COM-QM77 Rev. B

COM Express Module

User's Manual 5th Ed

Last Updated: March 16, 2016

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Packing List

Before setting up your product, please make sure the following items have been shipped:

Item	Quantity
● COM-QM77 Rev. B	1
● M2.5 screw	4
● Product DVD with User's Manual (in pdf) and drivers	1

If any of these items are missing or damaged, please contact your distributor or sales representative immediately.

About this Document

This User's Manual contains all the essential information, such as detailed descriptions and explanations on the product's hardware and software features (if any), its specifications, dimensions, jumper/connector settings/definitions, and driver installation instructions (if any), to facilitate users in setting up their product.

Users may refer to the AAEON.com for the latest version of this document.

Safety Precautions

Please read the following safety instructions carefully. It is advised that you keep this manual for future references

1. All cautions and warnings on the device should be noted.
2. Make sure the power source matches the power rating of the device.
3. Position the power cord so that people cannot step on it. Do not place anything over the power cord.
4. Always completely disconnect the power before working on the system's hardware.
5. No connections should be made when the system is powered as a sudden rush of power may damage sensitive electronic components.
6. If the device is not to be used for a long time, disconnect it from the power supply to avoid damage by transient over-voltage.
7. Always disconnect this device from any AC supply before cleaning.
8. While cleaning, use a damp cloth instead of liquid or spray detergents.
9. Make sure the device is installed near a power outlet and is easily accessible.
10. Keep this device away from humidity.
11. Place the device on a solid surface during installation to prevent falls
12. Do not cover the openings on the device to ensure optimal heat dissipation.
13. Watch out for high temperatures when the system is running.
14. Do not touch the heat sink or heat spreader when the system is running
15. Never pour any liquid into the openings. This could cause fire or electric shock.
16. As most electronic components are sensitive to static electrical charge, be sure to ground yourself to prevent static charge when installing the internal components. Use a grounding wrist strap and contain all electronic components in any static-shielded containers.

17. If any of the following situations arises, please the contact our service personnel:
    i. Damaged power cord or plug
    ii. Liquid intrusion to the device
    iii. Exposure to moisture
    iv. Device is not working as expected or in a manner as described in this manual
    v. The device is dropped or damaged
    vi. Any obvious signs of damage displayed on the device
18. DO NOT LEAVE THIS DEVICE IN AN UNCONTROLLED ENVIRONMENT WITH TEMPERATURES BEYOND THE DEVICE'S PERMITTED STORAGE TEMPERATURES (SEE CHAPTER 1) TO PREVENT DAMAGE.

FCC Statement

This device complies with Part 15 FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received including interference that may cause undesired operation.

Caution:

There is a danger of explosion if the battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions and your local government's recycling or disposal directives.

Attention:

Il y a un risque d'explosion si la batterie est remplacée de façon incorrecte.
Ne la remplacer qu'avec le même modèle ou équivalent recommandé par le constructeur. Recycler les batteries usées en accord avec les instructions du fabricant et les directives gouvernementales de recyclage.

China RoHS Requirements (CN)

产品中有毒有害物质或元素名称及含量

AAEON Main Board/ Daughter Board/ Backplane

部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
印刷电路板及其电子组件	O	O	O	O	O	O
外部信号连接器及线材	O	O	O	O	O	O

O：表示该有毒有害物质在该部件所有均质材料中的含量均在 SJ/T 11363-2006 标准规定的限量要求以下。

X：表示该有毒有害物质至少在该部件的某一均质材料中的含量超出 SJ/T 11363-2006 标准规定的限量要求。

备注：此产品所标示之环保使用期限，系指在一般正常使用状况下。

China RoHS Requirement (EN)

Poisonous or Hazardous Substances or Elements in Products

AAEON Main Board/ Daughter Board/ Backplane

Component	Poisonous or Hazardous Substances or Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr(VI))	Polybrominated Biphenyls (PBB)	Polybrominated Diphenyl Ethers (PBDE)
PCB & Other Components	O	O	O	O	O	O
Wires & Connectors for External Connections	O	O	O	O	O	O

O：The quantity of poisonous or hazardous substances or elements found in each of the component's parts is below the SJ/T 11363-2006-stipulated requirement.

X: The quantity of poisonous or hazardous substances or elements found in at least one of the component's parts is beyond the SJ/T 11363-2006-stipulated requirement.

Note: The Environment Friendly Use Period as labeled on this product is applicable under normal usage only

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Chapter 1

Product Specifications

1.1 Specifications

System

Form Factor	COM Express Basic module, Pin-out Type 6, COM. 0 Rev. 2.0
Processor	Onboard 3rd Generation Intel® Core™ i7/i5/i3/Celeron® Processor (2nd Generation, FCBGA1023)
System Memory	204-pin dual-channel DDR3 SODIMM x 2, up to 16GB (DDR3 1333/1600) Note: It is suggested to use lower side DIMM socket (DIMM 0) when only one RAM is used
Chipset	Processor integrated
I/O Chipset	Processor integrated
Ethernet	Intel® 82579LM, 10/100/1000Base-TX
TPM	v1.2 (optional)
BIOS	AMI BIOS SPI type, 16MB ROM
EEPROM	Atmel® AT24C02, save BIOS and configuration data (Optional)
Wake On LAN	Yes
Watchdog Timer	ITE8518E-L, 255 levels
H/W Status Monitoring	Supports CPU Temperature Monitoring
Expansion Interface	PCI-Express [x16] x 1 PCI-Express [x1] x 7 LPC bus x 1 SMBus x 1 UART x 2 (TX/RX only)

Power Requirement	+12V only 2-pin wafer for RTC battery
Board Size	4.92" (L) x 3.74"(W) (125mm x 95mm)
Gross Weight	0.66lb (0.3kg)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 176°F (-40°C ~ 80°C)
Operation Humidity	0% ~ 90% relative humidity, non-condensing

Display

Chipset	Intel® Core™ i7/i5/i3/Celeron® processor integrated DirectX 11, OpenGL *3.1, OpenCL* 1.1 Integrated hardware MPEG2 decoder
Memory	Shared system memory up to 512MB/ DVMT 5.0
Resolution	Up to 2560 x 2048 for CRT (two display), 2048 x 1536 for three displays; Up to 1920 x 1200 (UXGA) for LCD/HDMI; Up to 2560 x 1600 for DP; Up to 2548 x 1536 for DVI
LCD Interface	Up to 24-bit dual-channel LVDS
HDMI	Supports HDMI x 2
DVI	Supports DVI x 2
DisplayPort	Supports DisplayPort x 2
Display Combination	CRT Dual channel 24-bit LVDS

	Digital Display Port x 2 Supports up to 3 independent displays simultaneously

I/O

● Storage	SATA 3.0Gb/s x 2 SATA 6.0Gb/s x 2
● USB	USB2.0 x 8 USB 3.0 x 4
● Serial Port	UART x 2 (TX/RX only)
● Audio	High definition audio
● GPI/O	Up to 4 in and 4 out

Note: Wide temperature criterion does not apply to Audio function. If audio function is required, please select industrial grade audio codec IC for design and apply thermal solution.

Note on OS

For Linux, AAEON suggests the following:

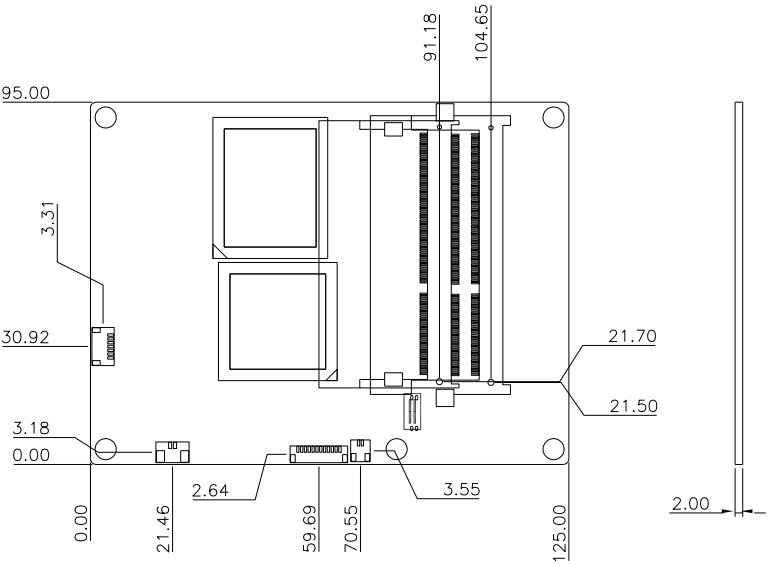
- Kernel 2.6.39 version or later: Set default BIOS/SATA operating mode to IDE
- Use Ubuntu 12.04 version or later for better display performance

Chapter 2

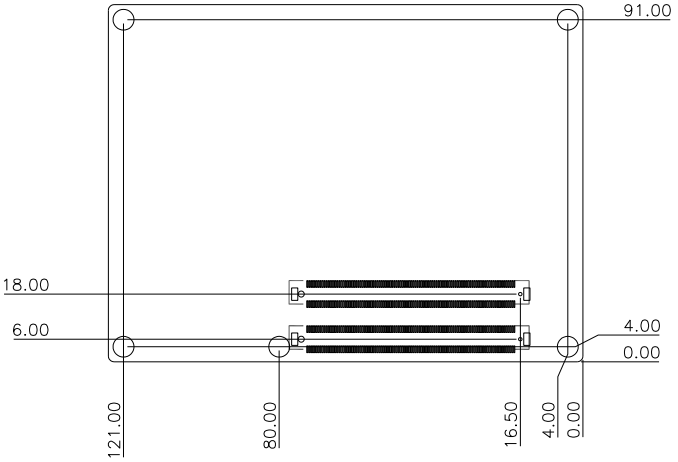
Hardware Information

2.1 Dimensions

Component Side

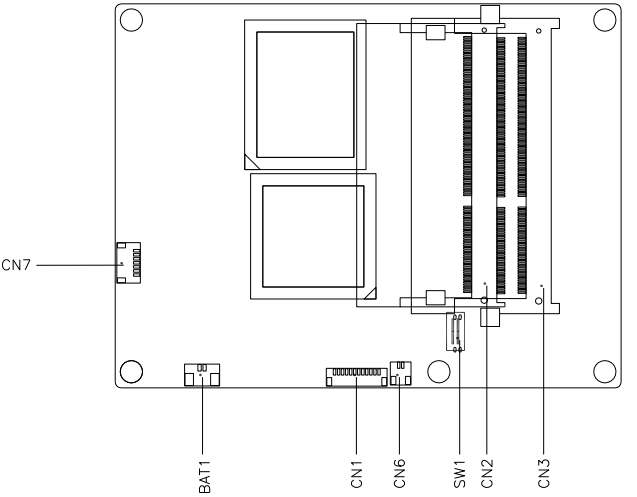


Solder Side

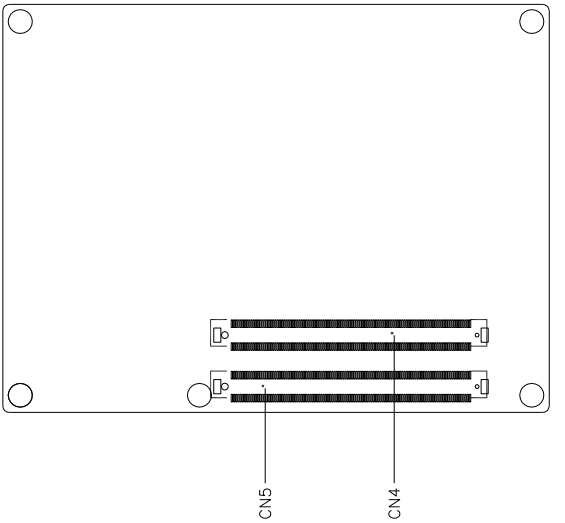


2.2 Switches and Connectors

Component Side



Solder Side



2.3 List of Switches and Connectors

Please refer to the table below for all of the board's switches and connectors that you can configure for your application

Label	Function
SW1	AT/ ATX setting switch

Label	Function
CN1	LPC debug card Connector
CN2	SODIMM COM
CN3	SODIMM COM
CN4	Express ROW C/D Connector
CN5	Express ROW A/B Connector
CN6	RSVD Connector
CN7	SPI Flash Programming Connector
BAT1	RTC Battery Connector

2.3.1 AT/ATX Setting Switch (SW1)

Pin	Function
1 (On)	AT Mode
2 (On)	ME_EN
1 (Off)	ATX Mode
2 (Off)	EN_DIS

2.3.2 LPC debug card Connector (CN1)

Pin	Signal
1	LPC_AD0
2	LPC_AD1
3	LPC_AD2
4	LPC_AD3
5	+V3.3S
6	LPC_FRAME#
7	RST#
8	GND
9	CLK
10	DRQ#0
11	DRQ#1
12	INT_SERIRQ

2.3.3 COM Express Connector (Row C & D) (CN4)

Row C	Row D

C1	GND (FIXED)	D1	GND (FIXED)
C2	GND (FIXED)	D2	GND (FIXED)
C3	USB_SSRX0-	D3	USB_SSTX0-
C4	USB_SSRX0+	D4	USB_SSTX0+
C5	GND (FIXED)	D5	GND (FIXED)
C6	USB_SSRX1-	D6	USB_SSTX1-
C7	USB_SSRX1+	D7	USB_SSTX1+
C8	GND (FIXED)	D8	GND (FIXED)
C9	USB_SSRX2-	D9	USB_SSTX2-
C10	USB_SSRX2+	D10	USB_SSTX2+
C11	GND (FIXED)	D11	GND (FIXED)
C12	USB_SSRX3-	D12	USB_SSTX3-
C13	USB_SSRX3+	D13	USB_SSTX3+
C14	GND (FIXED)	D14	GND (FIXED)
C15	DDI1_PAIR6+	D15	DDI1_CTRLCLK_AUX+
C16	DDI1_PAIR6-	D16	DDI1_CTRLDATA_AUX-
C17	RSVD	D17	RSVD
C18	RSVD	D18	RSVD
C19	PCIE_RX6+	D19	PCIE_TX6+
C20	PCIE_RX6-	D20	PCIE_TX6-
C21	GND (FIXED)	D21	GND (FIXED)
C22	PCIE_RX7+	D22	PCIE_TX7+
C23	PCIE_RX7-	D23	PCIE_TX7-
C24	DDI1_HPD	D24	RSVD
C25	DDI1_PAIR4+	D25	RSVD
C26	DDI1_PAIR4-	D26	DDI1_PAIR0+
C27	RSVD	D27	DDI1_PAIR0-
C28	RSVD	D28	RSVD

C29	DDI1_PAIR5+	D29	DDI1_PAIR1+
C30	DDI1_PAIR5-	D30	DDI1_PAIR1-
C31	GND (FIXED)	D31	GND (FIXED)
C32	DDI2_CTRLCLK_AUX+	D32	DDI1_PAIR2+
C33	DDI2_CTRLDATA_AUX-	D33	DDI1_PAIR2-
C34	DDI2_DDC_AUX_SEL	D34	DDI1_DDC_AUX_SEL
C35	RSVD	D35	RSVD
C36	DDI3_CTRLCLK_AUX+	D36	DDI1_PAIR3+
C37	DDI3_CTRLDATA_AUX-	D37	DDI1_PAIR3-
C38	DDI3_DDC_AUX_SEL	D38	RSVD
C39	DDI3_PAIR0+	D39	DDI2_PAIR0+
C40	DDI3_PAIR0-	D40	DDI2_PAIR0-
C41	GND (FIXED)	D41	GND (FIXED)
C42	DDI3_PAIR1+	D42	DDI2_PAIR1+
C43	DDI3_PAIR1-	D43	DDI2_PAIR1-
C44	DDI3_HPD	D44	DDI2_HPD
C45	RSVD	D45	RSVD
C46	DDI3_PAIR2+	D46	DDI2_PAIR2+
C47	DDI3_PAIR2-	D47	DDI2_PAIR2-
C48	RSVD	D48	RSVD
C49	DDI3_PAIR1-	D49	DDI2_PAIR3+
C50	DDI3_PAIR3-	D50	DDI2_PAIR3-
C51	GND (FIXED)	D51	GND (FIXED)
C52	PEG_RX0+	D52	PEG_TX0+
C53	PEG_RX0-	D53	PEG_TX0-
C54	TYPE0#	D54	PEG_LAN_RV#
C55	PEG_RX1+	D55	PEG_TX1+
C56	PEG_RX1-	D56	PEG_TX1-

C57	TYPE1#	D57	TYPE2#
C58	PEG_RX2+	D58	PEG_TX2+
C59	PEG_RX2-	D59	PEG_TX2-
C60	GND (FIXED)	D60	GND (FIXED)
C61	PEG_RX3+	D61	PEG_TX3+
C62	PEG_RX3-	D62	PEG_TX3-
C63	RSVD	D63	RSVD
C64	RSVD	D64	RSVD
C65	PEG_RX4+	D65	PEG_TX4+
C66	PEG_RX4-	D66	PEG_TX4-
C67	RSVD	D67	GND (FIXED)
C68	PEG_RX5+	D68	PEG_TX5+
C69	PEG_RX5-	D69	PEG_TX5-
C70	GND (FIXED)	D70	GND (FIXED)
C71	PEG_RX6+	D71	PEG_TX6+
C72	PEG_RX6-	D72	PEG_TX6-
C73	GND (FIXED)	D73	GND (FIXED)
C74	PEG_RX7+	D74	PEG_TX7+
C75	PEG_RX7-	D75	PEG_TX7-
C76	GND (FIXED)	D76	GND (FIXED)
C77	RSVD	D77	RSVD
C78	PEG_RX8+	D78	PEG_TX8+
C79	PEG_RX8-	D79	PEG_TX8-
C80	GND (FIXED)	D80	GND (FIXED)
C81	PEG_RX9+	D81	PEG_TX9+
C82	PEG_RX9-	D82	PEG_TX9-
C83	RSVD	D83	RSVD
C84	GND (FIXED)	D84	GND (FIXED)

C85	PEG_RX10+	D85	PEG_TX10+
C86	PEG_RX10-	D86	PEG_TX10-
C87	GND (FIXED)	D87	GND (FIXED)
C88	PEG_RX11+	D88	PEG_TX11+
C89	PEG_RX11-	D89	PEG_TX11-
C90	GND (FIXED)	D90	GND (FIXED)
C91	PEG_RX12+	D91	PEG_TX12+
C92	PEG_RX12-	D92	PEG_TX12-
C93	GND	D93	GND
C94	PEG_RX13+	D94	PEG_TX13+
C95	PEG_RX13-	D95	PEG_TX13-
C96	GND (FIXED)	D96	GND (FIXED)
C97	RSVD	D97	RSVD
C98	PEG_RX14+	D98	PEG_TX14+
C99	PEG_RX14-	D99	PEG_TX14-
C100	GND (FIXED)	D100	GND (FIXED)
C101	PEG_RX15+	D101	PEG_TX15+
C102	PEG_RX15-	D102	PEG_TX15-
C103	GND (FIXED)	D103	GND
C104	VCC_12V	D104	VCC_12V
C105	VCC_12V	D105	VCC_12V
C106	VCC_12V	D106	VCC_12V
C107	VCC_12V	D107	VCC_12V
C108	VCC_12V	D108	VCC_12V
C109	VCC_12V	D109	VCC_12V
C110	GND (FIXED)	D110	GND (FIXED)

2.3.4 COM Express Connector (Row A & B) (CN5)

Row C		Row D	
A1	GND (FIXED)	B1	GND (FIXED)
A2	GBE0_MDI3-	B2	GBE0_ACT#
A3	GBE0_MDI3+	B3	LPC_FRAME#
A4	GBE0_LINK100#	B4	LPC_AD0
A5	GBE0_LINK1000#	B5	LPC_AD1
A6	GBE0_MDI2-	B6	LPC_AD2
A7	GBE0_MDI2+	B7	LPC_AD3
A8	GBE0_LINK	B8	LPC_DRQ0#
A9	GBE0_MDI1-	B9	LPC_DRQ1#
A10	GBE0_MDI1+	B10	LPC_CLK
A11	GND (FIXED)	B11	GND (FIXED)
A12	GBE0_MDI0-	B12	PWRBTN#
A13	GBE0_MDI0+	B13	SMB_CK
A14	GBE0_CTREF	B14	SMB_DAT
A15	SUS_S3#	B15	SMB_ALERT#
A16	SATA0_TX+	B16	SATA1_TX+
A17	SATA0_TX-	B17	SATA1_TX-
A18	SUS_S4#	B18	SUS_STAT#
A19	SATA0_RX+	B19	SATA1_RX+
A20	SATA0_RX-	B20	SATA1_RX-
A21	GND (FIXED)	B21	GND (FIXED)
A22	SATA2_TX+	B22	SATA3_TX+
A23	SATA2_TX-	B23	SATA3_TX-
A24	SUS_S5#	B24	PWR_OK
A25	SATA2_RX+	B25	SATA3_RX+

A26	SATA2_RX-	B26	SATA3_RX-
A27	BATLOW#	B27	WDT
A28	ATA_ACT#	B28	AC_SDIN2
A29	AC_SYNC	B29	AC_SDIN1
A30	AC_RST#	B30	AC_SDIN0
A31	GND (FIXED)	B31	GND (FIXED)
A32	AC_BITCLK	B32	SPKR
A33	AC_SDOUT	B33	I2C_CK
A34	BIOS_DIS0#	B34	I2C_DAT
A35	THRMTRIP#	B35	THRM#
A36	USB6-	B36	USB7-
A37	USB6+	B37	USB7+
A38	USB_6_7_OC#	B38	USB_4_5_OC#
A39	USB4-	B39	USB5-
A40	USB4+	B40	USB5+
A41	GND (FIXED)	B41	GND (FIXED)
A42	USB2-	B42	USB3-
A43	USB2+	B43	USB3+
A44	USB_2_3_OC#	B44	USB_0_1_OC#
A45	USB0-	B45	USB1-
A46	USB0+	B46	USB1+
A47	VCC_RTC	B47	EXCD1_PERST#
A48	EXCD0_PERST#	B48	EXCD1_CPPE#
A49	EXCD0_CPPE#	B49	SYS_RESET#
A50	LPC_SERIRQ	B50	CB_RESET#
A51	GND (FIXED)	B51	GND (FIXED)
A52	PCIE_TX5+	B52	PCIE_RX5+
A53	PCIE_TX5-	B53	PCIE_RX5-

A54	GPI0	B54	GPO1
A55	PCIE_TX4+	B55	PCIE_RX4+
A56	PCIE_TX4-	B56	PCIE_RX4-
A57	GND	B57	GPO2
A58	PCIE_TX3+	B58	PCIE_RX3+
A59	PCIE_TX3-	B59	PCIE_RX3-
A60	GND (FIXED)	B60	GND (FIXED)
A61	PCIE_TX2+	B61	PCIE_RX2+
A62	PCIE_TX2-	B62	PCIE_RX2-
A63	GPI1	B63	GPO3
A64	PCIE_TX1+	B64	PCIE_RX1+
A65	PCIE_TX1-	B65	PCIE_RX1-
A66	GND	B66	WAKE0#
A67	GPI2	B67	WAKE1#
A68	PCIE_TX0+	B68	PCIE_RX0+
A69	PCIE_TX0-	B69	PCIE_RX0-
A70	GND (FIXED)	B70	GND (FIXED)
A71	LVDS_A0+	B71	LVDS_B0+
A72	LVDS_A0-	B72	LVDS_B0-
A73	LVDS_A1+	B73	LVDS_B1+
A74	LVDS_A1-	B74	LVDS_B1-
A75	LVDS_A2+	B75	LVDS_B2+
A76	LVDS_A2-	B76	LVDS_B2-
A77	LVDS_VDD_EN	B77	LVDS_B3+
A78	LVDS_A3+	B78	LVDS_B3-
A79	LVDS_A3-	B79	LVDS_BKLT_EN
A80	GND (FIXED)	B80	GND (FIXED)
A81	LVDS_A_CK+	B81	LVDS_B_CK+

A82	LVDS_A_CK-	B82	LVDS_B_CK-
A83	LVDS_I2C_CK	B83	LVDS_BKLT_CTRL
A84	LVDS_I2C_DAT	B84	VCC_5V_SBY
A85	GPI3	B85	VCC_5V_SBY
A86	RSVD	B86	VCC_5V_SBY
A87	RSVD	B87	VCC_5V_SBY
A88	PCIE0_CK_REF+	B88	BISO_DIS1#
A89	PCIE0_CK_REF-	B89	VGA_RED
A90	GND (FIXED)	B90	GND (FIXED)
A91	SPI _POWER	B91	VGA_GRN
A92	SPI_MISO	B92	VGA_BLU
A93	GPO0	B93	VGA_HSYNC
A94	SPI_CLK	B94	VGA_VSYNC
A95	SPI_MOSI	B95	VGA_I2C_CK
A96	TPM_PP	B96	VGA_I2C_DAT
A97	TYPE10#	B97	SPI_CS#
A98	SER0_TX	B98	RSVD
A99	SER0_RX	B99	RSVD
A100	GND (FIXED)	B100	GND (FIXED)
A101	SER1_TX	B101	FAN_PWNOUT
A102	SER1_RX	B102	FAN_TACHIN
A103	LID#	B103	SLEEP#
A104	VCC_12V	B104	VCC_12V
A105	VCC_12V	B105	VCC_12V
A106	VCC_12V	B106	VCC_12V
A107	VCC_12V	B107	VCC_12V
A108	VCC_12V	B108	VCC_12V
A109	VCC_12V	B109	VCC_12V

A110	GND (FIXED)	B110	GND (FIXED)

2.2.5 RSVD Connector (CN6)

Pin	Signal
1	SCI#
2	SMI#

2.2.6 SPI Flash Programming Connector (CN7)

Pin	Signal
1	SPI_SO
2	GND
3	SPI_CLK
4	+3.3V
5	SPI_SI
6	SPI_CS1#
7	SPI_CS2#

2.2.7 RTC Battery Connector (BAT1)

Pin	Signal
1	3.3 V
2	GND

Chapter 3

AMI BIOS Setup

3.1 System Test and Initialization

The board uses certain routines to perform testing and initialization. If an error, fatal or non-fatal, is encountered, a few short beeps or an error message will be outputted. The board can usually continue the boot up sequence with non-fatal errors.

The system configuration verification routines check the current system configuration against the values stored in the CMOS memory. If they do not match, an error message will be outputted, in which case you will need to run the BIOS setup program to set the configuration information in memory.

There are three situations in which you will need to change the CMOS settings:

- You are starting your system for the first time
- You have changed your system's hardware
- The CMOS memory has lost power and the configuration information is erased

The system's CMOS memory uses a backup battery for data retention, which is to be replaced once emptied.

3.2 AMI BIOS Setup

The AMI BIOS ROM has a pre-installed Setup program that allows users to modify basic system configurations, which is stored in the battery-backed CMOS RAM and BIOS NVRAM so that the information is retained when the power is turned off.

To enter BIOS Setup, press <Del> or <F2> immediately while your computer is powering up.

The function for each interface can be found below.

Main – Date and time can be set here. Press <Tab> to switch between date elements

Advanced – Enable/ Disable boot option for legacy network devices

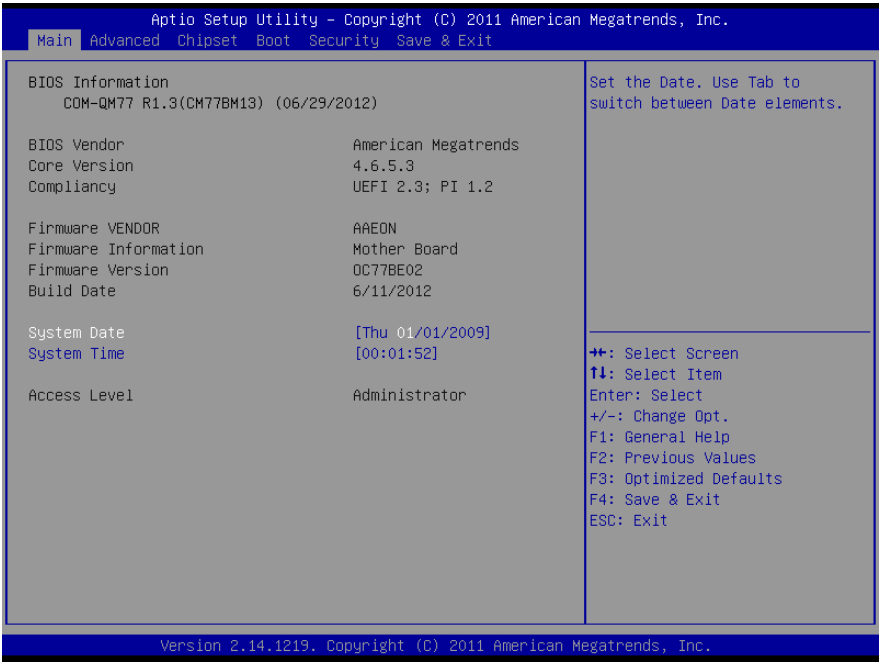
Chipset – For hosting bridge parameters

Boot – Enable/ Disable quiet Boot Option

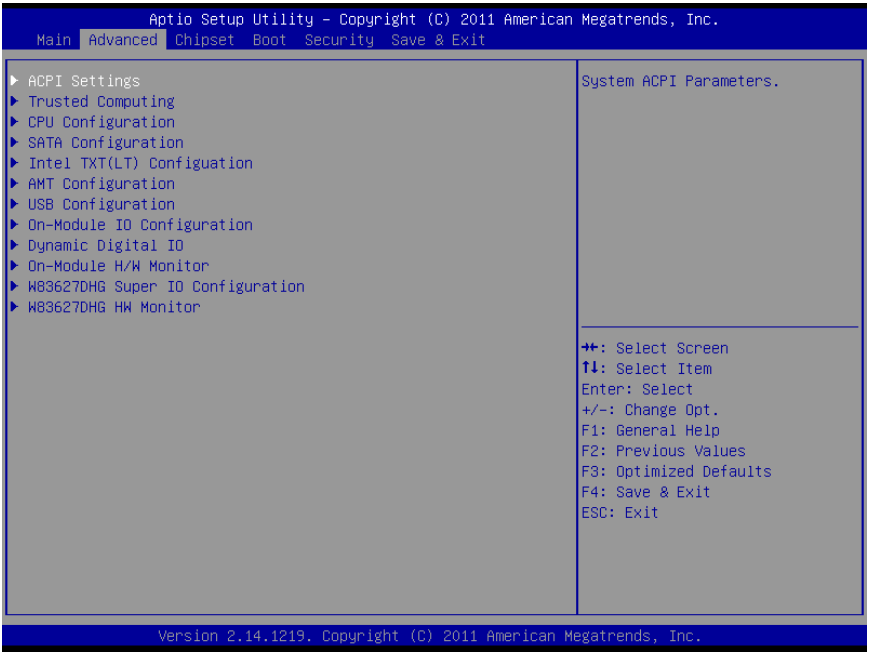
Security – The setup administrator password can be set here

Save & Exit –Save your changes and exit the program

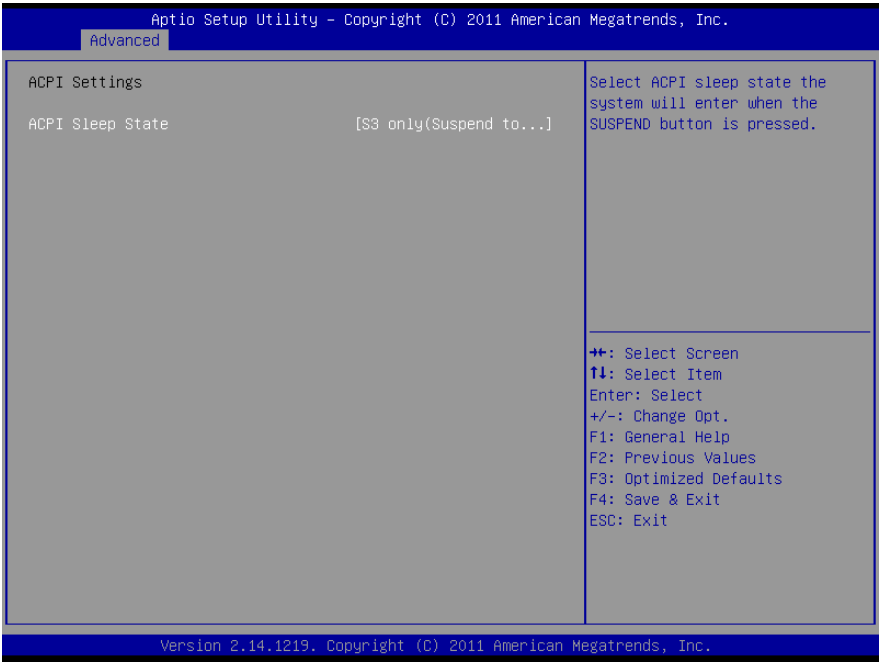
3.3 Setup submenu: Main



3.4 Setup submenu: Advanced



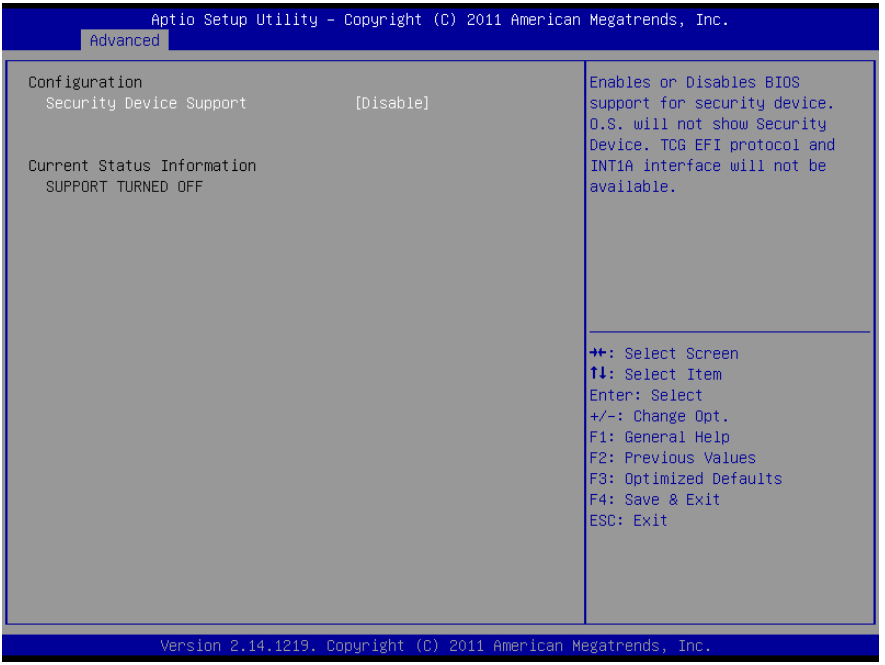
3.4.1 Advanced: ACPI Settings



Option summary:

Suspend mode	S3 (Suspend to RAM)	Default
	S1 (CPU Stop Clock)	
Select the ACPI state used for System Suspend		

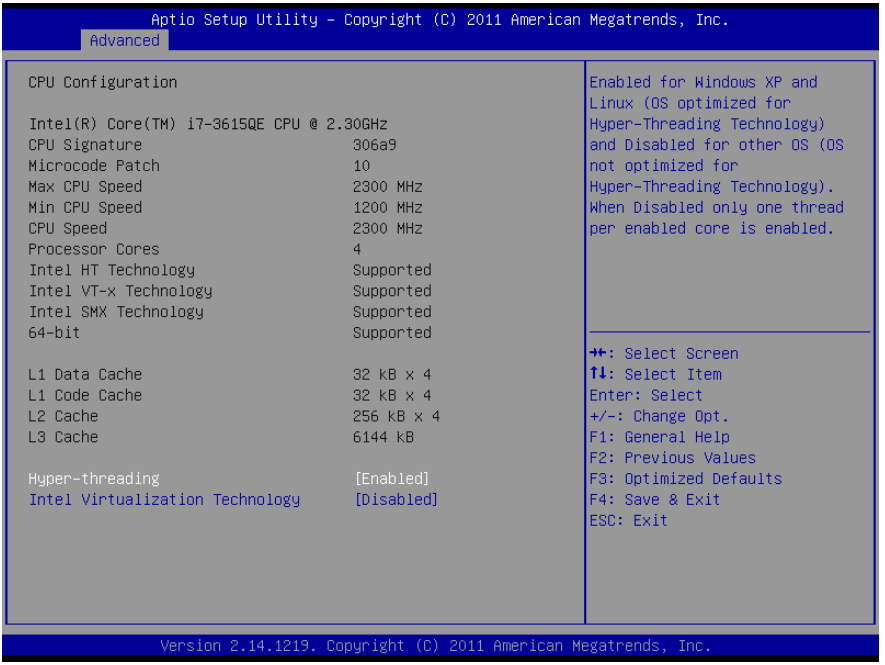
3.4.2 Advanced: Trusted Computing



Option summary:

Security Device Support	Disable	Default
	Enable	
Enables or Disables BIOS support for security device. O.S. will not show security device. TCG EFI protocol and INT1A interface will not be available.		

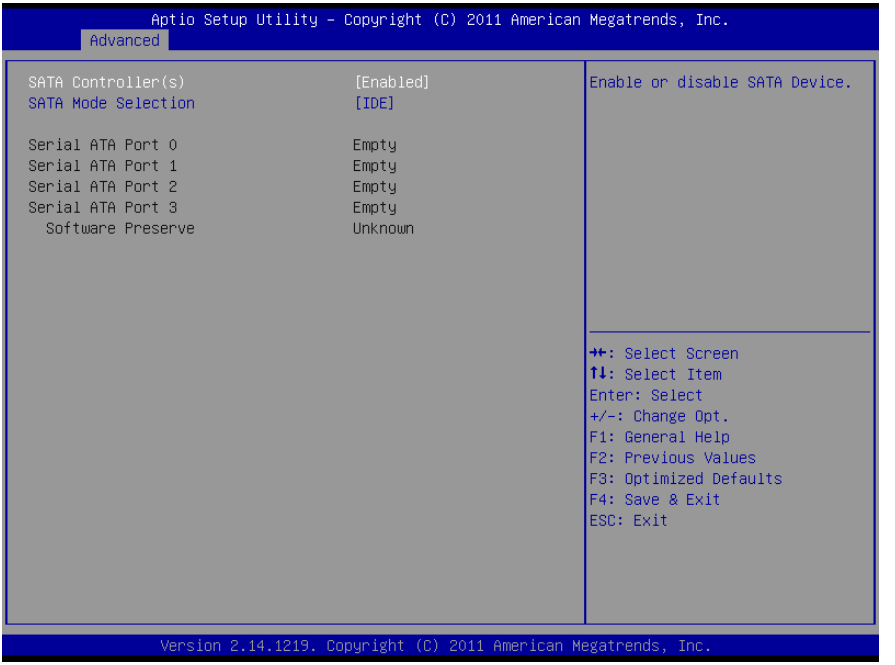
3.4.3 Advanced: CPU Configuration



Option summary:

Hyper-Threading	Disabled	
	Enabled	Default
Enabled for Windows XP and Linux (OS optimized for Hyper-Threading Technology) and Disabled for other OS (OS not optimized for Hyper-Threading Technology). When Disabled only one thread per enabled core is enabled.		
Intel Virtualization Technology	Disabled	Default
	Enabled	
When enabled, a VMM can utilize the additional hardware capabilities provided by Vanderpool Technology.		

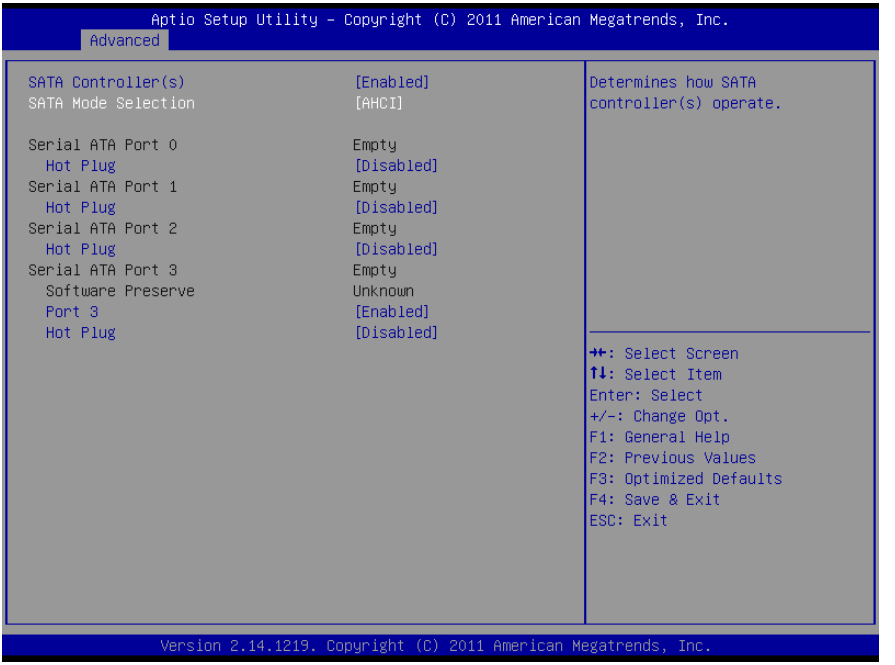
3.4.4 Advanced: SATA Configuration (IDE)



Option summary:

SATA Controllers	Disabled	
	Enabled	Default
En/Disable SATA Controller.		
SATA Mode Selection	IDE	Default
	AHCI	
	RAID	
Determines how SATA controller(s) operate.		

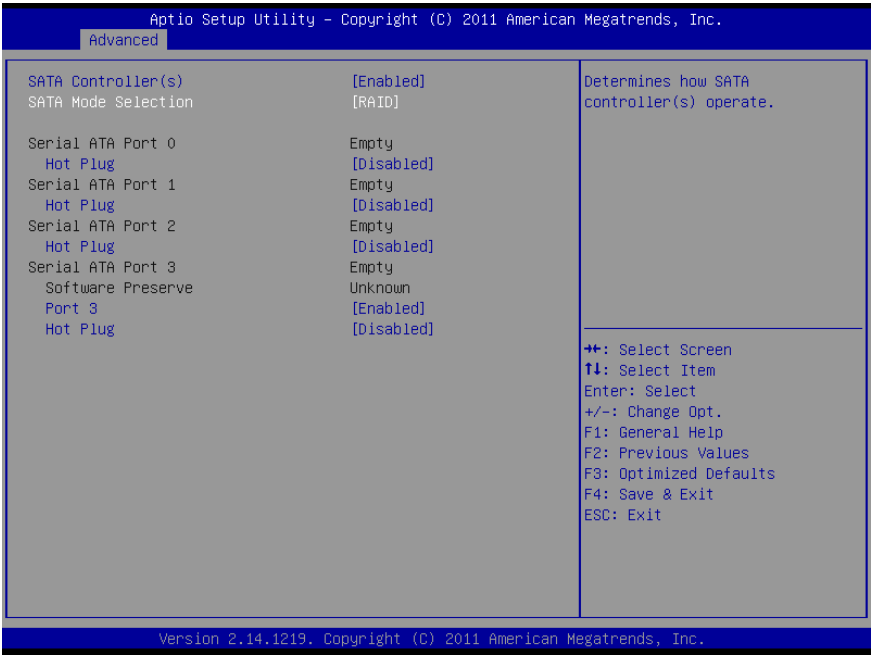
3.4.5 Advanced: SATA Configuration (AHCI)



Option summary:

Hot Plug	Disabled	
	Enabled	Default
En/Disable Hot Plug feature.		
Port 3	Disabled	
	Enabled	Default
En/Disable SATA Port.		

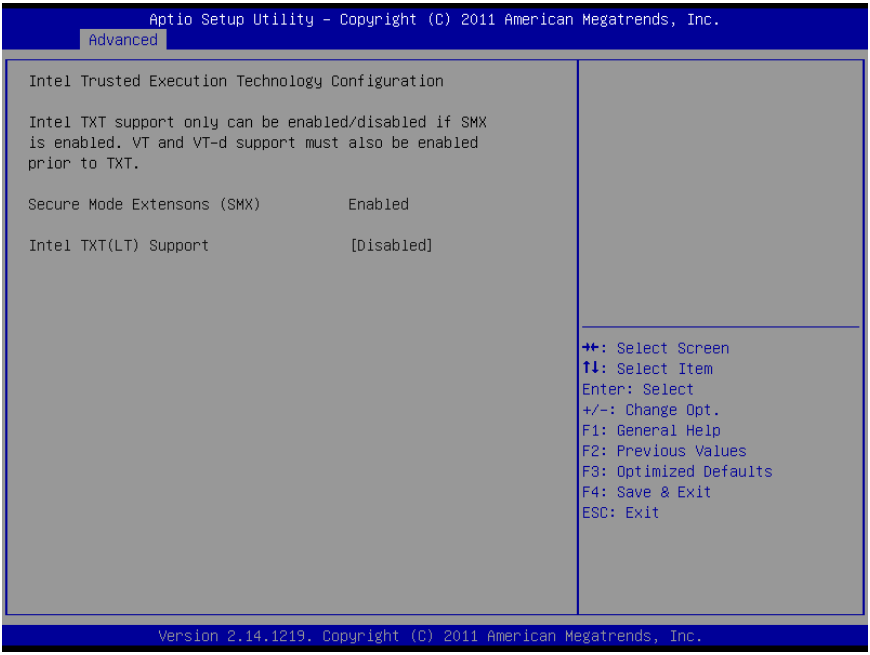
3.4.6 Advanced: SATA Configuration (RAID)



Option summary:

Hot Plug	Disabled	
	Enabled	Default
En/Disable Hot Plug feature.		
Port 3	Disabled	
	Enabled	Default
En/Disable SATA Port.		

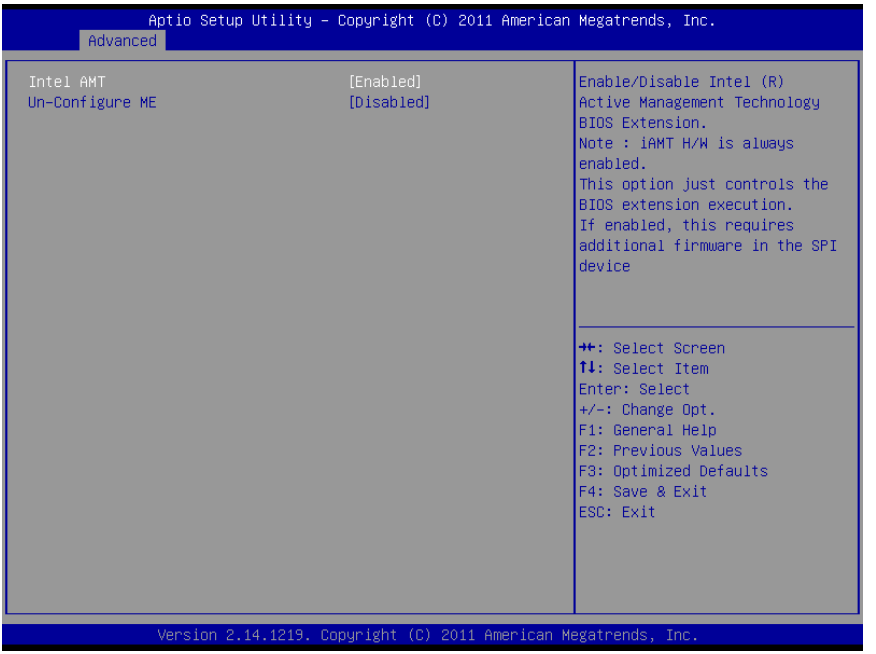
3.4.7 Advanced: Intel TXT (LT) Configuration



Option summary:

Intel TXT (LT Support)	Disabled	Default
	Enabled	
Enables or Disables Intel(R) TXT (LT) support		

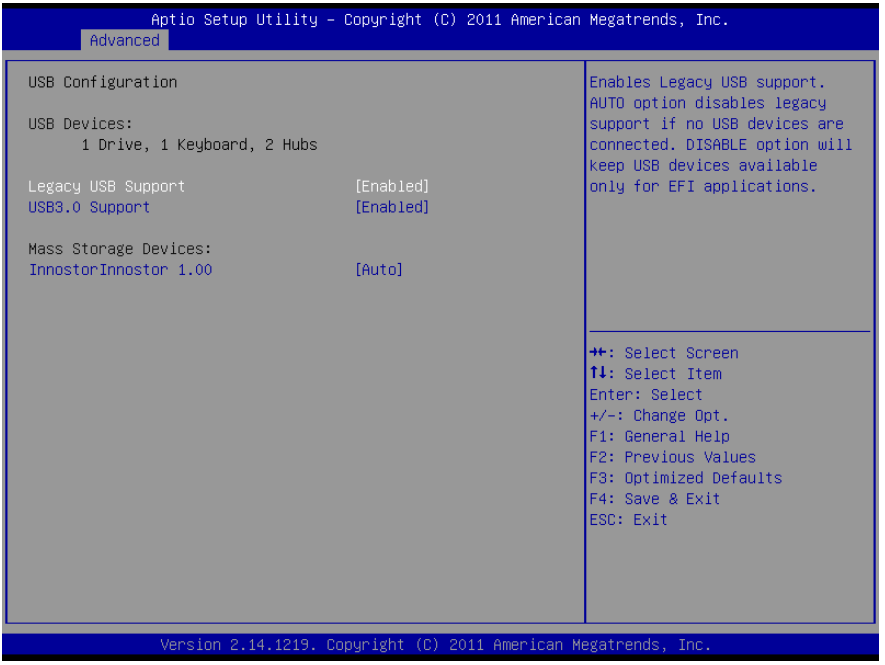
3.4.8 Advanced: AMT Configuration



Option summary:

Intel AMT	Disabled	
	Enabled	Default
Enables or Disables Intel(R) Active Management Technology BIOS Extension. Note: iAMT H/W is always enabled. This option just controls the BIOS extension execution, If enabled this requires additional firmware in the SPI device.		
Un-Configure ME	Disabled	Default
	Enabled	
OEMFlag Bit 15: Un-configure ME without password.		

3.4.9 Advanced: USB Configuration



Option summary:

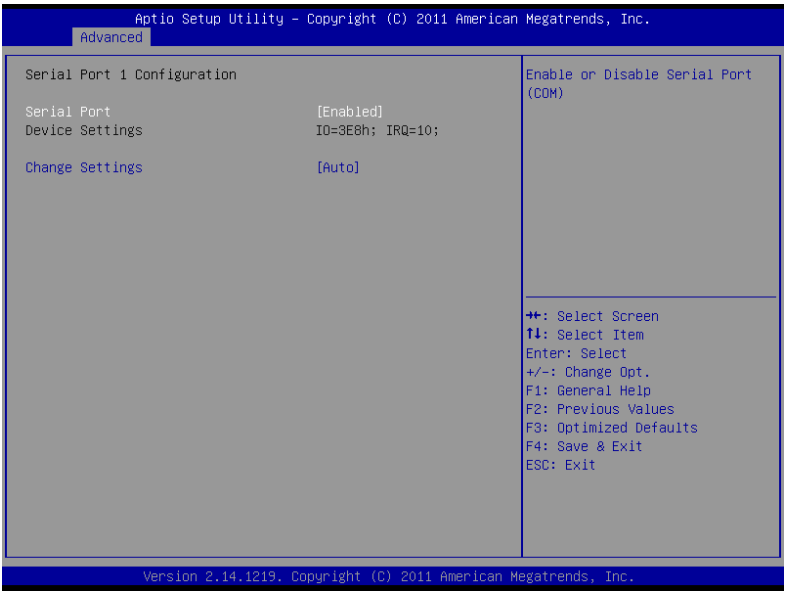
Legacy USB Support	Enabled	Default
	Disabled	
	Auto	
Enables BIOS Support for Legacy USB Support. When enabled, USB can be functional in legacy environment like DOS. AUTO option disables legacy support if no USB devices are connected		
USB3.0 Support	Enabled	Default
	Disabled	
Enable/Disable USB3.0 (XHCI) Controller support.		

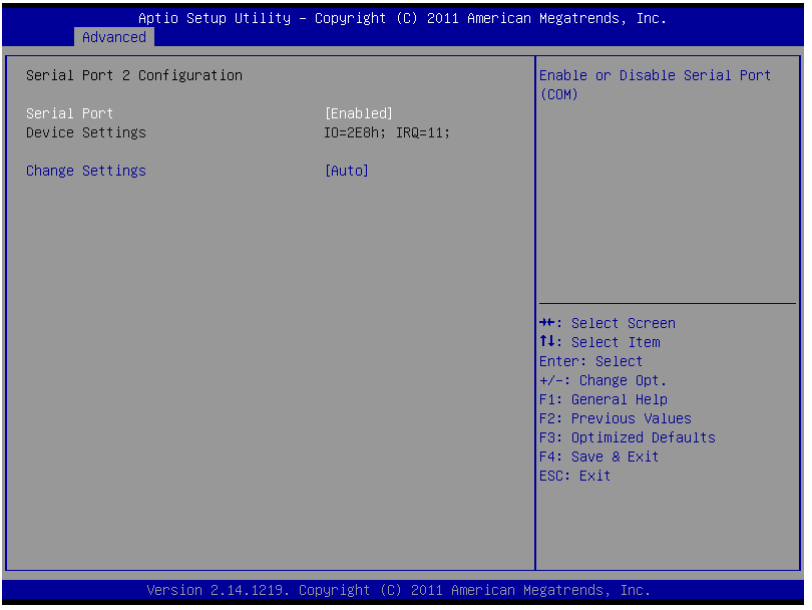
3.4.10 Advanced: On-Module IO Configuration

Option summary:

Restore on Power Loss	Always OFF	
	Always ON	
	Last State	Default
Select power state when power is re-applied after a power failure.		

3.4.10.1 On-Module IO Configuration: Serial Port Configuration

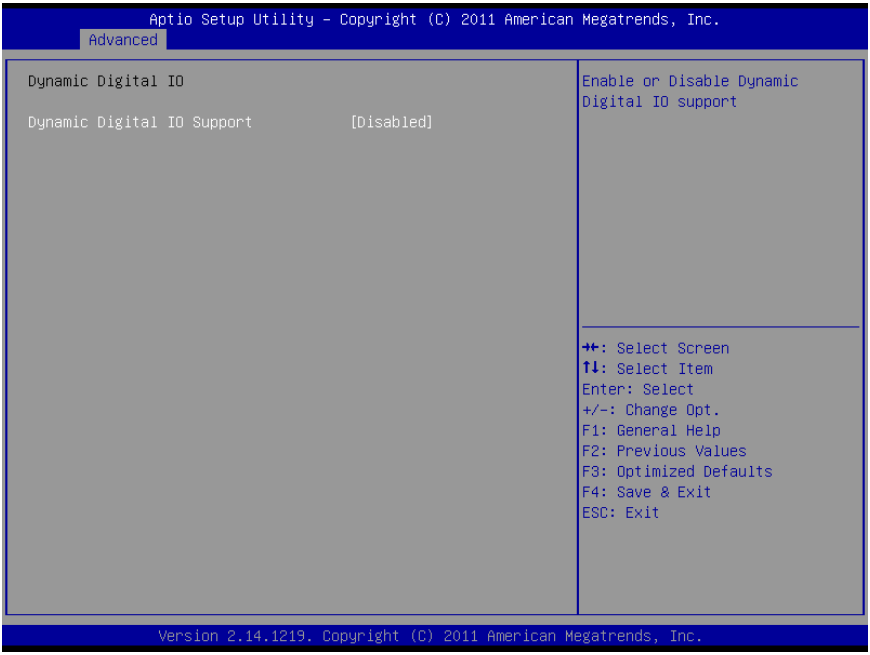




Option summary:

Serial Port	Disabled	
	Enabled	Default
Allows BIOS to En/Disable correspond serial port.		
Change Settings (Serial Port 1)	Auto	Default
	IO=3F8h; IRQ=3;	
	IO=3F8h; IRQ= 3,4,5,6,7,10,11;	
	IO=2F8h; IRQ= 3,4,5,6,7,10,11;	
	IO=3E8h; IRQ= 3,4,5,6,7,10,11;	
	IO=2E8h; IRQ= 3,4,5,6,7,10,11;	
Allows BIOS to Select Serial Port resource.		
Change Settings (Serial Port 2)	Auto	Default
	IO=3F8h; IRQ=4;	
	IO=3F8h; IRQ= 3,4,5,6,7,10,11;	
	IO=2F8h; IRQ= 3,4,5,6,7,10,11;	
	IO=3E8h; IRQ= 3,4,5,6,7,10,11;	
	IO=2E8h; IRQ= 3,4,5,6,7,10,11;	

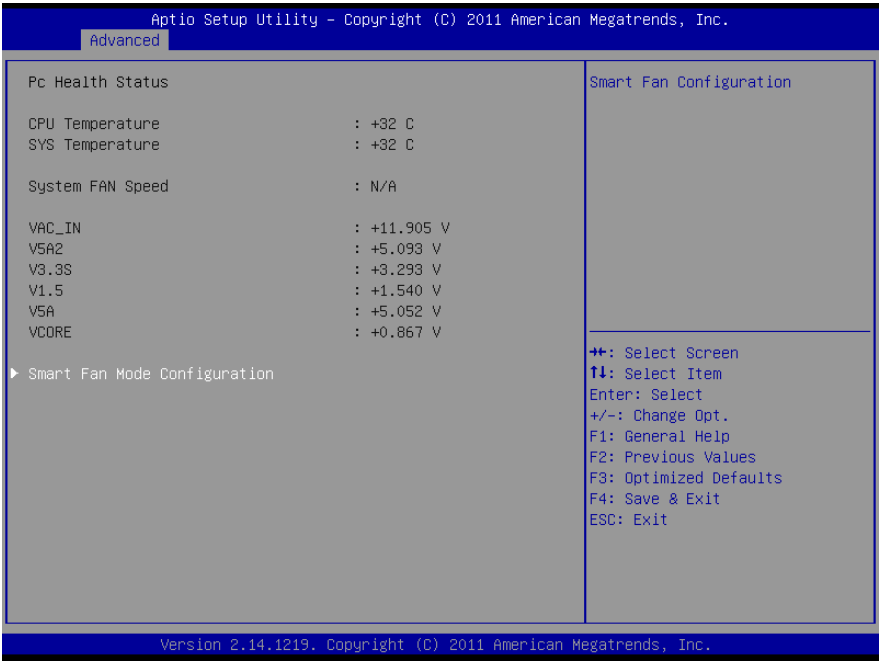
3.4.11 Advanced: Dynamic Digital IO



Option summary:

Dynamic Digital IO Support	Disabled	Default
	Enabled	
Enable or Disable Dynamic Digital IO Support		

3.4.12 Advanced: On-Module H/W Monitor

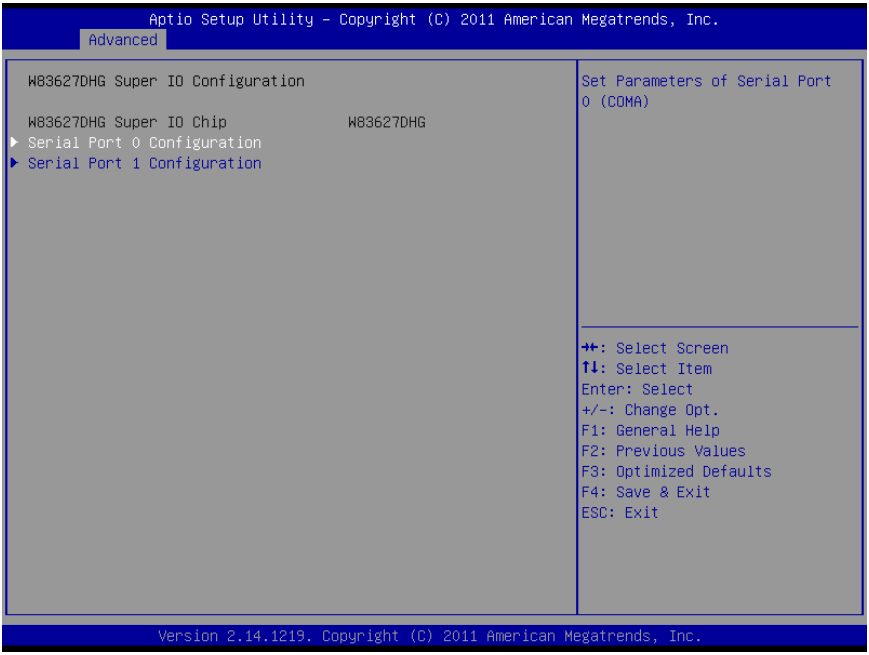


3.4.12.1 On-Module H/W Monitor: Smart Fan Mode Configuration

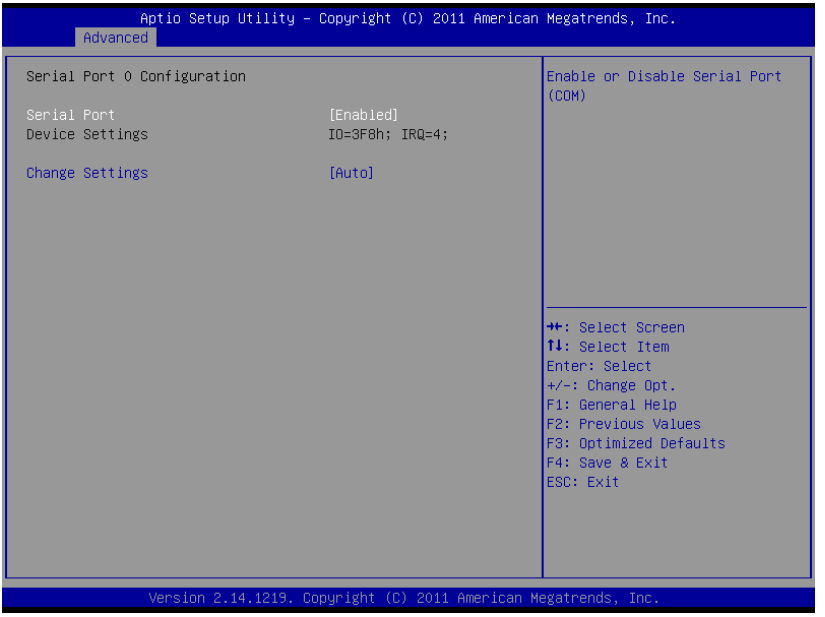
Option summary:

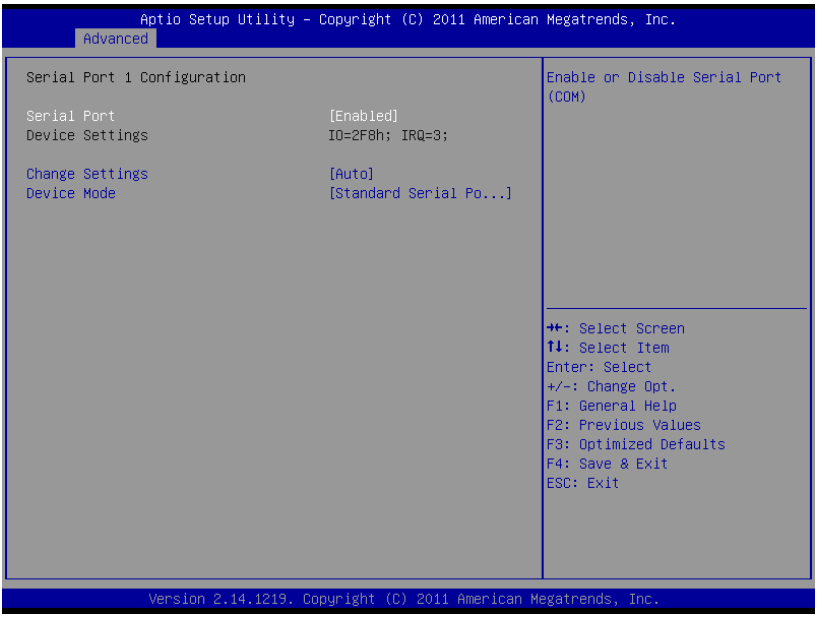
CPU Smart Fan Control	Full Mode	
	Manual Mode by PWM	Default
	Auto Mode by PWM	
Select CPU Fan control mode		
Manual Setting	70 (0 - 100)	Default
Set Fan at fixed Duty-Cycle Min=0 Max=100 Please input Dec number		

3.4.13 Advanced: W83627DHG Super IO Configuration



3.4.13.1 W83627DHG Super IO Configuration: Serial Port Configuration



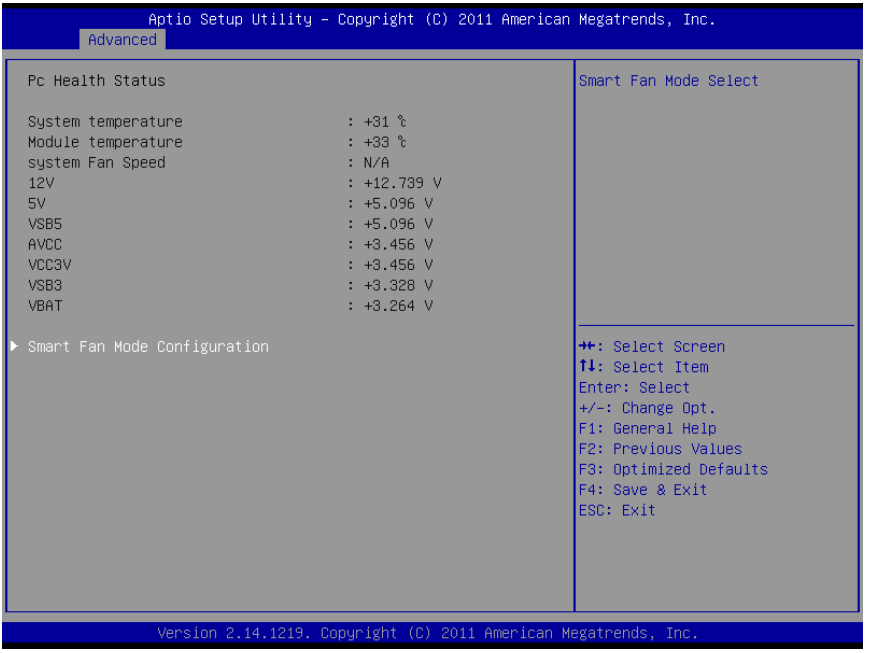


Option summary:

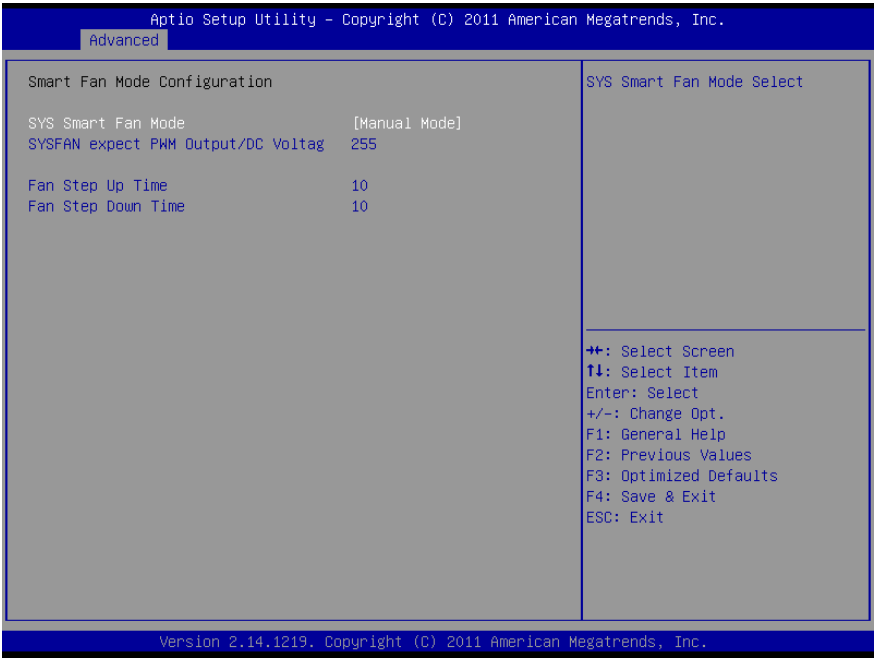
Serial Port	Disabled	
	Enabled	Default
Allows BIOS to En/Disable corresponding serial port.		
Change Settings (Serial Port 0)	Auto	Default
	IO=3F8h; IRQ=4;	
	IO=3F8h; IRQ= 3,4,5,6,7,10,11,12;	
	IO=2F8h; IRQ= 3,4,5,6,7,10,11,12;	
	IO=3E8h; IRQ= 3,4,5,6,7,10,11,12;	
	IO=2E8h; IRQ= 3,4,5,6,7,10,11,12;	
Allows BIOS to Select Serial Port resource.		
Change Settings (Serial Port 1)	Auto	Default
	IO=2F8h; IRQ=3;	
	IO=3F8h; IRQ= 3,4,5,6,7,10,11,12;	
	IO=2F8h; IRQ= 3,4,5,6,7,10,11,12;	
	IO=3E8h; IRQ= 3,4,5,6,7,10,11,12;	
	IO=2E8h; IRQ= 3,4,5,6,7,10,11,12;	
Select an optimal setting for Super IO device.		
Device Mode (Serial Port 1)	Standard Serial Port Mode	Default
	IrDA Active pulse 1.6 uS	
	IrDA Active pulse 3/16 bit time	
	ASK-IR Inverting IRTX, Routed to IRRX	
	ASK-IR Inverting IRTX, &500KHz, Routed to IRRX	
	ASK-IR Inverting IRTX, Demodulation to IRRX	
	ASK-IR Inverting IRTX, &500KHz, Demodulation to IRRX	

Select an optimal setting for Super IO device.

3.4.14 Advanced: W83627DHG HW Monitor



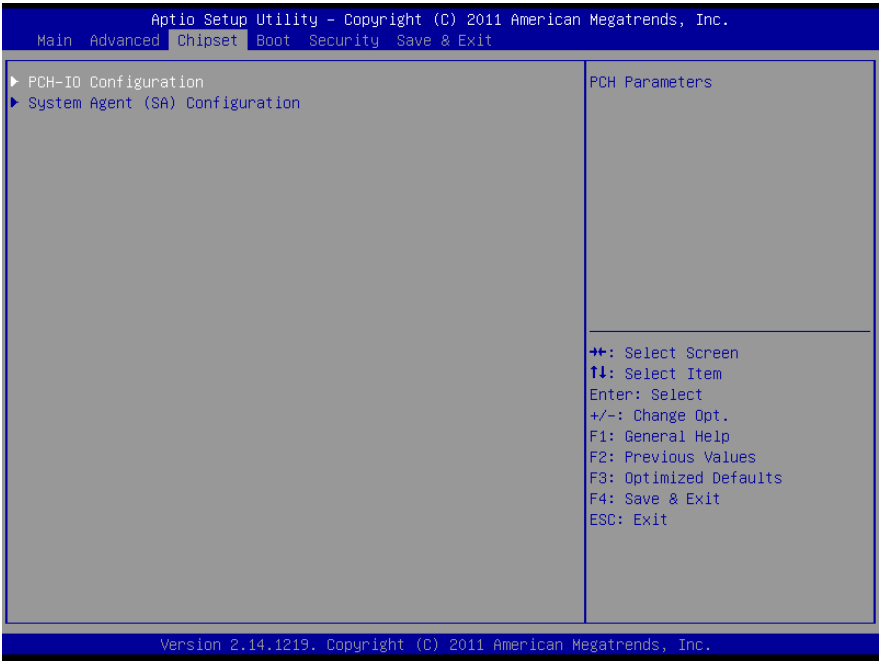
3.4.14.1 W83627DHG HW Monitor: Smart Fan Mode Configuration



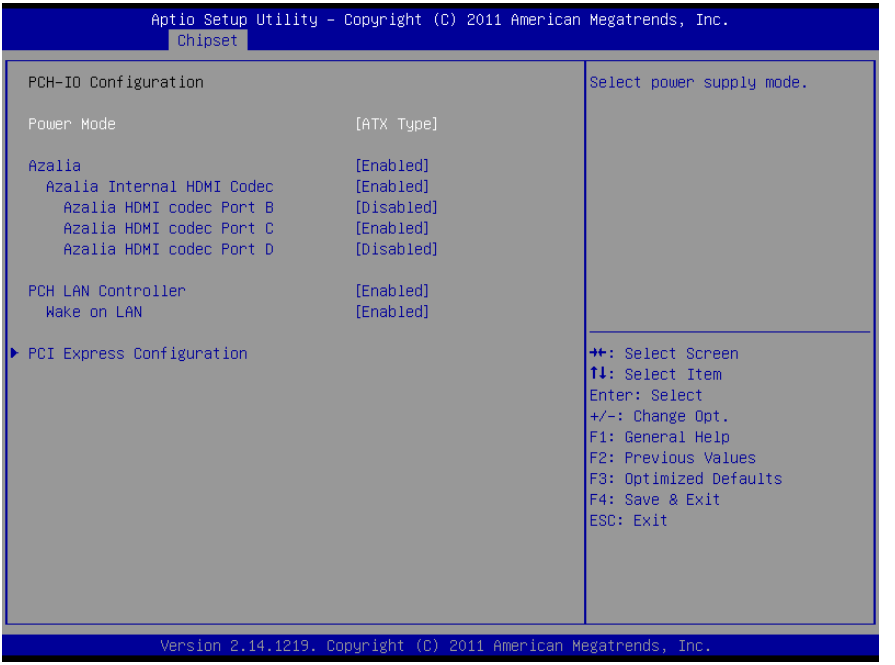
Option summary:

SYS Smart Fan Mode	Manual Mode	Default
	Thermal Cruise Mode	
	Fan Speed Cruise Mode	
SYS Smart Fan Mode Select		
SYSFAN expect PWM Output/DC Voltage	255 (0 - 255)	Default
Input expect PWM Output Value (Range: 0 - 255)		
Fan step Up Time	10 (0 - 255)	Default
Input Fan step–up time interval in 0.1s (Range: 0 - 255)		
Fan Step Down Time	10 (0 - 255)	Default
Input Fan step–down time interval in 0.1s (Range: 0 - 255)		

3.5 Setup submenu: Chipset



3.5.1 Chipset: PCH-IO Configuration

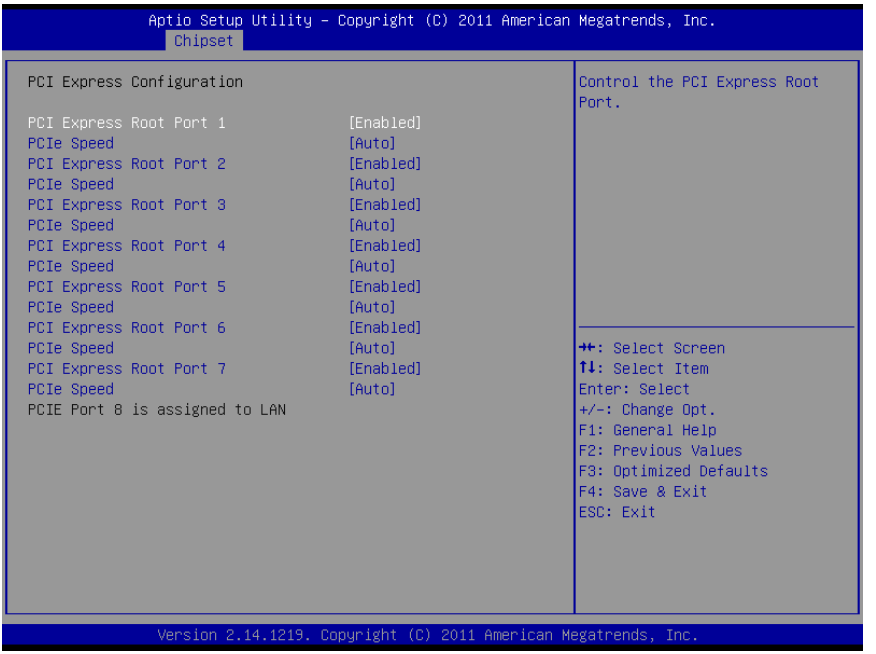


Option summary:

Power Mode	ATX Type	Default
	AT Type	
Select power supply mode		
Azalia	Disabled	
	Enabled	Default
Control Detection of the Azalia device. Disabled = Azalia will be unconditionally disabled. Enabled = Azalia will be unconditionally Enabled. Auto = Azalia will be enabled if present, disabled other wise.		
Azalia Internal HDMI Codec	Disabled	
	Enabled	Default
Enable or disable internal HDMI codec for Azalia.		
Azalia HDMI codec Port B	Disabled	Default
	Enabled	
Enable or disable internal HDMI codec Port for Azalia.		
Azalia HDMI codec Port C	Disabled	

	Enabled	Default
Enable or disable internal HDMI codec Port for Azalia.		
Azalia HDMI codec Port D	Disabled	Default
	Enabled	
Enable or disable internal HDMI codec Port for Azalia.		
PCH LAN Controller	Disabled	
	Enabled	Default
Enable or disable onboard NIC.		
Wake on LAN	Disabled	
	Enabled	Default
Enable or disable integrated LAN to wake the system. (The Wake On LAN cannot be disabled if ME is on at Sx state)		

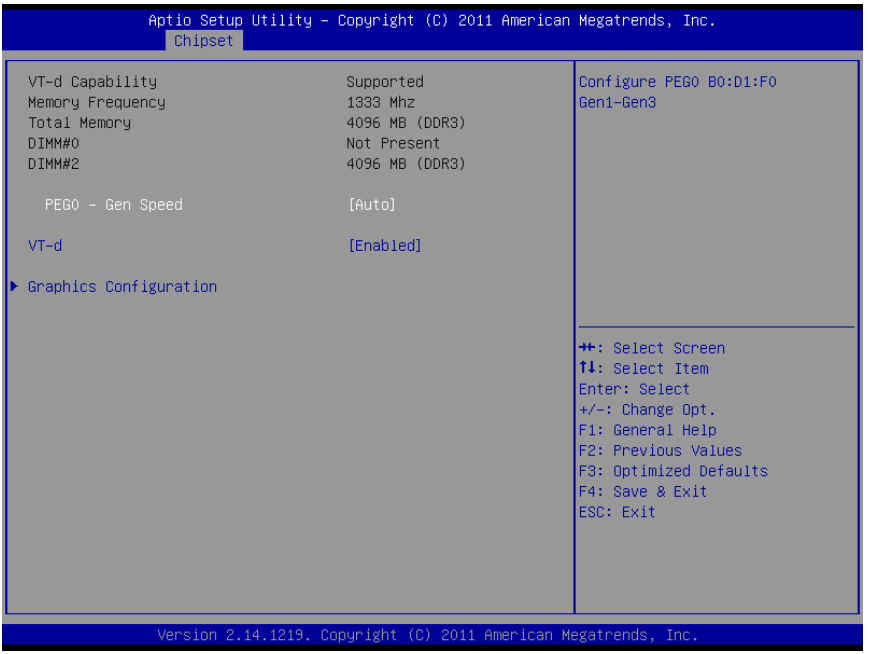
3.5.1.1 PCH-IO Configuration: PCI Express Configuration



Option summary:

PCI Express Root Port (1 - 7)	Enabled	Default
	Disabled	
Control the PCI Express Root Port.		
PCI Speed	Auto	Default
	Gen1	
	Gen2	
Select PCI Express port speed.		

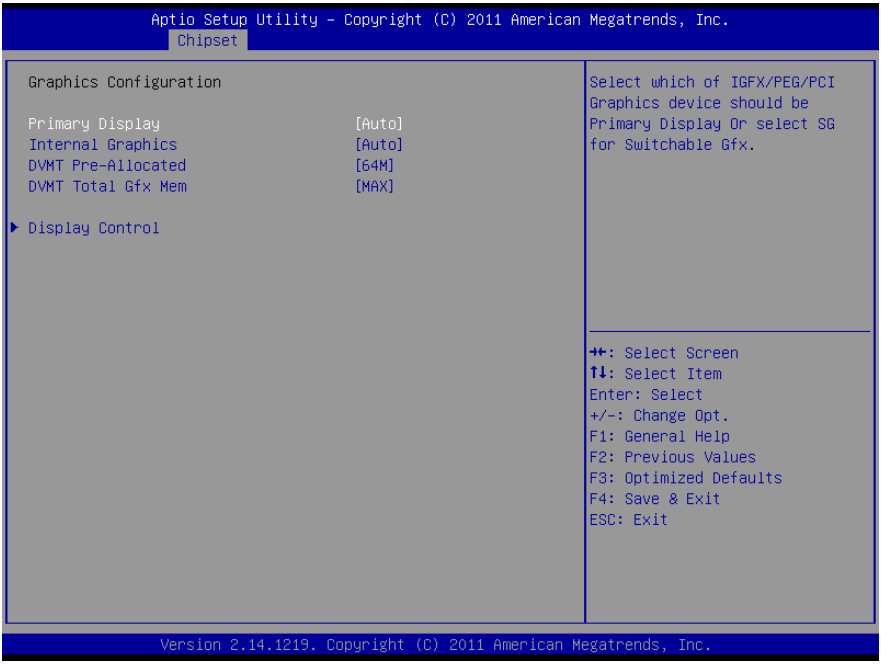
3.5.2 Chipset: System Agent (SA) Configuration



Option summary:

PEG0 – Gen Speed	Auto	Default
	Gen1	
	Gen2	
	Gen3	
Configure PEG0 B0:D1:F0 Gen1-Gen3		
VT-d	Enabled	Default
	Disabled	
Check to enable VT-D function on MCH		

3.5.2.1 System Agent (SA) Configuration: Graphics Configuration

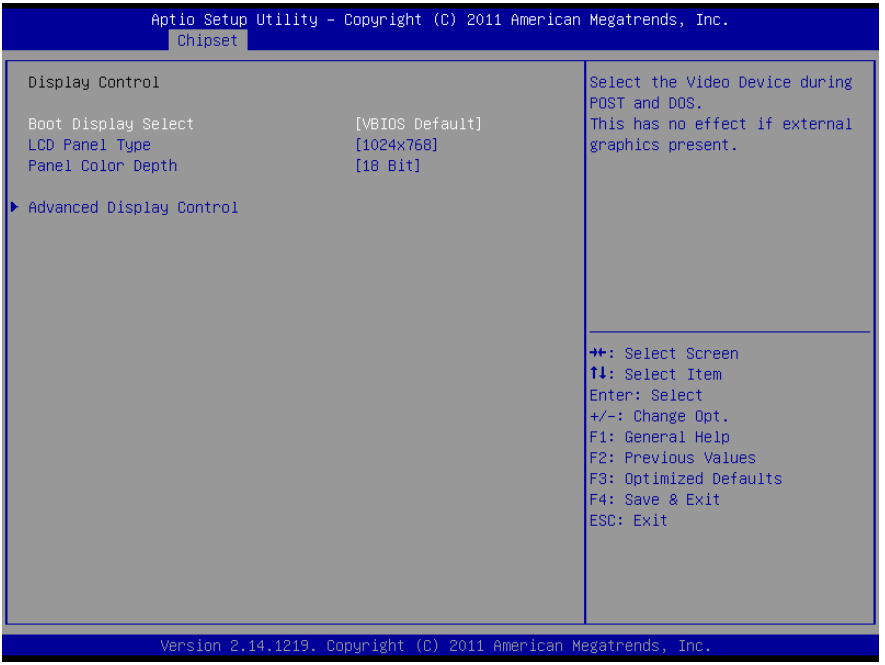


Option summary:

Primary Display	Auto	Default
	IGFX	
	PEG	
	PCI	
Select which of IGFX/PEG/PCI Graphics device should be Primary Display Or select SG for Switchable Gfx.		
Internal Graphics	Auto	Default
	Disabled	
	Enabled	
Keep IGD enabled based on the setup Option.		
DVMT Pre-Allocated	32M	
	64M	Default
	96M	
	128M	
	160M	
	192M	

	224M	
	256M	
	288M	
	320M	
	352M	
	284M	
	416M	
	448M	
	480M	
	512M	
	1024M	
Select DVMT 5.0 Pre-Allocated (Fixed) Graphics Memory size used by the Internal Graphics Device.		
DVMT Total Gfx Mem	128M	
	256M	
	MAX	Default
Select DVMT5.0 Total Graphic Memory size used by the Internal Graphics Device.		

3.5.2.2 Graphics Configuration: Display Control

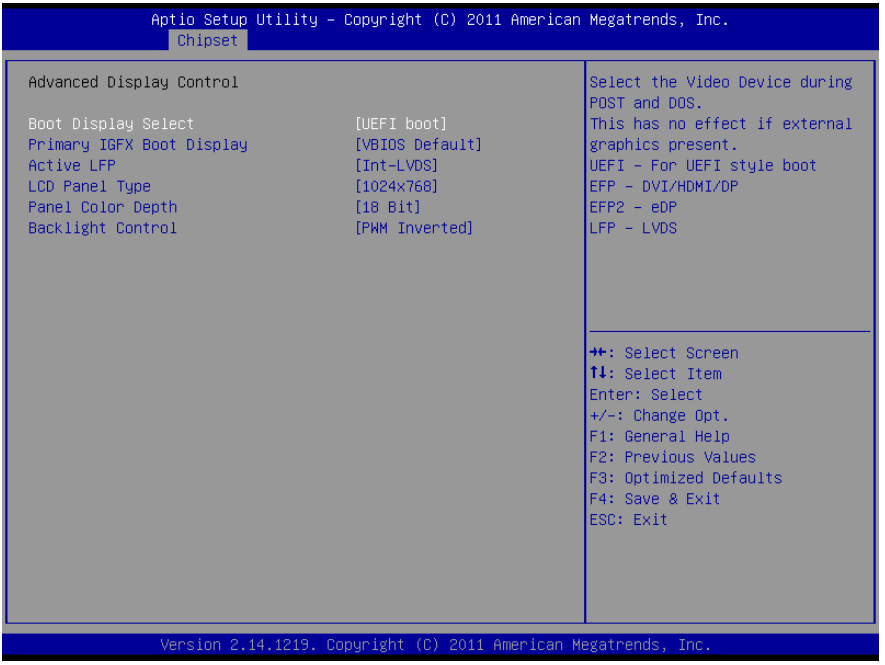


Option summary:

Boot Display Select	VBIOS Default	Default
	CRT	
	HDMI	
	DVI	
	LVDS	
	CRT + LVDS	
Select the Video Device which will be activated during POST and DOS. This has no effect if external graphics present.		
LCD Panel Type	640x480	
	8000x480	
	800x600	
	1024x768	Default
	1280x1024	
	1600x1200	
	1366x768	
	1680x1050	

	1920x1200	
	1440x900	
	1600x900	
	1280x800	
	1920x1080	
Select LCD panel used by internal Graphics Device by selecting the appropriate setup item.		
Panel Color Depth	18 Bit	Default
	24Bit	
Select the LFP Panel Color depth		

3.5.2.3 Display Control: Advanced Display Control

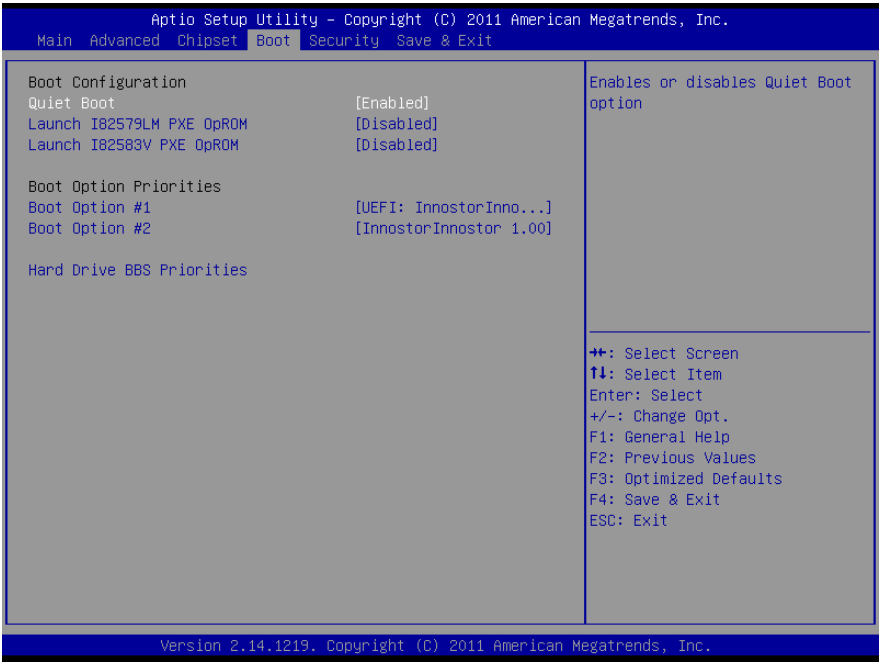


Option summary:

Boot Display Select	UEFI boot	Default
	CRT	
	EFP	
	LFP	
	CRT2	
	EFP3	
	EFP2	
	CRT + LFP	
Select the Video Device which will be activated during POST and DOS. This has no effect if external graphics present. UEFI – For UEFI style boot EFP – DVI/HDMI/DP EFP2 – eDP LFP - LVDS		
Primary IGFX Boot Display	VBIOS Default	Default
	CRT	

	EFP	
	LFP	
	CRT2	
	EFP3	
	EFP2	
	LFP2	
Select the Video Device which will be activated during POST and DOS. This has no effect if external graphics present. Secondary boot disaply selection will appear based on your selection, VGA modes will be supported only on primary disaply.		
Active LFP	No LVDS	
	Int-LVDS	Default
	SDVO LVDS	
	eDP Port-D	
Select the Active LFP Configuration. No LVDS: VBIOS does not enable LVDS. Int-LVDS: VBIOS enables LVDS driver by Integrated encoder. SDVO LVDS: VBIOS		
LCD Panel Type	640x480	
	8000x480	
	800x600	
	1024x768	Default
	1280x1024	
	1600x1200	
	1366x768	
	1680x1050	
	1920x1200	
	1440x900	
	1600x900	
	1280x800	
	1920x1080	
Select LCD panel used by internal Graphics Device by selecting the appropriate setup item.		
Panel Color Depth	18 Bit	Default
	24Bit	
Select the LFP Panel Color depth		
Backlight Control	PWM Inverted	Default
	PWM Normal	
Back Light Control Setting		

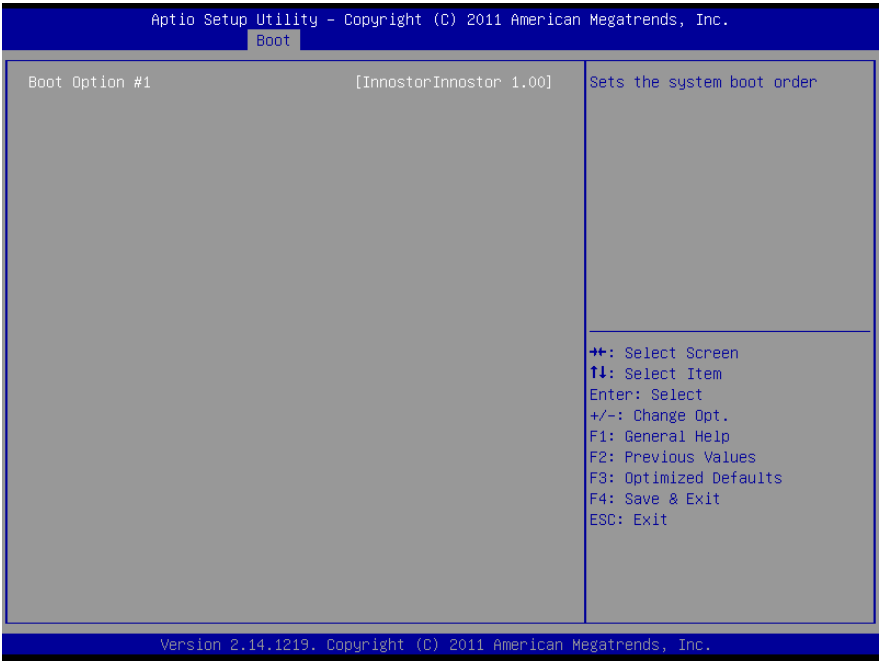
3.6 Setup submenu: Boot



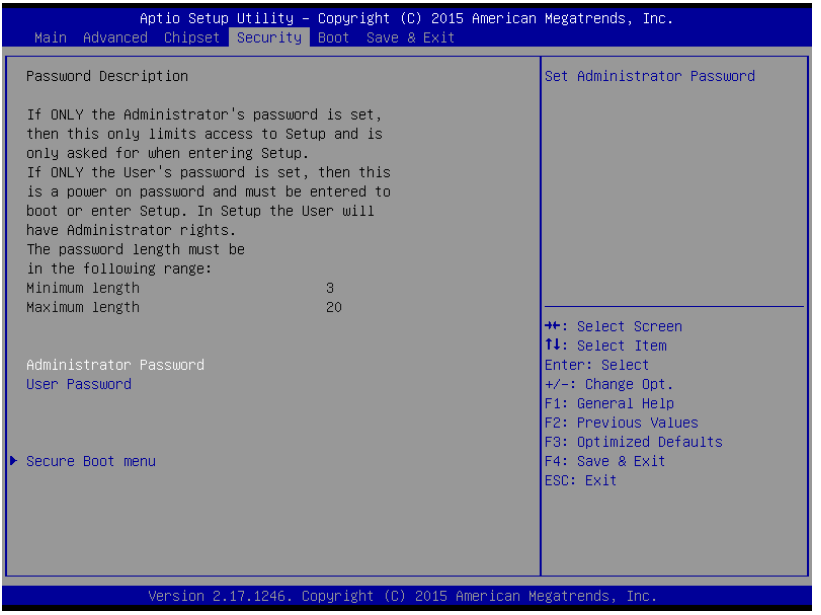
Option summary:

Quiet Boot	Disabled	
	Enabled	Default
Enables or Disables showing boot logo.		
Launch I82579LM PXE OpROM	Disabled	Default
	Enabled	
En/Disable Legacy boot Option for I82579LM.		
Launch I82583V PXE OpROM	Disabled	Default
	Enabled	
En/Disable Legacy boot Option for I82583V.		

3.7.1 Boot: BBS Priorities



3.6 Setup submenu: Security



Change User/Administrator Password

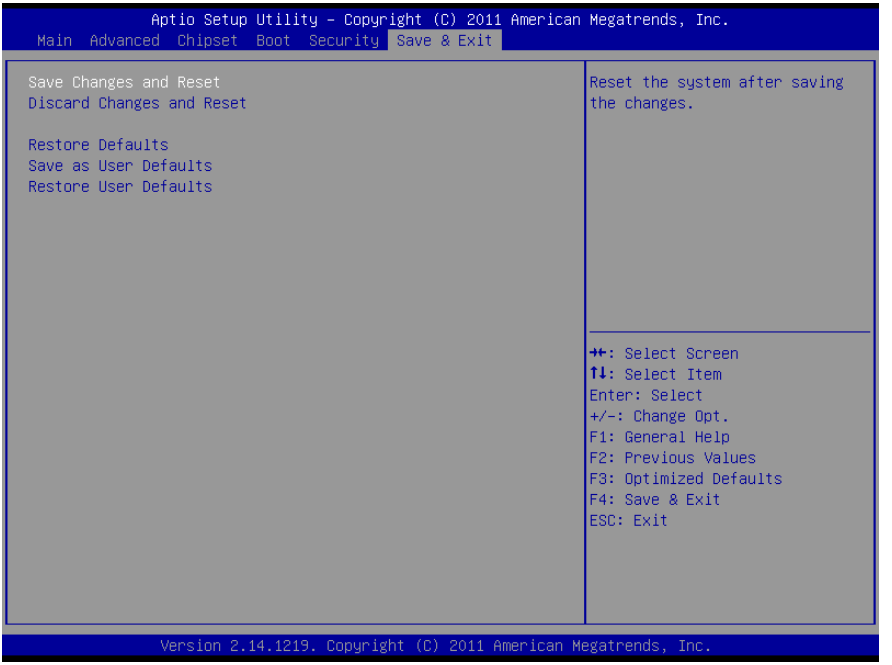
You can set a User Password once an Administrator Password is set. The password will be required during boot up, or when the user enters the Setup utility. Please Note that a User Password does not provide access to many of the features in the Setup utility.

Select the password you wish to set, press Enter to open a dialog box to enter your password (you can enter no more than six letters or numbers). Press Enter to confirm your entry, after which you will be prompted to retype your password for a final confirmation. Press Enter again after you have retyped it correctly.

Removing the Password

Highlight this item and type in the current password. At the next dialog box press Enter to disable password protection.

3.8 Setup submenu: Save & Exit



Chapter 4

Drivers Installation

4.1 Product CD/DVD

The COM-QM77 Rev. B comes with a product DVD that contains all the drivers and utilities you need to setup your product. Insert the DVD and follow the steps in the autorun program to install the drivers.

In case the program does not start, follow the sequence below to install the drivers.

Step 1 – Install Chipset Drivers

1. Open the **Step1 – Chipset** followed by **infinst_autol.exe**
2. Follow the instructions
3. Drivers will be installed automatically

Step 2 – Install Graphics Driver

1. Open the **Step2 - Graphic** folder and select your OS
2. Open the **Setup.exe** file in the folder
3. Follow the instructions
4. Drivers will be installed automatically

Step 3 – Install Network Driver

1. Click on the **Step3 – LAN** folder and select your OS
2. Open the **.exe** file in the folder
3. Follow the instructions
4. Drivers will be installed automatically

Step 4 – Install Audio Drivers

1. Open the **Step4 - Audio** folder and select your OS
2. Open the.**exe** file in the folder

3. Follow the instructions
4. Drivers will be installed automatically

Step 5 – Install USB 3.0 Driver

1. Open the **Step5 - USB3.0** folder followed by **Setup.exe**
2. Follow the instructions
3. Drivers will be installed automatically

Step 6 – Install RAID & AHCI Driver

Please refer to the **Appendix C RAID & AHCI Settings**

Step 7 – Install ME Driver

1. Open the **Step7 - ME** folder followed by **Setup.exe**
2. Follow the instructions
3. Drivers will be installed automatically

Step 8 – Install TPM Driver

1. Open the **Step8 – TPM** folder followed by **Setup.exe**
2. Follow the instructions
3. Drivers will be installed automatically

Appendix A

Watchdog Timer SDK

A.1 SDK

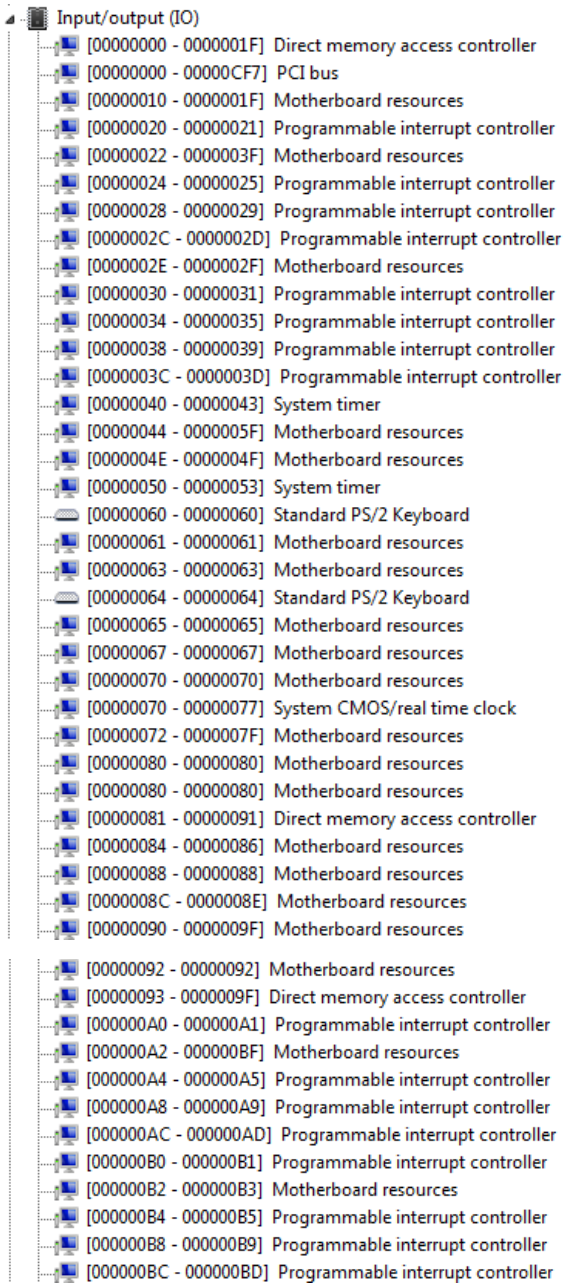
COM-QM77 Rev.B utilizes AAEON EC chipset as its watchdog timer controller. Watchdog Timer SDK is an API for customer to use the Watchdog feature on AAEON products. This Watchdog SDK is used to restart the system when system crashes or hangs up.

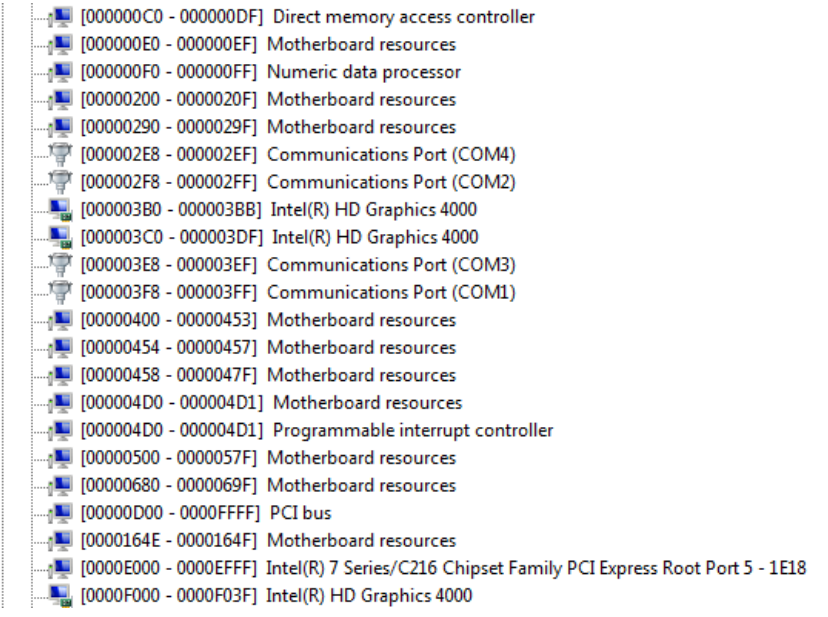
If you need more information, please contact with AAEON Customer Service Department for further support.

Appendix B

I/O Information

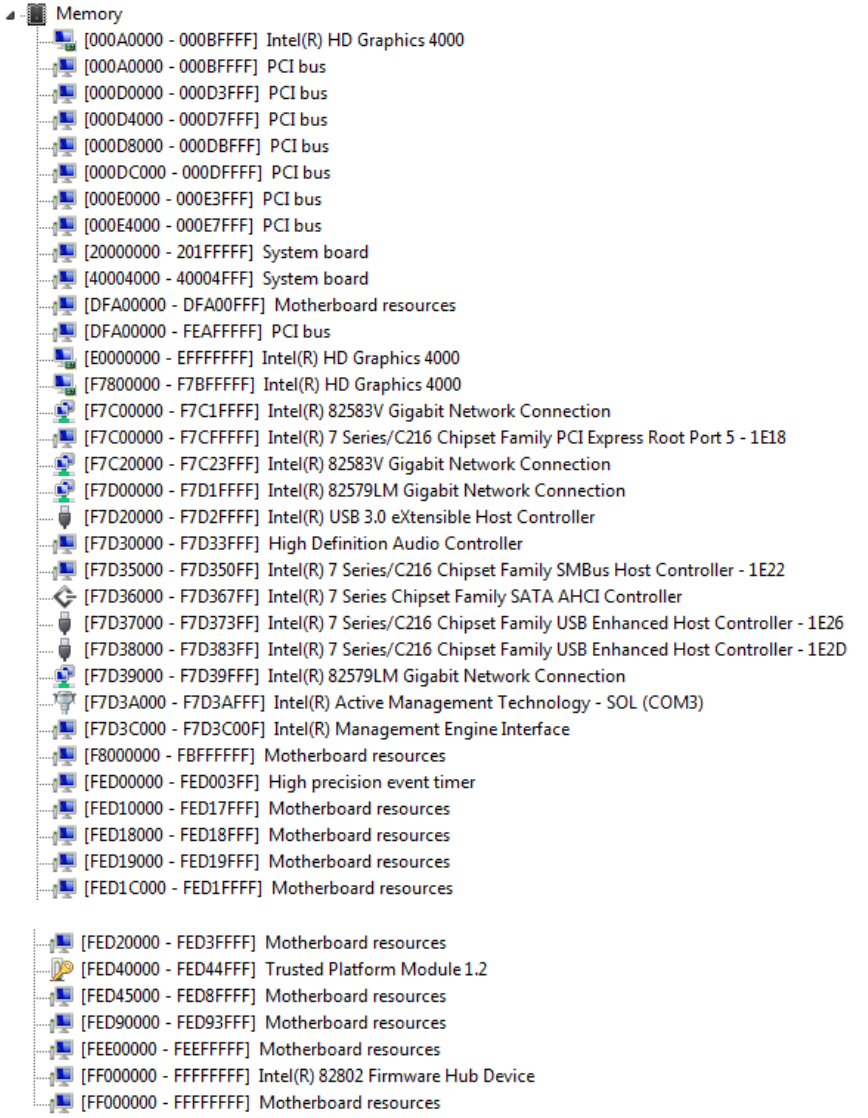
B.1 I/O Address Map



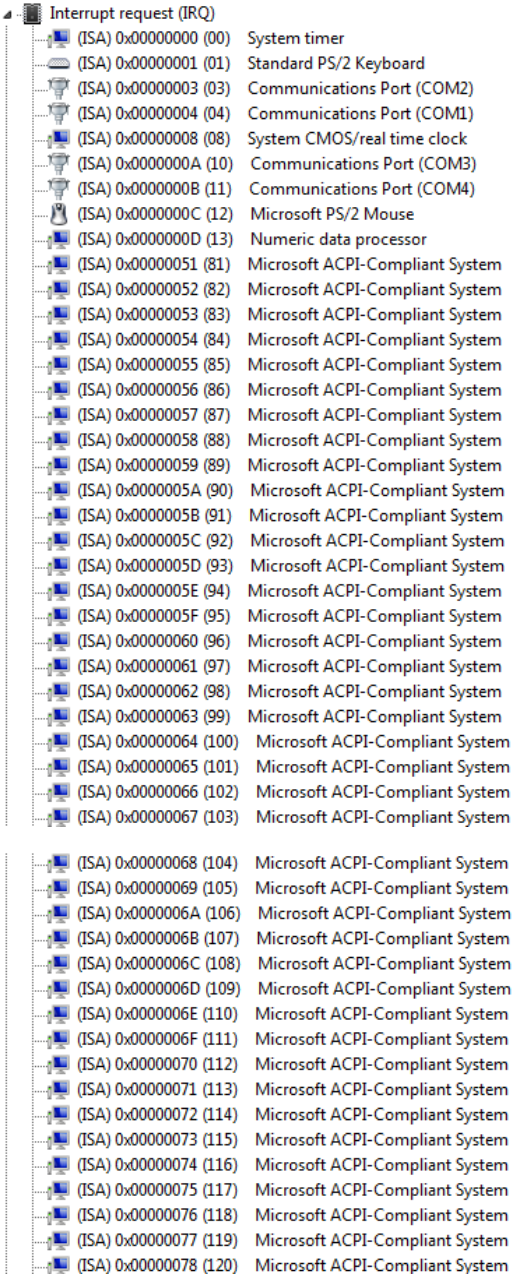

[000000C0 - 000000DF] Direct memory access controller
[000000E0 - 000000EF] Motherboard resources
[000000F0 - 000000FF] Numeric data processor
[00000200 - 0000020F] Motherboard resources
[00000290 - 0000029F] Motherboard resources
[000002E8 - 000002EF] Communications Port (COM4)
[000002F8 - 000002FF] Communications Port (COM2)
[000003B0 - 000003BB] Intel(R) HD Graphics 4000
[000003C0 - 000003DF] Intel(R) HD Graphics 4000
[000003E8 - 000003EF] Communications Port (COM3)
[000003F8 - 000003FF] Communications Port (COM1)
[00000400 - 00000453] Motherboard resources
[00000454 - 00000457] Motherboard resources
[00000458 - 0000047F] Motherboard resources
[000004D0 - 000004D1] Motherboard resources
[000004D0 - 000004D1] Programmable interrupt controller
[00000500 - 0000057F] Motherboard resources
[00000680 - 0000069F] Motherboard resources
[00000D00 - 0000FFFF] PCI bus
[0000164E - 0000164F] Motherboard resources
[0000E000 - 0000EFFF] Intel(R) 7 Series/C216 Chipset Family PCI Express Root Port 5 - 1E18
[0000F000 - 0000F03F] Intel(R) HD Graphics 4000

[0000F040 - 0000F05F] Intel(R) 7 Series/C216 Chipset Family SMBus Host Controller - 1E22
[0000F060 - 0000F07F] Intel(R) 7 Series Chipset Family SATA AHCI Controller
[0000F0A0 - 0000F0A3] Intel(R) 7 Series Chipset Family SATA AHCI Controller
[0000F0B0 - 0000F0B7] Intel(R) 7 Series Chipset Family SATA AHCI Controller
[0000F0C0 - 0000F0C3] Intel(R) 7 Series Chipset Family SATA AHCI Controller
[0000F0D0 - 0000F0D7] Intel(R) 7 Series Chipset Family SATA AHCI Controller
[0000F0E0 - 0000F0E7] Intel(R) Active Management Technology - SOL (COM3)
[0000FFFF - 0000FFFF] Motherboard resources
[0000FFFF - 0000FFFF] Motherboard resources

B.2 Memory Address Map



B.3 IRQ Mapping Chart

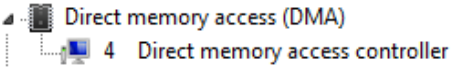


(ISA) 0x00000079 (121) Microsoft ACPI-Compliant System
(ISA) 0x0000007A (122) Microsoft ACPI-Compliant System
(ISA) 0x0000007B (123) Microsoft ACPI-Compliant System
(ISA) 0x0000007C (124) Microsoft ACPI-Compliant System
(ISA) 0x0000007D (125) Microsoft ACPI-Compliant System
(ISA) 0x0000007E (126) Microsoft ACPI-Compliant System
(ISA) 0x0000007F (127) Microsoft ACPI-Compliant System
(ISA) 0x00000080 (128) Microsoft ACPI-Compliant System
(ISA) 0x00000081 (129) Microsoft ACPI-Compliant System
(ISA) 0x00000082 (130) Microsoft ACPI-Compliant System
(ISA) 0x00000083 (131) Microsoft ACPI-Compliant System
(ISA) 0x00000084 (132) Microsoft ACPI-Compliant System
(ISA) 0x00000085 (133) Microsoft ACPI-Compliant System
(ISA) 0x00000086 (134) Microsoft ACPI-Compliant System
(ISA) 0x00000087 (135) Microsoft ACPI-Compliant System
(ISA) 0x00000088 (136) Microsoft ACPI-Compliant System

(ISA) 0x00000089 (137) Microsoft ACPI-Compliant System
(ISA) 0x0000008A (138) Microsoft ACPI-Compliant System
(ISA) 0x0000008B (139) Microsoft ACPI-Compliant System
(ISA) 0x0000008C (140) Microsoft ACPI-Compliant System
(ISA) 0x0000008D (141) Microsoft ACPI-Compliant System
(ISA) 0x0000008E (142) Microsoft ACPI-Compliant System
(ISA) 0x0000008F (143) Microsoft ACPI-Compliant System
(ISA) 0x00000090 (144) Microsoft ACPI-Compliant System
(ISA) 0x00000091 (145) Microsoft ACPI-Compliant System
(ISA) 0x00000092 (146) Microsoft ACPI-Compliant System
(ISA) 0x00000093 (147) Microsoft ACPI-Compliant System
(ISA) 0x00000094 (148) Microsoft ACPI-Compliant System
(ISA) 0x00000095 (149) Microsoft ACPI-Compliant System
(ISA) 0x00000096 (150) Microsoft ACPI-Compliant System
(ISA) 0x00000097 (151) Microsoft ACPI-Compliant System
(ISA) 0x00000098 (152) Microsoft ACPI-Compliant System
(ISA) 0x00000099 (153) Microsoft ACPI-Compliant System
(ISA) 0x0000009A (154) Microsoft ACPI-Compliant System
(ISA) 0x0000009B (155) Microsoft ACPI-Compliant System
(ISA) 0x0000009C (156) Microsoft ACPI-Compliant System
(ISA) 0x0000009D (157) Microsoft ACPI-Compliant System
(ISA) 0x0000009E (158) Microsoft ACPI-Compliant System
(ISA) 0x0000009F (159) Microsoft ACPI-Compliant System
(ISA) 0x000000A0 (160) Microsoft ACPI-Compliant System
(ISA) 0x000000A1 (161) Microsoft ACPI-Compliant System
(ISA) 0x000000A2 (162) Microsoft ACPI-Compliant System
(ISA) 0x000000A3 (163) Microsoft ACPI-Compliant System
(ISA) 0x000000A4 (164) Microsoft ACPI-Compliant System
(ISA) 0x000000A5 (165) Microsoft ACPI-Compliant System
(ISA) 0x000000A6 (166) Microsoft ACPI-Compliant System
(ISA) 0x000000A7 (167) Microsoft ACPI-Compliant System
(ISA) 0x000000A8 (168) Microsoft ACPI-Compliant System
(ISA) 0x000000A9 (169) Microsoft ACPI-Compliant System
(ISA) 0x000000AA (170) Microsoft ACPI-Compliant System

- (ISA) 0x000000AB (171) Microsoft ACPI-Compliant System
- (ISA) 0x000000AC (172) Microsoft ACPI-Compliant System
- (ISA) 0x000000AD (173) Microsoft ACPI-Compliant System
- (ISA) 0x000000AE (174) Microsoft ACPI-Compliant System
- (ISA) 0x000000AF (175) Microsoft ACPI-Compliant System
- (ISA) 0x000000B0 (176) Microsoft ACPI-Compliant System
- (ISA) 0x000000B1 (177) Microsoft ACPI-Compliant System
- (ISA) 0x000000B2 (178) Microsoft ACPI-Compliant System
- (ISA) 0x000000B3 (179) Microsoft ACPI-Compliant System
- (ISA) 0x000000B4 (180) Microsoft ACPI-Compliant System
- (ISA) 0x000000B5 (181) Microsoft ACPI-Compliant System
- (ISA) 0x000000B6 (182) Microsoft ACPI-Compliant System
- (ISA) 0x000000B7 (183) Microsoft ACPI-Compliant System
- (ISA) 0x000000B8 (184) Microsoft ACPI-Compliant System
- (ISA) 0x000000B9 (185) Microsoft ACPI-Compliant System
- (ISA) 0x000000BA (186) Microsoft ACPI-Compliant System
- (ISA) 0x000000BB (187) Microsoft ACPI-Compliant System
- (ISA) 0x000000BC (188) Microsoft ACPI-Compliant System
- (ISA) 0x000000BD (189) Microsoft ACPI-Compliant System
- (ISA) 0x000000BE (190) Microsoft ACPI-Compliant System
- (PCI) 0x00000005 (05) Intel(R) 7 Series/C216 Chipset Family SMBus Host Controller - 1E22
- (PCI) 0x00000010 (16) Intel(R) 7 Series/C216 Chipset Family USB Enhanced Host Controller - 1E2D
- (PCI) 0x00000010 (16) Intel(R) 7 Series/C216 Chipset Family PCI Express Root Port 1 - 1E10
- (PCI) 0x00000010 (16) Intel(R) 7 Series/C216 Chipset Family PCI Express Root Port 5 - 1E18
- (PCI) 0x00000010 (16) Intel(R) Management Engine Interface
- (PCI) 0x00000010 (16) Xeon(R) processor E3-1200 v2/3rd Gen Core processor PCI Express Root Port - 0151
- (PCI) 0x00000013 (19) Intel(R) Active Management Technology - SOL (COM3)
- (PCI) 0x00000016 (22) High Definition Audio Controller
- (PCI) 0x00000017 (23) Intel(R) 7 Series/C216 Chipset Family USB Enhanced Host Controller - 1E26
- (PCI) 0xFFFFFFFA (-6) Intel(R) 82583V Gigabit Network Connection
- (PCI) 0xFFFFFFFB (-5) Intel(R) 82579LM Gigabit Network Connection
- (PCI) 0xFFFFFFFC (-4) Intel(R) USB 3.0 eXtensible Host Controller
- (PCI) 0xFFFFFFFD (-3) Intel(R) HD Graphics 4000
- (PCI) 0xFFFFFFFE (-2) Intel(R) 7 Series Chipset Family SATA AHCI Controller

B.4 DMA Channel Assignments



Appendix C

RAID & AHCI Settings

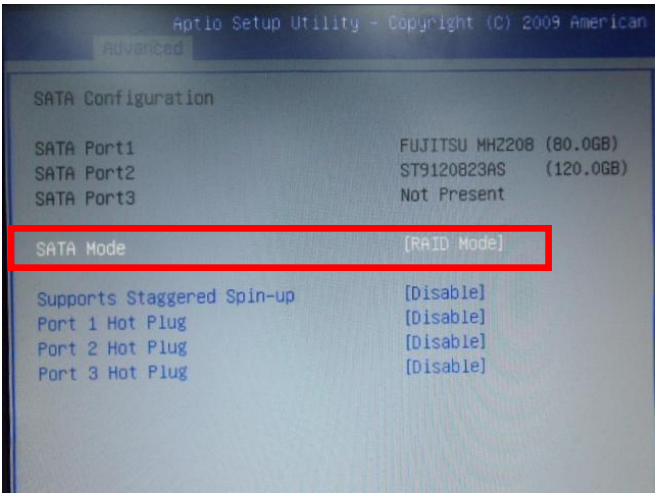
C.1 Setting RAID

OS installation to setup RAID Mode

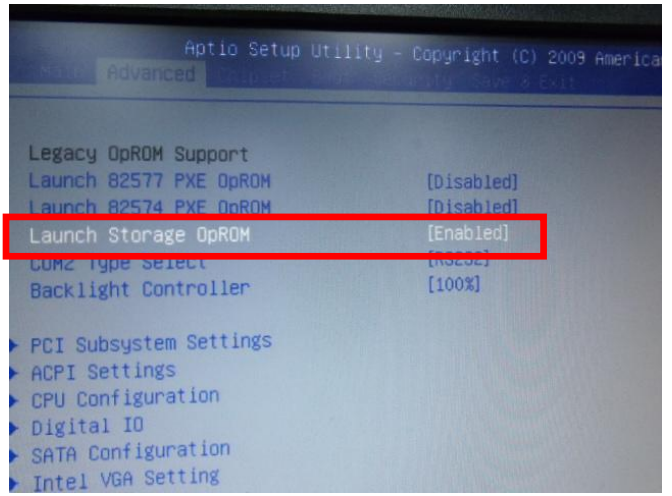
Step 1: Copy the files below from "Driver CD ->Step7- RAID & AHCI" to Disk

Step 2: Connect the USB Floppy (disk with RAID files) to the board

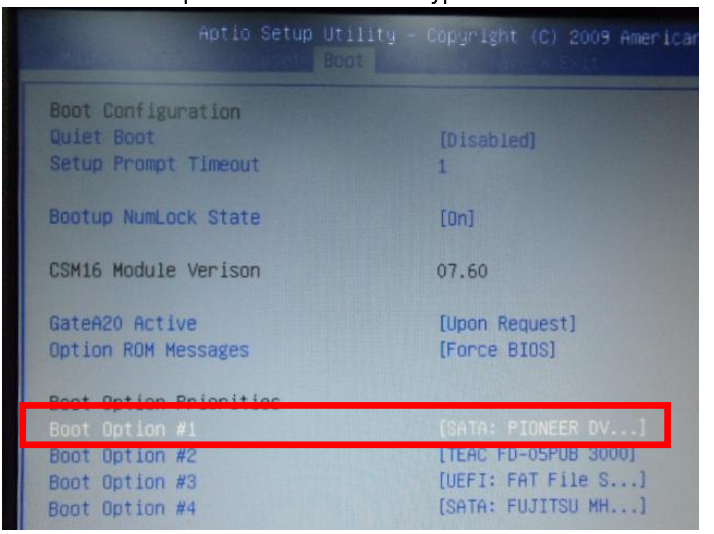
Step 3: The setting procedures " In BIOS Setup Menu"
A: Advanced -> SATA Configuration -> SATA Mode -> RAID Mode



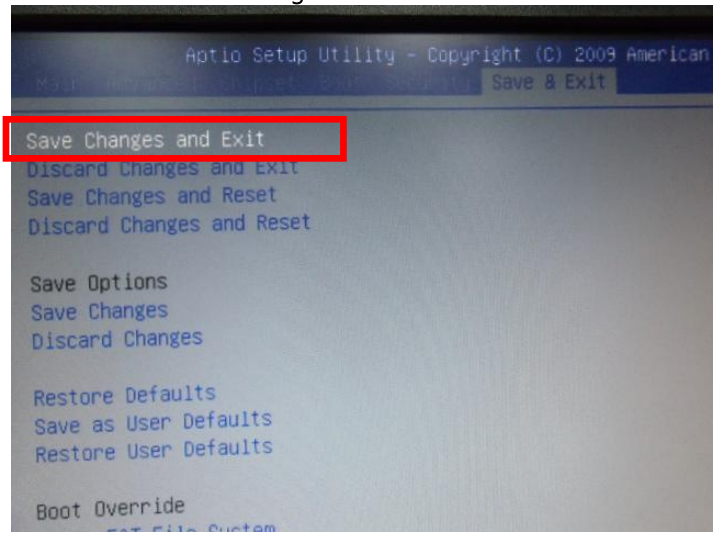
Step 4: The setting procedures "In BIOS Setup Menu"
B: Advanced -> Launch Storage OpROM -> Enabled



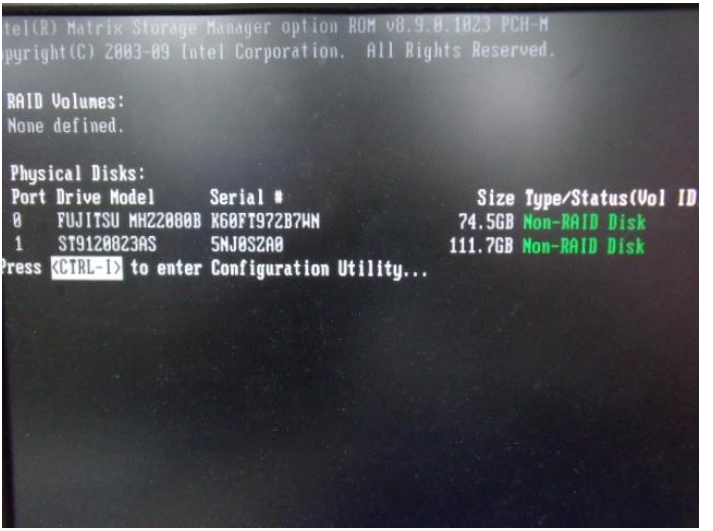
Step 5: The setting procedures "In BIOS Setup Menu"
C: Boot -> Boot Option #1 -> DVD-ROM Type



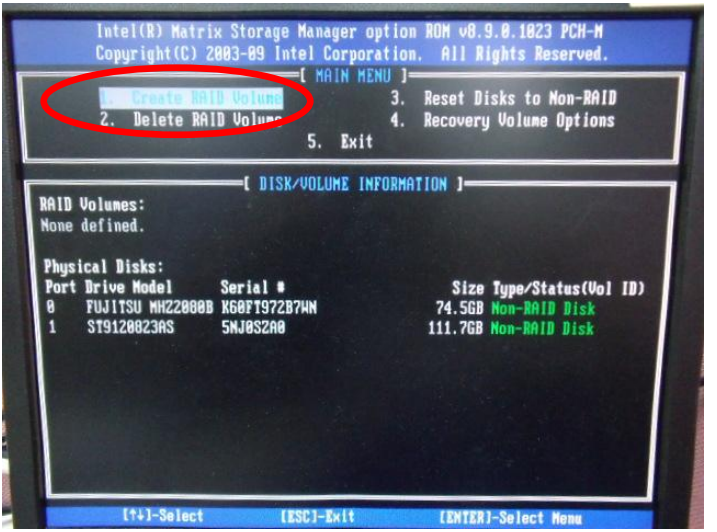
Step 6: The setting procedures "In BIOS Setup Menu"
D: Save & Exit -> Save Changes and Exit



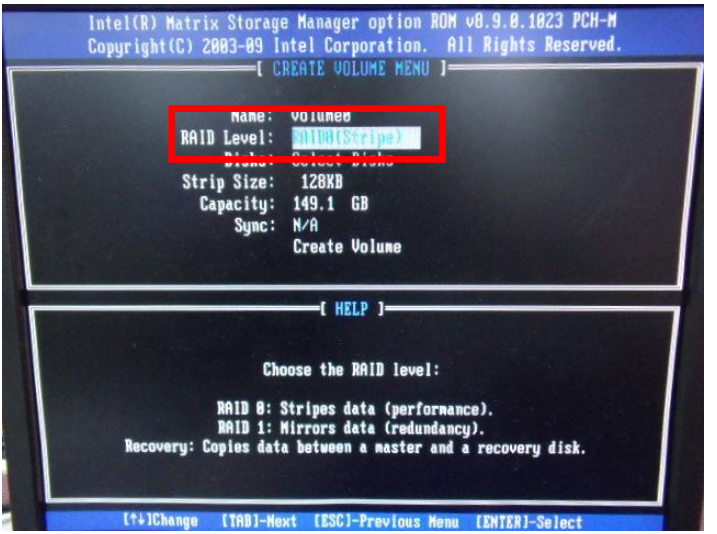
Step 7: Press Ctrl-I to enter MAIN MENU



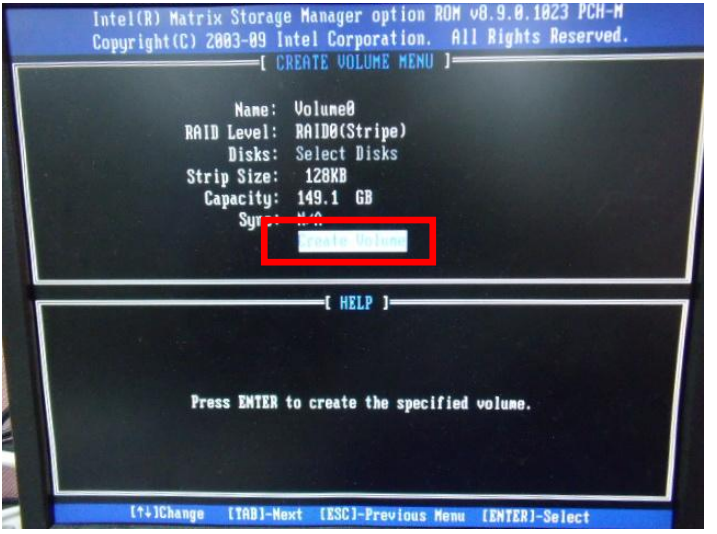
Step 8: Choose "1.Create RAID Volume"



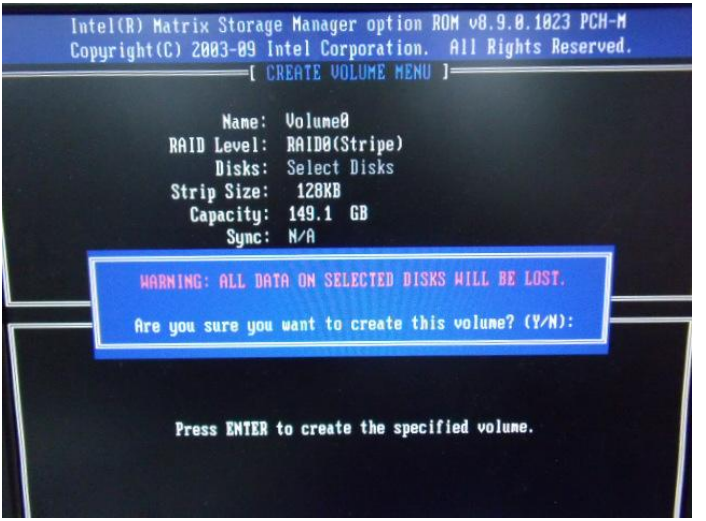
Step 9: RAID Level -> RAID0(Stripe)



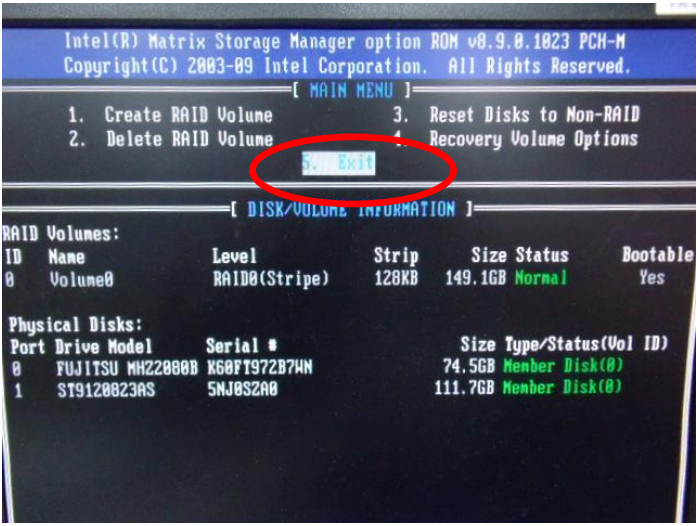
Step 10: Choose "Create Volume"



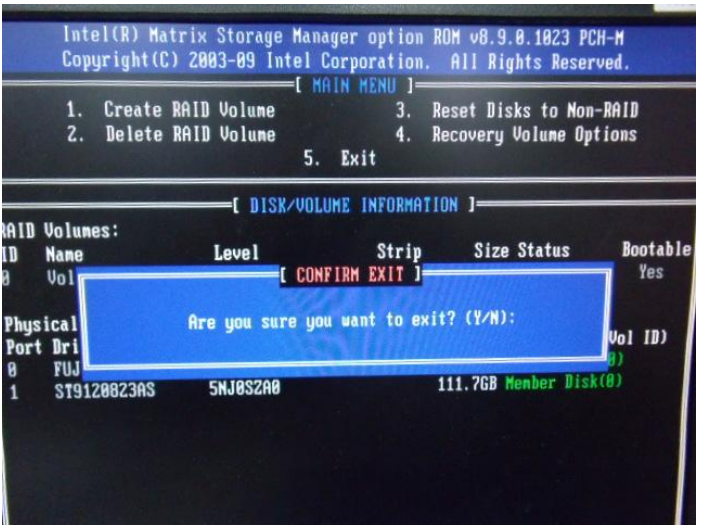
Step 11: Choose "Y"



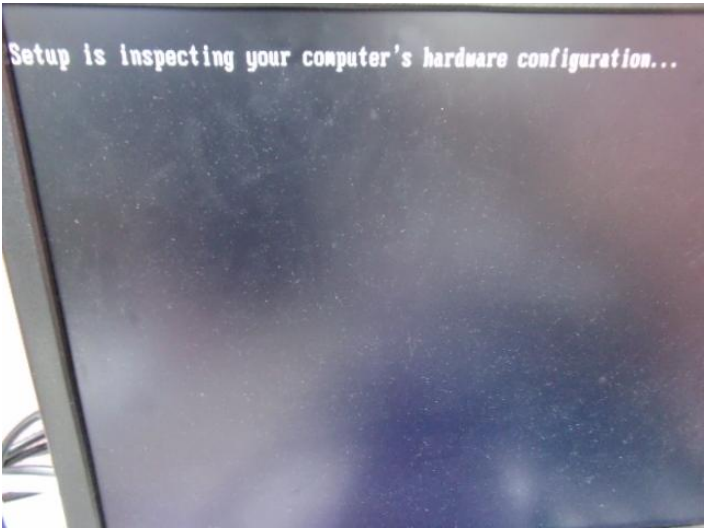
Step 12: Choose "5. Exit"



Step 13: Choose "**Y**"

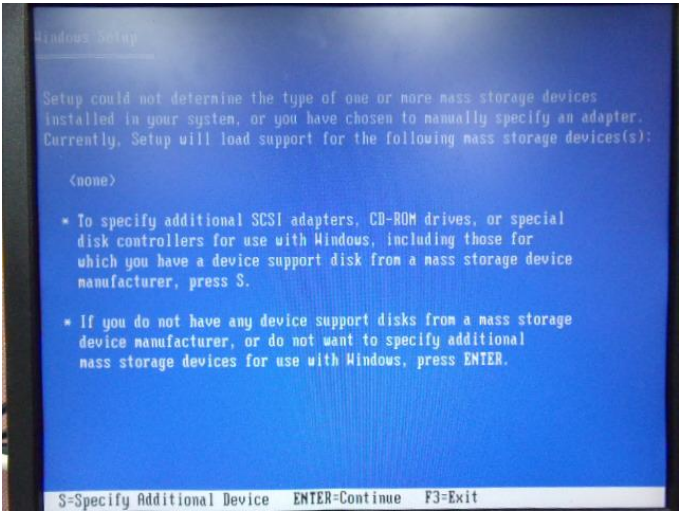


Step 14: Setup OS

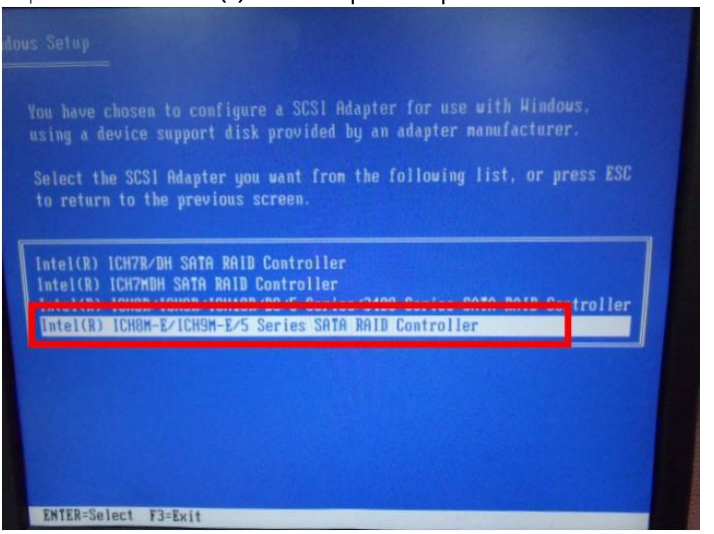


Step 15: Press "**F6**"

Step 16: Choose "**S**"

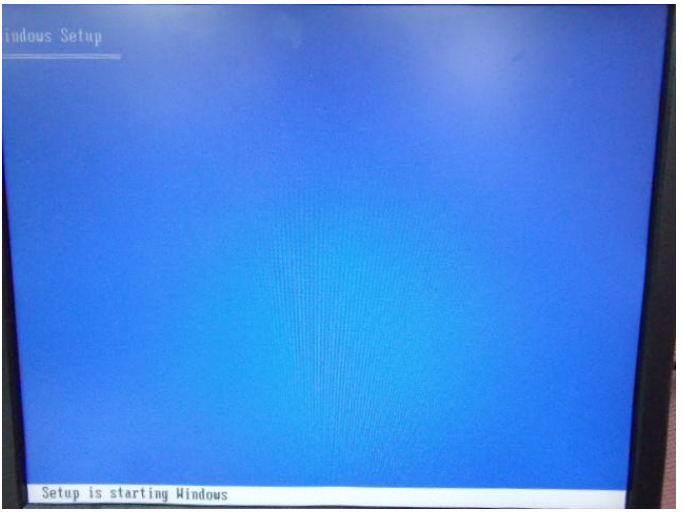


Step 17: Choose "**Intel(R) Mobile Express Chipset SATA RAID Controller**"



Step 18: It will show the model number you select and then press "**ENTER**"

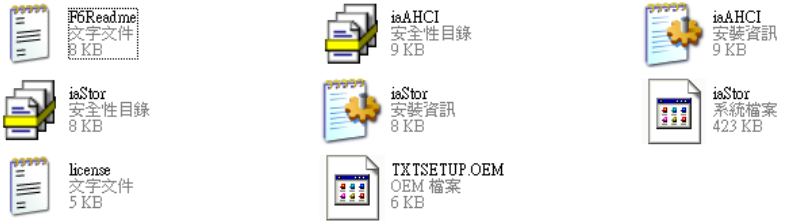
Step 19: Setup is starting Windows



C.2 Setting AHCI

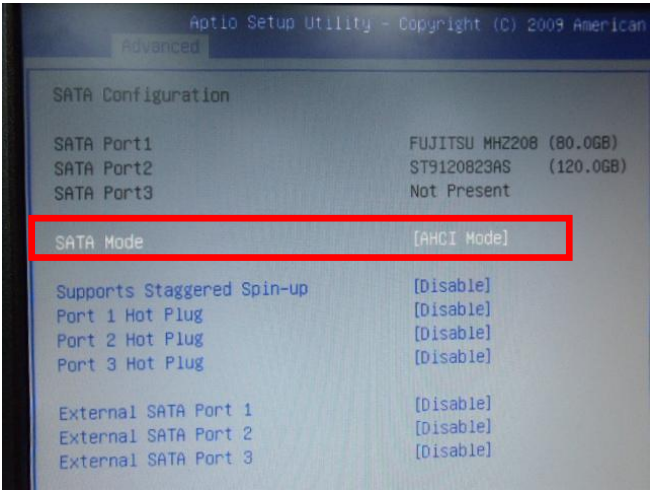
OS installation to setup AHCI Mode

Step 1: Copy the files below from "*Driver CD -> Step7- RAID & AHCI"* to Disk

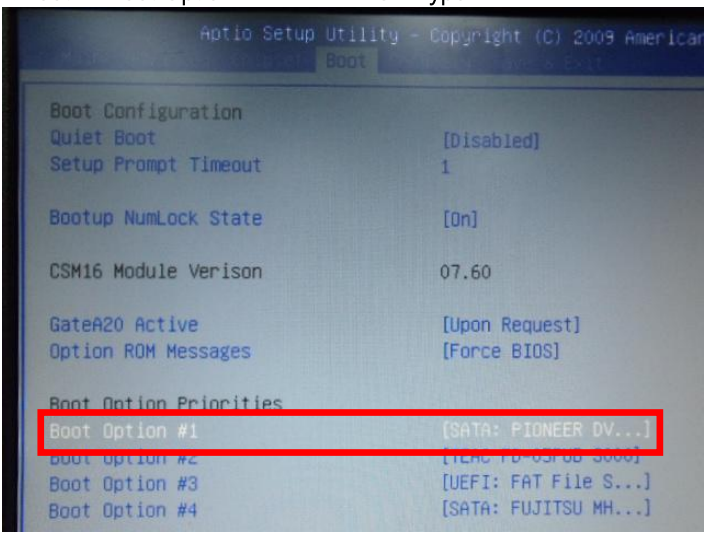


Step 2: Connect the USB Floppy (disk with AHCI files) to the board

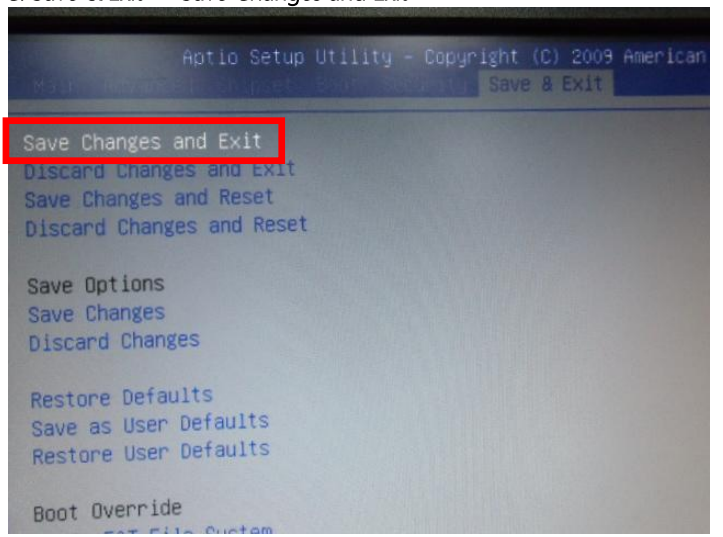
Step 3: The setting procedures " In BIOS Setup Menu"
A: Advanced -> SATA Configuration -> SATA Configuration -> SATA Mode -> AHCI Mode



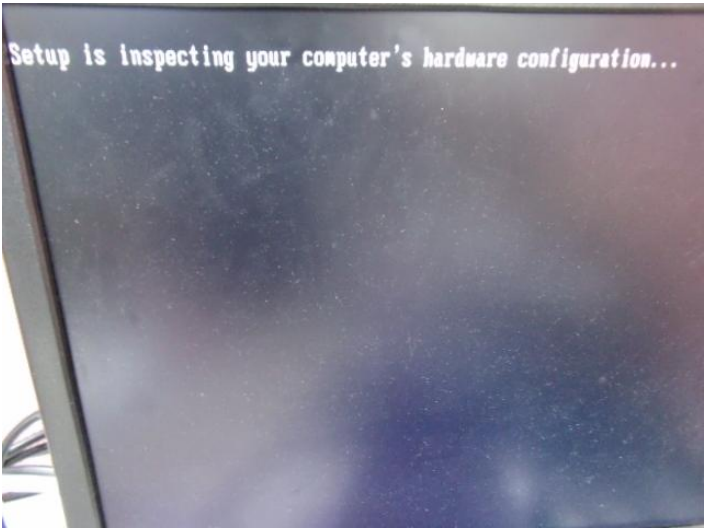
Step 4: The setting procedures "In BIOS Setup Menu"
B: Boot -> Boot Option #1 -> DVD-ROM Type



Step 5: The setting procedures "In BIOS Setup Menu"
C: Save & Exit -> Save Changes and Exit

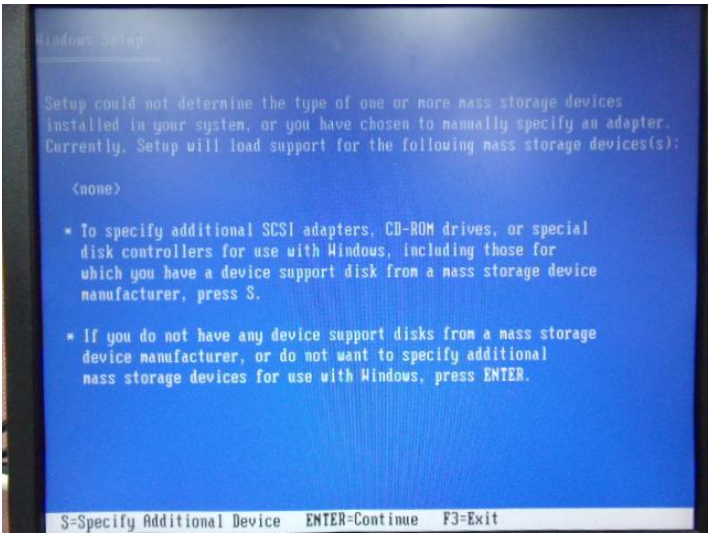


Step 6: Setup OS

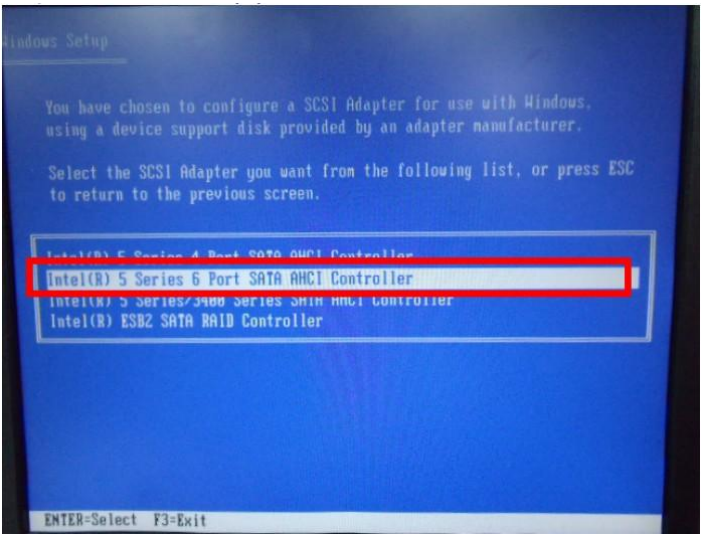


Step 7: Press "F6"

Step 8: Choose "S"

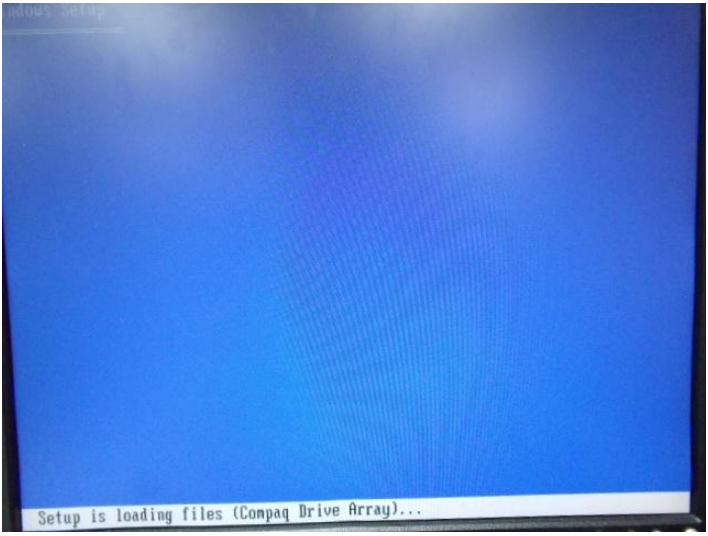


Step 9: Choose "**Intel(R) 7 Series Chipset Family SATA AHCI Controller**"



Step 10: It will show the model number you select and then press "**ENTER**"

Step 11: Setup is loading files



Appendix D

Electrical Specifications for I/O Ports

D.1 DI/O SDK

COM-QM77 Rev.B utilizes AAEON EC chipset as its Digital I/O controller.

DIO SDK is an API for customer to use DIO feature on AAEON products. This SDK will auto-detect DIO port on the current AAEON product.

If you need more information, please contact with AAEON Customer Service Department for further support.