# Marine Panel PC

**15/ 19/ 24/ 26 PCAP touchscreen,**

**Intel 5th ® Generation Core™ i5-5200U 2.2 GHz**
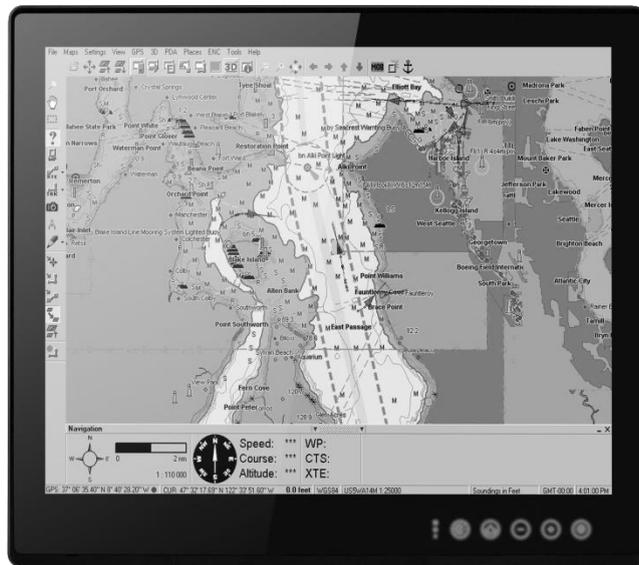
# ECDIS Series

R15IH3S-MRA3FP
R19IH3S-MRA1FP
W24IH3S-MRA1FP
W26IH3S-MRA1FP

# User Manual

Version 1.1

# CONTENTS

# PREFACE

## Copyright Notice

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## Warranty

Our warranty guarantees that each of its products will be free from material and workmanship defects for a period of one year from the invoice date. If the customer discovers a defect, we will, at his/her option, repair or replace the defective product at no charge to the customer, provide it is returned during the warranty period of one year, with transportation charges prepaid. The returned product must be properly packaged in its original packaging to obtain warranty service. If the serial number and the product shipping data differ by over 30 days, the in-warranty service will be made according to the shipping date. In the serial numbers the third and fourth two digits give the year of manufacture, and the fifth digit means the month (e. g., with A for October, B for November and C for December).

For example, the serial number 1W16Axxxxxxxx means October of year 2016.

## Customer Service

We provide a service guide for any problem by the following steps: First, visit the website of our distributor to find the update information about the product. Second, contact with your distributor, sales representative, or our customer service center for technical support if you need additional assistance.

You may need the following information ready before you call:

- Product serial number
- Software (OS, version, application software, etc.)
- Description of complete problem
- The exact wording of any error messages

In addition, free technical support is available from our engineers every business day. We are always ready to give advice on application requirements or specific information on the installation and operation of any of our products.

# Advisory Conventions

Four types of advisories are used throughout the user manual to provide helpful information or to alert you to the potential for hardware damage or personal injury. These are Notes, Important, Cautions, and Warnings. The following is an example of each type of advisory.

**NOTE:**
A note is used to emphasize helpful information

**IMPORTANT:**
An important note indicates information that is important for you to know.

**CAUTION/ ATTENTION**
A Caution alert indicates potential damage to hardware and explains how to avoid the potential problem.
Une alerte d'attention indique un dommage possible à l'équipement et explique comment éviter le problème potentiel.

**WARNING!/ AVERTISSEMENT!**
An Electrical Shock Warning indicates the potential harm from electrical hazards and how to avoid the potential problem.
Un Avertissement de Choc Électrique indique le potentiel de chocs sur des emplacements électriques et comment éviter ces problèmes.

**ALTERNATING CURRENT /  MISE À LE TERRE!**
The Protective Conductor Terminal (Earth Ground) symbol indicates the potential risk of serious electrical shock due to improper grounding.
Le symbole de Mise à Terre indique le risqué potentiel de choc électrique grave à la terre incorrecte.

# Safety Information

**WARNING! / AVERTISSEMENT!**

Always completely disconnect the power cord from your chassis whenever you work with the hardware. Do not make connections while the power is on. Sensitive electronic components can be damaged by sudden power surges. Only experienced electronics personnel should open the PC chassis.

Toujours débrancher le cordon d'alimentation du chassis lorsque vous travaillez sur celui-ci. Ne pas brancher de connections lorsque l'alimentation est présente. Des composantes électroniques sensibles peuvent être endommagées par des sauts d'alimentation. Seulement du personnel expérimenté devrait ouvrir ces chassis.

**CAUTION/ATTENTION**

Always ground yourself to remove any static charge before touching the CPU card. Modern electronic devices are very sensitive to static electric charges. As a safety precaution, use a grounding wrist strap at all times. Place all electronic components in a static-dissipative surface or static-shielded bag when they are not in the chassis.

Toujours verifier votre mise à la terre afin d'éliminer toute charge statique avant de toucher la carte CPU. Les équipements électroniques moderns sont très sensibles aux décharges d'électricité statique. Toujours utiliser un bracelet de mise à la terre comme précaution. Placer toutes les composantes électroniques sur une surface conçue pour dissiper les charge, ou dans un sac anti-statique lorsqu'elles ne sont pas dans le chassis.

## Safety Precautions

For your safety, carefully read all the safety instructions before using the device and follow all warnings and cautions marked on the product. Keep this user manual for future reference.

- Always disconnect this equipment from any AC outlet before cleaning. Do not use liquid or spray detergents for cleaning. Use a damp cloth.
- For pluggable equipment, the power outlet must be installed near the equipment and must be easily accessible.
- Keep this equipment away from humidity.
- Put this equipment on a reliable surface during installation. Dropping it or letting it fall could cause damage.
- The openings on the enclosure are for air convection and to protect the equipment from overheating.

> **CAUTION/ATTENTION**
> Do not cover the openings!
> Ne pas couvrir les ouvertures!

- Before connecting the equipment to the power outlet make sure the voltage of the power source is correct.
- This product is equipped with a 3-wire grounding type plug, a plug having a third (grounding) pin. This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. (For AC version only).
- Position the power cord so that people cannot step on it. Do not place anything over the power cord.
- If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient over-voltage.
- Never pour any liquid into an opening. This could cause fire or electrical shock.
- Never open the equipment. For safety reasons, only qualified service personnel should open the equipment.
- All cautions and warnings on the equipment should be noted.

**\*Let service personnel to check the equipment in case any of the following problems appear:**

  o   The power cord or plug is damaged.
  o   Liquid has penetrated into the equipment.
  o   The equipment has been exposed to moisture.
  o   The equipment does not work well or you cannot get it to work according to the user manual.
  o   The equipment has been dropped and damaged.
  o   The equipment has obvious signs of breakage.

- 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). It may damage the equipment.

**CAUTION/ATTENTION**
Use the recommended mounting apparatus to avoid risk of injury.
Utiliser l'appareil de fixation recommandé pour éliminer le risque de blessure.

**WARNING! / AVERTISSEMENT!**
Only use the connection cords that come with the product. When in doubt, please contact the manufacturer.
Utiliser seulement les cordons d'alimentation fournis avec le produit. Si vous doutez de leur provenance, contactez le manufacturier.

**WARNING!/ AVERTISSEMENT!**
Always ground yourself against electrostatic damage to the device.
Toujours vérifier votre mise à la terre afin que l'équipement ne se décharge pas sur vous.

- Cover workstations with approved anti-static material. Use a wrist strap connected to a work surface and properly grounded tools and equipment.
- Use anti-static mats, heel straps, or air ionizer for added protection.
- Handle electrostatic-sensitive components, PCB's and assemblies by the case or the edge of the board.
- Avoid contact with pins, leads, or circuitry.
- Turn off power and input signals before inserting and removing connectors or test equipment.
- Keep the work area free of non-conductive materials, such as ordinary plastic assembly aids and Styrofoam.
- Use filed service tools, such as cutters, screwdrivers, and vacuum cleaners that are conductive.
- Always put drivers and PCB's component side on anti-static foam.
-

## Important Information

| Countries/ Area | Symbol | This equipment complies with essential requirements of: |
|---|---|---|
| European Union | CE | Electromagnetic Compatibility Directive(2014/30/EU) Low Voltage Directive (2014/35/EU) Restrictions of the use of certain hazardous substances (RoHS) Directive (2011/65/EU) |
| USA | | FCC Part 15 Subpart B Regulations Class B |
| Internationally | IEC Marine | IEC 60945 4th Edition |

**Federal Communications Commission Radio Frequency Interface Statement**

This device complies with part 15 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.

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 when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at him own expense.

## European Union



This equipment is in conformity with the requirement of the following EU legislations and harmonized standards. Product also complies with the Council directions.

**Electromagnetic Compatibility Directive (2004/108/EC)**
- EN55024: 2010 EN 55022: 2010 Class B
- IEC61000-4-2: 2008 EN61000-3-2: 2006+A1: 2009+A2: 2009
- IEC61000-4-3: 2006+A1: 2007+A2: 2010 EN61000-3-3: 2013
- IEC61000-4-4: 2012
- IEC61000-4-5: 2014
- IEC61000-4-6: 2013
- IEC61000-4-8: 2009
- IEC61000-4-11: 2004

**Low Voltage Directive (2006/95/EC)**
- EN 60950-1:2006/A11:2009/A1:2010/A12:2011

# ABOUT THIS USER MANUAL

This User Manual provides information about the • ECDIS     Marine     Panel     PC.     The documentation set for the ECDIS Marine Panel PC provides information for specific user needs, and includes:

- **ECDIS Marine Panel PC User Manual** – contains detailed description on how to use the HMI device, its components and features.

- **ECDIS Marine Panel PC Quick Start Guide** – - describes how to get the Panel PC up and running.

**NOTE:**
Some pictures in this guide are samples and can differ from actual product

## Revision History

| Version | Date | Note |
|---------|------|------|
| 1.0 | 21-Jun-2015 | Initial release |
| 1.1 | 20-June-2016 | **Added:** <br> • User Manual part number; <br> • ECDIS DAY, DUSK, and NIGHT mode switching instructions; <br> • Driver Installations; <br> • BIOS Instruction; <br> • Dimensions; <br> • Product Specifications. <br> **Revised:** <br> • Format. |

# INTRODUCTION

This chapter gives you product overview, describes features and hardware specification. You will find all accessories that come with your device in the packing list. Mechanical dimensions and drawings included in this chapter.

# CHAPTER 1: INTRODUCTION

Modern marine sector requires durable devices that can withstand long periods submersed in water. Winmate ECDIS Marine Series Panel PC is suitable for navigation, ship automation, and surveillance, rugged industrial and light military applications.. Flat surface is easy-to-clean and delivers aesthetically pleasing look. Due to dimmable backlight the Panel PC suitable for high and low ambient light conditions. You can mount the Panel PC on the bridge of a ship.

The device powered by Intel 5th ® Generation Core TM i5-5200U 2.2GHz processor and supports various Windows-based operating systems: Windows 10 IoT Enterprise, Windows Embedded 8.1 Industry PRO, Windows Embedded 8 Std, Windows Embedded Std. 7, and Windows 7 PRO for Embedded System. The Panel PC features user-friendly and resistant to scratches PCAP touch-screen. These models sealed with front IP 65 dust and water proof, and full IP44 protected from solid objects greater than 1 mm and water splash from all directions. All connectors are M12 type and ensure durability during maritime operations.

All ECDIS Marine Series Panel PC meet the requirements of industrial marine standards, including IEC60945 4th Edition, DNV2.4, IACS E10.

## 1.1  Product Features

Winmate ECDIS Series Marine Panel PC offers the following features:

- **PCAP Touch Screen / Anti-Reflective Glass Protection**
  We develop highly compatible mechanical design for each type. You can choose either PCAP touch screen or anti-reflective glass protection.

- **Hyper dimming**
  Our displays use hyper dimming technology that can control backlight brightness linearly from nearly 0% to 100% by a capacitive touch key front side. In the night vision it is very suitable for marine applications.

- **Edge-to-edge narrow aluminum bezel**
  Anodized aluminum bezel ensures the anti-corrosion proof in harsh conditions.

- **Wide Voltage Range Power Input**
  For marine and transportation sectors wide voltage range from 9 to 36V input with 1.5KV isolation protection is crucial to provide stable power supply in unsteady environments (**Note**: 24V is the only voltage approved by DNV certification).

- **Capacitive touch keys for quick function access and display control**
  Five capacitive touch keys (ECDIS DAY, DUSK, and NIGHT mode switching) on the front panel provide convenient operation control over the device.

- **Capacitive touch key lock / touchscreen lock function**
  Do not let any unexpected movements to control the whole system. Simply lock the touchscreen while not in use.

- **International Maritime Certification Approval**
  Flat PCAP Marine series obtain numbers of certifications, including DNV2.4, IEC60945 4th, IACS-E10 and ECDIS color calibration compliance.

- **Customize your marine products**
  Our rich experience in designing products for some of the most challenging environments allows us to provide flexible and tailor-made solutions for any requirements. If you need different panel characteristics, mechanical designs, or electronic component, contact Winmate Inc.

**Approved Marine Panel PC**
Winmate's Marine product line designed to follow IEC-60945 Maritime Navigation and Radio-communication Equipment and Systems requirements. Marine Panel PC series line varies in screen size from 19 inches to 26 inches. By testing for usability in a ship's wheelhouse during different ambient light conditions we developed products that meet demands in maritime applications especially for navigation, ship automation and maritime surveillance.

## 1.2 Packing List

Carefully remove the box and unpack your device. Please check if all the items listed below are inside your package. If any of these items are missing or damaged contact us immediately.

**Standard factory shipment list:**
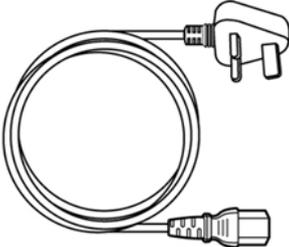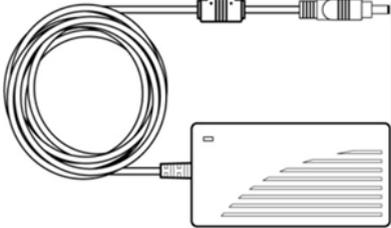
| | | |
|---|---|---|
|  |  |  |
| **Panel PC** | **Power Cord (varies in appearance by region and country)** | **AC Adapter\*** |
|  |  |  |
| **Driver CD & User Manual** | **M4 x 12 Black Screw Bolts\*\*** | **3-pin Terminal Block (Phoenix type)** |
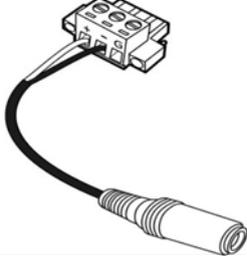
*\*AC adapter, 3-pin terminal block, and power cord shipped with Panel PC for testing purposes only.*
*\*\*Notice: Only to be used to screw the display into a console from the rear side. If you prefer your own bolts, please make sure to use M4 and 30mm in length.*

**Package may include optional accessories based on your order.**
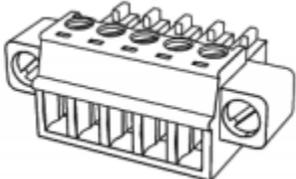
| |
|---|
|  |
| **Four 5-pin Terminal Block 3.81 (Phoenix Type)** *\*For NMEA port* |

## 1.3 Appearance

## <u>1.3.1 Front View</u>



**Front Buzzer**

**5 x Capacitive Touch Key**
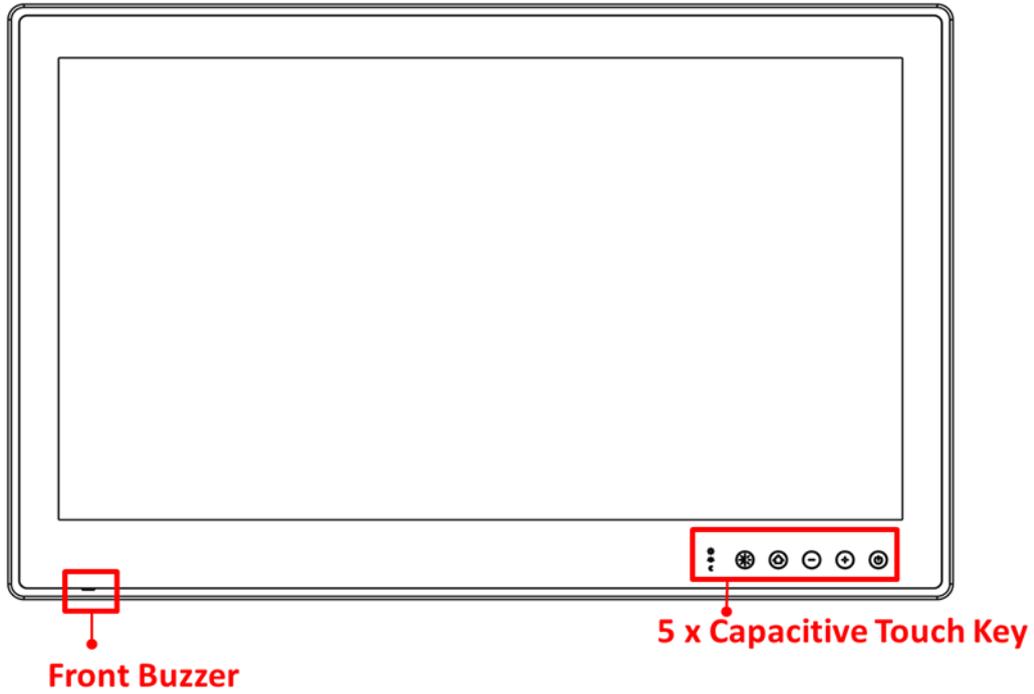
**Capacitive Touch Keys**

| Touch Key | Function | Description |
|---|---|---|
| | Power | Power on/off control |
| | Brightness/Volume | To increase brightness of panel /To increase Volume |
| | Brightness/Volume | To decrease brightness of panel /To decrease Volume |
| | Menu | Switch to Metro or Desktop |
| | Function Key *Default setting: ECDIS Mode* | Switching ECDIS standard range mode (Day / Dust / Night mode) *If you don't need ECDIS Mode, you can assign other function to Function Key* |

## 1.3.2 Rear, Side, Bottom and Top View

**Appearance 15"**
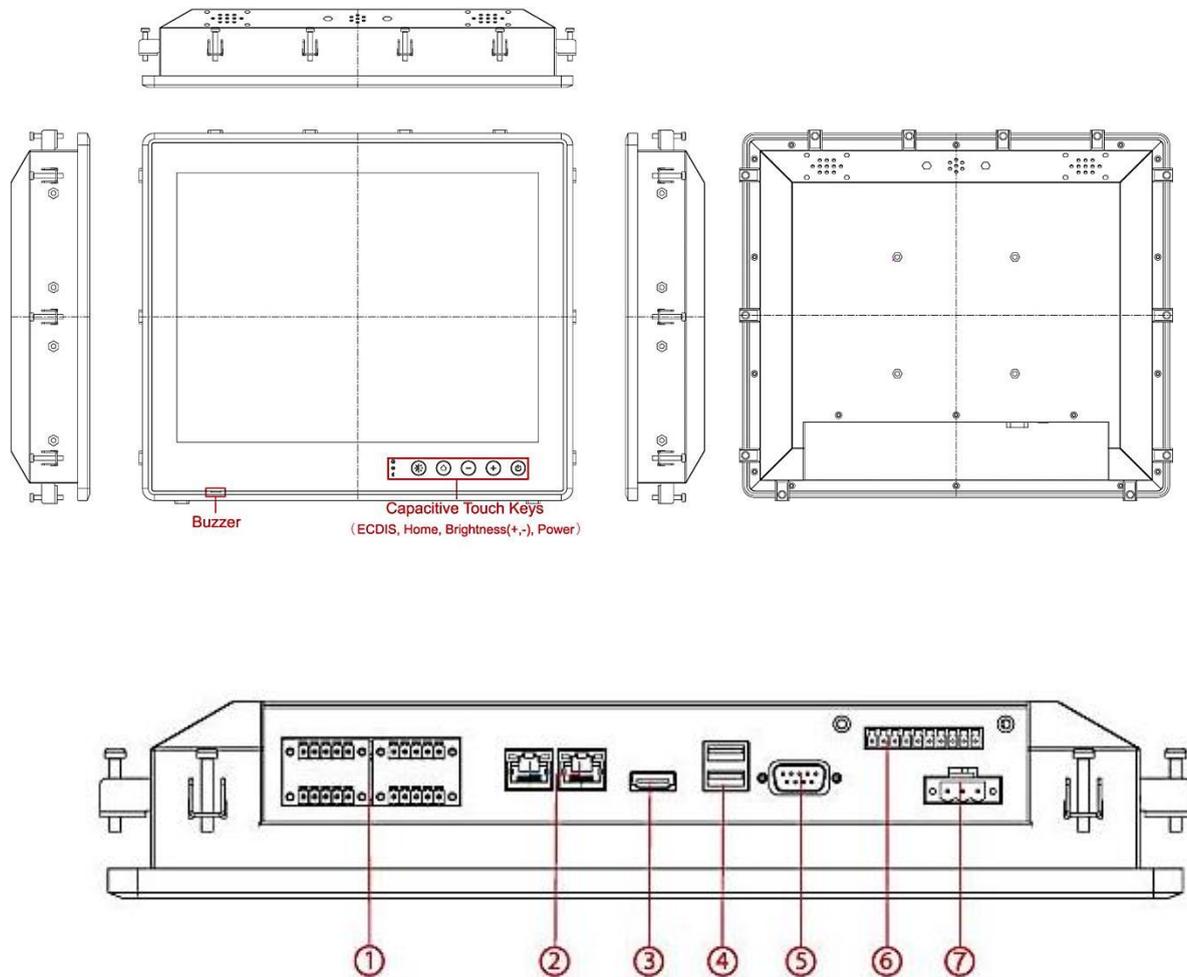




| No | Description | No | Description |
|----|-------------|----|-------------|
| 1 | 4 x NMEA 0183 Port (optional) | 5 | 1 x RS232/422/485 |
| 2 | 2 x RJ-45 LAN | 6 | 1 x 8 Channel DI/DO (optional) |
| 3 | 1 x HDMI | 7 | 1 x DC Power Input |
| 4 | 1 x USB 3.0 , 1 x USB 2.0 | | |

**Appearance 19"**
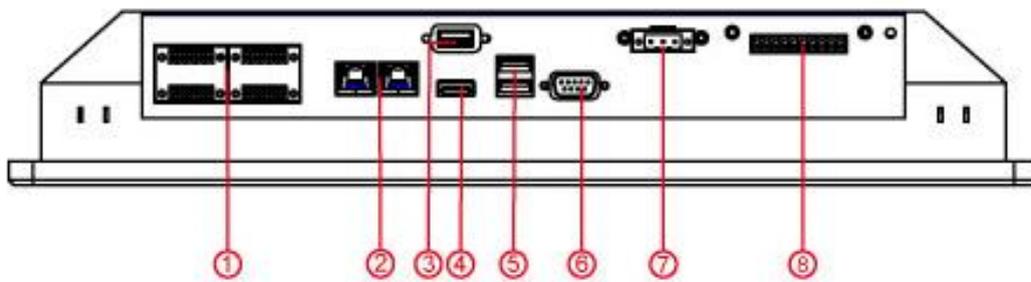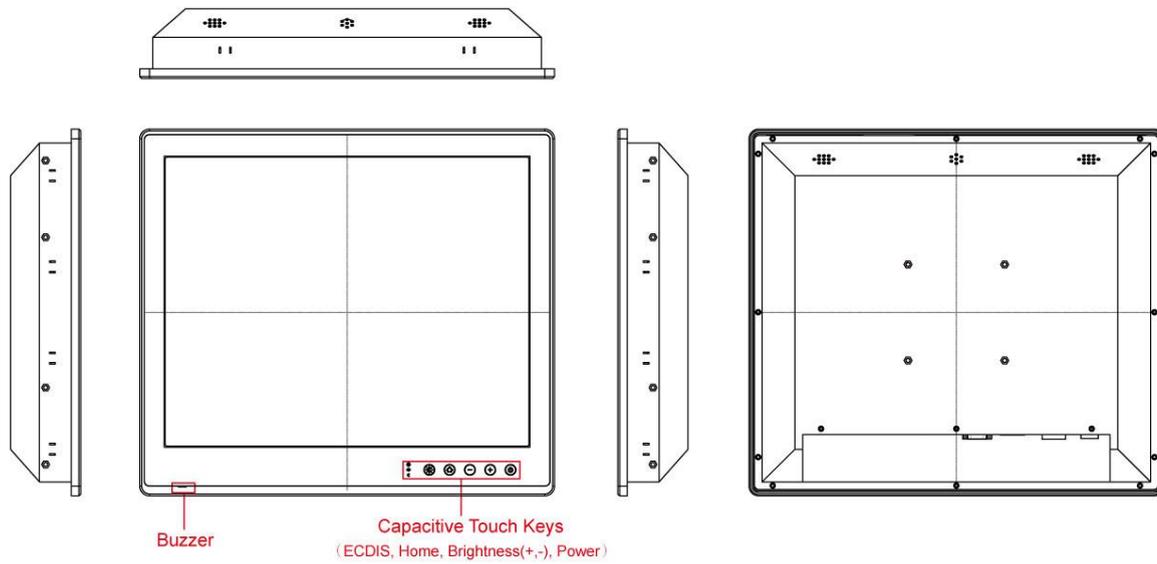


| No | Description | No | Description |
|---|---|---|---|
| 1 | 4 x NMEA 0183 Port (optional) | 5 | 1 x USB 3.0 , 1 x USB 2.0 |
| 2 | 2 x RJ-45 LAN | 6 | 1 x RS232/422/485 |
| 3 | 1 x USB 2.0 | 7 | 1 x DC Power Input |
| 4 | 1 x HDMI | 8 | 1 x 8 Channel Digital input/output (Optional) |

**Appearance 24" and 26"**



Buzzer

Capacitive Touch Keys
（ECDIS, Home, Brightness(+,-), Power）
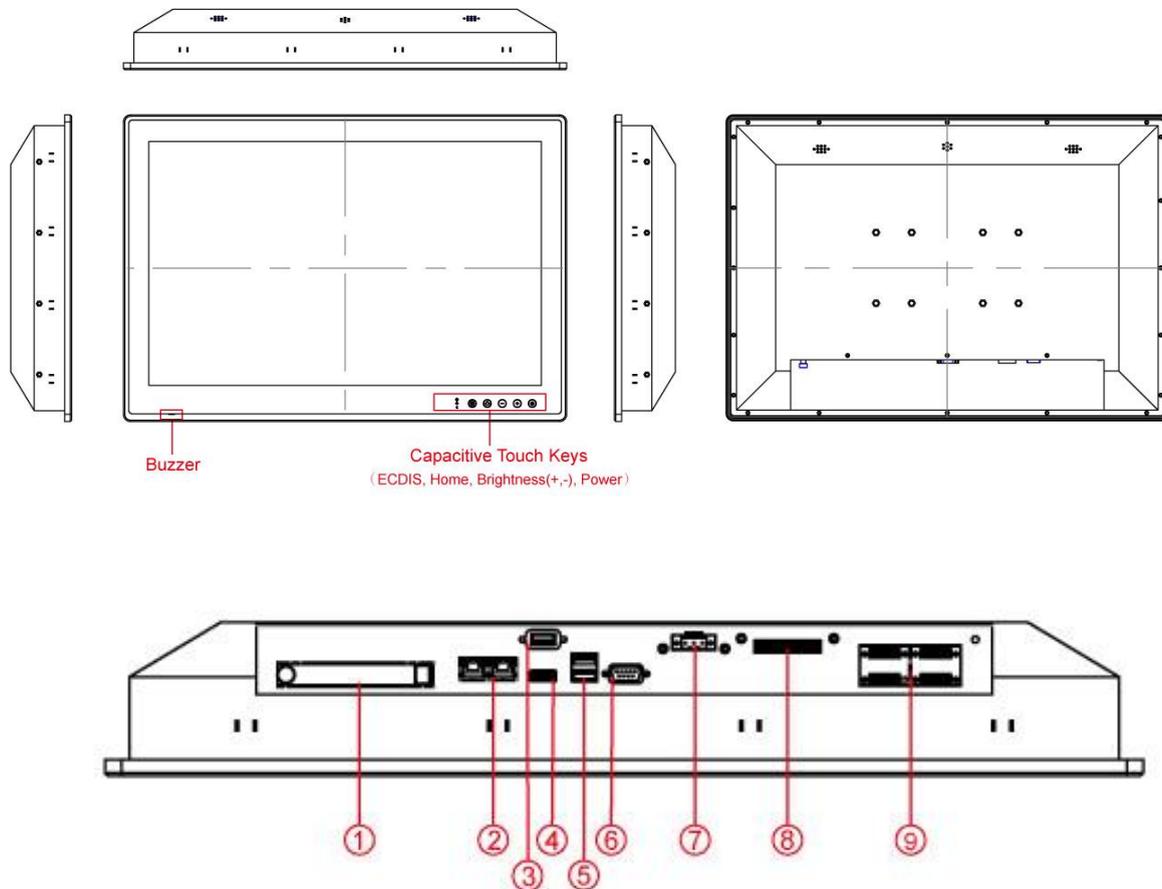


| No | Description | No | Description |
|----|-------------|----|-------------|
| 1 | 1 x 2.5" Removable HDD | 6 | 1 x RS232/422/485 |
| 2 | 2 x RJ-45 LAN | 7 | 1 x DC Power Input |
| 3 | 1 x USB 2.0 | 8 | 1 x 8 Channel DI/DO  (Optional) |
| 4 | 1 x HDMI | 9 | 4 x NMEA 0183 Port (Optional) |
| 5 | 1 x USB 3.0 , 1 x USB 2.0 | | |

# 1.4 Dimensions

**Dimensions 15"**
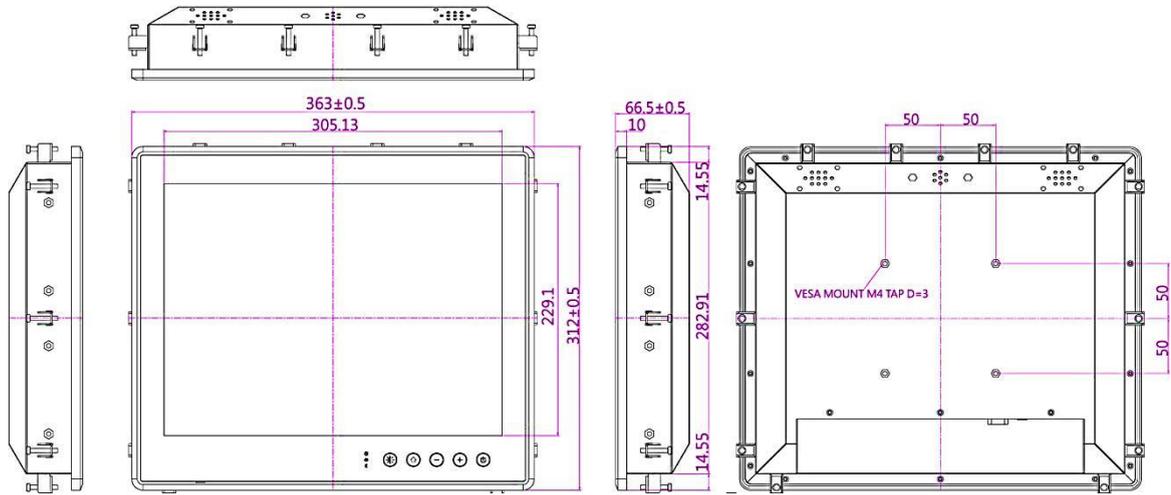
**Dimensions 19"**
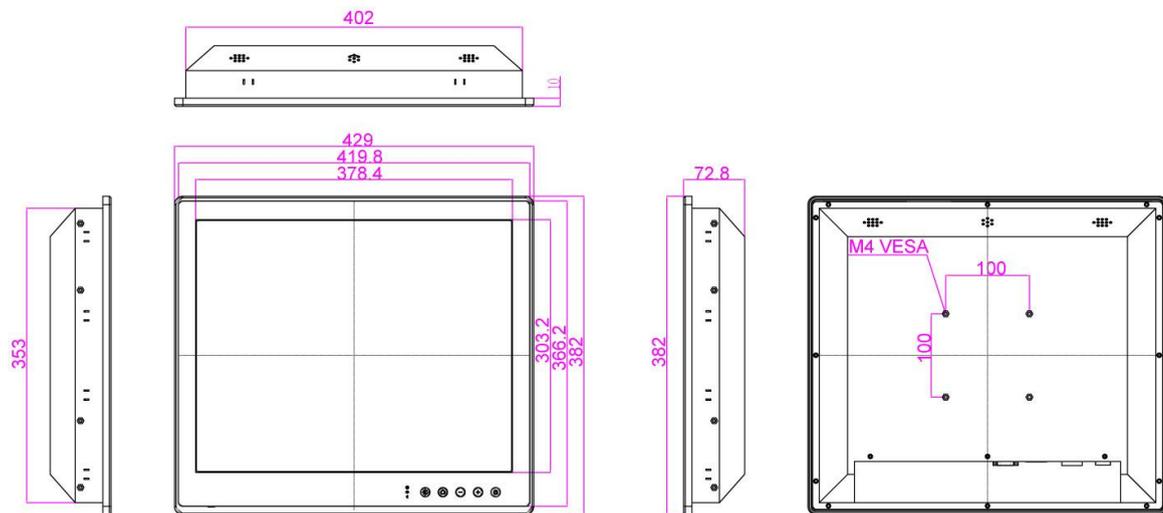
**Dimensions 24"**
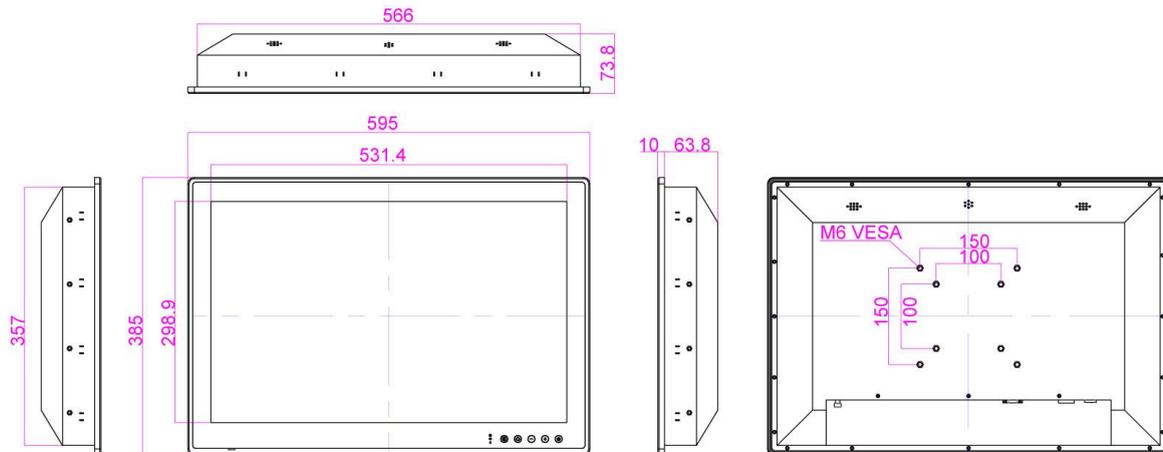
**Dimensions 26"**
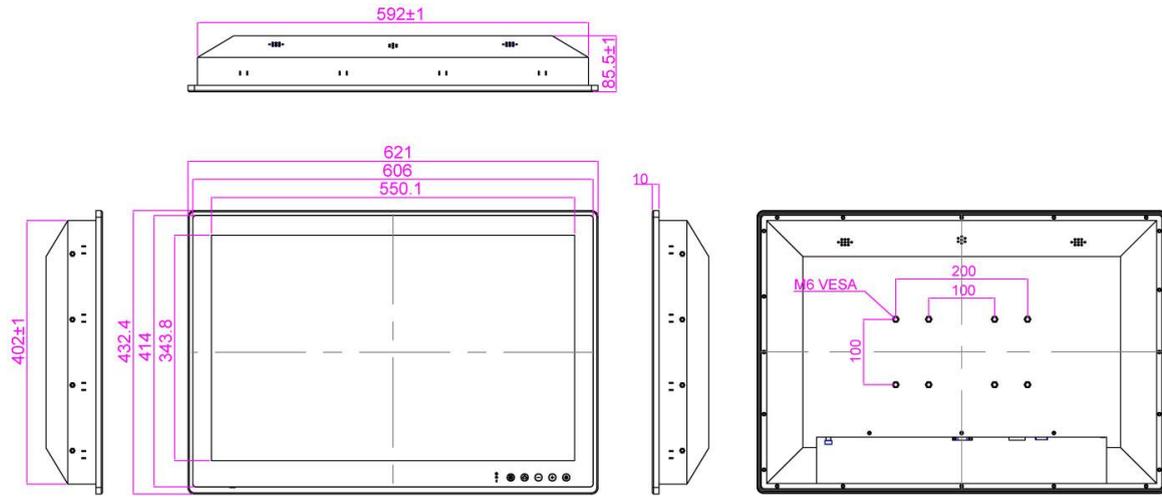
# MOUNTING

This chapter provides step-by-step mounting guide for all available mounting options.

2

# CHAPTER 2: MOUNTING

This chapter provides mounting guide for all available mounting options. Pay attention to cautions and warning to avoid any damages.

## 2.1 Cable Mounting Considerations

For a nice look and safe installation, make sure cables are neatly hidden behind the device.

**CAUTION/ ATTENTION**
Observe all local installation requirements for connection cable type and protection level.
Suivre tous les règlements locaux d'installations, de câblage et niveaux de protection.

**CAUTION/ ATTENTION**
Turn off the device and disconnect other peripherals before installation.
Éteindre l'appareil et débrancher tous les périphériques avant l'installation.

**ALTERNATING CURRENT /  MISE À LE TERRE!**
To prevent electrical shock, the Safety Ground  location on the rear must be bonded to the local earth ground through a minimum 12 AWG wire as short as possible
Pour éviter les chocs électriques, l'emplacement de la prise terre  à l'arrière doit  être lié  à  terre locale,  à travers un 12 AWG minimum et aussi court que possible.

## 2.2 Safety Precautions

Observe the following common safety precautions before installing any electronic device:

- Use separate, non-intersecting paths to route power and networking wires. If power wiring and device wiring paths must be crossed make sure the wires are perpendicular at the intersection point.
- Keep the wires separated according to the interface. Wires that share similar electrical characteristics must be bundled together.
- Do not bundle input wiring with output wiring. Keep them separate.
- When necessary, it is strongly advised that you label wiring to all devices in the system.

## ATTENTION

## 2.3 Mounting Guide

The Marine Panel PC can be applied for several different installation methods, including panel (flush) mounting, bracket mounting, VESA mounting. For a use in a ship's wheelhouse the main mounting approach is panel (flush mount) - very user-friendly in terms of installation. Refer to sub-sections below for more details.

**CAUTION/ ATTENTION**
Follow mounting instructions and use recommended mounting hardware to avoid the risk of injury.

Suivez les instructions de montage et d'utilisation recommandé le matériel de montage pour éviter le risque de blessure.

## 2.3.1 Panel Mounting

Winmate provides mounting clips for installation onto a wall or into console by request.
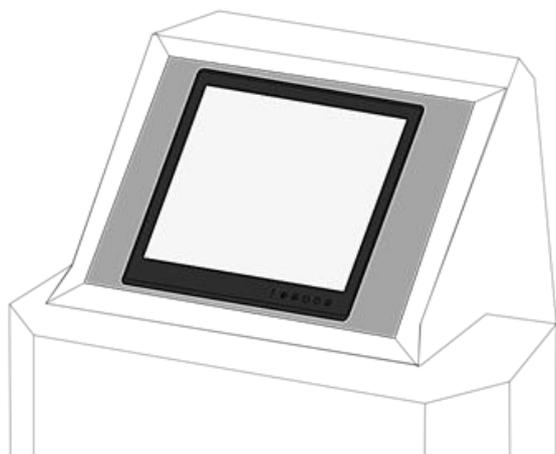
Make sure you console cutout matches the Panel PC cutout dimensions.

Use either short or long screws based on the thickness of the fixture.

| Cutout dimension ( W x D in mm) | | | |
|---|---|---|---|
| 15" | 19" | 24" | 26" |
| 338 x 288 | 408 x 359 | 572 x 363 | 598 x 408 |
| Mounting Kit | | Mounting Kit | |
| Mounting Clips: 12pcs<br>Short screws: 15mm M4<br>Long screws: 30mm M4 | | Mounting Clips: 16pcs<br>Short screws: 15mm M4<br>Long screws: 30mm M4 | |

| 1 | Prepare a cutout on a fixture according to the cutout dimensions. |
| 2 | Select the mounting holes according to the wall thickness of the fixture and secure the mounting clips onto four sides of the Panel PC. |
| 3 | Secure the Panel PC to the fixture by screws. |
| 4 | Connect power and other peripherals to the Panel PC. |
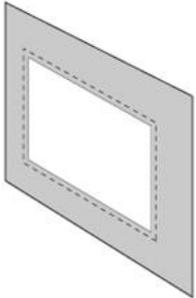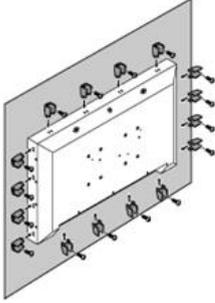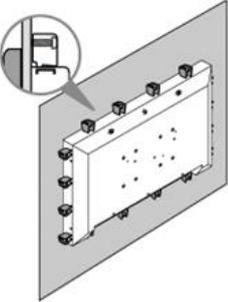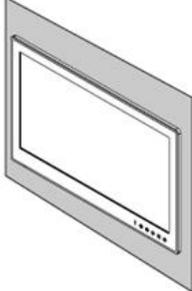
USER MANUAL                              CHAPTER 2                              MOUNTING

**2.3.2 VESA Mounting**

Winmate provides VESA and Wall Mount Kits by request.

| VESA Plate Dimensions | | | |
|---|---|---|---|
| **15"** | **19"** | **24"** | **26"** |
| 100 x 100 | 100 x 100 | 100 x 100<br>100 x 200 | 100 x 100<br>100 x 200 |
| **Screw Hole Diameter** | | | |
| M4 D=3mm | M4 D=5mm | M4 D=5mm | M6 D=5mm |

**Mounting Steps:**

1. Screw VESA bracket to the fixture (ex. wall) with four screws (refer to the table above for screw hole diameter).
2. Place the device on VESA bracket.
3. Connect all cables and peripheral devices.
4. When the installation is complete, plug the power cord into a grounded AC outlet. Turn on the power.
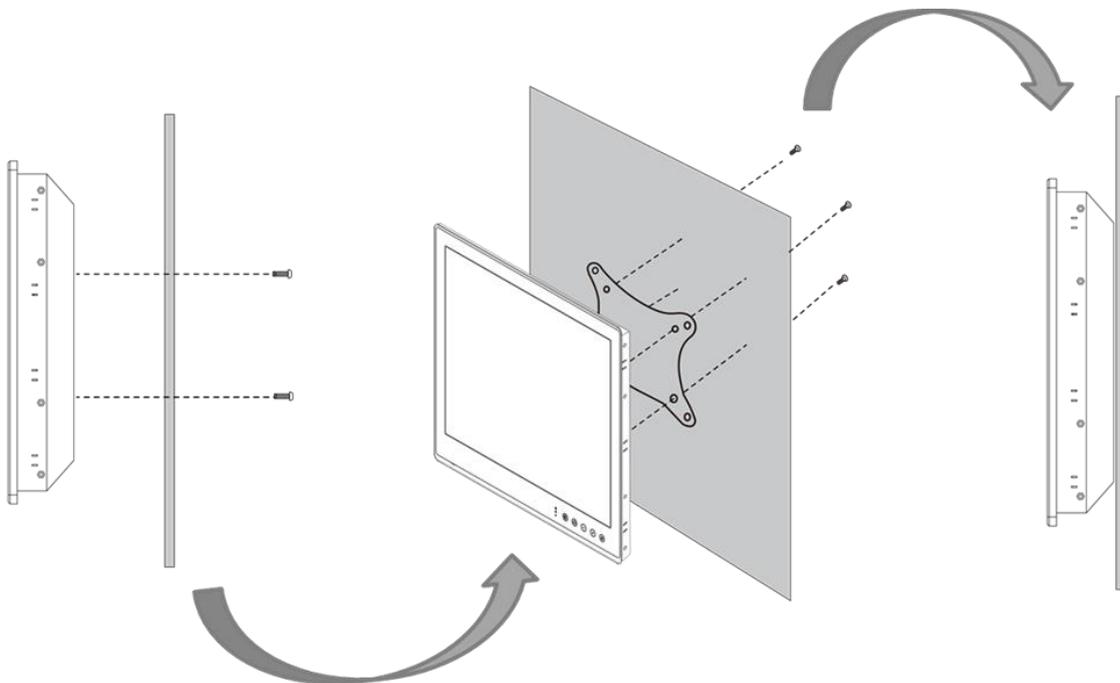


**NOTE:**
Notice that both hooks on bracket should lock the notches on the back cover of the device.

- 30 -

# GETTING STARTED

This chapter tells you important information on power supply, adapter and precautions tips. Pay attention to power considerations.

3

# CHAPTER 3: GETTING STARTED

This chapter provides information on how to connect the panel PC to the source of power, connector pinouts and the guideline to turn on/off the Panel PC.

## 3.1 Powering On

### 3.1.1 AC Adapter Components



| AC Adapter (12V/80W) | Power Cord | 3-Pin Terminal Block to DC Jack |
|---|---|---|
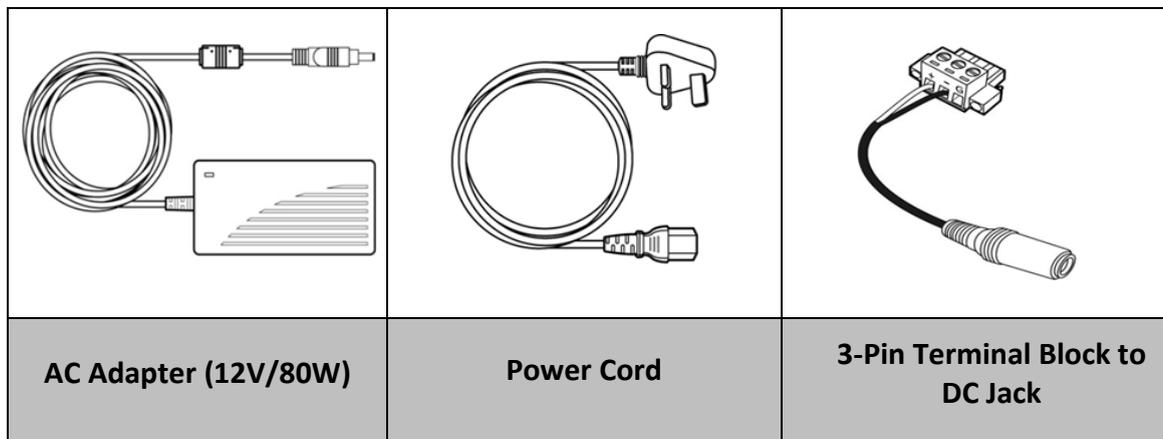
**Note:**
AC adapter, power cord and 3-pin terminal block to DC Jack provided by Winmate for testing purposes only.

**Safety Precautions:**
- Do not use the  adapter in a high moisture environment
- Never touch the adapter with wet hands or foot
- Allow adequate ventilation around adapter while using
- Do not cover the adapter with paper or other objects that will reduce cooling
- Do not use the adapter while it is inside a carrying case
- Do not use the adapter if the cord is damaged
- There are NO serviceable parts inside
- Replace the unit if it is damaged or exposed to excess moisture

**While using the AC Adapter always:**
- Plug-in the power cord to easy accessible AC outlet
- Plug-in the AC adapter to a grounded outlet

**ALTERNATING CURRENT /  MISE À LE TERRE!**
This product must be grounded. Use only a grounded AC outlet. Install the additional PE ground wire if the local installation regulations require it.

*If you do not use a grounded outlet while using the device, you may notice an electrical tingling sensation when the palms of your hands touch the device.*

Ce produit doit être mis à la terre. Utiliser seulement un cordon d'alimentation avec mise à la terre.  Si les règlements locaux le requiert, installer des câbles de mise à la terre supplémentaires.

*Si vous n'utiliser pas une prise d'alimentation avec mise à la terre, vous pourriez remarquer une sensation de picotement électrique quand la paume de vos mains touche à l'appareil.*

## 3.1.2 Connecting the Power

*Connecting to AC Power Source (for testing)*

1. Plug one end of the terminal block cable firmly to the DC IN Jack.
2. Plug the other end of the terminal block plug to the AC adapter.
3. Connect the AC adapter to the power cord.
4. Plug the power cord to a working AC outlet. The device will boot automatically.

**Note:**
Power cords vary in appearance by region and country.
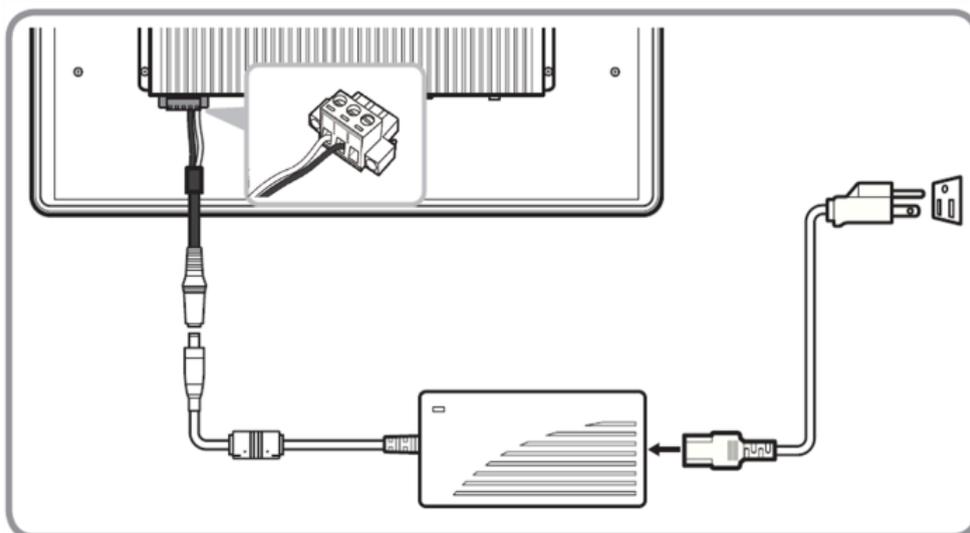
### *Connecting to DC Power Source*

1. Insert the exposed wires of the DC Power Cable to the appropriate connectors on the terminal block plug.
2. Plug the terminal block plug firmly to the DC IN Jack.
3. Connect the other end of the DC power cable (wires with lug terminals that are labeled **+** and **–** to the terminals of the 9~36V DC Power Source. Ensure that the power connections maintain the proper polarity.
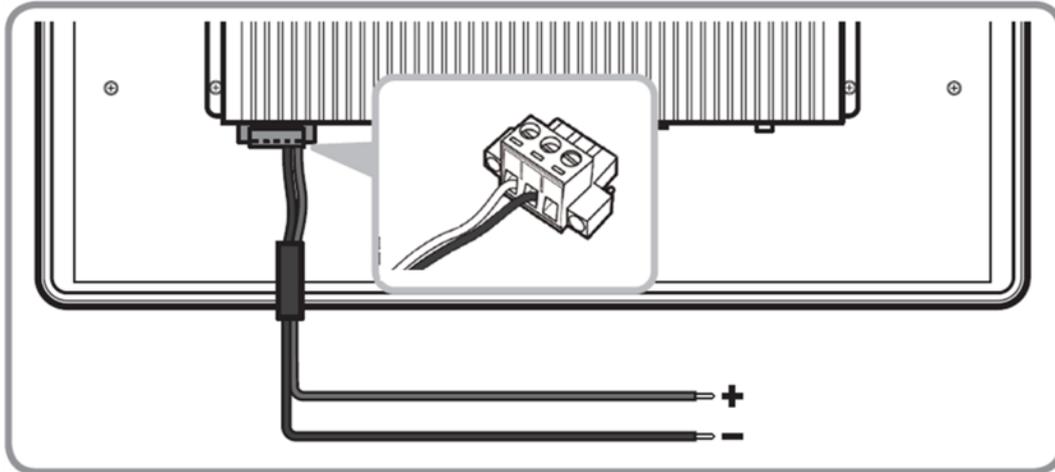


**CAUTION/ATTENTION**
Make sure that the polarization of the power lines is correct and complete including chassis ground. Wrong polarization will result in serious damage to the equipment.

## 3.2 Connector Description

This section contains connector pinouts.

| | |
|---|---|
| ⚠️ | **WARNING!/ AVERTISSEMENT!** Make sure the power is off when connecting and disconnecting the connectors. Assurez-vous que l'alimentation est coupée lors de la connexion et la déconnexion des connecteurs. |

## 3.2.1 DC Input Connector

DC terminal block power source input compact design meets the maritime application. The 3-pin terminal block is to be secured that the cable to screw terminal.
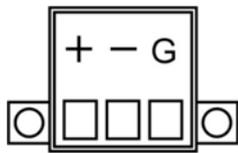
| Pin No. | Signal Name | Description |
|---------|-------------|-------------|
| 1 | VIN+ | 9-36V DC Input + |
| 2 | VIN- | 9-36V DC Input - |
| 3 | GND | Ground |

## 3.2.2 COM1 Serial Port Connector

The Marine Panel PCs support COM ports to comply with maritime accessories sensor units. Connect Standard D-SUB 9pin connector to connect on the Marine Panel PC to make it a control center.
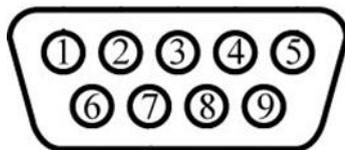
| Pin № | RS-232 | RS-422 | RS-485 |
|-------|--------|--------|--------|
| 1 | DCD | TxD- | D- |
| 2 | RXD | TxD+ | D+ |
| 3 | TXD | RxD+ | NC |
| 4 | DTR | RxD- | NC |
| 5 | GND | GND | GND |
| 6 | DSR | NC | NC |
| 7 | RTS | NC | NC |
| 8 | CTS | NC | NC |
| 9 | RI | NC | NC |

**Configuring RS-232/422/485 Serial Ports**
Serial COM1 settings can be configured for RS-232, RS-422 or RS-485 via BIOS.
To enter the BIOS setup, you need to connect an external USB keyboard, press **<Del>** key when the prompt appears on the screen during start up. The prompt screen shows only few seconds, you need to press **<Del>** key quickly. If the message disappears before your respond, restart the system by turning it OFF and ON, and enter the BIOS again.
Refer to Ch. 6, Section 6.2.2.11 for serial port settings.

### 3.2.3 USB 3.0 and USB 2.0 Connector

Use standard USB type A cable to connect any device that use USB interface for expansion functions.
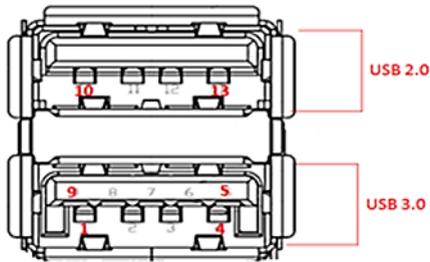
| Pin № | Signal Name | Pin № | Signal Name |
|-------|-------------|-------|-------------|
| 1 | +5V | 2 | USB_D- |
| 3 | USB_D+ | 4 | GND |
| 5 | STDA_SSRX- | 6 | STDA_SSRX+ |
| 7 | GND_DRAIN | 8 | STDA_SSTX- |
| 9 | STDA_SSTX+ | 10 | +5V |
| 11 | USB_D- | 12 | USB_D+ |
| 13 | GND | | |

### 3.2.4 HDMI Connector

Connect HDMI A Type19-pin female output connector to the display.

| Pin № | Signal Name | Pin № | Signal Name |
|-------|-------------|-------|-------------|
| 1 | TMDS_DATA2+ | 2 | GND |
| 3 | TMDS_DATA2- | 4 | TMDS_DATA1+ |
| 5 | GND | 6 | TMDS_DATA1- |
| 7 | TMDS_DATA0+ | 8 | GND |
| 9 | TMDS_DATA0- | 10 | TMDS_CLOCK+ |
| 11 | GND | 12 | TMDS_CLOCK- |
| 13 | CEC | 14 | NC |
| 15 | DDC_CLOCK | 16 | DDC_DATA |
| 17 | GND | 18 | 5V |
| 19 | Hot Plug Detect | | |

### 3.2.5 LAN (RJ45) Connector

The Marine Panel PC supports one 10/100/1000 Mbps Ethernet interface for connecting to the internet.
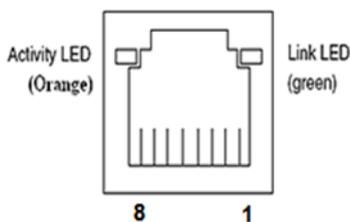
| Pin № | Signal Name | Pin № | Signal Name |
|-------|-------------|-------|-------------|
| 1 | TX1+ | 2 | TX1- |
| 3 | TX2+ | 4 | TX2- |
| 5 | TX3+ | 6 | TX3- |
| 7 | TX4+ | 8 | TX4- |

## 3.2.6 Digital Input / Output Connector (Optional)

Four-channel isolated Digital Input and Output. On-board optical isolation protection output up to 1.5KVdc.
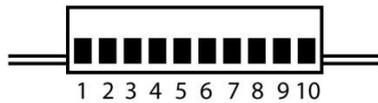
| Pin No. | Signal Name | Description |
|---|---|---|
| 1 | DO_COM | DO Port Reference Voltage Level |
| 2 | DO_0 | Digital Output 0 |
| 3 | DO_1 | Digital Output 1 |
| 4 | DO_2 | Digital Output 2 |
| 5 | DO_3 | Digital Output 3 |
| 6 | ISOGND | Isolated Ground |
| 7 | DI0 | Digital Input 0 |
| 8 | DI1 | Digital Input 1 |
| 9 | DI2 | Digital Input 2 |
| 10 | DI3 | Digital Input 3 |

## 3.2.7 NMEA 0183 Port (Optional)
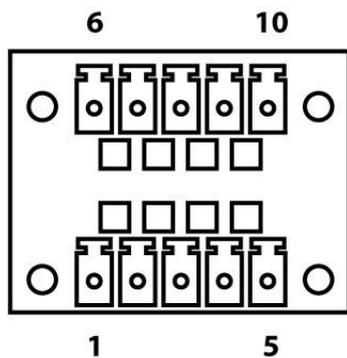
| Pin No. | Signal Name | Pin No. | Signal Name |
|---|---|---|---|
| 1 | TxD1- | 6 | TxD2- |
| 2 | TxD1+ | 7 | TxD2+ |
| 3 | GND | 8 | GND |
| 4 | RxD1- | 9 | RxD2- |
| 5 | RxD1+ | 10 | RxD2+ |

You can configure RS-422/485 settings via software. Refer to Chapter 4, section 4.9.10 for the instruction.

## 3.3 Installing 2.5" Removable HDD

The Marine Panel PC Flat PCAP series has tray for SATA hard disk. No tools required to install the hard disk. Follow the instructions below to quickly install/remove the hard disk.

**Step 1** Disconnect the device from the power source.

**Step 2** Loosen the thumb screw beside the valve of Hard Drive Bay.
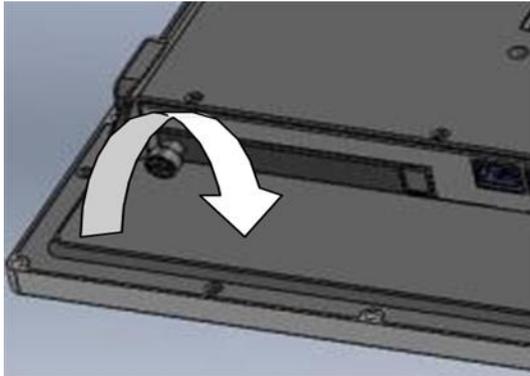


**Step 3** Open the valve and take out the bracket with hard disk.
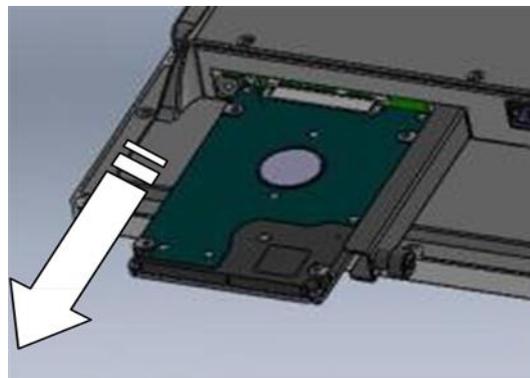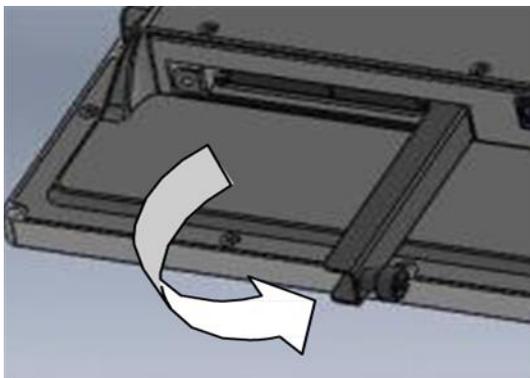


**Step 4** Replace the hard disk as you wish, be sure to check the orientation of the hard disk correctly.

**Step 5** Insert the bracket back and carefully tighten the thumb screw.

## 3.4 Turning On

Press and hold the capacitive power key (  ) for 4 seconds until the blue LED backlight lid up.

## 3.5 Turning Off

Perform the following procedure to shut down the Panel PC (for Windows 8):

1.  Make sure you have closed any programs that are open on the Desktop. Start Screen apps don't need to be closed.
2.  Open the Charms Bar by swiping your finger from the far right of the screen towards the middle of the screen.
3.  Tab on the **Settings** charm.
4.  Tab on **Power**.
5.  Tab on **Shut Down**.
6.  Wait for Panel PC to power off.

Perform the following procedure to shut down the Panel PC (for Windows 7):

1.  Make sure you have closed any programs that are open on the Desktop.

2.  Click the **Start** button , and then, in the lower-right corner of the Start menu, click **Shut down**.

3.  Or click the arrow next to the **Shut down** button  for more options.

**NOTE:**
The computer will forcibly be turned off if the capacitive power key is pressed and held for **8** seconds or longer.

If the capacitive power key is pressed and held between 5 to 8 seconds, the computer will enter preset custom power button action in OS. (ex: Do nothing, Ask me what to do, Standby or Shut down)

# OPERATING THE DEVICE

This chapter provides detailed information on how to operate the device. If you have been using touch-screen Panel PCs before, the interface may look familiar. Sections include system settings parameters.

# CHAPTER 4: OPERATING THE DEVICE

In this chapter you will find instructions on how to operate the device with Hot Tab utility.

## 4.1 Hot Tab Introduction

Hot Tab is a tool that is used to control system settings.

## 4.1.1 Installing Touch Key Hot Tab Control Utility

In the driver CD find the installation file "CapacitiveTouchKeys.rar" and execute it to start the installation. Follow the on-screen prompt with the installation wizard to finish the installation.

**NOTE:**
If the Panel PC is ordered with OS pre-installed, the Hot Tab Control Utility would have been installed already.

HotTab Utility Icon shown in Windows System Tray:

## 4.1.2 Hot Tab Main Menu

There are 5 main menu options: +/- Key, Function Key, Menu Key, Touch Lock and Key Unlock. Operations and functions on each menu option are explained in detail in the coming section.
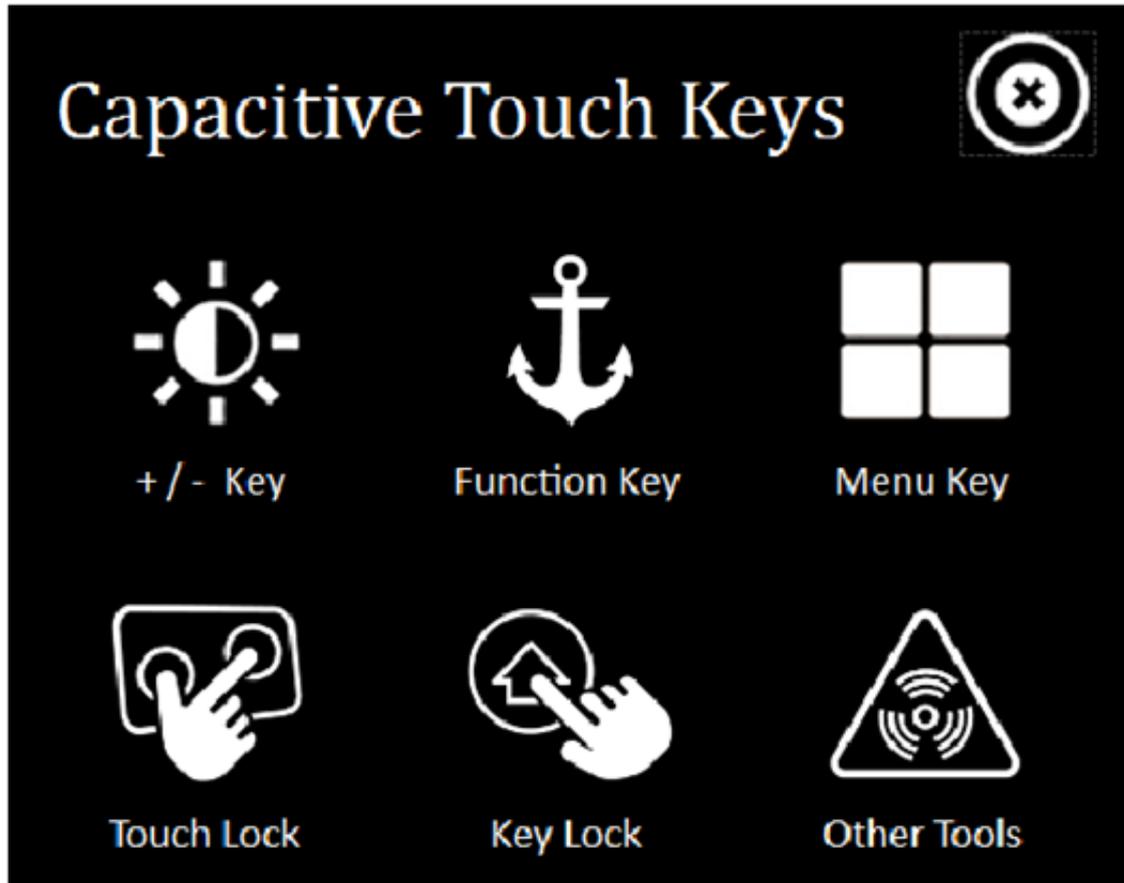
## 4.1.2.1 Volume

Under this mode, the +/- Key controls **Volume**. (+) touch key is mapped to raise volume and (-) touch key is mapped to lower volume.

**To configure the key mapping, perform the following:**

1. Open the Hot Tab utility by double clicking on the Hot Tab Utility icon in Windows System Tray.
2. Tap on the **+/- Key** option.



3. Tap on **Volume** option.
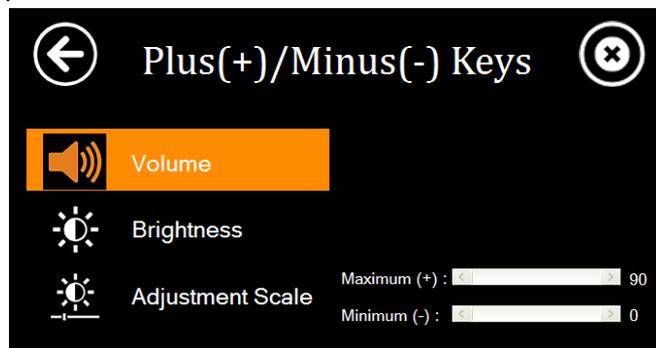
## 4.1.2.2 Brightness

Under this mode, the +/- Keys controls the screen **Brightness**. (+) touch key is mapped to raise screen brightness and (-) touch key is mapped to lower screen brightness.

**To configure the key mapping, perform the following:**
1. Open the Hot Tab utility by double clicking on the Hot Tab Utility icon in Windows System Tray.
2. Tap on the **+/- Key** option.



3. Tap **Brightness** option.
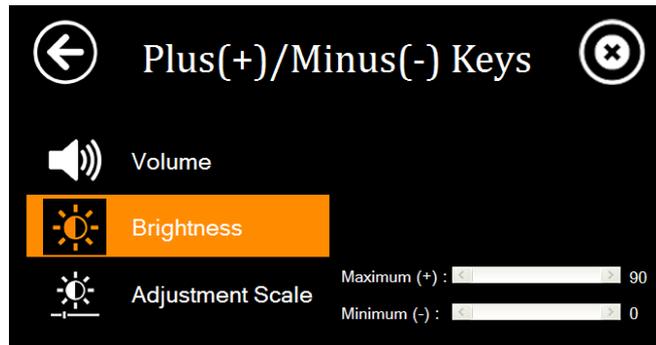
## 4.1.2.3 Scale Mode Adjustment

Under this mode, the +/- Keys switches between user's preset Brightness level. (+) touch key sets the screen brightness to user's preset maximum level and (-) touch key sets the screen brightness to user's preset minimum level. In other words, user can switch between two different brightness levels quickly.

**To configure the key mapping, perform the following:**
1. Open the Hot Tab utility by double clicking on the Hot Tab Utility icon in Windows System Tray.
2. Tap on the **+/- Key** option.



3. Tap **Adjustment Scale** option.
4. Drag the Maximum (+) slider or Minimum (-) slider to the right or left to set the desired brightness level.
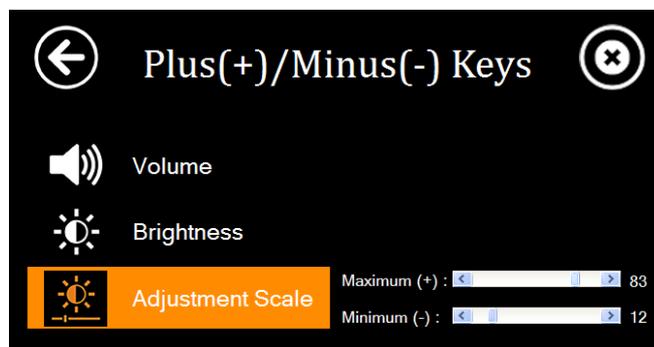
## 4.1.2.4 Function Key Settings

This Hot Tab Function Key option allows users set the function touch key's function.

**NOTE:**
Default setting of the function key is ECDIS mode brightness adjustment.
If you don't need ECDIS, you can configure function key mapping.

**To configure function key mapping, perform the following:**

1. Open the Hot Tab utility by double clicking on the Hot Tab Utility icon in Windows System Tray.
2. Tap on the **Function Key** option.



3. Pick from list of preset applications by tapping on the application icons OR customize which application to execute using the picker.
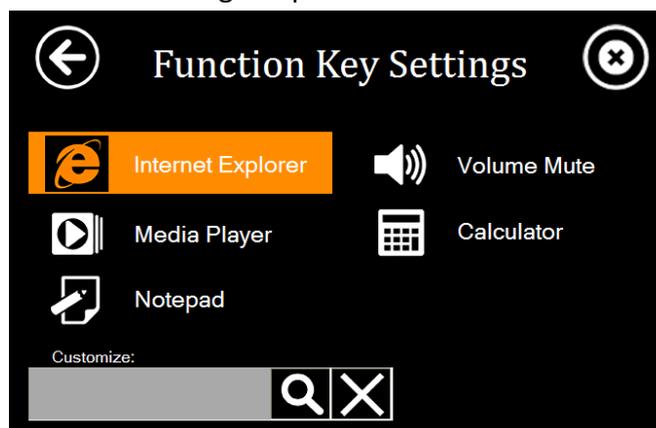


**Using the Custom picker:**

1. Tap the 🔍 icon to reveal browser window
2. Navigate to the desired executable to map to function key
3. Tap on "Done" to save selection.

**To map the function key to another application:**

1. Tap on the ✖ icon to remove connection to the original application, and pick again tapping on 🔍 icon.
2.

## 4.1.2.5 ECDIS Mode Brightness Adjustment

Winmate provides quickly adjustable Buttons for the ECDIS mode switch (DAY, DUSK , NIGHT)

Switch the ECDIS mode by tapping capacitive touch key. Tap the [icon] "ECDIS Mode Quick Button", and the level of brightness is automatically adjusted according to ECDIS standard. ECDIS Mode Indicator shows the mode that has been activated.

The sequence of the switching modes is as follows:

**DAY Mode** → **DUSK Mode** → NIGHT Mode → **DAY Mode**



| ECDIS Mode Indicator | | | Capacitive Touch Key | | |
|---|---|---|---|---|---|
| Icon | Function | Description | Touch Key | Function | Description |
| [icon] | Day Mode | Lights up green when ECDIS brightness adjusted to day mode | [icon] | ECDIS Mode Quick Button | Switching ECDIS standard range mode (Day /Dusk / Night mode) |
| [icon] | Dusk Mode | Lights up green when ECDIS brightness adjusted to dusk mode | | | |
| [icon] | Night Mode | Lights up green when ECDIS brightness adjusted to night mode | | | |

**NOTE:**
In ECDIS Mode (DAY, DUSK, NIGHT) you can adjust the brightness manually. **Notice** when the manually adjusted brightness parameter does not comply with the ECDIS Standard, the LED indicator light disappears. You should switch the ECDIS mode quick button again to correct the brightness parameter to ECDIS.

**Switching to DAY Mode**

The brightness was
adjusted to DAY Mode



DAY Mode
LED Indicator
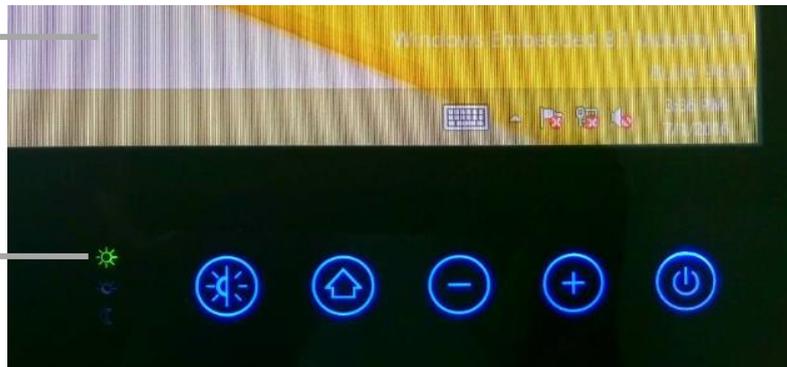
**Switching to DUSK Mode**

The brightness was
adjusted to
DUSK Mode



DUSK Mode
LED Indicator
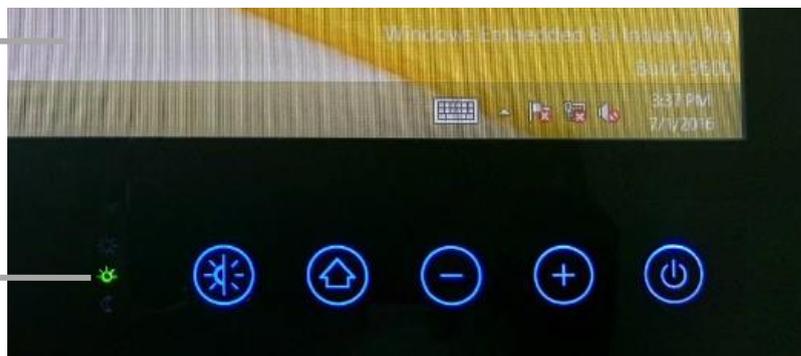
**Switching to NIGHT Mode**

The brightness also be
adjusted to
NIGHT Mode



NIGHT Mode
LED Indicator
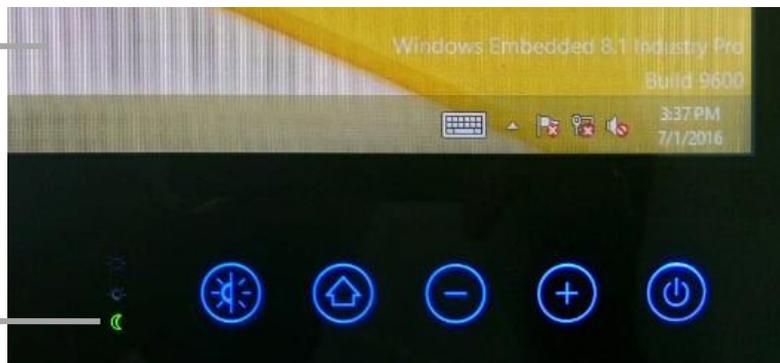
## 4.1.2.6 Setting the Menu Key

This HotTab Menu Key option allows users set the [icon] touch key's function. There are two options available: Desktop Mode and Metro Mode.
Tapping on the Menu Key option toggles the Menu Key's function between Desktop Mode and Metro Mode (for Windows 8).

Desktop Mode

1.  When the Menu Key is set to the Desktop mode, the Menu Key icon will have the following icon: [icon].



2.  When the user taps the capacitive key [icon] while running an application, the display screen will show the Desktop.
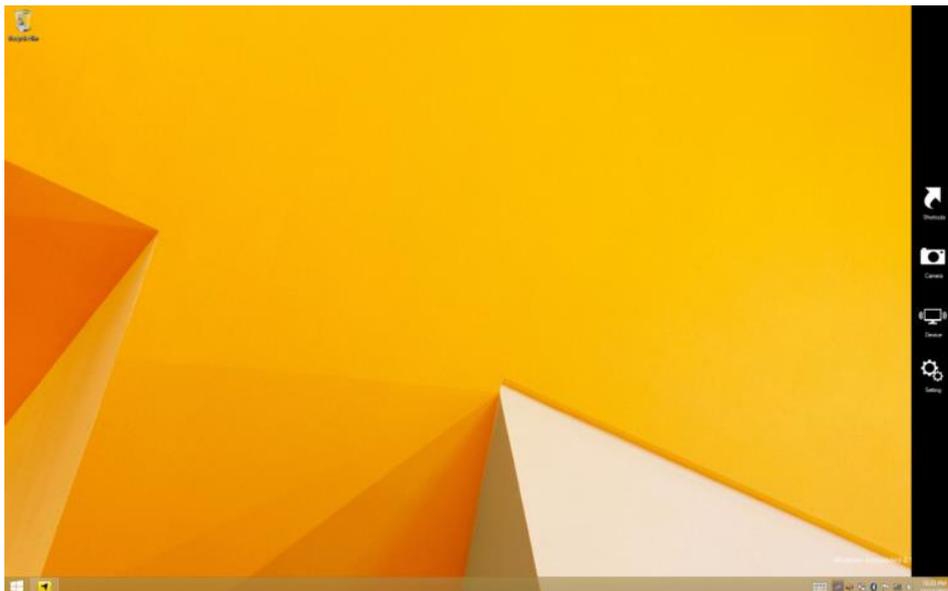
Metro Mode (for Windows 8)

1. When the Menu Key is set to the Metro Mode, the Menu Key icon will have the following icon:



2. When the user taps the capacitive key while running an application, the display screen will show the Metro UI as shown:
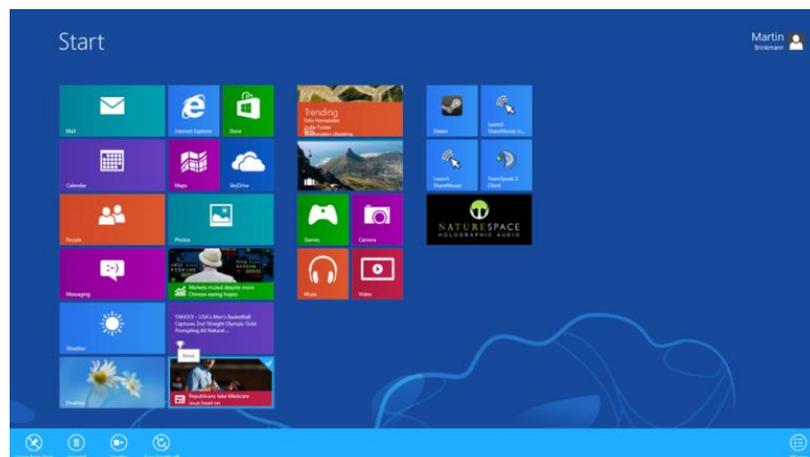
## 4.1.2.7 Setting the Touchscreen Lock Key

This HotTab Touch Lock option allows users to set the touchscreen lock function.

**To lock the touchscreen, perform the following:**
1. Open the HotTab utility by double clicking on the HotTab Utility icon in Windows System Tray.
2. Tap on the **Touch Lock** option then the touchscreen will be locked.
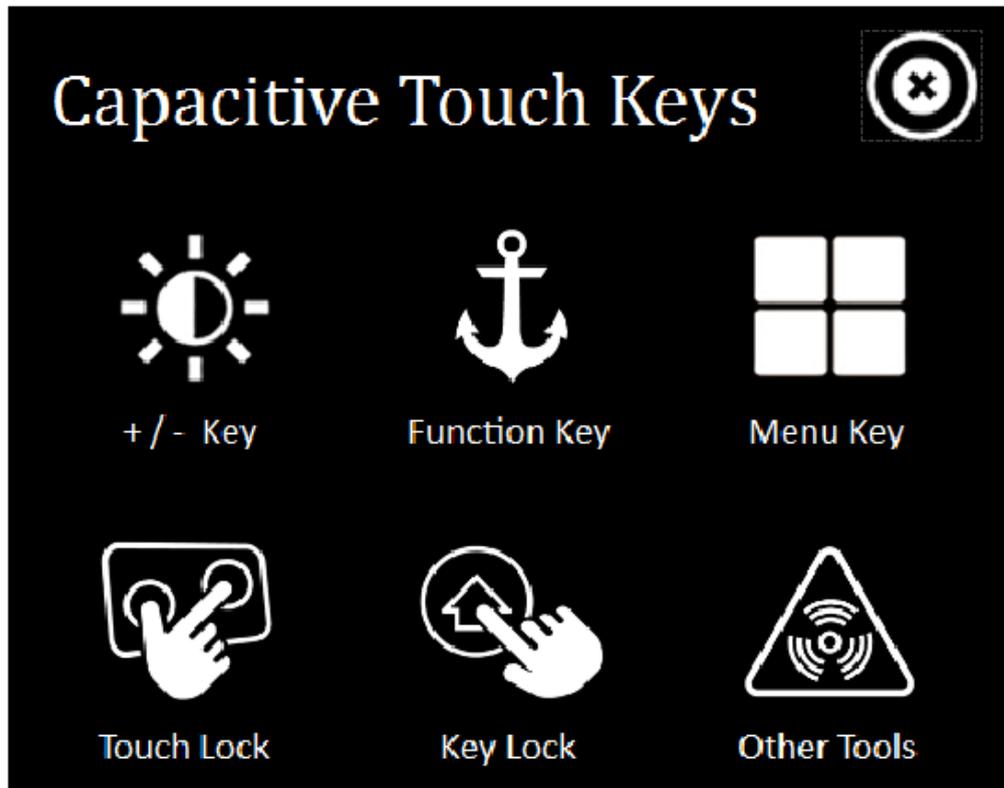


**To unlock the touchscreen, perform the following:**
1. When the touchscreen is locked, touch the touchscreen, and the display screen will show the touchscreen unlock slide bar.



2. Slide to unlock the touchscreen.
3. If users want to lock the touchscreen again, please follow the **To lock the touchscreen** procedure again.

## 4.1.2.8 Setting the Key Lock Key

This HotTab Key Lock / UnLock option allows users to set the physical touch keys lock function.

**Icon Status Description:**

| Icon | Icon Description |
|---|---|
|  | Icon shown in white means the physical touch keys are currently unlocked. The text below the icon shows the current status (Unlocked in this case). |
|  | Icon shown in orange means the physical touch keys are currently locked. The text below the icon shows the current status (Locked in this case). |

**To lock the physical touch keys, perform the following:**

1. Open the HotTab utility by double clicking on the HotTab Utility icon in Windows System Tray.
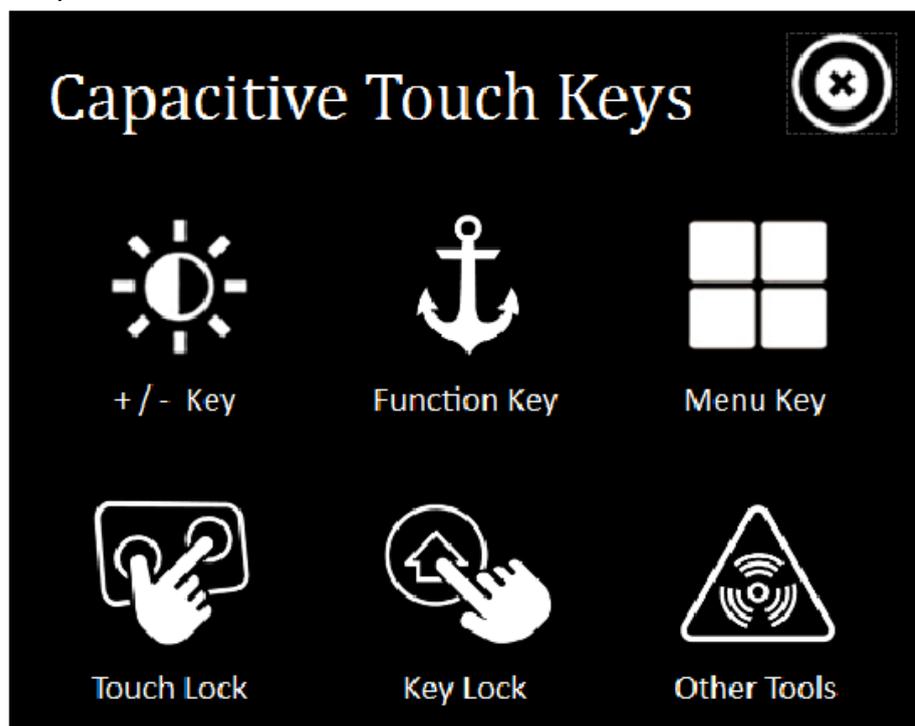


2. Tap on the **Key UnLock**  option then the physical touch keys will be locked, and

the icon will turn orange to show that lock is activated:

**To unlock the physical touch keys, perform the following:**

1. Open the HotTab utility by double clicking on the HotTab Utility icon in Windows System Tray.
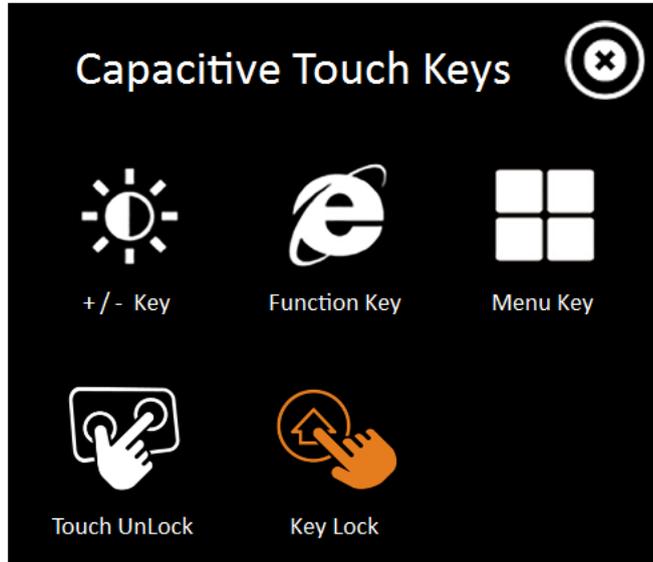


2. Tap on the **Key Lock**  option then the physical keys will be unlocked, and the

   icon will turn white to show that lock is no longer activated:
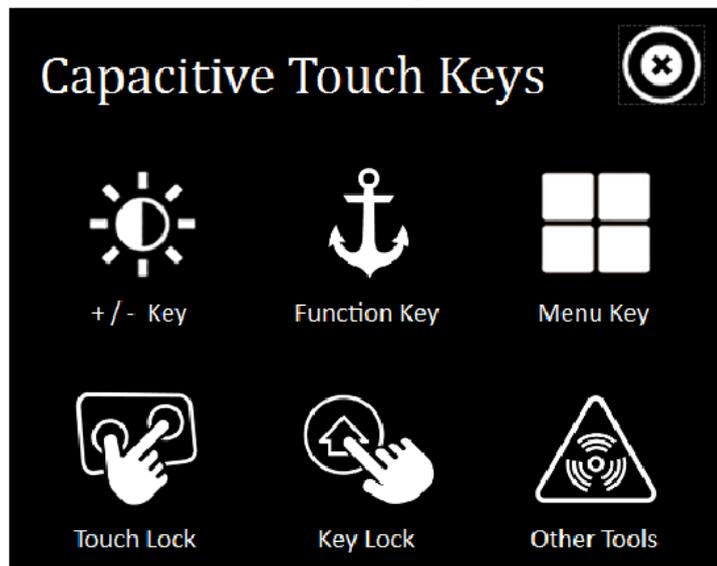
## 4.1.2.9 Other Tools

This HotTab Key Other Tools allows users to control other Built-in functions.
(COM ports setting from COM30~COM33)
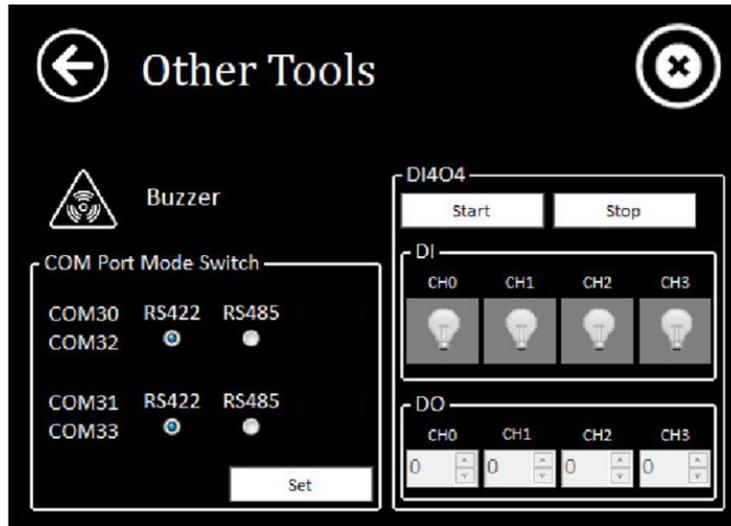


### 4.1.2.9.1 Buzzer
Tap on the **Buzzer** option, the built-in buzzer will start operating.



### 4.1.2.9.2 COM Port Mode Switch
NMEA 0183 ports can be change serial status for RS-422 or RS-485 in COM Port Mode Switch.
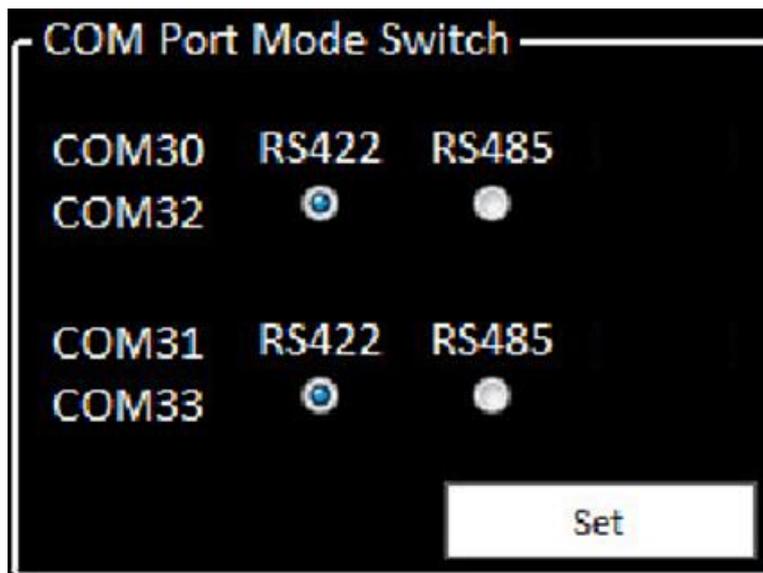
### 4.1.2.9.3 DI4O4

The Digital Input / Digital Output can be settled in DI4DO4 menu.
(COM ports setting at COM23)
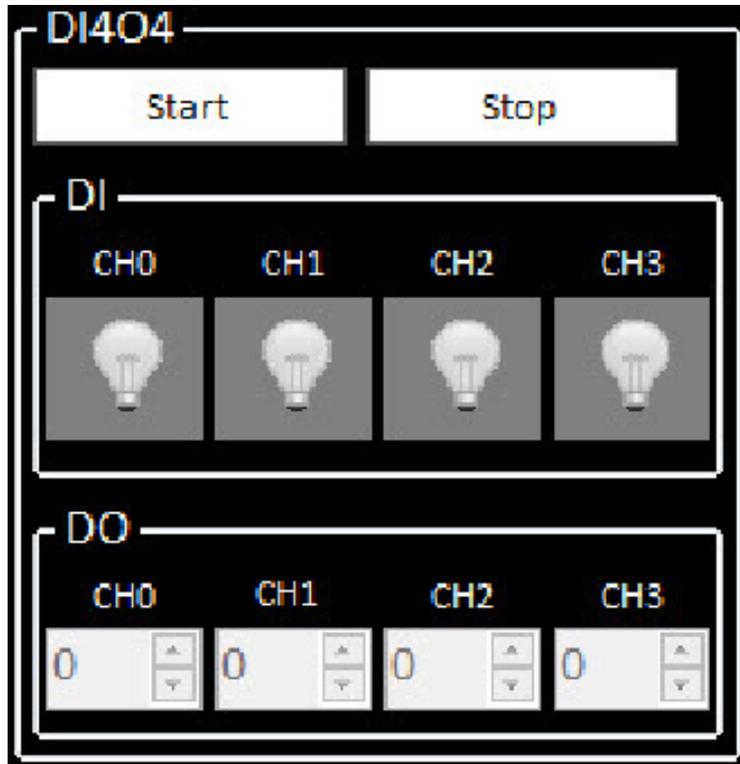
# DRIVER INSTALLATION

This chapter describes how to install all necessary drivers.

5

# CHAPTER 5: DRIVER INSTALLATION

This chapter provides guideline to driver installations.

## 5.1 Chipset Driver

The Intel Chipset Drivers should be installed first before the software drivers enable Plug & Play INF support for Intel chipset components. Follow the instructions below to complete the installation.

**Step 1** Insert the CD that comes with the motherboard. Open the file document "Chipset Driver" and click "Setup.exe" to install driver.
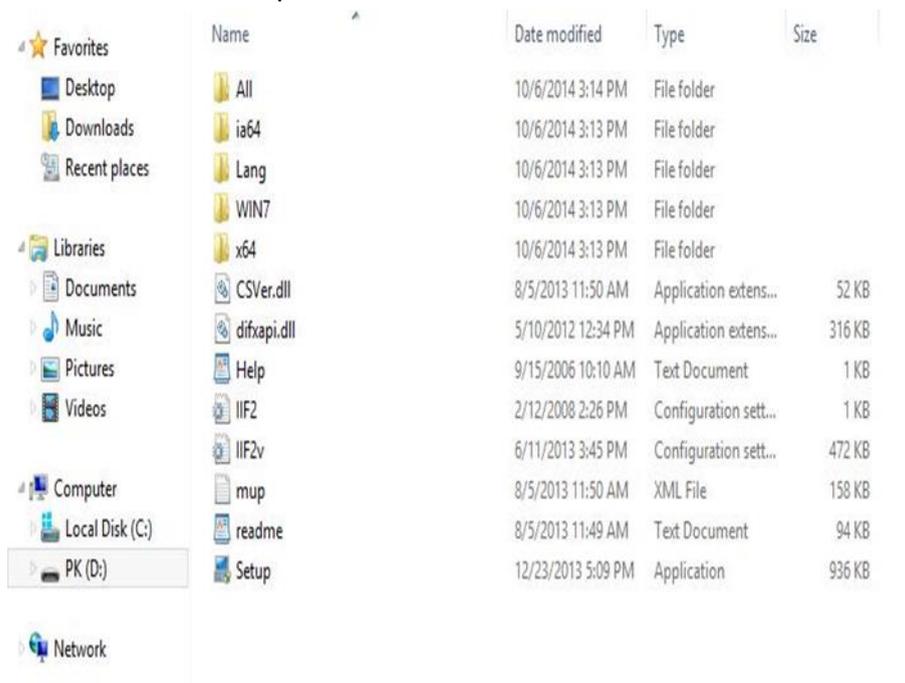
**Step 2** Click "Next" to start the installation.
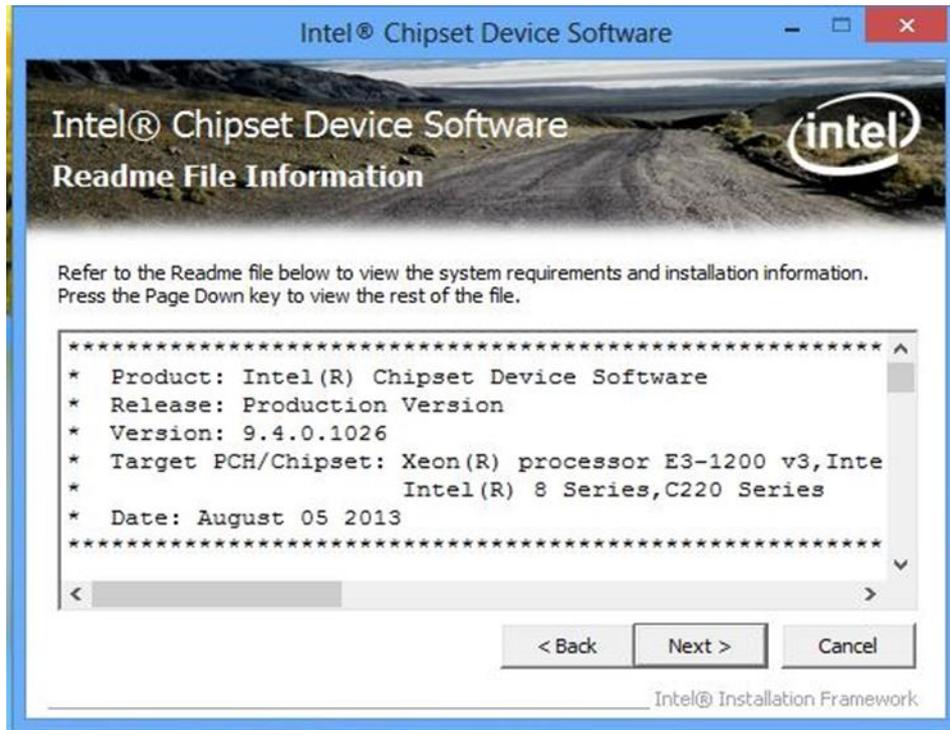


**Step 3** Click "Next" to continue the installation.

**Step 4** Click "Yes, I want to restart this computer now" to finish installation.

## 5.2 Graphics Driver

You need to install the Graphic driver to enable the function. Intel Graphic supports versatile display options and 32-bit 3D graphics engine. Triple independent display, enhanced display modes for widescreen flat panels for extend, twin, and clone display mode.

**Step 1** Insert the driver CD into your system's CD-ROM drive. You can see the driver folders items. Navigate to the "Graphic Driver" folder and click "setup.exe" to complete the installation.
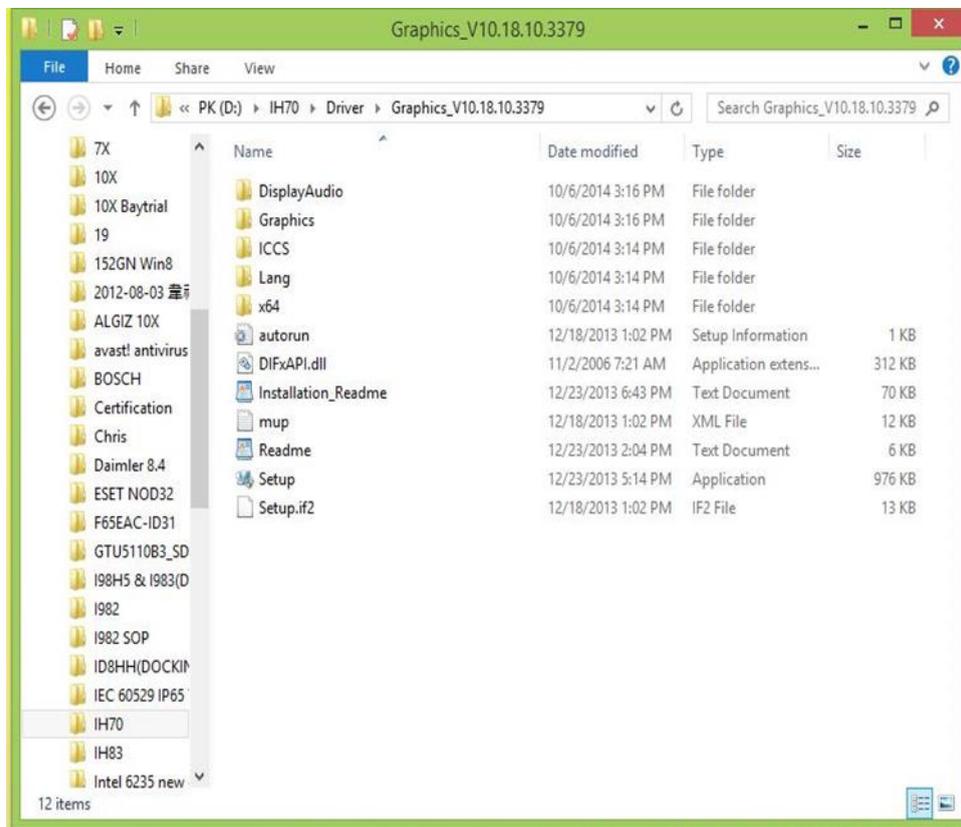
**Step 2** Click "Next" to install the driver.
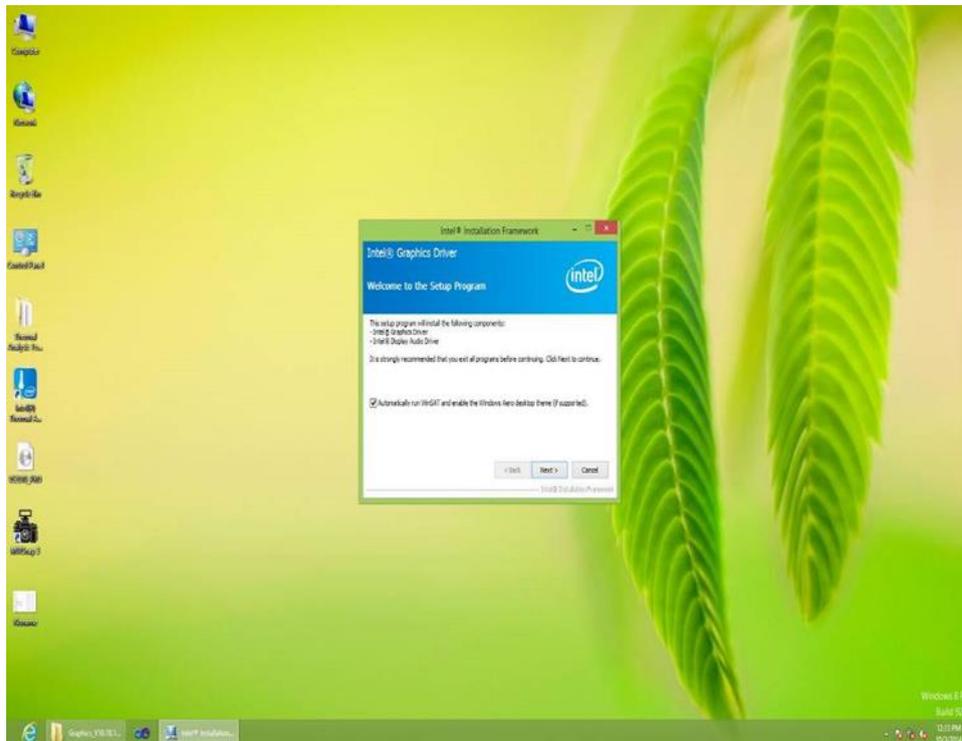


**Step 3** Click "Yes" to agree with the license terms.
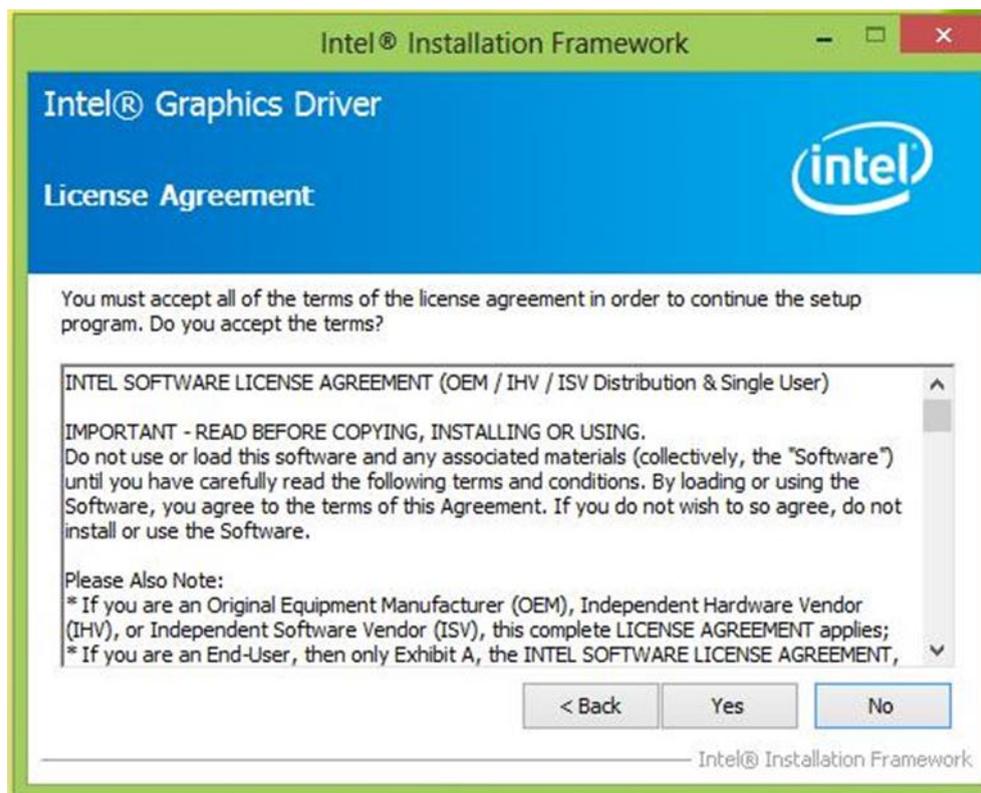
**Step 4** Click "Next" to install the driver.
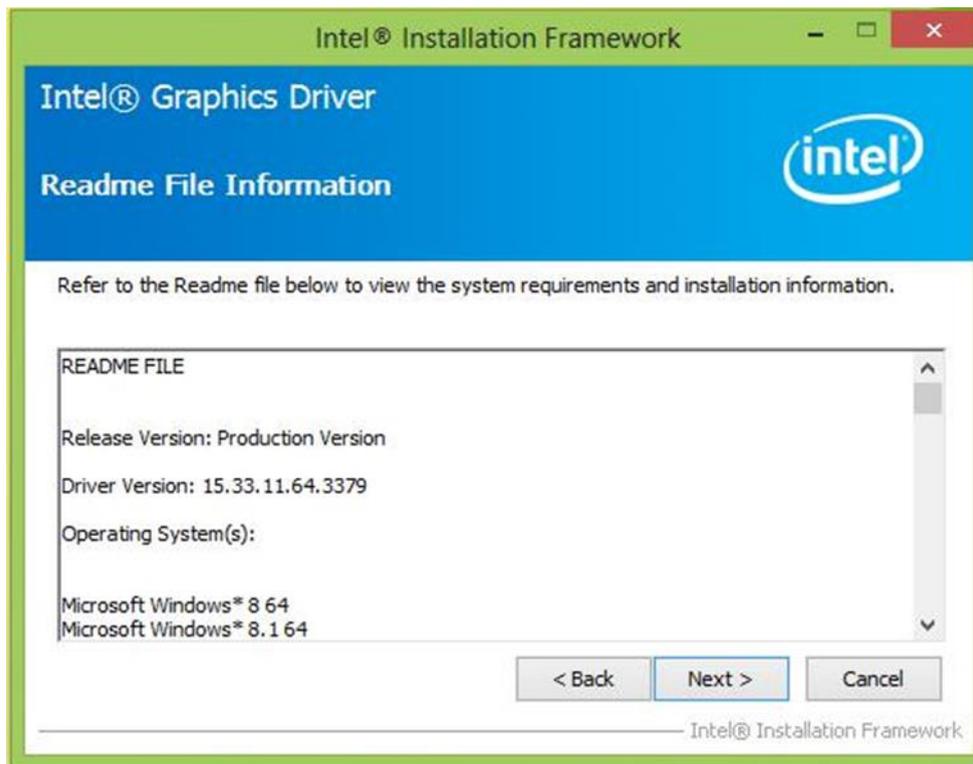


**Step 5** Click "Yes, I want to restart this computer now" to finish installation.
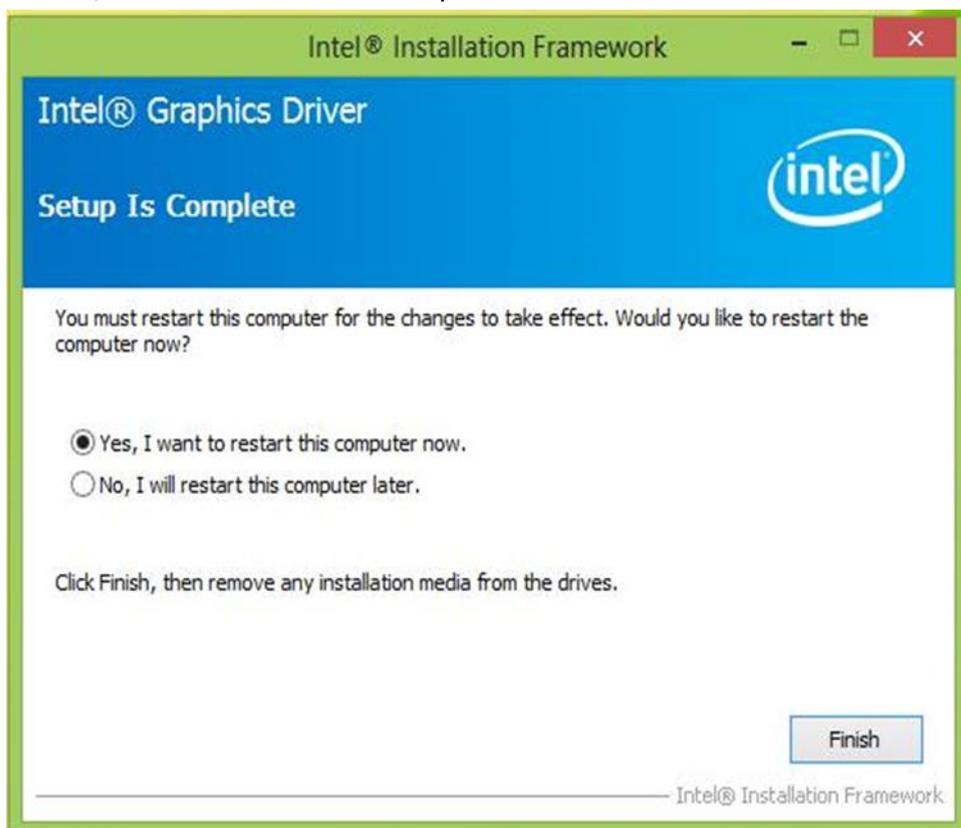
## 5.3 Audio Driver

The ALC886 series are high-performance 7.1+2 Channel High Definition Audio Codecs providing ten DAC channels that simultaneously support 7.1 sound playbacks, plus 2 channels of independent stereo sound output (multiple streaming) through the front panel stereo outputs. The series integrates two stereo ADCs that can support a stereo microphone, and feature Acoustic Echo Cancellation (AEC), Beam Forming (BF), and Noise Suppression (NS) technology.

The user must confirm which operating system is running on the IH32 Motherboard before installing the Audio drivers. Follow the steps below to complete the installation of the Realtek ALC886 Audio drivers. You will quickly complete the installation.

**Step 1** Insert the CD that comes with the motherboard. Open the folder "Audio Driver" and click on "Audio" (64bit_Vista_Win7_Win8_R271) to execute the setup.

| Audio(64bit_Vista_Win7_Win8_R271 | 9/10/2013 5:45 PM | Application | 79,973 KB |

**Step 2** Click "Next" to start the installation.
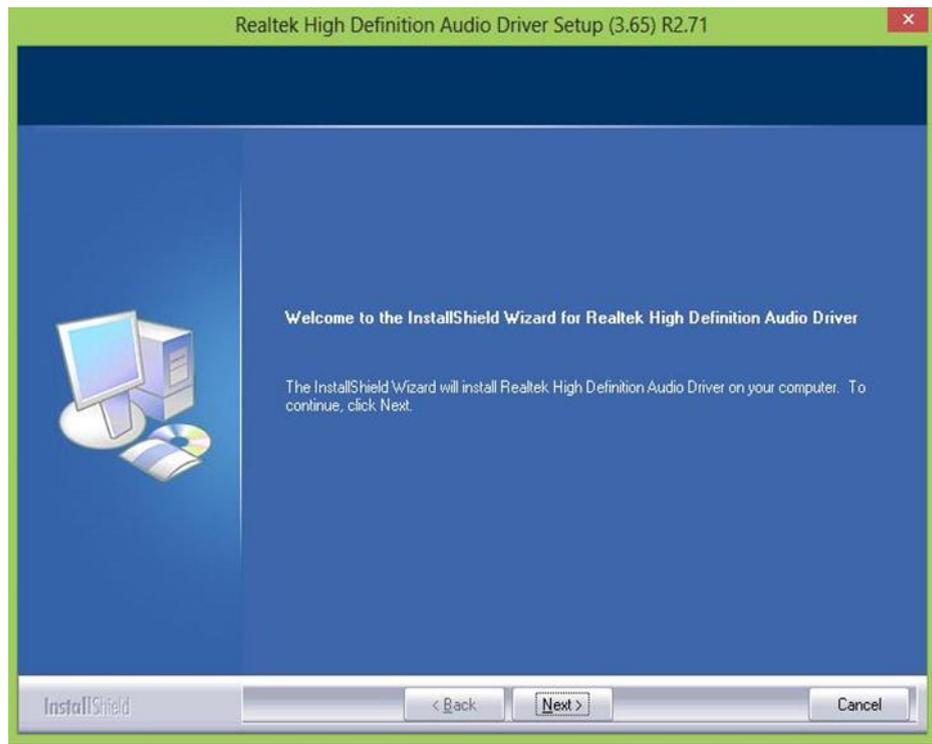


**Step 3** Click "Yes, I want to restart my computer now" to finish the installation.
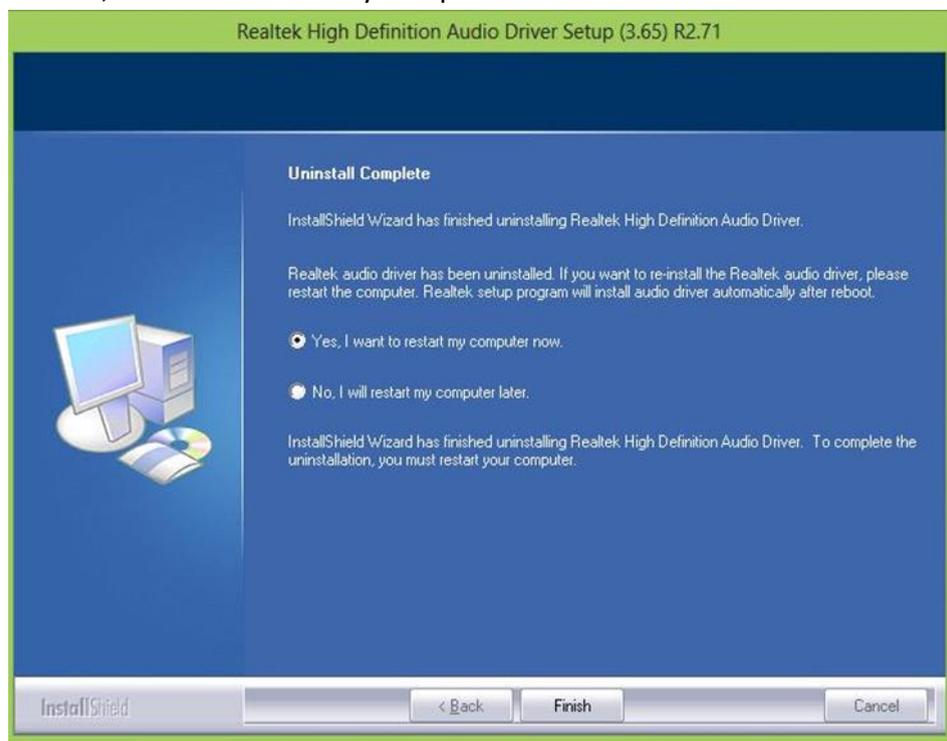
## 5.4 Ethernet Driver

The users must confirm which operating system is used before installing the Ethernet drivers. Follow the steps below to complete the installation of the Intel® I210IT Gigabit-LAN Controller + I218LM Gigabit-LAN drivers. You will quickly complete the installation.

**Step 1** Insert the driver CD and select the "LAN Driver" folder.

| Name | Date modified | Type | Size |
|---|---|---|---|
| PROWinx64_19.0 | 3/27/2014 5:27 PM | Application | 32,522 KB |

i1.7 MB
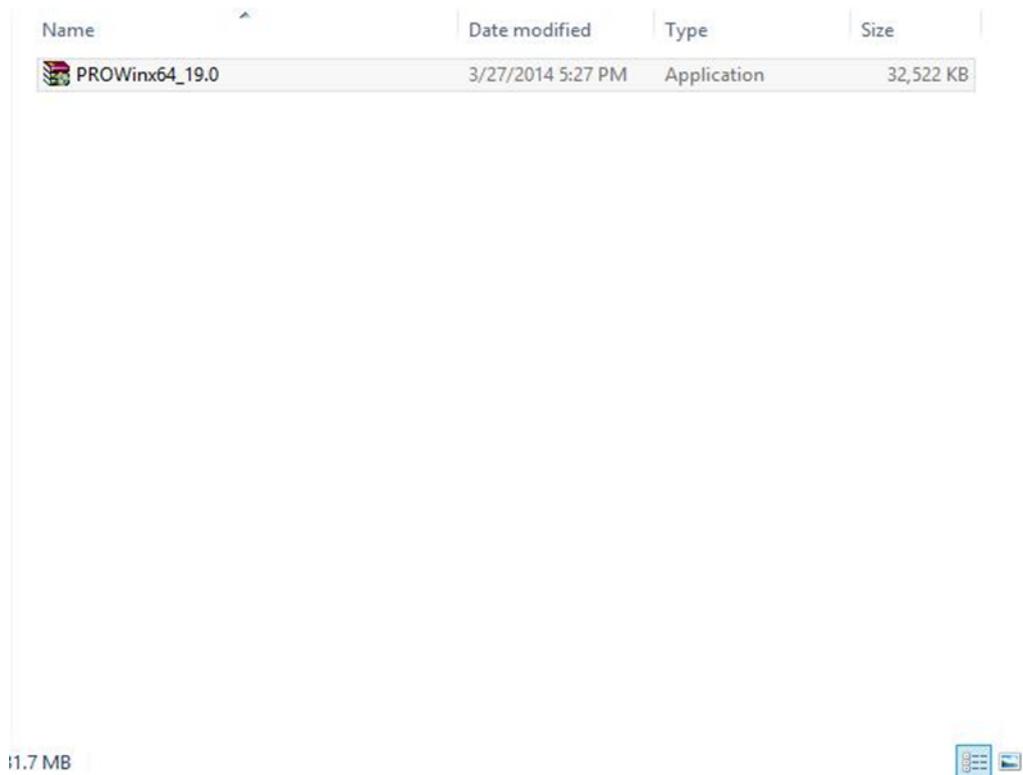
**Step 2** Extract the "PROWinX64_19.0" file and click "Next" to install the driver.
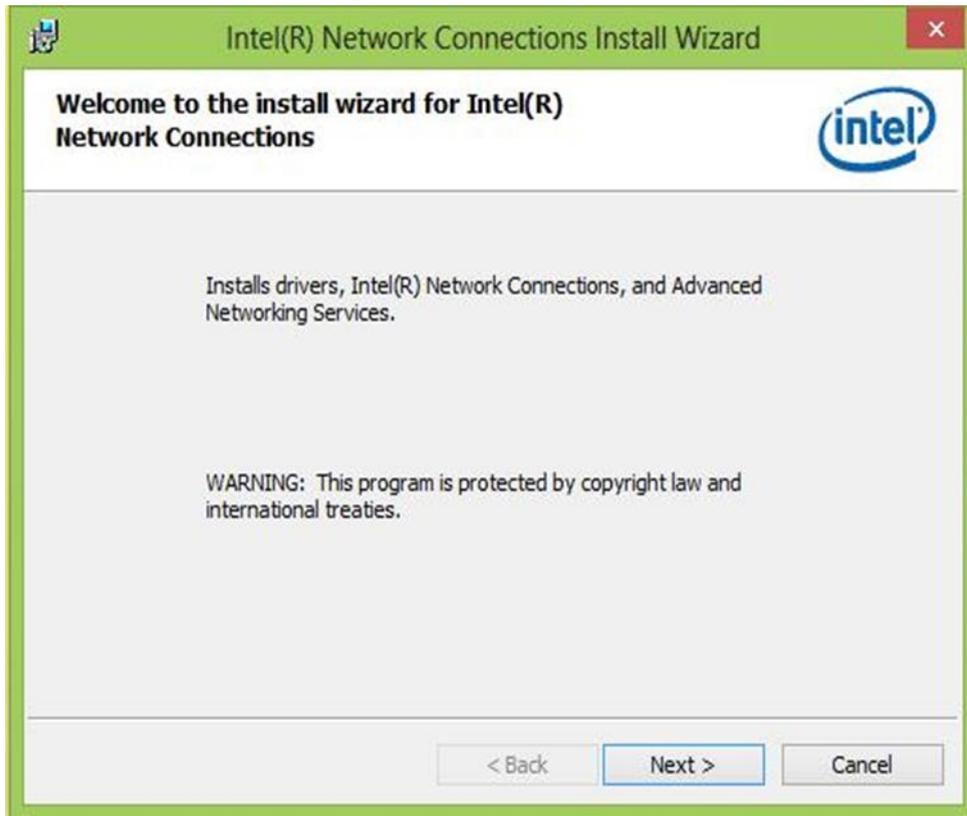


**Step 3** Click "Next" to agree with the license terms.
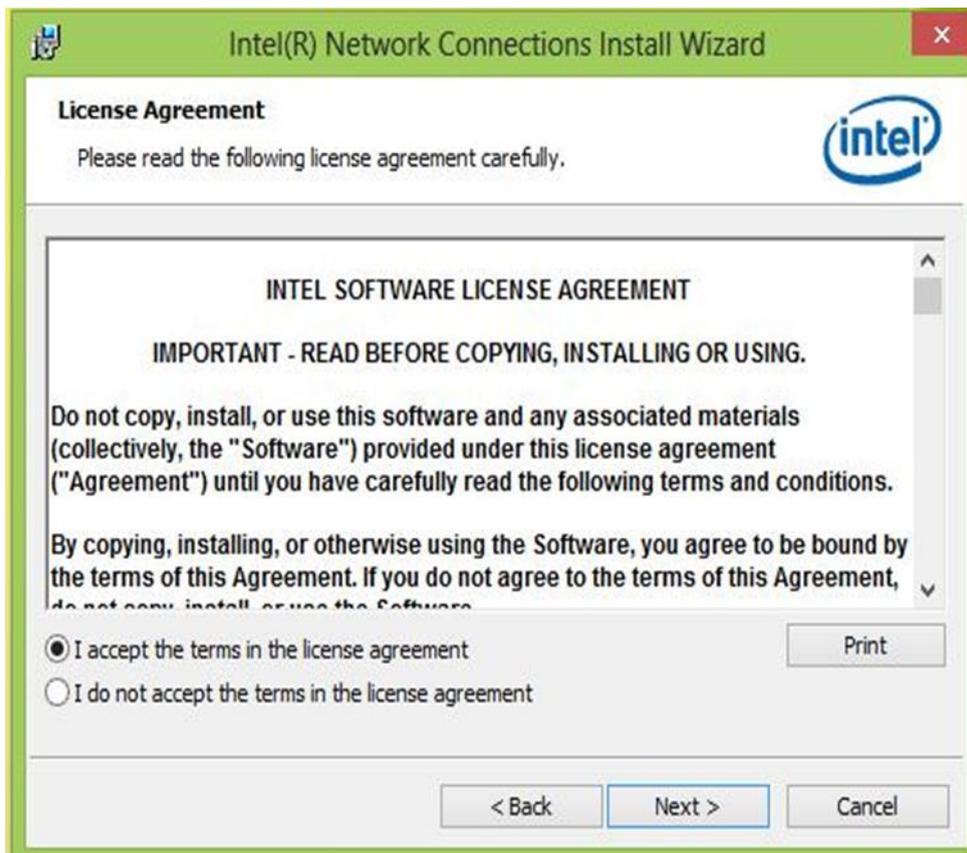
**Step 4** Click "Next" to install the driver.
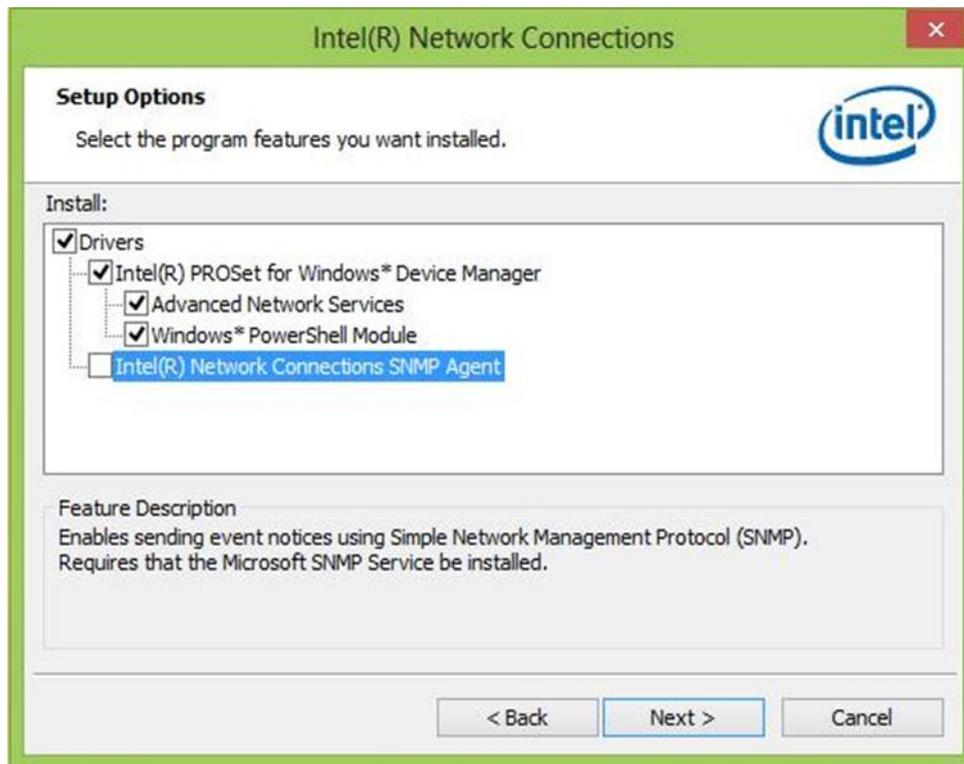


**Step 5** Click "Finish" to complete the driver installation.

## 5.5 Fintek COM Port Driver

**Step 1** If your system is WIN7, please first close UAC (refer to the following "Disabling User Account")
Control (UAC) in Windows 7"
**Step 2** Extract the Patch_0408.zip to a folder.
**Step 3** Double-click batch file (patch.bat) to install the driver.
**Step 4** Check the driver installation success.
There is a screenshot before the update below.
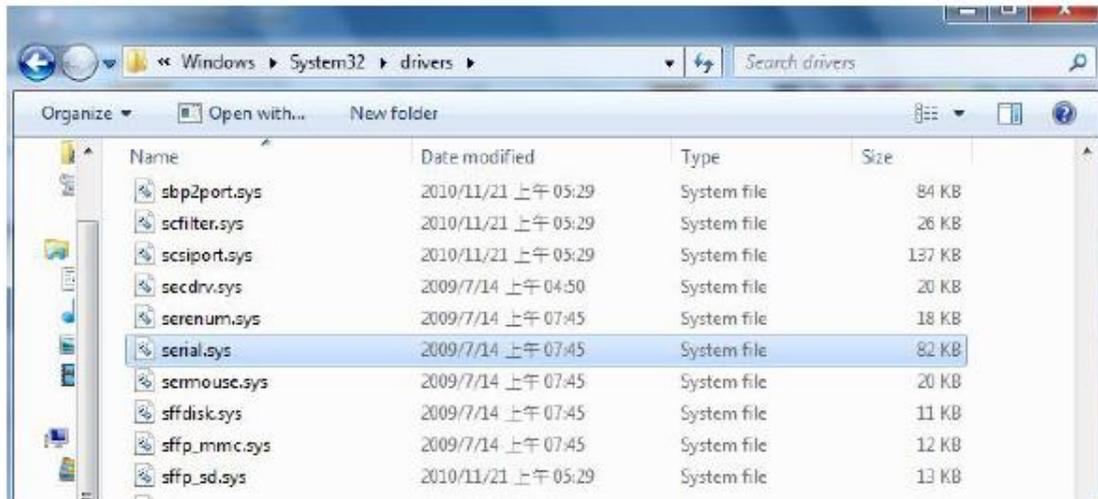


There is a screenshot after the update and update success below.
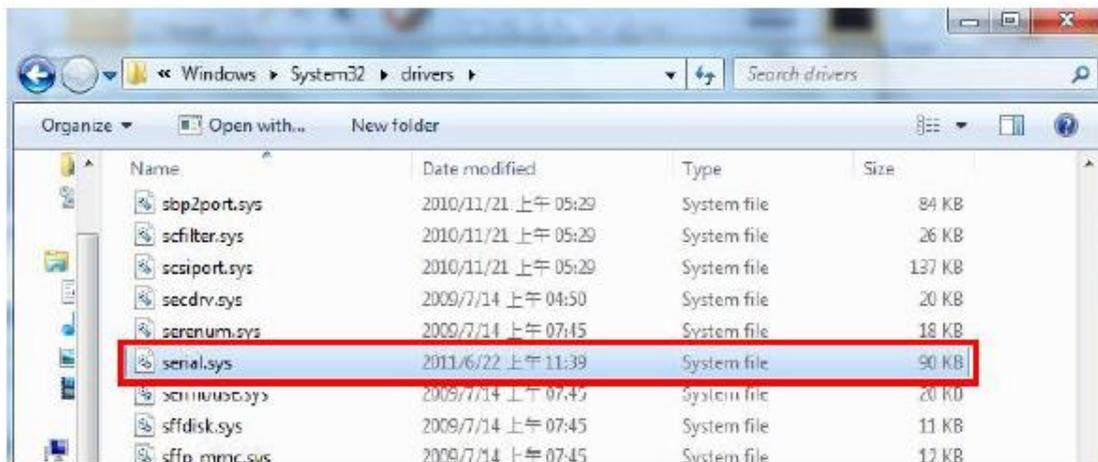
**Step 5** Restart the computer to complete driver installation.

Type in this command from the Run menu:

C:\Windows\System32\UserAccountControlSettings.exe or UAC
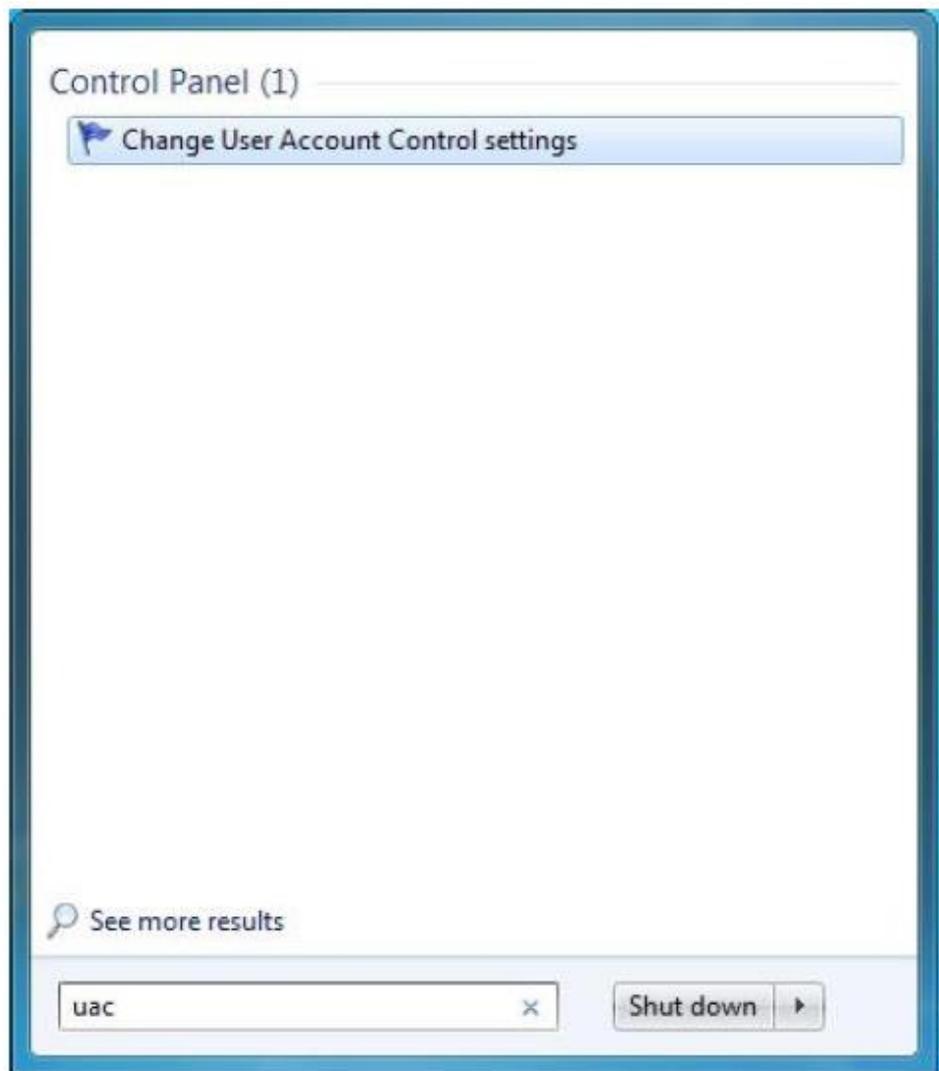


To turn off UAC move the slider to the Never notify position, and then click OK. If you're prompted for an administrator password or confirmation, type the password or provide confirmation.
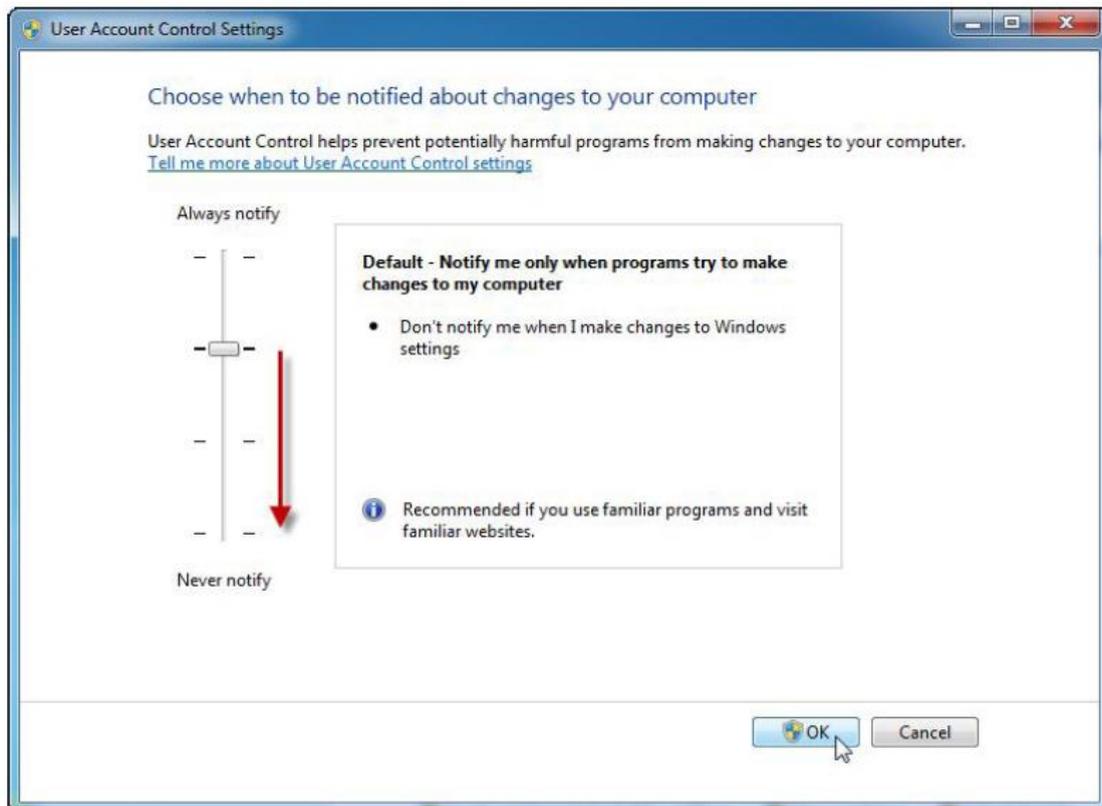
To turn UAC back on, move the slider to choose when you want to be notified, and then click OK. If you're prompted for an administrator password or confirmation, type the password or provide confirmation.
You will need to restart your computer for UAC to be turned off.

## 5.6 Intel® Management Engine Software

This installation program installs the Intel® ME software components required for the platform on which you are installing, and installs only those components that match with your platform's capabilities.

**Step 1** Insert the driver CD and select the "Intel ME 9.0" folder and click "Setup.exe"

| Name | Date modified | Type | Size |
|---|---|---|---|
| DAL | 10/6/2014 3:17 PM | File folder | |
| Drivers | 10/6/2014 3:17 PM | File folder | |
| Firmware Recovery Agent | 10/6/2014 3:16 PM | File folder | |
| IFR | 10/6/2014 3:16 PM | File folder | |
| Intel Control Center | 10/6/2014 3:16 PM | File folder | |
| IntelMEFWVER | 10/6/2014 3:16 PM | File folder | |
| IUS | 10/6/2014 3:16 PM | File folder | |
| Lang | 10/6/2014 3:16 PM | File folder | |
| LMS | 10/6/2014 3:16 PM | File folder | |
| NAC_PP | 10/6/2014 3:16 PM | File folder | |
| x64 | 10/6/2014 3:16 PM | File folder | |
| autorun | 8/8/2013 1:25 PM | Setup Information | 1 KB |
| DIFxAPI.dll | 8/8/2013 1:25 PM | Application extens... | 312 KB |
| mup | 8/8/2013 1:25 PM | XML File | 9 KB |
| Setup | 8/8/2013 1:25 PM | Application | 966 KB |
| Setup.if2 | 8/8/2013 1:25 PM | IF2 File | 24 KB |
| version | 8/8/2013 1:25 PM | Configuration sett... | 1 KB |

**Step 2** Click "Next" to continue the installation.
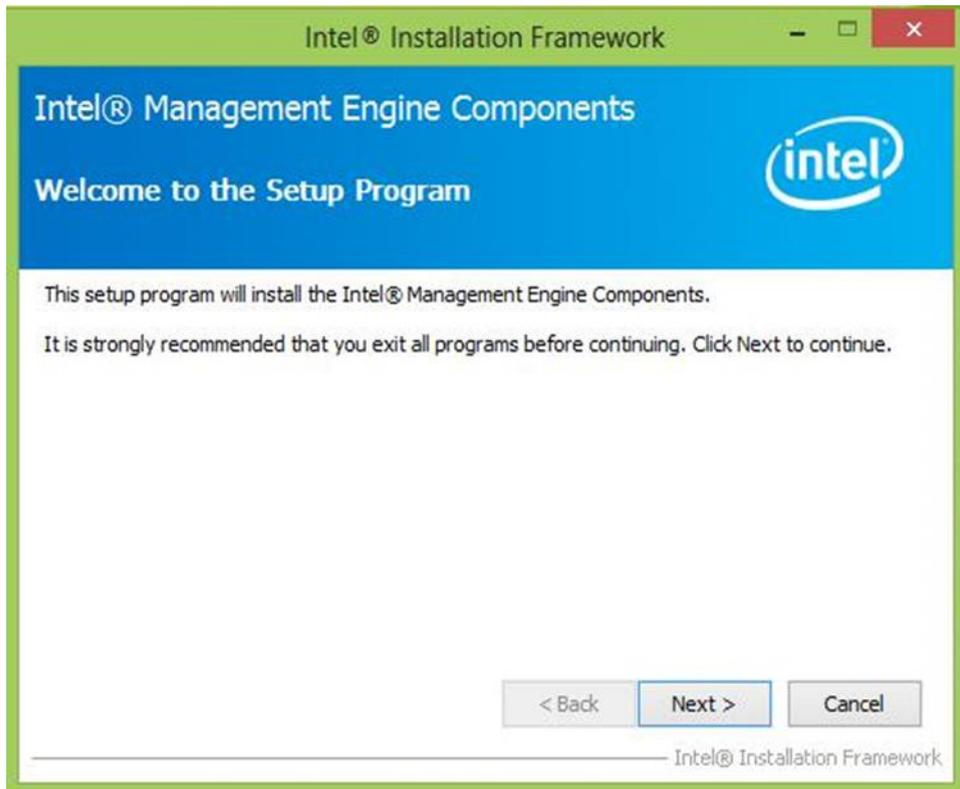


**Step 3** Click "Yes" to agree with the License terms.
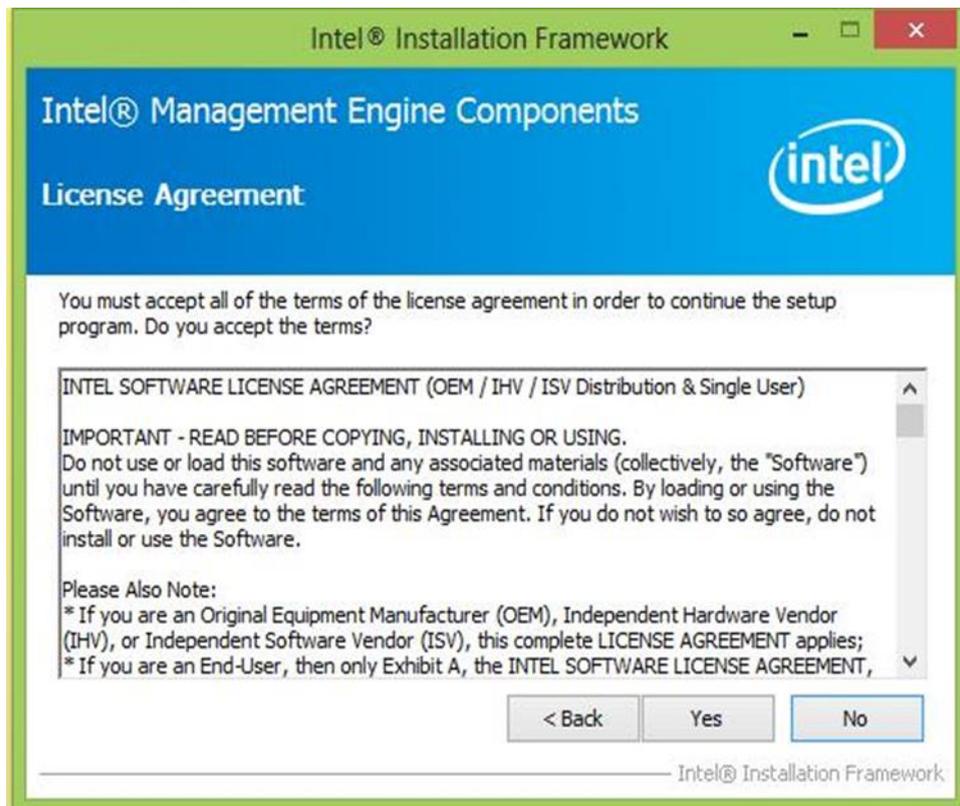
**Step 4** Choose "I accept the terms of the license agreement", and click "Next" to continue.
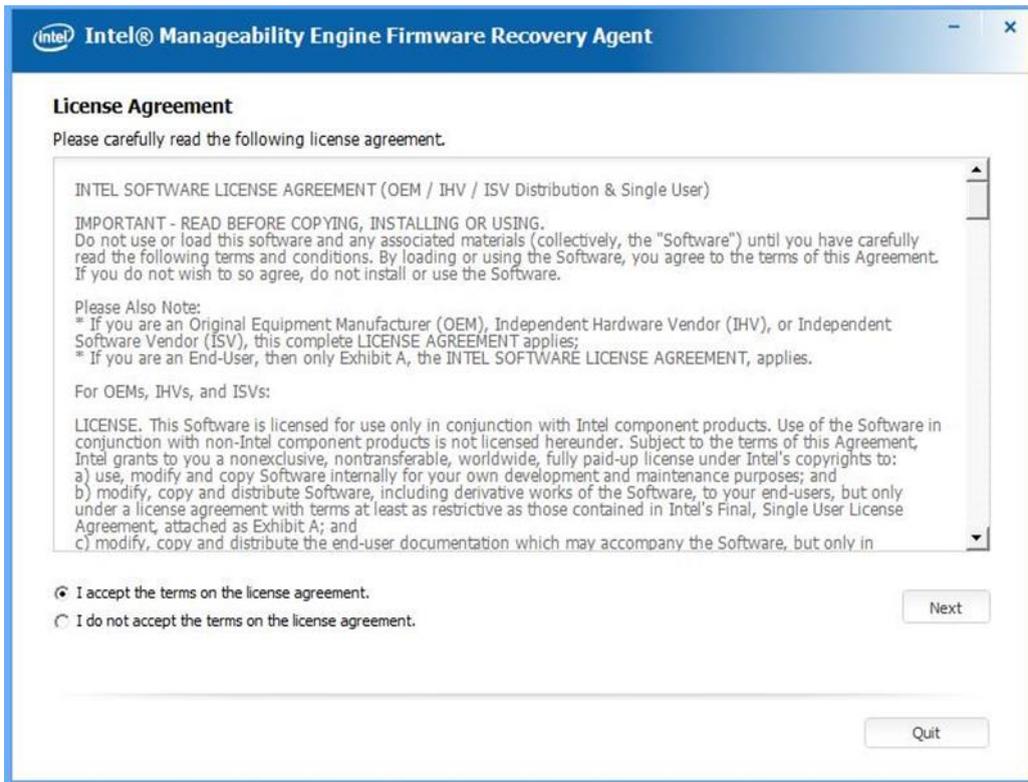


**Step 5** Click "Finish" to complete the software installation.
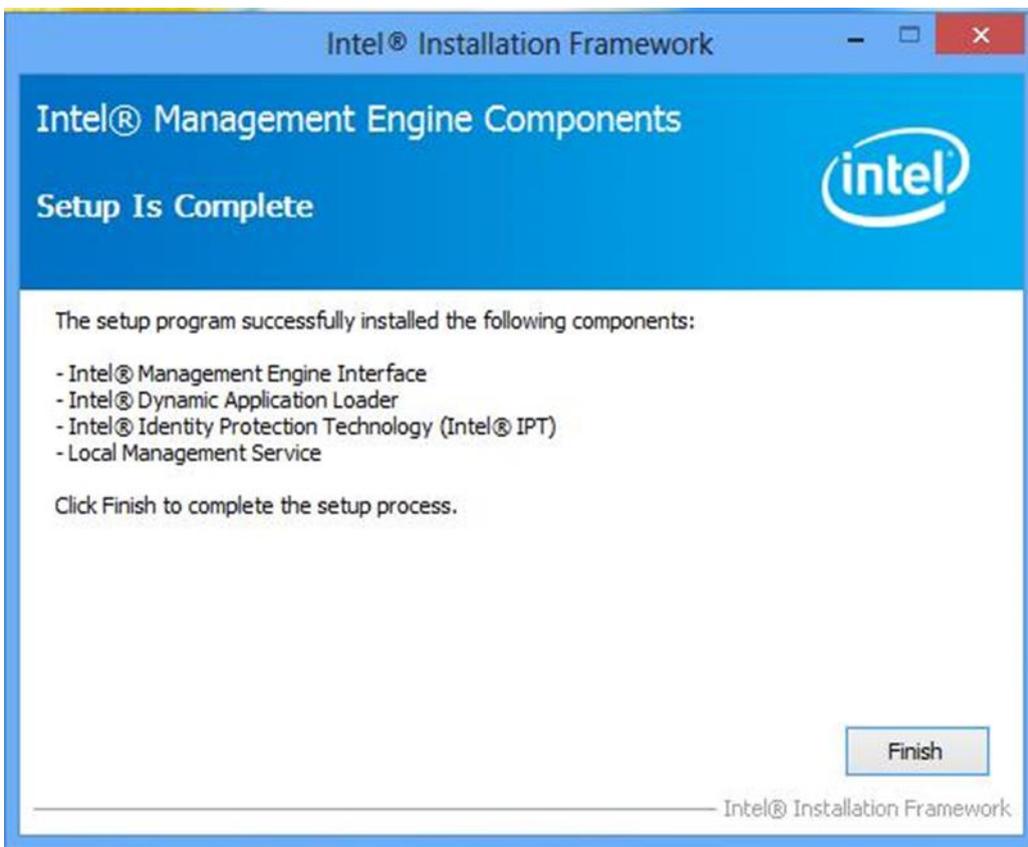
## 5.7 USB 3.0 Driver Installation (Windows 7)

**NOTE:**
If the operating system of the device is Windows Embedded 8.1 Industry or Windows Embedded 8 Standard, users can skip this installation.

**Step 1** Locate the hard drive directory where the driver files are stored with the browser or the explore feature of Windows*.
**Step 2** Double-click the "Setup.exe" from this directory.



**Step 3** Click "Next" to continue

**Step 4** Read the License Agreement and click "Yes" to proceed.



**Step 5** Review Readme File Information and click "Next" to proceed
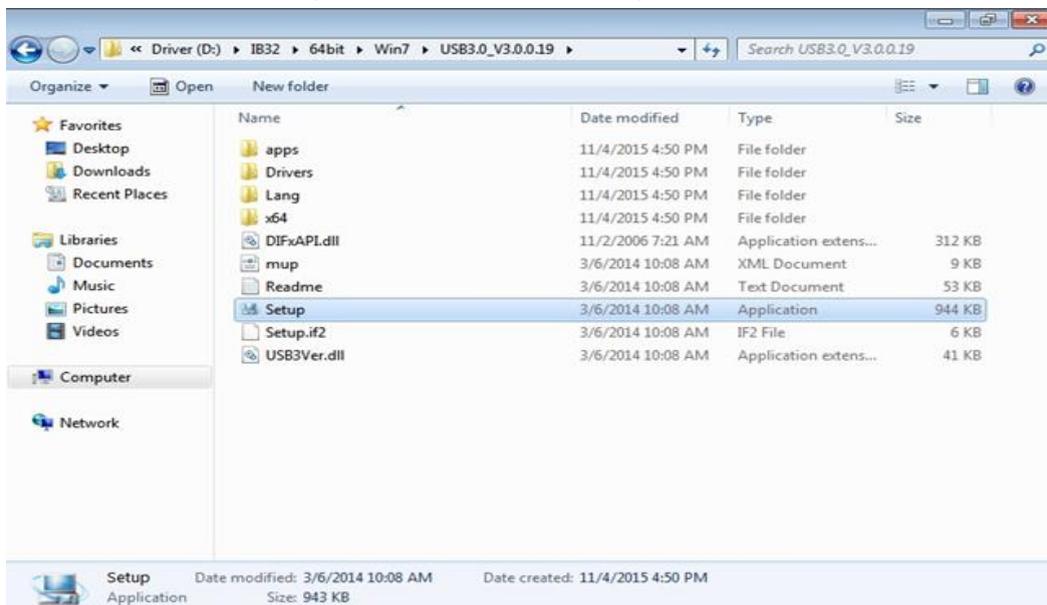
**Step 6** When the Setup Progress is complete click "Next" to proceed.
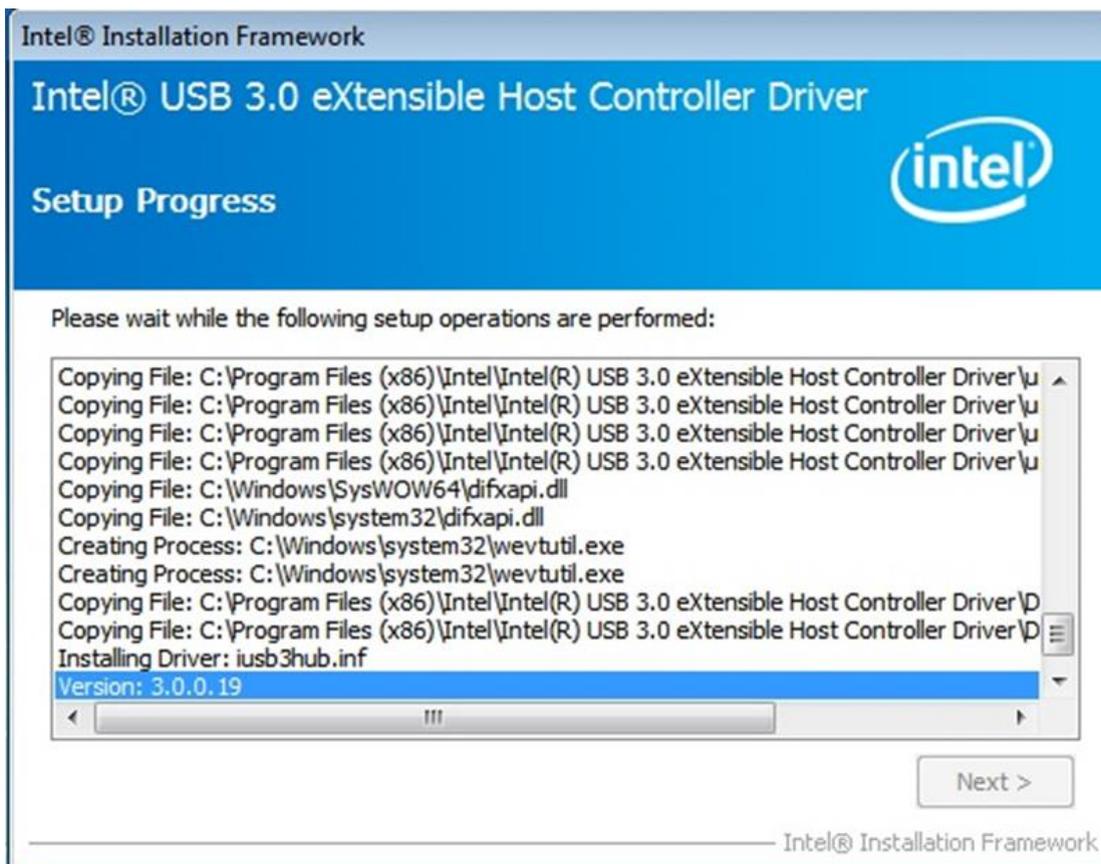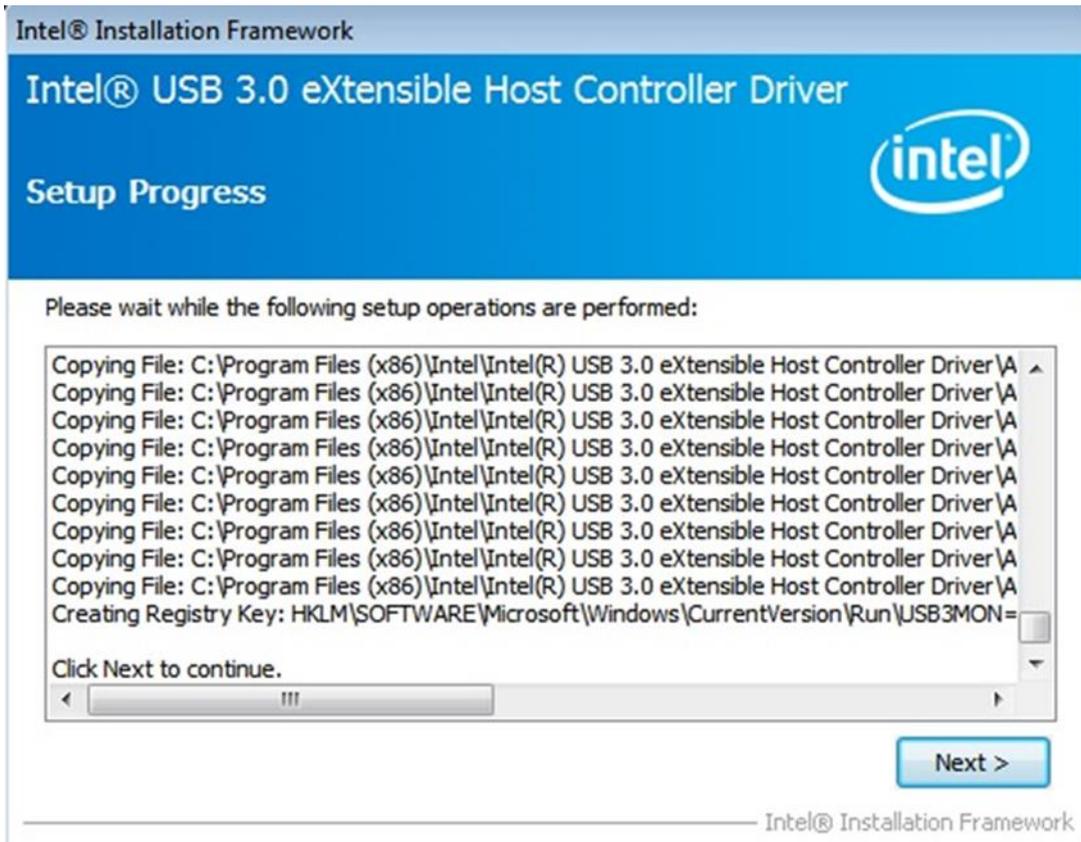
**Step 7** Click "Yes, I want to restart this computer now" to finish and then restart your computer.



.

# BIOS SETUP

BIOS Setup Utility is a program for configuration basic Input / Output system settings of the Panel PC for optimum use. This chapter provides information on how to use BIOS setup, its functions and menu.

# CHAPTER 6: BIOS SETUP

## 6.1 When and How to Use BIOS Setup

To enter the BIOS setup, you need to connect an external USB keyboard, press **<Del>** key when the prompt appears on the screen during start up. The prompt screen shows only few seconds, you need to press **<Del>** key quickly. If the message disappears before your respond, restart the system by turning it OFF and ON, and enter the BIOS again.

---

**IMPORTANT:**

Updated BIOS version may be published after the manual released.

Check the latest version of BIOS on the website.

---

**Run BIOS setup utility for:**

1. Error message on screen indicates to check BIOS setup.
2. Restoring the factory default settings.
3. Modifying the specific hardware specifications.
4. Necessity to optimize specifications.

## 6.2 BIOS Functions

**BIOS Navigation Keys**

BIOS navigation keys for keyboard control are listed below.

The following keys are enabled during POST:

| Key | Function |
|-----|----------|
| **Del** | Enters the BIOS setup menu. |
| **F7** | Display the boot menu. Lists all bootable devices that are connected to the system. With cursor ↑and cursor ↓and by pressing <ENTER>, select the device used for the boot. |
| **Pause** | Pressing the [Pause] key stops the POST. Press any other key to resume the POST. |

The following Keys can be used after entering the BIOS Setup.

| Key | Function |
|-----|----------|
| **F1** | General Help |
| **F2** | Previous Values |
| **F3** | Optimized Defaults |
| **F4** | Save & Exit |
| **Esc** | Exit |
| **+/-** | Change Opt. |
| **Enter** | Select or execute command |
| **Cursor ↑** | Moves to the previous item |
| **Cursor ↓** | Goes to the next item |
| **Cursor ←** | Moves to the previous item |
| **Cursor →** | Goes to the next item |

**NOTE:**
You can press the F1, F2, F3, F4, –/+, and Esc keys by connecting a USB keyboard to your device.

For items marked ► press **<Enter>** for more options.

## 6.2.1 Main Menu

When you enter BIOS setup, the first menu that appears on the screen is the main menu.It contains the system information including BIOS version, processor RC version, system language, time, and date.

Immediately after the **[DEL]** key is pressed during startup, the main BIOS setup menu appears:

```
                    Aptio Setup Utility - Copyright (C) 2014 American Megatrends, Inc.
  Main  Advanced  Chipset  Boot  Security  Save & Exit

  BIOS Information                                              Choose the system default language
  BIOS Vendor                   American Megatrends
  Core Version                  4.6.5.4
  Compliancy                    UEFI 2.3.1; PI 1.2
  Project Version               IH32 V002 x64
  Build Date and Time           11/05/2014 11:30:22

  Processor Information
  Name                          Haswell ULT
  Brand String                  Intel(R) Core(TM) i5-4200U CPU @ 1.60GHz
  Frequency                     1600 MHz
  Processor ID                  40651
  Stepping                      C0
  Number of Processors          2Core(s) / 4Thread(s)
  Microcode Revision            17
  GT Info                       GT2 (400 MHz)

  IGFX VBIOS Version            2180
  Memory RC Version             1.6.2.1                        →←: Select Screen
  Total Memory                  4096 MB (DDR3)                 ↑↓: Select Item
  Memory Frequency              1600 Mhz                       Enter: Select
                                                               +/-: Change Opt.
  PCH Information                                              F1: General Help
  Name                          LynxPoint-LP                   F2: Previous Values
  PCH SKU                       Premium SKU                    F3: Optimized Defaults
  Stepping                      04/B2                          F4: Save & Exit
                                                               ESC: Exit
  ME FW Version                 9.5.13.1706                    F4: Save & Exit
  ME Firmware SKU               5MB                            ESC: Exit

  System Language               [English]

  System Date                   [Wed 01/01/2014]
  System Time                   [00:00:00]

  Access Level                  Administrator

                    Version 2.15.1236. Copyright (C) 2014 American Megatrends, Inc.
```

| BIOS Setting | Description | Setting Option | Effect |
|---|---|---|---|
| System Language | Displays the system language. [English] is set up by default. | Adjustment of the language | Set the language in other language. The language in this device is English. |
| System Date/Time | This is current date setting. The time is maintained by the battery when the device is turned off. | Date and time changes. | Set the date in the format [mm/dd/yyyy]; The time in the format: [hh/mm/ss] |
| Access Level | The current user access settings | Changes to the level of access | Administrator is set up by the default |

## 6.2.2 Advanced Settings

Select the Advanced Tab from the setup menu to enter the advanced BIOS setup screen. You can select any of the items on the left frame of the screen to go to the sub menu for the item, such as CPU Configuration. You can use the <Arrow> keys enter all advanced BIOS setup options. The advanced BIOS setup menu is shown below. The submenus described on the following pages.

**IMPORTANT**
Handle advanced BIOS settings page with caution. Any changes can affect the operation of your computer.
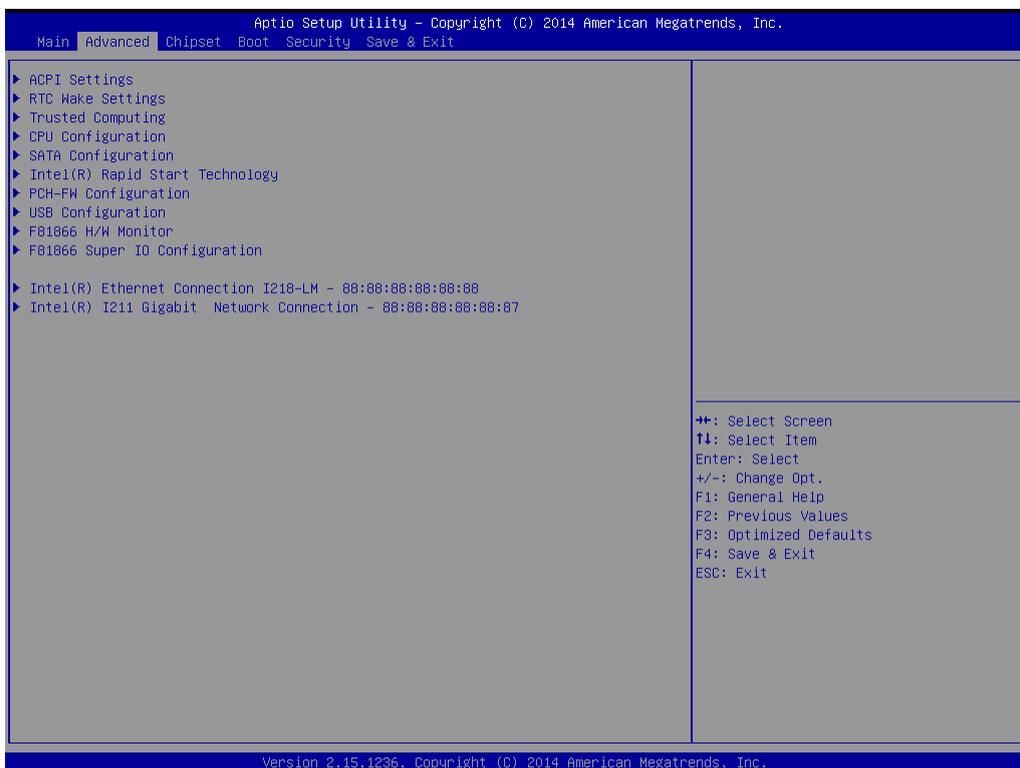
| BIOS Setting | Description | Setting Option | Effect |
|---|---|---|---|
| ACPI Settings | Configures ACPI settings | Enter | Opens submenu |
| RTC Wake Settings | Configures RTC Wake parameters | Enter | Opens submenu |
| Trusted Computing | Configures Trusted Computing parameters | Enter | Opens submenu |
| CPU Configuration | Configures CPU settings | Enter | Opens submenu |
| SATA Configuration | Configures SATA parameters | Enter | Opens submenu |
| Intel ®Rapid Start Technology | Configures Intel Rapid Start Technology parameters | Enter | Opens submenu |
| PCH-FW Configuration | Configures PCH-FW parameters | Enter | Opens submenu |
| USB Configuration | Configures USB parameters | Enter | Opens submenu |
| F81866 H/W Monitor | Configures H/W Monitor settings | Enter | Opens submenu |
| F81866 Super I/O Configuration | Configures Super I/O settings | Enter | Opens submenu |
| Intel Ethernet Connection | Configures Intel Ethernet Connection settings | Enter | Opens submenu |
| Intel I211 Gigabit Network Connection | Configures Intel I211 Gigabit Network Connection settings | Enter | Opens submenu |

## 6.2.2.1 ACPI Settings

```
                    Aptio Setup Utility - Copyright (C) 2014 American Megatrends, Inc.
    Advanced

  ACPI Settings

  Enable ACPI Auto Configuration        [Disabled]

  Enable Hibernation                    [Enabled]




                                                              →←: Select Screen
                                                              ↑↓: Select Item
                                                              Enter: Select
                                                              +/-: Change Opt.
                                                              F1: General Help
                                                              F2: Previous Values
                                                              F3: Optimized Defaults
                                                              F4: Save & Exit
                                                              ESC: Exit



                    Version 2.15.1236. Copyright (C) 2014 American Megatrends, Inc.
```
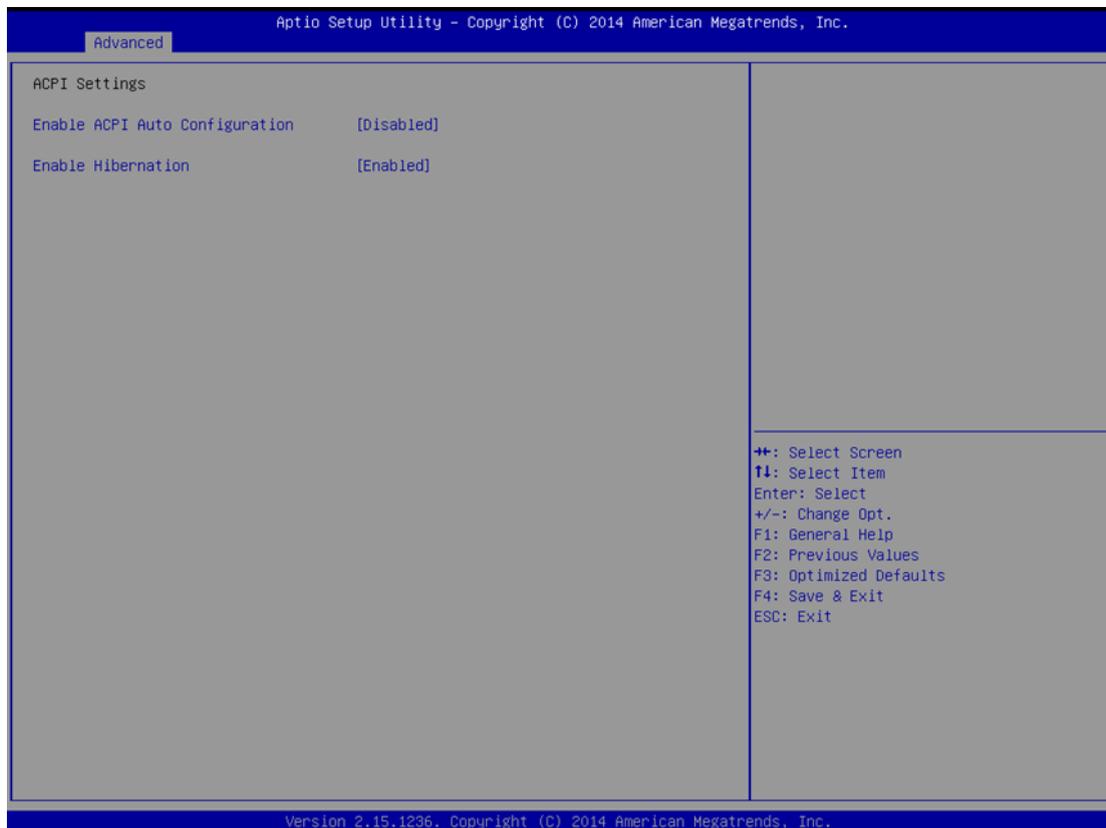
| BIOS Setting | Description | Setting Option | Effect |
|---|---|---|---|
| Enable ACPI Auto Configuration | BIOS ACPI Auto Configuration | Enable/ Disable | Enables or Disables this function |
| Enable Hibernation | Control hibernation | Enable/ Disable | Enables or Disables this function |

## 6.2.2.2 RTC Wake

```
                    Aptio Setup Utility – Copyright (C) 2014 American Megatrends, Inc.
        Advanced

  Wake system with Fixed Time        [Disabled]

  Wake system with Dynamic Time      [Disabled]

  Wake system from S5                [Disabled]
  Wake system from S4                [Disabled]




                                                          →←: Select Screen
                                                          ↑↓: Select Item
                                                          Enter: Select
                                                          +/-: Change Opt.
                                                          F1: General Help
                                                          F2: Previous Values
                                                          F3: Optimized Defaults
                                                          F4: Save & Exit
                                                          ESC: Exit




                    Version 2.15.1236. Copyright (C) 2014 American Megatrends, Inc.
```

| BIOS Setting | Description | Setting Option | Effect |
|---|---|---|---|
| Wake system with Fixed Time | System awake on alarm events. | Enabled/ Disabled | System will awake at the hr: min: sec specified |
| Wake system with Dynamic Time | S set the system to wake on the current time + increase minute (s). | Enabled/ Disabled | System will awake at current time+ increase minute (s). |
| Wake System from S5 | Enables or disables system wake on alarm event. It allows you to wake up the system in a certain time. | Enabled/ Disabled | System will awake at the hr: min: sec specified |

# 6.2.2.3 Trusted Computing

```
                        Aptio Setup Utility - Copyright (C) 2014 American Megatrends, Inc.
        Advanced

   Configuration
      Security Device Support            [Enable]
      TPM State                          [Disabled]
   Pending operation                     [None]


   Current Status Information
      TPM Enabled Status:                [Disabled]
      TPM Active Status:                 [Deactivated]
      TPM Owner Status:                  [Owned]






                                                              →←: Select Screen
                                                              ↑↓: Select Item
                                                              Enter: Select
                                                              +/-: Change Opt.
                                                              F1: General Help
                                                              F2: Previous Values
                                                              F3: Optimized Defaults
                                                              F4: Save & Exit
                                                              ESC: Exit




                        Version 2.15.1236. Copyright (C) 2014 American Megatrends, Inc.
```

| BIOS Setting | Description | Setting Option | Effect |
|---|---|---|---|
| Security Device Support | Enable or disable BIOS support for security device | Enabled/Disabled | Set desirable configuration |
| TPM State | Enable or disable TPM state. | Enabled/Disabled | Set desirable configuration |

## 6.2.2.4 CPU Configuration

CPU Configuration allows you to change CPU settings. Use key arrows to navigate through the menu.

```
                    Aptio Setup Utility - Copyright (C) 2014 American Megatrends, Inc.
    Advanced

    CPU Configuration                                              XD can prevent certain classes of
                                                                  malicious buffer overflow attacks when
    Intel(R) Core(TM) i5-4200U CPU @ 1.60GHz                      combined with a supporting OS (Windows
    CPU Signature                    40651                        Server 2003 SP1, Windows XP SP2, SuSE
    Processor Family                 6                            Linux 9.2, RedHat Enterprise 3 Update
    Microcode Patch                  17                           3.)
    FSB Speed                        100 MHz
    Max CPU Speed                    1600 MHz
    Min CPU Speed                    800 MHz
    CPU Speed                        1600 MHz
    Processor Cores                  2
    Intel HT Technology              Supported
    Intel VT-x Technology            Supported
    Intel SMX Technology             Not Supported
    64-bit                           Supported
    EIST Technology                  Supported
    CPU C3 state                     Supported
    CPU C6 state                     Supported
    CPU C7 state                     Supported                    →←: Select Screen
                                                                  ↑↓: Select Item
    L1 Data Cache                    32 kB x 2                     Enter: Select
    L1 Code Cache                    32 kB x 2                     +/-: Change Opt.
    L2 Cache                         256 kB x 2                    F1: General Help
    L3 Cache                         3072 kB                       F2: Previous Values
                                                                  F3: Optimized Defaults
    Execute Disable Bit              [Enabled]                     F4: Save & Exit
    Intel Virtualization Technology  [Enabled]                     ESC: Exit
    Boot performance mode            [Turbo Performance]
    EIST                             [Enabled]
    Turbo Mode                       [Disabled]
    Energy Performance               [Performance]
    ACPI CTDP BIOS                   [Disabled]
    CPU DTS                          [Enabled]


                    Version 2.15.1236. Copyright (C) 2014 American Megatrends, Inc.
```

# 6.2.2.5 SATA Configuration

```
                      Aptio Setup Utility – Copyright (C) 2014 American Megatrends, Inc.
        Advanced

 SATA Controller(s)              [Enabled]                        Enable or Disable SATA Port
 SATA Mode Selection             [AHCI]
 SATA Controller Speed           [Default]

 Serial ATA Port 0               Empty
   Software Preserve             Unknown
   Port 0                        [Enabled]

 Serial ATA Port 1               Empty
   Software Preserve             Unknown
   Port 1                        [Enabled]

 Serial ATA Port 2               Empty
   Software Preserve             Unknown
   Port 2                        [Enabled]

                                                                 →←: Select Screen
                                                                 ↑↓: Select Item
                                                                 Enter: Select
                                                                 +/-: Change Opt.
                                                                 F1: General Help
                                                                 F2: Previous Values
                                                                 F3: Optimized Defaults
                                                                 F4: Save & Exit
                                                                 ESC: Exit




                      Version 2.15.1236. Copyright (C) 2014 American Megatrends, Inc.
```

| BIOS Setting | Description | Setting Option | Effect |
|---|---|---|---|
| SATA Controller (s) | Allows users to enable or disable the SATA controller (s) | Enabled/ Disabled | Set desirable configuration |
| SATA Mode Selection | Allows users to select mode of SATA controller (s) | Enabled/ Disabled | Set desirable configuration |
| SATA Controller Speed | Allows users to select mode of SATA Controller Speed | Enabled/ Disabled | Set desirable configuration |
| Serial ATA Port 0/1/2 | Allows users to enable or disable the SATA Port | Enabled/ Disabled | Set desirable configuration |

# 6.2.2.6 Intel® Rapid Start Technology

Allows users to enable or disable Intel rapid start technology.

```
                        Aptio Setup Utility – Copyright (C) 2014 American Megatrends, Inc.
        Advanced

     Intel(R) Rapid Start Technology     [Enabled]

     No valid partition
     Entry on S3 RTC Wake               [Enabled]
       Entry After                      10
     Active Page Threshold Support      [Disabled]
     Hybrid Hard Disk Support           [Disabled]
     RapidStart Display Save/Restore    [Disabled]



                                                              →←: Select Screen
                                                              ↑↓: Select Item
                                                              Enter: Select
                                                              +/–: Change Opt.
                                                              F1: General Help
                                                              F2: Previous Values
                                                              F3: Optimized Defaults
                                                              F4: Save & Exit
                                                              ESC: Exit




                        Version 2.15.1236. Copyright (C) 2014 American Megatrends, Inc.
```

# 6.2.2.7 PCH (FW) Configuration

```
                        Aptio Setup Utility – Copyright (C) 2014 American Megatrends, Inc.
        Advanced

     ME FW Version                      9.5.13.1706
     ME Firmware Mode                   Normal Mode
     ME Firmware Type                   Full Sku Firmware
     ME Firmware SKU                    5MB




                                                              →←: Select Screen
                                                              ↑↓: Select Item
                                                              Enter: Select
                                                              +/–: Change Opt.
                                                              F1: General Help
                                                              F2: Previous Values
                                                              F3: Optimized Defaults
                                                              F4: Save & Exit
                                                              ESC: Exit




                        Version 2.15.1236. Copyright (C) 2014 American Megatrends, Inc.
```

## 6.2.2.8 USB Configuration

```
                        Aptio Setup Utility – Copyright (C) 2014 American Megatrends, Inc.
        Advanced

   USB Configuration

   USB Module Version            8.10.32

   USB Devices:
        1 Drive, 1 Keyboard, 1 Mouse, 1 Hub

   Legacy USB Support            [Enabled]
   XHCI Hand-off                 [Enabled]
   EHCI Hand-off                 [Disabled]
   USB Mass Storage Driver Support   [Enabled]

   USB hardware delays and time-outs:
   USB transfer time-out         [20 sec]
   Device reset time-out         [20 sec]
   Device power-up delay         [Auto]

   Mass Storage Devices:                                →←: Select Screen
   JetFlashTranscend 16GB 1.00       [Auto]             ↑↓: Select Item
                                                        Enter: Select
                                                        +/-: Change Opt.
                                                        F1: General Help
                                                        F2: Previous Values
                                                        F3: Optimized Defaults
                                                        F4: Save & Exit
                                                        ESC: Exit




                        Version 2.15.1236. Copyright (C) 2014 American Megatrends, Inc.
```

| BIOS Setting | Description | Setting Option | Effect |
|---|---|---|---|
| Legacy USB Support | User can enable or disable USB port. | Disabled | Will keep USB devices available only for EFI applications. |
| | | Enabled | Enable all the USB devices |
| XHCI Hand-off | This is a workaround for OSs without XHCI hand- off support. | Disabled | Disables this function |
| | | Enabled | Enables this function |
| EHCI Hand-off | This is a workaround for OSs without ECHI hand- off support. | Disabled | Disables this function |
| | | Enabled | Enables this function |
| USB Mass Storage Driver Support | User can Enable or disable USB mass storage driver support. | Disabled | Disables this function |
| | | Enabled | Enables this function |
| USB Transfer time- out | The time-out value for control, bulk, and interrupt transfers. | 1 Sec 5 Sec 10 Sec 20 Sec | Depends on the time-out value |
| Device Reset time- out | USB mass storage device start unit command time-out. | 10 Sec 20 Sec 30 Sec 40 Sec | Depends on the time-out value |
| Device power-up delay | Maximum time the device will take before it properly reports itself to the host controller. | Auto | Uses default value: for a root port it is 100 ms, for a Hub port the delay is taken from Hub descriptor |
| Mass Storage Device | Mass storage device emulation type. | [AUTO] enumerates devices less than 530MB as floppies. Forced FDD option can be used to force HDD formatted drive to boot as FDD | Configure mass storage device emulation type |

## 6.2.2.9 F81866 H/W Monitor

```
                    Aptio Setup Utility - Copyright (C) 2014 American Megatrends, Inc.
        Advanced

    Pc Health Status

    Smart Fan Function            [Enabled]
  ▶ Smart Fan Mode Configuration

    CPU  Temperature             : +35 C
    QM87 Temperature             : +38 C

    CPU Fan Speed                : 3614 RPM

    VCORE                        : +1.752 V
    +12V                         : +12.320 V
    +5V                          : +5.171 V
    +3.3V                        : +3.376 V

    VSB5V                        : +5.184 V
    VSB3V                        : +3.408 V
    VBAT                         : +3.280 V

                                                        →←: Select Screen
                                                        ↑↓: Select Item
                                                        Enter: Select
                                                        +/-: Change Opt.
                                                        F1: General Help
                                                        F2: Previous Values
                                                        F3: Optimized Defaults
                                                        F4: Save & Exit
                                                        ESC: Exit

                    Version 2.15.1236. Copyright (C) 2014 American Megatrends, Inc.
```

| BIOS Setting | Description | Setting Option | Effect |
|---|---|---|---|
| Smart Fan Function | Set parameters of smart fan function | Enabled/ Disabled | Enable or disable this function |
| Smart Fan Mode Configuration | | Configure smart fan mode settings | |

## 6.2.2.10 F81866 Super IO Configuration

```
                    Aptio Setup Utility – Copyright (C) 2014 American Megatrends, Inc.
     Advanced

       F81866 Super IO Configuration

       F81866 Super IO Chip              F81866
     ▶ Serial Port 1 Configuration
     ▶ Serial Port 2 Configuration
     ▶ Serial Port 3 Configuration
     ▶ Serial Port 4 Configuration

     ▶ SuperIO WatchDog Timer Setting
     ▶ SuperIO GPIO Setting

                                                              →←: Select Screen
                                                              ↑↓: Select Item
                                                              Enter: Select
                                                              +/-: Change Opt.
                                                              F1: General Help
                                                              F2: Previous Values
                                                              F3: Optimized Defaults
                                                              F4: Save & Exit
                                                              ESC: Exit

                    Version 2.15.1236. Copyright (C) 2014 American Megatrends, Inc.
```

| BIOS Setting | Description | Setting Option | Effect |
|---|---|---|---|
| Setting Serial Port Parameters | User can Enable/Disable the serial port and select optimal settings for the Super IO Device. | Enable/Disable<br><br>**Default:** Enable | Enable or Disable Serial Port (COM). |
| Super IO Watch Dog Timer Setting | | The watchdog timer circuit has to be triggered within a specified time by the application software. If the watchdog is not triggered because proper software execution fails or a hardware malfunction occurs, it will reset the system. | |

**Pin 3~ Pin 10 Control Settings.**

```
                              Aptio Setup Utility – Copyright (C) 2014 American Megatrends, Inc.
        Advanced

     SuperIO GPIO Setting

     Pin  3 Control                    [Input]
     Pin  4 Control                    [Input]
     Pin  5 Control                    [Input]
     Pin  6 Control                    [Input]
     Pin  7 Control                    [Input]
     Pin  8 Control                    [Input]
     Pin  9 Control                    [Input]
     Pin 10 Control                    [Input]

                                                                 →←: Select Screen
                                                                 ↑↓: Select Item
                                                                 Enter: Select
                                                                 +/-: Change Opt.
                                                                 F1: General Help
                                                                 F2: Previous Values
                                                                 F3: Optimized Defaults
                                                                 F4: Save & Exit
                                                                 ESC: Exit




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```

## 6.2.2.11 Serial Port RS-232/RS422/RS485 Settings
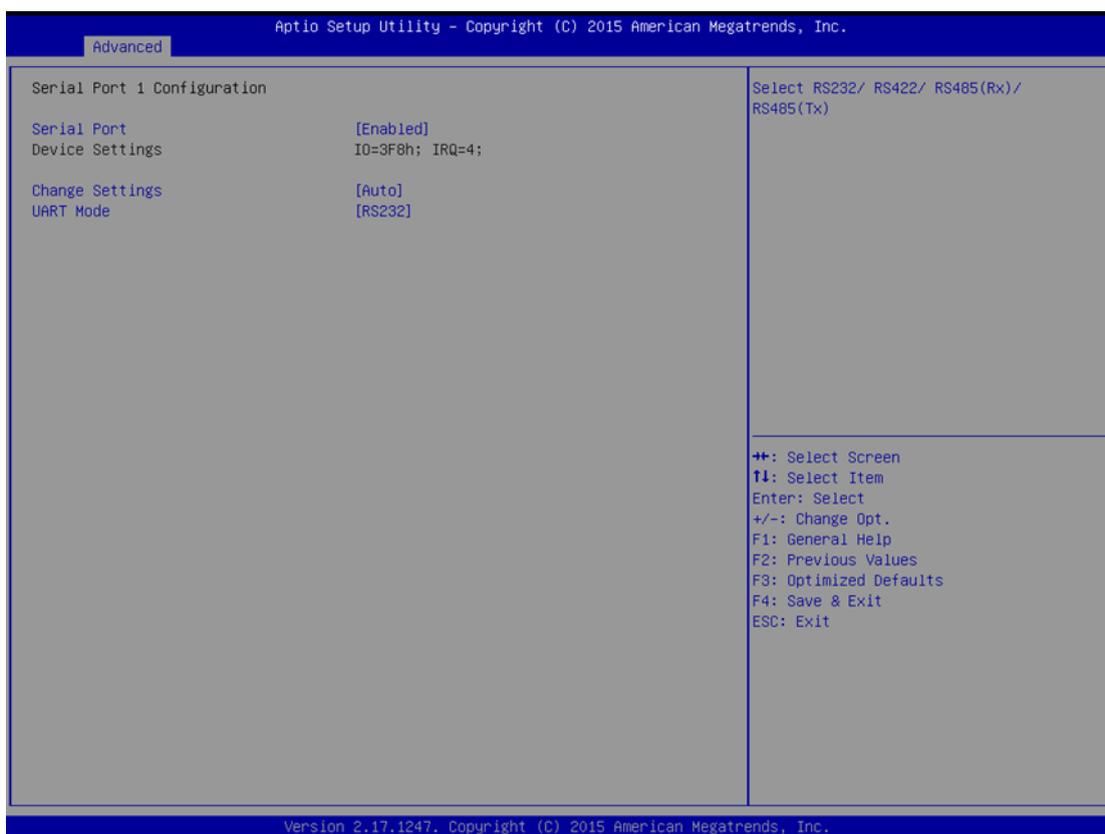


| BIOS Setting | Description | Setting Option | Effect |
|---|---|---|---|
| Serial Port | Select Serial Port | RS232 / RS422 RS485 (Rx)/ RS485(Tx) | Choose Serial Port Settings |
| Change Settings | Allow Change Serial Port Settings | [AUTO] | |
| UART Mode | | Show which serial port is used | |

## 6.2.2.12 Chipset Menu

```
                    Aptio Setup Utility - Copyright (C) 2014 American Megatrends, Inc.
     Main  Advanced  Chipset  Boot  Security  Save & Exit

 ▶ PCH-IO Configuration
 ▶ System Agent (SA) Configuration


                                                                    ↔: Select Screen
                                                                    ↑↓: Select Item
                                                                    Enter: Select
                                                                    +/-: Change Opt.
                                                                    F1: General Help
                                                                    F2: Previous Values
                                                                    F3: Optimized Defaults
                                                                    F4: Save & Exit
                                                                    ESC: Exit



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```

### *PCH- IO Configuration*

```
                    Aptio Setup Utility - Copyright (C) 2014 American Megatrends, Inc.
          Chipset

  Intel PCH RC Version              1.6.2.0
  Intel PCH SKU Name                Premium SKU
  Intel PCH Rev ID                  04/B2

 ▶ PCI Express Configuration
 ▶ USB Configuration

  PCH LAN Controller                [Enabled]
    Wake on LAN                     [Disabled]
  Board Capability                  [SUS_PWR_DN_ACK]
  SLP_S4 Assertion Width            [4-5 Seconds]
  Restore AC Power Loss             [Power Off]




                                                                    ↔: Select Screen
                                                                    ↑↓: Select Item
                                                                    Enter: Select
                                                                    +/-: Change Opt.
                                                                    F1: General Help
                                                                    F2: Previous Values
                                                                    F3: Optimized Defaults
                                                                    F4: Save & Exit
                                                                    ESC: Exit




                    Version 2.15.1236. Copyright (C) 2014 American Megatrends, Inc.
```

| BIOS Setting | Description | Setting Option | Effect |
|---|---|---|---|
| PCI Express Configuration | Detail of PCI Express items. | N/A | Set desirable parameters |
| USB Configuration | Details of USB items | N/A | Set desirable parameters |
| PCH LAN controller | Enables or disables the LAN1/2 controller. | Enabled/ Disabled | Set desirable parameters |
| Wake On LAN | Enables or disables LAN1/2 wake up from sleep state. | Enabled/ Disabled | Set desirable parameters |
| SLP_S4 Assertion Width | Sets a minimum assertion width for the SLP_S4# signal | [4-5 seconds] | Set desirable parameters |
| Restore AC Power Loss | This item allows users to select off, on and last state. | Power on/ Power off | Set desirable parameters |

*PCI Express Configuration*

```
                    Aptio Setup Utility - Copyright (C) 2014 American Megatrends, Inc.
       Chipset

       PCI Express Configuration

       DMI Link ASPM Control              [Enabled]
       DMI Link Extended Synch Control    [Disabled]
       PCIe-USB Glitch W/A                [Disabled]

     ▶ PCI Express Root Port 4
     ▶ PCI Express Root Port 5
     ▶ PCI Express Root Port 6




                                                          ↔: Select Screen
                                                          ↑↓: Select Item
                                                          Enter: Select
                                                          +/-: Change Opt.
                                                          F1: General Help
                                                          F2: Previous Values
                                                          F3: Optimized Defaults
                                                          F4: Save & Exit
                                                          ESC: Exit




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```

| BIOS Setting | Description | Setting Option | Effect |
|---|---|---|---|
| DMI Link ASPM Control | Allows users to enable or disable the DMI Link ASPM Control | Enabled/ Disabled | Set desirable parameters |
| DMI Link Extended Synch Control | Allows users to configure Mini PCI Express setting | Enabled/ Disabled | Set desirable parameters |
| PCIe- USB Glitch W/A | For bad USB devices connected behind PCIE/PEG port | Enabled/ Disabled | Set desirable parameters |

### USB Configuration

```
                    Aptio Setup Utility - Copyright (C) 2014 American Megatrends, Inc.
         Chipset

         USB Configuration

         USB Precondition              [Disabled]
         XHCI Mode                     [Smart Auto]
         XHCI Idle L1                  [Enabled]
         BTCG                          [Enabled]

         USB Ports Per-Port Disable Control   [Disabled]



                                                              →←: Select Screen
                                                              ↑↓: Select Item
                                                              Enter: Select
                                                              +/-: Change Opt.
                                                              F1: General Help
                                                              F2: Previous Values
                                                              F3: Optimized Defaults
                                                              F4: Save & Exit
                                                              ESC: Exit



                    Version 2.15.1236. Copyright (C) 2014 American Megatrends, Inc.
```
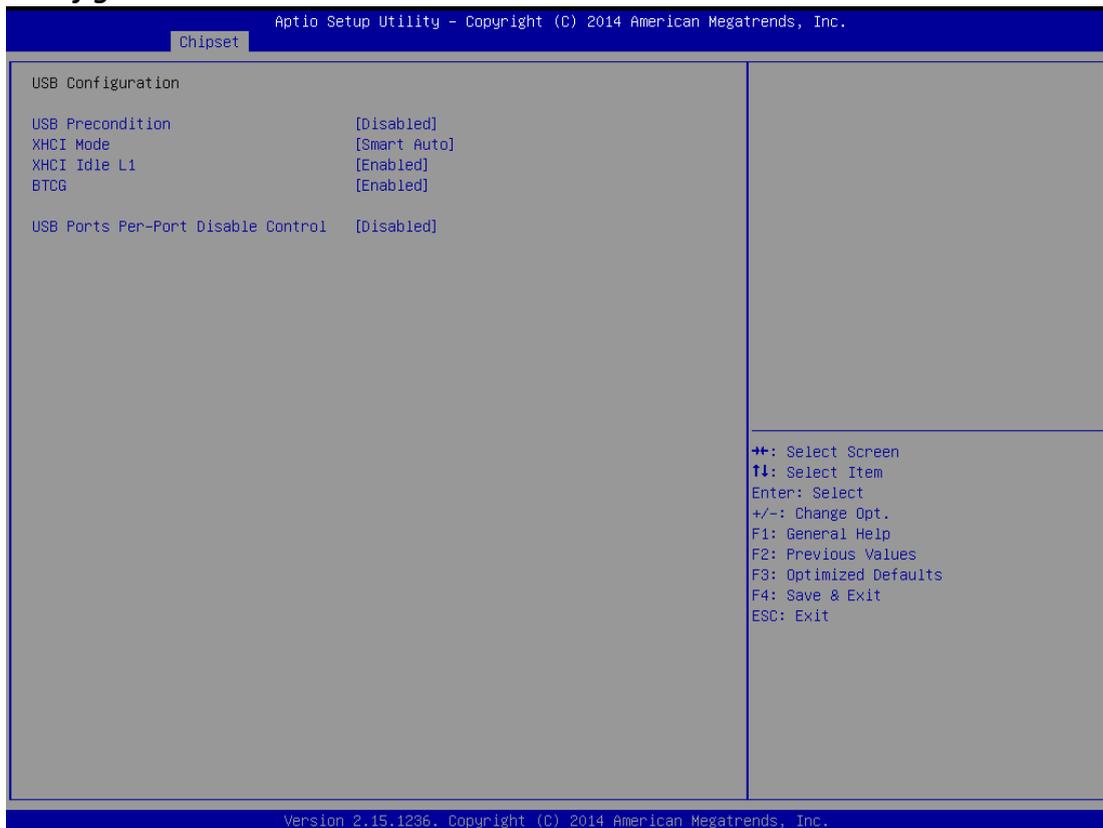
| BIOS Setting | Description | Setting Option | Effect |
|---|---|---|---|
| USB Precondition | Allows user to enable or disable USB precondition | Enabled/ Disabled | Set desirable parameters |
| XHCI Mode | Allows user to enable or disable XHCI mode. | [Smart Auto] | Set desirable parameters |
| USB Ports Per-Port Disable Control | Control each of the USB ports (0~13) disabling | Enabled/ Disabled | Set desirable parameters |

### System Agent (SA) Configuration
Allows users to enable or disable VT-d.

```
                        Aptio Setup Utility – Copyright (C) 2014 American Megatrends, Inc.
              Chipset

      System Agent Bridge Name          Haswell
      System Agent RC Version           1.6.2.0
      VT-d Capability                   Unsupported


    ▶ Graphics Configuration



                                                                        →←: Select Screen
                                                                        ↑↓: Select Item
                                                                        Enter: Select
                                                                        +/-: Change Opt.
                                                                        F1: General Help
                                                                        F2: Previous Values
                                                                        F3: Optimized Defaults
                                                                        F4: Save & Exit
                                                                        ESC: Exit




                        Version 2.15.1236. Copyright (C) 2014 American Megatrends, Inc.
```

### Graphics Configuration

```
                        Aptio Setup Utility – Copyright (C) 2014 American Megatrends, Inc.
              Chipset

    Graphics Configuration
    IGFX VBIOS Version                2180
    IGfx Frequency                    800 MHz
    Graphics Turbo IMON Current       31

     Primary PEG                      [Auto]
     Internal Graphics                [Auto]
     Aperture Size                    [256MB]
     DVMT Pre-Allocated               [32M]
     DVMT Total Gfx Mem               [256M]
     Gfx Low Power Mode               [Enabled]
     Panel Power Enable               [Disabled]



                                                                        →←: Select Screen
                                                                        ↑↓: Select Item
                                                                        Enter: Select
                                                                        +/-: Change Opt.
                                                                        F1: General Help
                                                                        F2: Previous Values
                                                                        F3: Optimized Defaults
                                                                        F4: Save & Exit
                                                                        ESC: Exit




                        Version 2.15.1236. Copyright (C) 2014 American Megatrends, Inc.
```

| BIOS Setting | Description |
|---|---|
| Graphics Turbo IMON Current | Allows users to select which Graphics Turbo IMON Current |
| Internal Graphics | Allows users to enable or disable IGD |
| Aperture Size | This item allows users to select aperture size |
| DVMT Pre-Allocated | Allows users to select DVMT pre-allocated memory size |
| DVMT Total Gfx Mem | Allows users to select DVMT total memory size |
| Gfx Low Power Mode | Allows users to enable or disable IGD low power mode |
| Panel Power Enable | Allows users to enable or disable Panel Power |

## 6.2.3 Boot Menu

The Boot menu sets the sequence of the devices to be searched for the operating system. The bootable devices will be automatically detected during POST and shown here, allowing you to set the sequence that the BIOS use to look for a boot device from which to load the operating system.

```
                    Aptio Setup Utility – Copyright (C) 2014 American Megatrends, Inc.
       Main  Advanced  Chipset  Boot  Security  Save & Exit

      Boot Configuration
      Setup Prompt Timeout              1
      Bootup NumLock State              [On]

      Quiet Boot                        [Disabled]
      Fast Boot                         [Disabled]


      Boot Order Priorities
      Boot Option #1                    [Network]
      Boot Option #2                    [SATA P0]
      Boot Option #3                    [SATA P1]
      Boot Option #4                    [mSATA]
      Boot Option #5                    [USB Key]
      Boot Option #6                    [USB CD/DVD]
      Boot Option #7                    [RAID Partition]

    ▶ CSM16 Parameters
      CSM parameters
                                                          ⇄: Select Screen
                                                          ↑↓: Select Item
                                                          Enter: Select
                                                          +/-: Change Opt.
                                                          F1: General Help
                                                          F2: Previous Values
                                                          F3: Optimized Defaults
                                                          F4: Save & Exit
                                                          ESC: Exit




                    Version 2.15.1236. Copyright (C) 2014 American Megatrends, Inc.
```

| BIOS Setting | Description | Setting Option | Effect |
|---|---|---|---|
| Setup Prompt Timeout | Allows user to configure the number of seconds to stay in BIOS setup prompt screen. | Enter | Set the prompt timeout |
| Boot NumLock State | Enables or disables NumLock feature on the numeric keypad of the keyboard after the POST (Default: On). | On | Remains On |
| | | Off | Remains OFF |
| Quite Boot | Determines if POST message or OEM logo (default = Black background) is displayed. | Disabled | Disables this function |
| | | Enabled | Enables this function |
| Fast Boot | Enables or disables Fast Boot to shorten the OS boot process. (Default: Disabled). | Disabled | Disables this function |
| | | Enabled | Enables this function |
| Boot Option Priorities | Specifies the overall boot order from the available devices | Ex: Boot Option#1 (hard drive) | Hard drive as the first priority |

## 6.2.4 Security Menu

This section allows to configure and improve system, and set up some system features according to your preferences.

```
                    Aptio Setup Utility - Copyright (C) 2014 American Megatrends, Inc.
         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

                                                        →←: Select Screen
                                                        ↑↓: Select Item
                                                        Enter: Select
        ▶ Secure Boot menu                              +/-: Change Opt.
                                                        F1: General Help
                                                        F2: Previous Values
                                                        F3: Optimized Defaults
                                                        F4: Save & Exit
                                                        ESC: Exit




                    Version 2.15.1236. Copyright (C) 2014 American Megatrends, Inc.
```

| BIOS Setting | Description | Setting Option | Effect |
|---|---|---|---|
| Administrator Password | Displays whether or not an administrator password has been set. | Enter | Enter password |
| User Password | Display whether or not a user Password has been set. | Enter | Enter password |

## 6.2.5 Save & Exit

```
                    Aptio Setup Utility – Copyright (C) 2014 American Megatrends, Inc.
    Main  Advanced  Chipset  Boot  Security  Save & Exit

 Save Changes and Exit
 Discard Changes and Exit
 Save Changes and Reset
 Discard Changes and Reset

 Save Options
 Save Changes
 Discard Changes

 Restore Defaults
 Save as User Defaults
 Restore User Defaults

 Boot Override


 Launch EFI Shell from filesystem device
                                                              →←: Select Screen
                                                              ↑↓: Select Item
                                                              Enter: Select
                                                              +/-: Change Opt.
                                                              F1: General Help
                                                              F2: Previous Values
                                                              F3: Optimized Defaults
                                                              F4: Save & Exit
                                                              ESC: Exit




                     Version 2.15.1236. Copyright (C) 2014 American Megatrends, Inc.
```

| BIOS Setting | Description | Setting Option | Effect |
|---|---|---|---|
| Save Changes and Exit | This saves the changes to the CMOS and exits the BIOS Setup program. | Enter <YES> | Save changes |
| Discard Changes and Exi | This exits the BIOS Setup without saving the changes made in BIOS Setup to the CMOS. | Enter <YES> | Saves the changes |
| | | Enter <NO> | Return to the BIOS Setup Main Menu |
| Save Changes and Reset | Reset the system after saving the changes. | Enter <YES> | Saves the changes |
| | | Enter <NO> | Return to the BIOS Setup Main Menu |
| Discard Changes and Reset | Reset system setup without saving any changes | Enter <YES> | Saves the changes |
| | | Enter <NO> | Return to the BIOS Setup Main Menu |

| Save Changes | Save changes done so far to any of the setup options. | Enter <YES> | Saves the changes |
| | | Enter <NO> | Return to the BIOS Setup Main Menu |
| Discard Changes | Discard changes done so far to any of the setup options. | Enter <YES> | Saves the changes |
| | | Enter <NO> | Return to the BIOS Setup Main Menu |
| Restore Default | Restore/load default values for all the setup options. | Enter <YES> | Saves the changes |
| | | Enter <NO> | Return to the BIOS Setup Main Menu |
| Save as User Defaults | Save the changes done so far as User defaults. | Enter <YES> | Saves the changes |
| | | Enter <NO> | Return to the BIOS Setup Main Menu |
| Restore User Defaults | Restore the User Defaults to all the setup options. | Enter <YES> | Saves the changes |
| | | Enter <NO> | Return to the BIOS Setup Main Menu |
| Boot Override | Boot device selection can override your boot priority | Enter <YES> | Saves the changes |
| | | Enter <NO> | Return to the BIOS Setup Main Menu |

## 6.3 Using Recovery Wizard to Restore Computer

> **IMPORTANT:**
> Before starting the recovery process, be sure to backup all user data, as all data will be lost after the recovery process.

Follow the procedure below to enable quick one-key recovery procedure:

- Plug-in the AC adapter to IH32 computer. Make sure the computer stays plugged in to power source during the recovery process
- Turn on the computer, and when the boot screen shows up, press the **F6** to initiate the Recovery Wizard
- The following screen shows the Recovery Wizard. Click on "Recovery" button to continue.



A warning message about data loss will show up. Make sure the data is backed up before recovery, and click "Yes" to continue.

Wait the recovery process to complete. During the recovery process, a command prompt will show up to indicate the percent of recovery process complete. The computer will restart automatically after recovery completed.

- 108 -
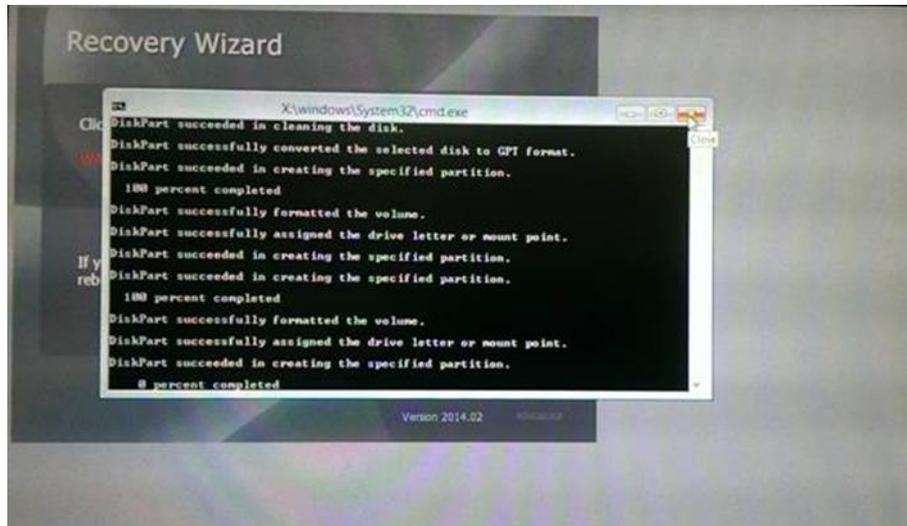
# TECHNICAL SUPPORT

This chapter includes pathway to our technical support.

**7**

# CHAPTER 7: TECHNICAL SUPPORT

This chapter includes the directory for technical support. Free technical support is available from our engineers every business day. We are always ready to give advice on application requirements or specific information on the installation and operation of any of our products. If any problem occurs fill in problem report form enclosed and immediately contact us.

## 7.1 Introduction

Winmate provide the following SDK for Military Grade Rack Mount Panel PC with Intel® Core i5-5200U Broadwell 2.2GHz (turbo to 2.7 GHz) processor:

| Item | File Type | Description |
|------|-----------|-------------|
| 1 | SDK | Watchdog SDK |
| 2 | ECDIS Color Table | ECDIS Color Table |

To find the Drivers and SDK, please refer to the Driver CD that comes in the package or contact us. Also, you can download drivers from Winmate Download Center or Winmate File Share.

## 7.2 Problem Report Form

**ECDIS Marine Panel PC (Flat PCAP Series)**

| Customer name: | |
|---|---|
| Company: | |
| Tel.: | Fax: |
| E-mail: | Date: |

Product Serial Number: _____

**Problem Description:** Please describe the problem as clearly as possible. Detailed description of the occurred problem will allow us to find the best solution to solve the problem as soon as possible.

_____
_____
_____
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_____

# PRODUCT SPECIFICATIONS

This section includes technical specifications of ECIDS Marine Panel PC

**Appendix** A

# APPENDIX A: PRODUCT SPECIFICATIONS

| Item | Specifications | | | |
|---|---|---|---|---|
| **Model Name** | R15IH3S-MRA3FP | R19IH3S-MRA1FP | W24IH3S MRA1FP | W26IH3S-MRA1FP |
| **Display** | | | | |
| Panel Size | 15" | 19" | 24" | 26" |
| Resolution | 1024 x 768 | 1280 x 1024 | 1920 x 1080 | 1920 x 1200 |
| Pixel Pitch (H x V, mm) | 0.2947 x0.2947 | 0.294x0.294 | 0.276x0.276 | 0.2865x0.2865 |
| Brightness | 400 cd/m$^2$ | 350 cd/m$^2$ | 350 cd/m$^2$ | 350 cd/m$^2$ |
| Contrast Ratio | 700:1 (typ.) | 1000:1 (typ.) | 5000:1 (typ.) | 1500:1 (typ.) |
| Viewing Angles (Up/Down/Left/Right) | 80°/80°/60°/80° (typ.) | 85°/85°/80°/80° (typ.) | 89°/89°/89°/89° (typ.) | 88°/88°/88°/88° (typ.) |
| Active Display Area, H x V , mm | 306 x 230 | 376.32x 301.06 | 531.36 x 298.89 | 550.1 x 343.8 |
| Max Colors | 16.2 M colors, 8 bits/color | 16.7 M colors, 8 bits/color | | |
| Touch Screen | PCAP | PCAP (Optional AR Protection Glass) | | |
| **Mechanical** | | | | |
| Dimensions, mm | 363 x 312 x 66.5 | 429x 382x 72.8 | 595x 385 x 63.8 | 621x 432.4x 85.5 |
| Panel Mount Cutout, mm | 388 x 288 | 408 x 359 | 572 x 363 | 598 x 408 |
| Housing | Anodized Aluminum Bezel | | | |
| Mounting | Panel Mount/ VESA Mount | | | |
| **Input/ Output Connectors** | | | | |
| Ethernet LAN | 2 x RJ45 | | | |
| COM (D-SUB) | 1 x RS-232/422/485 | | | |
| USB | 2 x USB2.0 , 1 x USB3.0 | | | |
| HDMI | 1 x HDMI | | | |
| NMEA Interface | 4 x NMEA 0183 Port (Optional for models with 24" and 26" screen size) | | | |
| Digital IN/OUT | 8 Channel Isolated Digital Input/ Output (Optional) | | | |
| DC Power | 1 x 3-Pin Terminal Block (Phoenix type) | | | |
| **System Specifications** | | | | |
| Processor | Intel® Core i5-5200U Broadwell 2.2GHz (turbo to 2.7GHz) | | | |
| System Memory | 1 x DDR3L-1066 SODIMM (Default 4GB,Max 16GB) | | | |
| Ethernet | Dual Ethernet Gb LAN | | | |
| Storage | 64GB mSATA SSD (Up to 256GB) | | | |
| 2$^{nd}$ Storage | 2.5" Removable SSD Bay | | | |
| Speaker | 2 x 2W Speaker | | | |
| Buzzer | 75 dB~80 dB, 2300 Hz, 1m | | | |

| Power Specifications | |
|---|---|
| Power Input | 24V DC-in with Isolation (9~36V acceptable) |
| Power Consumption | 80W (Max) |
| **Environment** | |
| IP Rating | IP66 (Front Side) |
| Operating Temperature | -15 to 55°C |
| Operating Humidity | 5%-95%, non-condensing |
| Anti-Vibration | 0.7g@DNV2.4 (Class A) |
| Anti-Shock | 15G,11ms duration |
| **OS Support** | |
| Operating System (Optional) | Windows 10 IoT Enterprise<br>Windows Embedded 8.1 Industry PRO<br>Windows Embedded 8 Std.<br>Windows Embedded Std. 7<br>Windows 7 PRO for Embedded System |

# TOUCHSCREEN

This section includes information on projected capacitive touchscreen (PCAP), its technology and specifications.
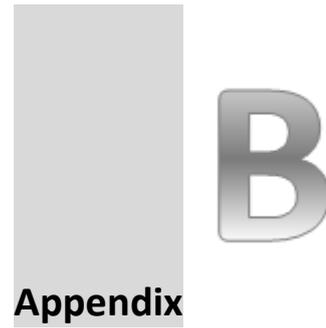
**Appendix**

# APPENDIX B: PCAP TOUCHSCREEN

This section includes information on projected capacitive touchscreen (PCAP), its technology and specifications.

**Technology Overview**

Projected Capacitive Touch (PCAP) technology is a variant of capacitive touch technology. All PCAP touch screens are made up of a matrix of rows and columns of conductive material, layered on sheets of glass. Projected capacitive technology enables touches to be sensed through a protective layer in front of a display, allowing touch monitors to be installed behind store windows or vandal-resistant glass. In addition, the surface material is glass, which is scratch-resistant, durable, and reliable in harsh environments.
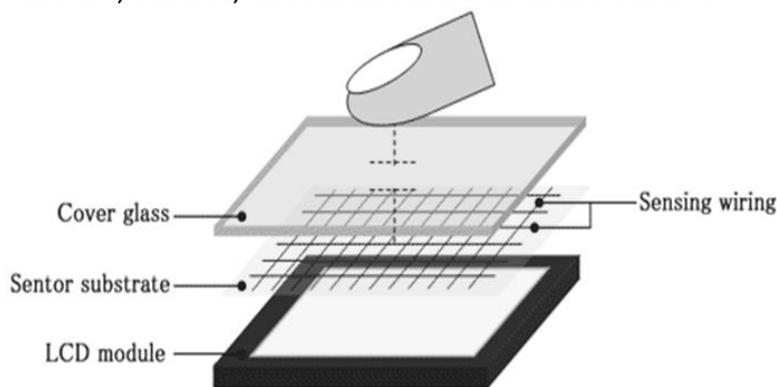


The operational theory of a PCAP touch screen begins with two patterned Indium Tin Oxide (ITO) layers under a glass substrate cover which create a X-axis and Y-axis electric field. These electric fields project above the glass surface between adjacent ITO traces. When a finger approaches the glass surface, a new balance in the electric field will be established between the finger and the corresponding X-axis and Y-axis. The controller IC will locate the ITO traces exhibiting capacitance changes to pinpoint the finger touch accurately.

**Specifications**

| Subject | Details |
|---|---|
| Input Method | Finger |
| Positional Accuracy | <1.5% of reported position in recommended viewing area. |
| Resolution | Touch point density is based on controller resolution . |
| Touch Activation Force | No minimum touch activation force is required |
| Light Transmission | Up to 90% per ASTM D1003-92 |