

NOTEBOOK COMPUTER

RF10

***User's Guide
(Preliminary Draft)***

Notice

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Revision History:

Revision	Date	Changes	Author
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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).

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

Operations in the 5.15-5.25GHz band are restricted to indoor usage only.

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.

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:

LVD EN 60950-1: 2006+ A11: 2009+ A1: 2010+ A12: 2011
IEC 60950-1: 2005+AM1:2009

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.


This device have been tested to comply with the Sound Pressure Level requirement laid down in the applicable EN 50332-1and/or EN 50332-2 standards. Permanent hearing loss may occur if earphones or headphones are used at high volume for prolonged periods of time.



A pleine puissance, l'écoute prolongée du baladeur peut endommager l'oreille de l'utilisateur.

To prevent possible hearing damage, do not listen at high volume levels for long periods.

CE Declaration of Conformity

CE 0560 

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 (2004/108/EC), Low-voltage Directive (2006/95/EC), the Amendment Directive (93/68/EEC), and the procedures given in European Council Directive (99/5/EC and 2004/108/EC).

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

1. Health (Article 3.1(a) of the R&TTE Directive)

Applied Standard(s):

- EN 62311: 2008

2. Safety (Article 3.1(a) of the R&TTE Directive)

Applied Standard(s):

- EN 60950-1: 2006 + A11: 2009 + A1: 2010 + A12: 2011
- EN 50332-2: 2003

3. Electromagnetic compatibility (Article 3.1 (b) of the R&TTE Directive)

Applied Standard(s):

- EN 301 489-1 V1.9.2 / -3 V1.6.1 / -17 V2.2.1
- EN 55022:2010/ AC:2011 Class B ; EN55024: 2010

4. Radio frequency spectrum usage (Article 3.2 of the R&TTE Directive)

Applied Standard(s):

- EN 300 328 V1.7.1
- EN 300 440-1 V1.6.1 / -2 V1.4.1
- EN 301 893 V1.6.1

UL, TÜV

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

Power Conservation

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

It is recommended to enable power-saving functions when operating this computer, as Power Management functions do not impact system performance while saving power.

Power Safety

There are specific power requirements for this computer:

- Only use an approved power adapter for this computer.
- There is a 3-prong grounded plug of the power adapter. The third prong serves as Ground and is an important safety feature. If a compatible outlet is not available, consult qualified electricians for installation.
- When unplugging the power cord, please be sure to unplug from the plug head instead of pulling from the wire.
- Make sure the socket and any other extension cords 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.



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 re-move your battery in prevent from turning the computer on accidentally.

Battery Precautions

- Only use batteries designed for this computer. Wrong and incompatible batteries 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 notebook's system or charger to recharge the battery. Incorrect recharging may cause the battery to explode.
- Do not try to repair a battery pack by yourself. Refer to any battery pack repair or replacement, please contact with to your service representative or qualified service personnel.
- Please dispose 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 to 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 use the appropriate take-back for reusing or recycling most of the materials in a safe way after the product's 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 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

CHAPTER ONE - GETTING STARTED.....	1
UNPACKING	1
QUICK OPERATION	2
APPEARANCE OVERVIEW	3
CHAPTER TWO - OPERATING INFORMATION	8
WORKPLACE.....	8
RUGGEDNESS.....	8
OPERATING SYSTEM	9
WORK WITH POWER BUTTON	9
BOOT UP AND POST.....	9
SHUT DOWN.....	10
SLEEP/ HIBERNATE	10
RAPID START TECHNOLOGY.....	11
KEYBOARD	12
KEYBOARD BACKLIGHT (OPTION)	12
HARD DISK DRIVE (HDD)	13
OPTICAL DISK DEVICE (ODD).....	13
EXPRESS CARDS.....	14
RTC	15
REPLACING MODULES	16
WIRELESS DEVICES (OPTIONAL).....	17
CHAPTER THREE - MANAGING POWER.....	21
AC ADAPTER	21
BATTERY	22
POWER CONSERVATION	24
SUPPORTING ACPI	24
CHAPTER FOUR - BIOS SETUP	25
MAIN MENU	25
ADVANCED MENU.....	26

SATA CONFIGURATION SUB-MENU	28
SATA CONFIGURATION SUB-MENU SELECTIONS	28
USB CONFIGURATION SUB-MENU	29
USB CONFIGURATION SUB-MENU SELECTIONS	29
IT8783F SUPER IO CONFIGURATION SUB-MENU	30
RF DEVICE CONTROL CONFIGURATION SUB-MENU.....	31
EC THERMAL CONTROL SUB-MENU.....	32
CHIPSET MENU	33
CHIPSET MENU SELECTIONS	33
PCH-IO CONFIGURATION SUB-MENU.....	34
BOOT MENU	35
BOOT MENU SELECTIONS	35
SECURITY MENU	36
SAVE & EXIT MENU	37
CHAPTER FIVE - DRIVERS AND APPLICATIONS	38
CHIPSET	38
VGA	38
AUDIO	39
INTEL ME	39
INTEL RAPID STORAGE TECHNOLOGY	39
WIRELESS POWER MANAGER.....	40
TOUCH SCREEN	40
USB3.0	40
RICOH.....	41
TURBO BOOST MONITOR	41
GIGABIT LAN.....	41
2ND GIGABIT LAN (OPTION)	42
WIFI (OPTION)	42
BLUETOOTH (OPTION)	42
GPS (OPTION)	43
TPM (OPTION)	44
CHAPTER SIX - SPECIFICATIONS	45

PLATFORM.....	45
CPU	45
PCH	45
MEMORY	45
DISPLAY	45
KEYBOARD	45
TOUCHPAD	46
HARD DISK DRIVE (HDD) / OPTIONAL SOLID STATE DRIVE (SSD)	46
OPTICAL DISK DRIVE (ODD)	46
I/O PORTS.....	46
AC ADAPTER	47
BATTERY	47
SYSTEM UNIT DIMENSIONS AND WEIGHT	47
MATERIALS AND RECYCLING	48
ENVIRONMENTAL.....	48
CHAPTER SEVEN - OPTIONAL DEVICES.....	49
COMMUNICATION.....	49
MEMORY CARD	49
VEHICLE ADAPTER	49
2 ND BATTERY	49
2 ND HDD	50
ODD.....	50
KB DUST COVER	50
DUAL BATTERY CHARGER RT202D.....	50
COM 3/4 ADDITIONAL SERIAL PORTS	50
MILITARY CONNECTOR/ MILITARY SERIAL CONNECTOR	50
TRUST PLATFORM MODULE (TPM).....	50
CHAPTER EIGHT - MAINTENANCE AND SERVICE.....	51
CLEANING.....	51
TROUBLESHOOTING.....	51
RMA SERVICE	52

Chapter One - Getting Started

Unpacking

The following components are shipped along with your computer. If any component is missing or damaged, please notify the dealer immediately.

- Computer Unit
- Removable HDD (Hard Disk Drive)
- Removable ODD (Optical Disk Drive)
- AC Adapter
- AC Power Cord
- Utility DVD
- Quick 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 (The default setting for this computer), the system may not boot up immediately. System will beep with LED heater light flashing to indicate that the heater is functioning. The frequency of the LED flashing will become faster as the internal temperature approaches suitable level. After 5~15 minutes, the system will boot up automatically.
- In the events of emergency, this computer is able to skip heating and boot up the system immediately by pressing and holding the power switch for >9 seconds. The speaker will also beep with a special sound. (It is not guaranteed that all devices on the computer can function properly.)
- Pressing the power switch again during the heating process will shut down the computer.
- Drivers or applications installation may be necessary for further operation.

The following procedures will help to Turn OFF the computer:

1. Press the power switch to “**Shut Down**”, “**Standby***” or “**Hibernate***” depending on the Operating System (OS) installed and power management settings.
2. Press and hold the power switch for 4 seconds for a “**Hard**” power-off. All unsaved data and parameters will be lost after a “**Hard**” power-off.
3. Click **Start** → **Shut Down** (under Windows Operating System) to Turn OFF the computer.

Note:

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











Appearance Overview

LCD Panel Open



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

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

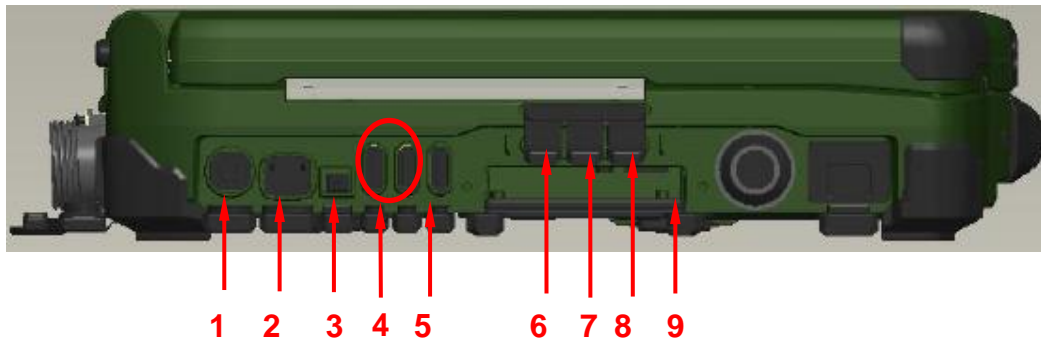
3. Touchpad
4. Touchpad Right and Left Button

Right View



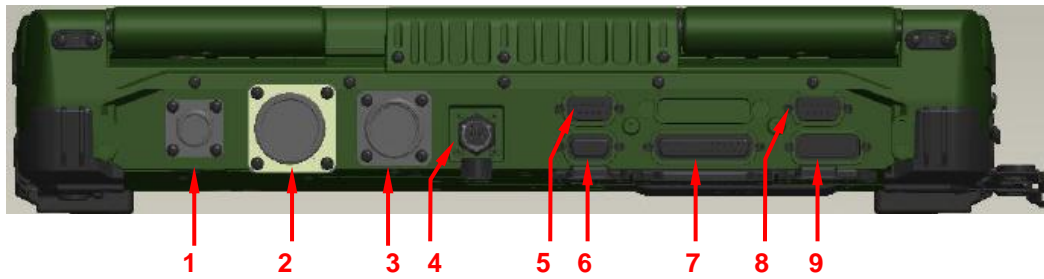
1. Flex Bay:
 - a. Standard: SATAII ODD (Optical Disk Drive)
 - b. Optional: 2nd HDD or 2nd Battery
2. Removable 2.5" SATAII HDD/ Optional SSD

Left View



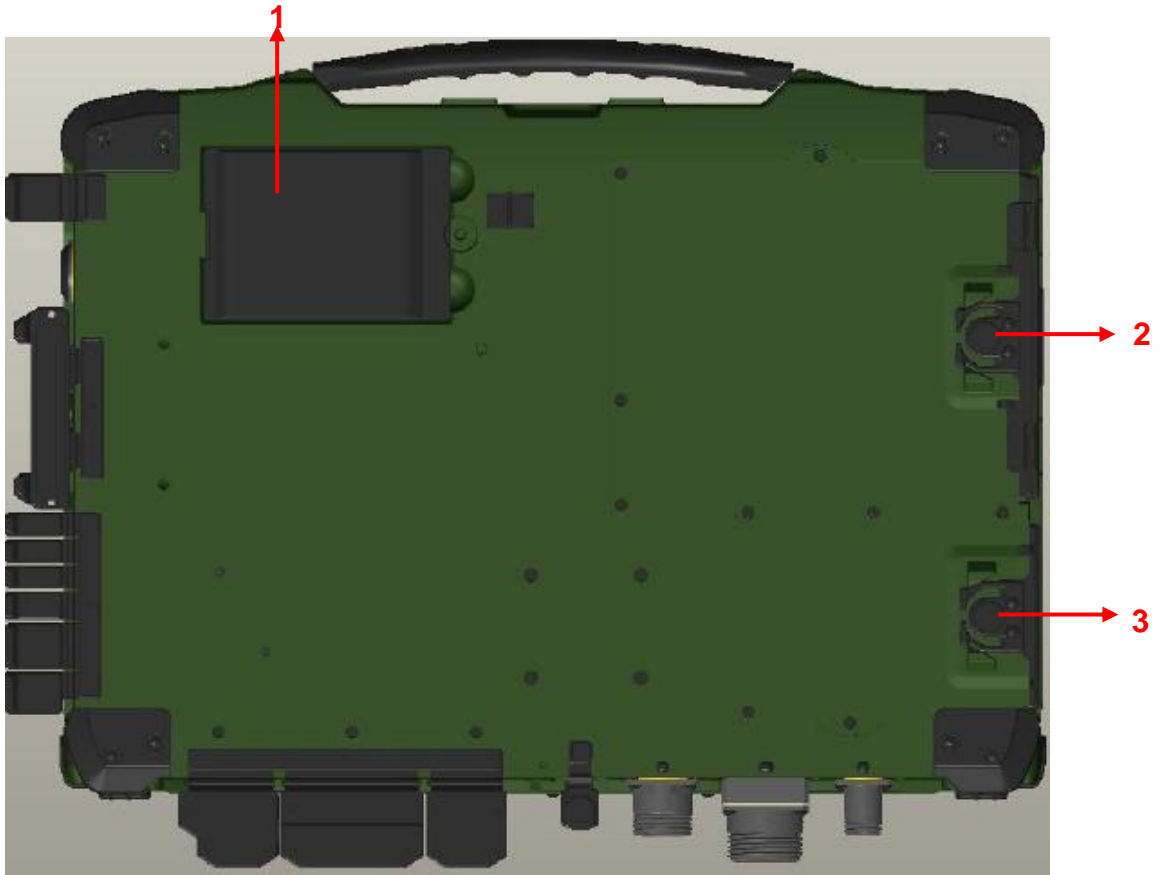
1. PS/2 Port (Keyboard + Mouse)
2. GLAN RJ45 (Optional)
3. IEEE1394 Port (Fire Wire)
4. USB 3.0 x 2
5. USB 2.0 x 1 (USB Battery Charging)
6. External Speaker & Earphone Jack
7. Line-in Jack
8. Microphone Jack
9. Express Card Slot x 1

Rear View



1. Optional: Military Connector Port
2. Optional: Military Connector Port
3. Optional: Military Connector Port
4. DC Power Jack
5. Serial Port DB9 (COM1/ Default: RS232)
6. VGA Port
7. Printer Port
8. Serial Port DB9 (COM2/ Default: RS232)
9. DVI Port

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.

Work with Power Button

Since the notebook computer is equipped with a heater kit to enable the unit to work under low temperature, the heater will first heat HDD up to the temperature set by user, and the system will boot after then. Also, the heater will keep monitoring HDD temperature. Once the temperature becomes lower, the heater will heat up again to maintain the temperature set by user.

The function will be different from the way you use with the power button:

1. Press 12 seconds and release:
USB port is enabled and you can set a new value in Heater AP.
2. Press 9~11 seconds:
The system will be forced to boot up.
3. Press 5~8 seconds:
Enable/Disable the sound of Heater.
4. Press 4 seconds under OS:
Shut down the system.
5. Click the Power button.
 - a. Power on the system in S5 status.
 - b. Click while heating up, the system will be forced to shutdown
 - c. Entering S3/S4 under OS.

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”*

Rapid Start Technology

Your computer can operate Intel® Rapid Start Technology when SSD is installed. This technology enables your system resume time not only to be as fast as wake-up time from S3 (Sleep) mode, but also to be more energy saving.

Before using Intel Rapid Storage Technology, please check the following system requirements:

System Requirement:

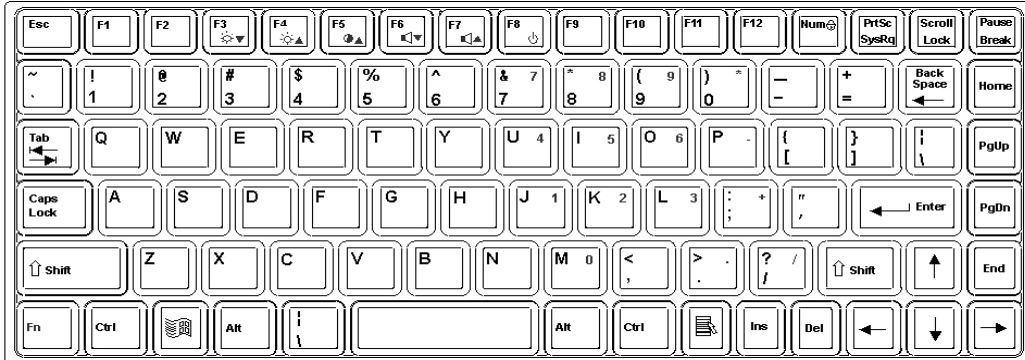
- Intel QM67 Express Chipset-based desktop board
- Intel Sandy Bridge i7-2610UE
- Solid State Drive (SSD)
- Operating system: Microsoft Windows 7 (32- or 64-bit edition)

Note:

- *Intel® Rapid Storage Technology Driver should be installed and can be found in Utility DVD.*
- *Please use “Intel® Rapid Start Technology User Guide,” instead of “Intel® Rapid Start Technology User Guide for UEFI Mode,” to setup the function. You can find the User Guide from Intel official website.*
- *Please remember to enable Rapid Start Technology from BIOS Advanced Menu.*
- *To cancel the Rapid Start Technology, please disable the function from BIOS Advanced Menu.*

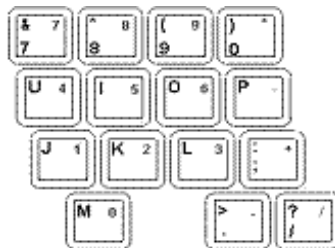
Keyboard

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 (Option)

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 **SATAII interface** data storage device.

HDD and ODD (Optical Disk Drive) 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.

Optical Disk Device (ODD)

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 2nd battery or 2nd 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 Cards

The computer supports 54 mm or 34 mm wide ExpressCard. You can install an ExpressCard while the computer is running. The computer automatically detects the card.

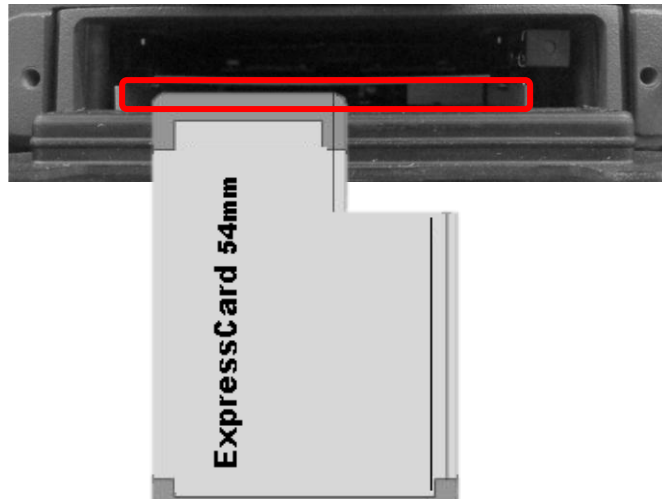
To install an ExpressCard:

- Hold the card with the top side of the card.
- Slide the card into the slot until the card is completely seated in its connector.

To remove an ExpressCard:

Press the card and remove the card gently.

The following illustration shows the insertion of ExpressCard 54mm:



RTC

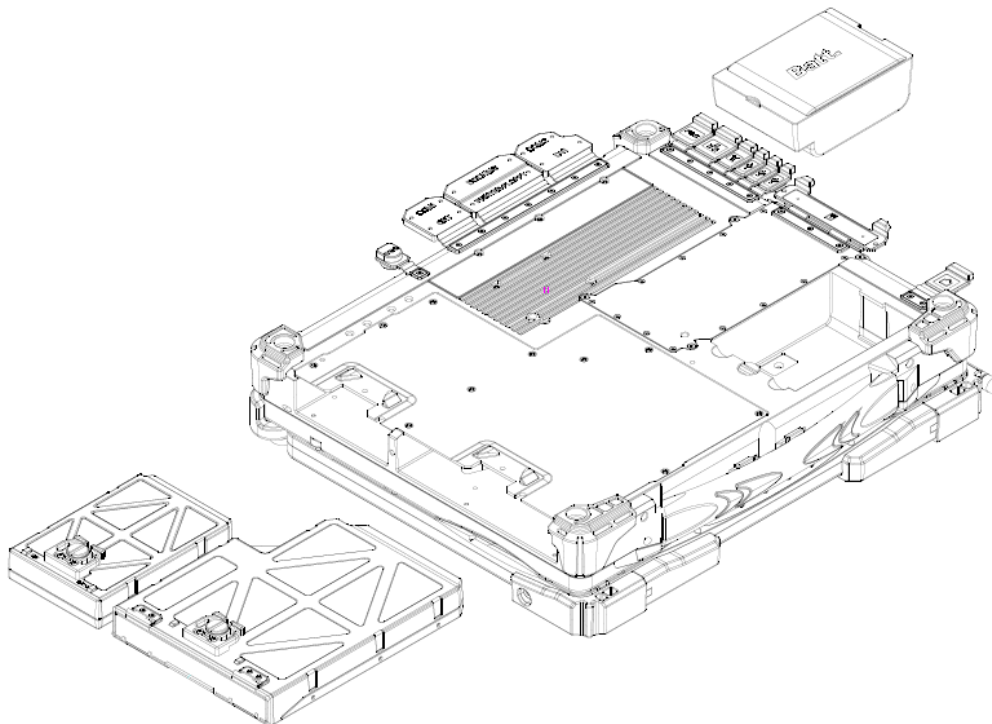
Battery backed up RTC (Real Time Clock/Calendar) is built in an on-board CMOS (Complementary Metal Oxide Semiconductor) chip. The RTC keeps track of the time and date while the computer is off. The CMOS chip also stores system setup information.

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)

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

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

Wireless LAN

1. **Driver & Application Installation:**
 - a. Install the **Chipset** Driver first.
 - b. Then, install the **Wireless Manager**.

2. **Launch the Device Power Manager:**
 - a. Launch the Device Power 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 the right picture (with Wireless LAN function “**ON**”):

Bluetooth

1. **Driver & Application Installation:**
 - a. Install the Bluetooth driver first.
 - b. Then, install the Wireless Manager.

2. **Launch the Device Power Manager:**
 - a. Launch the Device Power Manager.
 - b. Click "**Bluetooth**" for enabling the Bluetooth function (click again for disabling the Bluetooth function). Once the Bluetooth starts up, the RF LED will turn on accordingly.

GPS

1. Driver & Application Installation:

- a. Install the GPS driver first.
- b. Then, install the Device Power Manager.

2. Launch the Device Power Manager:

- a. Launch the Device Power Manager.
- b. Click "**GPS**" for enabling the GPS function (click again for disabling the GPS function). Once the GPS starts up, the RF LED will turn on accordingly.

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.

Note:

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

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 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 notebook computer to start charging is one method; directly replace a charged battery designed for this notebook 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

(Will update with SW)

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

Aptio Setup Utility					
Main	Advanced	Chipset	Boot	Security	Save & Exit
BIOS Information BIOS Vendor Core Version Compliancy Project Version Build Date and Time EC Version				Choose the system default language	
System Language [English]				→←: Select Screen ↑↓: Select Item Enter: Select -/+: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit	
System Date [10/22/2012]					
System Time [16:19:20]					
Access Level Administrator					

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 Date	MM/DD/YYYY	Set the system date Month, Day, Year.
System Time	HH:MM:SS	Set the system time Hour, Minute, Second.

Advanced Menu

Aptio Setup Utility	
Main	Advanced
<ul style="list-style-type: none"> ▶ Trusted Computing ▶ SATA Configuration ▶ Intel (R) Rapid Start Technology ▶ USB Configuration ▶ IT8783F Super IO Configuration ▶ RF Device Control ▶ EC Thermal Control 	<p>Trusted Computing Setting</p> <hr/> <p>→←: Select Screen ↑↓: Select Item Enter: Select -/+: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</p>

Advanced Menu Selections

You can make the following selections on the Advanced Menu.

Feature	Options	Description
Trusted Computing	Disabled Enabled	TPM Support
SATA Configuration	SATA Mode Selection Serial ATA Port 0 Software Preserve	SATA Mode Selection: IDE, AHCI, RAID Serial ATA Port 0 Software Preserve: Port 0, Hot Plug
Intel (R) Rapid Start Technology	Disabled Enabled	Allows the system to skip certain tests while booting. This will decrease the time needed to boot the system.
USB Configuration	Disabled Enabled	Legacy USB Support USB3.0 Support XHCI Hand-off EHCI Hand-off
IT8783F Super IO Configuration	VBIOS Default CRT LFP CRT+LFP TV LFP-SDVO EFP TV-SDVO CRT+LFP-SDVO CRT+EFP	Select the Video Device that will be activated during POST
RF Device Control	Disabled Enabled	GPS, BLUETOOTH, WLAN
EC Thermal Control		Thermal cooling trip point

SATA Configuration Sub-Menu

Advanced		Aptio Setup Utility
<p>SATA Mode Selection</p> <p>Serial ATA Port 0 Software Preserve Port 0 Hot Plug</p>	<p>[AHCI]</p> <p>INTEL SSDSC2CW (180.0) SUPPORTED [Enabled] [Disabled]</p>	<p>Determine how SATA controller(s) operate.</p> <p>→←: Select Screen ↑↓: Select Item Enter: Select -/+ : Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</p>

SATA Configuration Sub-Menu Selections

You can make the following selections on the SATA configuration sub-menu.

Feature	Options	Description
SATA Mode Selection	IDE AHCI RAID	
Port 0	Disabled Enabled	Enable or Disable SATA Port
Hot Plug	Disabled Enabled	Designates this port as Hot Pluggable

USB Configuration Sub-Menu

Advanced		Aptio Setup Utility
USB Configuration USB Devices: 1 point Legacy USB Support [Enabled] USB3.0 Support [Enabled] XHCI Hand-off [Enabled] EHCI Hand-off [Enabled]		Enables Legacy USB support. AUTO option disables legacy support if no USB devices are connected. Disable option will keep USB devices available only for EFI applications
		→←: Select Screen ↑↓: Select Item Enter: Select -/+ : Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

USB Configuration Sub-Menu Selections

You can make the following selections on the USB configuration sub-menu.

Feature	Options	Description
Legacy USB enabled	Disabled Enabled	Enables Legacy USB support. AUTO option disables legacy support if no USB devices are connected. DISABLE option will keep USB devices available only for EFI applications.
Usn3.0 Support	Disabled Enabled	Enable/Disable USB3.0 (XHCI) Controller support.
XHCI Hand-off	Disabled Enabled	This is a workaround for Oses without XHCI hand-off support. This XHCI ownership change should be claimed by XHCI driver.
EHCI Hand-off	Disabled Enabled	This is a workaround for Oses without EHCI hand-off support. This EHCI ownership change should be claimed by EHCI driver.

IT8783F Super IO Configuration Sub-Menu

Advanced		Aptio Setup Utility
IT8783F Super IO configuration IT8783F Super IO Chip IT8783F ▶ Serial Port 0 Configuration		Set Parameters of Serial Port 0 (COMA)
		→←: Select Screen ↑↓: Select Item Enter: Select -/+: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

IT8783F Super IO Configuration Sub-Menu Selections

You can make the following selections on the IT8783F super IO configuration sub-menu.

Feature	Options	Description
Serial Port	Disabled Enabled	Enable or Disable Serial Port (COM)
Change Settings	Auto IO=3F8h; IRQ=4; IO=3F8h; IRQ=3,45,6,7,10,11,12; IO=2F8h; IRQ=3,45,6,7,10,11,12; IO=3E8h; IRQ=3,45,6,7,10,11,12; IO=2E8h; IRQ=3,45,6,7,10,11,12;	Select an optimal setting for Super IO device.
COM 1 Mode Setting	RS232 RS422 TTL 1 RS485	Com 1 Mode Setting

RF Device Control Configuration Sub-Menu

Advanced		Aptio Setup Utility
RF Device Control		RF Device Control Setting
GPS STATUS GPS	Present [Enabled]	→←: Select Screen ↑↓: Select Item Enter: Select -/+: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
BT STATUS BLUETOOTH	Present [Enabled]	
WLAN STATUS WLAN	Present [Enabled]	

RF Device Control Configuration Sub-Menu Selections

You can make the following selections on the RF Security Control sub-menu.

Feature	Options	Description
Wireless LAN	Disabled Enabled	Wireless Lan Control Enabled Wireless function
GPS	Disabled Enabled	GPS Control Enabled GPS function
BlueTooth	Disabled Enabled	BlueTooth Control Enabled Blue Tooth function

EC Thermal Control Sub-Menu

Advanced		Aptio Setup Utility
EC Thermal Control		EC Thermal Control Setting
Thermal cooling trip point	[87 C]	→←: Select Screen ↑↓: Select Item Enter: Select -/+ : Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

Chipset Menu

Aptio Setup Utility		
Main	Advanced	Chipset
<ul style="list-style-type: none"> ▶ System Agent (SA) Configuration ▶ PCH-IO Configuration 		System Agent (SA) Parameters →←: Select Screen ↑↓: Select Item Enter: Select -/+ : Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

Chipset Menu Selections

You can make the following selections on the Chipset sub-menu.

Feature	Options	Description
System Agent (SA) Configuration		System Agent (SA) Parameters
PCH-IO Configuration		PCH Parameter

PCH-IO Configuration Sub-Menu

Aptio Setup Utility Chipset		
Intel PCH RC Version	1.2.2.0	Enable or disable onboard NIC.
Intel PCH SKU Name	QM67	
Intel PCH Rev ID	05/B3	
PCH LAN Controller	[Enabled]	→←: Select Screen ↑↓: Select Item Enter: Select -/+ : Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Wake on LAN	[Enabled]	
▶ USB Configuration		
▶ PCI Express Configuration		

PCH-IO Configuration Sub-Menu Selections

You can make the following selections on the PCH-IO Configuration sub-menu.

Feature	Options	Description
PCH LAN Controller	Disabled Enabled	Enable or disable onboard NIC.
Wake on LAN	Disabled Enabled	Enable or disable integrated LAN to wake the system
USB Configuration	Disabled Enabled	USB Configuration settings
PCI Express Configuration	Disabled Enabled	PCI Express Configuration settings

Boot Menu

Aptio Setup Utility					
Main	Advanced	Chipset	Boot	Security	Save & Exit
Boot Option Priorities Boot Option #1 [PO: INTEL SSDSC2CW...] Boot Option #2 [IBA GE Slot 00C8 v...]			Sets the system boot order		
Network Device BBS Priorities Hard Driver BBS Priorities			→←: Select Screen ↑↓: Select Item Enter: Select -/+ : Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit		

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

Boot Menu Selections

You can make the following selections on the Boot menu.

Feature	Options	Description
Boot Option #1		Sets the system boot order
Boot Option #2		Sets the system boot order
Network Device BBS Priorities		Set the order of the legacy devices in this group
Hard Drive BBS Priorities		Set the order of the legacy devices in this group

Security Menu

Aptio Setup Utility					
Main	Advanced	Chipset	Boot	Security	Save & Exit
Password Description If ONLY the Administrator's password is set, then this only limits access to Setup and is only asked for when entering Setup. If ONLY 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. The password length must be in the following range; Minimum length 3 Maximum length 20 Administrator Password User Password HDD Security Configuration: HDD 0: INTEL SSDSC2				Set Administrator Password →←: Select Screen ↑↓: Select Item Enter: Select -/+: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit	

Security Menu Selections

You can make the following selections on the Security Menu.

Feature	Options	Description
Administrator Password	Enter Password Confirm Password New New	Controls detection of Processor Serial No. System must be reset or restarted from power-on for settings to take effect.
User password	Enter Password Confirm Password New New	Supervisor Password controls access to the setup utility.
HDD 0: INTEL SSDSC2	Enter Password Confirm Password New New	User Password controls access to the system at boot.

Save & Exit Menu

Aptio Setup Utility					
Main	Advanced	Chipset	Boot	Security	Save & Exit
Save Changes and Exit Discard Changes and Exit Save Changes and Reset Discard Changes and Reset				Exit system setup after saving the changes	
Save Options Save Changes Discard Changes Restore Defaults Save as User Defaults Restore User Defaults				→←: Select Screen ↑↓: Select Item Enter: Select -/+ : Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit	
Boot Override PO: INTEL SSDSC2CW180A3 IBA GE Slot 00C8 v1365 Realtek PXE B01 D00					

Chapter Five - Drivers and Applications

(Will update with SW)

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. Please check the readme file on Utility DVD to get the latest information before installing device drivers.

Note:

- *Please install the chipset driver first.*
- *If the system requests for reboot after installing drivers, please reboot your notebook computer first before installing other drivers.*

Chipset

Windows 7/Ultimate 64-bit:

Run "Setup.exe" in the directory of "\\Drivers\Windows 7 (64-bit)\Intel_Chipset", and then follow the instructions to install.

Windows 7/Ultimate 32-bit:

Run "Setup.exe" in the directory of "\\Drivers\Windows 7 (32-bit)\Intel_Chipset", and then follow the instructions to install.

VGA

Windows 7/Ultimate 64-bit:

Run "win64_15288.exe" in the directory of "\\Drivers\Windows 7 (64-bit)\Intel_VGA", and then follow the instructions to install.

Windows 7/Ultimate 32-bit:

Run "win64_15288.exe" in the directory of "\\Drivers\Windows 7 (32-bit)\Intel_VGA", and then follow the instructions to install.

Audio**Windows 7/Ultimate 64-bit:**

Run "Setup.exe" in the directory of "\\Drivers\Windows 7 (64-bit)\Audio\6777_PG360_Win8_Win7_Vista_XP", and then follow the instructions to install.

Windows 7/Ultimate 32-bit:

Run "Setup.exe" in the directory of "\\Drivers\Windows 7 (32-bit)\Audio\6777_PG360_Win8_Win7_Vista_XP", and then follow the instructions to install.

Intel ME**Windows 7/Ultimate 64-bit:**

Run "Setup.exe" in the directory of "\\Drivers\Windows 7 (64-bit)\Intel_ME\MEI_allIOS_7.1.40.1161_PV", and then follow the instructions to install.

Windows 7/Ultimate 32-bit:

Run "Setup.exe" in the directory of "\\Drivers\Windows 7 (32-bit)\Intel_ME\MEI_allIOS_7.1.40.1161_PV", and then follow the instructions to install.

Intel Rapid Storage Technology**Windows 7/Ultimate 64-bit:**

Run "iata_cd_10.8.0.1003.exe" in the directory of "Drivers\Windows 7 (64-bit)\IntelR Rapid Storage Technology", and then follow the instructions to install.

Windows 7/Ultimate 32-bit:

Run "iata_cd_10.8.0.1003.exe" in the directory of "Drivers\Windows 7 (32-bit)\IntelR Rapid Storage Technology", and then follow the instructions to install.

Wireless Power Manager

Windows 7/Ultimate 64-bit:

Run "setup.exe" in the directory of "\\Utilities\\", and then follow the instructions to install.

Windows 7/Ultimate 32-bit:

Run "setup.exe" in the directory of "\\Utilities\\", and then follow the instructions to install.

Touch Screen

Windows 7/Ultimate 64-bit:

Run "setup.exe" in the directory of "\\Drivers\\Windows 7 (64-bit)\\Touch Screen\\PenMount Windows Universal Driver V2.4.0.306(WHQL)", and then follow the instructions to install.

Windows 7/Ultimate 32-bit:

Run "setup.exe" in the directory of "\\Drivers\\Windows 7 (32-bit)\\Touch Screen\\PenMount Windows Universal Driver V2.4.0.306(WHQL)", and then follow the instructions to install.

USB3.0

Windows 7/Ultimate 64-bit:

Run "Texas Instruments xHCI Driver v1.12.25 (Multilenguaje - WHQL).exe" in the directory of "\\Drivers\\Windows 7 (64-bit)\\USB3.0\\Texas Instruments xHCI Driver v1.12.25 (Multilenguaje - WHQL)", and then follow the instructions to install.

Windows 7/Ultimate 32-bit:

Run "Texas Instruments xHCI Driver v1.12.25 (Multilenguaje - WHQL).exe" in the directory of "\\Drivers\\Windows 7 (32-bit)\\USB3.0\\Texas Instruments xHCI Driver v1.12.25 (Multilenguaje - WHQL)", and then follow the instructions to install.

Ricoh**Windows 7/Ultimate 64-bit:**

Run "setup.exe" in the directory of "\\Drivers\Windows 7 (64-bit)\Ricoh\Ricoh_Media_Driver_v2.13.16.01", and then follow the instructions to install.

Windows 7/Ultimate 32-bit:

Run "setup.exe" in the directory of "\\Drivers\Windows 7 (32-bit)\Ricoh\Ricoh_Media_Driver_v2.13.16.01", and then follow the instructions to install.

Turbo Boost Monitor**Windows 7/Ultimate 64-bit:**

Turbo Boost Monitor : Run "setup.exe" in the directory of "\\Drivers\Windows 7 (64-bit)\IntelR Turbo Boost Technology Monitor", and then follow the instructions to install.

Windows 7/Ultimate 32-bit:

Run "setup.exe" in the directory of "\\Drivers\Windows 7 (32-bit)\IntelR Turbo Boost Technology Monitor", and then follow the instructions to install.

Gigabit LAN**Windows 7/Ultimate 64-bit:**

Run "PROWinx64.exe" in the directory of "PROWinx64.exe", and then follow the instructions to install.

Windows 7/Ultimate 32-bit:

Run "PROWinx32.exe" in the directory of "PROWinx632.exe", and then follow the instructions to install.

2nd Gigabit LAN (Option)

Windows 7/Ultimate 64-bit:

Run "setup.exe" in the directory of "\\Drivers\Windows 7 (64-bit)\RTL8111E\Install_Win7_7046_07202011", and then follow the instructions to install.

Windows 7/Ultimate 32-bit:

Run "setup.exe" in the directory of "\\Drivers\Windows 7 (32-bit)\RTL8111E\Install_Win7_7046_07202011", and then follow the instructions to install.

WiFi (Option)

Windows 7/Ultimate 64-bit:

Run "iprodiffx.exe" in the directory of "\\Drivers\Windows 7 (64-bit)\Intel_WiFi6230\WLAN", and then follow the instructions to install.

*: Then into the "Wireless Power Manager" to turn on the WLAN device.

Windows 7/Ultimate 32-bit:

Run "iprodiffx.exe" in the directory of "\\Drivers\Windows 7 (32-bit)\Intel_WiFi6230\WLAN", and then follow the instructions to install.

*: Then into the "Wireless Power Manager" to turn on the WLAN device.

Bluetooth (Option)

Windows 7/Ultimate 64-bit:

*: First into the "Wireless Power Manager" to turn on the Bluetooth device.

Run "BT_2.2_s64.exe" in the directory of "\\Drivers\Windows 7 (64-bit)\Intel_WiFi6230\BT", and then follow the instructions to install.

Windows 7/Ultimate 32-bit:

*: First into the "Wireless Power Manager" to turn on the Bluetooth device.

Run "BT_2.2_s32.exe" in the directory of "\\Drivers\Windows 7 (32-bit)\Intel_WiFi6230\BT", and then follow the instructions to install.

GPS (Option)

Windows 7/Ultimate 64-bit:

*: First into the "Wireless Power Manager" to turn on the GPS device.

Run "ublox_A4_U5_USB_drv3264_install_UI.exe" in the directory of "\Drivers\Windows 7 (64-bit)\UBlox 6H Driver", and then follow the instructions to install.

Windows 7/Ultimate 32-bit:

*: First into the "Wireless Power Manager" to turn on the GPS device.

Run "ublox_A4_U5_USB_drv3264_install_UI.exe" in the directory of "\Drivers\Windows 7 (32-bit)\UBlox 6H Driver", and then follow the instructions to install.

TPM (Option)

Windows 7/Ultimate 64-bit:

Run "setup.exe" in the directory of "\\Drivers\Windows 7 (64-bit)\TPM", and then follow the instructions to install.

Windows 7/Ultimate 32-bit:

Run "setup.exe" in the directory of "\\Drivers\Windows 7 (32-bit)\TPM", and then follow the instructions to install.

Chapter Six - Specifications

Platform

- Intel® Huron River Platform

CPU

- Intel® Sandy Bridge i7-2610UE
(4 MB Intel Smart Cache Memory)

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.

PCH

- Intel® Cougar Point QM67

Memory

- Max.16GB System Memory
 - Industrial grade
 - DDR3 SO-DIMM x 2, 1333MHz

Display

- Type: 17.1" (LED Backlight)
- Resolution: 1440 x 900
- Mode: WXGA+
- Color: 18 bit, 256K colors
- Brightness: 400~500 nits

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: PS/2 Resistive Touchpad
- Life time: Over 5,000,000 strokes lifetime

Hard Disk Drive (HDD) / Optional Solid State Drive (SSD)

- Type: 2.5" (Removable)
- Height: 9.5mm
- Interface: SATAII HDD
- Optional 2.5" SATAII SSD

Optical Disk Drive (ODD)

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

I/O Ports

- PS/2 x1 (KB + mouse)
- USB 3.0 x 2
- USB 2.0 x 1 (USB Battery Charging)
- IEEE1394a (Fire Wire) x 1
- GLAN RJ45 x 1
- Audio Jack x 3
- Express Card (PCI-e) x 1
- Serial Port DB9 x 2 (COM1/2)
- Serial Port DB9 x 2 (Optional: COM3/4)
- DC Jack x 1
Optional Military DC Jack
- Printer Port x 1
- RGB Port x 1
- DVI Port 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: 10.8V 8700mAh
- Dimension: 103 mm (W) x 73 mm (D) x 38 mm (H)
- Weight: 435 g

System Unit Dimensions and Weight

- Width: 412.4 mm
- Depth: 318.2 mm
- Height: 77 mm
- Weight: 6Kg

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
Quick Guide - Recycled/Recyclable Paper

Please recycle the parts according to the local regulations.

Environmental

- | | | |
|----------------|------------------------------------|-----------|
| ● Temperature: | -20 ~ +40°C (-4 ~ +131°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 |

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 LEA-6H (USB interface)
- 2nd Gigabit LAN: 1Gbps (internal Mini PCIe Card)

Memory Card

The memory card will expand your memory to facilitate better system performance. Industrial grade DDR3 SO-DIMM x 2 is available, supporting 4GB or 8GB DDR3 1333 memory cards. The maximum capacity is 16GB.

Vehicle Adapter

- Input Voltage: 12~32V
- Input Current: 9A max
- Output Voltage: 19V
- Output Current: 4.74A
- Wiring: Cigarette lighter/ Truck battery
- Application: Car or Truck installation

2nd Battery

Trade-off with ODD, a Lithium Ion rechargeable 2nd battery may install into the ODD-compartment. It shares the same capacity of primary battery and smart battery compliance.

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

2nd HDD

- Trade-off with ODD, set as SATA primary slave drive

ODD

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

KB Dust Cover

- KB Dust Cover is available for standard Keyboard.

Dual Battery Charger RT202D

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 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.

Trust Platform Module (TPM)

There is an optional Trust Platform Module (TPM) 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.

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 upside-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, ODD, 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 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.