

10.1" ECDIS Marine Panel PC

Intel® Celeron® N2930 (2M Cache, up to 2.16 GHz)



W10IB3S-MRH2

User Manual

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Preface

Copyright Notice

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Disclaimer

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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 1W18Axxxxxxx means October of year 2018.

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 connexions 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 vérifier votre mise à la terre afin d'éliminer toute charge statique avant de toucher la carte CPU. Les équipements électroniques modernes 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. 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.
- 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:**

- The power cord or plug is damaged.
- Liquid has penetrated the equipment.
- The equipment has been exposed to moisture.
- The equipment does not work well, or you cannot get it to work according to the user manual.
- The equipment has been dropped and damaged.
- 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 fabricant.



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.
- 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.

Declaration of Conformity

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 his own expense.

EC Declaration of Conformity



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 (2014/30/EU)

- EN55024: 2010 EN 55022: 2010 Class B
 - IEC61000-4-2: 2009
 - IEC61000-4-3: 2006+A1: 2007+A2: 2010
 - IEC61000-4-4: 2012
 - IEC61000-4-5: 2014
 - IEC61000-4-6: 2013
 - IEC61000-4-8: 2010
 - IEC61000-4-11: 2004
- EN55022: 2010/AC:2011
- EN61000-3-2:2014
- EN61000-3-3:2013

Low Voltage Directive (2014/35/EU)

- EN 60950-1:2006/A11:2009/A1:2010/A12:2011/ A2:2013

About This User Manual

This User Manual provides information about using the Winmate® Marine Panel PC IB Series W10IB3S-MRH2. The documentation contains detailed description on how to use the device, its components, and features.



NOTE:

Some pictures in this guide are samples and can differ from actual product.

Chapter 1: Introduction

Congratulation on purchasing Winmate® ECDIS Marine Panel PC Series. The device powered by Intel® Celeron® N2930 (2M Cache, up to 2.16 GHz) processor and supports optional Linux or Windows-based operating systems. The Panel PC features P-Cap touchscreen with 1280 x 800 pixel resolution. These models sealed with front IP65 dust and waterproof, 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.

ECDIS Marine Panel PC Series line meets the requirements of industrial marine standards, including IEC60945 4th Edition.

1.1 Product Features

Winate® ECDIS Marine Panel PC Series features:

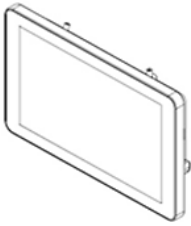

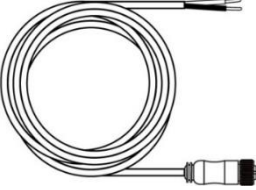
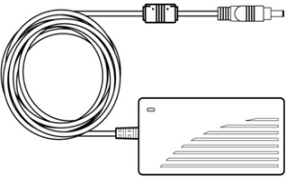
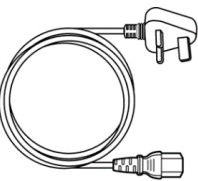
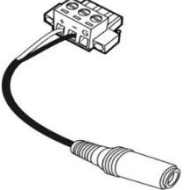
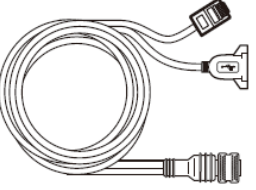
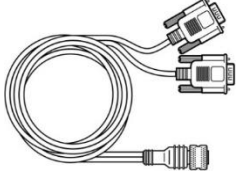
- 1280 x 800 resolution
- P-Cap multi-touch screen
- Front IP65 and full IP44 ratings
- Isolated connectors (M12 type)
- Optional Wireless communications - WLAN, WWAN, GPS
- Optical bonding with touch screen available on request

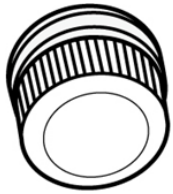
1.2 Package Content

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

1.2.1 Standard Accessories

Standard factory shipment list

			
Panel PC	User Manual (Hardcopy)	1 x External M12 Power Cable	1 x AC Adapter*
			
1 x Power Cord* / **	1 x 3-pin Terminal Block (Phoenix type) *	1 x External M12 USB/LAN Cable	1 x RS-422 M12 Cable



3 x I/O Protective Cap

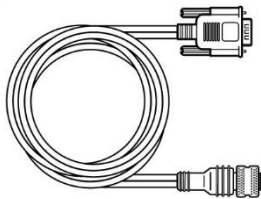
1 x Driver CD

* AC adapter, 3-pin terminal block, and power cord shipped with Panel PC for testing purposes only.

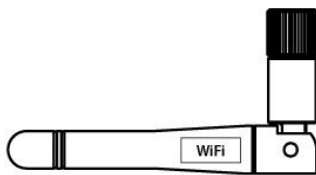
** Power cord varies in appearance by region and country.

1.2.2 Optional Accessories

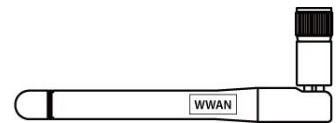
Package may include optional accessories based on your order:



1 x RS-422 M12 Cable
(one-header connector for the device supporting WWAN)



1 x WLAN Antenna (With a sticker indicating Wi-Fi)

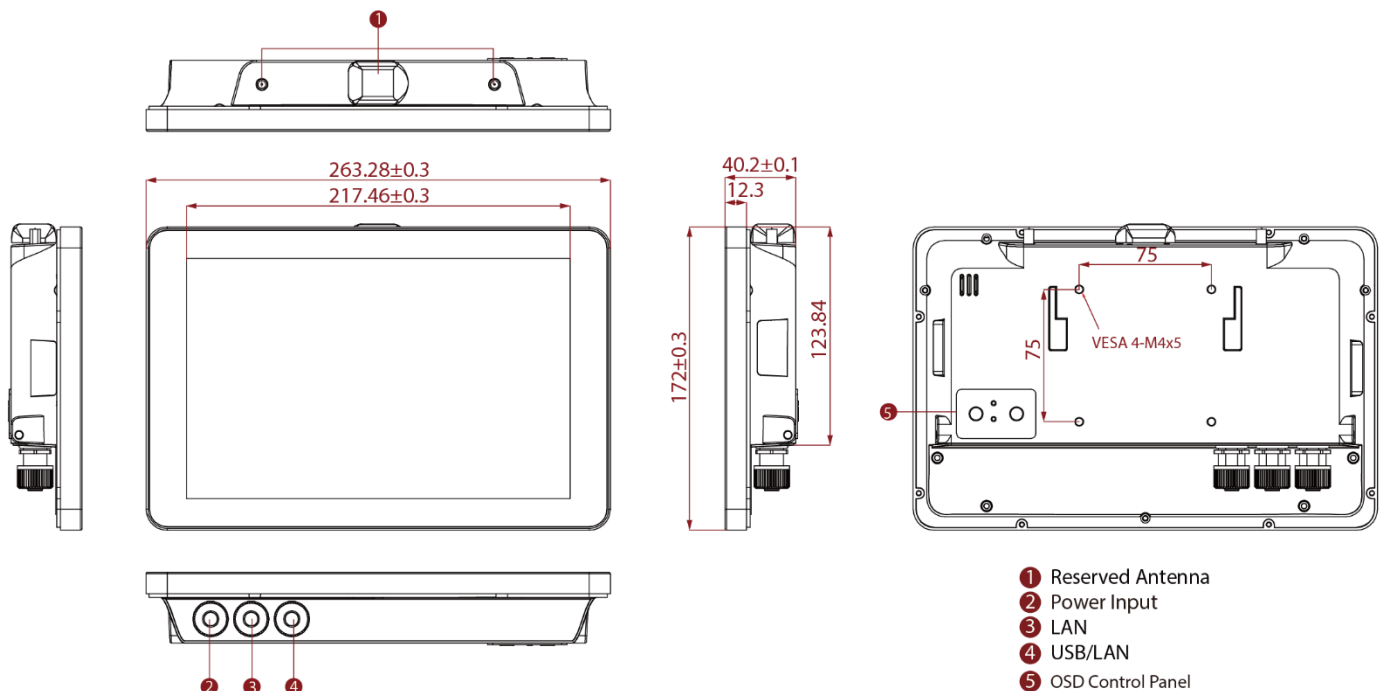


1 x WWAN Antenna (With a sticker indicating WWAN)

1.3 Description of Parts

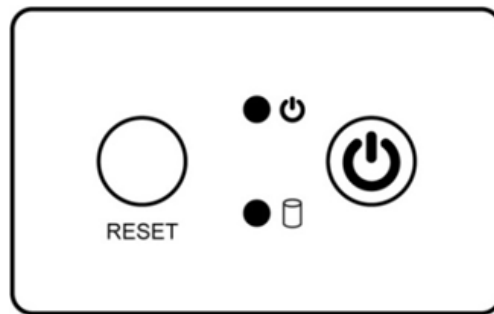
This section contains mechanical drawing of the Panel PC. Notice that this is a simplified drawing and some components are not marked in detail.

Unit: mm

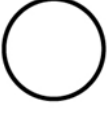



1.4 OSD Control Panel



OSD Panel is located on the rear side of the Panel PC.



Physical Buttons

Button	Function	Description
 RESET	Reset	Press to reset the system
	Power On/ Off	Press to power on or power off the device

LED Indicators

LED Indicator	Status	Description
	On	Power is on
	Off	Power is off
	Blinking	Stand by
	Off	Normal

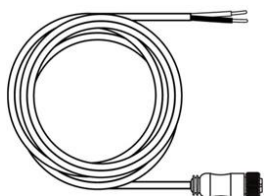
Chapter 2: Getting Started

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

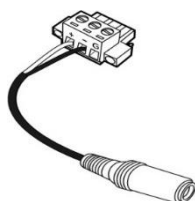
2.1 Powering On

2.1.1 AC Adapter Components

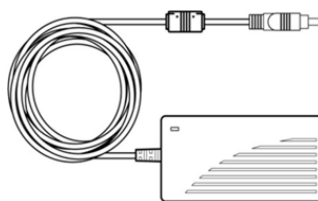
The device operates on external DC power. It is strongly recommended to use the AC adapter.



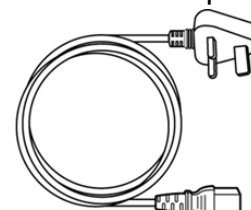
External Power
Cable (M12)



3-pin Terminal Block
(Phoenix type)



AC Adapter



Power Cord

2.1.2 Power Considerations



CAUTION / ATTENTION

Use the 9~36V DC input.

Utiliser l'entrée 9 ~ 36V DC.

- Do not use the adapter in a high moisture environment.
- Never touch the adapter when your hands or feet are wet.
- Allow adequate ventilation around the adapter when using it to operate the device.
- Do not cover the AC adapter with paper or other objects that will reduce cooling.
- Do not use the AC adapter while it is inside a carrying case.
- Do not use the AC adapter if the cord is damage.
- There are no serviceable parts inside.
- Replace the unit if it is damaged or exposed to excess moisture.

While using the AC adapter:

- Do not attempt to service the unit while it's connected to AC adapter.
- Plug-in the power cord to an AC outlet that is always easily accessible.

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.

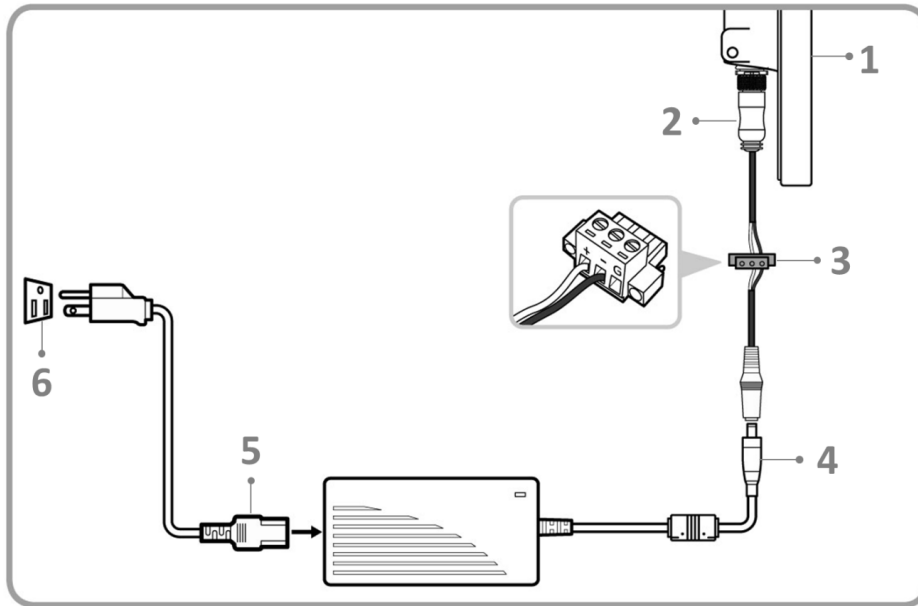
*If you do not use a grounded outlet while using the device, you may notice an electrical tingling sensation when the palms of your hands touch the device.

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.



2.1.3 Connecting the AC Adapter



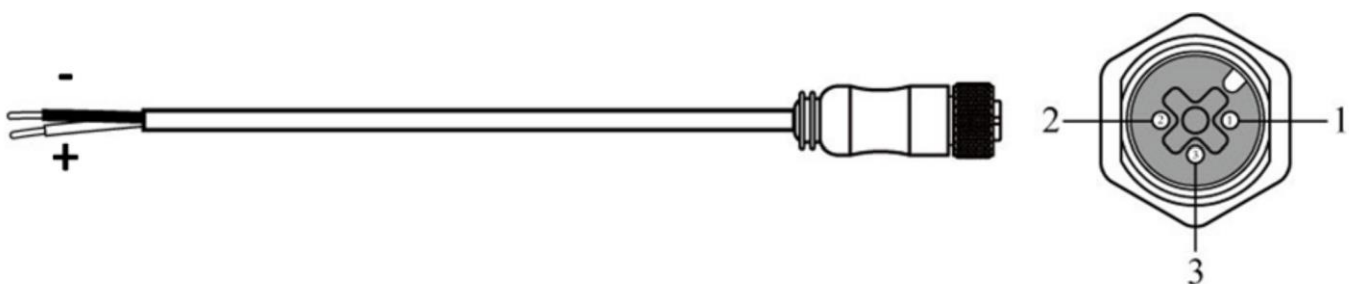
Cable Mounting Steps:

1. Connect Panel PC (1) to external M12 power cable (2)
2. Connect external M12 power cable (2) to phoenix type 3-pin terminal block (3)
3. Connect phoenix type 3-pin terminal block (3) to AC adapter (4)
4. Connect AC adapter (4) to power cord (5)
5. Plug in the power cord (5) to a working AC wall outlet (6).
6. Push the power button located on the rear side of the device to turn it on.

2.2 Connector Pinouts

2.2.1 External Power to M12 Cable

9~36V Isolated



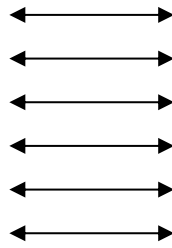
Pin No	Signal	Pin No	Signal
1	VCC +	2	GND
3	VCC -		

2.2.2 RS-422 to M12 Cable



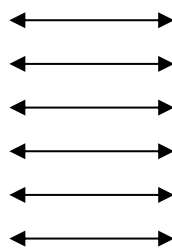
CN1	
Pin No	Signal
1	TxD -
2	TxD +
3	RxD +
4	RxD -
5	GND
6	NC
7	
8	
9	

CN3	
Pin No	Signal
1	TxD -
2	TxD +
3	RxD +
4	RxD -
5	GND
6	NC
7	
8	
9	
10	
11	
12	



CN2	
Pin No	Signal
1	TxD -
2	TxD +
3	RxD +
4	RxD -
5	GND
6	NC
7	
8	
9	

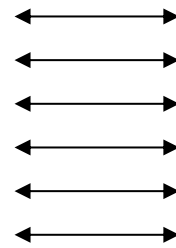
CN3	
Pin No	Signal
1	TxD -
2	TxD +
3	RxD +
4	RxD -
5	GND
6	NC
7	
8	
9	
10	
11	
12	



***Optional RS-422 to M12 Cable (Only for mode with WWAN)**

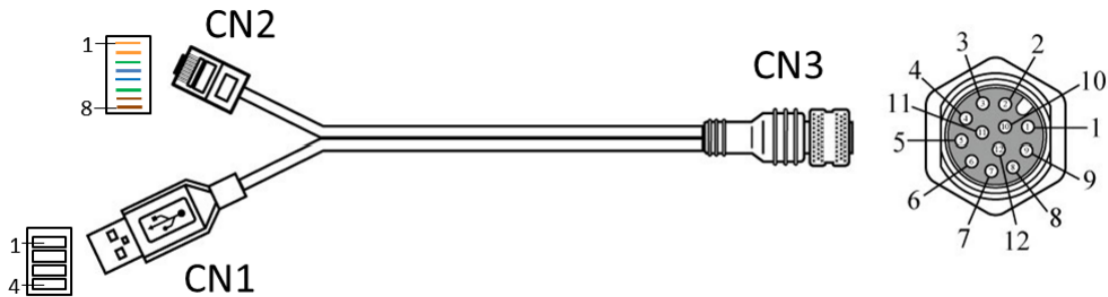


CN2			
Pin No	RS-232	RS-422	RS-485
1	DCD	TxD-	D-
2	RXD	TxD+	D+
3	TXD	RxD+	NC
4	DTR	RxD-	NC
5	GND	GND	GND
6	DSR	NC	NC
7	RTS		
8	CTS		
9	RI		



CN3	
Pin No	Signal
1	DCD
2	DSR
3	RXD
4	RTS
5	TXD
6	CTS
7	DTR
8	RI
9	GND
10	NC
11	
12	

2.2.3 USB 2.0 & GIGA LAN to M12 Cable



CN1	
Pin No	Signal
1	VCC
2	D -
3	D +
4	GND

CN2		
Pin No	Signal	Color
1	TX_D1+	White/Orange
2	TX_D1-	Orange
3	RX-D2+	White / Green
4	B1_D3+	Blue
5	B1_D3+	White / Blue
6	RX-D2-	Green
7	B1_D4+	White / Brown
8	B1_D4-	Brown

CN3	
Pin No	Signal
1	VCC
2	D-
3	D+
4	GND
5	TX_D1+
6	TX_D1-
7	RX-D2+
8	B1_D3+
9	B1_D3+
10	RX-D2-
11	B1_D4+
12	B1_D4-


2.3 Turning On and Off

To **Turn ON** the Panel PC:

The unit is configured to **Power ON** when the Panel PC is connected to the power source.

To **Turn OFF** the Panel PC:

You can **Turn OFF** the device with the Windows Power Settings. To shut down the device, follow the instruction below:

1. Tap **Start**  > **Shut down**.
2. Wait for your device completely turn off before disconnecting the power cord (if necessary).

2.4 Configuring Serial Port Settings

Serial COM1 located on IB32 motherboard and can be configured for RS-232, RS-422 or RS-485. Jumpers are located on the motherboard. You need to open the housing in order to access the jumpers.

CAUTION/ ATTENTION



It is recommended to use factory jumper settings. Opening the housing when it is sealed may damage the device and its parts.

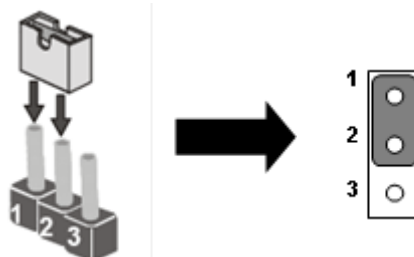
Il est recommandé d'utiliser la configuration d'usine de cavalier. Ouvrir le châssis lorsqu'il est scellé peut endommager l'appareil et ses pièces.



Note:

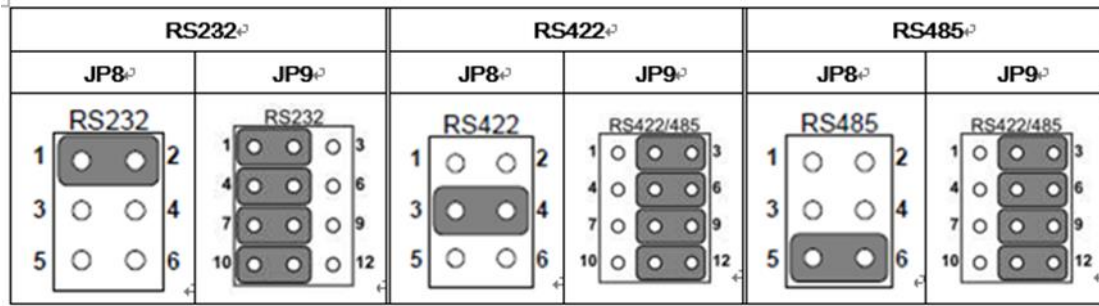
A pair of needle nose pliers may be helpful when working with jumpers. If you have any doubts about the best hardware configuration for your application, contact your local distributor or sales representative before you make any changes. Generally, you simply need a standard cable to make most connections.

The jumper setting diagram is shown below. When the jumper cap is placed on both pins, the jumper is SHORT. The illustration below shows a 3-pin jumper; pins 1 and 2 are short. If you remove the jumper cap, the jumper is OPEN.



Both Jumper 8 and Jumper 9 allow you to set the Serial Port COM1 configuration.

At the picture below you can see RS-232/RS422/RS485 (J8/J9) jumper setting.



Example: To make RS-232 Settings, set the Jumper 8 Pin 1-2 to the SHORT position, and Jumper 9 Pin1-2, 4-5, 7-8, 10-11 to the SHORT position.

2.5 Operating System

Marine Panel PC support optional Linux or Windows OS.



NOTE:

Your device will be shipped with the OS System according to your order. If you have any questions regarding OS settings, please contact us.

2.6 Brightness Adjustment

You can adjust brightness in display settings:

Example (Windows 7):

Right-click on a desktop > Personalize > Display > Adjust Brightness

Or: Start  > Settings > Control Panel > Display > Adjust Brightness

**Your OS may vary from the example above. Refer to Windows User Manual for your OS version.*

Chapter 3: Mounting Solutions

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

3.1 Cable Mounting Considerations

For a nice look and safe installation, please make sure cables are neatly hidden behind the device. Please refer to Chapter 2, to see the Cable Installation instruction.



WARNING! AVERTISSEMENT!

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.



WARNING! AVERTISSEMENT!

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.

3.2 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.

3.3 Mounting Guide

Marine Panel PCs come with different mounting options suitable for most of the industrial and commercial applications. The main mounting approach is chassis - very user-friendly in terms of installation. Refer to sub-sections below for more details.



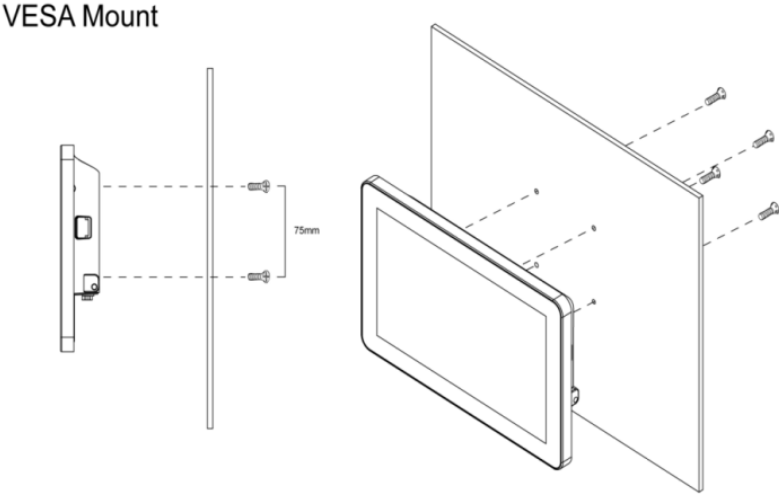
3.3.1 Console Mounting

Make sure you console cut out corresponds to the Panel PC cut out dimensions 157.6 x 249mm.

3.3.2 VESA Mounting

10.1" Marine Panel PC supports VESA Mount installation with customer's bracket.

VESA Mount		
VESA Plate 75 x 75 mm	Screw Hole Diameter VESA M4 x 5mm	Compatibility Compatible with swing arm mounting kits



Mounting Steps:

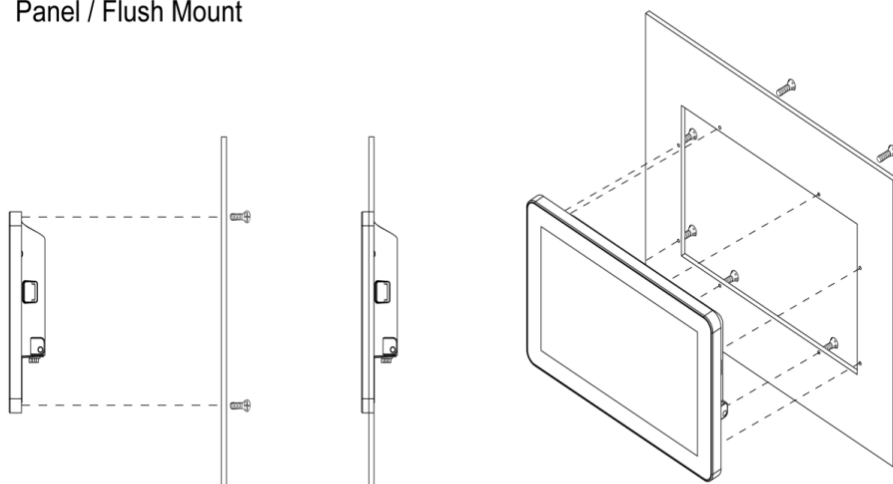
1. Screw VESA Bracket to the fixture (ex. wall) with four M4 flat-head screws.
2. Place the device on VESA bracket.

**NOTE:**

Please notice that both hooks on bracket should lock the notches on the back cover of the device.

3.3.3 Flush Mount/ Panel Mount

Panel / Flush Mount

**Mounting Steps:**

1. Prepare a fixture for the specific dimensions of the device.
2. Cut a hole on a sub frame or panel according to the cut-out dimensions 157.6 x 249mm.
3. Install the device properly onto the cut-out area of the sub frame or panel with the sides of the front bezel shown on the outside.

**NOTE:**

Please make sure that the eight holes on gasket can fit in the mounting holes on the device.

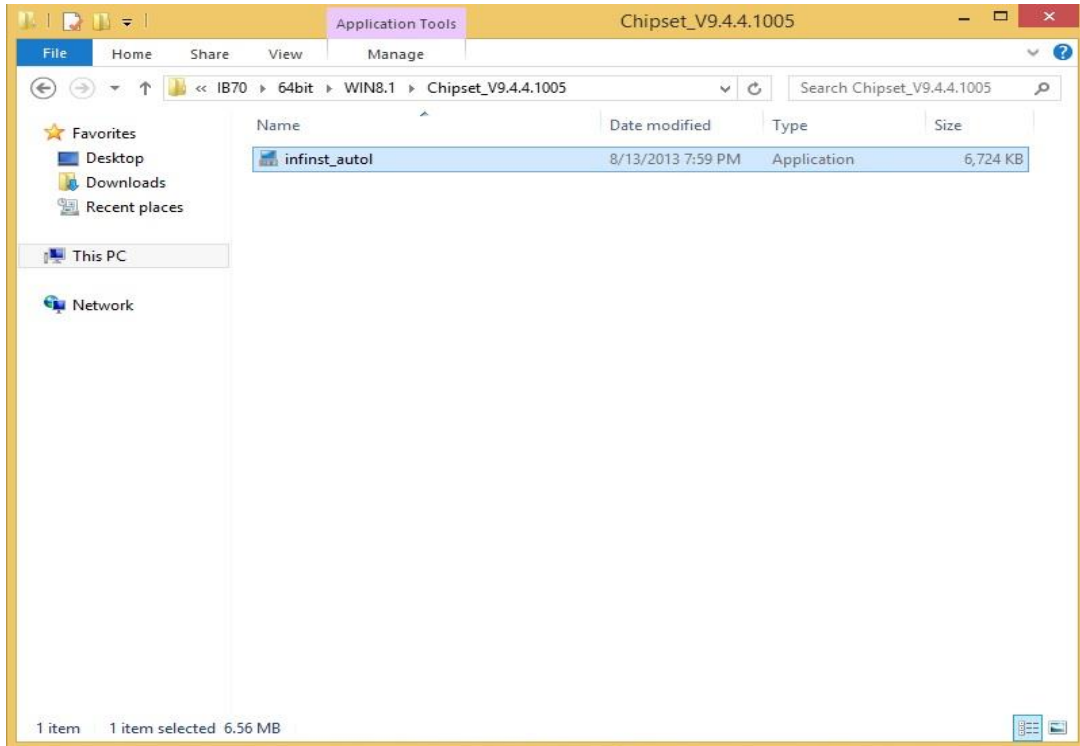
4. Fix the device to fixture with eight M3 screws (M3 x 4 mm).

Chapter 4: Driver Installation

This chapter describes how to install all necessary drivers.

4.1 Installing Chipset Driver

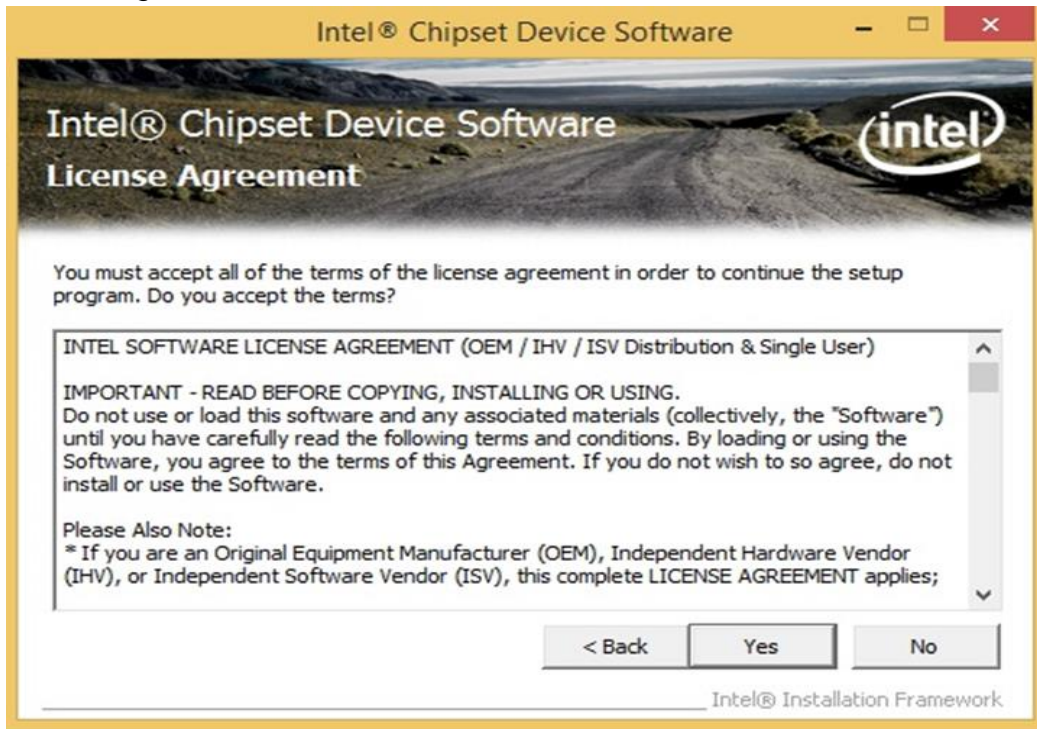
Step 1 Insert the CD that comes with the motherboard. Open the file document “Chipset Driver” and click “infinst_auto.exe” to install driver.



Step 2 Click **Next** to continue.



Step 3 Click **Yes** to agree the license terms.



Step 4 Click **Next** to install the driver.



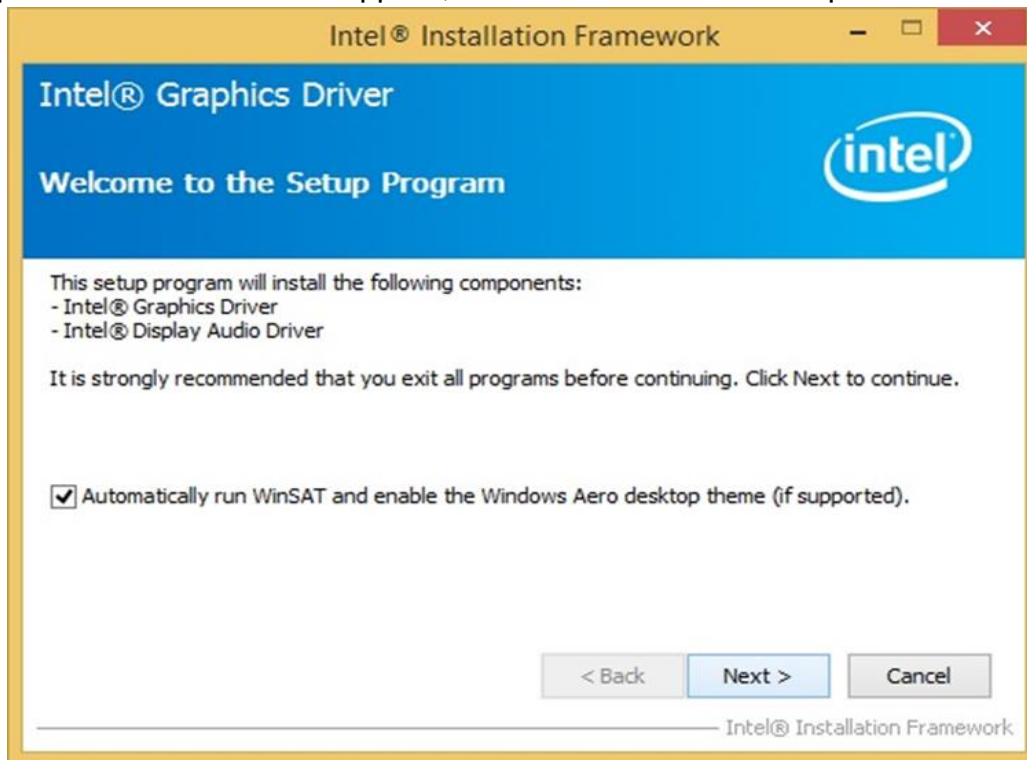
Step 5 Software setup progress window will appear, click **Next** to continue.

Step 6 Click **“Yes, I want to restart this computer now”** to finish the installation.

4.2 Installing Graphics Driver

Step 1 Insert the CD that comes with the motherboard. Open the file document “Graphics Driver” and click Setup to execute the setup.

Step 2 Setup Welcome Window will appear, click **Next** to continue the process.



Step 3 Carefully read the license terms and click **Yes** to agree.

Step 4 Check **Readme** file information and click **Next** to install driver.

Step 5 Click **Next** to continue.

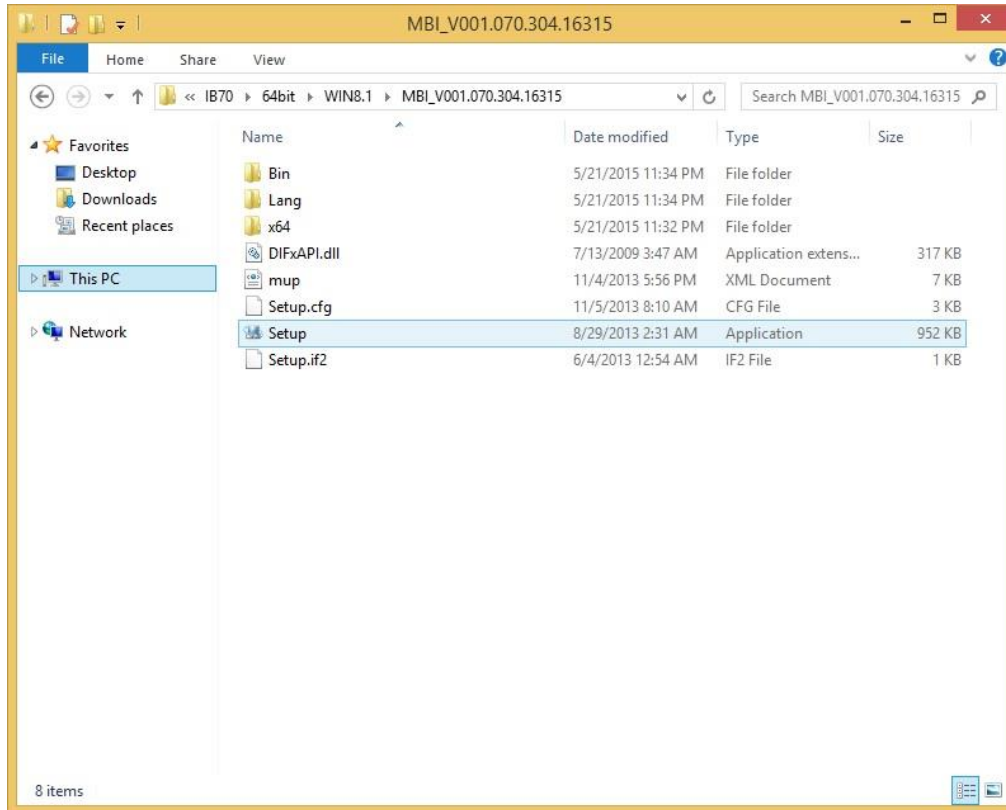
Step 6 Windows Security window will appear. Choose “**Install this driver software anyway**” to continue.

Step 7 Setup Progress window will appear, click **Next** to continue the installation.

Step 8 Setup is complete, choose “**Yes, I want to restart this computer now**” to finish the installation and restart the computer.

4.3 Installing Intel Sideband Fabric Device (Intel MBI) Driver (Windows 8)

Step 1 Insert the CD that comes with the motherboard. Open the file document “MBI” and click “Setup.exe” to install the driver.



Step 2 Welcome to the setup program window will appear, click **Next** to start the installation.

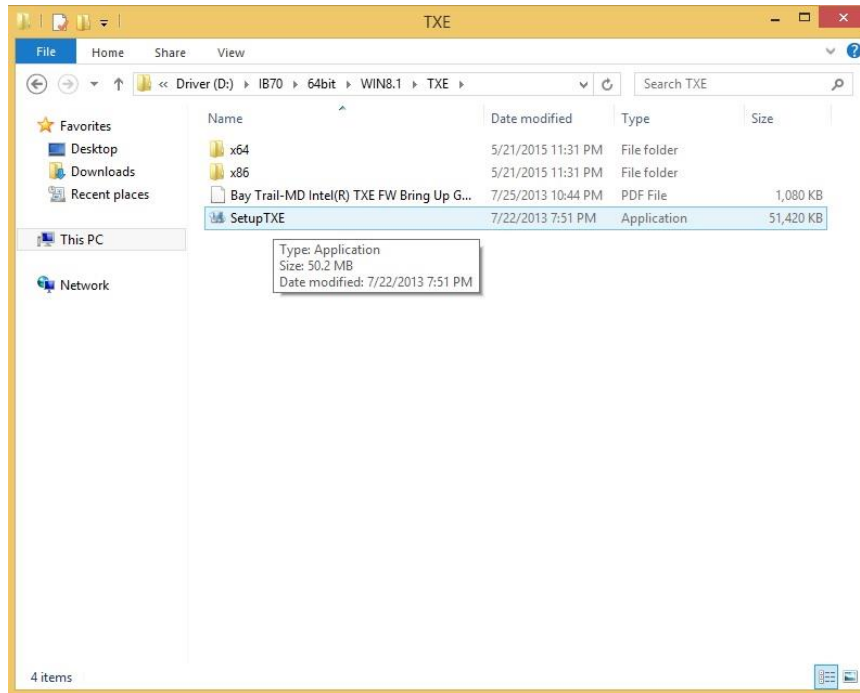
Step 3 Carefully read the License Agreement terms and click **Yes** to continue.

Step 4 Setup progress will appear, please wait for the operations to be performed, then click **Next** to continue the installation.

Step 5 The installation is complete, click “**Yes, I want to restart this computer now**” to finish and restart the computer.

4.4 Installing Intel Trusted Engine Interface (Intel TXE) Driver

Step 1 Insert the CD that comes with the motherboard. Open the file document “TXE” and click “Setup TXE.exe” to install the driver.



Step 2 Welcome to the setup program window will appear, click **Next** to start the installation.

Step 3 Carefully read the license terms and click **Yes** to agree.

Step 4 Confirmation window will appear, click **Next** to continue the driver installation.

Step 5 Please wait while the product is being installed.

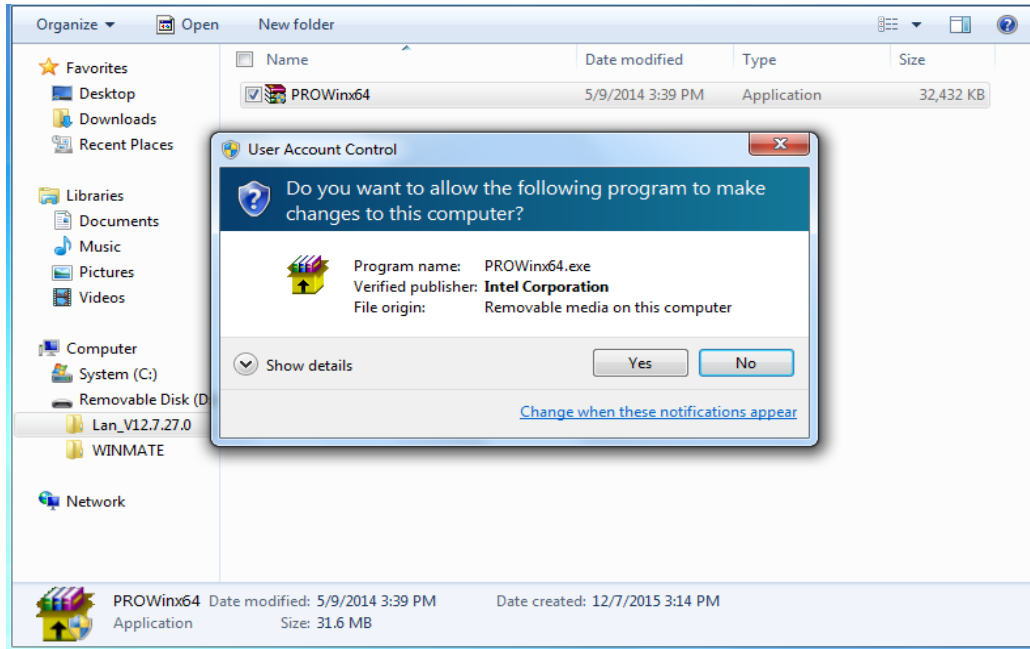
Step 6 The installation is complete, click **Finish** to complete the installation and restart the computer.

4.5 Installing Intel Network Connections

User must confirm the type of operating system is being used before installing Intel Network Connections. Follow the steps below to complete the installation.

Step 1 Click “PROWin64.exe”

Step 2 Click **Yes** to start the installation.



Step 3 Welcome window will appear, click **Next** to install the driver.

Step 4 In the program maintenance window you will see two options available. Remove is to remove Intel Networks Connections from your computer, and Modify is to make any changes. Choose **Modify** to continue.

Step 5 In the **Setup Options** window choose “**Intel® PRO Set for Windows® Device Manger**”, “**Intel ® Network Connections SNMP Agent**” and “**Advanced Network Services**”.

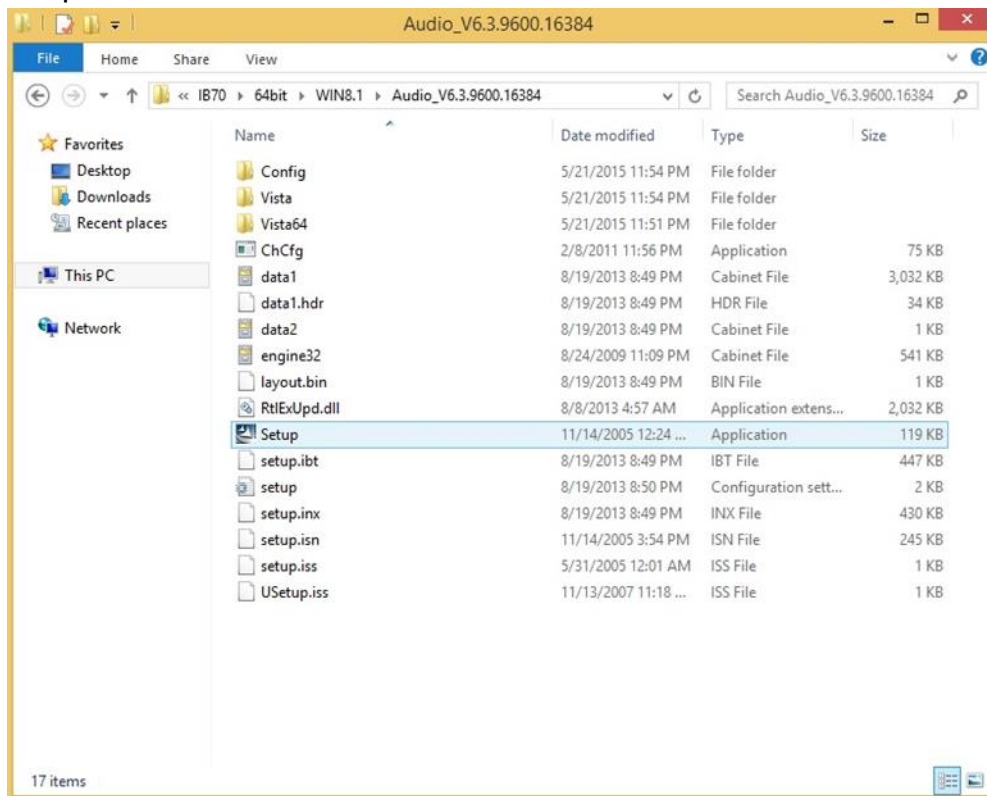
Step 6 The wizard is ready to begin installation, click **Install** to continue.

Step 7 Install wizard completed, click **Finish** completing the installation.

4.6 Installing Audio Driver

The ALC886 series are high-performance 7.1+2 channel high definition audio codecs that provide ten DAC channels for simultaneous support of 7.1 sound playback, 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.

Step 1 Insert the CD that comes with the motherboard. Open the file document “Audio Driver” and click “Setup.exe” to install the driver.



Step 2 Please wait while the InstalShield Wizard prepares the setup.

Step 3 Welcome window will appear, click **Next** to install the driver.

Step 4 It might take some time to configure new software installation. Please wait.

Step 5 Windows security will appear, click **Install** to install the audio driver.

Step 6 The installation is complete, select “**Yes, I want to restart my computer now**”, and click **Finish** to complete the installation.

4.7 USB 3.0 Driver (Windows 7)

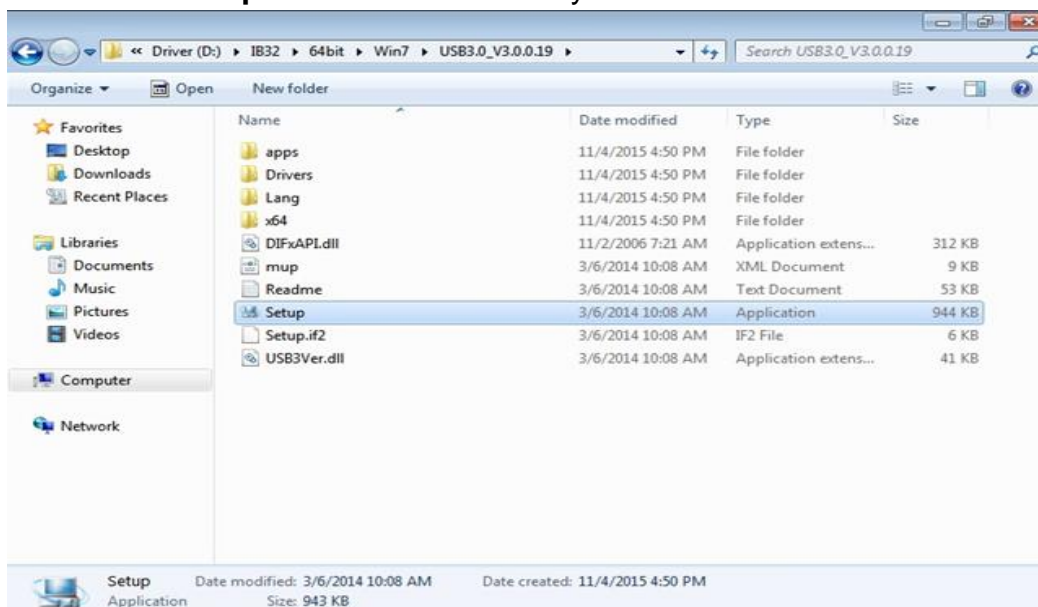


NOTE:

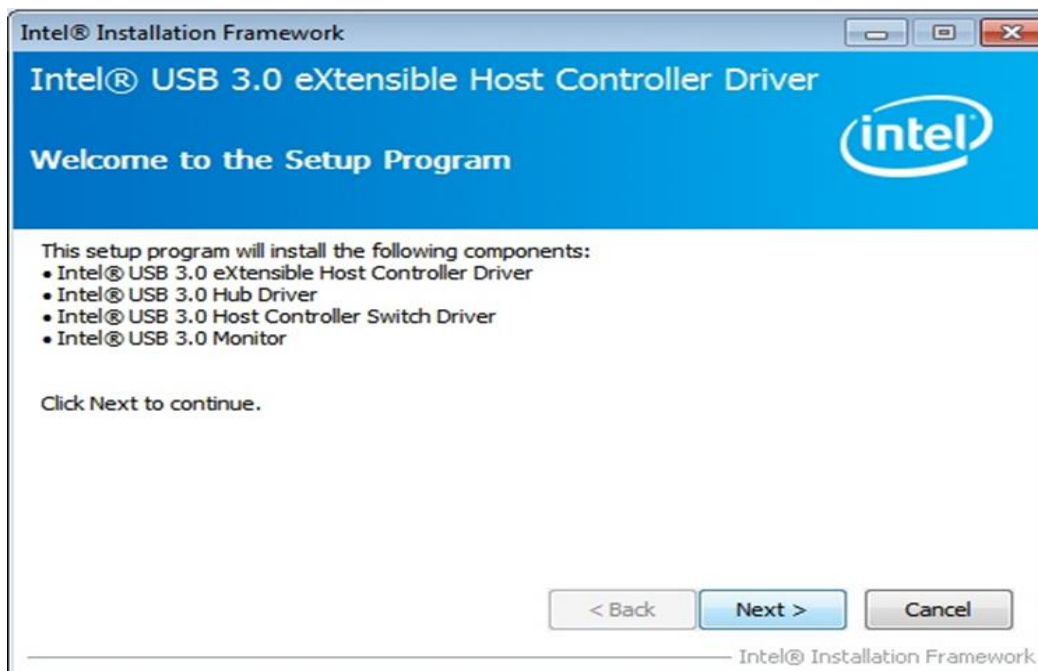
If the operating system of the device is Windows Embedded 8.1 Industry or Windows Embedded 8 Standard, users can skip this installation.

Step 1 Locate the hard drive directory where the driver files are stored with the browser or the explore feature of Windows.

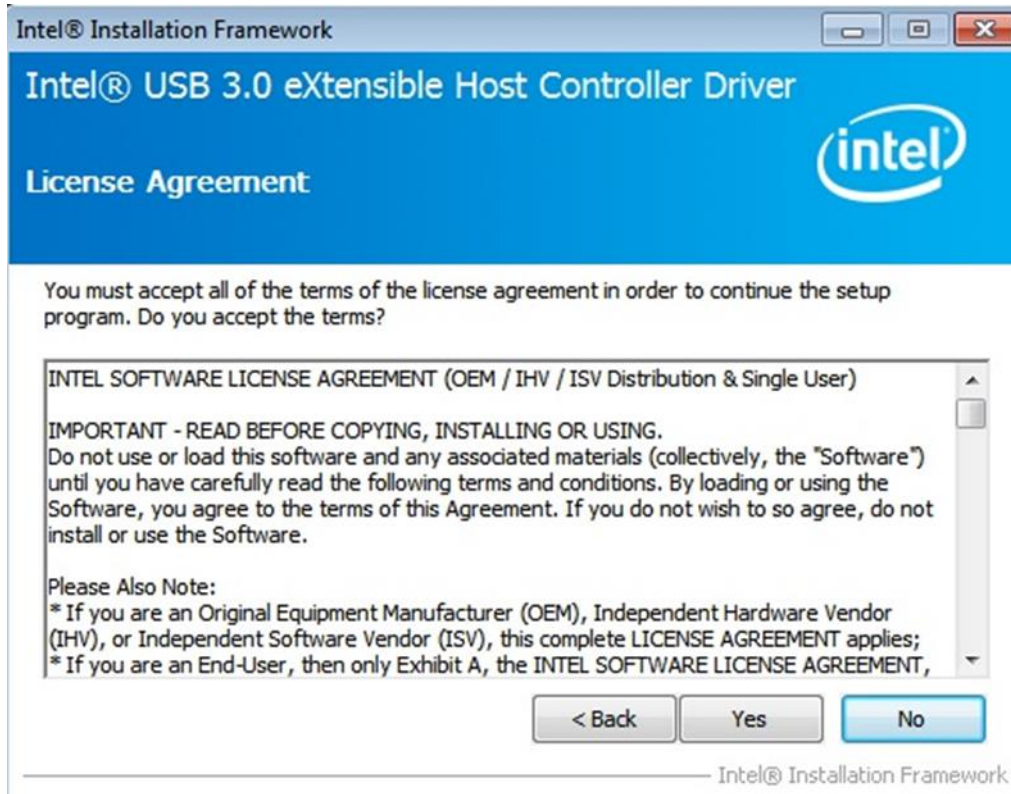
Step 2 Double click the **Setup.exe** from this directory.



Step 3 Click **Next** to continue.



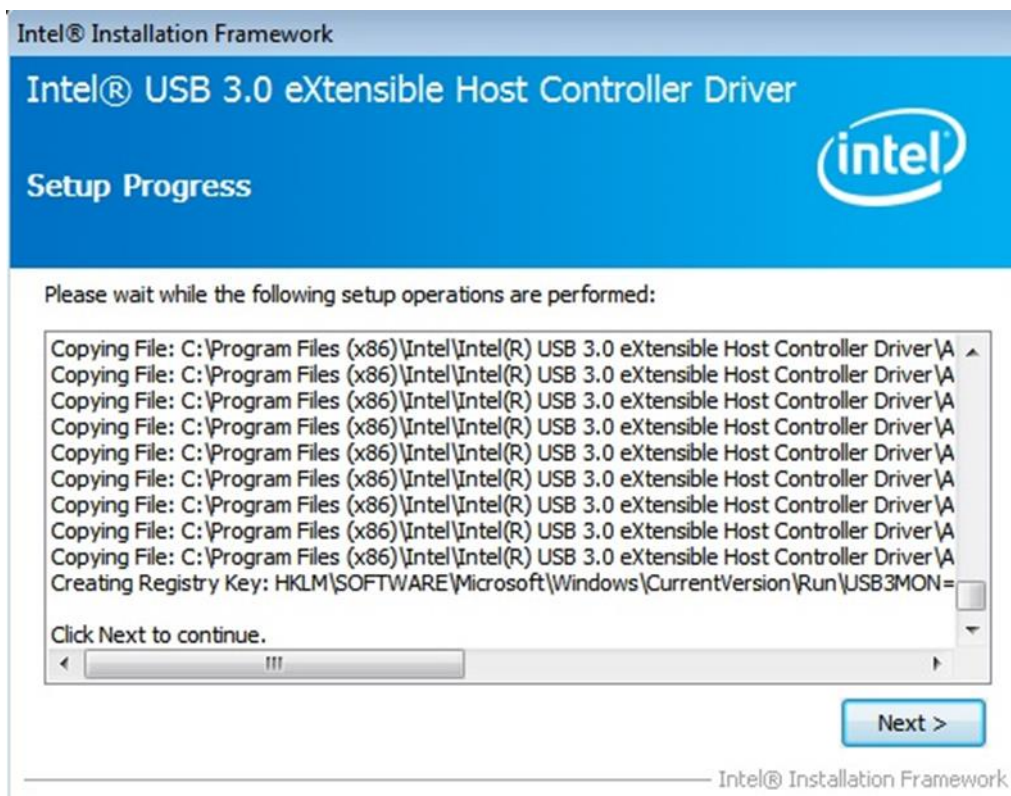
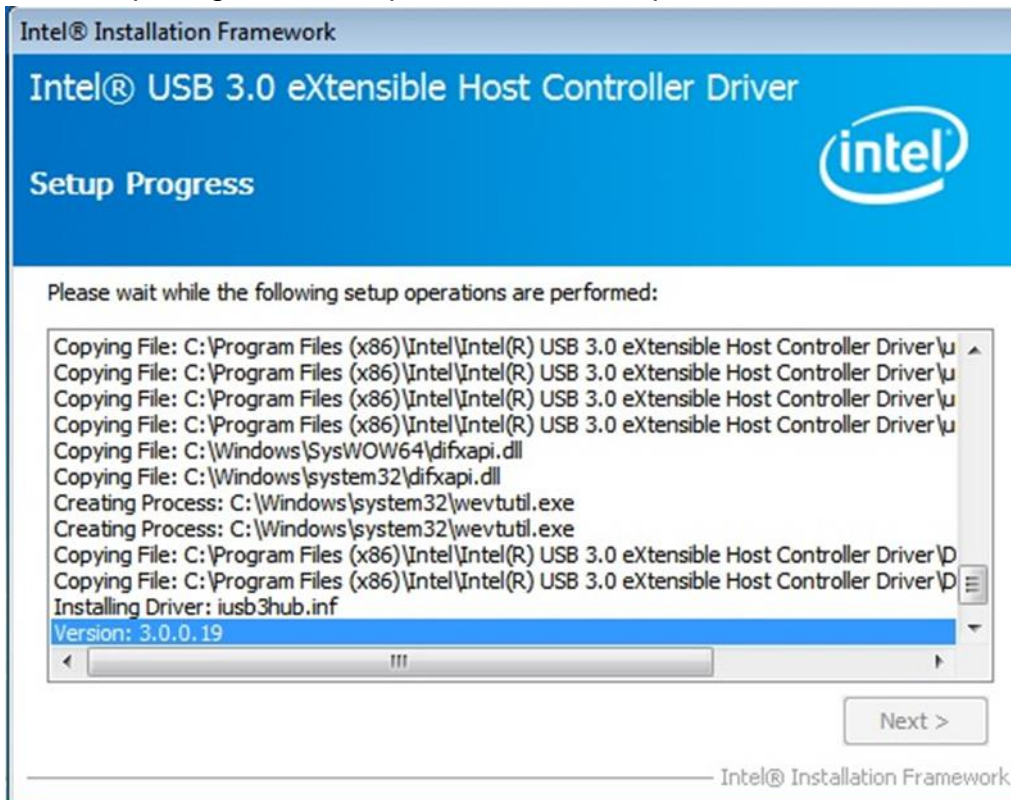
Step 4 Read the License Agreement and click **Yes** to proceed.



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** then **Finish** to restart your computer.



Chapter 5: BIOS Setup

This chapter provides information on how to use BIOS setup, its functions and menu.

5.1 When and How to Use BIOS Setup

To enter the BIOS setup, you need to connect an external USB keyboard and 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 if:

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

5.2 BIOS Functions

BIOS Navigation Keys

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



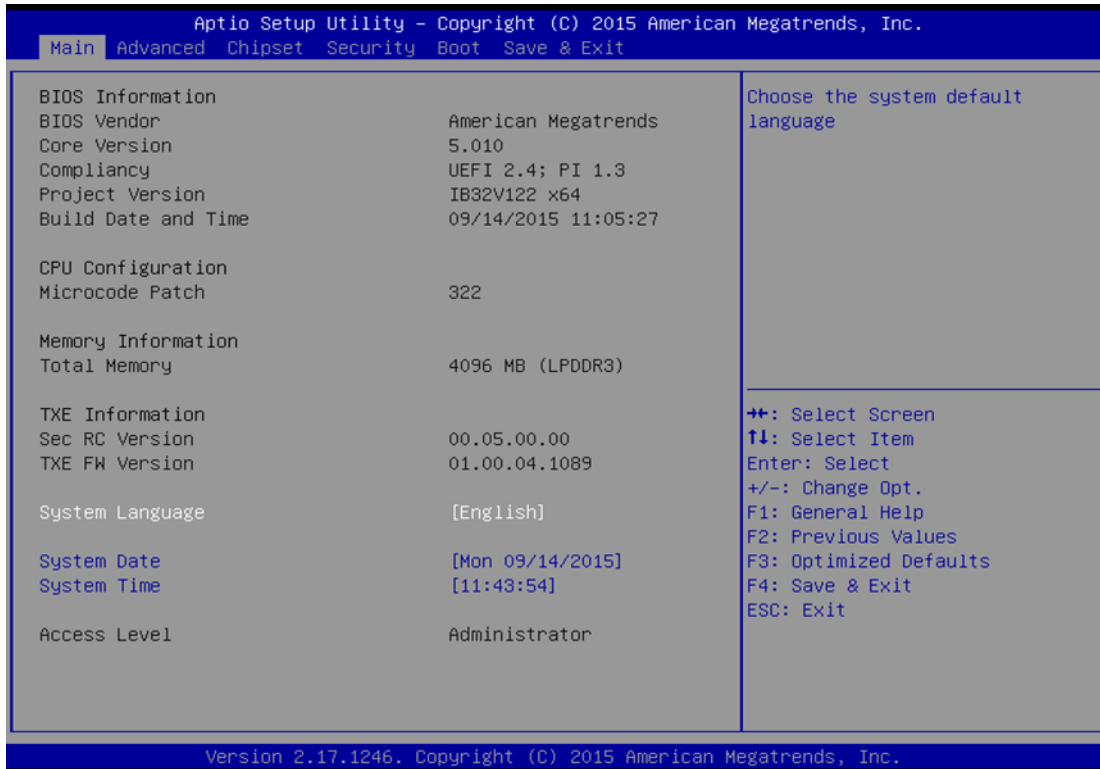
NOTE:

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

5.2.1 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:



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

5.2.2 Advanced Menu

The advanced menu also uses to set configuration of the CPU and other system devices. There are sub menus on the left frame of the screen.

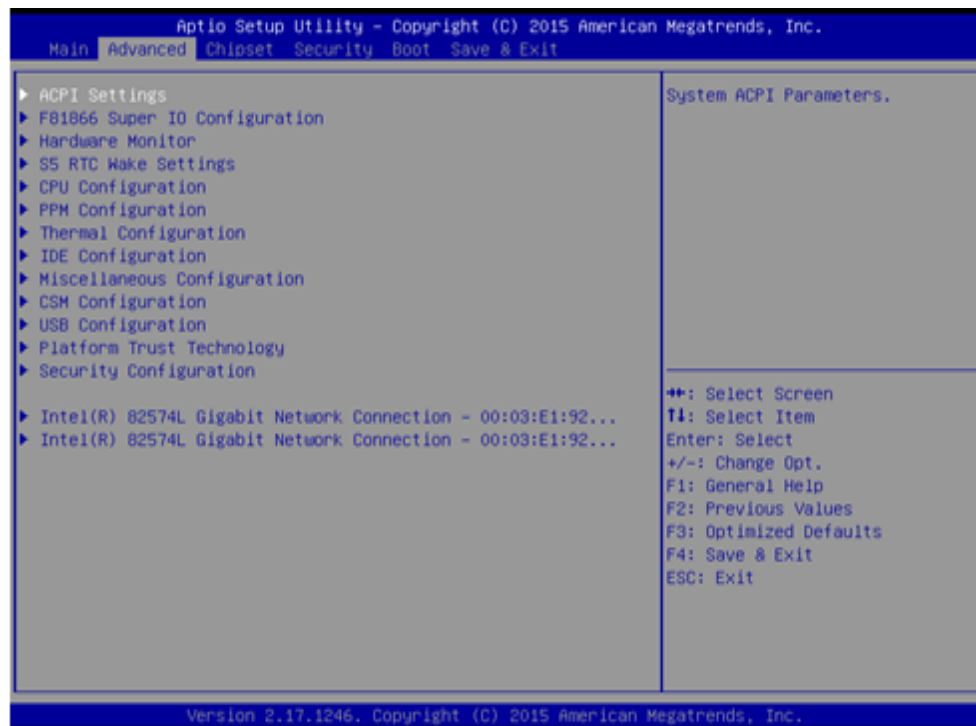


IMPORTANT:

Handle advanced BIOS settings page with caution. Any changes can affect the operation of your computer.

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

Advanced Configuration and Power Interface (ACPI) settings allow to control how the power switch operates. The power supply can be adjusted for power requirements. You can use the screen to select options of ACPI configuration. A description of the selected items will appear on the right side of the screen.



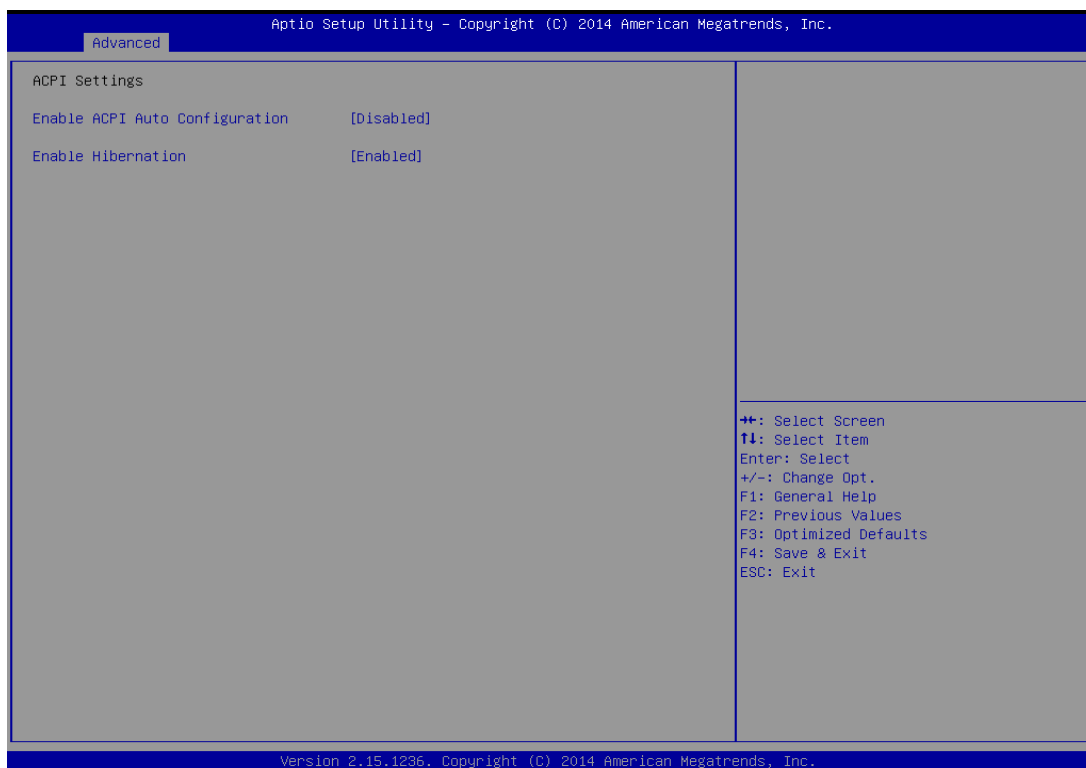
BIOS Setting	Description	Setting Option	Effect
ACPI Settings	Configures ACPI settings	Enter	Opens submenu
F81866 Super IO Configuration	Configures IO settings	Enter	Opens submenu
Hardware Monitor	Configures Hardware Monitor settings	Enter	Opens submenu
S5 RTC Wake Settings	Configures RTC Wake parameters	Enter	Opens submenu
CPU Configuration	Configures CPU settings	Enter	Opens submenu
PPM Configuration	Configures PPM settings	Enter	Opens submenu
Thermal Configuration	Configures Thermal Parameters	Enter	Opens submenu
IDE Configuration	Configures IDE Parameters	Enter	Opens submenu

BIOS Setting	Description	Setting Option	Effect
Miscellaneous Configuration	Configures Miscellaneous Parameters	Enter	Opens submenu
CSM Configuration	Configures CSM Parameters	Enter	Opens submenu
USB Configuration	Configures USB Settings	Enter	Opens submenu
Platform Trust Technology	Configures Platform Trust Technology parameters	Enter	Opens submenu
Security Configuration	Configures Security parameters	Enter	Opens submenu

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

5.2.2.1 ACPI Settings

Advanced Configuration and Power Interface (ACPI) settings allow to control how the power switch operates. The power supply can be adjusted for power requirements. You can use the screen to select options of ACPI configuration. A description of the selected items will appear on the right side of the screen.



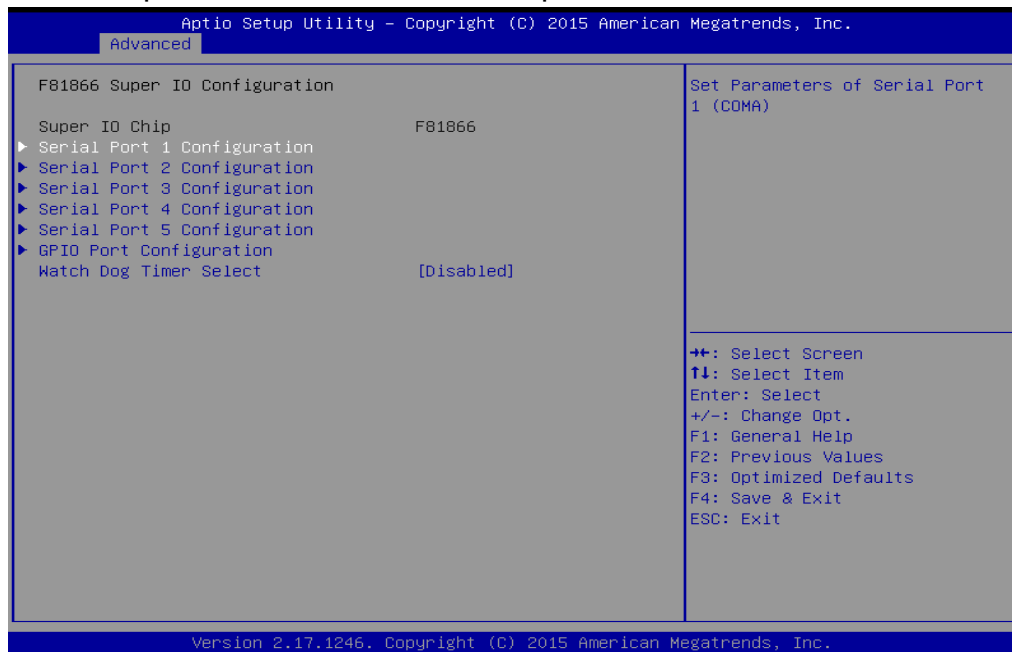
BIOS Setting	Description	Setting Option	Effect
Enable ACPI Auto Configuration	BIOS ACPI Auto Configuration	Enable/ Disable	Enables or Disables this function
Enable Hibernation	Control hibernation	Enable/ Disable	Enables or Disables this function

5.2.2.2 F81866 Super IO Configuration

You can use the screen to select options for Super IO Configuration and change the value of the option selected. A description of the selected item appears on the right side of the screen. For items marked with ►, please press <Enter> for more options.

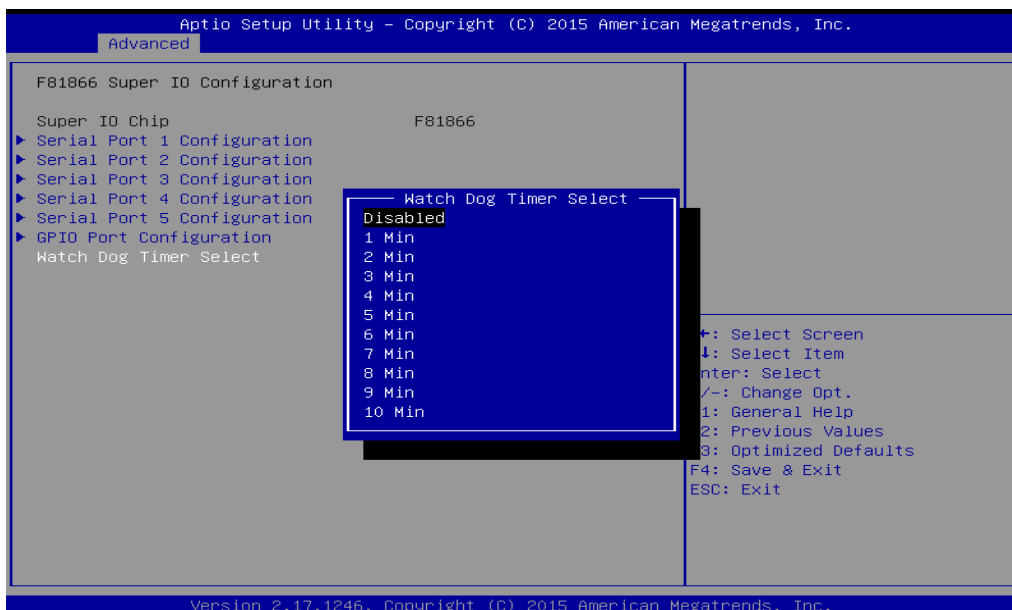
Serial Port 1~5

Use these items to set parameters related to serial port 1~5.



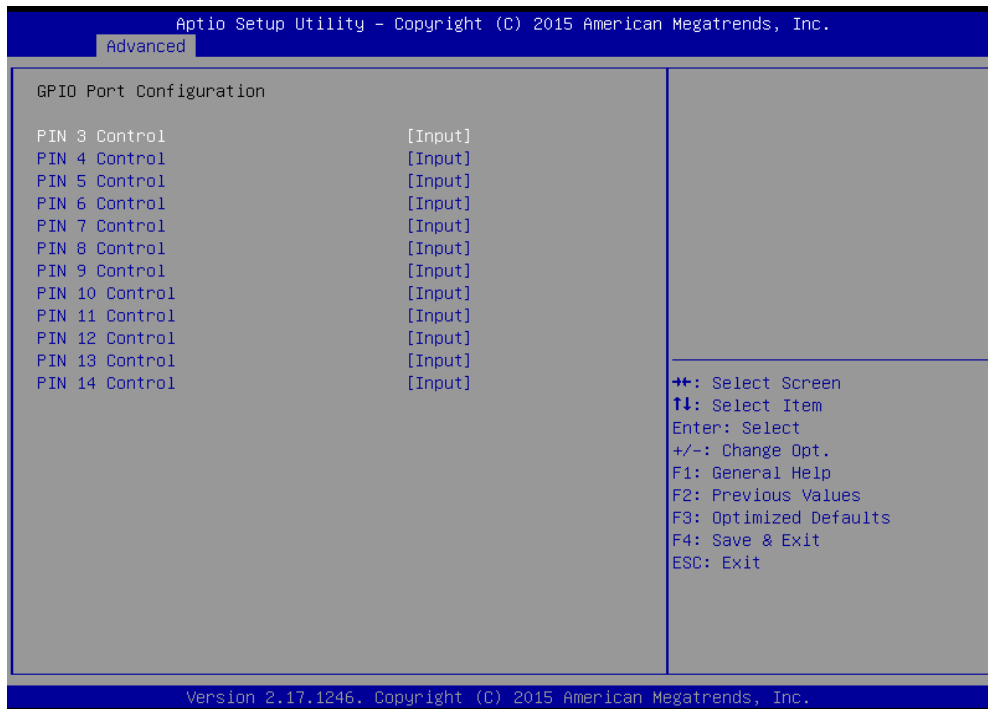
Watch Dog Time Select

You can either disable **Watch Dog Time Select**, or set up the time. Use <Arrow> keys to navigate and please press <Enter> to select the item.



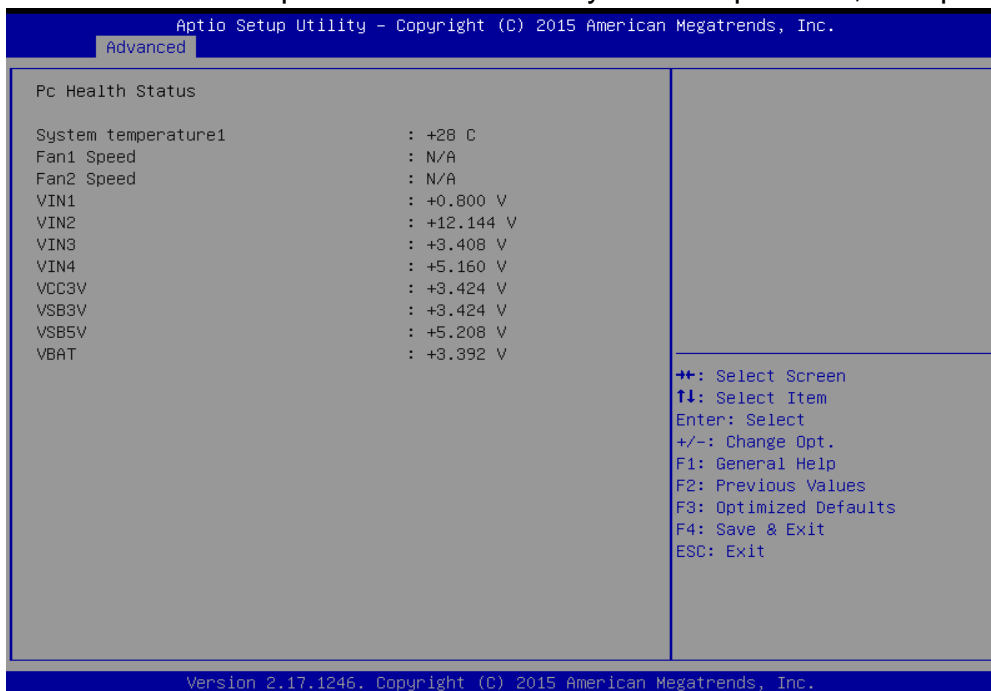
GPIO Port Configuration

You can use the screen to change GPIO Port setting. Use these items to set parameters related to **PIN3-PIN14 Control**.



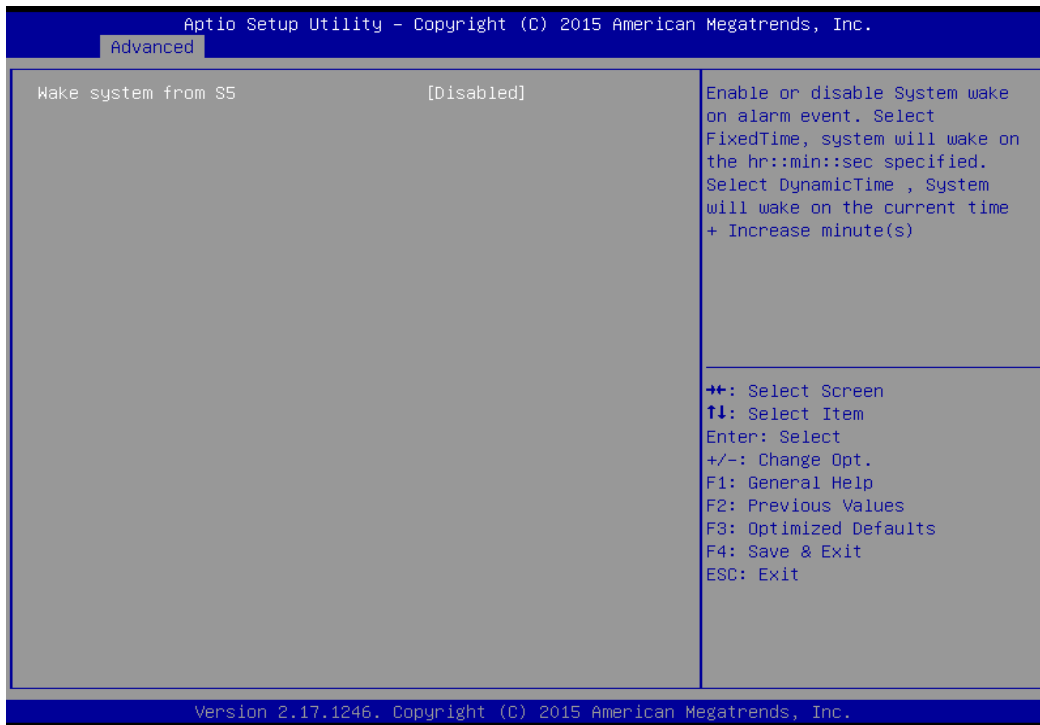
5.2.2.3 Hardware Monitor

You can check PC Health Status parameters such as system temperature, fan speed etc.





5.2.2.4 S5 RTC Wake Settings

Wake system from S5 enables or disables system wake on alarm event. It allows you to wake up the system in a certain time.

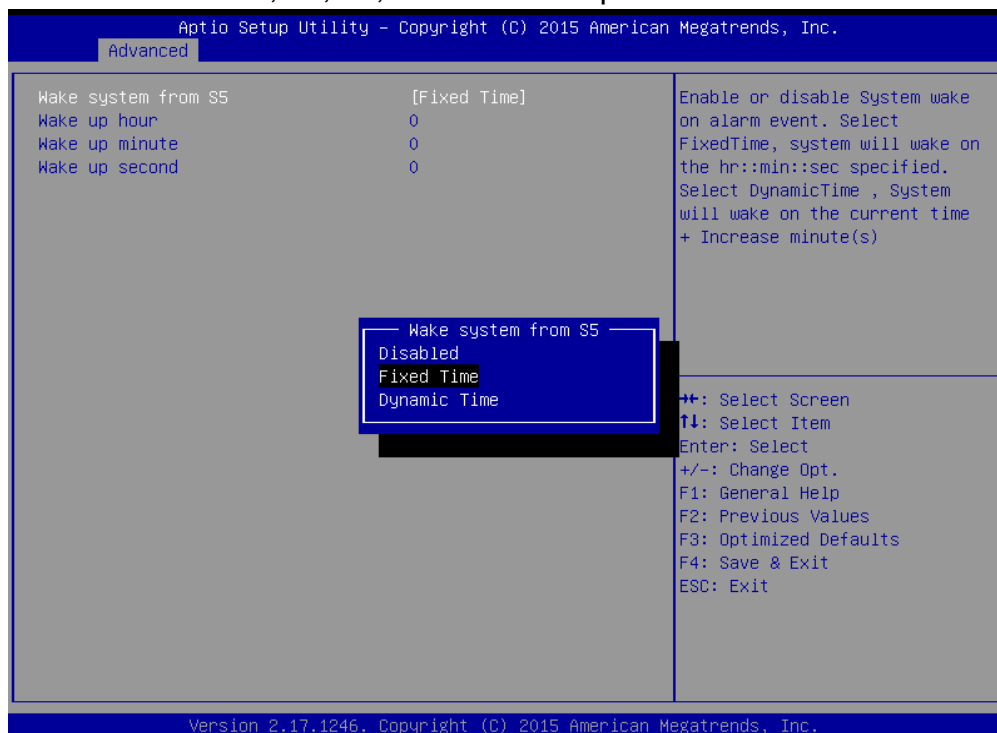


Wake System from S5 with fixed time setting

Select **Fixed Time** to set the system to wake on the specified time.

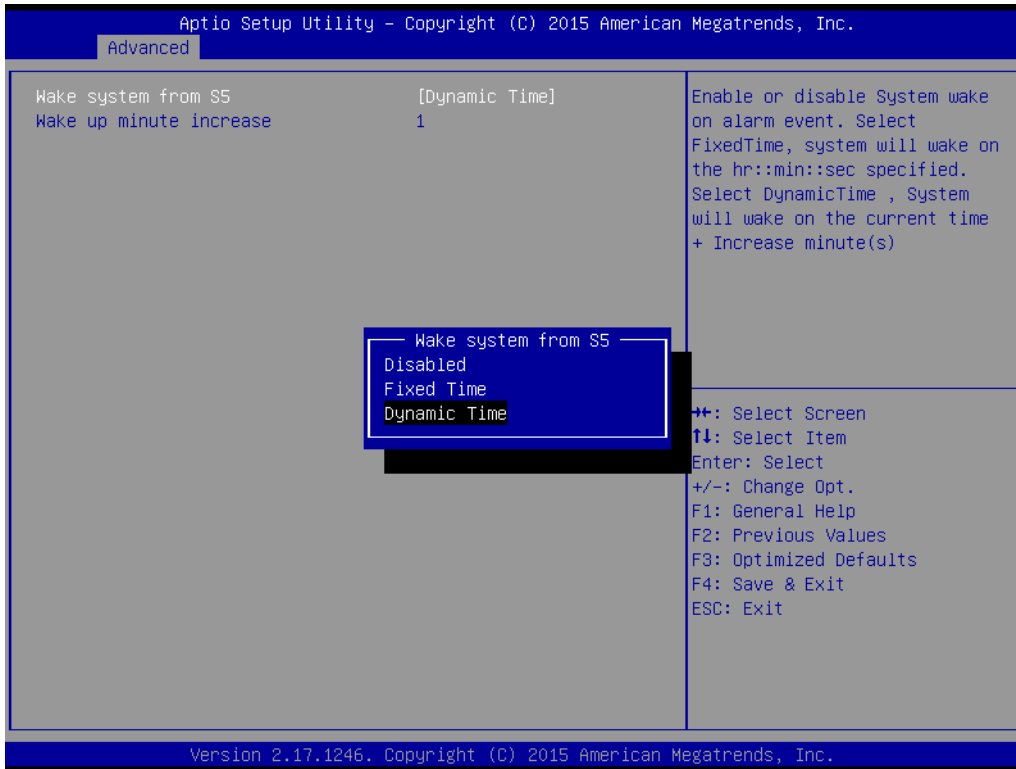
Use Navigation Keys   to switch among the items: Day, Hour, Minute and Second. Type the desired value in the selected item.

For example: If you want the system to start up automatically at 15:30:30, the 10th day of each month, then you should enter 10, 15, 30, and 30 from top to bottom.

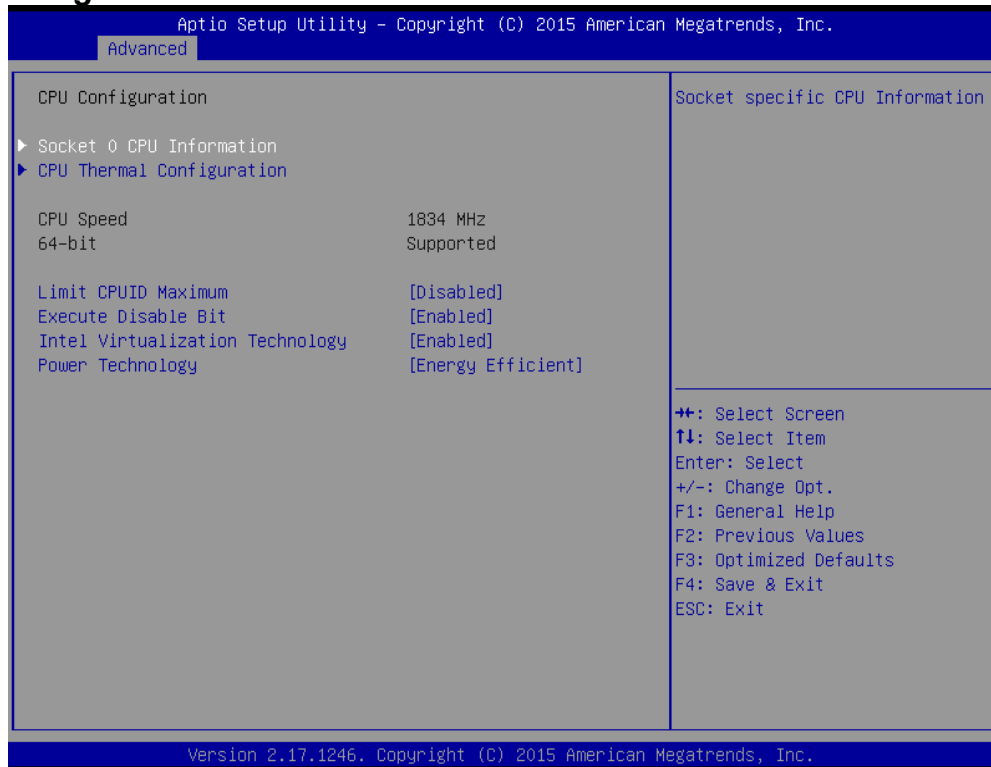


Wake system from S5 after dynamic time setting

Select **Dynamic Time** to set the system to wake on the current time + increase minute (s).



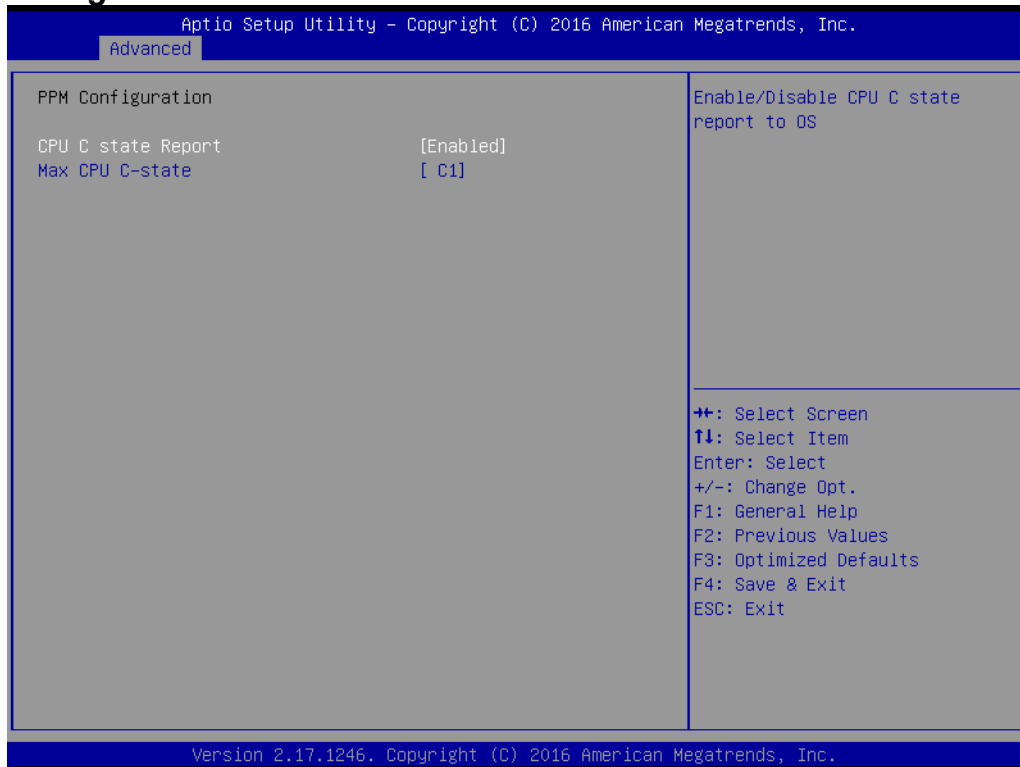
5.2.2.5 CPU Configuration



BIOS Setting	Description	Setting Option	Effect
Socket CPU Information	This item contains socket specific CPU information.	Enter	Open sub-menu
CPU Thermal Configuration	Thermal control	Enter	Open sub-menu
Limit CPUID Maximum	Limits CPIID Maximum	Disabled/Enabled	Enable/Disable this function

BIOS Setting	Description	Setting Option	Effect
Execute Disable Bit	Execute Disable Bit	Disabled/Enabled	Enable/Disable this function
Intel Virtualization Technology	Allows to run recent OS and applications	Enabled/Disabled	Enable/Disable this function
Power Technology	Control the performance and power management functions of the processors	Disabled	Disable this function
		Energy Efficient	Enable energy efficient mode

5.2.2.6 PPM Configuration



BIOS Setting	Description	Setting Option	Effect
CPU C State Report	Shows CPU C State Report	Enabled/Disabled	Enable or Disable CPU C state report to OS
Max CPU C-State	Allows to enter power-saving mode to save energy	C1, C3, C6, C7, Auto	Enable or Disable CPU C Max CPU S-Sate

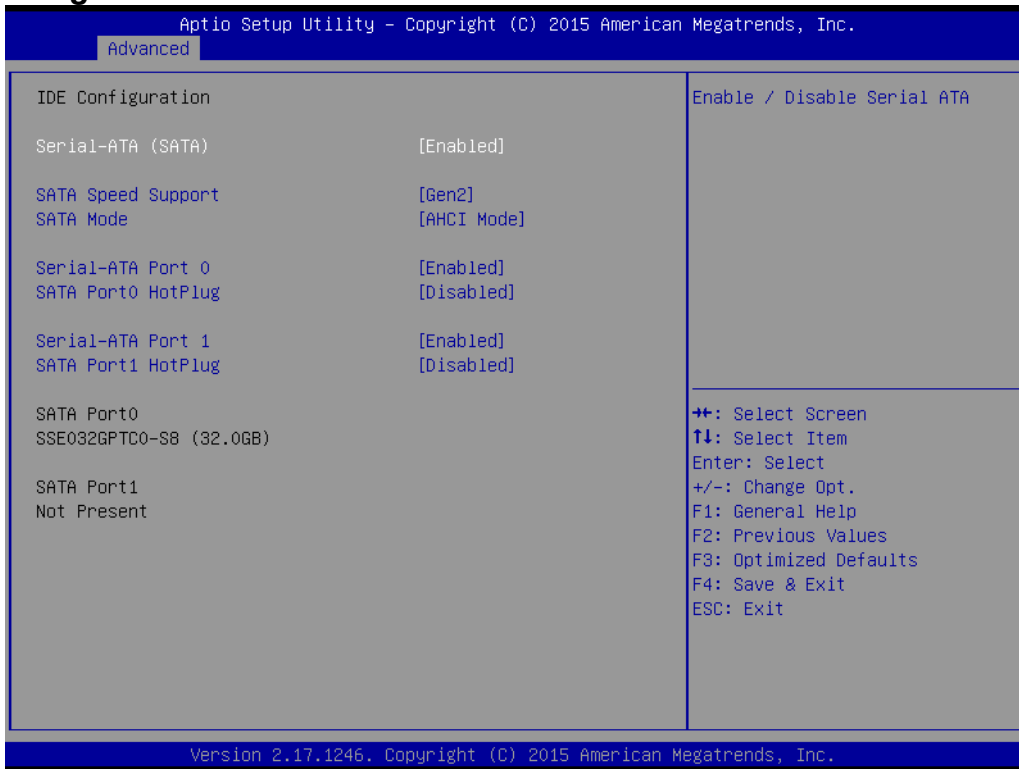
5.2.2.7 Thermal Configuration

This menu allows controlling thermal settings of the computer. Refer to the descriptions on the top right side of the screen for detailed information about each setting.



BIOS Setting	Description	Setting Option	Effect
Critical Trip Point	Specifies the temperature at which the OS will shut down the system	90C, 87C, 85C, 79C, 71C, 63C, 55C, 47C, 39C, 31C, 23C, 15C	Select the disable temperature for the system to shut down
Passive Trip Point	Specifies the temperature at which the OS will begin adjusting the processor	90C, 87C, 85C, 79C, 71C, 63C, 55C, 47C, 39C, 31C, 23C, 15C	Select the disable temperature for the system to start adjusting the processor

5.2.2.8 IDE Configuration



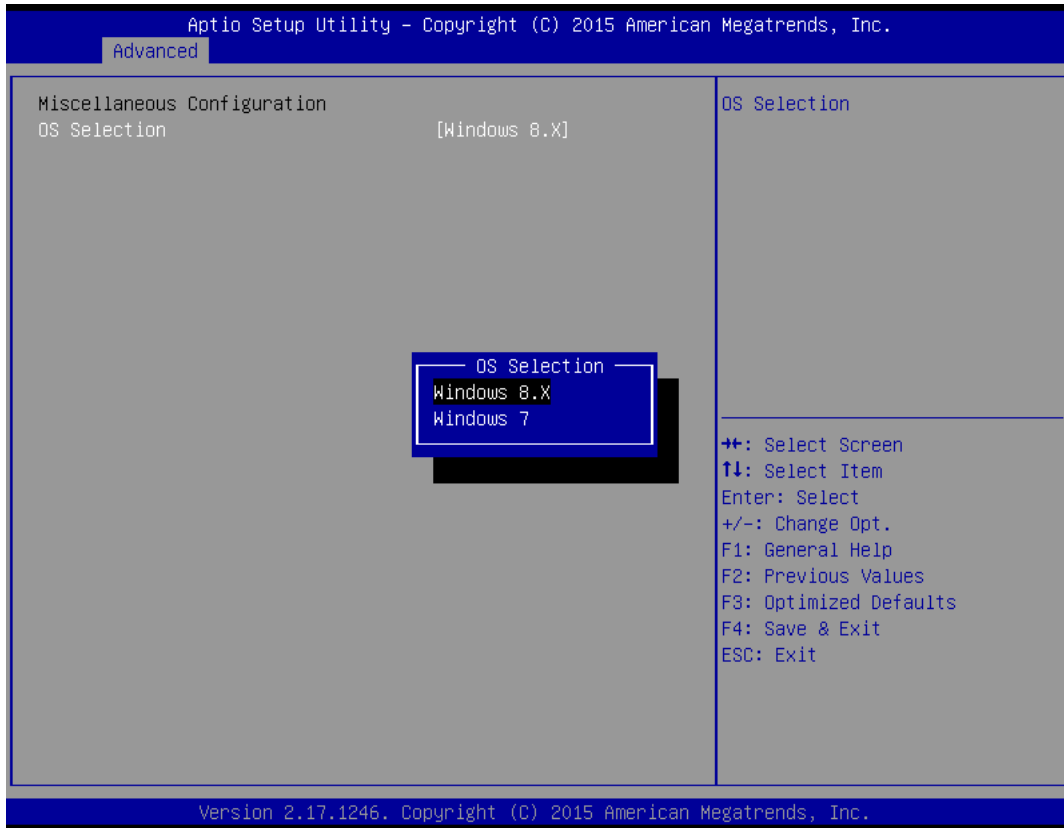
BIOS Setting	Description	Setting Option	Effect
Serial- ATA (SATA)	Responsible for supporting chipset drives with SATA interface.	Enabled/ Disabled	Enable or disable this function
SATA Speed Support	Allows forcing the speed limit SATA II ports standard IDE / SATA-controller chipset.	Gen1	The maximum speed will be limited to 150 MB/s
		Gen2	The maximum speed will be limited to 300 MB/s
		Disabled	Disables manual configuration of SATA II ports (mode will be selected based on the specifications of connected drives)
SATA Mode	This option specifies the operation mode of modern IDE / SATA-controller chipset	[AHCI]	Selecting this option allows you to take full advantage of the extended host controller SATA II
		[IDE]	SATA controller will operate in a mechanism similar to a conventional IDE-controller
		[RAID]	Allows combining hard drives in RAID-arrays in order to improve the reliability of data storage, or to increase the speed.

BIOS Setting	Description	Setting Option	Effect
Serial- ATA Port 0	The option turns on or off Port 0 of SATA channels of standard IDE / SATA-controller chipset.	Enabled/ Disabled	Turn on (Enabled) or turn off (Disabled) Port 0
SATA Port0 HotPlug	This feature that allows you to attach and remove a SATA Port0	Enabled/ Disabled	Enable or disable this function
Serial- ATA Port 1	The option turns on or off Port 1 of SATA channels of standard IDE / SATA-controller chipset.	Enabled/ Disabled	Turn on (Enabled) or turn off (Disabled) Port 1
SATA Port1 HotPug	This feature that allows you to attach and remove a SATA Port1	Enabled/ Disabled	Enable or disable this function

5.2.2.9 Miscellaneous Configuration

OS Selection

This item allows users to select the proper Operating System.



BIOS Setting	Description	Setting Option	Effect
Windows 8.X	Allows user to choose the proper OS.	Enter	Use Windows 8.X
Windows 7	Allows user to choose the proper OS.	Enter	Use Windows 7



NOTE:

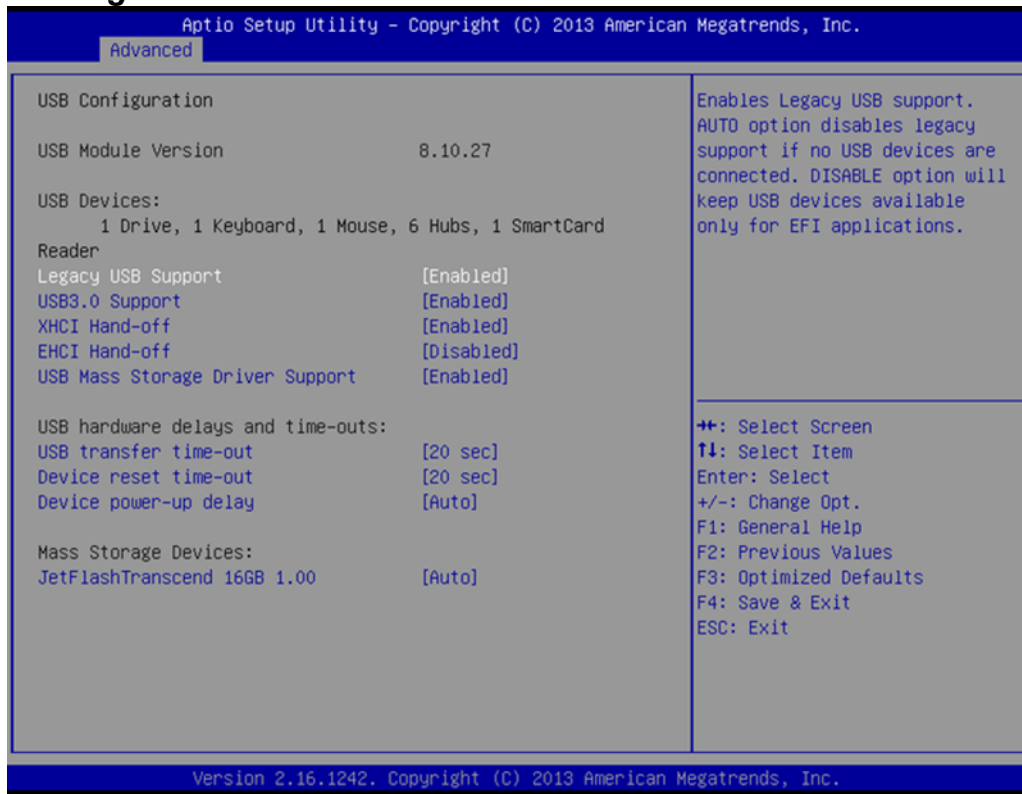
The device will be shipped with OS according to your order. BIOS OS Selection menu varies accordingly.

5.2.2.10 CSM Configuration



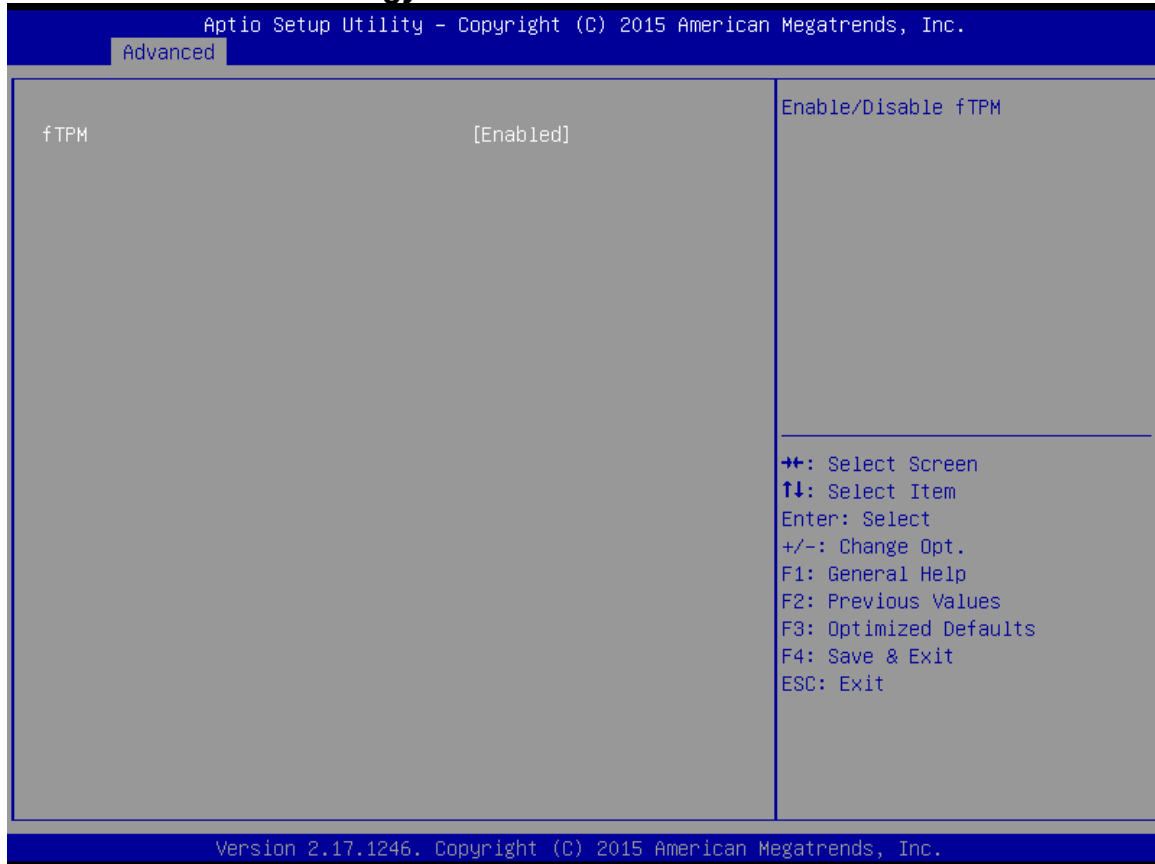
BIOS Setting	Description	Setting Option	Effect
CSM Support	The Compatibility Support Module (CSM) is a component of the UEFI firmware that provides legacy BIOS compatibility by emulating a BIOS environment, allowing legacy operating systems and some option ROMs that do not support UEFI to still be used.	Enabled/ Disabled	Enable or disable the Compatibility Support Module
GateA20 Active	Activate GateA20	Upon Request	Enable or disable this function
Option ROM Messages	Receiving ROM Messages Settings	Force BIOS	Set ROM messages parameters
Network	Specifies which Network option ROM is booted	UEFI	Only UEFI option ROMs are booted
		Legacy	
Storage	Specifies which Storage option ROM is booted	UEFI	Only UEFI option ROMs are booted
		Legacy	Only Legacy option ROMs are booted
Video	Specifies which Video option ROM is booted	UEFI	Only UEFI option ROMs are booted
		Legacy	Only Legacy option ROMs are booted
Other PCI Devices	Specifies which option ROM is booted for devices other than the network, storage or video	UEFI	Only UEFI option ROMs are booted
		Legacy	Only Legacy option ROMs are booted

5.2.2.11 USB Configuration



BIOS Setting	Description	Setting Option	Effect
Legacy USB Support	User can enable or disable USB port.	Disable	Keep USB devices available only for EFI applications.
		Enable	Enable all the USB devices
USB 3.0 Support	User can enable or disable USB 3.0 (XHCI) controller support.	Enable	Enable USB 3.0 is enable
		Disable	USB 3.0 is disable
XHCI Hand-off	This is a workaround for OSs without XHCI hand-off support.	Disable	Disables this function
		Enable	Enables this function
EHCI Hand-off	This is a workaround for OSs without ECHI hand-off support.	Disable	Disables this function
		Enable	Enables this function
USB mass storage driver support	User can Enable or disable USB mass storage driver support.	Disable	Disables this function
		Enable	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

5.2.2.12 Platform Trust Technology



BIOS Setting	Description	Setting Option	Effect
fTPM	Trusted Platform Module parameters	Enabled/Disabled	Enables or disables this function

5.2.2.13 Security Configuration



BIOS Setting	Description	Setting Option	Effect
TXE	Trusted Execution Technology parameters	Enabled/Disabled	Enables or disables this function
TXE HMRFPD	TXE HMRFPD parameters	Enabled/Disabled	Enables or disables this function
TXE Firmware Update	TXE Firmware Update parameters	Enabled/Disabled	Enables or disables this function
TXE EOP Message	TXE EOP Message parameters	Enabled/Disabled	Enables or disables this function
Intel ® AT	Intel ® AT parameters	Enabled/Disabled	Enables or disables this function
Intel ® AT Platform PBA	Intel ® AT Platform PBA parameters	Enabled/Disabled	Enables or disables this function

5.2.3 Chipset Menu

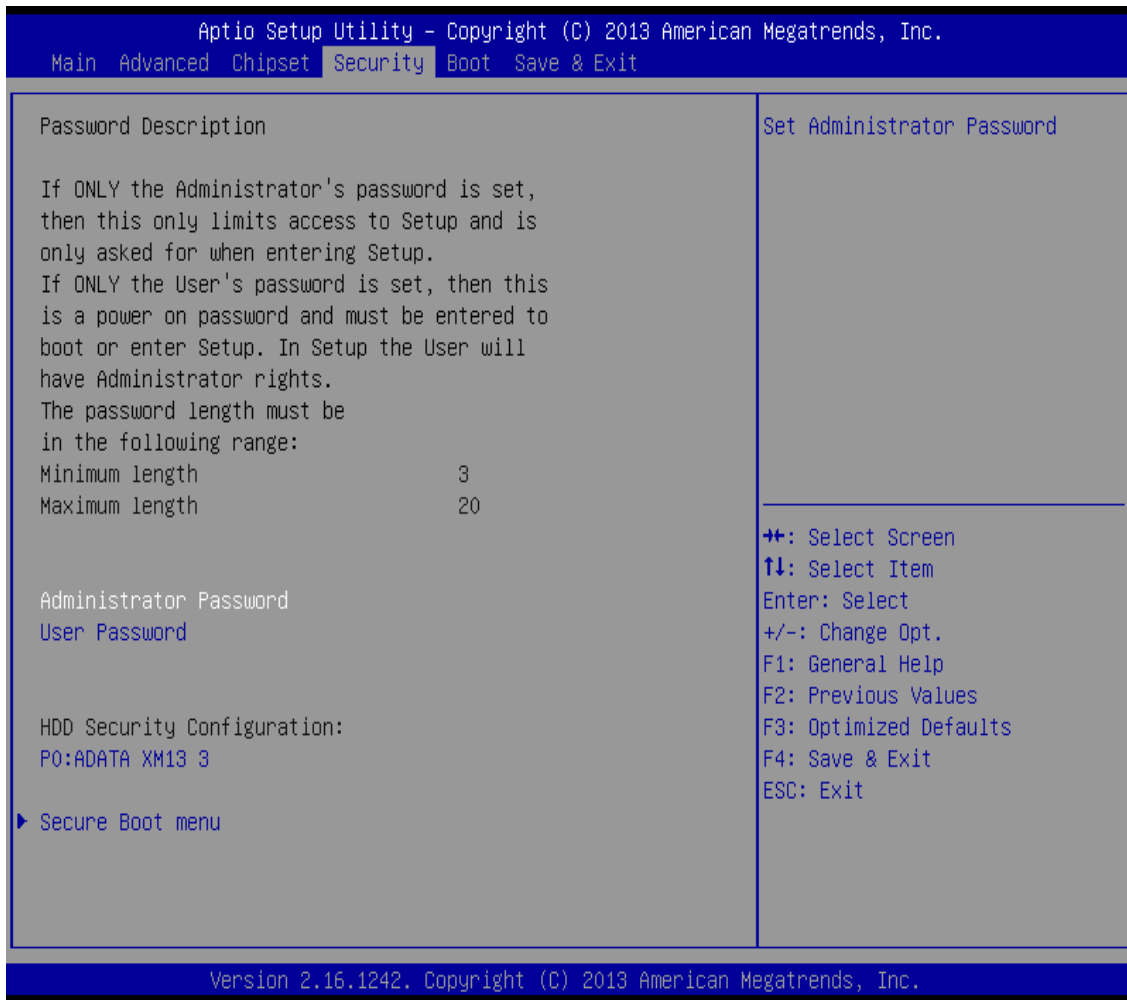
For items marked with ►, please press <Enter> for more options.



BIOS Setting	Description	Setting Option	Effect
High Precious Timer	Allow to set up High Precious Timer settings	Enabled/ Disabled	Enables/Disables this function
Restore AC Power Loss	This function allows to set up booting options after a power failure	Power on/ Power off	Boot automatically after a power failure
Serial IRQ Mode	When working with personal computer hardware, installing, and removing devices, the system relies on interrupt requests. Interrupt request	Continuous	Allow user to set up desired IRQ Mode

5.2.4 Security Menu

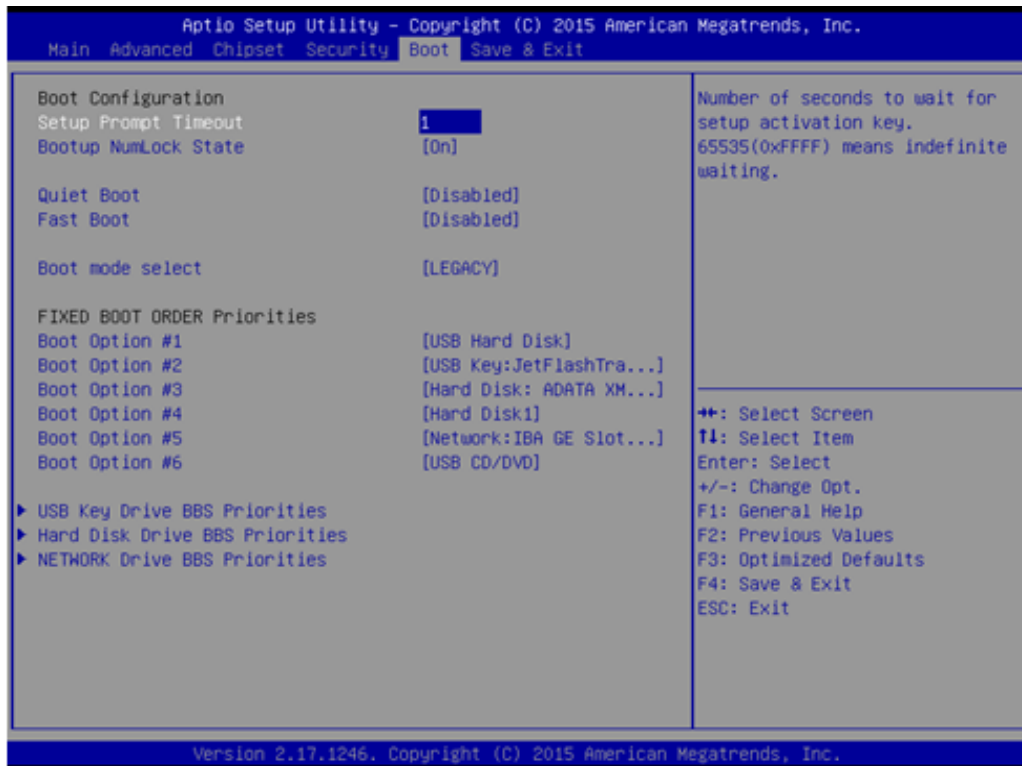
In the Security menu, users can set administrator password, user password, and HDD security configuration.



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

5.2.5 Boot Configuration

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 uses to look for a boot device from which to load the operating system.

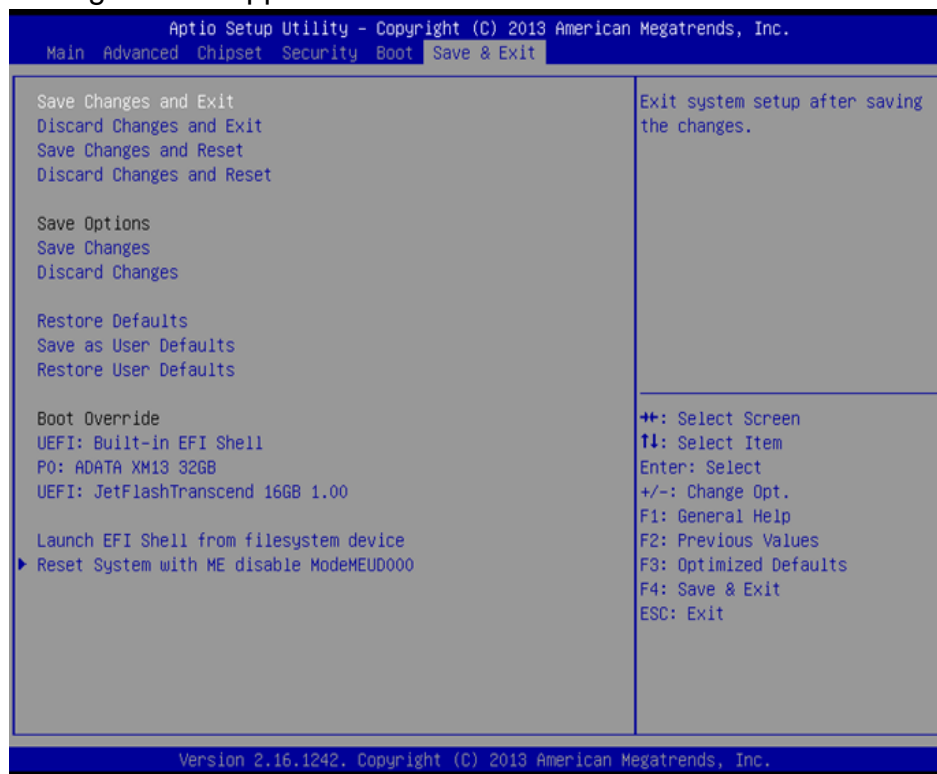


BIOS Setting	Description	Setting Option	Effect
Setup Prompt Timeout	Allows user to configure the number of seconds to stay in BIOS setup prompt screen.	Enter	Set the prompt timeout
Boot NumLock State	Enables or disables NumLock feature on the numeric keypad of the keyboard after the POST (Default: On).	On	Remains On
		Off	Remains OFF
Quiet 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 Mode Select	Specifies which mode will be used for booting	Legacy	Only Legacy option is booted
		UEFI	Only UEFI option is booted
Boot Option #1~#6	Specifies the overall boot order from the available devices	Ex: Boot Option#1 (hard drive)	Hard drive as the first priority
USB Key Drive BBS Priorities	USB Key Drive BBS Priorities	Enter	Open sub-menu

BIOS Setting	Description	Setting Option	Effect
Hard Disk Drive BBS Priorities	Hard Disk Drive BBS Priorities	Enter	Open sub-menu
Network Drive BBS Priorities	Network Drive BBS Priorities	Enter	Open sub-menu

5.2.6 Save & Exit

The Exit menu displays a way how to exit BIOS Setup utility. After finishing your settings, you must save and exit for changes to be applied.



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 Exit	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

BIOS Setting	Description	Setting Option	Effect
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

5.3 Using Recovery Wizard to Restore Computer

Bay Trail Intel® Celeron N2930 series computer has a dedicate recovery partition stored on the hard drive of the device to enable quick one-key recovery process. This partition occupies about 11GB of the storage space, and come built-in to each panel PC running on IB32 motherboard.

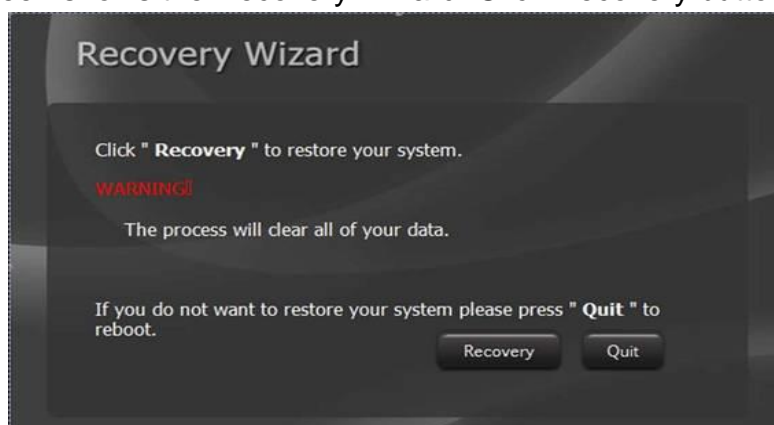


Note:

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 Bay Trail series 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 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 system will restart automatically after recovery completed.



Appendix

Appendix A: Hardware Specifications

	Model Name
	W10IB3S-MRH2
System	
Processor	Intel® Celeron® Bay Trail-M N2930 (2M Cache, up to 2.16 GHz)
System Memory	1 x SO-DIMM, DDR3L 1600 MHz, 4GB 8GB (Optional)
Storage	1 x mSATA SSD 64GB. mSATA SSD up to 512GB. (Optional)
Security	TPM 2.0
Operating System	Windows 7 Embedded Systems (Optional) Windows 10 IoT Enterprise (Optional) Linux Ubuntu 18.04 (Optional)
Display	
Size/Type	10.1 inches
Resolution	1280 x 800
Brightness	350 nits
Contrast Ratio	800:1
Viewing Angle	85,85,85,85
Touch	Projective-Capacitive Touch
Input / Output Connectors	
Serial Port	2 x RS-422 (M12 type)
USB Port	1 x USB 2.0 (M12 type)
Ethernet	1 x Gigabit LAN (M12 type)
Mechanical Specifications	
Dimensions (W x H x D)	263.28 x 171 x 35.7 (mm)
Enclosure	Metal
Mounting	VESA Mount/ Panel Mount
Cooling System	Fanless Design
Environment	
Operating Temperature	-15°C to +55 °C
Operating Humidity	5% to 95%
Anti-Vibration	0.7g@DNVGL CG-0339 (Class A)

IP Rating	Front: IP65 Full: IP44
Power Considerations	
Power Input	9~36V DC (M12 type)
Standards and Certifications	
Comply with IEC60945 4 th Edition CE / FCC	

Note:

1. Accessories and Integrated Options may vary depending on your configuration. The product shown in this document is a standard model. For diagrams that contain customized or optional I/O, please contact the Winmate Sales Team for more information.
2. All specifications are subject to change without prior notice.

Appendix B: Software Developer Support

Winmate provides the drivers and utilities for ECDIS Marine Panel PC. You can download SDK and Drivers from Winmate Download Center or Winmate File Share.

Winmate Download Center

Access from <https://www.winmate.com/> > Support > Download Center or <https://dc.winmate.com/main/overview>



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