



**Quick Installation Guide**

**1407462**

**7/14/06**

**Version: 1.0**

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### ABOUT THE 1407462

The 4-slot, heavy-duty steel 1407462 compact wall-mount industrial chassis is designed to operate reliably in industrial environments where it will be exposed to dust, wide temperature variations, and shocks and vibrations, among other things.

### SPECIFICATIONS

- ” **Form Factor:** 4-slot compact chassis
- ” **SBC Form Factor:** Half-size, slot CPU cards
- ” **Construction:** Metal
- ” **Slots Number:** 4-slot
- ” **Cooling:** 1 x 8cm fan
- ” **Drive Bay Combinations:**
  - o 1 x 3.5” Front accessible FDD + 2 x 2.5” Internal HDDs
  - o 1 x 3.5” Front accessible FDD + 1 x 3.5” Internal HDD
- ” **Dimensions (DxWxH):**
  - o 269mm x 140mm x 230mm
- ” **Operating Temperature:** 0~40°C
- ” **Relative Humidity:** 5~95%
- ” **Vibration:**
  - o 5 to 17Hz, 0.1” double amplitude displacement o
  - o 17 to 640Hz, 1.5G acceleration peak to peak
- ” **Shock:** 10G acceleration peak to peak

### PACKING LIST

When you unpack the chassis, make sure the following items have been shipped.

- ” 1 x Quick Installation Guide
- ” 1 x Power cord
- ” 2 x Wall-mount plates
- ” 1 x Screw set

### DETAILS OF INCLUDED SCREWS

The attached screw set includes five screw types. Screws used for chassis installation are shown below.



1	2	3	4	5
Peripherals/Parts		Screw Label (refer to the picture above)		
3.5” FDD		5		
3.5” HDD		1		
2.5” HDD		5		
1U Power Supply Unit		1		
Wall-mount Plate		3		
Backplane		3		
		2		

Table 1: Screws for Peripheral/Parts



**DIMENSION DRAWING**

The dimensions of the 1407462 are shown below.

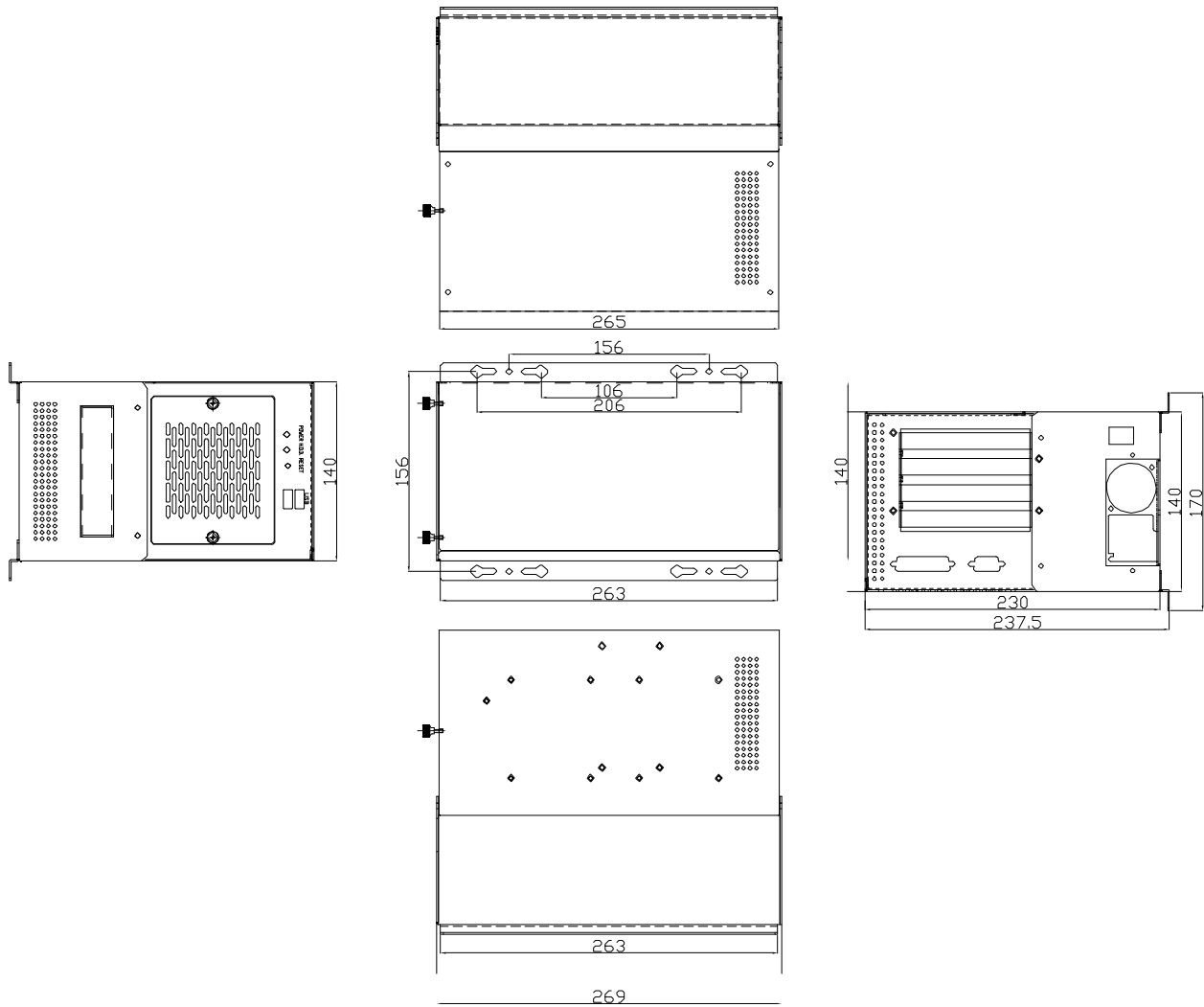


Figure 1: Dimension Drawing (measurement units: millimeter)

## INSTALLATION STEPS

To install the 1407462 chassis, the following installation steps must be completed:

- Step 1:** Unpack the chassis.
- Step 2:** Remove the cover.
- Step 3:** Install the PSU.
- Step 4:** Install the FDD.
- Step 5:** Reinstall the upper compartment.
- Step 6:** Install the backplane.
- Step 7:** Install the internal HDD.
- Step 8:** Connect the cables.
- Step 9:** Install the CPU card.
- Step 10:** Install the PCI and ISA expansion cards.
- Step 11:** Reinstall the top cover.
- Step 12:** Install the wall-mount plates.

The installation steps outlined above are described in detail below. Please refer to the relevant section.

### STEP 1: UNPACK

The 1407462 is shipped in a plastic bag that is placed inside a cardboard box. The items are also shipped with the chassis. When you unpack the chassis you must:

- „ Make sure all the items listed in the **PACKING LIST** section are present.
- „ Make sure the chassis has not been damaged in any way.

### STEP 2: REMOVE THE TOP COVER

The top cover is secured to the chassis with four retention screws on the left side of the chassis.

- Step 1:** Remove all four top cover retention screws from the left side of the chassis.



Figure 2: Top Cover Retention Screws

- Step 2:** Slide the cover leftwards and then lift the cover up gently.



Figure 3: Remove the Top Cover

### STEP 3: INSTALL THE POWER SUPPLY UNIT (PSU)

The 1407462 chassis is compatible with 3107740 PSU. The details of 3107740 are listed below:

- o Input: AC
- o Type: AT
- o Power: 150W
- o Output Range:
  - a. +5V: 16 A
  - b. +12V: 6 A
  - c. -12V: 0.3 A

The PSU is secured to the rear of the lower compartment on a PSU bracket. To install a compatible PSU, please follow the steps below:

- Step 1:** Remove the upper compartment by removing the four upper compartment retention screws, two from the front and two from the rear of the chassis.



Figure 4: Front Upper Compartment Retention Screws





Figure 5: Rear Upper Compartment Retention Screws

**Step 2:** Remove the PSU bracket located in the lower compartment by removing the four PSU bracket retention screws, three from the rear of the chassis and one from the bottom surface of the chassis.



Figure 6: PSU Bracket Retention Screws

**Step 3:** Slide the PSU bracket backwards and remove the PSU bracket.



Figure 7: Remove the PSU Bracket

**Step 4:** Mount the PSU onto the PSU bracket.

**Step 5:** To secure the PSU to the PSU bracket, Insert five PSU retention screws, three from the rear and two from the front of the PSU bracket. Make sure the power socket and the PSU fan are inserted into the corresponding holes in the rear of the PSU bracket.



Figure 8: Rear PSU Retention Screws



Figure 9: Front PSU Retention Screws

**Step 6:** Reinstall the PSU bracket with the PSU.

**Step 7:** To secure the PSU bracket to the chassis, reinsert the four previously removed PSU bracket retention screws.

## STEP 4: FDD INSTALLATION

The 1407462 chassis can support one 3.5" front accessible FDD in the lower compartment. To install a 3.5" FDD, please follow the steps below:

**Step 1:** Remove four retention screws from both sides of the 3.5" FDD drive bracket, two from each side.



Figure 10: 3.5" Drive Bracket Retention Screws





**Step 2:** Remove the 3.5" FDD bracket front cover by removing the two front cover retention screws, one from each side.



Figure 11: 3.5" FDD Bracket Front Cover Retention Screw

**Step 3:** Mount a 3.5" FDD onto the 3.5" FDD bracket.

**Step 4:** To secure the FDD to the 3.5" FDD bracket, insert four retention screws, two on each side.



Figure 12: FDD Retention Screws

**Step 5:** Reinstall the 3.5" FDD bracket and reinsert the four previously removed retention screws.

**Step 6:** Connect the power cables and IDE/SATA connector.



Figure 13: HDD Power Cable and IDE/SATA Connector

## STEP 5: UPPER COMPARTMENT REINSTALLATION

Before any other peripherals and components are installed, the upper compartment must be reinstalled. To do this, please follow the steps below:



### NOTE:

If an AT PSU is installed, the power switch cable must be connected to the power switch before the upper compartment is reinstalled.

**Step 1:** Run all the cables through the elliptical hole in the upper compartment base.



Figure 14: Run the Cables through the Elliptical Hole

**Step 2:** Reinstall the upper compartment and reinsert the four previously removed upper compartment retention screws.

## STEP 6: BACKPLANE INSTALLATION

Compatible GAI backplanes are listed in the table below:

Model No.	SBC Type	PCI	ISA	PSU
1103838	ISA	0	4	AT
1103899	PCISA	3	0	AT
1103357	PCISA	2	1	AT

Table 2: Compatible Backplane Modules

To install a backplane, please follow the instructions below:

**Step 1:** Mount the backplane onto the upper compartment base. Make sure the backplane is positioned, so that when the CPU card and PCI/ISA expansion cards are installed, both the I/O connectors on the CPU card and the PCI/ISA expansion cards face the rear of the chassis.



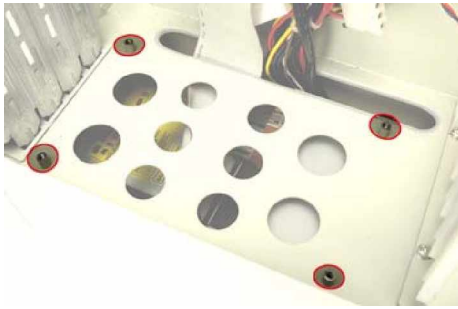


Figure 15: Elevated Predrilled Screw Holes

- Step 2:** Align the retention screw holes in the backplane with the four elevated predrilled retention screw holes in the base of the upper compartment.
- Step 3:** Insert four retention screws to secure the backplane to the chassis.
- Step 4:** Connect the power cable to the backplane.

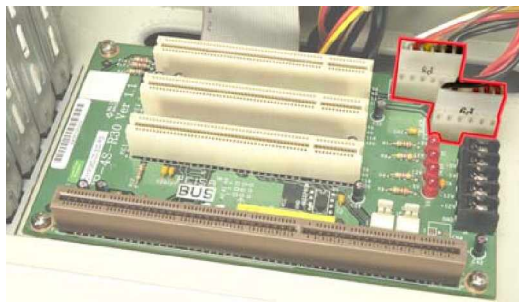


Figure 16: Connect the Power Cable to the Backplane

### STEP 7: INTERNAL HDD INSTALLATION

The 1407462 chassis supports one 3.5" HDD or two 2.5" internal HDDs on the right side of the chassis.



Figure 17: ■ 3.5" HDD Retention Screw Holes  
● 2.5" HDD Retention Screw Holes

### NOTE:

The HDDs have to be installed before CPU and PCI/ISA card installation procedures.

To install a 3.5" HDD, please follow the steps outlined below:

- Step 1:** Align the four retention screw holes in the 3.5" HDD with the four retention screw holes reserved for 3.5" HDDs in the right side of the upper compartment.

### NOTE:

When the 3.5" HDD is installed, make sure the power socket and IDE/SATA connector face the front of the chassis.

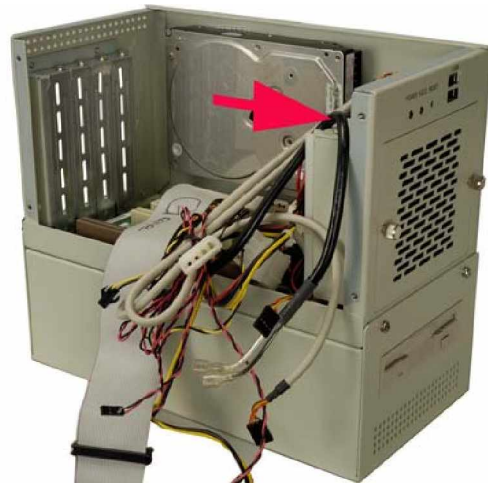


Figure 18: 3.5" HDD IDE/SATA Connector Direction

- Step 2:** To secure an HDD to the side of the chassis, insert four retention screws from the right side of the chassis.

To install a 2.5" HDD, please follow the steps outlined below:

- Step 1:** Install a 2.5" HDD in the upper compartment on the right side of the chassis.
- Step 2:** Align the four retention screw holes in the 2.5" HDD with four of the eight retention screw holes reserved for 2.5" HDDs in the right side of the chassis. Make sure the IDE/SATA connector faces upwards.



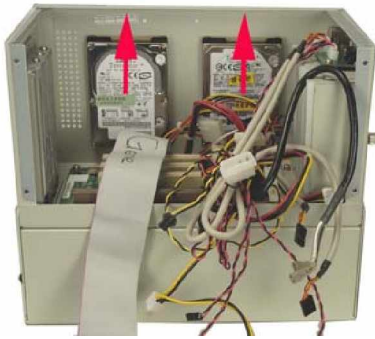


Figure 19: 2.5" HDD IDE/SATA Connector Faces Upwards






**Step 3:** Insert four retention screws to secure the 2.5" HDD to the right side of the chassis.

### STEP 8: CABLING

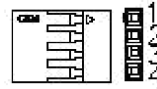
The 1407462 has LEDs, buttons and ports on the front panel and a power switch at the rear panel:

- o 1 x Power LED
- o 1 x HDD LED
- o 1 x Power switch
- o 1 x Reset button
- o 2 x USB ports

These components are all connected to the CPU card with cables. To correctly connect these cables, please refer to the technical documentation that came with your CPU card. The connectors that are provided with the chassis are listed below.

No.	Name
1	 Power LED cable
1	 Reset Switch cable
1	 HDD LED cable
1	 Power switch cable
2	 USB cable

The pin definitions for the USB cable are shown below



PIN No.	Description	Color
1	+5V	Red
2	D-	Dark Yellow
3	D+	Yellow
4	GND	Brown

Table 4: USB Cable Pinouts

### STEP 9: CPU CARD INSTALLATION

To install a CPU card, please follow the instructions below:



#### NOTE:

The cables must be connected to the CPU card before CPU card installation due to the limitation of the space.

**Step 1:** Connect the HDD cables to the CPU card.

**Step 2:** Remove the slot cover at the back of the chassis. To do this, remove the slot cover retention screw at the top of the slot cover.

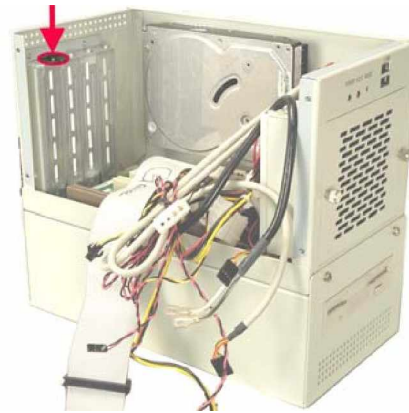


Figure 20: Remove the Slot Cover Retention Screw

**Step 3:** Slide the half-size CPU card into the socket on the backplane reserved for the CPU card. Make sure the back edge of the CPU card slots into the corresponding card guide located at the front of the chassis.

USB cable

**Table 3: Chassis Connectors**



Figure 21: Slide the CPU Card into the Socket

**Step 4:** To secure the CPU card, reinsert the previously removed slot cover retention screw.

## STEP 10: PCI/ISA EXPANSION CARD INSTALLATION

The 1407462 supports up to three PCI/ISA expansion cards. If you wish to install a PCI expansion card or an ISA expansion card please follow the instructions below:

- Step 1:** Remove the slot cover at the back of the chassis. To do this, remove the slot cover retention screw at the top of the slot cover.
- Step 2:** Slide the PCI/ISA expansion card into the reserved PCI/ISA socket on the backplane.
- Step 3:** To secure the PCI/ISA expansion card, reinsert the previously removed slot cover retention screw.

## STEP 11: TOP COVER REINSTALLATION

After you have completed the above procedures, the top cover can be reinstalled. To reinstall the top cover, slide the cover back over the chassis and reinsert the four previously removed retention screws.

## STEP 12: WALL-MOUNT PLATES INSTALLATION

Two wall-mount plates are shipped with the 1407462 chassis. The wall-mount plates are installed on the sides, at the bottom of the chassis. Each plate is secured to the chassis with three retention screws. To install the wall-mount plates, please follow the steps below:

- Step 1:** Align the retention screw holes on the side of the chassis with the retention screw holes in the wall-mount plate.
- Step 2:** Insert three retention screws into each wall-mount plate.

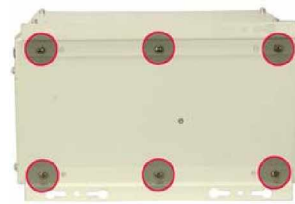


Figure 22: Wall-mount Plate Retention Screws

## CHASSIS MAINTENANCE

### FAN REPLACEMENT



#### NOTE:

Please ensure that the computer is switched off before you replace a fan.

There is one 8 cm cooling fan inside the 1407462 chassis. To replace a fan, please follow the steps below.

- Step 1:** Loosen the two fan filter bracket thumbscrews.



Figure 23: Fan Filter Bracket Thumbscrews

- Step 2:** Unplug the power cable connected to the fan.

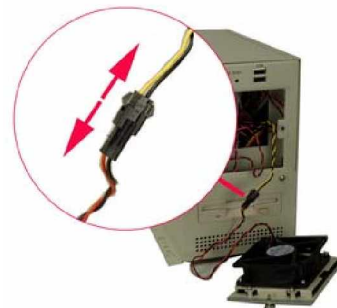


Figure 24: Disconnect the Fan Power Cable

- Step 3:** Remove the four fan filter bracket retention screws from inside.







Figure 25: Fan Retention Screws

**Step 4:** Remove the four retention screws that secure the fan filter plate to the fan.

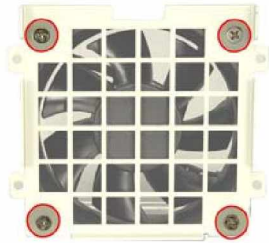


Figure 26: Fan Retention Screws

**Step 5:** Install a new fan and reinsert the four previously removed retention screws.

**Step 6:** Reinstall the fan filter plate with the fan.

**Step 7:** Reinstall the fan filter bracket and tighten the two fan filter bracket thumbscrews.

„ **FAN FILTER REPLACEMENT**

To replace the fan filter, please follow the steps below:

**Step 1:** Loosen the two fan filter bracket thumbscrews.



Figure 27: Fan Filter Bracket Thumbscrews

**Step 2:** Pull the fan filter pad out of the space between the fan filter plate and the fan filter bracket.



Figure 28: Pull the Fan Filter Pad out

**Step 3:** Insert a new fan filter pad.

**Step 4:** Reinstall the fan filter bracket and fasten the two fan filter bracket thumbscrews.

„ **CABINET INSTALLATION**

Supporting rails, rack trays, or slide rails can be installed using the mounting holes on the sides of the chassis. The four mounting holes in the two wall-mount plates, two in each wall-mount plate are shown below.

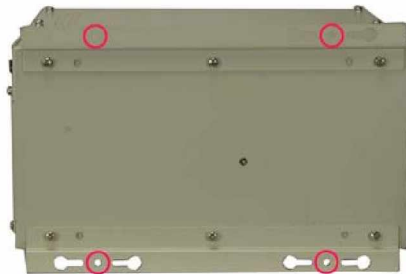


Figure 29: Wall Mounting Holes



**NOTE:**

If the system is running critical applications, please find the appropriate time to backup data and properly shut down the system.

Any advice or comments about our products and service, or anything we can help you with please don't hesitate to contact with us. We will do our best to support you for your products, projects and business.

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