

**ROCKY**  
**DB7**  
HANDHELD COMPUTER

**AMREL**<sup>®</sup>  
Pioneering Customized Rugged Solutions



**USER'S GUIDE**

**RUGGED HANDHELD COMPUTER**

## Notice

Copyright© 2015, American Reliance Inc., *dba* AMREL<sup>®</sup>. All rights reserved.

No part of this publication may be reproduced and modified without the written permission of AMREL

AMREL reserves the right to make changes in the products or the product specifications without any prior notice. Customers are advised to contact AMREL for updated product information.

AMREL makes no representations or warranties, either expressed or implied, with respect to the contents hereof and specifically disclaims any warranties for the correctness of this book, nor any license grant of AMREL's patents or intellectual properties. AMREL assumes no liability for customer's loss or damage caused by using this document.

## Trademarks

All other brands and product names are trademarks or registered trademarks of their respective holders.

Revision History:

<b>Revision</b>	<b>Date</b>	<b>Changes</b>	<b>Author</b>
1.0.0	2015/8/24	Initial Release	Pablo Tseng

## **Radiation Exposure Statement**

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

## **Regulatory Information/ Disclaimers**

Installation and use of this computer must be in strict accordance with the instructions included in the user documentation provided with the product. Any changes or modifications (including the antennas) made to this device that are not expressly approved by the manufacturer may void the user's authority to operate the equipment.

The manufacturer is not responsible for any radio or television interference caused by unauthorized modification of this device, or the substitution of the connecting cables and equipment other than manufacturer specified. It is the responsibility of the user to correct any interference caused by such unauthorized modification, substitution or attachment. Manufacturer and its authorized resellers or distributors will assume no liability for any damage or violation of government regulations arising from failing to comply with these guidelines.

## FCC (Federal Communications Commission) Statement

This equipment has been tested and found to comply with the limits for a Class-B digital device pursuant part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses, and radiates radio frequency energy. If not being installed and used in accordance with the instructions, it may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re-orient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

### **FCC Caution**

*To assure continued compliance, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. (Example: use only shielded interface cables when connecting to computer or peripheral devices).*

## CE

Products with the CE Marking comply with both the EMC Directive (2004/108/EC) and the Low Voltage Directive (2006/95/EC) issued by the Commission of the European Community.

Compliance with these directives implies conformity to the following European Norms:

**EN55022** CISPR 22 Radio Frequency Interference

**EN55024** EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-8, EN61000-4-11, EN61000-3-2, EN61000-3-3, Generic Immunity Standard

**LVD** EN 60950-1: 2006+ A11: 2009+ A1: 2010+ A12: 2011+ A2: 2013

## R&TTE (CE) Manual Regulatory Requirement

### WLAN - IEEE 802.11 a/b/g/n

802.11 a/b/g/n Restrictions:

European standards dictate maximum radiated transmit power of 100 mW EIRP and frequency range 2.400-2.4835 GHz.

## CE Declaration of Conformity



It is confirmed to comply with the requirements set out in the Council Directive on the approximation of the laws of the member states relating to Electromagnetic Compatibility Directive (2004/108/EC), Low-voltage Directive (2006/95/EC) and the procedures given in R&TTE Directive (99/5/EC).

The equipment was passed, and the equipment test was performed according to the following European standards:

**EN 300 328 V1.8.1 (2012)**  
**EN 301 893 V1.7.1 (2012)**  
**EN 301 489-1 V1.9.2 (2011)**  
**EN 301 489-3 V1.6.1 (2013)**  
**EN 301 489-17 V2.2.1 (2012)**  
**EN300440-1 V1.6.1 2010**  
**EN300440-2 V1.4.1 2010**  
**EN50566 2013**  
**EN62311 2008**  
**EN62209-2 2010**

**UL, TÜV**

AC Adapter (TÜV includes **LVD EN60950**)

## Power Conservation

This handheld computer consumes less power compared to conventional consumer computers. The power consumption may be further reduced by properly configuring the Power Management Setup.

It is recommended that the power saving features be enabled even when not running on battery power. Power Management features can conserve power without degrading system performance.

## Power Safety

There are specific power requirements for your handheld computer:

- Only use an approved AC adapter designed for this handheld computer.
- There is a 3-prong grounded plug for the AC adapter. The 3<sup>rd</sup> prong is an important mechanism for ensuring product safety. Please do not neglect the importance of this mechanism. If you are unable to access a compatible outlet, please hire a qualified electrician to install a compatible outlet for you.
- When unplugging the AC power cord, please make sure to disconnect the cord by pulling from the plug head instead of pulling from the wire to prevent wire damage.
- Make sure the power outlet and any other extension cord(s) you use can support the total current load of all the connected devices.
- Before cleaning the handheld computer, please make sure it is disconnected from any external power source.



### **Warning**

*Before any upgrade procedures, make sure the power is turned off, and all the cables are disconnected. Also, it is advisable to remove your battery to prevent your handheld computer from accidentally turning on.*



## Battery Precautions

- Only use batteries designed for this handheld computer. Using incompatible battery types may cause explosion, leakage or damage to the computer.
- Do not remove the battery from the computer while the computer is powered on.
- Do not continuously use a battery that has been dropped, or that appears damaged (e.g. bent or twisted) in any way. Even if the computer is able to continuously work with a damaged battery, the circuit damage may occur and possibly cause fire.
- Always use the charger designed for this computer to recharge the battery. Incorrect recharging may cause the battery to explode.
- Do not try to service a battery by yourself. For battery service or replacement, please contact your service representatives.
- Please dispose of damaged battery promptly and carefully. Explosion or leakage may occur, if the battery is exposed to fire, improperly handled or discarded.



### **Battery Disposal & Caution**

*The product that you have purchased contains a rechargeable battery. The battery is recyclable. At the end of its service life, under various state and local laws, it may be illegal to dispose of this battery into the municipal waste stream. Check with your local solid waste officials for details in your area for recycling options or proper disposal. Danger of explosion may possibly occur, if the battery is incorrectly replaced. Replace only with the same or the equivalent battery recommended by the manufacturer. Discard the used battery according to the manufacturer's instructions.*

## Environmental Information, Material Safety & Recycling

All materials used in the manufacturing of this equipment are recyclable or environmentally friendly. Please recycle the packing materials in accordance with local regulations at the end of the product's service life.

### Notice:

- The equipment may contain insignificant amount of hazardous substances for health and environment below control level.
- To avoid spreading such substances into the eco system and to minimize the pressure on the natural environment, you are encouraged to reuse or recycle most of the materials in a safe way after the product's service life.
- For more information on collection, reuse and recycle of materials, please consult local or regional waste administrations for more information. You can also contact your dealer for more information on the environmental details of the equipment.
- The symbol of the crossed out wheeled bin indicates that the product (electrical and electronic equipment) should not be placed in municipal waste. Please check local regulations for disposal of electronic products.



# TABLE OF CONTENTS

<b>CHAPTER ONE - GETTING STARTED .....</b>	<b>1</b>
UNPACKING .....	1
APPEARANCE OVERVIEW .....	2
.....	6
READY FOR USE .....	7
<b>CHAPTER TWO - OPERATING INFORMATION.....</b>	<b>9</b>
START USING YOUR HANDHELD COMPUTER.....	9
STOP USING YOUR HANDHELD COMPUTER .....	9
INSTALLING OPERATION SYSTEM.....	10
USING INDICATORS AND KEYPAD .....	11
USING APPLICATION MENU .....	13
USING TOUCH SCREEN .....	13
USING MICROPHONE.....	16
OPERATING WIRELESS DEVICES .....	17
USING CRADLE (OPTIONAL).....	21
<b>CHAPTER THREE - MANAGING POWER .....</b>	<b>22</b>
CHARGING BATTERY .....	22
CHECKING THE BATTERY LEVEL .....	22
POWER CONSERVATION .....	23
REPLACING BATTERY .....	23
POWER SAVING TIPS.....	23
SUPPORTING ACPI .....	24
AC ADAPTER AND AC POWER CORD SAFETY.....	25
BATTERY PRECAUTIONS .....	26
<b>CHAPTER FOUR - BIOS SETUP .....</b>	<b>27</b>
MAIN MENU.....	27
ADVANCED MENU .....	28
CHIPSET MENU.....	29
SECURITY MENU.....	30
BOOT MENU .....	31
SAVE & EXIT MENU.....	32
<b>CHAPTER FIVE - DRIVERS AND APPLICATIONS.....</b>	<b>33</b>
CHIPSET .....	33

VGA.....	33
TOUCH SCREEN.....	34
STICKPOINTER.....	34
AUDIO.....	34
DEVICE POWER MANAGER .....	34
WIRELESS DEVICES (OPTIONAL) .....	35
GLAN (OPTIONAL) .....	36
TPM (OPTIONAL).....	36
CRADLE (OPTIONAL) .....	36
<b>CHAPTER SIX - SPECIFICATIONS .....</b>	<b>37</b>
PLATFORM .....	37
CPU.....	37
MEMORY .....	37
GRAPHIC CONTROLLER .....	37
STORAGE.....	37
AUDIO.....	37
TOUCH SCREEN.....	38
I/O PORTS .....	38
POWER.....	39
DIMENSIONS & WEIGHT.....	39
CASE MATERIAL & COLORS .....	39
ENVIRONMENTAL SPECIFICATIONS .....	40
CERTIFICATION .....	40
<b>CHAPTER SEVEN – OPTIONAL DEVICES.....</b>	<b>41</b>
COMMUNICATION .....	41
DOUBLE CAPACITY BATTERY PACK (BD62B).....	41
TRUST PLATFORM MODULE (TPM).....	41
CRADLE CRDB7 .....	42
MULTI CHARGER (MCDB) .....	43
MINI KEYBOARD KBD .....	44
<b>CHAPTER EIGHT - MAINTENANCE AND SERVICE .....</b>	<b>45</b>
CLEANING .....	45
TROUBLESHOOTING .....	45
RMA SERVICE.....	46

---

## Chapter One - Getting Started

### Unpacking

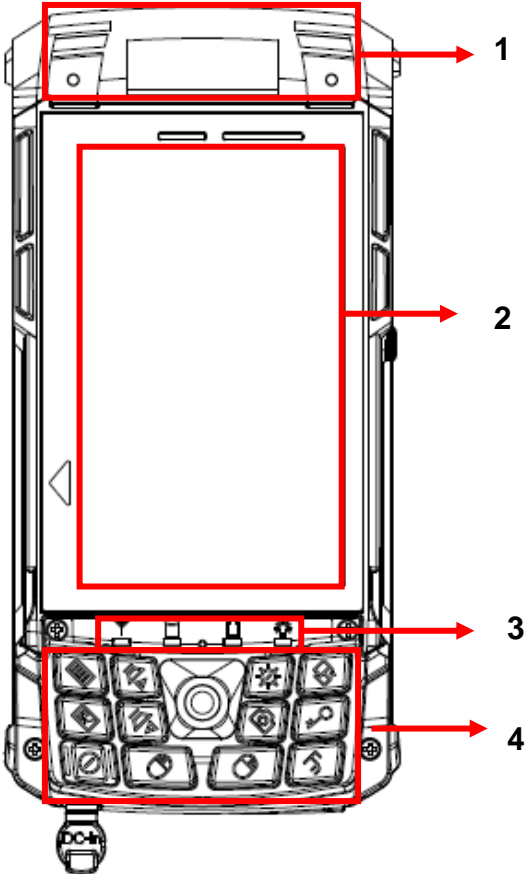
After unpacking, the followings are the standard items along with your computer. If there is any missing or damaged, please notify the dealer immediately.

- Handheld Computer Unit
- AC Adapter
- AC Power Cord
- Utility DVD
- Stylus Pen
- Quick Guide

## Appearance Overview

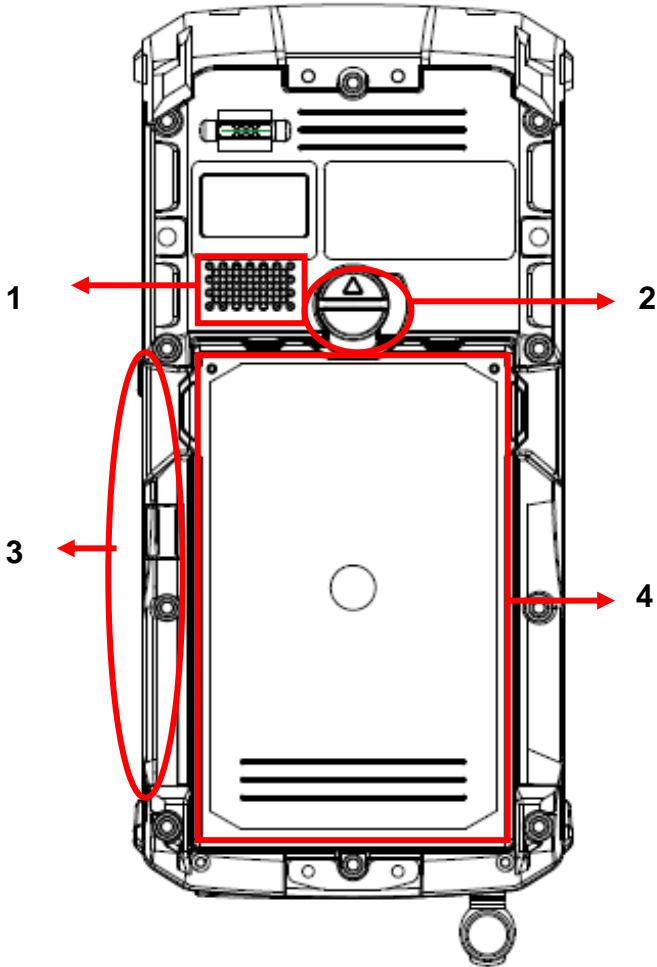
Before starting to use your handheld computer, we suggest you to have a quick glance at it to know the external components well.

### Front

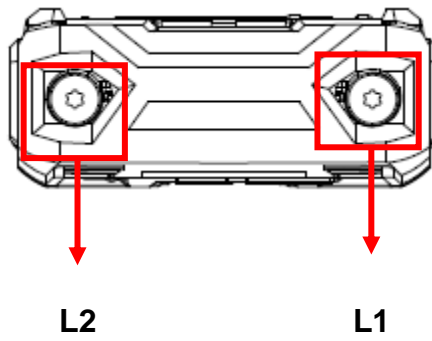


- 1. Embedded Antennas
- 2. LCD Display
- 3. LED Indicators
- 4. Keypad

Rear



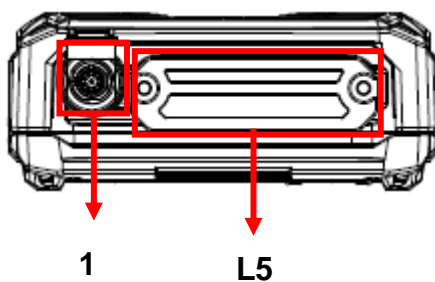
- 1. Speaker
- 2. Battery Lock
- 3. Stylus Pen
- 4. Battery

**Top****L1 & L2:**

(Select 1 out of 7)

- Optional Sealed GLAN
- Optional Sealed USB Port
- Optional Sealed Audio
- Optional Sealed RS232 (Trade-off: L5 RS232)
- Optional SMA ANT for WLAN, BT, GPS



**Bottom**

1. DC Power Jack

L5 Optional Expansion POGO Connector

**Note:**

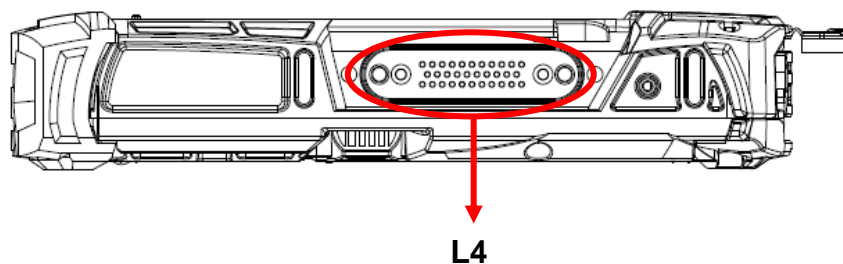
➤ *DC-In:*

- *Default: Fischer 3-pin Connector*

➤ *Expansion POGO Connector signals include:*

- *COM1(RS232) x1(Trade off with L1/L2 RS232)*
- *USB 2.0 (Host) x1*
- *GLAN x1*

## Left



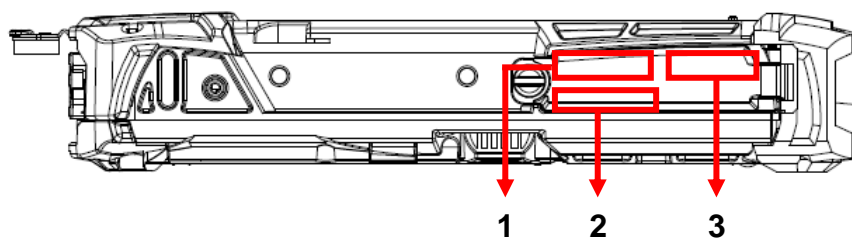
## L4 Cradle POGO Connector

**Note:**

➤ Cradle POGO Connector signals include:

- USB 2.0 (Host) x1
- VGA x1
- DC-in
- V5S

## Right

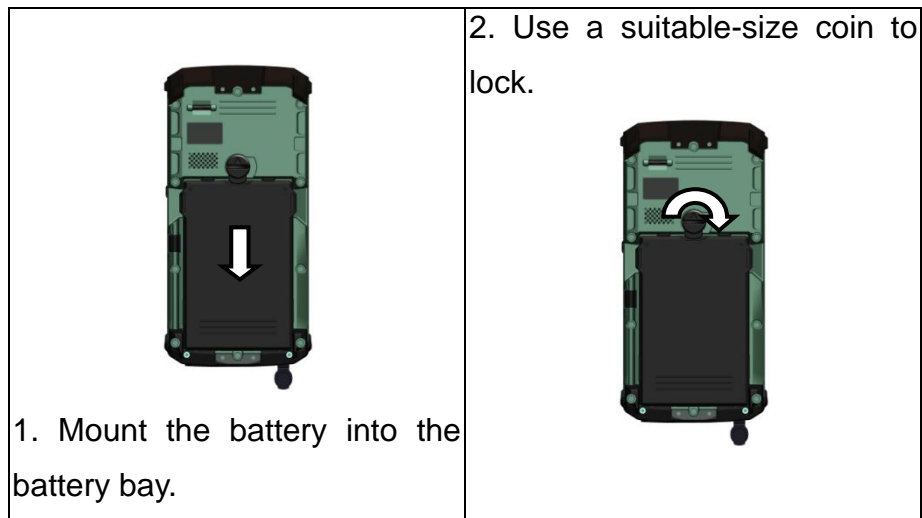


1. SIM Card
2. USB 2.0 (Host) x1
3. SD (SDHC) Card

## Ready for Use

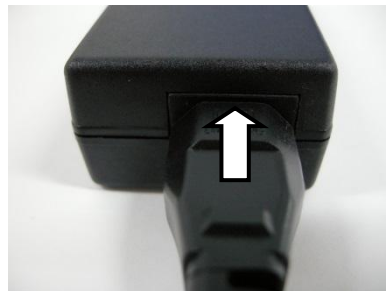
After taking a quick look at your handheld computer, the following illustrations will get you ready for using it.

### Mounting the Battery



### Connecting with AC Adapter


1. Insert the DC Jack to the end.
2. Plug the AC cord to the AC adapter.



3. Plug the AC cord to a right electrical outlet.

## Turning ON the Power

1. Make sure the battery is mounted or connect all power cords well for the stable power supply.
2. Now, you are able to turn ON the power of your handheld computer by pressing “Power Button”.

Press  on the keypad to turn on the power of your handheld computer.



### Note:

- The power is able to be ON without any battery mounted once all the power cords are connected well.
- Please see more information in “Operating Information”.

## Turning OFF the Power

Directly click “**Shut down**” from your OS to turn OFF the power of your handheld computer.

### Note:

- The above-mentioned description is a standard way to turn OFF the power. Directly turn OFF the power by pressing “Power Button” will cause data lose and is not suggested.
- There are still other ways to stop your handheld computer from operating, see more information in “Operating Information”.

---

## Chapter Two - Operating Information

### Start Using Your Handheld Computer

Always turning on your handheld computer by using the power button, this is a standard operating procedure to start using your handheld computer. After turning on the power of your handheld computer, it will start with the operating system (OS) such as Windows 7.

#### Boot up

When turning on the power, your handheld computer will start loading the OS into the system memory. This start-up procedure is called “boot up”.

#### Power on Self-Test (POST)

Each time when your handheld computer is turned on, BIOS will automatically perform a self-test of CPU, memory, hardware devices, and so on.

### Stop Using Your Handheld Computer

Each time when you finish working with your handheld computer, there are several ways to stop your handheld computer from operating.

#### Shut down

Directly click “Shut down” from your OS such as Windows 7 to turn OFF the power of your handheld computer. Before shutting down, please always remember to save the unfinished works and close the application for preventing from any possible data loss or HDD damage.

“Shut down” will totally turn OFF the power of your handheld computer. If you want to start your handheld computer again, you need to press the power button.

## Standby

Under “Standby” mode, the system will temporarily save your work into RAM. If you want to start your handheld computer again, all you need is to press any key.

You are able to do enter “Sleep” mode by directly clicking “Start” => “Shut down” => “Standby” from your OS such as Windows 7. Or, you can simply press the power button to “Sleep” mode when the computer is in operation.

## Hibernate

Under “Hibernate” mode, the system will save your work into storage. If you want to start your handheld computer again, you need to press the power button.

You are able to do enter “Hibernate” mode by setting from your OS such as Windows 7.

## Installing Operation System

Your handheld computer is designed to operate with Microsoft Windows Windows 7 32/64-bit operations systems. Please connect your handheld computer with a suitable USB-interface drive to start the installation.

### **Note:**

- *Since a USB hub may be required during installation to connect with an external USB-interface ODD and Keyboard, the power supply from System USB port may not be enough. Please connect your USB hub with extra power supply to complete the installation.*

## Using Indicators and Keypad

Your handheld computer is designed with a keypad for easy and quick operation. Also, each LED indicator shows different meanings.

Here are the descriptions for each button and LED indicator to help you use well with your handheld computer.

### Indicators



**Power Indicator:** Green (Power); Flashing Green (S3: Standby)



**Charger Indicator:** Orange (Charger); Flashing Orange (Battery Low)



**SSD Indicator:** Green (SSD); Red (Input Lock)



**Wireless Devices Indicator:** Blue

## Keypad Hotkey

Before using the keypad functions, please install the Device Power Manager application to activate the hotkeys.



### 1<sup>st</sup> Layer:

1. “” + “U”
2. Application Menu
3. Power On/Off
4. Volume Up
5. Volume Down
6. Mouse’s Left Button
7. Invisible Mode On/Off
8. Camera
9. Mouse’s Right Button
10. Screen Rotation
11. Login (WIN Security)
12. Function Key

### 2<sup>nd</sup> Layer:

- a. Fn + Invisible Mode On/Off = Keypad Backlight On/Off
- b. Fn + Volume Up/ Down = LCD Brightness Up/ Down
- c. Fn + Key 1 = Input Lock
- d. Fn + Application Menu = Enter

Note: Text Input is a quick access to common tools such as Magnifier and On-Screen Keyboard.

#### **Note:**

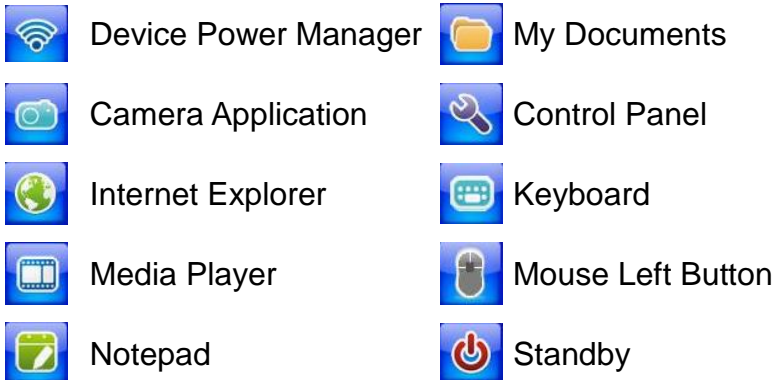
- *The camera doesn't have function.*



## Using Application Menu

Application Menu is a hotkey to help you directly access to the functions you often use. Device Power Manger includes the driver of the keypad hotkeys. Do remember to install this application before activating the keypad hotkeys.

Please see the followings for the illustrations:



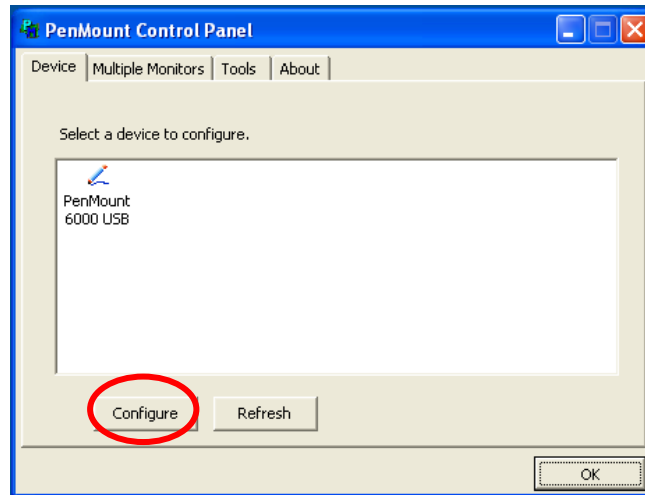
### Note:

- *The camera doesn't have function.*

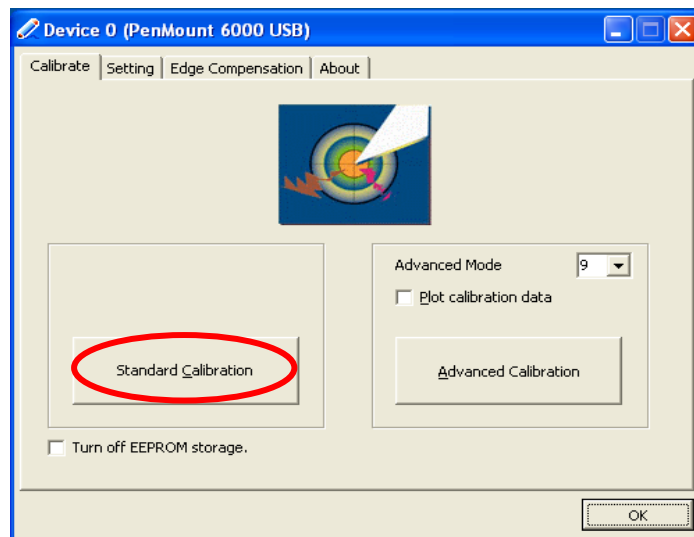
## Using Touch Screen

Your handheld computer is equipped with a high sensitive touch panel allowing you to navigate on the touch screen easily without using any other devices such as external keyboard or mouse. Before using touch screen, please follow the illustrations as below to make your stylus pen for a more precise positioning:

1. Click “Configure” to start.



2. Use “Standard Calibration” and follow the instructions.



A stylus pen is provided for you to use well with the touch screen. Here are some operating tips to help you use the touch screen well with a stylus pen.

- Single Click:** Tapping the touch screen with a stylus pen gently
- Double Click:** Tapping the touch screen quickly twice with a stylus pen
- Drag and Drop:** Clicking and holding the object with a stylus pen slightly and moving to the destination you want (Drag). Leave the stylus pen from the touch screen once you finish dragging (Drop).
- Right Click:** Pressing harder on one point of the touch screen and holding for 2~3 seconds. This is the same as using the right click of a mouse.

**Note:**

- *Touch harder with your stylus pen on the icons around the edges. Or, press Hotkey “Text Input” for accessing to common tools and use the magnifier to magnify the edge icons for an easier click.*
- *Under the direct sunlight for a longer time, the touch screen could heat up over 70°C of a specified maximum temperature.*

## Using Microphone

It is able for you to record sounds and voices through your handheld computer. Please follow the instruction listed as below to start.

1. Before recording, be sure to enter into Realtek HD Audio Manager, and do the appropriate settings.
2. Please make the sound sources close to the microphone for having better quality.



**Note:**

- *The microphone is located in the middle.*

Start recording with your recorder such as Sound Recorder in Windows 7. (Start => Programs => Accessories => Sound Recorder)

## Operating Wireless Devices

For your ease of operations, you can turn on/off your wireless devices through the proprietary software application - “**Device Power Manager**”.

### Bluetooth (Optional)

The Bluetooth module provides your handheld computer with a short-range wireless communication protocol to connect with other compatible devices via the pre-installed embedded antenna. To activate your Bluetooth functions, please follow the instructions below.

#### 1. Driver & Application Installation

- a. Install the Bluetooth driver first. Read from the Utility DVD and find the directory listed in the readme file to finish installation.
- b. Install the Device Power Manager application. Read from the Utility DVD and find the directory listed in the readme file to finish installation.

#### 2. Launch the Device Power Manager

After launching the utility, please tap “Bluetooth” to enable the Bluetooth function (tap again to disable). Once the Bluetooth function starts up, the wireless LED indicator (color blue) will turn on and the Bluetooth icon will show up in the operating system accordingly.



Tap “Bluetooth” to enable the Bluetooth function (tap again to disable).

## Wireless LAN (Optional)

Wireless LAN is an optional wireless communication module for your handheld computer. An embedded antenna will be pre-installed in your handheld computer to access the internet wirelessly. To activate your Wireless LAN function, please follow the illustrations below:

### 1. Driver & Application Installation

- a. Install the Chipset Driver first. Read from the Utility DVD and find the directory listed in the readme file to finish installation.
- b. Then, install the Device Power Manager application. Read from the Utility DVD and find the directory listed in the readme file to finish installation.

### 2. Launch the Device Power Manager

After launching the utility, please tap “Wireless LAN” for enabling the Wireless LAN function (tap again to disable).



Tap “Wireless LAN” to enable the Wireless LAN function (tap again to disable).

Once the Wireless LAN function starts up, the wireless device LED indicator will turn on (color blue) and the Wireless LAN icon will appear in the OS accordingly.

## GPS (Optional)

GPS is an optional module for your handheld computer. This GPS module supports both GPS and GLONASS systems. An embedded antenna is pre-installed in your handheld computer to support the functions of your GPS and GLONASS.

### 1. Driver & Application Installation

- a. Install the Device Power Manager application:  
Read from the Utility DVD and find the directory listed in the readme file to finish installation.
  
- b. Install the GPS driver:  
GPS (Driver): Read from the Utility DVD and find the directory listed in the readme file to finish installation.



Tap "GPS" to enable the GPS function (tap again to disable).

### 2. Navigation & Mapping Software Installation

Please install your 3rd party navigation and mapping software after installing your GPS driver. Refer to your navigation and mapping software manual for installation and procedures on application setup and access.

Once the GPS function starts up, the wireless device LED indicator will turn on (color blue).

**Note:**

- Wireless devices can be turned ON/OFF through BIOS. Once a device is turned off through BIOS, its button on the Device Power Manager will be colored in yellow and with a prohibition marker. For example, the following illustration shows that WLAN, WWAN and GPS devices are disabled through BIOS. To turn on, please enter into BIOS and enable the functions. For more information on BIOS setting, please refer to **RF Device Control Configuration Sub-Menu** section.





## Using Cradle (Optional)

Cradle is designed for docking, ports extending and charging. Before using Cradle, please install the related drivers first for activating cradle's functions.

### Mounting with Cradle

1. Dock cradle either power is ON or OFF. (Recommend OFF).
2. There are both arrows on the handheld computer and cradle. Please follow the arrows to connect the cradle connectors well.
3. Firmly push the handheld computer down to engage the docking connector.
4. Turn rotary latch to fix the handheld computer.



## Chapter Three - Managing Power

### Charging Battery

An AC adapter, an AC power cord and a battery are required during battery charging. These are standard accessories for your handheld computer. Do always use the AC adapter, the AC power cord and the battery designed for your handheld computer.

After unpacking your handheld computer, the first thing you need to do is starting charging battery for the further use. Please connect your AC power cord and AC adapter well with the plug and mount your battery well before starting charging. We suggest you to charge the battery for about 8 hours at the very beginning to give a full charge for your battery.

When the battery is nearly exhausted, please save and close the files you are currently working on, and plug in the AC adapter to recharge the battery or swap with a charged battery.

**Note:**

- *To ensure system stability, please connect your computer to an external power source when operating at -20°C ambient temperature.*

### Checking the Battery Level

After a full charge of your battery, you are now able to check your battery level by using the battery meter function of your OS. The battery icons which show the conditions of the battery or where the power source comes from may be different depending on the OS you install.

When the battery is nearly exhausted, the OS will show a warning icon. Also, the Power Indicator LED will flash orange when the battery level is low.

## Power Conservation

This computer consumes much less power than conventional computers. However, power consumption may be reduced by configuring the Power Management Setup properly.

It is recommended the power saving functions to be enabled even when not running on battery power. Power Management will not degrade performance while saving power.

## Replacing Battery

When the battery is nearly exhausted, there are two ways to keep your handheld computer working. Connect the AC adapter and the power cord designed for this handheld computer to start charging is one method; directly replace a charged battery designed for this handheld computer may be the other one.

**Note:**

- *Always remember to turn OFF the power before replacing the battery.*
- *You can change the battery in 30 seconds under standby mode; otherwise, it may cause the data loss or malfunction of your handheld computer.*

## Power Saving Tips

- Turn OFF the LCD backlight when not using the handheld computer.
- Lower the intensity of the LCD backlight.
- Use well with Shut down, Standby and Hibernation.
- Use well with the power management settings in your OS.

---

## Supporting ACPI

Your handheld computer supports ACPI (Advanced Configuration and Power Interface) for power management. With ACPI and an ACPI-compliant operating system such as Windows, the feature will allow you to reduce the power consumption for energy saving. By supporting ACPI, the AC adapter LED and the Power indicator LED will show in different ways. The followings are the detailed description.

**Standby:**

Power LED indicator is flashing Green; Other LED indicators are OFF

**Under Hibernation:**

All LED indicators are OFF

**Shutdown:**

All LED indicators are OFF

## AC Adapter and AC Power Cord Safety

There are specific power requirements for your handheld computer:

- Only use an approved AC adapter designed for this computer.
- There is a 3-prong grounded plug of the AC adapter. The third prong is an important for safety. Do not neglect the importance for it. If you are not able to access a compatible outlet, installing one by a qualified electrician is necessary.
- When unplugging the AC power cord, please be sure to disconnect it from the plug head but from its wire.
- Make sure the socket and any other extension cord you use can support the total current load of all the connected devices.
- Before cleaning the computer, make sure it is disconnected from any external power supplies.

## Battery Precautions

- Only use the batteries designed for this computer. The wrong battery may cause explosion, leakage or damage to the computer.
- Do not remove the battery from the computer while it is powered on.
- Do not continuously use a battery that has been dropped, or that appears damaged (e.g. bent or twisted) in any way. Even if the computer is able to continuously work with a damaged battery, the circuit damage may occur and possibly cause fire.
- Always use the charger designed for this handheld computer to recharge the battery. Incorrect recharging may make the battery explode.
- Do not try to repair a battery by yourself. Refer to any battery repair or replacement, please contact with to your service representative.
- Please dispose of a damaged battery promptly and carefully. Explosion or leakage may occur, if the battery is exposed to fire, improperly handled or discarded.

### **Warning**

*Before any upgrade procedures, make sure the power is turned off, and all the cables are disconnected (including telephone lines). Also, it is advisable to remove your battery in prevent from turning the computer on accidentally.*

### **Battery Disposal & Caution**

*The product that you have purchased contains a rechargeable battery. The battery is recyclable. At the end of its service life, under various state and local laws, it may be illegal to dispose of this battery into the municipal waste stream. Check with your local solid waste officials for details in your area for recycling options or proper disposal. Danger of explosion may possibly occur, if the battery is incorrectly replaced. Replace only with the same or the equivalent battery recommended by the manufacturer. Discard the used battery according to the manufacturer's instructions.*

## Chapter Four - BIOS Setup

Before you entering into the BIOS menu, please connect a USB keyboard with your handheld computer.

After the USB keyboard is connected, turn the power of your handheld computer ON and press “Del” on the USB keyboard to directly entering into the BIOS Menu.

### Main Menu

In Main Menu, you are able to see the System Overview and the operating instructions.

Aptio Setup Utility					
Main	Advanced	Chipset	Security	Boot	Save & Exit
<b>BIOS Information</b> BIOS Vendor Core Version Compliancy Project Version Build Date and Time EC Version				Choose the system default language	
System Language            [English]  System Date                    [Mon 05/20/2013] System Time                    [16:19:20]				→←: Select Screen ↑↓: Select Item Enter: Select -/+ : Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit	
<b>Access Level</b>		<b>Administrator</b>			

## Advanced Menu

In Advanced Menu, you are able to do the advanced settings.

Aptio Setup Utility	
Main	Advanced
<ul style="list-style-type: none"><li>▶ ACPI Settings</li><li>▶ RF Device Control</li><li>▶ EC Thermal Control</li><li>▶ IT8760 Super IO Configuration</li><li>▶ Intel (R) Smart Connect Technology</li><li>▶ Serial Port Console Redirection</li><li>▶ CPU Configuration</li><li>▶ PPM Configuration</li><li>▶ Thermal Configuration</li><li>▶ IDE Configuration</li><li>▶ Miscellaneous Configuration</li><li>▶ LPSS &amp; SCC Configuration</li><li>▶ System Component</li><li>▶ Network Stack Configuration</li><li>▶ CSM Configuration</li><li>▶ SDIO Configuration</li><li>▶ USB Configuration</li><li>▶ Platform Trust Technology</li><li>▶ Security Configuration</li></ul>	<p>System ACPI Parameters</p> <hr/> <p>→←: Select Screen ↑↓: Select Item Enter: Select -/+ : Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save &amp; Exit ESC: Exit</p>



# Chipset Menu

Aptio Setup Utility					
Main	Advanced	Chipset	Boot	Security	Save & Exit
▶ North Bridge ▶ South Bridge			North Bridge Parameters		
			→←: Select Screen ↑↓: Select Item Enter: Select -/+ : Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit		

## Security Menu

In Security Menu, you are able to do the security settings.

Aptio Setup Utility					
Main	Advanced				
Chipset	Boot				
Security	Save & Exit				
<p><b>Password Description</b></p> <p>If <b>ONLY</b> the Administrator's password is set, then this only limits access to Setup and is only asked for when entering Setup.</p> <p>If <b>ONLY</b> the User's password is set, then this is a power on password and must be entered to boot or enter Setup. In Setup the User will have Administrator rights.</p> <p>The password length must be in the following range;</p> <table style="width: 100%; border: none;"> <tr> <td style="padding: 2px;"><b>Minimum length</b></td> <td style="text-align: right; padding: 2px;"><b>3</b></td> </tr> <tr> <td style="padding: 2px;"><b>Maximum length</b></td> <td style="text-align: right; padding: 2px;"><b>20</b></td> </tr> </table> <p style="color: #0070C0;">Administrator Password</p> <p style="color: #0070C0;">User Password</p> <p>HDD Security Configuration:</p> <p style="color: #0070C0;">PO: INTEL SSDMCE</p>	<b>Minimum length</b>	<b>3</b>	<b>Maximum length</b>	<b>20</b>	<p style="color: #0070C0;">Set Administrator Password</p> <hr/> <p style="color: #0070C0;">→←: Select Screen              ↑↓: Select Item              Enter: Select              -/+ : Change Opt.              F1: General Help              F2: Previous Values              F3: Optimized Defaults              F4: Save &amp; Exit              ESC: Exit</p>
<b>Minimum length</b>	<b>3</b>				
<b>Maximum length</b>	<b>20</b>				

## Boot Menu

In Boot Menu, you are able to do the boot settings.

Aptio Setup Utility		
Main	Advanced	Chipset <b>Boot</b> Security      Save & Exit
<p><b>Boot Configuration</b></p> <p>Setup Prompt Timeout      [1]</p> <p>Bootup NumLock State      [On]</p> <p>Quiet Boot      [Disabled]</p> <p>Fast Boot      [Disabled]</p> <p><b>Boot Option Priorities</b></p> <p>Boot Option #1      [PO:...]</p> <p>Boot Option #2      [UEFI: Built-in EFI...]</p> <p>Hard Disk Drive BBS Priorities</p>		<p>Select boot mode LEGACY/UEFI</p> <hr/> <p>→←: Select Screen            ↑↓: Select Item            Enter: Select            -/+ : Change Opt.            F1: General Help            F2: Previous Values            F3: Optimized Defaults            F4: Save &amp; Exit            ESC: Exit</p>

## Save & Exit Menu

In Exit Menu, you are able to do the exit option settings.

Aptio Setup Utility	
Main    Advanced    Chipset    Boot	Security <b>Save &amp; Exit</b>
Save Changes and Exit Discard Changes and Exit Save Changes and Reset Discard Changes and Reset  <b>Save Options</b> Save Changes Discard Changes  Restore Defaults Save as User Defaults Restore User Defaults  <b>Boot Override</b> UEFI: Built-in EFI Shell PO: ...  Launch EFI Shell from filesystem device Reset System with ME disable ModeMEUD000	Exit system setup after saving the changes  →←: Select Screen ↑↓: Select Item Enter: Select -/+ : Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

## Chapter Five - Drivers and Applications

The Utility DVD includes all the drivers for the installed devices in your handheld computer. Please consult the dealer if there is any driver missing.

Also, through Device Manager in Windows, you are able to perform “Driver Update” or check if there are still drivers for the devices needed to be installed.

Check readme.txt file on Utility DVD to get the newest information before starting to install drivers.

**Note:**

- *Please install the chipset driver first.*
- *If there is any “reboot” showed while installing. Please follow the instructions to reboot first and then install next driver.*

### Chipset

Read from the Utility DVD and find the directory in readme to finish installation.

### VGA

Read from the Utility DVD and find the directory in readme to finish installation.

## Touch Screen

Your handheld computer is equipped with a high sensitive touch panel. Please follow the installation as below to start using your touch screen.

Read from the Utility DVD and find the directory in readme to finish installation.

## Stickpointer

Stickpointer helps you to navigate your cursor on the screen. Please follow the installation as below to start using your stickpointer.

Read from the Utility DVD and find the directory in readme to finish installation.

## Audio

Your handheld computer provides a high-quality audio sound effect for user to enjoy better sound quality. To activate this function, please follow the installation as below.

Read from the Utility DVD and find the directory in readme to finish installation.

## Device Power Manager

Device Power Manager is an exclusive application designed and developed for the Device Devices of your handheld computer. Through Device Power Manager, turning the power ON or OFF become more convenient for being one of the power-saving tips.

Read from the Utility DVD and find the directory in readme to finish installation.

**Note:**

- *The driver of AutoHotkey has been packed in Device Power Manager. To activate the keypad hotkeys, please do remember to install this application.*

---

**Wireless Devices (Optional)**

Your handheld computer supports wireless communication. Please see the followings to install the drivers and applications.

**Bluetooth (Optional)**

Read from the Utility DVD and find the directory in readme to finish installation.

**WLAN (Optional)**

Depending on the model you choose; if your handheld computer is equipped with a WLAN model, please follow the installation as below to connect your handheld computer with the Internet wirelessly.

Read from the Utility DVD and find the directory in readme to finish installation.

**GPS (Optional)**

Depending on the model you choose; being able to activate the function, please follow the installation as below.

Read from the Utility DVD and find the directory in readme to finish installation.

---

**GLAN (Optional)**

Depending on the model you choose; if your handheld computer is equipped with a GLAN model, please follow the installation as below to connect your handheld computer with the Internet wirelessly.

Read from the Utility DVD and find the directory in readme to finish installation.

**TPM (Optional)**

Before installing the TPM driver, please enter into the BIOS to turn on the TPM device first. Then, follow the installation as below.

Read from the Utility DVD and find the directory in readme to finish installation.

**Cradle (Optional)**

Before mounting your handheld cradle and start using it, Mega LAN driver and USB to COM driver are required to be installed for activating the function.

Read from the Utility DVD and find the directory in readme to finish installation.



---

## Chapter Six - Specifications

### Platform

- Intel Bay Trail-I

### CPU

- Intel® Atom™ Dual Core Processor E3825 1.33GHz
- 1 MB L2 Cache

### Memory

- 4 GB / 8 GB DDR3L, 1067 MHz

### Graphic Controller

- Intel HD Graphics

### Storage

- mSATA2 SSD 64/128/256 GB
- Industrial grade

### Audio

- HD Audio Codec and Amplifier
- Mono Speaker 0.5W
- Embedded Digital MIC

## Touch Screen

- Resistive Single Touch Screen
- 5" 800 x 480 TFT LCD with LED B/L
- Sunlight-readable with Rugged Touch Screen
- Anti-glare Screen Treatments
- Optical bonding
- Brightness(min.~typ.): 280~336 nits

## I/O Ports

### Right (L3):

- USB 2.0 (Host) x 1
- SD (SDHC) Card Slot x 1
- SIM Card Slot x 1

### Left (L4):

- Cradle POGO Connector

### Top (L1/L2):

Choose 1 out of 7 for L1/L2\*

### L1/L2 (HRS8P HR25-7TR-8S):

- Optional Sealed GLAN
- Optional Sealed USB port
- Optional Sealed Audio
- Optional Sealed RS232

### L1/L2 (SMA conn.):

- Optional SMA Antenna for WLAN, Bluetooth, GPS

### Bottom (L5):

- Optional Expansion POGO Connector

### **Note:**

- *Select each function twice is customization.*
- *Optional Sealed RS232 at L1 or L2 trades off with L5 RS232.*

## Power

### Battery (BD62A)

- 7.4V, 3900mAh Lithium-ion Battery
- Warm swappable under standby mode.
- 5-hour Operating Time

### Battery (BD62B)

- 7.4V, 7800mAh Lithium-ion Battery
- Warm swappable under standby mode.
- 10-hour Operating Time

### AC Adapter

- 36W AC 100V-240V 50/60Hz
- Max Power: 36W

### DC-in

- 12~32V with BVA & Surge Protector
- Fischer 3-pin Connector (Default)

## Dimensions & Weight

- 7.8 " x 3.7" x 1.4" (200mm x 94mm x 36 mm) (Without bumper)  
7.8" x 3.9" x 1.6" (200mm x 97.9mm x 40 mm) (With bumper)
- 1.5 lbs (697g) (With battery; weight varies based on different configurations)

## Case Material & Colors

- Magnesium Alloy
- I: Black  
M: NATO Green

## Environmental Specifications

- Temperature: I: 0~+40 °C (+32 ~ +103°F) operating  
M: -20 ~ +55°C (-4 ~ +131°F)  
-40 ~ +70°C (-40 ~ +158°F) storage
- Humidity: 5~95% Non-condensing operating  
95% maximum storage
- Altitude: 0 ~ 4,572 meters (0 ~ 15,000 feet) operating

## Certification

- CE/FCC
- WEEE
- REACH
- RoHS2.0
- MIL-STD-810G
- IP65
- MIL-STD 461F for M model

## Chapter Seven – Optional Devices

### Communication

- WiFi/Bluetooth:
  - Intel® Centrino® Advanced-N 6235, Dual Band
  - Board Form Factor: PCIe Half Mini Card
  - Wi-Fi Certified: 802.11 a/b/g/n
  - Bluetooth: Supports BT 2.1, 2.1+EDR, 3.0, 3.0+HS, 4.0 (BLE)
  - Interface: PCIe (WiFi)/USB (BT)
- GPS:
  - U-blox M8N (GPS/GLONASS)
  - USB interface
- Gigabit LAN:
  - Intel 82574 GLAN card
  - Mini PCIe form factor

### Double Capacity Battery Pack (BD62B)

- 7.4V, 7800mAh Lithium-ion Battery
- Warm swappable under standby mode
- 10-hour Operating Time

### Trust Platform Module (TPM)

Trust Platform Module (TPM) 1.2 is equipped with this notebook computer for users to strengthen the security.

With TPM, users are able to encrypt the folders and files directly and make the important file be more secure and be with an additional protection. In other words, your TPM-encrypted files are basically protected with two layers. Even if your TPM-encrypted files are hacked, the files can not to be read without passwords and TPM chipset.

## Cradle CRDB7

Front Side:



Rear Side:



- Serial Port x 1(COM1/RS232)
- Mega LAN x 1
- USB 2.0 Port x 3
- VGA Port x 1
- DC Input Range: 12~32V
- CE/FCC
- 200(L) x 110(W) x 135.2(H) mm
- Approximately 485 g

**Note:**

- *The differences between Cradle CRDB7 and CRDB6 include that CRDB7 does not have USB client port, and the DC-in on CRDB7 is Fischer connector, but on CRDB6 is Hirose connector.*
- *The Cradle CRDB7 can work with DB6, and CRDB6 can work with DB7. However, when connecting DB7 with CRDB6, the USB client port on the cradle will have no function.*

## Multi Charger (MCDB)



### Indicators and Ports

- Indicators:
  - a. Power Indicator: Show green light when attaching 90W AC Adapter
  - b. Charge Indicator: Show orange light when battery charging, or OFF for fully charged.

### Physical Characteristics

- 9.8" x 9.8" x 5.2" (250(L) x 250(W) x 132(H) mm )
- 1.8 lbs (795 g)

### Electronic characteristics

- DC Input Range: 12 ~ 32V
- Charging Time:
  - a. DB7 Standard Battery: 4 ~ 5 hrs.
  - b. DB7 Double-Capacity Battery: 7 ~ 8 hrs.

### CE/FCC Certified

### Environmental Ratings

- Battery Charging Temperature: 32 ~ 104°F (0 ~ 40 °C)

#### Note:

- *The standard DC power jack is Fischer 3-pin.*
- *Although MCDB can connect to a 12~32V BVA adapter, MCDB itself can transfer the voltage 12~32V to 19V, similar to what BVA adapter does.*

## Mini Keyboard KBD

Mini Keyboard KBD is designed for all models. KBD also brings convenience of use through multi-language keyboard versions and USB interface. The detailed specification is provided below:

- USB interface with 30 cm USB cable
- 66-Key design with function keys to simulate standard keyboards.
- StickPointer to simulate mouse and keypad
- Currently support versions:  
English (UI), English (UK), German (DE), Swedish (SV) and Russian (RU) 5 versions.
- LED Backlight
- Caps Lock, Number Lock, Scroll Lock, and Smart Card Reader LED Indicators
- Magnesium Alloy Case (Black)
- Operating Temperature: -4 ~ 122°F (-20 ~ 50°C)
- Storage Temperature: -40 ~ 158°F (-40 ~ 70°C)
- Optional Built-in Smart Card Reader
- Dimensions: 7.5" x 3.5" x 0.5" (190 mm (W) x 90 mm (D) x 12 mm (H))
- Weight: 0.4 lbs (170 g)
- IP55





---

## Chapter Eight - Maintenance and Service

### Cleaning

ALWAYS turn OFF the power, unplug the power cord and remove the battery before cleaning.

The exterior of the system and display may be wiped with a clean, soft, and lint-free cloth. If there is difficulty removing dirt, apply non-ammonia, non-alcohol based glass cleaner to the cloth and wipe.

An air gun is recommended for cleaning water and dust. For salty water please clean with fresh water then blow-dry with an air gun. Be sure not to turn the computer up-side down while there is water being applied.

### Troubleshooting

Should the computer fail to function properly, the troubleshooting steps below may be followed.

- Check AC/vehicle adapter, battery, and the power source.
- Minimize the configuration, i.e. remove extra peripherals and devices.
- Remove the software suspected.
- Set BIOS fail-safe default.
- Re-install operating system and application software.

## **RMA Service**

If troubleshooting steps are unsuccessful, consult your dealer for RMA.

Shipping instructions:

1. Remove any personal data.
2. Use the original shipping container and packing materials, if possible.
3. If the original packing materials are not available, wrap the equipment with soft material (e.g. PU/PE form) then put the wrapped equipment into a hard cardboard shipping box.
4. Include a sheet with the following information: (Note: Please keep a copy of this sheet for your records)
  - Name
  - Address
  - Unit serial number
  - Place and date of purchase or the original invoice number
  - Date of failure
  - A DETAILED Description of the problems you have encountered
  - A list of the hardware/software configuration, if applicable.
5. Clearly mark the outside of the shipping box with the RMA #. If RMA # is not present on the shipping box, receiving will be unable to identify it and it might be returned.
6. Unless prior arrangements have been made, the customer is responsible for all shipping costs. Unauthorized use of the company's shipping accounts is not permitted.

If you require support please contact AMREL Service department:

**Phone:** 800.882.6735

**E-mail:** [cdinfo@amrel.com](mailto:cdinfo@amrel.com)