ACP-2010MB

2U-High Rackmount Chassis for ATX / MicroATX Motherboard

User Manual

Copyright

The documentation and the software included with this product are copyrighted 2006 by Advantech Co., Ltd. All rights are reserved. Advantech Co., Ltd. reserves the right to make improvements in the products described in this manual at any time without notice. No part of this manual may be reproduced, copied, translated or transmitted in any form or by any means without the prior written permission of Advantech Co., Ltd. Information provided in this manual is intended to be accurate and reliable. However, Advantech Co., Ltd. assumes no responsibility for its use, nor for any infringements of the rights of third parties, which may result from its use.

Acknowledgements

Intel®, Pentium® 4, and Celeron® are trademarks of Intel Corporation.

The ACP-2010, AIMB-764, AIMB-762, AIMB-760, AIMB-750, AIMB-744, AIMB-742, AIMB-740, AIMB-562, AIMB-560, AIMB-552, AIMB-550, are trademarks of Advantech Co., Ltd. All other product names or trademarks are the properties of their respective owners.

On-line Technical Support

For technical support and service, please visit our support website at:

http://www.advantech.com/support

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 protects 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 such 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 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 manufacture. 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.

> CLASS 1 LASER PRODUCT
> KLASSE 1 LASER PRODUKT

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.

A Message to the Customer

Advantech customer services

Each and every Advantech product is built to the most exacting specifications to ensure reliable performance in the harsh and demanding conditions typical of industrial environments. Whether your new Advantech equipment is destined for the laboratory or the factory floor, you can be assured that your product will provide the reliability and ease of operation for which the name Advantech has come to be known. Your satisfaction is our primary concern. Here is a guide to Advantech's customer services.

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.

In addition, free technical support is available from Advantech engineers every business day. We are always ready to give advice about application requirements or specific information on the installation and operation of any of our products.

Product Warranty

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.

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.

If you think you have a defective product, follow these steps:

1. Collect all the information about the problem encountered, forexample, type of PC, CPU speed, Advantech products used, other hardware and software used, etc. Note anything abnormal and list any on-screen messages you get when the problem occurs.

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 material authorization) number from your dealer. This allows us to process your return more quickly.

4. Carefully pack the defective product, a fully-completed Repairand 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 mother-board, optical disk drive, other disk drives, ear handles, etc.), a pair of keys, a USB cap, a PS/2 cap, a stand-off bracket, a pair of ear 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 example, damaged box, 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.

Contents

General Information

Chapter 1   General Information

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 webserving. 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
- 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) hot-swappable cooling fans.
- Air Filters: Two easily maintained reusable filters near the front of the system fan and behind the front door.
- Weight: 13 kg (28.6 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**
Watt	300 W (ATX, PFC) (single PS/2)	400 W (ATX, PFC) (single PS/2)
Input rating	100 ~ 240 Vac (Full range)	100 ~ 240 Vac (Full range)
Output voltage	+5V @ 35A, +3.3V @ 20A, +12V @ 16A, -5V @ 0.5A, -12V @ 1A, +5Vsb @ 2A	+5V @ 25A, +3.3V @ 20A, +12V @ 28A, -5V @ 0.5A, -12V @ 0.5A, +5Vsb @ 2A
Minimum load	+5V @ 3A, +3.3 V @ 1A, +12V @ 2A, -5V @ 0.05A, -12V @ 0.05A, +5Vsb @ 0.1A	+5V @ 3A, +3.3 V @ 1A, +12V @ 2A, +5Vsb @ 0.1A
MTBF	97,800 hours @ 25° C	100,000 hours @ 25°C
Safety	UL/TUV/CB/CCC	UL/TUV/CB/CCC

1.4 Environment Specifications

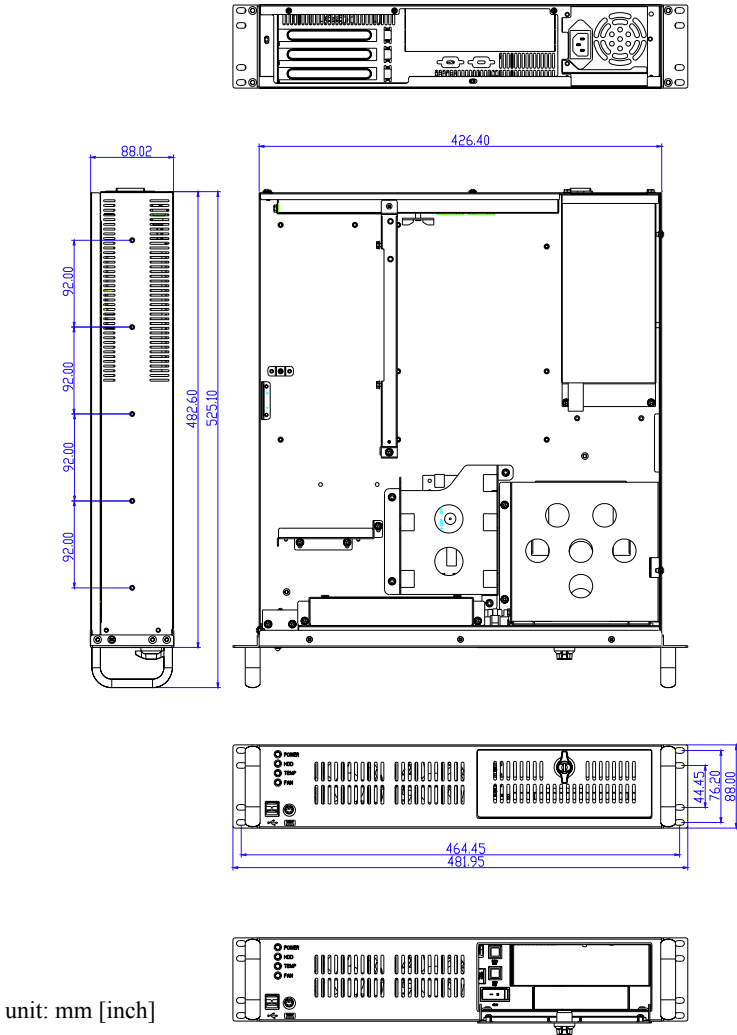| Table 1.2: Environment specifications		
Environment	**Operating**	**Non-operating**
Temperature	0 to 40°C (32 to 104°F)	-20 to 60°C (-4 to 140°F)
Humidity	10 to 85% @ 40°C, non-condensing	10 to 95% @ 40°C, non-condensing
Vibration	1G rms	2G
Shock	10G with 11 ms duration, half sine wave	30G
Altitude	0 to 3,048 m (0 ~ 10,000 ft)	
Safety	CE compliant	

1.5 Dimension Diagram

unit: mm [inch]

Figure 1.1: Dimension diagram

System Setup

Chapter 2   System Setup

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 the parts of 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 Chassis Cover

To remove the cover, please proceed as below.

1.   Loosen six screws on the rear and both sides of the top cover.

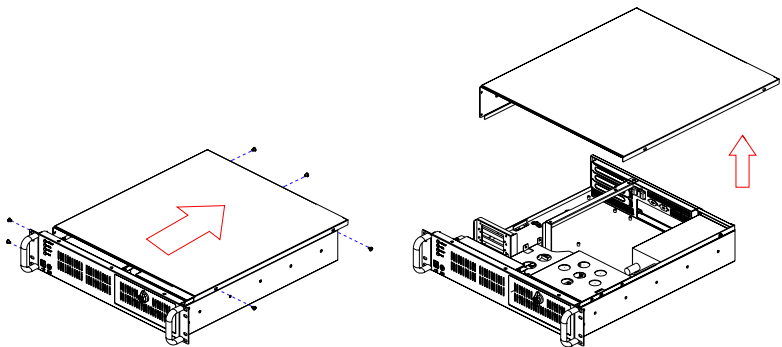2.   Pull the L-type chassis top cover backwards and then lift it up.

Figure 2.1: Removing the chassis top cover

2.2 Installing the Motherboard

To install the motherboard, please proceed as follows:

Note: *Use caution when installing a motherboard. It's highly recommended to integrate the Advantech motherboard series with the ACP-2010MB to ensure the quality, safety and smooth operation of the air flow design.*

1.   A yellow label is located inside of the chassis bottom. (*see Figure 2.2*) The label shows the stand-off bracket locations for attaching specific Advantech motherboards.

MODEL MARK	A	M
AIMB-744 AIMB-750 AIMB-760		
AIMB-740 AIMB-742 AIMB-762 AIMB-764	∗	
AIMB-542 AIMB-554 AIMB-556 AIMB-560 AIMB-562		∗
The STAND-OFF bracket is in the accessory box.Be sure to attach the necessary bracket on the chassis .		

Figure 2.2: Yellow label indicating copper stub locations

2. Users can find the stand-off bracket (*see Figure 2.3*) in the accessory box. Be sure to follow the instruction and fasten the motherboard onto the chassis with the stand-off bracket locations.

3. Attach the motherboard I/O shielding onto the rear plate first. Then fasten the motherboard onto the chassis. (*see Figure 2.4*)

4. Connect the 20-pin (or 24-pin) ATX power connector and the 4-pin +12V power connector from the power supply to the motherboard

5. Connect the 9-pin USB wire, PS/2 wire, Power switch wire, and the System Reset switch wire from the chassis to the motherboard.
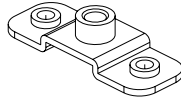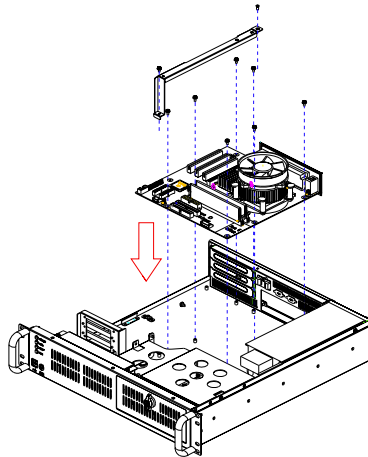

Figure 2.3: Stand-off bracket

Figure 2.4: Installing a motherboard

2.3 Installing Riser Card and Add-on Card

ACP-2010MB supports up to 3 add-on cards. To install the add-on card, please install a riser card first. The process is as follows:

1. Insert the riser card on the motherboard. Then, attach it onto the beam on the chassis by fastening the two screws. (*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*)

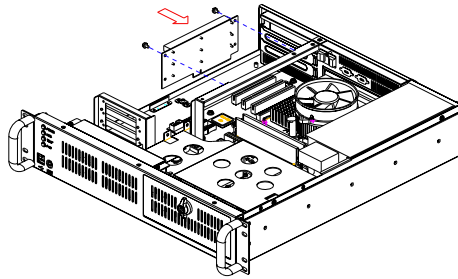3. Repeat *Step 2* if there is more than one add-on card to be installed.
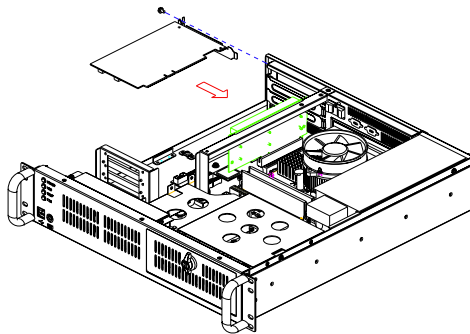

Figure 2.5: Installing the riser card

Figure 2.6: Installing the add-on card

Note: *If the chassis with the low profile I/O bracket on the rear plate is used, a riser card is not needed.*

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 HDD). Please refer to the following instructions to install the various disk drives.

2.4.1 Installing HDD, Optical Disk Drive, and FDD

To install the 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*)
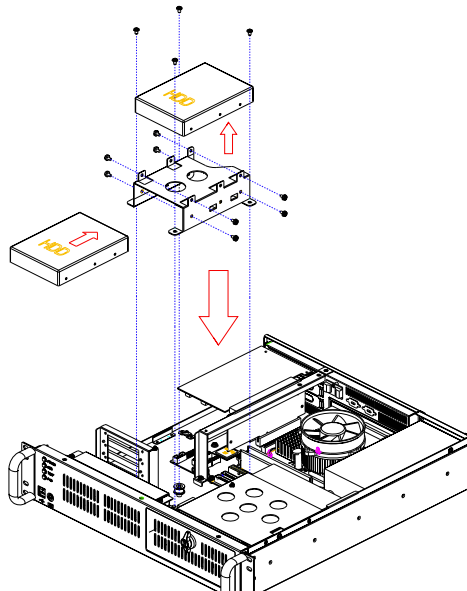3. Return the bracket with the disk drive in the original position and fasten it with the screws.

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 an FDD. Then, plug the power connector into each disk drive.
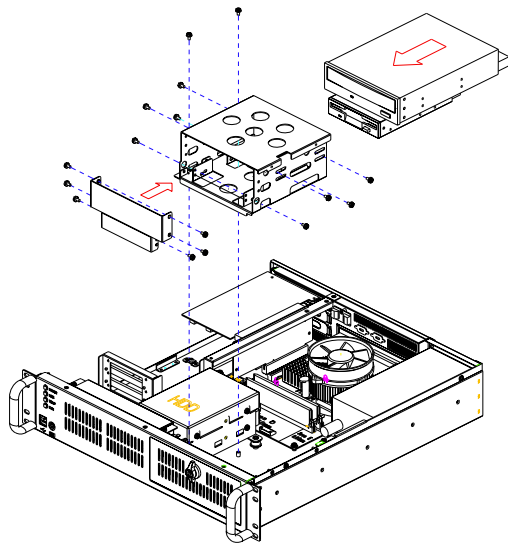
Figure 2.8: Installing the optical disk drive and 3.5" FDD

2.5 Attaching the Ears and Handles

A pair of ears and a set of 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

Operation

Chapter 3   Operation

3.1   The Front Panel

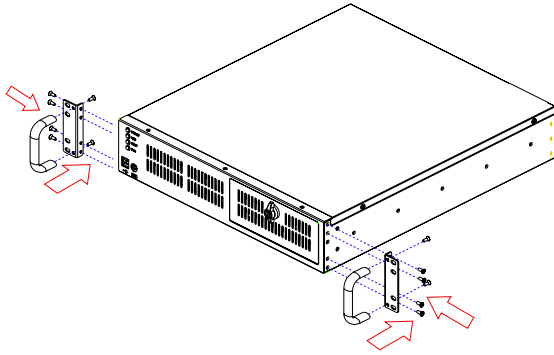The front panel features the lockable door and four LED indicators. It provides front accessible, dual USB ports and a PS/2 connector. The front door can be closed with or without the key using the user-friendly rotary lock. Behind the opening door is a *Momentary Power switch*, a *System Reset button*,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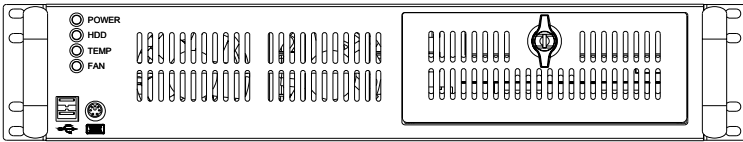

Figure 3.1: Front panel with door closed
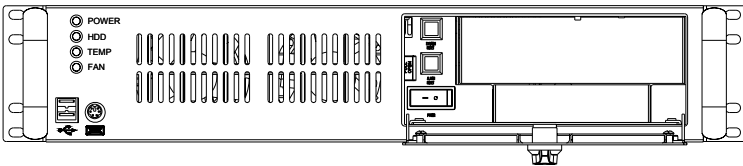
Figure 3.2: Front panel with door open

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) the 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 the LED definition summary.

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

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

When 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.

When 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 includes with 3-slot I/O brackets, two reserved 9-pin D-SUB openings and a motherboard I/O opening. (*see Figure 3.3*)
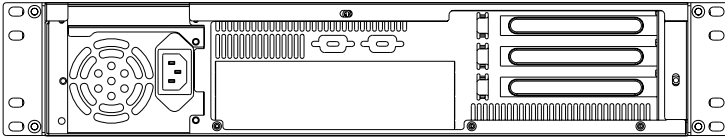

Figure 3.3: Rear panel with standard I/O brackets

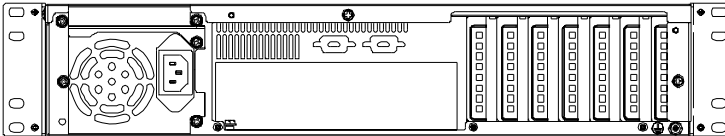There is an optional rear I/O bracket for the low profile I/O cards. (*see Figure 3.4*)

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 Fan

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:

3.3.1 Replacing the fan

1.   Remove the top cover.
2.   Remove the 3.5" HDD cage so that the power connectors can be unplugged 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.   Return the 3.5" HDD cage and tighten the four screws.
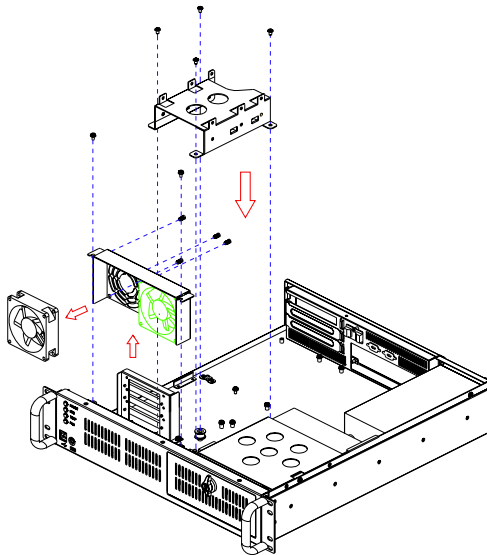8.   Replace the top cover and fasten it.

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's better 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.   Loosen the two screws on the filter bracket. Then pull out the filter to clean it, or replace it with a fresh one.
3.   To pull out the fan filter, push the hook and slide it rightwards. (*see Figure 3.6*) Clean the filter with a soft brush or wash the dust away from the filter with fluent water and let it dry thoroughly.
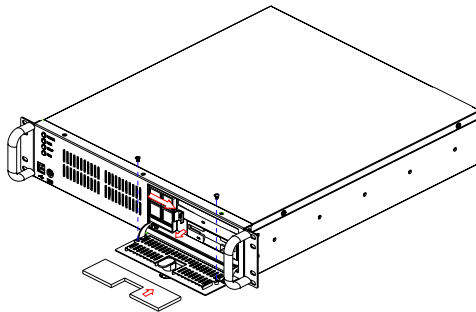4.   Replace them inside the unit.

Figure 3.6: Replacing the filters

3.5 Replacing the Power Supply

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

3.5.1 Replacing the Power Supply

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 +12V 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 +12V power connector to the motherboard. Plug the other power connectors to the disk drives and peripherals.
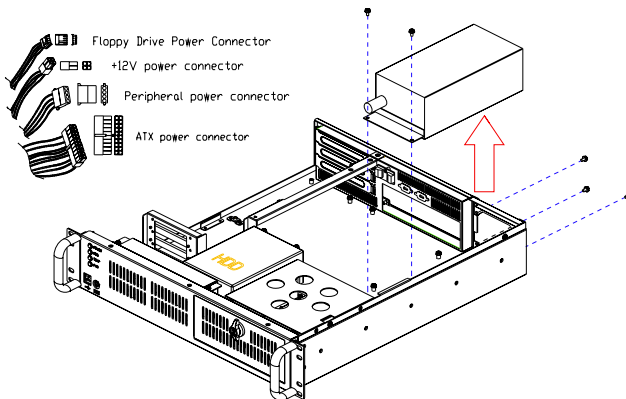7. Replace the top cover. Then plug in the power cord.

Figure 3.7: Replacing the power supply

Alarm Module

Chapter 4   Alarm Module

The alarm module is located under the 3.5" disk drive bay. The alarm module 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 module 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

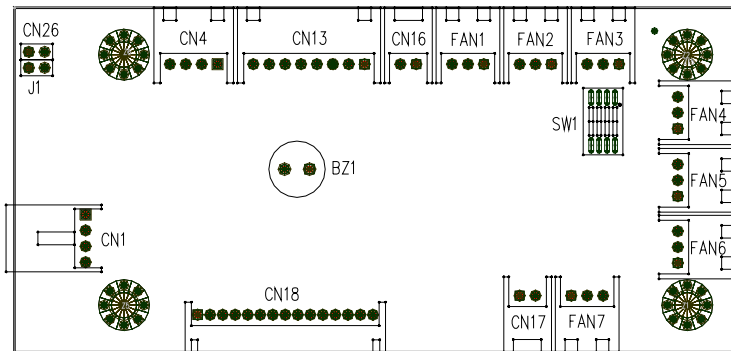The layout and detailed specifications for connectors on the alarm board are shown in this diagram:

Figure 4.1: Alarm board layout

4.2 Alarm Board Specifications

Input Power: +5V, +12V

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: +- 12V, +- 5V, +3.3V, +5Vsb)
• 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			
Pin 1	+12V	Pin 3	GND
Pin 2	GND	Pin 4	+5V

Table 4.2: CN4, Thermal sensor (LM75) connector			
Pin 1	+5V	Pin 3	T_SDAT
Pin 2	T_SCLK	Pin 4	GND

Table 4.3: CN13, Voltage detect. input connector			
Pin 1	+5Vsb	Pin 5	+5V
Pin 2	GND	Pin 6	+3.3V
Pin 3	GND	Pin 7	-12V
Pin 4	-5V	Pin 8	+12V

Table 4.4: CN16, Power good input connector			
Pin 1	Power Good	Pin 2	GND

Table 4.5: CN17, Alarm reset connector			
Pin 1	ALARM RESET	Pin 2	GND

Table 4.6: CN18, Output connector to LED board			
Pin 1	GND	Pin 9	Temperature Good
Pin 2	+5V signal	Pin 10	Temperature Fail
Pin 3	+12V signal	Pin 11	FAN Good
Pin 4	-5V signal	Pin 12	FAN Fail
Pin 5	-12V signal	Pin 13	N/A
Pin 6	HDD_1	Pin 14	+3.3V signal
Pin 7	Power Good	Pin 15	+5Vsb signal
Pin 8	Power Fail		

Table 4.7: CN26, HDD LED connector			
Pin 1	HLED_ACT	Pin 2	N/A

Table 4.8: FAN1~FAN7, Fan connectors			
Pin 1	GND	Pin3	FAN_DEC
Pin 2	+12V		

Table 4.9: J1, External buzzer			
Pin 1	Buzzer	Pin 2	+5V

Table 4.10: SW1, Fan number select switch			
Pin 1	GND	Pin 5	GND
Pin 2	FAN_SEL1	Pin 6	FAN_SEL3
Pin 3	GND	Pin 7	GND
Pin 4	FAN_SEL2	Pin 8	RESET

4.3 Switch Settings

4.3.1 Fan Number Setting

Table 4.11: SW2, 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 into 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.*

4.4 Thermal Sensor

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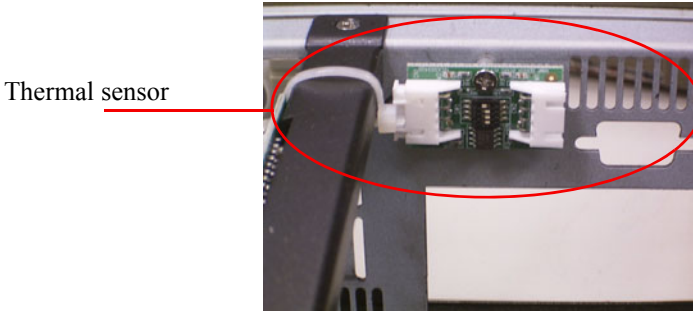
Thermal sensor

Figure 4.2: Thermal sensor location

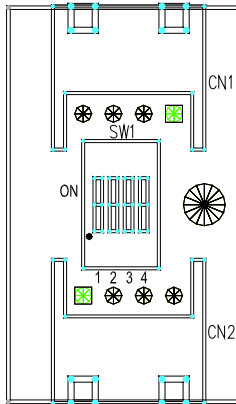Refer to *Figure 4.3* for a diagram of the thermal sensor module layout.

Figure 4.3: Thermal sensor module

Users can set up to 8 thermal sensors. The default sensor I.D. number is 1. User 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			
Pin 1	+5V	Pin 3	T_SDAT
Pin 2	T_SCLK	Pin 4	GND

Table 4.13: SW2, Thermal sensor I.D. setting				
Sensor I.D. No.	SW 1-1	SW 1-2	SW 1-3	SW 1-4
0	ON	ON	ON	ON
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

Exploded Diagram and Parts List

Appendix A Exploded Diagram and Parts List

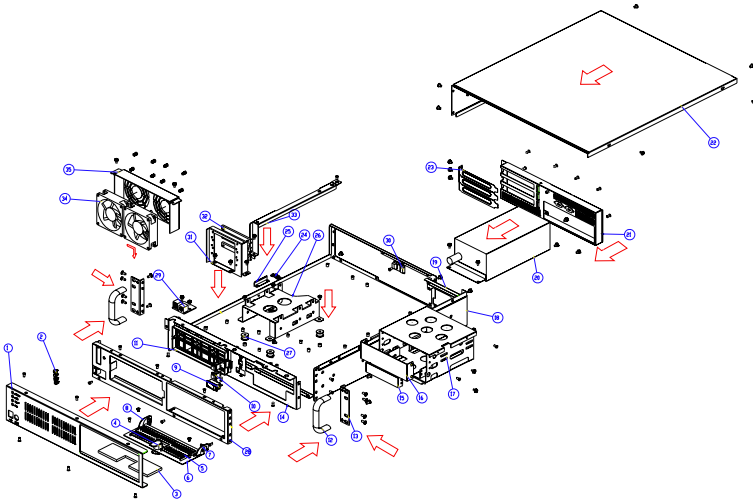*Figure A.1: Exploded diagram*

Table A.1: Parts List					
1	Front panel	13	Rackmount ear	25	Chassis spot
2	LED	14	Front module cover	26	HDD bay
3	Door filter	15	FDD cover	27	M4 cushion
4	Rotary lock	16	CD-ROM cover	28	Front cover
5	Filter cover	17	Drive bay	29	KB/USB board
6	Small door	18	Chassis body	30	Thermal board
7	Door hinge right	19	Power bracket	31	Guide rail bracket
8	Door hinge left	20	Power supply	32	PCB guide rail
9	Power button	21	Rear plate	33	Card support beam
10	Reset button	22	Top cover	34	Cooling fan
11	Filter housing	23	I/O bracket	35	Fan bracket
12	Handle	24	Spacer bracket		

APPENDIX

B

**Motherboard and
Riser Card Options**

Appendix B Motherboard and 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**
AIMB-764	1 (PCIe x16) 1 (PCIe x4) 5 (PCI 32-bit)	-	-	-	5
AIMB-762	1 (PCIe x16) 1 (PCIe x4) 5 (PCI 32-bit)	-	-	-	4
AIMB-760	1 (PCIe x1) 5 (PCI 32-bit)	-	-	-	4
AIMB-750	2 (PCI-X 64-bit) 4 (PCI 32-bit)	-	-	1 (4X)	2
AIMB-744	2 (PCI-X 64-bit) 4 (PCI 32-bit)	-	-	1 (8X)	2
AIMB-742	4 (32-bit)	1	1	1 (8X)	-
AIMB-740-B	4 (32-bit)	1	1	-	-
AIMB-740-6CB1	5 (32-bit)	-	-	-	-

Table B.2: MicroATX motherboard options			
Model Name	**Bus**		
	PCI	**AGP**	**SATA**
AIMB-560	3 (32-bit)	-	4
AIMB-556	1 (PCIe x16) 1 (PCIe x4) 2 (PCI 32-bit)	-	4
AIMB-554	1 (PCIe x16) 1 (PCIe x4) 2 (PCI 32-bit)	-	4

B.2 Riser Card Options

The riser card is specially designed to support Advantech AIMB series of motherboards *except* AIMB-562 & AIMB-542.

Table B.3: Riser card options			
Model Name	**Interface**	**Expansion Slots**	**Compatible motherboards**
AIMB-R4301-03A1E	PCIe x4	3 PCIe x1	AIMB-764 / 556
AIMB-R430P-03A1E	PCIe x4	3 PCI	AIMB-764 / 762 / 556 / 554
AIMB-RP30P-03A1E	PCI	3 PCI	AIMB-760 / 750 / 744 / 742 / 740 / 560 / 556
AIMB-RH31P-12A1E	PCI + PCIe x1	2 PCI + 1 PCIe x1	AIMB-760