DSS-TN40

Digital Signage System

2.5” HDD/ Optional mSATA x 1

Gigabit Ethernet Port x 2

USB3.0 x 2, USB2.0 x 2

COM x 1, Mini PCIe x 1

HDMI x 4

DSS-TN40 Manual 1st Ed.
October 2013

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Packing List

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

- 1 Gift Box (Including Power Adapter)
- 1 DVD-ROM for Manual (in PDF Format) and Drivers
- 1 DSS-TN40

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

Contents

Chapter

1

General Information

1.1 Introduction

DSS-TN40 adopts the AMD Embedded R-series APU. The chipset is equipped with AMD A70M. Moreover, the system memory features two 204-pin DDR3 1333MHz SODIMM up to 4GB. It deploys two LAN ports that consist of Gigabit Ethernet LAN RJ-45 ports. DSS-TN40 condensed appearance features desktop and VESA mount form factor that fits nicely into a space-limited environment.

This compact DSS-TN40 equipped with one 2.5" Hard Disk Drive and one optional mSATA for expansion. In addition, it features one RS-232/422/485 COM port, two USB2.0, and two USB3.0 pports. Furthermore, it supports Full displays by four HDMI.

With the increasing demands of high performance in audio and video, AAEON released the specific Digital Signage system to fulfill the needs of multimedia and digital signage applications.

1.2 Features

- AMD R-260H APU (Dual-core)
- AMD A70M
- 2 x 204-pin Dual Channel DDR3 1333MHz up to 4GB
- Four HDMI Support Four Full HD Displays
- Audio Line-out x 1, Mic-in x 1
- USB3.0 x 2, USB2.0 x 2 (Front Panel)
- Two RJ-45 Ports with LED for Gigabit Ethernet
- COM x 1 (RS-232/422/485)
- Mini-PCIe x 1 (Full size) for Expansion

1.3 Specifications

● CPU		Onboard AMD Embedded R-260H
● Chipset		AMD A70M
● System Memory		204-pin DDR3 1333MHz SODIMM x 2, Max. 4 GB
● Display Interface	VGA	—
	DVI	—
	HDMI	4
● Storage Device	SSD	Optional mSATA x 1
	HDD	2.5” SATA HDD bay x 1
● Network	LAN	Gigabit Ethernet
	Wireless	Optional by Mini Card
● Front I/O	USB Host	USB3.0 x 2, USB2.0 x 2
	Serial Port	RS-232/422/485 x 1
	KB/MS	KB/MS x 1
	Others	Power switch x 1
● Rear I/O	Audio	Mic-in x 1, Line-out x 1
	Others	Power input x 1
● Expansion	Mini Card	1
● Indicator	Front	Power LED x 1
● Power Requirement		DC-in 12V, with DC jack lockable
● Power Consumption		Max. 30W
● System Cooling		Thermal Module
● Mounting		VESA mount

● Operating Temperature		32 °F ~ 113°F (0°C ~ 45°C)
● Storage Temperature		-40°F ~ 176°F (-40°C ~ 80°C)
● Anti-Vibration		0.5 g rms/ 5~500 Hz/ operation-HDD; 0.3 g rms/ 5~500 Hz/ operation-SSD or mSATA
● Anti-Shock		10 G peak acceleration (11 msec. duration) –HDD 20 G peak acceleration (11 msec. duration) –SSD
● Certification	EMC	CE/FCC Class A
● Dimension (W x H x D)		9.84” x 1.3” x 6.89” (250mm x 33mm x 175mm)
● OS Support		Windows® XP Pro, Windows® 7, Linux Kernel 2.6.x and higher

1.4 General System Information

Front Panel

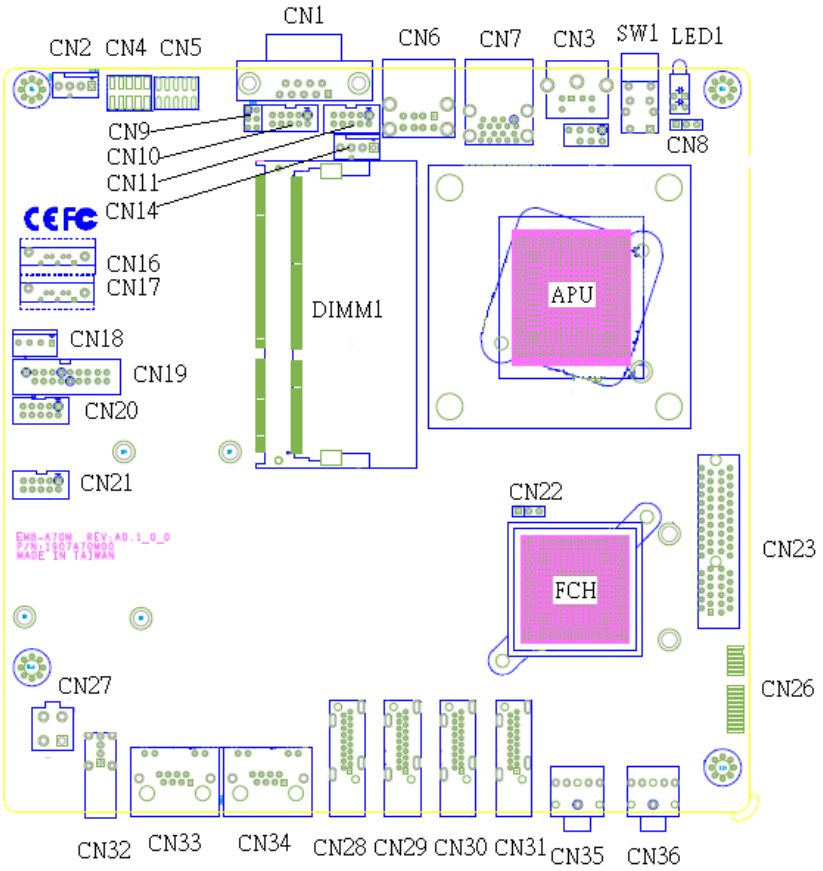
Rear Panel

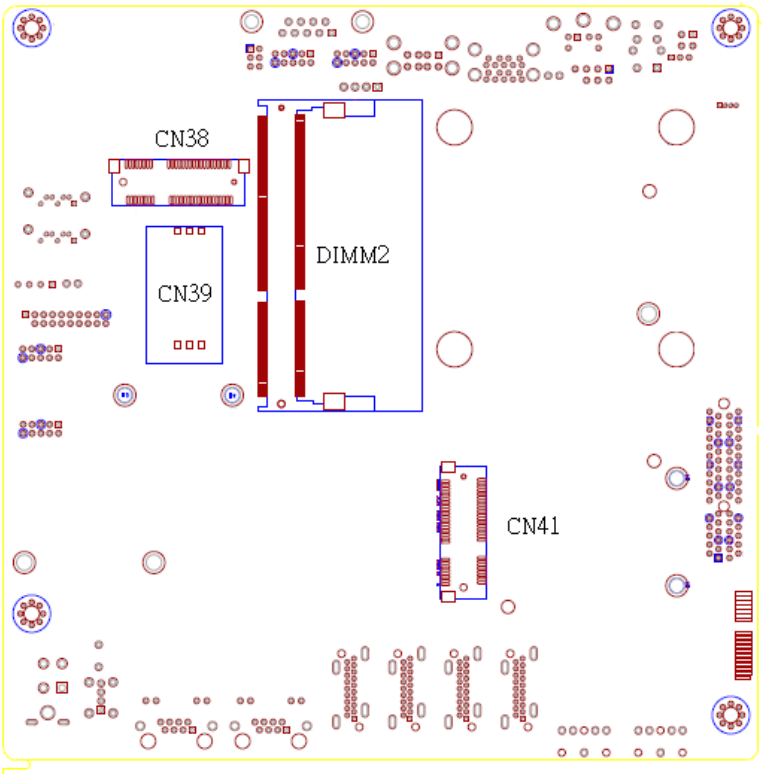
Chapter

2

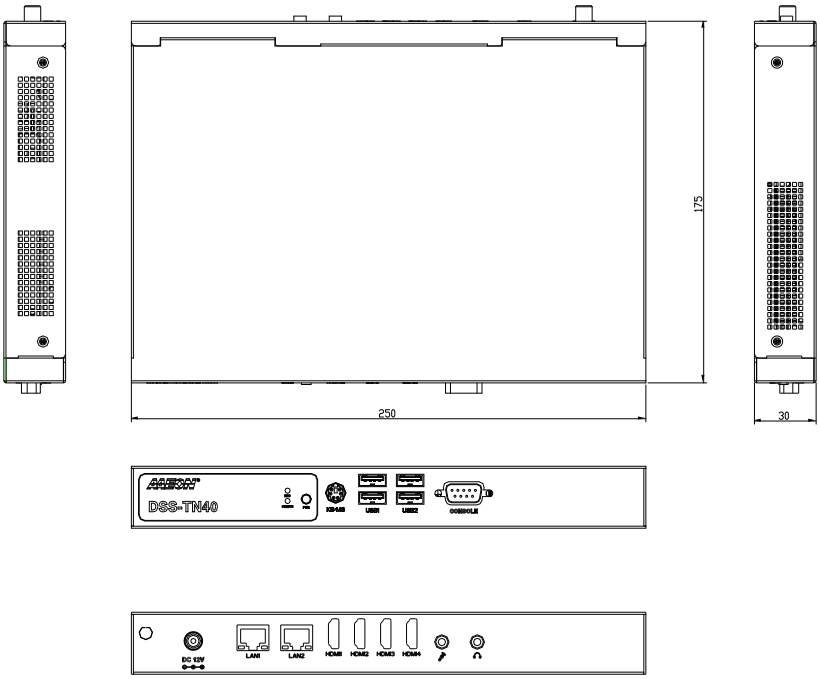
Hardware Installation

2.1 Connectors of the Main Board




CN38
CN39
DIMM2
CN41

2.2 Mechanical Drawing of DSS-TN40



2.3 List of Jumpers and Connectors

Label	Function
DIMM1	DDR3 SOCKET
DIMM2	DDR3 SOCKET
CN1	COM1 Connector RS232/422/485
CN2	SYSTEM FAN Connector
CN3	KB/MS Connector
CN4	Front Panel
CN5	Digital IO
CN6	Dual USB2.0 Connector
CN7	Dual USB3.0 Connector
CN8	Auto Power Button Selection
CN9	COM1 RI Power Selection
CN12	KB/MS Pin Header
CN14	CPU FAN Connector
CN15	CPU FAN Connector
CN22	CMOS Setting Selection
CN25	SPI Programming Pin Header
CN27	DC12V Power Connector
CN28	HDMI1 Connector
CN29	HDMI2 Connector
CN30	HDMI3 Connector
CN31	HDMI4 Connector
CN33	Giga LAN1 Connector
CN34	Giga LAN 2 Connector
CN35	Mic in Connector
CN36	Line out Connector
CN38	Mini PciE Socket

CN39	SIM Card Socket
CN41	mSATA Socket

2.4 Auto Power Button Setting (CN8)

CN8	Function
1-2	Normal (Default)
2-3	Auto Button

2.5 COM1 RI Power Selection (CN9)

CN9	Function
1-2	12V
3-4	Normal (Default)
5-6	5V

2.6 CMOS Setting (CN22)

CN22	Function
1-2	Normal (Default)
2-3	Clear CMOS

2.7 Front Panel Connector (F_Panel)

Pin	Signal	Pin	Signal
1	Power On Button (-)	2	Power On Button (+)
3	HDD LED(-)	4	HDD LED(+)
5	Speaker(-)	6	Speaker(+)
7	Power LED (-)	8	Power LED (+)
9	Reset Switch (-)	10	Reset Switch (+)

2.8 USB Pin Header

Pin	Signal	Pin	Signal
1	+5V	2	GND

3	USBD1-	4	GND
5	USBD1+	6	USBD2+
7	GND	8	USBD2-
9	GND	10	+5V
4	A_JD_FRONT	8	NA
5	LINE2_L	10	LINE IN SENSOR resister

2.9 RS-232 /422/485 Pin Header (COM1)

Pin	Signal	Pin	Signal
1	DCD	2	RXD
3	TXD	4	DTR
5	GND	6	DSR
7	RTS	8	CTS
9	RI	10	N.C

2.10 Digital I/O Pin Header (DIO1)

Pin	Signal	Pin	Signal
1	DIO1	2	DIO2
3	DIO3	4	DIO4
5	DIO5	6	DIO6
7	DIO7	8	DIO8
9	+3.3V	10	GND

2.11 FAN Connector

Pin	Signal	Pin	Signal
1	GND	2	+12V
3	FAN_TAC		FAN_CTL

2.12 4-pin ATX Power Connector (ATX1)

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

2.13 SATA Connector (SATA 1~5)

Pin	Signal	Pin	Signal
1	GND	2	TXP
3	TXN	4	GND
5	RXN	6	RXP
7	GND		

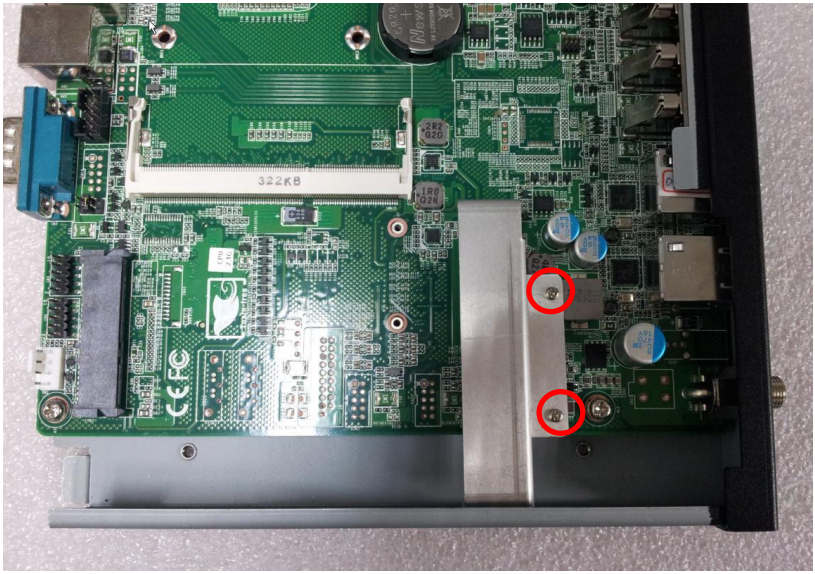
2.14 USB3.0 Connector (USB3_34)

Pin	Signal	Pin	Signal
1	+5V_USB3_2_P1	11	+5V_USB3_2_P2
2	U3_2_U3RXDN1	12	U3_2_U3RXDN2
3	U3_2_U3RXDP1	13	U3_2_U3RXDP2
4	GND	14	GND
5	U3_2_U3TXDN1	15	U3_2_U3TXDN2
6	U3_2_U3TXDP1	16	U3_2_U3TXDP2
7	GND	17	GND
8	U3_2_U2DN1	18	U3_2_U2DN2
9	U3_2_U2DP1	19	U3_2_U2DP2
10	NA	20	NA

2.15 Installing the 2.5” Hard Disk Drive

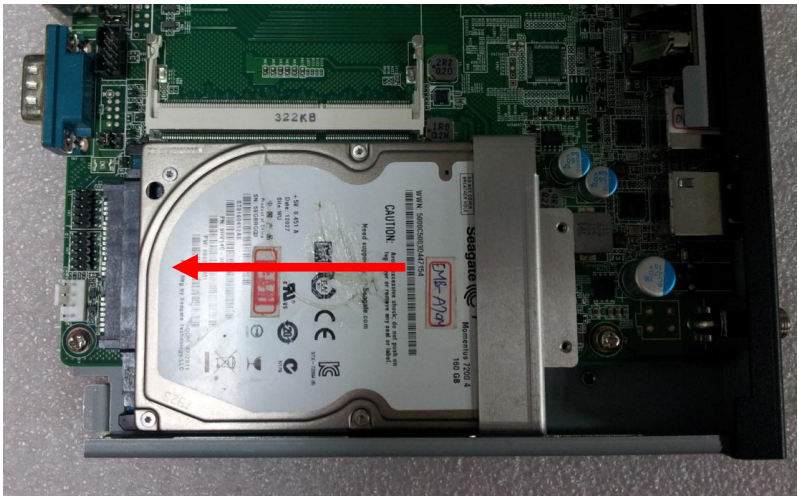
Step 1: Unfasten the two screws on the side panels of the DSS-TN40 and remove the upper lid

Step 2: Loosen HDD bracket on the standoff with two screws



Step 3: Lock HDD on the HDD bracket with two screws

Step 4: Turn the HDD to another side and push it into the slot until connecting firmly



Step 5: Lock the bracket of HDD on the standoff with two screws

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 DSS-TN40 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 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>or <F2> 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

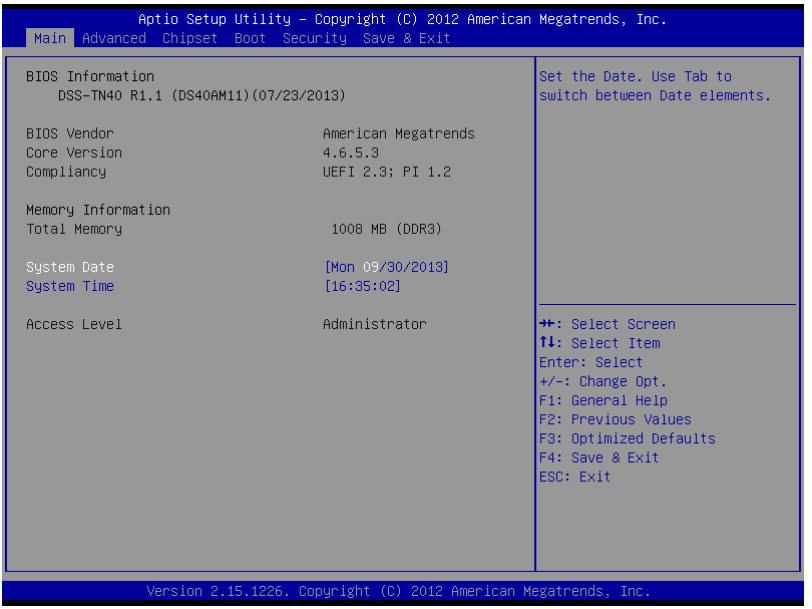
Set setup administrator password.

Save & Exit

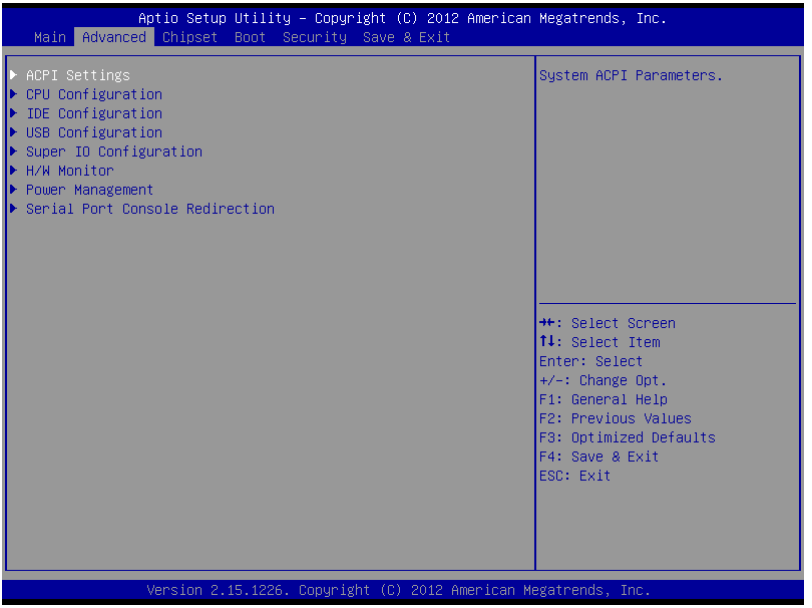
Exit system setup after saving the changes.

Setup Menu

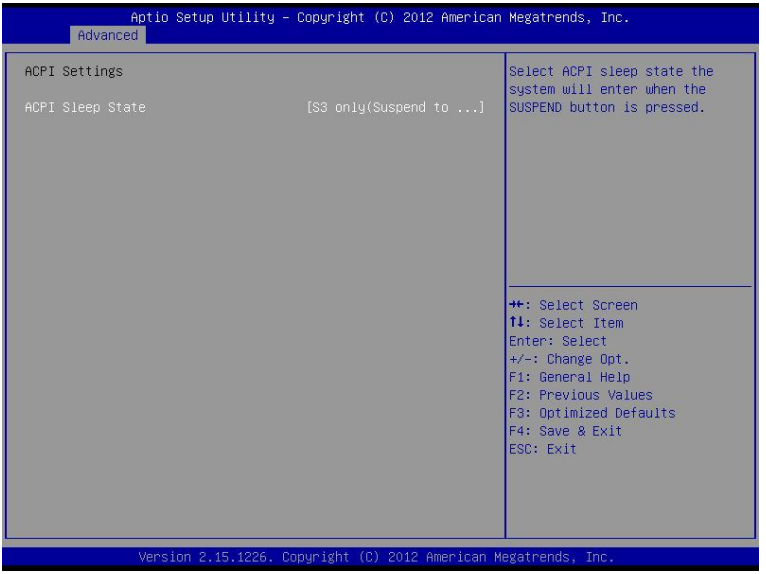
Setup submenu: Main



Setup submenu: Advanced



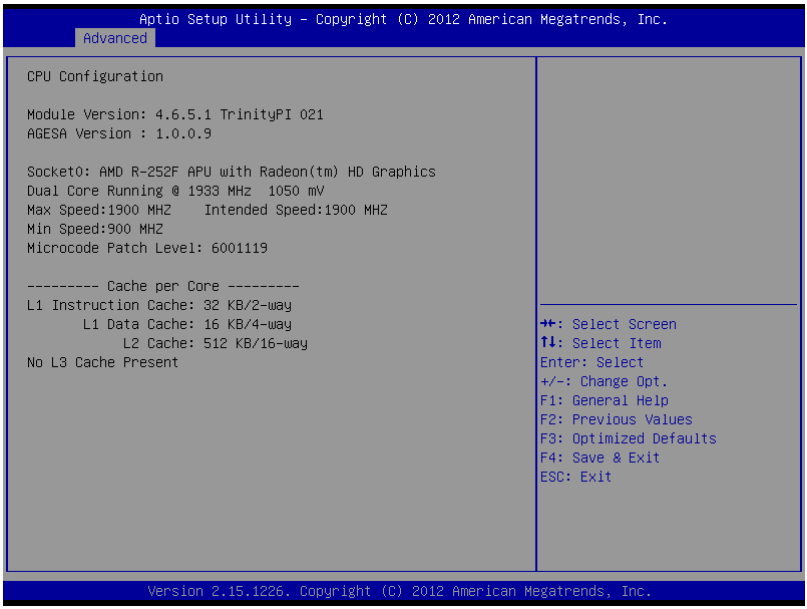
ACPI Settings



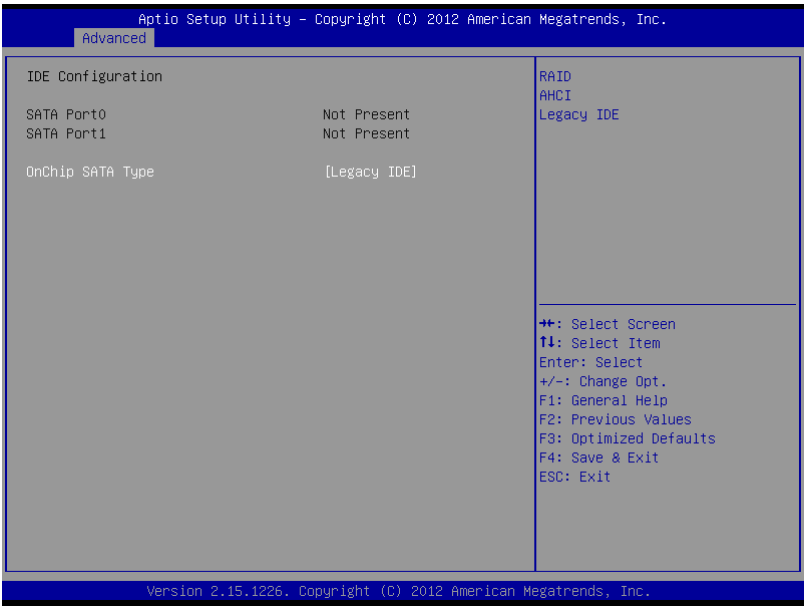
Options summary:

ACPI Sleep State	S3 only (Suspend to RAM)	Optimal Default, Failsafe Default
Select the ACPI state used for System Suspend		

CPU Configuration



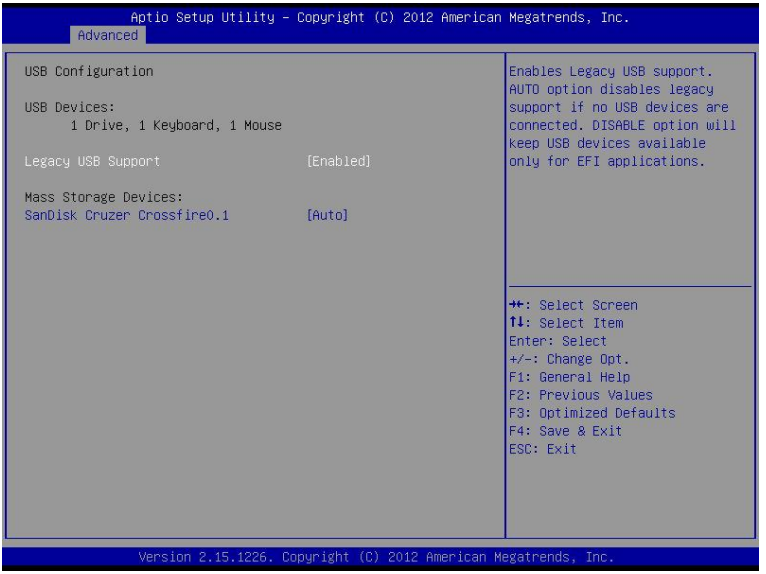
IDE Configuration (IDE)



Options summary:

OnChip SATA Type	AHCI	Optimal Default, Failsafe Default
	Legacy IDE	

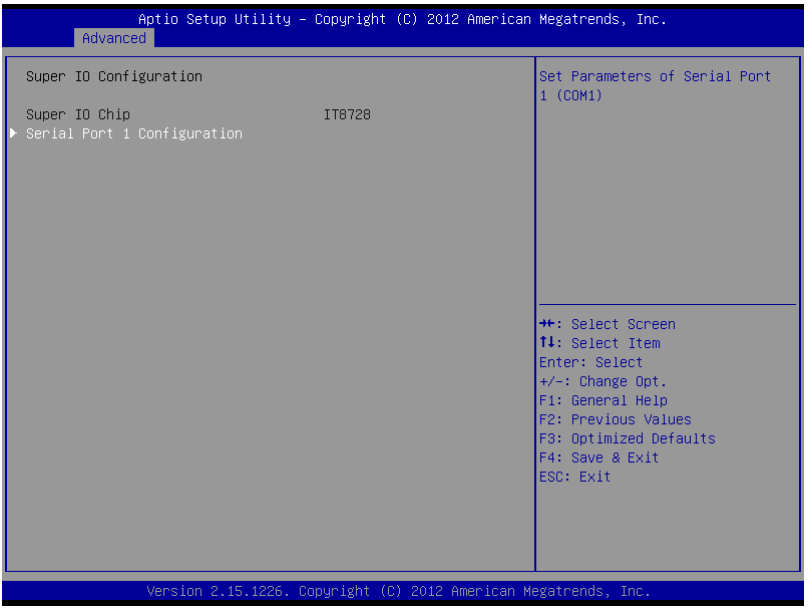
USB Configuration



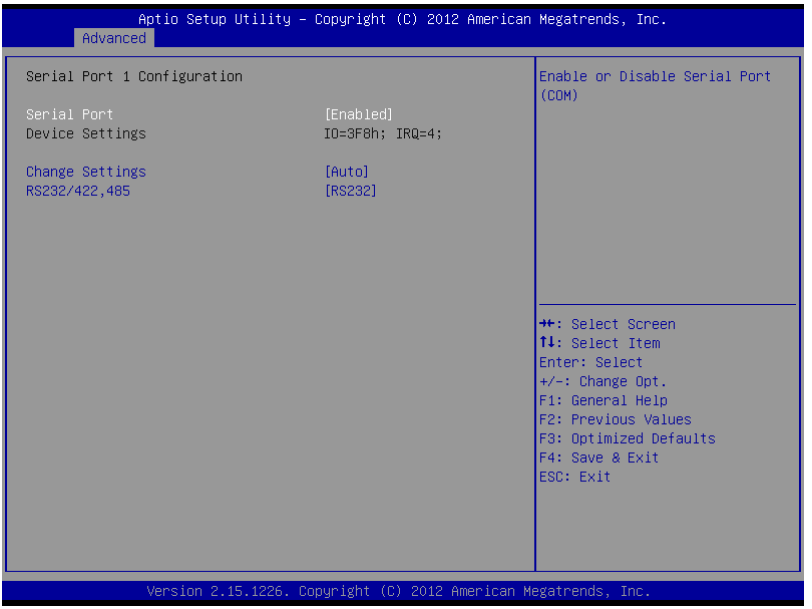
Options summary:

Legacy USB Support	Enabled	Optimal Default, Failsafe Default
	Disabled	
	Auto	
Enables BIOS Support for Legacy USB Support. When enabled, USB can be functional in legacy environment like DOS. AUTO option disables legacy support if no USB devices are connected		
Device Name (Emulation Type)	Auto	Optimal Default, Failsafe Default
	Floppy	
	Forced FDD	
	Hard Disk	
	CDROM	
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



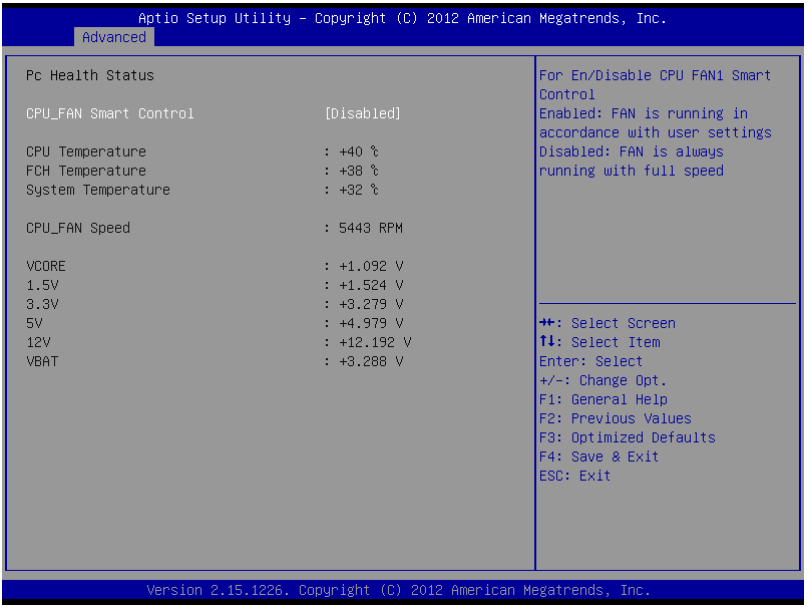
Serial Port 1 Configuration



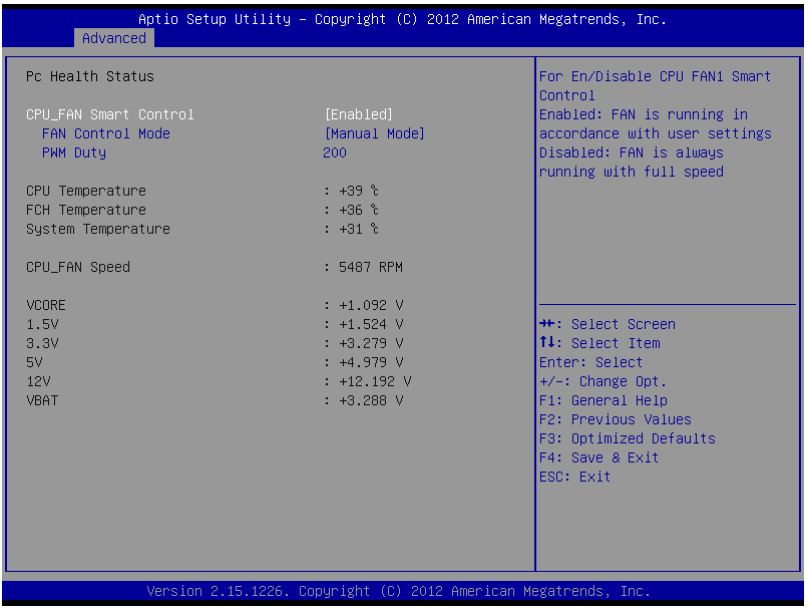
Options summary:

Serial Port	Disabled	Optimal Default, Failsafe Default
	Enabled	
Allows BIOS to En/Disable correspond serial port.		
Change Settings	Auto	Optimal Default, Failsafe Default
	IO=3F8h;IRQ=4;	
	IO=2F8h;IRQ=3;	
Allows BIOS to Select Serial Port resource.		
RS232/422,485	RS232	Optimal Default, Failsafe Default
	RS422	
	RS485	
RS232/422,485 switch		

H/W Monitor


Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc.
Advanced
Pc Health Status
CPU_FAN Smart Control [Disabled]
CPU Temperature : +40 %
FCH Temperature : +38 %
System Temperature : +32 %
CPU_FAN Speed : 5443 RPM
VCORE : +1.092 V
1.5V : +1.524 V
3.3V : +3.279 V
5V : +4.979 V
12V : +12.192 V
VBAT : +3.288 V
For En/Disable CPU FAN1 Smart Control
Enabled: FAN is running in accordance with user settings
Disabled: FAN is always running with full speed
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit
Version 2.15.1226. Copyright (C) 2012 American Megatrends, Inc.

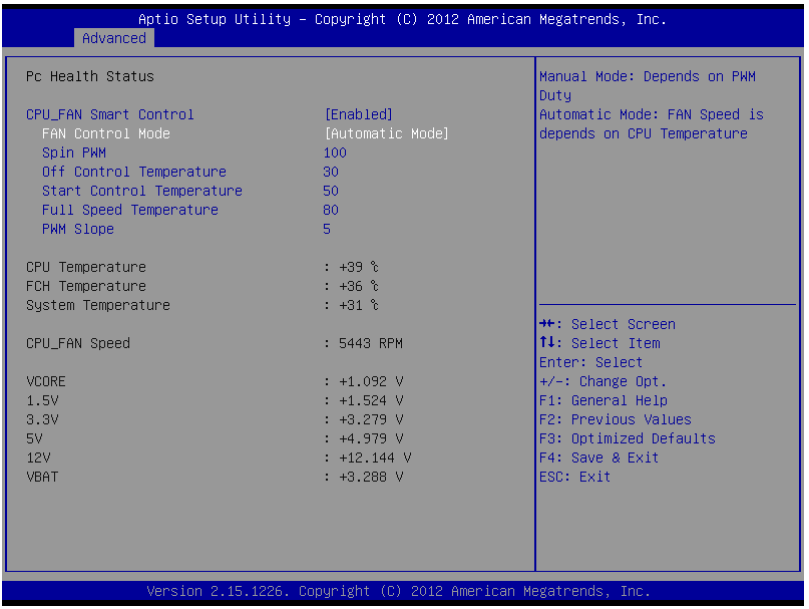
Smart Fan Mode Configuration (Manual Mode)



Options Summary :

CPU Fan Control	Disabled	
	Enabled	Default
For En/Disable CPU Fan1 Control Enabled: Fan is running in accordance with user settings Disabled: Fan is always running with full speed		
Fan Control Mode	Manual Mode	Default
	Automatic Mode	
Manual Mode: Depends on PWM Duty Automatic Mode: Fan Speed is depends on CPU Temperature		
PWM Duty	200	Default
	0~255	
Manual Mode PWM Duty value		

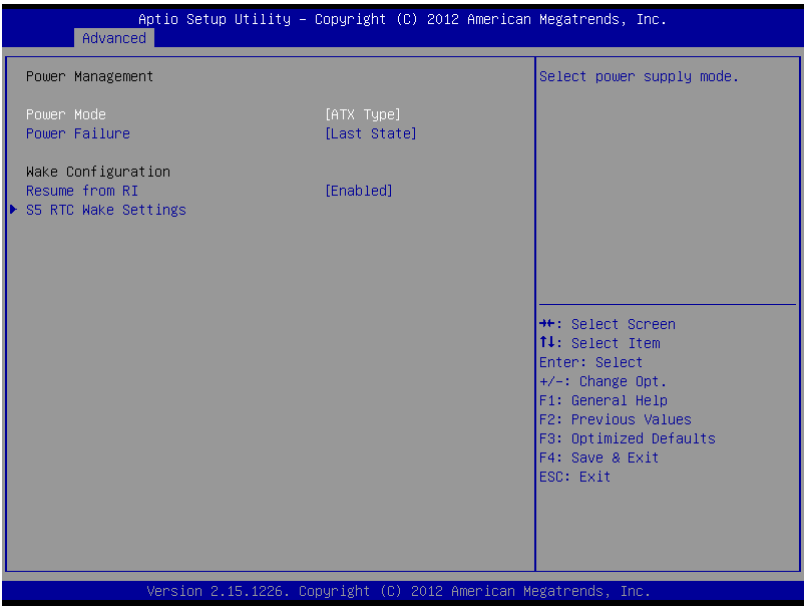
Smart Fan Mode Configuration (Thermal Cruise Mode)



Options Summary :

Spin PWM	100 255	Default
The PWM Duty of Fan Spin		
Off Control Temperature	30	Default
Temperature Limit Value of Fan Off. Note: Some fans have the minimum speed even if the PWM value is 0		
Start Control Temperature	50	Default
Temperature Limit Value of Fan Start Control		
Full Speed Temperature	80	Default
Temperature Limit Value of Fan Full Speed		
PWM Slope	5	Default
Slope PWM value/degree C for FAN speed control		

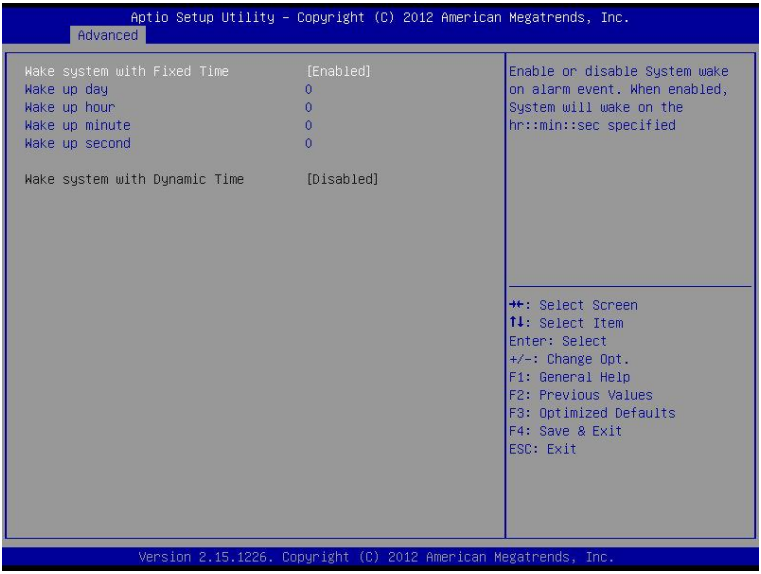
Power Management



Options summary:

Power Mode	ATX Type	Optimal Default, Failsafe Default
	AT Type	
Select power supply mode.		
Resume from RI	Disabled	Optimal Default, Failsafe Default
	Enabled	
Enable/Disable Resume from RI		

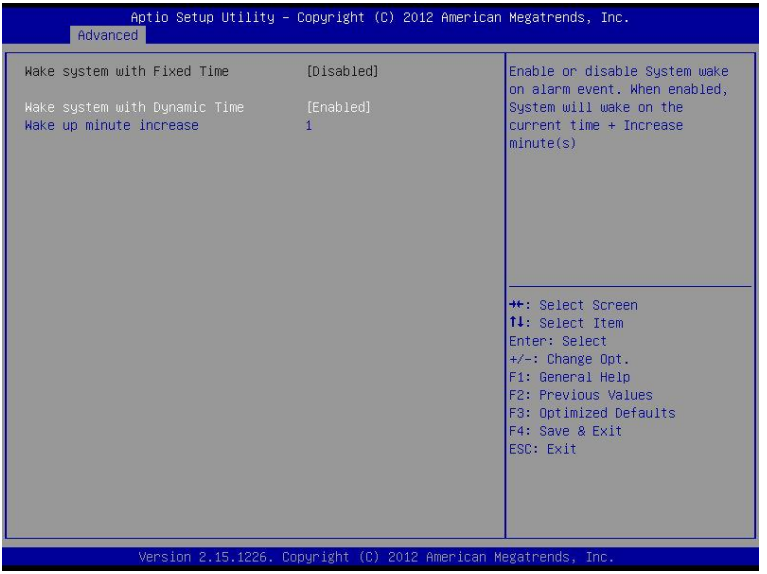
S5 RTC Wake Settings (Fixed Time)



Options summary:

Wake system with Fixed Time	Disabled	Optimal Default, Failsafe Default
	Enabled	
En/Disable System wake on alarm event. When enabled, System will wake on the hr:min:sec specified		
Wake up day	0-31	Default 0
Select 0 for daily system wake up, 1-31 for witch day of the moth that you would like the system to wake up.		
Wake up day	0-23	Default 0
Select 0-23 For example enter 3 for 3am and 15 for 3pm		
Wake up day	0-59	Default 0
Select 0-59		
Wake up day	0-59	Default 0
Select 0-59		

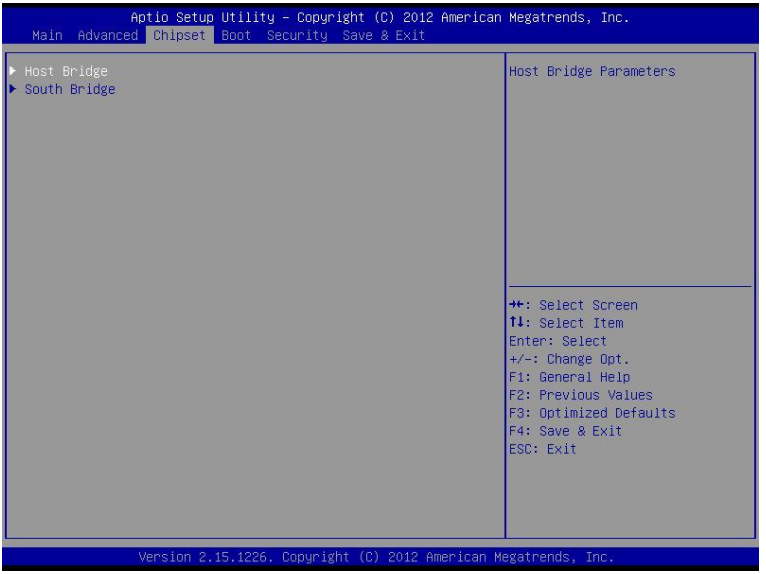
S5 RTC Wake Settings (Dynamic Time)



Options summary:

Wake system with Dynamic Time	Disabled	Optimal Default, Failsafe Default
	Enabled	
En/Disable System wake on alarm event. When enabled, System will wake on current time + Increases minutese(s)		
Wake up day	1-5	Default 1
Select 1-5		

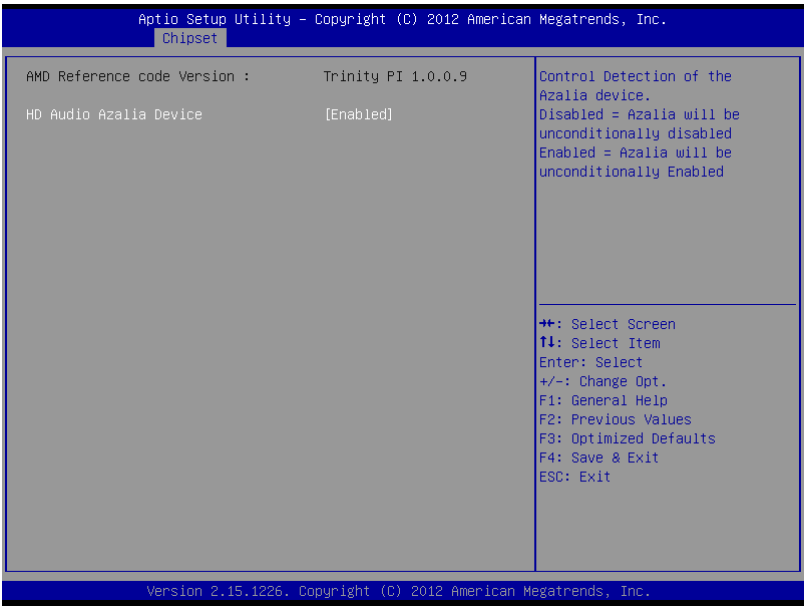
Setup submenu: Chipset



HOST Bridge


Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc.
Chipset
North Bridge Configuration
Dimm0: size=4096 MB, frequency=1334 MHz
Dimm1: Not Present
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit
Version 2.15.1226. Copyright (C) 2012 American Megatrends, Inc.

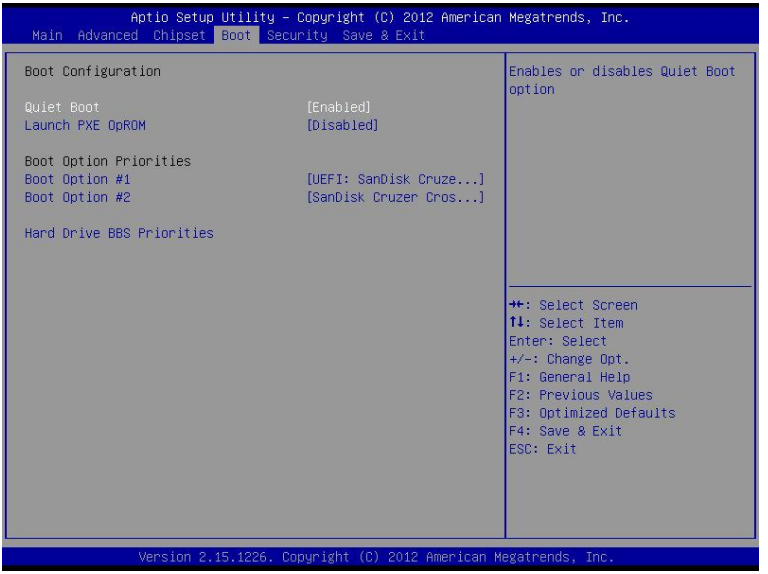
South Bridge



Options summary:

HD Audio Azalia Device	Auto	Optimal Default, Failsafe Default
	Disabled	
	Enabled	
Control Detection of the Azalia device.\n\nDisabled = Azalia will be unconditionally disabled\n\nEnabled = Azalia will be unconditionally Enabled		

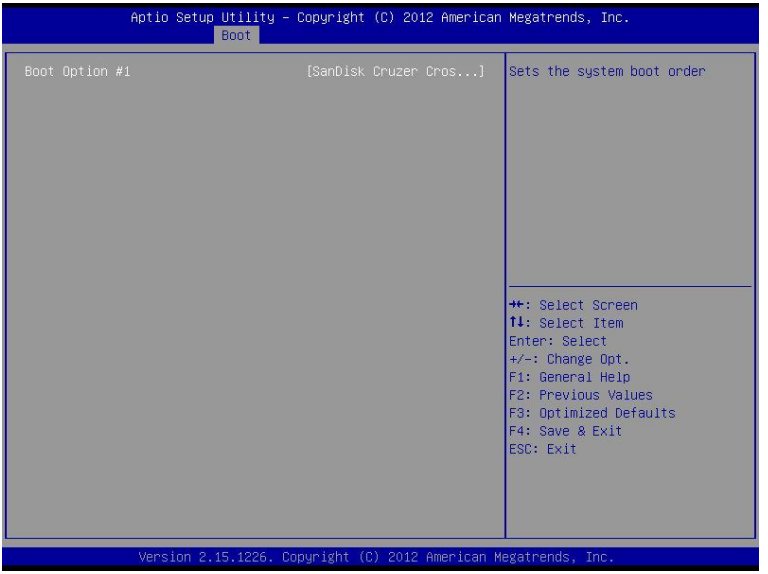
Setup submenu: Boot



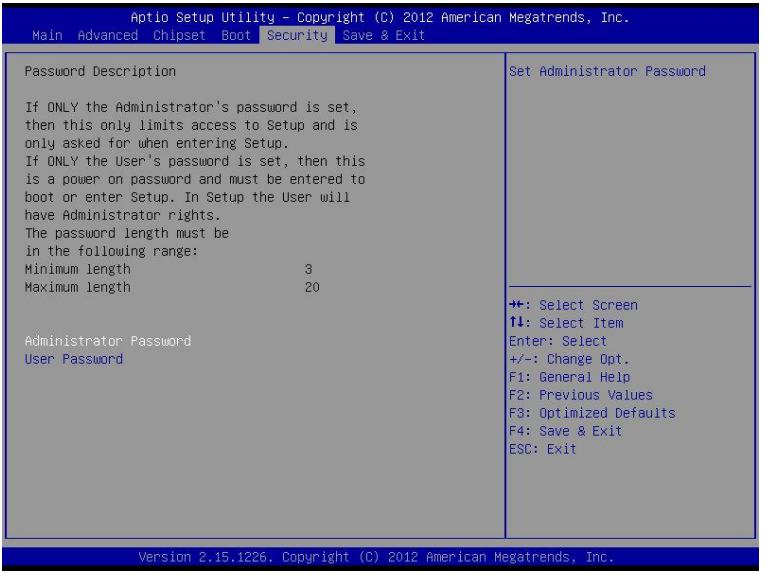
Options summary:

Quiet Boot	Disabled	
	Enabled	Default
En/Disable showing boot logo.		
Launch PXE OpROM	Disabled	Default
	Enabled	
En/Disable Legacy Boot Option for Ethernet..		

BBS Priorities



Security



Change User/Supervisor Password

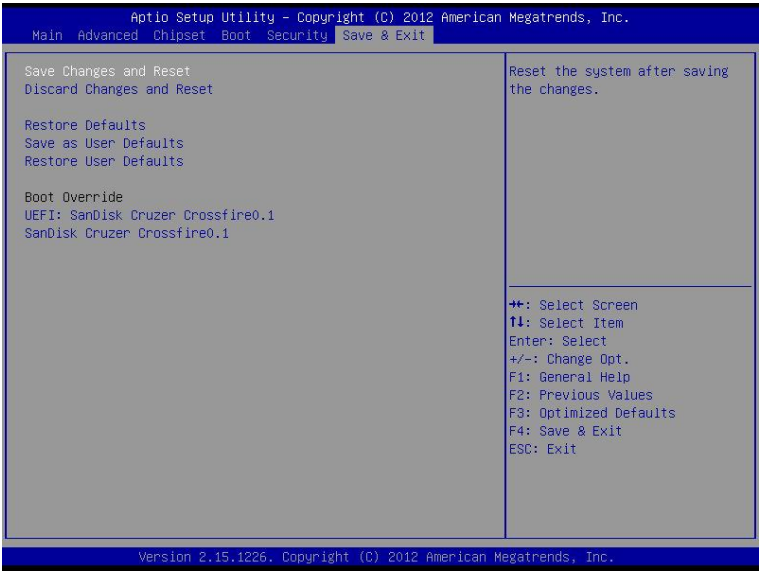
You can install a Supervisor password, and if you install a supervisor password, you can then install a user password. A user password does not provide access to many of the features in the Setup utility.

If you highlight these items and press Enter, 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



Chapter

4

Driver Installation

The DSS-TN40 comes with an Autorun DVD-ROM that contains all drivers and utilities that can help you to install the driver automatically.

Insert the driver DVD, the driver DVD-title will automatically start and show the installation guide. If not, please follow the sequence below to install the drivers.

Follow the sequence below to install the drivers:

Step 1 – Install Chipset & VGA Driver

Step 2 – Install AHCI_RAID Driver

Step 3 – Install LAN Device

Step 4 – Install AUDIO Driver

Please read instructions below for further detailed installations.

4.1 Installation:

Insert the DSS-TN40 DVD-ROM into the DVD-ROM drive. And install the drivers from Step 1 to Step 4 in order.

Step 1 – Install Chipset & VGA Driver

1. Click on the ***Step1 - Chipset & VGA*** folder and select the OS folder your system is
2. Double click on the ***Setup.exe*** file located in each OS folder
3. Follow the instructions that the window shows
4. The system will help you install the driver automatically

Step 2 – Install AHCI_RAID Driver

Please refer to the Appendix D AHCI Setting

Step 3 – Install LAN Device

1. Click on the ***Step3 - LAN*** folder and select the OS folder your system is
2. Double click on the ***setup.exe*** file located in each OS folder
3. Follow the instructions that the window shows
4. The system will help you install the driver automatically

Step 4 – Install AUDIO Driver

1. Click on the ***Step4 - AUDIO*** folder and select the OS folder for your system

2. Double click on the ***.exe*** file located in each OS folder
3. Follow the instructions that the window shows
4. The system will help you install the driver automatically

Appendix

A

Programming the Watchdog Timer

A.1 Watchdog Timer Initial Program

Table 1 : SuperIO relative register table		
	Default Value	**Note**
Index	**0x2E**(Note1)	SIO MB PnP Mode Index Register 0x2E or 0x4E
Data	**0x2F**(Note2)	SIO MB PnP Mode Data Register 0x2F or 0x4F

Table 2 : Watchdog relative register table					
	LDN	**Register**	**BitNum**	**Value**	**Note**
Timer Counter	**0x07**(Note3)	**0x73**(Note4)		(Note24)	Time of watchdog timer (0~255) This register is byte access
Counting Unit	**0x07**(Note5)	**0x72**(Note6)	**7**(Note7)	**1**(Note8)	Select time unit. 1: second 0: minute
Watchdog Enable (KRST)	**0x07**(Note9)	**0x72**(Note10)	**6**(Note11)	**1**(Note12)	0: Disable 1: Enable
Timeout Status	**0x07**(Note13)	**0x71**(Note14)	**0**(Note15)	**1**	1: Clear timeout status

```
*********************************************************************************
// SuperIO relative definition (Please reference to Table 1)
#define byte   SIOIndex   //This parameter is represented from Note1
#define byte   SIOData    //This parameter is represented from Note2
#define   void   IOWriteByte(byte IOPort, byte Value);
#define   byte   IOReadByte(byte IOPort);
// Watch Dog relative definition (Please reference to Table 2)
#define byte   TimerLDN    //This parameter is represented from Note3
#define byte   TimerReg    //This parameter is represented from Note4
#define byte   TimerVal    // This parameter is represented from Note24
#define byte   UnitLDN    //This parameter is represented from Note5
#define byte   UnitReg    //This parameter is represented from Note6
#define byte   UnitBit    //This parameter is represented from Note7
#define byte   UnitVal    //This parameter is represented from Note8
#define byte   EnableLDN    //This parameter is represented from Note9
#define byte   EnableReg    //This parameter is represented from Note10
#define byte   EnableBit    //This parameter is represented from Note11
#define byte   EnableVal    //This parameter is represented from Note12
#define byte   StatusLDN    // This parameter is represented from Note13
#define byte   StatusReg    // This parameter is represented from Note14
#define byte   StatusBit    // This parameter is represented from Note15
*********************************************************************************
```

```
*********************************************************************************
VOID   Main(){
        // Procedure : AaeonWDTConfig
        // (byte)Timer : Time of WDT timer.(0x00~0xFF)
        // (boolean)Unit : Select time unit(0: second, 1: minute).
        AaeonWDTConfig();

        // Procedure : AaeonWDTEnable
        // This procudure will enable the WDT counting.
        AaeonWDTEnable();
}
*********************************************************************************
```

```
*****************************************************************************
// Procedure : AaeonWDTEnable
VOID   AaeonWDTEnable (){
        WDTEnableDisable(EnableLDN, EnableReg, EnableBit, 1);
}

// Procedure : AaeonWDTConfig
VOID   AaeonWDTConfig (){
        // Disable WDT counting
        WDTEnableDisable(EnableLDN, EnableReg, EnableBit, 0);
        // Clear Watchdog Timeout Status
        WDTClearTimeoutStatus();
        // WDT relative parameter setting
        WDTParameterSetting();
}

VOID   WDTEnableDisable(byte LDN, byte Register, byte BitNum, byte Value){
        SIOBitSet(LDN, Register, BitNum, Value);
}

VOID   WDTParameterSetting(){
        // Watchdog Timer counter setting
        SIOByteSet(TimerLDN, TimerReg, TimerVal);
        // WDT counting unit setting
        SIOBitSet(UnitLDN, UnitReg, UnitBit, UnitVal);
}

VOID   WDTClearTimeoutStatus(){
        SIOBitSet(StatusLDN, StatusReg, StatusBit, 1);
}
*****************************************************************************
```

```
**********************************************************************************
VOID   SIOEnterMBPnPMode(){
        Switch(SIOIndex){
                Case 0x2E:
                        IOWriteByte(SIOIndex, 0x87);
                        IOWriteByte(SIOIndex, 0x01);
                        IOWriteByte(SIOIndex, 0x55);
                        IOWriteByte(SIOIndex, 0x55);
                        Break;
                Case 0x4E:
                        IOWriteByte(SIOIndex, 0x87);
                        IOWriteByte(SIOIndex, 0x01);
                        IOWriteByte(SIOIndex, 0x55);
                        IOWriteByte(SIOIndex, 0xAA);
                        Break;
        }
}

VOID   SIOExitMBPnPMode(){
        IOWriteByte(SIOIndex, 0x02);
        IOWriteByte(SIOData, 0x02);
}

VOID   SIOSelectLDN(byte LDN){
        IOWriteByte(SIOIndex, 0x07); // SIO LDN Register Offset = 0x07
        IOWriteByte(SIOData, LDN);
}
**********************************************************************************
```

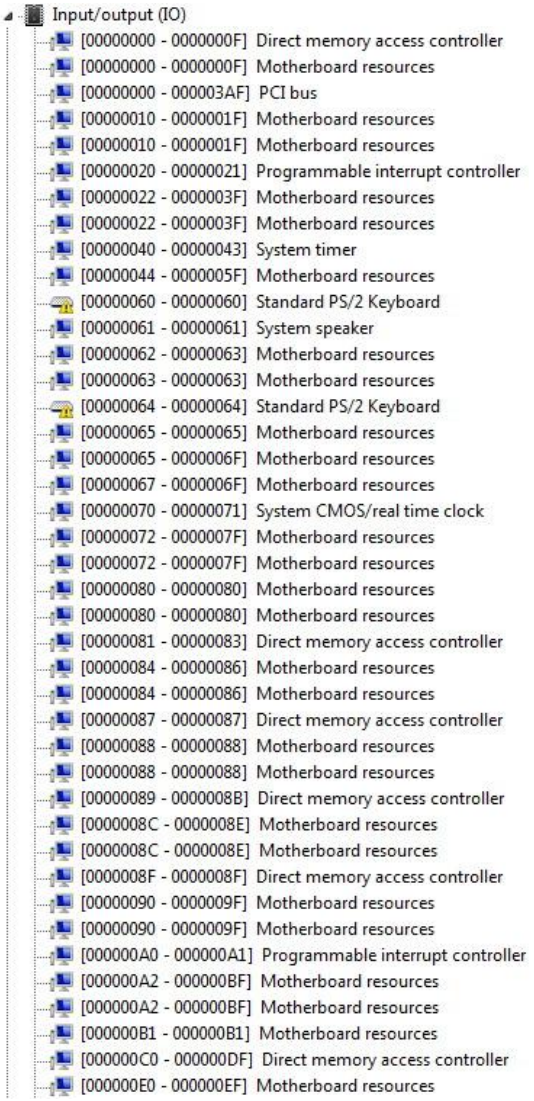
```
*************************************************************************************
VOID   SIOBitSet(byte LDN, byte Register, byte BitNum, byte Value){
        Byte TmpValue;

        SIOEnterMBPnPMode();
        SIOSelectLDN(byte LDN);
        IOWriteByte(SIOIndex, Register);
        TmpValue = IOReadByte(SIOData);
        TmpValue &= ~(1 << BitNum);
        TmpValue |= (Value << BitNum);
        IOWriteByte(SIOData, TmpValue);
        SIOExitMBPnPMode();
}

VOID   SIOByteSet(byte LDN, byte Register, byte Value){
        SIOEnterMBPnPMode();
        SIOSelectLDN(LDN);
        IOWriteByte(SIOIndex, Register);
        IOWriteByte(SIOData, Value);
        SIOExitMBPnPMode();
}
*************************************************************************************
```

Appendix

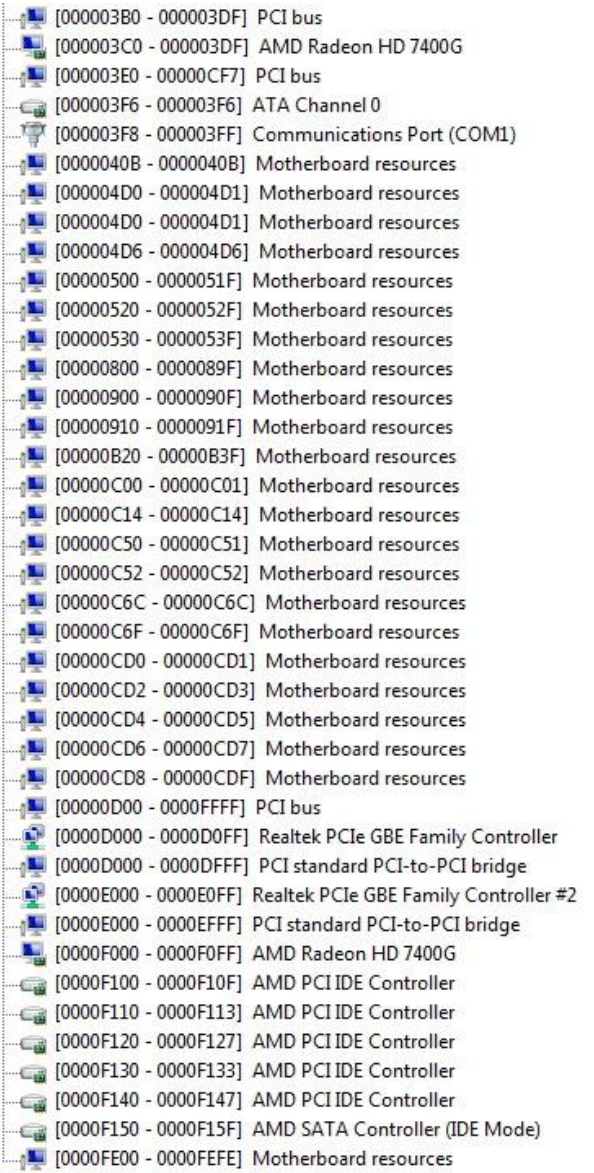
B

I/O Information

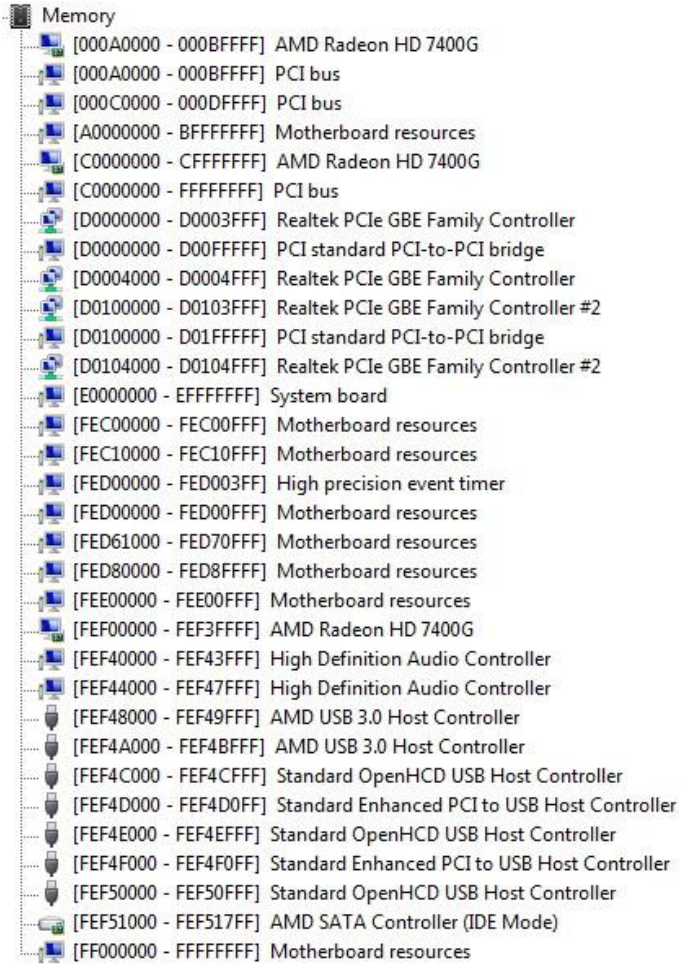
B.1 I/O Address Map



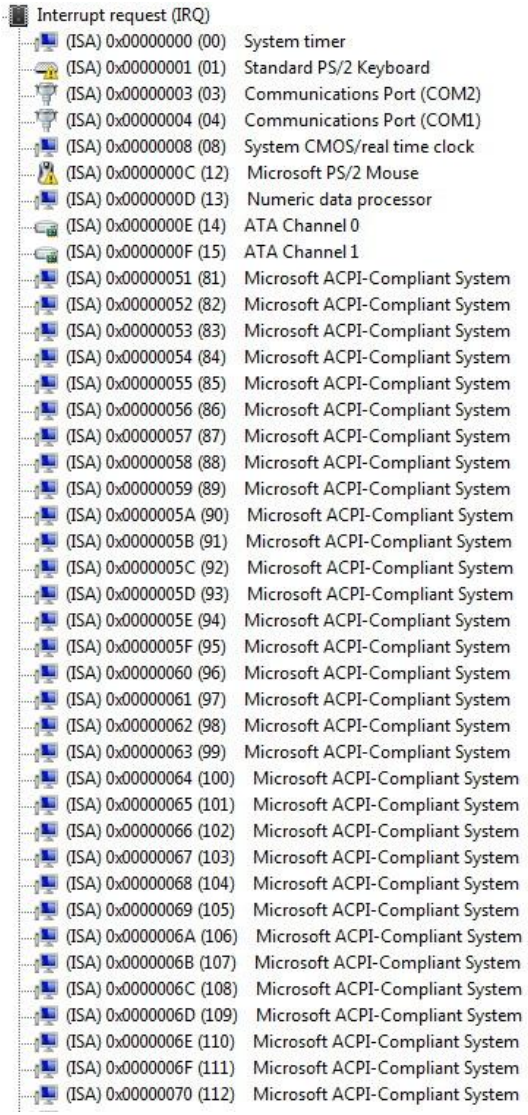
[000000C0 - 000000DF] Direct memory access controller
[000000E0 - 000000EF] Motherboard resources
[000000E0 - 000000EF] Motherboard resources
[000000F0 - 000000FF] Numeric data processor
[00000170 - 00000177] ATA Channel 1
[000001F0 - 000001F7] ATA Channel 0
[000002F8 - 000002FF] Communications Port (COM2)
[00000376 - 00000376] ATA Channel 1
[000003B0 - 000003BB] AMD Radeon HD 7400G
[000003B0 - 000003DF] PCI bus
[000003C0 - 000003DF] AMD Radeon HD 7400G
[000003E0 - 00000CF7] PCI bus
[000003F6 - 000003F6] ATA Channel 0
[000003F8 - 000003FF] Communications Port (COM1)
[0000040B - 0000040B] Motherboard resources
[000004D0 - 000004D1] Motherboard resources
[000004D0 - 000004D1] Motherboard resources
[000004D6 - 000004D6] Motherboard resources
[00000500 - 0000051F] Motherboard resources
[00000520 - 0000052F] Motherboard resources
[00000530 - 0000053F] Motherboard resources
[00000800 - 0000089F] Motherboard resources
[00000900 - 0000090F] Motherboard resources
[00000910 - 0000091F] Motherboard resources
[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
[0000D000 - 0000D0FF] Realtek PCIe GBE Family Controller
[0000D000 - 0000DFFF] PCI standard PCI-to-PCI bridge
[0000E000 - 0000E0FF] Realtek PCIe GBE Family Controller #2
[0000E000 - 0000EFFF] PCI standard PCI-to-PCI bridge
[0000F000 - 0000F0FF] AMD Radeon HD 7400G


[000003B0 - 000003DF] PCI bus
[000003C0 - 000003DF] AMD Radeon HD 7400G
[000003E0 - 00000CF7] PCI bus
[000003F6 - 000003F6] ATA Channel 0
[000003F8 - 000003FF] Communications Port (COM1)
[0000040B - 0000040B] Motherboard resources
[000004D0 - 000004D1] Motherboard resources
[000004D0 - 000004D1] Motherboard resources
[000004D6 - 000004D6] Motherboard resources
[00000500 - 0000051F] Motherboard resources
[00000520 - 0000052F] Motherboard resources
[00000530 - 0000053F] Motherboard resources
[00000800 - 0000089F] Motherboard resources
[00000900 - 0000090F] Motherboard resources
[00000910 - 0000091F] Motherboard resources
[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
[0000D000 - 0000D0FF] Realtek PCIe GBE Family Controller
[0000D000 - 0000DFFF] PCI standard PCI-to-PCI bridge
[0000E000 - 0000E0FF] Realtek PCIe GBE Family Controller #2
[0000E000 - 0000EFFF] PCI standard PCI-to-PCI bridge
[0000F000 - 0000F0FF] AMD Radeon HD 7400G
[0000F100 - 0000F10F] AMD PCI IDE Controller
[0000F110 - 0000F113] AMD PCI IDE Controller
[0000F120 - 0000F127] AMD PCI IDE Controller
[0000F130 - 0000F133] AMD PCI IDE Controller
[0000F140 - 0000F147] AMD PCI IDE Controller
[0000F150 - 0000F15F] AMD SATA Controller (IDE Mode)
[0000FE00 - 0000FEFE] Motherboard resources

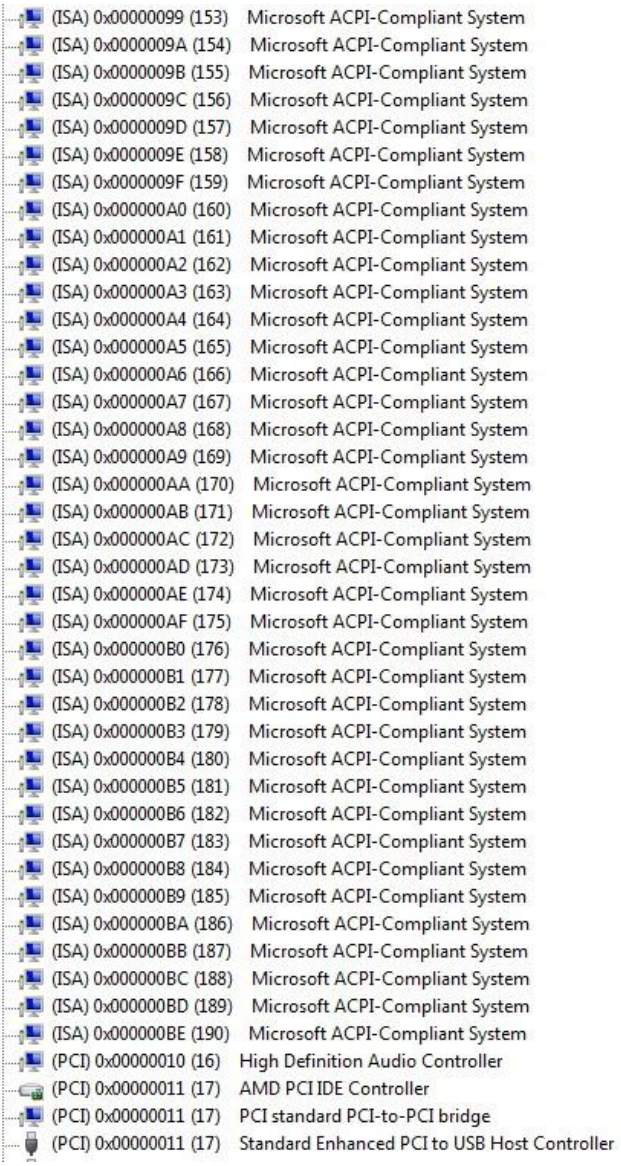
B.2 Memory Address Map



B.3 IRQ Mapping Chart



(ISA) 0x00000070 (112) Microsoft ACPI-Compliant System
(ISA) 0x00000071 (113) Microsoft ACPI-Compliant System
(ISA) 0x00000072 (114) Microsoft ACPI-Compliant System
(ISA) 0x00000073 (115) Microsoft ACPI-Compliant System
(ISA) 0x00000074 (116) Microsoft ACPI-Compliant System
(ISA) 0x00000075 (117) Microsoft ACPI-Compliant System
(ISA) 0x00000076 (118) Microsoft ACPI-Compliant System
(ISA) 0x00000077 (119) Microsoft ACPI-Compliant System
(ISA) 0x00000078 (120) Microsoft ACPI-Compliant System
(ISA) 0x00000079 (121) Microsoft ACPI-Compliant System
(ISA) 0x0000007A (122) Microsoft ACPI-Compliant System
(ISA) 0x0000007B (123) Microsoft ACPI-Compliant System
(ISA) 0x0000007C (124) Microsoft ACPI-Compliant System
(ISA) 0x0000007D (125) Microsoft ACPI-Compliant System
(ISA) 0x0000007E (126) Microsoft ACPI-Compliant System
(ISA) 0x0000007F (127) Microsoft ACPI-Compliant System
(ISA) 0x00000080 (128) Microsoft ACPI-Compliant System
(ISA) 0x00000081 (129) Microsoft ACPI-Compliant System
(ISA) 0x00000082 (130) Microsoft ACPI-Compliant System
(ISA) 0x00000083 (131) Microsoft ACPI-Compliant System
(ISA) 0x00000084 (132) Microsoft ACPI-Compliant System
(ISA) 0x00000085 (133) Microsoft ACPI-Compliant System
(ISA) 0x00000086 (134) Microsoft ACPI-Compliant System
(ISA) 0x00000087 (135) Microsoft ACPI-Compliant System
(ISA) 0x00000088 (136) Microsoft ACPI-Compliant System
(ISA) 0x00000089 (137) Microsoft ACPI-Compliant System
(ISA) 0x0000008A (138) Microsoft ACPI-Compliant System
(ISA) 0x0000008B (139) Microsoft ACPI-Compliant System
(ISA) 0x0000008C (140) Microsoft ACPI-Compliant System
(ISA) 0x0000008D (141) Microsoft ACPI-Compliant System
(ISA) 0x0000008E (142) Microsoft ACPI-Compliant System
(ISA) 0x0000008F (143) Microsoft ACPI-Compliant System
(ISA) 0x00000090 (144) Microsoft ACPI-Compliant System
(ISA) 0x00000091 (145) Microsoft ACPI-Compliant System
(ISA) 0x00000092 (146) Microsoft ACPI-Compliant System
(ISA) 0x00000093 (147) Microsoft ACPI-Compliant System
(ISA) 0x00000094 (148) Microsoft ACPI-Compliant System
(ISA) 0x00000095 (149) Microsoft ACPI-Compliant System
(ISA) 0x00000096 (150) Microsoft ACPI-Compliant System
(ISA) 0x00000097 (151) Microsoft ACPI-Compliant System
(ISA) 0x00000098 (152) Microsoft ACPI-Compliant System
(ISA) 0x00000099 (153) Microsoft ACPI-Compliant System


(ISA) 0x00000099 (153) Microsoft ACPI-Compliant System
(ISA) 0x0000009A (154) Microsoft ACPI-Compliant System
(ISA) 0x0000009B (155) Microsoft ACPI-Compliant System
(ISA) 0x0000009C (156) Microsoft ACPI-Compliant System
(ISA) 0x0000009D (157) Microsoft ACPI-Compliant System
(ISA) 0x0000009E (158) Microsoft ACPI-Compliant System
(ISA) 0x0000009F (159) Microsoft ACPI-Compliant System
(ISA) 0x000000A0 (160) Microsoft ACPI-Compliant System
(ISA) 0x000000A1 (161) Microsoft ACPI-Compliant System
(ISA) 0x000000A2 (162) Microsoft ACPI-Compliant System
(ISA) 0x000000A3 (163) Microsoft ACPI-Compliant System
(ISA) 0x000000A4 (164) Microsoft ACPI-Compliant System
(ISA) 0x000000A5 (165) Microsoft ACPI-Compliant System
(ISA) 0x000000A6 (166) Microsoft ACPI-Compliant System
(ISA) 0x000000A7 (167) Microsoft ACPI-Compliant System
(ISA) 0x000000A8 (168) Microsoft ACPI-Compliant System
(ISA) 0x000000A9 (169) Microsoft ACPI-Compliant System
(ISA) 0x000000AA (170) Microsoft ACPI-Compliant System
(ISA) 0x000000AB (171) Microsoft ACPI-Compliant System
(ISA) 0x000000AC (172) Microsoft ACPI-Compliant System
(ISA) 0x000000AD (173) Microsoft ACPI-Compliant System
(ISA) 0x000000AE (174) Microsoft ACPI-Compliant System
(ISA) 0x000000AF (175) Microsoft ACPI-Compliant System
(ISA) 0x000000B0 (176) Microsoft ACPI-Compliant System
(ISA) 0x000000B1 (177) Microsoft ACPI-Compliant System
(ISA) 0x000000B2 (178) Microsoft ACPI-Compliant System
(ISA) 0x000000B3 (179) Microsoft ACPI-Compliant System
(ISA) 0x000000B4 (180) Microsoft ACPI-Compliant System
(ISA) 0x000000B5 (181) Microsoft ACPI-Compliant System
(ISA) 0x000000B6 (182) Microsoft ACPI-Compliant System
(ISA) 0x000000B7 (183) Microsoft ACPI-Compliant System
(ISA) 0x000000B8 (184) Microsoft ACPI-Compliant System
(ISA) 0x000000B9 (185) Microsoft ACPI-Compliant System
(ISA) 0x000000BA (186) Microsoft ACPI-Compliant System
(ISA) 0x000000BB (187) Microsoft ACPI-Compliant System
(ISA) 0x000000BC (188) Microsoft ACPI-Compliant System
(ISA) 0x000000BD (189) Microsoft ACPI-Compliant System
(ISA) 0x000000BE (190) Microsoft ACPI-Compliant System
(PCI) 0x00000010 (16) High Definition Audio Controller
(PCI) 0x00000011 (17) AMD PCI IDE Controller
(PCI) 0x00000011 (17) PCI standard PCI-to-PCI bridge
(PCI) 0x00000011 (17) Standard Enhanced PCI to USB Host Controller

(ISA) 0x000000B4 (180) Microsoft ACPI-Compliant System
(ISA) 0x000000B5 (181) Microsoft ACPI-Compliant System
(ISA) 0x000000B6 (182) Microsoft ACPI-Compliant System
(ISA) 0x000000B7 (183) Microsoft ACPI-Compliant System
(ISA) 0x000000B8 (184) Microsoft ACPI-Compliant System
(ISA) 0x000000B9 (185) Microsoft ACPI-Compliant System
(ISA) 0x000000BA (186) Microsoft ACPI-Compliant System
(ISA) 0x000000BB (187) Microsoft ACPI-Compliant System
(ISA) 0x000000BC (188) Microsoft ACPI-Compliant System
(ISA) 0x000000BD (189) Microsoft ACPI-Compliant System
(ISA) 0x000000BE (190) Microsoft ACPI-Compliant System
(PCI) 0x00000010 (16) High Definition Audio Controller
(PCI) 0x00000011 (17) AMD PCI IDE Controller
(PCI) 0x00000011 (17) PCI standard PCI-to-PCI bridge
(PCI) 0x00000011 (17) Standard Enhanced PCI to USB Host Controller
(PCI) 0x00000011 (17) Standard Enhanced PCI to USB Host Controller
(PCI) 0x00000012 (18) High Definition Audio Controller
(PCI) 0x00000012 (18) PCI standard PCI-to-PCI bridge
(PCI) 0x00000012 (18) Standard OpenHCD USB Host Controller
(PCI) 0x00000012 (18) Standard OpenHCD USB Host Controller
(PCI) 0x00000012 (18) Standard OpenHCD USB Host Controller
(PCI) 0x00000013 (19) PCI standard PCI-to-PCI bridge
(PCI) 0xFFFFFFEC (-20) AMD USB 3.0 Host Controller
(PCI) 0xFFFFFFED (-19) AMD USB 3.0 Host Controller
(PCI) 0xFFFFFFEE (-18) AMD USB 3.0 Host Controller
(PCI) 0xFFFFFFEF (-17) AMD USB 3.0 Host Controller
(PCI) 0xFFFFFFF0 (-16) AMD USB 3.0 Host Controller
(PCI) 0xFFFFFFF1 (-15) AMD USB 3.0 Host Controller
(PCI) 0xFFFFFFF2 (-14) AMD USB 3.0 Host Controller
(PCI) 0xFFFFFFF3 (-13) AMD USB 3.0 Host Controller
(PCI) 0xFFFFFFF4 (-12) AMD USB 3.0 Host Controller
(PCI) 0xFFFFFFF5 (-11) AMD USB 3.0 Host Controller
(PCI) 0xFFFFFFF6 (-10) AMD USB 3.0 Host Controller
(PCI) 0xFFFFFFF7 (-9) AMD USB 3.0 Host Controller
(PCI) 0xFFFFFFF8 (-8) AMD USB 3.0 Host Controller
(PCI) 0xFFFFFFF9 (-7) AMD USB 3.0 Host Controller
(PCI) 0xFFFFFFFA (-6) AMD USB 3.0 Host Controller
(PCI) 0xFFFFFFFB (-5) AMD USB 3.0 Host Controller
(PCI) 0xFFFFFFFC (-4) Realtek PCIe GBE Family Controller
(PCI) 0xFFFFFFFD (-3) Realtek PCIe GBE Family Controller #2
(PCI) 0xFFFFFFFE (-2) AMD Radeon HD 7400G

Appendix C

Mating Connecotor

C.1 List of Mating Connectors and Cables

The table notes mating connectors and available cables.

Connector Label	Function	Mating Connector		Available Cable	AAEON Cable P/N
		Vendor	Model no		
CN33	LAN Connector	UDE	RT7-17FAA M1A	NA	NA
CN34	LAN Connector	UDE	RT7-17FAA M1A	NA	NA
CN28	HDMI Connector	FOXCONN	QJ3119C-WFB1-4F	NA	NA
CN29	HDMI Connector	FOXCONN	QJ3119C-WFB1-4F	NA	NA
CN30	HDMI Connector	FOXCONN	QJ3119C-WFB1-4F	NA	NA
CN31	HDMI Connector	FOXCONN	QJ3119C-WFB1-4F	NA	NA
CN4	Front Panel Connector	PINREX	222-97-05GBE1	N/A	N/A
CN5	DIO Connector	PINREX	222-97-05GBE1	N/A	N/A
CN11	RS-232 Serial Port Connector	CATCH	2.00mm Pitch 10 pins (CATCH H754-2x5 or compatible)	Serial Port Cable	1701100206
CN35	MIC Connector	TACT	C1F2R1-560-R	NA	NA
CN35	LINE OUT Connector	TACT	C1F2R1-570-R	NA	NA
CN3	PS2 Connector	TechBest	DN508BS1-6-L	NA	NA
CN2	FAN Connector	CATCH	1190-700-042	NA	NA
CN13	SATA+POWER Connector	FLYINGWAY	FWT-S22-112202991-2	NA	NA

CN1	COM PORT Connector	Astron	DB6A-09-AMGN1-R	NA	NA
CN6	USB 2.0 Connector	CONTEK	UFN2441-F1-00	NA	NA
CN7	USB 3.0 Connector	Contek	UDNFA199N-AY-21-A	NA	NA
CN37	DC IN Connector	Ho-Base	655-125	NA	NA
CN15	FAN Connector	CATCH	1190-700-042	NA	NA

Note:
The AAEON Cable P/N with " * " sign is for WiTAS series products.

Appendix

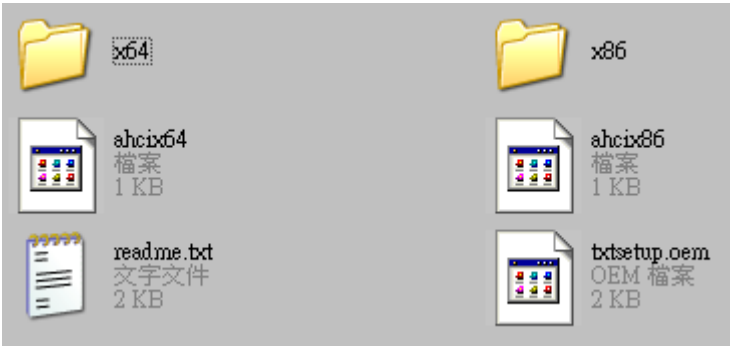
D

AHCI Setting

D.1 Setting AHCI

OS installation to setup AHCI Mode

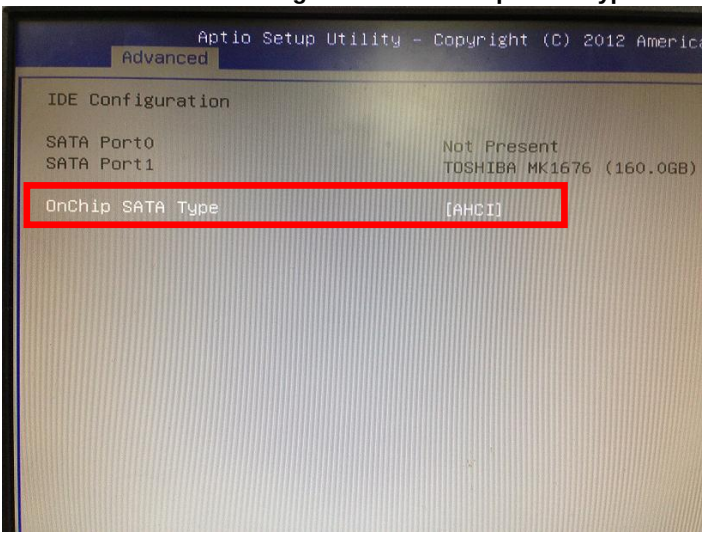
Step 1: Copy the files below from "***Driver CD ->\Step2 - AHCI_RAID\WinXP\3.3.1540.26***" to Disk



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

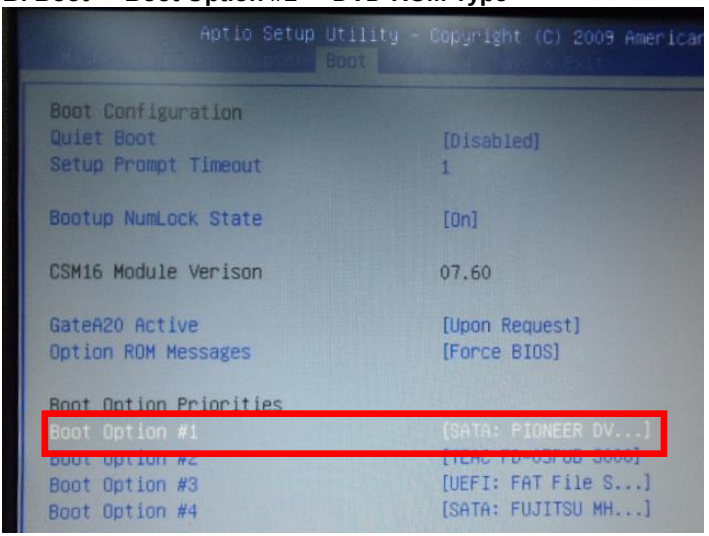
Step 3: The setting procedures " **In BIOS Setup Menu**"

A: Advanced -> IDE Configuration -> OnChip SATA Type -> AHCI

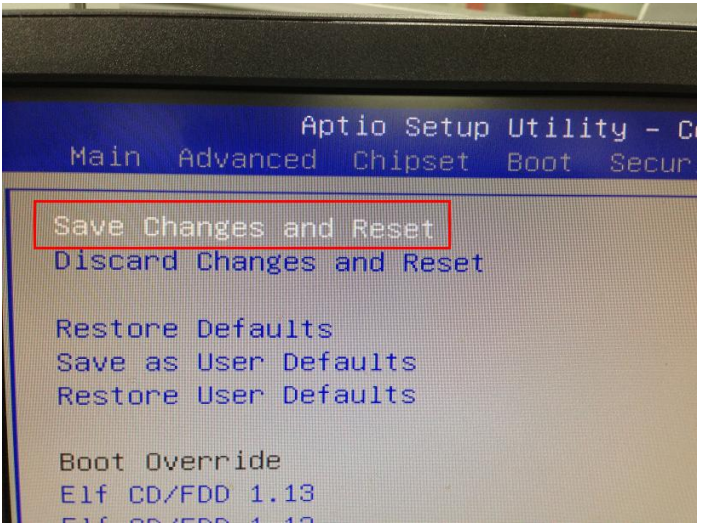


Step 4: The setting procedures "**In BIOS Setup Menu"**

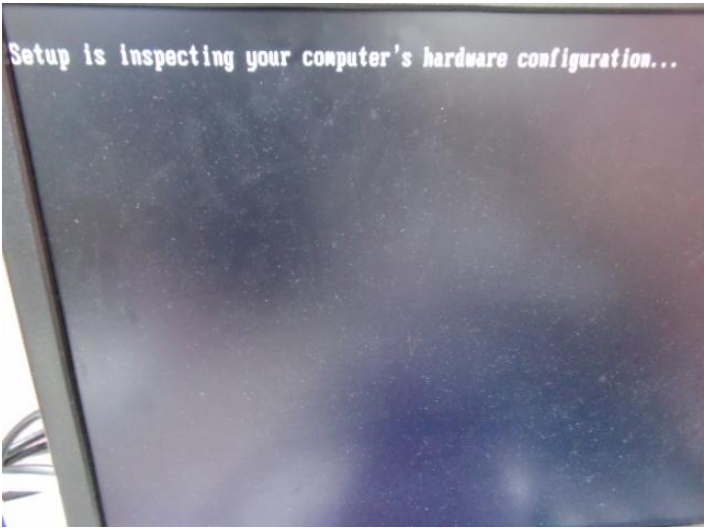
B: Boot -> Boot Option #1 -> DVD-ROM Type



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

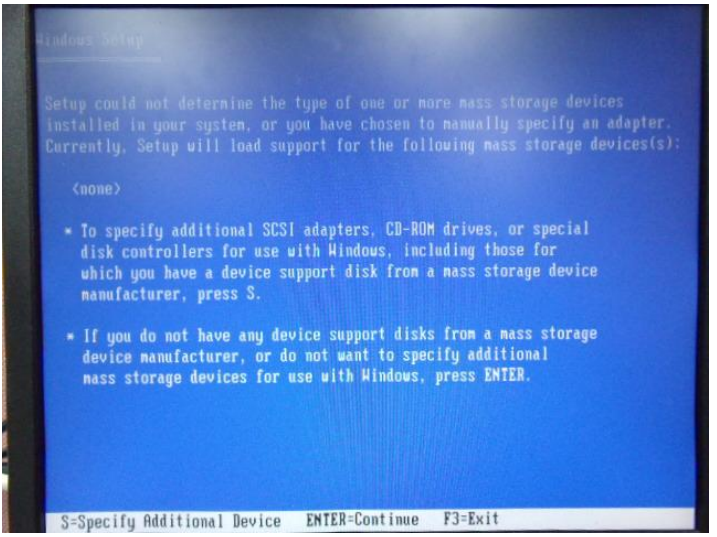


Step 6: Setup OS

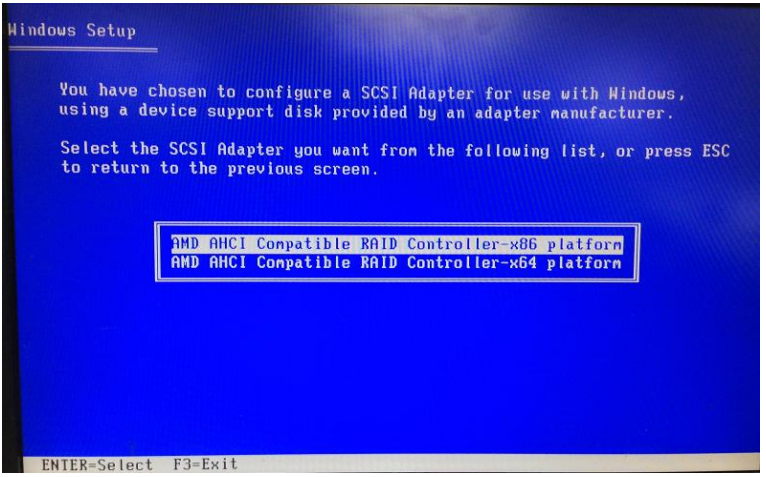


Step 7: Press "**F6**"

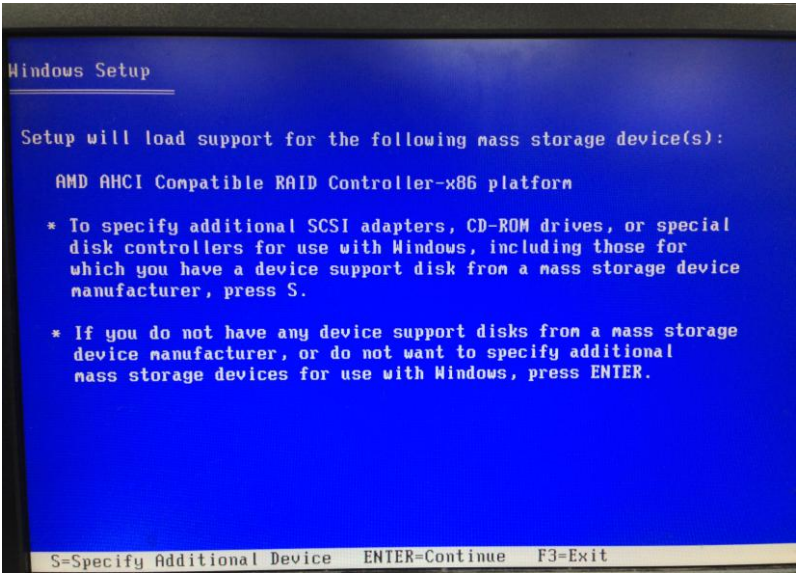
Step 8: Choose "**S**"



Step 9: Choose "**AMD AHCI Compatible RAID Controller-x86/x64 platform**"



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



Step 11: Setup is loading files