AEC-6924

Fanless Embedded Controller
Intel® Core™ 2 Duo Processor
1 PCI-E, 1 PCI, 1 eSATA
8 COM, 5 USB
2 DVI (DVI-I + DVI-D), LPT

AEC-6924 Manual 2nd Ed.
July 2011

Copyright Notice

Acknowledgments

Packing List

Before you begin operating your PC, please make sure that the following materials are enclosed:

- 1 AEC-6924 Embedded Controller
- 1 Phoenix Power Connector
- 2 Wallmount Brackets
- 1 Screw Package
- 1 DVI-I to CRT & DVI-D Y Cable
- 1 SATA Cable
- 1 SATA Power Cable
- 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

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.

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。

Contents

Chapter

1

General Information

1.1 Introduction

The AEC-6924 BOXER 2 Advanced Embedded Control system continues the BOXER design concept but focuses on the fast expanding Machine Automation market. The AEC-6924 can provide one PCI-Express[x1] slot and one PCI slot for expansions. Therefore AEC-6924's expandable function, compact size combined with fanless design and highly efficient heat conduction mechanism can fulfill any rugged technical application in industrial automation, factory control, test instrumentation and safety surveillance.

Outstanding Over-spec Design

Intel's® Core™ 2 Duo processor with fanless design and high performance is widely acceptable and dependable in this market. Four USB2.0, dual Gigabit Ethernet and four serial ports allow communication with diverse devices with a high transfer rate. These interfaces are fully integrated within the BOXER series and allow an upgrade to their usefulness. It is a leading-edge thermal and shock design (up to 55 degree operation and 50 G peak acceleration) and also an innovation for Machine Automation in the IPC industry. AEC-6924 plays a role in connecting all subsystems in common applications. AAEON not

only enhances your competitive value but also gives you an excellent solution for the future.

Strict Quality Control Process

AAEON retains the perfect product design and management team. Our Quality Control through multiple level experience and test has earned a good reputation in IPC field. AAEON's whole product series are subjected to high-level standards, which make them our best guarantee and assurance to customers. Excellent product quality will always be AAEON's best advertisement.

24-hour FAE System

AAEON's e-RMA and e-FAE 24-hour a day systems for all customers' prompt request was formally launched in 2005. No matter if it is a holiday or weekend; we can handle all kinds of requests and give you a satisfactory response in 10 days. AAEON is proud of our quick service and professional teamwork to provide our customers with continual support.

Great design, great value and great service are hallmarks of the AAEON BOXER embedded control PCs. There really is no other choice for your application than AAEON if you want the best performance and best value!

1.2 Features

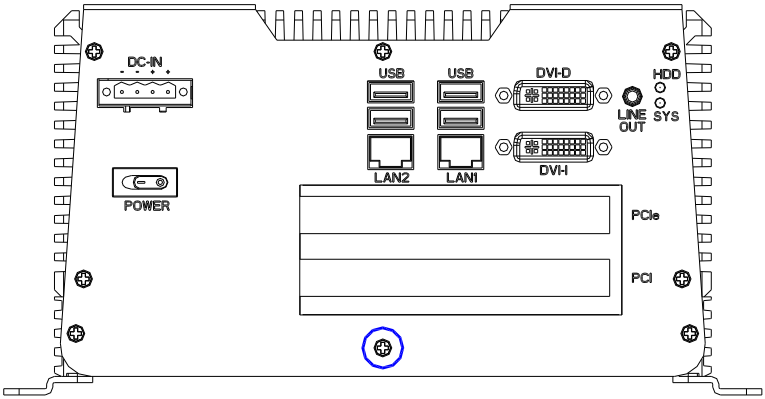
- Fanless Design
- Intel® Core™ 2 Duo Processor
- PCI-Express[x1] x 1, PCI x 1
- Wide DC Power Input Range
- Gigabit Ethernet x 2
- eSATA x 1
- DVI x 2, COM x 8, USB x 6 (1 by eSATA Connector), LPT x 1, Mini Card x 2
- ATX Power Function

1.3 Specifications

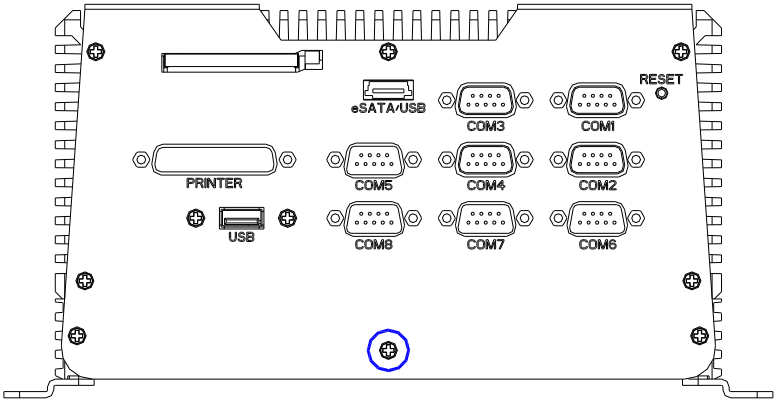
● CPU		Intel® Core™ 2 Duo Processor
● Chipset		Intel® GS45 + ICH9M
● System Memory		204-pin DDR3 SODIMM x 2, Max. 4GB
● Display Interface	VGA	By a DVI to VGA adapter
	DVI	DVI x 2, shared system memory up to 512MB/ DVMT 5.0
● Storage Device	SSD	Type 2 CompactFlash™ Slot x 1
	HDD	SATA 3.0 Gb/s HDD bay x 1
● Network	LAN	Gigabit Ethernet
● Front I/O	USB Host	4
	LAN	RJ-45 x 2
	Audio	Line-out x 1
	Others	DVI-I x 1, DVI-D x 1, Power inlet x 1, Power button x 1, SYS LED x 1, HDD LED x 1
● Rear I/O	Serial Port	RS-232 x 4, RS-232/422/485 x 4
	Others	CompactFlash™ Slot x 1, USB x 1, eSATA/USB x 1, Parallel Port x 1, Reset Button x 1
● Expansion	PCIe[x1]	1
	PCI	1
	Mini Card	2

● Indicator	Front	System LED x 1, HDD LED x 1
● Power Requirement		DC 9-48V
● System Cooling		Passive cooling
● Mounting		Wallmount
● Operating Temperature		5°F ~ 131°F (-15°C ~ 55°C)
● Storage Temperature		-4°F ~ 158°F (-20°C ~ 70°C)
● Anti-Vibration		5 g rms / 5 ~ 500Hz / operation – CFD 1 g rms / 5~ 500Hz / operation – With HDD
● Anti-Shock		50 G peak acceleration (11 msec. duration) – CFD 20 G peak acceleration (11 msec. duration) – HDD
● MTBF		50,000
● Certification	EMC	CE/FCC Class A
● Dimension (W x H x D)		8.43" x 4.73" x 9.36" (214mm x 120.2mm x 237.8mm)
● Gross Weight		15.4 lb (7 Kg)

Front Side



Rear Side

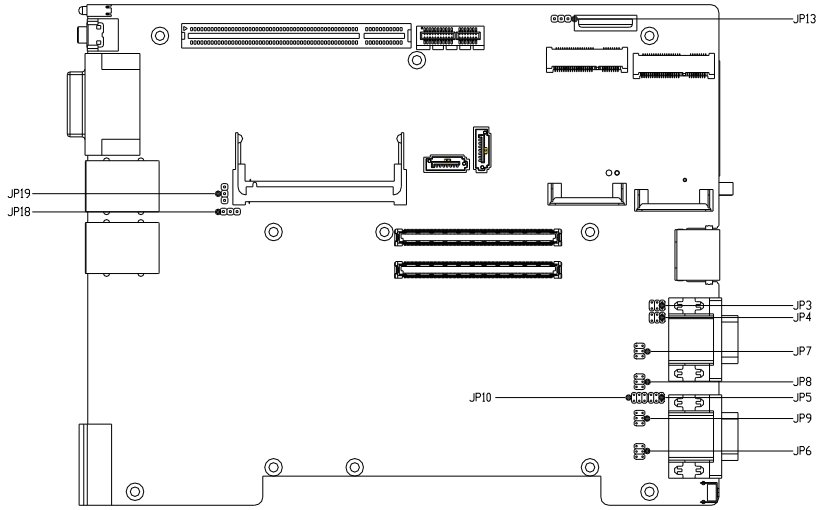


Chapter

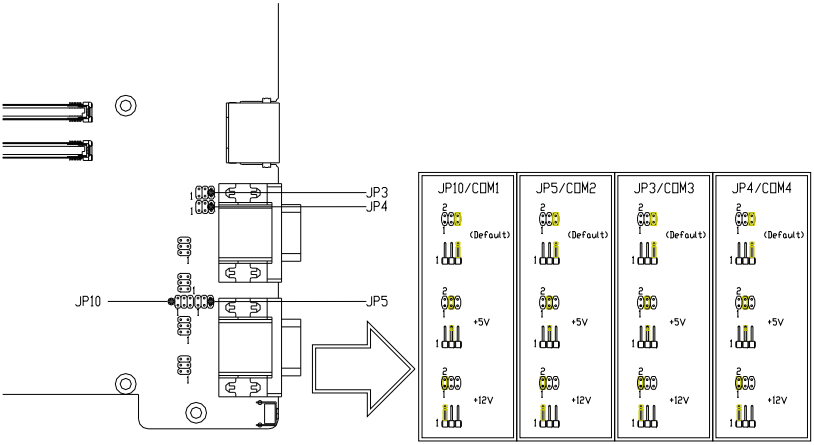
2

Hardware Installation

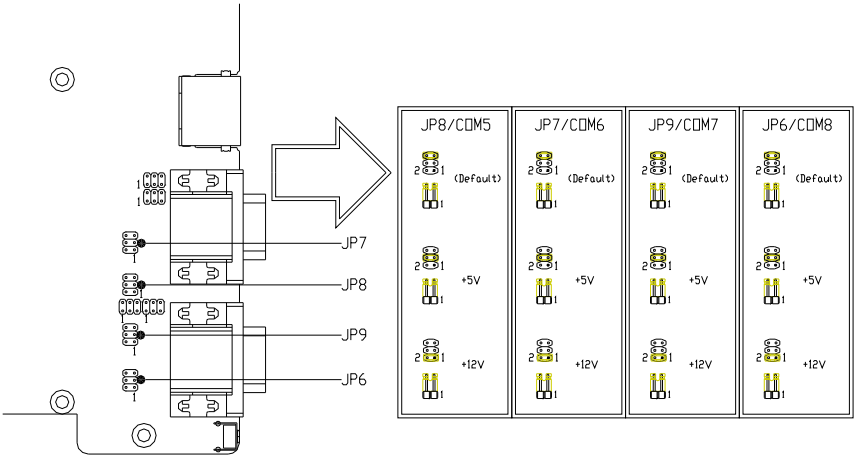
2.1 Jumpers and Connectors



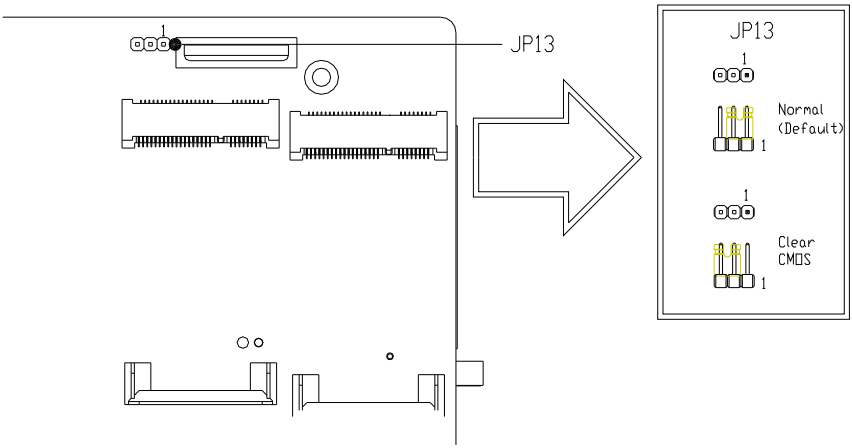
JP3/JP4/JP5/JP10



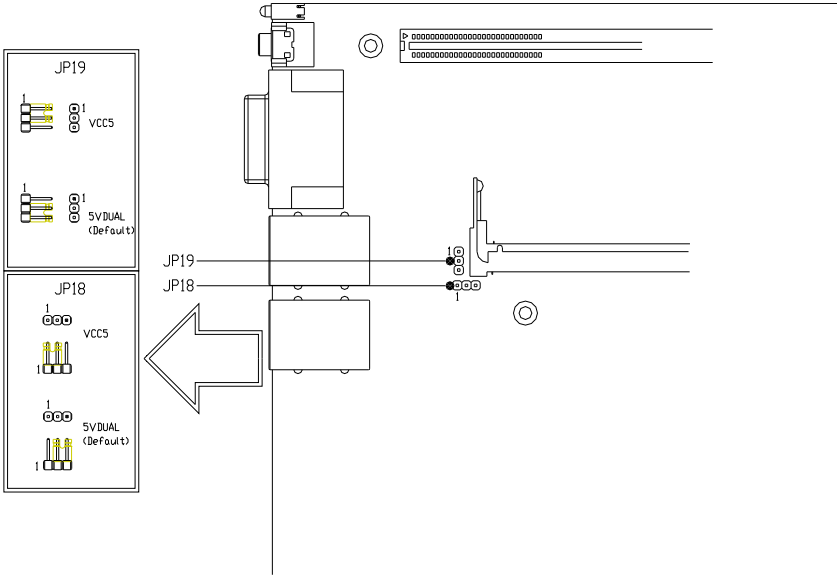
JP6/JP7/JP8/JP9



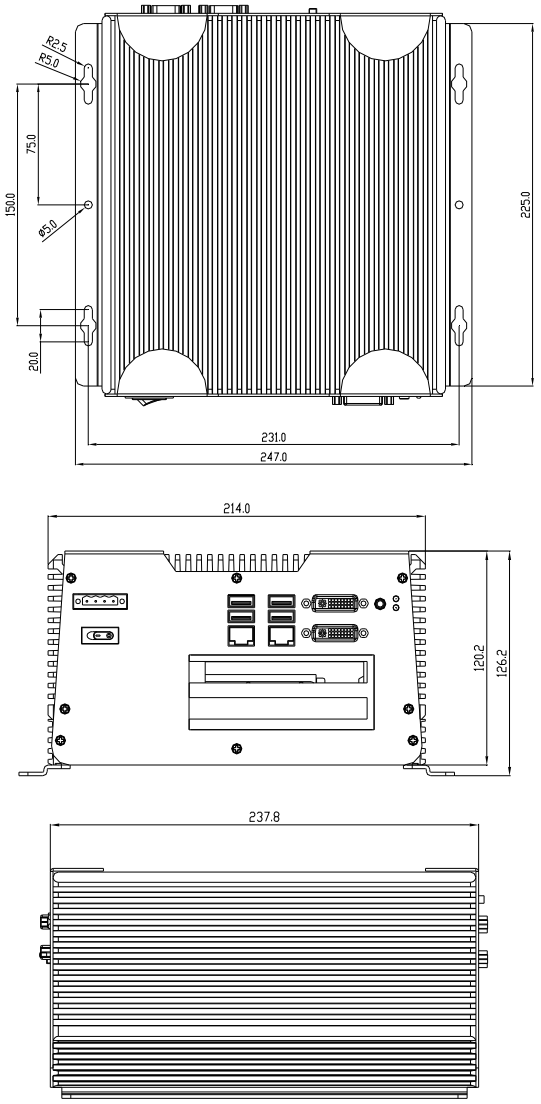
JP13



JP18/JP19


JP19
VCC5
5VDUAL
(Default)
JP18
VCC5
5VDUAL
(Default)
JP19
JP18

2.2 Dimension



2.3 COM1, COM2, COM3, COM4, COM5, COM6, COM7, COM8 Pin9 Selection (JP10, JP5, JP3, JP4, JP8, JP7, JP9, JP6)

COM1

JP10	Function
1-2	+12V
3-4	+5V
5-6	RI for COM1 (Default)

COM2

JP5	Function
1-2	+12V
3-4	+5V
5-6	RI for COM2 (Default)

COM3

JP3	Function
1-2	+12V
3-4	+5V
5-6	RI for COM3 (Default)

COM4

JP4	Function
1-2	+12V
3-4	+5V
5-6	RI for COM4 (Default)

COM5

JP8	Function
1-2	+12V
3-4	+5V
5-6	RI for COM5 (Default)

COM6

JP7	Function
1-2	+12V
3-4	+5V
5-6	RI for COM6 (Default)

COM7

JP9	Function
1-2	+12V
3-4	+5V
5-6	RI for COM7 (Default)

COM8

JP6	Function
1-2	+12V
3-4	+5V
5-6	RI for COM8 (Default)

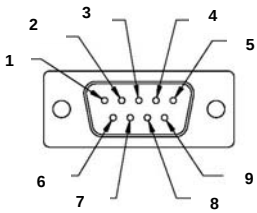
2.4 RTC Battery Selection (JP13)

JP13	Function
1-2	Normal (Default)
2-3	Clear CMOS

2.5 USB1,2 (JP18) USB3,4 (JP19)

JP18	Function
1-2	Normal→VCC5
2-3	Standby (Default)→5VDUAL
JP19	**Function**
1-2	Normal→VCC5
2-3	Standby (Default)→5VDUAL

2.6 COM1, COM2, COM3, COM4 RS-232/422/485 Serial Port Connector

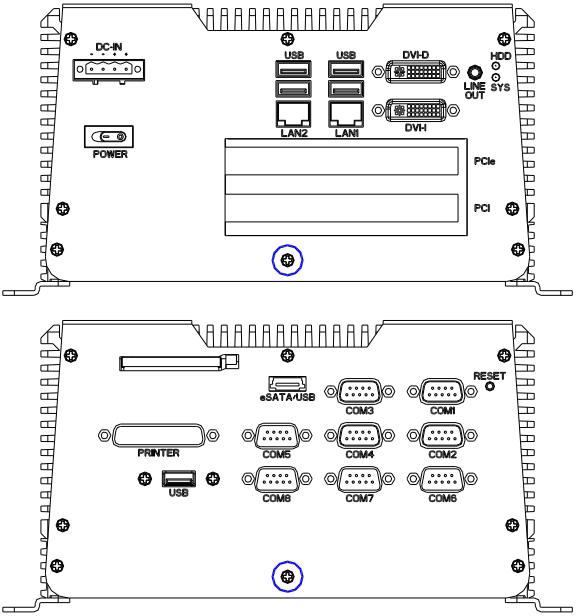


Pin	Signal	Pin	Signal
1	DCD (422TXD-/485DATA-)	2	RXD (422RXD+)
3	TXD (422TXD+/485DATA+)	4	DTR (422RXD-)
5	GND	6	DSR
7	RTS	8	CTS
9	RI		

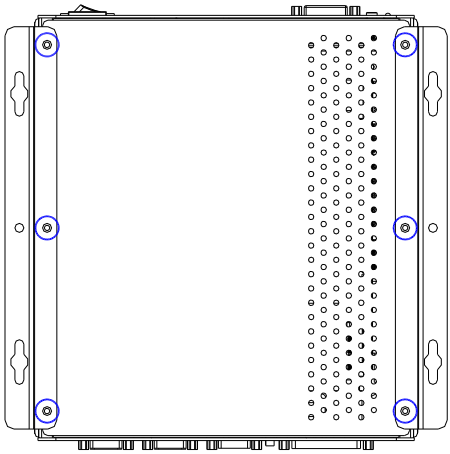
2.7 Hard Disk Drive (HDD) Installation

For Hard Disk Drive (HDD) installation, you have to disassemble the bottom lid of AEC-6924 and some components and covers in the AEC-6924.

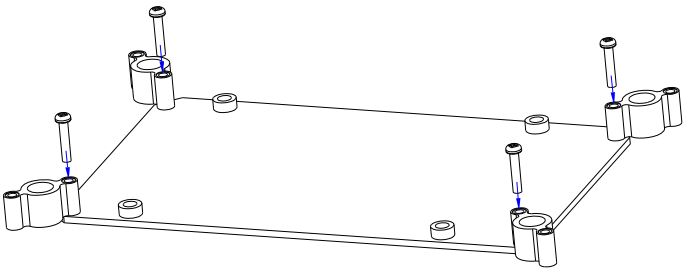
Step 1: Unfasten the two screws on the rear panel and front panel



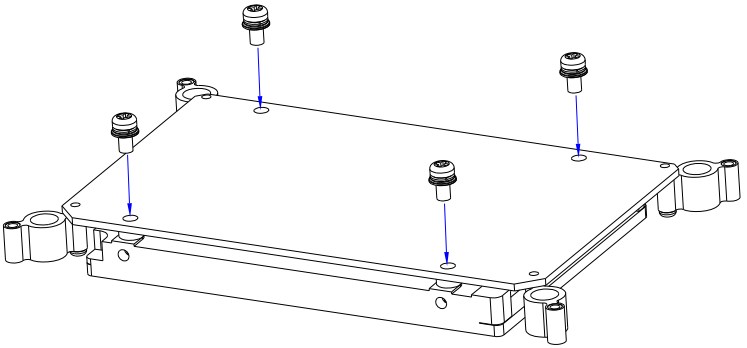
Step 2: Unfasten the six screws on the bottom lid.



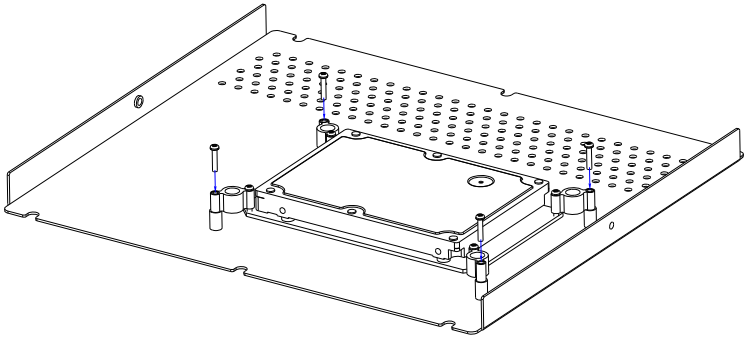
Step 3: Unfasten the four screws on the HDD bracket



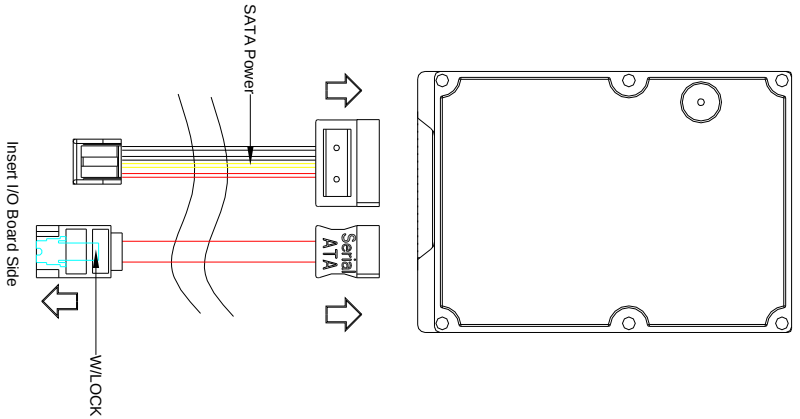
Step 4: Fasten the four screws to fix the HDD with the HDD bracket



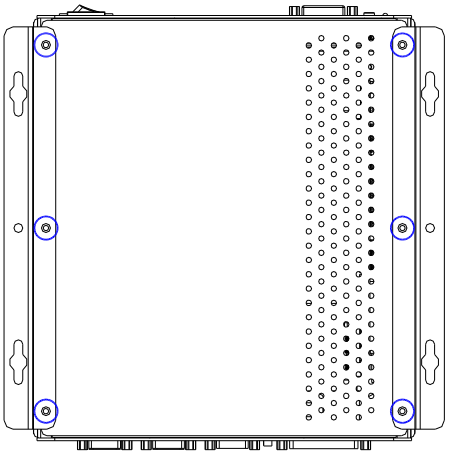
Step 5: Fasten the four screws to fix the HDD bracket with the AEC-6924 chassis



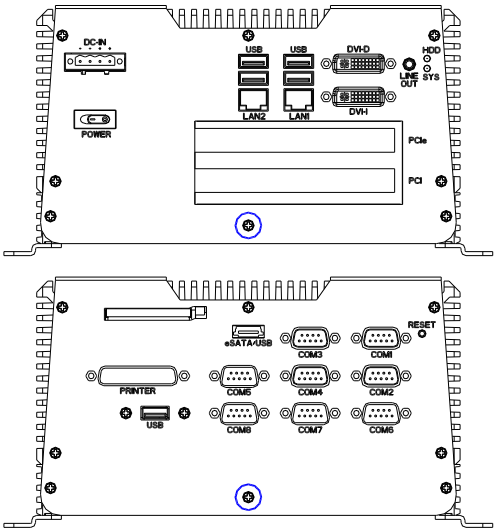
Step 6: Connect the SATA and power cables to the HDD



Step 7: Fasten the six screws on the bottom lid.

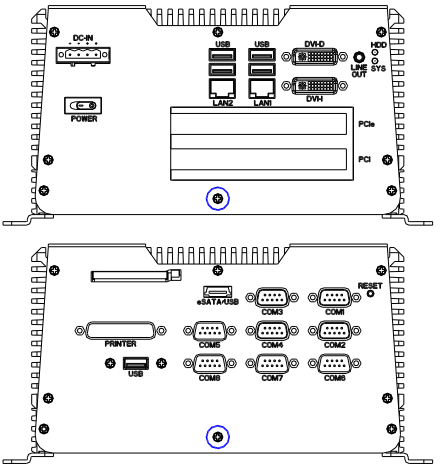


Step 8: Fasten the two screws on the rear panel and front panel

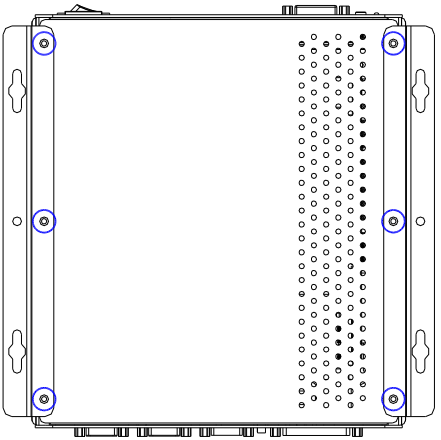


2.8 RAM Installation

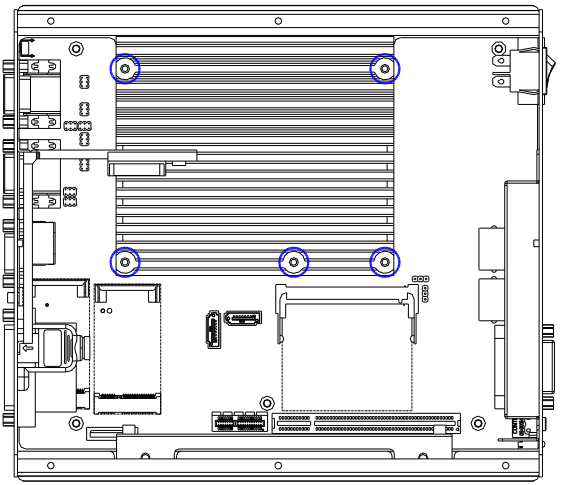
Step 1: Unfasten the screws on the rear panel and front panel



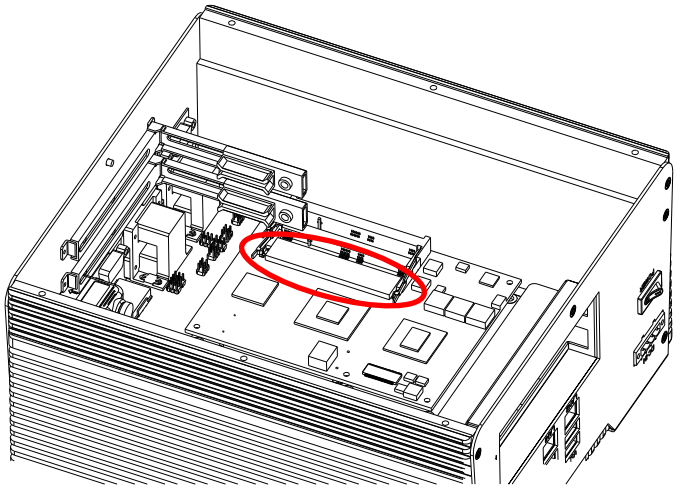
Step 2: Unfasten the six screws on the bottom lid.



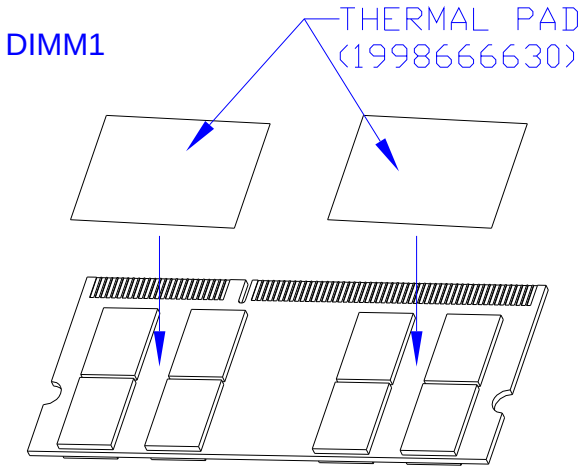
Step 3: Unfasten the five screws on the heatsink and remove the heatsink



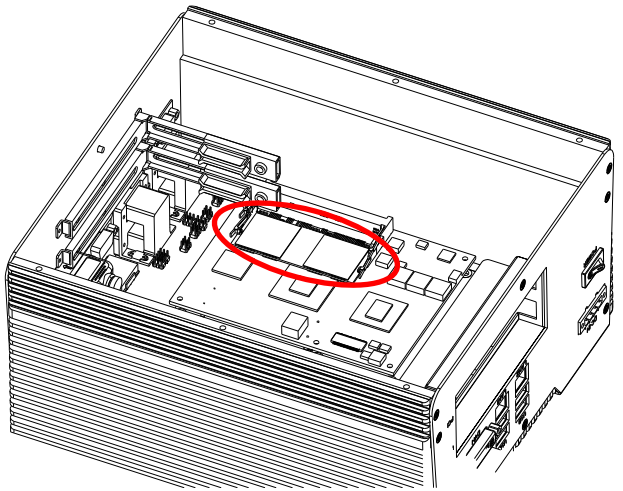
Step 4: Adhere the thermal pad on the RAM



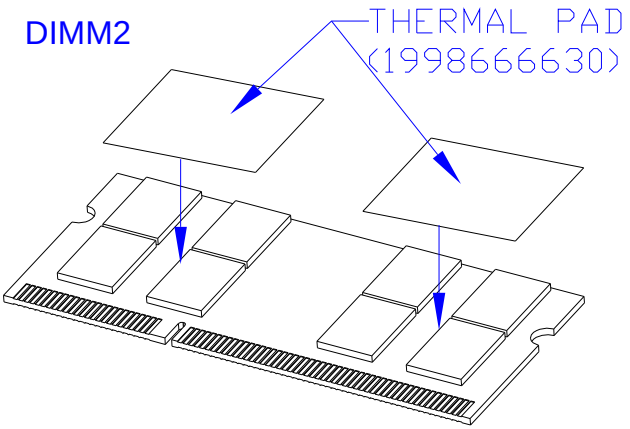
Step 5: Adhere the two thermal pads (1998666630) to the diode of facade of memory DIMM 1



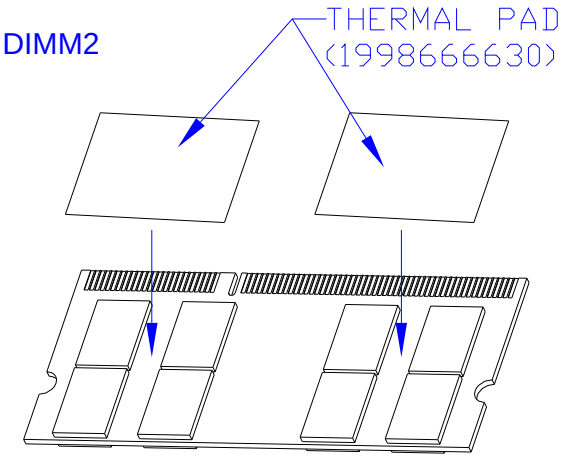
Step 6: Install the DIMM1 to the lower layer of the memory slot



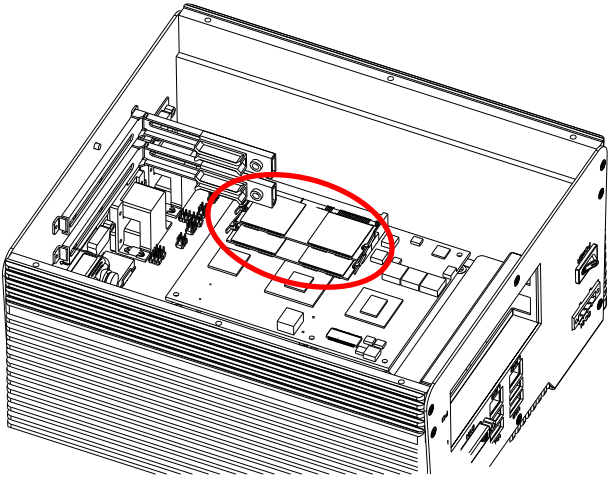
Step 7: Adhere the two thermal pads (1998666630) to the diode of facade of memory DIMM 2



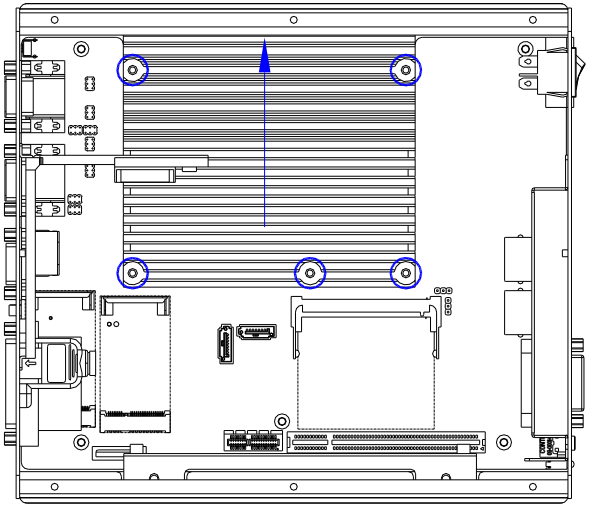
Step 8: Adhere the two thermal pads (1998666630) to the diode of other side of memory DIMM 2



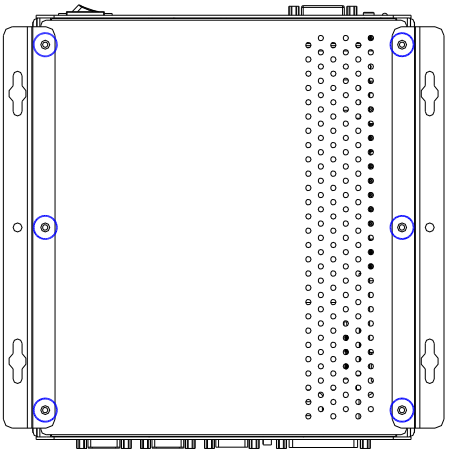
Step 9: Install the DIMM2 to the upper layer of the memory slot



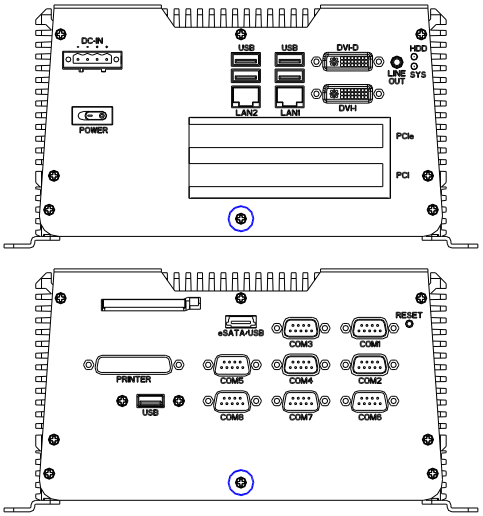
Step 10: Place the heatsink on the memory and push the heatsink against the chassis, and then fasten the five screws



Step 11: Fasten the six screws on the bottom lid.

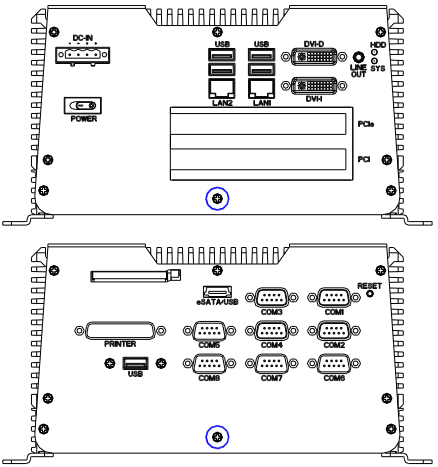


Step 12: Fasten the screws on the rear panel and front panel

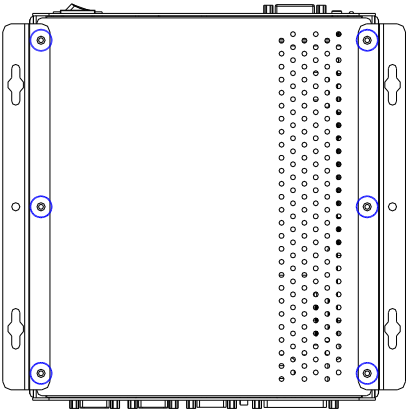


2.9 PCI & PCI-Express Card Installation

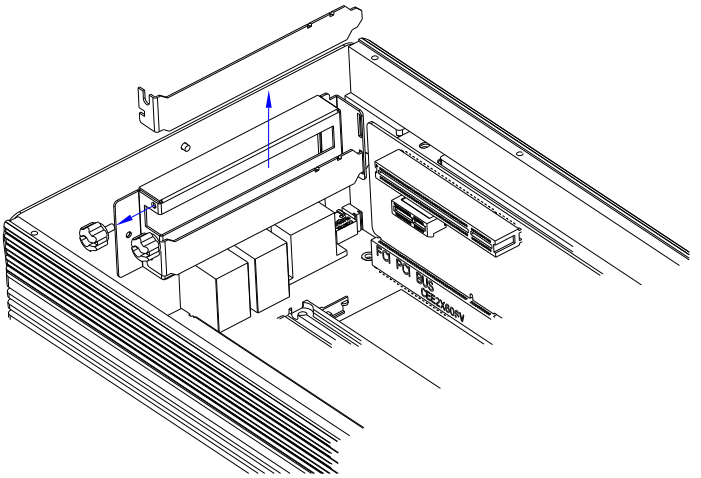
Step 1: Unfasten the screws on the rear panel and front panel



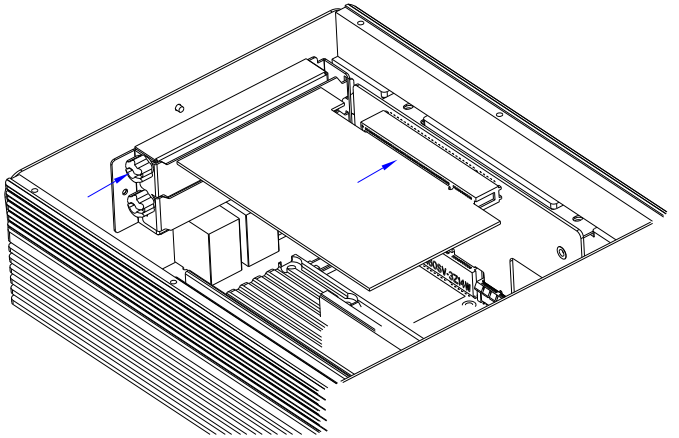
Step 2: Unfasten the six screws on the bottom lid.



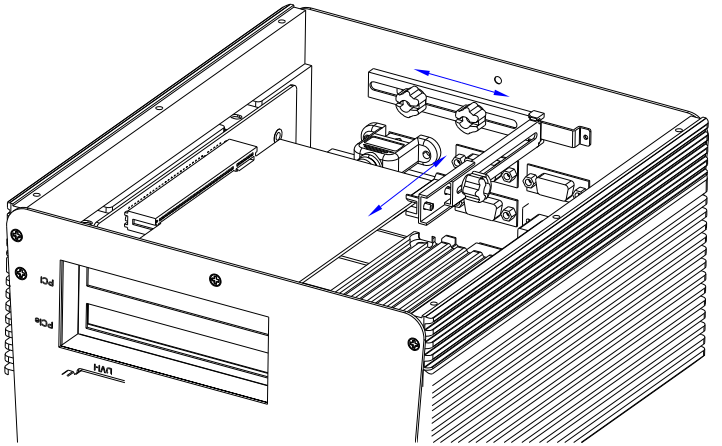
Step 3: Remove the screw with your finger and get the PCI & PCI-Express card ready to install. You should keep the shield and screw for use later.



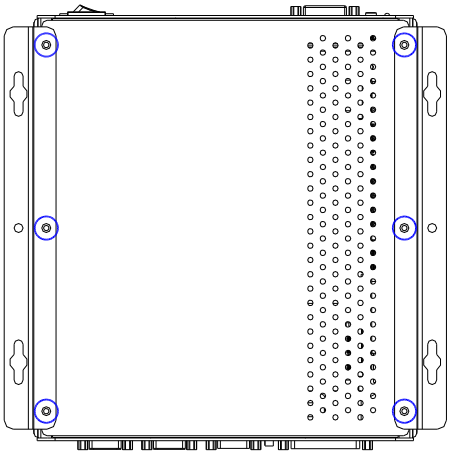
Step 4: Insert the PCI/PCI-Express card into the PCI/PCI-Express slot and reattach the screw.



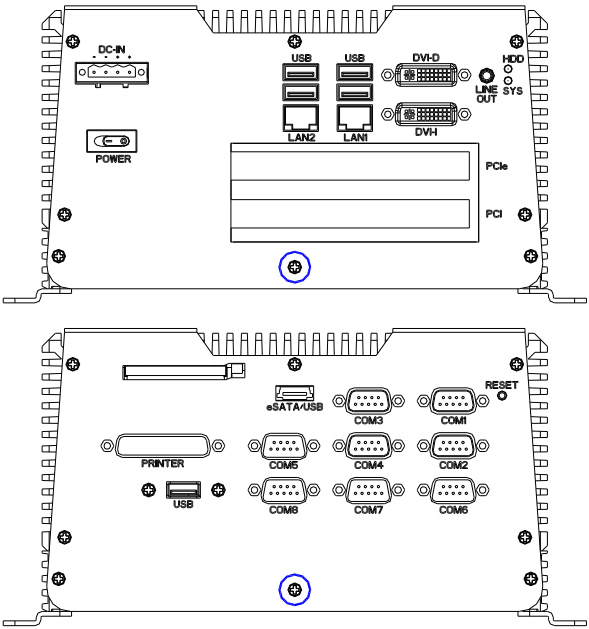
Step 5: Unfasten the screws and push the tenon to lock the PCI/PCI-Express card in position



Step 6: Close the bottom lid of the AEC-6924 and fasten six screws on bottom lid

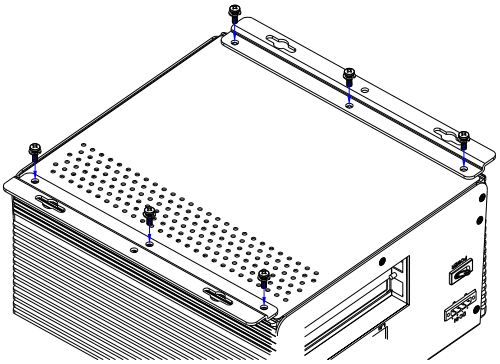


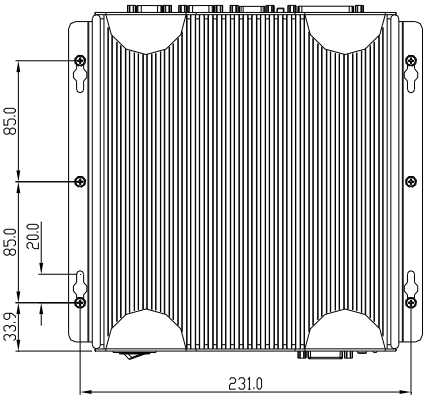
Step 7: Fasten the screws on the rear panel and front panel

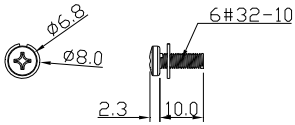


2.10 Wallmount Kit Installation

Step 1: Get the brackets ready and fasten appropriate three screws on each bracket. After fastening the two brackets on the bottom lid of AEC-6924, the wallmount kit installation is finished







Chapter

3

Award BIOS Setup

3.1 System Test and Initialization

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

Press <F1> to RESUME

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

System configuration verification

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

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

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

3.2 Award BIOS Setup

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

Entering Setup

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

Standard CMOS Features

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

Advanced BIOS Features

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

Advanced Chipset Features

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

Integrated Peripherals

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

Power Management Setup

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

PnP/PCI Configurations

This entry appears if your system supports PnP/PCI.

PC Health Status

This menu allows you to set the shutdown temperature for your system.

Load Optimized Defaults

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

Set Supervisor/User Password

Use this menu to set Supervisor/User Passwords.

Save and Exit Setup

Save CMOS value changes to CMOS and exit setup.

Exit Without Saving

Abandon all CMOS value changes and exit setup.

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

Chapter

4

Driver Installation

The AEC-6924 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 Chip Driver

Step 2 – Install VGA Driver

Step 3 – Install LAN Driver

Step 4 – Install Audio Driver

Step 5 – Install TPM Driver

Step 6 – Install eSATA Driver

4.1 Installation

Insert the AEC-6924 CD-ROM into the CD-ROM Drive. The Autorun program will run automatically. You also can choose the drivers to install from step 1 to step 6 in order as following instructions.

Step 1 – Install Chip Driver

1. Click on the ***Step 1-Chip driver*** folder and then double click on the ***Setup.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-VGA*** folder and select the OS your system is
2. Double click on the ***.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 LAN Driver

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

1. Click on the ***Step 4-Audio driver*** folder and select the OS your system is (If your system is Windows® XP, please select the folder of ***HD_Audio***; If your system is Windows® 7, please select the folder of ***Win7***)
2. Double click on the ***.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 5 – Install TPM Driver

1. Click on the ***Step 5-TPM driver*** folder and select the folder of ***TPM_DRIVER***; double click on the ***setup.exe*** file
2. After done installing the driver above, click on the folder of ***TPM_HostSW_3.0_SP2_IFX***, and then double click on the ***setup.exe*** file
3. Follow the instructions that the window shows you
4. The system will help you install the driver automatically

Step 6 – Install eSATA Driver

Before you install the eSATA driver, you have to setup the AHCI mode first.

OS installation to setup AHCI Mode

1. Copy the files below from "***Browse CD -> Step 6 – ESATA driver -> XP -> f6flpy32***" to Disk
2. Connect the USB Floppy (disk with AHCI files) to the mainboard

3. The setting procedures "Integrated Peripherals -> OnChip IDE Device -> SATA Mode -> AHCI
4. Saving & exit BIOS

Install Driver in Windows XP / 2000

New Windows XP / 2000 Installation

The following details the installation of the drivers while installing **Windows XP/ 2000.**

1. When you start installing Windows XP and older operating systems, you may encounter a message stating, “Setup could not determine the type of one or more mass storage devices installed in your system”. If this is the case, then you are already in the right place and are ready to supply the driver. If this is not the case, then press F6 when prompted at the beginning of Windows setup.
2. Press the “S” key to select “Specify Additional Device”.
3. You should be prompted to insert a floppy disk containing the Intel® AHCI driver into the A: drive.

Appendix

A

Programming the Watchdog Timer

A.1 General Information

The AEC-6924 utilizes Fintek F75111 chipset as its watchdog timer Controller.

The other Watchdog timer is set to second or minute and the range is 0 to 256 seconds or minutes.

When the timeout has occurred, that will generate a status bit to indicate it and write one will be clear.

A.2 Access Interface

The F75111 provides one serial access interface, I2C Bus, to read/write internal registers. The address of Serial Bus is configurable by using power-on trapping of standby power VBS3V. The pin 3 (GPIO13/I2C _ADDR) is multi-function pin. During the VSB3V power-on, this pin serves as input detection of logic high or logic low. This pin is default pull-down resistor with 100K ohms mapping the Serial Bus address 0x9C (1001_1100). Another Serial Bus address 0x6E (0110_1110) is set when external pull-up resistor with 10K ohms is connected in this pin.

A.3 Registers Description

Configuration and function select Register – Index 03h

Power-on default [7:0] =0000_1000b

Bit	Name	R/W	PWR	Description
7	Reserved	R/W	VSB3V	
6	IRQ_LEVEL	R/W	VSB3V	Select IRQ Polarity (Level). Set to 1, IRQ is low active and SMI# is high active. Default, the IRQ is high active and SMI# is low active.
5	IRQ_MODE	R/W	VSB3V	IRQ/SMI# mode select. 0-Level mode (IRQ mode), 1-Pulse Mode (SMI# mode). If pulse mode is selected, the active pulse is over 100us.
4-3	PIN12_MODE	R/W	VSB3V	00: GPIO12 01: LED12 IN this mode can use REG 0x06(bit5,4) to select LED frequency. 10: IRQ 11: WDTOUT11#
2	PIN11_MODE	R/W	VSB3V	0: GPIO11 1: LED11 IN this mode can use REG 0x06(bit3,2) to select LED frequency.
1-0	PIN10_MODE	R/W	VSB3V	00: GPIO10 01: LED10 IN this mode can use REG 0x06(bit1,0) to select LED frequency. 10,11: WD_OUT

Watchdog Timer Control Register – Index 36h

Power-on default [7:0] =0000_0000b

Bit	Name	R/W	PWR	Description
7	Reserved	RO	VSB3V	Reserved. Read will return 0.
6	STS_WD_TMOUT	R/W	VSB3V	Watchdog is timeout. When the watchdog is timeout, this bit will be set to one. If set to 1, write 1 will clear this bit. Write 0, no effect.

5	WD_ENABLE	R/W	VSB3V	Enable watchdog timer.
4	WD_PULSE	R/W	VSB3V	Watchdog output level or pulse. If set 0 (default), the pin of watchdog is level output. If write 1, the pin will output with a pulse.
3	WD_UNIT	R/W	VSB3V	Watchdog unit select. Default 0 is select second. Write 1 to select minute.
2	WD_HACTIVE	R/W	VSB3V	Program WD2 output level. If set to 1 and watchdog asserted, the pin will be high. If set to 0 and watchdog asserted, this pin will drive low (default).
1-0	WD_PSWIDTH			Watchdog pulse width selection. If the pin output is selected to pulse mode. This pulse width can be chosen. 00b-1m second. 01b-20m second. 10b-100m second. 11b- 4 second.

Watchdog Timer Range Register – Index 37h

Power-on default [7:0] =0000_0000b

Bit	Name	R/W	PWR	Description
7-0	WD_TIME	R/W	VSB3V	Watchdog timing range from 0~255. This unit is either second or minute programmed by the watchdog timer control register bit3.

A.4 F75111 Watchdog Timer Initial Program

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

void Chk_Ready();

#define SMBus_Port        0x500
#define I2C_Addr          0x6E

void main (void)
{
//device ID(smbus):6Eh,index:3h data:3h          //Set pin10 as WDTOUT2#
        outportb(SMBus_Port+0x04,I2C_Addr);
    delay(10);
    Chk_Ready();
    outportb(SMBus_Port+0x03,0x3);
    delay(10);
    outportb(SMBus_Port+0x05,0x3);
    delay(10);
    outportb(SMBus_Port+0x02,0x48);
    delay(10);
    Chk_Ready();
//device ID(smbus):6Eh,index:37h data:05h       //Set Watchdog Timer Rang
register to //be 5
```

```
    outportb(SMBus_Port+0x04,I2C_Addr);
  delay(10);
    Chk_Ready();
  outportb(SMBus_Port+0x03,0x37);
  delay(10);
  outportb(SMBus_Port+0x05,0x05);
  delay(10);
  outportb(SMBus_Port+0x02,0x48);
  delay(10);
  Chk_Ready();
//device ID(smbus):6Eh,index:36h data:30h      //Enable Watchdog Timer 2 and
output //a pulse when timeout.
    outportb(SMBus_Port+0x04,I2C_Addr);
  delay(10);
        Chk_Ready();
        outportb(SMBus_Port+0x03,0x36);
    delay(10);
        outportb(SMBus_Port+0x05,0x30);
        delay(10);
        outportb(SMBus_Port+0x02,0x48);
    delay(10);
        Chk_Ready();
}

void Chk_Ready()
```

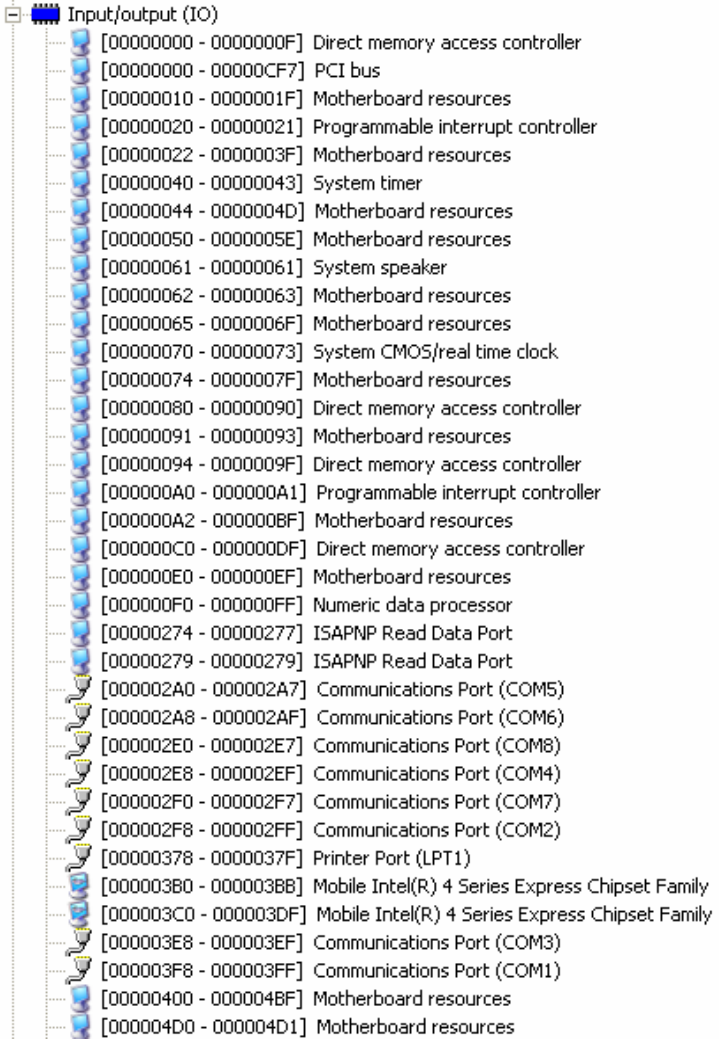
```
{
        int inputbuffer;
        int index;
        index=0;
        while(index<0x800)
        {
                inputbuffer=inportb(SMBus_Port);
                delay(10);
                outportb(SMBus_Port,0x42);
                delay(10);

        if((inputbuffer&0x02)!=0)
                return;
        if((inputbuffer&(0xbf))==0)
                return;
        if((inputbuffer&0x04)==0)
                return;
        index++;
        }
        printf("\nDevice not ready!\n");
        outportb(SMBus_Port,0xFF);
        exit(0);
}
```

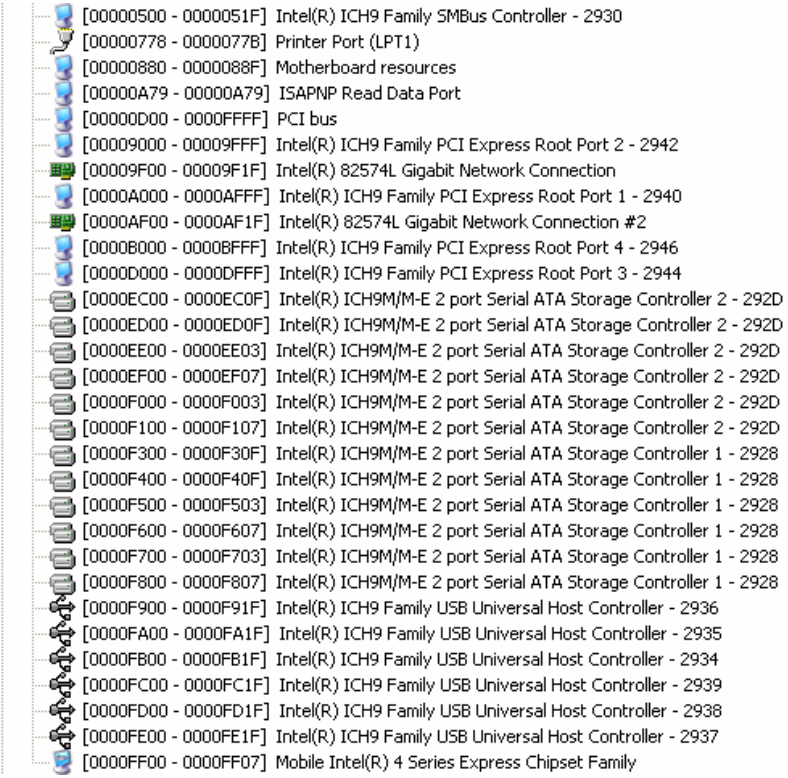
Appendix

B

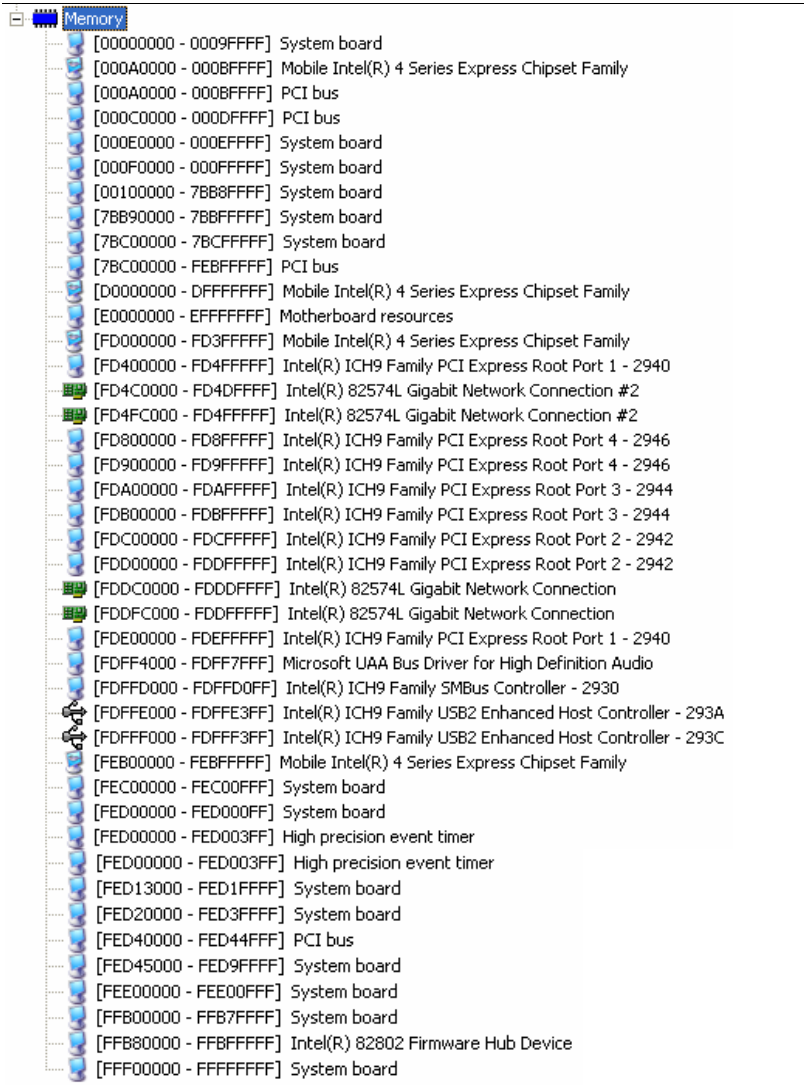
I/O Information

B.1 I/O Address Map

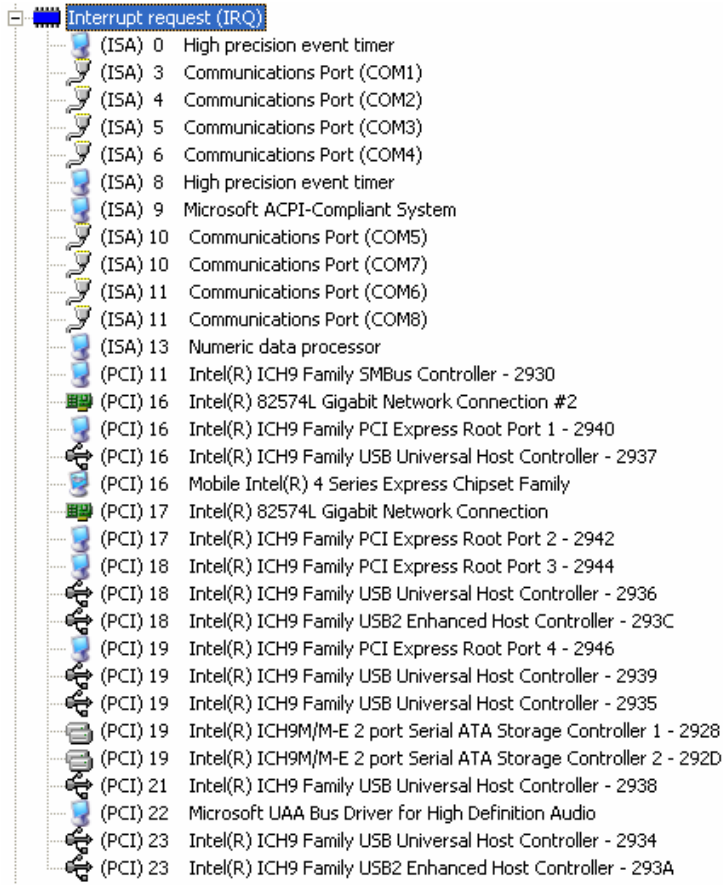



[00000500 - 0000051F] Intel(R) ICH9 Family SMBus Controller - 2930
[00000778 - 0000077B] Printer Port (LPT1)
[00000880 - 0000088F] Motherboard resources
[00000A79 - 00000A79] ISAPNP Read Data Port
[00000D00 - 0000FFFF] PCI bus
[00009000 - 00009FFF] Intel(R) ICH9 Family PCI Express Root Port 2 - 2942
[00009F00 - 00009F1F] Intel(R) 82574L Gigabit Network Connection
[0000A000 - 0000AFFF] Intel(R) ICH9 Family PCI Express Root Port 1 - 2940
[0000AF00 - 0000AF1F] Intel(R) 82574L Gigabit Network Connection #2
[0000B000 - 0000BFFF] Intel(R) ICH9 Family PCI Express Root Port 4 - 2946
[0000D000 - 0000DFFF] Intel(R) ICH9 Family PCI Express Root Port 3 - 2944
[0000EC00 - 0000EC0F] Intel(R) ICH9M/M-E 2 port Serial ATA Storage Controller 2 - 292D
[0000ED00 - 0000ED0F] Intel(R) ICH9M/M-E 2 port Serial ATA Storage Controller 2 - 292D
[0000EE00 - 0000EE03] Intel(R) ICH9M/M-E 2 port Serial ATA Storage Controller 2 - 292D
[0000EF00 - 0000EF07] Intel(R) ICH9M/M-E 2 port Serial ATA Storage Controller 2 - 292D
[0000F000 - 0000F003] Intel(R) ICH9M/M-E 2 port Serial ATA Storage Controller 2 - 292D
[0000F100 - 0000F107] Intel(R) ICH9M/M-E 2 port Serial ATA Storage Controller 2 - 292D
[0000F300 - 0000F30F] Intel(R) ICH9M/M-E 2 port Serial ATA Storage Controller 1 - 2928
[0000F400 - 0000F40F] Intel(R) ICH9M/M-E 2 port Serial ATA Storage Controller 1 - 2928
[0000F500 - 0000F503] Intel(R) ICH9M/M-E 2 port Serial ATA Storage Controller 1 - 2928
[0000F600 - 0000F607] Intel(R) ICH9M/M-E 2 port Serial ATA Storage Controller 1 - 2928
[0000F700 - 0000F703] Intel(R) ICH9M/M-E 2 port Serial ATA Storage Controller 1 - 2928
[0000F800 - 0000F807] Intel(R) ICH9M/M-E 2 port Serial ATA Storage Controller 1 - 2928
[0000F900 - 0000F91F] Intel(R) ICH9 Family USB Universal Host Controller - 2936
[0000FA00 - 0000FA1F] Intel(R) ICH9 Family USB Universal Host Controller - 2935
[0000FB00 - 0000FB1F] Intel(R) ICH9 Family USB Universal Host Controller - 2934
[0000FC00 - 0000FC1F] Intel(R) ICH9 Family USB Universal Host Controller - 2939
[0000FD00 - 0000FD1F] Intel(R) ICH9 Family USB Universal Host Controller - 2938
[0000FE00 - 0000FE1F] Intel(R) ICH9 Family USB Universal Host Controller - 2937
[0000FF00 - 0000FF07] Mobile Intel(R) 4 Series Express Chipset Family

B.2 Memory Address Map



B.3 IRQ Mapping Chart



B.4 DMA Channel Assignments