

User Manual

BPC-5070-A1

Fanless Embedded Box PC

with 6th Socket LGA1151 for Intel®Core i7/i5/i3 (Skylake-S)

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1. Collect all the information about the problem encountered. (For example, CPU speed, Arestech products used, other hardware and software used, etc.) Note anything abnormal and list any onscreen messages you get when the problem occurs.
2. Call your dealer and describe the problem. Please have your manual, product, and any helpful information readily available.
3. If your product is diagnosed as defective, obtain an RMA (return merchandize authorization) number from your dealer. This allows us to process your return

more quickly.

4. Carefully pack the defective product, a fully-completed Repair and Replacement Order Card and a photocopy proof of purchase date (such as your sales receipt) in a shippable container. A product returned without proof of the purchase date is not eligible for warranty service.
5. Write the RMA number visibly on the outside of the package and ship it prepaid to your dealer.

Safety Instructions

1. Read these safety instructions carefully.
2. Keep this User Manual for later reference.
3. Disconnect this equipment from any AC outlet before cleaning. Use a damp cloth. Do not use liquid or spray detergents for cleaning.
4. For plug-in equipment, the power outlet socket must be located near the equipment and must be easily accessible.
5. Keep this equipment away from humidity.
6. Put this equipment on a reliable surface during installation. Dropping it or letting it fall may cause damage.
7. The openings on the enclosure are for air convection. Protect the equipment from overheating. **DO NOT COVER THE OPENINGS.**
8. Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.
9. Position the power cord so that people cannot step on it. Do not place anything over the power cord.
10. All cautions and warnings on the equipment should be noted.
11. If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient overvoltage.
12. Never pour any liquid into an opening. This may cause fire or electrical shock.
13. Never open the equipment. For safety reasons, the equipment should be opened only by qualified service personnel.
 - If one of the following situations arises, get the equipment checked by service personnel:
 - The power cord or plug is damaged.
 - Liquid has penetrated into 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's manual.
 - The equipment has been dropped and damaged.
 - The equipment has obvious signs of breakage.
14. **DO NOT LEAVE THIS EQUIPMENT IN AN ENVIRONMENT WHERE THE STORAGE TEMPERATURE MAY GO BELOW -20° C (-4° F) OR ABOVE 45° C (140° F). THIS COULD DAMAGE THE EQUIPMENT. THE EQUIPMENT SHOULD BE IN A CONTROLLED ENVIRONMENT.**
15. **CAUTION: DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY**

REPLACED. REPLACE ONLY WITH THE SAME OR EQUIVALENT TYPE RECOMMENDED BY THE MANUFACTURER, DISCARD USED BATTERIES ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.

Safety Precaution - Static Electricity

Follow these simple precautions to protect yourself from harm and the products from damage.

- To avoid electrical shock, always disconnect the power from your PC chassis before you work on it. Don't touch any components on the CPU card or other cards while the PC is on.
- Disconnect power before making any configuration changes. The sudden rush of power as you connect a jumper or install a card may damage sensitive electronic components.

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Chapter1. General Introduction

1.1 Overview

The BPC-5070 is a high performance fanless Box PC with a 6th generation Intel® Core™ i7/i5/i3 Skylake processor conveniently housed within a compact enclosure. the BPC-5070 still provides rich I/O connectors, and supports up to four USB3.0 and four USB 2.0 ,Two LAN RJ-45 Connect with simultaneous high speed Ethernet communications. Additionally, the BPC-5070's two COM ports can make machine automation control or data collection easier. This high performance fanless Box PC is also ideal for video/graphics applications with single HDMI 2.0 and dual HDMI 1.4a ports supporting up to 4096 x 2304 resolution and option VGA port . The fanless and rugged enclosure is designed to protect against electromagnetic interference and to suit various applications in the automation, digital signage, gaming, entertainment, medical, and networking markets.



(Front Cover/Heatsink)



(back cover IO)

1.2 Key Features

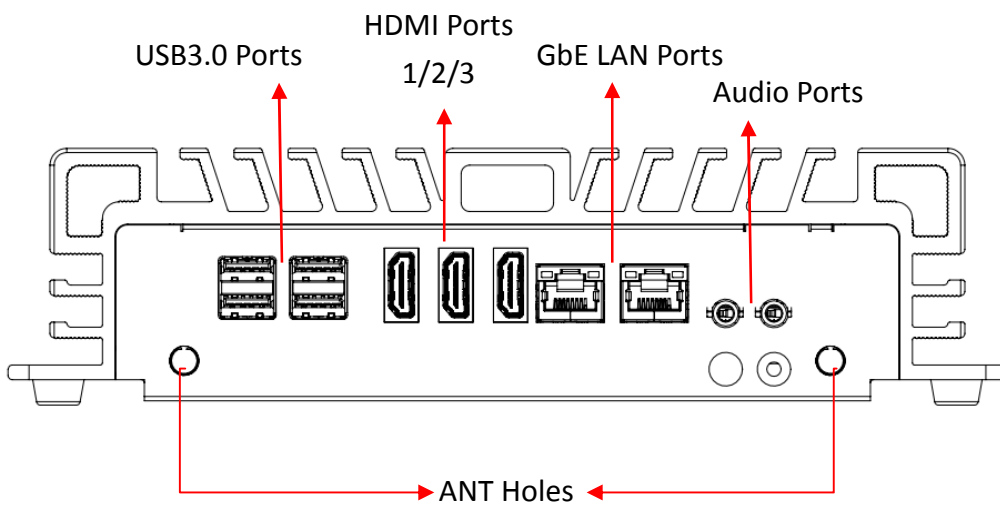
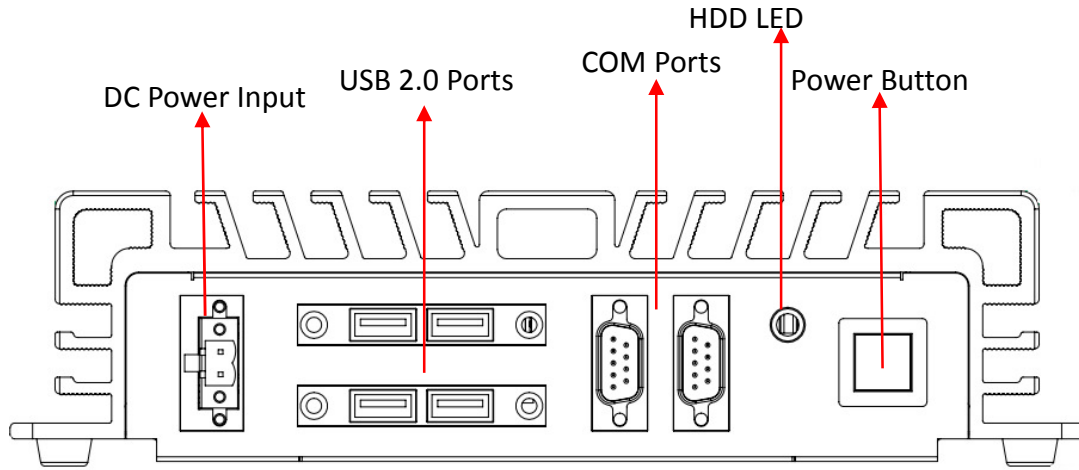
- 6th Socket LGA1151 for Intel®Core i7/i5/i3 (Skylake-S)
- Dual Channel DDR4 2133MHz, 2 x SO-DIMM, up to 32GB
- 2 GbE, 4 USB 3.0, 4 USB 2.0 ,2 COM, 3 HDMI, Mic_in, Line_out
- 2 x SATA3 (6.0Gb/s), Supports RAID 0/1/5/10
- Internal Expansion slot:
 - Mini-PCIe 1 (Half Size)
 - Mini-PCIe 1 (Full Size) shared with mSATA
 - mSATA 1 (Full Size) shared with SATA3_2
- 12V / 19~24V DC-in
- -20~45° C Operating Temperature

1.3 Hardware Specification

Model		BPC-5070-0A1
Processor System	CPU	6th Socket LGA1151 for Intel®Core i7/i5/i3 (Skylake-S)
	Frequency	BY CPU
	Intel® Smart Cache	BY CPU
	System Chipset	H110/Q170
	BIOS	UEFI
Memory	Technology	Dual Channel DDR4 2133MHz, 2 x SO-DIMM, up to 16GB
	Max. Capacity	32 GB
	Socket	2X 260-pin SO-DIMM
Display	Graphics Engine	Intel® Gen9 Intel® Graphics DX 11/12, OGL4.3/4.4
	VGA(Optional)	Supports max. resolution 1920 x 1200
	HDMI	HDMI1: Supports HDMI 2.0, max resolution 4096 x2160@60Hz HDMI2, 3: Supports HDMI 1.4a, max resolution 4096 x 2160@30Hz
	Three Display	3 HDMI/2 HDMI+1 VGA
	Daul Display	2 HDMI /1 HDMI+1 VGA
I/O Interface	USB	4 USB 3.0, 4 USB 2.0
	Serial Port	2 COM ports (2 x RS-232/422/485)
	GPIO(Optional)	8 GPIO (DP-9 Connector)
Ethernet	Controller	2 GbE 10/100/1000 Mbps
Audio	Connector	Line out, Mic in

Expansion	Mini PCIe	Mini PCIe (Half Size)
Storage	SATA III	2 x SATA3 (6.0Gb/s), Supports RAID 0/1/5/10
	Power Type	AT /ATX
Power	Power Connector	2-pin Terminal Block
	Power Input	12/19~24 V DC-input, 9.3A - 2.3A
	Power Consumption	Typical: 28W @12V DC-input (w/o expansion cards) Full Load: 77.6W @ 12V DC-input (w/o expansion cards)
	Operational Temp	-20~45° C (-4~ ° F) (Operational humidity: 45° C @ 95% RH Non-Condensing)
Environment	Non-Operational	-40~85° C and 60° C @ 95% RH Non-condensing
	Vibration	1 Grms, IEC 60068-2-64, random, 5~500 Hz, 1 Oct/min., 1hr/axis, x,y,z 3 axes
	Shock	20 G, IEC 60068-2-27, half sine, 11 ms duration
Certification	EMC	CE, FCC, LVD Class A
	Dimensions (W x H x D)	238 x 61 x 245 mm (9.37" x 2.40" x 9.64")
General	Weight	3 kg (6.6 lb)
	OS	Windows 7/8, WS7E/P, WES8, Windows10 Linux kernel 2.6.x or above

.4 I/O Arrangement



- **Power Button**

Press this button to turn on the system.

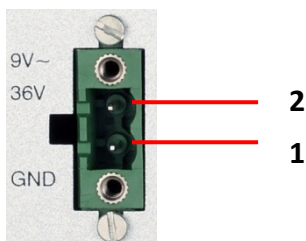
- **HDD LED**

HddLed Indicator is a tool to see what hard disk drive or SSD is doing right now

- **DC 12/19~24 V Power Input Connector**

This System supports DC 12/19-24V input power voltage.

This connector must be connected to DC 12 and 19 to 36 V power adaptor. After plugging phoenix connector , be sure to fasten the two screws to lock the connector.



Pin	Definition
1	GND
2	Vin+ (12/19-24V DC)

- **VGA Port**

This port can be connected to the VGA monitor.

Supports max. resolution 1920 x 1200

BPC-5070-1A1 Support Three Display

BPC-5070-2A1 Support Daul Display

- **HDMI Port**

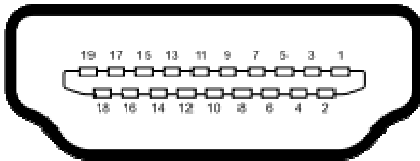
his port can be connected to the HDMI monitor.

HDMI1: Supports HDMI 2.0, max resolution 4096 x 2160 @ 60Hz

HDMI2,3: Supports HDMI 1.4a, max resolution 4096 x 2160 @ 30Hz

BPC-5070-1A1 Support Three Display

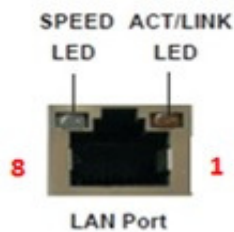
BPC-5070-2A1 Support Daul Display



Pin	Definition	Pin	Definition
1	TMDS Data2+	2	TMDS Data2 Shield
3	TMDS Data2 -	4	TMDS Data1+
5	TMDS Data1 Shield	6	TMDS Data1-
7	TMDS Data0+	8	TMDS Data0 Shield
9	TMDS Data0-	10	TMDS Clock+
11	TMDS Clock Shield	12	TMDS Clock-
13	Reserved	14	Reserved
15	SCL	16	SDA
17	DDC Ground	18	+5 V Power
19	Hot Plug Detect		

■ LAN Port

This port can be connected to the Ethernet via RJ-45 connector .



10/100BASE-T:

Pin	Definition	Pin	Definition
1	TX_D0+	5	NC
2	TX_D0-	6	RX_D1-
3	RX_D1+	7	NC
4	NC	8	NC

1000BASE-T:

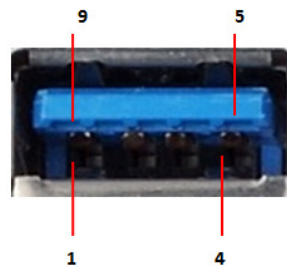
Pin	Definition	Pin	Definition
1	TX_D0+	5	BI_D2-
2	TX_D0-	6	RX_D1-
3	RX_D1+	7	BI_D3+
4	BI_D2+	8	BI_D3-

Activity/Link LED	
Status	Description
Off	No Link
Blinking	Data Activity
On	Link

SPEED LED	
Status	Description
Off	10Mbps connection
Green	100Mbps connection
Orange	1Gbps connection

■ USB 3.0 Port

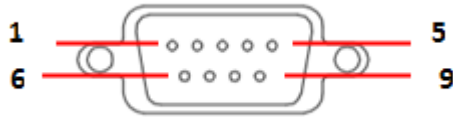
Pin	Definition
1	+5
2	USB-
3	USB+
4	GND
5	StdA_SSRX-
6	StdA_SSRX+
7	GND_DRAIN
8	StdA_SSTX-
9	StdA_SSTX+



Basically, USB3.0 supports 900mA @ 5 V

■ COM 1-2 (RS-232/422/485)

Users can change the configuration of COM1 and COM2 by using BIOS setup utility.



(RS-232)

Pin	Definition	Pin	Definition
1	DCD	6	DSR
2	RXD	7	RTS
3	TXD	8	CTS
4	DTR	9	5V
5	GND		

(RS-422)

Pin	Definition	Pin	Definition
1	TX-	6	N/A
2	RX+	7	N/A
3	TX+	8	N/A
4	RX-	9	N/A
5	GND		

(RS-485)

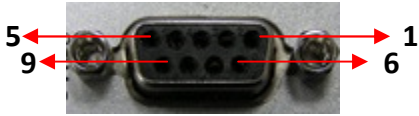
Pin	Definition	Pin	Definition
1	RTX-	6	N/A
2	N/A	7	N/A
3	RTX+	8	N/A
4	N/A	9	N/A
5	GND		

NOTE: Please refer to Chapter4 BIOS Setting - 3.2.5 Super IO Configuration COM1/2 Configuration (page) to set parameters of COM1/2

■ Audio Port

Green connector means **LINE OUT** / Pink connector **MIC IN** .

■ Digital I/O Ports (Optional)



1	SIO_GP20	2	SIO_GP21
3	SIO_GP22	4	SIO_GP23
5	SIO_GP24	6	SIO_GP25
7	SIO_GP26	8	SIO_GP27
9	JGPIO_PWR		Outer Shielding

● Guide:

1. **DI** ports have default high(3.3V) voltage.
Users have to input a low(GND) voltage to give a trigger signal.
2. Users can define high(3.3V) or low(GND) voltage by themselves for the output **DO** ports.
3. **VCC** port provides always DC high(5V) voltage.
4. **GND** port provide always DC low(GND) voltage.

■ ANT

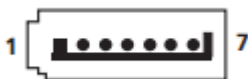
It is a reserved hole for SMA connector of antenna.

If customer select a 3G or a WIFI module , he will need this ANT hole to plug a SMA connector.

Internal Interface:

■ SATA Connector:

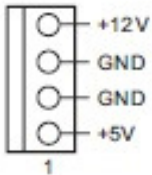
(SATA3) connectors support SATA data cables for internal storage devices. The current SATA3 interface allows up to 6.0 Gb/s data transfer rate.



Pin	Definition
1	GND
2	TX+
3	TX-
4	GND

5	RX-
6	RX+
7	GND

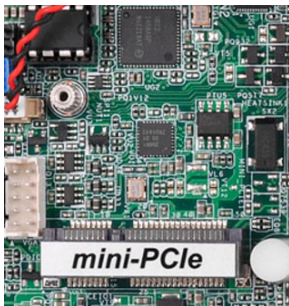
■ SATA Power Connector:



Pin	Definition
1	+5V
2	GND
3	GND
4	+12V

■ mini-PCIe slot:

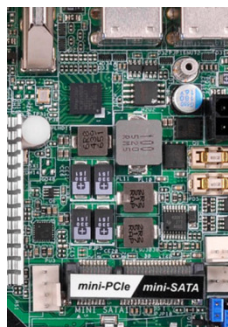
MINI_PCIE1 (mini-PCIe slot; half size) is used for PCI Express mini cards.



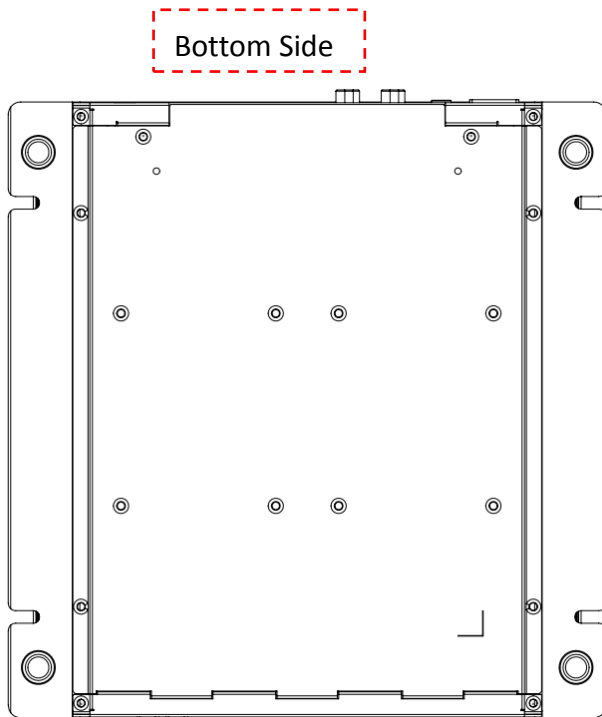
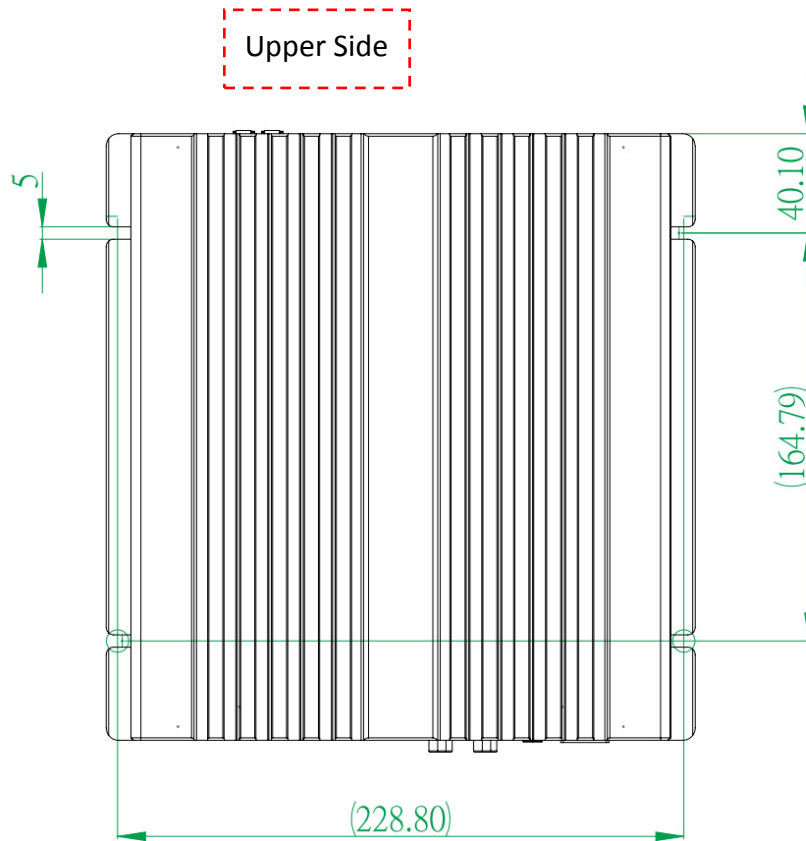
■ mini-PCIe / mini-SATA slot:

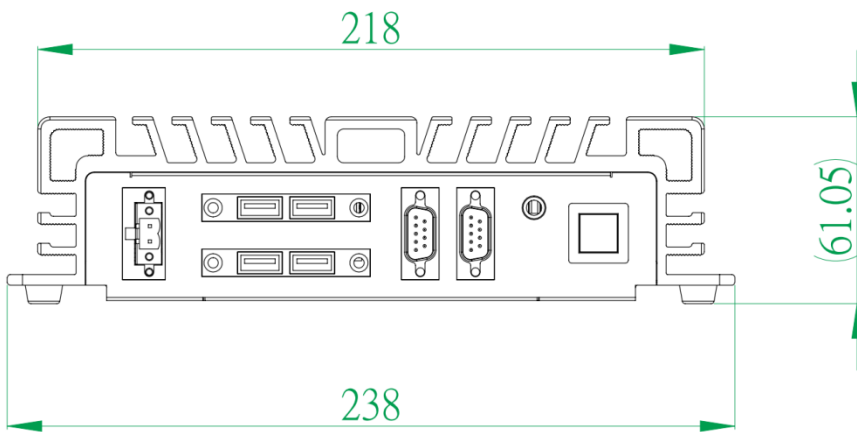
MINI_SATA1 (mini-PCIe / mini-SATA slot; full size) is used for PCI Express mini cards or mSATA cards.

* MINI_SATA Slot on BPC-5070-2A1 supports mSATA cards only.

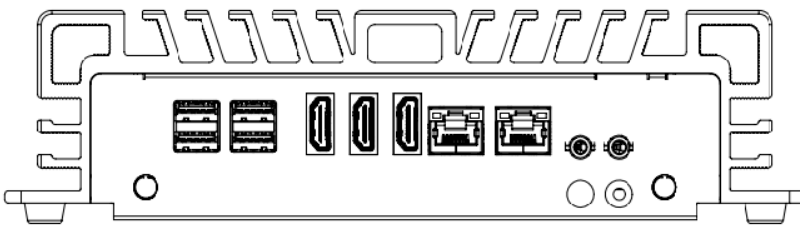


1.5 Mechanical Dimension

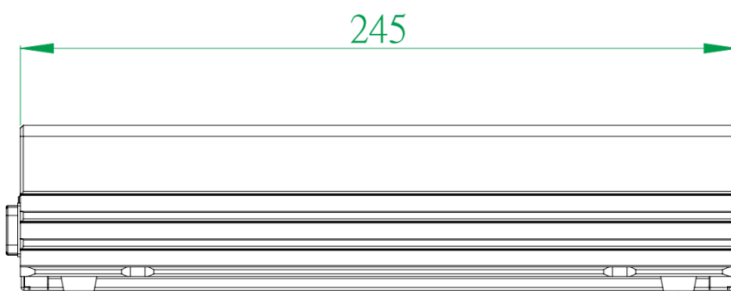




Front Side



Back Side



Right /Left Side

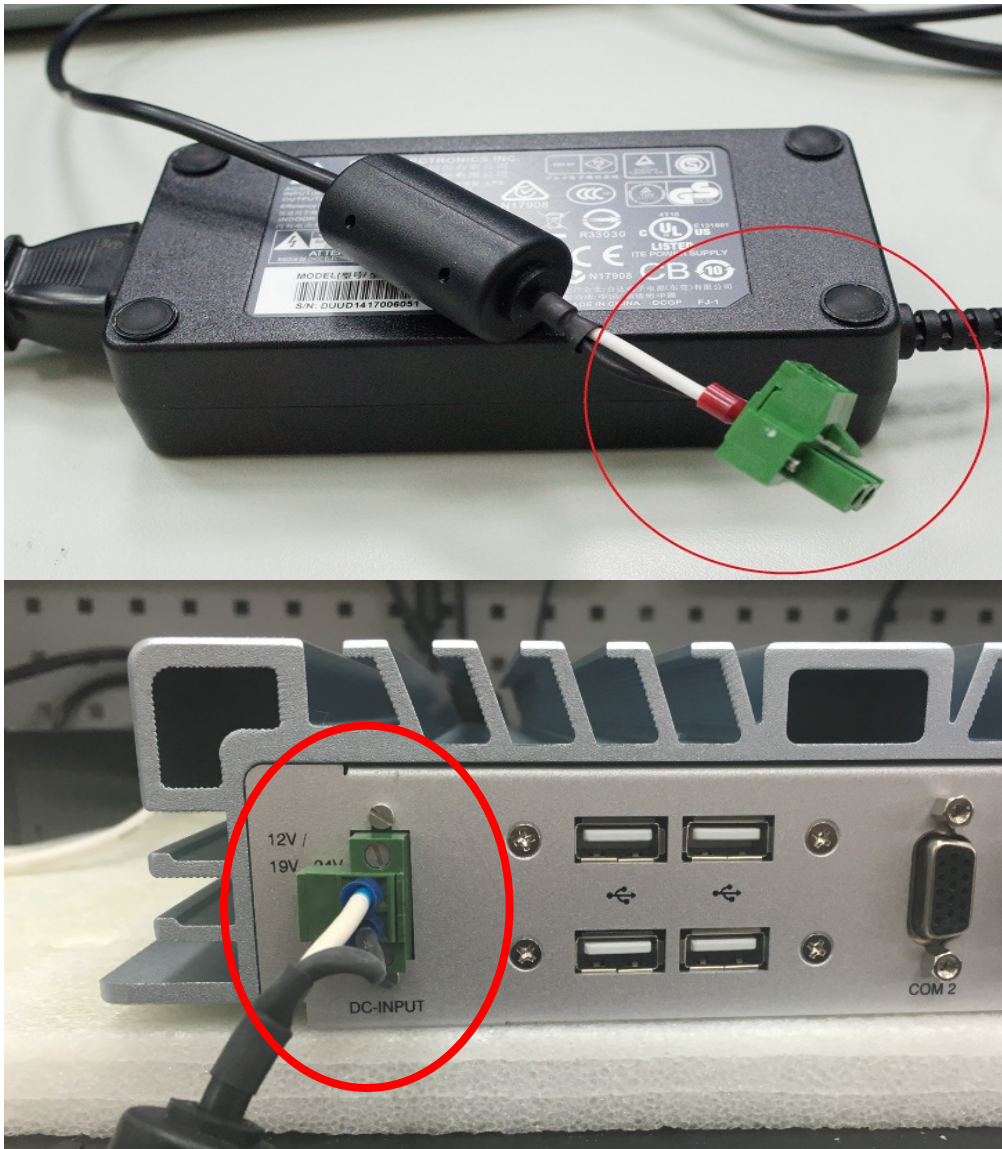
Chapter2. System Setup

2.1 Power Installation Procedure

1. Connecting Power Cord

The BOX-PC(BPC-5070) can support wide range DC-input (12/19~24V). Be sure to handle the power cord by holding the plug end only. Follow these procedures to connect the power cord:

- (1) Connect the male end(Phoenix connector) of the power cord to the DC-Input connector of BPC-5070 and lock it.
- (2) Connect the 3-pin male plug of the power cord to an electrical outlet.



Step 3. Connect the **Phoenix Connector Terminal** into the system's **Power Input** connector.

**WARNING:**

1. After plugging phoenix connector , be sure to fasten the two screws to lock the connector.
2. White cable stands for 12V , black cable stand for GND. Make sure you plug connector in correct direction.

2.Connecting Keyboard and Mouse

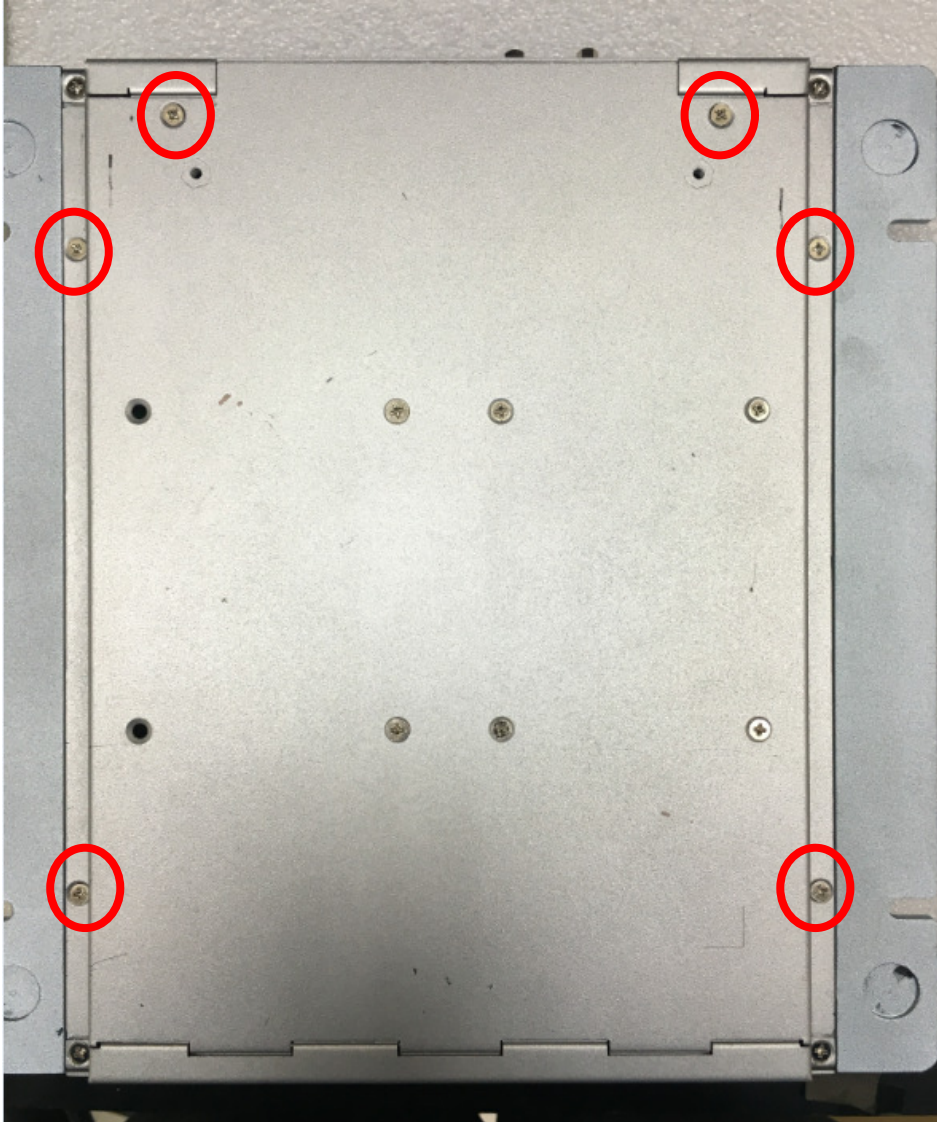
Connect the mouse and keyboard to the USB connector of BPC-5070.

3. Switching on Power

The power button is located at the right side on the front cover of BPC-5070.

2.2 Installing 2.5" HDD and swappable HDD Bracket

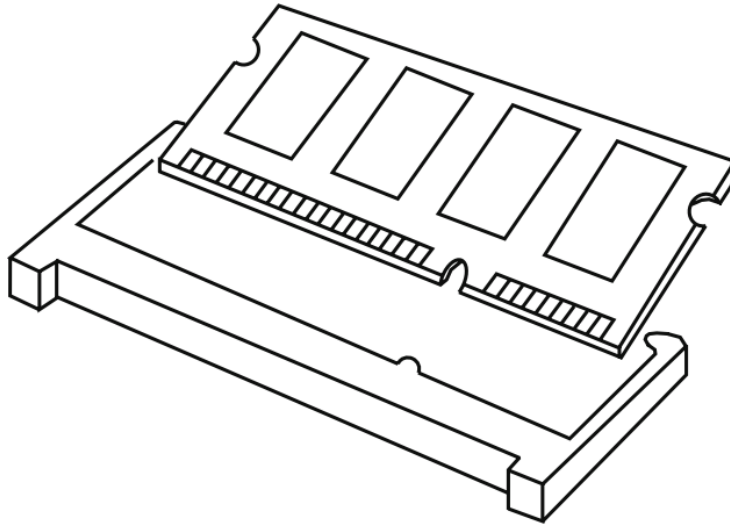
1. Unfasten the 6 screws on the chassis and open the bottom cover.



2.3 Installing Memory and Internal Expansion Device

provides two 260-pin DDR4(Double Data Rate 4) SO-DIMM slot, which supports dule channel DDR4 SDRAM only.

Step 1. Align a SO-DIMM on the slot such that the notch on the SO-DIMM matches the break on the slot.



The SO-DIMM fits in two correct orientation. It will cause permanent damage to the motherboard and the SO-DIMM if you force the SO-DIMM into the slot at incorrect orientation.

Step 2. Firmly insert the SO-DIMM into the slot until the retaining clips at both ends fully snap back in place and the SO-DIMM is properly seated.

2.4 Installing mini-PCIe Card and m-SATA Device

Expansion Slots (mini-PCIe and mini-PCIe/mini-SATA Slots)

There is 1 mini-PCIe slot and 1 mini-PCIe/mini-SATA slot on this motherboard.

mini-PCIe slot:

MINI_PCIE1 (mini-PCIe slot; half size) is used for PCI Express mini cards.

mini-PCIe/mini-SATA slot:

MINI_PCIE2 (mini-PCIe/mini-SATA slot; full size) is used for PCI Express mini cards or mSATA cards.



Installing an expansion card

Step 1.

Before installing the expansion card, please make sure that the power supply is switched off or the power cord is unplugged. Please read the documentation of the expansion card and make necessary hardware settings for the card before you start the installation.

Step 2.

Remove the system unit cover

Step 3.

Align the card connector with the slot and press firmly until the card is completely seated on the slot.

Step 4.

Fasten the card to the chassis with screws.

Step 5.

Replace the system cover.

3.1 Main

This section (Main screen) displays the system overview.

```
Aptio Setup Utility - Copyright (C) 2015 American Megatrends, Inc.
Main Advanced H/W Monitor Security Boot Exit

System Date          [Mon 12/20/2804]
System Time          [08:43:53]
Set the Date. Use Tab to
switch between Date elements.

UEFI Version       : IMB-190-E L0.07A
Processor Type     : Intel(R) Core(TM) i5-6600K CPU @ 3.50GHz
Processor Speed    : 3500MHz
Microcode Update   : 506E3/49
Cache Size         : 6MB

Total Memory       : 4096MB with 512MB Shared Memory
                   Single-Channel Memory Mode

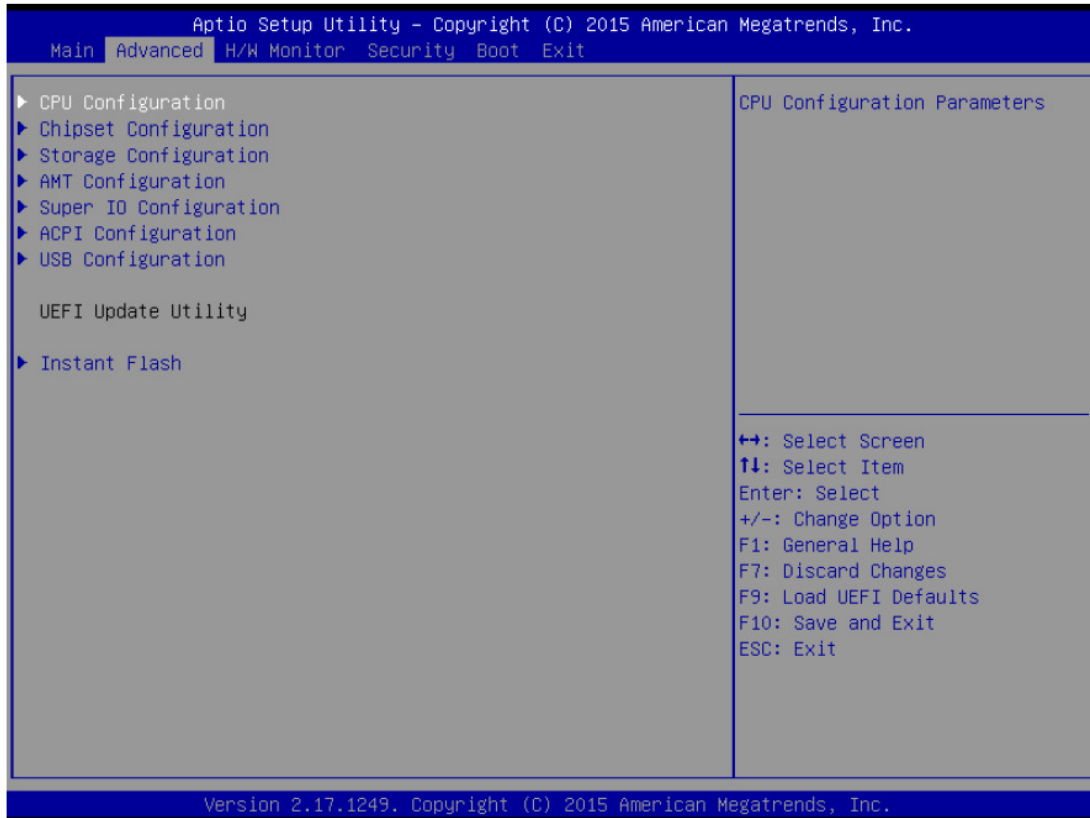
DDR4_A1            : 4096MB(DDR4-2133)
DDR4_B1            : None

↔: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Option
F1: General Help
F7: Discard Changes
F9: Load UEFI Defaults
F10: Save and Exit
ESC: Exit

Version 2.17.1249. Copyright (C) 2015 American Megatrends, Inc.
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3.2 Advanced

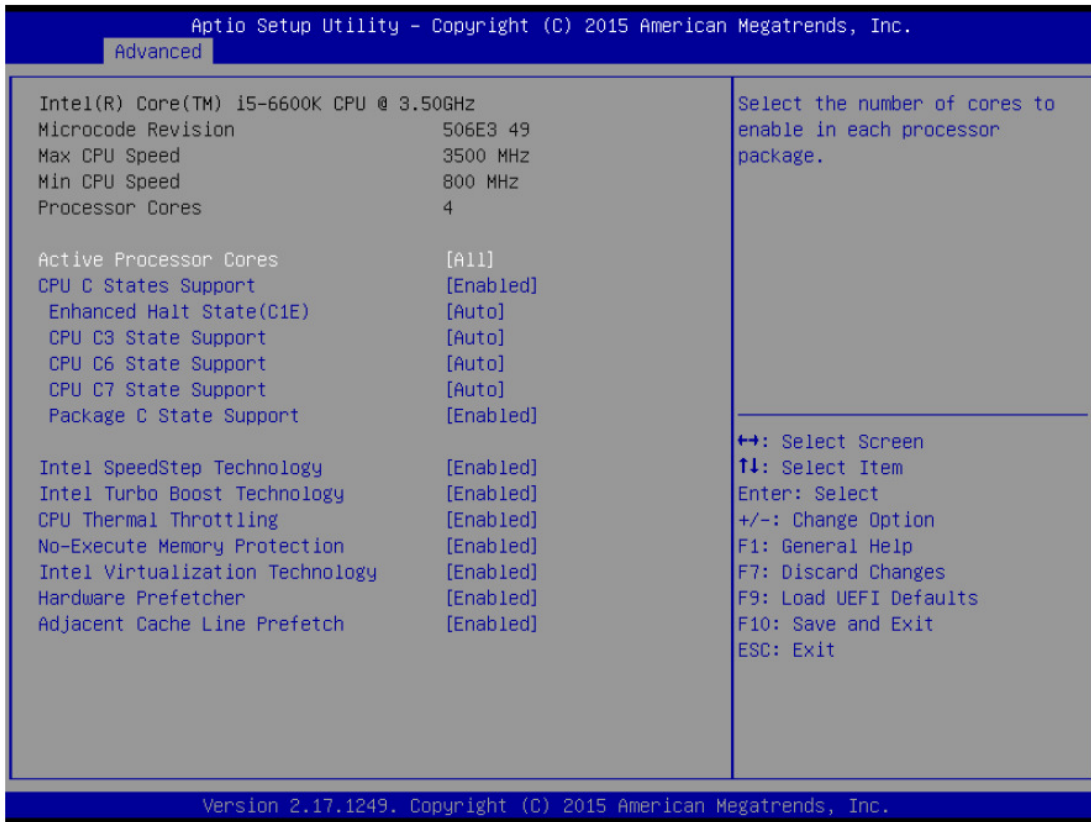
In this section, you may set the configurations for the following items: CPU Configuration, Chipset Configuration, Storage Configuration, AMT Configuration, Super IO Configuration, ACPI Configuration, USB Configuration



Instant Flash

Instant Flash is a UEFI flash utility embedded in Flash ROM. This convenient UEFI update tool allows you to update system UEFI without entering operating systems First like MS-DOS or Windows®. Just launch this tool and save the new UEFI file to your USB flash drive, floppy disk or hard drive, then you can update your UEFI only in a few clicks without preparing an additional floppy diskette or other complicated flash utility. Please be noted that the USB flash drive or hard drive must use FAT32/16/12 file system. If you execute Instant Flash utility, the utility will show the UEFI files and their respective information. Select the proper UEFI file to update your UEFI, and reboot your system after UEFI update process completes.

3.2.1 CPU Configuration



Active Processor Cores

Select the number of cores to enable in each processor package.

CPU C States Support

Enable CPU C States Support for power saving. It is recommended to keep C3, C6 and C7 all enabled for better power saving.

Enhanced Halt State (C1E)

Enable Enhanced Halt State (C1E) for lower power consumption.

CPU C3 State Support

Enable C3 sleep state for lower power consumption.

CPU C6 State Support

Enable C6 deep sleep state for lower power consumption.

CPU C7 State Support

Enable C7 deep sleep state for lower power consumption.

Package C State Support

Enable CPU, PCIe, Memory, Graphics C State Support for power saving.

Intel SpeedStep Technology

Intel SpeedStep technology is Intel's new power saving technology. Pro-

processors can switch between multiple frequencies and voltage points to enable power saving. The default value is [Enabled]. Configuration options: [Enabled] and [Disabled]. If you install Windows ® 7 / 8 and want to enable this function, please set this item to [Enabled]. This item will be hidden if the current CPU does not support Intel SpeedStep technology.



Please note that enabling this function may reduce CPU voltage and lead to system stability or compatibility issues with some power supplies. Please set this item to [Disabled] if above issues occur.

Intel Turbo Boost Technology

Use this item to enable or disable Intel Turbo Boost Mode Technology. Turbo Boost Mode allows processor cores to run faster than marked frequency in specific conditions. The default value is [Enabled].

CPU Thermal Throttling

You may select [Enabled] to enable CPU internal thermal control mechanism to keep the CPU from overheating.

No-Execute Memory Protection

No-Execution (NX) Memory Protection Technology is an enhancement to the IA-32 Intel Architecture. An IA-32 processor with “No Execute (NX) Memory Protection” can prevent data pages from being used by malicious software to execute codes. This option will be hidden if the current CPU does not support No-Execute Memory Protection.

Intel Virtualization Technology

When this option is set to [Enabled], a VMM (Virtual Machine Architecture) can utilize the additional hardware capabilities provided by Vanderpool Technology. This option will be hidden if the installed CPU does not support Intel Virtualization Technology.

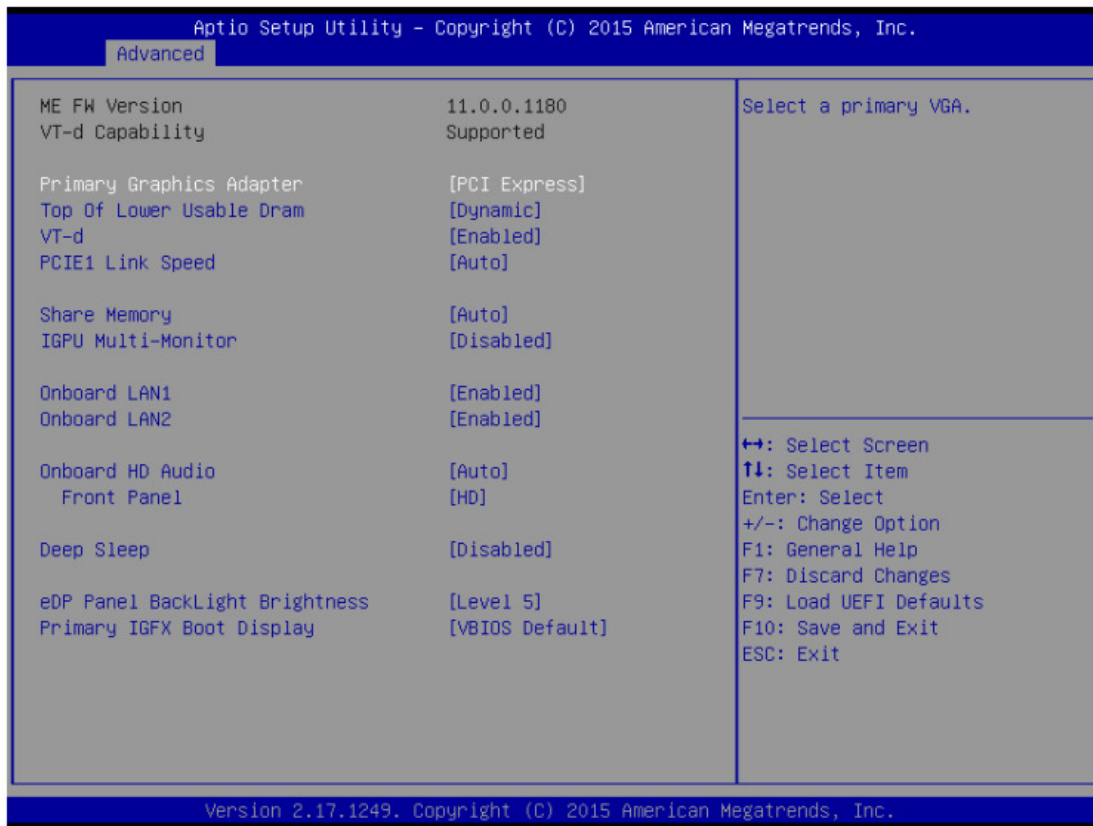
Hardware Prefetcher

Use this item to turn on/off the MLC streamer prefetcher.

Adjacent Cache Line Prefetch

Use this item to turn on/off prefetching of adjacent cache lines.

3.2.2 Chipset Configuration



Primary Graphics Adapter

This allows you to select [Onboard] or [PCI Express] as the boot graphic adapter priority. The default value is [PCI Express].

Top of Lower usable DRAM

Set the maximum value of TOLUD. Set this item to Dynamic to allow TOLUD to adjust automatically based on the largest MMIO length of the installed graphic controller.

VT-d

Use this to enable or disable Intel® VT-d technology (Intel® Virtualization Technology for Directed I/O). The default value of this feature is [Disabled].

PCIE1 Link Speed

Select the link speed for PCIE1.

Share Memory

Configure the size of memory that is allocated to the integrated graphics processor when the system boots up.

IGPU Multi-Monitor

Select disable to disable the integrated graphics when an external graphics card is installed. Select enable to keep the integrated graphics enabled at all times.

Onboard LAN 1

This allows you to enable or disable the Onboard LAN 1 feature.

Onboard LAN 2

This allows you to enable or disable the Onboard LAN 2 feature

Onboard HD Audio

Select [Auto], [Enabled] or [Disabled] for the onboard HD Audio feature. If you select [Auto], the onboard HD Audio will be disabled when PCI Sound Card is plugged.

Front Panel

Select [Auto] or [AC 97] for the onboard HD Audio Front Panel.

Deep Sleep

Mobile platforms support Deep S4/S5 in DC only and desktop platforms support Deep S4/S5 in AC only. The default value is [Disabled].

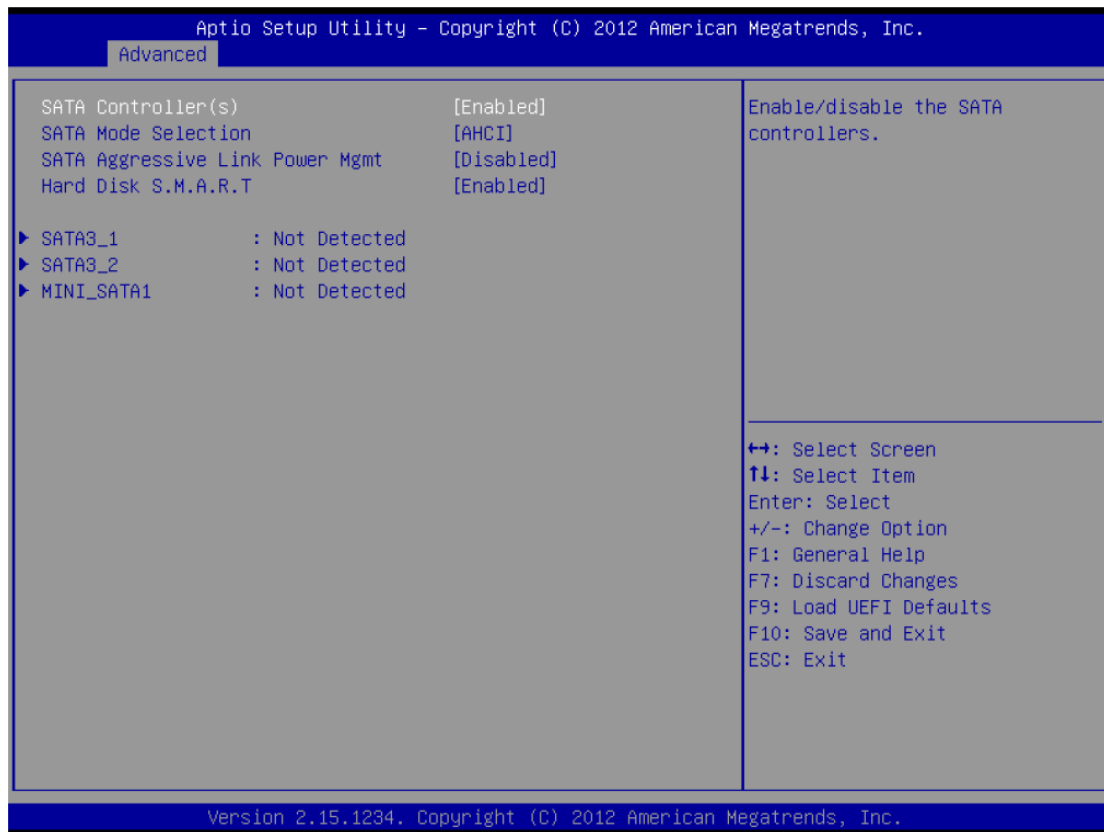
eDP Panel BackLight Brightness

The default value is [Level 5].

Primary IGFX Boot Display

Use this to select primary internal graphics boot display. The default value is BIOS Default].

3.2.3 Storage Configuration



SATA Controller(s)

Use this item to enable or disable the SATA Controller feature.

SATA Mode Selection

Use this to select SATA mode. Configuration options: [IDE Mode] and [AHCI Mode]. The default value is [AHCI Mode].



AHCI (Advanced Host Controller Interface) supports NCQ and other new features that will improve SATA disk performance but IDE mode does not have these advantages.

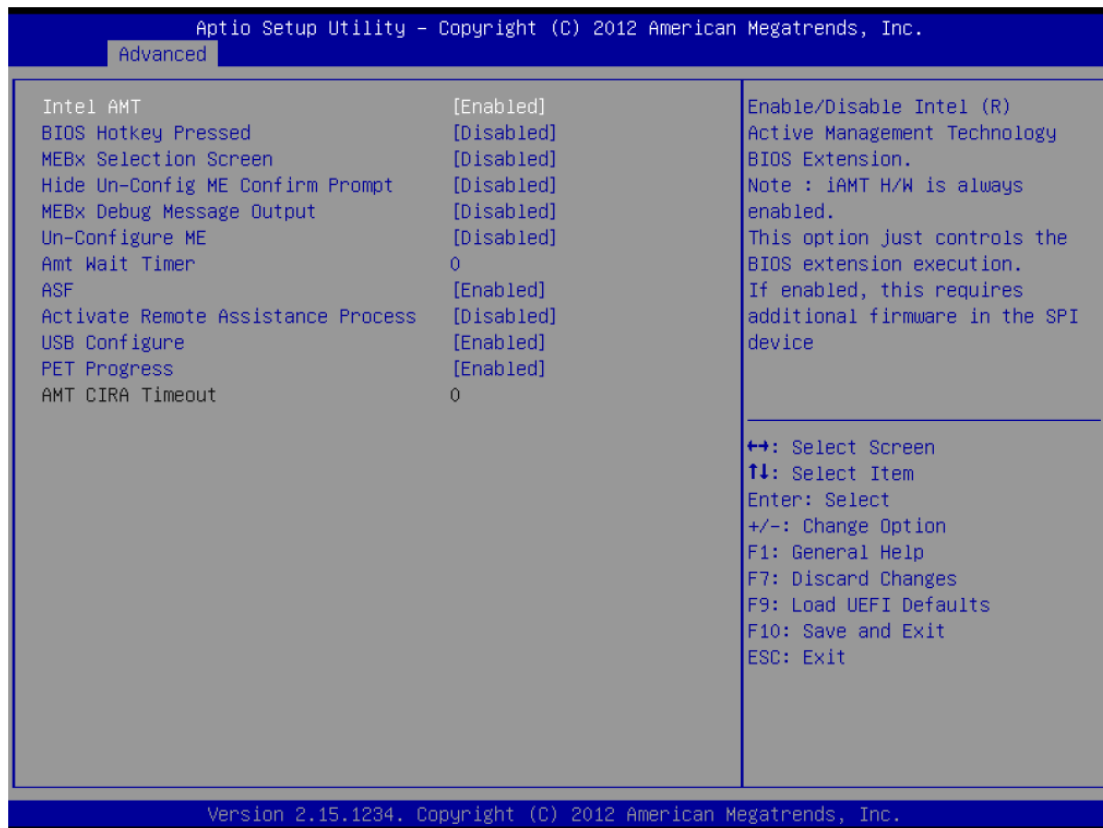
SATA Aggressive Link Power Management

Use this item to configure SATA Aggressive Link Power Management.

Hard Disk S.M.A.R.T.

Use this item to enable or disable the S.M.A.R.T. (Self-Monitoring, Analysis, and Reporting Technology) feature. Configuration options: [Disabled] and [Enabled].

3.2.4 AMT Configuration



Intel AMT

Use this to enable or disable Intel(R) Active Management Technology. BIOS Extension. The default is [Enabled].

BIOS Hotkey Pressed

Use this to enable or disable BIOS Hotkey Pressed.

MEBx Selection Screen

Use this to enable or disable MEBx selection screen.

Hide Un-Configure ME Configuration

Use this to hide Un-Configure ME without password confirmation prompt. The default is [Disabled].

MEBx Debug Message Output

Use this to enable or disable MEBx debug message output. The default is [Disabled].

Un-Configure ME

Use this to enable or disable Un-Configure ME without password.

AMT Wait Timer

Set timer to wait before sending ASF_GET_BOOT_OPTIONS.

ASF

Use this to enable or disable Alert Specification Format. . The default is [Enabled].

Activate Remote Assistance Process

Use this to enable or disable trigger CIRA boot. The default is [Disabled].

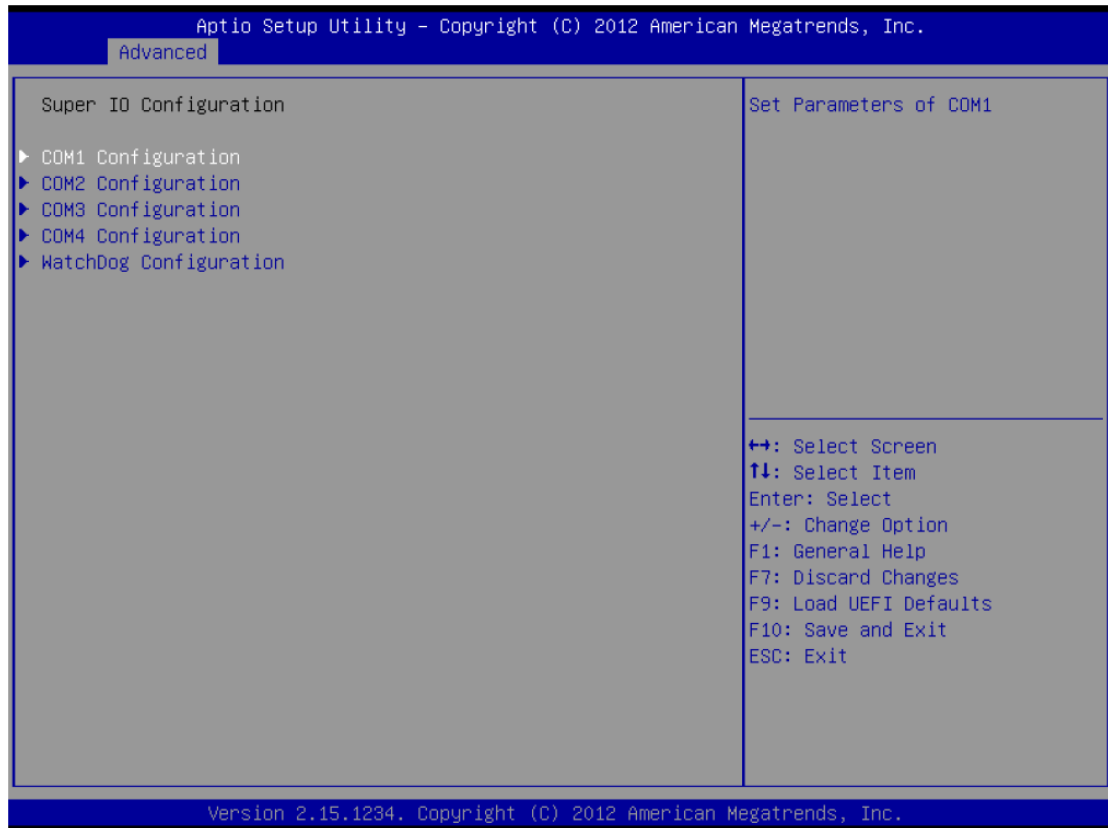
USB Conigure

Use this to enable or disable USB Conigure. The default is [Enabled].

PET Progress

Use this to enable or disable PET Events progress to recieve PET events. The default is [Enabled].

3.2.5 Super IO Configuration



COM1 Configuration

Use this to set parameters of COM1. Select COM1 port type:[RS232], [RS422] or [RS485].

COM2 Configuration

Use this to set parameters of COM2. Select COM2 port type:[RS232], [RS422] or [RS485].

COM3 Configuration

Use this to set parameters of COM3.

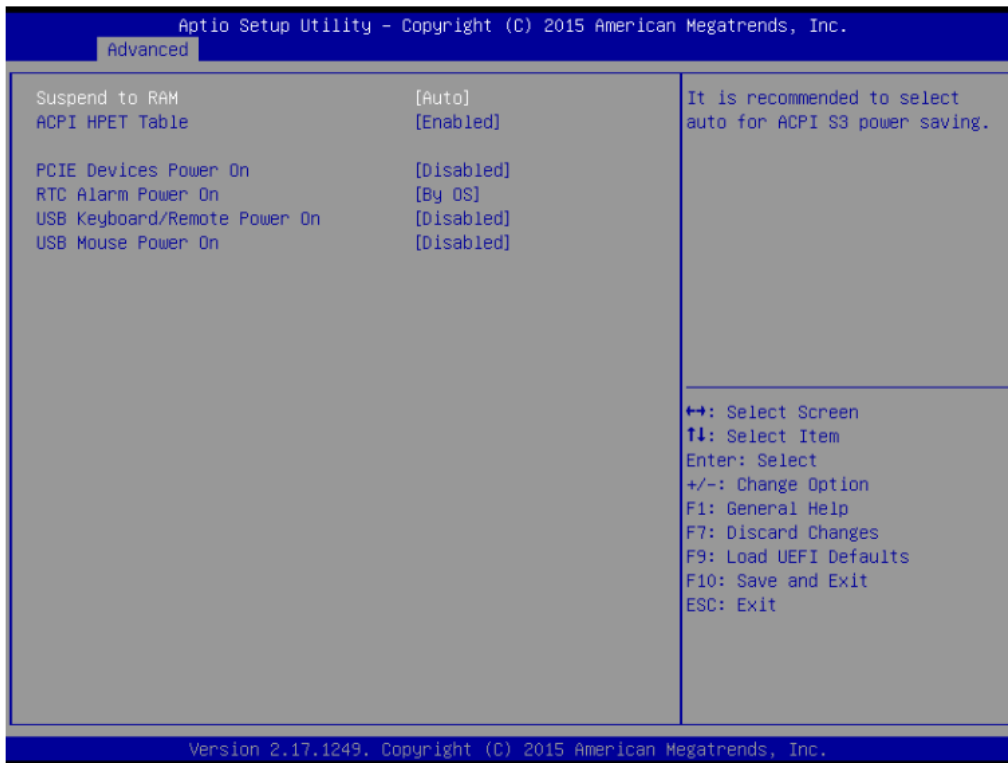
COM4 Configuration

Use this to set parameters of COM4.

WDT Timeout Reset

This allows users to enable/disable the Watch Dog Timer timeout to reset system. The default value is [Disabled].

3.2.6 ACPI Configuration



Suspend to RAM

Use this item to select whether to auto-detect or disable the Suspend-to-RAM feature. Select [Auto] will enable this feature if the OS supports it.

ACPI HPET Table

Use this item to enable or disable ACPI HPET Table. The default value is [Enabled]. Please set this option to [Enabled] if you plan to use this motherboard to submit Windows® certification.

PCIE Devices Power On

Use this item to enable or disable PCIE devices to turn on the system from the power-soft-off mode.

RTC Alarm Power On

Use this item to enable or disable RTC (Real Time Clock) to power on the system.

USB Keyboard/Remote Power On

Use this item to enable or disable USB Keyboard/Remote to power on the system.

USB Mouse Power On

Use this item to enable or disable USB Mouse to power on the system.

3.2.7 USB Configuration



Legacy USB Support

Use this option to select legacy support for USB devices. There are four configuration options: [Enabled], [Auto] and [UEFI Setup Only]. The default value is [Auto]. Please refer to below descriptions for the details of these four options:

[Enabled] - Enables support for legacy USB.

[Auto] - Enables legacy support if USB devices are connected.

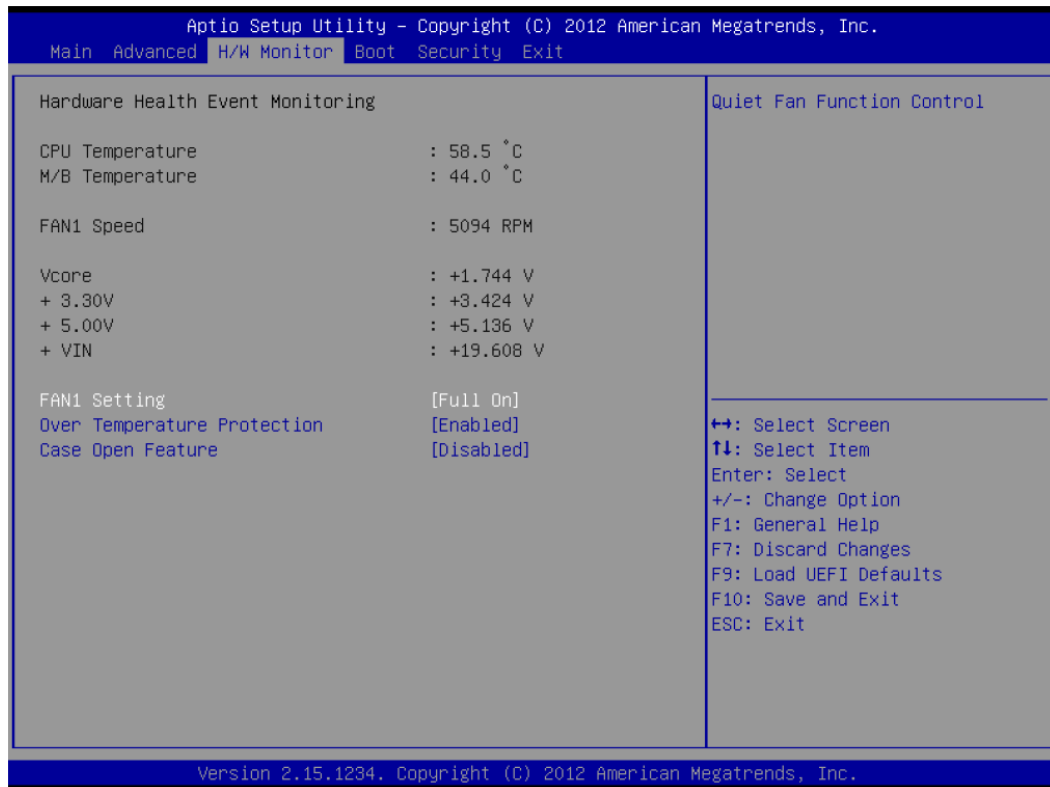
[UEFI Setup Only] - USB devices are allowed to use only under UEFI setup and Windows / Linux OS.

PS/2 Simulator

Enable this item for the complete USB keyboard legacy support for non-USB aware operating system.

3.3 Hardware Health Event Monitoring Screen

In this section, it allows you to monitor the status of the hardware on your system, including the parameters of the CPU temperature, motherboard Temperature, CPU, fan speed, chassis fan speed, and the critical voltage.



FAN1 Setting

This allows you to set fan 1's speed. Configuration options: [Full On] and [Automatic Mode]. The default value is [Full On].

Over Temperature Protection

Use this to enable or disable Over Temperature Protection. The default value is [Enabled].

Case Open Feature

This allows you to enable or disable case open detection feature. The default is value [Disabled].

Clear Status

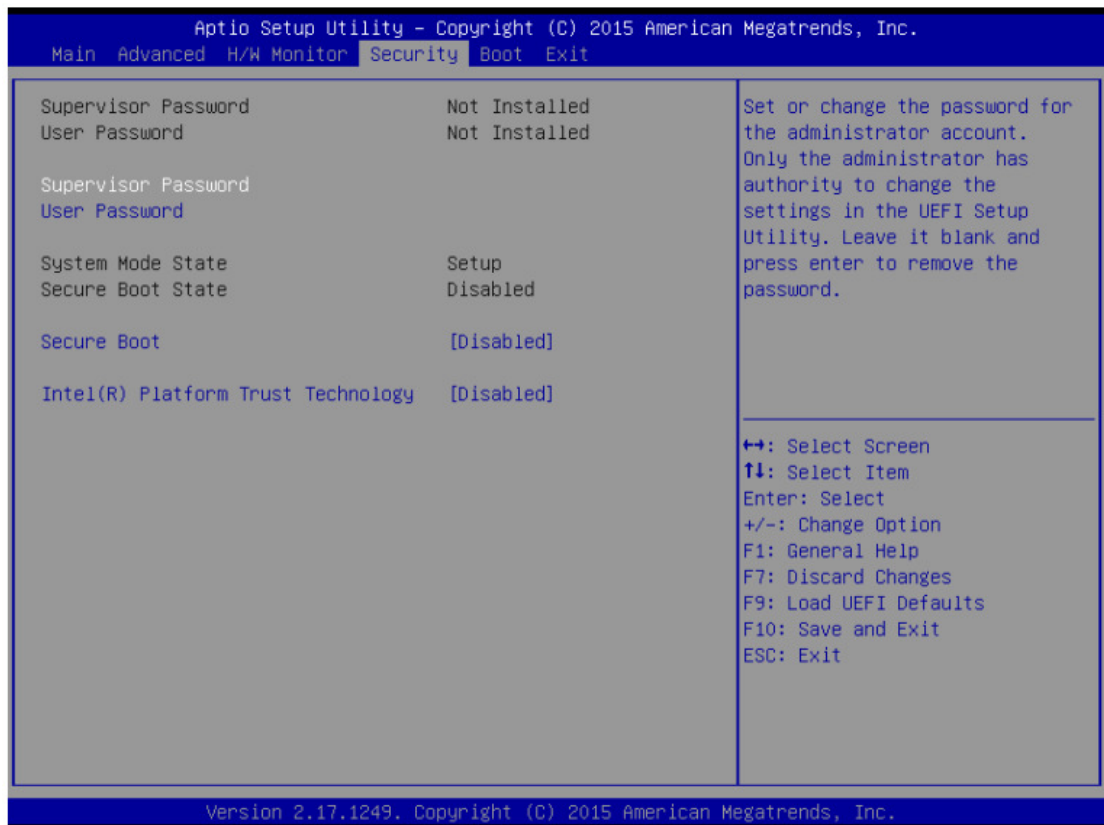
This option appears only when the case open has been detected. Use this option to keep or clear the record of previous chassis intrusion status.

Over Temperature Protection

Use this to enable or disable Over Temperature Protection. The default value is [Enabled].

3.4 Security Screen

In this section, you may set, change or clear the supervisor/user password for the system.



Supervisor Password

Set or change the password for the administrator account. Only the administrator has authority to change the settings in the UEFI Setup Utility. Leave it blank and press enter to remove the password.

User Password

Set or change the password for the user account. Users are unable to change the settings in the UEFI Setup Utility. Leave it blank and press enter to remove the password.

Secure Boot

Enable to support Windows 8 Secure Boot.

Intel(R) Platform Trust Technology

Enable/disable Intel PTT in ME. Disable this option to use discrete TPM Module.

3.5 Boot Screen

In this section, it will display the available devices on your system for you to configure the boot settings and the boot priority.



Boot From Onboard LAN

Use this item to enable or disable the Boot From Onboard LAN feature.

Setup Prompt Timeout

This shows the number of seconds to wait for setup activation key.

65535(0XFFFF) means indefinite waiting.

Bootup Num-Lock

If this item is set to [On], it will automatically activate the Numeric Lock function after boot-up.

Boot Beep

Select whether the Boot Beep should be turned on or off when the system boots up. Please note that a buzzer is needed.

Full Screen Logo

Use this item to enable or disable OEM Logo. The default value is [Disabled].

3.5.1 CSM (Compatibility Support Module)



CSM

Enable to launch the Compatibility Support Module. Please do not disable unless you're running a WHCK test. If you are using Windows® 8 64-bit and all of your devices support UEFI, you may also disable CSM for faster boot speed.

Launch PXE OpROM Policy

Select UEFI only to run those that support UEFI option ROM only. Select Legacy only to run those that support legacy option ROM only. Do not launch?

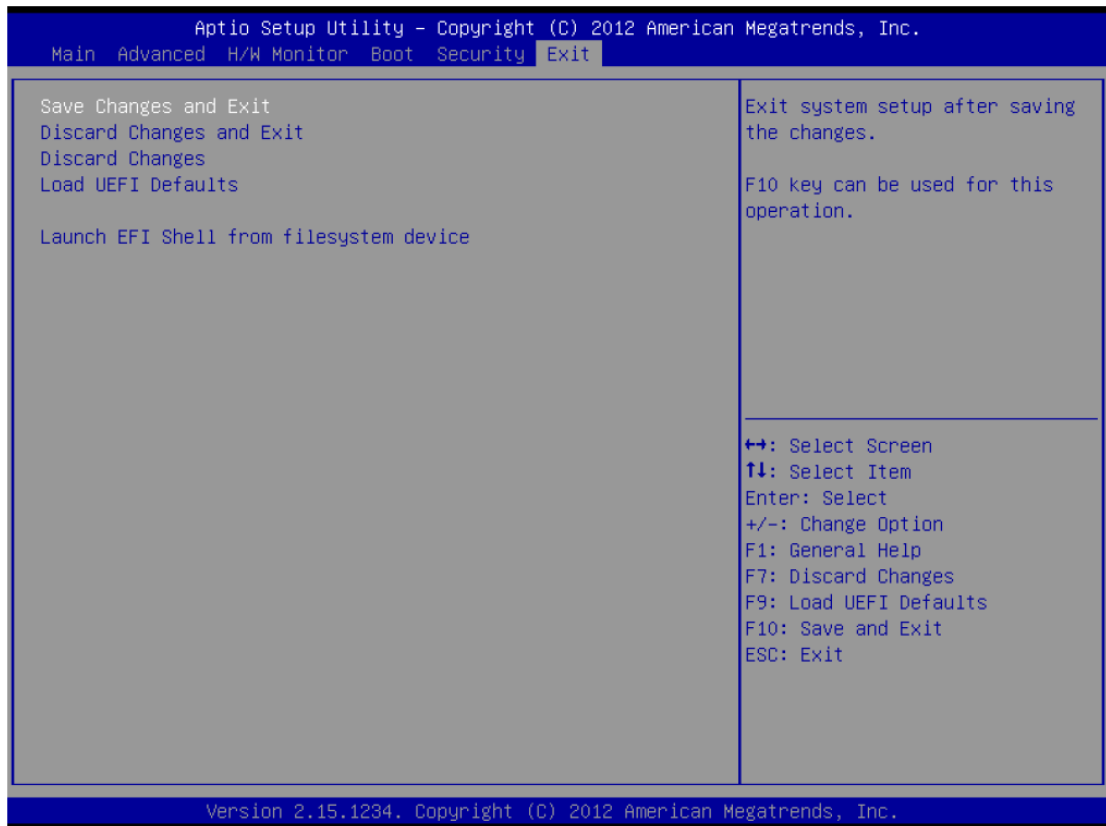
Launch Storage OpROM Policy

Select UEFI only to run those that support UEFI option ROM only. Select Legacy only to run those that support legacy option ROM only. Do not launch?

Launch Video OpROM Policy

Select UEFI only to run those that support UEFI option ROM only. Select Legacy only to run those that support legacy option ROM only. Do not launch?

3.6 Exit Screen



Save Changes and Exit

When you select this option, it will pop-out the following message, “Save configuration changes and exit setup?” Select [OK] to save the changes and exit the UEFI SETUP UTILITY.

Discard Changes and Exit

When you select this option, it will pop-out the following message, “Discard changes and exit setup?” Select [OK] to exit the UEFI SETUP UTILITY without saving any changes.

Discard Changes

When you select this option, it will pop-out the following message, “Discard changes?” Select [OK] to discard all changes.

Load UEFI Defaults

Load UEFI default values for all the setup questions. F9 key can be used for this operation.

Launch EFI Shell from filesystem device

Attempts to Launch EFI Shell application (Shell64.efi) from one of the available filesystem devices.

About Arestech

Arestech, founded in 2011, employs a highly talented R&D team with over a decade of product development experience in intelligent embedded computing.

With our dynamic expertise in the embedded market, Arestech offers a full range of intelligent systems, including embedded Box PCs, industrial multi-touch displays and multi-touch Panel PCs.

Arestech's dedication to product development is matched by its commitment to world class customer support with a minimum 5-year product lifecycle plan, product longevity, and added value for our partners.

Additionally, Arestech strategically aligns itself with key industry software and system integration partners to deliver top-notch design services and turnkey solutions, enabling our partners to better build and grow their businesses.

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