

**FWS-2200**

Desktop

Network Appliance Platform

2.5" SATA HDD, CF SATA Socket

6 LAN Ports

2 USB2.0, 1 COM for Console

1 Mini PCI

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## Packing List

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

- FWS-2200
- CD-ROM for manual (in PDF format) and drivers
- D-sub 9-pin Cable x 1
- Rubber Feet
- 60W Power Adapter
- SATA Power Cable x 1
- SATA Cable x 1

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

**Note:**

VGA Cable is an optional accessory. Please purchase those cables according to the following item numbers.

**M0422000020** Ear Bracket

**1700160253** VGA Cable

# Contents

## Chapter 1 General Information

1.1 Introduction.....	1-2
1.2 Features .....	1-3
1.3 Specifications .....	1-4
1.4 General System Information .....	1-7

## Chapter 2 Quick Installation Guide

2.1 Safety Precautions .....	2-2
2.2 Location of Connectors of Main Board.....	2-3
2.3 Mechanical Drawing of Main Board .....	2-4
2.4 List of Jumpers .....	2-5
2.5 List of Connectors .....	2-5
2.6 Setting Jumpers .....	2-7
2.7 CMOS Setting Selection (JP3).....	2-8
2.8 Auto PWRBTN Selection (JP6).....	2-8
2.9 4-pin ATX Power Connector (CN9).....	2-8
2.10 Front Panel Connector (FP1) .....	2-8
2.11 Pin Header (USB2).....	2-9
2.12 RS-232 Box Header (COM2) .....	2-9
2.13 SATA Connector (SATA 1) .....	2-9
2.14 CF-SATA Connector (CFD1) .....	2-10
2.15 Software Programmable Button (RSW1) .....	2-11
2.16 Installing the Hard Disk Drive.....	2-12

**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 ProgramA-6

**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 Assignments ..... B-8

**Appendix C Standard Firewall Platform Setting**

- C.1 Standard Firewall Platform Setting ..... C-2
- C.2 Status LED Sample Code ..... C-4
- C.3 LAN Bypass Mode Sample Code ..... C-7
- C.4 Console Redirection ..... C-11

**Appendix D AHCI Settings**

- D.1 Setting AHCI .....D-2

Chapter

1

**General  
Information**

## 1.1 Introduction

---

FWS-2200 adopts the Intel® Dual Core Atom™ D525 Processor and equips with Intel® Atom™ D525 + ICH8M chipset. The system memory features two 204-pin single channel DDR3 800MHz SODIMM slots up to 4GB. It deploys six Gigabit Ethernet LAN ports with two pairs LAN bypass function (one pair bypass function is optional). FWS-2200 condensed appearance features desktop form factor that fits nicely into a space-limited environment.

This compact FWS-2200 is equipped with one 2.5" SATA HDD and and CF-SATA socket. In addition, it offers flexible expansion with network products and features one Mini-PCI expansion slot, two USB2.0 ports and one RS-232 console port on the rear panel. The console port deploys console re-direction that increases the network security via remote control. All of these designs provide for a more user-friendly solution.



## 1.2 Features

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- Desktop platform 6 LAN ports Network Appliance
- Onboard Intel® Dual-Core Atom™ D525 processor
- Intel® Atom™ D525 + ICH8M
- Two 204-pin Single Channel DDR3 800MHz SODIMM Up to 4GB
- 10/100/1000Base-TX Ethernet Port x 6 With One Pair LAN Bypass Function (Two Pairs Bypass Function Is Optional)
- 2.5" SATA HDD x 1 and CF-SATA socket
- COM for Console x 1, USB2.0 x 2
- DC 12V Power Input Requirement
- Mini PCI Slot x 1

## 1.3 Specifications

---

### *System*

<b>Form Factor</b>	Desktop 6 LAN ports Network Appliance
<b>Processor</b>	Onboard Intel® Atom™ D525 processor
<b>System Memory</b>	204-pin single channel DDR3 800MHz SODIMM slot x 2, up to 4GB
<b>Chipset</b>	Intel® Atom™ D525 + ICH8M
<b>Ethernet</b>	Intel® 82574L controller, Gigabit Ethernet x 6 with 1 pair LAN bypass function (two pairs LAN bypass function is optional)
<b>BIOS</b>	AMI BIOS
<b>Serial ATA</b>	SATA 3.0Gb/s x 1
<b>SSD</b>	CF-SATA x 1
<b>Expansion Interface</b>	Mini PCI slot x 1
<b>Watchdog Timer</b>	System reset: 1~255 steps by software programming
<b>RTC</b>	Internal RTC
<b>Storage</b>	2.5" SATA HDD x 1 and CF-SATA socket
<b>System Fan</b>	4cm ball bearing fan x 2
<b>Front I/O Panel</b>	Power LED x 1, Bypass LED x 1 (2 for optional), Status LED x 1, HDD Active LED x 1, LAN LED x 12
<b>Rear I/O Panel</b>	LAN x 6 (the 3 <sup>rd</sup> and 4 <sup>th</sup> LAN port with bypass function), USB x 2, DB-9

	connector x 1, DC power input x 1, Software programmable button x 1
<b>Color</b>	Black
<b>Power Supply</b>	60W AC/DC power adapter
<b>Dimension</b>	10.24"(W) x 7.01"(D) x 1.73"(H) (260mm x 178mm x 44mm)
<b>Power Consumption</b>	29W

### *Display*

<b>Chipset</b>	Intel® Atom™ D525 + ICH8M
<b>Graphic Engine</b>	Intel® Atom™ D525 integrated GMA 3150 graphic engine
<b>Resolution</b>	2048x1536
<b>Output Interface</b>	VGA internal box header

### *I/O*

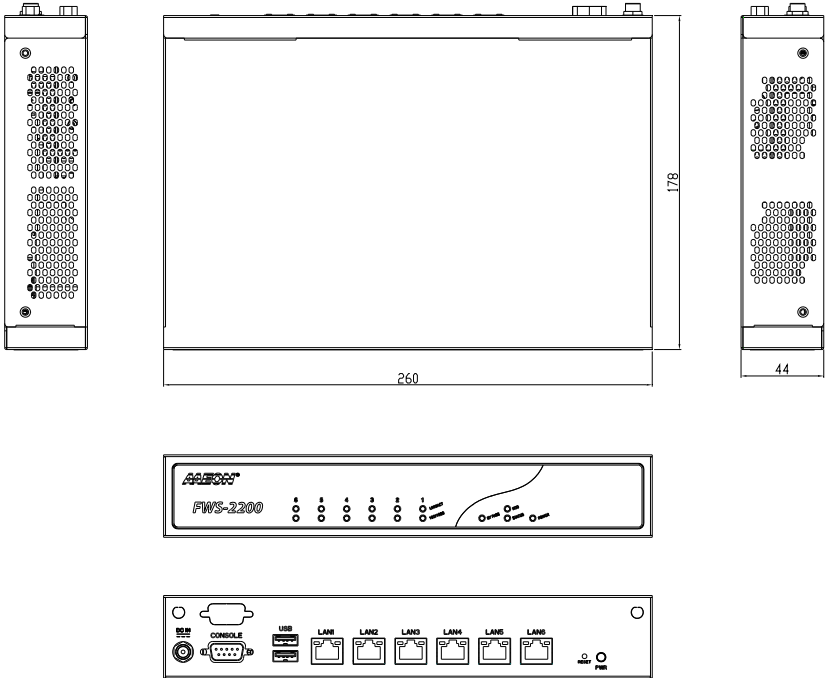
<b>Serial Port</b>	COM x 2 (Internal pin header x 1): COM1: RS-232 COM2: RS-232 (Box Header)
<b>Keyboard &amp; Mouse</b>	Reserved pin header
<b>USB</b>	USB2.0 x 4: Dual Type-A connector on the front panel x 2, Pin header x 2 (Internal)

### *Environment*

<b>Operating</b>	32°F~104°F (0°C ~40°C)
------------------	------------------------

**Temperature****Storage** -4°F~104°F (-20°C ~60°C)**Temperature****Operating Humidity** 10%~80% relative humidity,  
non-condensing**Storage Humidity** 10%~80% @ 40°C, non-condensing**Vibration** 0.5g rms/5~500Hz/ operation (2.5" HDD)  
1.5g rms/5~500Hz/ non-operation**Shock** 10G peak acceleration (11m sec.  
duration), operation  
20G peak acceleration (11m sec.  
duration), non operation

## 1.4 General System Information



Chapter

2

**Quick  
Installation  
Guide**

## 2.1 Safety Precautions

---

The installation is intended for technically qualified personnel who have experience installing and configuring system boards.

The equipment can be installed in a restricted access location (RAL) only.

A restricted access location is a site location for equipment where the following criteria apply:

01. Access can only be gained by service persons or by users who have been trained on the restrictions and the precautions for this specific site.

02. Access is by means of at least one of the following, special tool, lock and key, or other means of security, and is controlled by the authority responsible for the location.

### Safety Precautions:

#### **Warning!**



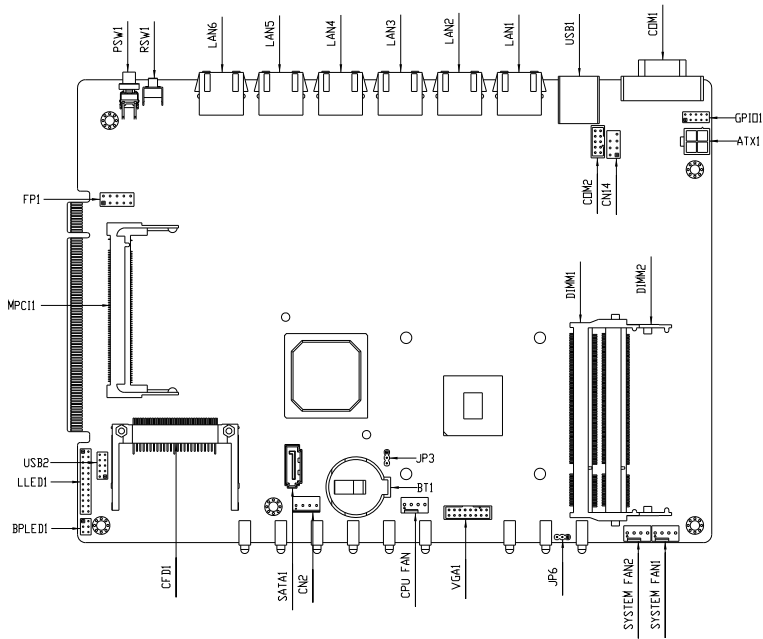
*Always completely disconnect the power cord from your board whenever you are working on it. Do not make connections while the power is on, because a sudden rush of power can damage sensitive electronic components.*

#### **Caution!**

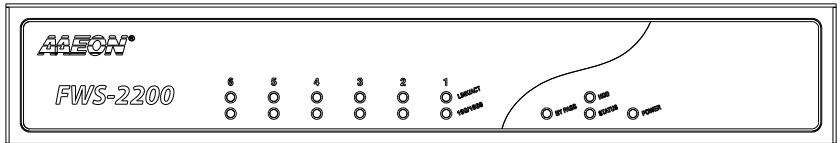


*Always ground yourself to remove any static charge before touching the board. Modern electronic devices are very sensitive to static electric charges. Use a grounding wrist strap at all times. Place all electronic components on a static-dissipative surface or in a static-shielded bag when they are not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

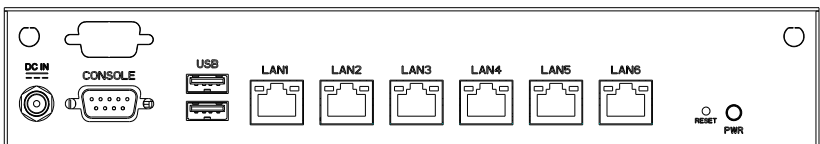
## 2.2 Location of Connectors of Main Board



### LEDs on Front Panel of FWS-2200

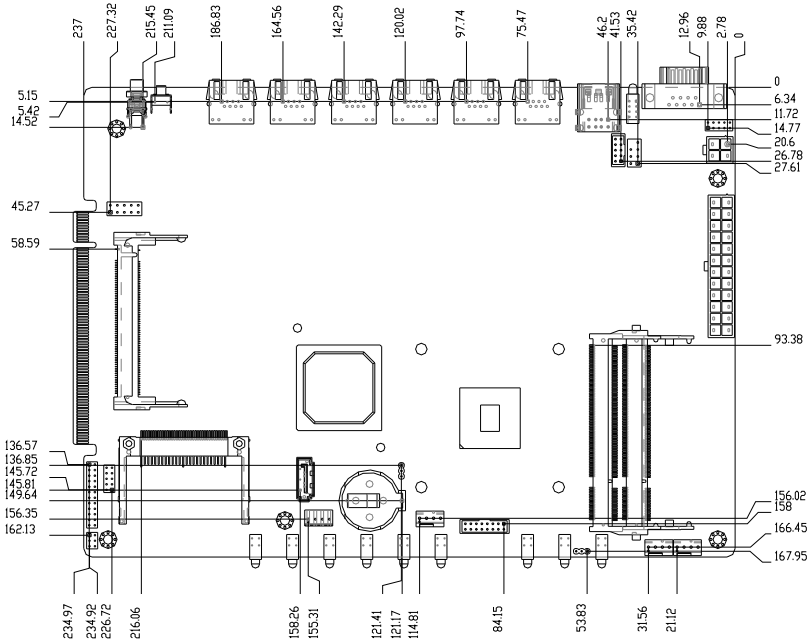


### Connectors on Rear Panel of FWS-2200





### 2.3 Mechanical Drawing of Main Board



## 2.4 List of Jumpers

---

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

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

<b>Label</b>	<b>Function</b>
JP3	CMOS Setting Selection
JP6	Auto PWRBTN Selection

## 2.5 List of Connectors

---

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

<b>Label</b>	<b>Function</b>
SO-DIMM1	DDR3 SOCKET
SO-DIMM2	DDR3 SOCKET
ATX1	4P ATX POWER SUPPLY INPUT
CN6	3P FAN
CN14	KB/MS
COM1	COM PORT
COM2	COM PORT
VGA1	Analog Display
USB1	USB 2.0 *2
USB2	USB 2.0 *2
FP1	Front Panel Pin Header

---

MPC1	Mini PCI Slot
SATA1	SATA INTERFACE
CN2	SATA POWER
SYSFAN1	4-PIN Fan Connector
SYSFAN2	4-PIN Fan Connector
CPUFAN1	4-PIN Fan Connector
GPIO1	Digital I/O
CFD1	CF-SATA CARD SOCKET
LLED1	LAN LED Pin Header
BPLED1	Bypass LED Pin Header
PSW1	Power On/Off Switch
RSW1	Software Programmable Button

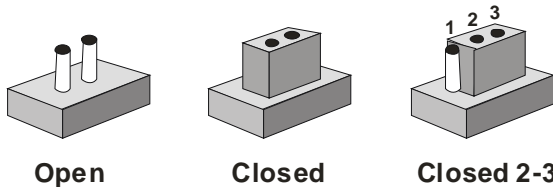
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## 2.6 Setting Jumpers

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

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



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

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

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

## 2.7 CMOS Setting Selection (JP3)

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JP3	Function
1-2	Normal (Default)
2-3	Clear CMOS

---

## 2.8 Auto PWRBTN Selection (JP6)

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JP6	Function
1-2	Don't use Auto PWRBTN (Default)
2-3	Use Auto PWRBTN

---

## 2.9 4-pin ATX Power Connector (CN9)

---

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

---

## 2.10 Front Panel Connector (FP1)

---

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

---

### 2.11 Pin Header (USB2)

---

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

---

### 2.12 RS-232 Box Header (COM2)

---

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

---

### 2.13 SATA Connector (SATA 1)

---

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

---

**2.14 CF-SATA Connector (CFD1)**

Pin	Signal	Pin	Signal
1	GND	26	GND
2	PDD3	27	PDD11
3	PDD4	28	PDD12
4	PDD5	29	PDD13
5	PDD6	30	PDD14
6	PDD7	31	PDD15
7	CS1	32	CS#3
8	GND	33	GND
9	GND	34	PDIOR
10	SATA_RXP	35	PDIOW
11	SATA_RXN	36	WE#
12	GND	37	INTRQ
13	VCC	38	VCC
14	GND	39	CSEL
15	SATA_TXN	40	CF-SATA_WE
16	SATA_TXP	41	RESET
17	GND	42	PDIORDY
18	PDA2	43	PDDREQ
19	PDA1	44	PDDACK
20	PDA0	45	DASP
21	PDD0	46	PDIAG

---

22	PDD1	47	PDD8
23	PDD2	48	PDD9
24	NC	49	PDD10
25	GND	50	GND

---

### 2.15 Software Programmable Button (RSW1)

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Pin	Signal	Pin	Signal
1	SOFTWAREPRGM-	2	GND

---

Button status: I/O Space 0x4BA bit 0

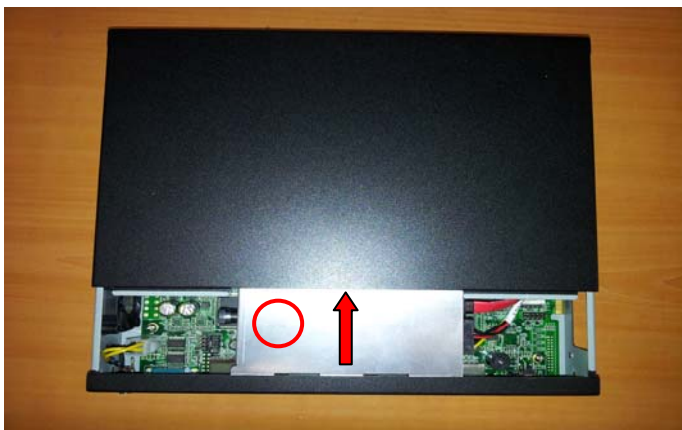


## 2.16 Installing the Hard Disk Drive

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Step1: Unscrew the upper cover and isolate the cover from the Chassis

Note: Push and remove the upper cover until see the screw on the HDD Box



Step2: Take out the Hard Disk Drive Case from the chassis





Step5: Plug the SATA cable & Power cable in the HDD



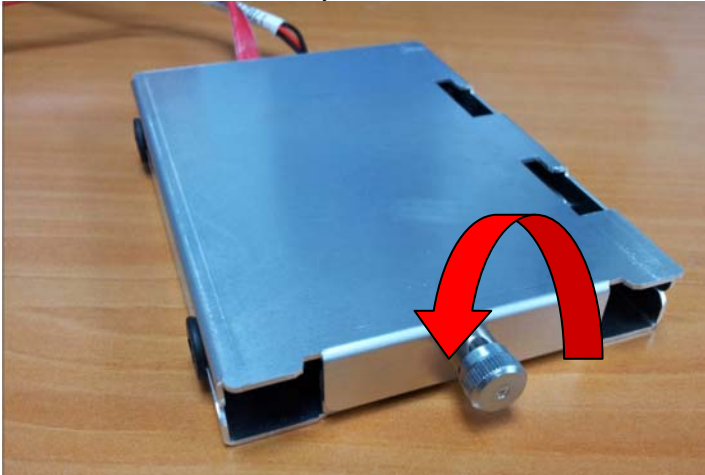
Step6: Put the HDD with cable onto the HDD Bracket



Step7: Close the upper bracket of the HDD case and make sure the rubber feet are locked by the flutes on the brackets



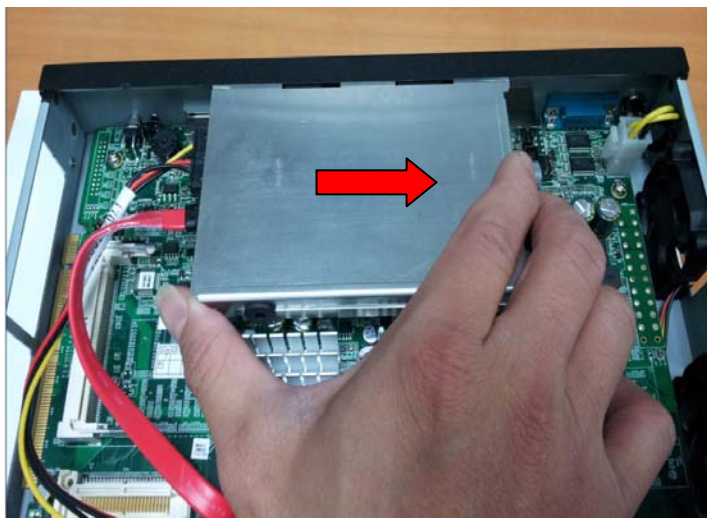
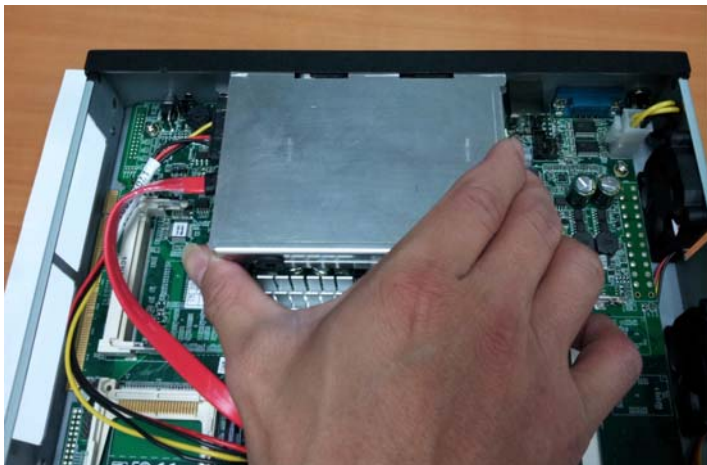
Step8: Fasten the screw conversely to lock the HDD



Step9: Plug the SATA cable & Power cable in the SATA socket & Power socket on the main board



Step10: Insert the HDD to the chassis horizontally and lock the HDD case



Step11: Close and screw the upper cover of the chassis\_



## Below Table for China RoHS Requirements

产品中有毒有害物质或元素名称及含量

## AAEON Boxer/ Industrial System

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	×	○	○	○	○	○
外壳	×	○	○	○	○	○
中央处理器 与内存	×	○	○	○	○	○
硬盘	×	○	○	○	○	○
电源	×	○	○	○	○	○

**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:

一、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。

二、上述部件物质中央处理器、内存、硬盘、电源为选购品。



Chapter

3

**AMI  
BIOS Setup**

### 3.1 System Test and Initialization

---

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

#### 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 FWS-2200 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.

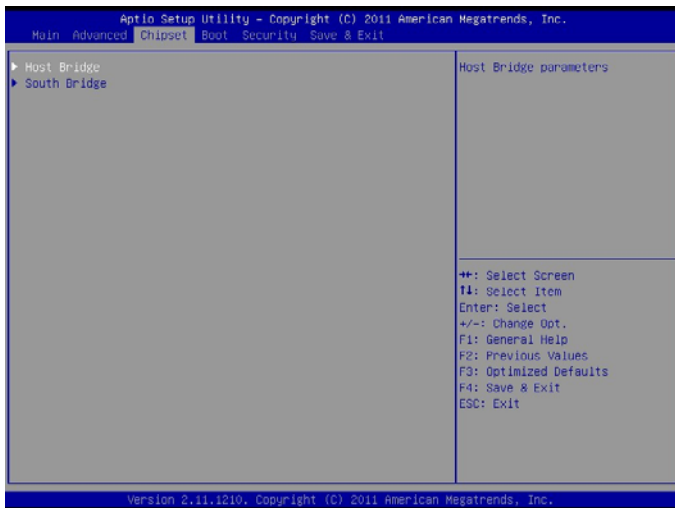


**Advanced**

Advanced BIOS Features Setup including ACPI, SuperI/O etc.

**Chipset**

Host and South Bridge parameters



## Boot

### Quiet boot 、PXE Boot and Boot priority options

Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.		
Main Advanced Chipset <b>Boot</b> Security Save & Exit		
Boot Configuration Quiet Boot [Enabled] Launch I82574L PXE OpROM [Disabled]		Enables or disables Quiet Boot option
Boot Option Priorities Boot Option #1 [UEFI: InnosterInno...] Boot Option #2 [SATA SM: TOSHIBA ...]  Hard Drive BBS Priorities		
		++: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.11.1210. Copyright (C) 2011 American Megatrends, Inc.		

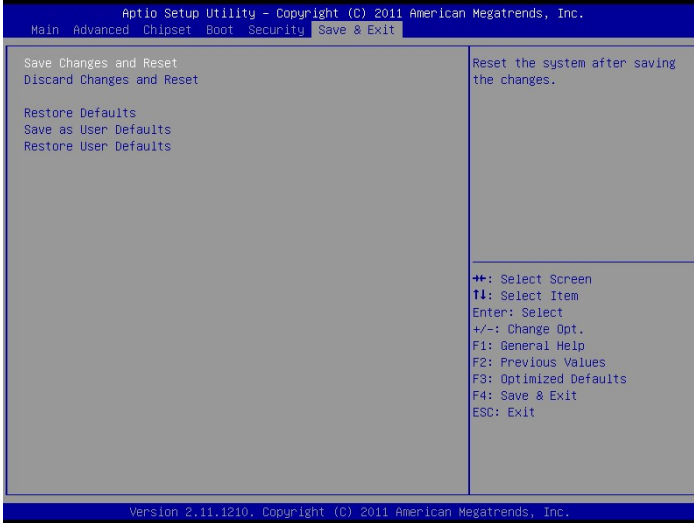
## Security

### Set setup administrator password.

Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.		
Main Advanced Chipset Boot <b>Security</b> Save & Exit		
Password Description  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 must be 3 to 20 characters long.		Set Administrator Password
Administrator Password User Password  HDD Security Configuration: HDD 0:TOSHIBA MK16		++: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.11.1210. Copyright (C) 2011 American Megatrends, Inc.		

## Save&Exit

Exit system setup after saving the changes.



Chapter

4

**Driver  
Installation**

The FWS-2200 comes with an AutoRun CD-ROM that contains all drivers and utilities that can help you to install the driver automatically.

Insert the driver CD, the driver CD-title will auto 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 Driver

Step 2 – Install VGA Driver

Step 3 – Install LAN Driver

Step 4 – Install AHCI Driver

Please read instructions below for further detailed installations.



## 4.1 Installation:

---

Insert the FWS-2200 CD-ROM into the CD-ROM drive and install the drivers from Step 1 to Step 4 in order.

### Step 1 – Install INF Driver

1. Click on the **Step 1-Chipset** folder and double click on the **infinst\_autol.exe**
2. Follow the instructions that the window shows
3. The system will help you install the driver automatically

### Step 2 – Install VGA Driver

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

### Step 3 – Install LAN Driver

1. Click on the **Step 3 –LAN** folder and select the OS folder your system is
2. Double click on **.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 AHCI Driver

Please refer to Appendix D AHCI Setting

Appendix

**A**

# Programming the Watchdog Timer

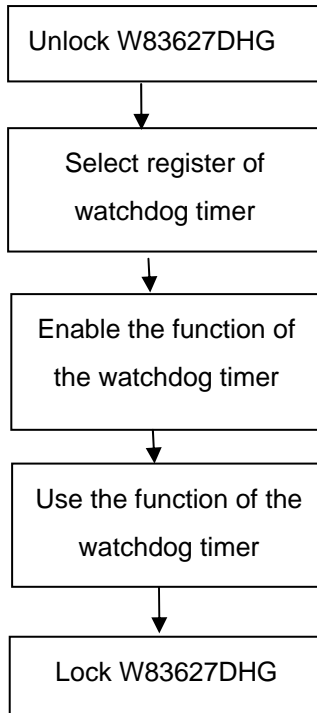
## A.1 Programming

---

FWS-2200 utilizes W83627DHG chipset as its watchdog timer controller.

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

### Configuring Sequence Description



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

### CR 30h. (Default 02h)

BIT	READ/WRITE	DESCRIPTION
7~3	Reserved.	
2	R/W	0: GPIO6 is inactive. 1: GPIO6 is active.

1	R/W	0: GPIO5 is inactive. 1: GPIO5 is active.
0	R/W	0: WDTO# and PLED are inactive. 1: WDTO# and PLED are inactive.

### CR F5h. (WDTO# and KBC P20 Control Mode Register; Default 00h)

BIT	READ/WRITE	DESCRIPTION
7~5	Reserved.	
4	R/W	1000 time faster in WDTO# count mode. 0: Disable. 1: Enable. (If bit-3 is Second Mode, the count mode is 1/1000 Sec.) (If bit-3 is Minute Mode, the count mode is 1/1000 Min.)
3	R/W	Select WDTO# count mode. 0: Second Mode. 1: Minute Mode.
2	R/W	Enable the rising edge of KBC reset (P20) to issue time-out event. 0: Disable. 1: Enable.
1	R/W	Disable/ Enable the WDTO# output low pulse to the KBRST# pin (PIN60) 0: Disable. 1: Enable.
0	Reserved.	

### CR F6h. (WDTO# Counter Register; Default 00h)

BIT	READ/WRITE	DESCRIPTION
7~0	R/W	Watch Dog Timer Time-out value. Writing a non-zero value to this register causes the counter to load the value to Watch Dog Counter and start counting down. If bits 7 and 6 of CR F7h are set, any Mouse Interrupt or Keyboard Interrupt event will also cause the reload of previously-loaded non-zero value to Watch Dog Counter and start counting down. Reading this register returns current value in Watch Dog Counter instead of Watch Dog Timer Time-out value. 00h: Time-out Disable

		01h: Time-out occurs after 1 second/minute 02h: Time-out occurs after 2 second/minutes 03h: Time-out occurs after 3 second/minutes ..... FFh: Time-out occurs after 255 second/minutes
--	--	--

**CR F7h. (WDTO# Control & Status Register; Default 00h)**

BIT	READ/WRITE	DESCRIPTION
7	R/W	Mouse interrupt reset watch-dog timer enable 0: Watchdog timer is not affected by mouse interrupt. 1: Watchdog timer is reset by mouse interrupt.
6	R/W	Keyboard interrupt reset watch-dog timer enable 0: Watchdog timer is not affected by keyboard interrupt. 1: Watchdog timer is reset by keyboard interrupt.
5	Write "1" Only	Trigger WDTO# event. This bit is self-clearing.
4	R/W Write "0" Clear	WDTO# status bit 0: Watchdog timer is running. 1: Watchdog timer issue time-out event.
3~0	R/W	These bits select IRQ resource for WDTO#. (02h for SMI# event.)

## A.2 W83627DHG Watchdog Timer Initial Program

	LDN	Register	Bit	Description
WDT Timer value	0x07	0xF6	Bit [7-0]	00h: Time-out Disable 01h: Time-out occurs after 1 minute only. 02h: Time-out occurs after 2 second/minutes 03h: Time-out occurs after 3 second/minutes ..... FFh: Time-out occurs after 255 second/minutes (The deviation is approx 1 second.)
WDT Unit	0x07	0xF5	Bit3	Select WDTO# count mode. 0: Second Mode. 1: Minute Mode.

\*\*\*\*\*

```
#include <stdio.h>
#include <conio.h>
```

```
#define SIOIndex    0x2E //Modify for project support 2E/4E
#define SIOData     0x2F //Modify for project support 2F/4F
#define void AaeonWDTConfig(void);
#define void AaeonWDTEnable(Byte Timer, boolean Unit);
```

```
void Main(){
    // Procedure : AaeonWDTConfig
    // This procdure will enable the WDT counting.
    AaeonWDTConfig (void);

    // Procedure : AaeonWDTEnable
    // (byte)Timer      : Time of WDT timer.(0x00~0xFF)
    // (boolean)Unit    : Select time unit(0: second, 1: minute).
    AaeonWDTEnable(Byte Timer, boolean Unit);
}
```

```
*****
// Procedure : AaeonWDTConfig
void AaeonWDTConfig (void){
    Byte val;
    //Super I/O Entry Key
    outportb(SIOIndex,0x87);
    outportb(SIOIndex,0x87);

    //Setting WDT Pin.
    outportb(SIOIndex,0x2D);
    val = inportb((SIOData);
    outportb(SIOIndex,0x2D);
    outportb(SIOData,val & 0xFE);

    // Enable WatchDog function
    outportb(SIOIndex,0x07);
    outportb(SIOData,0x08);
    outportb(SIOIndex,0x30);
    outportb(SIOData, 0x01);
}
*****
**
```



\*\*\*\*\*

```
// Procedure :
void AaeonWDTEnable (Byte Timer, boolean Unit){
    Byte val;

    //Super I/O Entry Key
    outputb(SIOIndex,0x87);
    outputb(SIOIndex,0x87);

    // Select Logic Device Number Register
    outputb(SIOIndex,0x07);
    outputb(SIOData,0x08);

    // Setting WDT Operation Mode
    outputb(SIOIndex,0xF5);
    val = inportb((SIOData);
    outputb(SIOIndex,0xF5);
    outputb(SIOData, val | Unit << 3 );

    // Setting WDT Counter
    outputb(SIOIndex,0xF6);
    outputb(SIOData,Timer);
}
```

\*\*\*\*\*
















































Appendix

**B**

# I/O Information

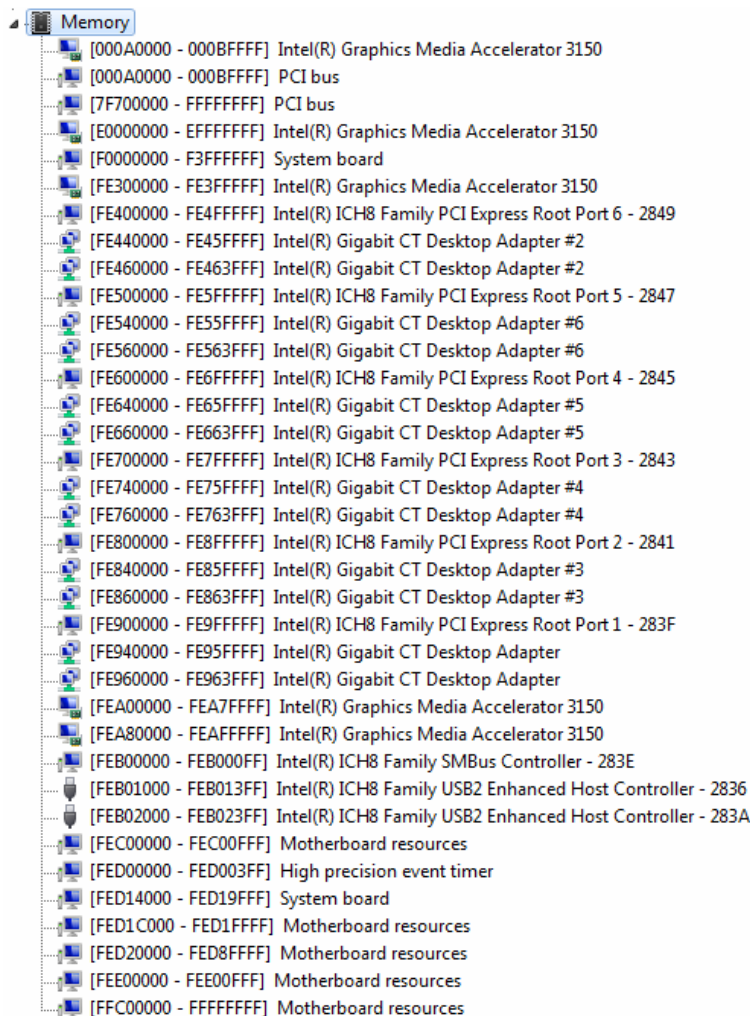
## B.1 I/O Address Map

Input/output (I/O)	
[00000000 - 0000000F]	Direct memory access controller
[00000000 - 00000CF7]	PCI bus
[00000010 - 0000001F]	Motherboard resources
[00000020 - 00000021]	Programmable interrupt controller
[00000022 - 0000003F]	Motherboard resources
[00000040 - 00000043]	System timer
[00000044 - 0000005F]	Motherboard resources
[00000060 - 00000060]	Standard PS/2 Keyboard
[00000061 - 00000061]	System speaker
[00000062 - 00000063]	Motherboard resources
[00000064 - 00000064]	Standard 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]	ATA Channel 1
[000001F0 - 000001F7]	ATA Channel 0
[00000295 - 000002A4]	Motherboard resources
[000002F8 - 000002FF]	Communications Port (COM2)
[00000376 - 00000376]	ATA Channel 1
[000003B0 - 000003BB]	Intel(R) Graphics Media Accelerator 3150
[000003C0 - 000003DF]	Intel(R) Graphics Media Accelerator 3150
[000003F6 - 000003F6]	ATA Channel 0
[000003F8 - 000003FF]	Communications Port (COM1)
[00000480 - 000004BF]	Motherboard resources
[000004D0 - 000004D1]	Motherboard resources
[00000800 - 0000087F]	Motherboard resources
[00000D00 - 0000FFFF]	PCI bus
[00009000 - 00009FFF]	Intel(R) ICH8 Family PCI Express Root Port 6 - 2849
[0000A000 - 0000AFFF]	Intel(R) ICH8 Family PCI Express Root Port 5 - 2847
[0000B000 - 0000BFFF]	Intel(R) ICH8 Family PCI Express Root Port 4 - 2845
[0000C000 - 0000CFFF]	Intel(R) ICH8 Family PCI Express Root Port 3 - 2843
[0000D000 - 0000DFFF]	Intel(R) ICH8 Family PCI Express Root Port 2 - 2841
[0000E000 - 0000EFFF]	Intel(R) ICH8 Family PCI Express Root Port 1 - 283F
[0000F000 - 0000F01F]	Intel(R) ICH8 Family SMBus Controller - 283E

	[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] ATA Channel 1
	[000001F0 - 000001F7] ATA Channel 0
	[00000295 - 000002A4] Motherboard resources
	[000002F8 - 000002FF] Communications Port (COM2)
	[00000376 - 00000376] ATA Channel 1
	[000003B0 - 000003BB] Intel(R) Graphics Media Accelerator 3150
	[000003C0 - 000003DF] Intel(R) Graphics Media Accelerator 3150
	[000003F6 - 000003F6] ATA Channel 0
	[000003F8 - 000003FF] Communications Port (COM1)
	[00000480 - 000004BF] Motherboard resources
	[000004D0 - 000004D1] Motherboard resources
	[00000800 - 0000087F] Motherboard resources
	[00000D00 - 0000FFFF] PCI bus
	[00009000 - 00009FFF] Intel(R) ICH8 Family PCI Express Root Port 6 - 2849
	[0000A000 - 0000AFFF] Intel(R) ICH8 Family PCI Express Root Port 5 - 2847
	[0000B000 - 0000BFFF] Intel(R) ICH8 Family PCI Express Root Port 4 - 2845
	[0000C000 - 0000CFFF] Intel(R) ICH8 Family PCI Express Root Port 3 - 2843
	[0000D000 - 0000DFFF] Intel(R) ICH8 Family PCI Express Root Port 2 - 2841
	[0000E000 - 0000EFFF] Intel(R) ICH8 Family PCI Express Root Port 1 - 283F
	[0000F000 - 0000F01F] Intel(R) ICH8 Family SMBus Controller - 283E
	[0000F020 - 0000F03F] Intel(R) ICH8 Family USB Universal Host Controller - 2832
	[0000F040 - 0000F05F] Intel(R) ICH8 Family USB Universal Host Controller - 2831
	[0000F060 - 0000F07F] Intel(R) ICH8 Family USB Universal Host Controller - 2830
	[0000F080 - 0000F09F] Intel(R) ICH8 Family USB Universal Host Controller - 2835
	[0000F0A0 - 0000F0BF] Intel(R) ICH8 Family USB Universal Host Controller - 2834
	[0000F0C0 - 0000F0CF] Intel(R) ICH8M 3 port Serial ATA Storage Controller - 2828
	[0000F0D0 - 0000F0DF] Intel(R) ICH8M 3 port Serial ATA Storage Controller - 2828
	[0000F0E0 - 0000F0E3] Intel(R) ICH8M 3 port Serial ATA Storage Controller - 2828
	[0000F0F0 - 0000F0F7] Intel(R) ICH8M 3 port Serial ATA Storage Controller - 2828
	[0000F100 - 0000F103] Intel(R) ICH8M 3 port Serial ATA Storage Controller - 2828
	[0000F110 - 0000F117] Intel(R) ICH8M 3 port Serial ATA Storage Controller - 2828
	[0000F120 - 0000F12F] Intel(R) ICH8M Ultra ATA Storage Controllers - 2850
	[0000F170 - 0000F177] Intel(R) Graphics Media Accelerator 3150

## B.2 Memory Address Map

















































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Address Range	Component
[000A0000 - 000BFFFF]	Intel(R) Graphics Media Accelerator 3150
[000A0000 - 000BFFFF]	PCI bus
[7F700000 - FFFFFFFF]	PCI bus
[E0000000 - EFFFFFFF]	Intel(R) Graphics Media Accelerator 3150
[F0000000 - F3FFFFFF]	System board
[FE300000 - FE3FFFFFF]	Intel(R) Graphics Media Accelerator 3150
[FE440000 - FE4FFFFFF]	Intel(R) ICH8 Family PCI Express Root Port 6 - 2849
[FE440000 - FE45FFFF]	Intel(R) Gigabit CT Desktop Adapter #2
[FE460000 - FE463FFF]	Intel(R) Gigabit CT Desktop Adapter #2
[FE500000 - FE5FFFFFF]	Intel(R) ICH8 Family PCI Express Root Port 5 - 2847
[FE540000 - FE55FFFF]	Intel(R) Gigabit CT Desktop Adapter #6
[FE560000 - FE563FFF]	Intel(R) Gigabit CT Desktop Adapter #6
[FE600000 - FE6FFFFFF]	Intel(R) ICH8 Family PCI Express Root Port 4 - 2845
[FE640000 - FE65FFFF]	Intel(R) Gigabit CT Desktop Adapter #5
[FE660000 - FE663FFF]	Intel(R) Gigabit CT Desktop Adapter #5
[FE700000 - FE7FFFFFF]	Intel(R) ICH8 Family PCI Express Root Port 3 - 2843
[FE740000 - FE75FFFF]	Intel(R) Gigabit CT Desktop Adapter #4
[FE760000 - FE763FFF]	Intel(R) Gigabit CT Desktop Adapter #4
[FE800000 - FE8FFFFFF]	Intel(R) ICH8 Family PCI Express Root Port 2 - 2841
[FE840000 - FE85FFFF]	Intel(R) Gigabit CT Desktop Adapter #3
[FE860000 - FE863FFF]	Intel(R) Gigabit CT Desktop Adapter #3
[FE900000 - FE9FFFFFF]	Intel(R) ICH8 Family PCI Express Root Port 1 - 283F
[FE940000 - FE95FFFF]	Intel(R) Gigabit CT Desktop Adapter
[FE960000 - FE963FFF]	Intel(R) Gigabit CT Desktop Adapter
[FEA00000 - FEA7FFFF]	Intel(R) Graphics Media Accelerator 3150
[FEA80000 - FEAFFFFF]	Intel(R) Graphics Media Accelerator 3150
[FEB00000 - FEB000FF]	Intel(R) ICH8 Family SMBus Controller - 283E
[FEB01000 - FEB013FF]	Intel(R) ICH8 Family USB2 Enhanced Host Controller - 2836
[FEB02000 - FEB023FF]	Intel(R) ICH8 Family USB2 Enhanced Host Controller - 283A
[FEC00000 - FEC00FFF]	Motherboard resources
[FED00000 - FED003FF]	High precision event timer
[FED14000 - FED19FFF]	System board
[FED1C000 - FED1FFFF]	Motherboard resources
[FED20000 - FED8FFFF]	Motherboard resources
[FEE00000 - FEE00FFF]	Motherboard resources
[FFC00000 - FFFFFFFF]	Motherboard resources

## B.3 IRQ Mapping Chart

Interrupt request (IRQ)	
(ISA) 0x00000000 (00)	High precision event timer
(ISA) 0x00000001 (01)	Standard PS/2 Keyboard
(ISA) 0x00000003 (03)	Communications Port (COM2)
(ISA) 0x00000004 (04)	Communications Port (COM1)
(ISA) 0x00000008 (08)	High precision event timer
(ISA) 0x0000000C (12)	Microsoft PS/2 Mouse
(ISA) 0x0000000D (13)	Numeric data processor
(ISA) 0x0000000E (14)	ATA Channel 0
(ISA) 0x0000000F (15)	ATA Channel 1
(ISA) 0x00000051 (81)	Microsoft ACPI-Compliant System
(ISA) 0x00000052 (82)	Microsoft ACPI-Compliant System
(ISA) 0x00000053 (83)	Microsoft ACPI-Compliant System
(ISA) 0x00000054 (84)	Microsoft ACPI-Compliant System
(ISA) 0x00000055 (85)	Microsoft ACPI-Compliant System
(ISA) 0x00000056 (86)	Microsoft ACPI-Compliant System
(ISA) 0x00000057 (87)	Microsoft ACPI-Compliant System
(ISA) 0x00000058 (88)	Microsoft ACPI-Compliant System
(ISA) 0x00000059 (89)	Microsoft ACPI-Compliant System
(ISA) 0x0000005A (90)	Microsoft ACPI-Compliant System
(ISA) 0x0000005B (91)	Microsoft ACPI-Compliant System
(ISA) 0x0000005C (92)	Microsoft ACPI-Compliant System
(ISA) 0x0000005D (93)	Microsoft ACPI-Compliant System
(ISA) 0x0000005E (94)	Microsoft ACPI-Compliant System
(ISA) 0x0000005F (95)	Microsoft ACPI-Compliant System
(ISA) 0x00000060 (96)	Microsoft ACPI-Compliant System
(ISA) 0x00000061 (97)	Microsoft ACPI-Compliant System
(ISA) 0x00000062 (98)	Microsoft ACPI-Compliant System
(ISA) 0x00000063 (99)	Microsoft ACPI-Compliant System
(ISA) 0x00000064 (100)	Microsoft ACPI-Compliant System
(ISA) 0x00000065 (101)	Microsoft ACPI-Compliant System
(ISA) 0x00000066 (102)	Microsoft ACPI-Compliant System
(ISA) 0x00000067 (103)	Microsoft ACPI-Compliant System
(ISA) 0x00000068 (104)	Microsoft ACPI-Compliant System
(ISA) 0x00000069 (105)	Microsoft ACPI-Compliant System
(ISA) 0x0000006A (106)	Microsoft ACPI-Compliant System
(ISA) 0x0000006B (107)	Microsoft ACPI-Compliant System
(ISA) 0x0000006C (108)	Microsoft ACPI-Compliant System
(ISA) 0x0000006D (109)	Microsoft ACPI-Compliant System
(ISA) 0x0000006E (110)	Microsoft ACPI-Compliant System
(ISA) 0x0000006F (111)	Microsoft ACPI-Compliant System
(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) 0x0000009A (154)	Microsoft ACPI-Compliant System
	(ISA) 0x0000009B (155)	Microsoft ACPI-Compliant System
	(ISA) 0x0000009C (156)	Microsoft ACPI-Compliant System
	(ISA) 0x0000009D (157)	Microsoft ACPI-Compliant System
	(ISA) 0x0000009E (158)	Microsoft ACPI-Compliant System
	(ISA) 0x0000009F (159)	Microsoft ACPI-Compliant System
	(ISA) 0x000000A0 (160)	Microsoft ACPI-Compliant System
	(ISA) 0x000000A1 (161)	Microsoft ACPI-Compliant System
	(ISA) 0x000000A2 (162)	Microsoft ACPI-Compliant System
	(ISA) 0x000000A3 (163)	Microsoft ACPI-Compliant System
	(ISA) 0x000000A4 (164)	Microsoft ACPI-Compliant System
	(ISA) 0x000000A5 (165)	Microsoft ACPI-Compliant System
	(ISA) 0x000000A6 (166)	Microsoft ACPI-Compliant System
	(ISA) 0x000000A7 (167)	Microsoft ACPI-Compliant System



	(ISA) 0x000000A8 (168)	Microsoft ACPI-Compliant System
	(ISA) 0x000000A9 (169)	Microsoft ACPI-Compliant System
	(ISA) 0x000000AA (170)	Microsoft ACPI-Compliant System
	(ISA) 0x000000AB (171)	Microsoft ACPI-Compliant System
	(ISA) 0x000000AC (172)	Microsoft ACPI-Compliant System
	(ISA) 0x000000AD (173)	Microsoft ACPI-Compliant System
	(ISA) 0x000000AE (174)	Microsoft ACPI-Compliant System
	(ISA) 0x000000AF (175)	Microsoft ACPI-Compliant System
	(ISA) 0x000000B0 (176)	Microsoft ACPI-Compliant System
	(ISA) 0x000000B1 (177)	Microsoft ACPI-Compliant System
	(ISA) 0x000000B2 (178)	Microsoft ACPI-Compliant System
	(ISA) 0x000000B3 (179)	Microsoft ACPI-Compliant System
	(ISA) 0x000000B4 (180)	Microsoft ACPI-Compliant System
	(ISA) 0x000000B5 (181)	Microsoft ACPI-Compliant System
	(ISA) 0x000000B6 (182)	Microsoft ACPI-Compliant System
	(ISA) 0x000000B7 (183)	Microsoft ACPI-Compliant System
	(ISA) 0x000000B8 (184)	Microsoft ACPI-Compliant System
	(ISA) 0x000000B9 (185)	Microsoft ACPI-Compliant System
	(ISA) 0x000000BA (186)	Microsoft ACPI-Compliant System
	(ISA) 0x000000BB (187)	Microsoft ACPI-Compliant System
	(ISA) 0x000000BC (188)	Microsoft ACPI-Compliant System
	(ISA) 0x000000BD (189)	Microsoft ACPI-Compliant System
	(ISA) 0x000000BE (190)	Microsoft ACPI-Compliant System
	(PCI) 0x00000005 (05)	Intel(R) ICH8 Family SMBus Controller - 283E
	(PCI) 0x00000010 (16)	Intel(R) Graphics Media Accelerator 3150
	(PCI) 0x00000010 (16)	Intel(R) ICH8 Family USB Universal Host Controller - 2834
	(PCI) 0x00000012 (18)	Intel(R) ICH8 Family USB Universal Host Controller - 2832
	(PCI) 0x00000012 (18)	Intel(R) ICH8 Family USB2 Enhanced Host Controller - 283A
	(PCI) 0x00000012 (18)	Intel(R) ICH8M 3 port Serial ATA Storage Controller - 2828
	(PCI) 0x00000013 (19)	Intel(R) ICH8 Family USB Universal Host Controller - 2831
	(PCI) 0x00000015 (21)	Intel(R) ICH8 Family USB Universal Host Controller - 2835
	(PCI) 0x00000017 (23)	Intel(R) ICH8 Family USB Universal Host Controller - 2830
	(PCI) 0x00000017 (23)	Intel(R) ICH8 Family USB2 Enhanced Host Controller - 2836
	(PCI) 0xFFFFFE1 (-31)	Intel(R) Gigabit CT Desktop Adapter #2
	(PCI) 0xFFFFFE2 (-30)	Intel(R) Gigabit CT Desktop Adapter #2
	(PCI) 0xFFFFFE3 (-29)	Intel(R) Gigabit CT Desktop Adapter #2
	(PCI) 0xFFFFFE4 (-28)	Intel(R) Gigabit CT Desktop Adapter #2
	(PCI) 0xFFFFFE5 (-27)	Intel(R) Gigabit CT Desktop Adapter #6
	(PCI) 0xFFFFFE6 (-26)	Intel(R) Gigabit CT Desktop Adapter #6
	(PCI) 0xFFFFFE7 (-25)	Intel(R) Gigabit CT Desktop Adapter #6
	(PCI) 0xFFFFFE8 (-24)	Intel(R) Gigabit CT Desktop Adapter #6
	(PCI) 0xFFFFFE9 (-23)	Intel(R) Gigabit CT Desktop Adapter #5
	(PCI) 0xFFFFFEA (-22)	Intel(R) Gigabit CT Desktop Adapter #5
	(PCI) 0xFFFFFEB (-21)	Intel(R) Gigabit CT Desktop Adapter #5
	(PCI) 0xFFFFFEC (-20)	Intel(R) Gigabit CT Desktop Adapter #5
	(PCI) 0xFFFFFED (-19)	Intel(R) Gigabit CT Desktop Adapter #4
	(PCI) 0xFFFFFEE (-18)	Intel(R) Gigabit CT Desktop Adapter #4
	(PCI) 0xFFFFFEF (-17)	Intel(R) Gigabit CT Desktop Adapter #4



	(PCI) 0xFFFFFFF0 (-16)	Intel(R) Gigabit CT Desktop Adapter #4
	(PCI) 0xFFFFFFF1 (-15)	Intel(R) Gigabit CT Desktop Adapter #3
	(PCI) 0xFFFFFFF2 (-14)	Intel(R) Gigabit CT Desktop Adapter #3
	(PCI) 0xFFFFFFF3 (-13)	Intel(R) Gigabit CT Desktop Adapter #3
	(PCI) 0xFFFFFFF4 (-12)	Intel(R) Gigabit CT Desktop Adapter #3
	(PCI) 0xFFFFFFF5 (-11)	Intel(R) Gigabit CT Desktop Adapter
	(PCI) 0xFFFFFFF6 (-10)	Intel(R) Gigabit CT Desktop Adapter
	(PCI) 0xFFFFFFF7 (-9)	Intel(R) Gigabit CT Desktop Adapter
	(PCI) 0xFFFFFFF8 (-8)	Intel(R) Gigabit CT Desktop Adapter
	(PCI) 0xFFFFFFF9 (-7)	Intel(R) ICH8 Family PCI Express Root Port 6 - 2849
	(PCI) 0xFFFFFFFA (-6)	Intel(R) ICH8 Family PCI Express Root Port 5 - 2847
	(PCI) 0xFFFFFFFB (-5)	Intel(R) ICH8 Family PCI Express Root Port 4 - 2845
	(PCI) 0xFFFFFFFC (-4)	Intel(R) ICH8 Family PCI Express Root Port 3 - 2843
	(PCI) 0xFFFFFFFD (-3)	Intel(R) ICH8 Family PCI Express Root Port 2 - 2841
	(PCI) 0xFFFFFFE (-2)	Intel(R) ICH8 Family PCI Express Root Port 1 - 283F

## B.4 DMA Channel Assignments

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-  Direct memory access (DMA)
  -  4 Direct memory access controller

Appendix

C

# Standard Firewall Platform Setting

## C.1 Standard Firewall Platform Setting

Status LED Control Table.

	I/O 0x048E bit1	I/O 0x048E bit4	I/O 0x048F bit3
<b>LED Off</b>	0	0	0
<b>Red LED On</b>	1	0	0
<b>Red LED Blink</b>	0	0	1
<b>Red LED Fast Blink</b>	1	0	1
<b>Green LED On</b>	1	1	1
<b>Green LED Blink</b>	1	1	0
<b>Green LED Fast Blink</b>	0	1	1

LAN ByPass Config Table

	I/O 0x048C bit6	I/O 0x048C bit7	I/O 0x048D bit0	I/O 0x4B8 bit5
<b>LAN1_2 Power On ByPass Mode</b>	X	X	1	0
<b>LAN1_2 Power On Pass Through Mode</b>	X	X	0	0
<b>LAN1_2 Power Off ByPass Mode</b>	X	1	X	0
<b>LAN1_2 Power Off Pass Through Mode</b>	X	0	X	0
<b>LAN3_4 Power On</b>	X	X	1	1

<b>ByPass Mode</b>				
<b>LAN3_4 Power On Pass Through Mode</b>	X	X	0	1
<b>LAN3_4 Power Off ByPass Mode</b>	X	1	X	1
<b>LAN3_4 Power Off Pass Through Mode</b>	X	0	X	1
<b>WDT for LAN1_2 ByPass</b>	1	X	X	0
<b>WDT for LAN3_4 ByPass</b>	1	X	X	1
<b>WDT for system Reset Mode</b>	0	X	X	0 or 1

**Note** : "X" means that no affected.

## C.2 Status LED Sample Code

---

```
#define LED_BASE_ADDR    0x48E

// LED Off
VOID LED_OFF()
{
    UINT16    TEMP16;

    TEMP16 = IoIn16(LED_BASE_ADDR) & 0xF7ED;
    IoOut16(LED_BASE_ADDR, TEMP16);
}

// Red LED On
VOID RED_LED_ON()
{
    UINT16    TEMP16;

    TEMP16 = IoIn16(LED_BASE_ADDR) & 0xF7ED;
    TEMP16 |= 0x0002;
    IoOut16(LED_BASE_ADDR, TEMP16);
}

// Red LED Blink
VOID RED_LED_BLINK()
```

```
{  
    UINT16    TEMP16;  
  
    TEMP16 = IoIn16(LED_BASE_ADDR) & 0xF7ED;  
    TEMP16 |= 0x0800;  
    IoOut16(LED_BASE_ADDR, TEMP16);  
}
```

// Red LED Fast Blink

**VOID RED\_LED\_FBLINK()**

```
{  
    UINT16    TEMP16;  
  
    TEMP16 = IoIn16(LED_BASE_ADDR) & 0xF7ED;  
    TEMP16 |= 0x0802;  
    IoOut16(LED_BASE_ADDR, TEMP16);  
}
```

// Green LED On

**VOID GREEN\_LED\_ON()**

```
{  
    UINT16    TEMP16;  
  
    TEMP16 = IoIn16(LED_BASE_ADDR) & 0xF7ED;  
    TEMP16 |= 0x0812;
```

```
    IoOut16(LED_BASE_ADDR, TEMP16);
}

// Green LED Blink
VOID GREEN_LED_BLINK()
{
    UINT16    TEMP16;

    TEMP16 = IoIn16(LED_BASE_ADDR) & 0xF7ED;
    TEMP16 |= 0x0012;
    IoOut16(LED_BASE_ADDR, TEMP16);
}

// Green LED Fast Blink
VOID GREEN_LED_FBLINK()
{
    UINT16    TEMP16;

    TEMP16 = IoIn16(LED_BASE_ADDR) & 0xF7ED;
    TEMP16 |= 0x0810;
    IoOut16(LED_BASE_ADDR, TEMP16);
}
```

### C.3 LAN Bypass Mode Sample Code

---

```
#define LANBP_BASE_ADDR      0x48C
#define PAIR_SEL_BASE_ADDR   0x4B8

/*
Select LAN Pair I or II
PAIR_NUM =      0x00 - PAIR I
              0x01 - PAIR II
*/
VOID SEL_PAIR(
    IN  UINT8    PAIR_NUM;
)
{
    UINT8    TEMP8;

    PAIR_NUM = PAIR_NUM << 5;
    TEMP8 = IoIn8(PAIR_SEL_BASE_ADDR) & 0xDF;
    TEMP8 |= PAIR_NUM;
    IoOut8(PAIR_SEL_BASE_ADDR, TEMP8);
}

/*
Execute LAN ByPass Settings
```



```
*/  
VOID EXE_SET()  
{  
    UINT8    TEMP8;  
  
    TEMP8 = IoIn8(LANBP_BASE_ADDR + 3) | 0x10;  
    IoOut8(LANBP_BASE_ADDR + 3, TEMP8);  
    Sleep(500);  
    IoOut8(LANBP_BASE_ADDR + 3, TEMP8 & 0xEF);  
}
```

```
/*  
LAN1 & 2 Power On ByPass Mode Set  
BP_MODE = 0x00 - Pass Through Mode  
          = 0x01 - By Pass Mode
```

```
*/  
VOID LAN12_PWRON_BP()  
{  
    UINT8    TEMP8;  
  
    SEL_PAIR(0x00);    // Select Pair I  
    TEMP8 = IoIn8(LANBP_BASE_ADDR + 1) & 0xFE;  
    TEMP8 |= BP_MODE;
```

```
IoOut8(LANBP_BASE_ADDR + 1, TEMP8);

EXE_SET();                // Execute Set
}

/*
LAN1 & 2 Power Off ByPass Mode Set
BP_MODE = 0x00 - Pass Through Mode
           = 0x01 - By Pass Mode
*/
VOID LAN12_PWROFF_BP()
{
    UINT8    TEMP8;

    SEL_PAIR(0x00) ;      // Select Pair I
    TEMP8 = IoIn8(LANBP_BASE_ADDR) & 0x7F;
    TEMP8 |= BP_MODE << 7;
    IoOut8(LANBP_BASE_ADDR, TEMP8);

    EXE_SET();            // Execute Set
}

/*
```

LAN3 & 4 Power On ByPass Mode Set

BP\_MODE = 0x00 - Pass Through Mode

= 0x01 - By Pass Mode

\*/

VOID LAN34\_PWRON\_BP()

{

    UINT8    TEMP8;

    SEL\_PAIR(0x01);    // Select Pair II

    TEMP8 = IoIn8(LANBP\_BASE\_ADDR + 1) & 0xFE;

    TEMP8 |= BP\_MODE;

    IoOut8(LANBP\_BASE\_ADDR + 1, TEMP8);

    EXE\_SET();                    // Execute Set

}

/\*

LAN3 & 4 Power Off ByPass Mode Set

BP\_MODE = 0x00 - Pass Through Mode

= 0x01 - By Pass Mode

\*/

VOID LAN34\_PWROFF\_BP()

{

    UINT8    TEMP8;

```
SEL_PAIR(0x01);      // Select Pair II
TEMP8 = IoIn8(LANBP_BASE_ADDR) & 0x7F;
TEMP8 |= BP_MODE << 7;
IoOut8(LANBP_BASE_ADDR, TEMP8);

EXE_SET();           // Execute Set
}

/*
Set Watch Dog as LAN1 & 2 By Pass mode
*/
VOID WDT_LAN12_BP()
{
    UINT8    TEMP8;

    SEL_PAIR(0x00);  // Select Pair I
    TEMP8 = IoIn8(LANBP_BASE_ADDR) | 0x40;
    IoOut8(LANBP_BASE_ADDR, TEMP8);

    EXE_SET();       // Execute Set
}
```

```
/*  
Set Watch Dog as LAN3 & 4 By Pass mode  
*/  
VOID WDT_LAN34_BP()  
{  
    UINT8    TEMP8;  
  
    SEL_PAIR(0x01);    // Select Pair II  
    TEMP8 = IoIn8(LANBP_BASE_ADDR) | 0x40;  
    IoOut8(LANBP_BASE_ADDR, TEMP8);  
  
    EXE_SET();        // Execute Set  
}
```

```
/*  
Set Watch Dog as system reset mode  
*/  
VOID WDT_RESET()  
{  
    UINT8    TEMP8;  
  
    SEL_PAIR(0x00);    // Select Pair I  
    TEMP8 = IoIn8(LANBP_BASE_ADDR) & 0xBF;  
    IoOut8(LANBP_BASE_ADDR, TEMP8);
```

```
SEL_PAIR(0x00);      // Select Pair II
IoOut8(LANBP_BASE_ADDR, TEMP8);

EXE_SET();           // Execute Set
}
```

## C.4 Console Redirection

---

Console redirection allows you to maintain a system from a remote location by re-directing keyboard input and text output through the serial port. This section will tell you how to use the console redirection.

1. Please insert console cable between on FWS-2200 and remote client system.

2. Setup BIOS in FWS-2200

BIOS >> Advanced >> Serial Port Console Redirection >>

Console Redirection: Enabled (Default)

Enabled Attempt to redirect console via COM port

Disabled Console redirection function

BIOS >> Advanced >> Serial Port Console Redirection >> Serial Redirection Settings >> Bits per second: 115200 (Default)

3. Configure Console redirection on client system. This example is for Windows platform.

Step1 - Click the Start button, point to programs >> Accessories >> Communication, and click Hyper Terminal

Step2 - Enter any name for the new connection and select any icon

Step3 - Click OK

Step4 - From the connect to pull-down menu, select a COM port available on your client system and click OK

Step5 - Select Baud Rate >> 19200, Flow control >> None, Data bit >>8, Parity check >> None, Stop bit>>1

4. Power on FWS-2200 and it will display the BIOS information on the client system.



Appendix

D

**AHCI Settings**

## D.1 Setting AHCI

---

OS installation to setup AHCI Mode

Step 1: Copy the files below from “**Driver CD -> Step 4 - AHCI-> winxp\_32 or winxp\_64**” to Disk



P6Readme  
文字文件  
8 KB



iaAHCI  
安全性目錄  
9 KB



iaAHCI  
安裝資訊  
9 KB



iaStor  
安全性目錄  
8 KB



iaStor  
安裝資訊  
8 KB



iaStor  
系統檔案  
423 KB



license  
文字文件  
5 KB



TXTSETUP.OEM  
OEM 檔案  
6 KB

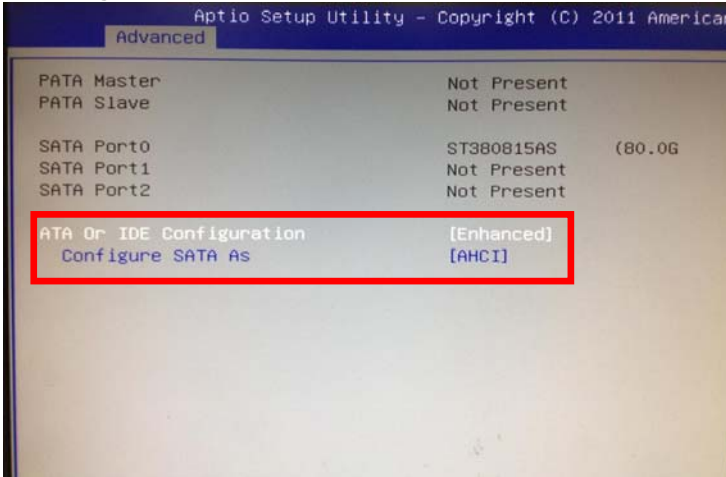
Step 2: Connect the USB Floppy (disk with RAID files) to the board



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

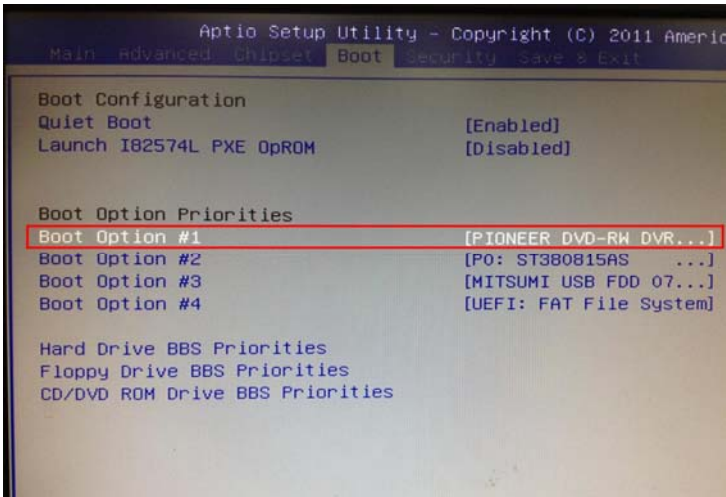
**A: Advanced -> IDE Configuration -> ATA Or IDE Configuration -> Enhanced**

**B: Configure SATA As -> AHCI**



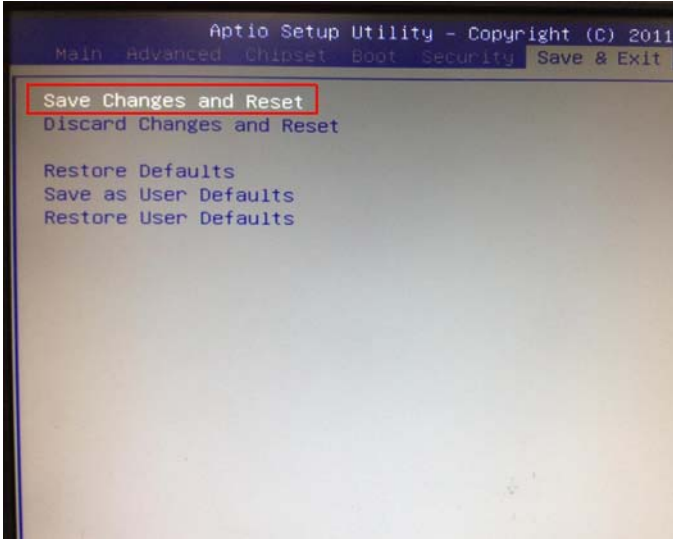
Step 4: The setting procedures "In BIOS Setup Menu"

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



Step 5: The setting procedures “In BIOS Setup Menu”

**C: Save & Exit -> Save Changes and Exit**



Step 6: Setup OS

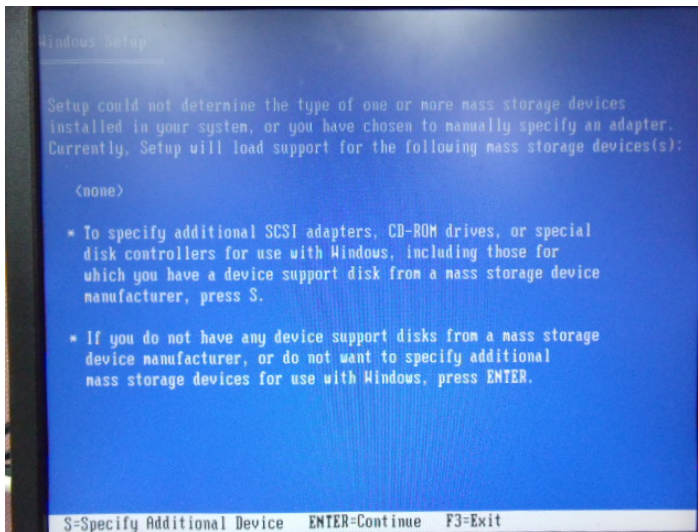
Setup is inspecting your computer's hardware configuration...



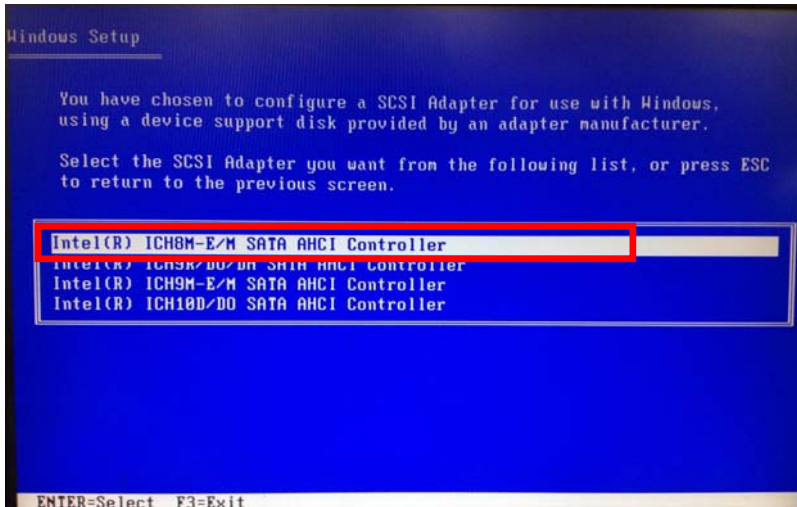
## Step 7: Press "F6"



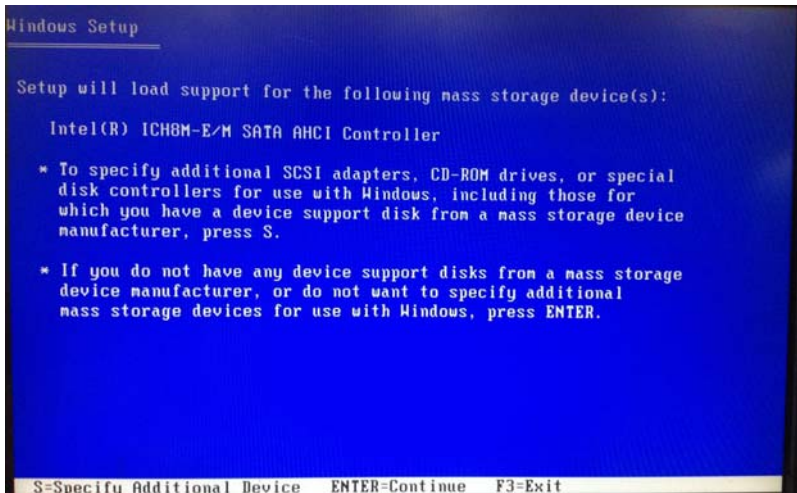
## Step 8: Choose "S"



Step 9: Choose "Intel(R) ICH8M-E/M SATA AHCI Controller"



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



Step 11: Setup is loading files

