



NEXCOM International Co., Ltd.

Mobile Computing Solutions

Rugged Tablet Computer

MRC 1000 Series

User Manual

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Preface

Disclaimer

The information in this document is subject to change without prior notice and does not represent commitment from NEXCOM International Co., Ltd. However, users may update their knowledge of any product in use by constantly checking its manual posted on our website: <http://www.nexcom.com>. NEXCOM shall not be liable for direct, indirect, special, incidental, or consequential damages arising out of the use of any product, nor for any infringements upon the rights of third parties, which may result from such use. Any implied warranties of merchantability or fitness for any particular purpose is also disclaimed.

Acknowledgements

MRC 1000 and MRC 1100 are trademarks of NEXCOM International Co., Ltd. All other product names mentioned herein are registered trademarks of their respective owners.

Regulatory Compliance Statements

This section provides the FCC compliance statement for Class B devices and describes how to keep the system CE compliant.

Declaration of Conformity

FCC

This equipment has been tested and verified to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area (domestic environment) is likely to cause harmful interference, in which case the user will be required to correct the interference (take adequate measures) at their own expense.

CE

The product(s) described in this manual complies with all applicable European Union (CE) directives if it has a CE marking. For computer systems to remain CE compliant, only CE-compliant parts may be used. Maintaining CE compliance also requires proper cable and cabling techniques.

RoHS Compliance



NEXCOM RoHS Environmental Policy and Status Update

RoHS restricts the use of Lead (Pb) < 0.1% or 1,000ppm, Mercury (Hg) < 0.1% or 1,000ppm, Cadmium (Cd) < 0.01% or 100ppm, Hexavalent Chromium (Cr6+) < 0.1% or 1,000ppm, Polybrominated biphenyls (PBB) < 0.1% or 1,000ppm, and Polybrominated diphenyl Ethers (PBDE) < 0.1% or 1,000ppm.

In order to meet the RoHS compliant directives, NEXCOM has established an engineering and manufacturing task force to implement the introduction of green products. The task force will ensure that we follow the standard NEXCOM development procedure and that all the new RoHS components and new manufacturing processes maintain the highest industry quality levels for which NEXCOM are renowned.

The model selection criteria will be based on market demand. Vendors and suppliers will ensure that all designed components will be RoHS compliant.

How to recognize NEXCOM RoHS Products?

For existing products where there are non-RoHS and RoHS versions, the suffix "(LF)" will be added to the compliant product name.

All new product models launched after January 2006 will be RoHS compliant. They will use the usual NEXCOM naming convention.

Warranty and RMA

NEXCOM Warranty Period

NEXCOM manufactures products that are new or equivalent to new in accordance with industry standard. NEXCOM warrants that products will be free from defect in material and workmanship for 2 years, beginning on the date of invoice by NEXCOM. HCP series products (Blade Server) which are manufactured by NEXCOM are covered by a three year warranty period.

NEXCOM Return Merchandise Authorization (RMA)

- Customers shall enclose the “NEXCOM RMA Service Form” with the returned packages.
- Customers must collect all the information about the problems encountered and note anything abnormal or, print out any on-screen messages, and describe the problems on the “NEXCOM RMA Service Form” for the RMA number apply process.
- Customers can send back the faulty products with or without accessories (manuals, cable, etc.) and any components from the card, such as CPU and RAM. If the components were suspected as part of the problems, please note clearly which components are included. Otherwise, NEXCOM is not responsible for the devices/parts.
- Customers are responsible for the safe packaging of defective products, making sure it is durable enough to be resistant against further damage and deterioration during transportation. In case of damages occurred during transportation, the repair is treated as “Out of Warranty.”
- Any products returned by NEXCOM to other locations besides the customers’ site will bear an extra charge and will be billed to the customer.

Repair Service Charges for Out-of-Warranty Products

NEXCOM will charge for out-of-warranty products in two categories, one is basic diagnostic fee and another is component (product) fee.

System Level

- Component fee: NEXCOM will only charge for main components such as SMD chip, BGA chip, etc. Passive components will be repaired for free, ex: resistor, capacitor.
- Items will be replaced with NEXCOM products if the original one cannot be repaired. Ex: motherboard, power supply, etc.
- Replace with 3rd party products if needed.
- If RMA goods can not be repaired, NEXCOM will return it to the customer without any charge.

Board Level

- Component fee: NEXCOM will only charge for main components, such as SMD chip, BGA chip, etc. Passive components will be repaired for free, ex: resistors, capacitors.
- If RMA goods can not be repaired, NEXCOM will return it to the customer without any charge.

Warnings

Read and adhere to all warnings, cautions, and notices in this guide and the documentation supplied with the chassis, power supply, and accessory modules. If the instructions for the chassis and power supply are inconsistent with these instructions or the instructions for accessory modules, contact the supplier to find out how you can ensure that your computer meets safety and regulatory requirements.

Cautions

Electrostatic discharge (ESD) can damage system components. Do the described procedures only at an ESD workstation. If no such station is available, you can provide some ESD protection by wearing an antistatic wrist strap and attaching it to a metal part of the computer chassis.

Safety Information

Before installing and using the device, note the following precautions:

- Read all instructions carefully.
- Do not place the unit on an unstable surface, cart, or stand.
- Follow all warnings and cautions in this manual.
- When replacing parts, ensure that your service technician uses parts specified by the manufacturer.
- Avoid using the system near water, in direct sunlight, or near a heating device.

Installation Recommendations

Ensure you have a stable, clean working environment. Dust and dirt can get into components and cause a malfunction. Use containers to keep small components separated.

Adequate lighting and proper tools can prevent you from accidentally damaging the internal components. Most of the procedures that follow require only a few simple tools, including the following:

- A Philips screwdriver
- A flat-tipped screwdriver
- A grounding strap
- An anti-static pad

Using your fingers can disconnect most of the connections. It is recommended that you do not use needle-nose pliers to disconnect connections as these can damage the soft metal or plastic parts of the connectors.

Safety Precautions

1. Read these safety instructions carefully.
2. Keep this User Manual for later reference.
3. Disconnect this equipment from any AC outlet before cleaning. Use a damp cloth. Do not use liquid or spray detergents for cleaning.
4. For plug-in equipment, the power outlet socket must be located near the equipment and must be easily accessible.
5. Keep this equipment away from humidity.
6. Put this equipment on a stable surface during installation. Dropping it or letting it fall may cause damage.
8. Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.
9. Place the power cord in a way so that people will not step on it. Do not place anything on top of the power cord. Use a power cord that has been approved for use with the product and that it matches the voltage and current marked on the product's electrical range label. The voltage and current rating of the cord must be greater than the voltage and current rating marked on the product.
10. All cautions and warnings on the equipment should be noted.
11. If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient overvoltage.
12. Never pour any liquid into an opening. This may cause fire or electrical shock.
13. Never open the equipment. For safety reasons, the equipment should be opened only by qualified service personnel.
14. If one of the following situations arises, get the equipment checked by service personnel:
 - a. The power cord or plug is damaged.
 - b. Liquid has penetrated into the equipment.
 - c. The equipment has been exposed to moisture.
 - d. The equipment does not work well, or you cannot get it to work according to the user's manual.
 - e. The equipment has been dropped and damaged.
 - f. The equipment has obvious signs of breakage.
15. Do not place heavy objects on the equipment.
16. The unit uses a three-wire ground cable which is equipped with a third pin to ground the unit and prevent electric shock. Do not defeat the purpose of this pin. If your outlet does not support this kind of plug, contact your electrician to replace your obsolete outlet.
17. CAUTION: DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED. REPLACE ONLY WITH THE SAME OR EQUIVALENT TYPE RECOMMENDED BY THE MANUFACTURER. DISCARD USED BATTERIES ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.

Technical Support and Assistance

1. For the most updated information of NEXCOM products, visit NEXCOM's website at www.nexcom.com.
2. For technical issues that require contacting our technical support team or sales representative, please have the following information ready before calling:
 - Product name and serial number
 - Detailed information of the peripheral devices
 - Detailed information of the installed software (operating system, version, application software, etc.)
 - A complete description of the problem
 - The exact wordings of the error messages

Warning!

1. Handling the unit: carry the unit with both hands and handle it with care.
2. Maintenance: to keep the unit clean, use only approved cleaning products or clean with a dry cloth.

Conventions Used in this Manual



Warning:

Information about certain situations, which if not observed, can cause personal injury. This will prevent injury to yourself when performing a task.



Caution:

Information to avoid damaging components or losing data.



Note:

Provides additional information to complete a task easily.

Global Service Contact Information

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Ordering Information

The following below provides ordering information for the MRC 1000 series.

MRC 1000 (P/N: 10U00100000X0)

7" Rugged tablet PC with Intel Atom 1.6GHz processor/ 32GB SSD/
2GB memory/ 4-wires touch screen/ Wi-Fi/ Bluetooth

MRC 1100 (P/N : 10U00110000X0)

7" Rugged tablet PC with Intel Atom 1.6GHz processor/ 64GB SSD/ 2GB
memory/daylight readable touch/ 4-wires touch screen/ Wi-Fi/ Bluetooth/
GPS/ WWAN

Optional Accessories for MRC 1000/1100

Part Number	Description
10UK10VMC00X0	Vehicle Docking Station
10UK10DTC00X0	Desktop Docking Station
10UK10SBC00X0	4 Slots Battery Charger
2AUK10BCI00X0	2D Laser Barcode Scanner
2AUK10MSR00X0	Magnetic Stripe Reader
4ZTSA12901X00	Spare Battery Pack (3S3P/42Whr)
4ZTSA18901X00	Spare Battery Pack (3S3P/62Whr)
7400060010X00	Vehicle Cigarette Adaptor Charger

Chapter 1: Introduction

Overview

Front View



Rear View





Key Features

- 7" WVGA TFT LCD with LED backlight
- Intel® Atom™ Z530 1.6GHz processor
- Full QWERTY keyboard w/number pad
- Built-in fingerprint reader for data security
- Built-in 2.0 Mega Pixels camera sensor
- Built-in Class 2 Bluetooth V2.1 with EDR
- Support high performance dual-band Wi-Fi
- Optional GSM/GPRS/HSPA/CDMA
- Integrated 2D barcode scanner (Optional)
- Integrated MSR module (Optional)
- Support hot swappable extended battery pack
- Compliance with IP65 and MIL-STD-810F

Hardware Specifications

CPU

- Intel® Atom™ processor Z530
- Intel® US15W

Memory

- 2GB DDR2 SDRAM

Storage

- Built-in 32GB Solid State Disk

Audio

- Intel® high definition audio
- AC '97 Compatible
- 2x 1W build-in speakers
- 1x iPhone compatible audio jack (line-out/mic-in)

Display

- 7-inch Transmissive TFT LCD panel with LED backlight
Resolution: 800 x 480 pixels (WVGA)
Luminance: 400nits
Contrast: 400:1
- 4-wire resistive touch screen
- Support for finger touch and stylus

I/O Interface

- 2x USB 2.0 host type A connector
- 1x 19V DC power input
- 1x Docking connector
- 1x SIM card slot located under battery
- 1x External Li-ion battery connector on rear panel
- 2x MMCX type RF connectors support WWAN and GPS remote antenna kits

Communication

- 1x Class 2 Bluetooth Module V 2.1 + EDR
- 1x WLAN 802.11 a/b/g/n module with built-in antenna
- 1x WWAN module (optional)

Data Capture

- 1x 2.0M pixel autofocus Camera
- 1x GPS module (optional)
- 1x MSR Module (optional)
- 1x 2D Barcode scanner (optional)

Indicators and Buttons

- 4x LED indicators-Power on/off, Storage, Wi-Fi and battery
- Full QWERTY keyboard w/number pad
 - backlit
 - 10 single touch function keys
- Biometric mouse
- Finger print reader
- 1x Power button on front panel
- 1x Reset button on front panel

Power Input & Battery

- Power input voltage: DC 19V/3.42A
- AC adapter: 100V-240V AC, 47Hz/63Hz
- Rechargeable lithium ion smart battery pack
- Battery life:
 - Primary Battery: 3 hours
 - Primary with 42Whr extended battery: 7 hours
 - Primary with 62Whr extended battery: 11 hours

Dimension

- 206mm x 200mm x34mm (8.1"x7.9"x1.3")
- 0.99kg, 2.2lb with integrated battery

Enclosure

- Magnesium case with plastic upper housing
- Color: Front housing Blue
Rear housing Grey

Environment

- Operating temperatures : -20°C to 50°C
- Storage temperature : -30°C to 60°C
- Relative humidity : 5% to 95% non-condensing

Rugged Grade

- IP65
- Compliance with MIL-STD-810F (Vibration & Shock)
- 4 feet drop

Operating System

- WES2009
- WES7
- Windows 7 Pro Embedded

Certifications

- CE approval
- FCC class B

Chapter 2: Getting Started

Thank you for purchasing NEXCOM's MRC 1000 mobile rugged computer. In this chapter, we will show you step by step how to get the MRC 1000 up and running.

Overview

The MRC 1000 series is capable of wireless data communications using an 802.11a/b/g/n radio. Additional connectivity options include Bluetooth and GPS.

The MRC 1000 is a tablet-style computer with a 62-key QWERTY keyboard with number pad and features a 7" color display. The touch screen display supports WVGA (800x480 resolution) and is available for either indoor or outdoor lighting. The keyboard is illuminated to facilitate use in dimly lit areas. A biometric mouse is included for security and screen navigation. Available add on modules include a magnetic stripe card reader and a 2D imager.

The MRC 1000 provides the power and functionality of a desktop computer in a portable unit. The desktop dock, much like a docking port for a conventional laptop, provides provisions for an external monitor and USB connections for devices such as a USB keyboard and mouse.

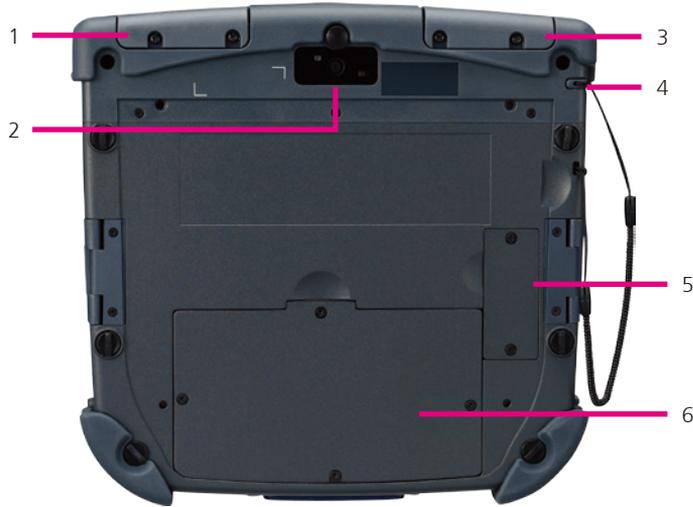
Getting to Know MRC 1000

Front View



Item	Part	Function
1	LED Indicators	 Indicates the storage drive status: <ul style="list-style-type: none"> • LED flashes green when drive is accessed.  Indicates the wireless status: <ul style="list-style-type: none"> • LED is solid blue when enabled, but not connected. Does not blink when connection/re-connection occurs.  Indicates the battery status: <ul style="list-style-type: none"> • LED is Off when battery is fully charged. • LED is solid green when battery is discharging. • LED is solid orange when battery is charging. • LED flashes orange when battery is low or has failed.
2	Speakers	2 built-in digital stereo speakers (2+1W/8Ω), one on each side.
3	Touch Screen / Display	Resistive 4-Wire touch screen
4	Microphone	Digital microphone
5	Power Button	 Indicates the storage drive status: <ul style="list-style-type: none"> • Solid blue when Marathon is On. • Flashes blue when Marathon is in Standby Mode.
6	Biometric Mouse	Fingerprint scan function

Rear View



Item	Part	Function
1	Bar Code Imager Add-on Cover	Bar Code Imager Add-on Cover
2	Camera	Camera
3	Magnetic Stripe Card Reader Add-on Cover	Magnetic Stripe Card Reader Add-on Cover
4	Tethered Stylus	Tethered Stylus
5	Extended Battery Connector Cover	Extended Battery Connector Cover
6	Internal Battery / SIM Card Cover	Internal Battery / SIM Card Cover

Bottom View



Item	Part	Function
1	External Antenna Signal Pathway	WWAN and GPS remote antenna kits for use in vehicle mount dock only
2	Docking Connector	1 x 32-pin Po Go connector for connecting a docking station

Right Side View



Item	Part	Function
1	Reset Button	Reset button power
2	USB Port Cover	Two USB 2.0 Host Ports

Left Side View



Item	Part	Function
1	Audio Jack	3.5mm iPhone compatible audio jack
2	Power Connector	DC-in 19V / 3.42A (65W)

Getting the MRC 1000 Running

Installing the SIM Card

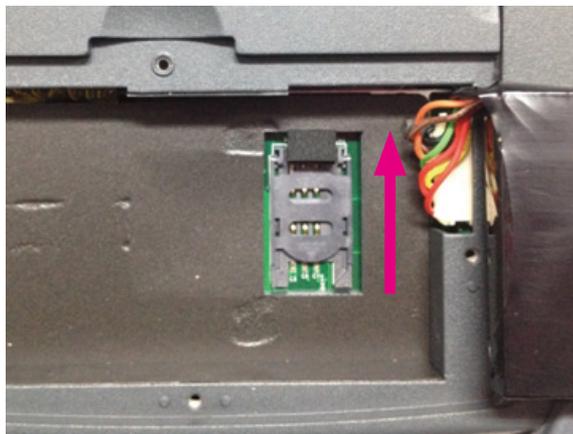
1. Make sure the system is turned off. Unscrew the battery door.



2. Lift the battery using the pull strap and move it aside. Do not disconnect the battery.



- Push the SIM card holder up (in the direction of the word OPEN on the holder) to release the lock.



- Slide a SIM card into the slot using the guides on the inside of the slot. Do not remove the SIM card holder.
- The angled corner of the SIM card ensures that the card fits the correct way in the slot.
- Slide the SIM card holder down (in the direction of the word LOCK on the holder) to lock the SIM card flat in the opening (LOCK).

- Replace the battery in the battery well.



- Replace the battery cover, securing it with the original 4 screws.

Connecting the AC Power Adapter



Note: Although the system supports both external AC power and internal battery, we highly recommend that you use AC power whenever you are powering-on MRC1000 for the first time.

Using a power adapter other than the one included in the package may damage both the battery and MRC1000.

1. Open the port cover on the left side of the MRC1000 to access the power connector.

2. Plug the AC power adapter.



Connecting USB Devices

You can connect peripheral devices, such as a USB keyboard and mouse, as well as other wireless devices using the USB ports on the right side of the MRC 1000.



Turning the MRC 1000 On

1. Press and hold the power button to turn on the MRC 1000.



Connecting an Audio Device

The MRC 1000 provides an external headset connection via an audio jack connector under the left-hand port cover. You can insert the speaker or headphone plug into the audio connector if needed.

Chapter 3: Operating Your Tablet PC

Tapping the Touch Screen with a Stylus

Hold the stylus as if it were a pen or pencil. Touch an element on the screen with the tip of the stylus then remove the stylus from the screen.

Using a stylus is similar to moving the mouse pointer then left-clicking icons on a desktop computer screen.

A right click is generated by tapping the mouse icon, usually located in the upper right hand corner of the screen. After tapping, the mouse icon highlights the right button. The next touchscreen tap is treated as a right click. The mouse icon returns to the left button highlighted so subsequent taps are treated as left clicks.

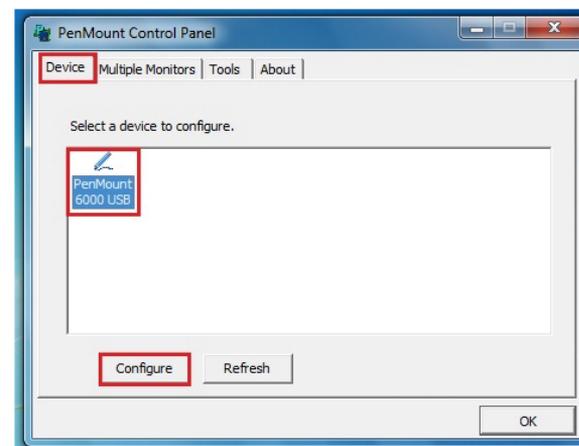


Note: If the mouse icon is not displayed, this feature can be enabled by tapping the PenMount  icon in the System Tray.

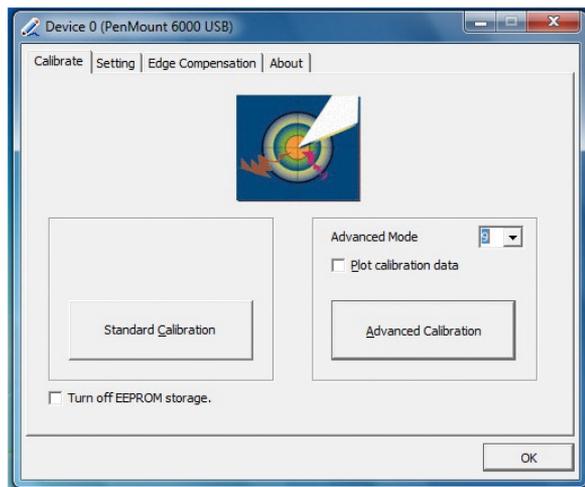
Calibrating Touch Screen

To calibrate the touch screen, tap **Start > Programs > PenMount Universal Driver > Utility > PenMount Control Panel** to open PenMount ControlPanel.

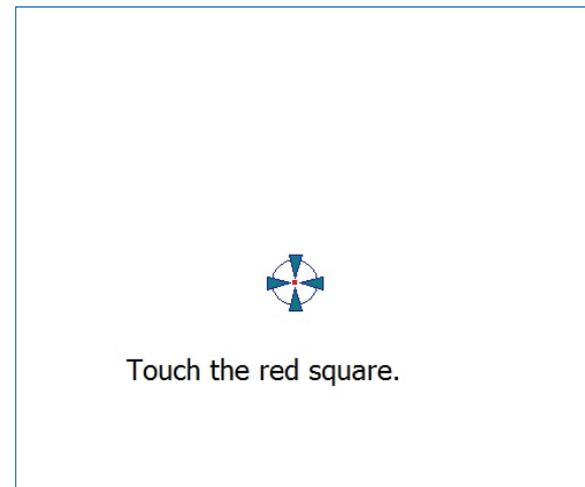
1. From PenMount Control Panel, highlight **PenMount 6000** under the **Device** tab. and tap Configure. The Device configuration screen will open.



2. Tap the Calibrate tab and you will see two options:



3. Touch the points as displayed onscreen using the pen.



Standard Calibration: Select this option to start 5 points Standard Calibration.

Advanced Calibration: Select this option to use 9, 16, or 25 points to calibrate the screen. Check **Plot calibration data** to enable touch panel linearity comparison graph. The blue lines show linearity before calibration and black lines show linearity after calibration.

Using the Biometric Mouse

The MRC 1000 contains a biometric mouse located right next to the keypad.



The biometric mouse performs two functions, security and screen navigation (simulating a mouse). Use the F9 function key to toggle between the two features.

Using the Keyboard

The keyboard has 62 keys, including a number pad. When using the keyboard, some keys have multiple functions. The primary alpha or numeric character is printed on the key.

Refer to Key Maps for 101-key keyboard equivalent key presses.



Sticky Keys

Alt, Ctl, Shift, Fn and Num Lck are sticky keys and function as described below:

- Press key once and key stays sticky for next keystroke.
- Press key and hold for a second and a half and the key stays sticky until sticky key is pressed again. For example, press Num Lck once and Num Lck stays ON, press it again and it turns OFF.

Keyboard Indicators

When the keyboard is not in use the keyboard backlight is off. Under normal conditions, the keys are backlit with white light when the keyboard is in use.

The backlight for certain keys is blue when the modifier key is active. These keys include:

- Fn
- CTL
- ALT
- SHIFT

The backlight for the NUM LCK key is amber when Num Lock is active.

Keyboard Help

Localized operating systems and the keyboard:

The MRC 1000 operating system is available in German, French, Spanish, etc. If using a localized operating system, view the **Region and language control panel** to verify English (United States) has been chosen as the primary keyboard language.

Adjusting Display Brightness

The display can be lightened or darkened by using the Fn key and the keypad:

1. Hold the Fn key down for a few seconds until the Fn key remains illuminated (sticky).
2. Press the 9 (brightness up) key to brighten the display.
3. Press the 3 (brightness down) key to darken the display.

The display brightness and darkness have nine levels. The display levels are managed by the Windows operating system. The Fn key active sticky mode takes precedence if the NumLck key is illuminated (sticky) during this process.

Using the Communication Features

Wireless LAN Connection

The MRC 1000 comes pre-loaded with wireless LAN module, you can send and receive signals to a WiFi network then synchronize files.

A wireless network can be added either when the network is detected or by manually entering settings. Before doing these steps, determine if authentication information is needed.

1. Right-click the wireless connection icon in the notification area.
2. Select one of the wireless connections and click **Connect**.



3. You will be prompted to enter a Security key for secure access. Contact the network administrator for this key.



4. Enter the required Security key and then tap **OK** to connect. The wireless connection will be negotiated and you will see the following screen.



The wireless connection icon in the notification area shows a connected status whenever a wireless connection is present.



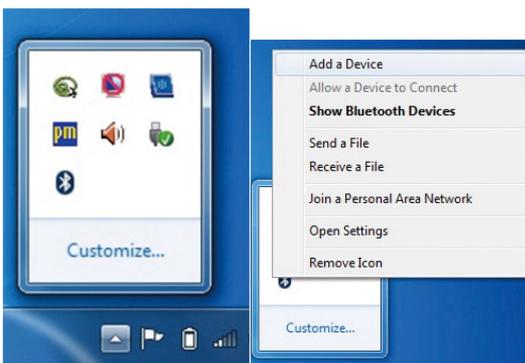
Bluetooth Connection

The MRC 1000 comes with built-in Bluetooth functionality that allows you to connect and communicate with other Bluetooth-enabled devices.

Setting up Bluetooth

Follow these instructions to set up a Bluetooth connection.

1. In notification area, tap the Bluetooth logo and select **Add a Device**.



2. Select Bluetooth device and tap **Next** to add Bluetooth device.
3. Select **Next** for both MRC 1000 and the bluetooth device after passkey is confirmed.
4. The Bluetooth device is successfully added into MRC 1000.
5. To view Bluetooth device added, tap **Show Bluetooth Devices**.

3.5G Module Connection (Optional)

3G module is optional with MRC 1000. It allows networks based on Universal Mobile Telecommunications System (UMTS) to have higher data transfer speeds and capacity.

To use the 3G feature on your tablet PC, you need to install the 3G SIM card and subscribe 3G service from your service provider or network operator.



Note: To install the SIM card, refer to Inserting SIM card section in Chapter 2.

Setting Up 3G Module

1. Tap **MRC 1000 driver > WWAN_Gobi2K > ConnectionManager R1.8 > bin** to run the software.
2. Follow the given instructions to complete the installation.



- When the setup complete, press <Finish>.



- Tap **Connect**.
- The signal strength is indicated as well as the name of the mobile network you are using. The screen also indicates the status of the device and the connection signal strength.



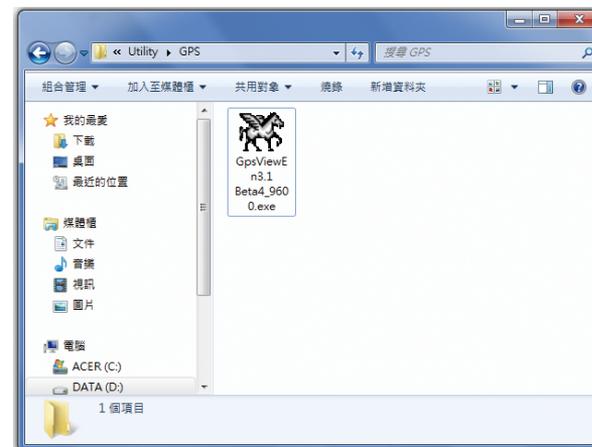
GPS Connection (Optional)

The MRC 1100 has a built-in GPS Gobi2000 module by default.

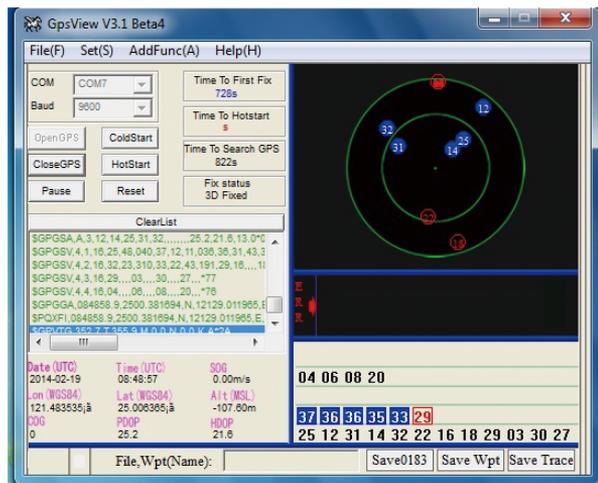
You can install the third-part GPS navigation software to take advantage of the GPS feature.

Setup Window Screenshot

- Insert the Installation Disc into CD-ROM drive and execute the "GpsViewEn" file (the file is also saved in C:\Utility\GPS_Utility).



2. When satellites are detected, their positions are shown on the map.



2D Barcode Scanner Features (Optional)

The MRC 1000 has optional 2D Barcode Scanner.

The MRC 1000 barcode decoder module contains a hybrid Symbol SE4500 bar code decoding engine and uses COM2 to be programmed.

Magnetic Stripe Reader Features (Optional)

The MRC 1000 has optional Magnetic Stripe Reader (MSR).

The MRC 1000 MSR uses COM3 and support Microsoft Windows OLE for Point of Service (OPOS) / Unified Point of Service (UPOS).

The user will need to create a company-specific magnetic stripe reader Point of Sale (POS) application.



Chapter 4: Using BIOS Setup

About BIOS Setup

The BIOS (Basic Input and Output System) Setup program is a menu driven utility that enables you to make configuration changes to the tablet PC and tailor it to suit your individual work needs. It is a ROM-based configuration utility that displays the tablet PC's configuration status and provides you with a tool to set system parameters and identify the types of installed devices.

When to Configure the BIOS

- This program should be executed under the following conditions:
- When changing the system configuration
- When a configuration error is detected by the system and you are prompted to make changes to the setup program
- When resetting the system clock
- When redefining the communication ports to prevent any conflicts
- When making changes to the Power Management configuration
- When changing the password or making other changes to the security setup

Normally, CMOS setup is needed when the system hardware is not consistent with the information contained in the CMOS RAM, whenever the CMOS RAM has lost power, or the system features need to be changed.

Entering Setup

When the system is powered on, the BIOS will enter the Power-On Self Test (POST) routines. These routines perform various diagnostic checks; if an error is encountered, the error will be reported in one of two different ways:

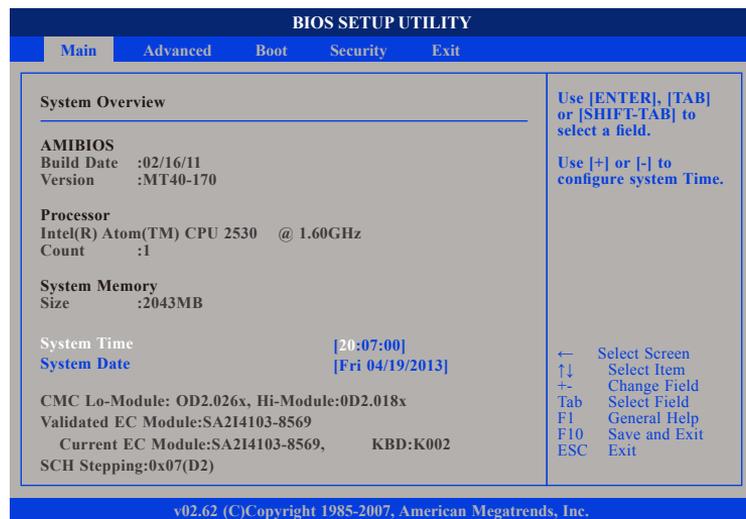
- If the error occurs before the display device is initialized, a series of beeps will be transmitted.
- If the error occurs after the display device is initialized, the screen will display the error message.

Powering on the computer and immediately pressing allows you to enter Setup. Another way to enter Setup is to power on the computer and wait for the following message during the POST:

Press the  key to enter Setup:

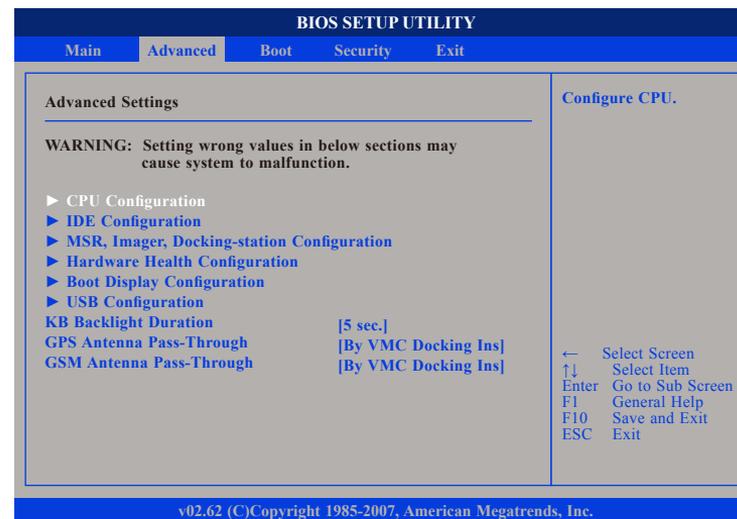
2.1 Main Menu

When you enter the BIOS setup program, the Main Menu screen appears, giving you an overview of the basic system information.



2.2 Advanced Menu

The Advanced menu items allow you to change the settings for the CPU and other system devices.



2.2.1 CPU Configuration

The items in this menu show the CPU-related information that the BIOS automatically detects.

BIOS SETUP UTILITY
Advanced

Configure advanced CPU settings
Module Version:3F.0D

Manufacturer: Intel
Intel(R) Atom(TM) CPU 2530 @ 1.60GHz
Frequency :1.59GHz
FSB Speed :533MHz
Cache L1 :24 KB
Cache L2 :512 KB
Ratio Actual Value:12

Max CPUID Value Limit [Disabled]
Execute-Disable Bit Capability [Enabled]
Hyper Threading Technology [Enabled]
Intel (R) SpeedStep(tm) tech [Enabled]

← Select Screen
↑↓ Select Item
+- Change Option
F1 General Help
F10 Save and Exit
ESC Exit

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2.2.2 IDE Configuration

The items in this menu allow you to set or change the configuration for the IDE devices installed in the system. Select the items then press <Enter> if you want to configure the item.

BIOS SETUP UTILITY
Advanced

IDE Configuration

- ▶ Primary IDE Master : [Hard Disk]
- ▶ Primary IDE Slave : [Not Detected]

BIOS SETUP UTILITY
Advanced

Primary IDE Master

Device :Hard Disk
Vendor :16GB ATA Flash Disk
Size :15.5GB
LBA Mode :Supported
Block Mode :Not Supported
PIO Mode :4
Async DMA :MultiWord DMA-2
Ultra DMA :Ultra DMA-2
S.M.A.R.T :Supported

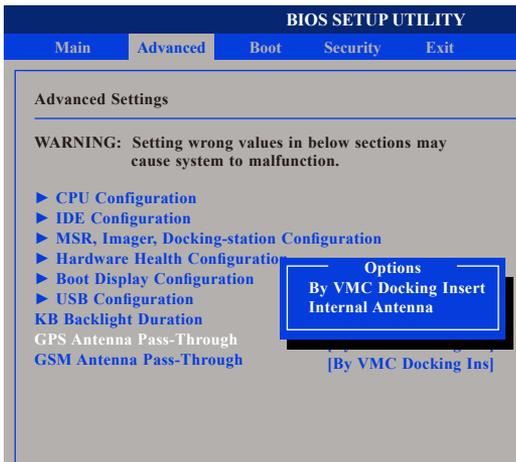
Type [Auto]
LBA/Large Mode [Auto]
Block (Multi-Sector Transfer) [Auto]
PIO Mode [Auto]
DMA Mode [Auto]
S.M.A.R.T. [Auto]
32Bit Data Transfer [Enabled]

2.2.5 GPS/GSM Antenna Pass-Through

The items in this menu allow you to change the Antenna option.

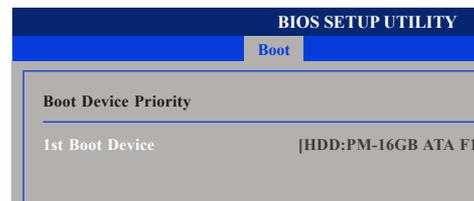
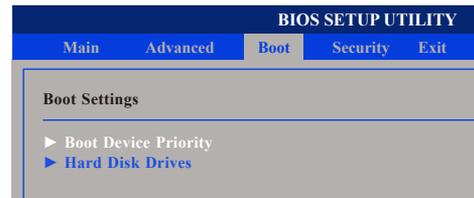
By VMC Docking Insert: This option is for vehicle installation.

Internal Antenna: This option is for hand-held user.



2.3 Boot Menu

These items specify the boot device priority sequence from the available devices.



Chapter 5: Expanding Your Tablet PC

The tablet PC's functionality can be enhanced by various peripheral devices.

External Battery

You can use an external battery to extend the power of your tablet PC.

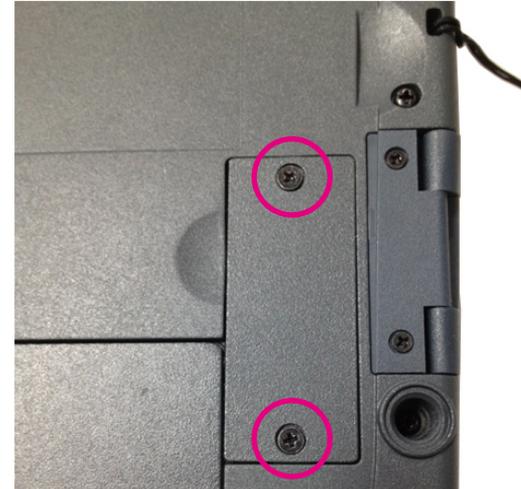


42Whr External Battery Specification: 3540mAh @ 11.1V

62Whr External Battery Specification: 5640mAh @ 11.1V

Installing the External Battery

1. Make sure the system is turned off. Unscrew the auxiliary battery door.



2. Line up the charging pins on the auxiliary battery with the charging pins in the auxiliary battery connector bay.



3. Connect the auxiliary battery to the system using the captive screws in the auxiliary battery.



Note: The MRC 1000 does not have an auxiliary battery attached, the auxiliary battery connector cover is in place to protect the Marathon auxiliary battery connector from opening.

Removing the External Battery

Repeat the above steps in reverse order to remove the battery.

External Battery Charger

The external battery charger allows you to charge your spare batteries. It takes approximately 4 hours to charge a fully depleted battery.

1. The 4 slots on the external battery charger allow charging of 4 batteries.



2. Insert the battery onto the charger. The battery will only fit in one way and will easily plug into the slots as shown.



3. Plug the AC power cord into the nearest electrical outlet and then plug the other end to the battery charger's DC jack located at the rear of the battery charger.



4. Off light indicates the battery is fully charged.
Yellow light indicates the battery is charging.
Red light indicates the battery is faulty.

Tablet PC Vehicle Docking Station

You can use the vehicle mounting assembly to secure the tablet PC vehicle dock to the soft tire vehicle. The tablet PC attached to the docking station can be transferred from the vehicle to another for easy portability. The vehicle dock provides accessory attachment and power for the tablet PC.

Attach the MRC 1000 to the Vehicle Docking Station as shown below.



Tablet PC Desktop Docking Station

You can use the desktop docking stand to dock the tablet PC. When docked, you can charge both the internal and external batteries or transfer data from your tablet PC to another PC.

Attach the MRC 1000 to the Desktop Docking Station as shown below.



To charge the external battery, attach the battery to the docking stand as shown below.



Appendix A: KeyMaps

ALT, CTL, FN, NUM LCK and SHIFT are sticky keys:

- When pressed once, the keys will illuminate blue and stay sticky until the next keypress.
- When pressed for 1.5 seconds, the keys will illuminate blue and stay sticky until the same key is pressed again.
- The NumLck key will illuminate orange during sticky mode.

Only Function keys (F1 through F10) are programmable.

To get this key/function	Press these keys in this order	
Power / Suspend	Power	
Display backlight up	Fn	9
Display backlight down	Fn	3
Fn mode	Fn	
Alt mode	Alt	
Control mode	Ctl	
Shift mode	Shift	
Escape	Esc	
Space	Space	
Enter	Ent	
Num	NumLck	
Capslock	Shift (and hold 1.5 seconds)	

To get this key/function	Press these keys in this order	
Uppercase Alpha (toggle)	Shift	
Back space	Bk	
Tab	Tab	
Up arrow (cursor up)	NumLck OFF	8
Down arrow (cursor down)	NumLck OFF	2
Right arrow (cursor right)	NumLck OFF	6
Left arrow (cursor left)	NumLck OFF	4
Delete	Del	
F1	F1	
F2	F2	
F3	F3	
F4	F4	
F5	F5	
F6	F6	
F7	F7	
F8	F8	
F9	F9	
F10	F10	

To get this key/function	Press these keys in this order	
a	A	
b	B	
c	C	
d	D	
e	E	
f	F	
g	G	
h	H	
i	I	
j	J	
k	K	
l	L	
m	M	
n	N	
o	O	
p	P	
q	Q	
r	R	
s	S	
t	T	
u	U	
v	V	
w	W	
x	X	

To get this key/function	Press these keys in this order	
y	Y	
z	Z	
A	Shift	A
B	Shift	B
C	Shift	C
D	Shift	D
E	Shift	E
F	Shift	F
G	Shift	G
H	Shift	H
I	Shift	I
J	Shift	J
K	Shift	K
L	Shift	L
M	Shift	M
N	Shift	N
O	Shift	O
P	Shift	P
Q	Shift	Q
R	Shift	R
S	Shift	S
T	Shift	T
U	Shift	U
V	Shift	V

To get this key/function	Press these keys in this order	
W	Shift	W
X	Shift	X
Y	Shift	Y
Z	Shift	Z
1	NumLck ON	1
2	NumLck ON	2
3	NumLck ON	3
4	NumLck ON	4
5	NumLck ON	5
6	NumLck ON	6
7	NumLck ON	7
8	NumLck ON	8
9	NumLck ON	9
0	NumLck ON	0
. (period)	Fn	M
	NumLck ON	. (period)
- (dash or minus sign)	Fn	S
	NumLck ON	- (dash or minus sign)
/		/
\	Fn	G
' (single quote/apostrophe)	Fn	L

To get this key/function	Press these keys in this order	
, (comma)	Fn	C
; (semicolon)	Fn	J
= (equal sign)	Fn	D
!	Fn	Q
@	Fn	I (letter i)
#	Fn	E
\$	Fn	R
%	Fn	T
&	Fn	U
	NumLck ON or OFF	W
*	Fn	*
(O
)		P
" (double quote)	Fn	K
<		Z
>		X
: (colon)		H
+ (plus sign)	Fn	F
	NumLck ON or OFF	(plus sign) +
?	Fn	/
_ (underscore)	Fn	A