
Gladius G1052C/CS/R

**10.4" Intel® Celeron® N2930
Rugged Tablet PC**

User's Manual

Version 1.1

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Revision History

Version	Date	Description
1.0	2014.06	Initial release
1.1	2019.04	<p>1.3. Specifications:</p> <ul style="list-style-type: none">• Added G1052R (resistive touch panel model) spec.• Modified WWAN, MSR, Smart Card Reader and GPS to be BTO service.• Modified camera as optional module <p>1.4. Inside the Package: Added G1052R stylus and removed driver CD.</p> <p>1.5.2. Configure-to-Order/Build-to-Order Service: Modified WWAN, MSR, Smart Card Reader and GPS to be BTO service.</p> <p>2.1.1. Dimensions: Updated dimension drawing</p> <p>2.11. Driver Installation: Updated driver installation items.</p>

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Copyright Notice

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Under no circumstances will the manufacturer be liable for any direct, indirect, special, incidental, or consequential damages arising from the use or inability to use the product or documentation, even if advised of the possibility of such damages.

This document contains proprietary information protected by copyright. All rights are reserved. No part of this manual may be reproduced by any mechanical, electronic, or other means in any form without prior written permission of the manufacturer.

Declaration of Conformity

CE

The CE symbol on your product indicates that it is in compliance with the directives of the Union European (EU). A Certificate of Compliance is available by contacting Technical Support.

This product has passed the CE test for environmental specifications when shielded cables are used for external wiring. We recommend the use of shielded cables. This kind of cable is available from ARBOR. Please contact your local supplier for ordering information.

FCC Class B

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

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

NOTE:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to 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 can radiate radio frequency energy and, if not installed and used in accordance with the instructions, 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:

- Reorient 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.

RoHS

ARBOR Technology Corp. certifies that all components in its products are in compliance and conform to the European Union's Restriction of Use of Hazardous Substances in Electrical and Electronic Equipment (RoHS) Directive 2002/95/EC.

The above mentioned directive was published on 2/13/2003. The main purpose of the directive is to prohibit the use of lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB), and polybrominated diphenyl ethers (PBDE) in electrical and electronic products. Member states of the EU are to enforce by 7/1/2006.

ARBOR Technology Corp. hereby states that the listed products do not contain unintentional additions of lead, mercury, hex chrome, PBB or PBDB that exceed a maximum concentration value of 0.1% by weight or for cadmium exceed 0.01% by weight, per homogenous material. Homogenous material is defined as a substance or mixture of substances with uniform composition (such as solders, resins, plating, etc.). Lead-free solder is used for all terminations (Sn(96-96.5%), Ag(3.0-3.5%) and Cu(0.5%)).

SVHC / REACH

To minimize the environmental impact and take more responsibility to the earth we live, Arbor hereby confirms all products comply with the restriction of SVHC (Substances of Very High Concern) in (EC) 1907/2006 (REACH --Registration, Evaluation, Authorization, and Restriction of Chemicals) regulated by the European Union.

All substances listed in SVHC < 0.1 % by weight (1000 ppm)

Important Safety Instructions

Read these safety instructions carefully:

1. Read all cautions and warnings on the equipment.
2. Place this equipment on a reliable surface when installing. Dropping it or letting it fall may cause damage.
3. Make sure the correct voltage is connected to the equipment.
4. For pluggable equipment, the socket outlet should be near the equipment and should be easily accessible.
5. Keep this equipment away from humidity.
6. Disconnect this equipment from the A/C outlet before cleaning it. Use a moist cloth. Do not use liquid or sprayed detergent for cleaning.
7. To fully disengage the power to the unit, please disconnect the power from the AC outlet.
8. Do not scratch or rub the screen with a hard object.
9. Never use any of the solvents, such as Thinner Spray-type cleaner, Wax, Benzene, Abrasive cleaner, Acid or Alkaline solvent, on the display. Harsh chemicals may cause damage to the cabinet and the touch sensor.

10. Remove dirt with a lightly moistened cloth and a mild solvent detergent. Then wipe the cabinet with a soft dry cloth.
11. The openings on the enclosure are for air convection and protect the equipment from overheating. **DO NOT COVER THE OPENINGS.**
12. Position the power cord so that people cannot step on it. Do not place anything over the power cord.
13. If the equipment will not be used for a long time, disconnect it from the power source to avoid damage by transient overvoltage.
14. Never pour any liquid into openings. This may cause fire or electrical shock.
15. Never open the equipment. For safety reasons, the equipment should be opened only by qualified service personnel.
16. If one of the following situations arises, get the equipment checked by service personnel:
 - a. The power cord or plug is damaged.
 - b. Liquid has penetrated into the equipment.
 - c. The equipment has been exposed to moisture.
 - d. The equipment does not work well, or you cannot get it to work according to the user's manual.
 - e. The equipment has been dropped or damaged.
 - f. The equipment has obvious signs of breakage.
17. The sound pressure level at the operator's position, according to IEC 704-1:1982, is no more than 70dB(A).
18. Keep this User's Manual for later reference.
19. **DO NOT LEAVE THIS EQUIPMENT IN AN UNCONTROLLED ENVIRONMENT WHERE THE STORAGE TEMPERATURE IS BELOW -20° C (-4° F) OR ABOVE 60° C (140° F). THIS MAY DAMAGE THE EQUIPMENT.**

Warning

Any changes or modifications not expressly approved by the guarantee of this device could void the user's authority to operate the equipment.

General Cleaning Tips

You may need the following precautions before you begin to clean the device. When you clean any single part or component for the device, please thoroughly read and understand the details below.

1. We strongly recommended that you should shut down the system before you start to clean any single components.
2. When you need to clean the device, please rub it with a piece of dry cloth.
3. Be cautious of the tiny removable components when you use a vacuum cleaner to absorb the dirt on the floor.
4. Never drop the components inside the device or get circuit board damp or wet.
5. Be cautious of all kinds of cleaning solvents or chemicals when you use it for the sake of cleaning. Some individuals may be allergic to the ingredients.

6. Try not to put any food, drink or cigarette around the device.

Cleaning Tools

Although many companies have created products to help improve the process of cleaning your devices and peripherals, users can also use household items to clean their devices and peripherals. Below is a listing of items you may need or want to use while cleaning your devices or peripherals. Keep in mind that some components in your device may only be able to be cleaned using a product designed for cleaning that component, if this is the case it will be mentioned in the cleaning.

- **Cloth:** A piece of cloth is the best tool to use when rubbing up a component. Although paper towels or tissues can be used on most hardware as well, we still recommend you to rub it with a piece of cloth.
- **Water or rubbing alcohol:** You may moisten a piece of cloth a bit with some water or rubbing alcohol and rub it on the device. Unknown solvents may be harmful to the plastics parts.
- **Vacuum cleaner:** Absorb the dust, dirt, hair, cigarette particles, and other particles out of the device can be one of the best cleaning methods. Over time, these items can restrict the airflow in a device and cause circuitry to corrode.
- **Cotton swabs:** Cotton swabs moistened with rubbing alcohol or water are excellent tools for wiping hard to reach areas in your keyboard, mouse, and other locations.
- **Foam swabs:** Whenever possible, it is better to use lint-free swabs such as foam swabs.

Cleaning Steps

1. Close all application programs
2. Close operating software
3. Turn off power switch
4. Remove all peripherals
5. Pull out power cable

Rechargeable Battery Pack

With very little care, you can maximize the life and lifespan of the computer's battery. Most importantly, only use the computer in its ideal operating temperature (See [1.3. Specifications](#) on page 3) – do not leave it in a hot trunk during the summer.

- **Important Terms to Understand**
 - “Battery life” means the time the computer will run before it must be recharged (sometimes this is also called “playtime” or “runtime”).
 - “Battery lifespan” means the total amount of time your battery will last before it must be replaced.

- **Using the Computer for the First Time**

Be sure to fully charge (approx. 4 hours) the computer when you plug it in for the first time.

- **Long-Term Storage & Maintenance**

If you do not plan to use the computer's battery for more than three months, it is recommended that you store the battery separately, fully charged, and then recharge it every three month. If you store an uncharged battery, it could fall into a deep worn-out state which would render it incapable of holding any charge. Be sure to store the computer and the battery at the proper temperature. (See [1.3. Specifications1.3. Specifications](#) on page [3](#).)

- **Battery Lifespan**

The removable batteries for the computer are designed to retain up to 80% of their original capacity after 300 charging and recharging cycles when properly maintained. You may choose to replace your battery when it no longer holds sufficient charge to meet your needs.

Disposing of Your Old Computer

- **Within the European Union**



EU-wide legislation, as implemented in each Member State, requires that waste electrical and electronic products carrying the mark (left) must be disposed of separately from normal household waste.

This includes monitors and electrical accessories, such as signal cables or power cords. When you need to dispose of your display products, please follow the guidance of your local authority, or ask the shop where you purchased the product, or if applicable, follow any agreements made between yourself. The mark on electrical and electronic products only applies to the current European Union Member States.

- **Outside the European Union**

If you wish to dispose of used electrical and electronic products outside the European Union, please contact your local authority so as to comply with the correct disposal method.

Symbols Description



This symbol of “CAUTION” indicates that there is a danger of injury to the user or a risk of damage to the product, should warning notices be disregarded.



Battery Recycle



This symbol indicates electrical warning.



Change of electric current:
Internal: positive current
External: negative current

Technical Support

You can download the related technical documents such as datasheet and user’s manual as well as driver on our website.

Please do not hesitate to call or e-mail our customer service when you still cannot get the information you need.

<https://www.arbor-technology.com>

E-mail: info@arbor.com.tw

Warranty

This product is warranted to be in good working order for a period of one year from the date of purchase. Should this product fail to be in good working order at any time during this period, we will, at our option, replace or repair it at no additional charge except as set forth in the following terms. This warranty does not apply to products damaged by misuse, modifications, accident or disaster.

Vendor assumes no liability for any damages, lost profits, lost savings or any other incidental or consequential damage resulting from the use, misuse of, or inability to use this product. Vendor will not be liable for any claim made by any other related party.

Vendors disclaim all other warranties, either expressed or implied, including but not limited to implied warranties of merchantability and fitness for a particular purpose, with respect to the hardware, the accompanying product’s manual(s) and written materials, and any accompanying hardware. This limited warranty gives you specific legal rights.

Return authorization must be obtained from the vendor before returned merchandise will be accepted. Authorization can be obtained by calling or faxing the vendor and requesting a Return Merchandise Authorization (RMA) number. Returned goods should always be accompanied by a clear problem description.

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Chapter 1

Introduction

1.1. The Computer

The G1052 Series incorporates multiple data readers and powerful networking to deliver uncompromised data capture. Featuring the slim design, high portability and long battery life, the G1052 Series is ideal for mobile POS and logistics application. With this series, users are able to instantly transmit, receive and analyze critical data and eventually enhance the productivity in the vertical markets including healthcare, field service and retail.



Product Highlights

- 10.4" AFFS+ TFT Active Matrix with Capacitive/Resistive Touch Panel
- Ultra low power consumption
- Fully rugged for mobile POS or warehousing application
- Meeting MIL-STD-810G, IP54, 4 ft. drop resistance
- High mobility, multiple connectivity (Bluetooth/WLAN/WWAN)
- Identification devices (barcode scanner, RFID & NFC reader and MSR)
- Hot-swappable external battery w/ redundant internal battery
- 23-key keypad with numeric keys and function Keys
- I.P.A. (Isopropyl) alcohol clearing allowed

1.2. About This Manual

This manual is meant for experienced users and integrators with hardware knowledge of personal computers. If you are not sure about the description herein, consult your vendor before further handling.

We recommend you keep one copy of this manual for the quick reference for any necessary maintenance in the future. Thank you for choosing ARBOR products.

1.3. Specifications

System		
CPU	Intel® Celeron® Processor N2930 quad-core 1.83 GHz	
Graphics Controller	Intel® HD Graphics	
Memory	2GB DDR3L SO-DIMM memory module installed (optional up to 8GB)	
BIOS	UEFI BIOS	
Audio	1 x microphone	
	1 x 2W speaker	
	1 x Earphone jack	
Storage	1 x 32GB MLC mSATA SSD	
Peripherals and Devices		
Camera	1 x 5.0 MP rear AF CMOS camera with LED (optional)	
WLAN & Bluetooth	1 x WLAN 802.11 a/b/g/n & Bluetooth 4.0 LE, class 2	
RFID & NFC	1 x 13.56MHz, ISO 15693/14443A/ 14443B RFID & NFC Reader (distance: 3~5cm; speed: 5 cards/sec) (optional)	
WWAN	HSUPA / HSPA+ / LTE (BTO)	
Barcode Scanner	1 x 1D/2D Barcode scanner (optional)	
MSR	1 x Magnetic Stripe Reader (BTO)	
Smart Card Reader	1 x Smart Card Reader (BTO)	
GPS	U-BLOX 6 GPS Receiver (BTO)	
I/O Interface		
USB Port	1 x USB 3.0 Type-A port	
SD Card	1 x SD/SDHC/SDXC slot	
Docking Port	1 x 35-pin pogo connector for docking connection	
Expansion	1 x USB 2.0 Type-A or USB Sensor Hub	
Button & Indicator		
Function Key	10 x Numeric keys (0 ~ 9); 1 x Enter key; 1 x 4-way navigation key; 4 x Function keys;	1 x Ctrl key; 1 x Backspace; 1 x Dot (.) key; 1 x Brightness key;
Power Button	1 x Power on/off button	
LED Indicator	1 x Battery LED	
	1 x WLAN/RFID LED	
	1 x Bluetooth/WWAN LED	

Introduction

Touch Screen	
Type	G1052C: 10-Point Projected Capacitive Touch with Corning® Gorilla Glass G1052R: Analog Resistive Touch
Light Transparency	80% (typ.)
Controller Interface	USB Interface
LCD Display	
Size/Type	10.4" XGA TFT color LCD with LED backlight
Max. Resolution	1024 x 768 (XGA) w/ 262,144 colors
Luminance	340 cd/m ² (typ.)
Contrast Ratio	600 :1
View Angle (U/D/R/L)	89°/89°/89°/89°
Backlight Type	LED
Power Supply	
Adapter Input	100 ~ 240VAC (full range)
Adapter Output	19VDC, 3.42A, 65W
Battery Type	Li-battery pack
Battery Capacity	1 x 2500mAh 4-cell external battery pack
	1 x 1880mAh 3-cell internal battery pack (optional)
Battery Life	Up to 8 hours (depends on configuration and use)
Mechanical & Environmental	
Operating Temp.	-20 ~ 45°C (-4 ~ 113°F)
Storage Temp.	-20 ~ 60°C (-4 ~ 140°F)
Discharging Temp.	-20 ~ 45°C (-4 ~ 113°F)
Charging Temp.	0 ~ 40°C (32 ~ 104°F)
Operating Humidity	10 ~ 95% @ 45°C (non-condensing)
Dimensions (W x H x D)	204.9 x 294.1 x 26.2 mm (8.07" x 11.57" x 0.98")
Gross Weight	1.2 kg (2.64 lb) w/o 2-cell internal battery pack
Vibration	20 to 1000 Hz @ 1 grms per MIL-STD 810G (operating)
	20 to 1000 Hz @ 3 grms per MIL-STD 810G (non-operating)
Shock	11 ms @ 20G per MIL-STD 810G for unit only (operating)
	11 ms @ 40G per MIL-STD 810G for unit only (non-operating)
Transit Drop	1.2m (4ft.) per MIL-STD-810G for whole unit
IP Rating	IP54

Regulatory	CE: EN55022 class B FCC 47 CFR, Part 15 Subpart B
OS Support	
Windows Embedded 7 / Windows 7 Professional Windows Embedded Standard 8.0 / Windows Embedded 8.1 Industry Pro / Windows 8.1 Professional Windows 10 IoT Enterprise 2016 LTSC Linux: Ubuntu	

1.4. Inside the Package

Upon opening the package, carefully inspect the contents. If any of the items is missing or appears damaged, contact your local dealer or distributor. The package should contain the following items:

1 x G1052 computer



1 x User's Manual



Power Adapter

- 1 x Europe Standard cordset
- 1 x American Standard cordset
- 1 x 19V/3.42A 65W AC/DC adapter



eBAT-1050

- 1 x 2500mAh external battery pack



Hand Strap

- 1 x 212mm black elastic hand strap w/ screws



Touch Pen

- 1 x Capacitive touch pen (for G1052C)



Stylus

- 1 x Stulu for touch screen (for G1052R)



1.5. Ordering Information

G1052C	10.4" Intel® Celeron® N2930 rugged tablet PC with projected capacitive touch, battery pack, WLAN and Bluetooth
G1052CS	10.4" Intel® Celeron® N2930 rugged tablet PC with projected capacitive touch, battery pack, WLAN and Bluetooth, and sunlight readable display (800 nits)
G1052R	10.4" Intel® Celeron® N2930 rugged tablet PC with resistive touch, battery pack, WLAN and Bluetooth

1.5.1. Optional Accessories

The following items are normally optional, but some vendors may include them as a standard package, or some vendors may not carry all the items.

Power Adapter



19VDC, 3.42A, 65W AC/DC Adapter Kit

SST-0720



Shoulder Strap, 128 x 3.7cm

eBAT-1050



2500mAh 4-cell external battery pack for G105X

iBAT-1040



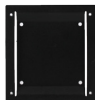
1880mAh 3-cell internal battery pack for G105X

NST-1050



Neck Strap, 120 x 4 x 0.6 cm for G105X

VSB-100



VESA-75 to VESA-100 Adapter Bracket

VMB-1050



VESA Mount Bracket for G105X

DTC-1050



Desktop Cradle for G105X

CHR-1050



Dual Bay External Battery Charger for G105X

1.5.2. Configure-to-Order/Build-to-Order Service

Make the computer more tailored to your needs by selecting one or more components from the list below to be fabricated to the computer.

Note that the GRS, SRS and MSR **CANNOT** co-exist on the computer as they occupy the same installation position. Please select either one of them.

UDG-1050



USB Dongle Kit (BTO)

BarC-1052



1D/2D Barcode Scanner Kit

HSUPA-1052



3.75G HSUPA Wireless Kit (BTO)

GRS-1050



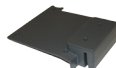
GPS and RS-232 2in1 Kit (BTO)

SRS-1050



Smart Card Reader and RS-232 2in1 Kit (BTO)

MSR-1050



MSR Module Kit (BTO)

RFID/NFC-1050



13.56MHz RFID/NFC Kit

CAM-1052



5.0M Rear CMOS Camera Kit

LTE-1052



4G LTE Wireless Kit (BTO)

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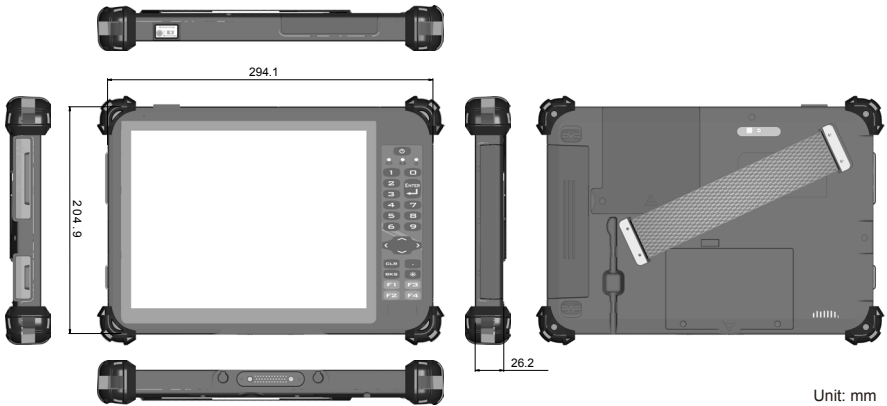
Chapter 2

Getting Started

2.1. System Overview

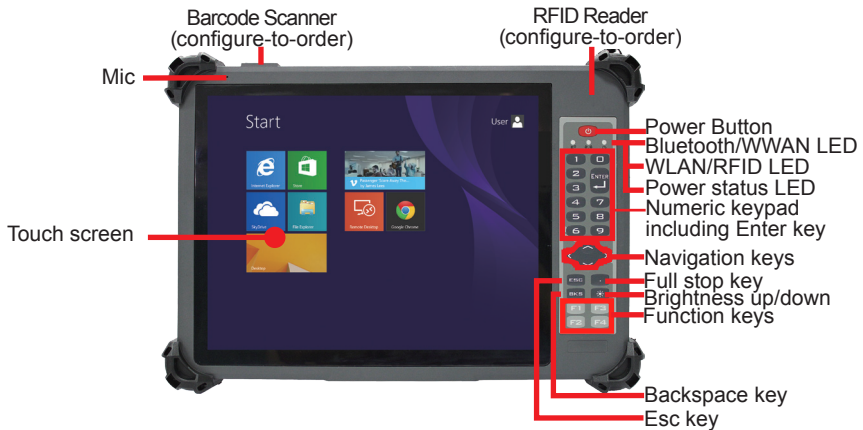
Understanding the computer help you jump seamlessly from component to component when using the computer. This section will quickly familiarize you with the computer.

2.1.1. Dimensions



2.1.2. Tour the Computer




The computer has some controls, I/O ports, mechanical parts and status LED lights around its enclosure. The following illustration shows the computer in different views, with all the said components called out.



2.1.2.1. Front Side

- Power Button**

Use the **Power Button** to power on/off the computer, or to put the computer to **Sleep** or **Hibernate** mode. Take the following actions to take the said controls:

Control	Operation
To power on the computer	Press-and-hold the Power Button until the power LED  lights green.
To enter the computer to Sleep	Press (without holding) the Power Button .
To resume the computer from Sleep	Press (without holding) the Power Button .
To resume the computer from Hibernate	Press-and-hold the Power Button until the power LED  and the RFID/HSUPA LED  both light.

- **(Physical) Function Keys**

After the driver for the function keys is installed as described in [2.11. Driver Installation](#) on page [42](#), they are able to turn on/off some features of the computer. Users can further customize them to launch some application programs installed on the computer as described in [4.1 ARBOR System Suite](#) on page [78](#).


- **Brightness up/down**

Use this **Brightness up/down** key to increase/decrease the display brightness.

- **Status LED**

Three status LED lights are built on the front side of the computer to draw users' prompt awareness of the computer's contiguous events such as power charging and wireless activity.

- **Power LED:** ALL Green no change

Printed Graphic	Subject	State	Color	Description	
				Battery Charge / Discharge	Remaining Power Level
	Power	On	Red	The battery is discharging. (disconnected from external power)	0% ~ 15%
		On	Orange		16% ~ 49%
		On	Green		50% ~ 99%
		On	Green		100%
		Blinking	Red	The battery is being charged. (connected to external power)	0% ~ 15%
		Blinking	Orange		16% ~ 49%
		Blinking	Green		50% ~ 99%
		On	Green		100%

To know how to charge the batteries, see [2.2.3. Instructions for Rechargeable Battery Pack](#) on page [22](#).

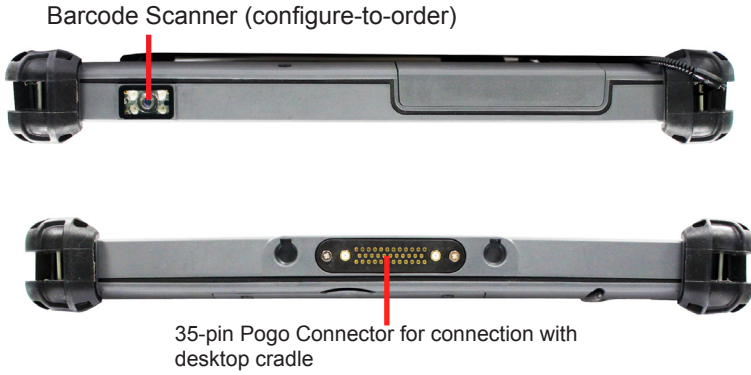
- Radio LEDs

Printed Graphic	Subject	Color	Description
((i))	RFID / NFC /WLAN	Yellow	Lights orange when the RFID/NFC reader (optional) is activated.
		Green	Lights green when the WLAN is activated.
		Yellow & Green	Lights both orange and green when both modules are activated.
B))	Bluetooth/ WWN	Blue	Lights blue and starts blinking when the Bluetooth is activated.
		Green	Lights green when the WWAN is activated.

- **Touch Screen**

The computer comes with either a resistive or a projected capacitive touch screen to register user's touch control so that it allows users to interact with the computer without a mouse or keyboard. See [3.1. Use Touch Screen](#) on page [48](#) to know how to do the touch control and text input on a touch screen.

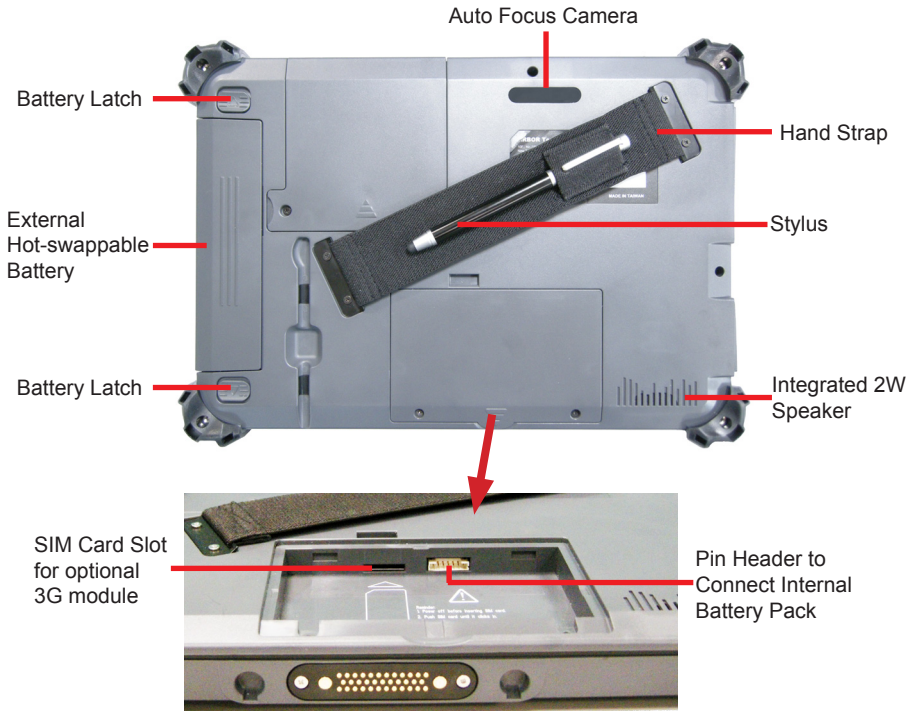
2.1.2.2. Top & Bottom Sides



2.1.2.3. Left & Right Sides



2.1.2.4. Rear View



To install batteries, see [2.2.3. Instructions for Rechargeable Battery Pack](#) on page [22](#).

To use the camera, see [3.5. Use Camera](#) on page [59](#).

To use the desktop cradle, see [2.7. Desktop Cradle \(Optional\)](#) on page [29](#).

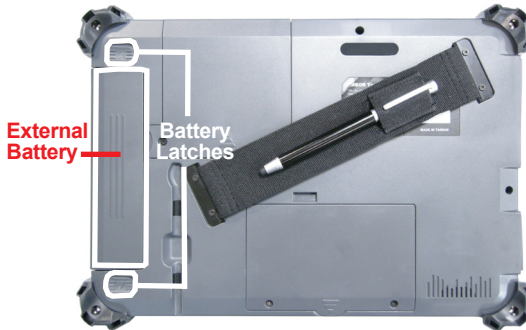
2.2. Batteries

The computer is equipped with one 3S1P internal battery, which makes the rechargeable 4S1P external battery hot-swappable. This means users can replace the external battery without turning off the computer.

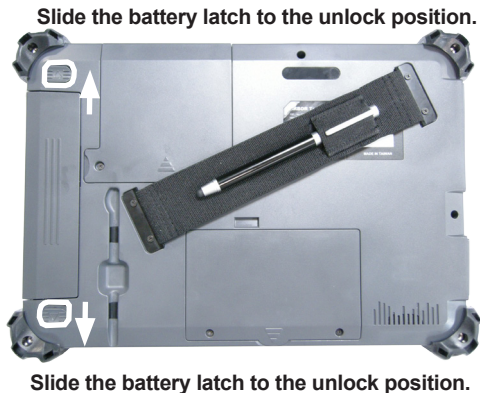
2.2.1. Install/Replace External Battery

To replace the external battery:

1. Disconnect the computer from the external power.
2. Remove any peripheral devices connected to the computer.
3. Find the external battery and the two battery latches on the rear of the computer.



4. Slide the two battery latches to the unlock positions.



5. Slide the external battery out of the battery bay.

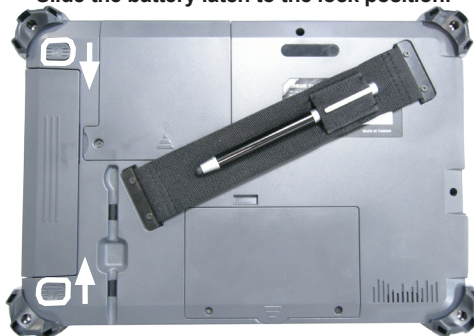


6. Slide another battery into the battery bay.



7. Slide the two battery latches back to the lock positions.

Slide the battery latch to the lock position.

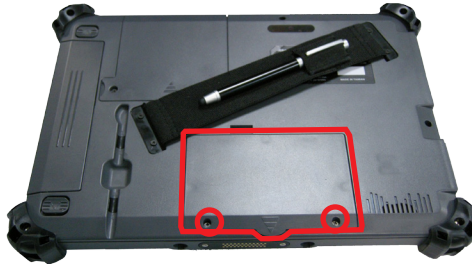


Slide the battery latch to the lock position.

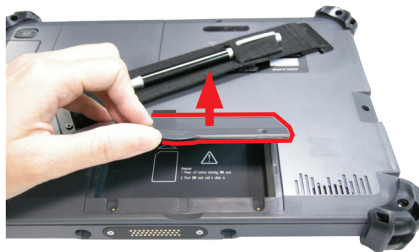
2.2.2. Install/Replace Internal Battery

Unlike the external battery, the internal battery needs no frequent replacement. However, when it is necessary to replace the internal battery, follow the guide below:

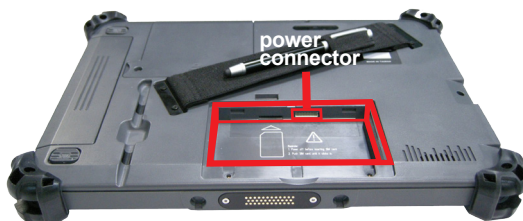
1. Turn off the computer and disconnect the computer from the external power.
2. Remove any peripheral devices connected to the computer.
3. Find the internal battery chamber on the rear of the computer.



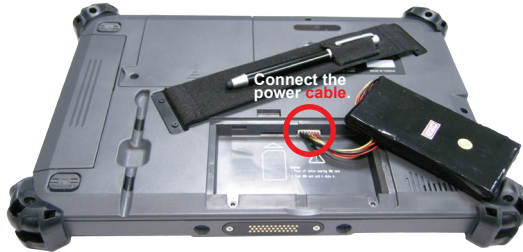
4. Loosen and remove the two screws that fix the chamber door as illustrated above.
5. Dismantle the chamber door.



The inside of the battery chamber comes to view.



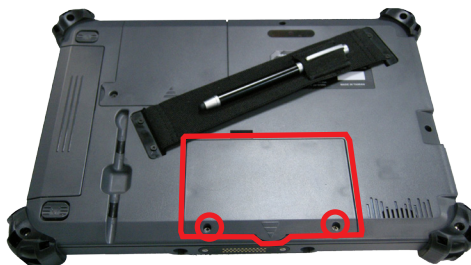
- Find the power connector for the internal battery inside the battery chamber as illustrated above. Have an internal battery. Plug the internal battery's power cable to the said power connector.



- Fit the internal battery into the chamber.



- Restore the chamber door.



2.2.3. Instructions for Rechargeable Battery Pack



Instructions for Rechargeable Battery Pack

How to recharge:

- To recharge the lithium-ion battery, install the battery the computer and then connect the power adapter to the computer's power jack. You can find power adapter & cord in accessory box.
- The battery will be fully charged within 3-4 hours (depending on the capacity of the battery). When charging finishes, the power status LED on the front panel will stop blinking light to steady green and then it's recommended to remove the adapter from the computer.
- It's recommended not to recharge intermittently, which means not to plug and unplug the power adapter frequently in short period of time.
- It's recommended to turn off the computer before charging.



- Do not use the power adapter that is not made for your computer. Supplying the computer with inappropriate voltage may cause harm to the battery or, even worse, burn the computer.

How to use:

- It's recommended to supply power via the adapter without the battery installed when you are to use the computer for a long time. And reinstall the battery in the contrary situation.
- The lithium-ion battery is currently one of the most popular battery pack. The best advantage is that it has no memory effect, so users needn't worry about that issue. Users can charge the battery anytime whether it is fully drained or not. However, it's recommended that users drain the battery until the system shows power shortage warning and then recharge the battery. Doing so is helpful to the reliability of your battery.
- Don't use the battery pack as a power supply for other equipment.

How to store:

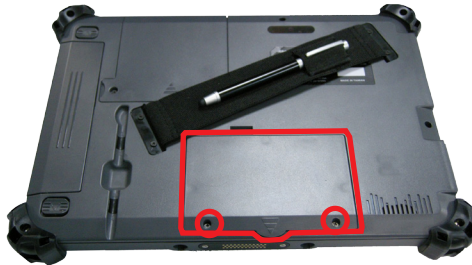
- Don't expose the battery to elevated heat situations such as under direct sunlight in a car or near fire.
- Don't disassemble the battery, or the battery leakage might cause skin or eye injury. If electrolyte leaking from the battery contacts your skin or clothing, immediately flush it with running water. If it splashes into eye, rinse the eye at least 15 minutes with clean water and then seek medical attention.
- To avoid battery leakage or explosion, don't discard the battery into water or fire, or put them near a heat source such as a gas stove or an oven.
- Use the appropriate container to store the battery such as a paper box. Do not allow a metal object to touch the terminal of the battery.
- When storing for a long period of time, keep the battery approximately at the charging state of 60 ~ 80% and regularly use it. The battery should be completely discharged and recharged once per month to condition the cells inside the battery and to ensure the battery deliver the most available capacity.
- The battery consists of precise electrical components and cells. Do not drop or hit the battery.

2.3. Install SIM Card

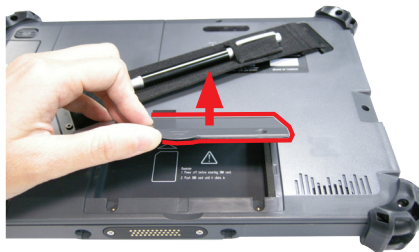
For the computer, 3.75G module is optional. Please note the computer will still have a SIM card slot even if the computer isn't 3G-enabled. However the SIM card slot won't function.

If the computer is 3G-enabled, install a SIM card to the computer so it can network with 3G:

1. Turn off the computer and disconnect the computer from the external power.
2. Remove any peripheral devices connected to the computer.
3. Find the internal battery chamber on the rear of the computer.




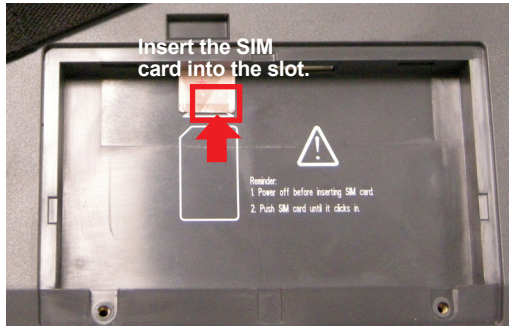
4. Loosen and remove the two screws that fix the chamber door as illustrated above.
5. Dismantle the chamber door and remove the internal battery.



The inside of the battery chamber comes to view.



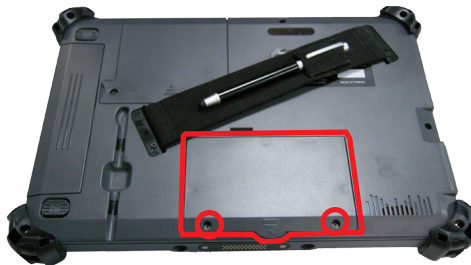
- Find the SIM card slot inside the battery chamber as illustrated above. Have an SIM card. Position the SIM card as the graphic  inside the chamber directs. Then insert the SIM card into the slot.



- Restore the internal battery into the chamber.



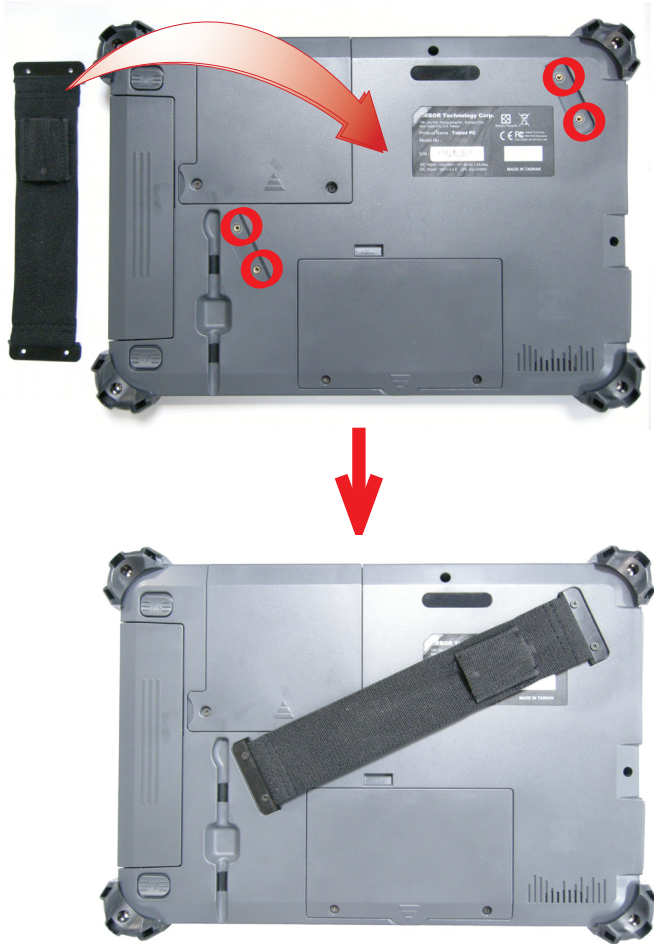
- Restore the chamber door.



To uninstall the SIM card, simply push-eject the card.

2.4. Install Hand Strap

Attach the hand strap to the rear of the computer to make it easier to hold the computer in one hand. Find the four holes and fasten the strap onto the computer.



2.5. Install Shoulder Strap (Optional)

Except hand strap, the computer also provides a shoulder strap (SST-0720) for shoulder-carrying the computer. Install as below:

1. Press one clasp against one upper bumper as illustration until it hooks on the computer tightly.
2. Repeat the same procedure to fasten the opposite end.



2.6. Install Neck Strap (Optional)

To install the neck strap:

1. Untie one end of the neck strap. Thread it through one of the upper corner bumpers of the computer and re-tie the end.



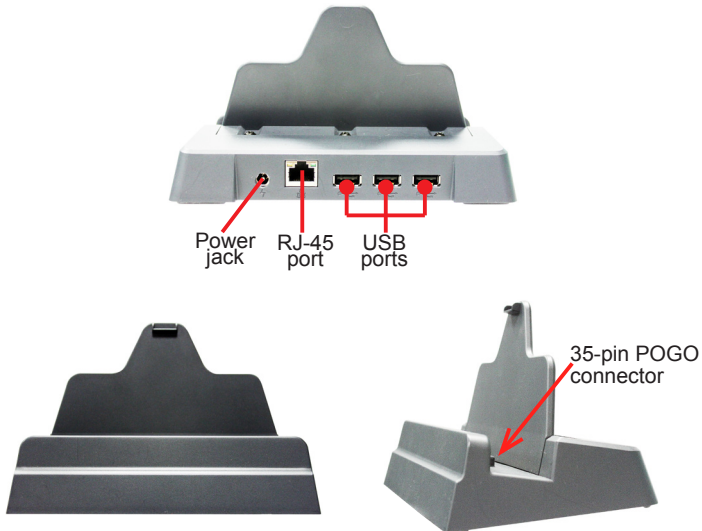
2. Repeat the same action in step 1 to the other end of the neck strap. Wear the neck strap around your neck. Pose the bottom of the computer against your chest when using the computer standing or sitting.



2.7. Desktop Cradle (Optional)

The (optional) desktop cradle is developed for the computer to extend its networking features. The desktop cradle features the following connectors:

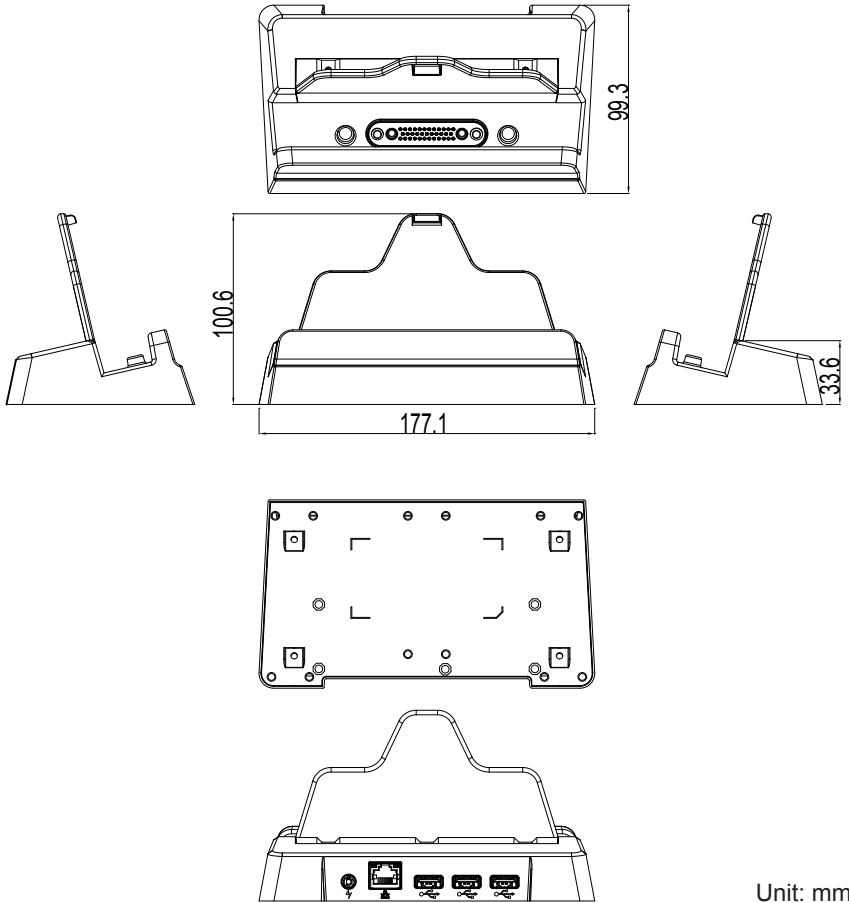
2.7.1. Overview



2.7.2. Specifications

Features & Peripherals	
Color & Material	Gray, Plastic
I/O Ports	3 x USB, 1 x RJ-45, 1 x DC Plug (Back side)
Mechanical & Environmental	
Operating Temp.	-20 ~ 45°C (-4 ~ 113°F)
Charging Temp.	0 ~ 40°C (32 ~ 104°F)
Storage Temp.	-20 ~ 60°C (-4 ~ 140°F)
Operating Humidity	5 to 95% (non-condensing)
Dimensions (W x D x H)	177.1 x 100.6 x 99.3 mm (6.97" x 3.96" x 3.91")
Weight (Net)	0.43 kg (0.95 lb)
Vibration	1 Grms/ 5 ~ 500Hz/ random operation
Shock	10G peak acceleration (11 ms duration)
Power	
Requirement	19V, 3.4A, 65W

2.7.3. Dimensions

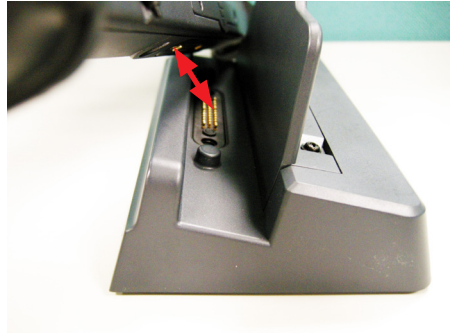
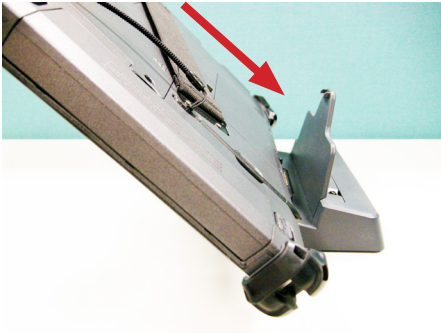


Unit: mm

2.7.4. Seat the Computer

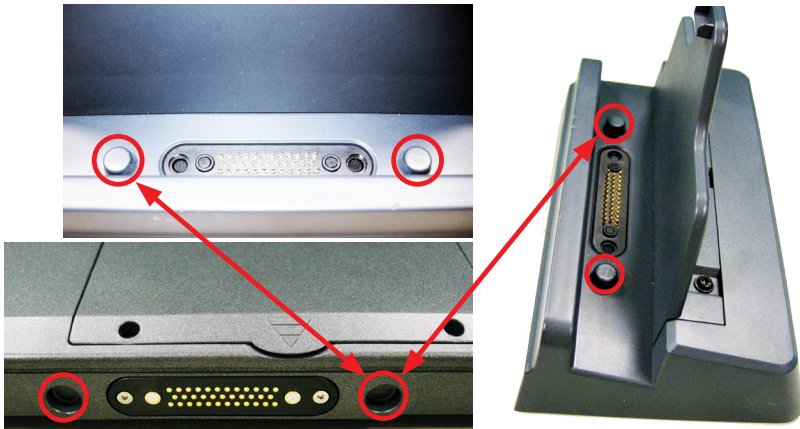
Follow the guide below to seat the computer into the cradle.

1. Seat the computer into the cradle with a slanted angle.
2. Make sure the 35-pin POGO connector on the computer meet the docking connector in the cradle.





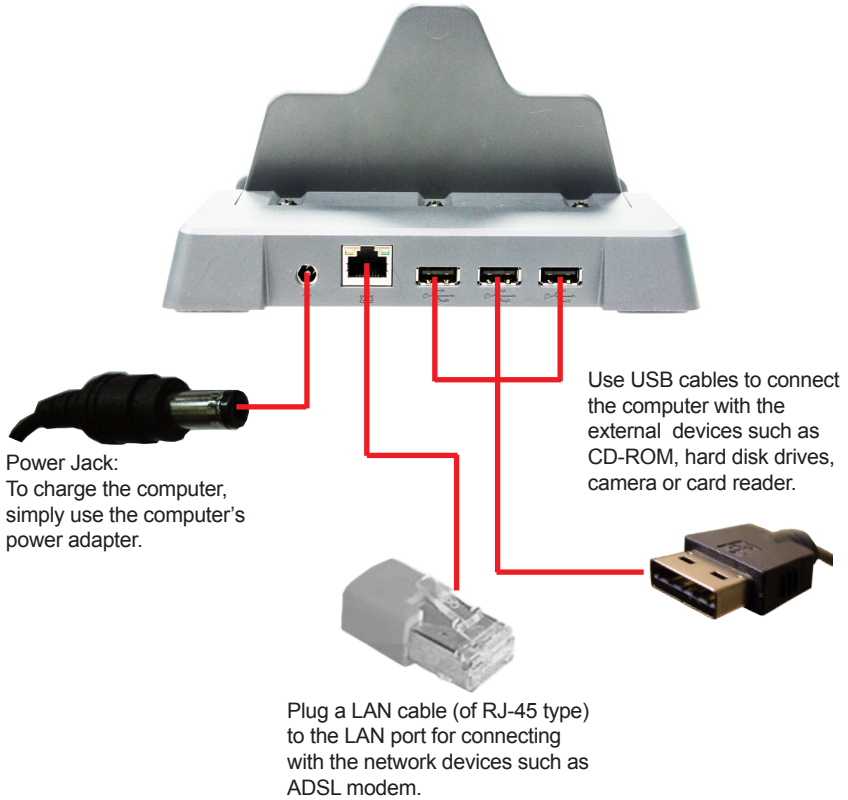
Note: You may notice that there are two small holes beside the POGO connector on the tablet, and two small bulging poles near the POGO connector on the cradle. These will help you fit the computer into the cradle.



After you connect the cradle to the computer and power on the computer, the system will detect the LAN device and request for the driver. Make sure to follow the instructions in [2.11. Driver Installation](#) on page 42 to install the drivers.

2.7.5. Network with Other Devices

To use the cradle to network with other devices:



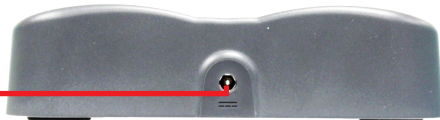
2.8. Dual-Bay External Battery Charger (Optional)

This (optional) battery charger features two channels to charge two 4S1P external batteries for the computer. Go through this section to find out more about this battery charger.

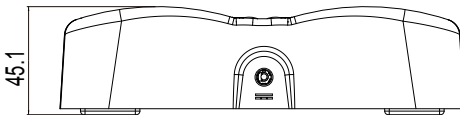
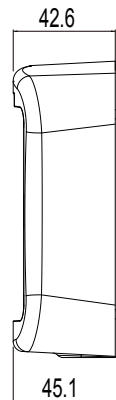
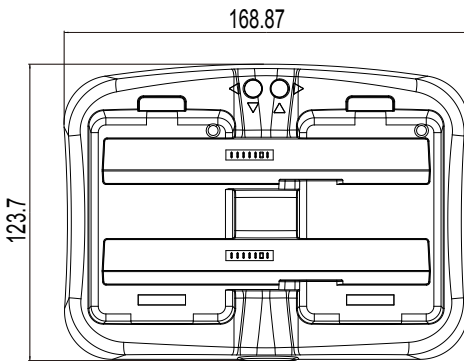
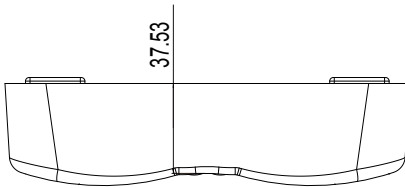
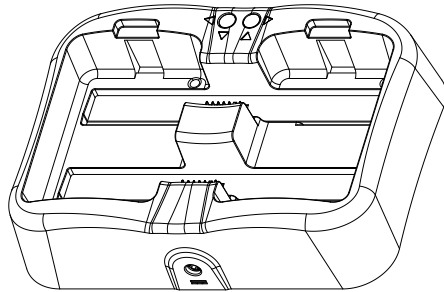
2.8.1. Overview



Power Jack:
To charge batteries, simply
use the computer's power
adapter.



2.8.2. Dimensions



Unit: mm

2.8.3. Specifications

Features & Peripherals	
Color & Material	Gray, Plastic
I/O Ports	1 x DC Plug (Back side)
Mechanical & Environmental	
Charging Temp.	0 ~ 40°C (32 ~ 104°F)*
Storage Temp.	-20 ~ 60°C (-4 ~ 140°F)
Operating Humidity	5 to 95% (non-condensing)
Dimensions (W x H x D)	168.87 x 45.1 x 123.7 mm (6.64" x 1.77" x 4.87")
Weight (Net)	0.34 kg (0.75 lb)
Vibration	1 Grms/ 5 ~ 500Hz/ random operation
Shock	10G peak acceleration (11 ms duration)
Power	
Requirement	19V, 3.4A, 65W

*Note: In practice the charger can operate within the range of -10 to 45°C, but will malfunction over 45°C. When that occurs, you must put it in the environment lower than 35°C, or it can't normally work again. Similarly, this charger stops working below -10°C and is able to re-operate when it's warmer than -10°C.

2.8.4. Charge Batteries

Follow the guide below to charge batteries using the battery charger.

1. Connect the battery charger to external power by plugging the power cable (with the power adapter) to the charger's power jack.



2. Put the first battery into one battery channel. Be sure the metallic parts meet each other.



3. During charging, the status LED on the right side lights the color as described in [2.8.5. Status LED](#) on page 38. Monitor the charging progress by the color of the LED light.



4. Install another battery, the status LED on the left will light the color as described in [2.8.5. Status LED](#) on page [38](#). Monitor the charging progress by the color of the LED light.



2.8.5. Status LED

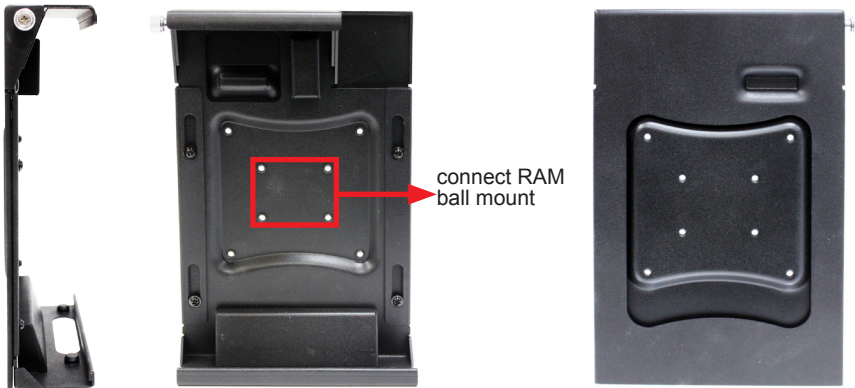
The battery charger comes with two status LED lights. When a battery is placed into one battery channel, the responsible LED will light the color according to the battery level as tabulated below. Users are able to monitor the charging progress by the colors of these lights.

Battery Level	0% ~ 19%	20% ~ 69%	70% ~ 94%	95% ~ 100%
LED Color	Solid red	Blinking red	Blinking green	Solid green

2.9. VESA-Mount Bracket (Optional)

Through the VESA-mount bracket (VMB-1052), the computer can be further connected to the wall-mount or RAM ball mount for easier operation. The outer four screw holes are VESA-75 compliant.

2.9.1. Overview



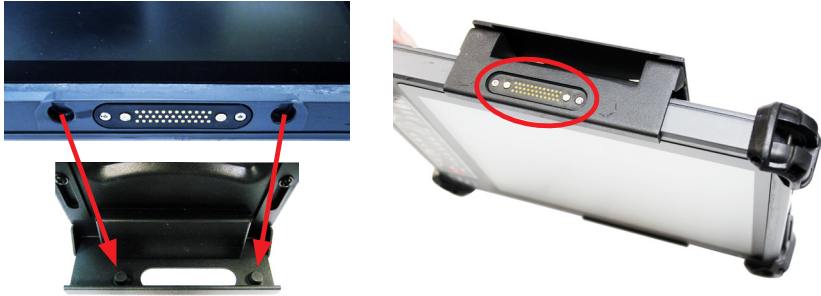
2.9.2. Install

1. Pull and extend the VESA-mount bracket. Mount the computer to it as illustrated below.



Getting Started

- When mounting the computer, align the two holes at the computer's bottom with the two positioning columns on the VESA-mount bracket. After the computer is mounted, turn the computer over and check if the access to the POGO connector is clear.



- Rotate the knob tightly to fix the computer to the VESA-mount bracket.

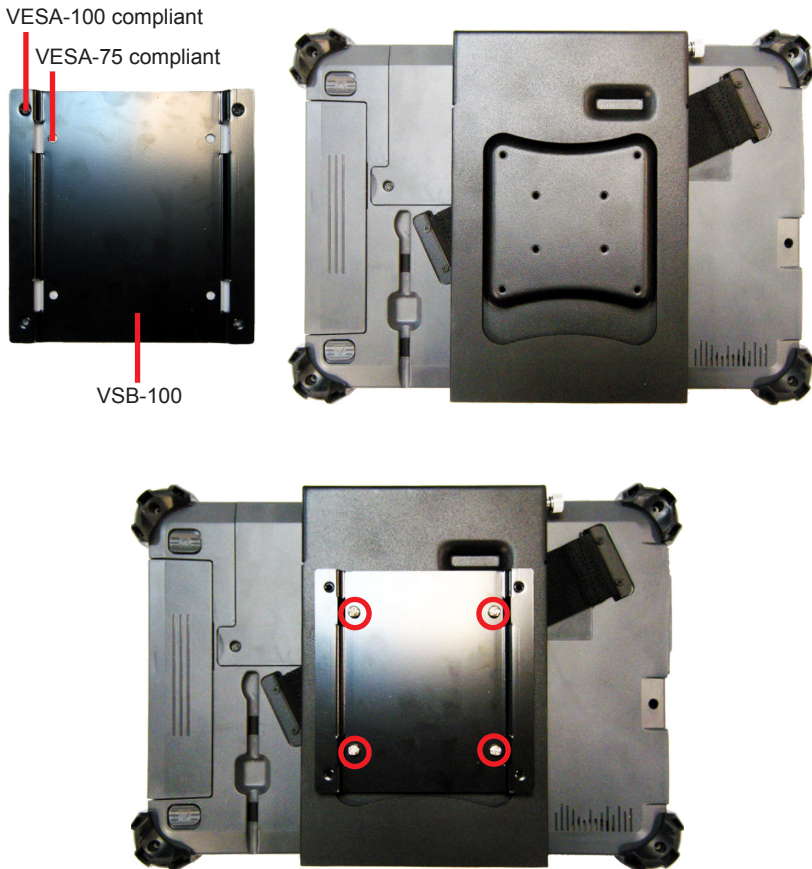


2.10. VESA-75 to VESA-100 Adapter (Optional)

Further to the VESA-mount bracket as mentioned in [2.9. VESA-Mount Bracket \(Optional\)](#) on page [39](#), use an adapter bracket (VSB-100) to make the computer compatible with VESA-100.

To use the adapter bracket, lock the bracket unto the VESA-mount bracket as illustrated below.

Note the adapter bracket mustn't be used without the VESA-mount bracket. The adapter bracket must be mounted to the VESA-mount bracket and cannot be installed to the computer directly.



2.11. Driver Installation

To install the drivers and related programs and utilities, please visit our website at www.arbor-technology.com and download the driver pack from the product page.

In addition to drivers, the driver pack also includes a number of optional utilities. You may install those utilities as needed.

See the table below for driver pack content and the driver needed to be installed for the computer:

Driver Type	Necessity	Descriptions
Chipset	Required	Install the chipset driver to the computer. Make sure to install the chipset driver before installing other device drivers to prevent errors.
Graphic 64/32bit	Required	Install the graphics driver. Select 64 or 32-bit according to your operating system.
TXE	Required	Install the Intel Trusted Execution Engine and Trusted Connect Service to enable Intel Trusted Execution Engine Interface.
DPTF	Required	Install the Intel Dynamic Platform and Thermal Framework component.
MBI	Required	Install the driver for Intel Sideband Fabric Device Driver (Intel MBI).
Codec	Required	Install the audio codec.
USB3.0	Required for Windows 7	For Windows 7, install the USB driver to use the USB 3.0 interface.
Net4.0	Required for Windows 7	For Windows 7, install the USB driver to use the USB 3.0 interface.
RS-232	Optional	Install the RS-232 driver if your computer comes with the RS-232 port. The GPS driver will be installed at the same time.
Barcode 64/32bit and Barcode USB	Optional	For computers with barcode scanner, normally you don't need to install the driver. But if the device has a yellow exclamation mark in Device Manager, install the barcode and barcode USB driver.
3G, 4G	Optional	Install the 3G/4G driver and application if your computer comes with the 3G/4G wireless module.
Wi-Fi	Required	Install the Wi-Fi driver and application.

Driver Type	Necessity	Descriptions
Bluetooth	Required	Install the Bluetooth driver and application.
LAN	Optional	Install the LAN driver if you are to use the LAN port on the desktop cradle.
SmartCard	Optional	Install the smart card reader driver if your computer comes with the smart card reader.
Function Keys	Recommended	Install the ARBOR System Suite to associate a function key with a specific feature or application program.
Power Saving AP	Recommended	Install the power saving application.

To install the drivers:

1. Copy the driver pack file to the computer and extract the files. Then double-click the **autorun.exe** file.
2. Tap **Windows 7** or **Windows 8** according to your operating system.



- The drivers menu then opens. Tap **Chipset** to install the chipset-related drivers first.



Driver menu for Windows 7

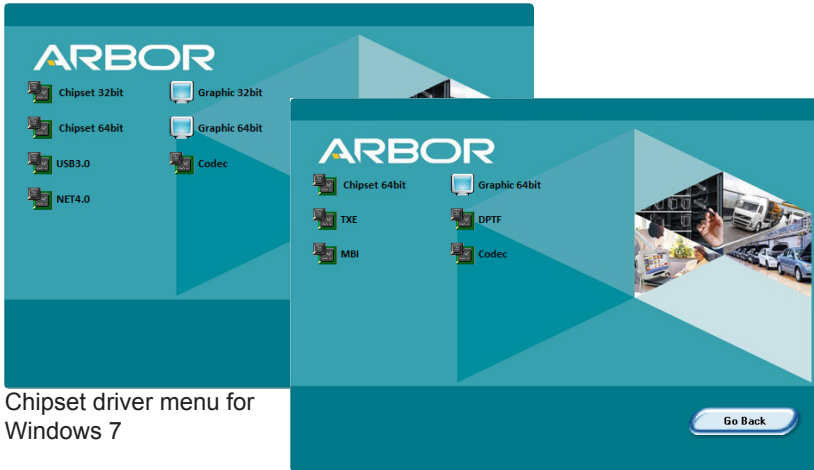


Driver menu for Windows 8

- Tap **Chipset** to install the chipset driver first. Then install other drivers listed on the menu. For Windows 7, you also need to install the **USB 3.0** and **Net 4.0** driver.

Just follow the on-screen instructions to proceed. After installing the drivers on this page, tap **Go Back**.

Caution: Make sure to install the chipset driver first before installing other device drivers or otherwise errors may occur.



Chipset driver menu for Windows 7

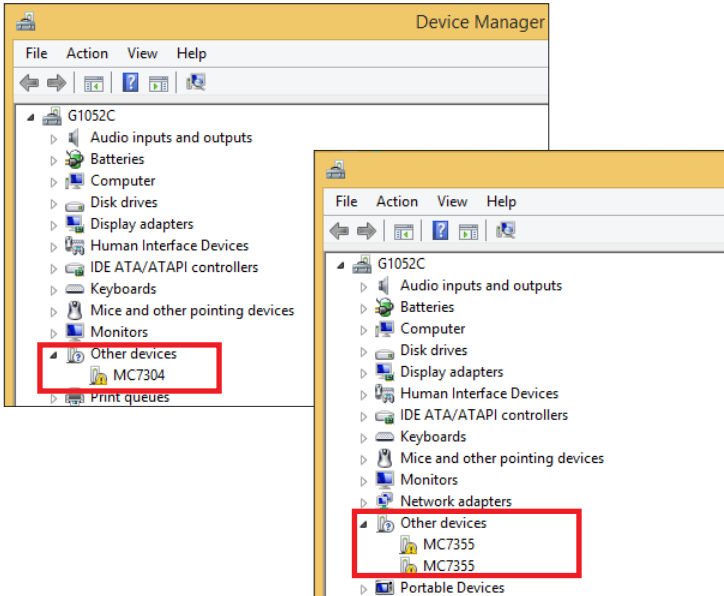
Chipset driver menu for Windows 8

5. Continue to install the remaining drivers, including **WiFi** and **Bluetooth**. Then install the utilities like **Function Keys** and **Power Saving AP**. The installation process of each driver is basically the same. Just follow the on-screen instructions to proceed.
6. If your computer comes with optional modules, like RS-232, barcode scanner, 3G/4G, GPS, LAN (on desktop cradel) and smart card reader, tap the target item to install the drivers.

Caution: For 3G/4G module, sure to install the driver and application according to the type of your 3G/4G module.



To identify your 3G/4G model, tap **Start > Control Panel > Hardware and Sound > Device Manager > Other devices**.



Chapter 3

Use the Computer

3.1. Use Touch Screen

The computer comes with either a resistive or projected capacitive touch screen. Touch control is the main way and an intuitive way to interact with the computer. Users are able to manipulate icons, graphic buttons, menus, property sheets, the onscreen keyboard or any onscreen items with touch control. This chapter will walk you through the basic operations for these two kinds of touch.

3.1.1. Projected Capacitive Touch

Unlike the resistive touch, the projected capacitive touch works by the change of capacitance when a conductive object, such as a finger, contact the touch screen. Hence it requires only a human finger and zero force to trigger actions from the projected capacitive touch screen. And no calibration is needed.

If the computer runs Windows 7/8, the projected capacitive touch screen is ready to function when the computer is delivered. No driver is needed.

3.1.2. Text Input

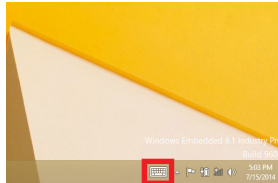
The computer doesn't have a physical keyboard to receive user's text input. To input text on the computer, it relies on either an external USB keyboard, or the "onscreen keyboard", or the O.S.-featured handwriting recognition.

3.1.2.1 Onscreen Keyboard

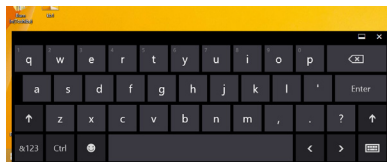
An "onscreen keyboard" is a virtual keyboard with all the standard keys. The operating system has a native onscreen keyboard to facilitate text input. To open the O.S.-featured onscreen keyboard, there are two approaches:

► **Approach 1**

1. On the desktop, tap the keyboard icon on the bottom of the screen



2. The **Input Panel** opens showing the onscreen keyboard.



3.1.2.2. Handwriting Recognition

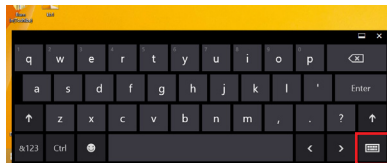
“Handwriting Recognition” is an input method that interprets and converts handwriting to text. The O.S. features a “writing pad” to get the job done.

To launch the O.S.-featured “writing pad”:

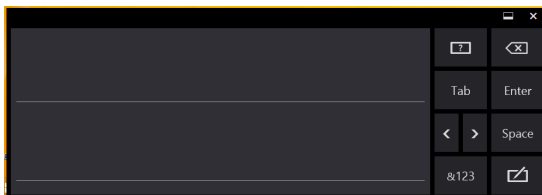
1. Open the onscreen keyboard as mentioned in [Approach 1](#) on page [49](#).

The onscreen keyboard opens.

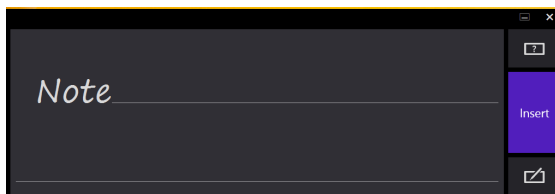
2. From the onscreen keyboard, tap the “key pad” graphic.



Tap the writing pad to open the handwriting input.





3. Write in the writing area. Then tap the bottom-right **Insert** button to enter the text to an text editor.



3.2. Use (Physical) Function Keys


Four function keys, **F1** through **F4**, are built on the front bezel of the computer. As long as the driver/utility for these physical function keys is installed as described in [2.11. Driver Installation](#) on page [42](#), they are able to turn on/off some features of the computer by default. However users are able to re-define them to launch certain application programs installed on the computer.

After the driver is installed, an **ARBOR System Suite** shortcut  will appear in the notification area and also at **Start button | All Programs | Arbor | Arbor System Suite v2.0 | Arbor System Suite v2.0** .




ARBOR System Suite shortcut
in the notification area

And the function keys are to perform the following functions by default:

Key	Default Function
F1	Turns on/off 3G/4G
F2	Turns on/off WiFi
F3	Turns on/off BT
F4	<p>Launches ARBOR System Suite, a program to manage the four physical function keys.</p> <ul style="list-style-type: none"> See 4.1 ARBOR System Suite on page 78 for more details about ARBOR System Suite.
	<ul style="list-style-type: none"> Brightness levels are available, from 0 to 7. The brightness increases as the level increments.

3.3. Use Wi-Fi

The computer is built-in with a WiFi module for Wi-Fi networking. Once the driver is installed as described in [2.11. Driver Installation](#) on page [42](#), a WiFi signal strength icon  shows up in the notification area.




WiFi signal strength icon in the notification area

Follow the guide below to connect the computer to a WiFi hotspot:

1. Assign a function key to launch the WiFi as described in [4.1 ARBOR System Suite](#) on page [78](#) for more details about **ARBOR System Suite**.
2. Launch the WiFi module by hitting the function key.


The system shows that WiFi is on at the bottom-right of the screen.



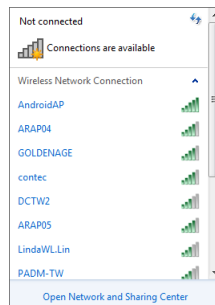
Then the WiFi signal strength icon changes to  in the notification area.



WiFi is on

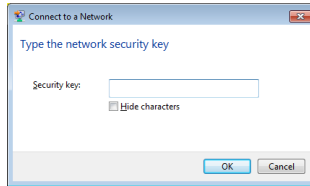
3. Tap the Wi-Fi signal strength icon  in the notification area.

A list opens and shows every Wi-Fi hotspot available within the wireless coverage of the computer.



4. Tap the desired network to connect it.

If the network to connect is a secured network, a dialog will open and request for the password. If it is an open network, it will be connected in a few seconds.



5. Enter the password to access the Wi-Fi network.

The Wi-Fi network will be connected in a few seconds if the entered password is valid.

To conserve power, always power off the Wi-Fi module when it isn't used.

3.4. Use Bluetooth

Bluetooth enables the wireless connection over a short distance about 8 meters. It is specified as a “wireless personal area network” (WPAN). The computer is Bluetooth-enabled to synchronize data with other Bluetooth-capable devices such as PCs, laptops, hands-free, headsets, printers, PDAs and cell phones.

For the Bluetooth module to work, install the driver as described in [2.11. Driver Installation](#) on page [42](#).


3.4.1. Launch Bluetooth

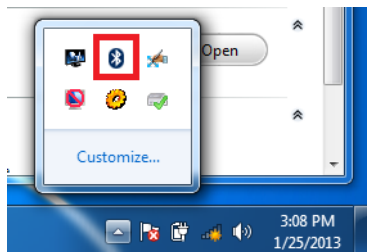
To be able to use Bluetooth, launch the Bluetooth module first:

1. Assign a function key to launch the Bluetooth as described in [4.1 ARBOR System Suite](#) on page [78](#).
2. Launch the Bluetooth module by hitting the function key.

The system shows that Bluetooth is on at the bottom-right of the screen.



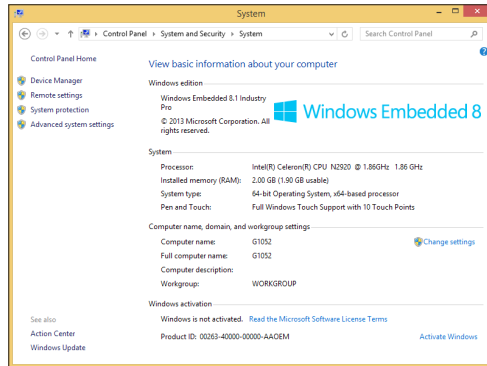
And a Bluetooth icon  shows up in the notification area, meaning the Bluetooth module is activated.



Bluetooth is activated

3.4.2. Bluetooth Device Name


By default, the computer's Bluetooth device name is the computer name that is viewable at **Control Panel | System and Security | System**.



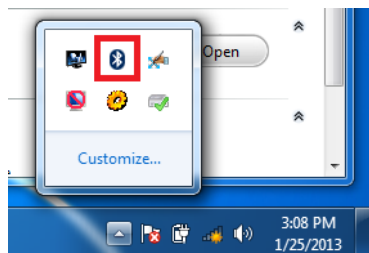
3.4.3. Hide/Expose Computer

By default, the computer is NOT discoverable by other Bluetooth devices. To hide or expose the computer:

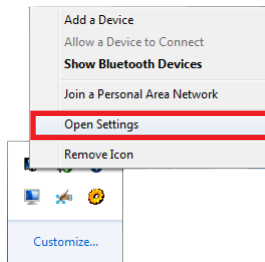
1. Launch the Bluetooth module as described in [3.4.1. Launch Bluetooth](#) on page [54](#).

The Bluetooth powers on .

2. From the notification area, click the Bluetooth icon .

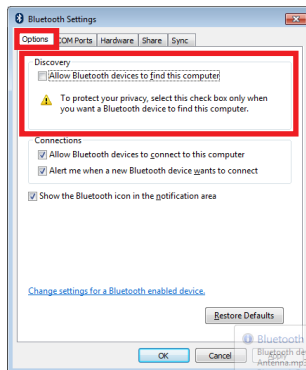


A context menu opens.



3. Select **Open Settings** from the context menu.

The O.S.-featured **Bluetooth Settings** then open and show the **Options** tabbed page.



4. On the **Options** tabbed page, find the **Discovery** group box.
5. Select or deselect **All Bluetooth devices to find this computer**.

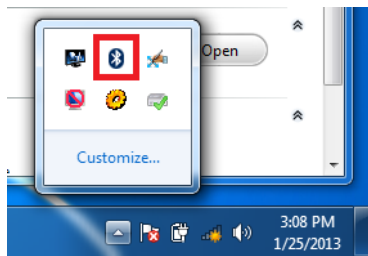
3.4.4. Pair/Connect with Other Bluetooth Devices

Before the computer can connect with other Bluetooth devices, it has to pair with them. To pair/connect with other Bluetooth devices:

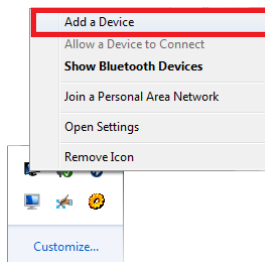
1. Launch the Bluetooth module as described in [3.4.1. Launch Bluetooth](#) on page [54](#).

The Bluetooth launches. 

2. From the notification area, click the Bluetooth icon .

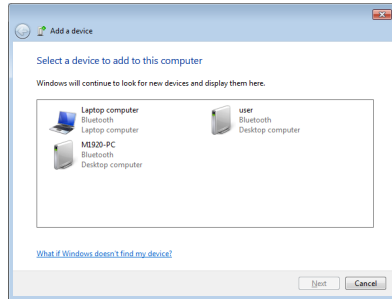


A context menu opens.



3. Select **Add a Device** from the context menu that opens.

An **Add a device** window opens.



4. Select the Bluetooth device to connect, (sometimes it is necessary to see the document of the Bluetooth device to connect.), and follow the onscreen instructions to proceed.

Note: On the computer, the Bluetooth-exchanged files are save to **local disk** (e.g. **C:**) | **Users** | (**your username**) | **My Documents**.

To conserve power, always power off the Bluetooth module when it isn't used.

3.5. Use Camera

The computer can have a 2.0 mega-pixel camera that doubles as a camcorder. Due to the location in the computer's rear, the camera can help users with photos/video documenting while they are working on the computer's screen.

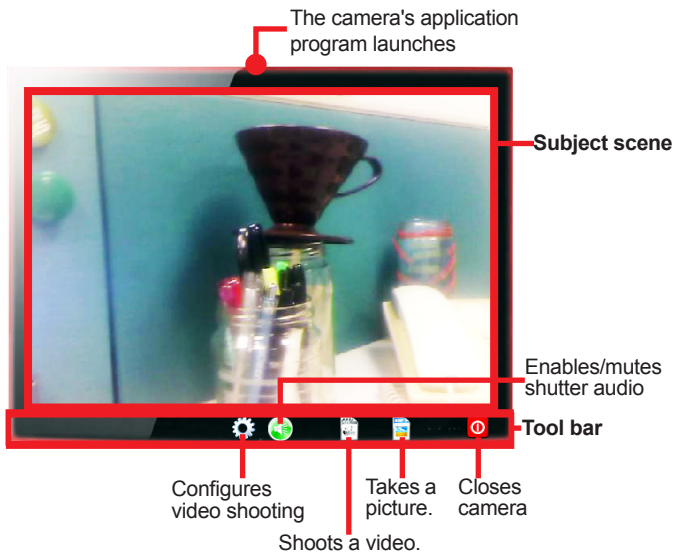
3.5.1. Launch Camera

The camera is ready-to-use without driver. To launch the camera:

1. Assign a function key to launch the camera as described in [4.1 ARBOR System Suite](#) on page [78](#) for more details about **ARBOR System Suite**.

The system shows that camera is on  at the bottom-right of the screen.

And the camera application program auto-launches.




3.5.2. Take A Picture

To take a picture:

1. Launch the camera as described in [3.5.1. Launch Camera](#) on page [59](#).

The camera application program auto launches.

2. From the camera application program's tool bar, tap the take-a-picture icon .


The camera then proceeds to take a picture and save it to **local disk** (by default at **C:\) | Users | (your username) | My Documents | ccd.**)


3.5.3. Shoot A Video

To shoot a video:

1. Launch the camera (also the camcorder) as described in [3.5.1. Launch Camera](#) on page [59](#).

The camera application program auto launches. And the camera LED lights blue.

2. From the camera application program's tool bar, tap the shoot-a-video icon .

The  icon then changes to an in-shoot button , and video shooting starts.

3. Tap the in-shoot button  again to stop shooting.


The video shot is saved to **local disk** (by default at **C:\) | Users | (your username) | My Documents | ccd.**)

3.5.4. Configure Video Shooting

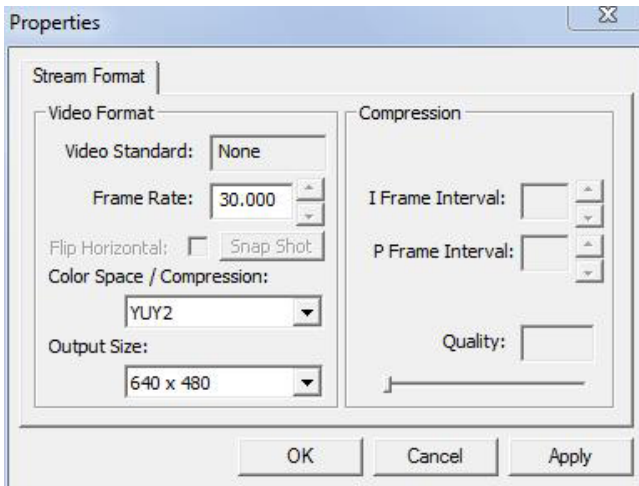
To configure the video shooting:

1. Launch the camera (also the camcorder) as described in [3.5.1. Launch Camera](#) on page [59](#).

The camera application program auto launches. And the camera LED lights blue.

2. From the camera application program's tool bar, tap the configuration icon .

The **Properties** sheet opens.




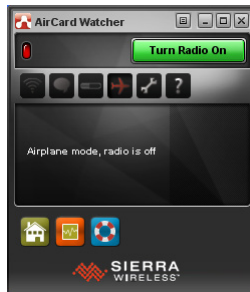
3. Make the configuration.
4. Click the **Apply** button to apply the change. Click the **OK** button to quit the **Properties** sheet saving the changes. Or click the **Cancel** button to quit the **Properties** sheet without saving the changes.

3.6. Use 3.75G/4G (Build-to-Order)

With the 3.75G/4G module, the computer is able to be connected to the Internet, even when it is on the go. To use the 3.75G/4G module, install the driver and utility as described in [2.11. Driver Installation](#) on page [42](#).

1. Insert your SIM card to the computer as described in [2.3. Install SIM Card](#) on page [24](#).
2. Restart the operating system.

The operating system restarts. And the **AirCard Watcher** automatically launches upon the OS startup. (In case the **AirCard Watcher** doesn't automatically launch, manually launch it by clicking **Start** button | **All Programs** | **Sierra Wireless** | **AirCard Watcher** .)



The **AirCard Watcher** auto launches.

3. Assign a function key to launch the 3.75G module as described in [4.1 ARBOR System Suite](#) on page [78](#) for more details about **ARBOR System Suite**.
4. Launch the 3.75G module by hitting the function key.

The system shows that 3.75G is on  at the bottom-right of the screen.

And the **AirCard Watcher** shows “Searching...”



The **AirCard Watcher** searches for the 3.75G network.

As soon as the mobile network is discovered, the **AirCard Watcher** shows the name of the service provider and a “3G” gauge in its screen, with the signal strength bars in green.



The network is discovered.

To disconnect from the network, simply click the **Disconnect** button.

To conserve power, always power off the 3.75G module when it isn't used.

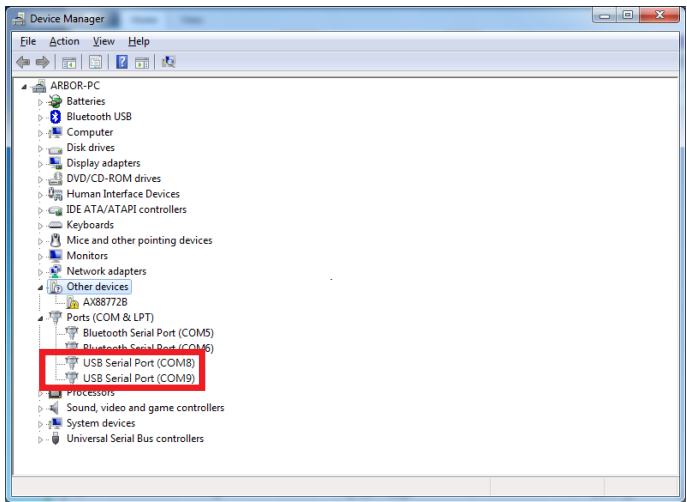
3.7. Use GPS (Build-to-Order)

With the GPS module, the computer is able to discover your location on earth. The GPS module is a GPS receiver that needs no 3G connection for positioning. However it requires a clear view of the sky to be location-aware.

When the computer has the GPS and RS232 2-in-1 module, some drivers are needed to make them run. And the GPS also needs a location-aware utility to work with. Follow the instruction in [2.11. Driver Installation](#) on page [42](#) to install the drivers and the utility.

To use the GPS:

1. After the drivers are installed for the GPS / RS232 module, two **USB Serial Ports** will be generated in the system. Check it up by the system's **Control Panel | Hardware & Sound | Devices and Printers | Device Manager**.



Note: Among the two newly generated COM ports, the latter is the GPS data streaming port. For example, if it is COM8 and COM9 that are generated, then COM9 is the GPS COM port while COM8 is the RS232 COM port.

In case the COM port shows a question mark, which means the driver isn't properly installed, browse for the driver at [\G1052 Autorun\usb to com](#) and install the driver again.

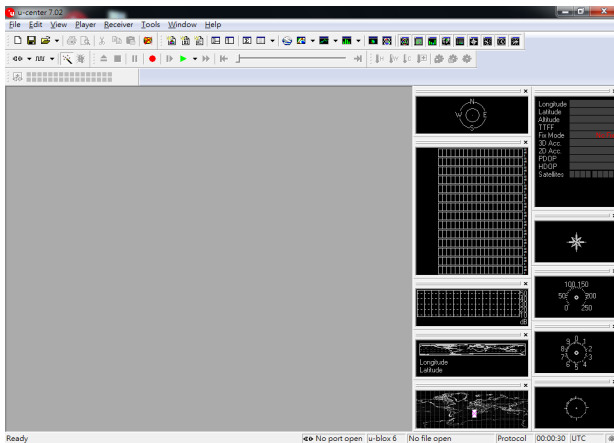
- Assign a function key to launch the GPS module as described in [4.1 ARBOR System Suite](#) on page [78](#).
- Launch the GPS module by hitting the function key.

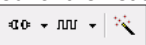





The system shows that GPS is on  at the bottom-right of the screen.

- Run the GPS utility **u-center**  by **Start button | All Programs | u-blox | u-center | u-center**.

u-center then opens onscreen.



- When **u-center** is started for the 1st time, the COM port needs to be initialized. Find the **Receiver Toolbar**  from **u-center's** toolbar .

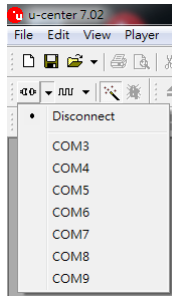
Button	Description
	Connect/disconnect button. ▶ Click the down arrow to select COM port.
	Baud rate button. ▶ Click the down arrow to select baud rate.
	Autobauding button. ▶ Click this button to have the software auto-configure the baud rate.

Note **u-center** only supports the COM settings listed below.

Parity	None
Data Bits	8
Stop Bits	1
Flow Control	None

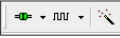
6. Click the down arrow besides the **Connect/disconnect** button.

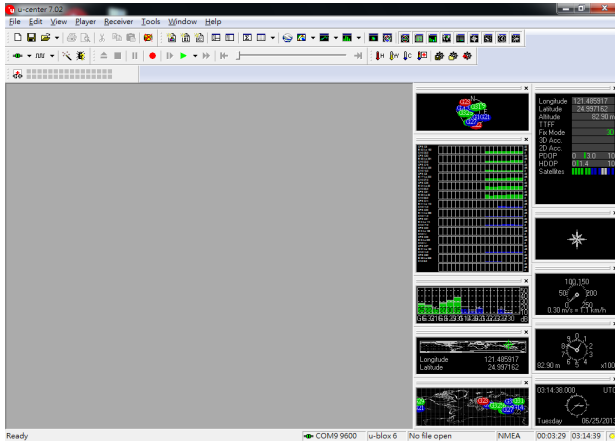
A list of available COM ports opens.




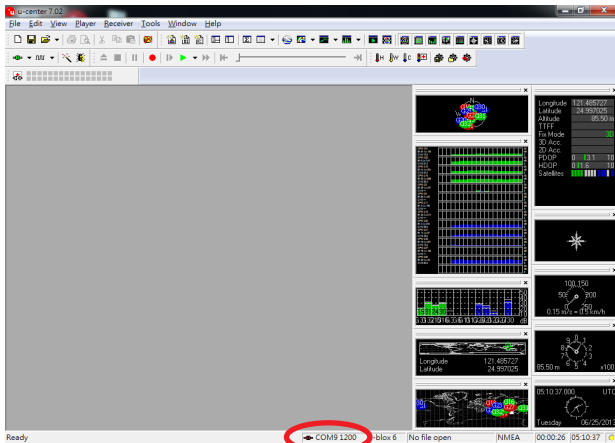
7. Select the GPS COM port as described in **Step 1**.

8. Click the **Autobauding** button .

As soon as **u-center** is synchronized to the module, the **Connect/disconnect** button on the **Receiver Toolbar** will change to green color  and the software's screen will start to show the information about the satellite constellation, signal to noise ratio, time etc.



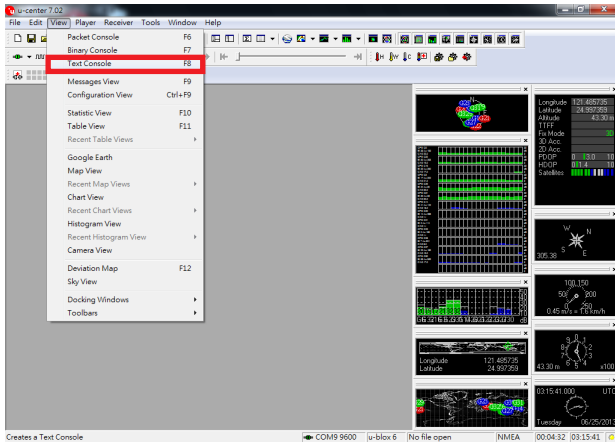
If the baud rate are not correctly set, the “Communication Information” icon at the bottom of the software’s screen will display red  **COM9 1200**.



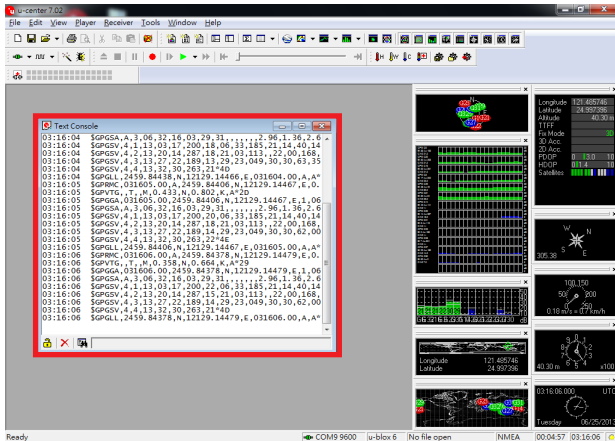
The “Communication Information” displays red if the baud rate is wrongly set.

Use the Computer

To view the NMEA text, click **View | Text Console** from the menu bar of the u-center.




Then a small window “Text Console” will open and show the NMEA text.



To conserve power, always power off the GPS module when it isn't used.

3.8. Use RFID Reader (Configure-to-Order)

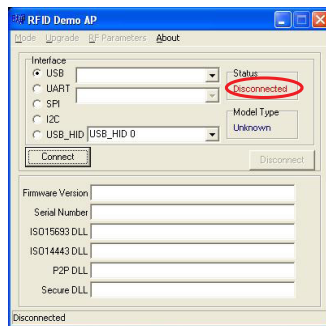
Once the driver for the RFID reader is installed as described in [2.11. Driver Installation](#) on page [42](#), an **RFID Demo AP** shortcut  will be added to **Start | All Programs | RFID | NFC_Demo | DemoAP**.

The **RFID Demo AP** is a test program for you to see whether the RFID reader works correctly. To read RFID tags for your daily work, install your own application.

To test the RFID reader:

1. Launch the **RFID Demo AP** by double-clicking the shortcut icon  on the desktop or clicking **Start button | All Programs | RFID | NFC_Demo | DemoAP**.

The **RFID Demo AP** then launches, with the **Status** column showing **Disconnected**.

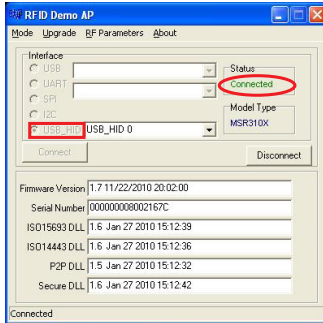


2. Assign a function key to launch the RFID reader as described in [4.1 ARBOR System Suite](#) on page [78](#) for more details about **ARBOR System Suite**.
3. Launch the RFID reader by hitting the function key.

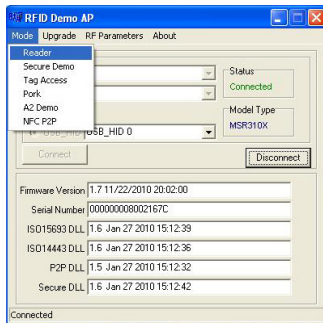
The system shows that RFID reader is on  at the bottom-right of the screen.

4. In the **Interface** group box, select **USB_HID** and then click the **Connect** button.

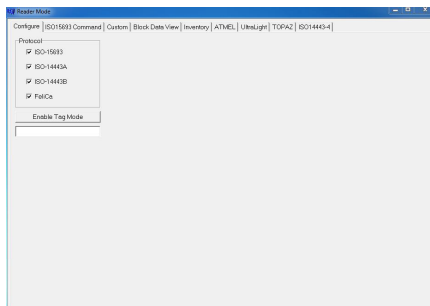
The **Status** column then changes to a green “Connected” message, meaning that the RFID reader COM port is opened.



5. From the menu bar, click **Mode | Reader**.

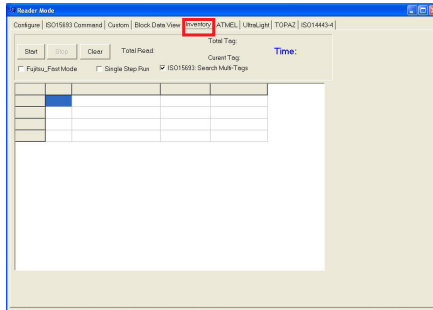


A **Reader Mode** window opens.



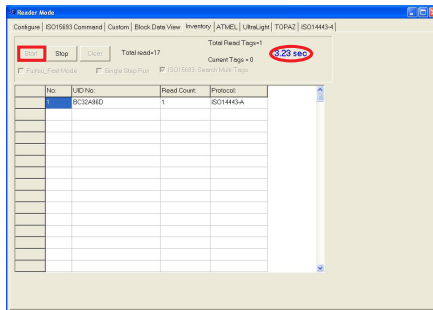
- Click the **Inventory** tab.

The **Inventory** tabbed page opens.



- Click the **Start** button.

The table on the **Inventory** tabbed page starts to show the column titles including **UID No**, **Read Count** and **Protocol**. And the RFID reader is ready to read any supported RFID tag in range.



- Find the RFID reader at the upper-right of the computer's front side.



- Tap (slightly contact) the RFID reader with the RFID tag.



The read and decoded data will be displayed in the table.

3.9. Use Barcode Scanner (Configure-to-Order)

If the computer you purchased has a barcode scanner, it can collect barcode data. The barcode scanner is able to read and decode a number of 1D/2D symbologies. See [3.9.2. Supported Symbologies](#) on page [75](#).

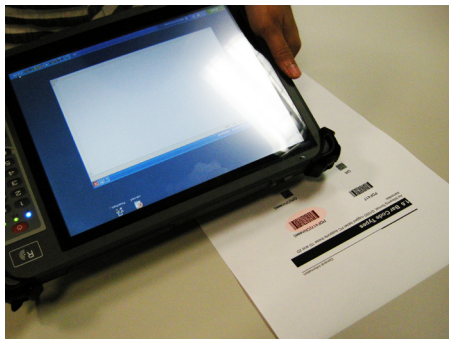
3.9.1. Data Capture

The barcode scanner is ready-to-use without driver. Follow the guide below to capture barcode data:

1. Assign a function key to trigger scanning. (See [4.1 ARBOR System Suite](#) on page [78](#) for more details about **ARBOR System Suite**.)
2. Launch a text editor on the computer. For example Windows' native **Notepad**.
3. Find the scanning window on the top of the computer.



4. Point the scanning window at the printed barcode to read while holding the computer steady a few inches from the barcode.



5. Hit the function key that is assigned to trigger scanning as described in **step 1**.

The system shows that barcode scanner is on, and the scanning light beams. The barcode scanner is ready to read any supported printed barcode within the reach of the scanning light.

If the printed barcode is successfully read, the barcode will be encoded and the encoded data will be shown in the text editor that you have launched in **step 2**.

Note: The scanning light will stay on for 10 seconds. If there is no barcode within the reach of the scanning light and no barcode is read within 10 seconds, the scanning light auto-stop after 10 seconds.

3.9.2. Supported Symbologies

See the following table for the 1D/2D symbologies supported by the barcode scanner.

Linear	Matrix
BC412 (requires end-user license from IBM)	Aztec
China Post	Chinese Sensible Code (Han Xin Code)
Codabar (NW7)	Data Matrix
Code 11	Grid Matrix Code
Code 128	MaxiCode
Code 32	QR Code
Code 39	Micro QR Code
Code 93 and 93i	Postal
Code 2 of 5	Intelligent Mail Barcode
EAN	(formerly 4-state customer)
Interleaved 2 of 5	Australian Post
Label Code	British Post
Matrix 2 of 5	Canadian Post
MSI	ID-tag (UPU 4-state)
Plessey	Japanese Post
PosiCode	Netherlands (KIX) Post
GS1 DataBar (formerly RSS)	Korea Post
Telepen	Planet Code
Trioptic Code	Postnet
UPC	OCR
Stacked	OCR-A
Codablock F	OCR-B
Code 16K	OCR MICR (E 13 B)
Code 49	
GS1 Composite (formerly EAN/UCC)	
MicroPDF417	
PDF417	
TCIF Linked Code 39 (TLC39)	

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Chapter 4

Utilities

4.1 ARBOR System Suite

The **Arbor System Suite** is a utility to control the computer's physical function keys **F1** through **F4**. With this **ARBOR System Suite**, users can associate a function key to turn on/off one of the computer's features or to launch a specific application program installed on the computer.

4.1.1 Accessing ARBOR System Suite

With the **Arbor System Suite** installed on your computer, tap the **Arbor System Suite** shortcut  in the notification area to launch and use **Arbor System Suite**.

The **ARBOR System Suite** then opens on-screen.
















- **Function key assignment panel**
The icons indicate the features/programs you can assign to a function key. For which feature/program the icon indicates, see next section.
Assigned features/programs are highlighted in blue.
- **Status bar**
Indicates the on/off status of various functions. When a function is on, its icon is highlighted in blue.

4.1.2 Using ARBOR System Suite

To re-assign a function to a function key, simply tap the intended icon for the desired key. The icon turns to be blue to indicate it's assigned. See the table below for the meaning of each icon.

Note: The panel shows all possible functions across various computer models. Not all functions are available in your computer.

Icons	Descriptions
	Associates a function key to turn on/off 3G.
	Associates a function key to turn on/off Wi-Fi.
	Associates a function key to trigger barcode scanning.
	Associates a function key to turn on/off Bluetooth.
	Associates a function key to turn on/off the camera.
	Associates a function key to turn on/off the RFID reader.
	Associates a function key to enable/mute the speakers.
	Associates a function key to turn on/off the GPS module.
	Associates a function key to show/hide battery level and Wi-Fi signal strength.
	Associates a function key to launch the screen brought up by CTRL+ALT+DEL key combination. It open a screen which shows Lock, Switch User, Sign out, Change a password and Task Manager.
	Associates a function key to open/close Arbor System Suite .

Icons	Descriptions
	Associates a function key to open/close on-screen keyboard.
	Associates a function key to open/close a program installed in the system. When tapping the icon, you will be prompted to select a program to associate with. Browse the Windows to select the executable file of the program to associate.

Chapter 5

BIOS

5.1. BIOS Main Setup

The AMI BIOS provides a Setup Utility program for specifying the system configurations and settings. The BIOS RAM of the system stores the Setup Utility and configurations. When you turn on the computer, the AMI BIOS is immediately activated.

To enter the BIOS Setup Utility, continuously hit the “Delete” key once the power is turned on. When the computer is shut down, the battery on the motherboard supplies the power for BIOS RAM.

The Main Setup screen lists the following information

System Overview

BIOS Version: displays the current version information of the BIOS

Project Name: Device model name

EC Version: displays the current version of Embedded Controller

TXE FW Version: displays the current version of the TXE firmware

Build Date: displays the date of building the BIOS

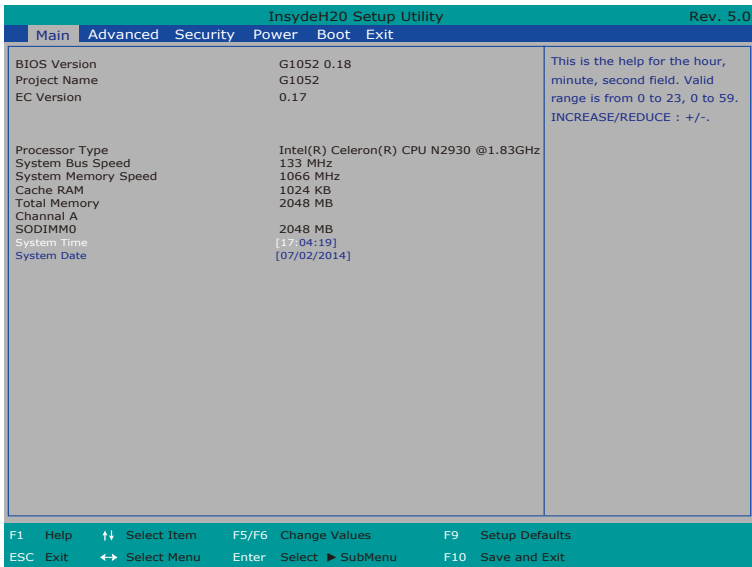
Processor (auto-detected if installed)

System Bus Speed: displays the processor speed

System Memory Speed: displays the Memory speed

Cache RAM: displays the cache RAM size

Total RAM: displays the total RAM



System Time

Set the system time.

The time format is:

Hour : 00 to 23

Minute : 00 to 59

Second : 00 to 59

System Date

Set the system date. Note that the 'Day' automatically changes when you set the date.

The date format is:

Day : Sun to Sat

Month : 1 to 12

Date : 1 to 31

Year : 1999 to 2099

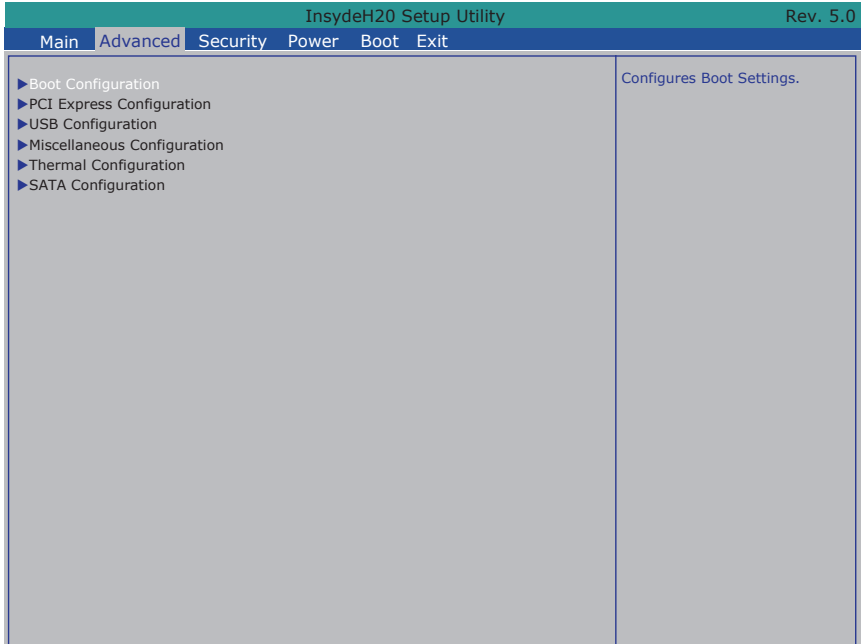
Key Commands

BIOS Setup Utility is mainly a key-based navigation interface. Please refer to the following key command instructions for navigation process.

“←””→”	Move to highlight a particular configuration screen from the top menu bar / Move to highlight items on the screen
“↓” “↑”	Move to highlight previous/next item
Enter	Select and access a setup item/field
Esc:	On the Main Menu – Quit the setup and not save changes into CMOS (a message screen will display and ask you to select “OK” or “Cancel” for exiting and discarding changes. Use “←” and “→” to select and press “Enter” to confirm) On the Sub Menu – Exit current page and return to main menu
Page Up / +	Increase the numeric value on a selected setup item / make change
Page Down -:	Decrease the numeric value on a selected setup item / make change
F1	Activate “General Help” screen
F10:	Save the changes that have been made in the setup and exit. (a message screen will display and ask you to select “OK” or “Cancel” for exiting and saving changes. Use “←” and “→” to select and press “Enter” to confirm)

5.2. Advanced Settings

The “Advanced” setting page provides you options to configure the details of your hardware.



5.2.1. Boot Configuration

Setting	Description
Numlock	Select Power-on state for Num lock

5.2.2 PCI Express Configuration

Configures PCI Express by the following settings:

Setting	Description
PCI Express Root Port 1/2/3/4	<ul style="list-style-type: none"> ▶ PCI Express Root Port Enables/disables this PCIe port. ▶ PCIe Speed Options are: Auto, Gen 1, Gen 2 Auto is the default. ▶ ASPM Support Options are: Disabled : disables ASPM L0s : force all links to L0s state L1 : force all links to L1 state L0sL1 : force all links to L0s+L1 state Auto : BIOS auto configure

5.2.3. USB Configuration

Select this submenu to view the status of the USB ports and configure USB features. The featured settings are:

Setting	Description
XHCI Pre-Boot Mode Support	Enables/Disables XHCI Pre-Boot mode support
xHCI Mode	Set the mode of operation of xHCI controller Options are Disabled/Enabled/Auto/Smart Auto(default)
XHCI Controller	Enables/Disables XHCI controller
USB2 Link Power Management	Enables/Disables USB2 Link Power Management.
XHCI Streams	Enables/disables XHCI Stream
USB OTG Support	Enables/disables USB OTG Support
USB VBUS	Turn ON/OFF USB VBUS. Turn ON in HOST mode, and turn OFF in OTG device mode.
USB RMH Mode	Enables/disables PCH USB Rate Matching Hubs mode
USB EHCI debug	Enables/disables PCH EHCI debug capability.
USB Per-Port Control	Enables/Disables USB Per-port control
USB Port #0~3	Enables/Disables the USB port

5.2.4. Miscellaneous Configuration

The featured settings are:

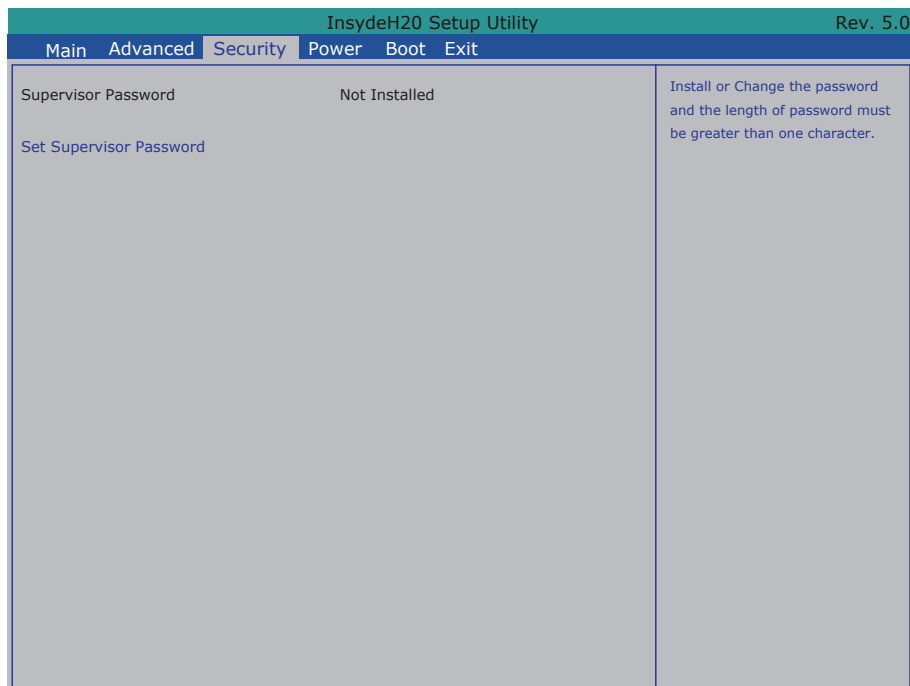
Setting	Description / Available Options
State After G3	Set the state of System when power is re-applied after a Power failure (G3 state) Options are S0 State/S5 State (default)

5.2.5 SATA Configuration

Select this submenu to configure the SATA controller and HD.

Setting	Description
SATA Controller(s)	Enables/disables the present SATA controller. ▶ Enabled is the default.
SATA Test Mode	Enables/disables the SATA test mode.
Chipset SATA Mode	Configures how to run the SATA drives. ▶ Options available are AHCI (default) and IDE .
SATA Port 0 Hot Plug Capability	Available only when "Chipset SATA Mode" is set to AHCI. Enables/disables hot-pluggable feature for the SATA port. ▶ Enabled is the default.
SATA Port 0 Connected to an ODD	If enabled, when the related SATA port is connected to an ODD (Optical Disk Drive), then it will be possible the software detection of media insertion and tray ejection ▶ Disabled is the default.
IDE Mode	This item will be available only when "Chipset SATA Mode" is set to IDE. Sets the IDE working mode. ▶ Options available are Native IDE (default) and Legacy IDE . ▶ Disabled is the default.
Serial ATA Port 0	Delivers the SATA port Media information and Security Mode.
Battery Charging Mode	Sets the level to re-charge the battery. ▶ Options available are Normal (default, recharge below 95%) and Protected (recharge below 80%).

5.3. Security

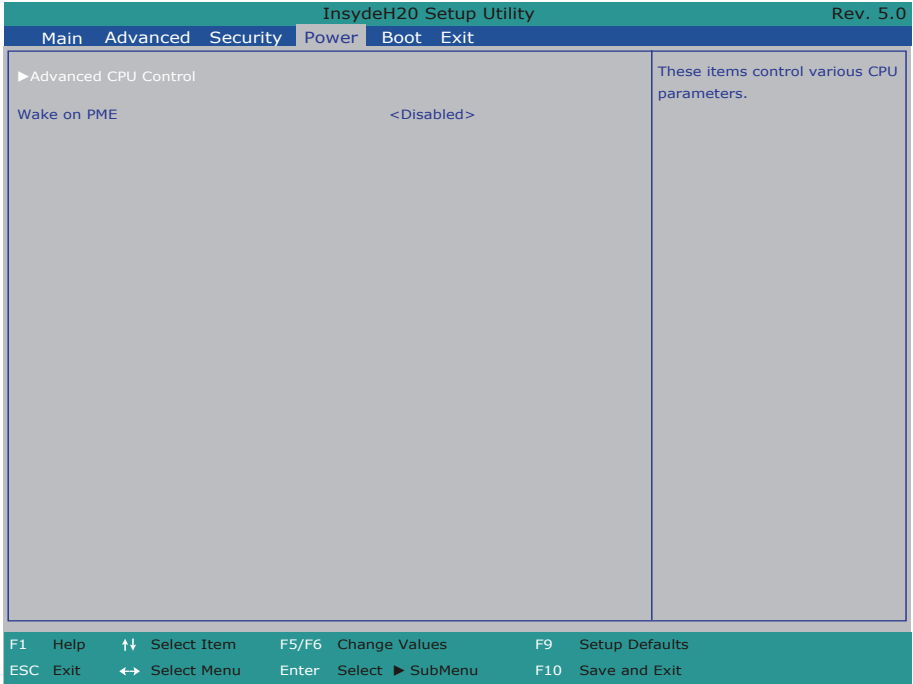


The featured setting is:

Setting	Description
Set Supervisor Password	To set up the password for supervisor. Length of password must be greater than one character. Changes will be saved after selecting "Save and Exit".

5.4. Power

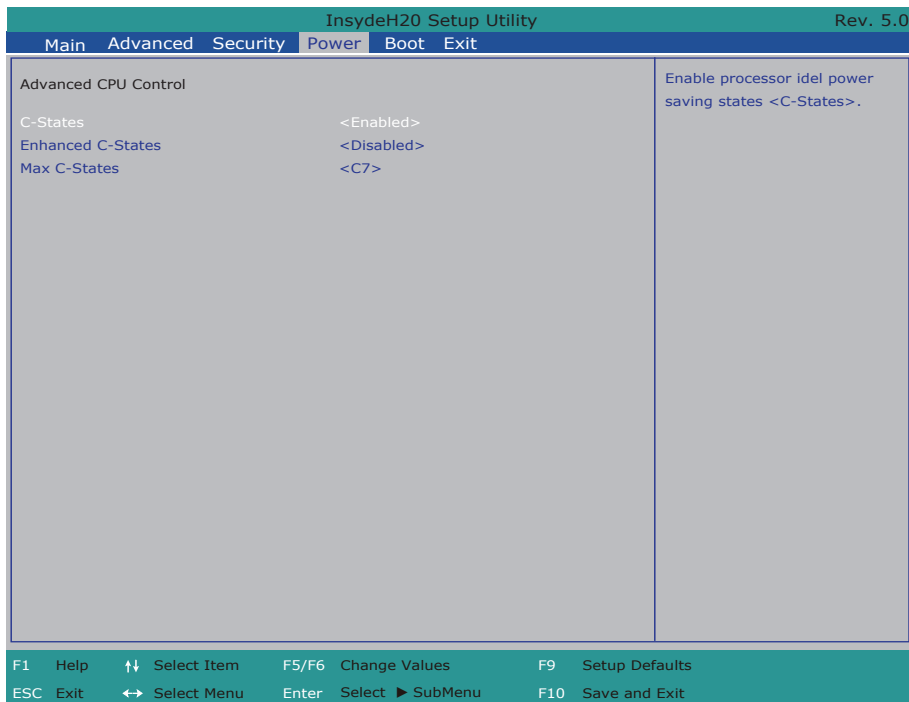
The **Power** menu sets up the power option of system



The featured setting is:

Setting	Description
Advanced CPU Control	See 5.4.1 Advanced CPU Control on page 89
Wake on PME	Enables or disables (default) Wake on PME. Determines the action taken when the system power is off and a PCI Power Management Enable wake up event occurs.

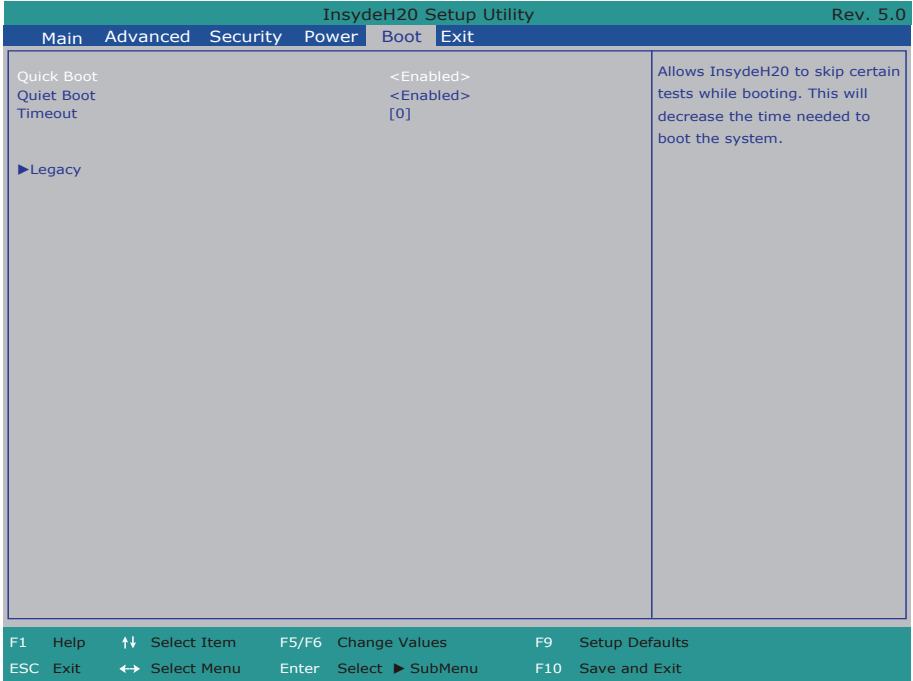
5.4.1 Advanced CPU Control



Setting	Description
C-States	Enables (default) /disables processor idle power saving states (C-states)
Enhanced C-States	Enables/disables (default) P-state transitions to occur in combination with C-states.
Max C-States	Set the Max CPC state C7 (default) /C6/C1

5.5. Boot Settings

The **Boot** menu configures how to boot up the system such as the configuration of boot device priority.



The featured settings are:

Setting	Description
Quick Boot	Allow InsydeH20 to Skip certain tests while booting . This will decrease the time need to boot the system.
Quiet Boot	Disables or enables booting in text mode.
PXE Boot to LAN	Disables (default) or enables the PXE to perform the boot from LAN.
Timeout	Sets the number of seconds that the firmware will wait before booting the original default boot selection..

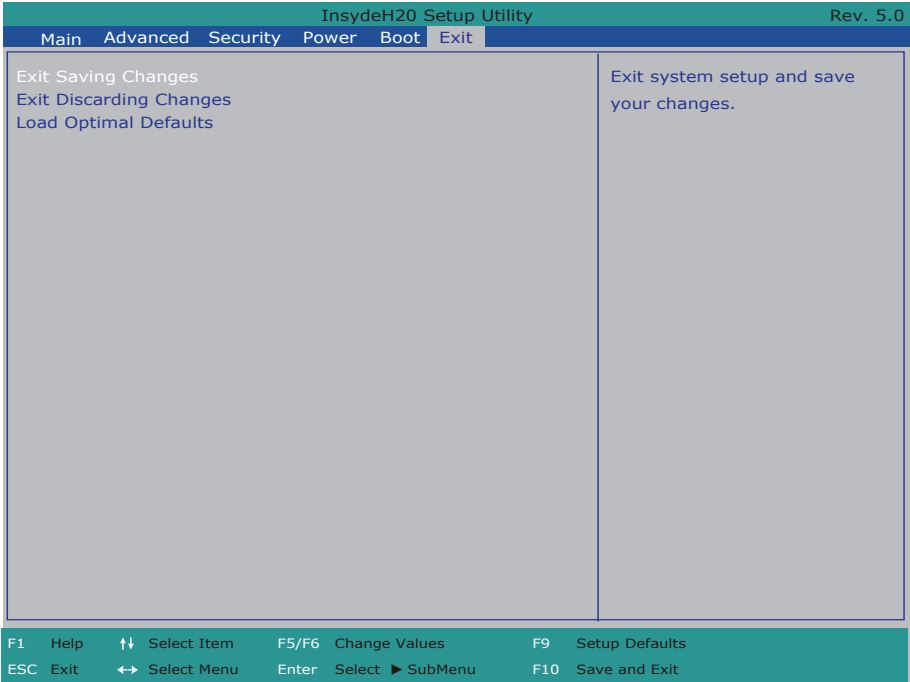
5.5.1 Legacy



Normal Boot Menu	Sets the boot option priority. When set to Normal , the submenu will allow configuring all possible options for legacy boot.
Boot type order	Sets the boot type order. Available only when Normal Boot Menu is set to Normal .
Hard Disk Drive	Sets the CD/DVD-ROM Drive Boot order. Available only when Normal Boot Menu is set to Normal .

5.6. Exit Options

The **Save & Exit** menu features a handful of commands to launch actions from the BIOS Setup utility regarding saving changes, quitting the utility and recovering defaults.



The features settings are:

Setting	Description
Exit Saving Changes	Saves the changes and quits the BIOS Setup utility.
Exit Discard Changes	Quits the BIOS Setup utility without saving the change(s).
Load Optimal Defaults	Restores all settings to defaults. ▶ This is a command to launch an action from the BIOS Setup utility rather than a setting.