

User Manual

## MIC-3043

4U compactPCI platform with  
cPCI Power supply/Removable  
HDD Bay

**ADVANTECH**

*Enabling an Intelligent Planet*

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This manual is for:

MIC-3043D2E

MIC-3043D2-BE

MIC-3043E2E

MIC-3043E2-BE

MIC-3043FE

MIC-3043F-BE

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### CE

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  - Description of your peripheral attachments
  - Description of your software (operating system, version, application software, etc.)
  - A complete description of the problem
  - The exact wording of any error messages

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## Packing List

Before setting up the system, check that the items listed below are included and in good condition. If any item does not accord with the table, please contact your dealer immediately.

- One MIC-3043 CompactPCI enclosure with backplane
- One box of accessories
- One warranty certificate
- One CD-ROM disk for user manual (PDF file)

# Safety Instructions

1. Read these safety instructions carefully.
2. Keep this User Manual for later reference.
3. Disconnect this equipment from any AC outlet before cleaning. Use a damp cloth. Do not use liquid or spray detergents for cleaning.
4. For plug-in equipment, the power outlet socket must be located near the equipment and must 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 may cause damage.
7. The openings on the enclosure are for air convection. Protect the equipment from overheating. **DO NOT COVER THE OPENINGS.**
8. Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.
9. Position the power cord so that people cannot step on it. Do not place anything over the power cord.
10. All cautions and warnings on the equipment should be noted.
11. If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient overvoltage.
12. Never pour any liquid into an opening. This may cause fire or electrical shock.
13. Never open the equipment. For safety reasons, the equipment should be opened only by qualified service personnel.
14. If one of the following situations arises, get the equipment checked by service personnel:
  - The power cord or plug is damaged.
  - Liquid has penetrated into the equipment.
  - The equipment has been exposed to moisture.
  - The equipment does not work well, or you cannot get it to work according to the user's manual.
  - The equipment has been dropped and damaged.
  - The equipment has obvious signs of breakage.
15. **DO NOT LEAVE THIS EQUIPMENT IN AN ENVIRONMENT WHERE THE STORAGE TEMPERATURE MAY GO BELOW -20° C (-4° F) OR ABOVE 60° C (140° F). THIS COULD DAMAGE THE EQUIPMENT. THE EQUIPMENT SHOULD BE IN A CONTROLLED ENVIRONMENT.**
16. **CAUTION: DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED. REPLACE ONLY WITH THE SAME OR EQUIVALENT TYPE RECOMMENDED BY THE MANUFACTURER, DISCARD USED BATTERIES ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.**

The sound pressure level at the operator's position according to IEC 704-1:1982 is no more than 70 dB (A).

**DISCLAIMER:** This set of instructions is given according to IEC 704-1. Advantech disclaims all responsibility for the accuracy of any statements contained herein.

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## Safety Precaution - Static Electricity

Follow these simple precautions to protect yourself from harm and the products from damage.

- To avoid electrical shock, always disconnect the power from your PC chassis before you work on it. Don't touch any components on the CPU card or other cards while the PC is on.
- Disconnect power before making any configuration changes. The sudden rush of power as you connect a jumper or install a card may damage sensitive electronic components.

# Contents

<b>Chapter 1</b>	<b>Hardware Configuration.....</b>	<b>1</b>
1.1	Introduction .....	2
1.2	Features .....	2
1.3	Specifications .....	3
1.3.1	General .....	3
1.3.2	Hot-swap Fans.....	3
1.3.3	Power Supply.....	3
1.4	Dimensions and Appearance .....	4
	Figure 1.1 MIC-3043 Functional Block Diagram.....	4
	Figure 1.2 Appearance of MIC-3043 .....	4
<b>Chapter 2</b>	<b>Installation.....</b>	<b>5</b>
2.1	Initial Inspection .....	6
2.2	The MIC-3043 Illustration.....	6
	Figure 2.1 Front view of MIC-3043 .....	6
	Figure 2.2 Front view of MIC-3043 .....	6
2.3	Installation Procedures.....	7
2.3.1	Card Installation and Removal.....	7
	Figure 2.3 Installing a card into the chassis.....	7
2.3.2	Before Operating the System.....	8
2.3.3	Installing a 3.5"/ 2.5" Hard Disk Drive .....	8
2.3.4	Connecting the rear I/O module.....	8
2.3.5	Replacing the Hot-swap Fan.....	9
	Figure 2.4 Hot-swappable fan maintenance .....	9
2.3.6	Configure the DVD-ROM to USB/ SATA mode .....	9
<b>Chapter 3</b>	<b>Backplane.....</b>	<b>11</b>
3.1	General Information .....	12
3.2	Features .....	12
3.3	Specification .....	12
3.4	Slot Assignments .....	12
	Table 3.1: System to peripheral slot signal assignment .....	13
	Figure 3.1 MIC-3811 and MIC-3812 slot numbering .....	13
3.5	Connector and Jumper Locations .....	14
	Table 3.2: Backplane connector and jumper description.....	14
	Figure 3.2 The connector and jumper locations on the front side (MIC- 3811 & MIC-3812) .....	14
	Figure 3.3 The connector and jumper locations on the rear side. (MIC-3811) .....	15
	Figure 3.4 The connector and jumper locations on the rear side. (MIC-3812) .....	15
3.5.1	AC/DC Power Connector (CN3, CN17) .....	15
3.5.2	Power Switch .....	15
3.5.3	V I/O Voltage Selection.....	15
	Figure 3.5 V I/O voltage selection.....	16
3.5.4	Fan Module Connector .....	16
3.5.5	Alert indicators .....	16
	Figure 3.6 Location of alert indicators.....	16
3.6	Clock Routing Configuration .....	16

## Appendix A Pin Assignments ..... 17

A.1	MIC-3812 and MIC-3811 System Slot P1 Connector ..... 18	18
	Table A.1: MIC-3812 and MIC-3811 system slot P1 connector. 18	
A.2	MIC-3812 and MIC-3811 System Slot P2 Connector ..... 19	19
	Table A.2: MIC-3812 and MIC-3811 System Slot P2 Connector... 19	
A.3	MIC-3812 and MIC-3811 System Slots P3 Connector ..... 20	20
	Table A.3: MIC-3812 and MIC-3811 System Slot P3 Connector... 20	
A.4	MIC-3812 and MIC-3811 System Slots P4 Connector ..... 21	21
	Table A.4: MIC-3812 and MIC-3811 System Slot P4 Connector... 21	
A.5	MIC-3812 and MIC-3811 System Slots P5 Connector ..... 22	22
	Table A.5: MIC-3812 and MIC-3811 System Slot P5 Connector... 22	
A.6	MIC-3812 and MIC-3811 Peripheral Slot P1 Connector..... 23	23
	Table A.6: MIC-3812 and MIC-3811 Peripheral Slot P1 Connector 23	
A.7	MIC-3812 and MIC-3811 Peripheral Slot P2 Connector..... 24	24
	Table A.7: MIC-3812 and MIC-3811 System Slot P2 Connector... 24	
A.8	MIC-3812 and MIC-3811 Peripheral Slot P3 Connector..... 25	25
	Table A.8: MIC-3812 and MIC-3811 Peripheral System Slot P3 Connector..... 25	
A.9	MIC-3812 Peripheral Slot P4 Connector..... 26	26
	Table A.9: MIC-3812 Peripheral System Slot P4 Connector ..... 26	
A.10	MIC-3811 Peripheral Slot P4 Connector..... 27	27
	Table A.10:MIC-3811 Peripheral System Slot P4 Connector ..... 27	
A.11	MIC-3811 Peripheral Slot P5 Connector..... 28	28
	Table A.11:MIC-3811 Peripheral Slot P5 Connector ..... 28	
A.12	MIC-3812 Peripheral Slot P5 Connector..... 29	29
	Table A.12:MIC-3812 Peripheral Slot P5 Connector ..... 29	
A.13	Fan Module Connectors..... 30	30
	Table A.13:Fan Module Connectors ..... 30	
A.14	LED Board Connector..... 30	30
	Table A.14:LED Board Connector ..... 30	
A.15	MIC-3812 & MIC-3812 Alarm Board Interface Connector ..... 31	31
	Table A.15:MIC-3812 & MIC-3812 Alarm Board Interface Connector ..... 31	
A.16	cPCI Power Connector (CN1,CN2, and CN5) ..... 32	32
	Table A.16:cPCI Power Connector (CN1,CN2, and CN5)..... 32	
A.17	AC/DC Power Connector (CN3) ..... 33	33
	Table A.17:AC/DC Power Connector (CN3)..... 33	
A.18	AC/DC Power Connector (CN17) ..... 33	33
	Table A.18:AC/DC Power Connector (CN17)..... 33	
A.19	Enable Power Switch Connector (CN15)..... 34	34
	Table A.19:Enable Power Switch Connector (CN15) ..... 34	
A.20	Device Power Connector (CN18)..... 34	34
	Table A.20:Device Power Connector (CN18)..... 34	



# Chapter 1

Hardware  
Configuration

## 1.1 Introduction

The MIC-3043 is a 4U-high enclosure designed as a high availability platform that supplies six CompactPCI slots for rack mounting. At the same height as a typical 4U platform, the MIC-3043 offers the equivalent capacity of 6U slot support in a CompactPCI format. Thus, the maximum space efficiency required for applications like CT and networking is easily achieved. There are two compatible backplane solutions for the MIC-3043: one with H.IIO CT bus support, and one without. MIC-3043 is also equipped with a 2+1 (500W+250W) hot-swappable/ redundant AC or DC compactPCI power supply that can fulfill most application requirements in a 4U-high system. With IU space reserved for a storage device (SATA or SAS) on top of the chassis, it gives maximum flexibility for most applications. The MIC-3043 has one slim-line CD-ROM drive built-in to maximize the available space in this 4U-high chassis. With a flexible modular design, the chassis accommodates a hot-swappable cooling fan, easily-maintainable power supply, and system status monitoring and control. For those mission-critical applications with high-manageability demands, MIC-3043 is compatible with a Chassis Management Module, the MIC-3924L-A, which is a stand-alone system environment monitoring module.

There are six MIC-3043 series:

- **MIC-3043D2E:** A 4U-high CompactPCI enclosure with 6-slot backplane (MIC-3811) with CT bus support, removable/ hot-swappable 3.5" SATA/ SAS device bays, hot-swappable cooling fan modules. Power supply not included.
- **MIC-3043D2-BE:** Identical to MIC-3042D2E chassis including I+I (250W+250W) redundant AC cPCI power supply.
- **MIC-3043E2E:** A 4U-high CompactPCI enclosure with 6-slot backplane (MIC-3812) without CT bus support, removable/ hot-swappable 3.5" SATA/ SAS device bays, hot-swappable cooling fan modules. Power supply not included.
- **MIC-3043E2-BE:** Identical to MIC-3043E2E chassis including I+I (250W+250W) redundant AC cPCI power supply.
- **MIC-3043FE:** A 4U-high CompactPCI enclosure with 6-slot backplane (MIC-3812) without CT bus support, four removable/ hot-swappable 2.5" SATA/ SAS device bays, hot-swappable cooling fan modules. Power supply not included.
- **MIC-3043F-BE:** Identical to MIC-3043FE chassis including I+I (250W+250W) redundant AC cPCI power supply.

**Note!** Please contact local distributor to order DC and 2+1 (500W+250W) power supplies.



## 1.2 Features

- Six 6U card slots
- Supports front and rear I/O
- Supports H.IIO CT application or non-CT application
- SATA or SAS storage devices support
- 2+1 (500W+250W) hot swappable/redundant AC or DC CompactPCI power supplies
- Hot-swap fan modules
- Integrated intelligent fault detection and alarm module, MIC-3924L-A.

## 1.3 Specifications

### 1.3.1 General

- **Construction:** Aluminum frame and galvanized sheet steel
- **I/O interfaces:** 6-slot space (24 TE), including one system slot and five peripheral slots
- **"Hot-swappable"** platform complies with PICMG 2.1 R 1.0 Hot Swap Specification

#### Dimensions and Weight

- **W x H x D:** mounting flanges not included:
- **4U:** 440x177x320 mm (17.3x7x12.6")
- **Weight:** 18 kg (39.7 lb) with 2+1 (500W+250W) redundant PSU

#### Mechanical and Environmental Specifications

- **Operating temperature:** 0 ~ 45° C
- **Storage temperature:** -20° C ~ 60° C
- **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) without HDD

### 1.3.2 Hot-swap Fans

- **Air flow:** 193 CFM (front side Fan/hot swappable); 61.3 CFM (Rear Side Fan)
- **Power consumption:** 1.42 A @12 V (TYP); 0.3 A @12 V (TYP)
- **Rated fan speed:** 3000 RPM; 3400 RPM
- **Life expectancy:** 50,000 hours @ 25° C

### 1.3.3 Power Supply

- **Input:**
  1. AC: 100~240 V @ 47~63 Hz, full range (for MIC-3043X-A models)
  2. DC: -48 V (TYP), -36~-72 V range (Optional)
- **Output:** 2+1 (500W+250W) hot swappable and redundant AC or DC w/PFC
- **Maximum load:** +3.3 V @ 36 A, +5 V @ 50 A, +12 V @ 10 A, -12 V @ 1 A
- **Minimum load:** +3.3 V @ 0 A, +5 V @ 2 A, +12 V @ 0 A, -12 V @ 0 A
- **MTBF:** AC: 266,241 hours @ 25° C; DC: 92,859 hours @ 30° C
- **Safety:** UL/CE/TUV /CCC

## 1.4 Dimensions and Appearance

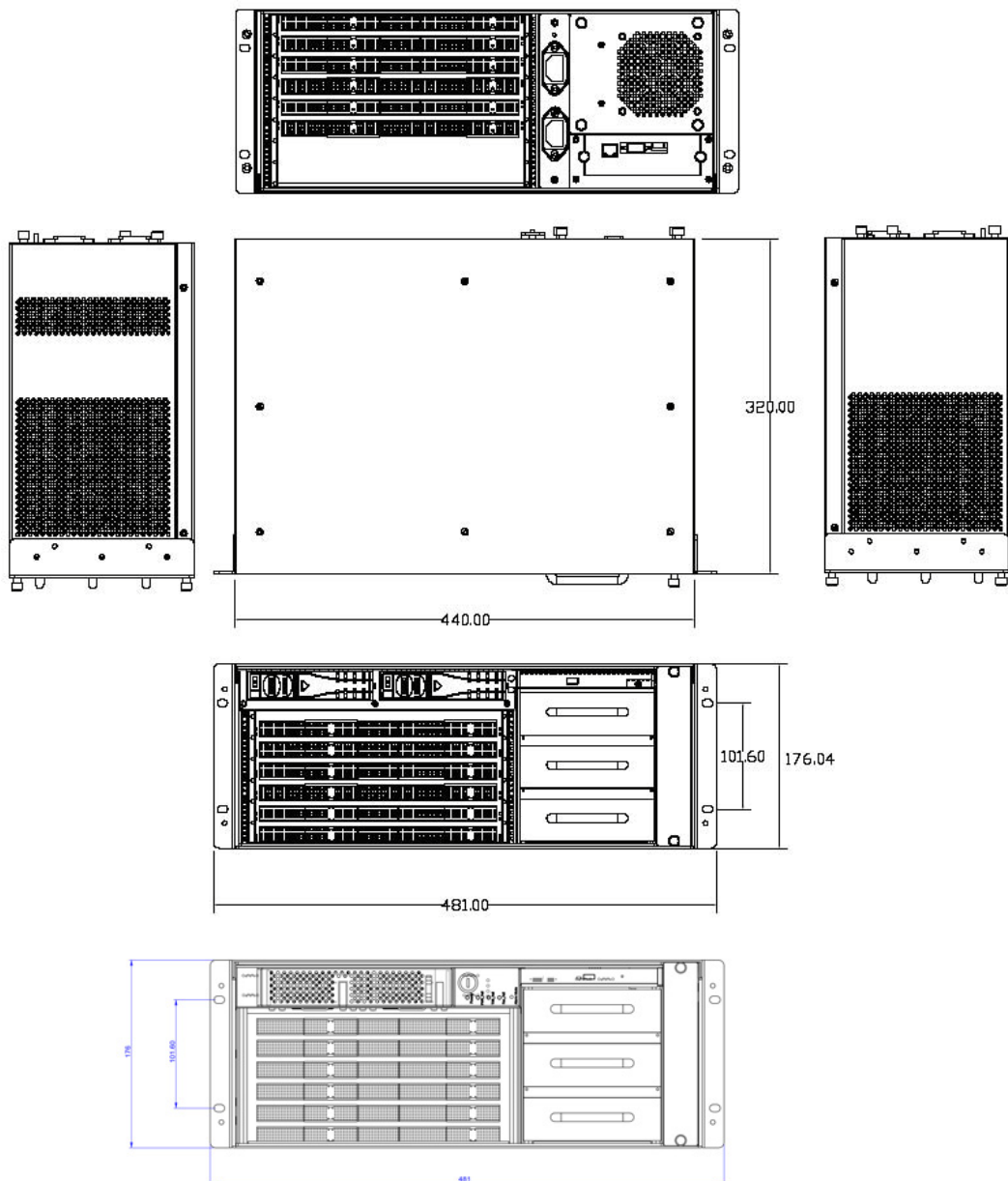


Figure 1.1 MIC-3043 Functional Block Diagram



Figure 1.2 Appearance of MIC-3043

# Chapter 2

Installation

## 2.1 Initial Inspection

We have carefully inspected the MIC-3043 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-3043, 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-3043 Illustration

The MIC-3043 is designed for easy installation and maintenance. Figure 2.1 and Figure 2.2 illustrate important components on the front and hot-swappable parts of the enclosure.



Figure 2.1 Front view of MIC-3043



Figure 2.2 Front view of MIC-3043

## 2.3 Installation Procedures

### 2.3.1 Card Installation and Removal

The CompactPCI connectors are firm and rigid, and require careful handling. 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 Compact-PCI specification allows the system slot to be in any position on the backplane. Do not insert the system card into any other slot, and do not insert a peripheral card into the system slot. The MIC-3043 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. Make 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.

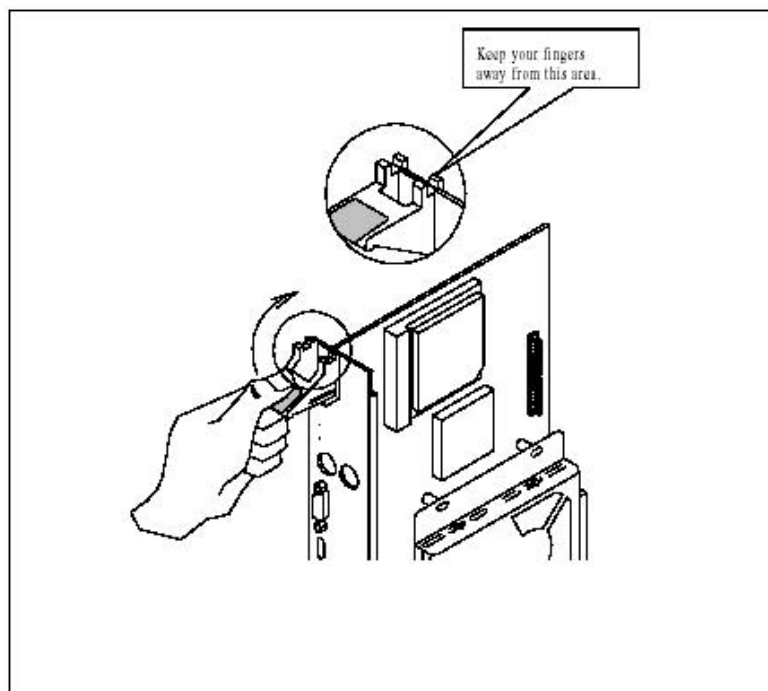


Figure 2.3 Installing a card into the chassis

**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.

**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-3043 on a 19" rack.

### 2.3.3 Installing a 3.5"/ 2.5" Hard Disk Drive

Follow these procedures to install 3.5"/2.5" hard disk drives in the MIC-3043:

1. Open the disk tray door and remove the mobile rack.
2. Mount the HDD (SATA/ SAS) on the mobile rack with screws.
3. Slide the HDD with mobile rack back into the tray.
4. Power on the system and check that the HDD can be found at the SAS initialization.

### 2.3.4 Connecting the rear I/O module

The MIC-3043 must be used with a proper rear I/O module. Please refer to the recommended configuration list for details. To install the RIO module, please follow the steps below:

1. Remove the blank panel above the system RIO slot. (We suggest removing all the blank panels before inserting the RIO module.)
2. Users will find two or four cables inside, two cables for MIC-3043D2 and MIC-3043E2 series, and four cables for MIC-3043F series.
3. Connect each cable to its connector on the I/O board, and then slide the RIO module into the card cage.
4. Power up the system and check that all the storage devices work properly.



### 2.3.5 Replacing the Hot-swap Fan

The MIC-3043 provides one hot-swap fan. Please refer to Figure 2-1 and 2-2. The fan can be removed without turning off the system power or interrupting the system operation.

Follow these steps to replace a fan:

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



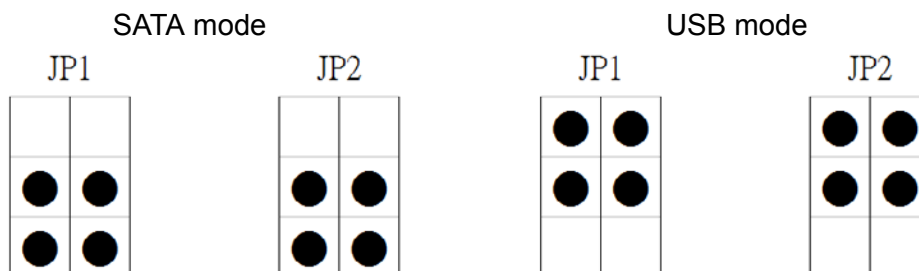
Figure 2.4 Hot-swappable fan maintenance

### 2.3.6 Configure the DVD-ROM to USB/ SATA mode

The MIC-3043 uses a daughter board to control its bundled DVD-ROM. The user can choose USB or SATA mode by selecting a proper jumper setting to pair with the purchased RIO module.

Follow these steps to configure the DVD-ROM:

1. Remove the two top covers.
2. Select a jumper setting on the DVD-ROM daughter board. Two jumpers can be found on the rear side of the DVD-ROM daughter board, named JP1 and JP2.



3. Connect the corresponding cable to the proper connector from RIO. To use SATA mode, a SATA cable should be connected to CN5. To use USB mode, a USB cable should be connected to CN2.



# Chapter 3

Backplane

## 3.1 General Information

There are two backplanes models that are compatible with the MIC-3043 series. MIC-3043D supports the H.110 CT bus backplane, the MIC-3811. MIC-3043E and MIC-3043F support a non-CT backplane MIC-3812. Both backplanes provide six CompactPCI slots with one slot dedicated to the CPU board. The MIC-3043 supports front I/O wiring, providing simplified system cabling. The backplane also provides several 3-pin connectors to connect a hot-swappable cooling fan module. The MIC-3043 complies with PICMG 2.1 Hot-Swap Specification, providing full hot-swapping capability. Users can build a hot-swap system using hot-swap plug-in boards and software.

## 3.2 Features

- Six CompactPCI slots (one system slot and five peripheral slots)
- 64-bit PCI bus compliant
- Complies with PICMG 2.1 Hot-Swap Specification
- Accepts 2+1 (500W+250W) hot-swappable/redundant AC or DC CompactPCI power supplies
- Chassis alarm module for environment monitoring.
- Hot-swappable fan interface
- Supports SATA or SAS HDD/SSD bays

## 3.3 Specification

- Six CompactPCI slots (one system slot and five peripheral slots)
- PCI Bus width: 64-bit
- Power connector: Two AC/DC power connectors for separate power input support
- Complies with CompactPCI Specification PICMG 2.0, R.3.0
- Complies with CompactPCI Hot-Swap Specification PICMG 2.1, R2.0.
- Complies with CompactPCI Front-Access Power Connectors PICMG 2.1I, R3.0.
- Complies with CompactPCI Computer Telephony PICMG2.5, RI.0 (optional)
- Dimensions: 440 x 177 x 320 mm (17.3" x 7" x 12.6")
- Operating temperature: 0° C ~ 45° C

## 3.4 Slot Assignments

The CompactPCI specification defines slot numbering separation for physical and logical slots. Each slot has a physical number and a logical number (refer to the CompactPCI specification version 2.0 R3.0 for further information on slot assignments). The physical numbers are printed on the backplane, enclosed in circles or triangles. Slot 5 of MIC-3811 and MIC-3812, marked by a triangle, is the system slot and can only be used by a CPU board. The other slots are peripheral slots. The logical number of each slot is defined according to the IDSEL signal and the associated address used to select the slot. Table 3-1 shows the system slot and peripheral slot relationships on the backplane. The system slot has a logical number of 5, and peripheral slots have logical numbers of 1~4, and 6. The connectors in logical slot 1 are designated as I-P1, I-P2, and I-P3 from the bottom up. Nomenclature for connectors in the other slot is similar, such as 2-P1 and 2-P2.

Connector S5PI on the system slot (slot 5) is a keyed connector providing a 32-bit CompactPCI bus between the system slot and the peripheral slot. Connector S5P2 on the system slot (slot 5) is an un-keyed connector providing 64-bit CompactPCI bus between the system slot and the peripheral slots. Connector S5P3 on the system slot (slot 5) is open for user definition. The pin assignment of connector S5P4 and S5P5 is only for H.IIO

CT bus support with MIC-3043A and MIC-3043C. For MIC-3043B, they are open for user definition.

Please check appendix A for the pin assignment of all connectors on the backplane.

Table 3.1: System to peripheral slot signal assignment			
System Slot (Logical Slot 5)		Peripheral Slot (Logical Slot 6)	
CLK4	P1:D6	CLK	P1:D6
AD31	P1:E6	IDSEL	P1:B9
REQ0#	P1:A6	REQ#	P1:A6
GNT0#	P1:E5	GNT#	P1:E5
System Slot (Logical Slot 5)		Peripheral Slot (Logical Slot 4)	
CLK1	P2:A1	CLK	P1:D6
AD30	P1:A7	IDSEL	P1:B9
REQ1#	P2:C1	REQ#	P1:A6
GNT1#	P2:D1	GNT#	P1:E5
System Slot (Logical Slot 5)		Peripheral Slot (Logical Slot 3)	
CLK2	P2:A2	CLK	P1:D6
AD29	P1:B7	IDSEL	P1:B9
REQ2#	P2:E2	REQ#	P1:A6
GNT2#	P2:D2	GNT#	P1:E5
System Slot (Logical Slot 5)		Peripheral Slot (Logical Slot 2)	
CLK3	P2:B2	CLK	P1:D6
AD28	P1:C7	IDSEL	P1:B9
REQ3#	P2:E2	REQ#	P1:A6
GNT3#	P2:C3	GNT#	P1:E5
System Slot (Logical Slot 5)		Peripheral Slot (Logical Slot 1)	
CLK0	P2:A3	CLK	P1:D6
AD27	P1:E7	IDSEL	P1:B9
REQ4#	P2:A3	REQ#	P1:A6
GNT4#	P2:E3	GNT#	P1:E5

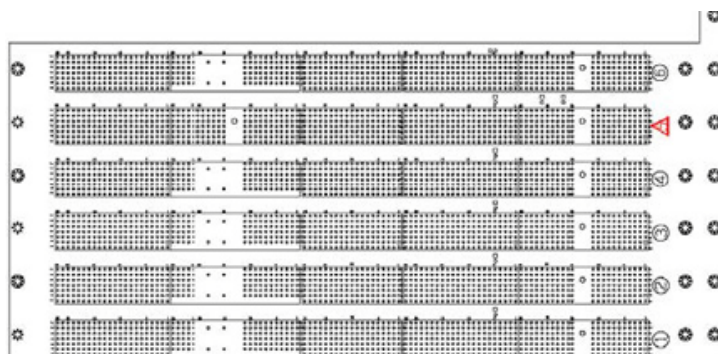


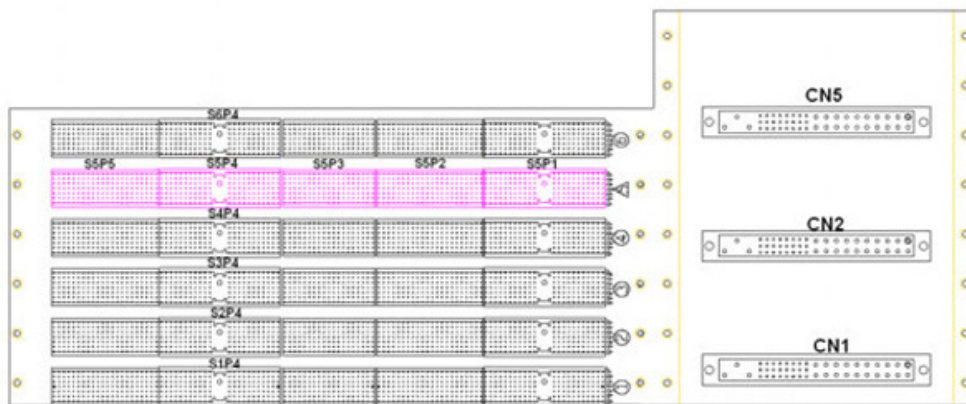
Figure 3.1 MIC-3811 and MIC-3812 slot numbering

## 3.5 Connector and Jumper Locations

The backplane provides connectors and jumpers for users to configure the backplane for specific applications. Table 3.2 gives a brief description of each connector on the backplane. Figures 3.3 to 3-6 illustrate the connector locations on the backplane.

**Table 3.2: Backplane connector and jumper description**

Function	MIC-3811	MIC-3812
AC/DC power connector	CN3, CN17	CN3, CN17
CPCL power connector	CN1, CN2, CN5	CN1, CN2, CN5
LED board connector	CN14	CN14
Fan module connectors	CN8~CN13	CN8~CN13
Power switch connector	CN15	CN15
V I/O voltage selections	T1~T3	T1~T3
I/O transition	P3, P5	P3, P4, P5
H.110 CT bus (slots 1~4,6)	S1P4~S4P4, S6P4	N/A
Alarm Module Connector	CN16	CN16
M66EN	JP8	JP8
64EN	JP1~JP6	JP1~JP6
Drive bay power	CN18	CN18
Power failure connector	CN4, CN6, CN7	CN4, CN6, CN7



**Figure 3.2 The connector and jumper locations on the front side (MIC- 3811 & MIC-3812)**

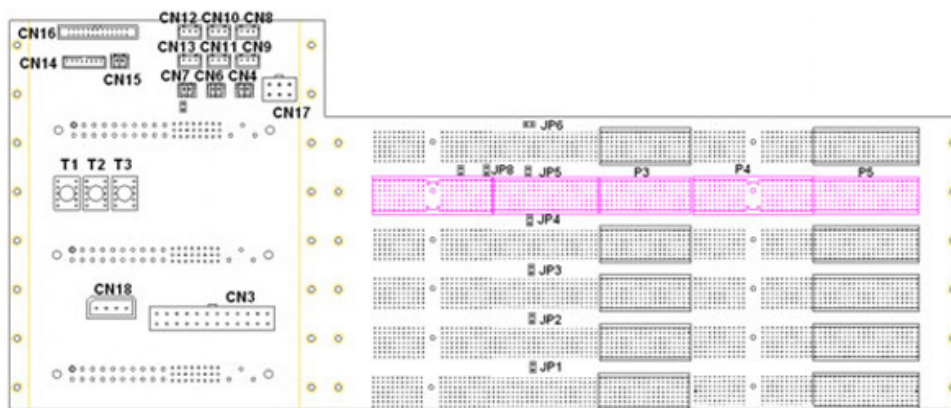


Figure 3.3 The connector and jumper locations on the rear side. (MIC-3811)

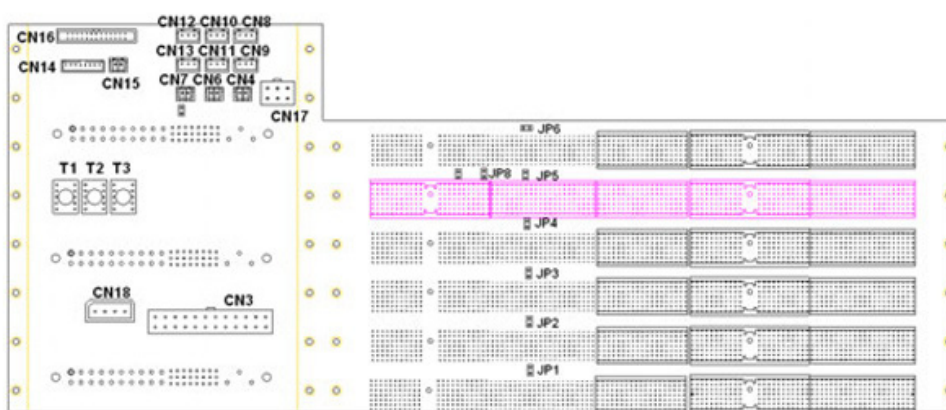


Figure 3.4 The connector and jumper locations on the rear side. (MIC-3812)

### 3.5.1 AC/DC Power Connector (CN3, CN17)

These connectors accept the separate AC/DC power input.

**Note!** *The power connector CN17 is not compatible with ATX pin assignment. Do not use an ATX power supply instead of DC power supply.*



### 3.5.2 Power Switch

This connector provides power control over the plug-in power module. If the CompactPCI chassis provides a 2-pin power switch cord, connect this cord to the CN15 connector to control the power by the power switch.

### 3.5.3 V I/O Voltage Selection

This jumper is used to select the V I/O voltage. The backplane allows V I/O to be set to either 5 V or 3.3 V. Since the default is configured for use with 5V CompactPCI boards (blue-keyed connectors), once the jumper is set to 3.3 V, the CompactPCI keys must be changed to 3.3 V at the same time (as yellow-keyed connectors).



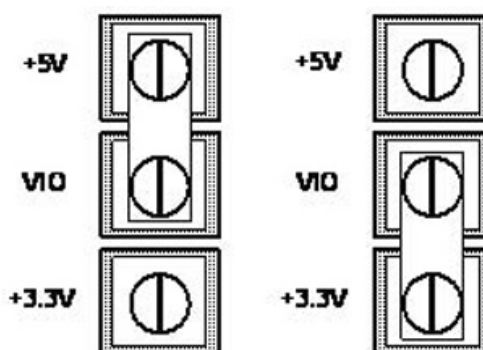


Figure 3.5 V I/O voltage selection

### 3.5.4 Fan Module Connector

The FAN connectors provide +12 V power for fan operation and relay the tachometer output from the fans.

**Note!** The fan4 is reserved as factory default.



### 3.5.5 Alert indicators

The MIC-3043 series alarm module (MIC-3924L-A) provides two alert signals to the chassis front panel, close to the HDD bay. The bottom signal is for fan failure; the upper signal is for system overheating (temperature above 50 °C).

**Note!** System temperature is detected by the alarm module via the LM75 chip.

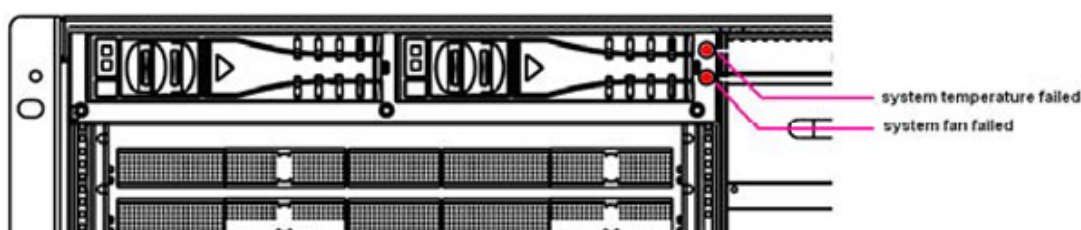


Figure 3.6 Location of alert indicators

## 3.6 Clock Routing Configuration

The backplane is configured to comply with the clock routing specified in the CompactPCI Specification, PICMG 2.0, R3.0. This Specification requires that each slot be independently clocked.




# Appendix **A**

## Pin Assignments

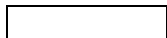
## A.1 MIC-3812 and MIC-3811 System Slot P1 Connector

Table A.1: MIC-3812 and MIC-3811 system slot P1 connector

Pin	Z	A	B	C	D	E	F
25	GND	+5V	REQ64#	ENUM#	+3.3V	+5V	GND
24	GND	AD[1]	+5V	V(I/O)	AD[0]	ACK64#	GND
23	GND	+3.3V	AD[4]	AD[3]	+5V	AD[2]	GND
22	GND	AD[7]	GND	+3.3V	AD[6]	AD[5]	GND
21	GND	+3.3V	AD[9]	AD[8]	M66EN	C/BE[0]#	GND
20	GND	AD[12]	GND	V(I/O)	AD[11]	AD[10]	GND
19	GND	+3.3V	AD[15]	AD[14]	GND	AD[13]	GND
18	GND	SERR#	GND	+3.3V	PAR	C/BE[1]#	GND
17	GND	+3.3V	IPMB- SCL	IPMB- SDA	GND	PERR#	GND
16	GND	DEVSEL#	GND	V(I/O)	STOP#	LOCK#	GND
15	GND	+3.3V	FRAME#	IRDY#	GND	TRDY#	GND
12-14	Key Area						
11	GND	AD[18]	AD[17]	AD[16]	GND	C/BE[2]#	GND
10	GND	AD[21]	GND	+3.3V	AD[20]	AD[19]	GND
9	GND	C/BE[3]#	GND	AD[23]	GND	AD[22]	GND
8	GND	AD[26]	GND	V(I/O)	AD[25]	AD[24]	GND
7	GND	AD[30]	AD[29]	AD[28]	GND	AD[27]	GND
6	GND	REQ0#	GND	+3.3V	CLK0	AD[31]	GND
5	GND	BRSVP 1A5	RRSVP 1B5	RST#	GND	GNT0#	GND
4	GND	IPMB- PWR	Healthy#	V(I/O)	INTP	INTS	GND
3	GND	INTA#	INTB#	INTC#	+5V	INTD#	GND
2	GND	TCK	+5V	TMS	TDO	TDI	GND
1	GND	+5V	-12V	TRST#	+12V	+5V	GND

 = long pins



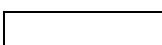
 = short pins

 = medium pins

#: Low activity




## A.2 MIC-3812 and MIC-3811 System Slot P2 Connector

Table A.2: MIC-3812 and MIC-3811 System Slot P2 Connector							
Pin	Z	A	B	C	D	E	F
22	GND	GA4	GA3	GA2	GA1	GA0	GND
21	GND	NC	GND	RSV	RSV	RSV	GND
20	GND	NC	GND	RSV	GND	RSV	GND
19	GND	GND	GND	RSV	RSV	RSV	GND
18	GND	BRSVP 2A18	BRSVP 2B18	BRSVP 2C18	DND	BRSVP 2E18	GND
17	GND	BRSVP 2A17	GND	PRST#	NC	NC	GND
16	GND	BRSVP 2A16	BRSVP 2B16	DEG#	GND	BRSVP 2E16	GND
15	GND	BRSVP 2A15	GND	FAL#	NC	NC	GND
14	GND	AD[35]	AD[34]	AD[33]	GND	AD[32]	GND
13	GND	AD[38]	GND	V(I/O)	AD[37]	AD[36]	GND
12	GND	AD[42]	AD[41]	AD[40]	GND	AD[39]	GND
11	GND	AD[45]	GND	V(I/O)	AD[44]	AD[43]	GND
10	GND	AD[49]	AD[48]	AD[47]	GND	AD[46]	GND
9	GND	AD[52]	GND	V(I/O)	AD[51]	AD[50]	GND
8	GND	AD[56]	AD[55]	AD[54]	GND	AD[53]	GND
7	GND	AD[59]	GND	V(I/O)	AD[58]	AD[57]	GND
6	GND	AD[63]	AD[62]	AD[61]	GND	AD[60]	GND
5	GND	C/BE[5]#	GND	V(I/O)	C/BE[4]#	PAR64	GND
4	GND	V(I/O)	BRSVP 2B4	C/BE[7]#	GND	C/BE[6]#	GND
3	GND	CLK4	GND	GNT3#	REQ4#	GNT4#	GND
2	GND	CLK2	CLK3	SYSEN#	GNT2#	REQ3#	GND
1	GND	CLK1	GND	REQ1#	GNT1#	REQ2#	GND

 = long pins    
  = short pins    
  = medium pins  
 #: Low activity



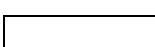
## A.3 MIC-3812 and MIC-3811 System Slots P3 Connector

Table A.3: MIC-3812 and MIC-3811 System Slot P3 Connector							
Pin	Z	A	B	C	D	E	F
19	GND	NC	NC	NC	NC	NC	GND
18	GND	NC	NC	NC	NC	NC	GND
17	GND	NC	NC	NC	NC	NC	GND
16	GND	NC	NC	NC	NC	NC	GND
15	GND	NC	NC	NC	NC	NC	GND
14	GND	NC	NC	NC	NC	NC	GND
13	GND	NC	NC	NC	NC	NC	GND
12	GND	NC	NC	NC	NC	NC	GND
11	GND	NC	NC	NC	NC	NC	GND
10	GND	NC	NC	NC	NC	NC	GND
9	GND	NC	NC	NC	NC	NC	GND
8	GND	NC	NC	NC	NC	NC	GND
7	GND	NC	NC	NC	NC	NC	GND
6	GND	NC	NC	NC	NC	NC	GND
5	GND	NC	NC	NC	NC	NC	GND
4	GND	NC	NC	NC	NC	NC	GND
3	GND	NC	NC	NC	NC	NC	GND
2	GND	NC	NC	NC	NC	NC	GND
1	GND	NC	NC	NC	NC	NC	GND

 = long pins    
  = short pins    
  = medium pins  
 #: Low activity



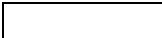
## A.4 MIC-3812 and MIC-3811 System Slots P4 Connector

Table A.4: MIC-3812 and MIC-3811 System Slot P4 Connector							
Pin	Z	A	B	C	D	E	F
25	GND	NC	NC	NC	NC	NC	GND
24	GND	NC	NC	NC	NC	NC	GND
23	GND	NC	NC	NC	NC	NC	GND
22	GND	NC	NC	NC	NC	NC	GND
21	GND	NC	NC	NC	NC	NC	GND
20	GND	NC	NC	NC	NC	NC	GND
19	GND	NC	NC	NC	NC	NC	GND
18	GND	NC	NC	NC	NC	NC	GND
17	GND	NC	NC	NC	NC	NC	GND
16	GND	NC	NC	NC	NC	NC	GND
15	GND	NC	NC	NC	NC	NC	GND
12-14	Key Area						
11	GND	NC	NC	NC	NC	NC	GND
10	GND	NC	NC	NC	NC	NC	GND
9	GND	NC	NC	NC	NC	NC	GND
8	GND	NC	NC	NC	NC	NC	GND
7	GND	NC	NC	NC	NC	NC	GND
6	GND	NC	NC	NC	NC	NC	GND
5	GND	NC	NC	NC	NC	NC	GND
4	GND	NC	NC	NC	NC	NC	GND
3	GND	NC	NC	NC	NC	NC	GND
2	GND	NC	NC	NC	NC	NC	GND
1	GND	NC	NC	NC	NC	NC	GND

 = long pins   
  = short pins   
  = medium pins  
 #: Low activity




## A.5 MIC-3812 and MIC-3811 System Slots P5 Connector

Table A.5: MIC-3812 and MIC-3811 System Slot P5 Connector							
Pin	Z	A	B	C	D	E	F
19	GND	NC	NC	NC	NC	NC	GND
18	GND	NC	NC	NC	NC	NC	GND
17	GND	NC	NC	NC	NC	NC	GND
16	GND	NC	NC	NC	NC	NC	GND
15	GND	NC	NC	NC	NC	NC	GND
14	GND	NC	NC	NC	NC	NC	GND
13	GND	NC	NC	NC	NC	NC	GND
12	GND	NC	NC	NC	NC	NC	GND
11	GND	NC	NC	NC	NC	NC	GND
10	GND	NC	NC	NC	NC	NC	GND
9	GND	NC	NC	NC	NC	NC	GND
8	GND	NC	NC	NC	NC	NC	GND
7	GND	NC	NC	NC	NC	NC	GND
6	GND	NC	NC	NC	NC	NC	GND
5	GND	NC	NC	NC	NC	NC	GND
4	GND	NC	NC	NC	NC	NC	GND
3	GND	NC	NC	NC	NC	NC	GND
2	GND	NC	NC	NC	NC	NC	GND
1	GND	NC	NC	NC	NC	NC	GND

 = long pins    
  = short pins    
  = medium pins  
 #: Low activity

## A.6 MIC-3812 and MIC-3811 Peripheral Slot P1 Connector

Table A.6: MIC-3812 and MIC-3811 Peripheral Slot P1 Connector							
Pin	Z	A	B	C	D	E	F
25	GND	+5V	REQ64#	ENUM#	+3.3V	+5V	GND
24	GND	AD[1]	+5V	V(I/O)	AD[0]	ACK64#	GND
23	GND	+3.3V	AD[4]	AD[3]	+5V	AD[2]	GND
22	GND	AD[7]	GND	+3.3V	AD[6]	AD[5]	GND
21	GND	+3.3V	AD[9]	AD[8]	M66EN	C/BE[0]#	GND
20	GND	AD[12]	GND	V(I/O)	AD[11]	AD[10]	GND
19	GND	+3.3V	AD[15]	AD[14]	GND	AD[13]	GND
18	GND	SERR#	GND	+3.3V	PAR	C/BE[1]#	GND
17	GND	+3.3V	IPMB- SCL	IPMB- SDA	GND	PERR#	GND
16	GND	DEVSEL#	GND	V(I/O)	STOP#	LOCK#	GND
15	GND	+3.3V	FRAME#	IRDY#	GND	TRDY#	GND
12-14	Key Area						
11	GND	AD[18]	AD[17]	AD[16]	GND	C/BE[2]#	GND
10	GND	AD[21]	GND	+3.3V	AD[20]	AD[19]	GND
9	GND	C/BE[3]#	IDSEL	AD[23]	GND	AD[22]	GND
8	GND	AD[26]	GND	V(I/O)	AD[25]	AD[24]	GND
7	GND	AD[30]	AD[29]	AD[28]	GND	AD[27]	GND
6	GND	REQ#	GND	+3.3V	CLK	AD[31]	GND
5	GND	BRSVP 1A5	RRSVP 1B5	RST#	GND	GNT#	GND
4	GND	IPMB- PWR	Healthy #	V(I/O)	INTP	INTS	GND
3	GND	INTA#	INTB#	INTC#	+5V	INTD#	GND
2	GND	TCK	+5V	TMS	TDO	TDI	GND
1	GND	+5V	-12V	TRST#	+12V	+5V	GND

 = long pins    
  = short pins    
  = medium pins

## A.7 MIC-3812 and MIC-3811 Peripheral Slot P2 Connector

Table A.7: MIC-3812 and MIC-3811 System Slot P2 Connector

Pin	Z	A	B	C	D	E	F
22	GND	GA4	GA3	GA2	GA1	GA0	GND
21	GND	RSV	RSV	RSV	RSV	RSV	GND
20	GND	RSV	RSV	RSV	GND	RSV	GND
19	GND	RSV	RSV	RSV	RSV	RSV	GND
18	GND	BRSVP 2A18	BRSVP 2B18	BRSVP 2C18	GND	BRSVP 2E18	GND
17	GND	BRSVP 2A17	GND	RSV	RSV	RSV	GND
16	GND	BRSVP 2A16	BRSVP 2B16	RSV	GND	BRSVP 2E16	GND
15	GND	BRSVP 2A15	GND	RSV	RSV	BRSV	GND
14	GND	AD[35]	AD[34]	AD[33]	GND	AD[32]	GND
13	GND	AD[38]	GND	V(I/O)	AD[37]	AD[36]	GND
12	GND	AD[42]	AD[41]	AD[40]	GND	AD[39]	GND
11	GND	AD[45]	GND	V(I/O)	AD[44]	AD[43]	GND
10	GND	AD[49]	AD[48]	AD[47]	GND	AD[46]	GND
9	GND	AD[52]	GND	V(I/O)	AD[51]	AD[50]	GND
8	GND	AD[56]	AD[55]	AD[54]	GND	AD[53]	GND
7	GND	AD[59]	GND	V(I/O)	AD[58]	AD[57]	GND
6	GND	AD[63]	AD[62]	AD[61]	GND	AD[60]	GND
5	GND	C/BE[5]#	GND	V(I/O)	C/BE[4]#	PAR64	GND
4	GND	V(I/O)	BRSVP 2B4	C/BE[7]#	GND	C/BE[6]#	GND
3	GND	RSV	GND	RSV	RSV	RSV	GND
2	GND	RSV	RSV	UNC	RSV	RSV	GND
1	GND	RSV	GND	RSV	RSV	RSV	GND

 = long pins    
  = short pins    
  = medium pins

**Note!** *GA[4...0] shall be used for geographic addressing on the backplane.*








## A.8 MIC-3812 and MIC-3811 Peripheral Slot P3 Connector



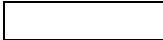
**Table A.8: MIC-3812 and MIC-3811 Peripheral System Slot P3 Connector**

Pin	Z	A	B	C	D	E	F
19	GND	NC	NC	NC	NC	NC	GND
18	GND	NC	NC	NC	NC	NC	GND
17	GND	NC	NC	NC	NC	NC	GND
16	GND	NC	NC	NC	NC	NC	GND
15	GND	NC	NC	NC	NC	NC	GND
14	GND	NC	NC	NC	NC	NC	GND
13	GND	NC	NC	NC	NC	NC	GND
12	GND	NC	NC	NC	NC	NC	GND
11	GND	NC	NC	NC	NC	NC	GND
10	GND	NC	NC	NC	NC	NC	GND
9	GND	NC	NC	NC	NC	NC	GND
8	GND	NC	NC	NC	NC	NC	GND
7	GND	NC	NC	NC	NC	NC	GND
6	GND	NC	NC	NC	NC	NC	GND
5	GND	NC	NC	NC	NC	NC	GND
4	GND	NC	NC	NC	NC	NC	GND
3	GND	NC	NC	NC	NC	NC	GND
2	GND	NC	NC	NC	NC	NC	GND
1	GND	NC	NC	NC	NC	NC	GND

 = long pins   
  = short pins   
  = medium pins  
 #: Low activity

## A.9 MIC-3812 Peripheral Slot P4 Connector

Table A.9: MIC-3812 Peripheral System Slot P4 Connector							
Pin	Z	A	B	C	D	E	F
25	GND	NC	NC	NC	NC	NC	GND
24	GND	NC	NC	NC	NC	NC	GND
23	GND	NC	NC	NC	NC	NC	GND
22	GND	NC	NC	NC	NC	NC	GND
21	GND	NC	NC	NC	NC	NC	GND
20	GND	NC	NC	NC	NC	NC	GND
19	GND	NC	NC	NC	NC	NC	GND
18	GND	NC	NC	NC	NC	NC	GND
17	GND	NC	NC	NC	NC	NC	GND
16	GND	NC	NC	NC	NC	NC	GND
15	GND	NC	NC	NC	NC	NC	GND
12-14	Key Area						
11	GND	NC	NC	NC	NC	NC	GND
10	GND	NC	NC	NC	NC	NC	GND
9	GND	NC	NC	NC	NC	NC	GND
8	GND	NC	NC	NC	NC	NC	GND
7	GND	NC	NC	NC	NC	NC	GND
6	GND	NC	NC	NC	NC	NC	GND
5	GND	NC	NC	NC	NC	NC	GND
4	GND	NC	NC	NC	NC	NC	GND
3	GND	NC	NC	NC	NC	NC	GND
2	GND	NC	NC	NC	NC	NC	GND
1	GND	NC	NC	NC	NC	NC	GND

 = long pins   
  = short pins   
  = medium pins  
 #: Low activity




## A.10 MIC-3811 Peripheral Slot P4 Connector

Table A.10: MIC-3811 Peripheral System Slot P4 Connector							
Pin	Z	A	B	C	D	E	F
25	NC	SGA4	SGA3	SGA2	SGA1	SGA0	GND
24	NC	GA4	GA3	GA2	GA1	GA0	GND
23	NC	+12V	#CT_RT	#CT_EN	-12V	CT_MC	GND
22	NC	#PF_S0	RSV	RSV	RSV	RSV	GND
21	NC	-SEL_Vbat	#PF_S1	RSV	RSV	SELV- batRtn	GND
20	NC	NC	NC	NC	NC	NC	GND
19	NC	NC	NC	NC	NC	NC	GND
18	NC	VRG	NC	NC	NC	VRGRtn	GND
17	NC	NC	NC	NC	NC	NC	GND
16	NC	NC	NC	NC	NC	NC	GND
15	NC	-Vbat	NC	NC	NC	VbatRtn	GND
12-14	Key Area						
11	NC	CT_D29	CT_D30	CT_D31	VIO	#CT_FA	GND
10	NC	CT_D27	+3.3V	CT_D28	+5V	#CT_FB	GND
9	NC	CT_D24	CT_D25	CT_D26	GND	#FR_CP	GND
8	NC	CT_D21	CT_D22	CT_D23	+5V	CT_C8A	GND
7	NC	CT_D19	+5V	CT_D20	GND	CT_C8B	GND
6	NC	CT_D16	CT_D17	CT_D18	GND	CT_N1	GND
5	NC	CT_D13	CT_D14	CT_D15	+3.3V	CT_N2	GND
4	NC	CT_D11	+5V	CT_D12	+3.3V	SCLK	GND
3	NC	CT_D8	CT_D9	CT_D10	GND	SCLK	GND
2	NC	CT_D4	CT_D5	CT_D6	CT_D7	GND	GND
1	NC	CT_D0	+3.3V	CT_D1	CT_D2	CT_D3	GND

= long pins   
 = short pins   
 = medium pins  
#: Low activity



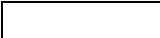
## A.11 MIC-3811 Peripheral Slot P5 Connector

Table A.11: MIC-3811 Peripheral Slot P5 Connector							
Pin	Z	A	B	C	D	E	F
22	NC	T1	T9	T17	T25	IN/C	GND-IN/C
21	NC	R1	R9	R17	R25	IN/C	GND-IN/C
20	NC	T2	T10	T18	T26	IN/C	GND-IN/C
19	NC	R2	R10	R18	R26	IN/C	GND-IN/C
18	NC	T3	T11	T19	T27	IN/C	GND-IN/C
17	NC	R3	R11	R19	R27	IN/C	GND-IN/C
16	NC	T4	T12	T20	T28	IN/C	GND-IN/C
15	NC	R4	R12	R20	R28	IN/C	GND-IN/C
14	NC	T5	T13	T21	T29	IN/C	GND-IN/C
13	NC	R4	R13	R21	R29	IN/C	GND-IN/C
12	NC	T6	T14	T22	T30	IN/C	GND-IN/C
11	NC	R6	R14	R22	R30	IN/C	GND-IN/C
10	NC	T7	T15	T23	T31	IN/C	GND-IN/C
9	NC	R7	R15	R23	R31	IN/C	GND-IN/C
8	NC	T8	T16	T24	T32	IN/C	GND-IN/C
7	NC	R8	R16	R24	R32	IN/C	GND-IN/C
6	NC	IN/C	IN/C	IN/C	IN/C	IN/C	GND-IN/C
5	NC	IN/C	IN/C	IN/C	IN/C	IN/C	GND-IN/C
4	NC	Uo0	Uo1	GND_FT	GND_FT	GND_FT	GND-IN/C
3	NC	Ui0	Ui1	Uo4	Uo5	Uo6	GND-IN/C
2	NC	Uo2	Uo3	Ui4	Ui5	Ui6	GND-IN/C
1	NC	Ui2	Ui3	+5V_FT	+12V_FT	-12V_FT	GND-IN/C

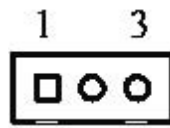
 = long pins    
  = short pins    
  = medium pins

## A.12 MIC-3812 Peripheral Slot P5 Connector

Table A.12: MIC-3812 Peripheral Slot P5 Connector							
Pin	Z	A	B	C	D	E	F
22	GND	NC	NC	NC	NC	NC	GND
21	GND	NC	NC	NC	NC	NC	GND
20	GND	NC	NC	NC	NC	NC	GND
19	GND	NC	NC	NC	NC	NC	GND
18	GND	NC	NC	NC	NC	NC	GND
17	GND	NC	NC	NC	NC	NC	GND
16	GND	NC	NC	NC	NC	NC	GND
15	GND	NC	NC	NC	NC	NC	GND
14	GND	NC	NC	NC	NC	NC	GND
13	GND	NC	NC	NC	NC	NC	GND
12	GND	NC	NC	NC	NC	NC	GND
11	GND	NC	NC	NC	NC	NC	GND
10	GND	NC	NC	NC	NC	NC	GND
9	GND	NC	NC	NC	NC	NC	GND
8	GND	NC	NC	NC	NC	NC	GND
7	GND	NC	NC	NC	NC	NC	GND
6	GND	NC	NC	NC	NC	NC	GND
5	GND	NC	NC	NC	NC	NC	GND
4	GND	NC	NC	NC	NC	NC	GND
3	GND	NC	NC	NC	NC	NC	GND
2	GND	NC	NC	NC	NC	NC	GND
1	GND	NC	NC	NC	NC	NC	GND

 = long pins   
  = short pins   
  = medium pins  
 #: Low activity

## A.13 Fan Module Connectors



**Table A.13: Fan Module Connectors**

Pin	Assignment
1	+12V
2	GND
3	Fan speed

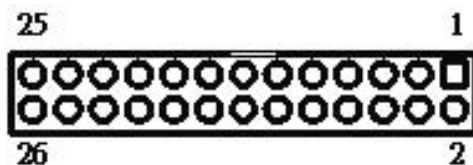
## A.14 LED Board Connector



**Table A.14: LED Board Connector**

Pin	Assignment
1	+3.3V
2	N/C
3	+5V
4	N/C
5	+12V
6	GND
7	GND
8	N/C

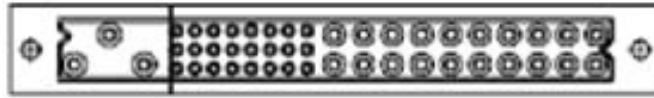
## A.15 MIC-3812 & MIC-3812 Alarm Board Interface Connector



**Table A.15: MIC-3812 & MIC-3812 Alarm Board Interface Connector**

Pin	Signal	Pin	Signal
1	VCC	14	+12V
2	VCC	15	IPMB power
3	VCC	16	N/C
4	N/C	17	Fan Speed5
5	VCC	18	SMB-SDA
6	VCC3	19	Fan Speed 6
7	Fan Speed1	20	SMB-SCL
8	N/C	21	IPMB-SCL
9	Fan Speed2	22	PS_ON
10	-12V	23	IPMB-SDA
11	Fan Speed3	24	N/C
12	N/C	25	GND
13	Fan Speed4	26	GND

## A.16 cPCI Power Connector (CN1,CN2, and CN5)



**Table A.16: cPCI Power Connector (CN1,CN2, and CN5)**

Pin	Signal	Pin	Signal
1	+5V	26	RSV
2	+5V	27	EN#
3	+5V	28	GA1
4	+5V	29	+5VADJ
5	GND	30	+5VSENSE
6	GND	31	GA2
7	GND	32	+3.3VADJ
8	GND	33	+3.3VSENSE
9	GND	34	SRTN
10	GND	35	+5VSHARE
11	GND	36	+12VSENSE
12	GND	37	IPMBSCCL
13	+3.3V	38	DEG#
14	+3.3V	39	INH#
15	+3.3V	40	IPMBSDA
16	+3.3V	41	+3.3VSHARE
17	+3.3V	42	FAL#
18	+3.3V	43	IPMBPWR
19	GND	44	+12VSHARE



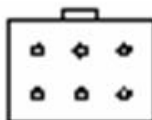
## A.17 AC/DC Power Connector (CN3)



**Table A.17: AC/DC Power Connector (CN3)**

Pin	Signal	Pin	Signal
1	ACL/-DC PSU2	13	ACL/-DC PSU2
2	ACL/-DC PSU2	14	ACL/-DC PSU2
3	NC	15	NC
4	ACN/+DC PSU2	16	ACN/+DC PSU2
5	ACN/+DC PSU2	17	ACN/+DC PSU2
6	NC	18	NC
7	ACL/-DC PSU1	19	ACL/-DC PSU1
8	ACL/-DC PSU1	20	ACL/-DC PSU1
9	NC	21	NC
10	ACN/+DC PSU1	22	ACN/+DC PSU1
11	ACN/+DC PSU1	23	ACN/+DC PSU1
12	NC	24	NC

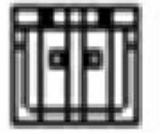
## A.18 AC/DC Power Connector (CN17)



**Table A.18: AC/DC Power Connector (CN17)**

Pin	Assignment
1	ACL/-DC PSU3
2	ACL/-DC PSU3
3	NC
4	NC
5	ACN/+DC PSU3
6	ACN/+DC PSU3

## A.19 Enable Power Switch Connector (CN15)



**Table A.19: Enable Power Switch Connector (CN15)**

Pin	Assignment
1	EN+
2	GND

## A.20 Device Power Connector (CN18)



**Table A.20: Device Power Connector (CN18)**

Pin	Assignment
1	+12V
2	GND
3	GND
4	+5V



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