

AEC-6872

Fanless Embedded Controller
Intel® Atom™ D510 Processor
with 2 Gigabit Ethernet

10 COMs, Audio, 4 USB

1 PCI-E or 1 PCI

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Packing List

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

- 1 AEC-6872 Embedded Controller
- 1 Phoenix Power Connector
- 2 Wallmount Brackets
- 1 CD-ROM for manual (in PDF format) and drivers

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

Safety & Warranty

1. Read these safety instructions carefully.
2. Keep this user's manual for later reference.
3. Disconnect this equipment from any AC outlet before cleaning. Do not use liquid or spray detergents for cleaning. Use a damp cloth.
4. For pluggable equipment, the power outlet must be installed near the equipment and must be easily accessible.
5. Keep this equipment away from humidity.
6. Put this equipment on a firm surface during installation. Dropping it or letting it fall could cause damage.
7. The openings on the enclosure are for air convection. Protect the equipment from overheating. **DO NOT COVER THE OPENINGS.**
8. Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.
9. Position the power cord so that people cannot step on it. Do not place anything over the power cord.
10. All cautions and warnings on the equipment should be noted.
11. If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient over-voltage.
12. Never pour any liquid into an opening. This could cause fire or electrical shock.
13. Never open the equipment. For safety reasons, only qualified service personnel should open the equipment.
14. If any of the following situations arises, get the equipment checked by service personnel:
 - a. The power cord or plug is damaged.
 - b. Liquid has penetrated into the equipment.
 - c. The equipment has been exposed to moisture.

- d. The equipment does not work well, or you cannot get it to work according to the user's manual.
 - e. The equipment has been dropped and damaged.
 - f. The equipment has obvious signs of breakage.
15. DO NOT LEAVE THIS EQUIPMENT IN AN ENVIRONMENT WHERE THE STORAGE TEMPERATURE IS BELOW -20°C (-4°F) OR ABOVE 60°C (140°F). IT MAY DAMAGE THE EQUIPMENT.

FCC

Warning!



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

Caution:

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

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	×	○	○	○	○	○
<p>O: 表示该有毒有害物质在该部件所有均质材料中的含量均在 SJ/T 11363-2006 标准规定的限量要求以下。</p> <p>X: 表示该有毒有害物质至少在该部件的某一均质材料中的含量超出 SJ/T 11363-2006 标准规定的限量要求。</p> <p>备注： 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。</p>						

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Chapter

1

**General
Information**

1.1 Introduction

Due to the growing popularity from the IPC market, the newest Boxer series AEC-6872 has been introduced by AAEON.

New Innovation for Entertainment Multimedia Domain

In this era of information explosion, the advertising of consumer products will not be confined to the family television, but will also spread to high-traffic public areas, like department stores, the bus, transportation station, the supermarket etc. The advertising marketing industry will resort to every conceivable means to transmit product information to consumers. System integrators will need a multifunction device to satisfy commercial needs for such public advertising.

Being a control center, the AEC-6872 is suitable for public multimedia entertainment services. Equipped with a high efficiency heat conduction mechanism.

The AEC-6872 is compact in size but has attractive and flexible extension capabilities such as 4 USB2.0 ports, VGA, Audio, 10 COM ports, and PCI or PCI-Express slot.

Stable Design for Rugged Environment

The AEC-6872 is designed for rugged environments due to the following reasons; first, it can withstand tough vibration testing up to

5 g rms. With the anti-vibration hard drive device option, the AEC-6872 can be used in high vibration environments. In addition, the AEC-6872 offers low power consumption system that while operating in ambient temperatures ranging from -10° to 55°C.

The AEC-6872 is a standalone high performance controller designed for long-life operation and with high reliability. It can replace traditional methods and become the mainstream controller for the multimedia entertainment market.

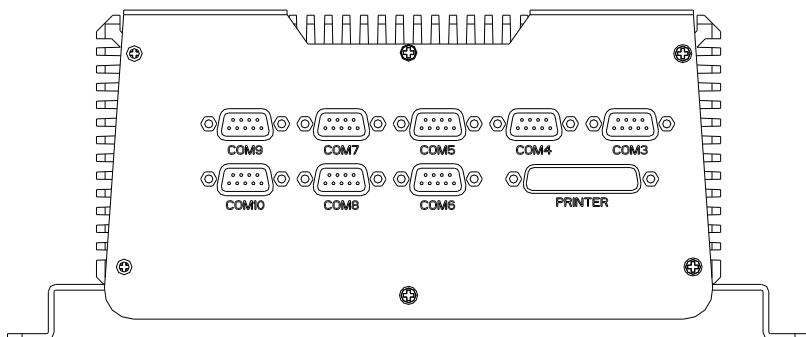
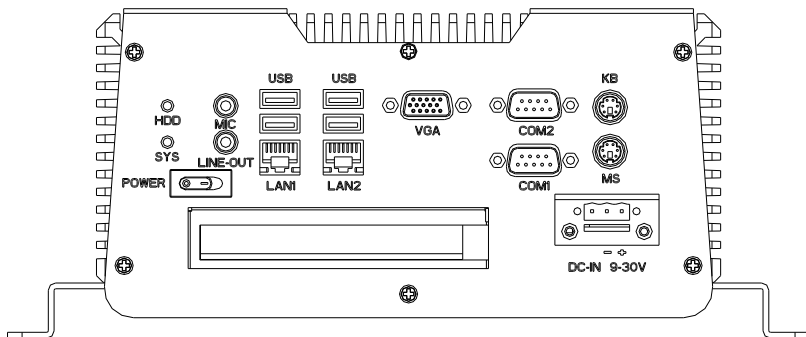
1.2 Features

- Fanless Design
- Intel® Atom™ D510 Processor
- PCI-Express[x1] Slot x 1 Or PCI Slot x 1
- Wide DC Power Input
- Gigabit Ethernet x 2, RJ-45 x 2
- COM x 10
- ATX Power Function

1.3 Specifications

● CPU		Intel® Atom™ D510 1.6 GHz Processor
● Chipset		Intel® ICH8M
● System Memory		200-pin DDR2 SODIMM x 2, Max. 4GB
● Display Interface	VGA	DB-15 x 1, shared system memory up to 384MB/DVMT 4.0
● Storage Device	SSD	Type 2 CompactFlash™ Slot x 1 (inside)
	HDD	SATA 1.5 Gb/s HDD bay x 1
● Network	LAN	Gigabit Ethernet
● Front I/O	Serial Port	RS-232 x 8
	Others	LPT x 1
● Rear I/O	USB Host	USB2.0 x 4
	LAN	RJ-45 x 2
	Serial Port	RS-232 x 1, RS-232/422/485 x 1
	Audio	Line-out x 1, Mic-in x 1
	KB/MS	1
	Others	DB-15 x 1, Power button x 1, Power inlet x 1, SYS LED x 1, HDD LED x 1
● Expansion	PCIe[x1]	1 (Version A)
	PCI	1 (Version B)
	Mini Card	1
	Mini PCI	1
● Indicator	Front	System LED x 1, HDD LED x 1

● Power Requirement	DC 9-30V	
● System Cooling	Passive cooling	
● Mounting	Wallmount	
● Operating Temperature	Ambient with Airflow 14°F ~ 131°F (-10°C ~ 55°C) (w/ WT CFD); 14°F ~ 122°F (-10°C ~ 50°C) (w/ D510, WT HDD)	
● Storage Temperature	-4°F ~ 158°F (-20°C ~ 70°C)	
● Anti-Vibration	5 g rms/ 5~500 Hz/ operation-CFD; 1 g rms/ 5~500 Hz/ operation-HDD	
● Anti-Shock	50 G peak acceleration (11 msec. duration) - CFD	
● Certification	EMC	CE/FCC Class B
● Dimension (W x H x D)	8.4" x 3.7" x 9.4" (214mm x 94.8mm x 237.8mm)	
● Gross Weight	12.76 lb (5.8 Kg)	

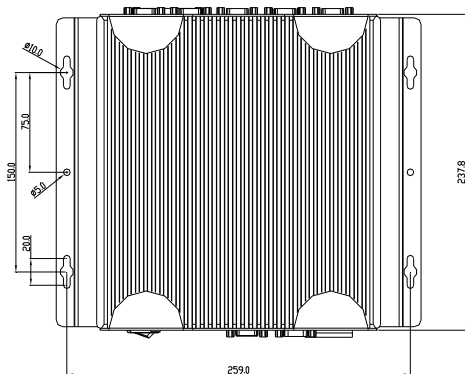


Chapter

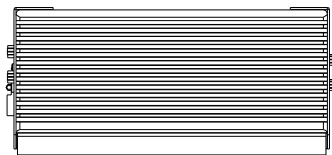
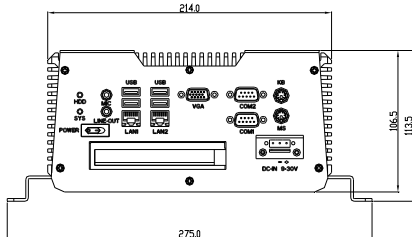
2

Hardware Installation

2.1 Dimension



AEC-6872
Unit:mm



2.2 COM2 Ring/+5V/+12V Selection (JP3)

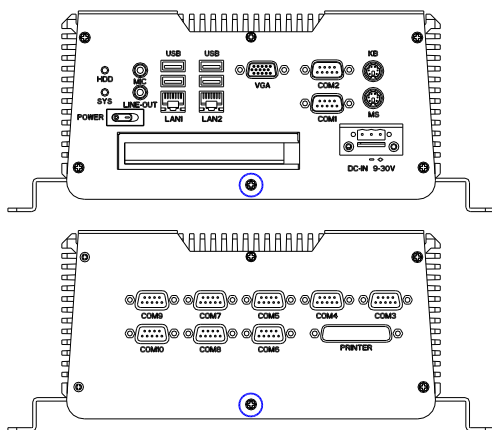
JP3	Function
1-2	+12V
3-4	Ring (Default)
5-6	+5V

2.3 Clear CMOS (JP5)

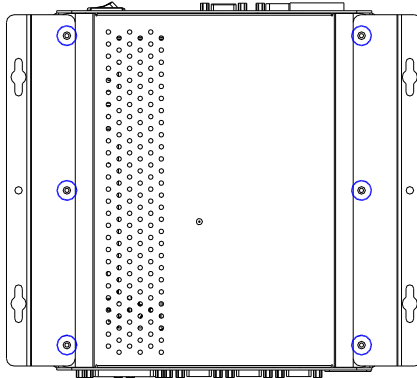
JP5	Function
1-2	Protected (Default)
2-3	Clear

2.4 RAM Module Installation

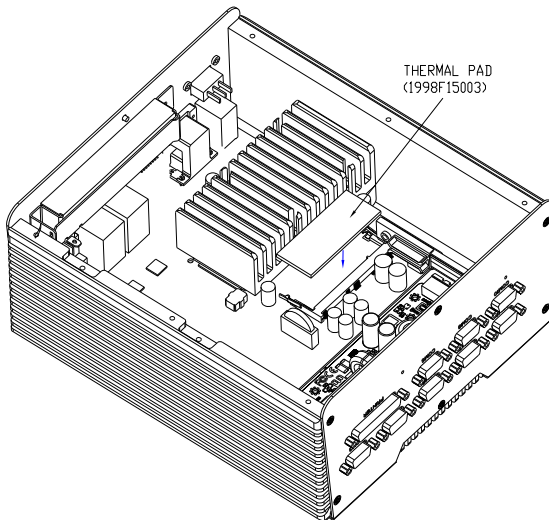
Step 1: Unfasten the two screws on the front and rear panels of AEC-6872



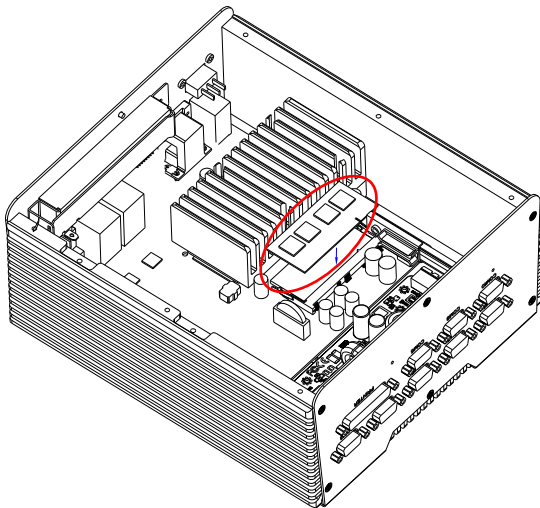
Step 2: Unfasten the six screws to release the brackets and bottom lid of AEC-6872



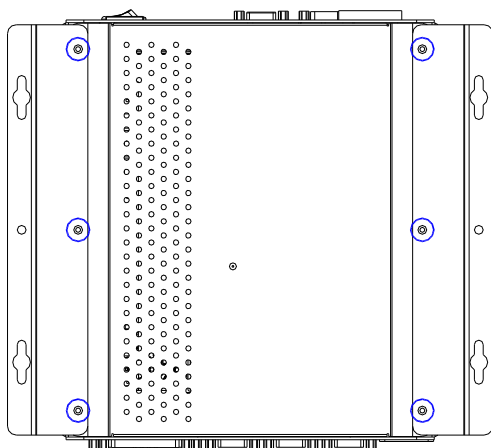
Step 3: Cover with a thermal pad



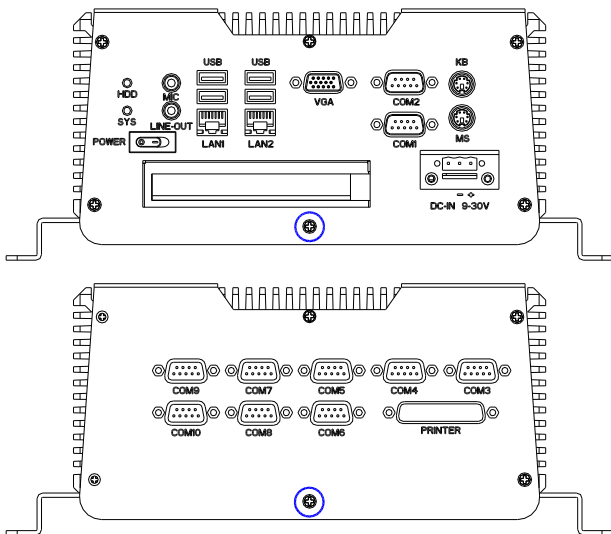
Step 4: Insert the RAM module to the AEC-6872



Step 5: Fasten the six screws to lock the brackets and bottom lid of AEC-6872

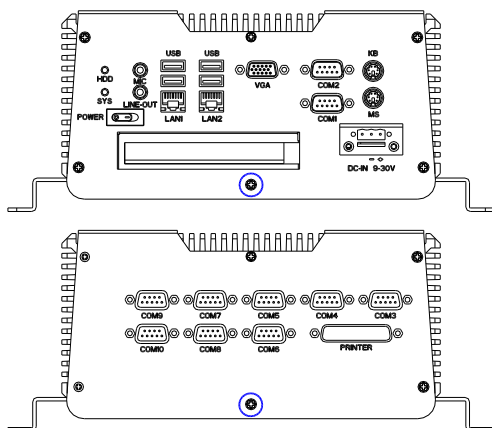


Step 6: Fasten the two screws on the front and rear panels of AEC-6872

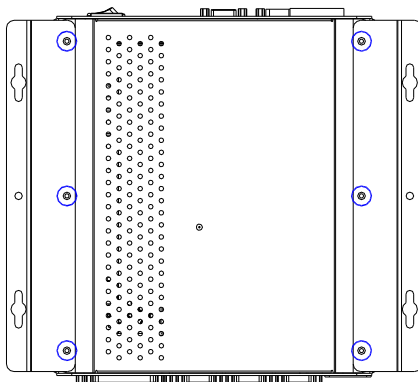


2.5 HDD Installation

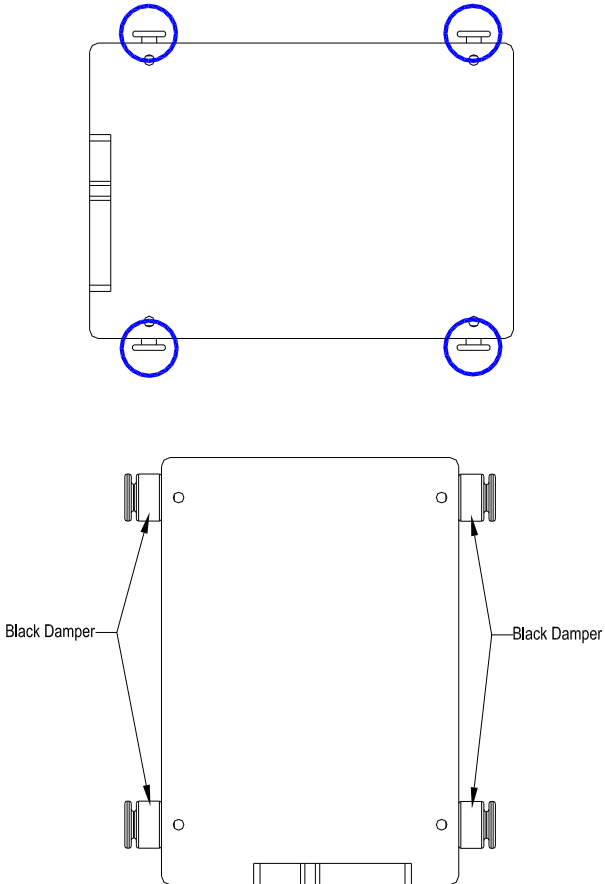
Step 1: Unfasten the two screws on the front and rear panels of AEC-6872



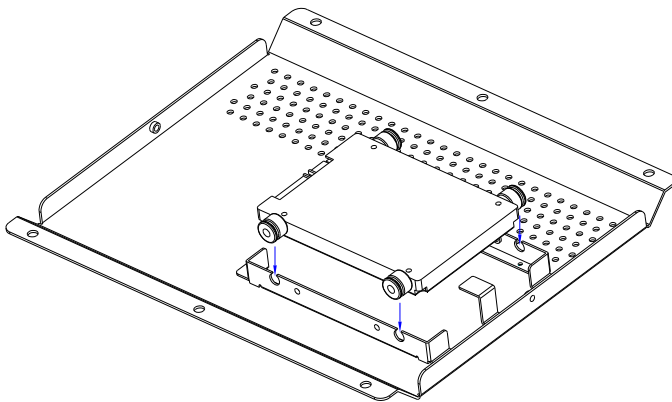
Step 2: Unfasten the six screws to release the brackets and bottom lid of AEC-6872



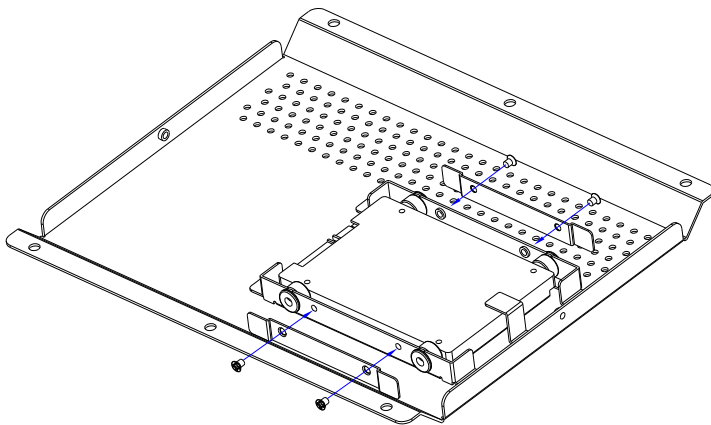
Step 3: Fasten the four HDD screws and cover with the four black damper



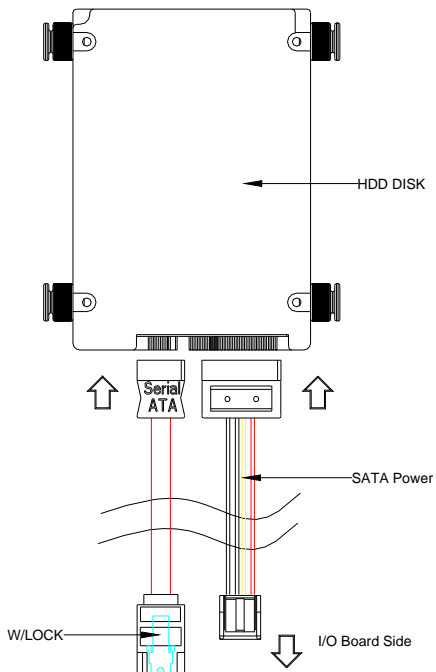
Step 4: Place the HDD to the HDD bracket



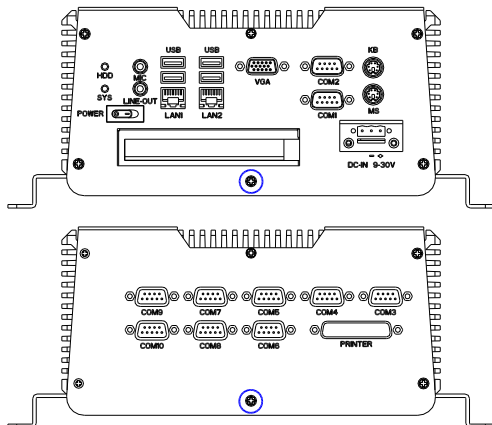
Step 5: Assembly the damper bracket and fasten the four screws



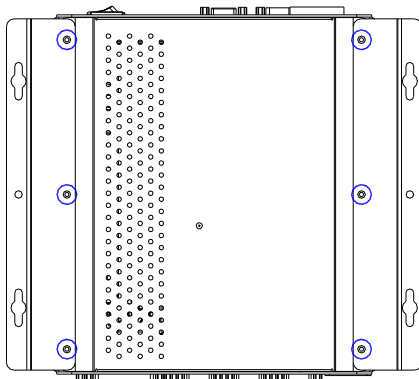
Step 6: Connect the SATA and power cables



Step 7: Fasten the two screws on the front and rear panels of AEC-6872

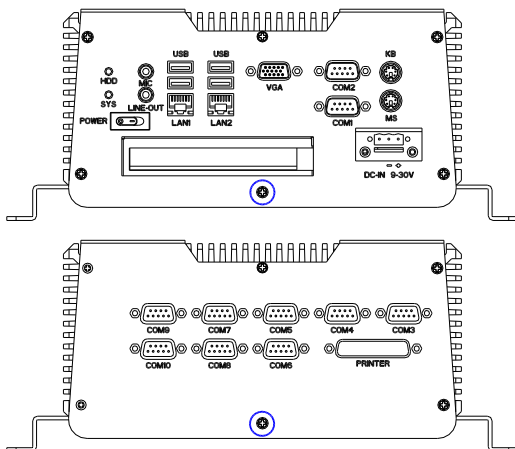


Step 8: Fasten the six screws to release the brackets and bottom lid of AEC-6872

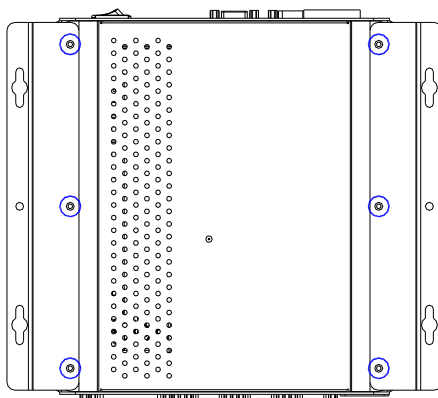


2.6 PCI-Express Card Installation

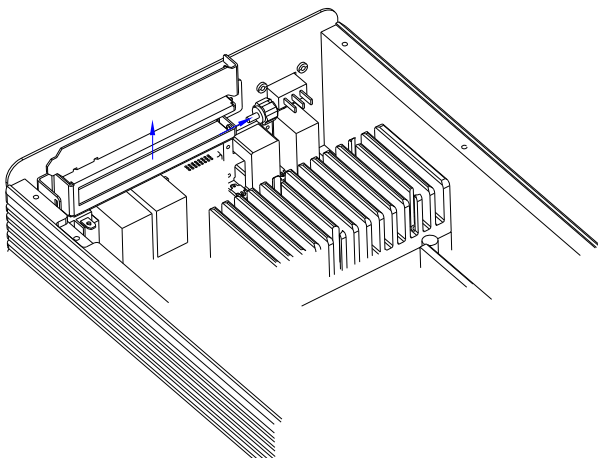
Step 1: Unfasten the two screws on the front and rear panels



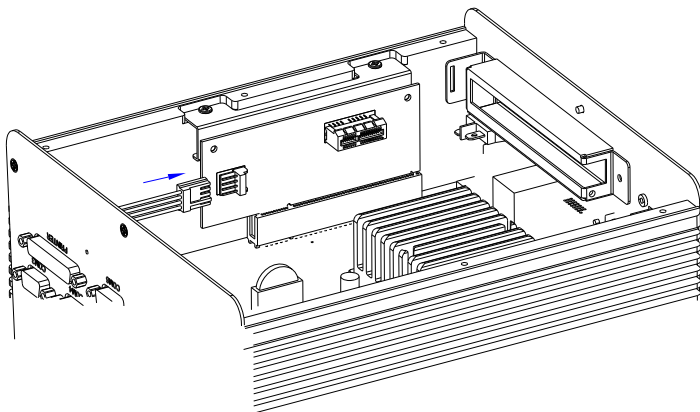
Step 2: Unfasten the six screws on the bottom lid



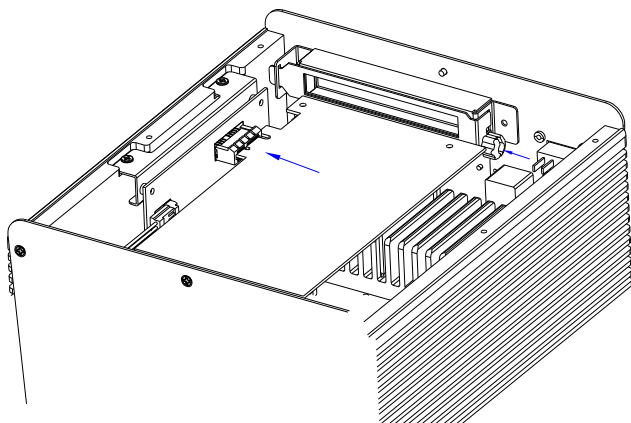
Step 3: Remove the screw with your finger and get the PCI-Express card ready to install. You should keep the shield and screw for use later.



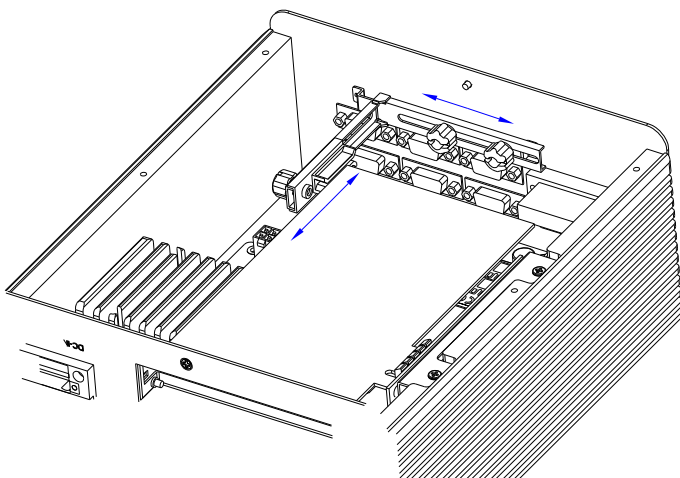
Step 4: Connect the cable



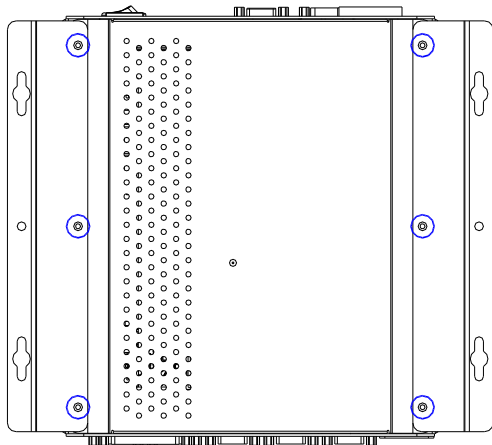
Step 5: Insert the PCI-Express card into the PCI-Express slot and reattach the screw. Fasten the screw and push the tenon to lock the PCI-Express card in position.



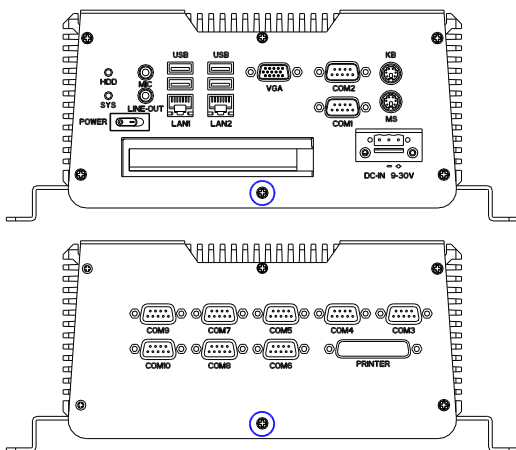
Step 6: Make sure the balance of PCI-Express card while installing Insert the PCI-Express card



Step 7: Fasten the six screws on the bottom lid

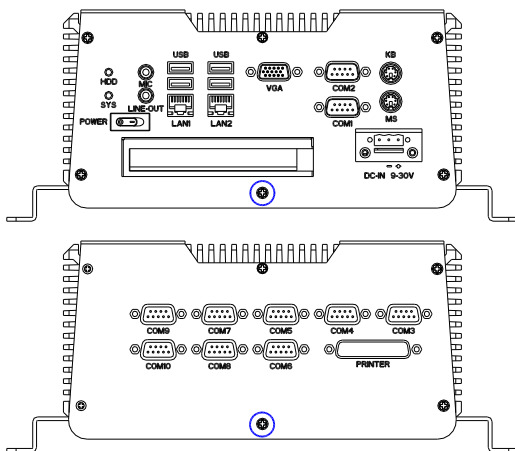


Step 8: Fasten the two screws on the front and rear panels

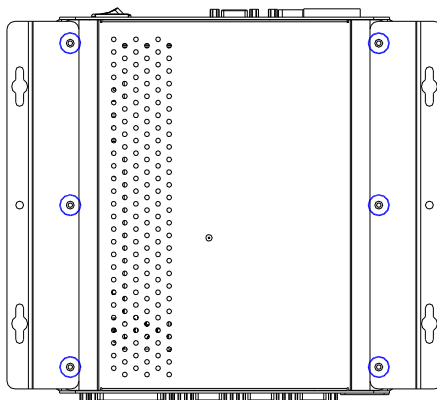


2.7 PCI Card Installation

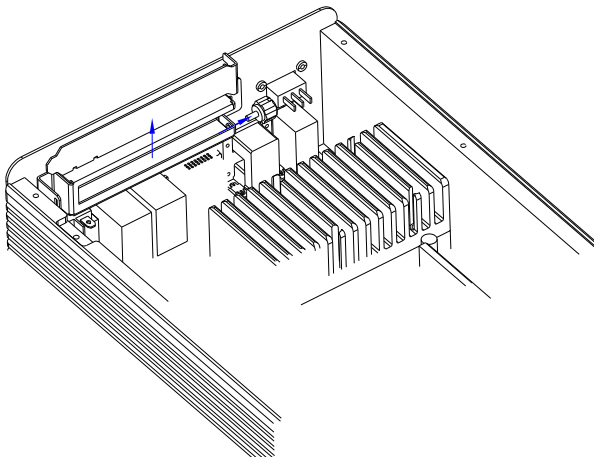
Step 1: Unfasten the two screws on the front and rear panels



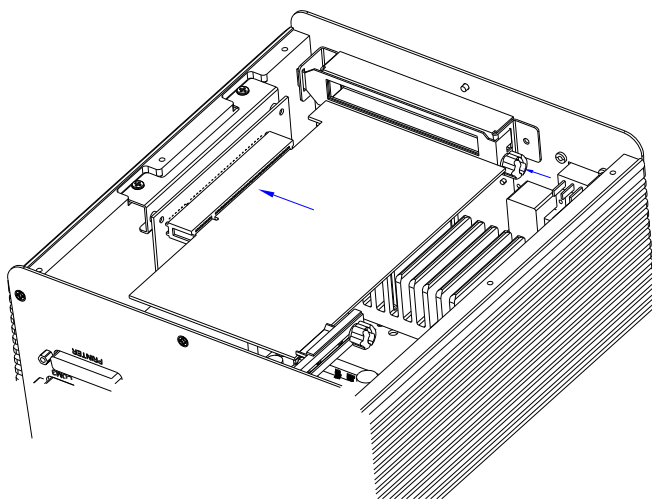
Step 2: Unfasten the six screws on the bottom lid



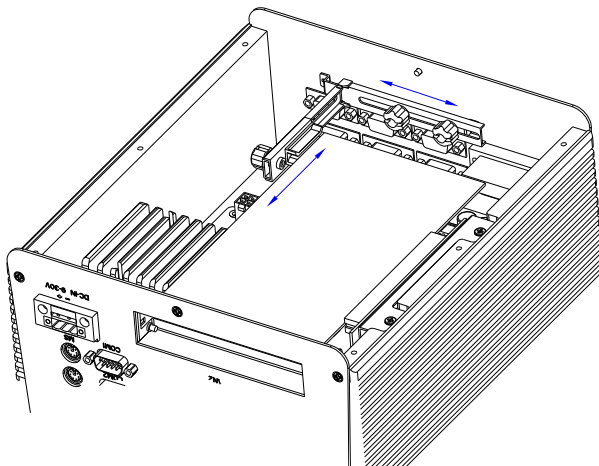
Step 3: Remove the screw with your finger and get the PCI card ready to install. You should keep the shield and screw for use later.



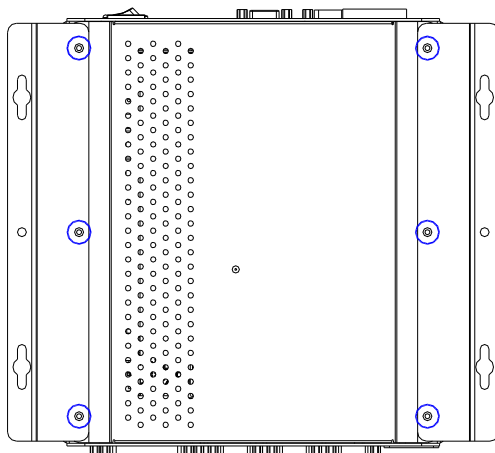
Step 4: Insert the PCI card into the PCI slot and reattach the screw. Push the tenon to lock the PCI-Express card in position.



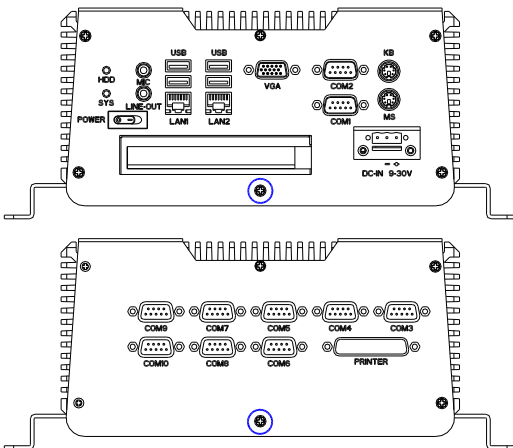
Step 5: Make sure the balance of PCI card while installing



Step 6: Fasten the six screws on the bottom lid

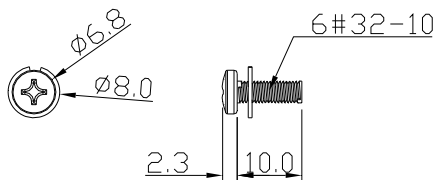
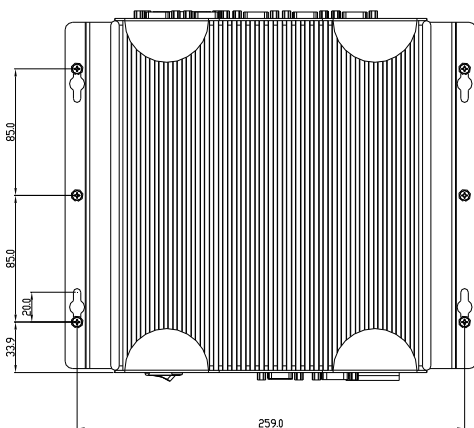
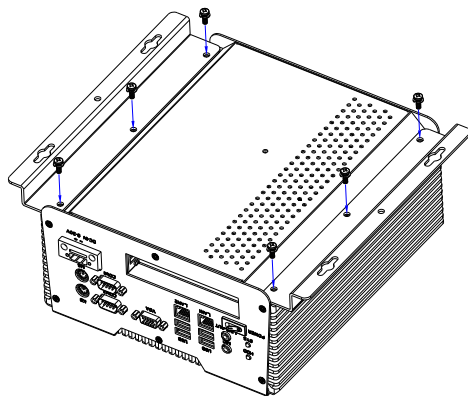


Step 7: Fasten the two screws on the front and rear panels



2.8 Wallmount Bracket Installation

Fasten the brackets with the appropriate screws.



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 against the values stored in the CMOS memory. If they do not match, the program outputs an error message. You will then need to run the BIOS setup program to set the configuration information in memory.

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

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

The AEC-6872 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 so that it retains the Setup information when the power is turned off.

Entering Setup

Power on the computer and press 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/disables quiet boot option.

Security

Set setup administrator password.

Save&Exit

Exit system setup after saving the changes.

Chapter

4

Driver Installation

The AEC-6872 comes with a CD-ROM that contains all drivers and utilities that meet your needs.

Follow the sequence below to install the drivers:

Step 1 – Install Chipset Driver

Step 2 – Install VGA Driver

Step 3 – Install Audio Driver

Step 4 – Install LAN Driver

Please read instructions below for further detailed installations.

4.1 Installation

Insert the AEC-6872 CD-ROM into the CD-ROM Drive. And install the drivers from Step 1 to Step 4 in order.

Step 1 – Install Chipset Driver

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

Step 2 – Install VGA Driver

1. Click on the **Step 2 - Intel Graphics Media Accelerator Driver** folder and select the OS your system is
2. Double click on the **Setup.exe** file located in each OS folder
3. Follow the instructions that the window shows you
4. The system will help you install the driver automatically

Step 3 – Install Audio Driver

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

Step 4 – Install LAN Driver

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

Appendix

A

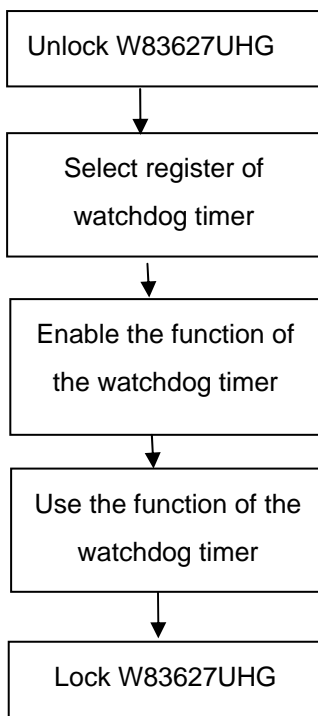
Programming the Watchdog Timer

A.1 Programming

AEC-6872 utilizes W83627UHG 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 W83627UHG config Mode
- (2) Modify the data of configuration registers

- (3) Exit the W83627UHG config Mode. Undesired result may occur if the config Mode is not exited normally.

(1) Enter the W83627UHG config Mode

To enter the W83627UHG 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 W83627UHG 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 W83627UHG Watchdog Timer Initial Program

Example: Setting 10 sec. as Watchdog timeout interval

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

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

```
#define EFER_Port 0x2E
```

```
#define Entry_Key 0x87
```

```
void main (void)
```

```
{
```

```
// Set Entry Key
```

```
outportb(EFER_Port,Entry_Key);
```

```
outportb(EFER_Port,Entry_Key);
```

```
// Enable WatchDog function
```

```
outportb(EFER_Port,0x07);
```

```
outportb(EFER_Port+1,0x08);
```

```
outportb(EFER_Port,0x30);
```

```
outportb(EFER_Port+1,0x01);
```





































```
// Set WatchDog time is 10 sec
outportb(EFER_Port,0xf6);
outportb(EFER_Port+1,0x0A);   time is 10 sec
outportb(EFER_Port,0xAA);     exit
}
```





































Appendix

B

I/O Information

B.1 I/O Address Map

Input/output (IO)	
	[00000000 - 0000000F] Direct memory access controller
	[00000000 - 00000CF7] PCI bus
	[00000010 - 0000001F] Motherboard resources
	[00000020 - 00000021] Programmable interrupt controller
	[00000022 - 0000003F] Motherboard resources
	[00000040 - 00000043] System timer
	[00000044 - 0000005F] Motherboard resources
	[00000060 - 00000060] Standard 101/102-Key or Microsoft Natural PS/2 Keyboard
	[00000061 - 00000061] System speaker
	[00000062 - 00000063] Motherboard resources
	[00000064 - 00000064] Standard 101/102-Key or Microsoft Natural PS/2 Keyboard
	[00000065 - 0000006F] Motherboard resources
	[00000070 - 00000071] System CMOS/real time clock
	[00000072 - 0000007F] Motherboard resources
	[00000080 - 00000080] Motherboard resources
	[00000081 - 00000083] Direct memory access controller
	[00000084 - 00000086] Motherboard resources
	[00000087 - 00000087] Direct memory access controller
	[00000088 - 00000088] Motherboard resources
	[00000089 - 0000008B] Direct memory access controller
	[0000008C - 0000008E] Motherboard resources
	[0000008F - 0000008F] Direct memory access controller
	[00000090 - 0000009F] Motherboard resources
	[000000A0 - 000000A1] Programmable interrupt controller
	[000000A2 - 000000BF] Motherboard resources
	[000000C0 - 000000DF] Direct memory access controller
	[000000E0 - 000000EF] Motherboard resources
	[000000F0 - 000000FF] Numeric data processor
	[00000170 - 00000177] Secondary IDE Channel
	[000001F0 - 000001F7] Primary IDE Channel
	[00000274 - 00000277] ISAPNP Read Data Port
	[00000279 - 00000279] ISAPNP Read Data Port
	[00000295 - 00000296] Motherboard resources
	[000002B0 - 000002B7] Communications Port (COM7)
	[000002B8 - 000002BF] Communications Port (COM8)
	[000002C0 - 000002C7] Communications Port (COM9)

	[000002C8 - 000002CF]	Communications Port (COM10)
	[000002E0 - 000002E7]	Communications Port (COM5)
	[000002E8 - 000002EF]	Communications Port (COM4)
	[000002F0 - 000002F7]	Communications Port (COM6)
	[000002F8 - 000002FF]	Communications Port (COM2)
	[00000376 - 00000376]	Secondary IDE Channel
	[00000378 - 0000037F]	Printer Port (LPT1)
	[000003B0 - 000003BB]	Intel(R) Graphics Media Accelerator 3150
	[000003C0 - 000003DF]	Intel(R) Graphics Media Accelerator 3150
	[000003E8 - 000003EF]	Communications Port (COM3)
	[000003F6 - 000003F6]	Primary IDE Channel
	[000003F8 - 000003FF]	Communications Port (COM1)
	[00000480 - 000004BF]	Motherboard resources
	[000004D0 - 000004D1]	Motherboard resources
	[00000778 - 0000077F]	Motherboard resources
	[00000800 - 0000087F]	Motherboard resources
	[00000A79 - 00000A79]	ISAPNP Read Data Port
	[00000D00 - 0000FFFF]	PCI bus
	[0000D000 - 0000D0FF]	Realtek RTL8168C(P)/8111C(P) PCI-E Gigabit Ethernet NIC #2
	[0000D000 - 0000DFFF]	Intel(R) ICH8 Family PCI Express Root Port 2 - 2841
	[0000E000 - 0000E0FF]	Realtek RTL8168C(P)/8111C(P) PCI-E Gigabit Ethernet NIC
	[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

Address Range	Device
[000A0000 - 000BFFFF]	Intel(R) Graphics Media Accelerator 3150
[000A0000 - 000BFFFF]	PCI bus
[1F700000 - FFFFFFFF]	PCI bus
[D0000000 - DFFFFFFF]	Intel(R) Graphics Media Accelerator 3150
[E0000000 - E000FFFF]	Realtek RTL8168C(P)/8111C(P) PCI-E Gigabit Ethernet NIC #2
[E0000000 - E00FFFFF]	Intel(R) ICH8 Family PCI Express Root Port 2 - 2841
[E0200000 - E020FFFF]	Realtek RTL8168C(P)/8111C(P) PCI-E Gigabit Ethernet NIC
[E0200000 - E02FFFFF]	Intel(R) ICH8 Family PCI Express Root Port 1 - 283F
[F0000000 - F3FFFFFF]	System board
[FE700000 - FE7FFFFF]	Intel(R) Graphics Media Accelerator 3150
[FE800000 - FE8FFFFF]	Intel(R) ICH8 Family PCI Express Root Port 2 - 2841
[FE820000 - FE820FFF]	Realtek RTL8168C(P)/8111C(P) PCI-E Gigabit Ethernet NIC #2
[FE900000 - FE9FFFFF]	Intel(R) ICH8 Family PCI Express Root Port 1 - 283F
[FE920000 - FE920FFF]	Realtek RTL8168C(P)/8111C(P) PCI-E Gigabit Ethernet NIC
[FEA00000 - FEA7FFFF]	Intel(R) Graphics Media Accelerator 3150
[FEA80000 - FEAFFFFF]	Intel(R) Graphics Media Accelerator 3150
[FEB00000 - FEB03FFF]	Microsoft UAA Bus Driver for High Definition Audio
[FEB04000 - FEB040FF]	Intel(R) ICH8 Family SMBus Controller - 283E
[FEB05000 - FEB053FF]	Intel(R) ICH8 Family USB2 Enhanced Host Controller - 2836
[FEB06000 - FEB063FF]	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
[FFE00000 - FFFFFFFF]	Motherboard resources

B.3 IRQ Mapping Chart

Interrupt request (IRQ)	
(ISA) 0	High precision event timer
(ISA) 1	Standard 101/102-Key or Microsoft Natural PS/2 Keyboard
(ISA) 3	Communications Port (COM2)
(ISA) 4	Communications Port (COM1)
(ISA) 7	Communications Port (COM3)
(ISA) 7	Communications Port (COM4)
(ISA) 8	High precision event timer
(ISA) 9	Microsoft ACPI-Compliant System
(ISA) 10	Communications Port (COM5)
(ISA) 10	Communications Port (COM6)
(ISA) 11	Communications Port (COM10)
(ISA) 11	Communications Port (COM7)
(ISA) 11	Communications Port (COM8)
(ISA) 11	Communications Port (COM9)
(ISA) 12	Microsoft PS/2 Mouse
(ISA) 13	Numeric data processor
(ISA) 14	Primary IDE Channel
(ISA) 15	Secondary IDE Channel
(PCI) 10	Intel(R) ICH8 Family SMBus Controller - 283E
(PCI) 16	Intel(R) Graphics Media Accelerator 3150
(PCI) 16	Intel(R) ICH8 Family USB Universal Host Controller - 2834
(PCI) 16	Realtek RTL8168C(P)/8111C(P) PCI-E Gigabit Ethernet NIC
(PCI) 17	Realtek RTL8168C(P)/8111C(P) PCI-E Gigabit Ethernet NIC #2
(PCI) 18	Intel(R) ICH8 Family USB Universal Host Controller - 2832
(PCI) 18	Intel(R) ICH8 Family USB2 Enhanced Host Controller - 283A
(PCI) 18	Intel(R) ICH8M 3 port Serial ATA Storage Controller - 2828
(PCI) 19	Intel(R) ICH8 Family USB Universal Host Controller - 2831
(PCI) 21	Intel(R) ICH8 Family USB Universal Host Controller - 2835
(PCI) 21	Microsoft UAA Bus Driver for High Definition Audio
(PCI) 22	Intel(R) ICH8 Family PCI Express Root Port 1 - 283F
(PCI) 23	Intel(R) ICH8 Family PCI Express Root Port 2 - 2841
(PCI) 23	Intel(R) ICH8 Family USB Universal Host Controller - 2830
(PCI) 23	Intel(R) ICH8 Family USB2 Enhanced Host Controller - 2836

B.4 DMA Channel Assignments

Direct memory access (DMA)	
4	Direct memory access controller