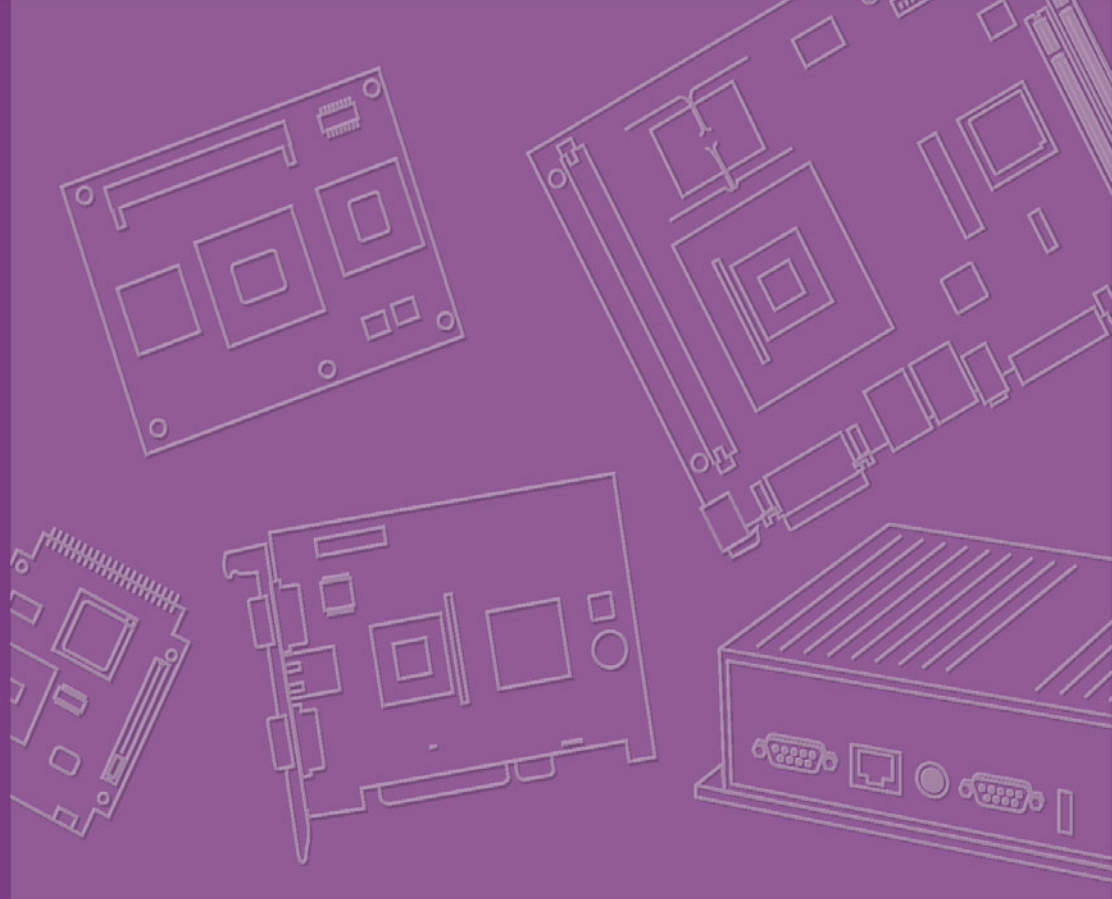




User Manual



# ACP-2010MB

2U-High Rackmount Chassis for  
ATX / MicroATX Motherboard

*Trusted ePlatform Services*

**ADVANTECH**

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## Acknowledgements

The ACP-2010, AIMB-764, AIMB-763, AIMB-762, AIMB-760, AIMB-750, AIMB-744, AIMB-742, AIMB-740, AIMB-564, AIMB-562, AIMB-560, AIMB-556, AIMB-554, AIMB-552, AIMB-542, are trademarks of Advantech Co., Ltd. All other product names or trademarks are the properties of their respective owners.

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# Safety Instructions

1. Read these safety instructions carefully.
2. Keep this user manual for later reference.
3. Disconnect this equipment from AC outlet before cleaning. Do not use liquid or spray detergents for cleaning.
4. For pluggable equipment, the power outlet shall be installed near the equipment and shall be easily accessible.
5. Keep this equipment away from humidity.
6. Put this equipment on a reliable surface during installation. Dropping it or letting it fall could cause damage.
7. Do not leave this equipment in an environment unconditioned where the storage temperature under 0° C (32° F) or above 40° C (104° F), it may damage the equipment.
8. The openings on the enclosure are for air convection hence protect the equipment from overheating. **DO NOT COVER THE OPENINGS.**
9. Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.
10. Place the power cord in a way that people can not step on it. Do not place anything over the power cord. The voltage and current rating of the cord should be greater than the voltage and current rating marked on the product.
11. All cautions and warnings on the equipment should be noted.
12. If the equipment is not used for a long time, disconnect it from the power source to avoid being damaged by transient over-voltage.
13. Never pour any liquid into ventilation openings. This could cause fire or electrical shock.
14. Never open the equipment. For safety reasons, the equipment should be opened only by qualified service personnel.
15. 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 user manual.
  - e. The equipment has been dropped and damaged.
  - f. The equipment has obvious signs of breakage.
16. **CAUTION:** The computer is provided with a battery-powered real-time clock circuit. There is a danger of explosion if battery is incorrectly replaced. Replace only with same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.
17. **THE COMPUTER IS PROVIDED WITH CD DRIVES COMPLY WITH APPROPRIATE SAFETY STANDARDS INCLUDING IEC 60825.**

<p>CLASS 1 LASER PRODUCT KLASSE 1 LASER PRODUKT</p>
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- 
18. This device complies with Part 15 of the 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.
  19. CAUTION: Always completely disconnect the power cord from your chassis whenever you work with the hardware. Do not make connections while the power is on. Sensitive electronic components can be damaged by sudden power surges.
  20. CAUTION: Always ground yourself to remove any static charge before touching the motherboard, backplane, or add-on cards. Modern electronic devices are very sensitive to static electric charges. As a safety precaution, 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.
  21. CAUTION: Any unverified component could cause unexpected damage. To ensure the correct installation, please always use the components (ex. screws) provided with the accessory box.

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To ensure you get the full benefit of our services, please follow the instructions below carefully.

### Technical support

We want you to get the best performance possible from your products. If you run into technical difficulties, we are here to help. For the most frequently asked questions, you can easily find answers in your product documentation. These answers are normally a lot more detailed than the ones we can give over the phone.

Please consult this manual first. If you still cannot find the answer, gather all the information or questions that apply to your problem, and with the product close at hand, call your dealer. Our dealers are well trained and ready to give you the support you need to get the most from your Advantech products. In fact, most problems reported are minor and can be easily solved over the phone.

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Advantech warrants to you, the original purchaser, that each of its products will be free from defects in materials and workmanship for two years from the date of purchase.

This warranty does not apply to any products which have been repaired or altered by persons other than repair personnel authorized by Advantech, or which have been subject to misuse, abuse, accident or improper installation. Advantech assumes no liability under the terms of this warranty as a consequence of such events.

Because of Advantech's high quality-control standards and rigorous testing, most of our customers never need to use our repair service. If an Advantech product is defective, it will be repaired or replaced at no charge during the warranty period. For out-of-warranty repairs, you will be billed according to the cost of replacement materials, service time and freight. Please consult your dealer for more details.

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2. Call your dealer and describe the problem. Please have your manual, product, and any helpful information readily available.
3. If your product is diagnosed as defective, obtain an RMA (return merchandise authorization) number from your dealer. This allows us to process your return more quickly.
4. Carefully pack the defective product, a fully-completed Repair and Replacement Order Card and a photocopy proof of purchase date (such as your sales receipt) in a shippable container. A product returned without proof of the purchase date is not eligible for warranty service.
5. Write the RMA number visibly on the outside of the package and ship it prepaid to your dealer.

---

## Initial Inspection

When you open the carton, please make sure that the following materials have been shipped:

- ACP-2010MB Chassis
- User Manual
- Warranty Card
- Accessory box with a package of screws (for fastening the motherboard, disk drives, ears and handles, etc.), a pair of keys, a plastic post, a pair of ears and handles.

If any of these items are missing or damaged, contact your distributor or sales representative immediately. We have carefully inspected the ACP-2010MB mechanically and electrically before shipment. It should be free of marks and scratches and in perfect working order upon receipt. As you unpack the ACP-2010MB, check it for signs of shipping damage. (For examples: box damage, scratches, dents, etc.) If it is damaged or it fails to meet the specifications, notify our service department or your local sales representative immediately. Also, please notify the carrier. Retain the shipping carton and packing material for inspection by the carrier. After inspection, we will make arrangements to repair or replace the unit.

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# Chapter 1

## General Information

This chapter provides general information about the ACP-2010MB.

Sections include:

- Introduction
- Specifications
- Power supply options
- Environment specifications
- Dimension diagram

---

## 1.1 Introduction

The ACP-2010MB is a 2U-high rackmount industrial computer chassis.

It meets a variety of application needs for filing, printing, e-mails and web serving. This powerful computing platform is suitable for mission-critical computer telephony applications, industrial automation, and factory management. A wide range of standard computing peripherals can be integrated with the chassis to meet different application needs for operation under harsh conditions 24 hours a day, 7 days a week.

## 1.2 Specifications

- **Construction:** Heavy-duty steel
- **Disk Drive Capacity:** One 5.25" disk drive bay and three 3.5" disk drive bay (for FDD or internal HDD)
- **LED Indicators on Front Panel:** Bi-color LEDs (green/red) for Power, Temperature, and Fan status; single-color LEDs (green) for HDD activity.
- **Switch and Buttons on Front Panel:** Power switch, System Reset button and Alarm Reset button.
- **Front I/O Interfaces:** Dual USB ports and PS/2 connector behind the door
- **Rear I/O Interfaces:** Reserved two 9-pin D-SUB openings
- **Security Protection:** The storage system, power switch, system reset button and alarm reset button are all behind the lockable door.
- **Cooling System:** Two 8 cm x 8 cm (47 CFM) easy-to-maintain cooling fans.
- **Air Filters:** Two easily maintained reusable filters near the front of the system fan and behind the front door.
- **Weight:** 10.7 kg (23.5 lbs)
- **Dimensions (W x H x D):** 482 x 88 x 480 mm (19" x 3.46" x 18.9")

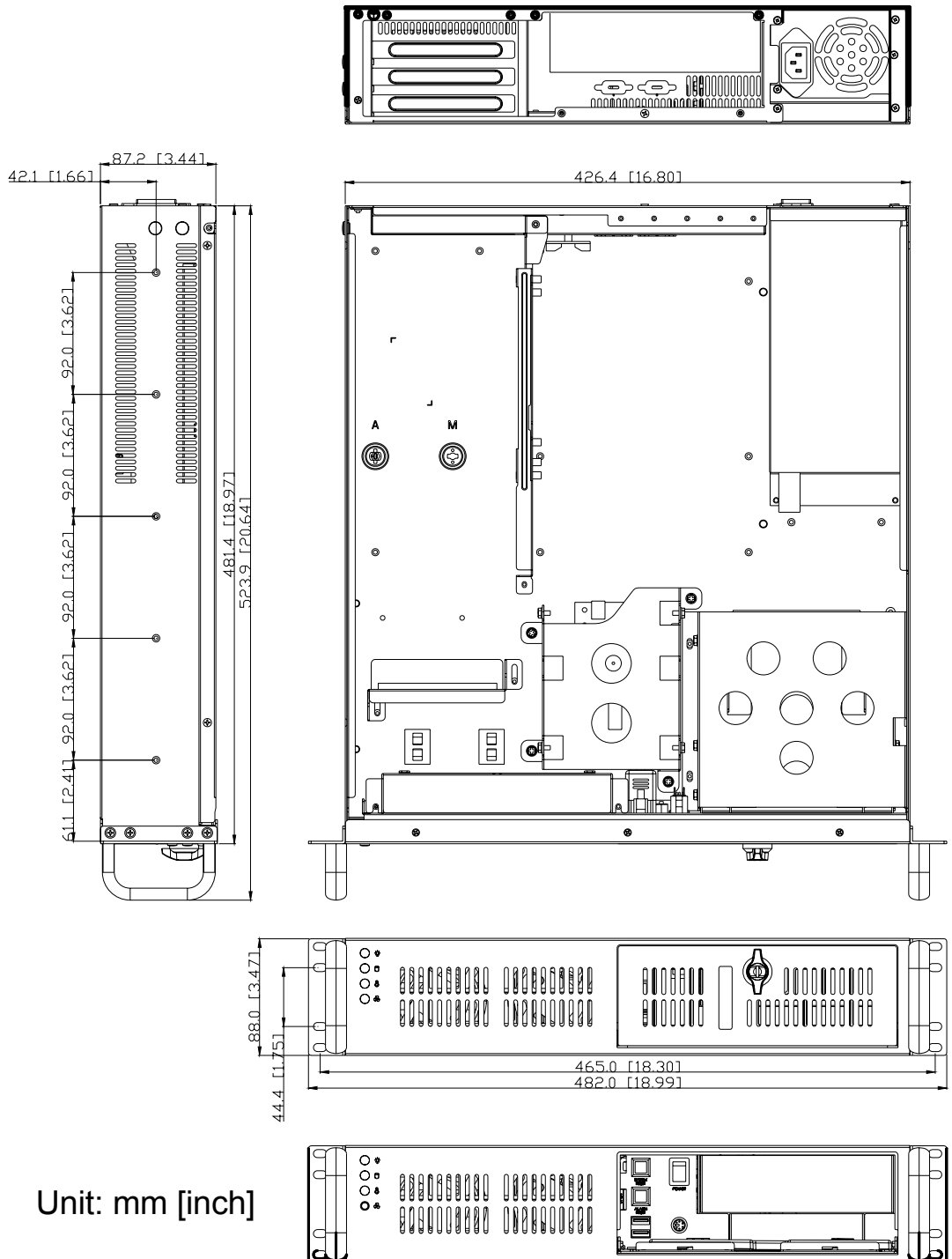
## 1.3 Power Supply Options

Table 1.1: Power supply options		
Model Name	1757000007G	1757000105G
Watts	300 W (ATX, PFC) (single)	400 W (ATX, PFC) (single)
Input rating	100 ~ 240 Vac (Full range)	100 ~ 240 Vac (Full range)
Output voltage	+5 V @ 35 A, +3.3 V @ 20 A, +12 V @ 16 A, -5 V @ 0.5 A, -12 V @ 1 A, +5 Vsb @ 2 A	+5 V @ 25 A, +3.3 V @ 20 A, +12 V @ 28 A, -5 V @ 0.5 A, -12 V @ 0.5 A, +5 Vsb @ 2 A
Minimum load	+5 V @ 3 A, +3.3 V @ 1 A, +12 V @ 2 A, -5 V @ 0.05 A, -12 V @ 0.05 A, +5 Vsb @ 0.1 A	+5 V @ 3 A, +3.3 V @ 1 A, +12 V @ 2 A, +5 Vsb @ 0.1 A
MTBF	97,800 hours @ 25° C	100,000 hours @ 25° C
Safety	UL/TUV/CB/CCC	UL/TUV/CB/CCC

## 1.4 Environmental Specifications

Table 1.2: Environmental specifications		
Environment	Operating	Non-operating
Temperature	0 to 40° C (32 to 104° F)	-20 to 60° C (-4 to 140° F)
Humidity	10 to 85% @ 40° C, <b>non-condensing</b>	10 to 95% @ 40° C, <b>non-condensing</b>
Vibration	1 Grms	2 G
Shock	10 G with 11 ms duration, half sine wave	30 G
Safety	CE compliant	

# 1.5 Dimension Diagram



Unit: mm [inch]

Figure 1.1 Dimension Diagram

# Chapter 2

## System Setup

This chapter introduces the installation process.

Sections include:

- Installing a motherboard
- Installing a riser card or add-on cards
- Installing disk drives
- Attaching the ears and handles

The following procedures instruct users to install a motherboard, add-on cards, and disk drives into the ACP-2010MB. Refer to Appendix A, the Exploded Diagram and the Parts List for more detailed information about parts for the ACP-2010MB.

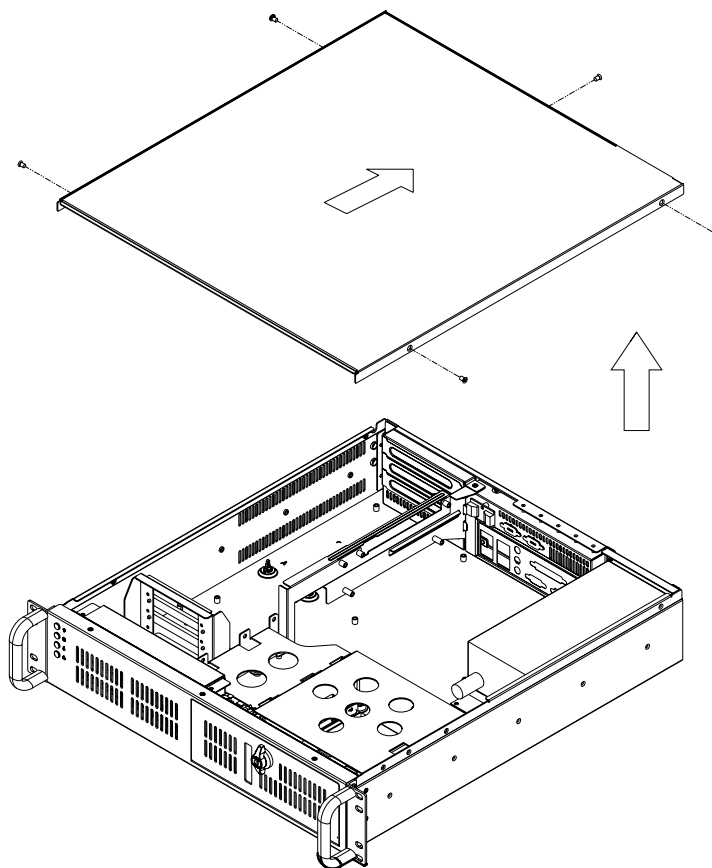
**Note!** *Use caution when installing or operating the components with the chassis open. Be sure to turn off the power, unplug the power cord and ground yourself by touching the metal chassis before you handle any components inside the machine.*



## 2.1 Removing the Top Cover

To remove the top cover, please proceed as shown below.

1. Loosen five screws on the rear and both sides of the top cover.
2. Pull the top cover backwards and then lift it up.




**Figure 2.1 Removing the chassis top cover**

## 2.2 Installing the Motherboard

The ACP-2010MB can support an ATX / MicroATX motherboard with up to three add-on cards via the expanded riser card, or seven low profile add-on cards via the optional special rear I/O bracket.

To install the motherboard, please proceed as follows:

**Note!**  Use caution when installing a motherboard. We highly recommend choosing a CPU cooler which is lower than 67 mm to avoid component interference between the motherboard and the chassis, and to ensure good air flow inside the chassis.

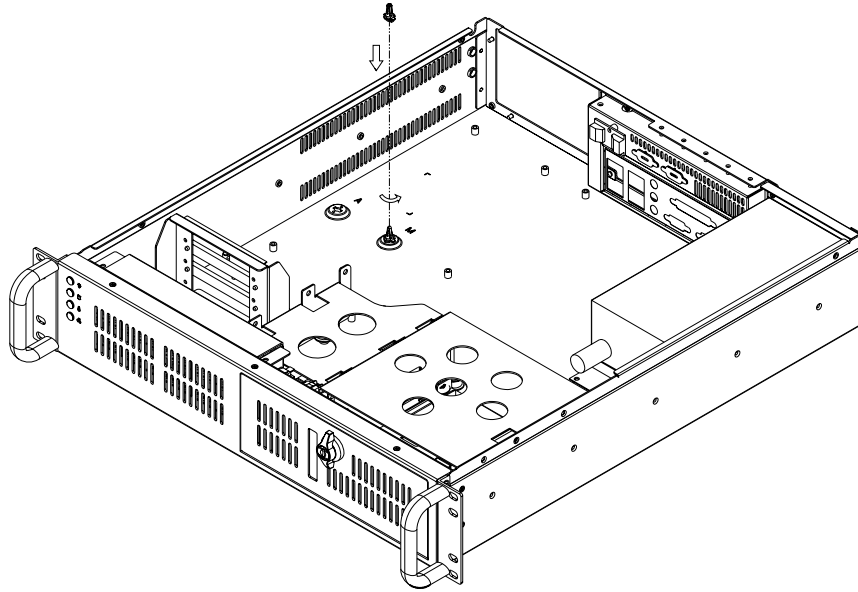
1. Remove the card holder by loosening the two screws.
2. A yellow label is located inside of the chassis bottom. (see Figure 2.2) The label shows the plastic post locations for attaching specific Advantech motherboards.

Model	Mark	
	A	M
ATX motherboard	✱	
MicroATX motherboard		✱
Special: AIMB-744 AIMB-750 AIMB-760		

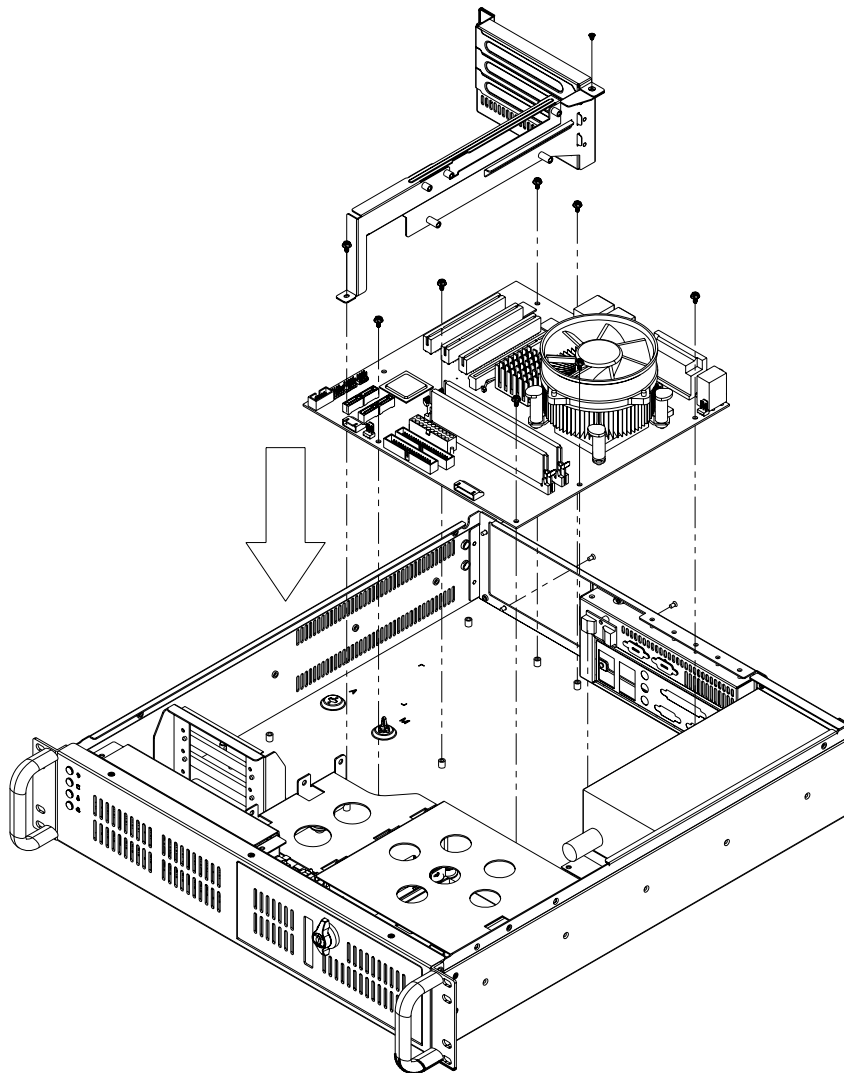
The plastic post is in the accessory box. Be sure to attach the post onto the correct location.

**Figure 2.2 Yellow label indicating plastic post locations**

3. Users can find the plastic post in the accessory box. Insert the plastic post to the correct location and then rotate counterclockwise to fasten it onto the chassis (see Figure 2.3).
4. Attach the motherboard I/O shielding onto the rear plate first. Then fasten the motherboard onto the chassis (see Figure 2.4).
5. If you don't need to install a riser card and an add-on card, return the card holder to its original position and fasten it.
6. Connect the 20-pin (or 24-pin) ATX power connector and the 4-pin +12 V power connector from the power supply to the motherboard
7. Connect the 9-pin USB wire, PS/2 wire, Power switch wire, and the System Reset switch wire from the chassis to the motherboard.



**Figure 2.3 Fasten the plastic post**



**Figure 2.4 Installing a motherboard**



## 2.3 Installing a Riser Card and Add-on Cards

The ACP-2010MB supports up to three add-on cards via the riser card. To install the riser card and one or more add-on cards, please proceed as follows:

1. Fasten the riser card to the riser card holder with the four screws. Then insert this unit into the slot on the motherboard. (See Figure 2.5.)
2. Remove the corresponding I/O bracket attached to the rear plate of the chassis. Insert an add-on card vertically into the proper slot on the riser card. For full-length cards, please make sure that the card bracket has been inserted properly and the other edge of the card has been inserted into the plastic guiding fillister. Then fasten the screws on the top of the I/O bracket. (see Figure 2.6)
3. Repeat Step 2 if there is more than one add-on card to be installed.
4. Replace the riser card holder and fasten it onto the chassis.

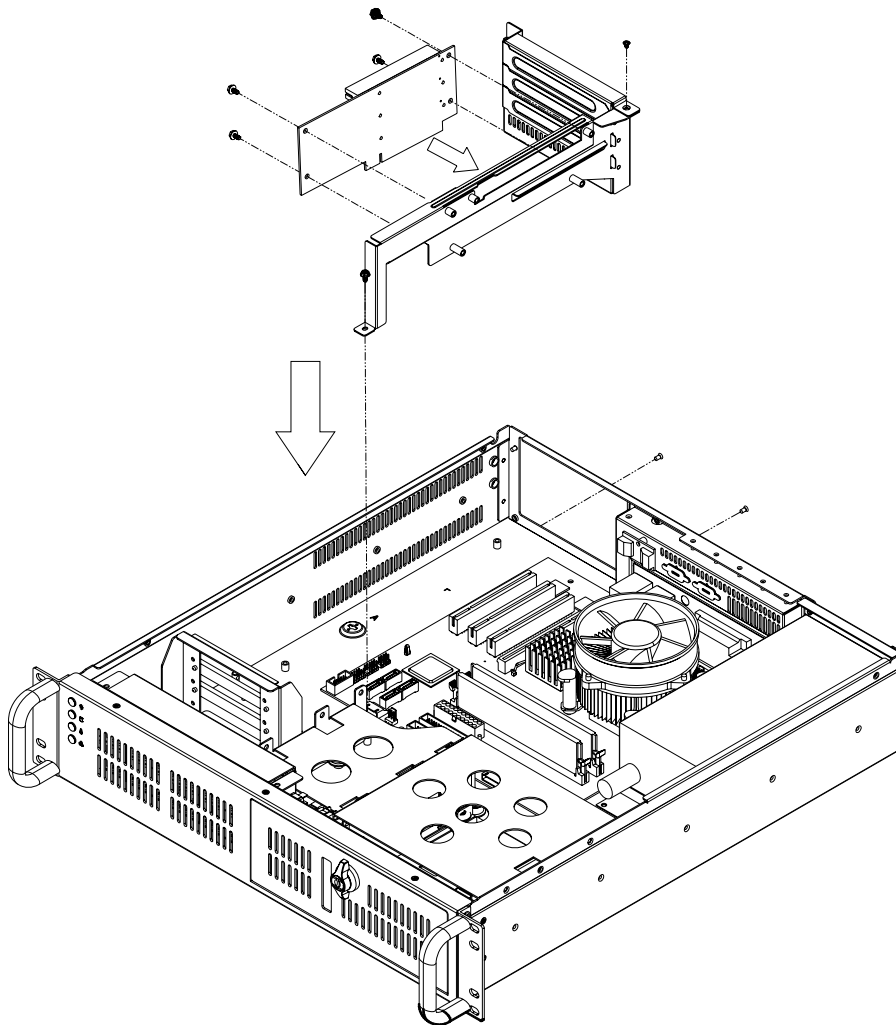
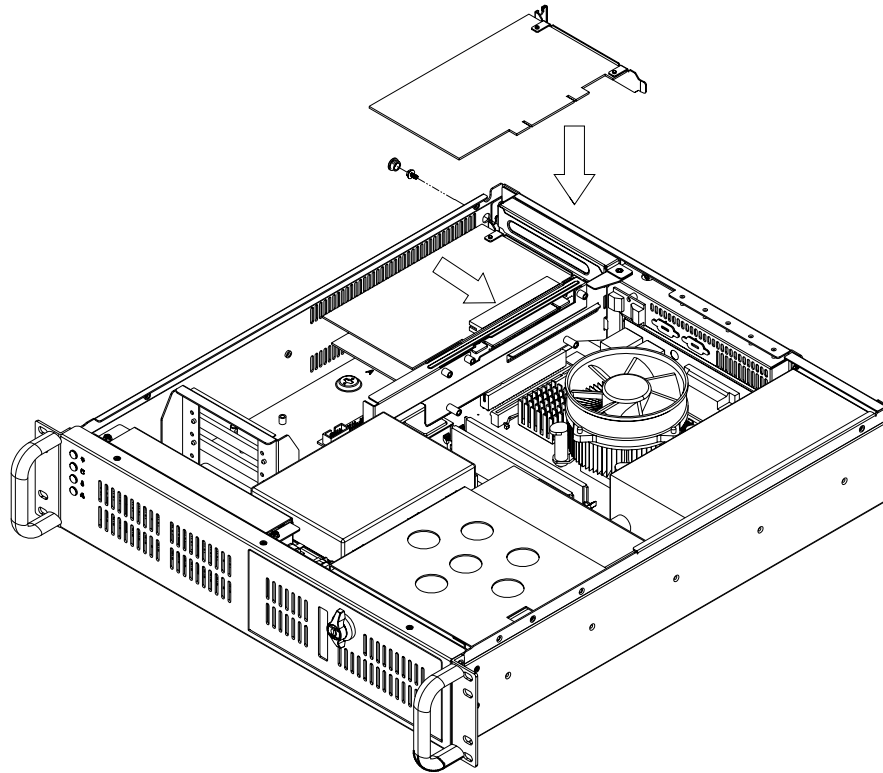


Figure 2.5 Installing a riser card



**Figure 2.6** Installing an add-on card

**Note!** *These riser cards are specially designed to support Advantech AIMB-7XX and AIMB-5XX series motherboards. There may be compatibility issues if used with other vendor's motherboards.*



If you have the ACP-2010MB with the low-profile rear I/O bracket, then simply install the low-profile add-on card to the selected PCI/PCIe slot on the motherboard, and fasten the card securely.

## 2.4 Installing Disk Drives

The ACP-2010MB supports one 5.25" optical disk drive and three 3.5" disk drives (one FDD and two internal HDDs).

To install the 3.5" internal HDD, 5.25" optical disk drive and the 3.5" FDD, please follow these steps for installation:

1. To install the 3.5" internal HDD, simply release the four screws on top of the disk drive bracket.
2. Insert the disk drive into the proper location in the bracket and secure them with the screws provided. (see Figure 2.7)
3. Return the bracket with the disk drive in the original position and fasten it with the screws.

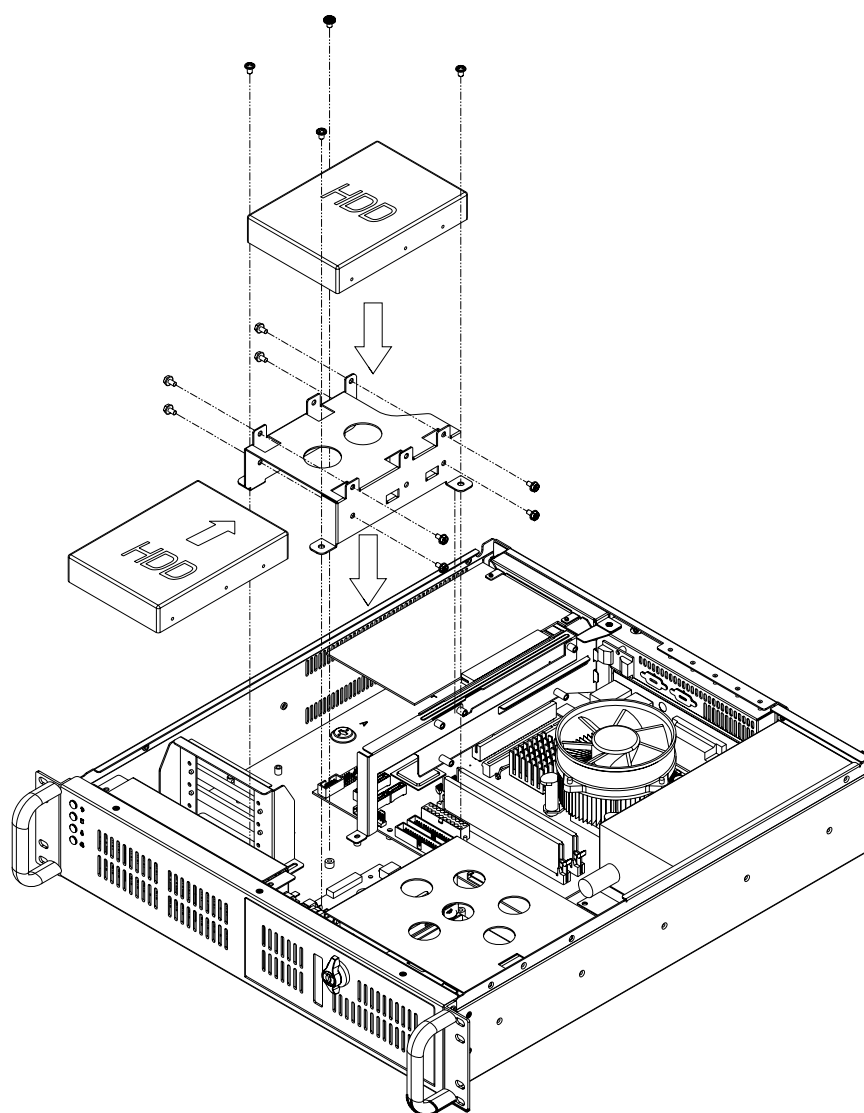
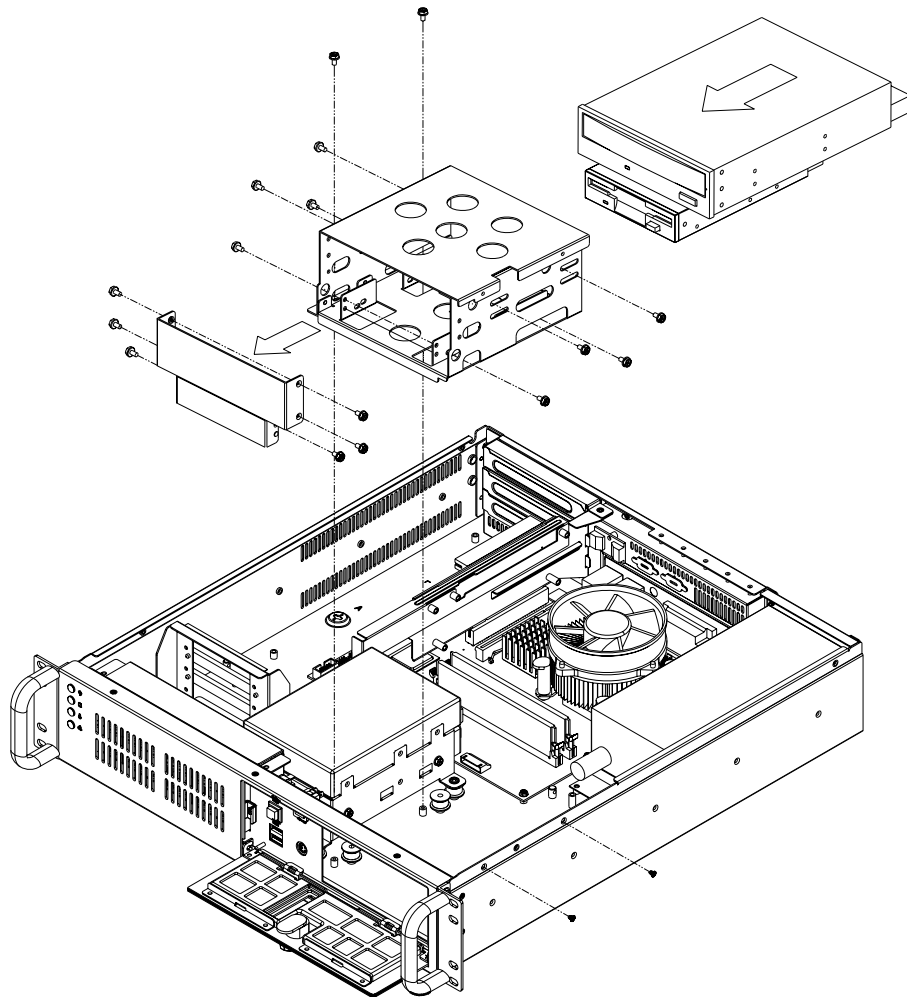


Figure 2.7 Installing the internal HDD

4. To install the optical disk drive and 3.5" FDD, undo the screws on the 5.25" disk drive bracket.
5. Undo the screws on each side of the 5.25" disk drive bracket to remove the front covers.
6. Slide the optical disk drive and the FDD into the bracket and fasten it on both sides with the eight screws provided (see Figure 2.9). Return the 5.25" disk drive bracket with the disk drives in the original position and reattach it inside the chassis with the original screws.
7. Connect the suitable IDE or SATA cables from the motherboard to the 3.5" internal HDD, the optical disk drive, or FDD. Then, plug the power connector into each disk drive.



**Figure 2.8 Installing the optical disk drive and FDD**

## 2.5 Attaching the Ears and Handles

There are a pair of ears and handles in the accessory box, which may be added to the front end of the chassis for easy handling.

To install the handles onto the chassis, refer to Figure 2.9 and attach the ears to the chassis, and the handles to the ears on the front-right and front-left edges with the screws provided.

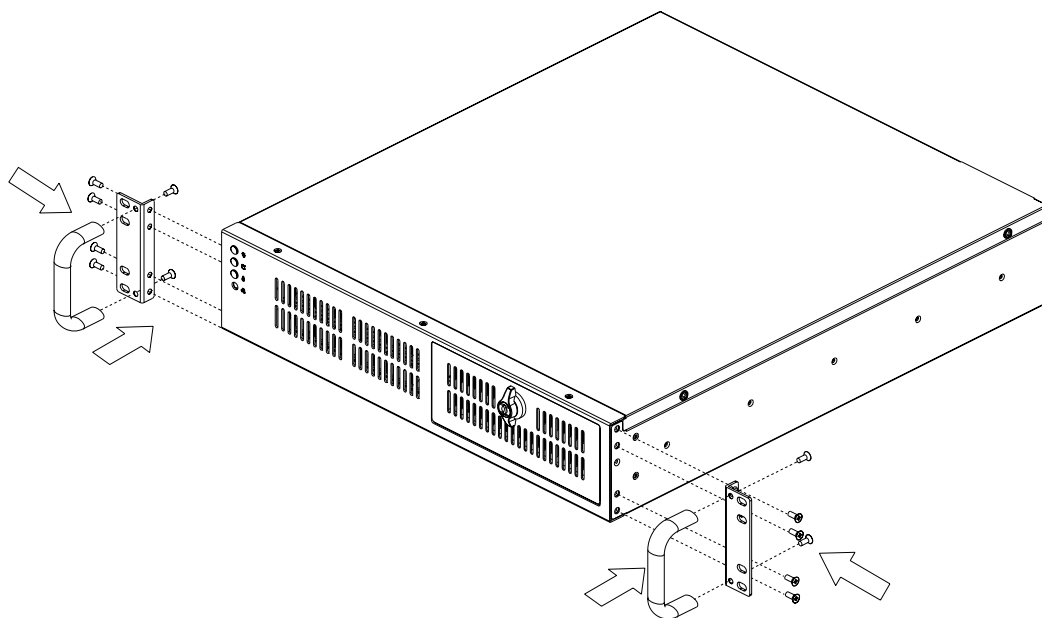


Figure 2.9 Attaching the ears and handles



# Chapter 3

## Operation

This chapter introduces the system operation information.

Sections include:

- The front panel
- The rear panel
- Replacing the cooling fan
- Cleaning the filters
- Replacing the power supply

## 3.1 The Front Panel

The front panel features a lockable door and four LED indicators. It provides front accessible, dual USB ports and a PS/2 connector. The front door can be closed with or without a key using the user-friendly rotary lock. Behind the opening door is a Momentary Power switch, a System Reset button, and an Alarm Reset button. Specific functions are described below:

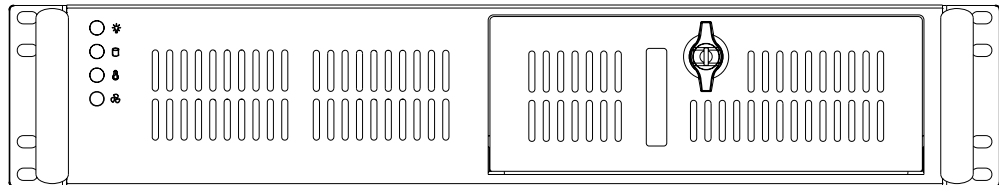


Figure 3.1 Front panel with door closed

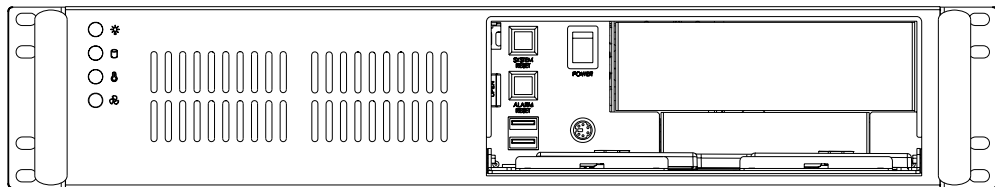


Figure 3.2 Front panel with door open





### 3.1.1 Switch, Button and I/O Interfaces

- **Momentary Power switch:** Press this switch to turn the system power on or off. Please use the system shutdown or press this switch for few seconds to turn off the system ATX power.
- **Alarm Reset button:** Whenever a fault occurs in the system (e.g., fan failure or chassis overheating) an audible alarm will be activated. Pressing this button will stop the alarm from beeping.
- **System Reset button:** Press this button to reboot the system.
- **Dual USB port:** For connecting a wide range of USB devices for data transfer, backup or input.
- **PS/2 connector:** For connecting a keyboard or mouse depending on the motherboard design.



### 3.1.2 LED Indicators for System Status

Four LEDs are placed on the left side of the front panel to indicate system health and activity. Refer to Table 3.1 for an LED definition summary.

Table 3.1: LED indicator functions			
LED	Description	Green	Red
	System power	Normal	Abnormal
	Hard disk drive activity	Data access	No light
	Temperature in the chassis	Normal	Abnormal
	Cooling fan status	Normal	Abnormal

When the system power is on, the power LED is **Green**.

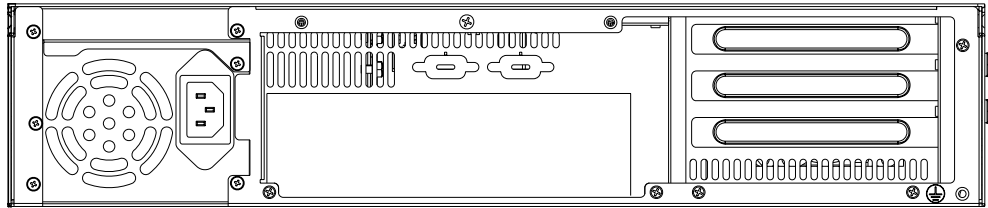
If the power LED is **RED**, it indicates a redundant power supply module failure. To stop the alarm beep, press the **Alarm Reset** button. Examine the redundant power supply module right away and replace the failed module with a working one.

If the fan LED is **RED**, it indicates a failed cooling fan, and the alarm is also activated. To stop the alarm beep, press the **Alarm Reset** button and then replace the failed fan with a working one immediately.

If the temperature LED is **RED**, it means that inside of the chassis is overheated (more than 50° C). An audible alarm will be activated. To stop the alarm beep, press the **Alarm Reset** button. Inspect the fan filter and the rear section of the chassis immediately. Make sure the airflow inside the chassis is smooth and not blocked by dust or other particles.

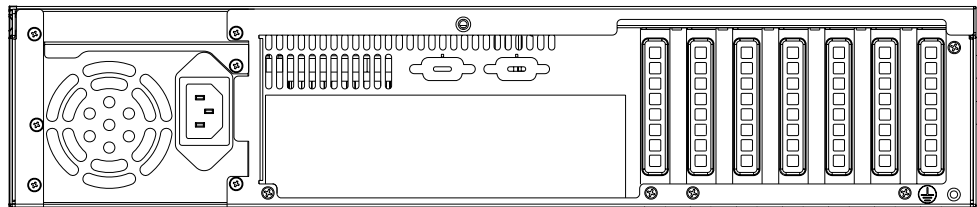
## 3.2 The Rear Panel

The rear panel comes with 3-slot I/O brackets, two reserved 9-pin D-SUB openings and a motherboard I/O opening. (see Figure 3.3)



**Figure 3.3 Rear panel with standard I/O brackets**

There is an optional rear I/O bracket for the low profile add-on cards (see Figure 3.4).



**Figure 3.4 Rear panel with low profile I/O brackets**

There is a ground screw with a washer located on the lower right of the rear panel. This will protect the system in case of electrical leakage.

### 3.3 Replacing the Cooling Fans

There are two easily maintained system cooling fans in the chassis. The fans provide the system with ample cooling by blowing air toward the rear. To replace the fan, proceed as follows:

1. Remove the top cover.
2. Unplug the power connectors from the fans.
3. Loosen the two screws on the fan bracket and gently pull it out.
4. Loosen four screws on the fan in the bracket. Remove the broken fan and replace it with a working one.
5. Fix the working fan onto the bracket with the four screws (see Figure 3.5).
6. Replace the entire fan unit into the chassis by tightening the two screws and reconnect the fan power connectors.
7. Replace the top cover and fasten it.

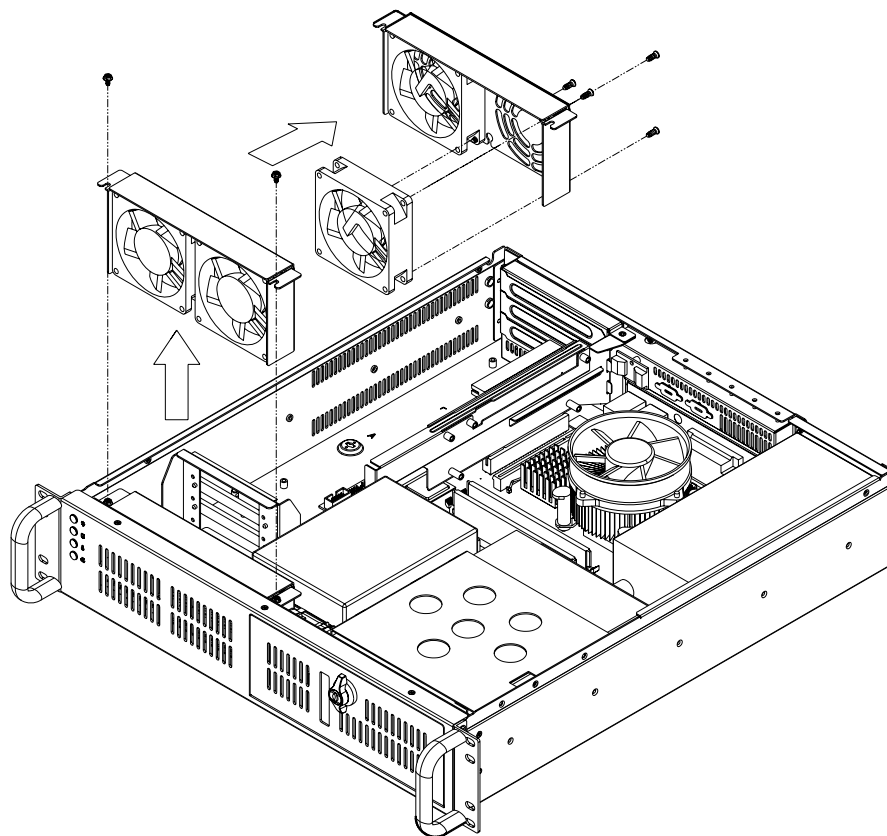


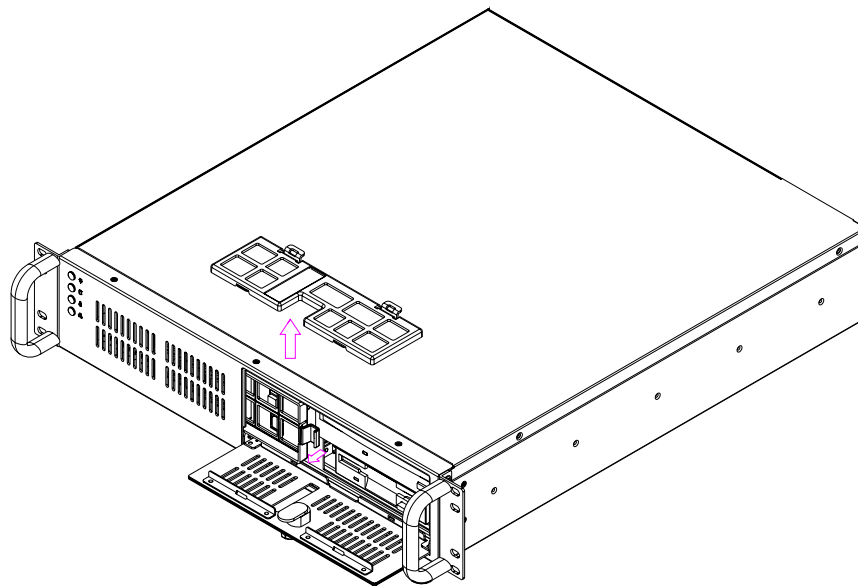
Figure 3.5 Replacing the cooling fan

## 3.4 Cleaning the Filters

The filter functions to block dust or particles from the work environment and greatly helps to extend the longevity of the system. It is recommended to check, clean and replace the filters periodically. Two reusable, washable filters are located behind the front door and in front of the system fans.

To remove and clean the filter, proceed as follows:

1. Open the front door.
2. To remove the door filter, simply push the hook to pull it out.
3. To pull out the fan filter, push the hook and slide it right wards (see Figure 3.6).
4. Clean the filter with a soft brush or wash the dust away from the filter with flowing water and let it dry thoroughly.
5. Replace them inside the unit.



**Figure 3.6 Cleaning the filters**

## 3.5 Replacing the Power Supply

The ACP-2010MB supports either a 300 W or a 400 W 2-U-high power supply. To replace the power supply, proceed as follows:

1. Unplug the power cord from the power supply.
2. Remove the top cover.
3. Unplug the 20-pin (or 24-pin) ATX power connector and 4-pin +12 V power connector from the motherboard, as well as the power connectors from all disk drives.
4. Loosen the three screws on the rear plate and the two screws on the power supply bracket and gently remove it (see Figure 3.7).
5. Replace the power supply with a new one and fasten it onto the chassis.
6. Plug in the 20-pin (or 24-pin) ATX power connector and the 4-pin +12 V power connector to the motherboard. Plug the other power connectors to the disk drives and peripherals.
7. Replace the top cover. Then plug in the power cord.

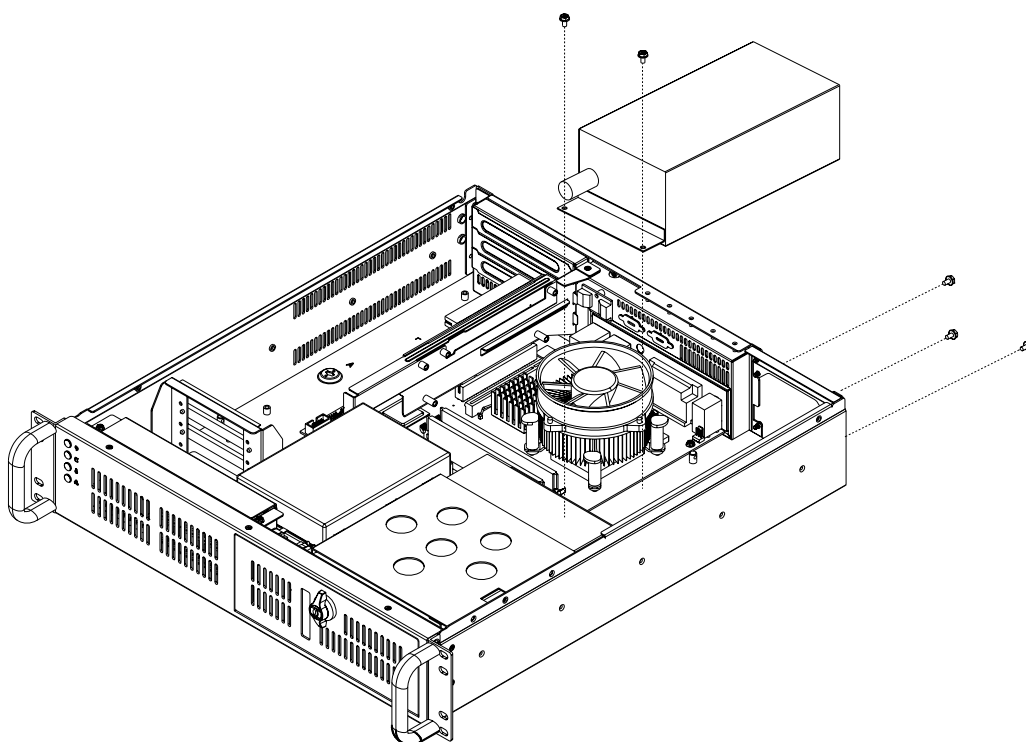


Figure 3.7 Replacing the power supply



# Chapter 4

## Alarm Board

This chapter introduces the alarm board and thermal sensor specifications.

Sections include:

- Alarm board layout
- Alarm board specifications
- Thermal sensor
- Sensor I.D. number setting

The alarm board is located under the 3.5" disk drive bay. The alarm board provides system detection functions that monitor the entire status of the computer system, including: thermal conditions, fans, power supply and HDD operation. Any problems with the system are reported through audible alarms and LED indicators.

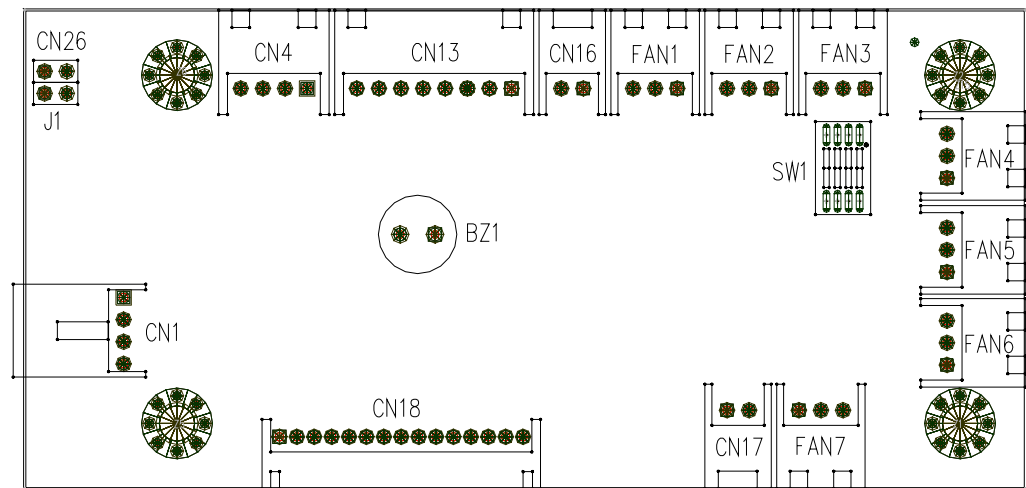
The alarm board sounds an audible alarm whenever:

1. Any power supply module of the redundant power supply fails;
2. One of the system cooling fans fails;
3. The internal temperature of the chassis becomes too high.

To stop the alarm beep, press the Alarm Reset button on the front panel and then take the necessary action to fix it.

## 4.1 Alarm Board Layout

The layout and detailed specifications for connectors on the alarm board are shown in this diagram:



**Figure 4.1 Alarm board layout**



## 4.2 Alarm Board Specifications

- **Input Power:** +5 V, +12 V
- **Input Signals:**
  - 7 "fan" connectors
  - One "thermal sensor" connector (supports up to 8 thermal sensors connected in a series)
  - One "power good" input
  - One "alarm reset" input
  - One "voltage signal" connector (connected from the motherboard, and supports six voltages: +- 12 V, +- 5 V, +3.3 V, +5 Vsb)
  - One "hard disk LED" connector (connected from the motherboard)
- **Output Signals:**
  - One "LED board" connector
  - One "buzzer" output

### 4.2.1 Connectors & Pin Definition

**Table 4.1: CN1, Auxiliary external power connector, standard mini 4-Pin power connector**

<b>Pin 1</b>	+12 V	<b>Pin 3</b>	GND
<b>Pin 2</b>	GND	<b>Pin 4</b>	+5 V

**Table 4.2: CN4, Thermal sensor (LM75) connector**

<b>Pin 1</b>	+5 V	<b>Pin 3</b>	T_SDAT
<b>Pin 2</b>	T_SCLK	<b>Pin 4</b>	GND

**Table 4.3: CN13, Voltage detect. input connector**

<b>Pin 1</b>	+5 Vsb	<b>Pin 5</b>	+5 V
<b>Pin 2</b>	GND	<b>Pin 6</b>	+3.3 V
<b>Pin 3</b>	GND	<b>Pin 7</b>	-12 V
<b>Pin 4</b>	-5 V	<b>Pin 8</b>	+12 V

**Table 4.4: CN16, Power good input connector**

<b>Pin 1</b>	Power Good	<b>Pin 2</b>	GND
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**Table 4.5: CN17, Alarm reset connector**

<b>Pin 1</b>	ALARM RESET	<b>Pin 2</b>	GND
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**Table 4.6: CN18, Output connector to LED board**

<b>Pin 1</b>	GND	<b>Pin 9</b>	Temperature Good
<b>Pin 2</b>	+5 V signal	<b>Pin 10</b>	Temperature Fail
<b>Pin 3</b>	+12 V signal	<b>Pin 11</b>	FAN Good
<b>Pin 4</b>	-5 V signal	<b>Pin 12</b>	FAN Fail
<b>Pin 5</b>	-12 V signal	<b>Pin 13</b>	N/A
<b>Pin 6</b>	HDD_1	<b>Pin 14</b>	+3.3 V signal
<b>Pin 7</b>	Power Good	<b>Pin 15</b>	+5 Vsb signal
<b>Pin 8</b>	Power Fail		

**Table 4.7: CN26, HDD LED connector**

<b>Pin 1</b>	HLED_ACT	<b>Pin 2</b>	N/A
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**Table 4.8: FAN1~FAN7, Fan connectors**

<b>Pin 1</b>	GND	<b>Pin3</b>	FAN_DEC
<b>Pin 2</b>	+12 V		

**Table 4.9: J1, External buzzer**

<b>Pin 1</b>	Buzzer	<b>Pin 2</b>	+5 V
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**Table 4.10: SW1, Fan number select switch**


<b>Pin 1</b>	GND	<b>Pin 5</b>	GND
<b>Pin 2</b>	FAN_SEL1	<b>Pin 6</b>	FAN_SEL3
<b>Pin 3</b>	GND	<b>Pin 7</b>	GND
<b>Pin 4</b>	FAN_SEL2	<b>Pin 8</b>	RESET

## 4.2.2 Switch Settings

The alarm board is designed to connect with up to 7 fans. Users can set the fan number by adjusting the switch, SW1, on the alarm board.

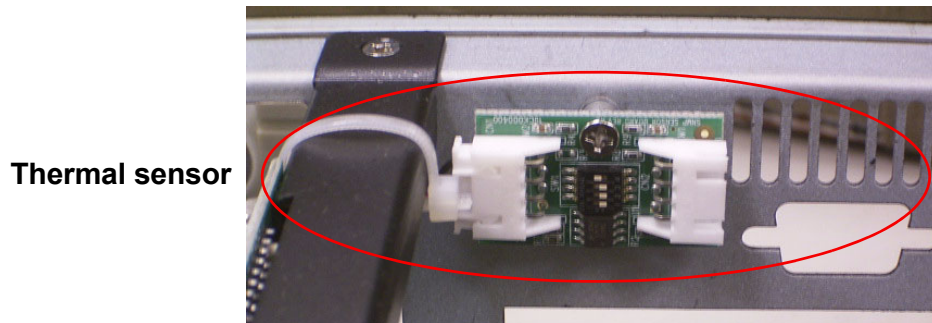
**Table 4.11: SW1, Fan number setting**

Fan Number	SW 1-1	SW 1-2	SW 1-3	SW 1-4
0	OFF	OFF	OFF	OFF
1	ON	OFF	OFF	OFF
2 (default)	OFF	ON	OFF	OFF
3	ON	ON	OFF	OFF
4	OFF	OFF	ON	OFF
5	ON	OFF	ON	OFF
6	OFF	ON	ON	OFF
7	ON	ON	ON	OFF

**Note!**  Connect the fan connectors in the correct sequence: if two fans are set on SW1, the correct method is to connect them to connectors FAN1 and FAN2. If the two fans are connected to other fan connectors, out of sequence, such as FAN1 and FAN3 or FAN2 and FAN3 or FAN3 and FAN4, instead of FAN1 and FAN2, then the alarm will not function correctly.

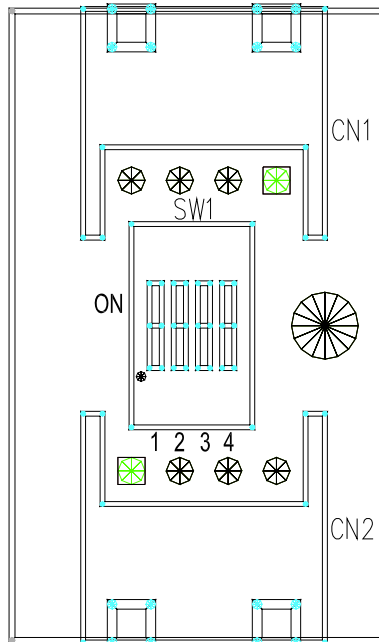
## 4.3 Thermal Sensor

The ACP-2010MB is configured with a thermal sensor on the backside of the chassis (see Figure 4.2).



**Figure 4.2 Thermal sensor location**

Refer to Figure 4.3 for a diagram of the thermal sensor module layout.



**Figure 4.3 Thermal sensor module**

The default sensor I.D. number is 1. Users can refer to Table 4.13 to set the sensor I.D. number by adjusting the switch, SW1, on the sensor module.

**Table 4.12: CN1 & CN2, Temperature sensor connector**

<b>Pin 1</b>	+5 V	<b>Pin 3</b>	T_SDAT
<b>Pin 2</b>	T_SCLK	<b>Pin 4</b>	GND

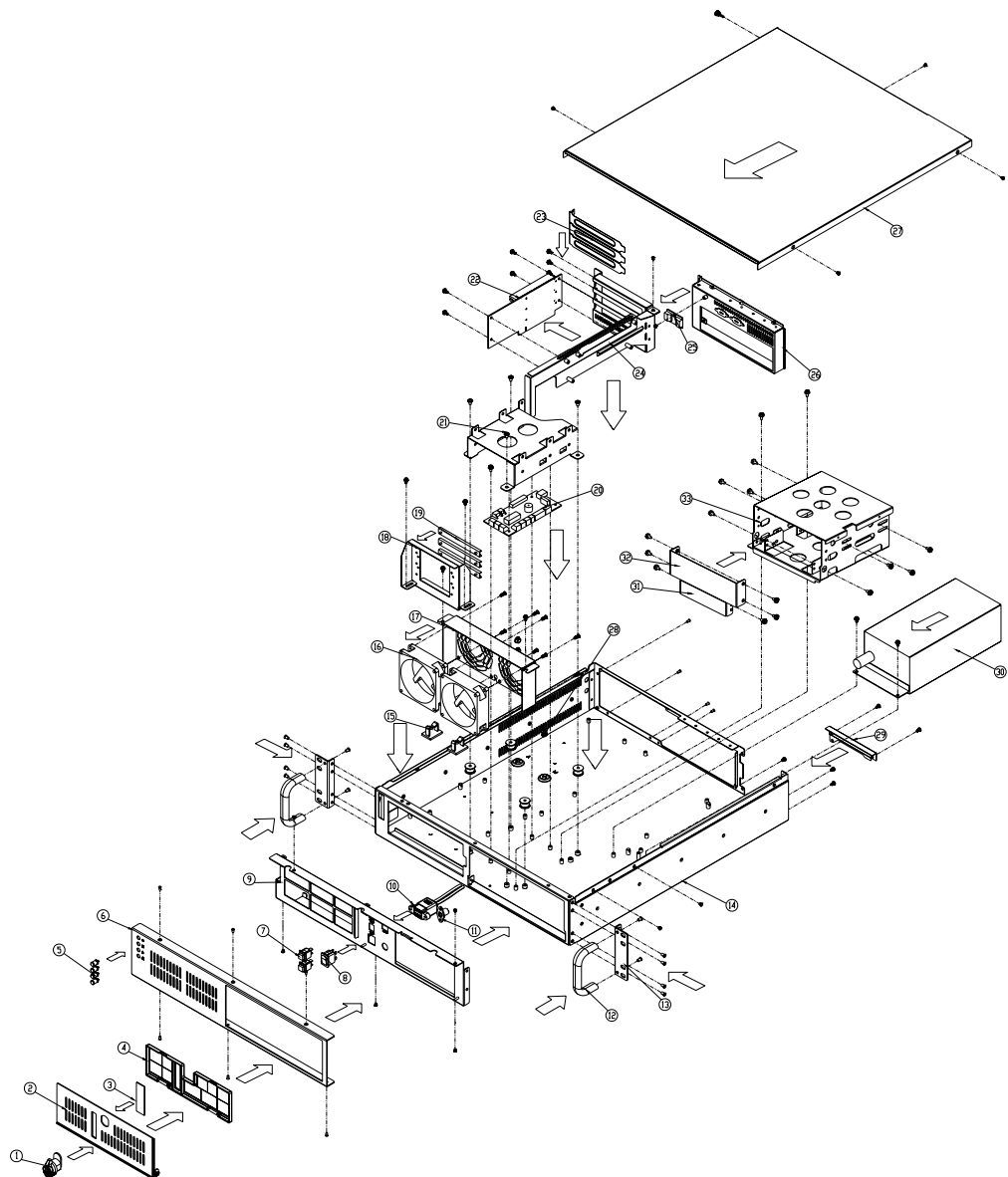
**Table 4.13: SW1, Thermal sensor I.D. setting**

<b>Sensor I.D. No.</b>	<b>SW 1-1</b>	<b>SW 1-2</b>	<b>SW 1-3</b>	<b>SW 1-4</b>
1 (default)	OFF	OFF	OFF	ON
2	OFF	OFF	ON	ON
3	OFF	ON	OFF	ON
4	OFF	ON	ON	ON
5	ON	OFF	OFF	ON
6	ON	OFF	ON	ON
7	ON	ON	OFF	ON
8	ON	ON	ON	ON



# Appendix **A**

Exploded Diagram and  
Parts List



**Figure A.1 Exploded Diagram**

Table A.1: Parts List			
1	Key Set	13	Rack Mounting
2	Front Panel	14	Chassis
3	Transparent Sheet	15	Wire Saddle
4	Air Filter	16	System Fan
5	LED Holder	17	Fan Bracket
6	Front Panel	18	Guide Rail Bracket
7	Cable	19	Add-on Card Guide Rail
8	ATX Cable	20	Alarm Board
9	Front Plate	21	Internal HDD Bracket
10	USB	22	Riser Card (Optional)
11	PS/2	23	I/O Bracket
12	Handles	24	Card Support Beam
		25	Thermal Board
		26	Rear Plate
		27	Top Cover
		28	Motherboard Plastic Post
		29	Power Bracket
		30	Power Supply
		31	3.5" FDD Cover
		32	5.25" FDD Cover
		33	HDD Tray



# Appendix **B**

Motherboard & Riser  
Card Options

## B.1 Motherboard Options

The ACP-2010MB supports a variety of Advantech ATX / MicroATX motherboards described below. Contact a local sales representative for more detailed information.

**Table B.1: ATX motherboard options**

Model Name	Bus				
	PCI	PCI/ISA	ISA	AGP	SATA
<b>AIMB-764</b>	1 (PCIe x16) 1 (PCIe x4) 5 (PCI 32-bit)	-	-	-	5
<b>AIMB-763</b>	1 (PCIe x 16) 1 (PCIe x 1) 5 (PCI 32-bit)	-	-	-	4
<b>AIMB-762</b>	1 (PCIe x16) 1 (PCIe x4) 5 (PCI 32-bit)	-	-	-	4
<b>AIMB-760</b>	1 (PCIe x1) 5 (PCI 32-bit)	-	-	-	4
<b>AIMB-750</b>	2 (PCI-X 64-bit) 4 (PCI 32-bit)	-	-	1 (4X)	2
<b>AIMB-744</b>	2 (PCI-X 64-bit) 4 (PCI 32-bit)	-	-	1 (8X)	2
<b>AIMB-742</b>	(32-bit)	1	1	1 (8X)	-

**Table B.2: MicroATX motherboard options**

Model Name	Bus		
	PCI	AGP	SATA
<b>AIMB-556</b>	1 (PCIe x16) 1 (PCIe x4) 2 (PCI 32-bit)	-	3
<b>AIMB-554</b>	1 (PCIe x16) 1 (PCIe x4) 2 (PCI 32-bit)	-	2
<b>AIMB-552</b>	3 (PCI 32-bit)	-	2
<b>AIMB-542</b>	3 (PCI 32-bit)	1 (8x)	2

## B.2 Riser Card Options

The riser card is specially designed to support Advantech AIMB series of motherboards. Users can contact a local sales representative for detailed information.

**Table B.3: Riser card options**

Model Name	Interface	Expansion Slots	Compatible Motherboards
AIMB-R4301	PCIe x4	3 PCIe x1	AIMB-764 / 762 / 556 / 554; 762 & 554 only support one PCIe x 1 (in the lowest slot)
AIMB-R430P	PCIe x4	3 PCI	AIMB-764 / 762 / 556 / 554
AIMB-R431F	PCIe x 16 + PCIe x 4	1 PCIe x 16 + 2 PCIe x 1	AIMB-764 / 762 / 556 / 554; 762 & 554 only support one PCIe x 1 (in the lowest slot) except one PCIe x 16
AIMB-RP30P	PCI	3 PCI	AIMB-760 / 750 / 744 / 742 / 560 / 552; AIMB-542 only supports one PCI (in the lowest slot)
AIMB-RP3PF	PCIe x 16 + PCI	1 PCIe x 16 + 2 PCI	AIMB-763/564/562
AIMB-RH31P	PCI + PCIe x1	2 PCI + 1 PCIe x1	AIMB-760

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