1 x Internal microphone

### Display
- 8" TFT LCD with LED backlight
  Resolution: 800 x 600 pixels (SVGA)
  Luminance: 400 nits
  Contrast ratio: 500
- 5-wries resistant touch screen
- Daylight readable display
- Auto dimming via ambient light sensor

### I/O Interface
- 2 x USB 2.0 type A port, 1x mini USB 2.0 connector
- 1 x Mic-in
- 1 x Line-out
- 1 x 19V DC power input
- 1 x Docking connector

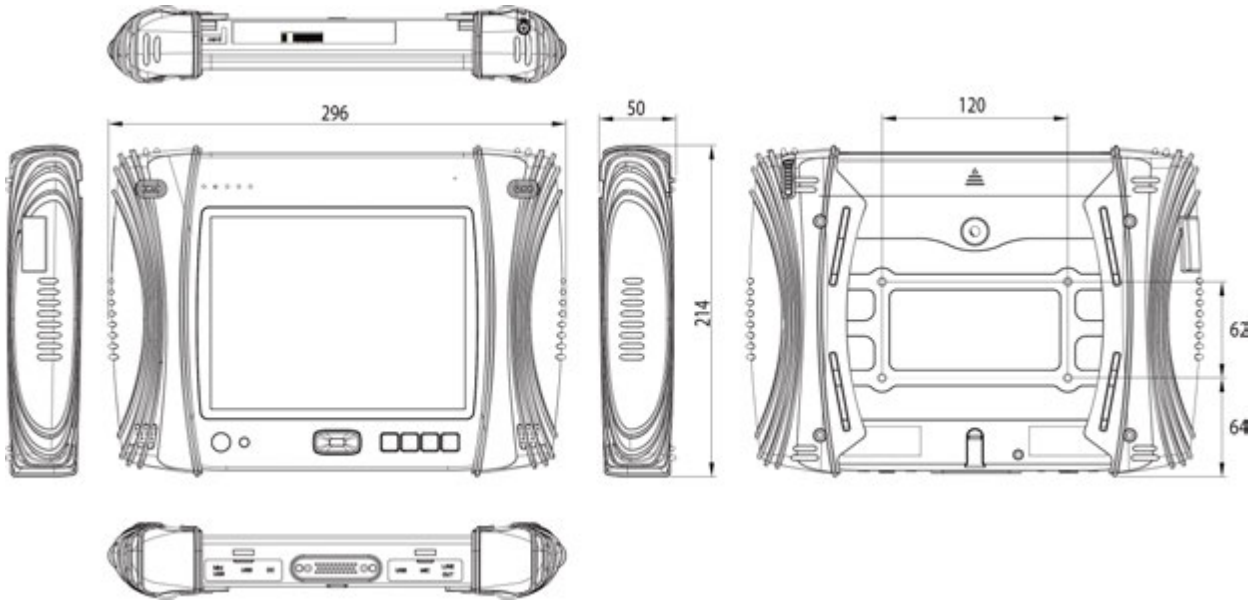
### Communication
- IEEE 802.11 b/g/n Wi-Fi module with built-in antenna
- Bluetooth module class 2 v2.1 + EDR
- WWAN support of GSM/ GPRS/ HSDPA/ WCDMA (optional)

### Data Capture
- GPS receiver with built-in internal antenna
- 2M pixel CMOS camera
- HF RFID reader compliant with ISO14443A/B and ISO 15693 (optional)
- 1D/ 2D laser barcode engine (optional)

### Indicators and Buttons
- Four color LED indictors - power on/off, Battery, WLAN and HDD)
- Four programmable function keys
- Five buttons – navigation key, power button, wireless switch button, camera shot button and barcode scanner button

### Power Input
- Power input voltage: DC 19V/3.42A
- AC adapter: 100V-240V AC, 50Hz/60Hz
- Rechargeable lithium ion smart battery pack: 2600 mAh@ 11.1V, 28.86W; support hot swap (optional)

## Dimension Drawing




**Dimensions**
- 296mm (W) x 214mm (H) x 50mm (D) with rubber
- 280mm (W) x 205mm (H) x 37mm (D) without rubber
- 1.44Kg with rubber; 1.2Kg without rubber

**Enclosure**
- Plastic housing (ABS + PC)
- Color: black

**Environment**
- Operating temperature: -20°C to 50°C
- Storage temperature: -30°C to 60°C
- Rel. humidity: 5% to 95%

**Rugged Grade**
- IP 54
- Compliance with MIL-STD-810F

**Standards/ Certifications**
- CE approval
- FCC Class B

## Ordering Information

- **MRC 2300-H (P/N: 10U00230000X0)**
  8" Rugged tablet PC with Intel® Atom™ 1.6GHz processor/ 120GB HDD/ 1GB memory/ daylight readable touch screen/ GPS/ Wi-Fi/ Bluetooth
- **MRC 2300-S (P/N: 10U00230001X0)**
  8" Rugged tablet PC with Intel® Atom™ 1.6GHz processor/ 8GB SSD/ 1GB memory/ daylight readable touch screen/ GPS/ Wi-Fi/ Bluetooth
- **Optional Features for MRC 2300**
  1D Laser Barcode Scanner: RIOTEC (P/N: 88U00220001X0)
  2D Laser Barcode Scanner: Opticon (P/N: 88U00220003X0)
  WWAN Module with internal antenna: Sierra MC8790V (P/N: 88U00210006X0)
  HF RFID Reader 13.56MHz (P/N: 88U00220002X0)
  Windows XP Pro for Embedded Software Kit (P/N: 88U00220004X0)
  Windows Embedded Standard 2009 Software Kit (P/N: 88U00220005X0)
- **Optional Accessories for MRC 2300**
  Vehicle Docking Station (P/N: 10UK0DOCK00X0)
  Desktop Docking Station (P/N: 10UK0DOCK02X0)
  Holding Bracket (P/N: 50501A0325X00)
  4 slots Battery Charger (P/N: 10UK0BATT00X0)
  Carry Case (P/N: 6019900015X00)
  Spare Battery Pack (3S1P) (P/N: 4ZTSS26301X00)
  Vehicle Cigarette Adaptor Charger (P/N: 7400060010X00)
  USB to VGA Adaptor (P/N: 7500VGA004X00)
  Power Cable (US) (P/N: 60233POW38X00)
  Power Cable (EU) (P/N: 60233POW39X00)
  Power Cable (UK) (P/N: 60233POW40X00)

# MRC 3000

10.4" Rugged Tablet PC with Intel® Atom™ Processor

Coming Soon

## Main Features

- 10.1" high resolution TFT LCD Monitor
- New Intel platform Oak Trail
- 2GB DDR2 SDRAM on board
- Overlay/ Flash front panel design
- Dual Mode Input -digitizer Sensor integrated
- Hot swappable battery packs with long battery life support
- IP65/ 6 feet drop on plywood
- Its design is compliant with EN60601
- Variety wireless communication options
- On Screen function and Programmable key

## Product Overview

The MRC 3000, a 10.1" semi-rugged tablet PC, is an advance version of the MRC 3000. The MRC 3000 adapts the low power consumption processor, Intel® N2600, and integrates a 10.1" daylight readable display and GPS receiver. It also provides the easy access of battery pack without screw and an option for battery hot swap. The MRC 3000 can be applied not only in logistical management and vehicle application, but also suits for the mobile engineers working at outdoor through vary wireless connectivity. It is built with the rugged design, compliant with MIL-STD-810F and IP65 rating, to withstand in the harsh environment.

## Specifications

**CPU Support**
- Intel® Atom™ N2600 1.6 GHz processor

**Chipset**
- Intel® NM10 Chipset

**Memory**
- 2GB DDR3 SODIMM 1333Mhz

**Storage**
- mSATA

**Audio**
- Intel® high definition audio
- AC '97 Compatible

**Display**
- 10.1" TFT LCD with LED backlight
- Resolution: 1280 x 800 pixels
- Luminance: 340 nits
- Contrast ratio: 600
- Projective Capacitive Touch
- Daylight readable display with AG film solution

**I/O Interface-Front**
- 4 x LED's for Power, Battery, WWAN/ WLAN/ BT and RFID
- 3 x Trigger Buttons for Camera Snap, Barcode, RFID
- 1 x 5-Way Navigation Keyt
- Control Buttons:
  1 x WLAN / BT Switch on/ off
  1 x Function Key
  2 x Programmable Keys
  1 x Security Button (work as ctrl-alt-del)

**I/O Interface- Lateral**
- 1 x USB 2.0 host type A connector (on right side)
- 1 x USB 2.0 host Mini-A type (on right side)
- 1 x ATX Power-on button (on left side)
- 1 x Mini SIM card slot (under the battery pack)
- HDMI type D port, compatible with HDMI 1.3a
- Line-In/Line-Out TRS type 3.5Ø
- 1 x DC input socket (18~20V DC-in)

**I/O Interface- Bottom**
- Docking IO Port (Pogo pin type)
  2 x USB 2.0
  1 x UART Tx/Rx
  1 x RJ-45 LAN port
  1 x Line-In/Line-Out
  1 x RS-232 (converted from USB)
  Power pass-through
  GPS/ WWAN pass-through

## Dimension Drawing

Coming Soon

**I/O Interface- Rear**
- Dual Battery Pack Slots

**Data Capture**
- 2M pixel CMOS camera (front)
- 5M pixel CMOS camera (rear)
- HF RFID reader compliant with ISO14443A/B and ISO 15693 (optional)
- 1D/ 2D laser barcode engine (optional)

**Power Input**
- Power input voltage: DC12V/5A
- AC adapter: 100V-240V AC, 50Hz/60Hz
- Rechargeable lithium ion smart battery pack: 4150mAh@ 7.4V
- Extended lithium smart battery pack, with gauge IC: 12,450mAh@ 7.4V and support hot swap (optional)

**Operating System**
- Windows 7/ WES 7P
- Linux (Fedora Core 12)
- Android 3.0

**Dimensions**
- 290mm (W) x 195mm (H) x 21mm (D)
- 1.3Kg

**Enclosure**
- Plastic housing (ABS + PC)
- Color: White

**Environment**
- Operating temperature: -20 ~ 60°C
- Storage temperature: -30°C to 70°C
- Relative humidity (Non-condensing):
  Operating: 5%~90%@60°C (Non-condensing)
  Non-Operating: 5%~95%@70°C (Non-condensing)
- Drop:
  6 feet on plywood
- Vibration:
  1g@5~500 Hz (in operation)
- Vibration:
  Operating: MIL-STD-810F, Method 514.5, Category 20, Ground Vehicle – Highway Truck
  Storage: MIL-STD-810F, Method 514.5, Category 24, Integrity Test
- Shock:
  Operating: MIL-STD-810F, Method 516.5, Procedure I, Trucks and semi-trailers=20g
  Crash hazard: MIL-STD-810F, Method 516.5, Procedure V, Ground equipment=75gIngress

**Protection**
- IP 65
- Compliance with MIL-STD-810F

**Standards/ Certifications**
- General (ITE):
  EN/IEC 60950-1
  EMC: FCC CFR 47 P.15 Sub B - Class B, EN 55022 / CISPR 22 - Class B, EN 55024
  Marks: CE, FCC Class B
- Medical Version:
  Safety: EN/IEC 60601-1, UL 60601-1
  EMC: EN/IEC 60601-1-2, EN 55011 / CISPR 11 - Class B
  Marks: UL, CE, FCC Class B
- Radio (optional):
  FCC CFR 47 P.15 Sub C, RSS-210, SAR, IC ID, R&TTE

## Ordering Information

- **MRC 3000 (P/N: TBD)**

# MTK-DOCK-01

**Vehicle Docking Station**

* note

## Main Features

- Wide range voltage support from 9~36V for vehicle application
- Support USB 2.0 x 2, COM x 1, and Ethernet LAN 10/100
- IP67 Water Proof I/O Connectors Cover Tough Environment Application
- Support VESA Mount for Variety Installation

* Note: This photo is for illustration only. The dock does NOT contain the terminal and RAM mount kit.

## Specifications

**I/O Ports**
- 2 x USB 2.0 (IP67 & lockable connector)
- 1 x RS232
- 1 x LAN 10/100 base-T port (IP67 & lockable connector)
- 1 x internal mini card socket
- DC-in 9-36V power input (IP67 & lockable connector)
- 32-pin PoGo connector
- 2 x antenna hole (reserved for SMA type connectors)

**LED Indicators and Switch**
- 5 LED indicators for power, LAN connection, LAN access, WLAN, and Lock
- Two switch to lock/ unlock the system to dock

**Mounting Hole**
- RAM-202 bases with C size (1.5" diameter) ball, standing up to 4.5 kgs
- VESA 75 (75mm x 75mm)

**Dimensions**
- 296mm x 268mm x 109mm
- 2.5Kg

**Enclosure**
- Plastic (ABS+PC)
- Aluminum Alloy (ADC-12)

**Environment**
- Operating temperature: -20°C to 50°C
- Relative humidity: 5% to 95% (non-condensing)

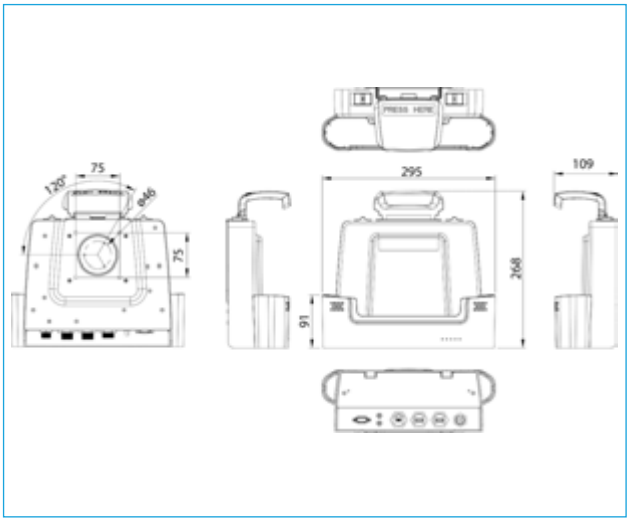
**Standards/ Certifications**
- CE approval
- FCC Class B

## Ordering Information

- **MTK-DOCK-01 (P/N: 10UK0DOCK00X0)**
  Vehicle docking station with USB/ RS232/ LAN/ Mini Card/ Expansion I/O (RAM/ VESA Mount and Tablet PC need to purchased separately)

IP 67 RJ45 Plug (Ass'y Type) (P/N: 5060900156X00)

IP 67 USB Plug (1M Cable) (P/N: 60233USB72X00)



# MTK-DOCK-02

**Desktop Docking Station**

## Main Features

- Providing 4 x USB Ports, you can connect to your favorite peripherals
- support 1 x Giga Ethernet
- A rear loading battery charger enables charging MRC series and additional battery pack x 1 at the same time
- Adjustable rubber feet of Cradle ensure the optimal viewing angle
- Providing flexible optional I/O, e.g memory card slot or COM port to fulfill various applications

## Specifications

**I/O Ports**
- 4 x USB 2.0 ports (Max.)
- 1 x LAN 10/100/1000 base-T Port
- 1 x Memory card slot, support SD, xD, MS and SM (optional)*
- 1 x RS232 (optional)*

  * Occupy 1 x USB2.0 port; system USB port (rear side)

**Power Input**
- Power input voltage: DC19V/ 3.42A
- Batteries charger: enable charging both MRC series and additional battery pack (3S1P) at the same time
  Support 1 slot battery charging

**5 LED Indicators**
- Power LED
- Plug-in LED
- LAN link
- LAN access
- Battery status LED

**Dimension**
- 235.7mm x 207mm x 150mm

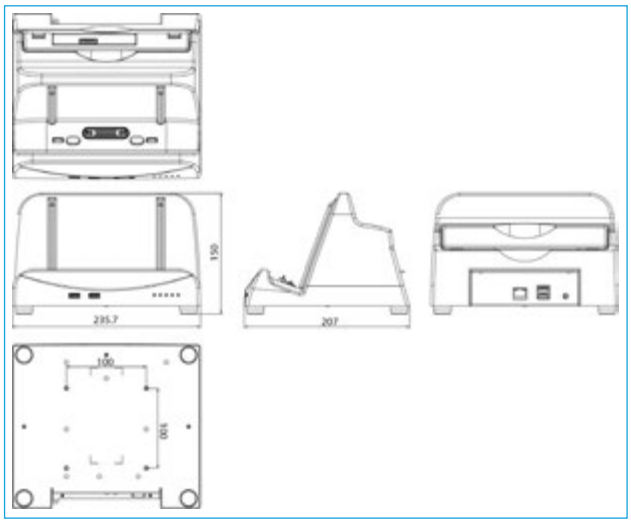
**Enclosure**
- Plastic (ABS+PC)
- Metal (SECC)

**Environment**
- Operating temprature: -20°C to 50°C
- Relative humidity: 5% to 95% RH non-condensing

**Standards/ Certifications**
- CE approval
- FCC Class B

## Ordering Information

- **MTK-DOCK-02 (P/N: 10UK0DOCK02X0)**
  Desktop docking station with USB/ Giga Ethernet



# MTK-BATT-01

4 Slots Battery Charger

## Main Features

- Multiple Charger for 4-slots Batteries
- Fast Charging within 3 Hours

## Specifications

**Battery Slot**
- 4 slots

**Charging Time**
- Within 3 hours (3S1P)

**Battery Indicator**
- charging: solid orange
- Full charged: solid green
- While battery has defect/ problem: flash orange

**Input Power**
- 65V

**Adapter**
- 90W, 19V

**Weight**
- 0.53Kg

**Dimensions**
- 175mm (W) x 160mm (H) x 50.2mm (D)

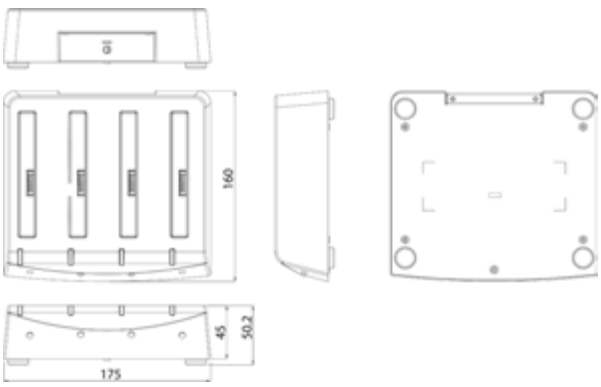
**Color**
- Black paint

**Environment**
- Operating temperature: 0°C to 45°C
  Storage temperature: -10°C to +60°C
- Humidity: 5% to 95% RH non-condensing at 40°C

**Standards/ Certifications**
- CE approval
- FCC Class B

## Ordering Information

- **MTK-BATT-01 (P/N: 10UK0BATT00X0)**



# MRC Series Optional Accessories

| | Model / Part Number | Description |
|---|---|---|
|  | MTK-DOCK-01<br>P/N: 10UK0DOCK00X0 | Vehicle docking station, 2 x USB, 1 x LAN,<br>1 x RS232, 1 x DC-in (9~36V) |
|  | MTK-DOCK-02<br>P/N: 10UK0DOCK02X0 | Desktop docking station, 4x USB, 1x LAN,<br>1 x DC-in, 1 x memory card slot |
|  | MTK-DOCK-03<br>P/N: 50501A0325X00 | Holding bracket |
|  | MTK-BATT-01<br>P/N: 10UK0BATT00X0 | Battery charger with four bays, charging 4 battery pack (max)<br>together less than 3 hours |
|  | P/N: 4ZTSS26301X00 | Spare battery pack, 2600mAh @ 11.1V<br>rechargeable lithium ion smart battery pack |
|  | P/N: 6019900015X00 | Carry case |
|  | P/N: 7400060010X00 | Vehicle cigarette adapter |
|  | P/N: 7500VGA004X00 | USB to VGA adapter |

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