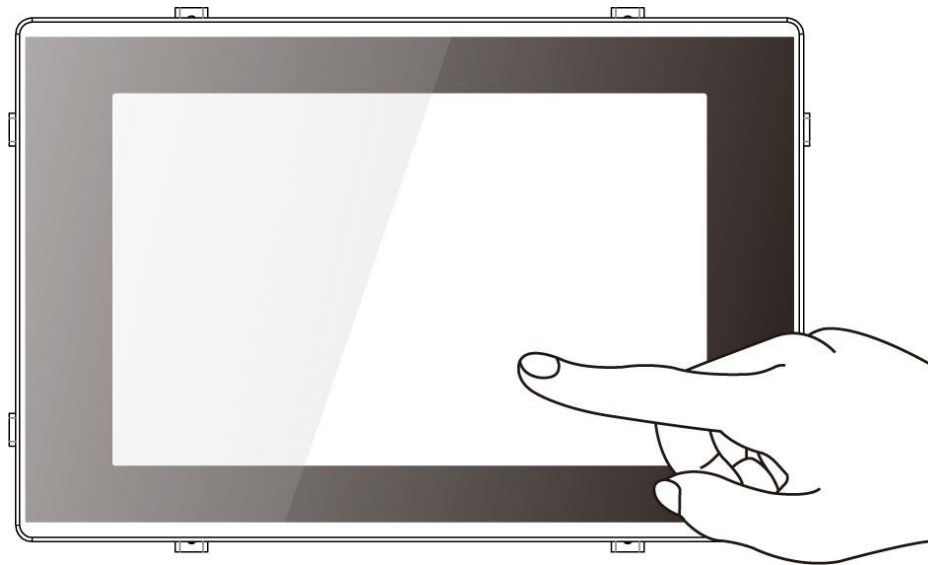


E-Series HMI

Intel® Celeron® Bay Trail-M N2930, 1.83 GHz



Elegant Design

Model No.: W07IB3S-EHT1
W10IB3S-EHH2
R15IB3S-EHC3
W15IB3S-EHA4

User Manual

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FCC 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.

European Union



Electromagnetic Compatibility Directive (2014/30/EU)

- EN55024: 2010/ A1: 2015
 - IEC61000-4-2: 2009
 - IEC61000-4-3: 2006+A1: 2007+A2: 2010
 - IEC61000-4-4: 2012
 - IEC61000-4-5: 2014
 - IEC61000-4-6: 2014
 - IEC61000-4-8: 2010
 - IEC61000-4-11: 2004
- EN55032: 2012/AC:2013
- 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

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

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Warranty

Winmate Inc. 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 1W16Axxxxxxx 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 la 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 composants électroniques sensibles peuvent être endommagés 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 composants électroniques sur une surface conçue pour dissiper les charge, ou dans un sac anti-statique lorsqu'elles ne sont pas dans le chassis.



About This User Manual

This User Manual provides information about using the Winmate® E-Series HMI. This User Manual applies to the E-Series HMI – W07IB3S-EHT1, W10IB3S-EHH2 and W15IB3S-EHA2.

The documentation set for the E-Series HMI with Intel® Celeron® Bay Trail-M N2930 1.83 GHz processor provides information for specific user needs, and includes:

- **E-Series HMI User Manual** – contains detailed description on how to use the HMI device, its components and features.
- **E-Series HMI Quick Start Guide** - describes how to get the HMI up and running.



NOTE:

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

Document Revision History

Version	Date	Note
1.0	29-Nov-2016	Initial release
1.1	6-Dec-2017	7", 10.1" design change
1.2	13-Nov-2018	Add 15".
1.3	10-Sep-2019	Revise 15" and 15.6" cutout

Chapter 1: Introduction

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

1.1 Overview

Congratulations on purchasing Winmate® E-Series HMI. Winmate® continues developing new generation of Human Machine Interfaces for Industry 4.0 and Internet of Things (IoT). You can choose the most suitable operating system for your application. Thereby wide customization possibilities are available to satisfy the needs of industrial automation.

With mounting clips for panel mounting there is no need to drill holes in a fixture. This saves you the time for mounting and guarantee aesthetic look of the wall after the unit gets removed.

1.2 Product Features

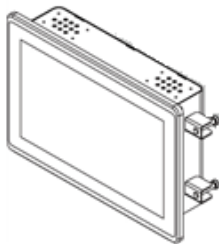
Wimate® E-Series HMI features:

- Intel® Celeron® Bay Trail-M N2930 1.83 GHz
- Resistant to scratches Projected Capacitive Multi-Touch (P-CAP)
- Fanless cooling system and Ultra-low power consumption
- Front IP65 water and dust proof, rear IP22
- Mounting clips for Quick installation
- Elegant design for room booking, access control and room information applications

1.3 Package Contents

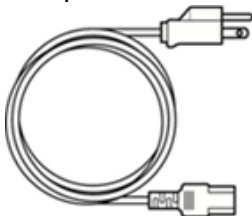
Carefully remove the box and unpack your device. Please check if all the items listed below are inside your package. If any of these items are missing or damaged contact us immediately.

Standard factory shipment list:



- **HMI Device**

Varies by product specifications



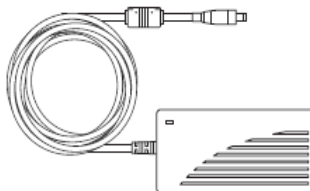
- **Power Cord**

Varies by country



- **Quick Start Guide (Hardcopy)**

Part No 915210111003



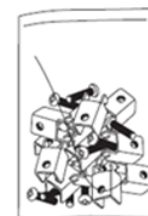
- **AC Adapter (12V/ 50W)**

Part No 922D050W12VA



- **Driver CD & SBC User Manual**

Part No 91711111101Y



- **Mounting Clips and Screws**

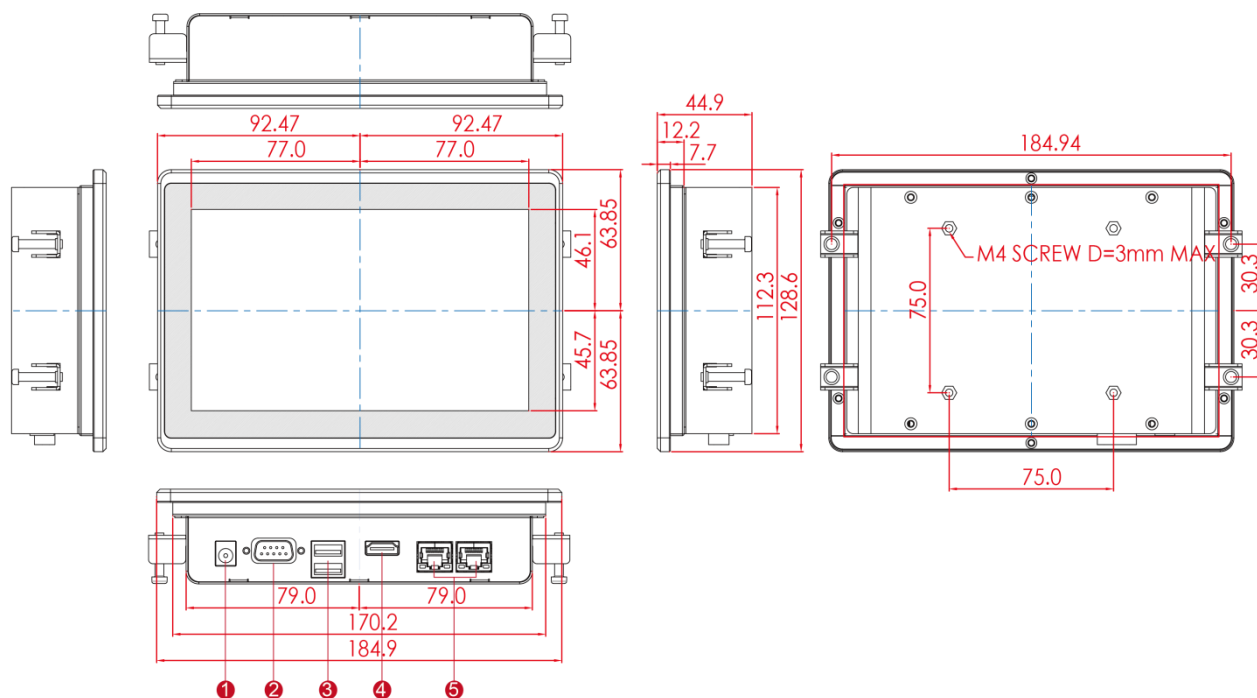
Part No 82111E240400

1.4 Description of Parts

This section describes appearance, connectors' layout and mechanical dimensions of E-Series HMI. Notice that this is a simplified drawing and some components are not marked in detail. Please contact our sales representative if you need further product information.

E-Series HMI 7"

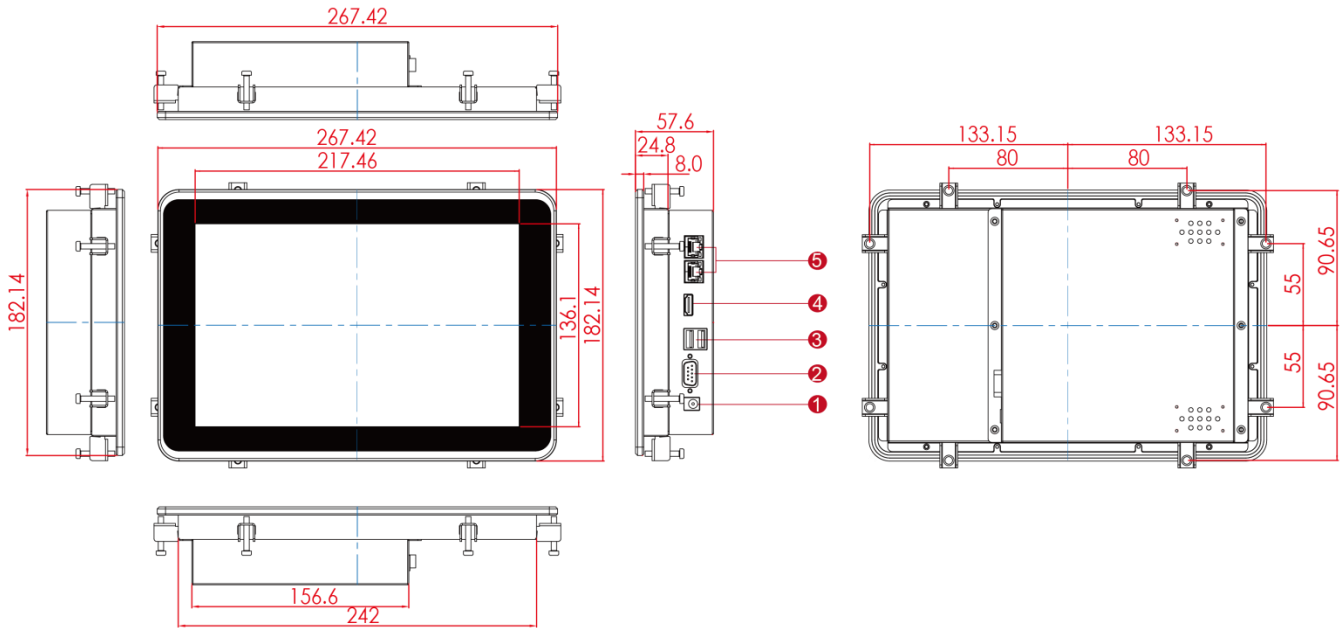
Unit: mm



No	Description	No	Description
①	12V DC Power Jack	④	HDMI 1.4a
②	RS-232/422/485	⑤	RJ-45 Gbe LAN x 2
③	USB 3.0 x 1, USB 2.0 x 1		

E-Series HMI 10.1”

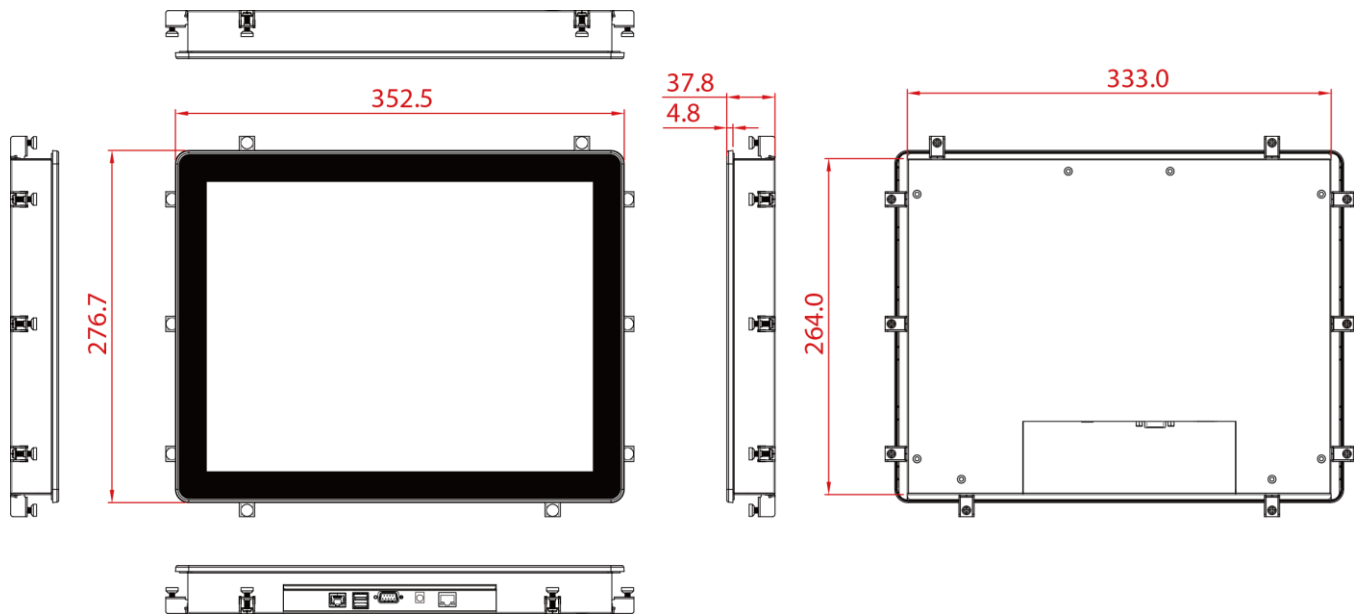
Unit: mm



No	Description	No	Description
①	12V DC Power Jack	④	HDMI 1.4a
②	RS-232/422/485	⑤	RJ-45 Gbe LAN x 2
③	USB 3.0 x 1, USB 2.0 x 1		

E-Series HMI 15”

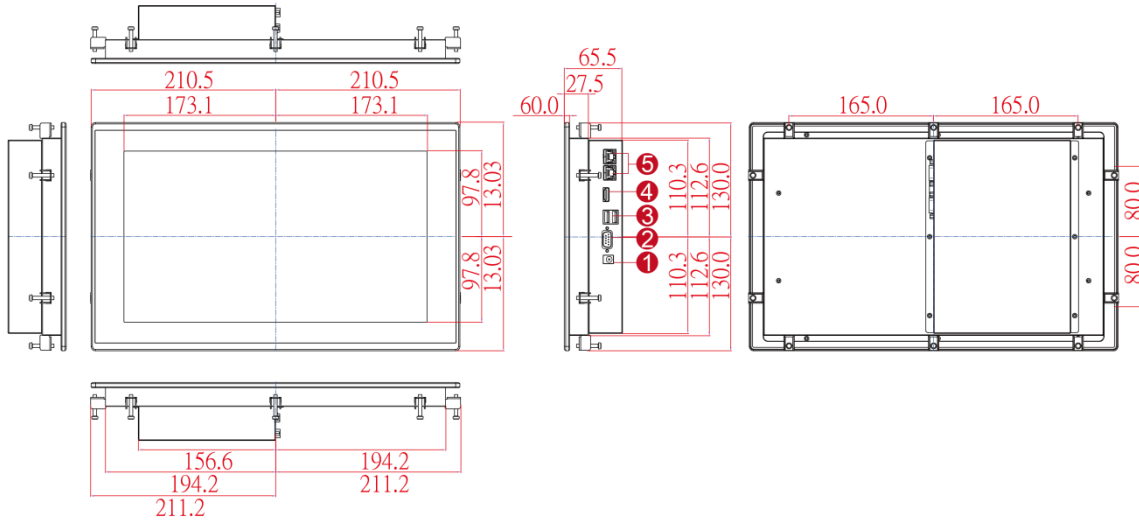
Unit: mm



No	Description	No	Description
①	12V DC Power Jack	④	HDMI 1.4a
②	RS-232/422/485	⑤	RJ-45 Gbe LAN x 2
③	USB 3.0 x 1, USB 2.0 x 1		

E-Series HMI 15.6"

Unit: mm



No	Description	No	Description
①	12V DC Power Jack	④	HDMI 1.4a
②	RS-232/422/485	⑤	RJ-45 Gbe LAN x 2
③	USB 3.0 x 1, USB 2.0 x 1		

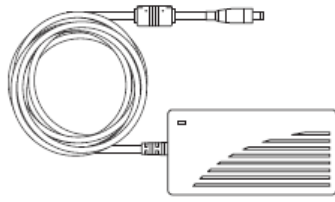
Chapter 2: Getting Started

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

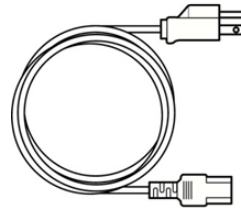


2.1 Powering On

AC Adapter Components



- **AC Adapter
12V/ 50W**



- **Power Cord**

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'utilisez 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.*

2.2 Turning On/ Off Your Device

The HMI device operates on external DC power. Use the AC adapter included in the package.



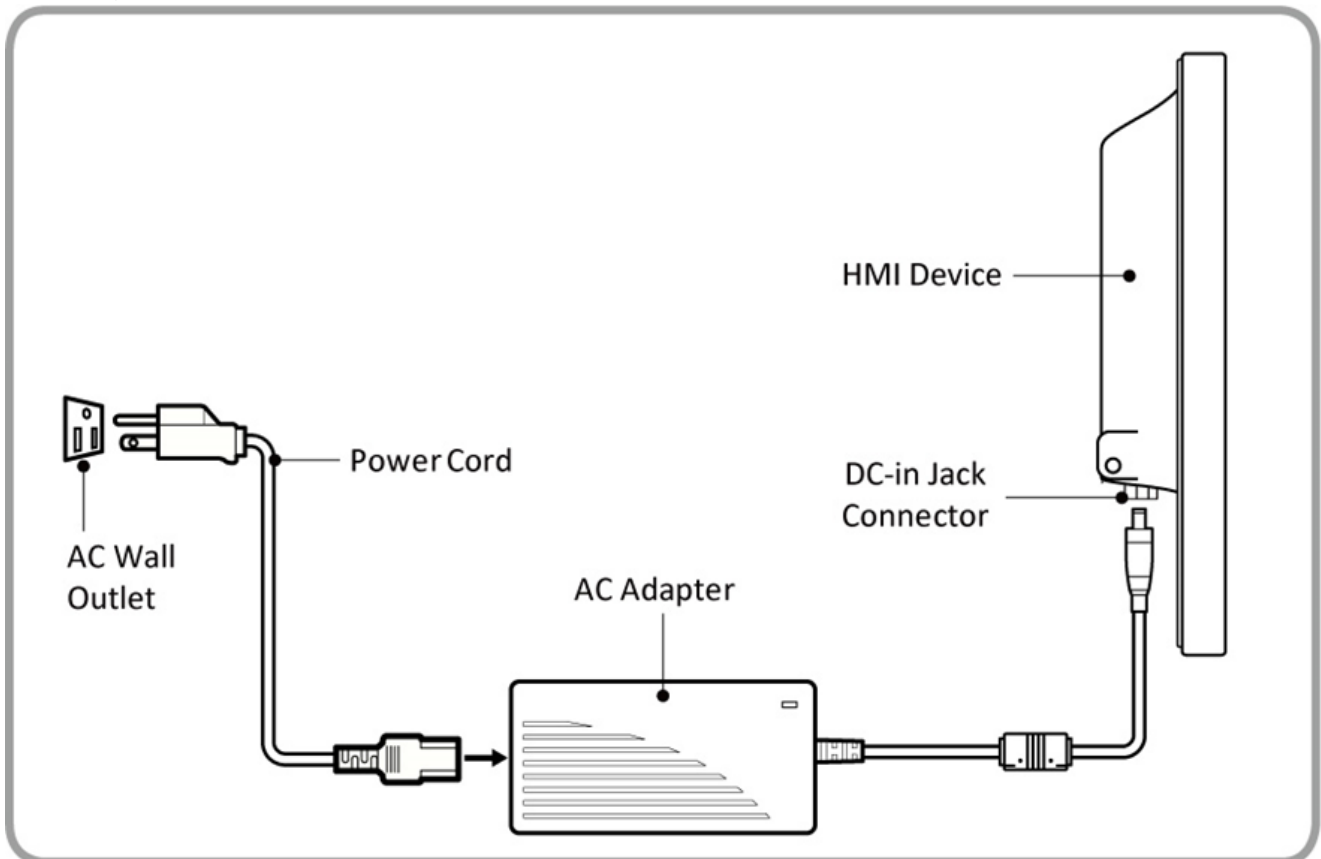
CAUTION/ATTENTION

Use only the AC adapter included in your package. Using other AC adapters may damage the device.

Utiliser seulement le convertisseur AC inclu avec votre appareil. Utiliser d'autres convertisseurs pourraient endommager l'appareil.

Follow the following steps to turn on your HMI device:

1. Connect the AC adapter to the DC-in jack connector on the back side of the HMI device.
2. Connect the power cord to AC adapter.
3. Plug the power cord to the AC outlet and the device will turn on automatically.



Alternating Current Mise à le terre !

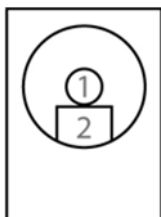
This product must be grounded. Use only a grounded AC outlet. Install the additional PE ground wire if the local installation regulations require it.

Disconnect the power cord from the HMI device to completely turn off the device.

2.3 Connecting to Other Devices

2.3.1 Power Connector

DC power source input is a power jack connector. Power input is 12V DC.



Pin No	Signal Name	Pin No	Signal Name
1	DC_IN	2	GND

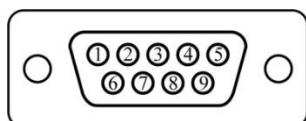


Voltage

Minimum Voltage 11.4V
Maximum Voltage 12.6V
Maximum Current 4.2A

2.3.2 Serial Port Connector

Use serial port connector to connect your HMI to external devices such as mouse, modem or printer.

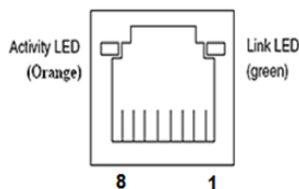


Pin No	RS-232	RS-422	RS-485
1	DCD	TxD-	D-
2	RXD	TxD+	D+
3	TXD	RxD+	NC
4	DTR	RxD-	NC
5	GND	GND	GND
6	DSR	NC	NC
7	RTS	NC	NC
8	CTS	NC	NC
9	RI	NC	NC

Refer to "[Configuring Serial Port Settings](#)" of this Quick Start Guide for more detail.

2.3.3 Ethernet Connector

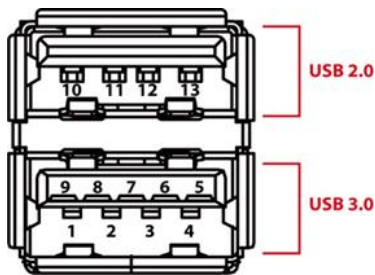
The E-Series HMI has one RJ-45 (LAN) connector that supports 10/100/1000 Mbps Ethernet interface for connecting to the internet.



Pin No	Signal Name	Pin No	Signal Name
1	TX1+	2	TX1-
3	TX2+	4	TX2-
5	TX3+	6	TX3-
7	TX4+	8	TX4-

2.3.4 USB Connector

E-Series HMI has USB 2.0 and USB 3.0 connectors. Use USB cable to connect the HMI to other external devices such as a keyboard or mouse.



Pin No	Signal Name	Pin No	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		

2.3.5 HDMI Connector

E-Series HMI uses HDMI1.4a connector to connect to the external display.



Pin No	Signal Name	Pin No	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		

2.4 Configuring Serial Port Settings

Serial port COM1 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.

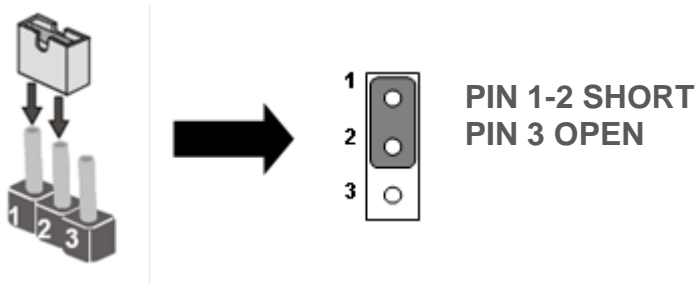
Il est recommandé d'utiliser la configuration d'usine de cavalier. Ouvrir le châssis lorsqu'il est scellé peut endommager l'appareil et ses pièces.



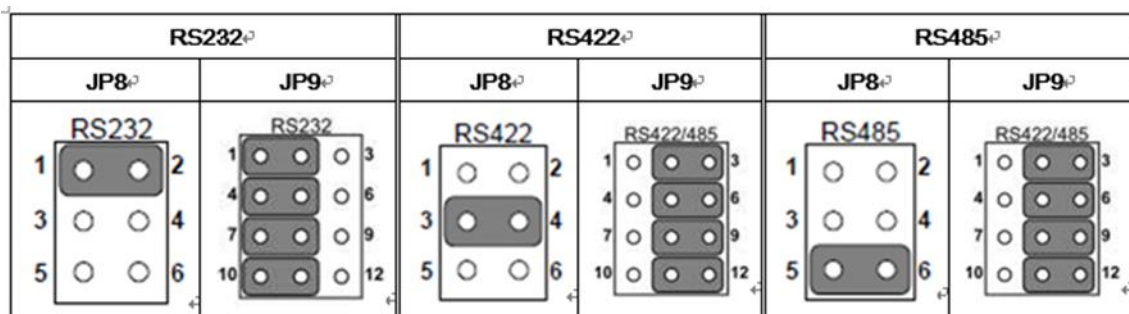
Note:

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.



The picture below shows RS-232/422/485 (J8/J9) jumper setting.



Example: To make RS-232 settings, set the jumper 8, pin 1-2 to the SHORT position, and jumper 9, pin 1-2, 4-5, 7-8, 10-11 to the SHORT position.

Chapter 3: Mounting

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



3.1 Wiring Requirements

The following common safety precautions should be observed before installing any electronic device:

- Strive to use separate, non-intersecting paths to route power and networking wires. If power wiring and device wiring paths must cross make sure the wires are perpendicular at the intersection point.
- Keep the wires separated according to interface. The rule of thumb is that wiring that shares similar electrical characteristics may 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.



Caution/ Attention

- Do not run signal or communication wiring and power wiring in the same conduit. To avoid interference, wires with different signal characteristics (i.e., different interfaces) should be routed separately.
- Be sure to disconnect the power cord before installing and/or wiring your device.
- Verify the maximum possible current for each wire gauge, especially for the power cords. Observe all electrical codes dictating the maximum current allowable for each wire gauge.
- If the current goes above the maximum ratings, the wiring could overheat, causing serious damage to your equipment.
- Be careful when handling the unit. When the unit is plugged in, the internal components generate a lot of heat which may leave the outer casing too hot to touch.

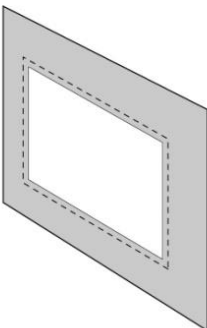
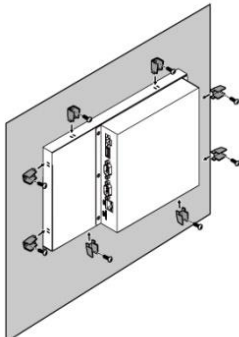
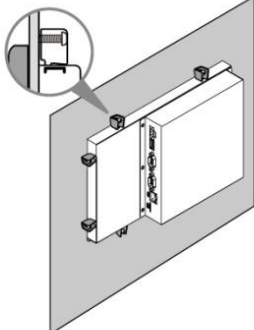
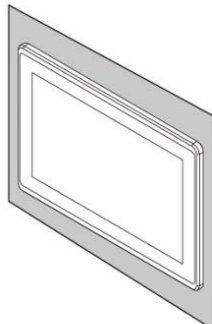
3.2 Mounting Solution

3.2.1 Panel Mount

In addition to elegant design, panel mount solution is making the HMI unit easy to clean and maintain. The HMI device is secured to the fixture from the rear by using the mounting brackets included in the package.

Cutout dimension (W x D in mm)			
7"	10.1"	15"	15.6"
174.08 x 116.9	244 x 159	336 x 266	371.6 x 223.5
Mounting Clips and Screws			
4 pcs	8 pcs	8 pcs	10 pcs

Mounting Instruction:

<p>1</p> 	<p>Prepare a cutout on a fixture according to the cutout dimensions.</p>	<p>2</p> 	<p>Select the mounting holes according to the wall thickness of the fixture and secure the mounting clips onto four sides of the HMI device.</p>
<p>3</p> 	<p>Secure the HMI to the fixture by screws.</p>	<p>4</p> 	<p>Connect power and other peripherals to the HMI unit.</p>

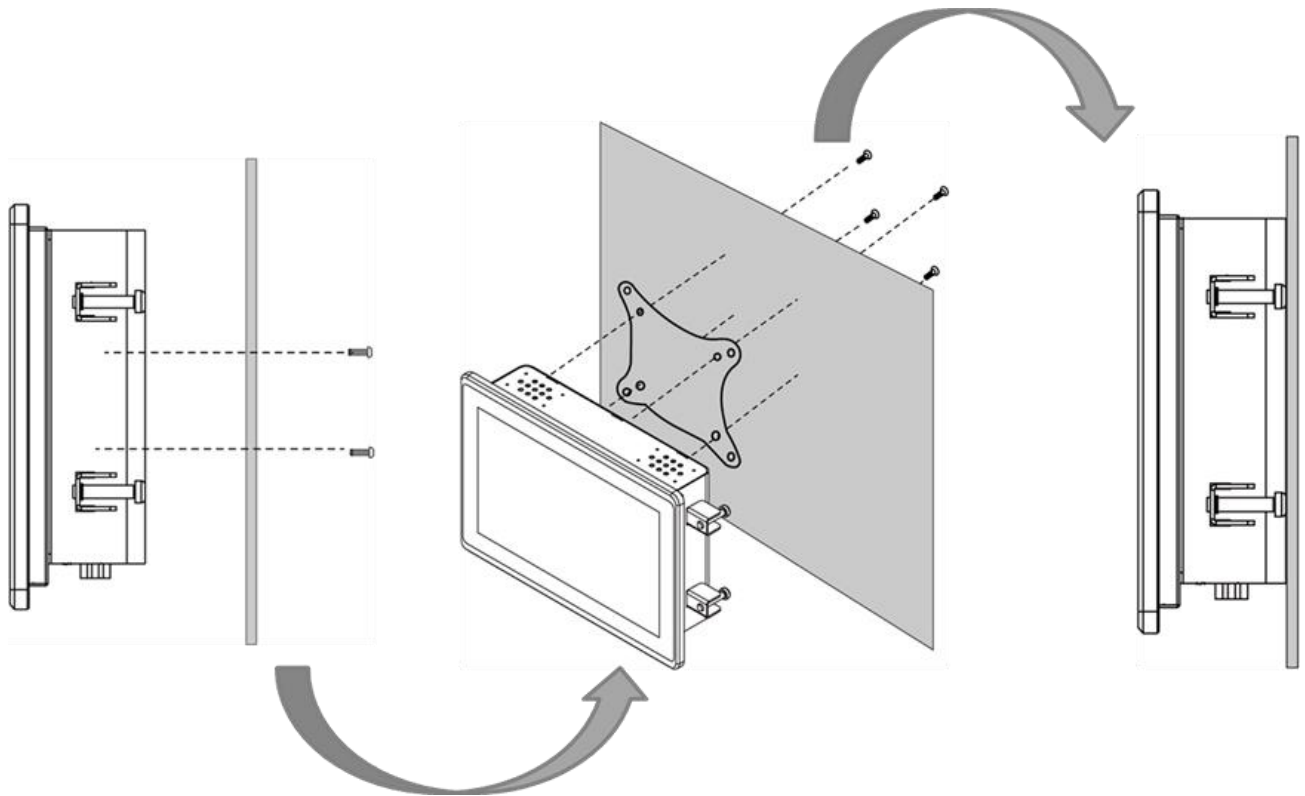
3.2.2 VESA Mount

VESA Mount is a widely used mounting solution suitable for all kinds of applications. Notice that VESA mounting solution applies only to 7" E-Series HMI. Notice that VESA mounting kit is not supplied by Winmate.

Dimensions	Screw Hole Diameter
75 x 75 mm	VESA M4 x 3 mm

Mounting Instruction:

1. Screw VESA bracket to the fixture (ex. wall) with four M4 x 3 mm VESA screws.
2. Place the device on VESA bracket.



**With customer's bracket*

Chapter 4: Operating the Device

In this chapter you will find instructions on how to operate the HMI device.



4.1 Operating System

E-series HMI support several versions of Windows OS: Windows 10 IoT Enterprise, Windows Embedded 8.1 Industry Pro, Windows Embedded 8 Standard, Windows 7 Pro for Embedded Systems, and Windows Embedded Standard 7 – WS7P.




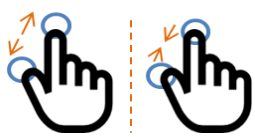

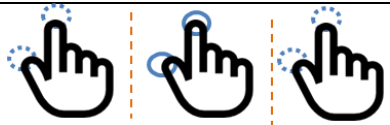




IMPORTANT:

The device is shipped with the OS System according to your order. Contact us if you have any questions regarding OS settings.

4.2 Multi-Touch

The touchpad supports the core gestures for Windows.



Gesture	Windows Usage	Gesture Action	Action
Tap/ Double-tap	Click / Double-click	Click or double-click	
Panning with Inertia	Scrolling	Drag one or two fingers up and down	
Selection/Drag (left to right with one finger)	Mouse-drag/ Selection	Drag one finger left/right	
Zoom	Zoom (default to CTRL key + scroll wheel)	Move two fingers apart/ toward each other	
Rotate	No system default unless handled by Application (using WM_Gesture API)	Move two fingers in opposite directions or Use one finger to pivot around another	
Two-Finger tap	N/A - Exposed through Gesture API, used by Application discretion	Tap two fingers at the same time (where the target is the midpoint between fingers)	
Press and Hold	Right-click	Press, wait for blue- ring animation to complete, then release	
Flicks	Default: Pan Up/ Down/ Back, and Forward	Make quick drag gestures in the described direction	

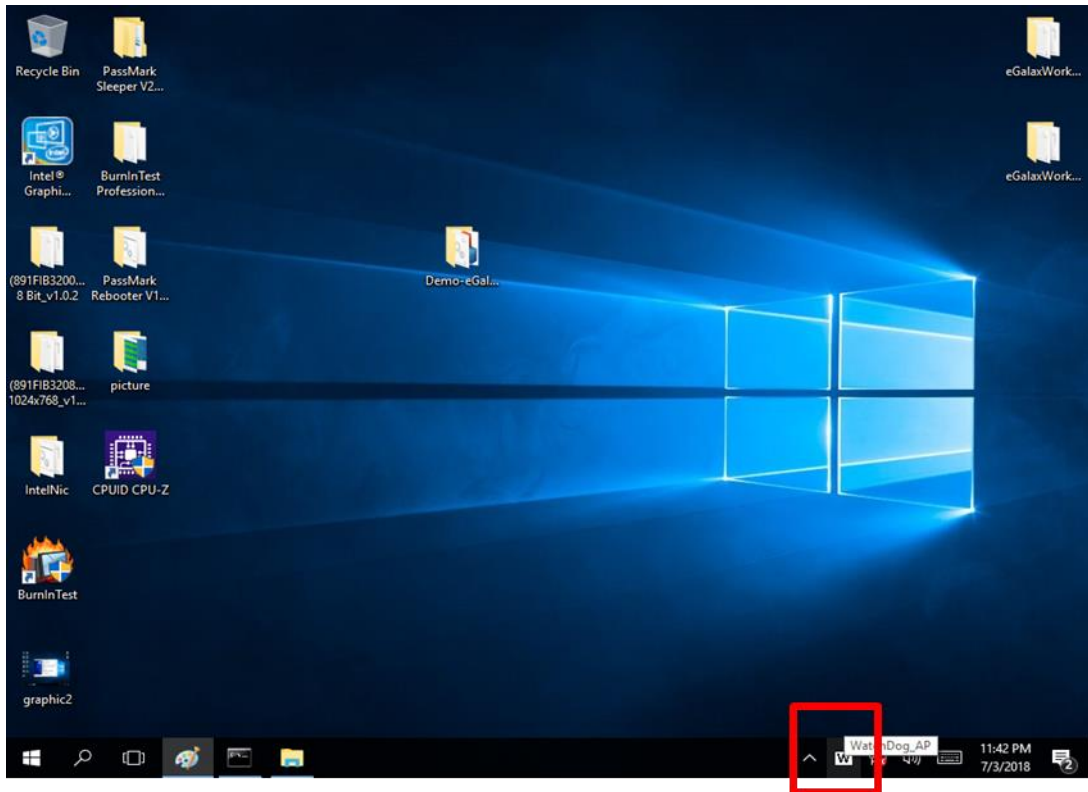
*Reference from Microsoft®

4.3 How to Enable Watchdog

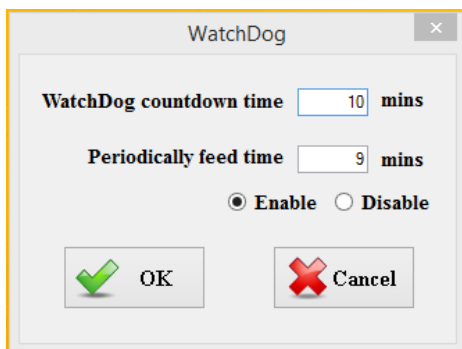
To enable Watchdog, you need to download Winmate Watchdog utility. Find more information on Watchdog in “Watchdog Guide” that you can download from Winmate Download Center or File Share. Refer to the User Manual for more details.

To enable watchdog in Watchdog AP follow the instructions below:

1. On the right bottom side of the desktop screen, click  **triangle button** to show hidden icons.
2. Click  icon to open Watchdog utility.



3. In Watchdog utility window set countdown time and periodically feed time, or disable watchdog.



Example:

Every 10 min watchdog will monitor the system, in case any error occurs the system will restart automatically when the countdown time reaches 0.

Every 9 min watchdog timer will be reset to 10 min.

Setting	Description
Watchdog Countdown Time	The system automaticity restarts when this countdown time reaches zero. <i>Default: 10 min</i>
Periodically Feed Time	To set a cycle time to automatically reset watchdog timer. <i>Default: 9 min</i>
Enable / Disable	Enable or disable watchdog. <i>Default: Enable</i>

Chapter 5: AMI UEFI BIOS Setup

BIOS Setup Utility is a program for configuration basic Input / Output system settings of the computer for optimum use. 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, press **** key when the prompt appears on the screen during start up. The prompt screen shows only few seconds, you need to press **** 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

5.2 BIOS Functions

BIOS Navigation Keys

BIOS navigation keys for keyboard control are listed below.

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:**

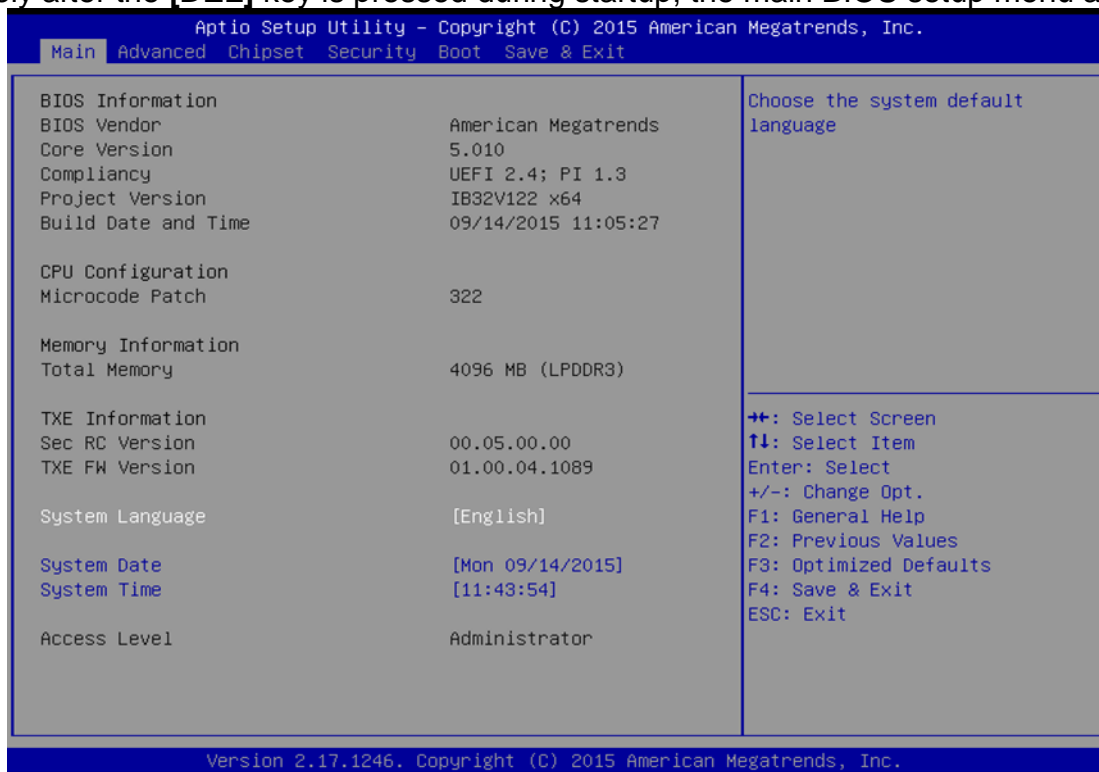
You can press the F1, F2, F3, F4, +/-, and Esc keys by connecting a USB keyboard to your device.

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

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.

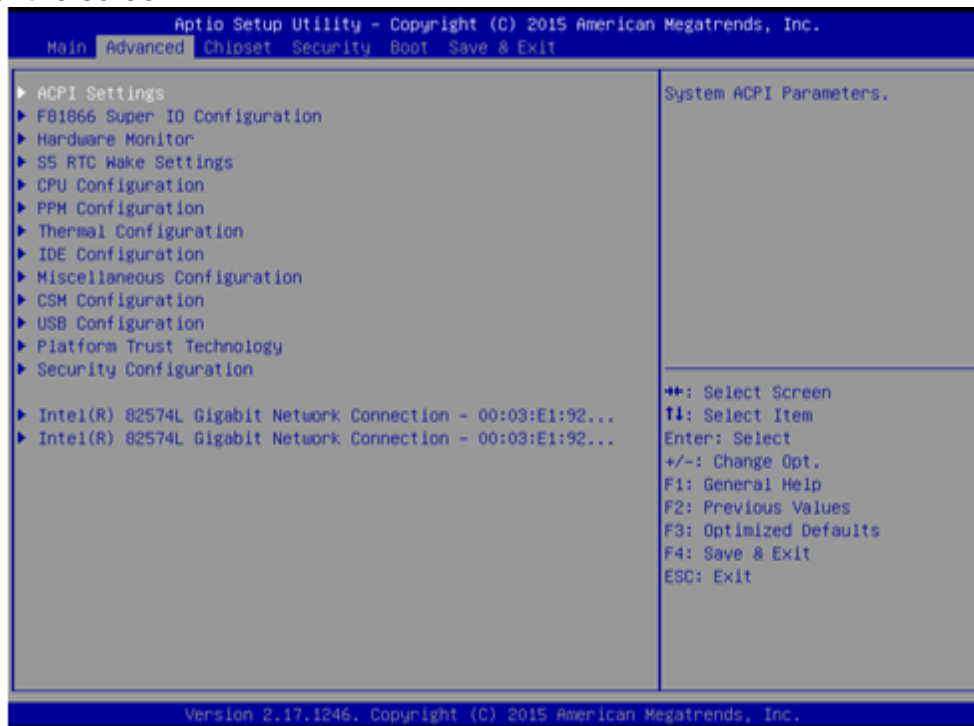


IMPORTANT:

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

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

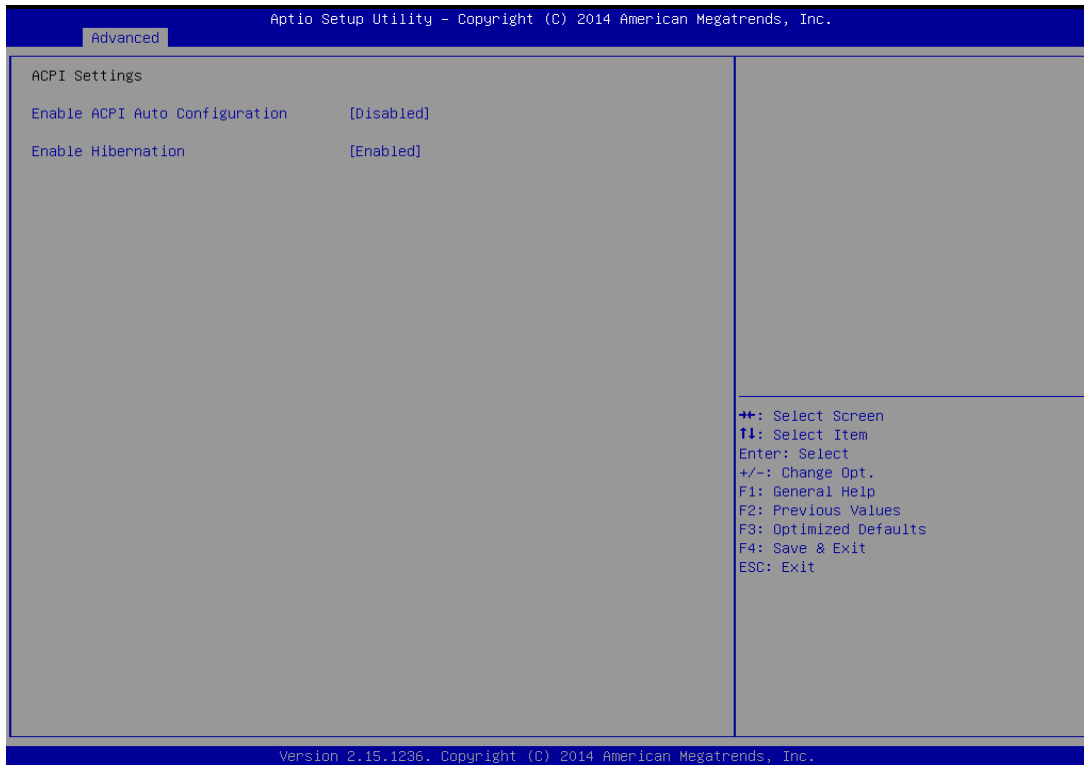
Advanced Configuration and Power Interface (ACPI) settings allow to control how the power switch operates. The power supply can be adjusted for power requirements. You can use the screen to select options of ACPI configuration. A description of the selected items will appear on the right side of the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

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

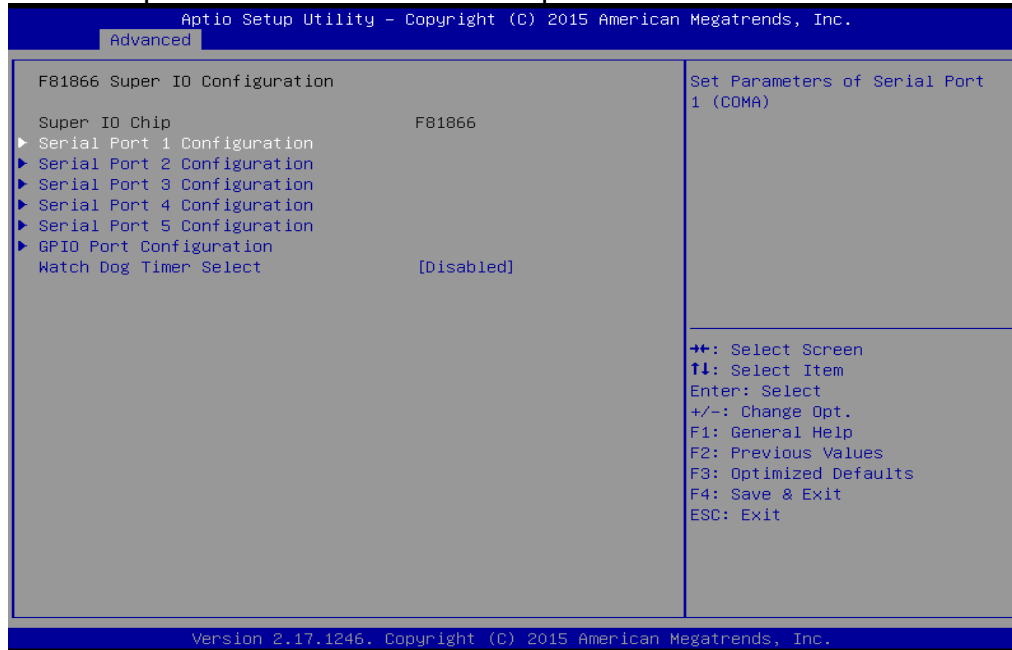
5.2.2.2 F81866 Super IO Configuration

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.

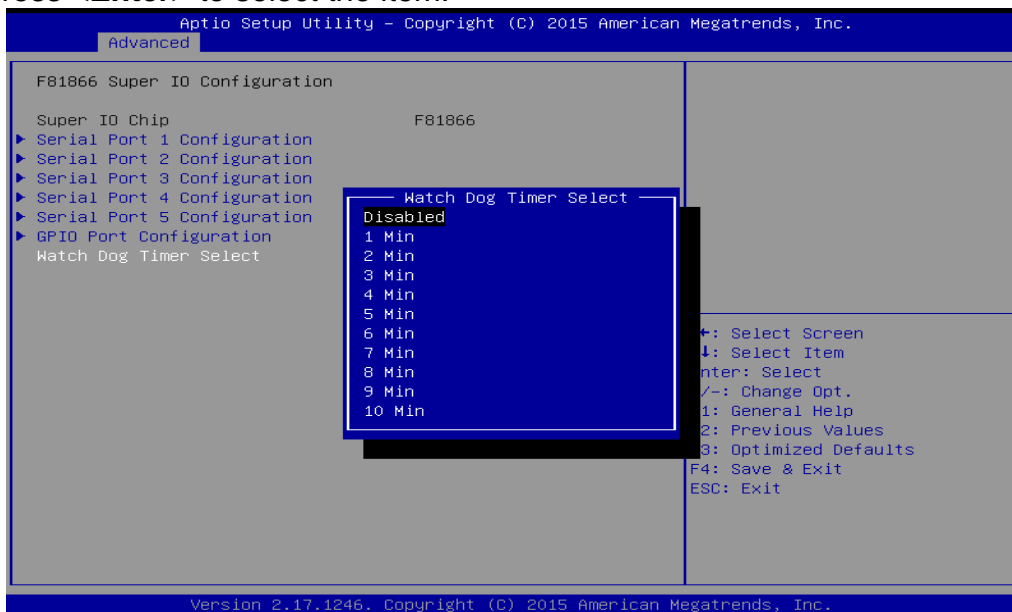
5.2.2.2.1 Serial Port 1~5

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



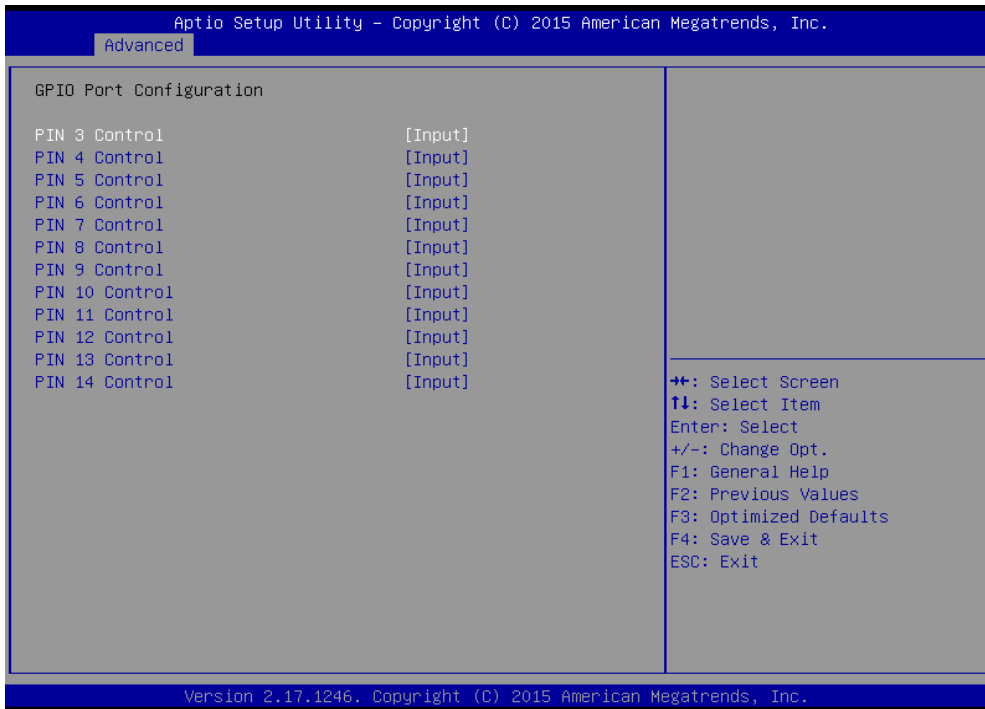
5.2.2.2.2 Watch Dog Time Select

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.



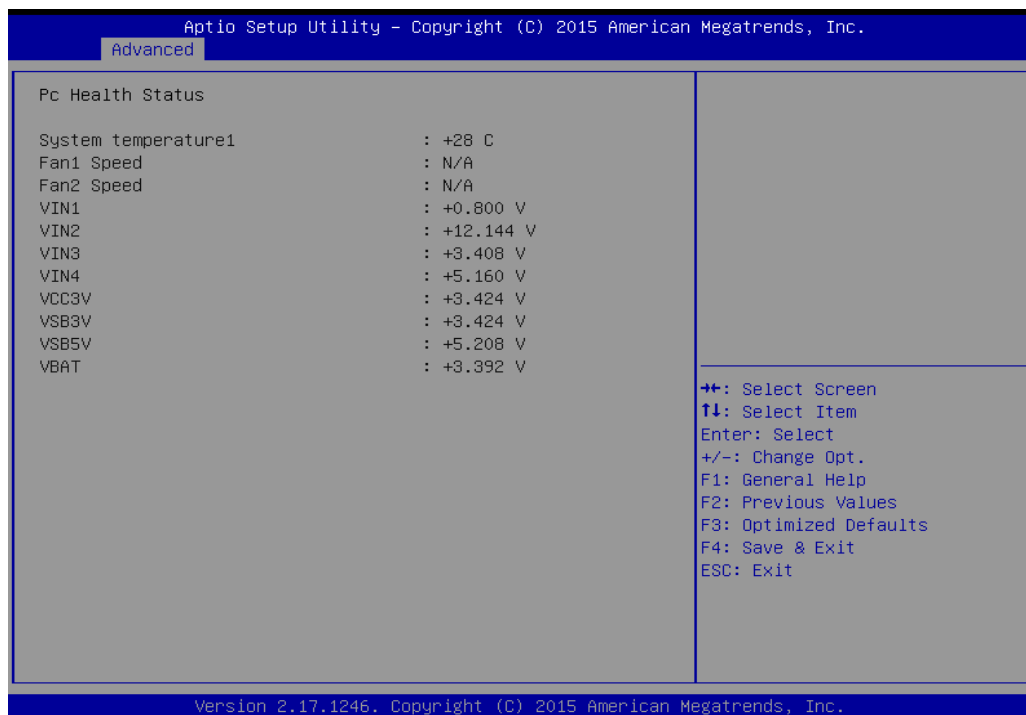
5.2.2.2.3 GPIO Port Configuration

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



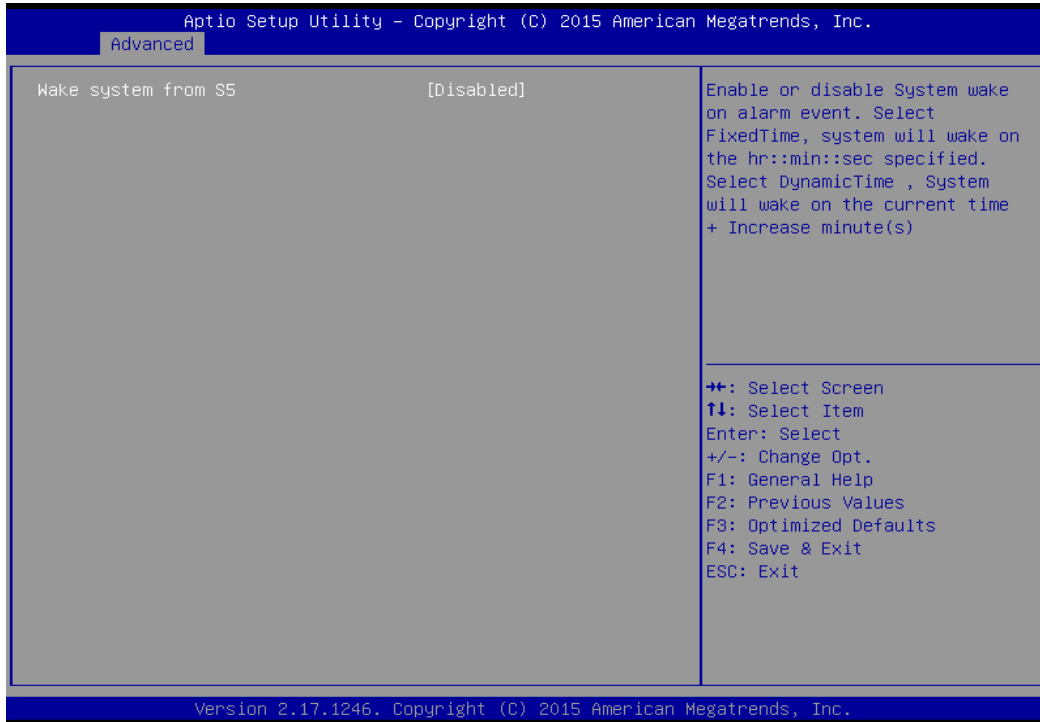
5.2.2.3 Hardware Monitor

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.

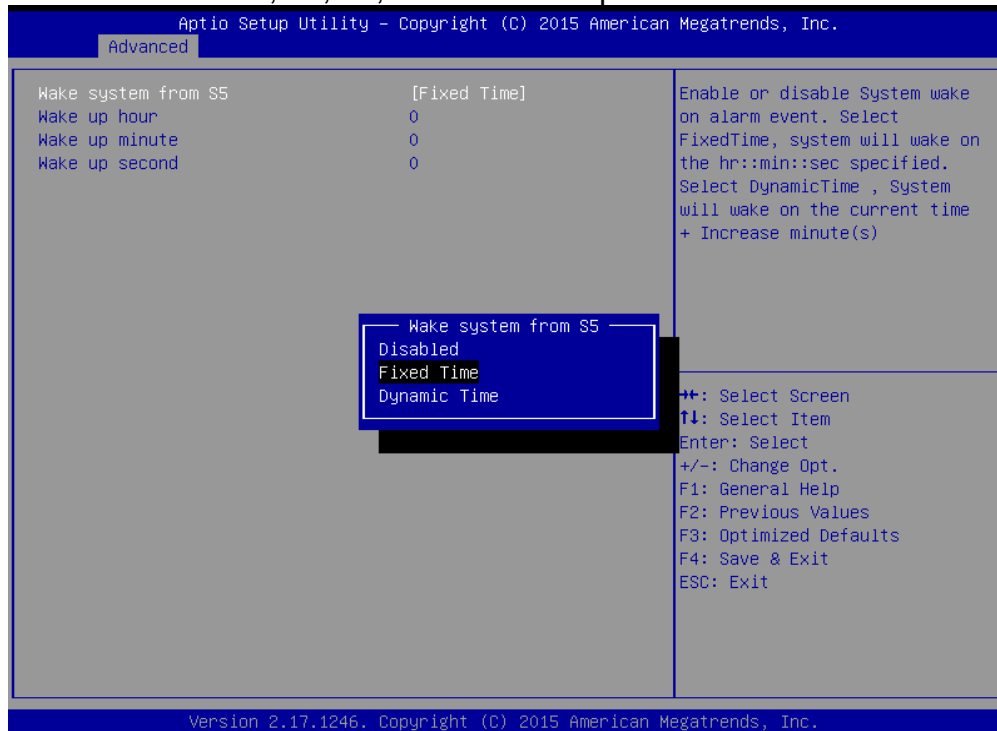


5.2.2.4.1 Wake System from S5 with fixed time setting

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

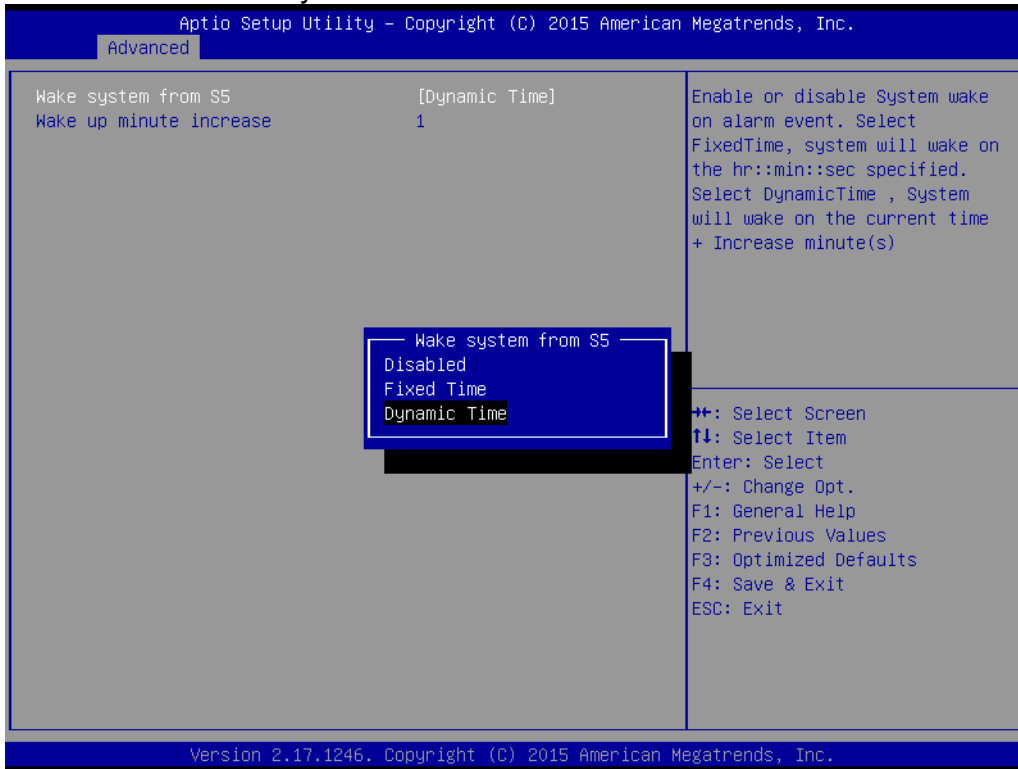
Use Navigation Keys   to switch among the items: Day, Hour, Minute and Second. Type the desired value in the selected item.

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.



5.2.2.4.2 Wake system from S5 after dynamic time setting

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

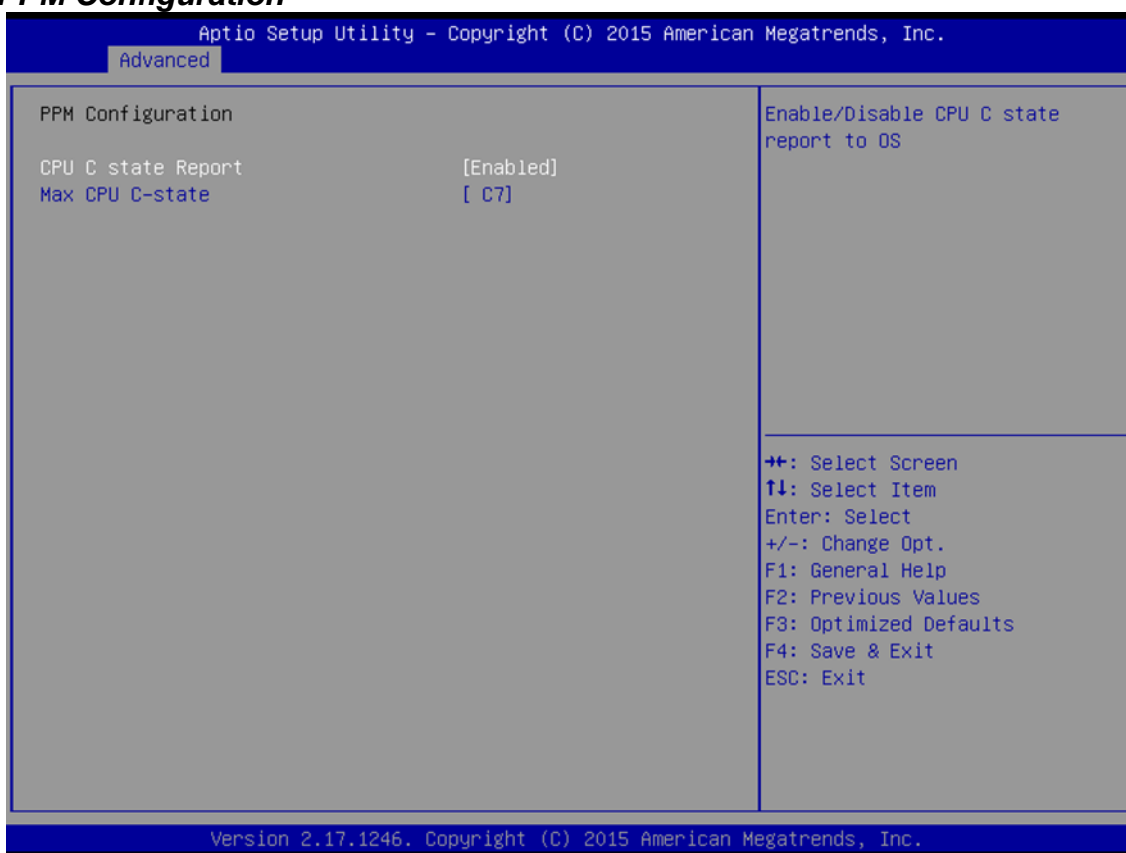


5.2.2.5 CPU Configuration



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
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

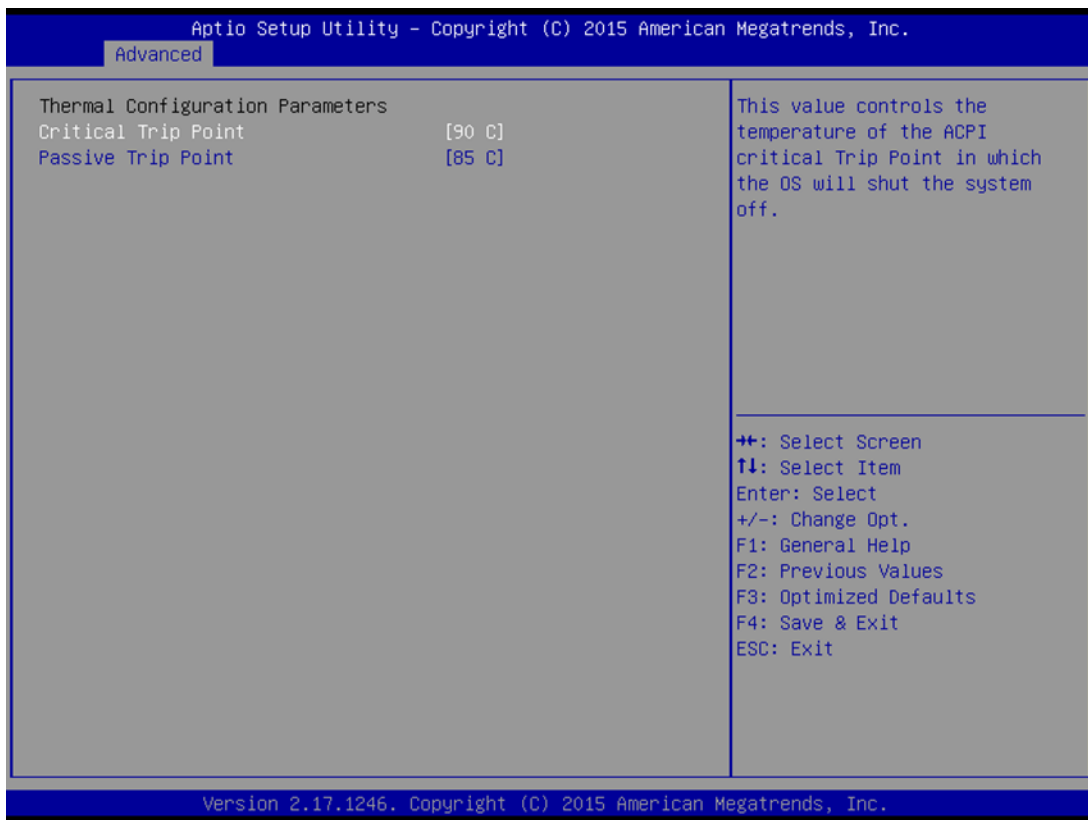
5.2.2.6 PPM Configuration



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 in order to save energy	C1E, 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

Aptio Setup Utility - Copyright (C) 2015 American Megatrends, Inc.

Advanced

IDE Configuration		Enable / Disable Serial ATA
Serial-ATA (SATA)	[Enabled]	
SATA Speed Support	[Gen2]	
SATA Mode	[AHCI Mode]	
Serial-ATA Port 0	[Enabled]	
SATA Port0 HotPlug	[Disabled]	
Serial-ATA Port 1	[Enabled]	
SATA Port1 HotPlug	[Disabled]	
SATA Port0 SSE032GPTC0-S8 (32.0GB)		⇧⇩: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
SATA Port1 Not Present		

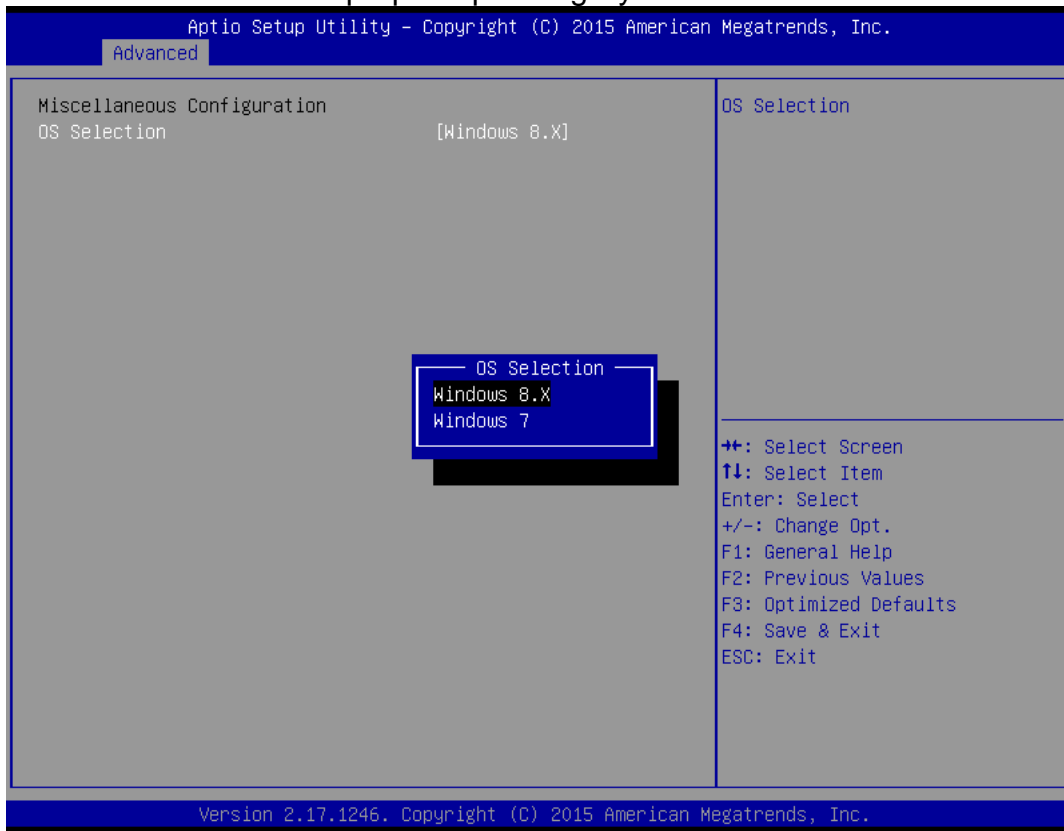
Version 2.17.1246. Copyright (C) 2015 American Megatrends, Inc.

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.
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 HotPlug	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.



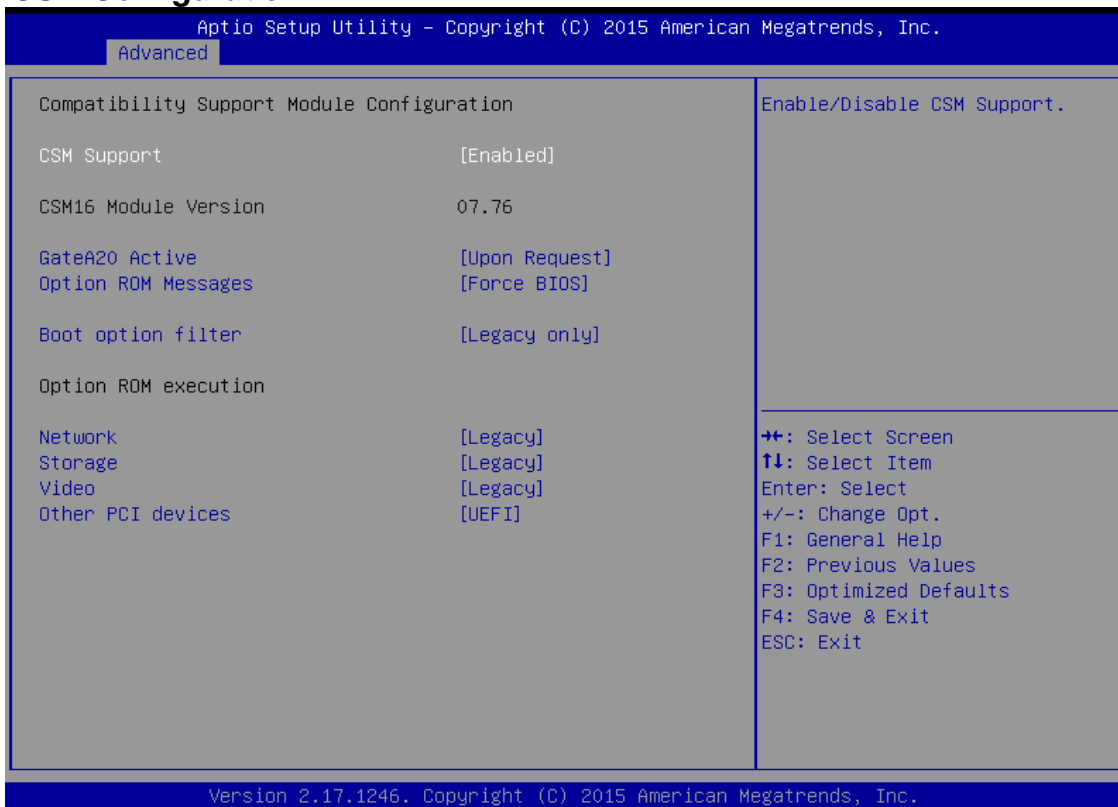
BIOS Setting	Description	Setting Option	Effect
Windows 8.X	Allows user to choose the proper OS.	Enter	Use Windows 8.X
Windows 7	Allows user to choose the proper OS.	Enter	Use Windows 7



IMPORTANT:

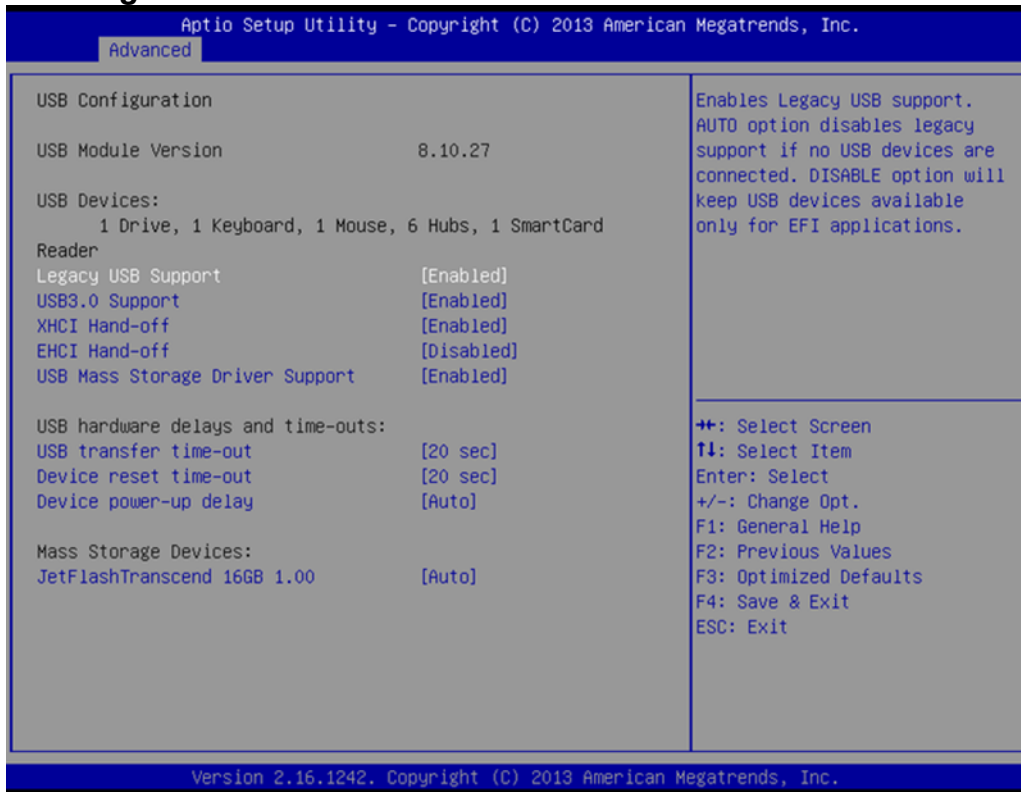
The device will be shipped with OS according to your order. BIOS OS Selection menu varies accordingly.

5.2.2.10 CSM Configuration



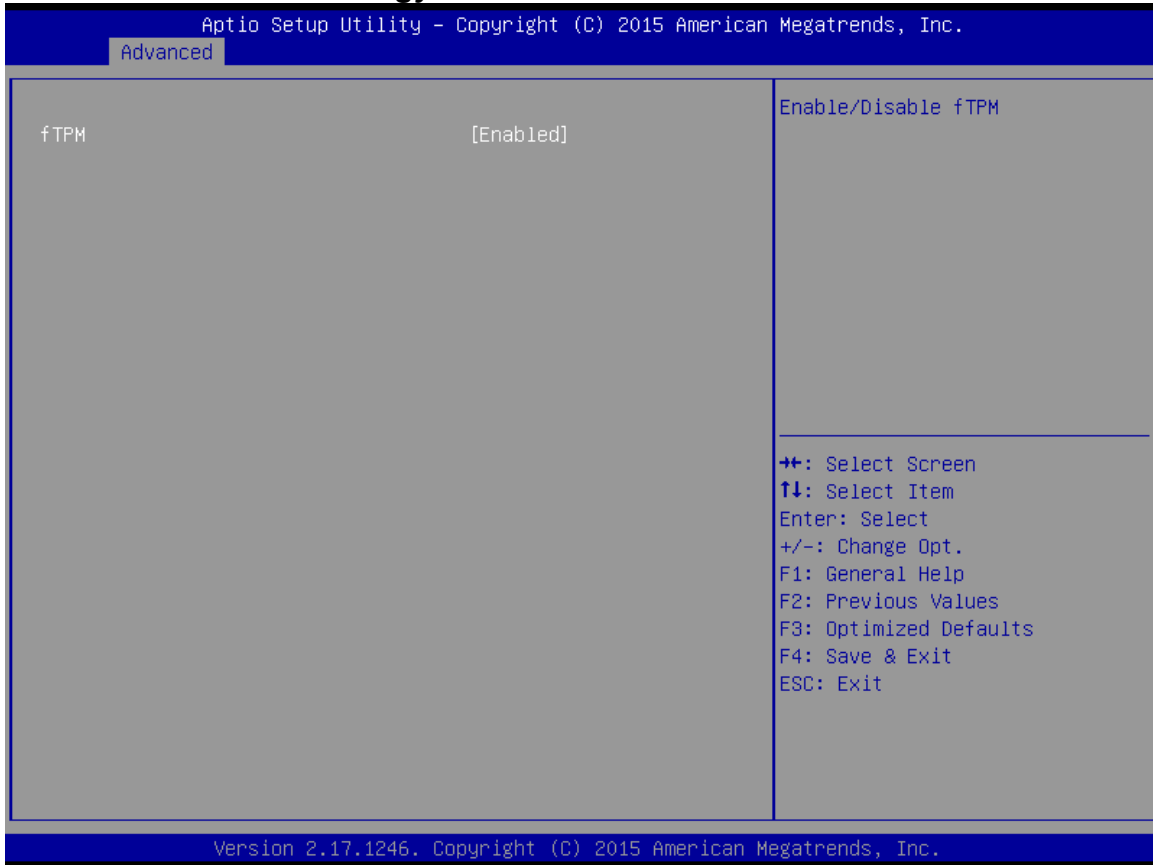
BIOS Setting	Description	Setting Option	Effect
CSM Support	The Compatibility Support Module (CSM) is a component of the UEFI firmware that provides legacy BIOS compatibility by emulating a BIOS environment, allowing legacy operating systems and some option ROMs that do not support UEFI to still be used.	Enabled/ Disabled	Enable or disable the Compatibility Support Module
GetaA20 Active	Activate GetaA20	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	
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
Storage	Specifies which Storage option ROM is booted	UEFI	Only UEFI option ROMs are booted
		Legacy	Only Legacy option ROMs are booted

5.2.2.11 USB Configuration



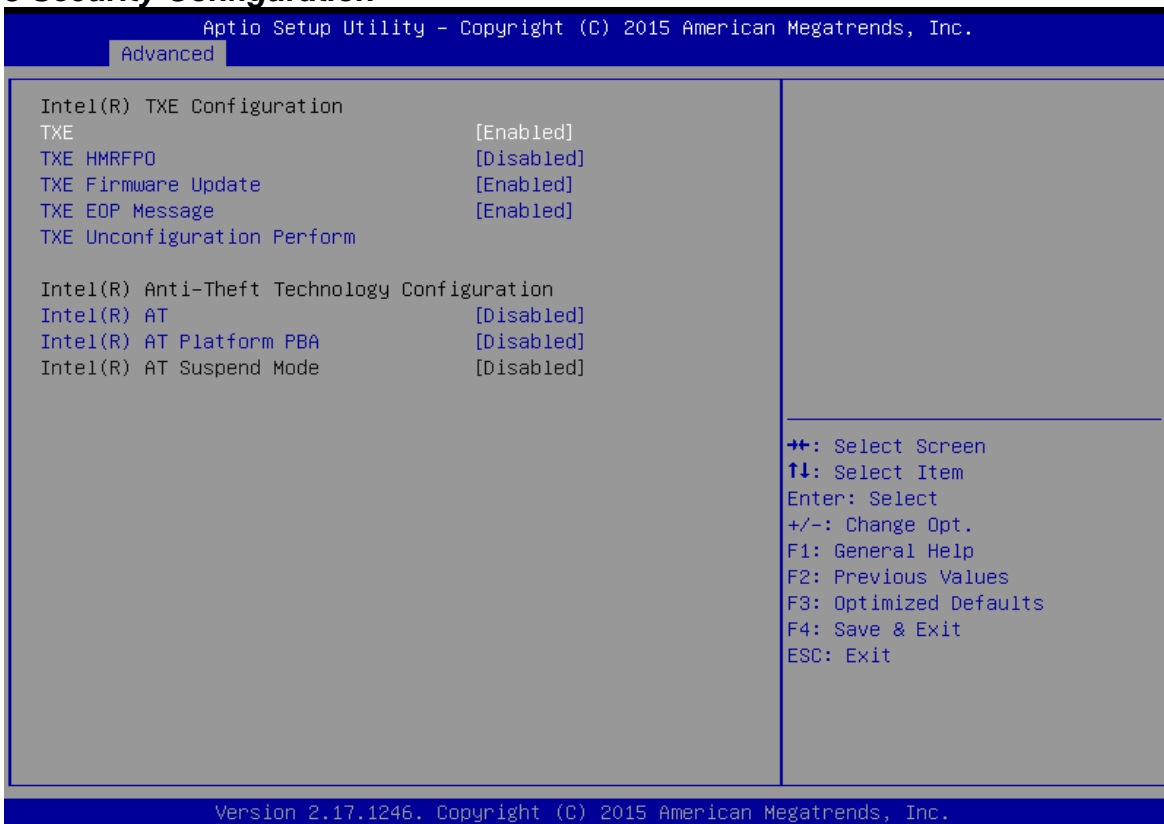
BIOS Setting	Description	Setting Option	Effect
Legacy USB Support	User can enable or disable USB port.	Disable	Will keep USB devices available only for EFI applications.
		Enable	Enable all the USB devices
USB 3.0 Support	User can enable or disable USB 3.0 (XHCI) controller support.	Enable	Enable USB 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 HMRFP0	TXE HMRFP0 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

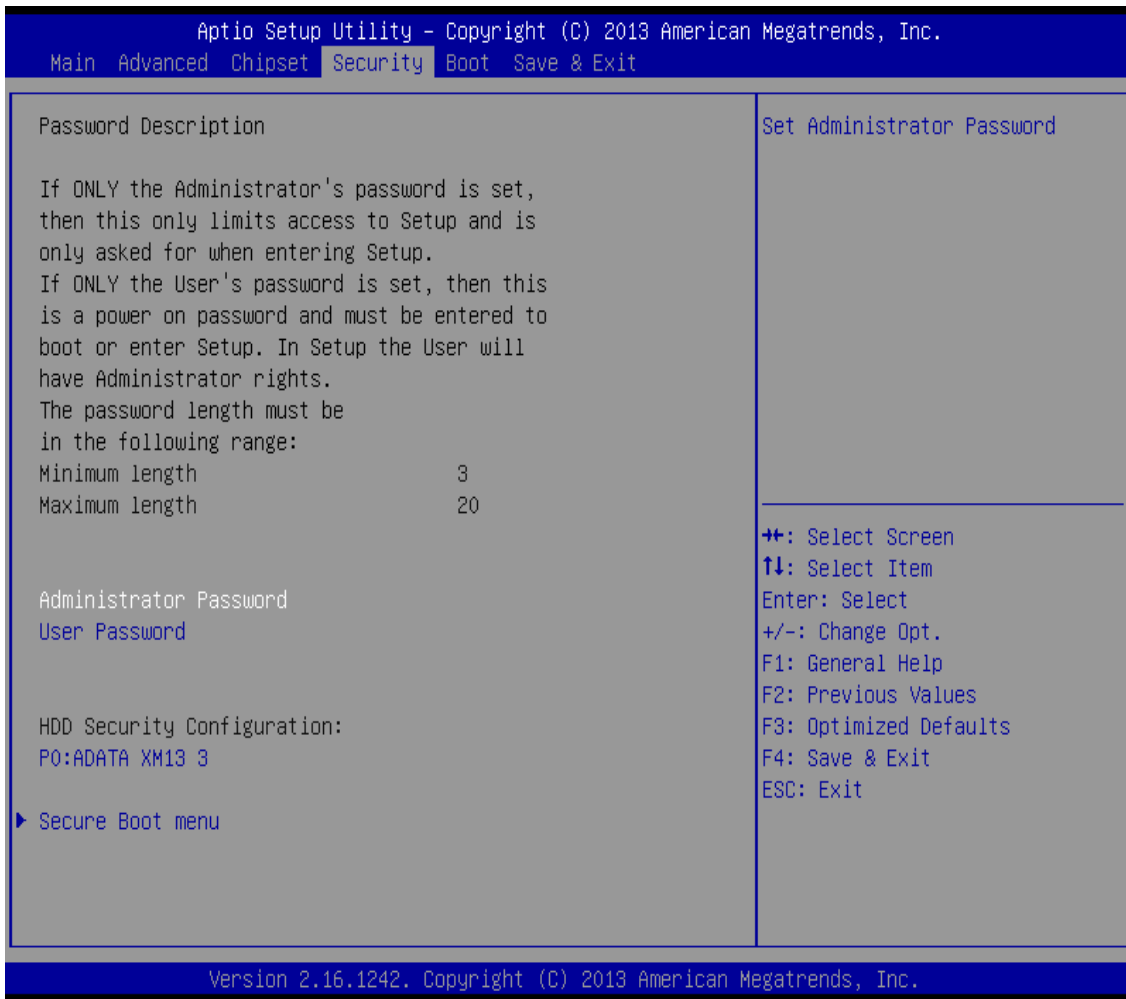
5.2.3 Chipset Menu



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 PC hardware, installing and removing devices, the system relies on interrupt requests.	Continuous	Allow user to set up desired IRQ Mode

5.2.4 Security Menu

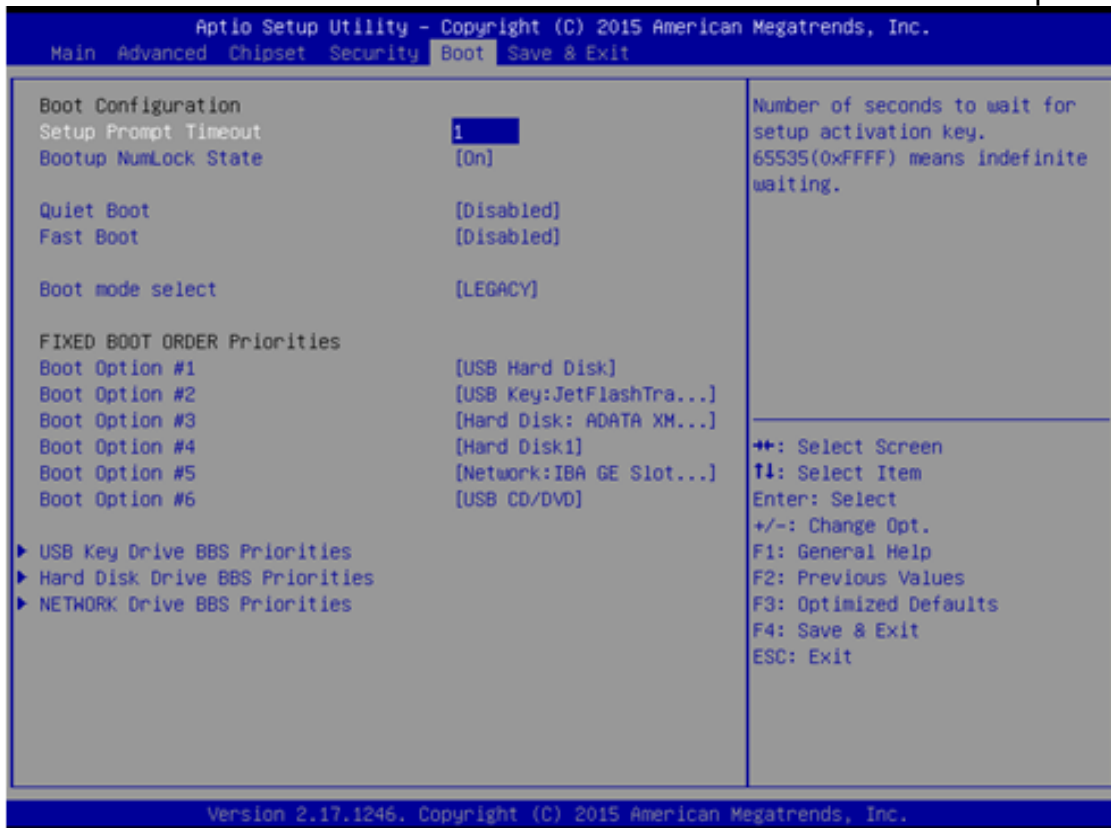
In the Security menu, users can set administrator password, user password, and HDD security configuration.



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

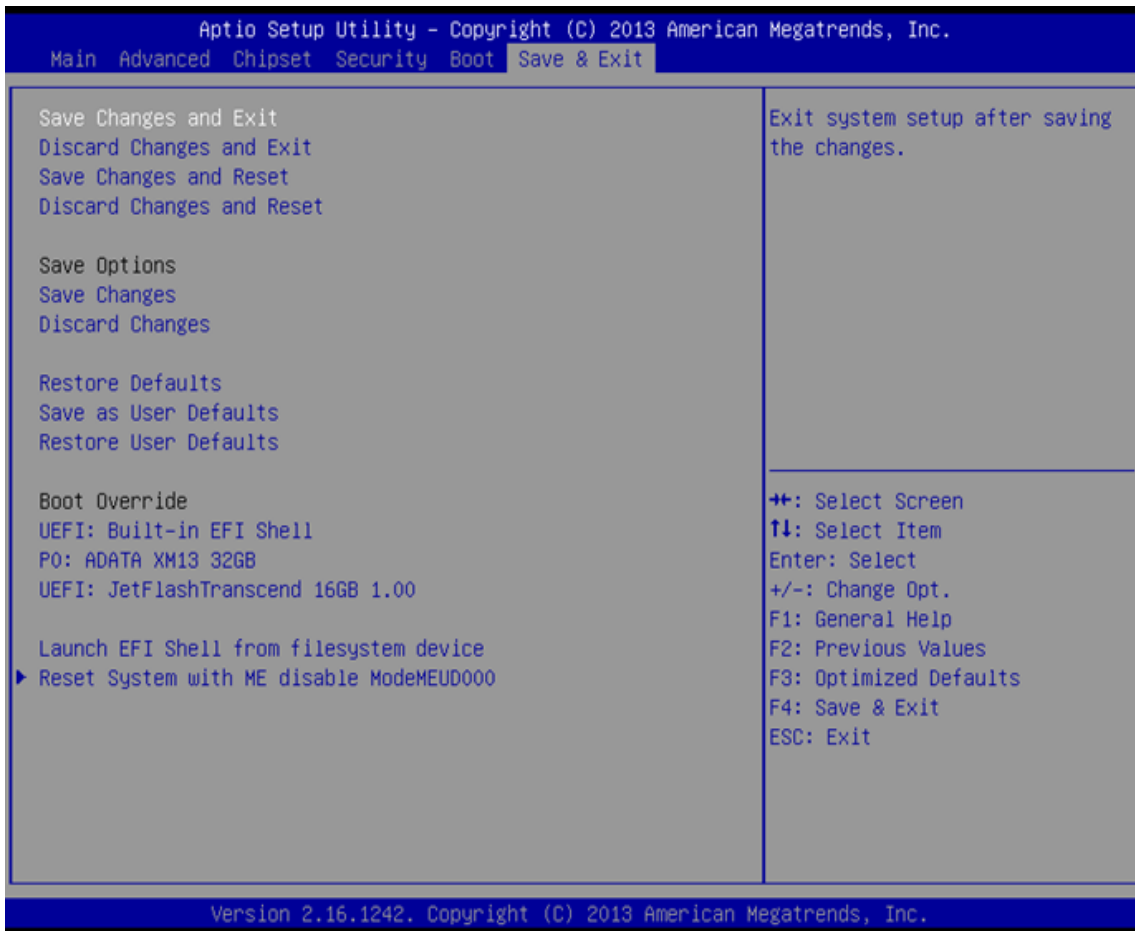
The Boot menu sets the sequence of the devices to be searched for the operating system. The bootable devices will be automatically detected during POST and shown here, allowing you to set the sequence that the BIOS uses to look for a boot device from which to load the operating system.



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
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
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

**Note:**

Before starting the recovery process, make sure to backup all user data. The data will be lost after the recovery process.

To enable quick one-key recovery procedure:

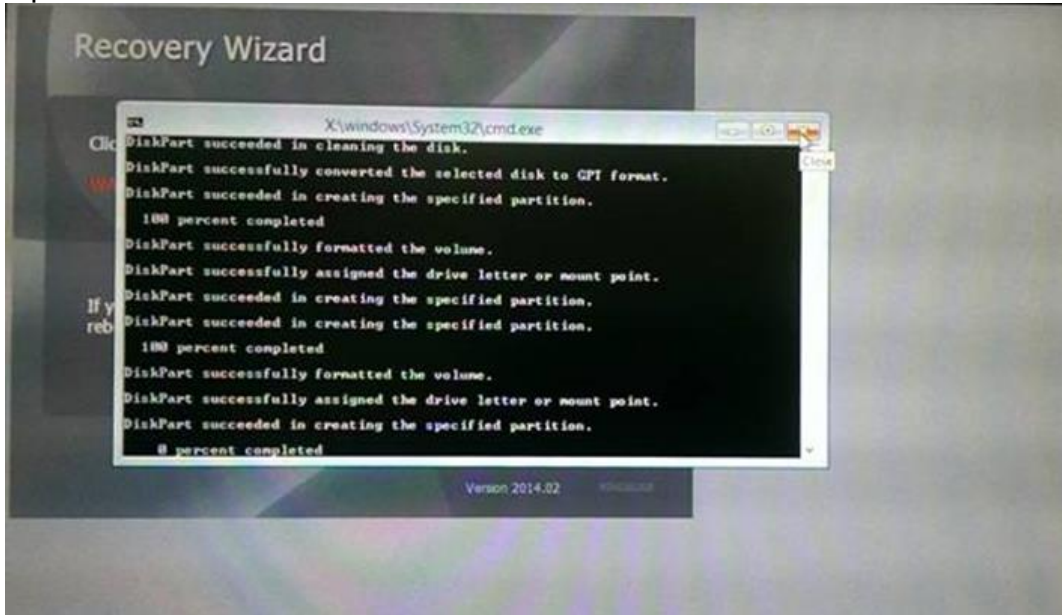
- Plug-in the AC adapter to Bay Trail series computer. Make sure the computer stays plugged in to power source during the recovery process.
- Turn on the computer, and when the boot screen shows up, press the **F6** to initiate the Recovery Wizard.
- The following screen shows the Recovery Wizard. Click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



Chapter 6: Driver Installation

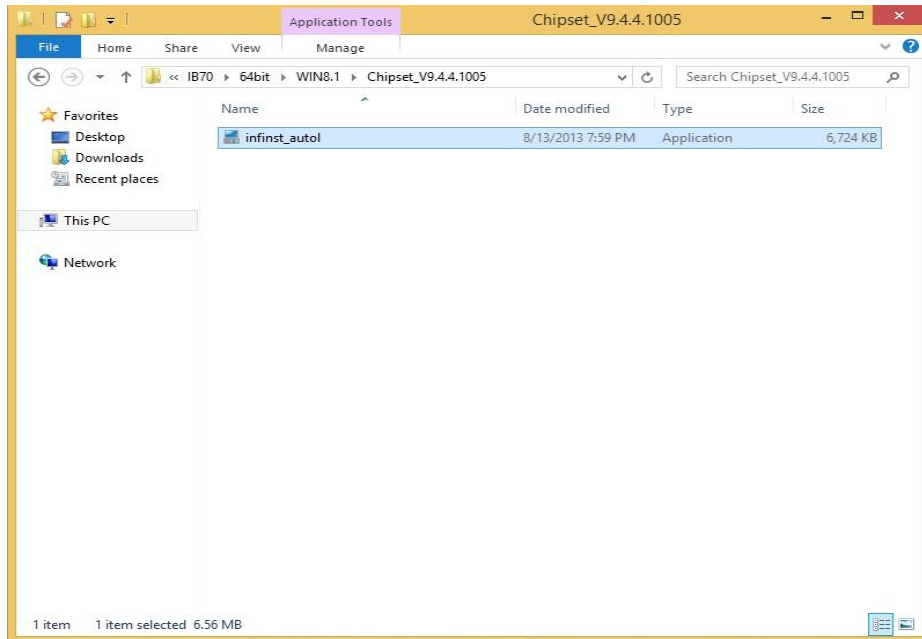
This chapter provides guideline to driver installations.



6.1 Chipset Driver

Follow instructions below to install **Chipset** driver.

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



2. Click **Next** to continue.



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



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

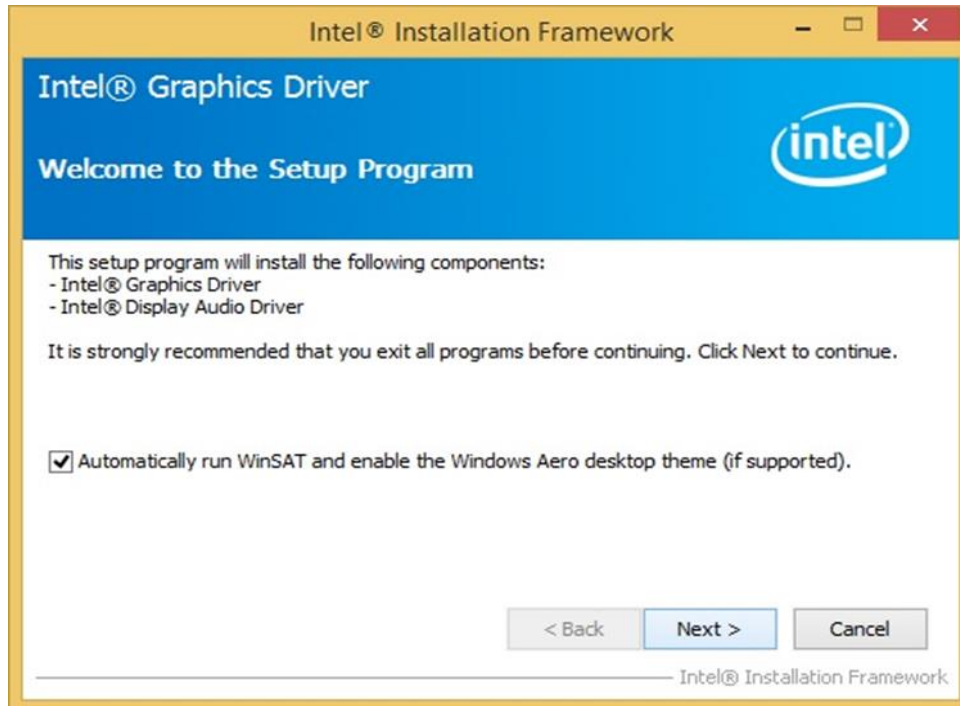


5. Software setup progress window will appear, click **Next** to continue.
6. Click **“Yes, I want to restart this computer now”** to finish the installation.

6.2 Graphic Driver

Follow instructions below to install **Graphic** driver.

1. Insert the CD that comes with the motherboard. Open the file document “**Graphics Driver**” and click **Setup** to execute the setup.
2. Setup Welcome Window will appear, click **Next** to continue the process.



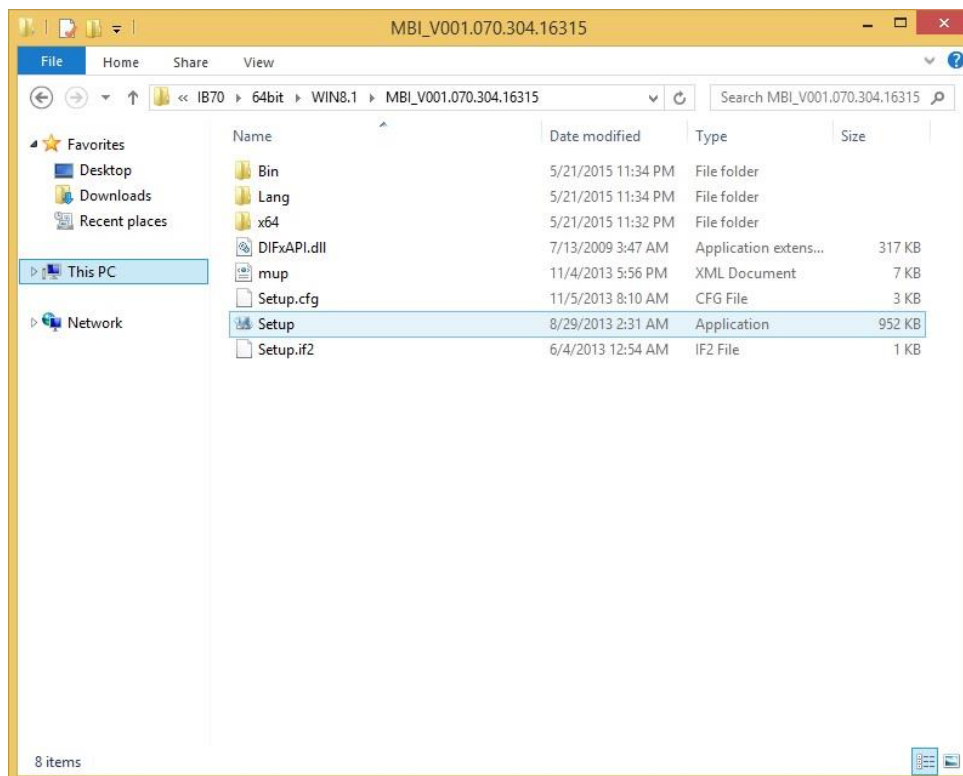
3. Carefully read the license terms and click **Yes** to agree.
4. Check Readme file information, and click **Next** to install driver.
5. Click **Next** to continue.
6. Windows Security window will appear, click “**Install this driver software anyway**” to continue.
7. Setup Progress window will appear, click **Next** to continue the installation.
8. Setup is complete, click “**Yes, I want to restart this computer now**” to finish the installation and restart the computer.

6.3 Intel Sideband Fabric Device (Intel MBI) Driver

Only for Windows 8.OS.

Follow instructions below to install **Intel MBI** driver.

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

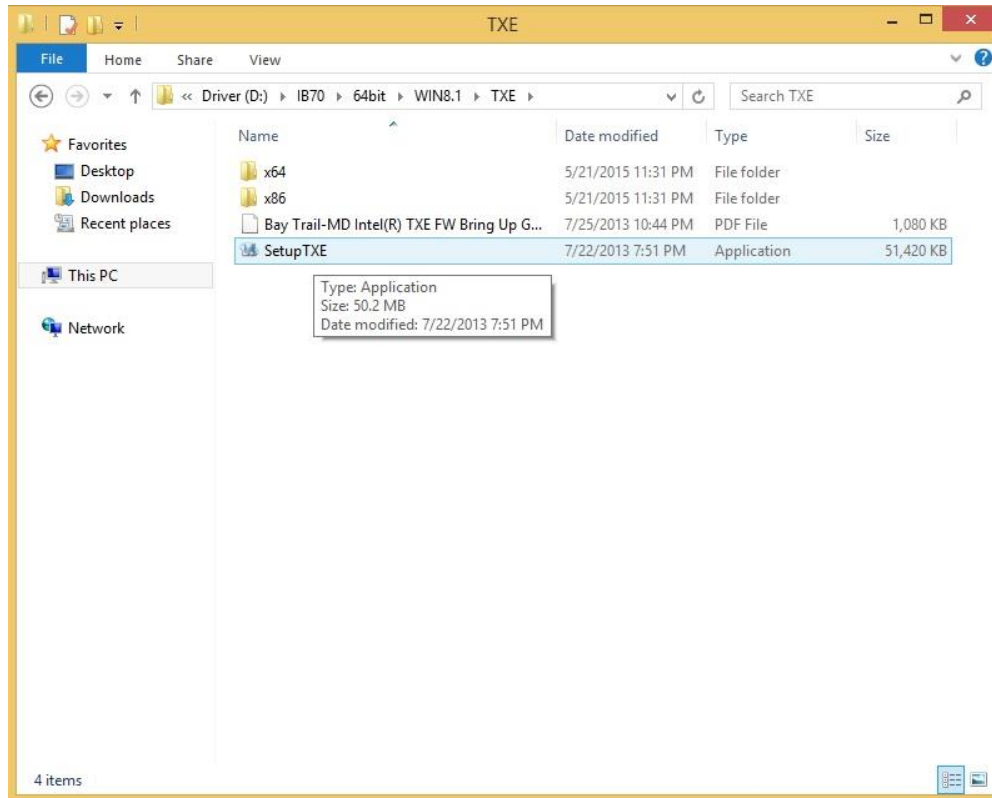


2. Welcome to the setup program window will appear, click **Next** to start the installation.
3. Carefully read the License Agreement terms and click **Yes** to agree.
4. Setup progress will appear, please wait for the operations to be performed, then click **Next** to continue.
5. The installation is complete, click “**Yes, I want to restart this computer now**” to finish and restart the computer.

6.4 Intel Trusted Engine Interface (Intel TXE) Driver

Follow instructions below to install **Intel TXE** driver.

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



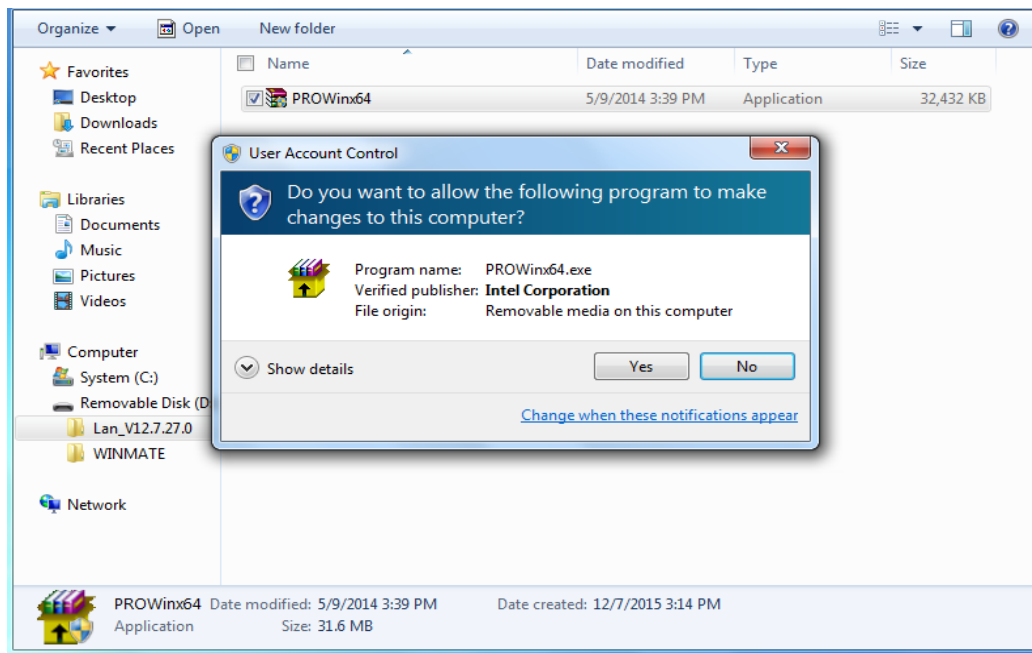
2. Welcome to the setup program window will appear, click **Next** to start the installation.
3. Carefully read the license terms and click **Yes** to agree.
4. Confirmation window will appear, click **Next** to continue the driver installation.
5. Please wait while the product is being installed.
6. The installation is complete, click **Finish** to complete the installation and restart the computer.

6.5 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.

Follow instructions below to install **Intel Network Connections** driver.

1. Click "PROWin64.exe"
2. Click **Yes** to start the installation.



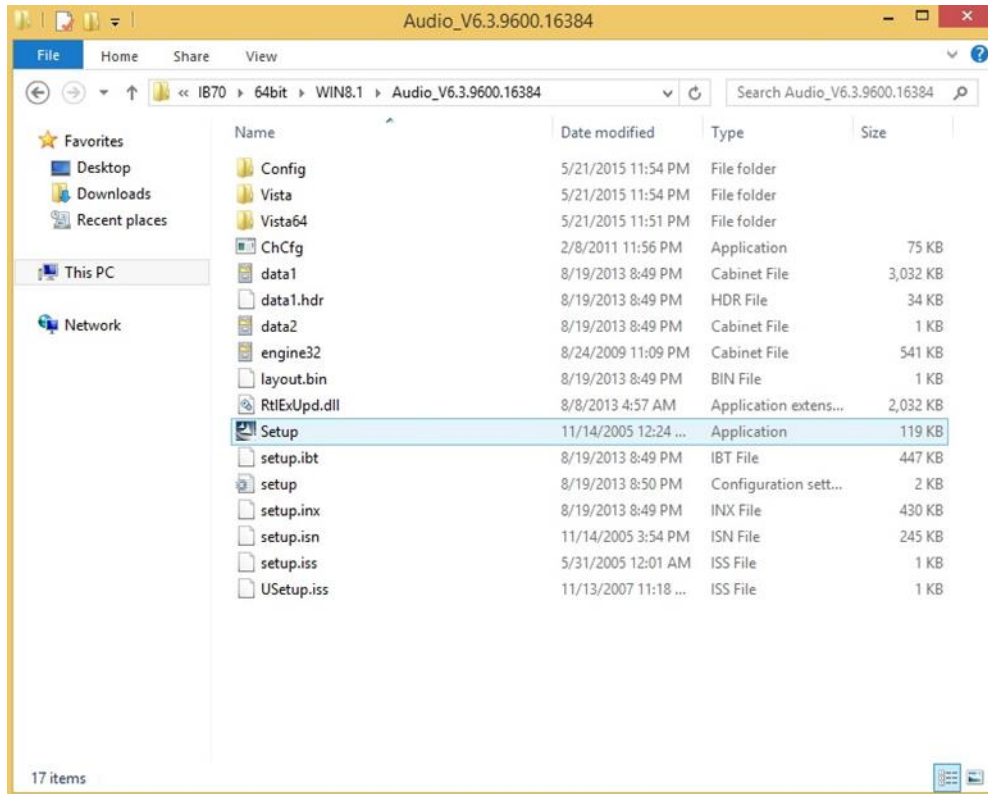
3. Welcome window will appear, click **Next** to install the driver.
4. In the program maintenance window you will see two options available. "Remove" is to remove Intel Networks Connections from your computer, and "Modify" is to make any changes. Choose **Modify** to continue.
5. In the **Setup Options** window choose "Intel® PRO Set for Windows® Device Manger", "Intel® Network Connections SNMP Agent" and "Advanced Network Services".
6. The wizard is ready to begin installation, click **Install** to continue.
7. Install wizard completed, click **Finish** to complete the installation.

6.6 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.

Follow instructions below to install **Audio** driver.

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



2. Please wait while the InstalShield Wizard prepares the setup.
3. Welcome window will appear, click **Next** to install the driver.
4. It might take some time to configure new software installation. Please wait.
5. Windows security will appear, click **Install** to install the audio driver.
6. The installation is complete, select “**Yes, I want to restart my computer now**”, and click **Finish** to complete the installation.

6.7 Watchdog Driver

For more details about Winmate Watchdog, please download Watchdog Guide from Winmate Downloads Center:

http://dc.winmate.com.tw/downloadCenter/2017/Embedded%20Computing/Watchdog%20Guide/IB_IH_IV_IK.pdf

Follow instructions below to install **Watchdog** driver.

1. Open the Driver CD (included in the package) and select **Watchdog** driver.
2. Check message and select **Install** to begin the installation.
3. Wait for installation to complete.
4. When installation is complete, press any key to close.
5. Open the Driver CD (included in the package) and select **Watchdog AP**.
6. Select **Next**.
7. The installed storage location is displayed, select **Next** to continue.
8. Select **Next** to start the installation.
9. Wait for installation to complete.
10. When installation is completed, select **Close** to close the window.

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.

Appendix

Appendix A: Hardware Specifications

	Model Name			
	W07IB3S-EHT1	W10IB3S-EHH2	R15IB3S-EHC3	W15IB3S-EHA4
Display				
Size/ Type	7" (Wide)	10.1" (Wide)	15"	15.6" (Wide)
Resolution	1024x600	1280 x 800	1024 x 768	1366 x 768
Brightness	320 nits	350 nits	300 nits	400 nits
Contrast Ratio	500 : 1 (typ.)	800:1 (typ.)	700:1 (typ.)	500 : 1 (typ.)
Viewing Angle	-70~70(H);-50~60(V)	-85~85(H);85~85(V)	-80~80(H);80~80(V)	-70~70(H);-50~60(V)
Max Colors	16.7M (8bit)	16.7M (8bit)	16.7M (8bit)	16.7M (8bit)
Touch	Projected Capacitive Multi-Touch (P-CAP)			
Mechanical Specifications				
Dimensions, mm	184.94x127.7x44.9	267.42x182.14x57.6	276.7x352.5x56.3	421x260.6x65.5
Mounting	Panel Mount (4 x clips)	Panel Mount (8 x clips)	Panel Mount (10 x clips)	Panel Mount (10 x clips)
Cooling	Fanless	Fanless	Fanless	Fanless
System Specifications				
Processor	Intel® Celeron® Bay Trail-M N2930 1.83GHz			
Chipset	Intel® ATOM SoC Integrated			
Memory	2 GB SODIMM DDR3L 1600 MHz (Max. 8 GB)			
Storage	64GB mSATA SSD			
LAN	Dual Intel® I210ATGbE LAN			
Audio	Realtek HD Audio Codec			
Security	Trusted Platform Module (TPM 1.2)			
Operating System	Windows 10 IoT, Windows Embedded 8.1 Industry, Windows Embedded 8 Standard, Windows Embedded Standard 7			
Input / Output				
Power	1 x Power Jack			
USB Ports	1 x USB 2.0, 1 x USB 3.0			
COM Port	1 x RS232/422/485			
Ethernet	2 x RJ45, 10/100/1000			
HMDI	1 x HDMI 1.4a			
Power Specifications				
Power Input	12V DC	12V DC	12V DC	12V DC
Power Consumption	17W (typ.)	19W (typ.)	21W (typ.)	23W (typ.)
PoE	Supports PoE (Optional), Power Device (PD) follows IEEE 802.3at (25W)			
Environment Considerations				
Operating Temp.	-10°C to +50°C			
Operating Humidity	10 ~ 90% (non-condensing)			
IP Rating	Front IP65, Rear: IP22			

