

# ***NOTEBOOK COMPUTER***

***RF9***

***Preliminary***

***User's Guide***

## Notice

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## 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, and
- 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).

## **FCC RF Radiation Exposure Statement**

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

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

The antennas used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

## CE

Products with the CE Marking comply with both the EMC Directive (89/336/EEC) and the Low Voltage Directive (73/23/EEC) issued by the Commission of the European Community.

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

<b>EN55022</b>	(CISPR 22) Radio Frequency Interference
<b>EN55024</b>	(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
<b>LVD</b>	EN 60950 Product Safety, IEC 60950-1: 2005

## R&TTE (CE) Manual Regulatory Requirement

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

802.11a/b/g/n Restrictions:

European standards dictate maximum radiated transmit power of 100mW EIRP and frequency range 2.400-2.4835 GHz. In France, the equipment must be restricted to the 2.4465-2.4835 GHz frequency range and must be restricted to indoor use.

## 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 (89/336/EEC), Low-voltage Directive (73/23/EEC), the Amendment Directive (93/68/EEC), and the procedures given in European Council Directive (99/5/EC and 89/336/EEC).

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

**EN 300 328 V1.7.1:2006**

**EN 301 893 V1.4.1(2007-07)**

**EN 301 V1.8.1 2008-04 / EN 301 489-17 V1.3.2 2008-04**

**EN 50371:2002**

**EN 60950-1: 2005**

**UL, TÜV**

AC Adapter (TÜV includes EN60950 LVD)

## **Environmental Information, Material Safety & Recycling**

All materials used in the manufacturing of this equipment are recyclable or environmentally friendly.

Please recycle the packing materials by the local regulations at the end of the product's service life.

### **Notice:**

- The equipment may still contain tiny amount of hazardous substances for health and environment, though those are below control level.
- To avoid spreading such substances into the eco system, and to minimize the pressure on the natural, you are encouraged to use the appropriate take-back for reusing or recycling most of the materials in a safe way after the service life.
- The crossed bin symbol indicates proper disposal is required.
- For more information on collection, reuse and recycling, please consult the local or regional waste administration for more information.
- You can also contact with the dealer for more information on the environmental details of the equipment.



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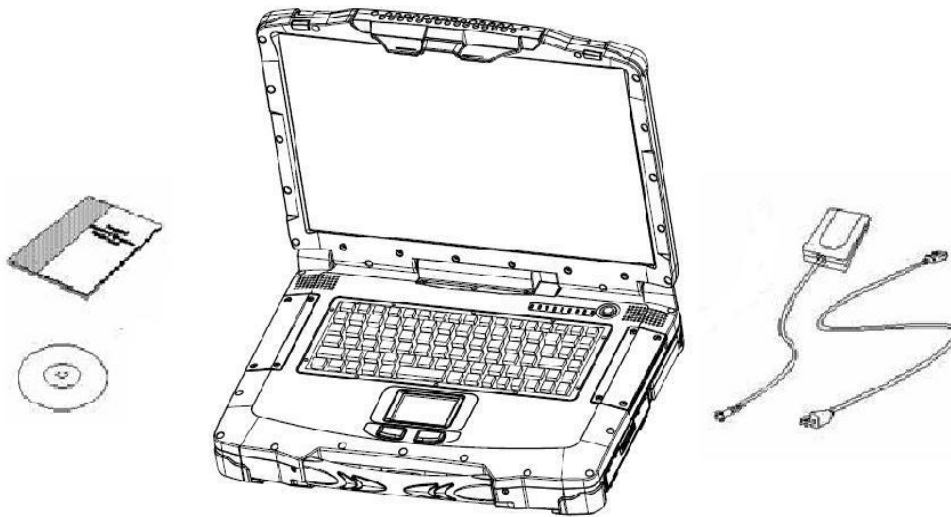
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## Chapter One- Getting Started

### Unpacking

The following components are along with your notebook computer. If there is any missing or damaged, please contact with your dealer immediately.

- Computer Unit
- Removable HDD (Hard Disk Drive)
- Removable ODD (Optical Disk Drive)
- AC Adapter
- AC Power Cord
- Utility DVD
- User Guide
- Carrying Bag



## Quick Operation

- Loosen the battery screw, remove the battery insulation sheet, and mount the battery.
- Connect the AC adapter with the computer and start charging the battery for at least 10 minutes.
- Turn ON the computer by pressing the Power Switch.

### Notice:

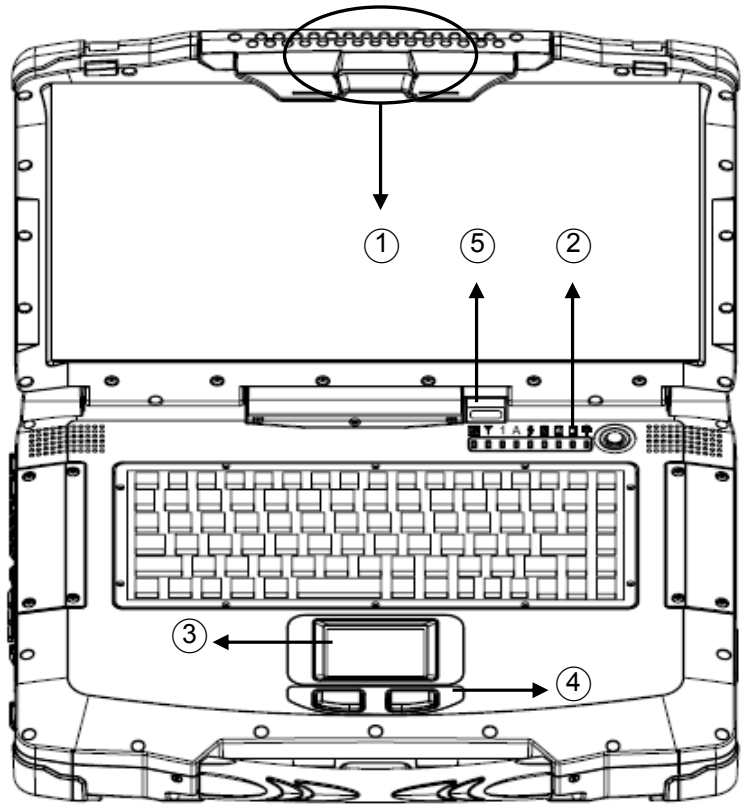
- When ambient temperature is under +5°C (This is the default setting for this computer.), the system may not boot up immediately. System will beep with LED heater light flashing to remind the user while heater working. Also, the frequency of the LED will become faster to remind the user while the temperature is approaching to be suitable. After 5~15 minutes, the system will boot up automatically.
- Under an emergency situation, it is able to skip heating for booting up the system immediately by pressing the power switch for >9 seconds. The speaker will also beep with a special sound. (It is not guaranteed all devices on the computer are possible to work properly.)
- Press the power switch again during the heating process will shut down the computer.
- Driver or application software installation may be necessary for further operation.
- The following procedures will help to Turn OFF the computer:
  1. Press power switch to “Shut Down”, “Sleep”\* or “Hibernate”\* depending on operating system (OS) and power management settings.
  2. Press power switch for 4 seconds for a “Hard” power off. But the system will shut down immediately without saving any data or parameters.
  3. Click **Start** → **Shut Down** in Windows to **Turn OFF**.

### Note:

- *Some operating systems may not support the above-mentioned functions.*











Appearance Overview

LCD Panel Open

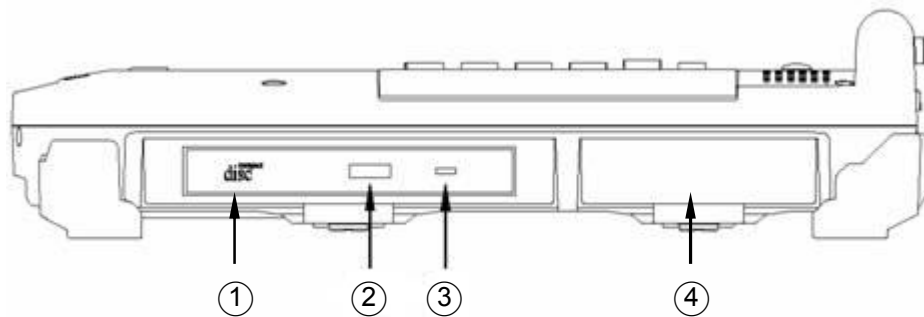


1. Optional: Embedded Antennas (from left to right) - WLAN-L, GPS, Bluetooth, WLAN-R

2. LED Indicators and Power Switch:

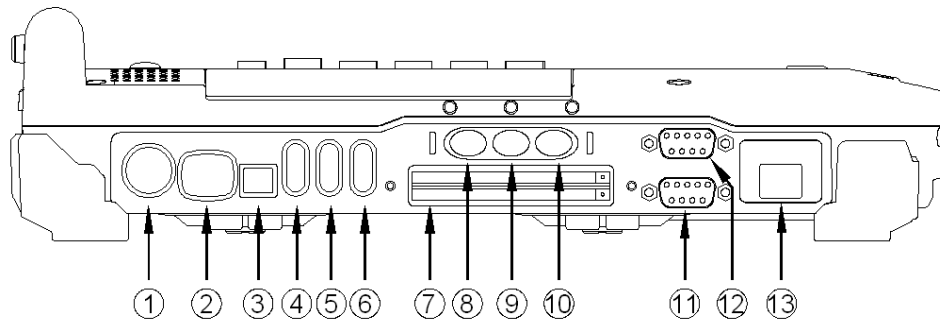
- |  |  |
|--|--|
|  Heater               |  HDD in Use                 |
|  BT/WLAN/GPS          |  Secondary Battery Charging |
|  Keyboard Number Lock |  Primary Battery Charging   |
|  Keyboard Caps Lock   |  Power Indicator            |
|  Keyboard Scroll Lock |  Power Switch               |

3. Touchpad  
4. Touchpad Right and Left Button  
5. Optional: RF Devices All ON/OFF

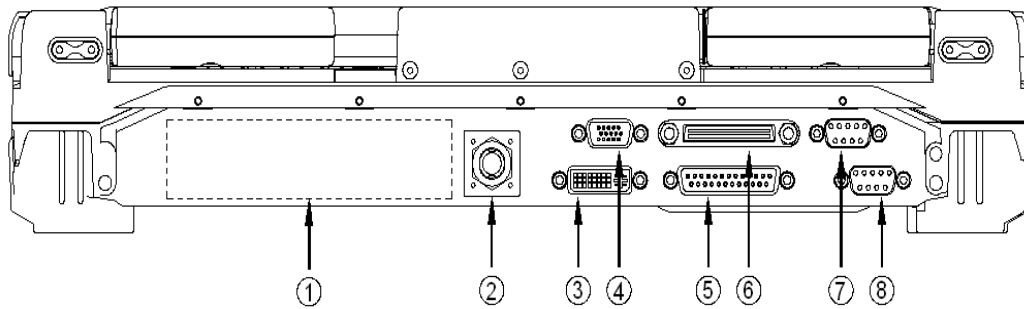
**Right View**

1. Flex Bay:
  - a. Standard: SATA ODD
  - b. Optional: 2<sup>nd</sup> SATA HDD or 2<sup>nd</sup> Battery
2. Eject Button
3. In-use Indicator Light
4. 1<sup>st</sup> SATA HDD

## Left View



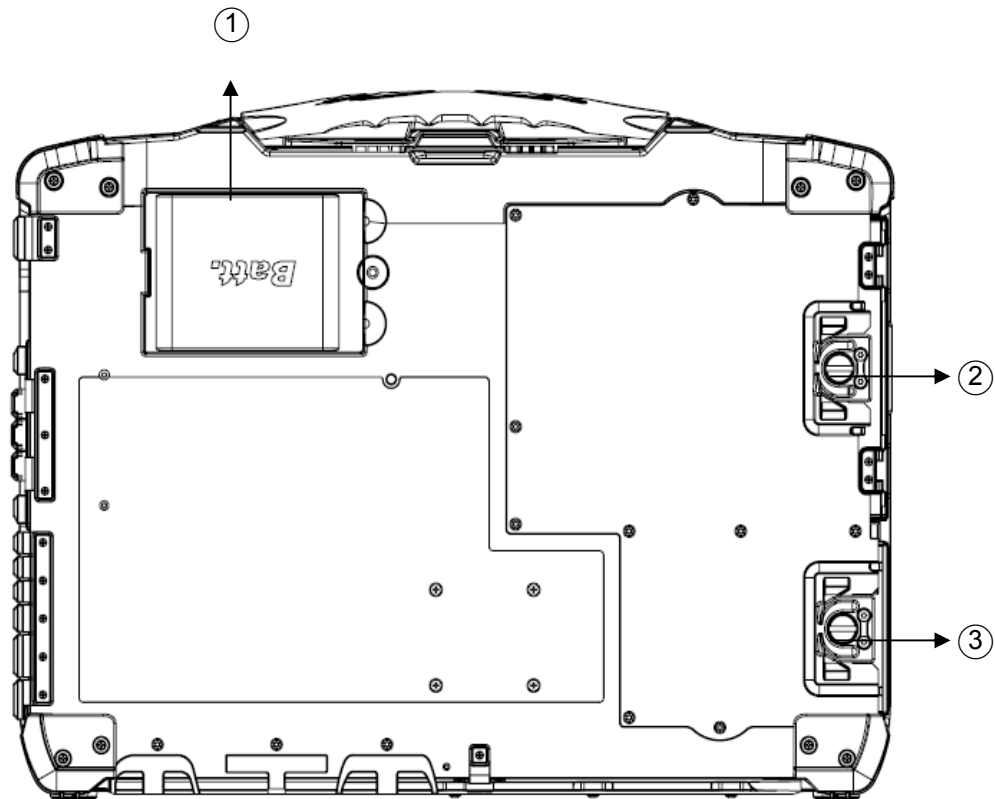
1. PS/2 port (KB + Mouse)
2. LAN RJ45
3. IEEE 1394 port (Fire Wire)
4. USB Port (Universal Serial Bus)
5. USB Port (Universal Serial Bus)
6. USB Port (Universal Serial Bus)
7. Express Card Slot x 1 & PCMCIA II Slot x 1  
Optional: PCMCIA II Slots x 2
8. External Speaker & Ear phone Jack
9. Line In Jack
10. Microphone Jack
11. Optional: COM 3 Port
12. Optional: COM 4 Port
13. Optional: Modem RJ11 Jack

**Rear View**

1. Optional: Military Connector Port (Maximum Military Connectors x 3)
2. DC Power Jack
3. External DVI Port
4. External RGB Monitor Port
5. Printer Port
6. Docking Port
7. Serial Port COM2
8. Serial Port COM1



Bottom View



- 1. Primary Battery
- 2. ODD Latch
- 3. HDD Latch

## Chapter Two- Operating Information

### Workplace

A clean and moisture-free environment is preferred. Make room for air circulation. Remember to avoid areas from:

- Sudden or extreme changes in temperature.
- Extreme heat.
- Strong electromagnetic fields (near television set, motor rotation area, etc.).
- Dust or high humidity.

If it is necessary to work in a hostile environment, please regularly maintain your notebook computer by cleaning dust, water, and etc. to keep it in an optimal condition.

### Ruggedness

This notebook computer is designed with rugged features such as vibration, shock, dust, and rain/ water protection. However, it is still necessary to provide appropriate protection while operating in harsh environments.

The notebook computer is also designed to withstand rainfall from top with mild wind blowing only. Please keep the keyboard facing up, i.e. normal operating direction, to maintain water resistance. NEVER immerse the unit in water, or spray water at an upside-down system. Doing so may cause permanent damage.

The D-sub connector caps on the rear of the computer are for dust and shock protection. The connectors are sealed internally. Other I/O ports

and devices on the left or right must have caps tightly closed or cable inlets sealed while being exposed to water or dust.

There are optional gaskets for DB-9 and DB-25 connectors. You may install them to improve rain/ dust/ moisture resistance on your commercial type cable. Insert the packing into the male connector (with pins) and fasten the screws.

All connectors will be corroded if being exposed to water or moisture. Corrosion is accelerated if the power is ON. Please take proper water-resistant measures for cable connections.

The DC jack and cables are sealed and may be operated with water splashing while attached. All port covers should be in place when no cable is attached.

## **Operating System**

This notebook computer is compatible with most operating systems (OS). However, not all functions are 100% compatible. For example, ACPI, Smart Battery, and etc. are not available on DOS, and other non-Microsoft OS. Consequently "Standby", "Hibernation", "Battery Gauge", and etc. would not work under such operating systems.

## **Boot Up and POST**

### **Boot up**

The computer turns ON and loads the operating system (such as Windows) into the system memory. This start-up procedure is called "boot up".

### **The ROM BIOS Power on Self-Test (POST)**

Each time the computer powers on, it automatically performs a self-test of its memory and hardware devices.

## Shut down

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 notebook computer. If you want to start your notebook computer again, you need to press the power switch.

## Sleep/ Hibernate

### Sleep

Under “Sleep” mode, the system will temporarily save your work into RAM. You are able to do enter “Sleep” mode by directly clicking from your OS. Or, you can do the “Sleep” Mode settings in your OS. If you want to start your notebook computer again, all you need to press any key.

### Hibernate

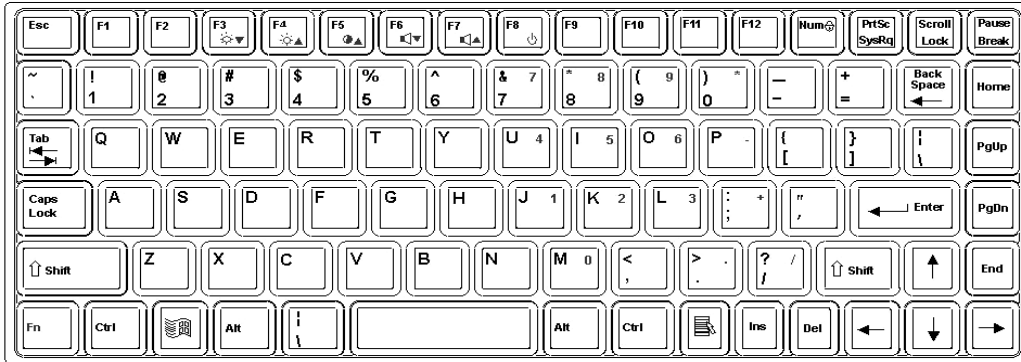
Under “Hibernate” mode, the system will save your work into HDD. You are able to do enter “Hibernate” mode by directly clicking from your OS. Or, you can do the “Hibernate” Mode in your OS. If you want to start your handheld computer again, you need to press the power switch.

#### **Note:**

- *Standby/Hibernate/Resume works with both AC adapter and battery. The power management functions may not work under non-ACPI operating systems.*
- *If you work under Windows 7 (64 bit) with external KB or mouse, please do the Windows Setting as follows:*
  1. *External Mouse: Device Manager → Mice and other pointing devices → HID-compliant → Power Management → Disable “Allow this device to wake the computer”*
  2. *External KB: Device Manager → Keyboards → HID-compliant → Power Management → Disable “Allow this device to wake the computer”*

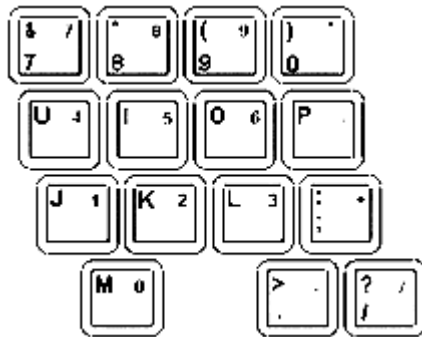
## Keyboard

The keyboard is functionally equivalent to a full size desktop keyboard. A sample layout is shown below.



### The Numeric Keypad

The numeric keypad functions are the same as an electronic calculator. It is embedded in the main keyboard, with the numeric figures printed on the upper right of their respective keys. There are keys for the digits 0~9, the decimal point ( . ), addition ( + ), subtraction ( - ), multiplication ( \* ), and division ( / ) in the keypad.



To activate the keypad, press the Num Lock key. There are 15 keys switching from alphabetic to numeric. Press Num Lock again to return.

## Keyboard Backlight (Optional)

Press **[Fn] [F5]** key for approximately 1 second to turn the keyboard backlight ON or OFF.

## Hard Disk Drive (HDD)

The Hard Disk Drive (HDD) is a 2.5" type/9.5mm height standard **SATA interface** data storage device.

HDD and ODD are removable. This design provides convenience and security. They can ONLY be removed when the power is OFF.

**Note:**

*NEVER drop your HDD, ODD or expose them to high temperature, high humidity, or any hazardous environment. NEVER try to disassemble the module. Static discharge may destroy your device and data. Always pick up the modules by touching the case only.*

## ODD (Optical Disk Device)

There is a 5.25" type/12.7mm height standard **SATA interface** ODD. The actual device will depend on the model you purchased. The ODD may be used as a boot device if properly set in the BIOS.

The ODD accepts a variety of standard 12cm CDs, DVD-ROM (Single Layer, Dual Layer), DVD-Video, DVD-R\*10 (1.4 GB, 2.8 GB, 4.7GB), DVD-RW (Ver.1.1/1.2 1.4 GB, 2.8 GB, 4.7 GB, 9.4 GB), DVD-R DL (8.5 GB), DVD-RAM (1.4 GB, 2.8 GB, 4.7 GB, 9.4 GB), +R (4.7 GB), +R DL (8.5 GB), +RW (4.7 GB), CD-Audio, CD-ROM (XA compatible), CD-R, Photo CD (multiple session compatible), Video CD, CD EXTRA, CD-RW, CD-TEXT and etc. **Do not use the IDE-interface ODD; it may cause the computer malfunction.**

The following procedure assumes that all the necessary ODD utilities were installed on the computer. For ODD utility installation, please refer to "**Utilities and Drivers**". ODD also can be removed and swapped with the 2<sup>nd</sup> battery or 2<sup>nd</sup> SATA HDD.

**Put disk into the ODD**

While the power is ON, push the ejecting button of ODD. The tray will release. Then gently pull the tray out. Put the disk with its label facing up on the holder and push the tray back into the cabinet. Any dirt on the data side of the disk may cause to the erroneous read. Please avoid touching the data side.

**Read from the ODD**

The ODD may be designated as drive D: or higher depending on your configuration. You may access to it in DOS or Windows. Please avoid shock or vibration when the optical device is active.

**Express and PCMCIA Cards**

The computer supports one PCMCIA II and one Express card or two PCMCIA II cards. To remove the card, push the button on the right of the card to eject it. The ejecting button can hide into the compartment by pushing it inward gently.

**DVI**

LCD and DVI monitor can simultaneously display under Windows. Before entering Windows, the system will detect DVI as the first priority.

Windows setting:

**Control panel -> Intel(R) Extreme Graphics -> Display Selection**

Display resolution of notebook LCD and DVI monitor must be identical.

**RTC**

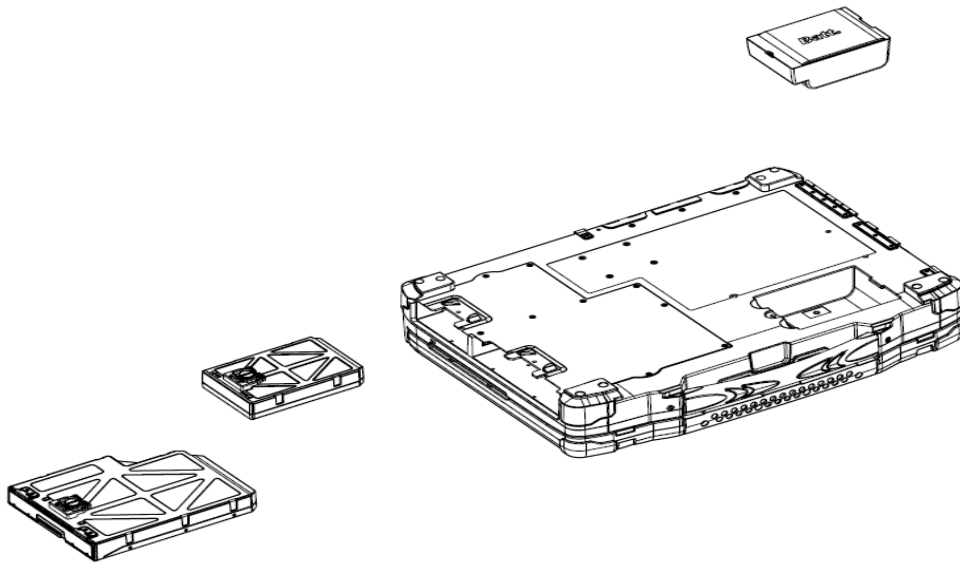
Battery backed up RTC (Real Time Clock/Calendar) is built in an on-board CMOS (Complementary Metal Oxide Semiconductor) chip. The RTC keeps track of the time and date while the computer is off. The CMOS chip also stores system setup information.

RTC battery is also recharged when AC adapter is attached. Recharge the computer approximately once per month to ensure RTC operation.

## Replacing Modules

To remove the modules:

1. Turn OFF the computer or hibernate.
2. Disconnect all cables from the computer.
3. Use a coin to turn and loose the screws on the modules.
4. Remove the battery from the compartment.
5. Push the latch knob to release the ODD or HDD module and push them outward.
6. Remove the module from the computer.



To re-install the modules:

Gently push the module into the slot. Fasten the screw to fix the module.



### **Caution**

You must turn the power OFF before replacing the ODD and HDD modules.



## Wireless Devices (Optional) (TBD)

Before using wireless devices, please turn “**ON**” the Wireless Devices All ON/OFF Switch, and then use the Wireless Manager to do the rest settings.

The following instructions are only for the models with optional Wireless Devices (Wireless LAN/ Bluetooth/ WWAN/ GPS) and taking the systems working under Windows 7/ 64-bit OS for example.

### Wireless LAN

#### 1. Driver & Utility Installation:

a. Install the **Chipset** Driver first:

Insert the Utility DVD into the ODD. Click **infinst\_autol.exe** in the directory of “RX9\Drivers\Chipset\Win7(64-bit)”, and then follow the prompt to complete installation.

b. Then, install the **Wireless Manager** utility:

Insert the Utility DVD into the ODD. Click **setup.exe** in the directory of Utilities\Wireless Manager then follow the prompt to complete installation.

#### 2. Launch the Wireless Manager:

a. Launch the Wireless Manager.

b. Click “**Wireless LAN**” for enabling the Wireless LAN function (click again for disabling the WLAN function). Once the Wireless LAN starts up, the RF LED will turn on accordingly. Please see the illustration as below (with Wireless LAN function “**ON**”):



## **Chapter Three- Managing Power**

### **AC Adapter**

**The AC adapter performs two functions:**

- It powers the computer from an external AC source.
- It charges the computer battery.

The adapter automatically detects the AC line voltage (100V or 240V) and adjusts accordingly.

**The following are recommended when using the AC adapter:**

- Use a properly grounded AC outlet.
- Use one AC outlet exclusively for the computer. Having other appliances on the same line may cause interference.
- Use a power strip with built-in surge protection.

**Connecting the AC adapter:**

- Plug the AC cord to the adapter.
- Plug the other end of the AC cord into the wall outlet. Make sure the green LED on the adapter turns on.
- Attach the DC plug into the power jack of the computer; turn the lock ring clockwise to secure it.

**AC Adapter Indicator:**

The green LED indicates that AC power is ready.

## **Battery**

The power source will automatically switch to battery when the external power source (AC adapter or optional vehicle adapter) is disconnected.

### **Battery Low**

When the battery is nearly exhausted, the computer gives the following “Battery Low” warnings:

- Windows battery low warning (when operating system is Windows)
- The power LED flashes.

Once the Battery Low warning occurs, please:

- Save and close the files you are currently working on.
- Plug in the AC adapter to recharge the battery.

### **Charging the Battery**

Plug in the AC adapter (or optional vehicle adapter) to start the battery charging. If the battery is already full, the sense circuitry will stop high current charge within several minutes.

There are two LED indicators next to the power indicator for the Primary and Secondary battery respectively. Indicator turns ON when the battery is charging and turns OFF when the battery charging is completed.

To charge the Secondary battery, simply install it into the computer and attach the AC adapter. The internal charger will charge the Primary battery first. The Secondary battery will be charged once the Primary battery charges full. Optional Dual Battery Charger can charge the Primary and Secondary batteries externally.

## Battery Charging Notice

The followings are the detailed information for charging the Primary and Secondary batteries under AC and DC modes:

AC mode:

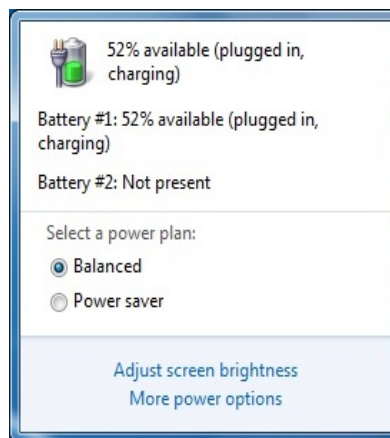
- When the Power Status is changed and AC mode is detected, the Primary battery will be charged.
- Until the **Primary Battery** is finished charging, then it will continue to charge the **Secondary Battery** fully also.
- When batteries are all full, the EC (embedded controller) will be turned off.
- If there is no Power Status change, until the capacity is down below 90%, a natural discharging occurs, and then recharge again.

DC mode:

- When DC mode is detected, it will discharge the Secondary Battery until the capacity is below 10%, and then switch to the Primary Battery for continuing discharging.
- When the capacity of the Primary Battery is below 10%, the Low Battery LED will flash.

## Battery Gauge

You may check battery status from battery gauge in Windows. Click the power/battery icon to reveal the battery gauge window.



## Battery Power Saving Tips

The computer comes with an intelligent power-saving feature. You may extend the battery life by:

- Setup power saving functions in Operating System Power Management options (e.g. Windows Power Options).
- Lower the intensity of the display by brightness control.
- Use standby option when computer is temporarily not in use.
- Shut down the computer when it will not be for a long-time use.

## 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.

## 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.

## Supporting ACPI

Your notebook 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.

### **Sleep:**

AC adapter LED is ON (while connecting with power)

Power LED indicator is ON; Other LED indicators are OFF

### **Under Hibernation:**

AC adapter LED is ON (while connecting with power)

Power LED indicator is OFF; Other LED indicators are OFF

### **Shutdown:**

AC adapter LED is ON (while connecting with power)

Power LED indicator is OFF; Other LED indicators are OFF

## Chapter Four- BIOS Setup

Press **[F2]** at boot up to enter BIOS setup. Use arrow keys to select options and **[+/-]** to modify them. When finished, move to " **Exit**" and press **[Enter]** then confirm save by pressing **[Y]**.

Main Menu					
Phoenix SecureCore (tm) Setup Utility					
Main	Advanced	Security	Boot	Exit	
<b>System Time:</b> [15:48:04] System Date: [10/02/2010]			Item Specific Help		
▶ SATA Port 1 [Auto] ▶ SATA Port 2 [Auto]			<Tab>, <Shift-Tab>, or <Enter> selects field.		
System Memory: 632 KB Extended Memory: 1012736KB					
F1 Help	↑↓ Select Item	-/+ Change Values	F9 Setup Defaults		
Esc Exit	↔ Menu	Enter Select ▶ Sub-Menu	F10 Save and Exit		

**Note:**

➤ *The contents may vary depending on computer configurations.*

### Main Menu Selections

You can make the following selections on the Main Menu. Use the sub-menus for other selections.

Feature	Options	Description
System Time	HH:MM:SS	Set the system time Hour, Minute, Second.
System Date	MM/DD/YYYY	Set the system date Month, Day, Year.
SATA Port 1~2	None	Auto-detect the device, then show the device.

## General Help Window

Pressing **<F1>** or **<Alt-H>** at any menu brings up the General Help window that describes the detailed keys and functions for setup.

The scroll bar on the right of any window indicates that there is more than one page of information in the window. Use **<PgUp>** and **<PgDn>** to display all the pages. Pressing **<Home>** and **<End>** displays the first and last page. Pressing **<Enter>** displays each page and then exits the window. Press **<Esc>** to exit the current window.



## SATA Port 1 Sub-Menu

Phoenix SecureCore (tm) Setup Utility		
Main		
SATA Port 1	[Auto]]	Item Specific Help
<b>Type:</b> [Auto] LBA Format Total Sectors: 78140160 Maximum Capacity: 40008MB  Multi-Sector Transfers: [16 Sectors] LBA Mode Control: [Enabled] 32 Bit I/O: [Disabled] Transfer Mode: [FPIO 4/ DMA 2 ] Ultra DMA Mode: [Mode 5]	User = you enter parameters of hard-disk drive installed at this connection. Auto = autotypes hard-disk drive installed here. CD-ROM = a CD-ROM drive is installed here. ATAPI Removable = removable disk drive is installed here.	
F1 Help	↑↓ Select Item	-/+ Change Values
Esc Exit	↔ Menu	Enter Select ► Sub-Menu
		F9 Setup Defaults
		F10 Save and Exit

### SATA Port 1 Sub-Menu Selections

You can make the following selections on the SATA Port 1 Sub-Menu.

Feature	Options	Description
32 Bit I/O:	Enabled Disabled	This setting enables or disables 32 bit IDE data transfers.

## SATA Port 2 Sub-Menu

Phoenix SecureCore (tm) Setup Utility		
<b>Main</b>		
SATA Port 2	[Auto]	Item Specific Help
<b>Type:</b>	[Auto]	User = you enter parameters of hard-disk drive installed at this connection. Auto = autotypes hard-disk drive installed here. CD-ROM = a CD-ROM drive is installed here. ATAPI Removable = removable disk drive is installed here.
Multi-Sector Transfers:	[Disabled]	
LBA Mode Control:	[Disabled]	
32 Bit I/O:	[Disabled]	
Transfer Mode:	[Standard ]	
Ultra DMA Mode:	[Mode 5]	
SMART Monitoring:	Disabled	
F1 Help	↑↓ Select Item	-/+ Change Values
Esc Exit	↔ Menu	Enter Select ► Sub-Menu
		F9 Setup Defaults
		F10 Save and Exit

### SATA Port 2 Sub-Menu Selections

You can make the following selections on the SATA Port 2 Sub-Menu.

Feature	Options	Description
32 Bit I/O	Enabled Disabled	This setting enables or disables 32 bit IDE data transfers.

**Advanced Menu**

Phoenix SecureCore (tm) Setup Utility				
Main	Advanced	Security	Boot	Exit
Boot-time Diagnostic Screen: [Enabled] QuickBoot Mode: [Enabled] IGD - Boot Type: [VBT Default] PS/2 Mouse [Auto Detect] PCI Express Port #1 [Enabled] Device 29 USB 2.0 Enable: [Enabled] Passive Cooling Trip Point: [87 C] Core Multi-Processing: [Enabled] Intel(R) SpeedStep (tm) [Enabled] CX States [Enabled] PCI Hot-Plug Resources [Enabled] ► SIO SMC227 CONFIGURATION			Item Specific Help	
			Display the diagnostic screen during boot	
F1 Help	↑↓ Select Item	-/+ Change Values	F9 Setup Defaults	
Esc Exit	↔ Menu	Enter Select ► Sub-Menu	F10 Save and Exit	



**Warning**

*Incorrect settings may cause system malfunction. To correct it, restore the Setup Default with <F9>.*

## Advanced Menu Selections

You can make the following selections on the Advanced Menu.

Feature	Options	Description
Boot-time Diagnostic Screen	Enable Disabled	Display the diagnostic screen during boot
QuickBoot Mode	Enable Disabled	Allows the system to skip certain tests while booting. This will decrease the time needed to boot the system.
IGD - Boot Type	VBT Default CRT LFP CRT+LFP EFP CRT+EFP	Select the Video Device that will be activated during POST
PS/2 Mouse	Auto Detect Disabled Enabled	“Disabled” prevents any installed PS/2 mouse from functioning, but frees up IRQ 12. “Enabled” forces the PS/2 mouse port to be enabled regardless if a mouse is present. “Auto Detect” will enable the PS/2 mouse only if present. “OS Controlled” only displayed if the OS controls the mouse.
PCI Express Port #1	Enabled Auto Disabled	Disabled – Port always disabled. (If Port #1 is disabled), then the rest of the Ports will also be disabled.) Enabled – Port always enabled. Auto – Only enable if card found.
Device 29 USB 2.0 Enable	Enable Disabled	Enables Device 29 USB 2.0 functionality.
Passive Cooling Trip Point	15 C/23 C/31 C/39 C/ 47 C/55 C/63 C/71 C/ 79 C/87 C/95 C/103 C/ 109 C/111C Disabled	This value controls the temperature of the ACPI Passive Trip Point – the point in which the OS will begin throttling the CPU.  Note: When the DTS is enabled, only values below 97C are valid.
Core Multi-Processing	Enable Disabled	Determines whether the 2nd core is enabled.  Disabled = 2nd core is disabled. Enabled = 2nd core is enabled.

<b>Feature</b>	<b>Options</b>	<b>Description</b>
Intel(R) SpeedStep (tm)	Enable Disabled	Allows more than two freq. range to be supported
CX States	Enabled Disabled	Enable CPU C-states: Main switch for C0, C1, C2, C3, C4, Deep C4, C6
SIO SMC227 CONFIGURATION		These items control the configuration of various National 393 SIO devices.



**Warning**

*Make sure internal COMx mode settings must be with the same type of the external connected devices. Otherwise it may cause serial components damage in either side.*

**SIO SMC27 CONFIGURATION Sub-Menu**

Phoenix SecureCore (tm) Setup Utility Advanced		Item Specific Help
SIO SMC227 CONFIGURATION		
<b>COM1 port:</b>	[3F8-IRQ 4]	Configure COM1 using device options:
COM1 mode:	[COM1]	
<b>COM2 port:</b>	[2F8-IRQ 3]	[Disabled] No configuration
COM2 mode:	[COM2]	
<b>COM3 port:</b>	[3E8-IRQ 10]	[3F8-IRQ 4] Set the base I/O address for COM1
COM3 mode:	[COM3]	
<b>COM4 port:</b>	[2E8-IRQ 5]	
COM4 mode:	[COM4]	
<b>Printer1:</b>	[378-IRQ 3]	
Printer1 mode:	[Standard]	
<b>Printer2:</b>	[Disabled]	
F1 Help	↑↓ Select Item	-/+ Change Values
Esc Exit	↔ Menu	Enter Select ▶ Sub-Menu
		F9 Setup Defaults
		F10 Save and Exit

**SIO SMC27 CONFIGURATION Sub-Menu Selections**

You can make the following selections on the SIO SMC27 CONFIGURATION Sub-Menu.

Feature	Options	Description
COM1 port	3F8-IRQ 4 Disabled	Configure COM1 using device options: [Disabled] No configuration [3F8-IRQ 4] Set the base I/O address for COM1
COM1 mode	COM1 TTL1	Configure UART mode options: [COM1]: External Device [TTL1]: Internal Device
COM2 port	2F8-IRQ 3 Disabled	Configure COM2 using device options: [Disabled] No configuration [2F8-IRQ 3] Set the base I/O address for COM2
COM2 mode	COM2	Configure UART mode options:

<b>Feature</b>	<b>Options</b>	<b>Description</b>
	TTL2	[COM2]: External Device [TTL2]: Internal Device
COM3 port	3E8-IRQ 10 Disabled	Configure COM3 using device options: [Disabled] No configuration [3E8-IRQ 10] Set the base I/O address for COM3
COM3 mode	COM3 TTL3	Configure UART mode options: [COM3]: External Device [TTL3]: Internal Device
COM4 port	2E8-IRQ 5 Disabled	Configure COM4 using device options: [Disabled] No configuration [2E8-IRQ 5] Set the base I/O address for COM4
COM4 mode	COM4 TTL4	Configure UART mode options: [COM4]: External Device [TTL4]: Internal Device
Printer1	378-IRQ 7 Disabled	Configure Printer1 device options: [Disabled] No configuration [378-IRQ 7] Set the base I/O address for Printer1
Printer1 mode	Standard ECP EPP	Configure Printer1 mode options: Standard EPP ECP
Printer2	Disabled 3BC	Configure Printer2 device options: [Disabled] No configuration [3BC] Set the base I/O address for Printer2

**Security Menu**



**Warning**

*If you forget user/supervisor password, the computer has to send back to manufacturer and replace Flash ROM to make it work again.*

Phoenix SecureCore (tm) Setup Utility				
Main	Advanced	Security	Boot	Exit
Supervisor Password Is:		Clear	Item Specific Help	
User Password Is:		Clear		
<b>Set Supervisor Password</b>		[Enter]	Supervisor Password controls access to the setup utility.	
Set User Password		[Enter]		
Diskette access:		[Supervisor]		
Fixed disk boot sector: [Normal]				
Password on boot:		[Disabled]		
AC97 Audio Interface:		[Auto]		
Cardbus/1394 Interface		[Auto]		
▶ RF Interface Control				
F1 Help	↑↓ Select Item	-/+ Change Values	F9 Setup Defaults	
Esc Exit	↔ Menu	Enter Select ▶ Sub-Menu	F10 Save and Exit	

**Note:**

- Once you enter the incorrect password for three times, “System Disabled” will show on the screen. Please press the power switch for more than 5 seconds to shut down the computer. After shutting down, you are able to restart the system to enter the password again,



## Security Menu Selections

You can make the following selections on the Security Menu.

<b>Feature</b>	<b>Options</b>	<b>Description</b>
Set Supervisor Password	Enter	Supervisor Password controls access to the setup utility.
Fixed disk boot sector	Normal Write Protect	Write protects the boot sector on the hard disk to protect against viruses.
AC97 Audio Interface	Auto Disabled Enabled	Control Detection of the AC97 Device.
Cardbus/1394 Interface	Auto Disabled Enabled	Cardbus Device Function Disable/ Enable
USB Interface Control		These items control various ICH USB Devices.
PCIe Interface Control		These items control various ICH PCI Express Devices.
RF Interface Control		RF Security Control: Wireless LAN WWAN GPS BlueTooth

## RF Interface Control Sub-Menu

Phoenix SecureCore (tm) Setup Utility		
Security		
RF Interface Control		Item Specific Help
<b>Wireless LAN:</b> [Disabled] WWAN: [Disabled] GPS: [Disabled] BlueTooth: [Disabled]		Wireless LAN Control
F1 Help	↑↓ Select Item	-/+ Change Values
Esc Exit	↔ Menu	Enter Select ▶ Sub-Menu
		F9 Setup Defaults
		F10 Save and Exit

### RF Interface Control Sub-Menu Selections

You can make the following selections on the RF Interface Control Sub-Menu.

Feature	Options	Description
Wireless LAN	Enabled Disabled	Wireless LAN Control
WWAN	Enabled Disabled	WWAN Control
GPS	Enabled Disabled	GPS Control
BlueTooth	Enabled Disabled	BlueTooth Control

**Boot Menu**

Phoenix SecureCore (tm) Setup Utility							
Main	Advanced	Security	Boot	Exit			
Boot priority order: <b>1: USB FDC:</b> 2: IDE CD: 3: USB KEY: 4: IDE HDD: FUJITSU MHW2040BH – (PM) 5: Legacy Network Card 6: PCI BEV: IBA GE Slot 00C8 v1322 7: 8: Excluded from boot order: : USB HDD: : USB CDROM: : USB ZIP: : USB LS120: : PCI SCSI: : Other USB: : PCI: : Legacy :1394 CDROM				Item Specific Help  Keys used to view or configure devices: Up and Down arrows select a device. <+> and <-> moves the device up or down. <f> and <r> specifies the device fixed or removable. <x> exclude or include the device to boot. <Shift + 1> enables or disables a device. <1 – 4> Loads default boot sequence.			
F1	Help	↑↓	Select Item	-/+	Change Values	F9	Setup Defaults
Esc	Exit	↔	Menu	Enter	Select ► Sub-Menu	F10	Save and Exit

The system will try to boot from device on top then the 2<sup>nd</sup> and so on. If there is more than one device in each category, only the device on top of sub-menu can boot up.

## Exit Menu

Phoenix SecureCore (tm) Setup Utility				
Main	Advance	Security	Boot	Exit
<b>Exit Saving Changes</b> Exit Discarding Changes Load Setup Defaults Discard Changes Save Changes			Item Specific Help  Exit System Setup and save your changes to CMOS.	
F1 Help	↑↓ Select Item	-/+ Change Values	F9 Setup Defaults	
Esc Exit	↔ Menu	Enter Select ► Sub-Menu	F10 Save and Exit	

### Exit Menu Selections

You can make the following selections on the Exit Menu.

Feature	Options	Description
Exit Saving Changes		Exit System Setup and save your changes to CMOS.
Exit Discarding Changes		Exit utility without saving Setup data to CMOS.
Load Setup Defaults		Load default values for all SETUP items.
Discard Changes		Load previous values from CMOS for all SETUP items.
Save Changes		Save Setup Data to CMOS

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## Chapter Five- Specification

### CPU

- Intel® Core™ Duo Processor (**Penryn**) T9400 2.26 GHz

CPU runs at multiple speeds depending on the CPU type and operating system. Also, CPU speed switches automatically by detecting AC adapter/battery operation and busy state.

### Memory

- **System memory:** Standard: 1GB  
**Expandable:** 8GB
- **Cache memory:** Internal Level 6 MB
- **Graphic memory:** Shared system memory from 32M to 1695 MB

### Chipset

- North Bridge: Mobile Intel® **GM45** Express chipset **Cantiga** (G) MCH
- South Bridge: Intel® **ICH9M**-Enhanced

### Display

- Type: 17.1" Active TFT Color
- Resolution: 1440 x 900 pixels
- Mode: WXGA+
- Color: 18 bit, 256K colors
- Brightness: 160~200nits

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## Keyboard

- Number of keys: 87 Keys (standard 87-key w/o backlight)  
89 keys (optional rubber 89-key with backlight)
- Key travel: 2.8 mm (standard 87-key w/o backlight)  
1.5 mm (optional rubber 89-key with backlight)

## Touchpad

- Type: Resistive type
- Compatible: PS/2
- Lifetime: Over 5,000,000 strokes lifetime

## Hard Disk Drive

- Type: 2.5" (Removable)
- Height: 9.5mm
- Interface: SATA

## DVD Super Multi Drive

- Type: 5.25" (Removable)
- Height: 12.7mm
- Interface: SATA

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**I/O Ports**

- PS/2 x1 (KB + mouse)
- USB 2.0 x 3
- IEEE1394 Fire Wire x 1
- LAN RJ45 x 1
- Optional: Modem RJ11 Port x 1
- PCMCIA type I/II x 1; Express card (PCI-e) x 1  
Optional: PCMCIA Type I/II x 2
- Audio Jack x 3 (Mic/Line in/Earphone)
- DB9 x 2 (COM1/2)
- DB9 x 2 (Optional: COM3/4)
- Printer DB25 x 1
- Docking Conn. x 1 (Optional: Military type)
- RGB DB15 x 1
- DVI x 1
- Optional: Military Connector Port X 2

**AC Adapter**

- AC Input: 100 - 240 V
- Frequency: 50/60 Hz
- DC Output: 19V
- Maximum Power: 90 Watts Max. Output
- Dimension: 130mm (W) x 60mm (D) x 34mm (H)
- Weight: 430 g (0.9 lb.)

## Battery

### Primary Battery:

Type:	9 x 18650 cells Lithium Ion
Capacity:	11.1V 7200mAh
Dimension:	103 mm (W) x 73 mm (D) x 38 mm (H)
Weight:	435 g

### 2<sup>nd</sup> Battery (Optional):

Type:	9 x 18650 cells Lithium Ion
Capacity:	11.1V 7200mAh
Dimension:	150 mm(W) x 90 mm(D) x 20 mm(H)
Weight:	560 g

## System Unit Dimensions and Weight

Width:	413 mm
Depth:	316.5 mm
Height:	77.2 mm
Weight:	5.5Kg (including ODD and primary battery)

**Note:**

➤ *Weight varies depending on system configurations.*



## Materials and Recycling

Materials of the computer are as follows:

- Cabinet: Aluminum Alloy ADC-12,  
Magnesium Alloy AZ91D,  
UL grade PC+ABS GE C6200 or TN-3813BW
- Bracket: Aluminum 5052, Steel with Nickel Plating, or  
Stainless Steel S304
- Cushion pad: Silicon Rubber, TPE
- PCB: FR-4, UL 94V0
- Battery: Rechargeable Lithium Ion, 9 Cells per Pack
- Packing: Carton- Unbleached Paper  
Cushion- Recyclable EPE  
Carrying bag- Recyclable PE Fiber  
User Guide- Recycled/Recyclable Paper

Please recycle the parts according to the local regulations.

## Environmental

- Temperature: -20 ~ +50°C (-4 ~ +122°F) operating  
-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<sup>2</sup>

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## Chapter Six- Optional Devices

### Memory Card

The memory card will expand your memory to facilitate better system performance. 1GB, 2GB, and 4GB SO-DIMM DDR3 memory cards are acceptable:

### MXM II Graphic Card

Besides the standard graphic controller, an optional MXM II card (memory: 256MB) is also available to enhance the displaying ability of your notebook computer. It supports OpenGL® 2.1 and Direct X® 10.

### Vehicle Adapter

- Input Voltage: 12~32V
- Input Current: 9A max
- Output Voltage: 19V
- Output Current: 4A
- Wiring: Cigarette lighter/ Truck battery
- Application: Car or Truck installation

### 2<sup>nd</sup> Battery

A Lithium Ion rechargeable 2<sup>nd</sup> battery may install into the DVD Super Multi Drive-compartment. It shares the same capacity of primary battery and smart battery compliance.

The computer's internal charger can detect 2<sup>nd</sup> battery and perform charging accordingly.

## **2<sup>nd</sup> HDD**

- Swappable with ODD, set as SATA primary slave drive.

## **ODD (Optical Disk Drive)**

- Swappable ODD for disks playing
- Compatible with VCD-ROM, DVD-ROM, and etc.

## **Heater**

RF9 provides a heater kit for enabling the unit to work under the low temperature, the heater will first heat the HDD up to the temperature set by the user, and the system will boot after then. Also, the heater will keep monitoring the temperature of the HDD. Once the temperature becomes lower, the heater will heat up again to maintain the temperature set by the user.

## **LAN and Modem Card**

- 10Mb/100Mb/1Gb LAN Card
- 56Kbps V.92 Modem Modem Card

## **Wireless LAN Card**

- IEEE 802.11 a/b/g/n wireless LAN card

## **Bluetooth**

- USB interface, Bluetooth® v2.1 + EDR system is backward compatible with v1.1/1.2/2.0 devices.

## WWAN

- USB interface, HSDPA/UMTS 3.5G

## GPS

- USB interface, Ublox LEA-5H

## KB Dust Cover

- KB Dust Cover is available for standard Keyboard.

## PCMCIA Cover

Besides the attached PCMCIA rubber cover, there is an optional cover with a metal frame that can be fixed by using screws. The cover provides protection from dust or water for cabled PCMCIA cards. Users may seal the cable outlet after installation.

## Built-in Vehicle Adapter

Converting power from car lighters or truck batteries to DC +19V, they are the same output ratings as AC adapters. It can power the system and charge the batteries simultaneously.



### **Caution**

*Remove or disconnect the adapter when leaving the vehicle to avoid battery exhaustion.*

### **Dual-Bay Battery Charger**

This charger provides two bays for the **Primary** and **Secondary Batteries** respectively. It accepts power from AC adapter or vehicle adapter and charged batteries. It takes approximately 6 hours to fully charge both batteries.

### **COM 3/4 Card and Additional Serial Ports**

- Supporting RS232, TTL, RS422, and RS485 formats.

### **Military Connector/ Military Serial Connector**

- Military connectors x 2 are available.
- 37 pin MIL-DTL-38999 military serial connector, carrying max. 4 COM port signals is available.

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## Chapter Seven- Utilities and Drivers

The Utility DVD includes all the drivers for the installed devices in your notebook 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:**

- *Most device drivers are available in Windows.*
- *The Utility DVD includes most drivers of the computer’s installed devices. Consult dealer if any driver is missing.*
- *Re-install drivers or perform “Driver Update” to replace the Windows default drivers.*
- *Check readme.txt file on Utility DVD to get the newest information before starting to install drivers.*

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**Chipset Driver****Windows 7/Enterprise 64-bit Drivers Installation:**

The Windows 7/Enterprise 64-bit will automatically install the driver.

**Graphic Controller**

RF9 supports Intel® GM45 giving you a flexible, programmable architecture that supports 2D, 3D and advanced 3D graphics, high-definition video decode, and image processing. Please follow the installation as below to use well with Intel® GM45.

Insert the Utility DVD into the ODD. Click "setup.exe" in the directory of "RX9\Drivers\Win7(64bit)\VGA", and then follow prompt to complete driver installation. Windows may recommend using their driver, but you should confirm to change the factory bundled driver.

**Audio**

RF9 provides a high-quality audio sound effect for user to enjoy better sound quality. To activate this function, please follow the installation as below.

Insert the Utility DVD into the ODD. Click "Vista\_R221.exe" in the directory of "RX9\Drivers\Win7(64bit)\Audio", and then follow the prompt to complete installation.

**Mini PCI-E 1G RTL8111B LAN Driver**

The Windows 7/Enterprise 64-bit will automatically install the driver.

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**Mini PCI INT8100 LAN Driver**

The Windows 7/Enterprise 64-bit will automatically install the driver.

**Modem Driver (Optional)**

The Windows 7/ Enterprise 64-bit will automatically install the driver.

**Touch Panel (Optional)**

There is a high sensitive touch panel for RF9 to be equipped with. Please follow the installation as below.

Enter BIOS Setup screen and set COM1 port as "TTL1". (COM1 has multiple connectivity, so it's necessary to setup. The optional COM4 may be configured as touch screen and doesn't need to configure the BIOS.)

Afterwards, please cancel the prompt of installation wizard to setup the driver from the Utility DVD "RX9\Drivers\Win7(64bit)\PenMount Universal Driver v2.1.0.263\setup.exe), and follow the prompt to complete installation and then restart.

**Wireless LAN Driver (TBD) (Optional)****Bluetooth Driver (TBD) (Optional)****GPS Driver (TBD) (Optional)****WWAN Driver (TBD) (Optional)**



## **Wireless Manager**

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

Read from the Utility DVD. Click **Setup.exe** in the directory of RX9\Utilities\Win7(64bit)Wirelessmanager then follow the prompt to complete installation.

## **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 modules one by one (HDD, CD-ROM, Battery, etc.).
- 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 disks or other media.
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 foam) 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.

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G630902000