

EPIC-QM57

Intel® Core™ i5/i7 Processor

Onboard DDR3 800/1066 Memory

24-bit Dual-channel LVDS LCD

6 USB 2.0 / 4 COMs / 2 SATA

CompactFlash™/ 8-bit Digital I/O

Copyright Notice

This document is copyrighted, 2012. All rights are reserved. The original manufacturer reserves the right to make improvements to the products described in this manual at any time without notice.

No part of this manual may be reproduced, copied, translated, or transmitted in any form or by any means without the prior written permission of the original manufacturer. Information provided in this manual is intended to be accurate and reliable. However, the original manufacturer assumes no responsibility for its use, or for any infringements upon the rights of third parties that may result from its use.

The material in this document is for product information only and is subject to change without notice. While reasonable efforts have been made in the preparation of this document to assure its accuracy, AAEON assumes no liabilities resulting from errors or omissions in this document, or from the use of the information contained herein.

AAEON reserves the right to make changes in the product design without notice to its users.

Acknowledgments

All other products' name or trademarks are properties of their respective owners.

- Award is a trademark of Award Software International, Inc.
- CompactFlash™ is a trademark of the Compact Flash Association.
- Intel®, Core™ i5/i7 are trademarks of Intel® Corporation.
- Microsoft Windows® is a registered trademark of Microsoft Corp.
- ITE is a trademark of Integrated Technology Express, Inc.
- IBM, PC/AT, PS/2, and VGA are trademarks of International Business Machines Corporation.

All other product names or trademarks are properties of their respective owners.

Packing List

Before you begin installing your card, please make sure that the following materials have been shipped:

- 9657666600 Jumper Cap
- Product DVD
- EPIC-QM57

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

Contents

Chapter 1 General Information

1.1 Introduction.....	1-2
1.2 Features	1-3
1.3 Specifications	1-4

Chapter 2 Quick Installation Guide

2.1 Safety Precautions	2-2
2.2 Location of Connectors and Jumpers	2-3
2.3 Mechanical Drawing	2-5
2.4 List of Jumpers	2-7
2.5 List of Connectors	2-8
2.6 Setting Jumpers	2-10
2.7 PCI-104 I/O Voltage Selection (JP2).....	2-11
2.8 LCD Function Selection (JP3).....	2-11
2.9 Clear CMOS Function (JP4)	2-11
2.10 Touch Screen 4/5/8-wire Mode Selection (JP5)	2-12
2.11 COM2 RI/ +5V/ +12V Selection (JP6).....	2-12
2.12 AT/ATX Power Mode Selection (SW1)	2-12
2.13 Front Panel Connector (CN1)	2-12
2.14 LCD Inverter/Backlight Connector (CN2).....	2-13
2.15 Dual Channel LVDS LCD Connector (CN3)	2-13
2.16 +12V DC Power Input Connector (CN5).....	2-14
2.17 +5V/+12V Power Output Connector (CN7).....	2-14

2.18 Audio Connector (CN8).....	2-14
2.19 Touch Panel Connector (CN9).....	2-15
2.20 RS-232 Serial Port 1 Connector (CN11).....	2-15
2.21 Display Port Connector (CN12).....	2-15
2.22 UIM Connector (CN13)	2-16
2.23 PCI-104 Connector (CN14)	2-16
2.24 USB Connector (CN17).....	2-18
2.25 PCI Express Mini Card Connector (CN19)	2-18
2.26 LPT Port Connector (CN20).....	2-19
2.27 Digital I/O Connector (CN21)	2-20
2.28 PS2 Keyboard/Mouse Connector (CN23).....	2-21
2.29 PCIe-104 Connector (CN24).....	2-21
2.30 RS-232 Serial Port 4 (CN25), Port 3 (CN26) Connector	2-24
2.31 External SMBUS and PS_ON# Connector (CN27)..	2-25
2.32 FAN Connector (CN28).....	2-25
2.33 RS-232/422/485 Serial Port 2 Connector (CN34)...	2-25
2.34 DVI-I Connector (CN35).....	2-26

Chapter 3 Award BIOS Setup

3.1 System Test and Initialization.	3-2
3.2 Award BIOS Setup	3-3

Chapter 4 Driver Installation

4.1 Installation	4-3
------------------------	-----

Appendix A Programming The Watchdog Timer

A.1 Programming	A-2
A.2 ITE8781 Watchdog Timer Initial Program.....	A-6

Appendix B I/O Information

B.1 I/O Address Map	B-2
B.2 1 st MB Memory Address Map	B-4
B.3 IRQ Mapping Chart.....	B-5
B.4 DMA Channel Assignments.....	B-5

Appendix C Mating Connector

C.1 List of Mating Connectors and Cables.....	C-2
---	-----

Appendix D RAID & AHCI Settings

D.1 Setting RAID	D-2
D.2 Setting AHCI	D-12

Chapter

1

**General
Information**

1.1 Introduction

AAEON announces a brand new EPIC Board EPIC-QM57, designed to fit in diverse applications that demand for fitting in different space limitations and high performance.

EPIC-QM57 accommodates onboard Intel® Core™ i5/i7 (Socket-988) Processor and features two 204-pin SODIMM DDR3 800/1066 system memory up to 4GB. Moreover, EPIC-QM57 adopts Intel® QM57 chipset to achieve an excellent performance.

In addition, EPIC-QM57 deploys two Intel® 82577LM and 82574L Ethernet chips to feature two RJ-45 ports onboard to display the transcendent performance of network connections. The display chipset of EPIC-QM57 is integrated to Intel® CPU and integrated Graphics support CRT/LCD simultaneous/ dual view displays.

In addition to the PCI/104-Express (PCI-104 + PCIe/104) expansion, EPIC-QM57 also features two SATA2, one Type2 CompactFlash™ for the storage and six USB 2.0 ports, four COM ports, 8-bit Digital I/O for flexible I/O expansion. EPIC-QM57 is an excellent choice for your vital applications.

1.2 Features

- Intel® Core™ i5/i7 Processor
- Intel® QM57
- SODIMM DDR3 800/1066 Memory, Max. 4GB
- Gigabit Ethernet x 2
- Up To 24-bit Dual-channel LVDS LCD
- 2CH HD Audio
- SATA2 x 2, Type 2 CompactFlash™ x 1
- USB2.0 x 6, COM x 4, 8-bit Digital I/O
- PCI/104-Express (PCI-104 + PCIe/104)
- +12V DC Input

1.3 Specifications

System

- Form Factor EPIC Express Board
- Processor Intel® Core™ i7/i5 Processor (Socket-988)
- System Memory 204-pin SODIMM DDR3 800/1066 Memory, Max. 4 GB
- Chipset Intel® QM57
- I/O Chipset ITE8781
- Ethernet 10/100/1000Base-TX x 2 (Intel® 82577LM and Intel® 82574L respectively), RJ-45 x 2
- BIOS AMI Plug & Play BIOS – 8MB Flash
- Wake On LAN Yes
- Watchdog Timer Generates a time-out system reset
- H/W Status Monitoring Supports power supply voltages, fan speed, and temperature monitoring
- Expansion Interface PCI/104-Express Expansion (PCI-104 + PCIe/104) connector
- Battery Lithium battery
- Power Requirement +12V (Typical)

- Board Size 4.5" x 6.5" (115mm x 165mm)
- Gross Weight 1.1 lb (0.5KG)
- Operation 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: Supports CRT/LCD simultaneous/ dual view displays

- Chipset Intel® CPU integrated VGA, integrated Graphics
- Memory Shared system memory up to 512 MB
- Resolutions Up to 2048x1536 for CRT, Up to 1920x1200 for LCD/ DVI/DisplayPort
- LCD Interface 24-bit dual-channel LVDS

I/O

- Storage SATA 2 x 2 (Support RAID 0,1) Type2 CompactFlash™ x 1
- Serial Port RS-232 x 3, RS-232/422/485 x 1
- Parallel Port SPP/EPP/ECP Mode
- USB USB2.0 x 6
- PS/2 Port Keyboard x 1, Mouse x 1
- Digital I/O Supports 8-bit (programmable)
- Audio Line-in, Line-out, Mic-in & CD-in

Chapter

2

**Quick
Installation
Guide**

2.1 Safety Precautions

Warning!

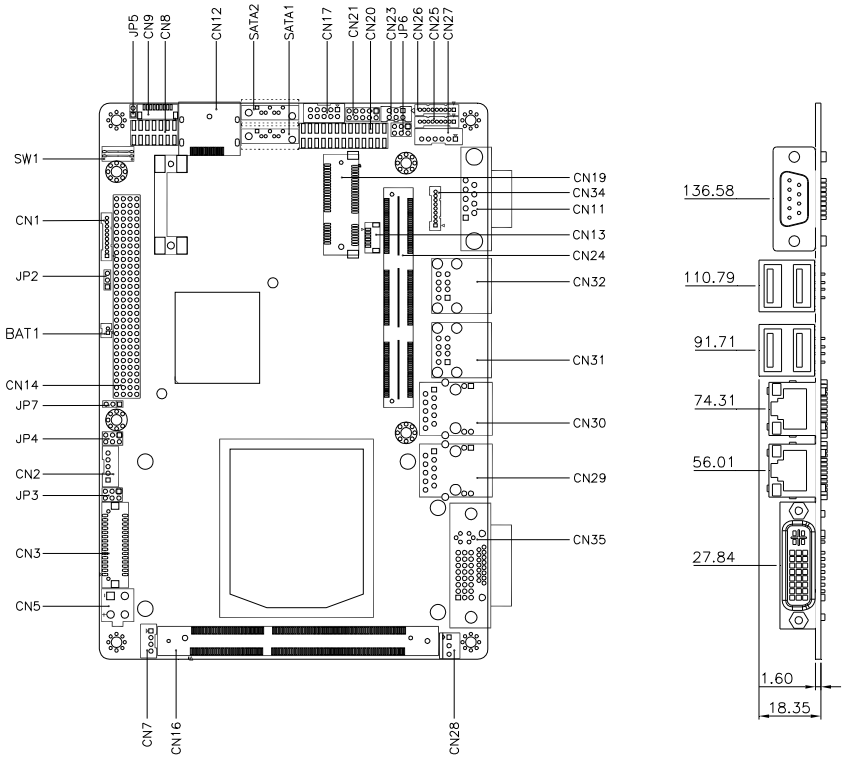
Always completely disconnect the power cord from your board whenever you are working on it. Do not make connections while the power is on, because a sudden rush of power can damage sensitive electronic components.

Caution!

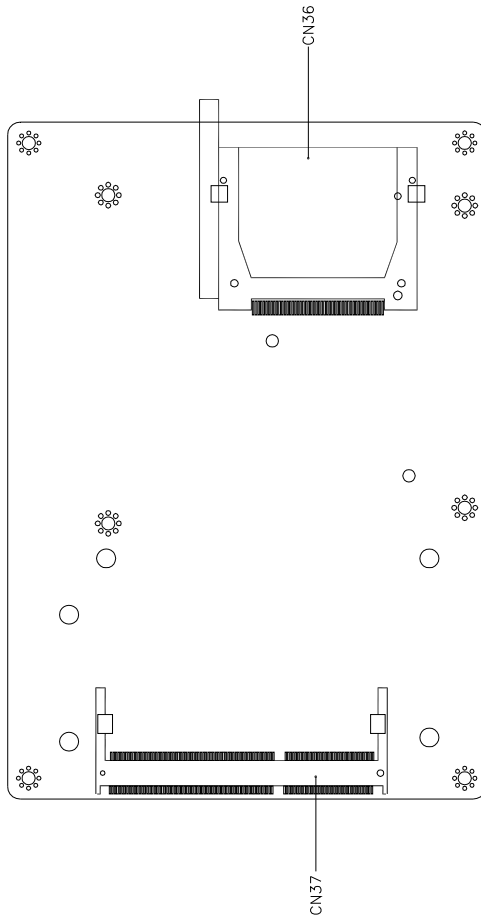
Always ground yourself to remove any static charge before touching the board. Modern electronic devices are very sensitive to static electric charges. Use a grounding wrist strap at all times. Place all electronic components on a static-dissipative surface or in a static-shielded bag when they are not in the chassis

2.2 Location of Connectors and Jumpers

Component Side

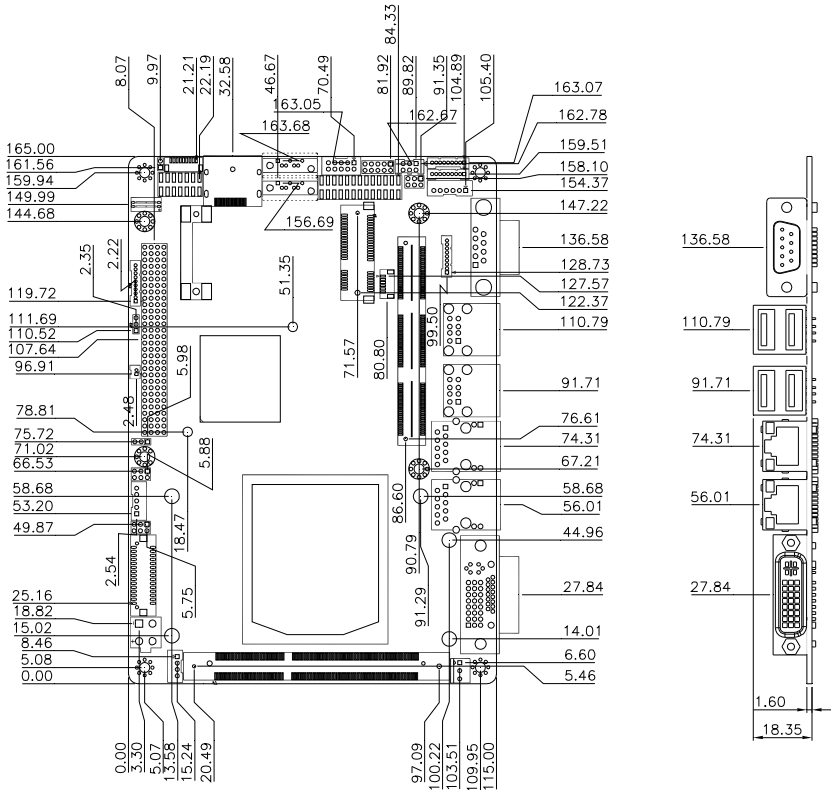


Solder Side

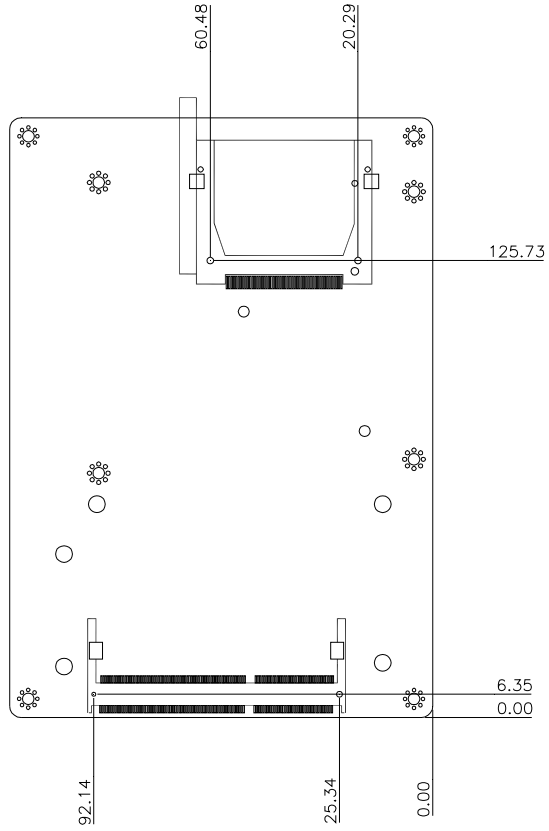


2.3 Mechanical Drawing

Component Side



Solder Side



2.4 List of Jumpers

The board has a number of jumpers that allow you to configure your system to suit your application.

The table below shows the function of each of the board's jumpers:

Jumpers

Label	Function
JP2	PCI-104 I/O Voltage Selection
JP3-1	LCD Inverter/Backlight Voltage Selection
JP3-2	LVDS LCD Voltage Selection
JP4-1	Clear CMOS
JP4-2	Clear ME ROM
JP5	Touch Screen 4/5/8-wire Mode Selection
JP6	COM2 RI/+5V/+12V Selection
SW1	AT/ATX Power Mode Selection

2.5 List of Connectors

The board has a number of connectors that allow you to configure your system to suit your application. The table below shows the function of each board's connectors:

Connectors

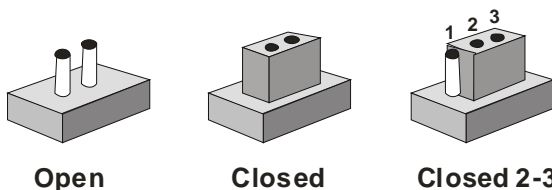
Label	Function
CN1	Front Panel Connector
CN2	LCD Inverter/Backlight Connector
CN3	Dual Channel LVDS LCD Connector
CN5	+12V DC Power Input Connector
CN7	+5V/+12V Power Output Connector
CN8	Audio Connector
CN9	Touch Panel Connector
CN11	RS-232 Serial Port 1 Connector
CN12	Display Port Connector
CN13	UIM Connector
CN14	PCI-104 Connector
CN16,CN37	DDR3 SODIMM Slot
CN17,CN31,CN32	USB Connector
CN19	PCI Express Mini Card Connector
CN20	LPT Port Connector
CN21	Digital I/O Connector
CN23	PS2 Keyboard/Mouse Connector
CN24	PCIe/104 Connector

CN25	RS-232 Serial Port 4 Connector
CN26	RS-232 Serial Port 3 Connector
CN27	External SMBUS and PS_ON# Connector
CN28	Fan Connector
CN29, CN30	10/100/1000Base-TX Ethernet Connector
CN34	RS-232/422/485 Serial Port 2 Connector
CN35	DVI-I Connector
CN36	CompactFlash™ Slot

2.6 Setting Jumpers

You configure your card to match the needs of your application by setting jumpers. A jumper is the simplest kind of electric switch. It consists of two metal pins and a small metal clip (often protected by a plastic cover) that slides over the pins to connect them. To “close” a jumper you connect the pins with the clip.

To “open” a jumper you remove the clip. Sometimes a jumper will have three pins, labeled 1, 2 and 3. In this case you would connect either pins 1 and 2 or 2 and 3.



A pair of needle-nose pliers may be helpful when working with jumpers.

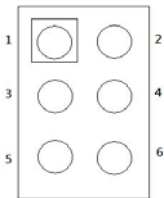
If you have any doubts about the best hardware configuration for your application, contact your local distributor or sales representative before you make any change.

Generally, you simply need a standard cable to make most connections.

2.7 PCI-104 I/O Voltage Selection(JP2)

JP2	Function
1-2	+5V
2-3	+3.3V (Default)

2.8 LCD Function Selection (JP3)



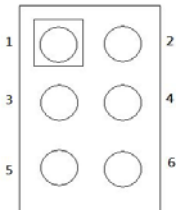
LCD Inverter/Backlight Voltage Selection (JP3-1)

JP3-1	Function
1-3	+5V (Default)
3-5	+12V

LVDS LCD Voltage Selection (JP3-2)

JP3-2	Function
2-4	+5V
4-6	+3.3V (Default)

2.9 Clear CMOS Function (JP4)



Clear CMOS (JP4-1)

JP4-1	Function
1-3	Protected (Default)
3-5	Clear

Clear ME ROM (JP4-2)

JP4-2	Function
2-4	Protected (Default)
4-6	Clear

2.10 Touch Panel 4/5/8-wire Mode Selection (JP5)

JP5	Function
1-2 (Open)	5 Wire
1-2 (Close)	4 & 8 Wire (Default)

2.11 COM2 RI/+5V/+12V Selection (JP6)

JP6	Function
1-2	+12V
3-4	RI
5-6	+5V (Default)

2.12 AT/ATX Power Mode Selection (SW1)

SW1	Function
1(ON), 2(OFF)	ATX Power
1(OFF), 2(ON)	AT Power (Default)

2.13 Front Panel Connector (CN1)

Pin	Signal	Pin	Signal
1	Power On Button (+)	2	Power On Button (-)

3	External Buzzer (+)	4	External Buzzer (-)
5	IDE LED (+)	6	IDE LED (-)
7	Power LED (+)	8	Power LED (-)
9	Reset Switch (+)	10	Reset Switch (-)

2.14 LCD Inverter/Backlight Connector (CN2)

Pin	Signal
1	+5V/+12V
2	Brightness Control
3	GND
4	GND
5	Backlight Enable

Note: The max. rating of Pin 1 is 0.5A @ 12V

2.15 Dual Channel LVDS LCD Connector (CN3)

Pin	Signal	Pin	Signal
1	ENBKL	2	N.C
3	PPVCC	4	GND
5	LVDS1_TXCLK-	6	LVDS1_TXCLK+
7	PPVCC	8	GND
9	LVDS1_TX0-	10	LVDS1_TX0+
11	LVDS1_TX1-	12	LVDS1_TX1+
13	LVDS1_TX2-	14	LVDS1_TX2+
15	LVDS1_TX3-	16	LVDS1_TX3+
17	I2C_DATA	18	I2C_CLK
19	LVDS2_TX0-	20	LVDS2_TX0+
21	LVDS2_TX1-	22	LVDS2_TX1+
23	LVDS2_TX2-	24	LVDS2_TX2+

25	LVDS2_TX3-	26	LVDS2_TX3+
27	PPVCC	28	GND
29	LVDS2_TXCLK-	30	LVDS2_TXCLK+

Note: For VLCD (pin 3, 7, 27), the max. rating of each pin is 0.5A @ 5V

2.16 +12V DC Power Input Connector (CN5)

Pin	Signal
1	GND
2	GND
3	+12V
4	+12V

Note: (1) The default of CN5 is a 2-pin power connector (use pin 1 and pin 3 for GND and +12V respectively). It can also support an optional 4-pin +12V DC power connector.

2.17 +5V/+12V Power Output Connector (CN7)

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

Note: The max. rating of Pin 1 is 1A @ 12V; the max. rating of Pin 4 is 1A @ 5V

2.18 Audio Connector (CN8)

Pin	Signal	Pin	Signal
1	MIC_IN	2	MIC_+2.5V
3	LINE_IN_GND	4	CD_GND
5	LINE_IN_L	6	CD_IN_L
7	LINE_IN_R	8	CD_GND

EPIC Board**EPIC-QM57**

9	LINE_IN_GND	10	CD_IN_R
11	LINE_OUT_L	12	LINE_OUT_R
13	LINE_OUT_GND	14	LINE_OUT_GND

2.19 Touch Panel Connector (CN9)

Pin	8-wire Signal (Default)	4-wire Signal	5-wire Signal
1	GND	GND	GND
2	Top Excite	Top Excite	UL (Y)
3	Bottom Excite	Bottom Excite	UR (H)
4	Left Excite	Left Excite	LL (L)
5	Right Excite	Right Excite	LR (X)
6	Top Sense	N/A	Sense (S)
7	Bottom Sense	N/A	
8	Left Sense	N/A	
9	Right Sense	N/A	

2.20 RS-232 Serial Port 1 Connector (CN11)

Pin	Signal	Pin	Signal
1	DCD1	2	RXD1
3	TXD1	4	DTR1
5	GND	6	DSR1
7	RTS1	8	CTS1
9	RI1		

2.21 Display Port Connector (CN12)

Pin	Signal	Pin	Signal
1	Lane0 (P)	2	GND
3	Lane0(N)	4	Lane1 (P)

EPIC Board**EPIC-QM57**

5	GND	6	Lane1 (N)
7	Lane2 (P)	8	GND
9	Lane2 (N)	10	Lane3 (P)
11	GND	12	Lane3 (N)
13	Config1 (GND)	14	Config2 (GND)
15	AUX CH (P)	16	GND
17	AUX CH (N)	18	Hot Plug
19	Return PWR (GND)	20	DP_PWR

2.22 UIM Connector (CN13)

Pin	Signal
1	UIM_PWR
2	UIM_RST
3	UIM_CLK
4	GND
5	UIM_VPP
6	UIM_DAT

2.23 PCI-104 Connector (CN14)

Pin	A	B	C	D
1	GND	5VSB	5V	AD00
2	VI/O	AD02	AD01	5V
3	AD05	GND	AD04	AD03
4	C/BE0#	AD07	GND	AD06
5	GND	AD09	AD08	GND
6	AD11	VI/O	AD10	M66EN
7	AD14	AD13	GND	AD12

8	3.3V	C/BE1#	AD15	3.3V
9	SERR#	GND	PSO#	PAR
10	GND	PERR#	3.3V	PME#
11	STOP#	3.3V	LOCK#	GND
12	3.3V	TRDY#	GND	DEVSEL#
13	FRAME#	GND	IRDY#	3.3V
14	GND	AD16	3.3V	C/BE2#
15	AD18	3.3V	AD17	GND
16	AD21	AD20	GND	AD19
17	3.3V	AD23	AD22	3.3V
18	IDSEL0	GND	IDSEL1	IDSEL2
19	AD24	C/BE3#	VI/O	IDSEL3
20	GND	AD26	AD25	GND
21	AD29	5V	AD28	AD27
22	5V	AD30	GND	AD31
23	REQ0#	GND	REQ1#	VI/O
24	GND	REQ2#	5V	GNT0#
25	GNT1#	VI/O	GNT2#	GND
26	5V	CLK0	GND	CLK1
27	CLK2	5V	CLK3	GND
28	GND	INTD#	5V	RST#
29	12V	INTA#	INTB#	INTC#
30	-12V	REQ3#	GNT3#	GND

Note: PCI/104-Express™ rev 2.3 standard compliant

2.24 USB Connector (CN17)

Pin	Signal	Pin	Signal
1	+5V	2	GND
3	USBD1-	4	GND
5	USBD1+	6	USBD2+
7	GND	8	USBD2-
9	GND	10	+5V

2.25 PCI-Express Mini Card Connector (CN19)

Pin	Signal	Pin	Signal
51	Reserved	52	+3.3Vaux
49	Reserved	50	GND
47	Reserved	48	+1.5V
45	Reserved	46	LED_WPAN#
43	GND	44	LED_WLAN#
41	+3.3Vaux	42	LED_WWAN#
39	+3.3Vaux	40	GND
37	GND	38	USB_D+
35	GND	36	USB_D-
33	PETp0	34	GND
31	PETn0	32	SMB_DATA
29	GND	30	SMB_CLK
27	GND	28	+1.5V
25	PERp0	26	GND
23	PERn0	24	+3.3Vaux
21	GND	22	PERST#
19	Reserved (UIM_C4)	20	W_DISABLE#
17	Reserved (UIM_C8)	18	GND

Mechanical Key

15	GND	16	UIM_VPP
13	REFCLK+	14	UIM_RESET
11	REFCLK-	12	UIM_CLK
9	GND	10	UIM_DATA
7	CLKREQ#	8	UIM_PWR
5	COEX2	6	1.5V
3	COEX1	4	GND
1	WAKE#	2	3.3Vaux

2.26 LPT Port Connector (CN20)

Pin	Signal	Pin	Signal
1	#STROBE	2	#AFD
3	DATA0	4	#ERROR
5	DATA1	6	#INIT
7	DATA2	8	#SLIN
9	DATA3	10	GND
11	DATA4	12	GND
13	DATA5	14	GND
15	DATA6	16	GND
17	DATA7	18	GND
19	#ACK	20	GND
21	BUSY	22	GND
23	PE	24	GND
25	SELECT	26	N.C

2.27 Digital I/O Connector (CN21)

Pin	Signal	Pin	Signal
1	IN1	2	IN2
3	IN3	4	IN4
5	OUT1	6	OUT2
7	OUT3	8	OUT4
9	+5V	10	GND

Note: The max. rating of Pin 1 ~ Pin 8 is 8mA @ 5V; the max. rating of Pin 9 is 0.5A @ 5V

Mapping Table:

BIOS Setting	Connector Definition	Address	IT8781 GPIO Setting
Port 8 @A44h	CN16 Pin 8	GPIO Set 5 / Bit 2	U50 Pin 9 (GPIO 52)
Port 7 @A44h	CN16 Pin 7	GPIO Set 5 / Bit 1	U50 Pin 10 (GPIO 51)
Port 6 @A42h	CN16 Pin 6	GPIO Set 3 / Bit 7	U50 Pin 11 (GPIO 37)
Port 5 @A42h	CN16 Pin 5	GPIO Set 3 / Bit 6	U50 Pin 12 (GPIO 36)
Port 4 @A40h	CN16 Pin 4	GPIO Set 1 / Bit 4	U50 Pin 31 (GPIO 14)
Port 3 @A40h	CN16 Pin 3	GPIO Set 1 / Bit 3	U50 Pin 32 (GPIO 13)
Port 2 @A40h	CN16 Pin 2	GPIO Set 1 / Bit 2	U50 Pin 33 (GPIO 12)
Port 1 @A40h	CN16 Pin 1	GPIO Set 1 / Bit 1	U50 Pin 34 (GPIO 11)

Digital I/O Address is A40h, A42h, A44h.

2.28 PS2 Keyboard/Mouse Connector (CN23)

Pin	Signal	Pin	Signal
1	KBDAT	2	KBCLK
3	GND	4	+5V
5	MSDAT	6	MSCLK

2.29 PCIe-104 Connector (CN24)

PCI-104 Express						
Toward edge of board	1	Reserved (GPIO0)	+5 Voltage	2	PE_RST#	Toward center of board
	3	3.3V		4	3.3V	
	5	Reserved (HS1+)		6	Reserved (HS0+)	
	7	Reserved (HS1-)		8	Reserved (HS0-)	
	9	GND		10	GND	
	11	PEx1_1Tp		12	PEx1_0Tp	
	13	PEx1_1Tn		14	PEx1_0Tn	
	15	GND		16	GND	
	17	PEx1_2Tp		18	PEx1_3Tp	
	19	PEx1_2Tn		20	PEx1_3Tn	
	21	GND		22	GND	
	23	PEx1_1Rp		24	PEx1_0Rp	
	25	PEx1_1Rn		26	PEx1_0Rn	
	27	GND		28	GND	
	29	PEx1_2Rp		30	PEx1_3Rp	
	31	PEx1_2Rn		32	PEx1_3Rn	

33	GND		34	GND
35	PEX1_1Clkp		36	PEX1_0Clkp
37	PEX1_1Clkn		38	PEX1_0Clkn
39	5V_Always		40	5V_Always
41	PEX1_2Clkp		42	PEX1_3Clkp
43	PEX1_2Clkn		44	PEX1_3Clkn
45	CPU_DIR		46	PWRGOOD
47	SMB_DAT		48	PEX16_x8_x4_Clkp
49	SMB_CLK		50	PEX16_x8_x4_Clkn
51	SMB_ALERT		52	PSOEN#
53	Reserved / WAKE#		54	PEG_ENA#
55	GND		56	GND
57	PEX16_0T(8)p	+5 Voltage	58	PEX16_0T(0)p
59	PEX16_0T(8)n		60	PEX16_0T(0)n
61	GND		62	GND
63	PEX16_0T(9)p		64	PEX16_0T(1)p
65	PEX16_0T(9)n		66	PEX16_0T(1)n
67	GND		68	GND
69	PEX16_0T(10)p		70	PEX16_0T(2)p
71	PEX16_0T(10)n		72	PEX16_0T(2)n
73	GND		74	GND
75	PEX16_0T(11)p		76	PEX16_0T(3)p

EPIC Board

EPIC-QM57

77	PEx16_0T(11)n		78	PEx16_0T(3)n
79	GND		80	GND
81	PEx16_0T(12)p		82	PEx16_0T(4)p
83	PEx16_0T(12)n		84	PEx16_0T(4)n
85	GND		86	GND
87	PEx16_0T(13)p		88	PEx16_0T(5)p
89	PEx16_0T(13)n		90	PEx16_0T(5)n
91	GND		92	GND
93	PEx16_0T(14)p		94	PEx16_0T(6)p
95	PEx16_0T(14)n		96	PEx16_0T(6)n
97	GND		98	GND
99	PEx16_0T(15)p		100	PEx16_0T(7)p
101	PEx16_0T(15)n		102	PEx16_0T(7)n
103	GND		104	GND
105	SDVO_DAT (PENA#)	+12 Voltage	106	SDVO_CLK
107	GND		108	GND
109	PEx16_0R(8)p		110	PEx16_0R(0)p
111	PEx16_0R(8)n		112	PEx16_0R(0)n
113	GND		114	GND
115	PEx16_0R(9)p		116	PEx16_0R(1)p
117	PEx16_0R(9)n		118	PEx16_0R(1)n
119	GND		120	GND

121	PEx16_0R(10)p	122	PEx16_0R(2)p
123	PEx16_0R(10)n	124	PEx16_0R(2)n
125	GND	126	GND
127	PEx16_0R(11)p	128	PEx16_0R(3)p
129	PEx16_0R(11)n	130	PEx16_0R(3)n
131	GND	132	GND
133	PEx16_0R(12)p	134	PEx16_0R(4)p
135	PEx16_0R(12)n	136	PEx16_0R(4)n
137	GND	138	GND
139	PEx16_0R(13)p	140	PEx16_0R(5)p
141	PEx16_0R(13)n	142	PEx16_0R(5)n
143	GND	144	GND
145	PEx16_0R(14)p	146	PEx16_0R(6)p
147	PEx16_0R(14)n	148	PEx16_0R(6)n
149	GND	150	GND
151	PEx16_0R(15)p	152	PEx16_0R(7)p
153	PEx16_0R(15)n	154	PEx16_0R(7)n
155	GND	156	GND

Note: PCI/104-Express™ rev 2.3 standard compliant

2.30 RS-232 Serial Port 4 (CN25), Port 3 (CN26) Connector

Pin	Signal	Pin	Signal
1	DCDx	2	DSRx
3	RXDx	4	RTSx

5	TXDx	6	CTSx
7	DTRx	8	RIx
9	GND		

2.31 External SMBUS and PS_ON# Connector (CN27)

Pin	Signal
1	SMB_DATA
2	GND
3	SMB_CLK
4	GND
5	PS_ON#
6	+5VA

2.32 FAN Connector (CN28)

Pin	Signal
1	GND
2	+12V(Default) or +5V
3	Speed Sense

2.33 RS-232/422/485 Serial Port 2 Connector (CN34)

Pin	Signal	Pin	Signal
1	DCD2(422TXD-/485DATA-)	2	DSR2
3	RXD2(422RXD+)	4	RTS2
5	TXD2(422TXD+/485DATA+)	6	CTS2
7	DTR2(422RXD-)	8	RI2 / +5V /+12V
9	GND	10	

2.34 DVI-I Connector (CN35)

Pin	Signal	Pin	Signal
1	DVI_TX2-	2	DVI_TX2+
3	N.C	4	N.C
5	N.C	6	SM_CLK
7	SM_DAT	8	CRT_VSYNC
9	DVI_TX1-	10	DVI_TX1+
11	GND	12	N.C
13	N.C	14	+5V
15	GND	16	HPDET
17	DVI_TX0-	18	DVI_TX0+
19	GND	20	N.C
21	N.C	22	GND
23	DVI_TXCLK+	24	DVI_TXCLK-
25	GND		
27	N.C		
C1	RED	C2	GREEN
C3	BLUE	C4	CRT_HSYNC
C5	CRT_PLUG#	C6	GND

Note: The default of CN35 is a DVI connector. For further options, there is a VGA connector or VGA + DVI connector.

Below Table for China RoHS Requirements

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	×	○	○	○	○	○
外部信号 连接器及线材	×	○	○	○	○	○
<p>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。</p> <p>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。</p> <p>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。</p>						

Chapter

3

**Award
BIOS Setup**

3.1 System Test and Initialization

These routines test and initialize board hardware. If the routines encounter an error during the tests, you will either hear a few short beeps or see an error message on the screen. There are two kinds of errors: fatal and non-fatal. The system can usually continue the boot up sequence with non-fatal errors. Non-fatal error messages usually appear on the screen along with the following instructions:

Press <F1> to RESUME

Write down the message and press the F1 key to continue the boot up sequence.

System configuration verification

These routines check the current system configuration against the values stored in the CMOS memory. If they do not match, the program outputs an error message. You will then 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:

1. You are starting your system for the first time
2. You have changed the hardware attached to your system
3. The CMOS memory has lost power and the configuration information has been erased.

The EPIC-QM57 CMOS memory has an integral lithium battery backup for data retention. However, you will need to replace the complete unit when it finally runs down.

3.2 Award BIOS Setup

Awards BIOS ROM has a built-in Setup program that allows users to modify the basic system configuration. This type of information is stored in battery-backed CMOS RAM so that it retains the Setup information when the power is turned off.

Entering Setup

Power on the computer and press immediately. This will allow you to enter Setup.

Standard CMOS Features

Use this menu for basic system configuration. (Date, time, IDE, etc.)

Advanced BIOS Features

Use this menu to set the advanced features available on your system.

Advanced Chipset Features

Use this menu to change the values in the chipset registers and optimize your system performance.

Integrated Peripherals

Use this menu to specify your settings for integrated peripherals. (keyboard, mouse etc.)

Power Management Setup

Use this menu to specify your settings for power management. (HDD power down, power on by ring, KB wake up, etc.)

PnP/PCI Configurations

This entry appears if your system supports PnP/PCI.

PC Health Status

Use this menu to set PC Health Status.

Frequency/Voltage Control

Use this menu to specify your settings for auto detect DIMM/PCI clock and spread spectrum.

Load Optimized Defaults

Use this menu to load the BIOS default values that are factory settings for optimal performance system operations. While AWARD has designated the custom BIOS to maximize performance, the factory has the right to change these defaults to meet their needs.

Set Password

Use this menu to set Supervisor Password.

Save and Exit Setup

Save CMOS value changes to CMOS and exit setup.

Exit Without Saving

Abandon all CMOS value changes and exit setup.

You can refer to the "AAEON BIOS Item Description.pdf" file in the DVD for the meaning of each setting in this chapter.

Chapter

4

**Driver
Installation**

The EPIC-QM57 comes with a DVD-ROM that contains all drivers and utilities that meet your needs.

Follow the sequence below to install the drivers:

Step 1 – Install Chipset Driver

Step 2 – Install VGA Driver

Step 3 – Install LAN Driver

Step 4 – Install ME Driver

Step 5 – Install Audio Driver

Step 6 – Install Touch Driver

Step 7 – Install RAID & AHCI Driver

Please read instructions below for further detailed installations.

4.1 Installation:

Insert the EPIC-QM57 DVD-ROM into the DVD-ROM Drive. And install the drivers from Step 1 to Step 7 in order.

Step 1 – Install Chipset Driver

1. Click on the **Step1 - CHIPSET** folder and then double click on the ***infinst_autol(9.1.1.1020).exe***
2. Follow the instructions that the window shows
3. The system will help you install the driver automatically

Step 2 – Install VGA Driver

1. Click on the **Step2 - VGA** folder and select the OS folder your system is
2. Double click on the **Setup.exe** in the OS folder
3. Follow the instructions that the window shows
4. The system will help you install the driver automatically

Step 3 – Install LAN Driver

1. Click on the **Step3- LAN** folder and double click on the ***Autorun.exe***
2. Follow the instructions that the window shows
3. The system will help you install the driver automatically

Step 4 – Install ME Driver

1. Click on the **Step4 -ME** folder and double click on the ***Setup.exe***

2. Follow the instructions that the window shows
3. The system will help you install the driver automatically

Step 5 – Install Audio Driver

1. Click on the **Step5- AUDIO** folder and double click on the **SETUP.exe**
2. Follow the instructions that the window shows
3. The system will help you install the driver automatically

Step 6 – Install Touch Driver

1. Click on the **Step6- Touch** folder and double click on the **Setup.exe**
2. Follow the instructions that the window shows
3. The system will help you install the driver automatically

Step 7 – Install RAID & AHCI Driver

Please refer to Appendix D RAID & AHCI Settings

Appendix

A

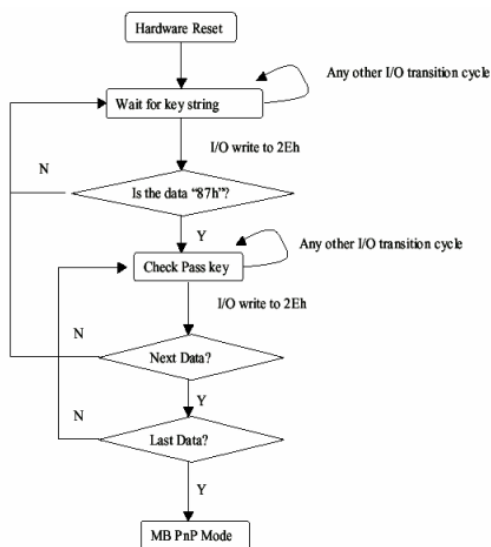
Programming the Watchdog Timer

A.1 Programming

EPIC-QM57 utilizes ITE 8781 chipset as its watchdog timer controller. Below are the procedures to complete its configuration and the AAEON initial watchdog timer program is also attached based on which you can develop customized program to fit your application.

Configuring Sequence Description

After the hardware reset or power-on reset, the ITE 8781 enters the normal mode with all logical devices disabled except KBC. The initial state (enable bit) of this logical device (KBC) is determined by the state of pin 121 (DTR1#) at the falling edge of the system reset during power-on reset.



There are three steps to complete the configuration setup: (1) Enter the MB PnP Mode; (2) Modify the data of configuration registers; (3) Exit the MB PnP Mode. Undesired result may occur if the MB PnP Mode is not exited normally.

(1) Enter the MB PnP Mode

To enter the MB PnP Mode, four special I/O write operations are to be performed during Wait for Key state. To ensure the initial state of the key-check logic, it is necessary to perform four write operations to the Special Address port (2EH). Two different enter keys are provided to select configuration ports (2Eh/2Fh) of the next step.

	Address Port	Data Port
87h, 01h, 55h, 55h:	2Eh	2Fh

(2) Modify the Data of the Registers

All configuration registers can be accessed after entering the MB PnP Mode. Before accessing a selected register, the content of Index 07h must be changed to the LDN to which the register belongs, except some Global registers.

(3) Exit the MB PnP Mode

Set bit 1 of the configure control register (Index=02h) to 1 to exit the MB PnP Mode.

WatchDog Timer Configuration Registers

LDN	Index	R/W	Reset	Configuration Register or Action
All	02h	W	NA	Configure Control

07h	71h	R/W	00h	Watch Dog Timer Control Register
07h	72h	R/W	001s0000b	Watch Dog Timer Configuration Register
07h	73h	R/W	38h	Watch Dog Timer Time-out Value (LSB) Register
07h	74h	R/W	00h	Watch Dog Timer Time-out Value (MSB) Register

Configure Control (Index=02h)

This register is write only. Its values are not sticky; that is to say, a hardware reset will automatically clear the bits, and does not require the software to clear them.

Bit	Description
7-2	Reserved
1	Returns to the "Wait for Key" state. This bit is used when the configuration sequence is completed.
0	Resets all logical devices and restores configuration registers to their power-on states.

Watch Dog Timer 1, 2, 3 Control Register (Index=71h,81h,91h Default=00h)

Bit	Description
7	WDT Timeout Enable(WTE) 1: Disable. 0: Enable.
6	WDT Reset upon Mouse Interrupt(WRKMI) 0: Disable. 1: Enable.
5	WDT Reset upon Keyboard Interrupt(WRKBI) 0: Disable. 1: Enable.
4	Reserved
3-2	Reserved
1	Force Time-out(FTO) This bit is self-clearing.
0	WDT Status(WS) 1: WDT value reaches 0. 0: WDT value is not 0.

Watch Dog Timer 1, 2, 3 Configuration Register (Index=72h, 82h, 92h Default=001s0000b)

Bit	Description
7	WDT Time-out Value Select 1 (WTVS) 1: Second 0: Minute
6	WDT Output through KRST (Pulse) Enable(WOKE) 1: Enable 0: Disable
5	WDT Time-out value Extra select(WTVES) 1: 64ms x WDT Timer-out value (default = 4s) 0: Determined by WDT Time-out value select 1 (bit 7 of this register)
4	WDT Output through PWROK (Pulse) Enable(WOPE) 1: Enable 0: Disable During LRESET#, this bit is selected by JP7 power-on strapping option
3-0	Select interrupt level^{Note1} for WDT(SIL)

Watch Dog Timer 1,2,3 Time-Out Value (LSB) Register (Index=73h,83h,93h, Default=38h)

Bit	Description
7-0	WDT Time-out Value 7-0(WTV)

Watch Dog Timer 1,2,3 Time-Out Value (MSB) Register (Index=74h,84h,94h Default=00h)

Bit	Description
7-0	WDT Time-out Value 15-8(WTV)

A.2 ITE8781 Watchdog Timer Initial Program

```
.MODEL SMALL
.CODE
Main:
CALL Enter_Configuration_mode
CALL Check_Chip
mov cl, 7
call Set_Logic_Device
;time setting
mov cl, 10 ; 10 Sec
dec al
Watch_Dog_Setting:
;Timer setting
mov al, cl
mov cl, 73h
call Superio_Set_Reg
;Clear by keyboard or mouse interrupt
mov al, 0f0h
mov cl, 71h
call Superio_Set_Reg
;unit is second.
mov al, 0C0H
mov cl, 72h
```

```
call Superio_Set_Reg  
; game port enable  
mov cl, 9  
call Set_Logic_Device
```

```
Initial_OK:  
CALL Exit_Configuration_mode  
MOV AH,4Ch  
INT 21h
```

```
Enter_Configuration_Mode PROC NEAR  
MOV SI,WORD PTR CS:[Offset Cfg_Port]
```

```
MOV DX,02Eh  
MOV CX,04h  
Init_1:  
MOV AL,BYTE PTR CS:[SI]  
OUT DX,AL  
INC SI  
LOOP Init_1  
RET  
Enter_Configuration_Mode ENDP
```

```
Exit_Configuration_Mode PROC NEAR  
MOV AX,0202h
```

CALL Write_Configuration_Data

RET

Exit_Configuration_Mode ENDP

Check_Chip PROC NEAR

MOV AL,20h

CALL Read_Configuration_Data

CMP AL,87h

JNE Not_Initial

MOV AL,21h

CALL Read_Configuration_Data

CMP AL,81h

JNE Not_Initial

Need_Initial:

STC

RET

Not_Initial:

CLC

RET

Check_Chip ENDP

Read_Configuration_Data PROC NEAR

MOV DX,WORD PTR CS:[Cfg_Port+04h]

```
OUT DX,AL
MOV DX,WORD PTR CS:[Cfg_Port+06h]
IN AL,DX
RET
Read_Configuration_Data ENDP
```

```
Write_Configuration_Data PROC NEAR
MOV DX,WORD PTR CS:[Cfg_Port+04h]
OUT DX,AL
XCHG AL,AH
MOV DX,WORD PTR CS:[Cfg_Port+06h]
OUT DX,AL
RET
Write_Configuration_Data ENDP
```

```
Superio_Set_Reg proc near
push ax
MOV DX,WORD PTR CS:[Cfg_Port+04h]
mov al,cl
out dx,al
pop ax
inc dx
out dx,al
ret
Superio_Set_Reg endp.Set_Logic_Device proc near
```



```
Set_Logic_Device    proc    near
push ax
push cx
xchg al,cl
mov cl,07h
call Superio_Set_Reg
pop cx
pop ax
ret
Set_Logic_Device endp
```

```
;Select 02Eh->Index Port, 02Fh->Data Port
Cfg_Port DB 087h,001h,055h,055h
DW 02Eh,02Fh
```

END Main

Note: Interrupt level mapping

0Fh-Dh: not valid

0Ch: IRQ12

.

.

03h: IRQ3

02h: not valid

01h: IRQ1

00h: no interrupt selected







































Appendix

B

I/O Information

B.1 I/O Address Map

Input/output (IO)	
[00000000 - 0000000F]	Direct memory access controller
[00000000 - 00000CF7]	PCI bus
[00000010 - 0000001F]	Motherboard resources
[00000020 - 00000021]	Programmable interrupt controller
[00000022 - 0000003F]	Motherboard resources
[00000040 - 00000043]	System timer
[00000044 - 0000005F]	Motherboard resources
[00000060 - 00000060]	Standard 101/102-Key or Microsoft Natural PS/2 Keyboard
[00000061 - 00000061]	System speaker
[00000062 - 00000063]	Motherboard resources
[00000064 - 00000064]	Standard 101/102-Key or Microsoft Natural PS/2 Keyboard
[00000065 - 0000006F]	Motherboard resources
[00000070 - 00000071]	System CMOS/real time clock
[00000072 - 0000007F]	Motherboard resources
[00000080 - 00000080]	Motherboard resources
[00000081 - 00000083]	Direct memory access controller
[00000084 - 00000086]	Motherboard resources
[00000087 - 00000087]	Direct memory access controller
[00000088 - 00000088]	Motherboard resources
[00000089 - 0000008B]	Direct memory access controller
[0000008C - 0000008E]	Motherboard resources
[0000008F - 0000008F]	Direct memory access controller
[00000090 - 0000009F]	Motherboard resources
[000000A0 - 000000A1]	Programmable interrupt controller
[000000A2 - 000000BF]	Motherboard resources
[000000C0 - 000000DF]	Direct memory access controller
[000000E0 - 000000EF]	Motherboard resources
[000000F0 - 000000FF]	Numeric data processor
[00000274 - 00000277]	ISAPNP Read Data Port
[00000279 - 00000279]	ISAPNP Read Data Port
[000002E8 - 000002EF]	Communications Port (COM4)
[000002F8 - 000002FF]	Communications Port (COM2)
[00000378 - 0000037F]	Printer Port (LPT1)
[000003B0 - 000003BB]	Intel(R) HD Graphics
[000003C0 - 000003DF]	Intel(R) HD Graphics
[000003E8 - 000003EF]	Communications Port (COM3)

	[000003F8 - 000003FF]	Communications Port (COM1)
	[00000400 - 0000047F]	System board
	[000004D0 - 000004D1]	Motherboard resources
	[00000500 - 0000057F]	System board
	[00000778 - 0000077F]	Motherboard resources
	[00000A00 - 00000A1F]	Motherboard resources
	[00000A79 - 00000A79]	ISAPNP Read Data Port
	[00000D00 - 0000FFFF]	PCI bus
	[00001180 - 0000119F]	System board
	[0000D000 - 0000D00F]	Standard Dual Channel PCI IDE Controller
	[0000D000 - 0000DFFF]	Intel(R) 5 Series/3400 Series Chipset Family PCI Express Root Port 8 - 3B50
	[0000D010 - 0000D013]	Standard Dual Channel PCI IDE Controller
	[0000D020 - 0000D027]	Standard Dual Channel PCI IDE Controller
	[0000D030 - 0000D033]	Standard Dual Channel PCI IDE Controller
	[0000D040 - 0000D047]	Standard Dual Channel PCI IDE Controller
	[0000E000 - 0000E01F]	Intel(R) 82574L Gigabit Network Connection
	[0000E000 - 0000EFFF]	Intel(R) 5 Series/3400 Series Chipset Family PCI Express Root Port 6 - 3B4C
	[0000F000 - 0000F01F]	Intel(R) 5 Series/3400 Series Chipset Family SMBus Controller - 3B30
	[0000F020 - 0000F03F]	Intel(R) 8257LM Gigabit Network Connection
	[0000F040 - 0000F04F]	Intel(R) 5 Series/3400 Series Chipset Family 2 port Serial ATA Storage Controller - 3B2D
	[0000F050 - 0000F05F]	Intel(R) 5 Series/3400 Series Chipset Family 2 port Serial ATA Storage Controller - 3B2D
	[0000F060 - 0000F063]	Intel(R) 5 Series/3400 Series Chipset Family 2 port Serial ATA Storage Controller - 3B2D
	[0000F070 - 0000F077]	Intel(R) 5 Series/3400 Series Chipset Family 2 port Serial ATA Storage Controller - 3B2D
	[0000F080 - 0000F083]	Intel(R) 5 Series/3400 Series Chipset Family 2 port Serial ATA Storage Controller - 3B2D
	[0000F090 - 0000F097]	Intel(R) 5 Series/3400 Series Chipset Family 2 port Serial ATA Storage Controller - 3B2D
	[0000F0A0 - 0000F0AF]	Intel(R) 5 Series/3400 Series Chipset Family 4 port Serial ATA Storage Controller - 3B2E
	[0000F0B0 - 0000F0BF]	Intel(R) 5 Series/3400 Series Chipset Family 4 port Serial ATA Storage Controller - 3B2E
	[0000F0C0 - 0000F0C3]	Intel(R) 5 Series/3400 Series Chipset Family 4 port Serial ATA Storage Controller - 3B2E
	[0000F0D0 - 0000F0D7]	Intel(R) 5 Series/3400 Series Chipset Family 4 port Serial ATA Storage Controller - 3B2E
	[0000F0E0 - 0000F0E3]	Intel(R) 5 Series/3400 Series Chipset Family 4 port Serial ATA Storage Controller - 3B2E
	[0000F0F0 - 0000F0F7]	Intel(R) 5 Series/3400 Series Chipset Family 4 port Serial ATA Storage Controller - 3B2E
	[0000F100 - 0000F107]	Intel(R) Active Management Technology - SOL (COM5)
	[0000F110 - 0000F11F]	Standard Dual Channel PCI IDE Controller
	[0000F120 - 0000F123]	Standard Dual Channel PCI IDE Controller
	[0000F130 - 0000F137]	Standard Dual Channel PCI IDE Controller
	[0000F140 - 0000F143]	Standard Dual Channel PCI IDE Controller
	[0000F150 - 0000F157]	Standard Dual Channel PCI IDE Controller
	[0000F160 - 0000F167]	Intel(R) HD Graphics

B.2 1st MB Memory Address Map

Address Range	Device
[000A0000 - 000BFFFF]	Intel(R) HD Graphics
[000A0000 - 000BFFFF]	PCI bus
[7C000000 - FFFFFFFF]	PCI bus
[D0000000 - DFFFFFFF]	Intel(R) HD Graphics
[E0000000 - EFFFFFFF]	System board
[FE000000 - FE3FFFFF]	Intel(R) HD Graphics
[FE400000 - FE4FFFFF]	Intel(R) 5 Series/3400 Series Chipset Family PCI Express Root Port 8 - 3B50
[FE500000 - FE51FFFF]	Intel(R) 82574L Gigabit Network Connection
[FE500000 - FE5FFFFF]	Intel(R) 5 Series/3400 Series Chipset Family PCI Express Root Port 6 - 3B4C
[FE520000 - FE523FFF]	Intel(R) 82574L Gigabit Network Connection
[FE600000 - FE61FFFF]	Intel(R) 82577LM Gigabit Network Connection
[FE620000 - FE623FFF]	Microsoft UAA Bus Driver for High Definition Audio
[FE624000 - FE624FFF]	Intel(R) Turbo Boost Technology Driver
[FE625000 - FE6250FF]	Intel(R) 5 Series/3400 Series Chipset Family SMBus Controller - 3B30
[FE626000 - FE6263FF]	Intel(R) 5 Series/3400 Series Chipset Family USB Enhanced Host Controller - 3B34
[FE627000 - FE6273FF]	Intel(R) 5 Series/3400 Series Chipset Family USB Enhanced Host Controller - 3B3C
[FE628000 - FE628FFF]	Intel(R) 82577LM Gigabit Network Connection
[FE629000 - FE629FFF]	Intel(R) Active Management Technology - SOL (COM5)
[FE62A000 - FE62A00F]	Intel(R) Management Engine Interface
[FEC00000 - FECFFFFFFF]	System board
[FED00000 - FED003FF]	High precision event timer
[FED08000 - FED08FFF]	System board
[FED14000 - FED19FFF]	System board
[FED1C000 - FED1FFFF]	System board
[FED20000 - FED3FFFF]	System board
[FED90000 - FED93FFF]	System board
[FEE00000 - FEE0FFFF]	System board
[FF000000 - FFFFFFFF]	System board

B.3 IRQ Mapping Chart

Interrupt request (IRQ)	
(ISA) 0	System timer
(ISA) 1	Standard 101/102-Key or Microsoft Natural PS/2 Keyboard
(ISA) 3	Communications Port (COM2)
(ISA) 4	Communications Port (COM1)
(ISA) 8	System CMOS/real time clock
(ISA) 9	Microsoft ACPI-Compliant System
(ISA) 10	Communications Port (COM3)
(ISA) 11	Communications Port (COM4)
(ISA) 12	Microsoft PS/2 Mouse
(ISA) 13	Numeric data processor
(PCI) 10	Intel(R) 5 Series/3400 Series Chipset Family SMBus Controller - 3B30
(PCI) 16	Intel(R) 5 Series/3400 Series Chipset Family PCI Express Root Port 6 - 3B4C
(PCI) 16	Intel(R) 5 Series/3400 Series Chipset Family USB Enhanced Host Controller - 3B3C
(PCI) 16	Intel(R) HD Graphics
(PCI) 16	Intel(R) Management Engine Interface
(PCI) 17	Intel(R) 5 Series/3400 Series Chipset Family PCI Express Root Port 1 - 3B42
(PCI) 17	Intel(R) 82574L Gigabit Network Connection
(PCI) 17	Intel(R) Active Management Technology - SOL (COM5)
(PCI) 18	Intel(R) Turbo Boost Technology Driver
(PCI) 18	Standard Dual Channel PCI IDE Controller
(PCI) 19	Intel(R) 5 Series/3400 Series Chipset Family 2 port Serial ATA Storage Controller - 3B2D
(PCI) 19	Intel(R) 5 Series/3400 Series Chipset Family 4 port Serial ATA Storage Controller - 3B2E
(PCI) 19	Intel(R) 5 Series/3400 Series Chipset Family PCI Express Root Port 8 - 3B50
(PCI) 19	Standard Dual Channel PCI IDE Controller
(PCI) 20	Intel(R) 82577LM Gigabit Network Connection
(PCI) 22	Microsoft UAA Bus Driver for High Definition Audio
(PCI) 23	Intel(R) 5 Series/3400 Series Chipset Family USB Enhanced Host Controller - 3B34

B.4 DMA Channel Assignments

Direct memory access (DMA)	
4	Direct memory access controller

Appendix

C

Mating Connector

C.1 List of Mating Connectors and Cables

The table notes mating connectors and available cables.

Connector Label	Function	Mating Connector		Available Cable	Cable P/N
		Vendor	Model no		
CN1	Front Panel Connector	LIAN TAY	1.25mm Pitch 10 pins (LIAN TAY H752-10 or compatible)	Front Panel cable	1701010150
CN2	LCD Inverter/Backlight Connector	CATCH	2.0mm pitch 5 pin (CATCH HS-5P-2.0 or compatible)	N/A	N/A
CN3	LVDS Connector	Hirose	1.25mm Pitch 30 pins (CATCH H716 or compatible)	N/A	N/A
CN5	Power Input Connector	N/A	N/A	Big 4P Power cable	1702002010
CN7	+5V/+12V Power Output Connector	Molex	2.0mm Pitch, 4 pins (Molex 87369-040X)	SATA Power Cable	1702150121
CN8	Audio Connector	CATCH	2.0mm pitch 14pins (CATCH H709-2 or compatible)	Audio Cable	1709140181
CN9	Touch Panel Connector	LIAN TAY	1.0mm pitch 9pins (LIAN TAY H746-09 or compatible)	N/A	N/A
CN13	UIM Connector	LIAN TAY	1.0mm pitch, 6 pins(LIAN TAY H746-06 or compatible)	N/A	N/A
CN17	USB Connector	CATCH	2.00mm Pitch 10 pins (CATCH H754-2x5 or compatible)	USB Cable	1709100208

EPIC Board**EPIC-QM57**

CN20	LPT Port Connector	CATCH	2.00mm Pitch 26 pins (CATCH H754-2x13 or compatible)	LPT cable	1701260200
CN21	Digital I/O Connector	CATCH	2.00mm Pitch 10 pins (CATCH H754-2x5 or compatible)	N/A	N/A
CN23	PS/2 Keyboard/Mouse Connector	CATCH	2.0mm pitch 6 pins (CATCH MD-6PS or compatible)	Keyboard / Mouse Cable	1700060157
CN25/26/34	COM Port Connector	LIAN TAY	1.25mm pitch 9 pins (LIAN TAY H752-09 or compatible)	COM Cable	1701090150

Appendix

D

RAID & AHCI Settings

D.1 Setting RAID

OS installation to setup RAID Mode

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

Disk

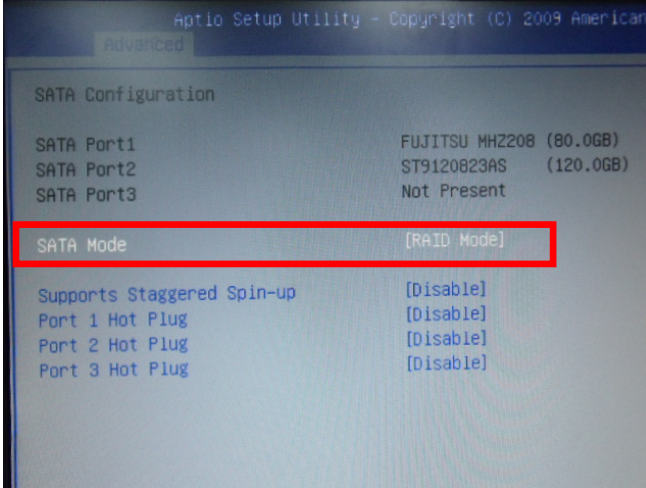


Step 2: Connect the USB Floppy (disk with RAID files) to the board



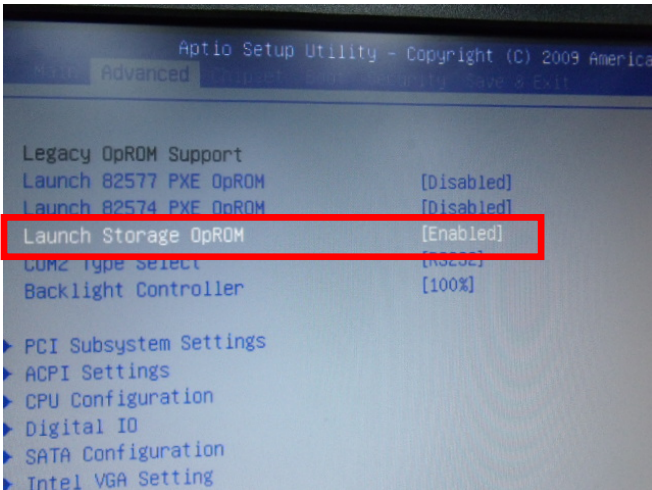
Step 3: The setting procedures "In BIOS Setup Menu"

A: Advanced -> SATA Configuration -> SATA Mode -> RAID Mode



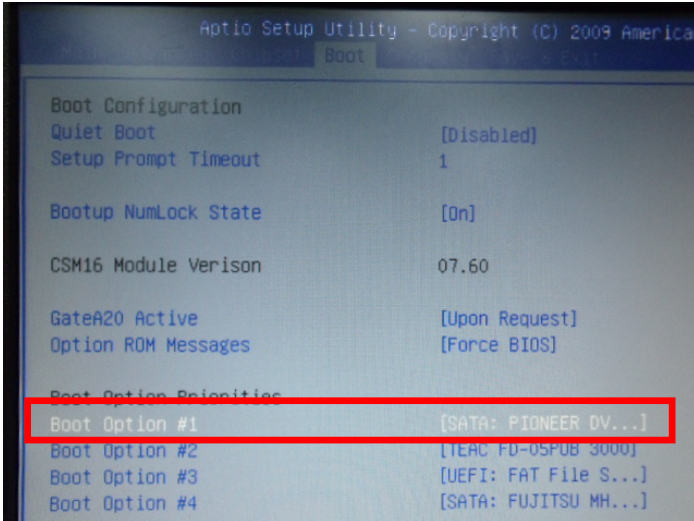
Step 4: The setting procedures "In BIOS Setup Menu"

B: Advanced -> Launch Storage OpROM -> Enabled



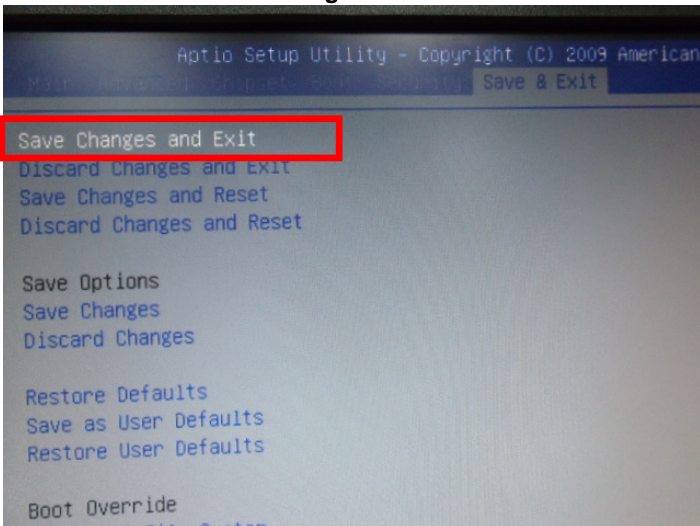
Step 5: The setting procedures "In BIOS Setup Menu"

C: Boot -> Boot Option #1 -> DVD-ROM Type

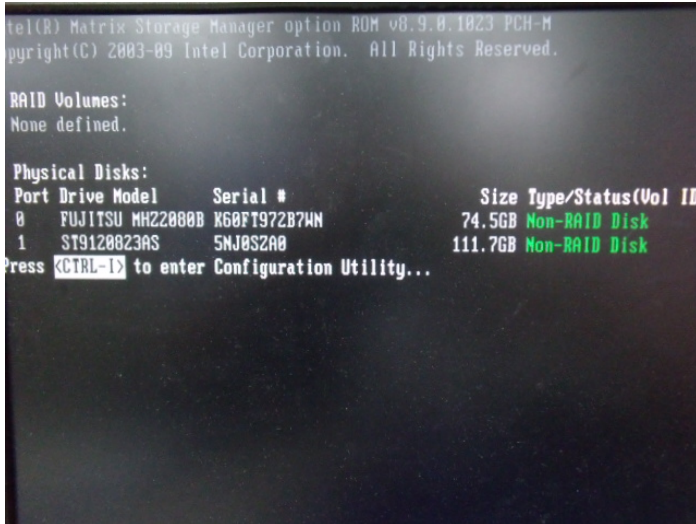


Step 6: The setting procedures "In BIOS Setup Menu"

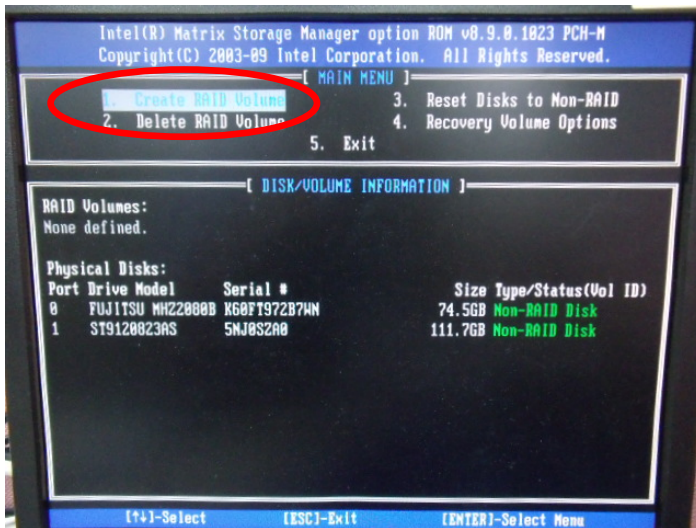
D: Save & Exit -> Save Changes and Exit



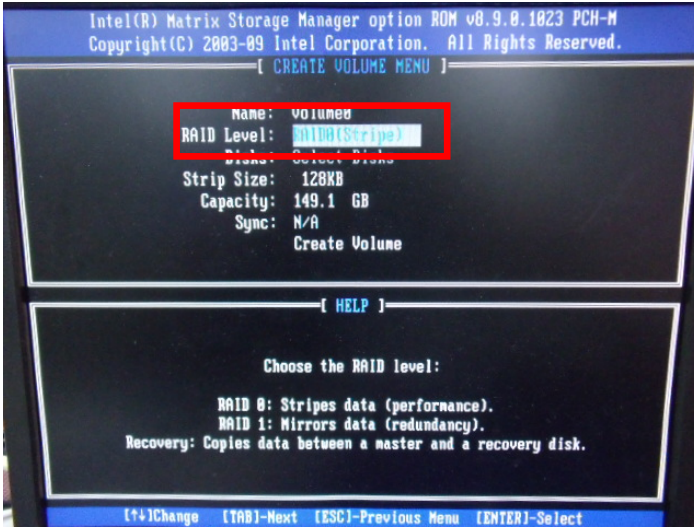
Step 7: Press **Ctrl-I** to enter **MAIN MENU**



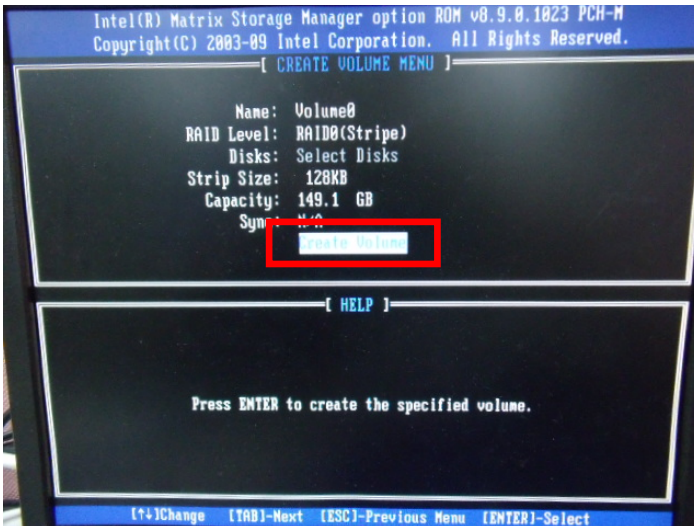
Step 8: Choose "1.Create RAID Volume"



Step 9: RAID Level -> RAID0(Stripe)



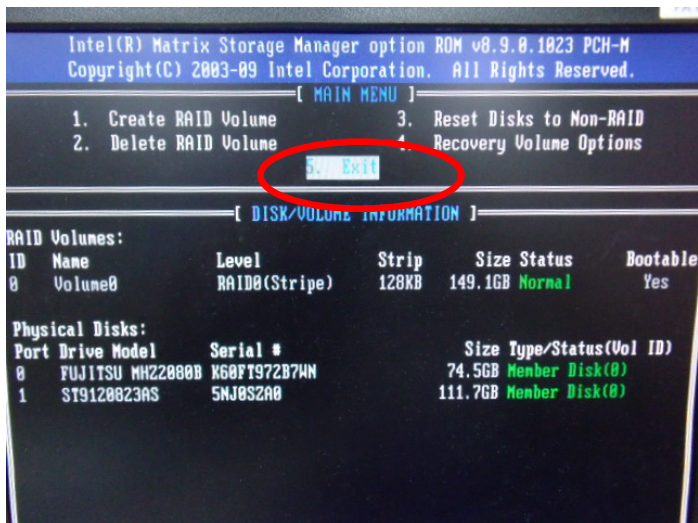
Step 10: Choose "Create Volume"



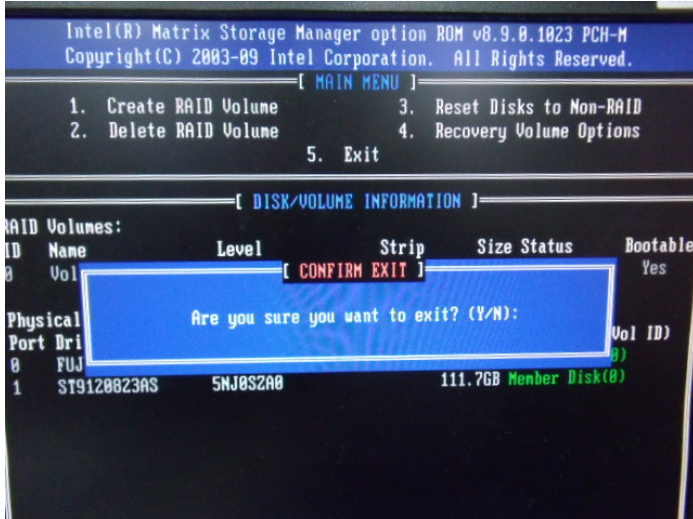
Step 11: Choose "Y"



Step 12: Choose "5. Exit"



Step 13: Choose “Y”



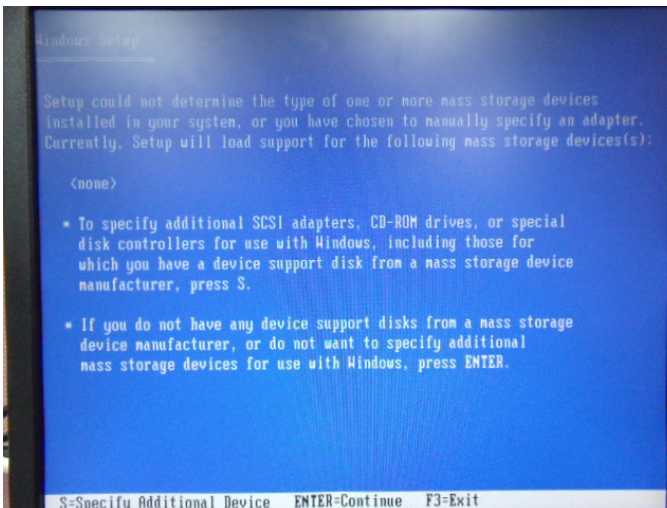
Step 14: Setup OS

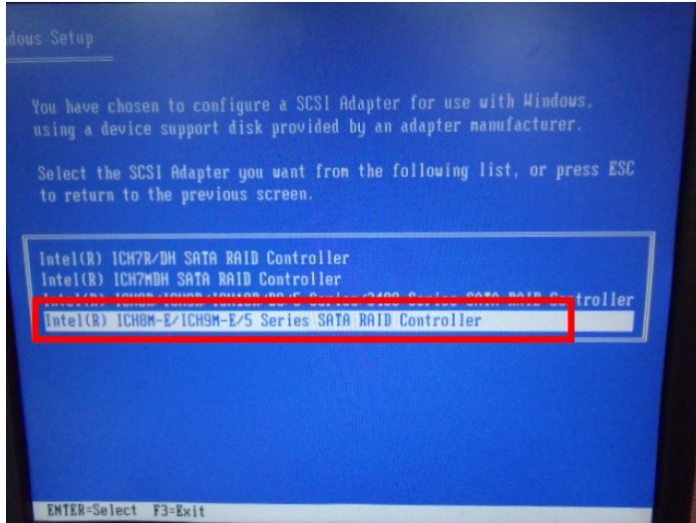


Step 15: Press "F6"

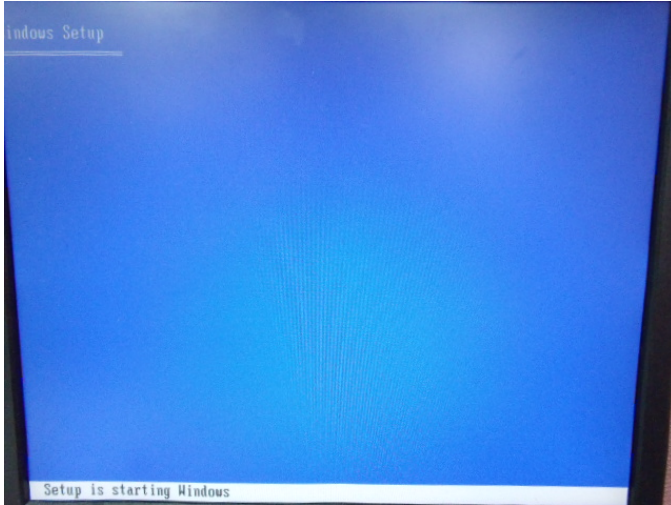


Step 16: Choose "S"



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



D.2 Setting AHCI

OS installation to setup AHCI Mode

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

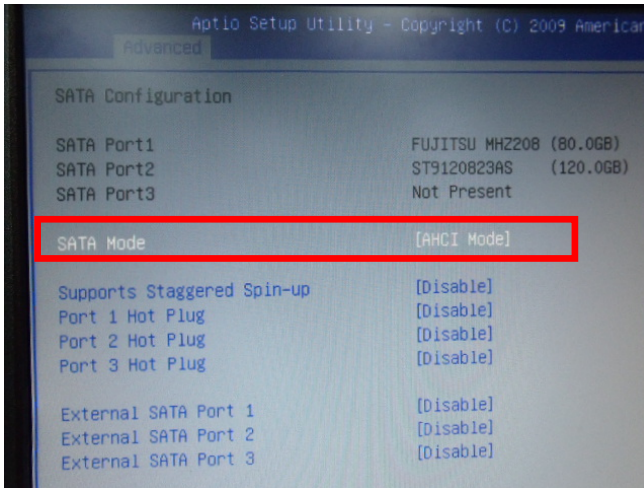


Step 2: Connect the USB Floppy (disk with AHCI files) to the board



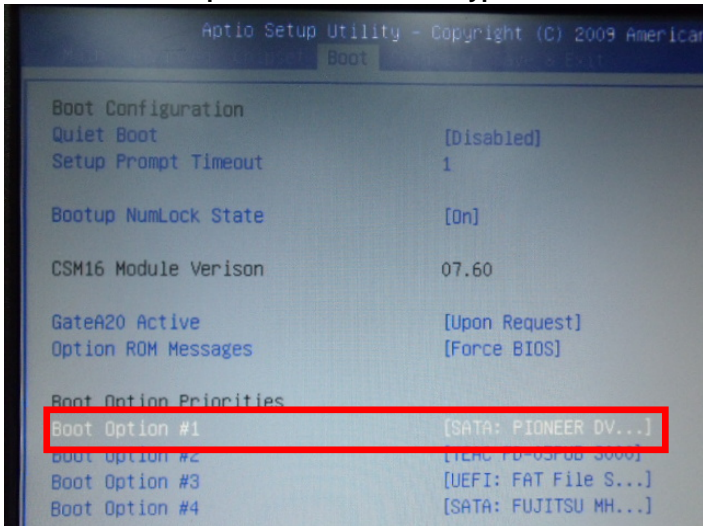
Step 3: The setting procedures “In BIOS Setup Menu”

A: Advanced -> SATA Configuration -> SATA Configuration -> SATA Mode -> AHCI Mode



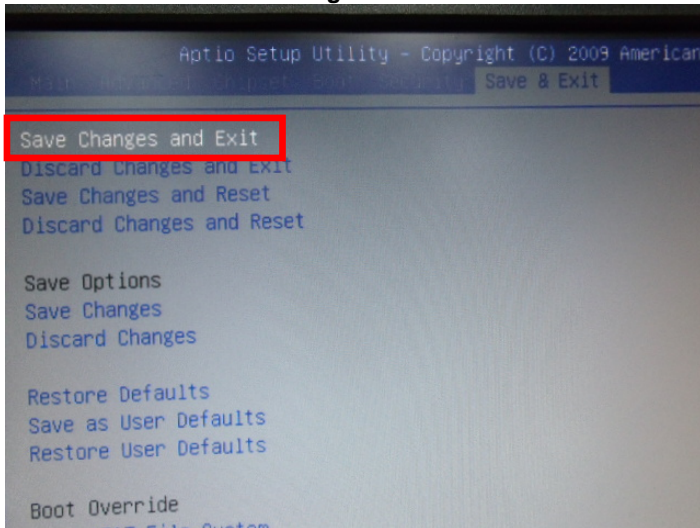
Step 4: The setting procedures “In BIOS Setup Menu”

B: Boot -> Boot Option #1 -> DVD-ROM Type

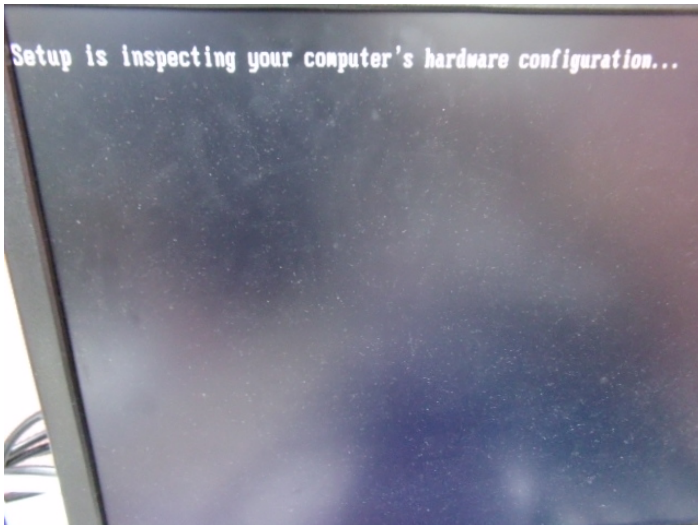


Step 5: The setting procedures "In BIOS Setup Menu"

C: Save & Exit -> Save Changes and Exit



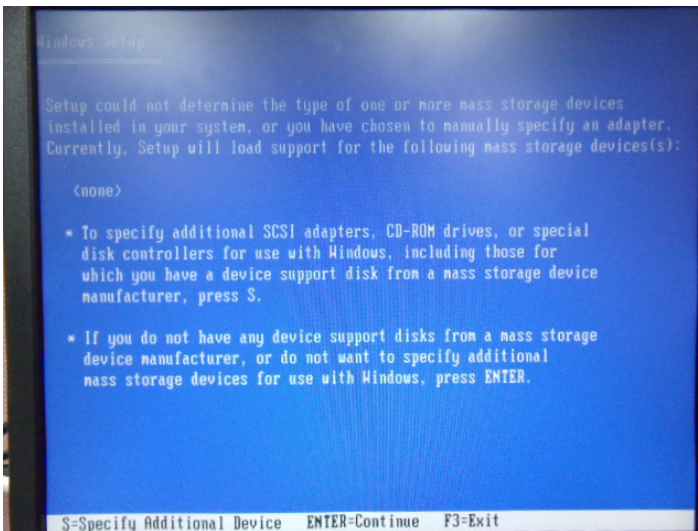
Step 6: Setup OS



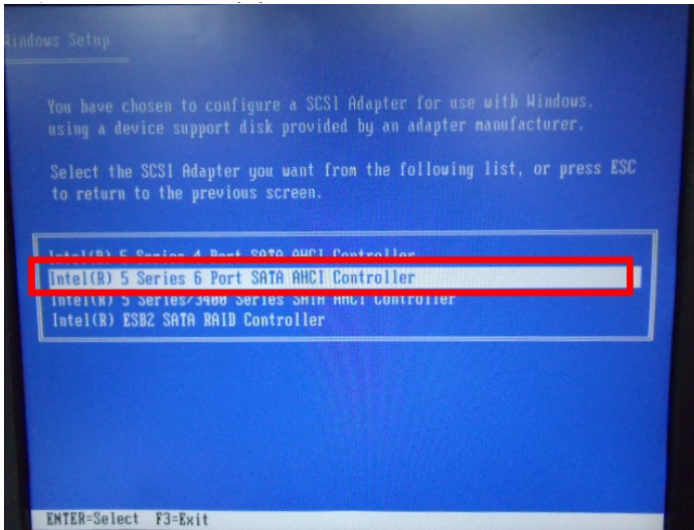
Step 7: Press "F6"



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

