

**MIC-3033/5**

5-slot enclosure with CT bus and rear I/O  
for ***CompactPCI™***

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## **CE Notification**

The MIC-3033/5, developed by Advantech Co., Ltd., has passed the CE test for environment specifications when shielded cables are used for external wiring. We recommend the use of shielded cables.

Part No. 2008303300  
Printed in Taiwan

1st Edition  
June 2000

*Preface and Table of Contents*



## **Product warranty**

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

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

1. Collect all the information about the problem encountered. For example, 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 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.

## Packing List

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Before installation, ensure that the following materials have been received:

- One MIC-3033/5 CompactPCI enclosure with backplane
- One box of accessories
- One warranty certificate
- This user's manual
- MIC-3463 user's manual
- MIC-3920/MIC-3921 user's manual
- PC Sentry user's manual

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

## Technical Support and Sales Assistance

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If you have any technical questions about the MIC-3033/5 or any other Advantech products, please visit our support website at:

- <http://www.advantech.com.tw/support>

For more information about Advantech's products and sales information, please visit:

- <http://www.advantech.com>

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CHAPTER

**1**

# **General Information**



## 1.1 Introduction

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The MIC-3033/5 is a 5-slot CompactPCI enclosure for rack or panel mounting. This 4U high enclosure provides five 6U card slots, and has a drive bay which can accommodate devices and peripherals such as floppy disk drives and hard disk drives. The MIC-3033/5 has two cooling fans to provide forced cooling air in the system. These two fans are individually hot-swappable, and users can directly replace any of the fans without interrupting the system's operation. The MIC-3033/5 provides redundant power supplies for mission critical applications.

## 1.2 Features

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- Five 6U card slots
- Supports front and rear I/O
- Supports H.110 CT bus
- Drive bay accommodates up to 4 devices
- Redundant power supply support
- Hot-swap compliant backplane
- Hot-swap fans
- Integrated intelligent fault detection and alarm module

## 1.3 Specifications

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### 1.3.1 General

- **Construction:** Aluminum frame and galvanized sheet steel
- **Drive bay:** Accommodates up to three 3.5" drives and one slim-type CD-ROM drive
- 6-slot space (24 TE), incl. four CompactPCI slots and one system slot
- "Hot swappable" platform complies with PICMG 2.1 R 1.0 Hot Swap Specification
- **Dimensions** (W x H x D, mounting flanges not included):  
**4U:** 440 x 177 x 342 mm (17.3" x 7" x 13.5")
- **Weight:** 10 kg (22 lb)
- **Operating temperature:** 0 ~ 50° C (32 ~ 122° F)
- **Storage temperature:** -20° C ~ 60° C (-4 ~ 158° F)
- **Relative humidity:** 10 ~ 95% @ 40° C, non-condensing
- **Operating altitude:** 0 ~ 3,048 meters (0 ~ 10,000 feet)
- **Storage/transit altitude:** 0 ~ 12,190 meters (40,000 feet)
- **Shock:** 10 G (operating); 30 G (storage/transit)
- **Random vibration:** 1.0 Grms (operating)

### 1.3.2 Hot-swap Fans

- **Air flow:** One 86-CFM fan (front), one 15-CFM fan (rear)
- **Power consumption:** 0.45 A @ 12 V, 0.09 A @ 12V
- **Rated fan speed:** 2170/4500 rpm
- **Life expectancy:** 50,000 hours @ 25° C

### 1.3.3 Power Supply

- **Input:** 90 ~ 264 @ 47 ~ 63 Hz, switchable
- **Output:** +3.3 V @ 22 A, +5 V @ 30 A, +12 V @ 13 A, -12 V @ 1.0 A
- **Minumum load:** +3.3 V @ 0.3 A, +5V @ 2 A, +12 V @ 0.5 A
- **Max output:** 300 W + 300 W redundant, 160 W for 5 V and 3.3 V
- **MTBF:** 100,000 hours @ 70% load
- **Safety:** UL/CUL/CE

# 1.4 Dimensions

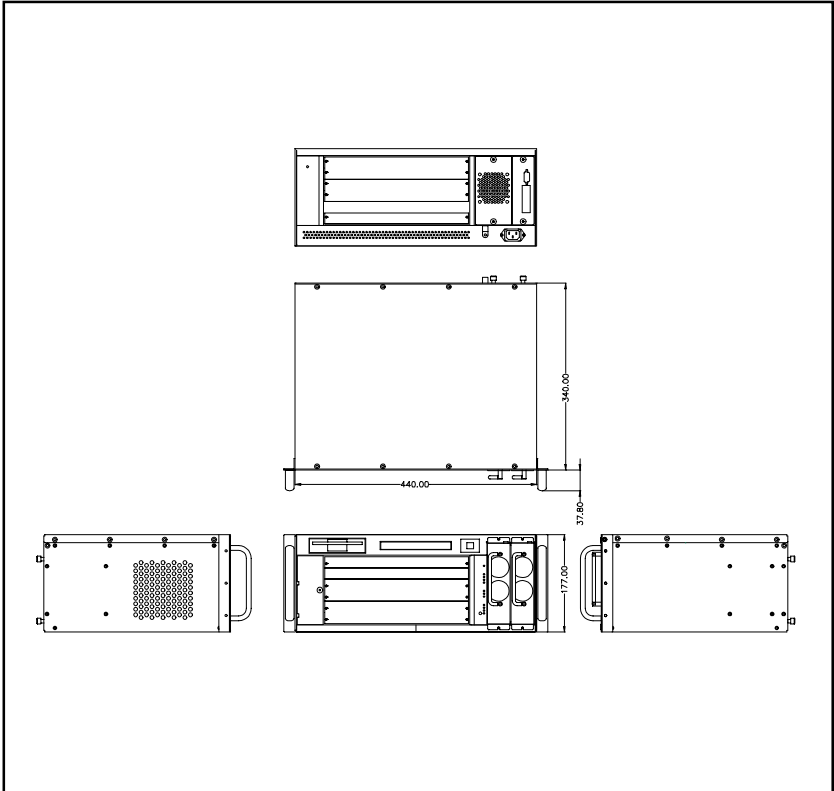


Figure 1-1: MIC-3033/5 dimensions



CHAPTER  
**2**

**Installation**

## 2.1 Initial Inspection

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We have carefully inspected the MIC-3033/5 mechanically and electrically before shipping. It should be free of marks and scratches and in perfect working order upon receipt.

As you unpack the MIC-3033/5, check it for signs of shipping damage (damaged box, scratches, dents, etc.). If it is damaged or fails to meet specifications, notify our service department or your local representative immediately. Also 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.

**Warning!** *We strongly recommend that only qualified, experienced personnel install or remove components. They must exercise extreme caution when doing so.*

## 2.2 The MIC-3033/5 Illustration

The MIC-3033/5 is designed to be installed and maintained easily. Figure 2-1 and Figure 2-2 illustrate important components on the front and rear side of the enclosure.

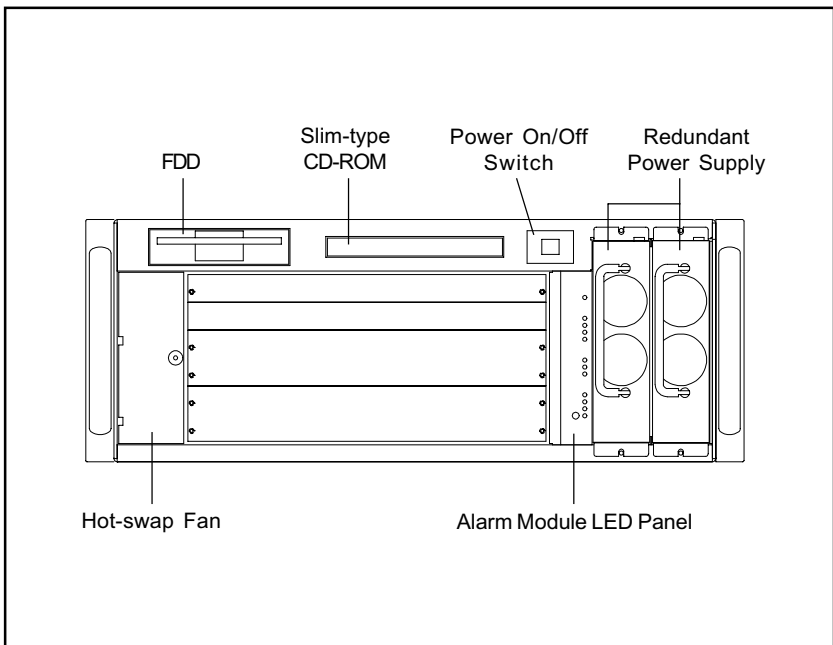


Figure 2-1: Front view of MIC-3033/5



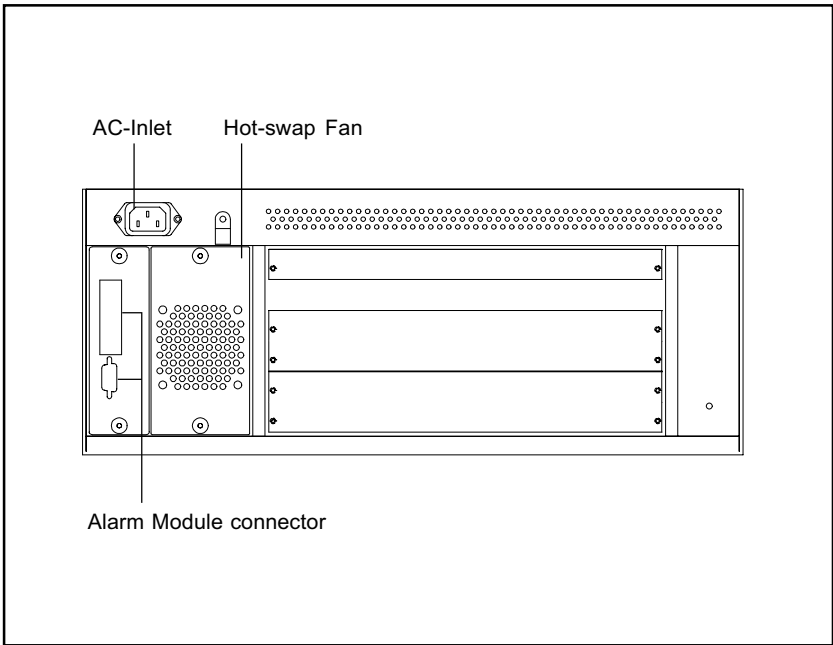


Figure 2-2: Rear view of MIC-3033/5

## 2.3 Installation Procedures

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### 2.3.1 Card Installation and Removal

The CompactPCI connectors are firm and rigid, and require careful handling while plugging and unplugging. Improper installation of a card can easily damage the backplane of the chassis.

The system card can be installed only in the system slot. The CompactPCI specification allows the system slot to be in any position in the backplane. Do not insert the system card into any other slot, or insert a peripheral card into the system slot. The MIC-3033/5 accepts different backplanes, so the location of the system slot may vary. The system slot is marked by a triangle enclosing the slot number. Please refer to the backplane user's manual.

The insert/eject handles on CompactPCI cards help users to install and remove the cards easily and safely. Follow the procedures below to install a card into a chassis:

**To install a card:**

1. Hold the card vertically. Be sure that the card is oriented correctly. The components of the card should be pointing to the right-hand side.
2. Be sure that the handles of the card are not latched. Release the handles if they are latched. Handles from different vendors may have different latch designs.

*Caution:* Keep your fingers away from the latch hinges to prevent your fingers from getting pinched.

3. Insert the card into the chassis by sliding the upper and lower edges of the card into the card guides.
4. Push the card into the slot gently by sliding the card along the card guide until the handles meet the rectangular holes of the cross rails.

**Note:** *If the card is correctly positioned and has been slid all the way into the chassis, the handles should match the rectangular holes. If not, remove the card from the card guide and repeat step 3 again. Do not try to install a card by forcing it into the chassis.*

5. Pull the upper handle down and lift the lower handle up to push the card into place.
6. Secure the card by locking the handles into place.

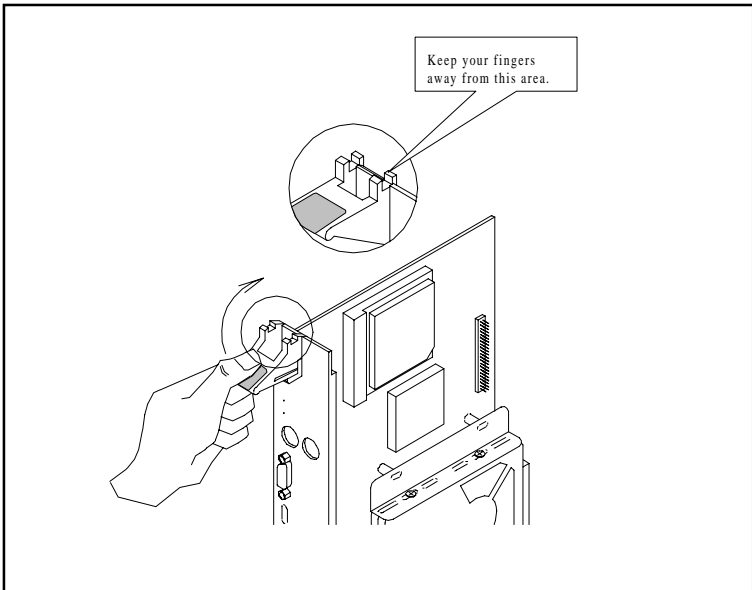


Figure 2-3: Installing a card into the chassis

**To remove a card:**

1. Unscrew the screws on the card front panel. Release the locking latches on the handles.
2. Lift the upper handle up and press the lower handle down to release the card from the backplane.
3. Slide the card out.

### **2.3.2 Before Operating the System**

Before operating your system, first check your power supply source. Adjust the switch on the power supply to the correct voltage.

Two mounting flanges are included for users who would like to install the MIC-3033/5 on a 19" rack.

### **2.3.3 Installing Peripherals**

The device bay of the MIC-3033/5 accepts four devices, including three 3.5" devices and one slim-type CD-ROM drive.

There are three types of mounting brackets shipped with the MIC-3033/5. The HDD mounting bracket is designed for mounting 3.5" hard disk drives, one pair of mounting brackets are for a standard 3.5" floppy disk drive, and one pair of mounting brackets are for a slim-type CD-ROM drive. Please refer to Figure 2-4, 2-5, and 2-6 for an illustration of mounting. Figure 2-7 shows the recommended device bay configuration.

### 2.3.4 Installing a 3.5" Hard Disk Drive

Follow the procedures below to install 3.5" hard disk drives on the MIC-3033/5:

1. Fasten the hard disk drives on the HDD mounting bracket.
2. Unfasten and remove the upper cover plate of the MIC-3033/5.
3. Fasten the mounting brackets with the hard disk drives on the MIC-3033/5.
4. Connect the cables to the installed devices and to the CompactPCI rear transition board.
5. Close the upper cover.

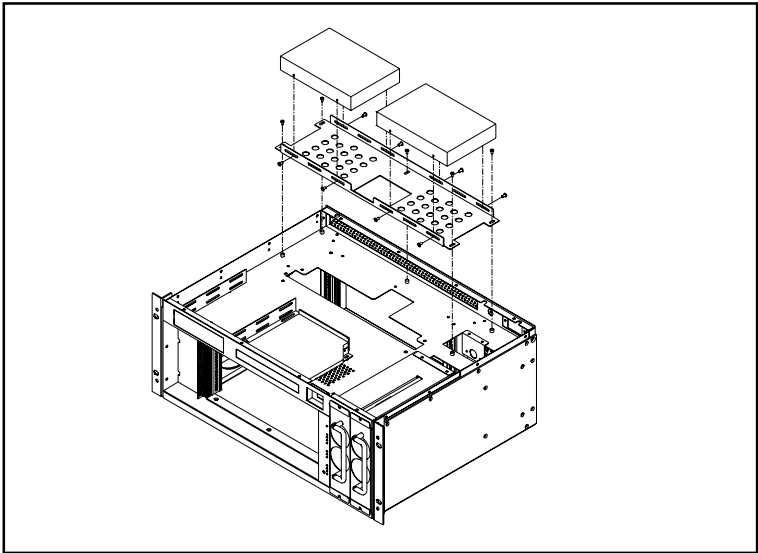


Figure 2-4: Installing 3.5" hard disk drives

### 2.3.5 Installing a 3.5" Floppy Disk Drive

A space is reserved for a 3.5" floppy disk drive in the device bay. Follow the procedures below to install a 3.5" floppy disk drive.

1. Fasten one pair of the FDD mounting brackets to both sides of a 3.5" floppy disk drive.
2. Unfasten and remove the upper cover plate of the MIC-3033/5.
3. Fasten the mounting brackets with the floppy disk drive on the MIC-3033/5.
4. Connect the cables to the installed device and to the CompactPCI rear transition board.
5. Close the upper cover.

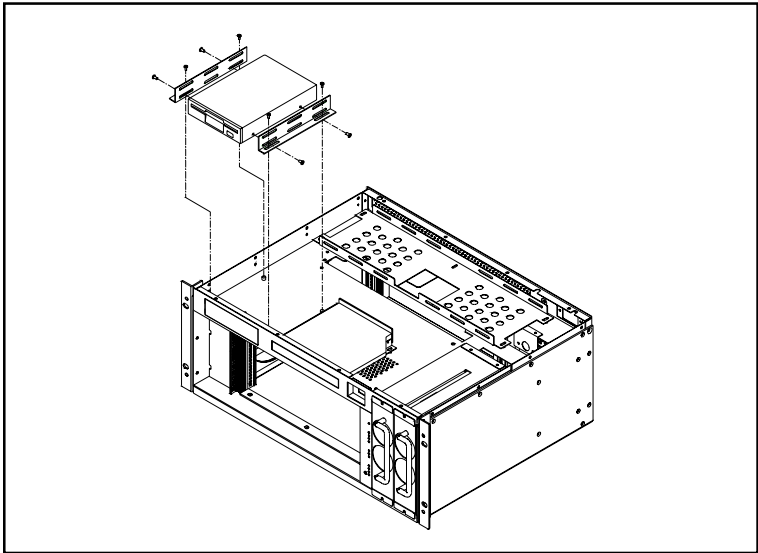


Figure 2-5: Installing a 3.5" floppy disk drive

### 2.3.6 Installing a slim-type CD-ROM Drive

A space is reserved for a slim-type CD-ROM drive in the device bay. Follow the procedures below to install a CD-ROM drive.

1. Fasten one pair of mounting brackets to both sides of a slim-type CD-ROM drive.
2. Fasten the small CD-ROM transition card (shipped with the MIC-3033/5) to the rear side of the CD-ROM.
3. Unfasten and remove the upper cover plate of the device tray.
4. Fasten the mounting brackets with the CD-ROM on the MIC-3033/5.
5. Connect the cables to the installed device and to the CompactPCI rear transition board.
6. Close the upper cover.

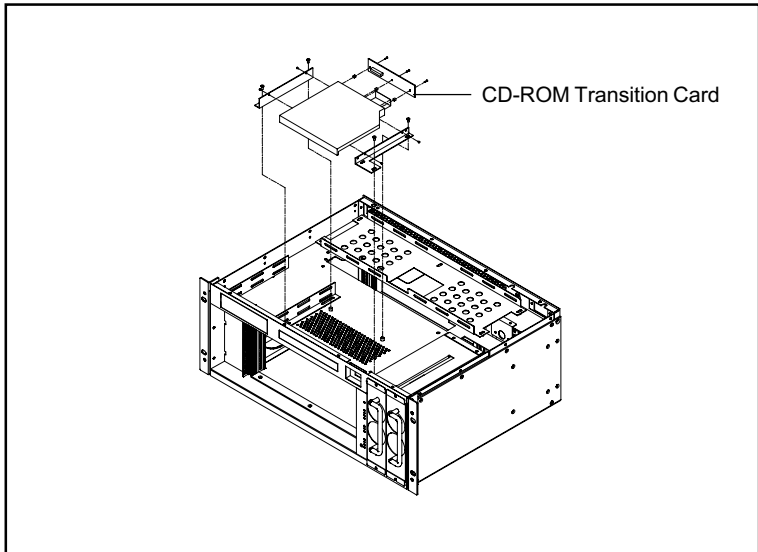


Figure 2-6: Attaching the mounting brackets to a slim-type CD-ROM drive

**Note:** *The CD-ROM transition card shown shipped with the MIC-3033/5 is used to connect the slim-type CD-ROM to standard IDE and power cables.*

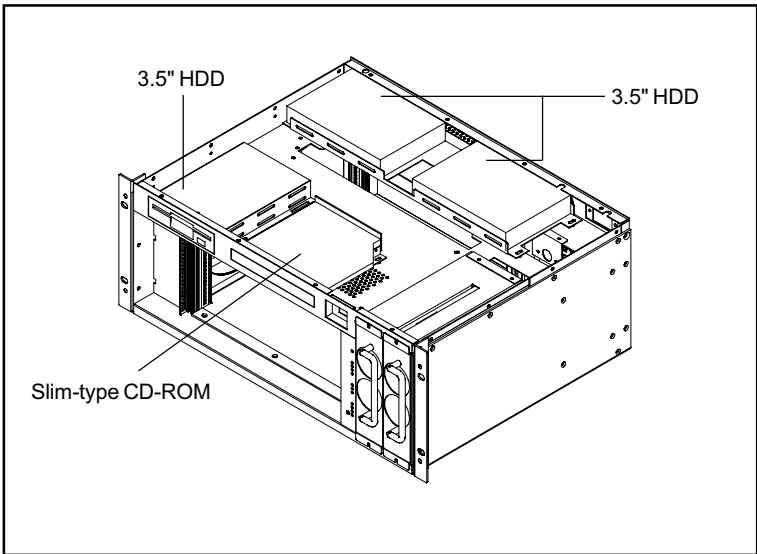


Figure 2-7: Recommended device bay configuration

### 2.3.7 Replacing the Hot-swap Fan and Air Filter

The MIC-3033/5 provides two hot-swap fans at both sides of the MIC-3033/5. Please refer to Figure 2-1 and 2-2. Each fan can be individually replaced. This can be done without turning off the system power or interrupting system operation.

Follow these steps to replace a fan:

1. Unfasten the fan's holder.
2. Slide the fan's holder out.
3. Replace the old fan with a new one.
4. Slide the fan's holder in.



5. Fasten the new fan's holder.

The air filter may become dirty after a period of time. Follow these steps to replace a filter:

1. Remove the filter cover.
2. Replace the dirty filter with a clean one.
3. Reattach the filter cover.

Repeat steps 1 to 3 to replace other filters.