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CE

Dichiarazione di conformità sintetica
Ai sensi dell'art. 2 comma 3 del D.M. 275 del 30/10/2002
Si dichiara che questo prodotto è conforme alle normative vigenti e soddisfa i requisiti essenziali richiesti dalle direttive 2004/108/CE, 2006/95/CE e 1999/05/CE quando ad esso applicabili

Short Declaration of conformity
We declare this product is complying with the laws in force and meeting all the essential requirements as specified by the directives 2004/108/CE, 2006/95/CE and 1999/05/CE whenever these laws may be applied

Table Of Contents

Chapter 1: Introduction

1.1 Before You Start

Thank you for choosing our product. Before you start installing the motherboard, please make sure you follow the instructions below:

- Prepare a dry and stable working environment with sufficient lighting.
- Always disconnect the computer from power outlet before operation.
- Before you take the motherboard out from anti-static bag, ground yourself properly by touching any safely grounded appliance, or use grounded wrist strap to remove the static charge.
- Avoid touching the components on motherboard or the rear side of the board unless necessary. Hold the board on the edge, do not try to bend or flex the board.
- Do not leave any unfastened small parts inside the case after installation. Loose parts will cause short circuits which may damage the equipment.
- Keep the computer from dangerous area, such as heat source, humid air and water.
- The operating temperatures of the computer should be 0 to 45 degrees Celsius.
- To avoid injury, be careful of:
  Sharp pins on headers and connectors
  Rough edges and sharp corners on the chassis
  Damage to wires that could cause a short circuit

Note

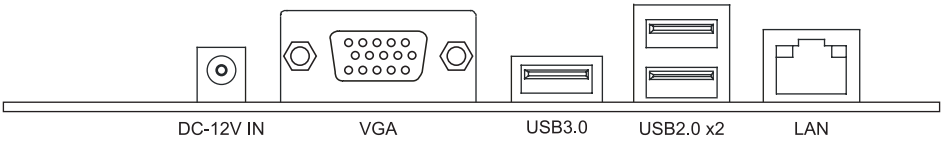
» *The package contents may be different due to the sales region or models in which it was sold. For more information about the standard package in your region, please contact your dealer or sales representative.*

1.2 Specifications

CPU	Intel® Atom™ Quad core x5-Z8350 Processor (2M Cache, up to 1.92 GHz)
Graphic	Integrated Intel® HD Graphics engine Dual independent displays as below: - Support D-Sub 15 pin VGA output - By using the eDP to LVDS transmitter(RTD2136R) and supports the dual channel LCD panel * *Notice: Support the Clone-mode and Extended mode.*
Main Memory	DDR3L 1600MHz ; 2/4 GB memory onboard
SATA	32/64 eMMC Flash onboard 1x SATAIII connector(1x7 pins) and supports 2.5" SATA HDD/SSD 1x MicroSD card socket 1x mSATA/MiniPCIe slot support SATAIII
LAN	Realtek RTL8152B 10/100Mb s auto negotiation, Half / Full duplex capability
Sound Codec	Realtek ALC5645 I2S Audio codec on board
External I/O (Rear I/O)	1x DC12V Jack connector 1x D-Sub 15pin VGA output 1x USB 3.0 Type A connector(5V standby only and the current for each USB port is 900mA) 2x USB 2.0 connector(5V only and the current for each USB port is 500mA) 1x LAN Port(By using the RTL8152B 10/100M LAN controller)
External I/O (Front I/O)	2x USB 2.0 connector(with 5V and the current for each USB port is 500mA) 1x Audio-Jack connector 1x Power Button(Need to support physical button or pin header) 1x Micro-SD card socket * *Power ON/OFF Button with Tact switch*
Internal I/O	**Expansion Slots----** 1 x Full/Half-sized Mini-PCIe socket for mSATA SSD 1 x 1*7 pins, SATA signal connector 1 x 1*4 pins, SATA power connector **Display----** 1 x 2*20 BOX header, LCD LVDS connector support dual Channel LCD panel 1 x 1*8 pins, LCD Backlight Inverter connector 1 x 1*3 pins, LCD Power Select Jumper (3.3V/5V) 1 x 1*3 pins, LCD Backlight Power Select Jumper (5V/12V) 1 x 1*3 pins, LCD PWM / Voltage level Mode Select Jumper 1 x 1*3 pins, LVDS (Pin35) - 6bit/8bit select Jumper 1 x 1*6 pins, LVDS Power Connector 1 x 1*3 pins, LVDS PWM Signal Select Setting 1 x 1*6 pins, Support I2C Interface Touch Panel (3.3V) **Power----** 1x DC +12V Jack connector onboard 1x HDD Power Connector **I/O----** 1 x 1*4 pins, USB 2.0 header 1 x 2*5 pins, RS-232/422/485 COM port header support 12/5V switch by jumper 3 x 2*5 pins, RS-232 COM port header support 12/5V switch by jumper 4 x 1*3 pins, JCOM1/2/3/4 COM Port Power Switch (5/12V) 1 x 1*3 pins, Clear CMOS Jumper setting 1 x 1*2 pins, Audio Connector
Board Size	145 mm (W) x 102 mm (L), 3.5" SBC
Certification	CE/FCC Pre-scan
Operation Temperature	0°C ~ 60°C
Storage Temperature	-40°C ~ 90°C
Relative Humidity	10% ~ 90% (non-condensing)
OS Support	windows 10 64bit We reserve the right to add or remove support for any OS with or without notice.

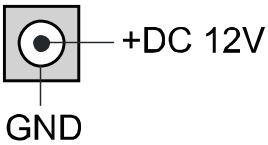
1.3 Rear / Front Panel Connectors

Rear

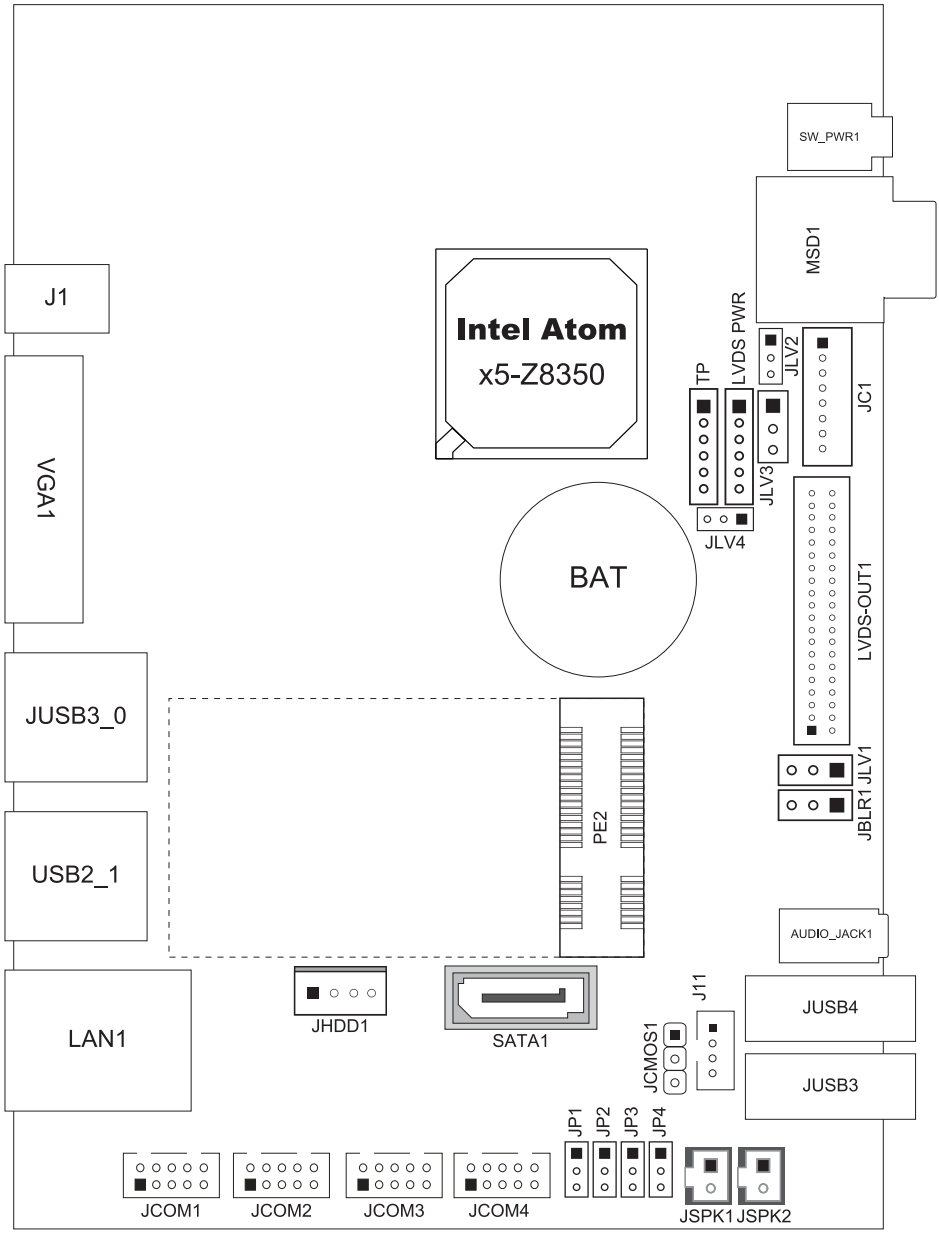


Front

J1: DC-12V IN Power Jack



1.4 Motherboard Layout



Note

» ■ *represents the 1st pin.*

Chapter 2: Hardware installation

2.1 Central Processing Unit (CPU)

The mainboard includes an Intel® Celeron processor, and a cooler has been installed to provide sufficient cooling

2.2 Jumper & Switch Setting

Jumper Setting

The illustration shows how to set up jumpers. When the jumper cap is placed on pins, the jumper is "close", if not, that means the jumper is "open".

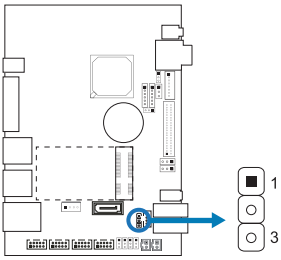
Pin opened

Pin closed

Pin 1-2 closed

JCMOS1: Clear CMOS Jumper

Placing the jumper on pin2-3 allows user to restore the BIOS safe setting and the CMOS data. Please carefully follow the procedures to avoid damaging the motherboard.



Pin 1-2 Close: Normal Operation (Default)

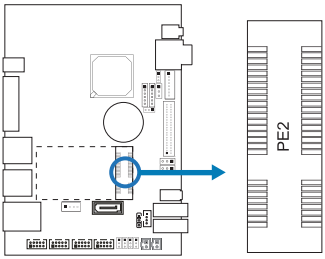
Pin 2-3 Close: Clear CMOS data

Clear CMOS Procedures:

1. Remove AC power line.
2. Set the jumper to "Pin 2-3 close".
3. Wait for five seconds.
4. Set the jumper to "Pin 1-2 close".
5. Power on the AC.
6. Reset your desired password or clear the CMOS data.

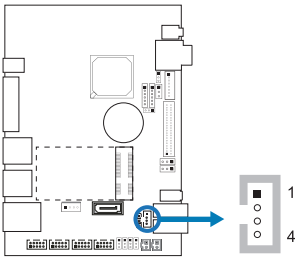
2.3 Headers & Connectors

PE2: SATA - Support mSATA Storage



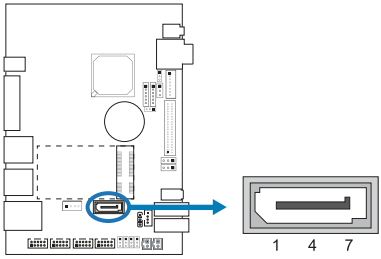
Pin	Assignment	Pin	Assignment
1	WAKE#	27	GND
2	+3.3V_AUX3	28	+1.5V_2
3	NA	29	GND
4	GND	30	SMB_DATA
5	NA	31	PET_P0
6	+1.5V_1	32	SMB_DATA
7	NA	33	PET_P0
8	UIM_PWR	34	GND
9	GND	35	GND
10	UIM_DATA	36	USB_D-
11	NA	37	GND
12	UIM_CLK	38	USB_D+
13	NA	39	+3.3V_AUX1
14	UIM_RST	40	GND
15	GND	41	+3.3V_AUX2
16	UIM_VPP	42	NA
17	RSV#(UIM_C4)	43	GND
18	GND	44	NA
19	RSV#(UIM_C8)	45	NA
20	W_Disable#	46	NA
21	GND	47	NA
22	PERST#	48	+1.5V_3
23	PER_NO	49	NA
24	+3.3V_AUX4	50	GND
25	PER_P0	51	NA
26	GND	52	+3.3V_AUX5

J11: USB 2.0 Connector



Pin	Assignment
1	5V
2	D-
3	D+
4	Ground

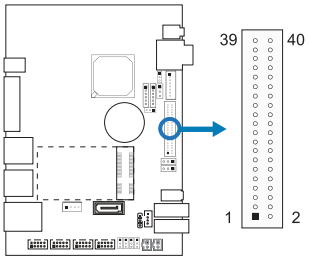
SATA1: Serial ATA Connectors



Pin	Assignment
1	Ground
2	TX+
3	TX-
4	Ground
5	RX-
6	RX+
7	Ground

LVDS-OUT1: LVDS Connector

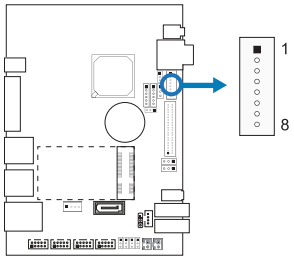
This connector supports 18/24 bit single-channel panels.



Pin	Assignment	Pin	Assignment
1	LVDSB_DATA0_N	21	LVDSB_CLK_P
2	PVDD2	22	LVDSA_DATA2_N
3	LVDSB_DATA0_P	23	GND
4	PVDD2	24	LVDSA_DATA2_P
5	GND	25	LVDSB_DATA3_N
6	GND	26	GND
7	LVDSB_DATA1_N	27	LVDSB_DATA3_P
8	GND	28	LVDSA_CLK_N
9	LVDSB_DATA1_P	29	VCC5S
10	LVDSA_DATA0_N	30	LVDSA_CLK_P
11	GND	31	LVDSA_DDC_CLK
12	LVDSA_DATA0_P	32	GND
13	LVDSB_DATA2_N	33	+V3P3S
14	GND	34	LVDSA_DATA3_N
15	LVDSB_DATA2_P	35	6b8b
16	LVDSA_DATA1_N	36	LVDSA_DATA3_P
17	GND	37	PVDD2
18	LVDSA_DATA1_P	38	GND
19	LVDSB_CLK_N	39	PVDD2
20	GND	40	LVDSA_DDC_DATA

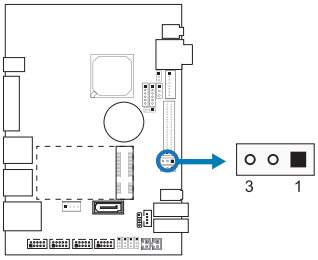
JC1: LCD Backlight Inverter Connector

This connector is for connecting to LCD for providing backlight control function.
It is strongly recommended to use the matching JOY DAY INDUSTRIAL - A1250WV-S-8P connector.



Pin	Assignment
1	INVPWR
2	INVPWR
3	NA
4	NA
5	ENABKL_
6	BL_CTRL
7	GND
8	GND

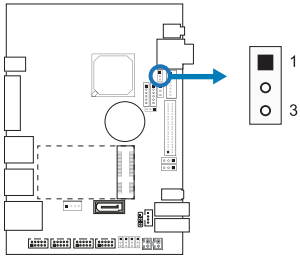
JLV1: LCD Power Select Jumper(3.3V/5V)



Pin 1-2 Close: 3.3V (Default)

Pin 2-3 Close: 5V

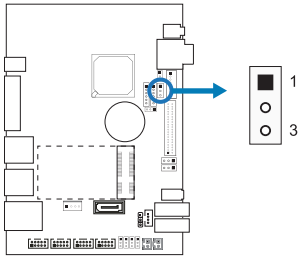
JLV2: LCD Backlight power select jumper(5V/12V)



Pin 1-2 Close: Inverter Power=5V

Pin 2-3 Close: Inverter Power=12V (Default)

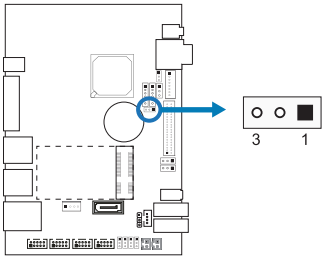
JLV3: LCD PWM / Voltage level Mode Select Jumper



Pin 1-2 Close: Voltage Level Mode

Pin 2-3 Close: PWM Mode (Default)

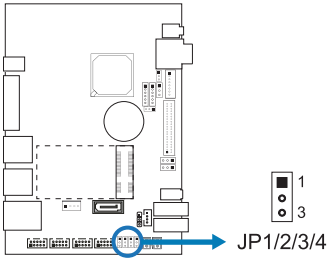
JLV4: LVDS (Pin35) - 6bit/8bit select Jumper



Pin 1-2 Close: 3.3V

Pin 2-3 Close: GND (Default)

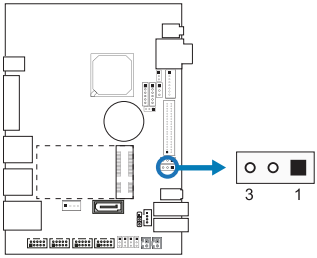
JP1/2/3/4: JCOM1/2/3/4 COM Port Power Switch (5/12V)



Pin 1-2 Close: Power=5V (Default)

Pin 2-3 Close: Power=12V

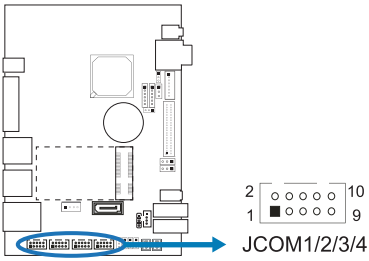
JBLR1: Backlight PWM Signal Select Jumper



Pin 1-2 Close: Reverse

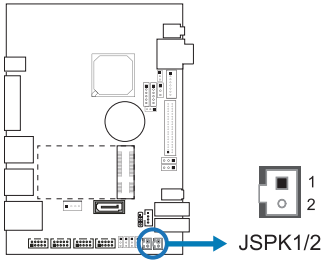
Pin 2-3 Close: Forward (Default)

JCOM1/2/3/4: COM Port Connector



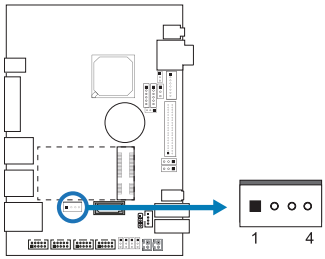
Pin	Assignment	Pin	Assignment
1	DCD	2	RXD
3	TXD	4	DTR
5	GND	6	DSR
7	RTS	8	CTS
9	RI	10	NA

JSPK1/2: Audio Connector



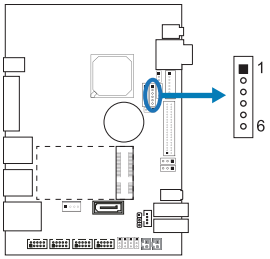
Right Speaker(JSPK1)		Left Speaker (JSPK2)	
Pin	Assignment	Pin	Assignment
1	SPKRP	1	SPKLP
2	SPKRN	2	SPKLN

JHDD: HDD Power Connector



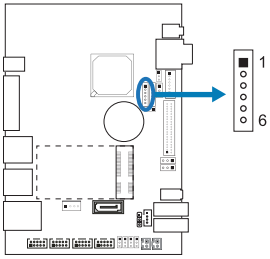
Pin	Assignment
1	12V
2	GND
3	GND
4	5V

LVDS_PWR: LVDS Power Connector



Pin	Assignment
1	VCC5S
2	+V3P3S
3	EDP_BKLT_EN
4	EDP_VDD_R_EN
5	EDP_BKLT_EN
6	GND

TP: Support I2C Interface Touch Panel (3.3V)



Pin	Assignment
1	PLTRST_N_3V
2	+V3P3S
3	GND
4	INT_GPIO
5	SMB_DEVICE_DATA
6	SMB_DEVICE_CLK

Chapter 3: BIOS Setup

Introduction

The purpose of this manual is to describe the settings in the AMI UEFI BIOS Setup program on this motherboard. The Setup program allows users to modify the basic system configuration and save these settings to NVRAM.

UEFI BIOS determines what a computer can do without accessing programs from a disk. This system controls most of the input and output devices such as keyboard, mouse, serial ports and disk drives. BIOS activates at the first stage of the booting process, loading and executing the operating system. Some additional features, such as virus and password protection or chipset fine-tuning options are also included in UEFI BIOS.

The rest of this manual will to guide you through the options and settings in UEFI BIOS Setup.

Plug and Play Support

This AMI UEFI BIOS supports the Plug and Play Version 1.0A specification.

EPA Green PC Support

This AMI UEFI BIOS supports Version 1.03 of the EPA Green PC specification.

ACPI Support

AMI ACPI UEFI BIOS support Version 1.0/2.0 of Advanced Configuration and Power interface specification (ACPI). It provides ASL code for power management and device configuration capabilities as defined in the ACPI specification, developed by Microsoft, Intel and Toshiba.

PCI Bus Support

This AMI UEFI BIOS also supports Version 2.3 of the Intel PCI (Peripheral Component Interconnect) local bus specification.

DRAM Support

DDR3 SDRAM (Double Data Rate III Synchronous DRAM) is supported.

Supported CPUs

This AMI UEFI BIOS supports the latest CPU.

Using Setup

When starting up the computer, press <Del> during the Power-On Self-Test (POST) to enter the UEFI BIOS setup utility. In the UEFI BIOS setup utility, you will see General Help description at the top right corner, and this is providing a brief description of the selected item. Navigation Keys for that particular menu are at the bottom right corner, and you can use these keys to select item and change the settings.

Note

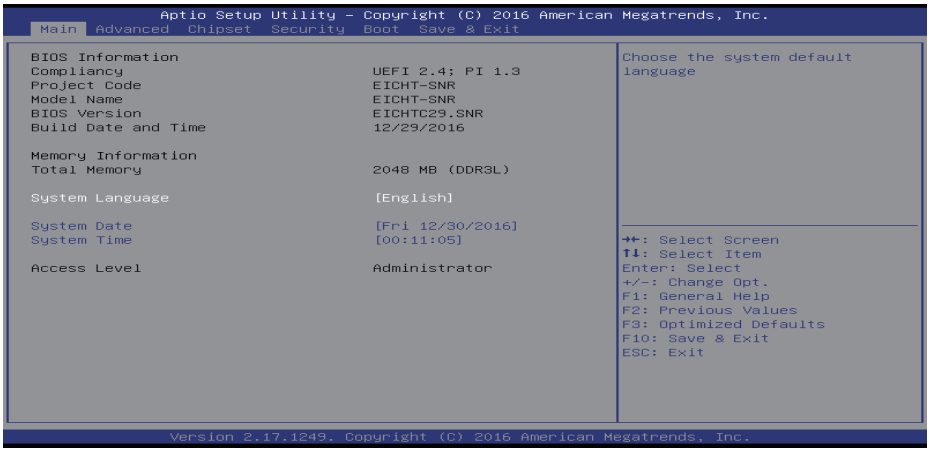
» *The default UEFI BIOS settings apply for most conditions to ensure optimum performance of the motherboard. If the system becomes unstable after changing any settings, please load the default settings to ensure system's compatibility and stability. Use Load Setup Default under the Exit Menu.*

» *For better system performance, the UEFI BIOS firmware is being continuously updated. The UEFI BIOS information described in this manual is for your reference only. The actual UEFI BIOS information and settings on board may be slightly different from this manual.*

» *The content of this manual is subject to be changed without notice. We will not be responsible for any mistakes found in this user's manual and any system damage that may be caused by wrong-settings.*

3.1 Main Menu

Once you enter AMI UEFI BIOS Setup Utility, the Main Menu will appear on the screen providing an overview of the basic system information.



BIOS Information

Shows system information including UEFI BIOS version, model name, marketing name, built date, etc.

Total Memory

Shows system memory size, VGA shard memory will be excluded.

System Language

Choose the system default language.

System Date

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

System Time

Set the system internal clock.

Access Level

Shows the access level of current user.

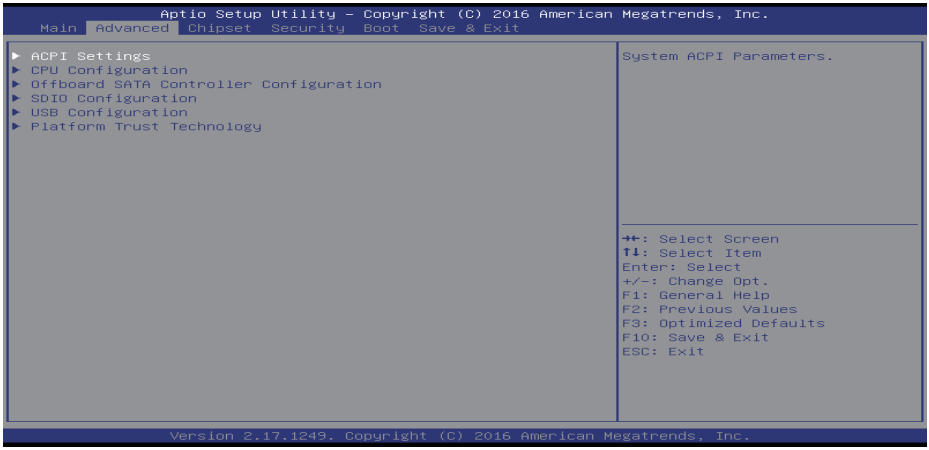
3.2 Advanced Menu

The Advanced Menu allows you to configure the settings of CPU, Super I/O, Power Management, and other system devices.

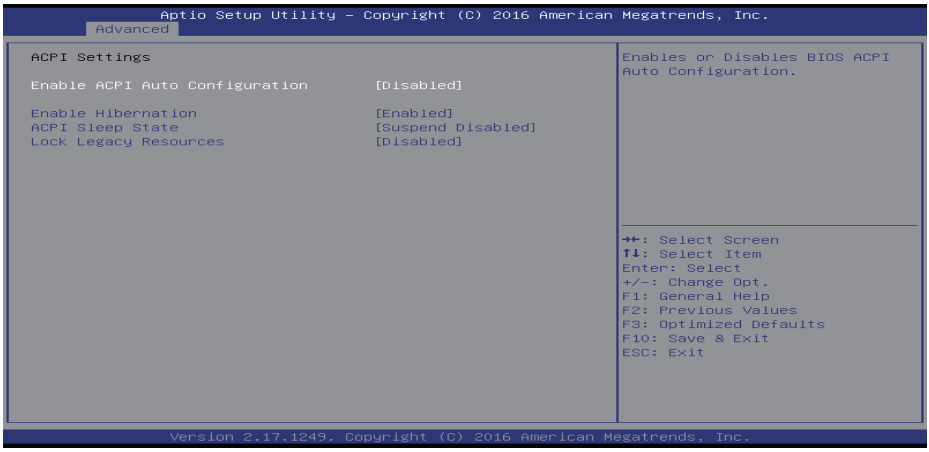
Note

» *Beware of that setting inappropriate values in items of this menu may cause system to malfunction.*

» *The options and default settings might be different by RAM or CPU models.*



ACPI Settings



Enable ACPI Auto Configuration

This item enables or disables BIOS ACPI auto configuration function.

Options: Enabled (Default) / Disabled

» *The following items appear only when you set the Enable ACPI Auto Configuration function to [Disabled].*

Enable Hibernation

This item enables or disables system ability to hibernate (0S/S4 sleep state). This option may be not effective with some 0Ss.

Options: Enabled (Default) / Disabled

ACPI Sleep State

This item selects the highest ACPI sleep state the system will enter when the SUSPEND button is pressed.

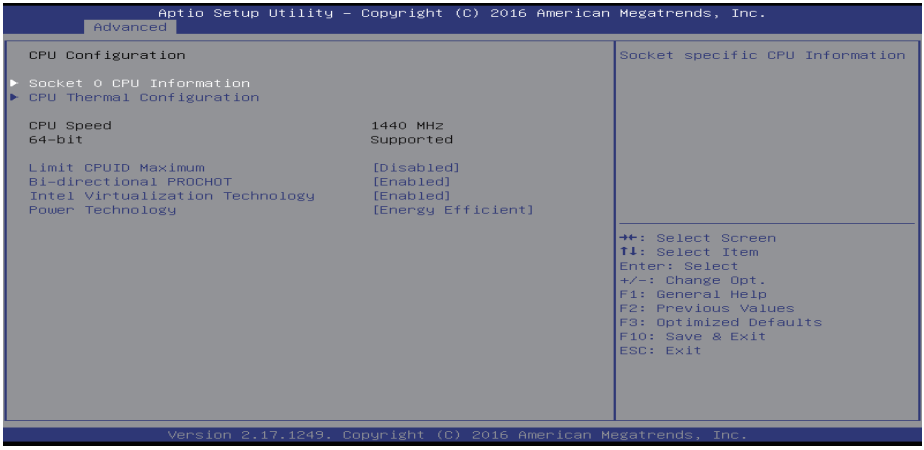
Options: Suspend Disabled

Lock Legacy Resources

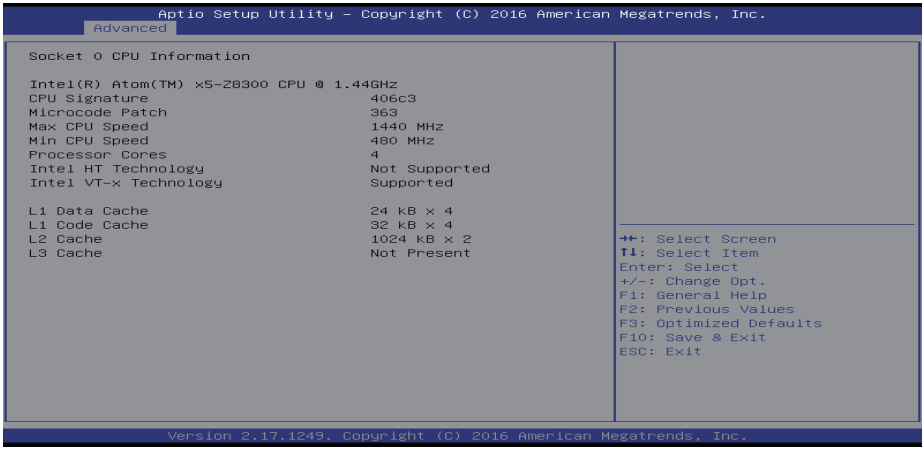
The item enables or disables Lock of Legacy Resources.

Options: Disabled (Default) / Enabled

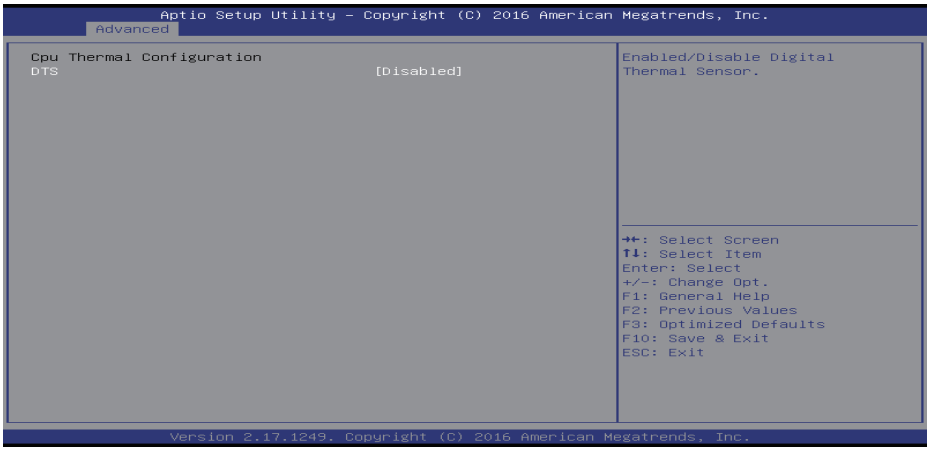
CPU Configuration



Socket 0 CPU Information



CPU Thermal Configuration



DTS

This item Enabled or Disable Digital Thermal Semsor.

Options: Disabled (Default) / Enabled

Limit CPUID Maximum

This item disabled for Windows XP.

Options: Disabled (Default) / Enabled

Bi-directional PROCHOT

When a processor thermal sensor trips (either core), the PROCHOT# will be driven. If bi-direction is enabled, external agents can drive PROCHOT# to throttle the processor.

Options: Enabled (Default) / Disabled

Intel Virtualization Technology

When enabled, a VMM can utilize the additional hardware capabilities provided by Vanderpool Technology.

Options: Enabled (Default) / Disabled

Power Technology

This item enable the power management features.

Options: Energy Efficient (Default) / Disabled / Custom

» *The following items appear only when you set the Power Technology function to [Custom].*

EIST

This item Enabled or Disabled Intel SpeedStep.

Options: Enabled (Default) / Disabled

Turbo Mode

This item allows you to control the Turbo Mode.

Options: Enabled (Default) / Disabled

P-STATE Coordination

This item allows you to change P-STATE Coordination type.

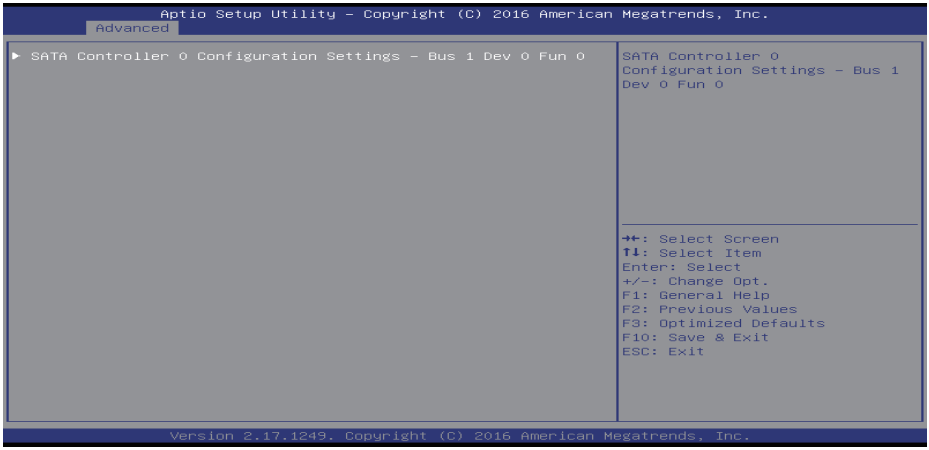
Options: HW_ALL (Default) / SW_ALL / SW_ANY

Package C State limit

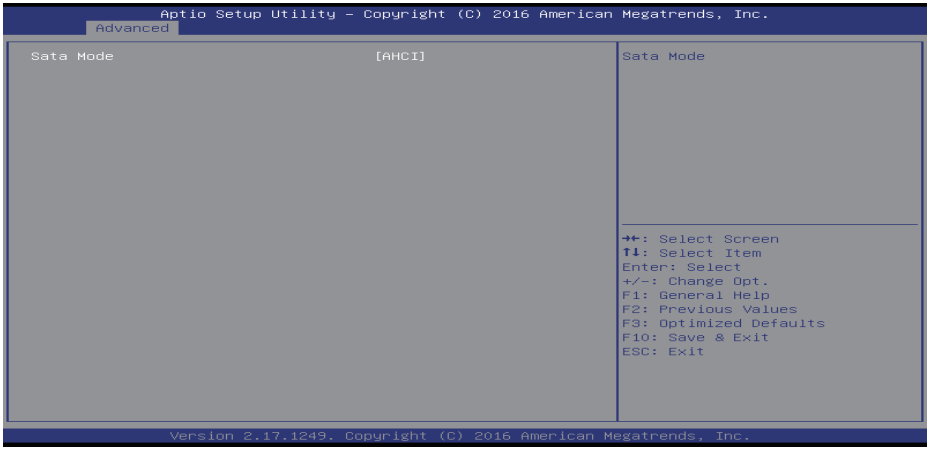
This item allows you to set Package C State limit.

Options: C1 (Default) / C3 / C6 / C7

Offboard SATA Controller Configuration

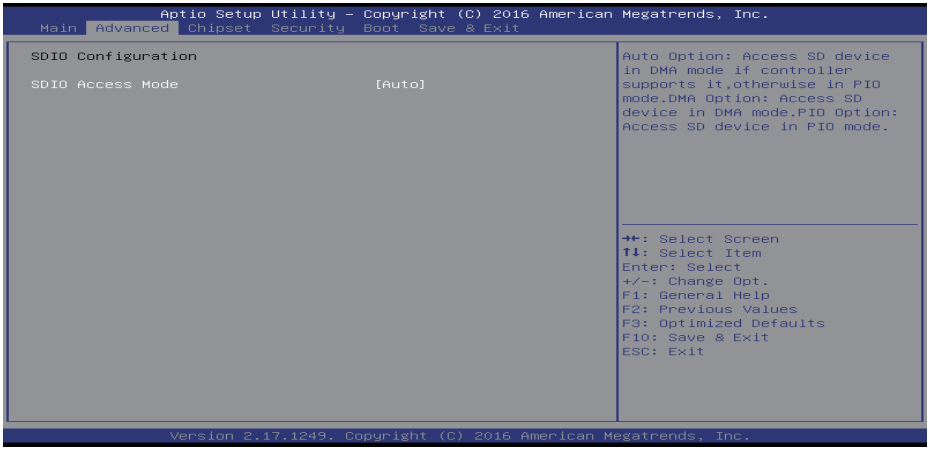


SATA Mode



SATA Mode
This item enables/disables Serial ATA Device.
Options: AHCI (Default) / IDE

SDIO Configuration

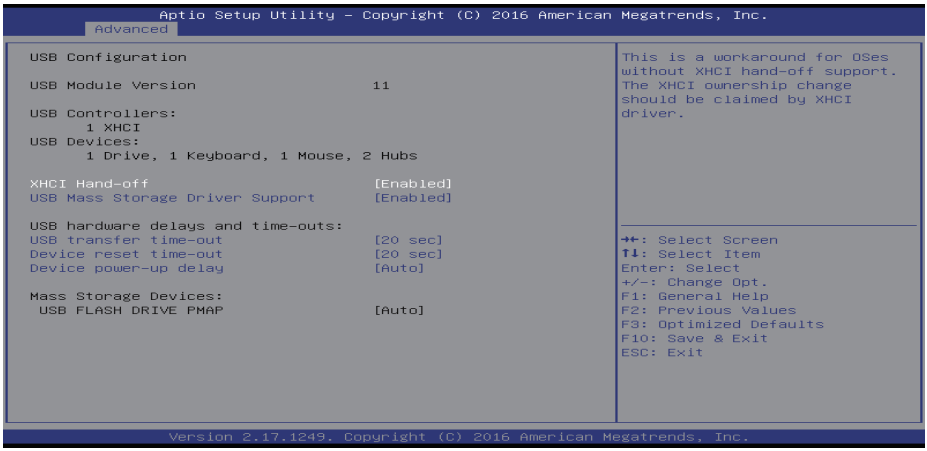


SDIO Access Mode

This item allows you to control the SDIO Access Mode. Auto Option: Access SD device in DMA mode if controller supports it, otherwise in PIO mode. DMA Option: Access SD device in DMA mode. PIO Option: Access SD device in PIO mode.

Options: Auto (Default) / ADMA / SDMA / PIO

USB Configuration



XHCI Hand-Off

This is a workaround for OSes without XHCI hand-off support. The XHCI ownership change should be claimed by EHCI driver.

Options: Enabled (Default) / Disabled

USB Mass Storage Driver Support

This item enable/disable USB Mass Storage Driver Support.

Options: Enabled (Default) / Disabled

USB transfer time-out

The time-out value for Control, Bulk, and Interrupt transfers.

Options: 20 sec (Default) / 1 sec / 5 sec / 10 sec

Device reset time-out

The item sets USB mass storage device Start Unit command time-out.

Options: 20 sec (Default) / 10 sec / 30 sec / 40 sec

Device power-up delay

"Auto" uses default value: for a Root port it is 100ms, for a Hub port the delay is taken from Hub descriptor.

Options: Auto (Default) / Manual

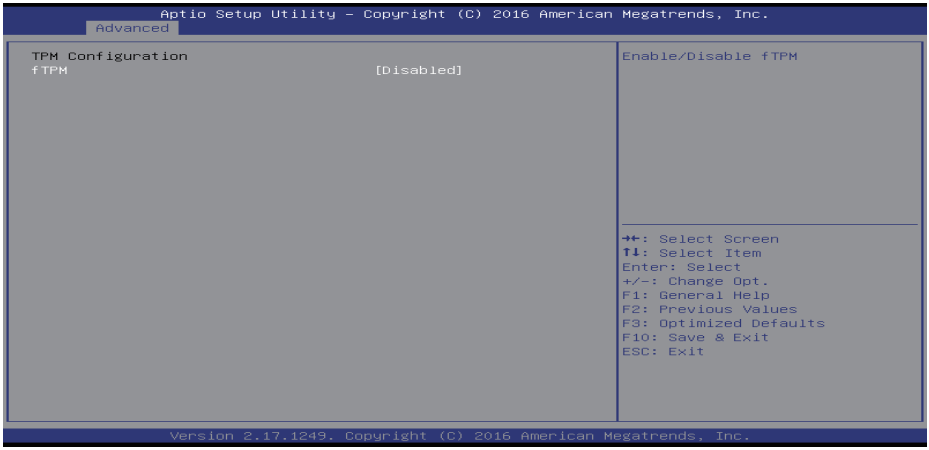
» *The following items appear only when you set the Device power-up delay function to [Manual].*

Device power-up delay in seconds

Delay range is 1 ~ 40 seconds, in one second increments.

Options: 5 (Default)

Platform Trust Technology



fTPM

This item enable/disable fTPM.

Options: Disabled (Default) / Enabled

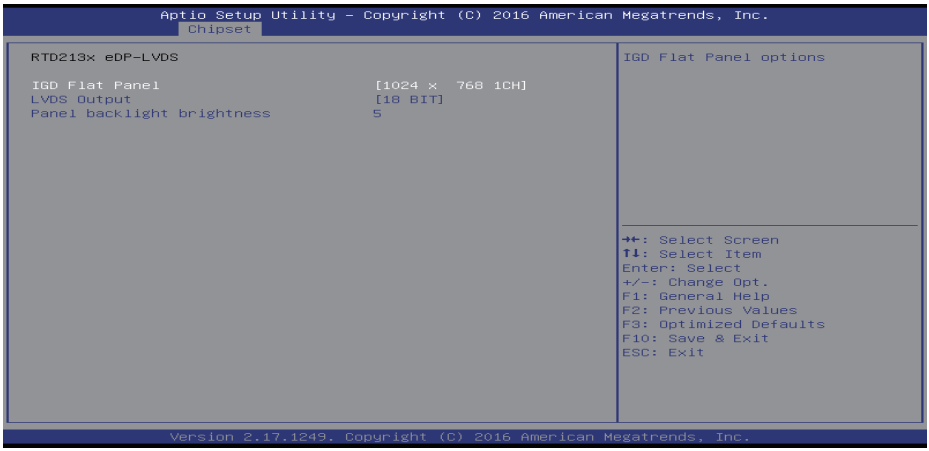
3.3 Chipset Menu

This section describes configuring the PCI bus system. PCI, or Personal Computer Interconnect, is a system which allows I/O devices to operate at speeds nearing the speed of the CPU itself uses when communicating with its own special components.

Note

» *Beware of that setting inappropriate values in items of this menu may cause system to malfunction.*

RTD213x eDP-LVDS



IGD Flat Panel

This item enable/disable fTPM.

Options: 1024 x 768 1CH (Default) / 800 x 600 1CH / 1024 x 600 1CH / 1280 x 800 1CH / 1280 x 1024 2CH / 1366 x 768 1CH / 1440 x 900 2CH / 1600 x 900 2CH / 1600 x 1200 2CH / 1920 x 1080 2CH / 1920 x 1200 2CH

LVDS Output

This item select LVDS Output is 18 or 24 Bit.

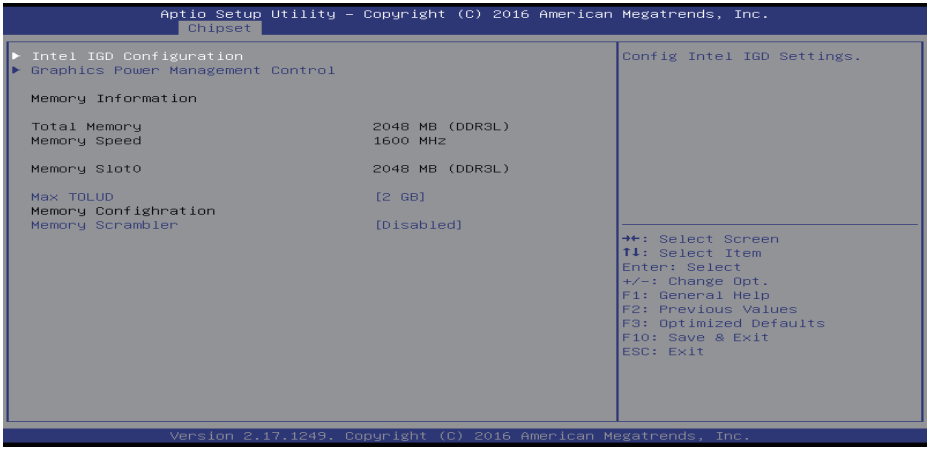
Options: 18BIT (Default) / 24BIT

Panel backlight brightness

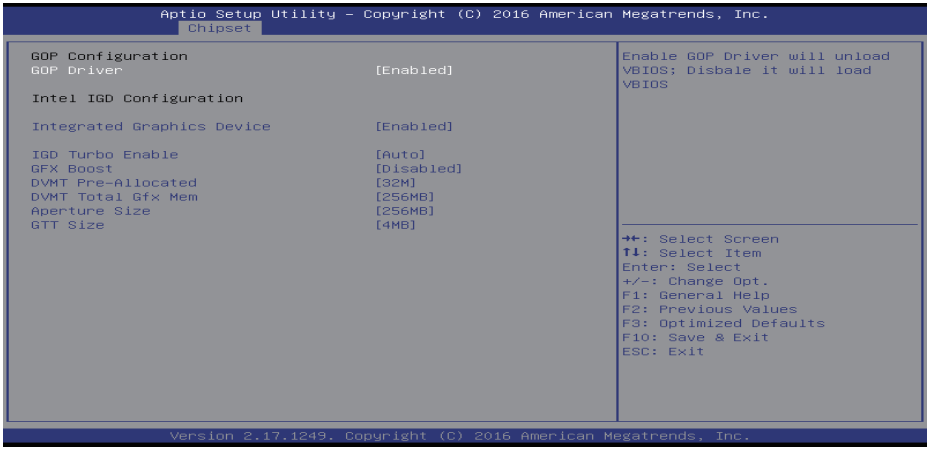
This item select LVDS Panel backlight brightness.

Options: 5 (Default)

North Bridge



Intel IGD Configuration



Intel IGD Configuration

This item enable GOP Driver will unload VBIOS, disbale it will load VBIOS.

Options: Enabled (Default) / Disabled

Integrated Graghics Device

This item enable/disable Integrated Graghics Device.

Options: Enabled (Default) / Disabled

IGD Turbo Enable
This item select the IGD Turbo feature, if Auto selected, IGD Turbo will only be enabled when SOC stepping is B0 or above.
Options: Auto (Default) / Disabled / Enabled

GFX Boost
This item enable/disable GFX Boost.
Options: Disabled (Default) / Enabled

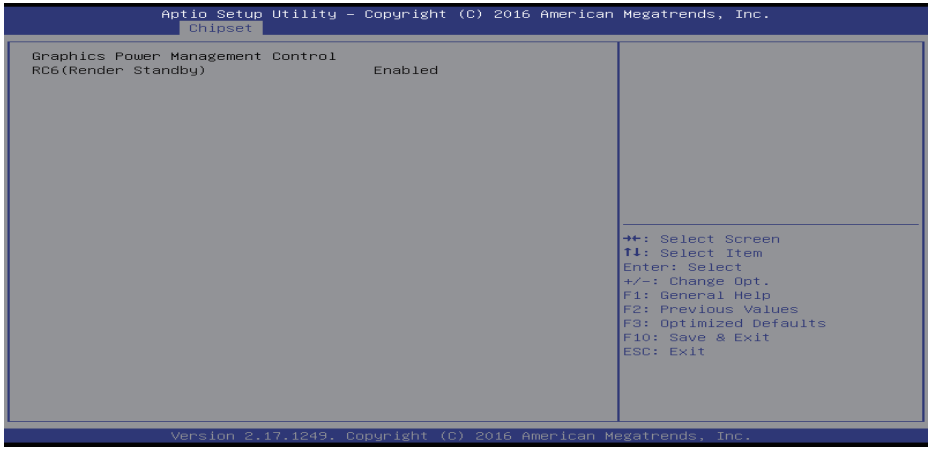
DVMT Pre-Allocated
This item select DVMT 5.0 Pre-Allocated (Fixed) Graphics Memory size used by the Internal Graphics Device.
Options: 32M (Default) / 64M / 96M / 128M / 160M / 192M / 224M / 256M / 288M / 320M / 352M / 384M / 416M / 448M / 480M / 512M

DVMT Total Gfx Mem
This item select DVMT 5.0 Total Graphic Memory size used by the Internal Graphics Device.
Options: 256MB (Default) / 128MB / Max

Aperture Size
This item select the Aperture Size.
Options: 256MB (Default) / 128MB / 512MB

GTT Size
This item select the GTT Size.
Options: 4MB (Default) / 2MB / 8MB

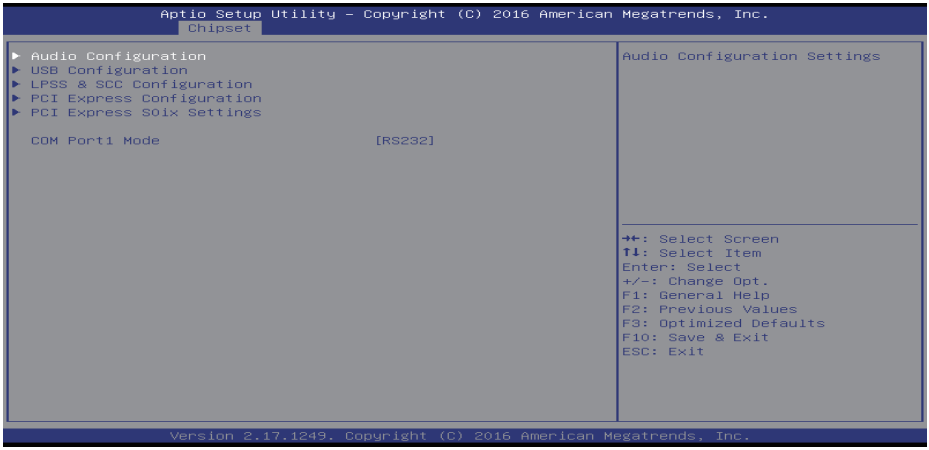
Graphics Power Management Control



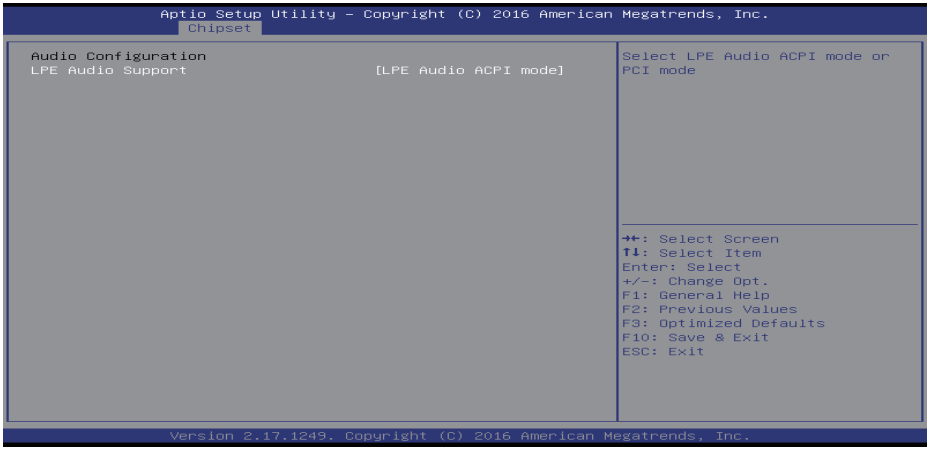
Max TOLUD
This item sets Maximum Value of TOLUD.
Options: 2 GB (Default) / Dynamic /1 GB / 1.25 GB / 1.5 GB / 1.75 GB / 2.25 GB / 2.5 GB / 2.75 GB / 3 GB / 3.25 GB

Memory Scrambler
This item enables or disables memory scrambler support.
Options: Disabled (Default) / Enabled

South Bridge



Audio Configuration

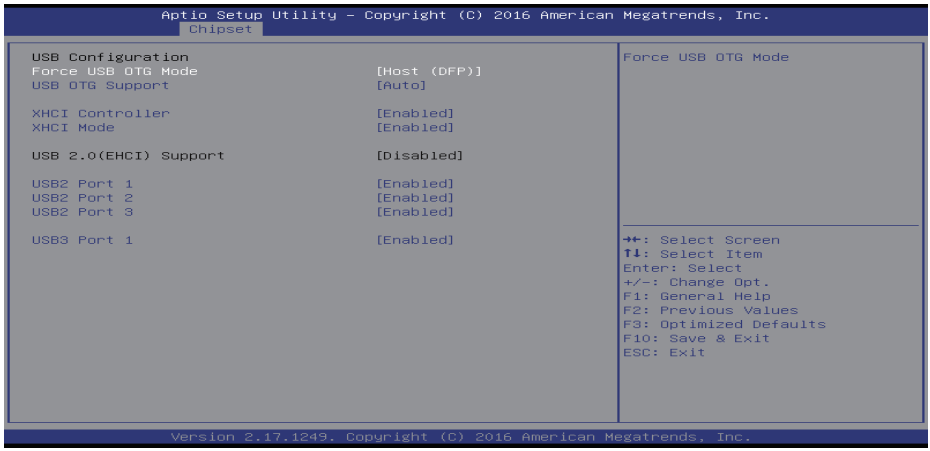


LPE Audio Support

This item select LPE Audio ACPI mode or PCI mode.

Options: LPE Audio ACPI mode (Default) / Disabled / LPE Audio PCI mode

USB Configuration



Force USB OTG Mode
This item Force USB Mode.
Options: Host (DFP) (Default) / Slave (UDP)

USB OTG Support
This item enable/disable USB OTG Support.
Options: Auto (Default) / ACPI mode / PCI mode / Disabled

XHCI Controller
This item enable/disable XHCI Controller.
Options: Enabled (Default) / Disabled

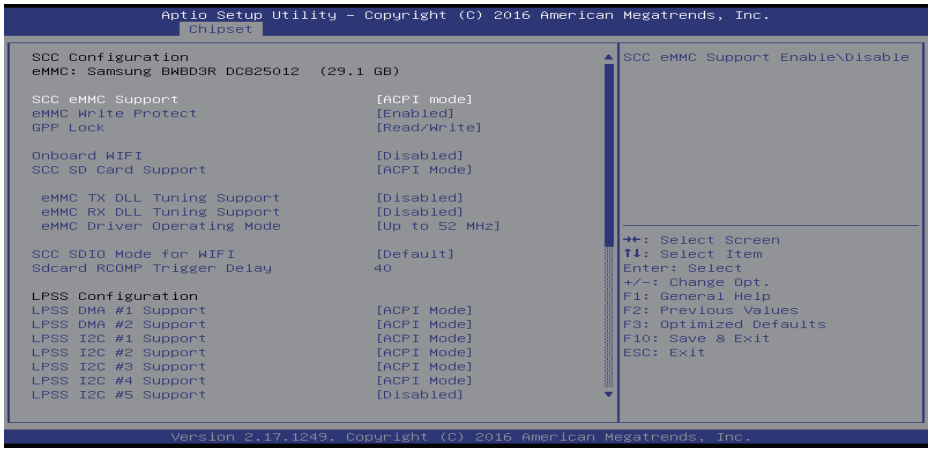
XHCI Mode
This item Mode of operation of XHCI Controller.
Options: Enabled (Default) / Auto / Disabled / Smart Auto

USB 2.0(EHCI) Support
Options: Disabled (Default)

USB2 Port 1/2/3
This item enable/disable USB Port 1/2/3
Options: Enabled (Default) / Disabled

USB3 Port 1
This item enable/disable USB Port 1
Options: Enabled (Default) / Disabled

LPSS & SCC Configuration



SCC eMMC Support
This item enable/disable SCC eMMC Support.
Options: ACPI mode (Default) / PCI mode / Disabled

eMMC Write Protect
This item enable/disable eMMC Write Protect.
Options: Enabled (Default) / Disabled

GPP Lock
This item enable GPP Lock.
Options: Read/Write (Default) / Read Only

Onboard WIFI (No support WIFI function)
This item allows you to control Onboard WIFI.
Options: Disabled (Default) / Enabled

SCC SD Card Support
This item enable/disable SCC SD Card Support.
Options: ACPI Mode (Default) / PCI Mode / Disabled

eMMC TX DLL Tuning Support
This item enable/disable eMMC TX DLL Tuning Support.
Options: Disabled (Default) / Enabled

eMMC RX DLL Tuning Support
This item enable/disable eMMC RX DLL Tuning Support.
Options: Disabled (Default) / Enabled

eMMC Driver Operating Mode
This item selects the operating frequency in eMMC Driver.
Options: Up to 52 MHz (Default) / Auto Detect / Up to 26 MHz / Basic Frequency

SCC SDIO Mode for WIFI (No support WIFI function)
This item selects SDIO mode for WIFI.
Options: Default (Default) / DDR50

Sdcard RCOMP Trigger Delay
This item selects RCOMP Trigger Delay.
Options: 40 (Default)

LPSS DMA #1/#2 Support
This item enable/disable LPSS DMA #1/#2 Support.
Options: ACPI Mode (Default) / PCI Mode / Disabled

LPSS I2C #1/#2/#3/#4/#7 Support
This item enable/disable LPSS I2C #1/#2/#3/#4/#7 Support.
Options: ACPI Mode (Default) / PCI Mode / Disabled

LPSS I2C #5/#6 Support
This item enable/disable LPSS I2C #5/#6 Support.
Options: Disabled (Default) / ACPI Mode / PCI Mode

Onboard Bluetooth
This item allows you to control Onboard Bluetooth.
Options: Disabled (Default) / Enabled

LPSS HSUART #2 Support
This item enable/disable LPSS HSUART #2 Support.
Options: Disabled (Default) / ACPI Mode / PCI Mode

LPSS PWM #1 Support
This item enable/disable LPSS PWM #1 Support.
Options: ACPI Mode (Default) / PCI Mode / Disabled

LPSS PWM #2 Support
This item enable/disable LPSS PWM #2 Support.
Options: Disabled (Default) / ACPI Mode / PCI Mode

LPSS SPISupport
This item enable/disable LPSS SPISupport.
Options: ACPI Mode (Default) / PCI Mode / Disabled

Bluetooth Module Selection
This item sets Bluetooth Module Selection.
Options: BCRM (Default) / STP / LNP

Bluetooth Devices
This item sets Bluetooth Devices.
Options: BCM2E7B (Default) / BCM2E64 / BCM2E3A

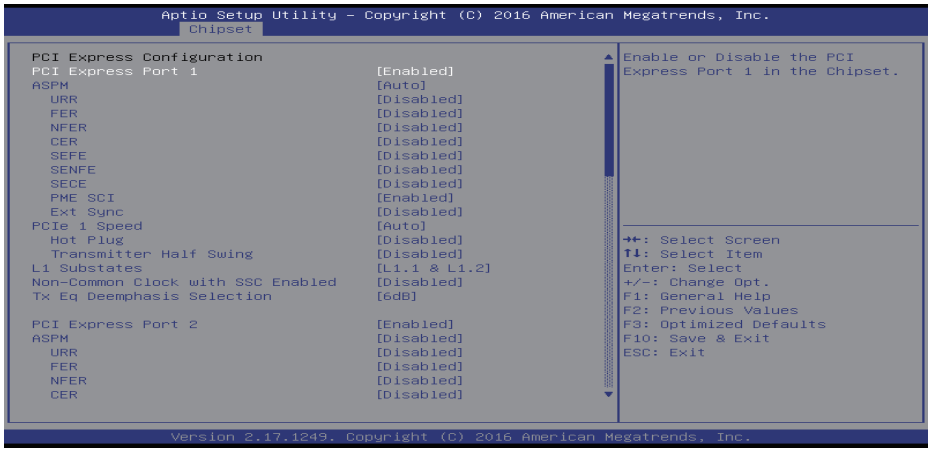
RVP Camera Selection
This item select Camera Device.
Options: Cynthiana_2B (Default) / Cynthiana_2B_CR

MRD Front Camera Selection
This item select MRD Front Camera Device.
Options: OV2680 (Default) / GC0310

MRD Rear Camera Selection
This item select MRD Front Camera Device.
Options: OV8858 (Default) / HM5040

GPS
This item enable/disable GPS.
Options: Enabled (Default) / Disabled

PCI Express Configuration



PCI Express Port 1/2/3/4
This item enable or disable the PCI Express Port 1 in the Chipset.
Options: Enabled (Default) / Disabled

[PCI Express Port 1] - ASPM
This item set the ASPM Level.
Options: Auto (Default) / Disabled / L0s / L1 / L0sL1

[PCI Express Port 2/3/4] - ASPM
This item set the ASPM Level.
Options: Disabled (Default) / Auto / L0s / L1 / L0sL1

[PCI Express Port 1/2/3/4] - URR
This item enable/disable PCI Express Unsupported Request Reporting.
Options: Disabled (Default) / Enabled

[PCI Express Port 1/2/3/4] - FER
This item enable/disable PCI Express Device Fatal Error Reporting.
Options: Disabled (Default) / Enabled

[PCI Express Port 1/2/3/4] - NFER
This item enable/disable PCI Express Device Non-Fatal Error Reporting.
Options: Disabled (Default) / Enabled

[PCI Express Port 1/2/3/4] - CER
This item enable/disable PCI Express Device Correctable Error Reporting.
Options: Disabled (Default) / Enabled

[PCI Express Port 1/2/3/4] - SEFE
This item enable/disable Root PCI Express System Error on Fatal Error.
Options: Disabled (Default) / Enabled

[PCI Express Port 1/2/3/4] - SENFE
This item enable/disable Root PCI Express System Error on Non-Fatal Error.
Options: Disabled (Default) / Enabled

[PCI Express Port 1/2/3/4] - SECE
This item enable/disable Root PCI Express System Error on Correctable Error.
Options: Disabled (Default) / Enabled

[PCI Express Port 1/2/3/4] - PME SCI
This item enable/disable PCI Express PME SCI.
Options: Enabled (Default) / Disabled

[PCI Express Port 1/2/3/4] - Ext Sync
This item enable/disable PCI Express Ext Sync.
Options: Disabled (Default) / Enabled

[PCI Express Port 1/2/3/4] - PCIe 1 Speed
This item Configure PCIe Port 1 Speed.
Options: Auto (Default) / Gen 2 /Gen 1

[PCI Express Port 1/2/3/4] - Hot Plug
This item enable/disable PCI Express Hot Plug.
Options: Disabled (Default) / Enabled

[PCI Express Port 1/2/3/4] - Transmitter Half Swing
This item enable/disable Transmitter Half Swing.
Options: Disabled (Default) / Enabled

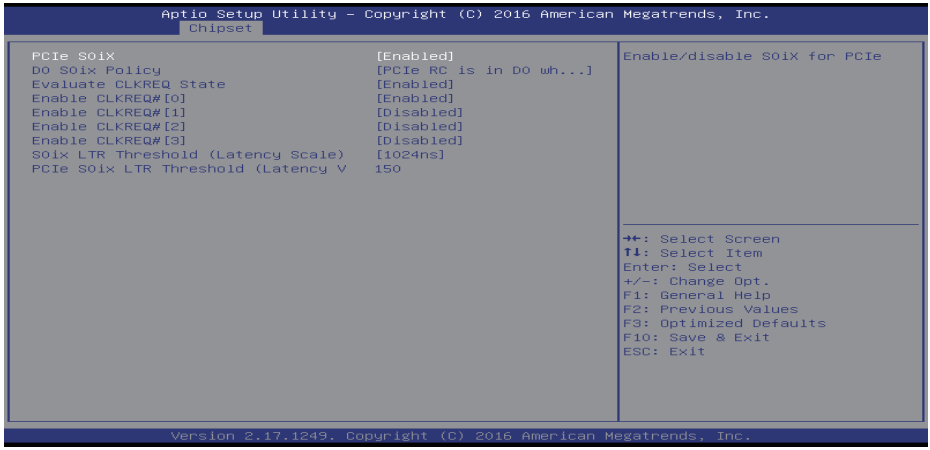
[PCI Express Port 1] - L1 Substates
This item sets PCI Express L1 Substates.
Options: L1.1 & L1.2 (Default) / Disabled / L1.1 / L1.2

[PCI Express Port 2/3/4] - L1 Substates
This item sets PCI Express L1 Substates.
Options: Disabled (Default) / L1.1 & L1.2 / L1.1 / L1.2

[PCI Express Port 1/2/3/4] - Non-Common Clock with SSC Enabled
Assume the root port is operating at non-common clock with SSC enabled.
Options: Disabled (Default) / Enabled

[PCI Express Port 1/2/3/4] - Tx Eq Deemphasis Selection
This item select the level of de-emphasis for an upstream component.
Options: 6dB (Default) / 3.5dB

PCI Express S0ix Settings



PCIe S0ix
This item enable/disable S0ix for PCIe.
Options: Enabled (Default) / Disabled

D0 S0ix Policy
This item PCIe D0 S0ix Policy.
Options: PCIe RC is in D0 when entering S0IX (Default) / PCIe RC shall be in D3 / S0i1 is the deepest S0ix state / Reserved

Evaluate CLKREQ State
This item enable/disable evaluation of CLKREQ state.
Options: Enabled (Default) / Disabled

Enable CLKREQ#[0]
This item CLKREQ#[X] shall be evaluated during PCIe in D0 S0ix entry and exit criteria checking.
Options: Enabled (Default) / Disabled

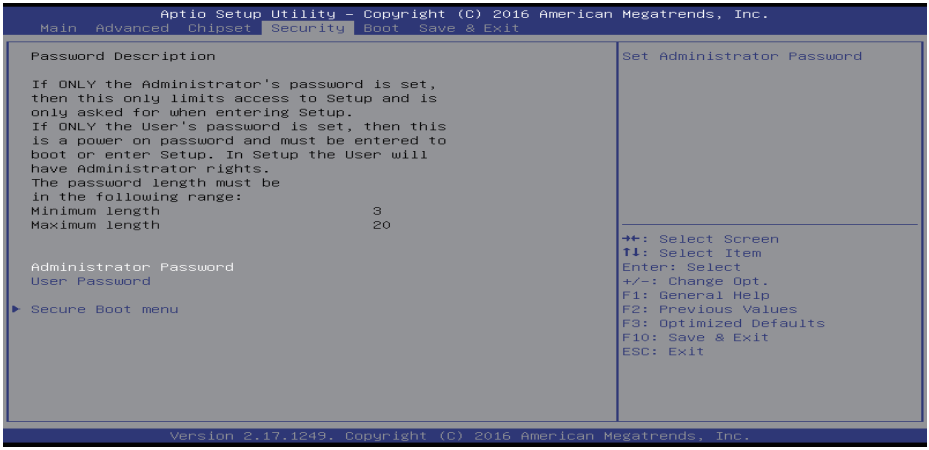
Enable CLKREQ#[1/2/3]
This item CLKREQ#[X] shall be evaluated during PCIe in D0 S0ix entry and exit criteria checking.
Options: Disabled (Default) / Enabled

S0ix LTR Threshold (Latency Scale)
This item PCIe S0ix LTR Threshold : Latency Scale.
Options: 1024ns (Default) / 1ns / 32ns / 32,768ns / 1,048,576ns / 33,554,432ns

PCIe S0ix LTR Threshold (Latency V)
This item PCIe S0ix LTR Threshold : Latency Value - This value is multiplied by Latency Scale.
Options: 150 (Default)

COM Port1 Mode
Options: RS232 (Default) / RS422 / RS485

3.4 Security Menu



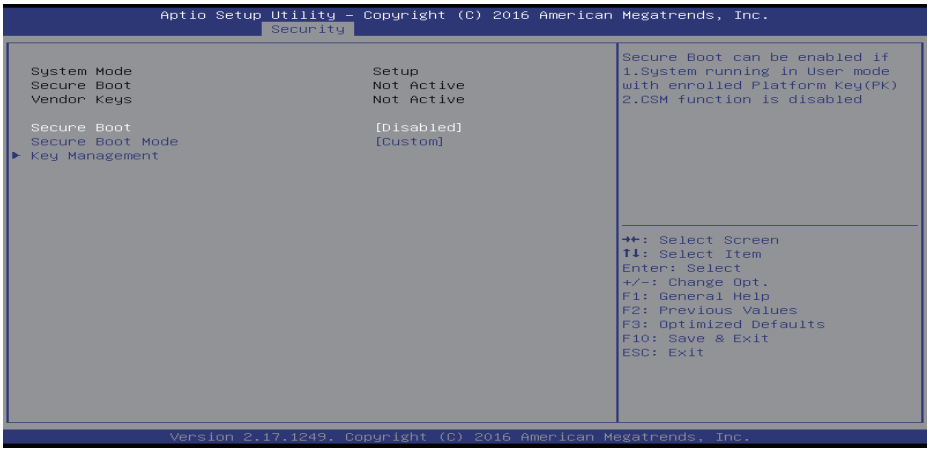
Administrator Password

This item sets Administrator Password.

User Password

This item sets User Password.

Secure Boot menu



Secure Boot

This item enable/disable Secure Boot.

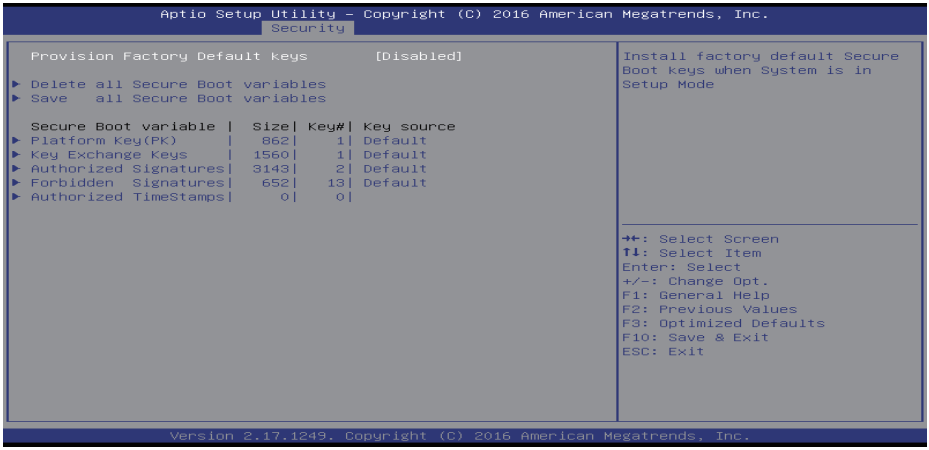
Options: Disabled (Default) / Enabled

Secure Boot Mode

Secure Boot mode selector. Custom Mode enables users to change Image Execution policy and manage Secure Boot Keys.

Options: Custom (Default) / Standard

Key Management



Provision Factory Defaults

Allow to install factory default Secure Boot Keys when system is in setup mode.
Options: Disabled (Default) / Enabled

Enroll all Factory Default keys

Force System to User Mode - install all Factory Default Keys(PK, KEK, db, dbt, dbx). Change takes effect after reboot.

Save all Secure Boot variables

Save NVRAM content of all Secure Boot policy variables to the files (EFI_SIGNATURE_LIST data format) in root folder on a target file system device.

Platform Key (PK)

Set new Key – Allows you set new PK file.
Delete Key – Allows you delete PK file.

Key Exchange Keys

Set new Key – Allows you set new KEK file.
Append Key – Allows you append Var to KEK.
Delete Key – Allows you delete KEK file.

Authorized Signatures

Set new Key – Allows you set new DB file.
Append Key – Allows you append Var to DB.
Delete Key – Allows you delete DB file.

Forbidden Signatures

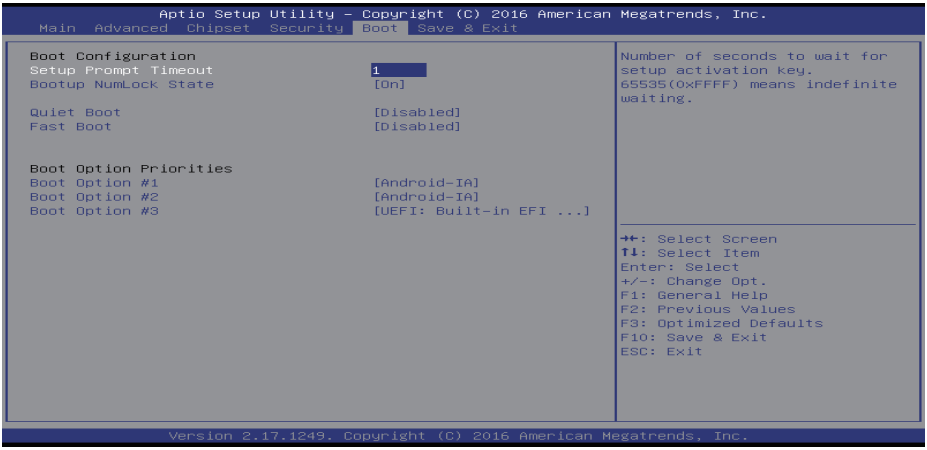
Set new Key – Allows you set new DBX file.
Append Key – Allows you append Var to DBX.
Delete Key – Allows you delete DBX file.

Authorized Timestamps

Set new Key – Allows you set new DBT file.
Append Key – Allows you append Var to DBT.

3.5 Boot Menu

This menu allows you to setup the system boot options.



Setup Prompt Timeout

This item sets number of seconds to wait for setup activation key. 65535(0xFFFF) means indefinite waiting.
Options: 1 (Default)

Bootup NumLock State

This item selects the keyboard NumLock state.
Options: On (Default) / Off

Quiet Boot

This item allows you to enable/disable Quiet Boot option.
Options: Disabled (Default) / Enabled

Fast Boot

This item allows you to enable/disable boot with initialization of a minimal set of devices required to launch active boot option. Has no effect for BBS boot options.
Options: Disabled (Default) / Enabled

» *The following items appear only when you set the Fast Boot function to [Enabled].*

SATA Support

If Last Boot HDD Only, Only last boot HDD device will be available in Post. If All Sata Devices, all SATA devices will be available in OS and Post.
Options: All Sata Devices (Default) / Last Boot HDD Only

VGA Support

If Disabled, all USB devices will not be available until after OS boot. If Partial Initial, USB Mass Storage and specific USB port/device will not be available before OS boot. If Enabled, all USB devices will be available in OS and Post.
Options: EFI Driver (Default)

USB Support

If Disabled, all USB devices will NOT be available until after OS boot. If Partial Initial, USB Mass Storage and specific USB port/device will NOT be available before OS boot. If Enabled, all USB devices will be available in OS and Post.
Options: Partial Initial (Default) / Disabled / Full Initial

PS2 Devices Support

If Disabled, PS2 devices will be skipped.
Options: Enabled (Default) / Disabled

Network Stack Driver Support

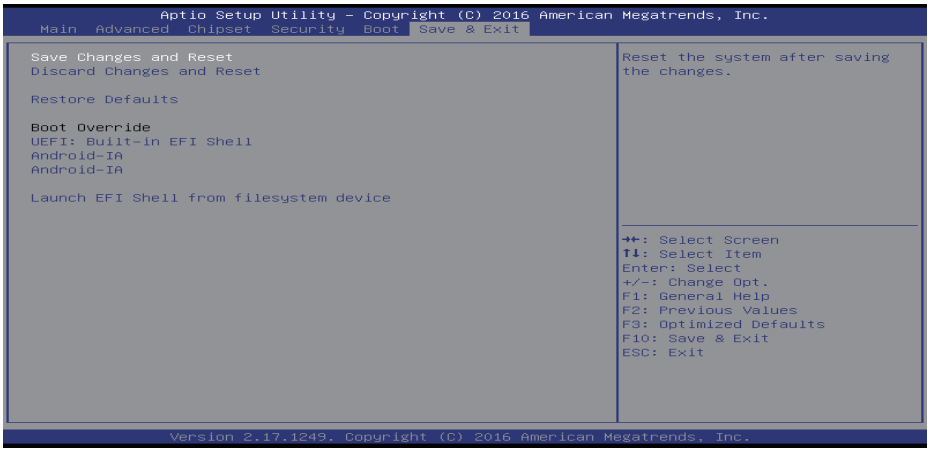
If Disabled, Network Stack Drivers will be skipped.
Options: Disabled (Default) / Enabled

Redirection Support

If Disabled, Redirection function will be disabled.
Options: Disabled (Default) / Enabled

3.6 Exit Menu

This menu allows you to load the optimal default settings, and save or discard the changes to the BIOS items.



Save Changes and Reset

Reset the system after saving the changes.

Discard Changes and Exit

Abandon all changes made during the current session and exit setup.

Restore Defaults

This selection allows you to reload the BIOS when problem occurs during system booting sequence. These configurations are factory settings optimized for this system.

Launch EFI Shell from filesystem device

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