ETX-A55E

AMD G-Series Processors
DDR3L Memory
SATA x 2, PATA x 2, PCI x 4
USB 2.0 x 4, COM x 2, 8/16-bit ISA
CRT, HD Audio, I2C
18/24-bit Dual-Channel LVDS

ETX-A55E Rev. A Manual 1st Ed.
July 28, 2015

Copyright Notice

This document is copyrighted, 2015. 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.

- AMD is trademark of Advanced Micro Devices.
- 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:

- DVD-ROM for manual (in PDF format) and drivers
- ETX-A55E Module

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

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	×	○	○	○	○	○

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 Requirements

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	X	O	O	O	O	O○
Wires & Connectors for External Connections	X	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

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 Mechanical Drawing...2-3
2.3 Block Diagram 2-5
2.4 List of Connectors 2-6
    2.4.1 RTC Battery Connector (CN1).............................2-7
    2.4.2 SPI ROM Flash Connector (CN2) 2-7
    2.4.3 Fan Connector (CN4) 2-8
    2.4.4 SATA Connector (CN5) 2-8
    2.4.5 SATA Connector (CN6) 2-9
    2.4.6 LCP Debug Port Connector (CN7) 2-10
    2.4.7 ETX – X1 Connector (X1A)................................2-11
    2.4.8 ETX – X2 Connector (X1B)................................2-11
    2.4.9 ETX – X3 Connector (X1C) 2-15
    2.4.10 ETX – X4 Connector (X1D) 2-17
    2.4.11 DDR3L SODIMM Connector (DIMM1) 2-19
2.5 List of Switches 2-19
    2.5.1 ATX/AT Mode & Clear CMOS Switch 2-21

Chapter 3 AMI BIOS Setup

3.1 System Test and Initialization. 3-2
3.2 AMI 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 W83627DHG Watchdog Timer Initial Program............ A-8

Appendix B I/O Information

B.1 I/O Address Map..B-2
B.2 Memory Address Map...B-4
B.3 IRQ Mapping Chart...B-5
B.4 DMA Channel Assignment..B-6

Appendix C AHCI Settings

C.1 Setting AHCI C-2

Chapter 1

General Information

1.1 Introduction

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.

1.2 Features

- AMD G-Series T-16R/T56N Processor
- A55E Chipset
- 204-pin DDR3L 1066/1333 SODIMM Memory (up to 8 GB for Windows® 7 64-bit)
- 10/100 Ethernet x 1
- CRT, 18/24-bit Dual-Channel LVDS
- SATA x 2, PATA x 2, PCI x 4, SMBus x 5, PCI x 4, I2C
- 8/16-bit ISA
- USB 2.0 x 4, COM x 2

1.3 Specifications

System

Form Factor	ETX
Processor	AMD G-Series T16R Single-core 615 MHz AMD G-Series T56N Dual-core 1.65 GHz
System Memory	204-pin DDR3L 1066/1333 MHz SODIMM up to 8 GB
Chipset	AMD A55E
Ethernet	Realtek® for 10/100 Base-TX
BIOS	AMI UEFI BIOS
Wake On LAN	Yes
Watchdog Timer	Super I/O
H/W Status Monitoring	Super I/O
Expansion Interface	32-bit PCI x 4 SMBus x 1 I2C x 1 8/16-bit ISA
Power Requirement	DC 5V
Power Consumption (Typical)	10.7 W (T16R)

	24.2 W (T56N)
Board Size	ETX, 114 x 95mm (4.5" x 3.74")
Gross Weight	0.2 kg (1.4 lb)
Operating Temperature	0 °C ~ 60 °C (32 °F ~ 140 °F)
Storage Temperature	-20°C ~ 70°C (-4°F ~ 158°F)
Operation Humidity	10 ~ 80% Relative Humidity, Non-Condensing

Display

Chipset	AMD G-Series Integrated Graphics Engine
Memory	Shared Memory: 256 MB/ UMA
Resolution	CRT up to 1920 x 1200 LVDS up to 1920 x 1200
LCD Interface	18/24-bit Dual-Channel LVDS

I/O

Storage	PATA x 2 (supports 2 devices) SATA 6.0 Gb/s x 2
USB	USB 2.0 x 4
Serial Port	RS-232 x 2
DI/O	-

PS/2 Port	PS/2 Keyboard x 1
	Mouse x 1
Audio	HD Audio x 1

Chapter 2

Quick Installation Guide

2.1 Safety Precautions

Warning!

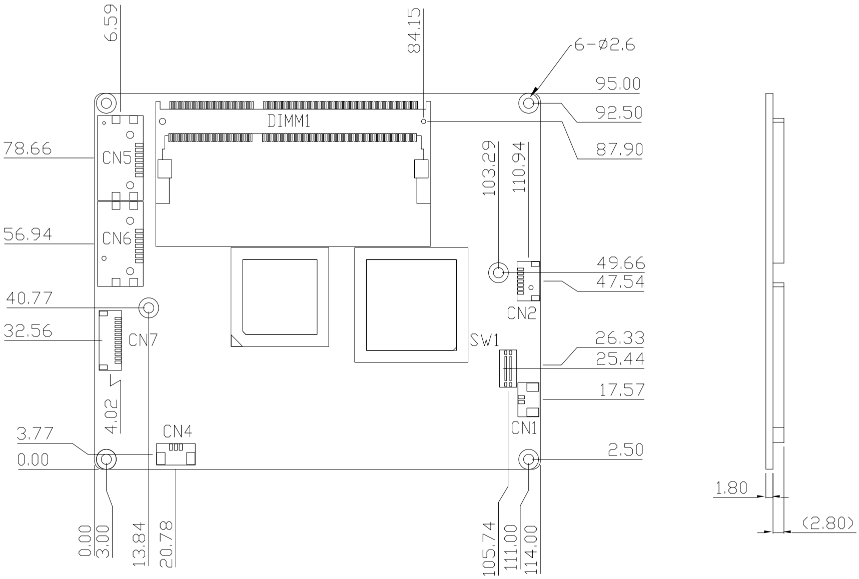
Always completely disconnect the power cord from your board whenever you are working on it. Do not make connections while the power is on, because a sudden rush of power can damage sensitive electronic components.

Caution!

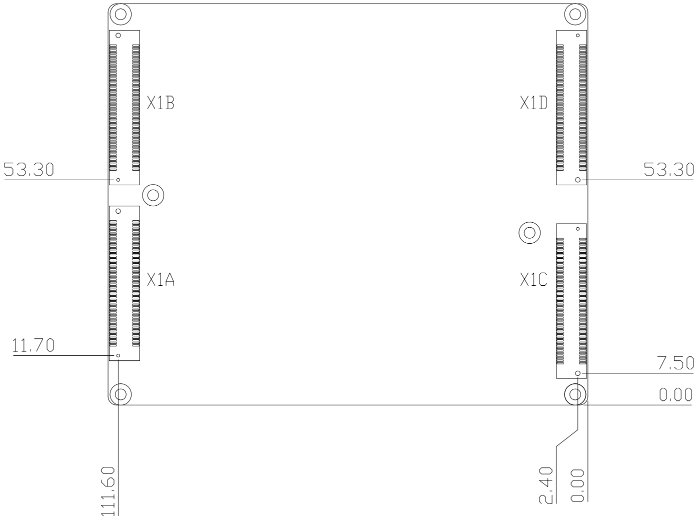
Always ground yourself to remove any static charge before touching the board. Modern electronic devices are very sensitive to static electric charges. Use a grounding wrist strap at all times. Place all electronic components on a static-dissipative surface or in a static-shielded bag when they are not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

2.2 Mechanical Drawing

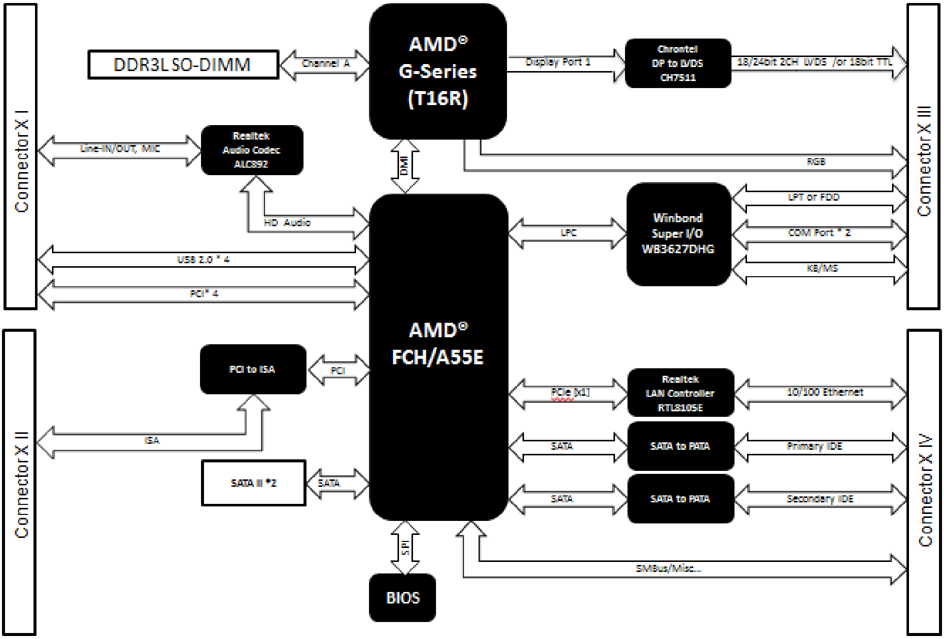
Component Side


6.59
84.15
6-Ø2.6
95.00
92.50
87.90
DIMM1
78.66
CN5
103.29
110.94
56.94
CN6
49.66
47.54
40.77
CN2
32.56
CN7
SW1
26.33
25.44
17.57
4.02
CN1
3.77
CN4
0.00
2.50
0.00
3.00
13.84
20.78
105.74
111.00
114.00
1.80
(2.80)

Solder Side


X1B
X1D
53.30
53.30
X1A
X1C
11.70
7.50
0.00
111.60
2.40
0.00

2.3 Block Diagram


Connector X I
DDR3L SO-DIMM
Channel A
AMD® G-Series (T16R)
Display Port 1
Chrontel DP to LVDS CH7511
18/24bit 2CH LVDS /or 18bit TTL
Connector X III
Line-IN/OUT, MIC
Realtek Audio Codec ALC892
DMI
RGB
HD Audio
LPC
Winbond Super I/O W83627DHG
LPT or FDD
COM Port * 2
KB/MS
USB 2.0 * 4
PCI* 4
AMD® FCH/A55E
PCI to ISA
PCI
Connector X II
PCIe [x1]
Realtek LAN Controller RTL8105E
10/100 Ethernet
ISA
SATA
SATA to PATA
Primary IDE
SATA II *2
SATA
SATA
SATA to PATA
Secondary IDE
SPI
SMBus/Misc...
BIOS
Connector X IV

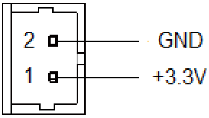
2.4 List of Connectors

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 of the board's jumpers:

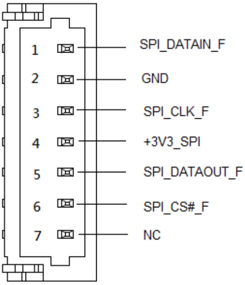
Label	**Function**
CN1	RTC Battery Connector
CN2	BIOS SPI Rom Flash Connector
CN4	FAN Connector
CN5	SATA Connector
CN6	SATA Connector
CN7	LPC Debug Port Connector
X1A	ETX - X1 Connector
X1B	ETX - X2 Connector
X1C	ETX - X3 Connector
X1D	ETX - X4 Connector
DIMM1	DDR3 SODIMM connector

2.4.1 RTC Battery Connector (CN1)



Pin	Pin Name	Signal Type	Signal level
1	RTCBAT	PWR	+3.3V
2	GND	GND	

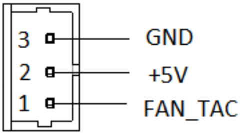
2.4.2 SPI Rom Flash Connector (CN2)


1
2
3
4
5
6
7
SPI_DATAIN_F
GND
SPI_CLK_F
+3V3_SPI
SPI_DATAOUT_F
SPI_CS#_F
NC

Pin	Pin Name	Signal Type	Signal level
1	SPI_DATAIN_F	I/O	3.3V
2	GND	GND	
3	SPI_CLK_F	I/O	3.3V
4	+3V3_SPI	PWR	3.3V
5	SPI_DATAOUT_F	I/O	3.3V

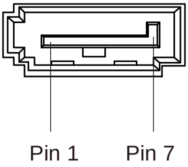
6	SPI_CS#_F	I/O	3.3V
7	NC		

2.4.3 Fan Connector (CN4)



Pin	Pin Name	Signal Type	Signal level
1	FAN_TAC	NA	
2	+5V	PWR	+5V
3	GND	GND	

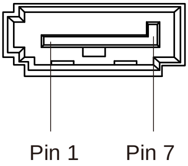
2.4.4 SATA Connector (CN5)



Pin	Pin Name	Signal Type	Signal level
1	GND	GND	
2	SATA_TX0_P_C	DIFF	
3	SATA_TX0_N_C	DIFF	

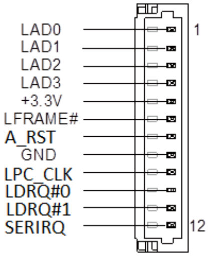
4	GND	GND	
5	SATA_RX0_N_C	DIFF	
6	SATA_RX0_P_C	DIFF	
7	GND	GND	

2.4.5 SATA Connector (CN6)



Pin	Pin Name	Signal Type	Signal level
1	GND	GND	
2	SATA_TX1_P_C	DIFF	
3	SATA_TX1_N_C	DIFF	
4	GND	GND	
5	SATA_RX1_N_C	DIFF	
6	SATA_RX1_P_C	DIFF	
7	GND	GND	

2.4.6 LPC Debug Port Connector (CN7)


LAD0
LAD1
LAD2
LAD3
+3.3V
LFRAME#
A_RST
GND
LPC_CLK
LDRQ#0
LDRQ#1
SERIRQ
1
12

Pin	Pin Name	Signal Type	Signal level
1	LAD0	I/O	+3.3V
2	LAD1	I/O	+3.3V
3	LAD2	I/O	+3.3V
4	LAD3	I/O	+3.3V
5	+3.3V	PWR	+3.3V
6	LFRAME#	IN	
7	A_RST#	OUT	+3.3V
8	GND	GND	
9	LPC_CLK	OUT	
10	LDRQ#0	IN	
11	LDRQ#1	IN	
12	SERIRQ	I/O	+3.3V

2.4.7 ETX – X1 Connector (X1A)

Pin	Signal	Pin	Signal
1	GND	2	GND
3	PCI2_CLK33	4	PCI3_CLK33
5	GND	6	GND
7	PCI0_CLK33	8	PCI1_CLK33
9	PCI_REQ#3	10	PCI_GNT#3
11	PCI_GNT#2	12	N/C
13	PCI_REQ#2	14	PCI_GNT#1
15	PCI_REQ#1	16	N/C
17	PCI_GNT#0	18	N/C
19	+5V	20	+5V
21	SERIRQ	22	PCI_REQ#0
23	AD0	24	N/C
25	AD1	26	AD2
27	AD4	28	AD3
29	AD6	30	AD5
31	C/BE#0	32	AD7
33	AD8	34	AD9
35	GND	36	GND
37	AD10	38	LIN_L
39	AD11	40	MIC_IN
41	AD12	42	LIN_R

43	AD13	44	ASVCC
45	AD14	46	LOUT_L
47	AD15	48	ASGND
49	C/BE#1	50	LOUT_R
51	+5V_EXT	52	+5V
53	PAR	54	SERR#
55	PERR#	56	N/C
57	PME#	58	USB_P2-
59	LOCK#	60	DEVSEL#
61	TRDY#	62	USB_P3-
63	IRDY#	64	STOP#
65	FRAME#	66	USB_P2+
67	GND	68	GND
69	AD16	70	C/BE#2
71	AD17	72	USB_P3+
73	AD19	74	AD18
75	AD20	76	USB_P0-
77	AD22	78	AD21
79	AD23	80	USB_P1-
81	AD24	82	C/BE#3
83	+5V	84	+5V
85	AD25	86	AD26
87	AD28	88	USB_P0+
89	AD27	90	AD29

91	AD30	92	USB_P1+
93	PCI_RST#	94	AD31
95	INT#C	96	INT#D
97	INT#A	98	INT#B
99	GND	100	GND

2.4.8 ETX – X2 Connector (X1B)

Pin	Signal	Pin	Signal
1	GND	2	GND
3	SD14	4	SD15
5	SD13	6	MASTER#
7	SD12	8	DRQ7
9	SD11	10	DACK#7
11	SD10	12	DRQ6
13	SD9	14	DACK#6
15	SD8	16	DRQ5
17	MEMW#	18	DACK#5
19	MEMR#	20	DRQ0
21	SA17	22	DACK#0
23	SA18	24	IRQ14
25	SA19	26	IRQ15
27	SA20	28	IRQ12
29	SA21	30	IRQ11
31	SA22	32	IRQ10

33	SA23	34	IOCS16#
35	GND	36	GND
37	SBHE#	38	MEMCS16#
39	SA0	40	PCI4_CLK14
41	SA1	42	BALE
43	SA2	44	TC
45	SA3	46	DACK#2
47	SA4	48	IRQ3
49	SA5	50	IRQ4
51	+5V	52	+5V
53	SA6	54	IRQ5
55	SA7	56	IRQ6
57	SA8	58	IRQ7
59	SA9	60	SYSCLK_8M
61	SA10	62	RFSH#
63	SA11	64	DRQ1
65	SA12	66	DACK#1
67	GND	68	GND
69	SA13	70	DRQ3
71	SA14	72	DACK#3
73	SA15	74	IOR#
75	SA16	76	IOW#
77	SA18	78	SA17
79	SA19	80	SMEMR#

81	IOCHRDY	82	AEN
83	+5V	84	+5V
85	SD0	86	SMEMW#
87	SD2	88	SD1
89	SD3	90	ZEROWS#
91	DRQ2	92	SD4
93	SD5	94	IRQ9
95	SD6	96	SD7
97	IOCHK#	98	RSTDRV
99	GND	100	GND

2.4.9 ETX – X3 Connector (X1C)

Pin	Signal	Pin	Signal
1	GND	2	GND
3	APU_VGA_R	4	APU_VGA_B
5	HSYNC	6	APU_VGA_G
7	VSYNC	8	APU_DAC_SCL
9	N/C	10	APU_DAC_SDA
11	B4_LVD_B_CLKN	12	TTL_CLK_LVD_B_TX#3
13	B4_LVD_B_CLKP	14	TTL_DE_LVD_B_TX3
15	GND	16	GND
17	B1_LVD_B_TX1	18	B3_LVD_B_TX2
19	B0_LVD_B_TX#1	20	B2_LVD_B_TX#2
21	GND	22	GND

23	G2_LVD_A_TX#3	24	G5_LVD_B_TX0
25	G3_LVD_A_TX3	26	G4_LVD_B_TX#0
27	GND	28	GND
29	R4_LVD_A_TX#2	30	G1_LVD_A_CLKP
31	R5_LVD_A_TX2	32	G0_LVD_A_CLKN
33	GND	34	GND
35	R1_LVD_A_TX0	36	R3_LVD_A_TX1
37	R0_LVD_A_TX#0	38	R2_LVD_A_TX#1
39	+5V	40	+5V_EXT
41	LVD_2ND_DDCDAT	42	N/C
43	LVD_2ND_DDCCLK	44	LVD_2ND_BKLEN_X3
45	BKLCTL	46	LVD_2ND_VDDEN
47	N/C	48	N/C
49	N/C	50	N/C
51	LPT/FLPY#	52	N/C
53	+5V	54	GND
55	STB#	56	AFD#
57	N/C	58	PD7
59	N/C	60	ERR#
61	N/C	62	PD6
63	RX2#	64	INIT#
65	GND	66	GND
67	RTS2#	68	PD5
69	DTR2#	70	SLIN#

71	DCD2#	72	PD4
73	DSR2#	74	PD3
75	CTS2#	76	PD2
77	TXD2#	78	PD1
79	RI2#	80	PD0
81	+5V	82	+5V
83	RX1#	84	ACK#
85	RTS1#	86	BUSY
87	DTR1#	88	PE
89	DCD1#	90	SLCT
91	DSR1#	92	MSCLK#
93	CTS1#	94	MSDAT#
95	TX1#	96	KBCLK#
97	RI1#	98	KBDAT#
99	GND	100	GND

2.4.10 ETX – X4 Connector (X1D)

Pin	Signal	Pin	Signal
1	GND	2	GND
3	+5VSB_EXT	4	HWRST#
5	PSON#	6	NM_SPKR
7	EXT_PWRBTN#	8	RTCBAT
9	N/C	10	LINK_LED#
11	N/C	12	ACT_LED#

13	N/C	14	10_100_LED#
15	N/C	16	SCLK0
17	+5V	18	+5V
19	OC#	20	N/C
21	N/C	22	SDATA0
23	SCLK0	24	SDATA0
25	IDE2_CS3#	26	SMBALERT#
27	IDE2_CS1#	28	DASP_S
29	IDE2_A2	30	IDE_CS3#
31	IDE2_A0	32	IDE_CS1#
33	GND	34	GND
35	PDIAG_S	36	IDE_A2
37	IDE2_A1	38	IDE_A0
39	IDE2_INTRQA	40	IDE_A1
41	BATLOW#	42	N/C
43	IDE2_ACK#	44	IDE_INTRQ
45	IDE2_RDY	46	IDE_ACK#
47	IDE2_IOR#	48	IDE_RDY
49	+5V	50	+5V
51	IDE2_IOW#	52	IDE_IOR#
53	IDE2_DRQ	54	IDE_IOW#
55	IDE2_D15	56	IDE_DRQ
57	IDE2_D0	58	IDE_D15
59	IDE2_D14	60	IDE_D0

61	IDE2_D1	62	IDE_D14
63	IDE2_D13	64	IDE_D1
65	GND	66	GND
67	IDE2_D2	68	IDE_D13
69	IDE2_D12	70	IDE_D2
71	IDE2_D3	72	IDE_D12
73	IDE2_D11	74	IDE_D3
75	IDE2_D4	76	IDE_D11
77	IDE2_D10	78	IDE_D4
79	IDE2_D5	80	IDE_D10
81	+5V_EXT	82	+5V
83	IDE2_D9	84	IDE_D5
85	IDE2_D6	86	IDE_D9
87	IDE2_D8	88	IDE_D6
89	FCH_RI#	90	CBLID_P#
91	RDN	92	IDE_D8
93	RDP	94	IDE2_D7
95	TDN	96	IDE_D7
97	TDP	98	IDE_RST#
99	GND	100	GND

2.4.11 DDR3L SODIMM Connector (DIMM1)

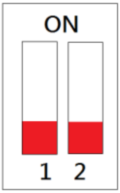
Standard DDR3L SODIMM Connector

2.5 List of Switches

The board is fitted with switch(es) that allow you to configure your system to suit your application.

Label	**Function**
SW1	ATX/AT Mode & Clear CMOS

2.5.1 ATX/AT Mode & Clear CMOS Switch



ATX Mode (Default)

Label	Function
1(OFF)	Normal (Default)
1(ON)	Clear CMOS
2(OFF)	ATX Mode
2(ON)	AT Mode (Default)

Chapter 3

AMI BIOS Setup

3.1 System Test and Iinitialization

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.

System configuration verification

These routines check the current system configuration stored in the CMOS memory and BIOS NVRAM. If system configuration is not found or system configuration data error is detected, system will load optimized default and re-boot with this default system configuration automatically.

There are four situations in which you will need to setup system configuration:

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

The ETX-A55E CMOS memory has an integral lithium battery backup for data retention. However, you will need to replace the complete unit when it finally runs out.

3.2 AMI BIOS Setup

AMI 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 and BIOS NVRAM so that it retains the Setup information when the power is turned off.

Entering Setup

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

Main

Set the date, use tab to switch between date elements.

Advanced

Enable disable boot option for legacy network devices.

Chipset

Host bridge parameters.

Boot

Enables/disable quiet boot option.

Security

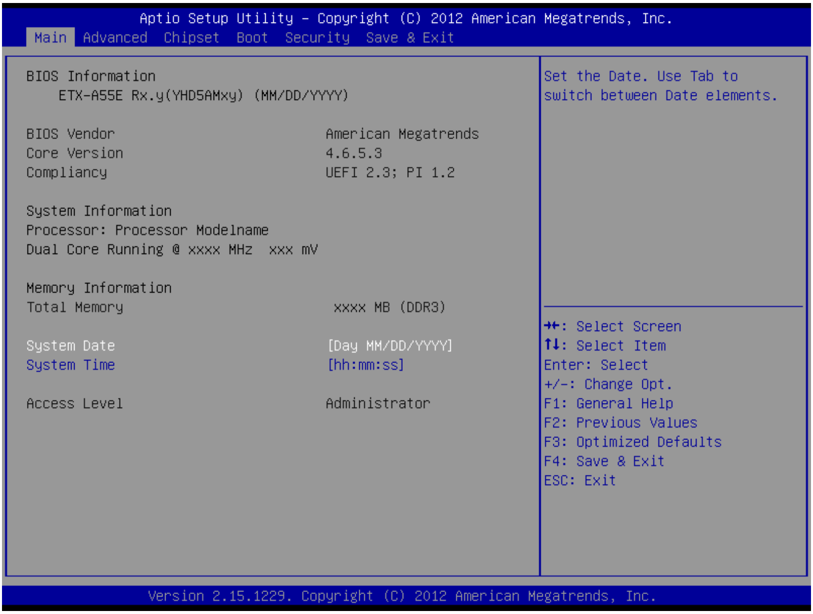
Set setup administrator password.

Save & Exit

Exit system setup after saving the changes.

Setup Menu

Setup submenu: Main

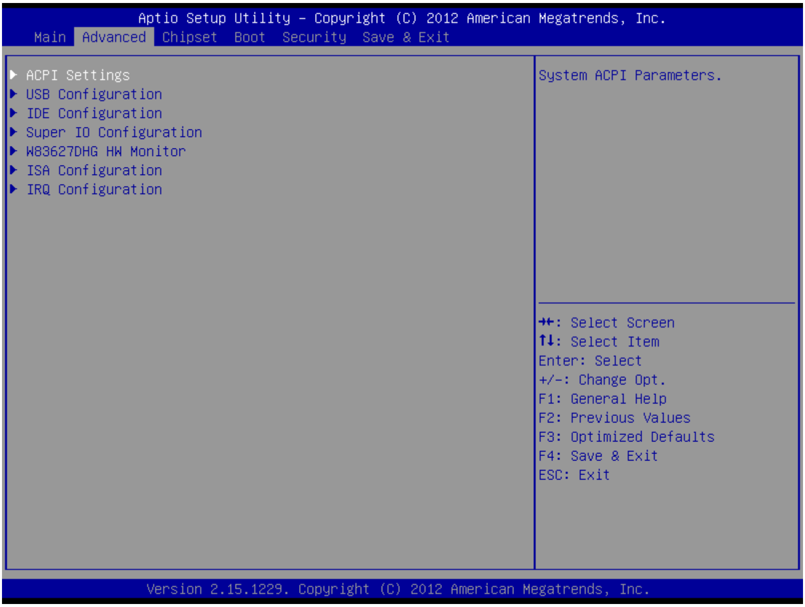


```
         Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
   Main  Advanced  Chipset  Boot  Security  Save & Exit

  BIOS Information                                       Set the Date. Use Tab to
      ETX-A55E Rx.y(YHD5AMxy) (MM/DD/YYYY)               switch between Date elements.

  BIOS Vendor                    American Megatrends
  Core Version                   4.6.5.3
  Compliancy                     UEFI 2.3; PI 1.2

  System Information
  Processor: Processor Modelname
  Dual Core Running @ xxxx MHz  xxx mV

  Memory Information
  Total Memory                    xxxx MB (DDR3)         →←: Select Screen
                                                         ↑↓: Select Item
  System Date                    [Day MM/DD/YYYY]        Enter: Select
  System Time                    [hh:mm:ss]              +/-: Change Opt.
                                                         F1: General Help
  Access Level                   Administrator           F2: Previous Values
                                                         F3: Optimized Defaults
                                                         F4: Save & Exit
                                                         ESC: Exit

         Version 2.15.1229. Copyright (C) 2012 American Megatrends, Inc.
```

Options summary: (***default setting***)

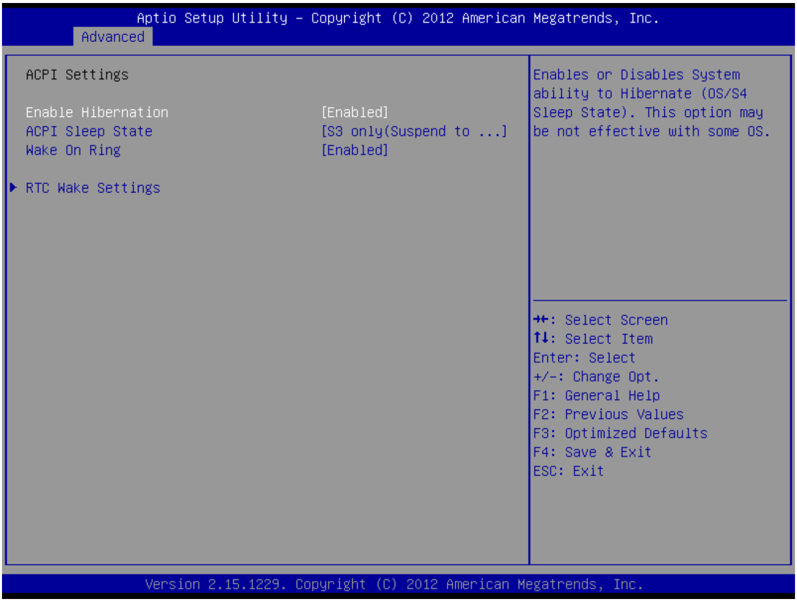
System Date	Day MM:DD:YYYY	
Change the month, year and century. The ‘Day’ is changed automatically.		
System Time	hh : mm : ss	
Change the clock of the system.		

Setup submenu: Advanced



```
        Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc.
  Main  Advanced  Chipset  Boot  Security  Save & Exit

▶ ACPI Settings                              System ACPI Parameters.
▶ USB Configuration
▶ IDE Configuration
▶ Super IO Configuration
▶ W83627DHG HW Monitor
▶ ISA Configuration
▶ IRQ Configuration

                                             →←: Select Screen
                                             ↑↓: Select Item
                                             Enter: Select
                                             +/-: Change Opt.
                                             F1: General Help
                                             F2: Previous Values
                                             F3: Optimized Defaults
                                             F4: Save & Exit
                                             ESC: Exit

        Version 2.15.1229. Copyright (C) 2012 American Megatrends, Inc.
```

ACPI Settings



Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc.

Advanced

ACPI Settings

Enable Hibernation [Enabled]

ACPI Sleep State [S3 only(Suspend to ...]

Wake On Ring [Enabled]

▶ RTC Wake Settings

Enables or Disables System ability to Hibernate (OS/S4 Sleep State). This option may be not effective with some OS.

→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit

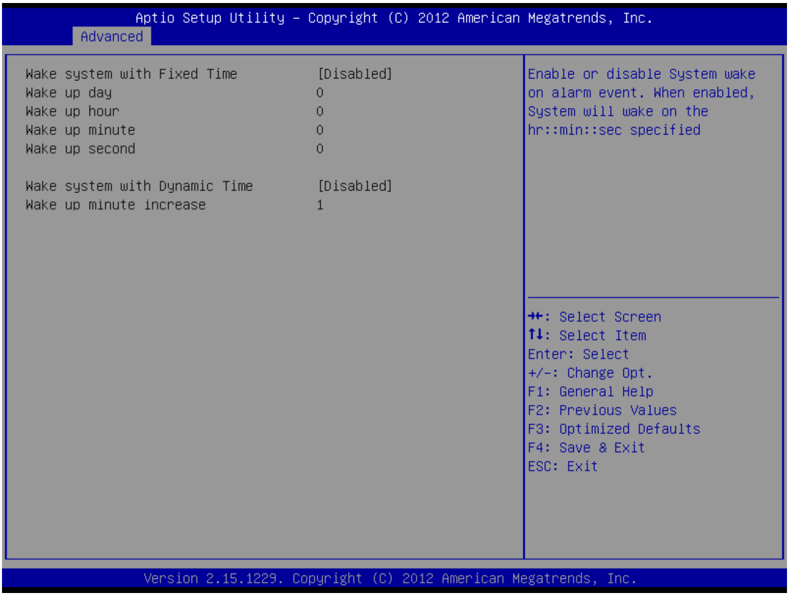
Version 2.15.1229. Copyright (C) 2012 American Megatrends, Inc.

Options summary: (***default setting***)

Enable Hibernation	***Enabled***	
	Disabled	
Enabled or disabled hibernate (OS/S4 Sleep State).		
ACPI Sleep State	Suspend Disabled	
	S3 only(Suspend to RAM)	
Select the ACPI state used for System Suspend		
Wake on Ring	***Enabled***	
	Disabled	
Enabled or disabled wake on ring function.		

RTC Wake Settings		
Enable system to wake from S5 using RTC alarm.		

RTC Wake Settings



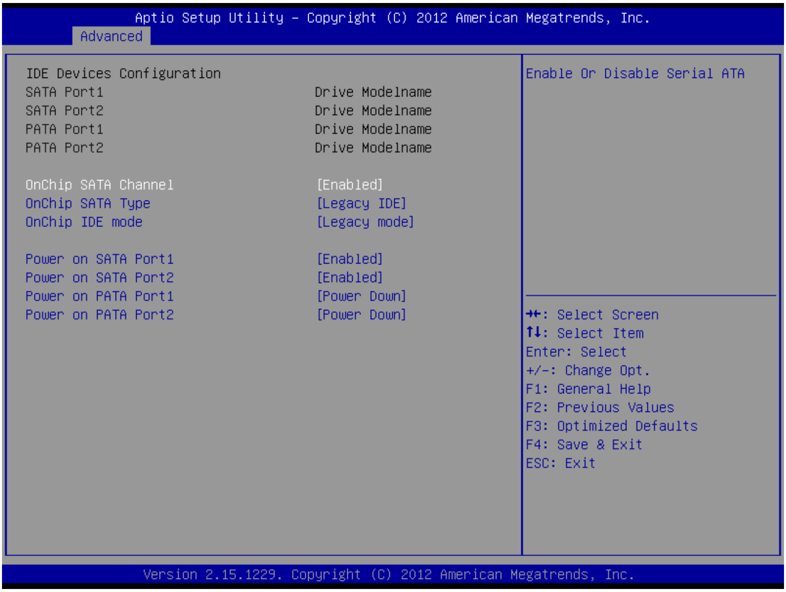
```
Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc.
        Advanced

 Wake system with Fixed Time           [Disabled]     Enable or disable System wake
 Wake up day                           0              on alarm event. When enabled,
 Wake up hour                          0              System will wake on the
 Wake up minute                        0              hr::min::sec specified
 Wake up second                        0

 Wake system with Dynamic Time         [Disabled]
 Wake up minute increase               1

                                                      →←: Select Screen
                                                      ↑↓: Select Item
                                                      Enter: Select
                                                      +/-: Change Opt.
                                                      F1: General Help
                                                      F2: Previous Values
                                                      F3: Optimized Defaults
                                                      F4: Save & Exit
                                                      ESC: Exit

Version 2.15.1229. Copyright (C) 2012 American Megatrends, Inc.
```

Options summary: (***default setting***)

Wake system with Fixed Time	***Disabled***	
	Enabled	
Enable or disable System wake on alarm event. Wake up time is setting by following settings.		
Wake up day	0-31	
Select 0 for daily system wake up, 1-31 for which day of the month that you would like the system to wake up		
Wake up hour	0-23	

Wake up minute	0-59	
Wake up second	0-59	
Wake system with Dynamic Time	***Disabled***	
	Enabled	
Enable or disable System wake on alarm event. Wake up time is current time + Increase minutes.		
Wake up minute increase	1-5	

IDE Configuration



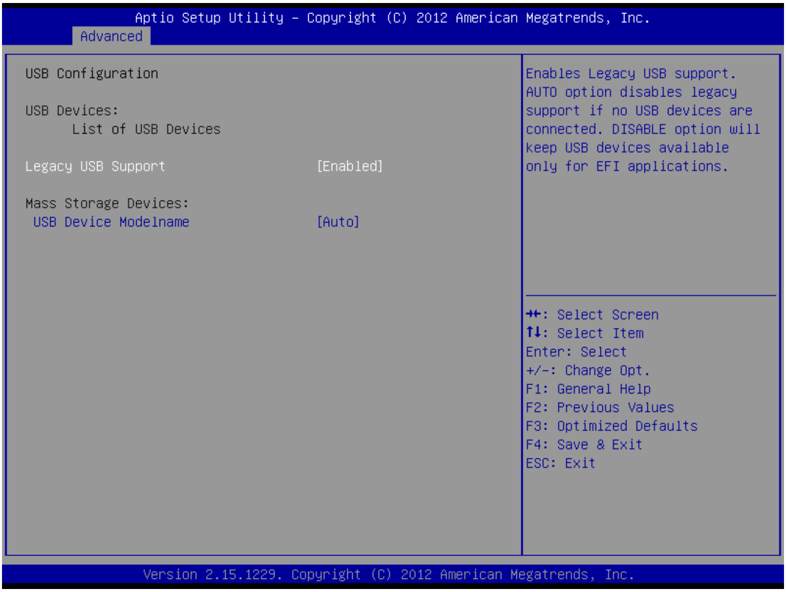
```
Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc.
Advanced

IDE Devices Configuration                                  Enable Or Disable Serial ATA
SATA Port1                    Drive Modelname
SATA Port2                    Drive Modelname
PATA Port1                    Drive Modelname
PATA Port2                    Drive Modelname

OnChip SATA Channel           [Enabled]
OnChip SATA Type              [Legacy IDE]
OnChip IDE mode               [Legacy mode]

Power on SATA Port1           [Enabled]
Power on SATA Port2           [Enabled]
Power on PATA Port1           [Power Down]                 →←: Select Screen
Power on PATA Port2           [Power Down]                 ↑↓: Select Item
                                                           Enter: Select
                                                           +/-: Change Opt.
                                                           F1: General Help
                                                           F2: Previous Values
                                                           F3: Optimized Defaults
                                                           F4: Save & Exit
                                                           ESC: Exit

Version 2.15.1229. Copyright (C) 2012 American Megatrends, Inc.
```

Options summary: (***default setting***)

OnChip SATA Channel	Disabled	
	Enabled	
Enable or Disable Serial ATA		
OnChip SATA Type	***Legacy IDE***	
	AHCI	
Configure SATA controller operating as IDE/AHCI mode.		
OnChip IDE mode	***Legacy mode***	
	Native mode	
Configure IDE controller operating as legacy mode or native PCI device mode.		

SATA Power on SATA Port1/SATA Port2	***Enabled***	
	Power Down	
Enable Or Disable Power on SATA Port1/ SATA Port2.		
SATA Power on PATA Port1/PATA Port2	Enabled	
	Power Down	
Enable Or Disable Power on PATA Port1/PATA Port2.		

USB Configuration



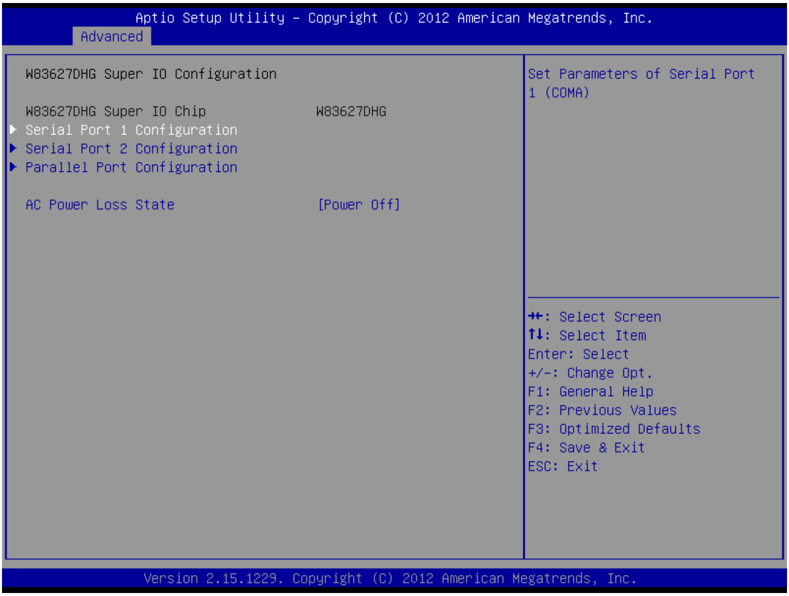
```
          Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc.
        Advanced
 USB Configuration                                    Enables Legacy USB support.
                                                      AUTO option disables legacy
 USB Devices:                                         support if no USB devices are
       List of USB Devices                            connected. DISABLE option will
                                                      keep USB devices available
 Legacy USB Support                   [Enabled]       only for EFI applications.

 Mass Storage Devices:
  USB Device Modelname                [Auto]



                                                      →←: Select Screen
                                                      ↑↓: Select Item
                                                      Enter: Select
                                                      +/-: Change Opt.
                                                      F1: General Help
                                                      F2: Previous Values
                                                      F3: Optimized Defaults
                                                      F4: Save & Exit
                                                      ESC: Exit

           Version 2.15.1229. Copyright (C) 2012 American Megatrends, Inc.
```

Options summary: (***default setting***)

Legacy USB Support	***Enabled***	
	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. DISABLE option will keep USB devices available only for EFI application		
Device Name (Emulation Type)	**Auto**	
	Floppy	

	Forced FDD	
	Hard Disk	
	CD-ROM	
If Auto. USB devices less than 530MB will be emulated as Floppy and remaining as Floppy and remaining as hard drive. Forced FDD option can be used to force a HDD formatted drive to boot as FDD(Ex. ZIP drive)		

Super IO Configuration

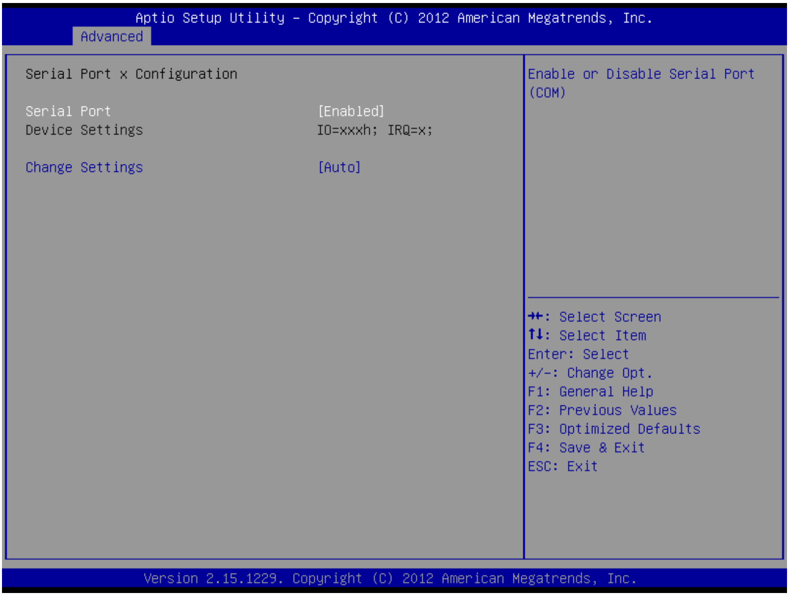


```
        Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc.
   Advanced
 W83627DHG Super IO Configuration                   Set Parameters of Serial Port
                                                    1 (COMA)
 W83627DHG Super IO Chip          W83627DHG
▶ Serial Port 1 Configuration
▶ Serial Port 2 Configuration
▶ Parallel Port Configuration

 AC Power Loss State              [Power Off]

                                                    →←: Select Screen
                                                    ↑↓: Select Item
                                                    Enter: Select
                                                    +/-: Change Opt.
                                                    F1: General Help
                                                    F2: Previous Values
                                                    F3: Optimized Defaults
                                                    F4: Save & Exit
                                                    ESC: Exit
        Version 2.15.1229. Copyright (C) 2012 American Megatrends, Inc.
```

Options summary: (***default setting***)

Serial Port 1/2 Configuration		
Set Parameters of Serial Port 1/2		
Parallel Port Configuration		
Set Parameters of Parallel Port		
AC Power Loss State	***Power Off***	
	Power On	
	Last State	
Select AC power state when power is re-applied after a power failure.		

Serial Port 1 Configuration



Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc.

Advanced

Serial Port x Configuration

Serial Port [Enabled]
Device Settings IO=xxxh; IRQ=x;

Change Settings [Auto]

Enable or Disable Serial Port (COM)

→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit

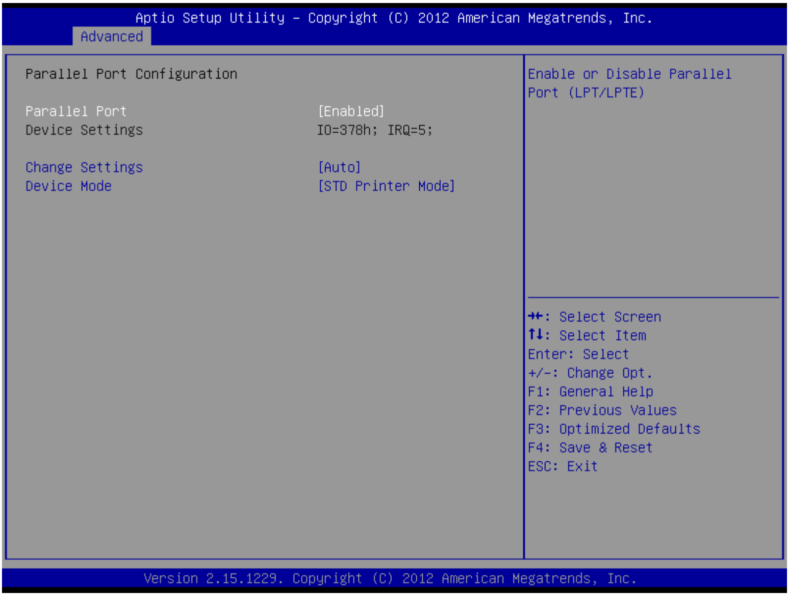
Version 2.15.1229. Copyright (C) 2012 American Megatrends, Inc.

Options summary: (***default setting***)

Serial Port	Disabled	
	Enabled	
En/Disable specified serial port.		
COM1 Change Settings	***Auto***	
	IO=3F8h; IRQ=4;	
	IO=3F8h; IRQ=3,4,5,7,10,11,12;	
	IO=2F8h; IRQ=3,4,5,7,10,11,12;	
	IO=3E8h; IRQ=3,4,5,7,10,11,12;	
	IO=2E8h; IRQ=3,4,5,7,10,11,12;	

COM2 Change Settings	***Auto***	
	IO=2F8h; IRQ=3;	
	IO=3F8h; IRQ=3,4,5,7,10,11,12;	
	IO=2F8h; IRQ=3,4,5,7,10,11,12;	
	IO=3E8h; IRQ=3,4,5,7,10,11,12;	
	IO=2E8h; IRQ=3,4,5,7,10,11,12;	
Select a resource setting for Super IO device.		

Parallel Port Configuration



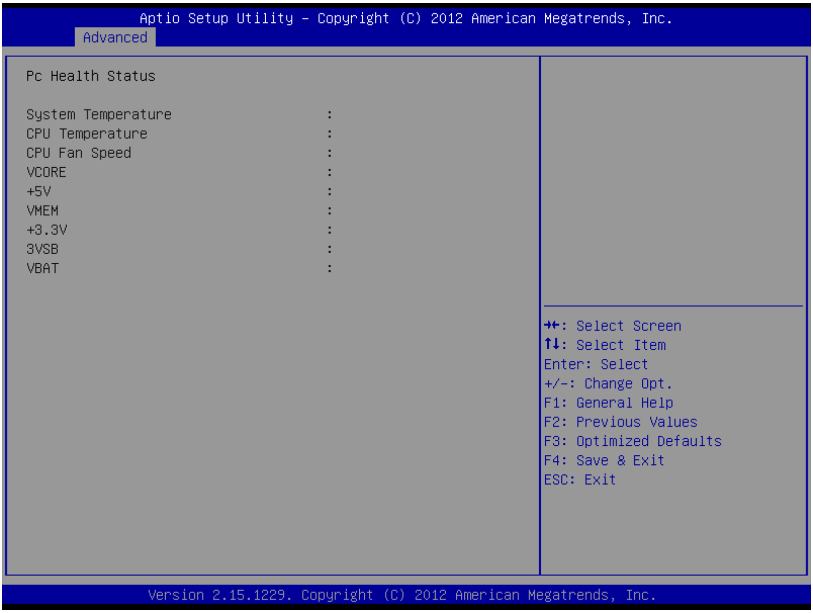
```
Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc.
Advanced

Parallel Port Configuration                                Enable or Disable Parallel
                                                           Port (LPT/LPTE)
Parallel Port                        [Enabled]
Device Settings                      IO=378h; IRQ=5;

Change Settings                      [Auto]
Device Mode                          [STD Printer Mode]

                                                           →←: Select Screen
                                                           ↑↓: Select Item
                                                           Enter: Select
                                                           +/-: Change Opt.
                                                           F1: General Help
                                                           F2: Previous Values
                                                           F3: Optimized Defaults
                                                           F4: Save & Reset
                                                           ESC: Exit

Version 2.15.1229. Copyright (C) 2012 American Megatrends, Inc.
```

Options summary: (***default setting***)

Parallel Port	Disabled	
	Enabled	
En/Disable specified parallel port.		
Change Settings	***Auto***	
	IO=378h; IRQ=5;	
	IO=378h; IRQ=5,6,7,10,11,12;	
	IO=278h; IRQ=5,6,7,10,11,12;	
	IO=3BCh; IRQ=5,6,7,10,11,12;	
Select an optimal setting for LPT device.		

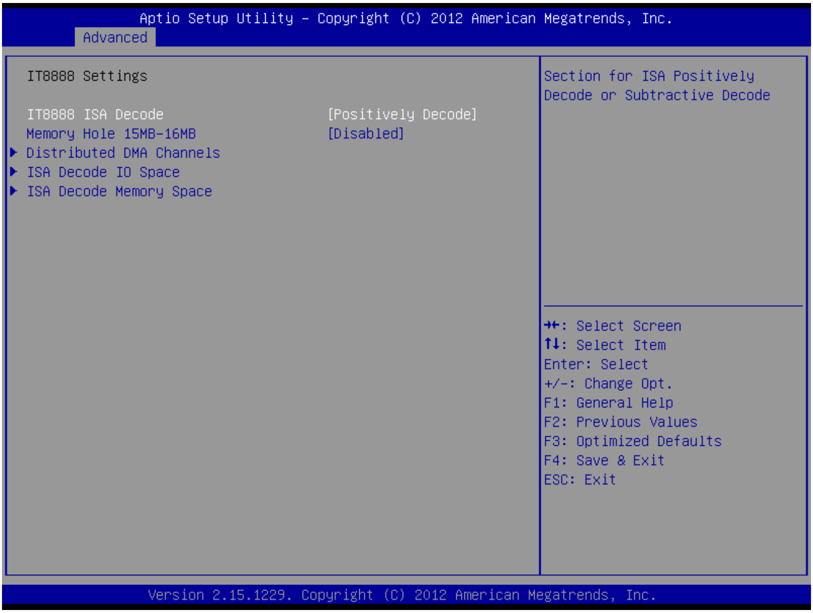
Device Mode	***STD Printer Mode***	
	SPP Mode	
	EPP-1.9 and SPP Mode	
	EPP-1.7 and SPP Mode	
	ECP Mode	
	ECP and EPP 1.9 Mode	
	ECP and EPP 1.7 Mode	
Change the Printer Port mode		

W83627DHG H/W Monitor



```
Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc.
      Advanced

Pc Health Status

System Temperature                    :
CPU Temperature                       :
CPU Fan Speed                         :
VCORE                                 :
+5V                                   :
VMEM                                  :
+3.3V                                 :
3VSB                                  :
VBAT                                  :

                                                 →←: Select Screen
                                                 ↑↓: Select Item
                                                 Enter: Select
                                                 +/-: Change Opt.
                                                 F1: General Help
                                                 F2: Previous Values
                                                 F3: Optimized Defaults
                                                 F4: Save & Exit
                                                 ESC: Exit

Version 2.15.1229. Copyright (C) 2012 American Megatrends, Inc.
```

ISA Configuration



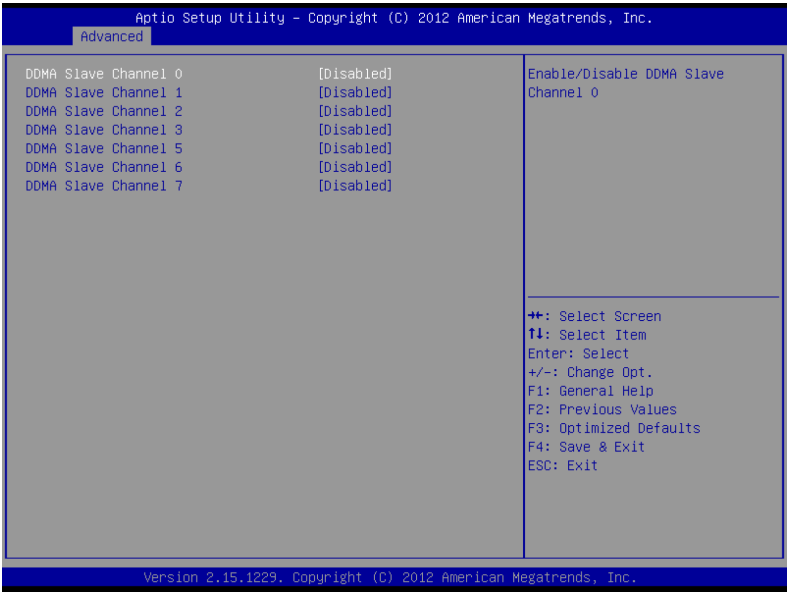
```
           Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc.
      Advanced

  IT8888 Settings                                  Section for ISA Positively
                                                   Decode or Subtractive Decode
  IT8888 ISA Decode          [Positively Decode]
  Memory Hole 15MB-16MB      [Disabled]
▶ Distributed DMA Channels
▶ ISA Decode IO Space
▶ ISA Decode Memory Space

                                                   →←: Select Screen
                                                   ↑↓: Select Item
                                                   Enter: Select
                                                   +/-: Change Opt.
                                                   F1: General Help
                                                   F2: Previous Values
                                                   F3: Optimized Defaults
                                                   F4: Save & Exit
                                                   ESC: Exit

           Version 2.15.1229. Copyright (C) 2012 American Megatrends, Inc.
```

Options summary: (***default setting***)

IT8888 ISA Decode	***Subtractive Decode***	
	Positively Decode	
Selection for ISA Positively Decode or Subtractive Decode		
Memory Hole 15MB-16MB	***Disabled***	
	Enabled	
Enable/Disabled 15MB-16MB hole for ISA device		
Distributed DMA Channels		
IT8888 DDMA channels Configuration setting		
ISA Decode IO Space		

IT8888 IO Space Positively Decode Configuration settings		
ISA Decode Memory Space		
IT8888 Memory Space Positively Decode Configuration settings		

Distributed DMA Channels

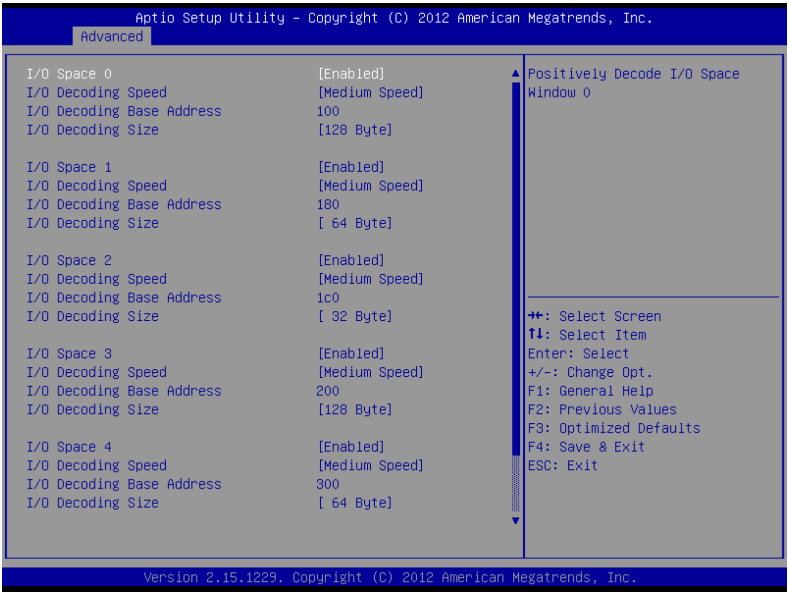


```
Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc.
Advanced

DDMA Slave Channel 0          [Disabled]     Enable/Disable DDMA Slave
DDMA Slave Channel 1          [Disabled]     Channel 0
DDMA Slave Channel 2          [Disabled]
DDMA Slave Channel 3          [Disabled]
DDMA Slave Channel 5          [Disabled]
DDMA Slave Channel 6          [Disabled]
DDMA Slave Channel 7          [Disabled]
                                             →←: Select Screen
                                             ↑↓: Select Item
                                             Enter: Select
                                             +/-: Change Opt.
                                             F1: General Help
                                             F2: Previous Values
                                             F3: Optimized Defaults
                                             F4: Save & Exit
                                             ESC: Exit

Version 2.15.1229. Copyright (C) 2012 American Megatrends, Inc.
```

Options summary: (***default setting***)

DDMA Slave Channel 0-7	***Disabled***	
	Enabled	
Enable/Disable DDMA Slave channel 0-7		

ISA Decode IO Space



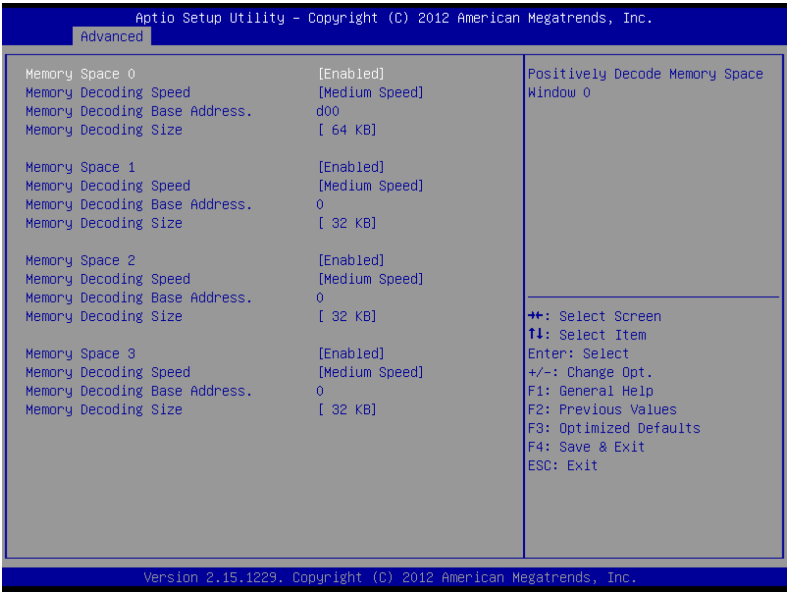
```
        Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc.
     Advanced

  I/O Space 0                          [Enabled]        Positively Decode I/O Space
  I/O Decoding Speed                   [Medium Speed]   Window 0
  I/O Decoding Base Address            100
  I/O Decoding Size                    [128 Byte]

  I/O Space 1                          [Enabled]
  I/O Decoding Speed                   [Medium Speed]
  I/O Decoding Base Address            180
  I/O Decoding Size                    [ 64 Byte]

  I/O Space 2                          [Enabled]
  I/O Decoding Speed                   [Medium Speed]
  I/O Decoding Base Address            1c0
  I/O Decoding Size                    [ 32 Byte]       →←: Select Screen
                                                        ↑↓: Select Item
  I/O Space 3                          [Enabled]        Enter: Select
  I/O Decoding Speed                   [Medium Speed]   +/-: Change Opt.
  I/O Decoding Base Address            200              F1: General Help
  I/O Decoding Size                    [128 Byte]       F2: Previous Values
                                                        F3: Optimized Defaults
  I/O Space 4                          [Enabled]        F4: Save & Exit
  I/O Decoding Speed                   [Medium Speed]   ESC: Exit
  I/O Decoding Base Address            300
  I/O Decoding Size                    [ 64 Byte]

        Version 2.15.1229. Copyright (C) 2012 American Megatrends, Inc.
```

Options summary: (***default setting***)

I/O Space 0-5	Disabled	
	Enabled	
Enable/Disable Positively IO space decode window		
I/O Decoding Speed	Subtractive Speed	
	Slow Speed	
	Medium Speed	
	Fast Speed	
Select I/O Space decoding speed		
I/O Decoding Base Address	0 – FFFF	

I/O Space decoding base address A[15:0]		
I/O Decoding Size	1 Byte	
	2 Byte	
	4 Byte	
	8 Byte	
	16 Byte	
	32 Byte	
	64 Byte	
	128 Byte	
Select I/O Space decoding size		
	I/O Decode Defaults	
Space 0	***100/128Byte***	
Space 1	***180/64Byte***	
Space 2	***1C0/32Byte***	
Space 3	***200/128Byte***	
Space 4	***300/64Byte***	
Space 5	***340/32Byte***	
Default setting for I/O decode 0-5		

ISA Decode Memory Space



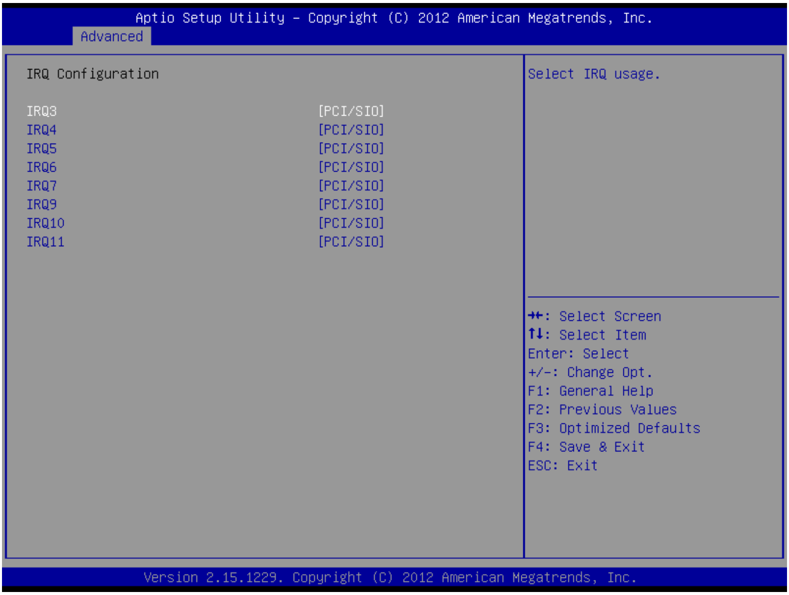
```
              Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc.
      Advanced

  Memory Space 0                      [Enabled]         Positively Decode Memory Space
  Memory Decoding Speed               [Medium Speed]    Window 0
  Memory Decoding Base Address.       d00
  Memory Decoding Size                [ 64 KB]

  Memory Space 1                      [Enabled]
  Memory Decoding Speed               [Medium Speed]
  Memory Decoding Base Address.       0
  Memory Decoding Size                [ 32 KB]

  Memory Space 2                      [Enabled]
  Memory Decoding Speed               [Medium Speed]    ─────────────────────────────
  Memory Decoding Base Address.       0
  Memory Decoding Size                [ 32 KB]          →←: Select Screen
                                                        ↑↓: Select Item
  Memory Space 3                      [Enabled]         Enter: Select
  Memory Decoding Speed               [Medium Speed]    +/-: Change Opt.
  Memory Decoding Base Address.       0                 F1: General Help
  Memory Decoding Size                [ 32 KB]          F2: Previous Values
                                                        F3: Optimized Defaults
                                                        F4: Save & Exit
                                                        ESC: Exit

              Version 2.15.1229. Copyright (C) 2012 American Megatrends, Inc.
```

Options summary: (***default setting***)

Memory Space 0	Disabled	
	Enabled	
Memory Space 1-3	***Disabled***	
	Enabled	
Enable/Disable Positively memory space decode window		
Memory Decoding Speed	Subtractive Speed	
	Slow Speed	
	Medium Speed	
	Fast Speed	

Select Memory Space decoding speed		
Memory Decoding Base Address	0 – FFFF	
Memory Space decoding base address A[23:8]		
Memory Decoding Size	16 KB	
	32 KB	
	64 KB	
	128 KB	
	256 KB	
	512 KB	
	1 MB	
	2 MB	
Select Memory Space decoding size		
	Memory Decode Defaults	
Space 0	***D00/64KB***	
Space 1-3	***0/32Byte***	
Default setting for memory decode 0-3		

IRQ Configuration

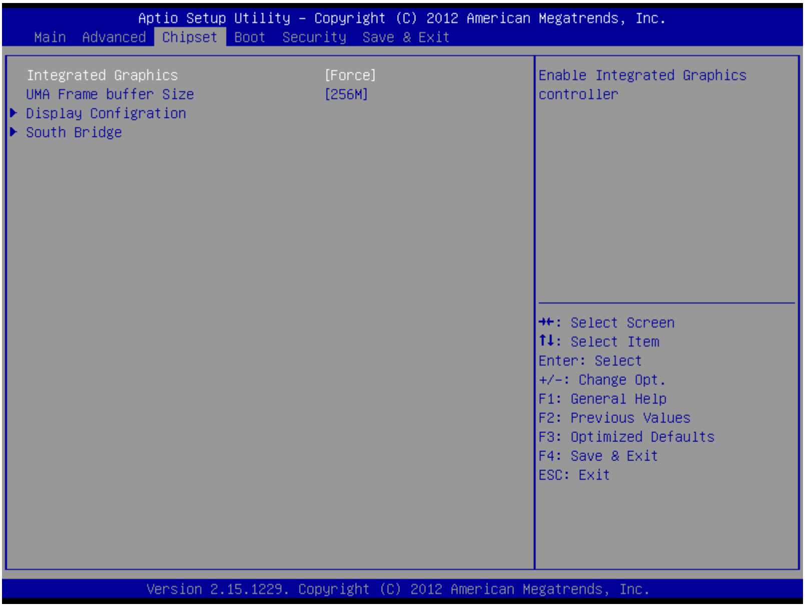


```
            Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc.
         Advanced

 IRQ Configuration                                     Select IRQ usage.

 IRQ3                              [PCI/SIO]
 IRQ4                              [PCI/SIO]
 IRQ5                              [PCI/SIO]
 IRQ6                              [PCI/SIO]
 IRQ7                              [PCI/SIO]
 IRQ9                              [PCI/SIO]
 IRQ10                             [PCI/SIO]
 IRQ11                             [PCI/SIO]

                                                       →←: Select Screen
                                                       ↑↓: Select Item
                                                       Enter: Select
                                                       +/-: Change Opt.
                                                       F1: General Help
                                                       F2: Previous Values
                                                       F3: Optimized Defaults
                                                       F4: Save & Exit
                                                       ESC: Exit

            Version 2.15.1229. Copyright (C) 2012 American Megatrends, Inc.
```

Options summary: (***default setting***)

IRQ3/IRQ4/IRQ5/IRQ6 IRQ7/IRQ9/IRQ10/IRQ11	Reserved	
	PCI/SIO	
Select specified IRQ can be used by PCI device or reserved for ISA devices.		

Setup submenu: Chipset



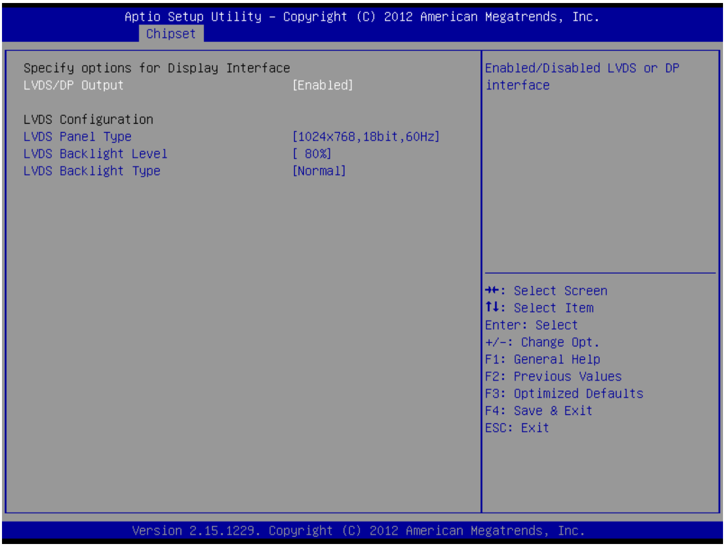
```
        Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc.
  Main  Advanced  Chipset  Boot  Security  Save & Exit

  Integrated Graphics                  [Force]        Enable Integrated Graphics
  UMA Frame buffer Size                [256M]         controller
▶ Display Configration
▶ South Bridge

                                                      →←: Select Screen
                                                      ↑↓: Select Item
                                                      Enter: Select
                                                      +/-: Change Opt.
                                                      F1: General Help
                                                      F2: Previous Values
                                                      F3: Optimized Defaults
                                                      F4: Save & Exit
                                                      ESC: Exit

        Version 2.15.1229. Copyright (C) 2012 American Megatrends, Inc.
```

Options summary: (***default setting***)

Integrated Graphics	***Auto***	
	Force	
Enable Integrated Graphic controller		
UMA Frame buffer Size	32M	
	64M	
	128M	
	256M	
	512M	
Set UMA Frame buffer size		

Display Configuration		
Specify options for Display interface		
South Bridge		
South Bridge Parameters		

Display Configuration



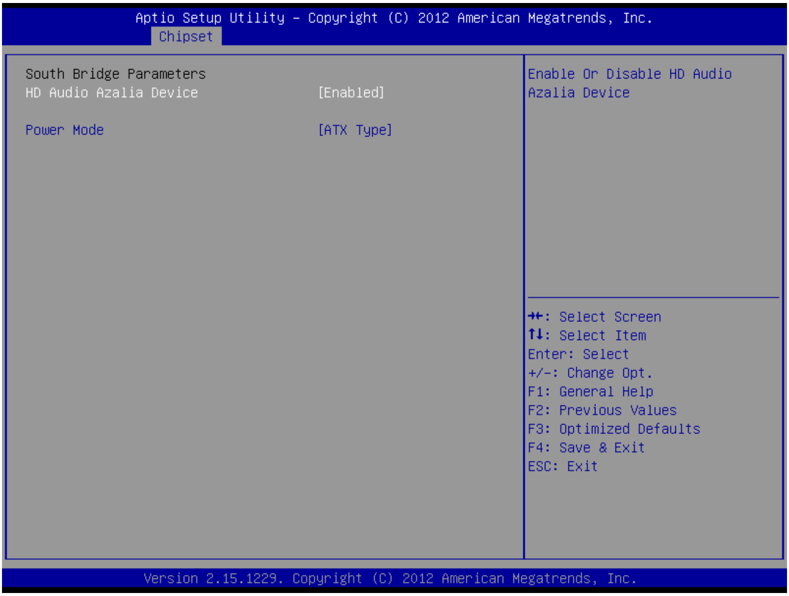
```
        Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
                 Chipset
 Specify options for Display Interface                  | Enabled/Disabled LVDS or DP
 LVDS/DP Output                     [Enabled]           | interface
                                                        |
 LVDS Configuration                                     |
 LVDS Panel Type                    [1024x768,18bit,60Hz]|
 LVDS Backlight Level               [ 80%]              |
 LVDS Backlight Type                [Normal]            |
                                                        |
                                                        | →←: Select Screen
                                                        | ↑↓: Select Item
                                                        | Enter: Select
                                                        | +/-: Change Opt.
                                                        | F1: General Help
                                                        | F2: Previous Values
                                                        | F3: Optimized Defaults
                                                        | F4: Save & Exit
                                                        | ESC: Exit
          Version 2.15.1229. Copyright (C) 2012 American Megatrends, Inc.
```

Options summary: (***default setting***)

LVDS/DP Output	Enabled ***Disabled***	
Enabled/Disabled LVDS		
LVDS Panel Type	640x480,18bit,60Hz 800x480,18bit,60Hz ***800x600,18bit,60Hz*** 1024x600,18bit,60Hz 1024x768,18bit,60Hz 1024x768,24bit,60Hz 1280x768,24bit,60Hz	

	1280x1024,48bit,60Hz	
	1366x768,24bit,60Hz	
	1440x900,48bit,60Hz	
	1600x1200,48bit,60Hz	
	1920x1080,48bit,60Hz	
	1920x1200,48bit,60Hz	
Select the resolution for LVDS Panel		
LVDS Backlight Level	100%	
	90%	
	80%	
	70%	
	60%	
	50%	
	40%	
	30%	
	20%	
	10%	
	0%	
Select the backlight level for LVDS Panel		
LVDS Backlight Type	***Normal***	
	Inverted	
Select the signal type for backlight control.		

South Bridge



Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc.

Chipset

South Bridge Parameters

HD Audio Azalia Device [Enabled]

Power Mode [ATX Type]

Enable Or Disable HD Audio Azalia Device

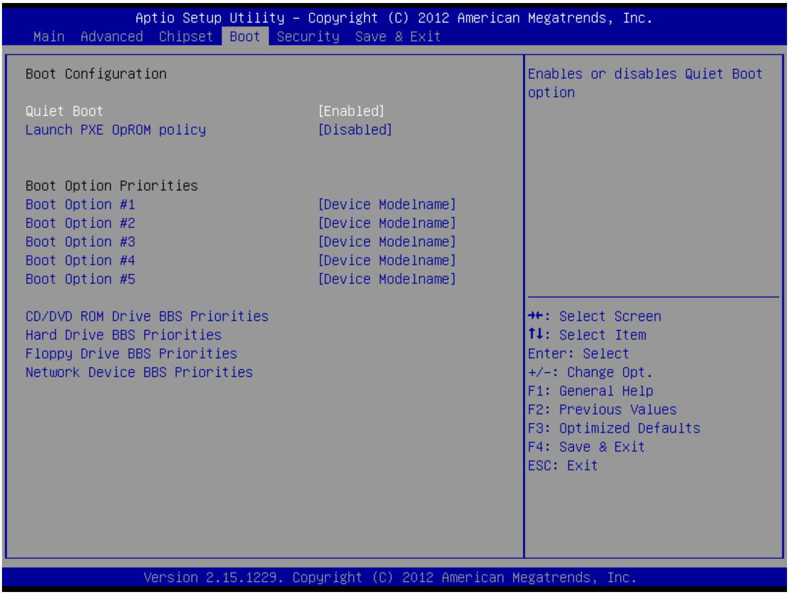
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit

Version 2.15.1229. Copyright (C) 2012 American Megatrends, Inc.

Options summary: (***default setting***)

HD Audio Azalia Device	***Enabled***	
	Disabled	
Enable or Disable HD Audio Controller		
Power Mode	***ATX Type***	
	AT Type	
Select the power type used on the system		

Setup submenu: Boot



Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc.

Main Advanced Chipset Boot Security Save & Exit

Boot Configuration

Quiet Boot [Enabled]
Launch PXE OpROM policy [Disabled]

Boot Option Priorities
Boot Option #1 [Device Modelname]
Boot Option #2 [Device Modelname]
Boot Option #3 [Device Modelname]
Boot Option #4 [Device Modelname]
Boot Option #5 [Device Modelname]

CD/DVD ROM Drive BBS Priorities
Hard Drive BBS Priorities
Floppy Drive BBS Priorities
Network Device BBS Priorities

Enables or disables Quiet Boot option

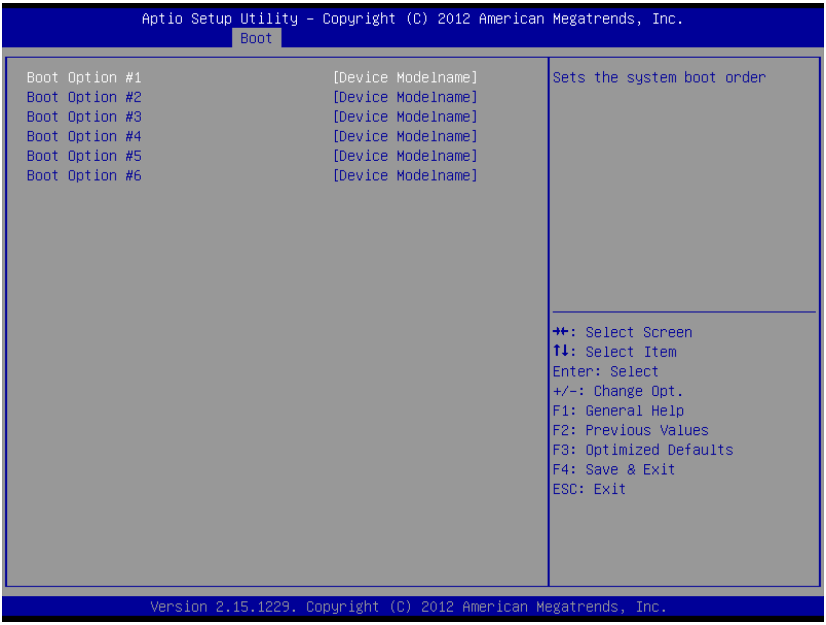
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit

Version 2.15.1229. Copyright (C) 2012 American Megatrends, Inc.

Options summary: (***default setting***)

Quiet Boot	Disabled	
	Enabled	
En/Disable showing boot logo.		
Launch PXE OpROM Policy	***Disabled***	
	Enabled	
En/Disable PXE boot for RTL8111E LAN		
Boot Option #X/ XXXX Drive BBS Priorities		
The order of boot priorities.		

BBS Priorities

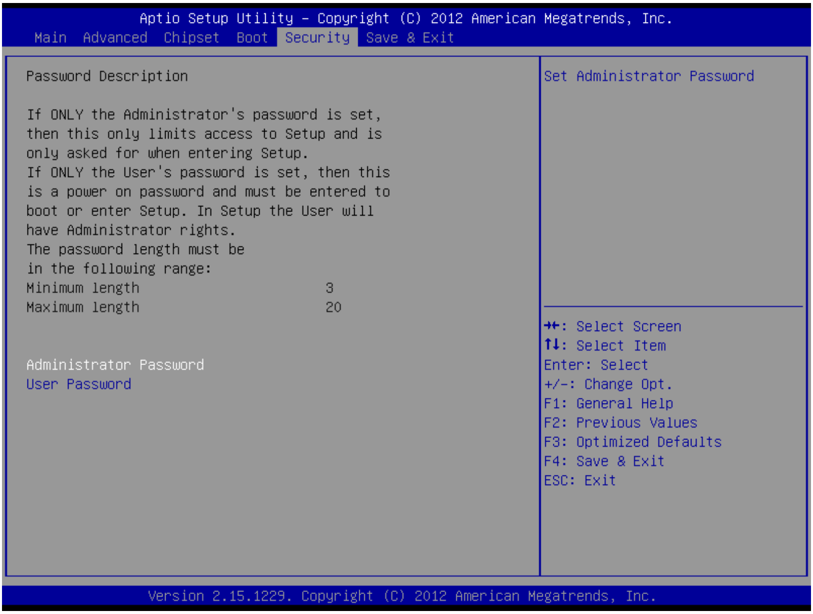


```
Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc.
Boot

Boot Option #1                [Device Modelname]    Sets the system boot order
Boot Option #2                [Device Modelname]
Boot Option #3                [Device Modelname]
Boot Option #4                [Device Modelname]
Boot Option #5                [Device Modelname]
Boot Option #6                [Device Modelname]
                                                    →←: Select Screen
                                                    ↑↓: Select Item
                                                    Enter: Select
                                                    +/-: Change Opt.
                                                    F1: General Help
                                                    F2: Previous Values
                                                    F3: Optimized Defaults
                                                    F4: Save & Exit
                                                    ESC: Exit

Version 2.15.1229. Copyright (C) 2012 American Megatrends, Inc.
```

Options summary: (***default setting***)

Boot Option #x	Disabled Device name	
Sets the system boot order		

Setup submenu: Security



```
       Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
  Main  Advanced  Chipset  Boot  Security  Save & Exit

 Password Description                            Set Administrator Password

 If ONLY the Administrator's password is set,
 then this only limits access to Setup and is
 only asked for when entering Setup.
 If ONLY the User's password is set, then this
 is a power on password and must be entered to
 boot or enter Setup. In Setup the User will
 have Administrator rights.
 The password length must be
 in the following range:
 Minimum length                      3
 Maximum length                      20
                                                 →←: Select Screen
                                                 ↑↓: Select Item
                                                 Enter: Select
 Administrator Password                          +/-: Change Opt.
 User Password                                   F1: General Help
                                                 F2: Previous Values
                                                 F3: Optimized Defaults
                                                 F4: Save & Exit
                                                 ESC: Exit

        Version 2.15.1229. Copyright (C) 2012 American Megatrends, Inc.
```

Options summary: (***default setting***)

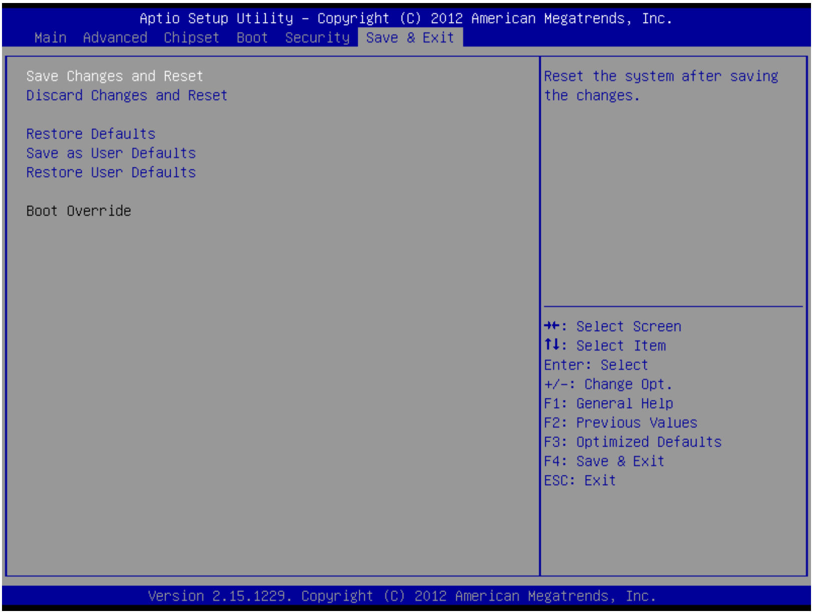
Administrator Password/ User Password	***Not set***	
You can install a Supervisor password, and if you install a supervisor password, you can then install a user password. A user password does not provide access to many of the features in the Setup utility. *Install the Password:* Press Enter on this item, a dialog box appears which lets you enter a password. You can enter no more than six letters or numbers. Press Enter after you have typed in the password. A second dialog box asks you to retype the password for confirmation. Press Enter after you have retyped it correctly. The password is		

required at boot time, or when the user enters the Setup utility.

Removing the Password:

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

Setup submenu: Exit



Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc.

Save Changes and Reset
Discard Changes and Reset

Restore Defaults
Save as User Defaults
Restore User Defaults

Boot Override

Reset the system after saving the changes.

→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit

Version 2.15.1229. Copyright (C) 2012 American Megatrends, Inc.

Options summary: (***default setting***)

Save Changes and Reset		
Reset the system after saving the changes		
Discard Changes and Reset		
Reset system setup without saving any changes		
Restore Defaults		
Restore/Load Default values for all the setup options.		
Save as User Defaults		
Save the changes done so far as User Defaults		
Restore User Defaults		

Restore the User Defaults to all the setup options		
Boot Override		
Boot to specified device.		

Chapter 4

Driver Installation

The ETX-A55E comes with a driver disk that contains all drivers and utilities you need to setup your product.

Insert the disk and the installation guide will start automatically. If it doesn't, please follow the sequence below to install the drivers.

Follow the sequence below to install the drivers:

Step 1 – Install Chipset/ VGA Drivers
Step 2 – Install LAN Drivers
Step 3 – Install Audio Drivers
Step 4 – Install AHCI Drivers (Windows XP only, Optional)
Step 5 – Install PCI to ISA Bridge Drivers
Step 6 – Install Serial Port Drivers (Optional)

Please read instructions below for further detailed installations.

4.1 Installation

Insert the ETX-A55E driver disk into the disk drive and install the drivers from Step 1 to Step 5 in order.

Step 1 – Install Chipset/ VGA Drivers

Note: For Windows XP users, please install Microsoft.NET framework 4.5 (included in the step1 folder of the disk) prior to installing the chipset/ VGA drivers. Users may also go online for the latest version.

1. Open the ***STEP 1 - CHIPSET*** 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 2 – Install LAN Drivers

1. Open the ***Step 2 - LAN*** 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 Audio Driver

1. Click on the ***Step 3 - AUDIO*** 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 4 – Install AHCI Driver (Windows XP only, Optional)

Please refer to Appendix D AHCI Settings

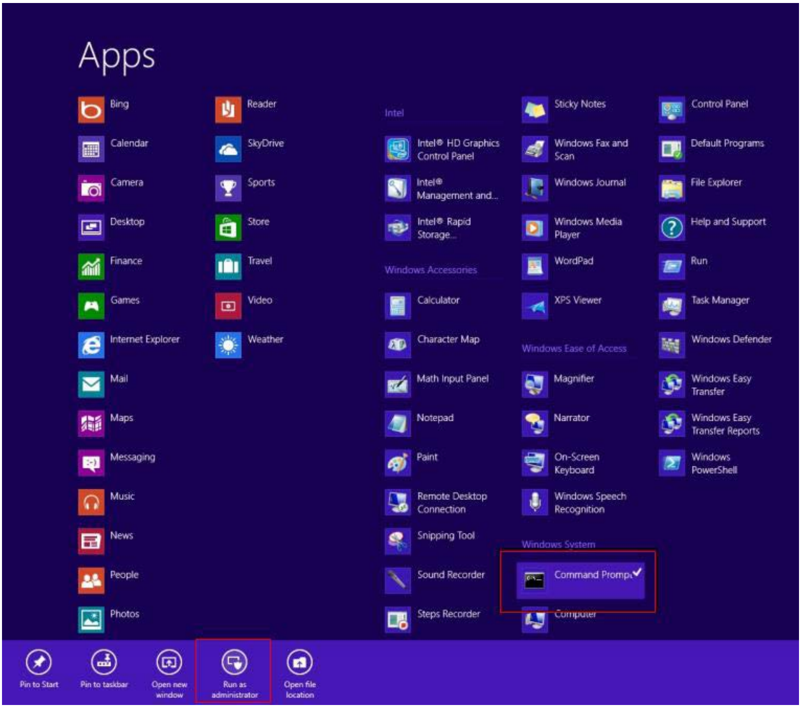
Step 5 – Install PCI to ISA Bridge Driver

1. Go to Device Manager
2. Double-click on **Other PCI Bridge Device** to open the properties dialog box
3. Select **Update Drivers…** and **Next**
4. Select **Search for a suitable driver…** followed by **Next**
5. Select **Specify a location** followed by **Next**
6. Select **Browse**
7. Open the **Ite** file from the disk (Driver/ Step5 – PCI to ISA Bridge)
8. Follow through the steps to complete installation

Step 6 – Install Serial Port Drivers (Optional)

For Windows 8:

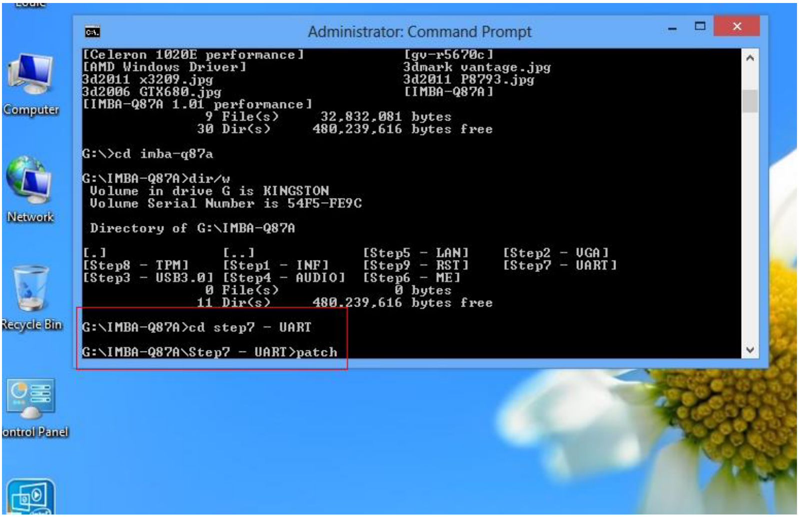
1. Open the Apps Screen, right click on the **Command Prompt** tile and select **Run as Administrator**


Apps
Bing
Calendar
Camera
Desktop
Finance
Games
Internet Explorer
Mail
Maps
Messaging
Music
News
People
Photos
Reader
SkyDrive
Sports
Store
Travel
Video
Weather
Intel
Intel® HD Graphics Control Panel
Intel® Management and...
Intel® Rapid Storage...
Windows Accessories
Calculator
Character Map
Math Input Panel
Notepad
Paint
Remote Desktop Connection
Snipping Tool
Sound Recorder
Steps Recorder
Sticky Notes
Windows Fax and Scan
Windows Journal
Windows Media Player
WordPad
XPS Viewer
Windows Ease of Access
Magnifier
Narrator
On-Screen Keyboard
Windows Speech Recognition
Windows System
Command Prompt
Computer
Control Panel
Default Programs
File Explorer
Help and Support
Run
Task Manager
Windows Defender
Windows Easy Transfer
Windows Easy Transfer Reports
Windows PowerShell
Pin to Start
Pin to taskbar
Open new window
Run as administrator
Open file location

2. To install the driver (patch.bat), you will first have to locate the file in command prompt. To do that, first go to the directory which contains the file by entering **<drive letter>:** eg. if the driver is in D drive, enter **D:**

3. You are now at the directory containing the installation file. Next, go to the folder in which the file resides by entering **cd <folder>** eg: if the file is in a folder named abc, enter cd <abc>.

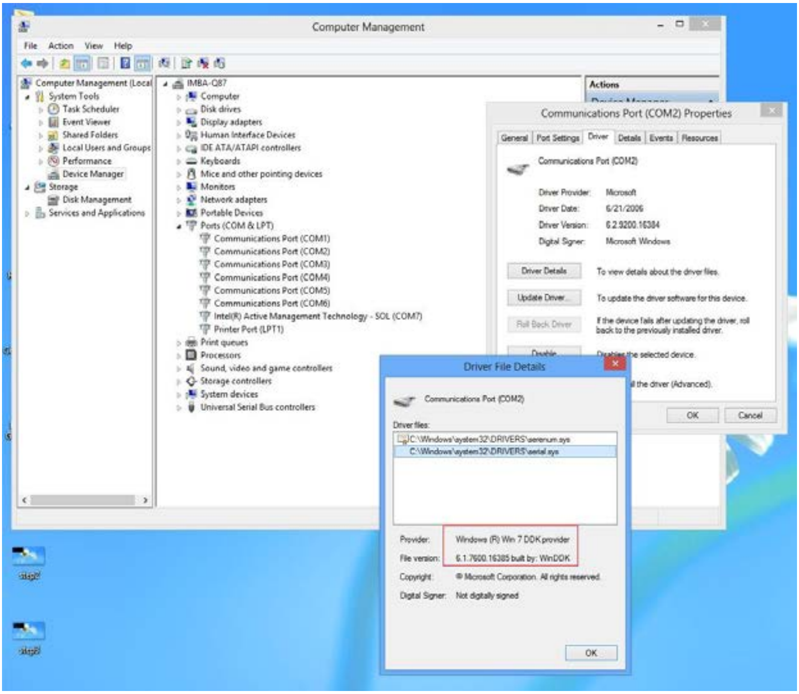
4. You are now at the folder where the file is located. Enter the **patch.bat** to open and install the drivers. If your file is in a subfolder, enter the cd <folder> command again to access the subfolder (screenshot below is for reference only).



```
[Celeron 1020E performance]             [gv-r5670c]
[AMD Windows Driver]                    3dmark vantage.jpg
3d2011 x3209.jpg                        3d2011 P8793.jpg
3d2006 GTX680.jpg                       [IMBA-Q87A]
[IMBA-Q87A 1.01 performance]
               9 File(s)     32,832,081 bytes
              30 Dir(s)     480,239,616 bytes free

G:\>cd imba-q87a

G:\IMBA-Q87A>dir/w
 Volume in drive G is KINGSTON
 Volume Serial Number is 54F5-FE9C

 Directory of G:\IMBA-Q87A

[.]                [..]               [Step5 - LAN]      [Step2 - VGA]
[Step8 - TPM]      [Step1 - INF]      [Step9 - RST]      [Step7 - UART]
[Step3 - USB3.0]  [Step4 - AUDIO]    [Step6 - ME]
               0 File(s)              0 bytes
              11 Dir(s)     480,239,616 bytes free

G:\IMBA-Q87A>cd step7 - UART

G:\IMBA-Q87A\Step7 - UART>patch
```

5. Reboot after installation completes.

6. To confirm the installation, go to Device Manager, expand the Ports (COM & LPT) tree and double click on any of the COM ports to open its properties. Go to the Driver tab, select Driver Details and click on **serial.sys**, you should see its provider as **Windows (R) Win 7 DDK Provider**.


Computer Management
File
Action
View
Help
Computer Management (Local
System Tools
Task Scheduler
Event Viewer
Shared Folders
Local Users and Groups
Performance
Device Manager
Storage
Disk Management
Services and Applications
IMBA-Q87
Computer
Disk drives
Display adapters
Human Interface Devices
IDE ATA/ATAPI controllers
Keyboards
Mice and other pointing devices
Monitors
Network adapters
Portable Devices
Ports (COM & LPT)
Communications Port (COM1)
Communications Port (COM2)
Communications Port (COM3)
Communications Port (COM4)
Communications Port (COM5)
Communications Port (COM6)
Intel(R) Active Management Technology - SOL (COM7)
Printer Port (LPT1)
Print queues
Processors
Sound, video and game controllers
Storage controllers
System devices
Universal Serial Bus controllers
Actions
Communications Port (COM2) Properties
General
Port Settings
Driver
Details
Events
Resources
Driver Details
Update Driver...
Roll Back Driver
Disable...
OK
Cancel
Driver File Details
OK

Communications Port (COM2)

Driver Provider: Microsoft
Driver Date: 6/21/2006
Driver Version: 6.2.9200.16384
Digital Signer: Microsoft Windows

To view details about the driver files.
To update the driver software for this device.
If the device fails after updating the driver, roll back to the previously installed driver.
Disables the selected device.
...ll the driver (Advanced).

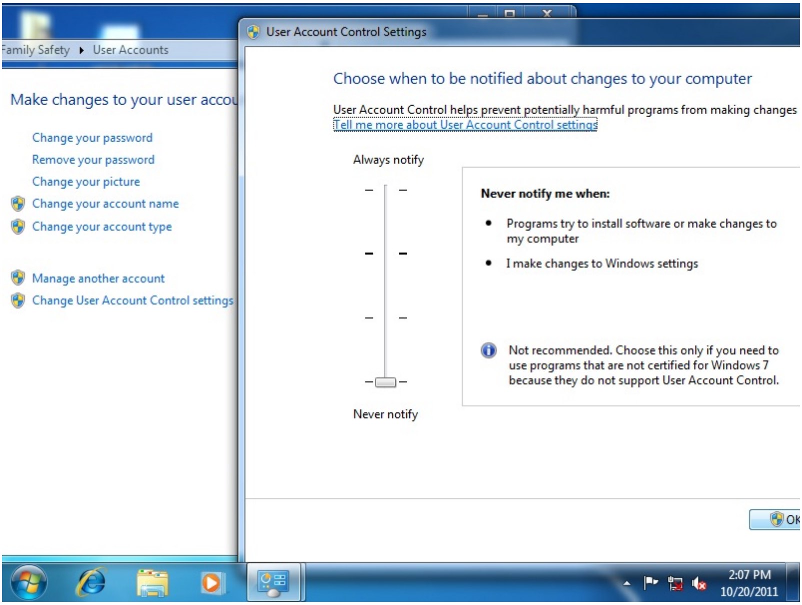
Communications Port (COM2)

Driver files:
C:\Windows\system32\DRIVERS\serenum.sys
C:\Windows\system32\DRIVERS\serial.sys

Provider: Windows (R) Win 7 DDK provider
File version: 6.1.7600.16385 built by: WinDDK
Copyright: © Microsoft Corporation. All rights reserved.
Digital Signer: Not digitally signed

For Windows 7:

1. Change User Account Control settings to **Never notify**


Family Safety ▸ User Accounts
Make changes to your user accou
Change your password
Remove your password
Change your picture
Change your account name
Change your account type
Manage another account
Change User Account Control settings
User Account Control Settings
OK
2:07 PM
10/20/2011

Choose when to be notified about changes to your computer

User Account Control helps prevent potentially harmful programs from making changes

Tell me more about User Account Control settings

Always notify

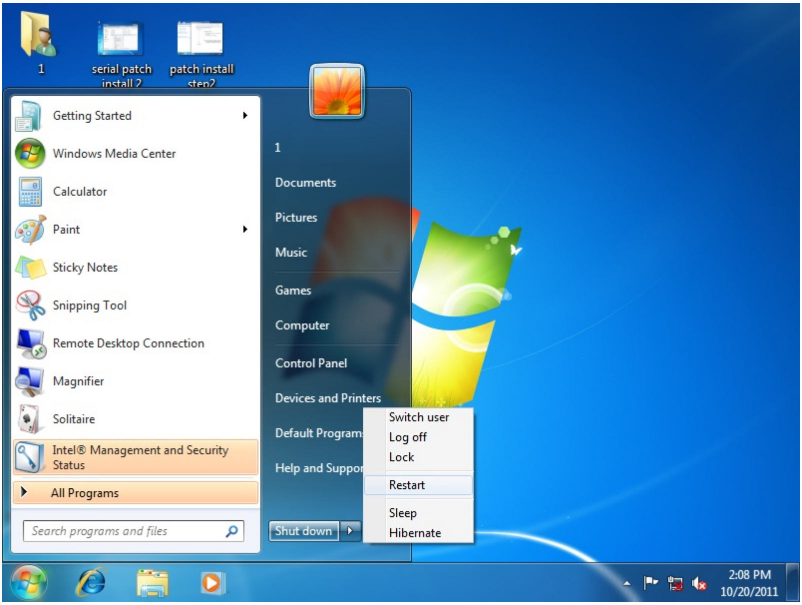
Never notify me when:

- Programs try to install software or make changes to my computer
- I make changes to Windows settings

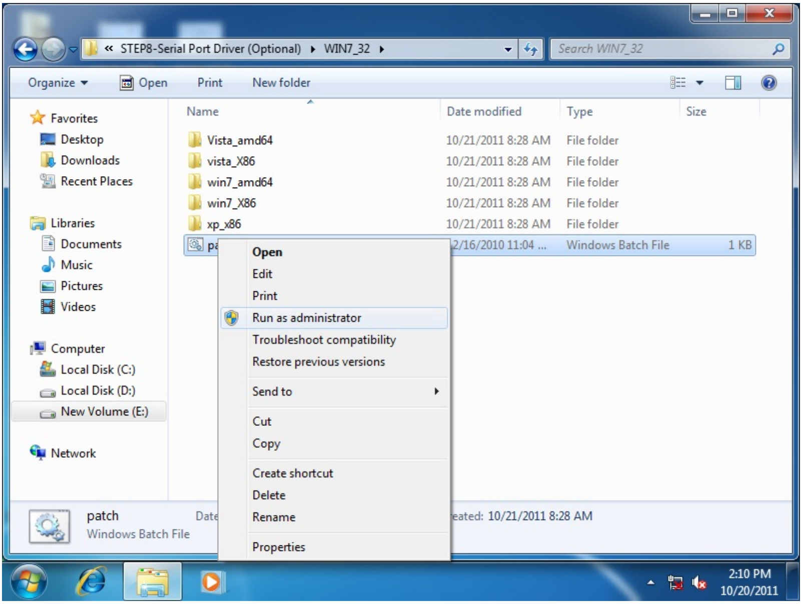
Not recommended. Choose this only if you need to use programs that are not certified for Windows 7 because they do not support User Account Control.

Never notify

2. Reboot and log in as administrator


1
serial patch install 2
patch install step2
Getting Started
Windows Media Center
Calculator
Paint
Sticky Notes
Snipping Tool
Remote Desktop Connection
Magnifier
Solitaire
Intel® Management and Security Status
All Programs
Search programs and files
1
Documents
Pictures
Music
Games
Computer
Control Panel
Devices and Printers
Default Programs
Help and Support
Shut down
Switch user
Log off
Lock
Restart
Sleep
Hibernate
2:08 PM
10/20/2011

3. Run patch.bat as administrator


« STEP8-Serial Port Driver (Optional) ▸ WIN7_32 ▸
Search WIN7_32
Organize ▾
Open
Print
New folder
Favorites
Desktop
Downloads
Recent Places
Libraries
Documents
Music
Pictures
Videos
Computer
Local Disk (C:)
Local Disk (D:)
New Volume (E:)
Network
Name
Date modified
Type
Size
Vista_amd64 10/21/2011 8:28 AM File folder
vista_X86 10/21/2011 8:28 AM File folder
win7_amd64 10/21/2011 8:28 AM File folder
win7_X86 10/21/2011 8:28 AM File folder
xp_x86 10/21/2011 8:28 AM File folder
pa 2/16/2010 11:04 ... Windows Batch File 1 KB
Open
Edit
Print
Run as administrator
Troubleshoot compatibility
Restore previous versions
Send to
Cut
Copy
Create shortcut
Delete
Rename
Properties
patch
Windows Batch File
Date
eated: 10/21/2011 8:28 AM
2:10 PM
10/20/2011

For Windows XP

1. Open the ***Step 6 – Serial Port Driver (Optional)*** folder and select your ***WINXP***
2. Open the ***patch.bat*** file in the folder
3. Follow the instructions
4. Drivers will be installed automatically

Appendix A

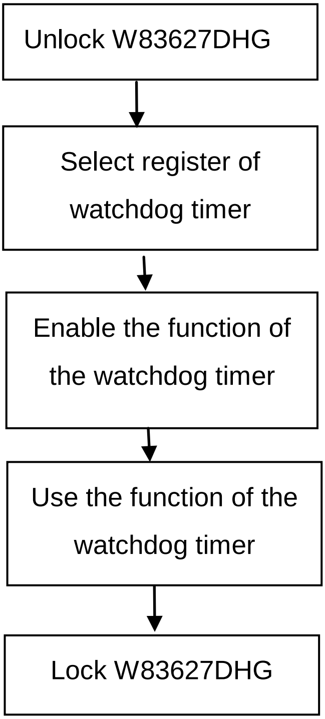
Programming the Watchdog Timer

A.1 Programming

ETX-A55E utilizes W83627DHG-P chipset as its watchdog timer controller.

Below are the procedures to complete its configuration and the AAEON intial watchdog timer program is also attached based on which you can develop customized program to fit your application.

Configuring Sequence Description


Unlock W83627DHG
Select register of watchdog timer
Enable the function of the watchdog timer
Use the function of the watchdog timer
Lock W83627DHG

There are three steps to complete the configuration setup:

(1) Enter the W83627DHG config Mode

(2) Modify the data of configuration registers

(3) Exit the W83627DHG config Mode. Undesired result may occur if the config Mode is not exited normally.

(1) Enter the W83627DHG config Mode

To enter the W83627DHG config Mode, two 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 two write operations to the Special Address port (2EH). The different enter keys are provided to select configuration ports (2Eh/2Fh) of the next step.

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

(2) Modify the Data of the Registers

All configuration registers can be accessed after entering the config 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 W83627DHG config Mode

The exit key is provided to select configuration ports (2Eh/2Fh) of the next step.

	Address Port	Data Port
0aah:	2Eh	2Fh

WatchDog Timer Register I (Index=F5h, Default=00h)

CRF5 (PLED and KBC P20 Control Mode Register)

Bit 7-5 : select PLED mode

= 000 Power LED pin is driven high.

= 001 Power LED pin outputs 0.5Hz pulse with 50% duty cycle.

= 010 Power LED pin is driven low.

= 011 Power LED pin outputs 2Hz pulse with 50% duty cycle.

= 100 Power LED pin outputs 1Hz pulse with 50% duty cycle.

= 101 Power LED pin outputs 4Hz pulse with 50% duty cycle.

= 110 Power LED pin outputs 0.25Hz pulse with 50% duty cycle.

=111 Power LED pin outputs 0.25Hz pulse with 50% duty cycle..

Bit 4 : WDTO# count mode is 1000 times faster.

= 0 Disable.

= 1 Enable.

Bit 3 : select WDTO# count mode.

= 0 second

= 1 minute

Bit 2 : Enable the rising edge of keyboard Reset (P20) to force Time-out event.

= 0 Disable

= 1 Enable

Bit 1 : Disable / Enable the WDTO# output low pulse to the KBRST# pin (PIN60)

= 0 Disable

= 1 Enable

Bit 0 : Reserved.

WatchDog Timer Register II (Index=F6h, Default=00h)

Bit 7-0 = 0 x 00 Time-out Disable

= 0 x 01 Time-out occurs after 1 second/minute

= 0 x 02 Time-out occurs after 2 second/minutes

= 0 x 03 Time-out occurs after 3 second/minutes

………………………………..

= 0 x FF Time-out occurs after 255 second/minutes

WatchDog Timer Register III (Index=F7h, Default=00h)

Bit 7 : Mouse interrupt reset Enable or Disable

= 1 Watchdog Timer is reset upon a Mouse interrupt

= 0 Watchdog Timer is not affected by Mouse interrupt

Bit 6 : Keyboard interrupt reset Enable or

Disable

= 1 Watchdog Timer is reset upon a Keyboard interrupt

= 0 Watchdog Timer is not affected by Keyboard interrupt

Bit 5 : Force Watchdog Timer Time-out. Write Only

= 1 Force Watchdog Timer time-out event: this bit is self-clearing

Bit 4 : Watchdog Timer Status. R/W

= 1 Watchdog Timer time-out occurred

= 0 Watchdog Timer counting

Bit 3-0 : These bits select IRQ resource for Watchdog. Setting of 2 selects SMI.

A.2 W83627DHG Watchdog Timer Initial Program

Example: Setting 10 sec. as Watchdog timeout interval

```
;///////////////////////////////////////////////////////////////////////////////////////////////////////////
Mov dx,2eh                    ;Enter W83627DHG config mode
Mov al,87h                    (out 87h to 2eh twice)
Out dx,al
Out dx,al
;///////////////////////////////////////////////////////////////////////////////////////////////////////////
Mov al,07h
Out dx,al
Inc dx
Mov al,08h                    ;Select Logical Device 8 (GPIO Port 2)
Out dx,al
;///////////////////////////////////////////////////////////////////////////////////////////////////////////
Dec dx
Mov al,30h                    ;CR30 (GP20~GP27)
Out dx,al
Inc dx
Mov al,01h                    ;Activate GPIO2
Out dx,al
```

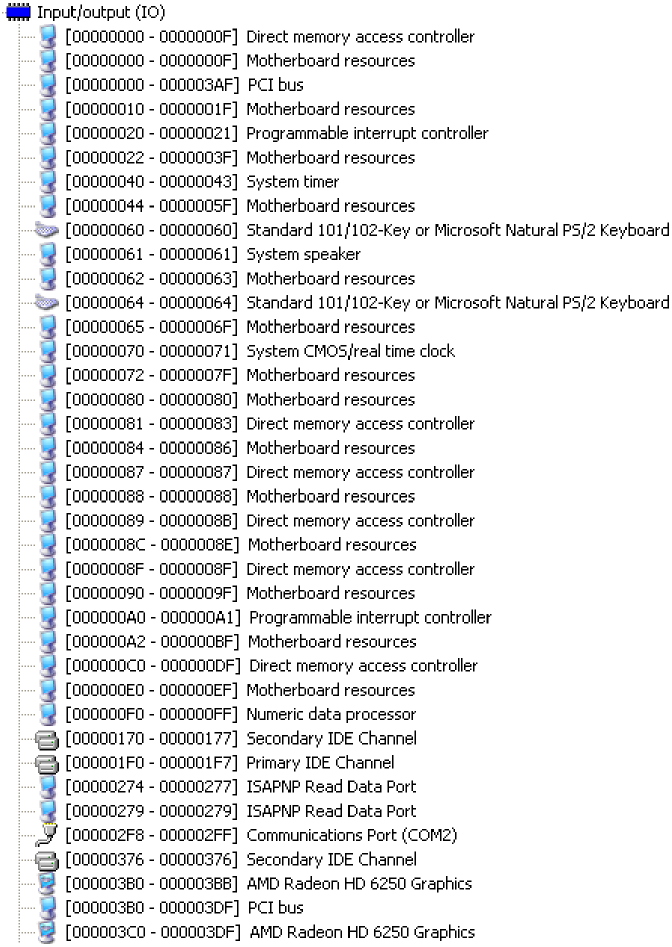
```
;//////////////////////////////////////////////////////////////////////////////////////////
Dec dx
Mov al,0f5h                    ;CRF5 (PLED mode register)
Out dx,al
Inc dx
In al,dx
And al,not 08h                 ;Set second as counting unit
Out dx,al
;//////////////////////////////////////////////////////////////////////////////////////////
Dec dx
Mov al,0f6h                    ; CRF6
Out dx,al
Inc dx
Mov al,10                      ;Set timeout interval as 10 sec.
Out dx,al
;//////////////////////////////////////////////////////////////////////////////////////////
Dec dx                         ;Exit W83627DHG config mode
Mov al,0aah                            (out 0aah to 2eh once)
Out dx,al
;//////////////////////////////////////////////////////////////////////////////////////////
```

Appendix

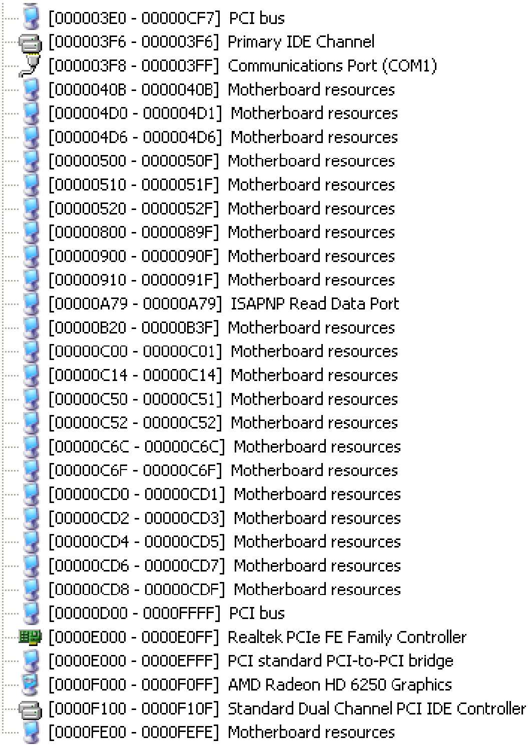
B

I/O Information

B.1 I/O Address Map

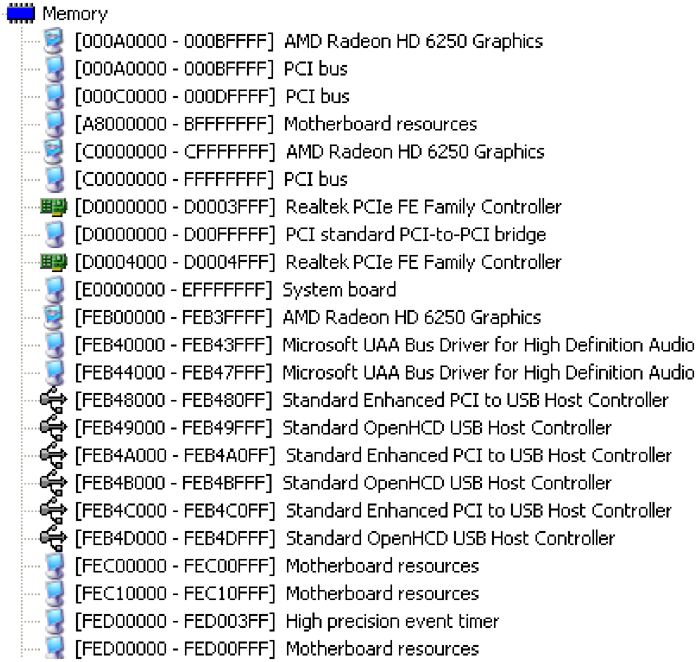


```
Input/output (IO)
    [00000000 - 0000000F]  Direct memory access controller
    [00000000 - 0000000F]  Motherboard resources
    [00000000 - 000003AF]  PCI bus
    [00000010 - 0000001F]  Motherboard resources
    [00000020 - 00000021]  Programmable interrupt controller
    [00000022 - 0000003F]  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
    [00000170 - 00000177]  Secondary IDE Channel
    [000001F0 - 000001F7]  Primary IDE Channel
    [00000274 - 00000277]  ISAPNP Read Data Port
    [00000279 - 00000279]  ISAPNP Read Data Port
    [000002F8 - 000002FF]  Communications Port (COM2)
    [00000376 - 00000376]  Secondary IDE Channel
    [000003B0 - 000003BB]  AMD Radeon HD 6250 Graphics
    [000003B0 - 000003DF]  PCI bus
    [000003C0 - 000003DF]  AMD Radeon HD 6250 Graphics
```



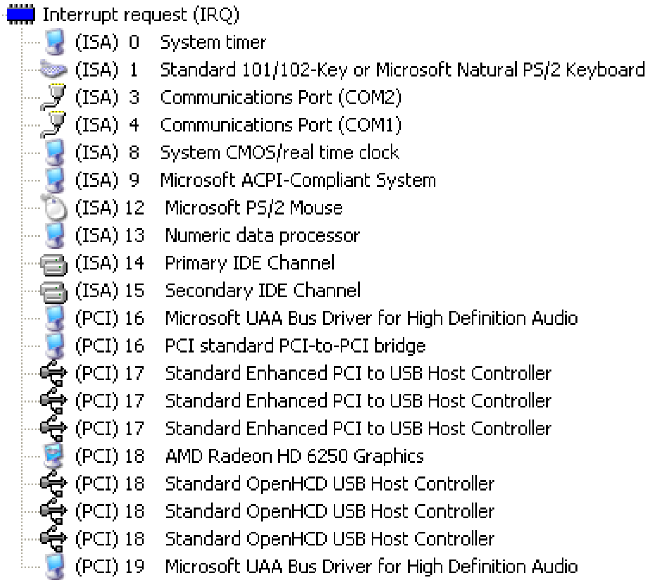
```
[000003E0 - 00000CF7]  PCI bus
[000003F6 - 000003F6]  Primary IDE Channel
[000003F8 - 000003FF]  Communications Port (COM1)
[0000040B - 0000040B]  Motherboard resources
[000004D0 - 000004D1]  Motherboard resources
[000004D6 - 000004D6]  Motherboard resources
[00000500 - 0000050F]  Motherboard resources
[00000510 - 0000051F]  Motherboard resources
[00000520 - 0000052F]  Motherboard resources
[00000800 - 0000089F]  Motherboard resources
[00000900 - 0000090F]  Motherboard resources
[00000910 - 0000091F]  Motherboard resources
[00000A79 - 00000A79]  ISAPNP Read Data Port
[00000B20 - 00000B3F]  Motherboard resources
[00000C00 - 00000C01]  Motherboard resources
[00000C14 - 00000C14]  Motherboard resources
[00000C50 - 00000C51]  Motherboard resources
[00000C52 - 00000C52]  Motherboard resources
[00000C6C - 00000C6C]  Motherboard resources
[00000C6F - 00000C6F]  Motherboard resources
[00000CD0 - 00000CD1]  Motherboard resources
[00000CD2 - 00000CD3]  Motherboard resources
[00000CD4 - 00000CD5]  Motherboard resources
[00000CD6 - 00000CD7]  Motherboard resources
[00000CD8 - 00000CDF]  Motherboard resources
[00000D00 - 0000FFFF]  PCI bus
[0000E000 - 0000E0FF]  Realtek PCIe FE Family Controller
[0000E000 - 0000EFFF]  PCI standard PCI-to-PCI bridge
[0000F000 - 0000F0FF]  AMD Radeon HD 6250 Graphics
[0000F100 - 0000F10F]  Standard Dual Channel PCI IDE Controller
[0000FE00 - 0000FEFE]  Motherboard resources
```

B.2 Memory Address Map



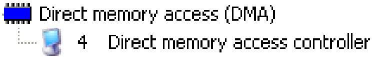
```
Memory
    [000A0000 - 000BFFFF]  AMD Radeon HD 6250 Graphics
    [000A0000 - 000BFFFF]  PCI bus
    [000C0000 - 000DFFFF]  PCI bus
    [A8000000 - BFFFFFFF]  Motherboard resources
    [C0000000 - CFFFFFFF]  AMD Radeon HD 6250 Graphics
    [C0000000 - FFFFFFFF]  PCI bus
    [D0000000 - D0003FFF]  Realtek PCIe FE Family Controller
    [D0000000 - D00FFFFF]  PCI standard PCI-to-PCI bridge
    [D0004000 - D0004FFF]  Realtek PCIe FE Family Controller
    [E0000000 - EFFFFFFF]  System board
    [FEB00000 - FEB3FFFF]  AMD Radeon HD 6250 Graphics
    [FEB40000 - FEB43FFF]  Microsoft UAA Bus Driver for High Definition Audio
    [FEB44000 - FEB47FFF]  Microsoft UAA Bus Driver for High Definition Audio
    [FEB48000 - FEB480FF]  Standard Enhanced PCI to USB Host Controller
    [FEB49000 - FEB49FFF]  Standard OpenHCD USB Host Controller
    [FEB4A000 - FEB4A0FF]  Standard Enhanced PCI to USB Host Controller
    [FEB4B000 - FEB4BFFF]  Standard OpenHCD USB Host Controller
    [FEB4C000 - FEB4C0FF]  Standard Enhanced PCI to USB Host Controller
    [FEB4D000 - FEB4DFFF]  Standard OpenHCD USB Host Controller
    [FEC00000 - FEC00FFF]  Motherboard resources
    [FEC10000 - FEC10FFF]  Motherboard resources
    [FED00000 - FED003FF]  High precision event timer
    [FED00000 - FED00FFF]  Motherboard resources
```

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) 12   Microsoft PS/2 Mouse
    (ISA) 13   Numeric data processor
    (ISA) 14   Primary IDE Channel
    (ISA) 15   Secondary IDE Channel
    (PCI) 16   Microsoft UAA Bus Driver for High Definition Audio
    (PCI) 16   PCI standard PCI-to-PCI bridge
    (PCI) 17   Standard Enhanced PCI to USB Host Controller
    (PCI) 17   Standard Enhanced PCI to USB Host Controller
    (PCI) 17   Standard Enhanced PCI to USB Host Controller
    (PCI) 18   AMD Radeon HD 6250 Graphics
    (PCI) 18   Standard OpenHCD USB Host Controller
    (PCI) 18   Standard OpenHCD USB Host Controller
    (PCI) 18   Standard OpenHCD USB Host Controller
    (PCI) 19   Microsoft UAA Bus Driver for High Definition Audio
```

B.4 DMA Channel Assignments



Direct memory access (DMA)

4 Direct memory access controller

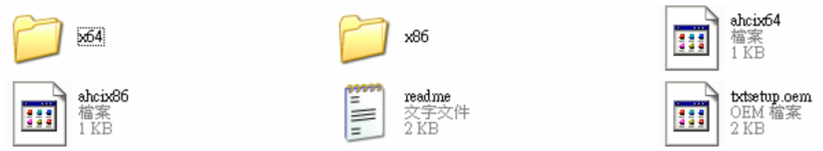
Appendix
C
AHCI Settings

C.1 Setting AHCI

OS installation to SETUP AHCI Mode

Note: **Installation is only possible with floppy disks on Windows XP**

Step 1: Copy files from “Driver DVD -> Step4 – AHCI(Optional)\WinXP_32” to diskette.



x64

x86

ahcix64
檔案
1 KB

ahcix86
檔案
1 KB

readme
文字文件
2 KB

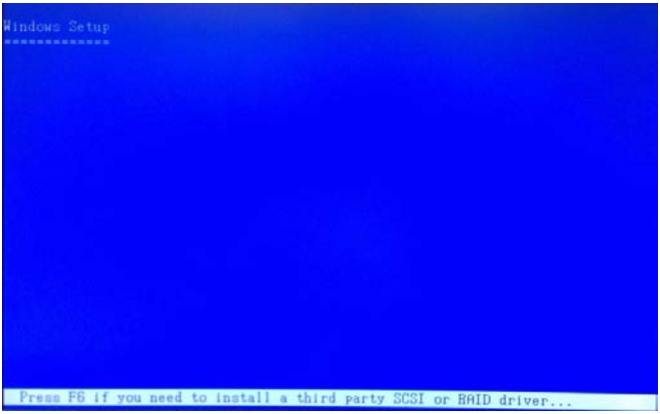
txtsetup.oem
OEM 檔案
2 KB

Step 2: Connect the USB Floppy drive to the board and insert the diskette from previous step.

Step 3: Configure SATA Controller to AHCI mode in **BIOS SETUP**

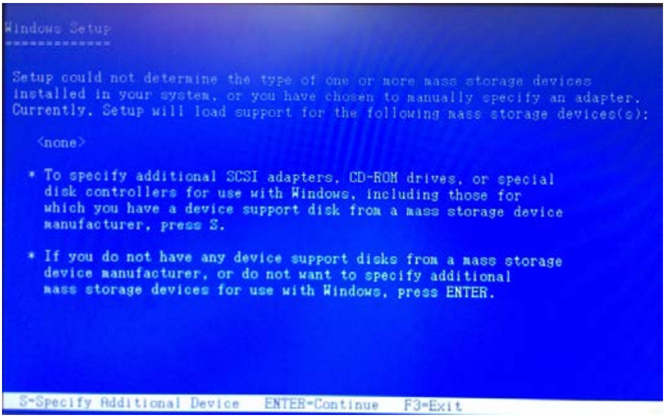
Step 4: Boot to DVD/CD-ROM device to install OS

Step 5: Press **“F6”** to install AHCI driver



```
Windows Setup
=============

Press F6 if you need to install a third party SCSI or RAID driver...
```

Step 6: Press **“S”** to install AHCI driver



```
Windows Setup
=============

Setup could not determine the type of one or more mass storage devices
installed in your system, or you have chosen to manually specify an adapter.
Currently, Setup will load support for the following mass storage device(s):

    <none>

  * To specify additional SCSI adapters, CD-ROM drives, or special
    disk controllers for use with Windows, including those for
    which you have a device support disk from a mass storage device
    manufacturer, press S.

  * If you do not have any device support disks from a mass storage
    device manufacturer, or do not want to specify additional
    mass storage devices for use with Windows, press ENTER.

S=Specify Additional Device   ENTER=Continue   F3=Exit
```

Step 7: Choose **“AMD AHCI Compatible RAID Controller-x86 platform”** for Windows XP 32-bit system; **“AMD AHCI Compatible RAID Controller-x64 platform”** for Windows XP 64-bit system.

Step 8: Windows Setup will display the controller name you selected in previous step and continue to install OS when ”ENTER” **pressed.**