User Manual

MIC-3022 Series

4U CompactPCI® Enclosure for 3U Cards

ADVANTECH

Enabling an Intelligent Planet

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Product Warranty (2 years)

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

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

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

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 onscreen 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 merchandize 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.

Declaration of Conformity

CE

This product has passed the CE test for environmental specifications when shielded cables are used for external wiring. We recommend the use of shielded cables. This kind of cable is available from Advantech. Please contact your local supplier for ordering information.

CE

This product has passed the CE test for environmental specifications. Test conditions for passing included the equipment being operated within an industrial enclosure. In order to protect the product from being damaged by ESD (Electrostatic Discharge) and EMI leakage, we strongly recommend the use of CE-compliant industrial enclosure products.

FCC Class A

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

FM

This equipment has passed the FM certification. According to the National Fire Protection Association, work sites are classified into different classes, divisions and groups, based on hazard considerations. This equipment is compliant with the specifications of Class I, Division 2, Groups A, B, C and D indoor hazards.

Technical Support and Assistance

1. Visit the Advantech website at http://support.advantech.com where you can find the latest information about the product.
2. Contact your distributor, sales representative, or Advantech's customer service center for technical support if you need additional assistance. Please have the following information ready before you call:
   – Product name and serial number
   – 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

Warnings, Cautions and Notes

Warning! *Warnings indicate conditions, which if not observed, can cause personal injury!*

Caution! *Cautions are included to help you avoid damaging hardware or losing data. e.g.*

There is a danger of a new battery exploding if it is incorrectly installed. Do not attempt to recharge, force open, or heat the battery. Replace the battery only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

Note! *Notes provide optional additional information.*

Document Feedback

To assist us in making improvements to this manual, we would welcome comments and constructive criticism. Please send all such - in writing to: support@advantech.com

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.

- 1 x MIC-3022 enclosure with one backplane in single system or two backplanes in dual system configuration.
- 1 x ATX power supply or one CompactPCI power supply in single system.
- 2 x CompactPCI power supply in dual system
- 1 x Accessory box for screws, cables, rubbers and handles.
- 1 x Warranty certificate

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.

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.

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Chapter 1

General Information

1.1 Introduction

The MIC-3022 Enclosure, designed for 3U CompactPCI cards and modules, is a basic system that allows the configuration with CompactPCI and CompactPCI serial cards, be assembled with two kinds of backplane, MIC-3022-BP01 and MIC-3022-BP02. MIC-3022-BP01 is a legacy CompactPCI backplane while the MIC-3022-BP02 is a PlusIO backplane with hybrid function from CompactPCI to CompactPCI Serial; Being a hybrid system, it offers an uncomplicated and cost effective migration solution from parallel 3U CompactPCI to serial CompactPCI via the CompactPCI PlusIO standard instead of a bridge or an active logic.

Rear transition modules can be installed for each of the 8 slots to support legacy CompactPCI IO extension on MIC-3022-BP01, while only 3 slots support legacy CompactPCI IO extension on MIC-3022-BP02

The enclosure can be powered by PICMG2.11 CompactPCI power supplies or an ATX power supply for cost sensitive applications. A CompactPCI power supply supports a wide range of applications in the industrial market requiring a robust, compact and reliable platform.

Up to four high performance blowers provide adequate air flow to all slots, enabling system configurations which can be used in extended temperature environments. With the support of front swappable power supplies and add-in cards as well as a simplified blower replacement mechanism built in system. MIC-3022 can support a MTTR of 5 minutes or less, which is ideal for industrial or transport applications where small enclosure size with multi-functionality.

Figure 1.1 ATX Front View

Figure 1.2 ATX Back View

Figure 1.3 CPCI Front View

Figure 1.4 CPCI Back View

Table 1.1: Models of MIC-3022 Series						
Part Number	PCI Bus	Serial Bus	Backplane	PICMG 2.11	ATX power SPEC	Description
MIC-3022AE	Yes	No	MIC-3022-BP01	-	Yes	3U COMPACTPCI enclosure with 400W ATX PSU
MIC-3022CE	Yes	No	MIC-3022-BP01	Yes	-	3U COMPACTPCI enclosure with 250W COMPACTPCI PSU
MIC-3022PAE	Yes	Yes	MIC-3022-BP02	-	Yes	3U COMPACTPCI Plus IO enclosure with 400W ATX PSU
MIC-3022PCE	Yes	Yes	MIC-3022-BP02	Yes	-	3U COMPACTPCI Plus IO enclosure with 300W COMPACTPCI PSU

Table 1.2: Compatible CPU Board Serials: MIC-3325/MIC-3326/MIC-3328		
Enclosure	CPU Board	Rear I/O Board
MIC-3022	MIC-3325	MIC-3525
MIC-3022	MIC-3326	-
MIC-3022	MIC-3328	-

Note! *Please contact local sales representatives for more order P/N details.*

1.2 Enclosure Specification

1.2.1 General

- Form factor: Standard 19" Rack-mount 3U CompactPCI (4U height) with 80mm depth rear I/O.
- Dual system ready with CompactPCI power supply and up to 4x3pin blowers.
- Hosts up to twenty-one-slot width enclosure.
- LED status for 3.3V/5V/12V on enclosure.
- Supports both front and rear access for CPU card, I/O card and power supply.
- Dimensions:(W x H x D):440 x 177 x 295 mm (17.3" x 7" x 11.6")
- Usable width: Dual system up to 16 slots (64HP).
- Environmental:
  - Operating temperature: 0 ~ 50° C
  - Storage temperature: -40° C ~ 70° C
  - Relative humidity: 10 ~ 95% @ 40° C, non-condensing
  - Shock: 10 G (operating); 30 G (storage)
  - Random vibration: up to 2.0 Grms (operating); 2.0 Grms (Non-operating)

1.2.2 DC BLOWER – From BLOWER Manufacturer Spec

Item	Description
Rated Voltage	12 VDC
Operation Voltage	10.08 – 12.6 VDC
Input Current	1.97 (MAX 2.36) A
(Safety Current 2.36A)	
Input Power	23.64 (MAX. 29.32) W
Speed	5800 ± 10% R.P.M.
Max Airflow (At Zero statics air pressure)	1.288 (MIN.1.159) M3 / MIN 45.49 (MIN. 40.94) CFM
Max Air Pressure (At Zero airflow)	93.83 (MIN.76.00) MM H2O 3.694 (MIN.2.992) Inch H2O
Acoustical Noise (AVG.)	62 (MAX.66) dB - A
Insulation Type	UL – CLASS A
Life Experience (At label voltage)	70,000 CONTINUES OPERATION AT 40C WITH 15 – 65% RH (Under evaluation)

1.2.3 Power Supply (From POWER SUPPLY Manufacturer Spec)

Standard COMPACT-PCI 250W PSU	Input	AC 100 ~ 240 V @ 50 ~ 60 Hz, full range			
		+3.3 V	+5 V	+12 V	-12 V
	Max. Load	18 A	25 A	5 A	0.5 A
	Min. Load	0 A	1 A	0 A	0 A
Standard COMPACT-PCI 300W PSU (See note 1 and note 2 below)	Input	AC 100 ~ 240 V @ 50 ~ 60 Hz, full range			
		+3.3 V	+5 V	+12 V	-12 V
	Max. Load	40A	40A	10A	2A
	Min. Load	0 A	0 A	0 A	0 A
ATX 400W PSU	Input	AC 100 ~ 240 V @ 50 ~ 60 Hz, full range			
		+3.3 V	+5 V	+12 V	-12 V
	Max. Load	11.6A	12.89A	11.74A	0.37A
	Min. Load	0.3A	0.3A	0.5A	0A

Note! *CompactPCI 300W PSU supports extended temperature (Operating Temperature: -40 °C to +70 °C, derate linearly from 100% load at | +50 °C to 60% load at +70 °C).*

Note! *A warm-up time 3 minutes is required to maintain VO3 +12V within specific spec. after cold start at temperature from -40 °C to +0°C.*
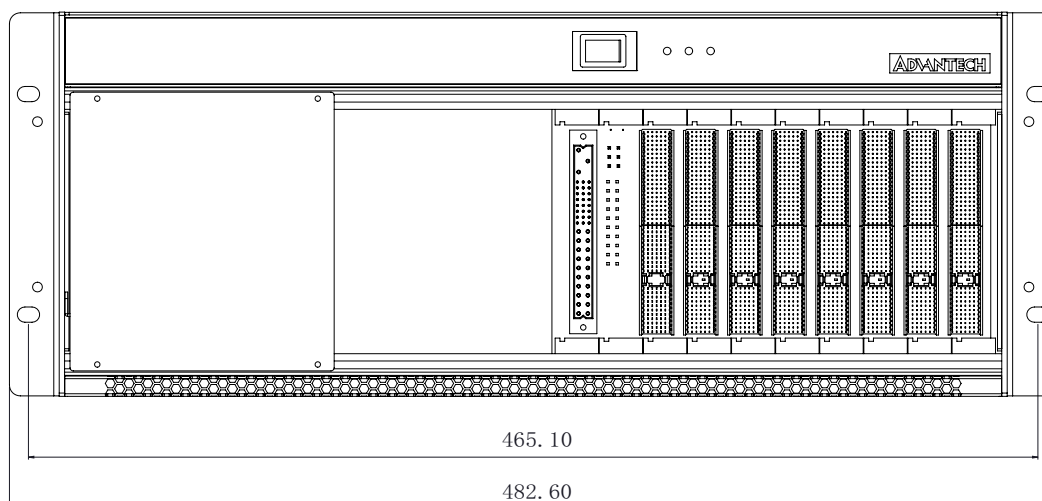
1.3 Dimensions

Figure 1.5 MIC-3022 Enclosure Mechanical Drawing
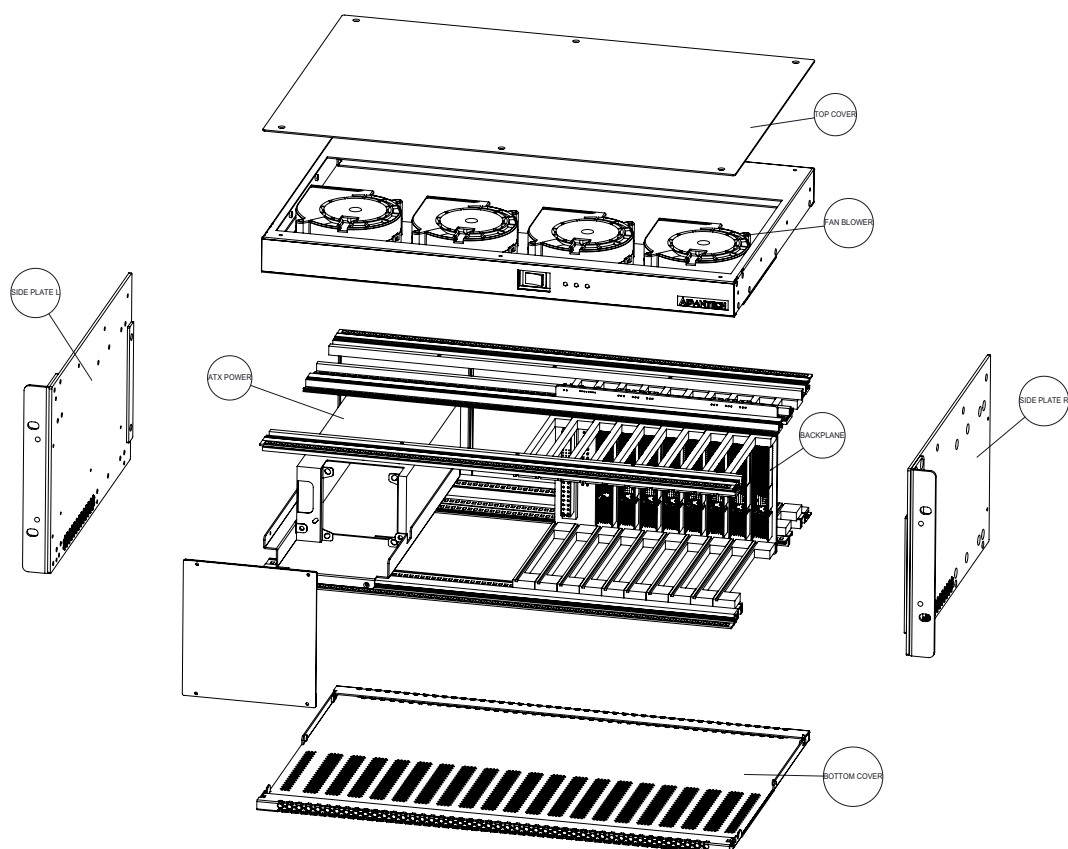
Figure 1.6 MIC-3022 with ATX Power Supply Explosion View
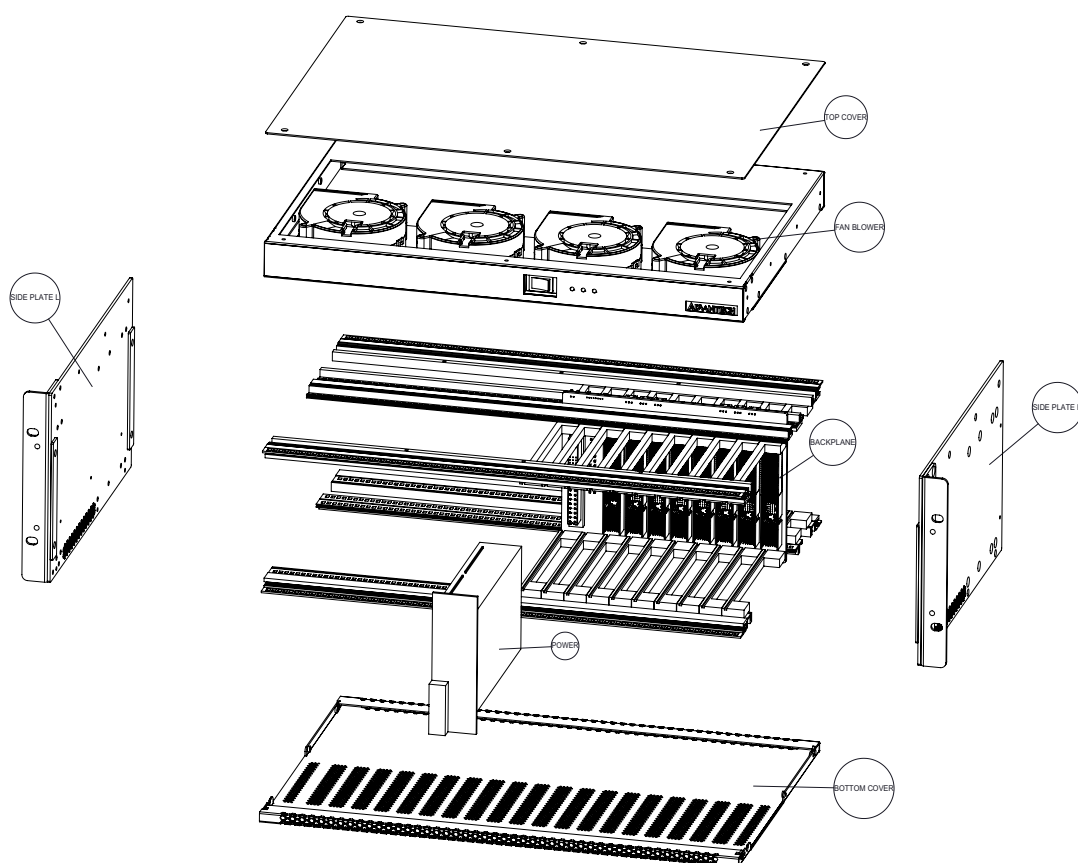
Figure 1.7 MIC-3022 with COMPACTPCI Power Supply Explosion View

Chapter 2

Installation

2.1   Initial Inspection

We have carefully inspected the MIC-3022 series 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-3022 series, 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.*

> **Warning!**   *Service personnel must make sure that the power cord has been pull out before striping down any component. After service, ground wire have to be connected certainly before power cord.*

2.2   The MIC-3022 Illustration

The MIC-3022 series are designed to be installed and maintained easily.

The MIC-3022 series configuration

	System Slot	Peripheral Slot	PSU	BLOWER	RTM	Backplane
MIC-3022AE	1	7 legacy	ATX	2	Yes	MIC-3022-BP01
MIC-3022CE	1	7 legacy	CompactPCI	2	Yes	MIC-3022-BP01
MIC-3022PAE	1	3 legacy + 4 Serial	ATX	2	Yes	MIC-3022-BP02
MIC-3022PCE	1	3 legacy + 4 Serial	CompactPCI	2	Yes	MIC-3022-BP02

> **Note!**   *Dual system support with CompactPCI PSU configuration, up to 4 blowers.*

2.3 Installation Procedures

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 enclosure.

■ System slots usually have obvious indicators (e.g. red card guide rail, triangle mark enclosing the slot number on the backplane, etc.). The system card can be installed only in the system slot. Do not insert the system card into any other slot, or insert a peripheral card into the system slot. Please refer to the Appendix A and Appendix B for detailed backplane information.

■ The PSU slot also has an obvious indicator such as a green card guide rail in a enclosure

■ 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 enclosure:

CompactPCI Card Installation/Removal Procedure:

1. To install a PSU & card:

■ Put enclosure on a level surface or rack-mount it, and remove not required blank plates (Keep blank plates for further using), please don't remove those plates for empty slots, otherwise the EMC and cooling performance will be compromised.

■ For PSU modules, make sure that the handle is unlatched (i.e. that it is pulled downwards) by first pressing on the locking button with your thumb.

■ Hold the card vertically, make sure that the card is oriented correctly. The single handle of the card should be pointing downwards. Release the handles if they are latched. Handles from different vendors may have different latch designs.

■ Insert the card into the enclosure by sliding the top and bottom edges into the card guide rails.

■ Push the card into the slot gently by sliding the card along the card guide until the handles meet the circle holes of the cross rails.

■ Pull upwards on the handle for final insertion. For PSU modules, ensure that the locking button on the handle is fully latched into position

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

Note! *If the card is correctly positioned and has been slid all the way into the enclosure, the handles should match the circle 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 enclosure.*
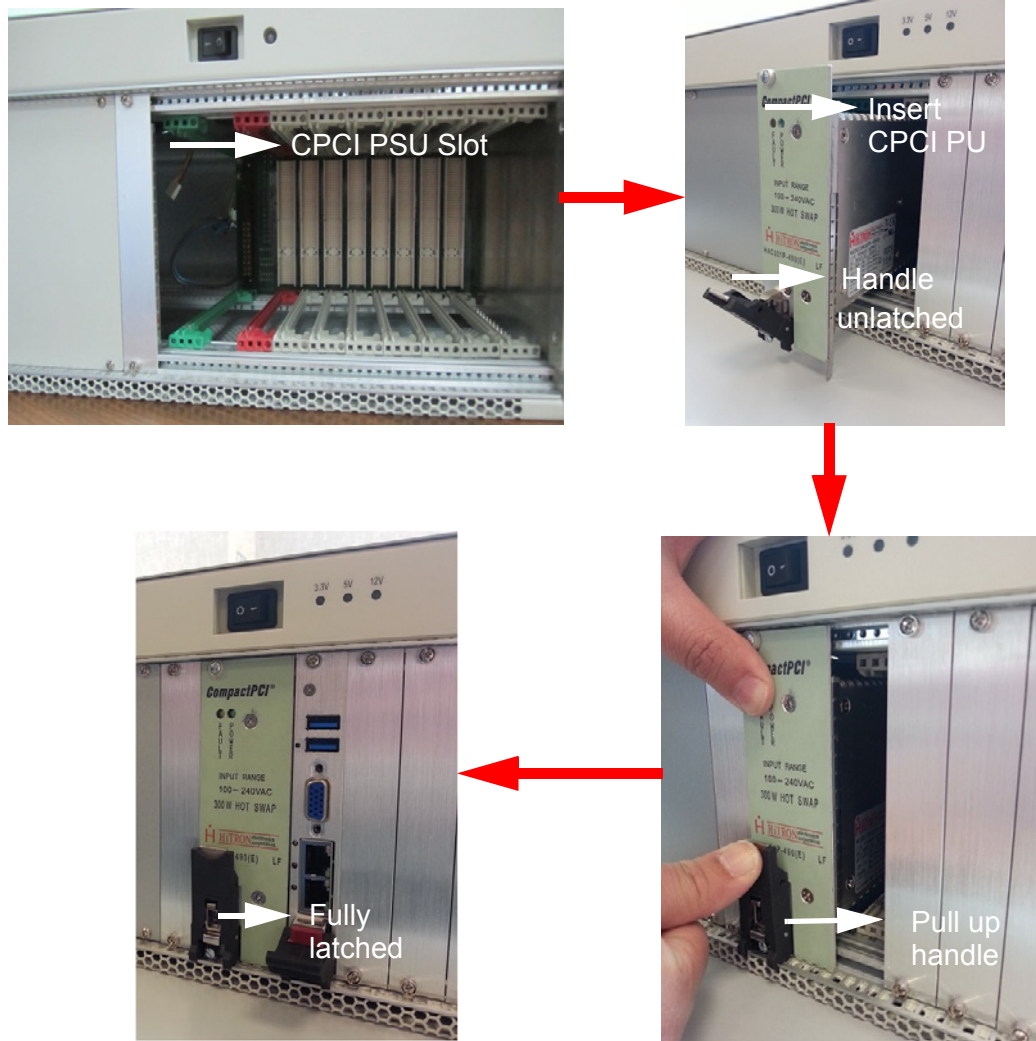
Figure 2.1 Installing a CompactPCI PSU into the enclosure
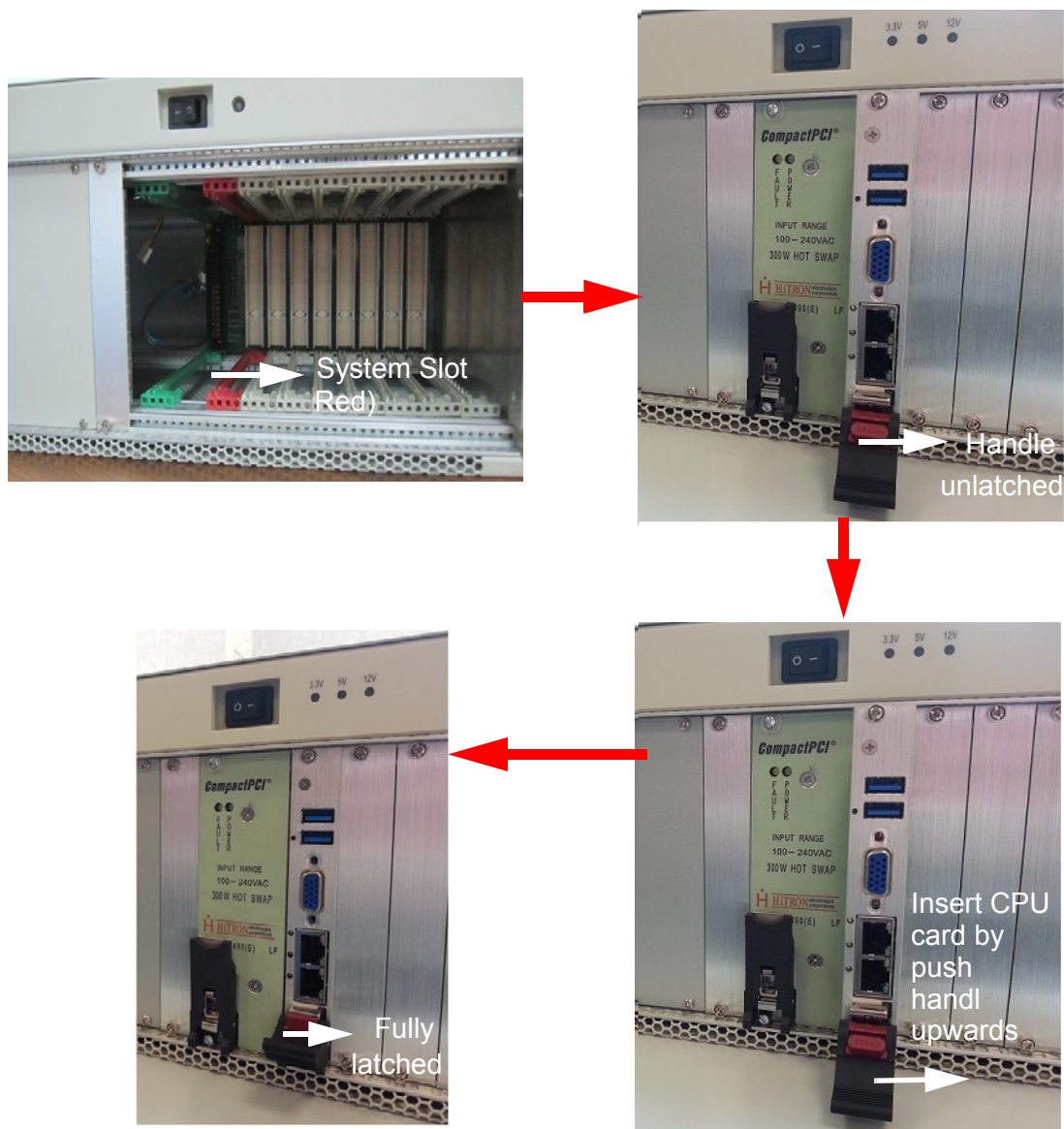
Figure 2.2 Installing a front IO card into the enclosure

2. To remove a card:
- Uninstall the screws on the card front panel. Release the locking latches on the handles.
- To push the red buttons on handle to loosen the card from the backplane.
- Slide the card out.

2.3.2 Before Operating the System

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

2.3.3 Connecting With Rear I/O Module

The MIC-3022 is limited to be used with rear I/O module. To install the RIO module, please follow the steps below:

1. Remove the blank panel locked on the system RIO slot. (we suggest to remove all the blank panels for installation)
2. Connect with the right connector on board, and slide into the card cage.
3. Power up the system and check all the storage devices work properly.
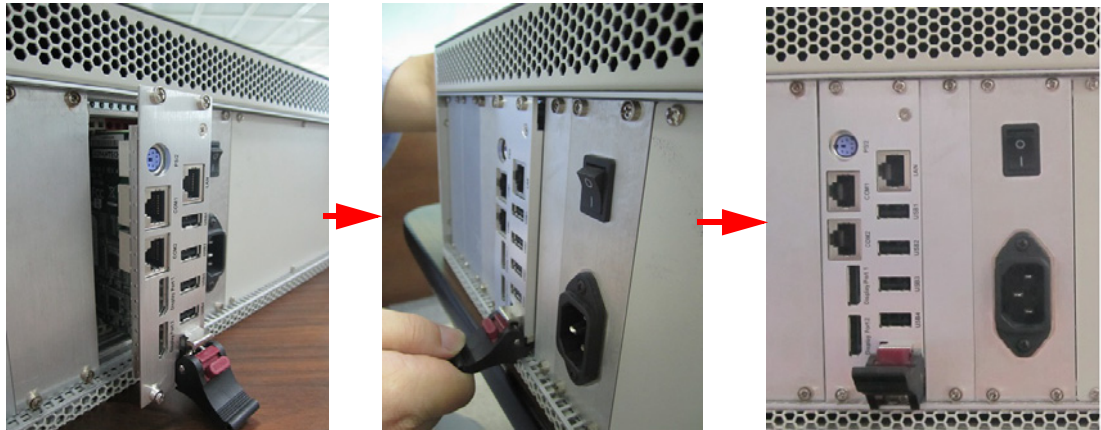
Figure 2.3 Installing a RIO card into the enclosure

2.3.4 Replacing the Blower

The MIC-3022 provides max. 4 blowers for dual system, 2 blowers per system, they are on top side of enclosure. It's not recommended to remove blower without turning off the system power or interrupting system operation.

Follow these steps to replace a blower:

1. Unfasten the blower's holder.
2. Disconnect the cable between blower and backplane.
3. Replace the old blower with a new one.
4. Fasten the new blower's holder.
5. Connect the blower cable.
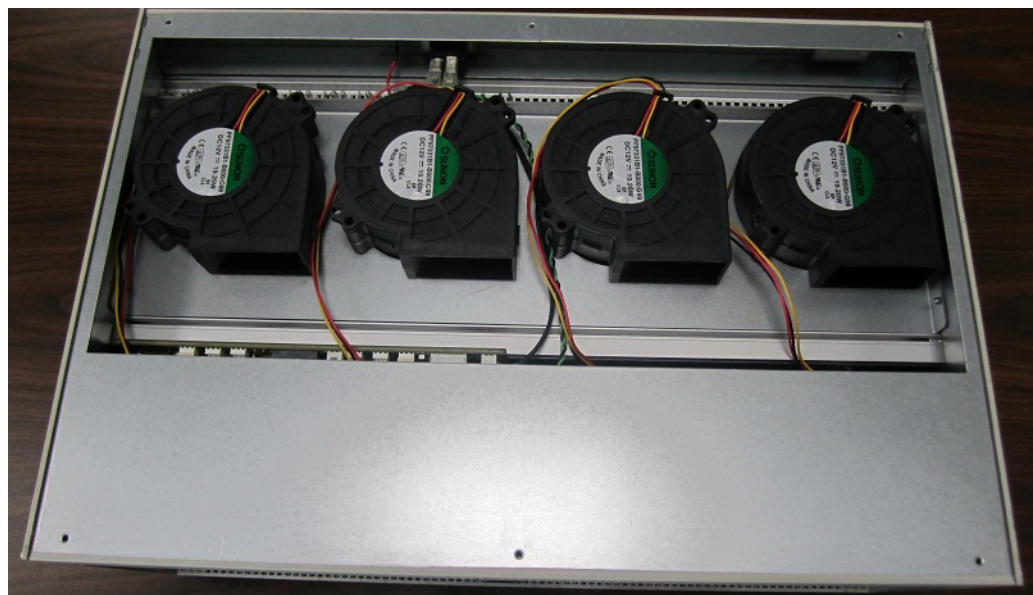
Figure 2.4 MIC-3022 Blowers for dual system

Chapter 3

Backplane

3.1 General Information

There are two kinds of backplanes for MIC-3022 series, legacy CompactPCI back-plane and CompactPCI to CompactPCI Serial hybrid PlusIO backplane. Both back-planes provide eight slots with one slot dedicated to the CPU board. The MIC-3022 supports front I/O wiring, providing simplified system cabling. The backplane also provides several 3-pin connectors to connect blowers. In order to provide users with a flexible system configuration, the MIC-3022 enclosure can be configured with both ATX power supply or CompactPCI power supply. The MIC-3022 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 Backplane Features

MIC-3022-BP01:

8 slots legacy backplane:

- System slot left
- 32bit PCI backplane with 80mm rear IO support
- Selectable VIO 3.3V/5V
- Hot swap support for cards and PSUs
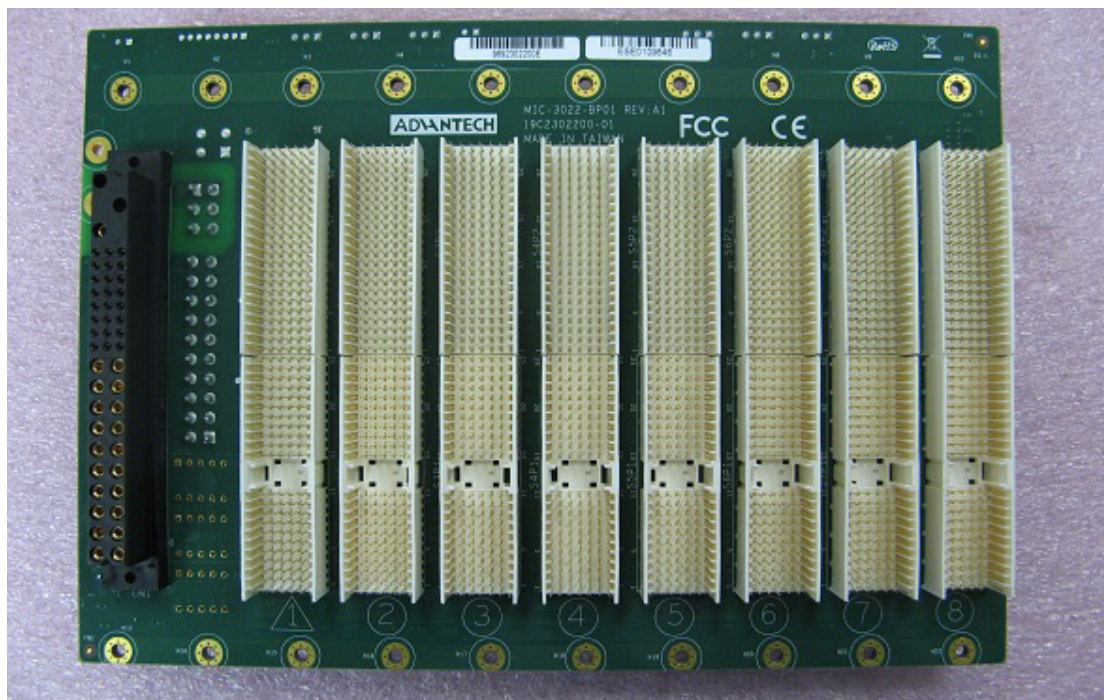
Figure 3.1 MIC-3022-BP01 top side
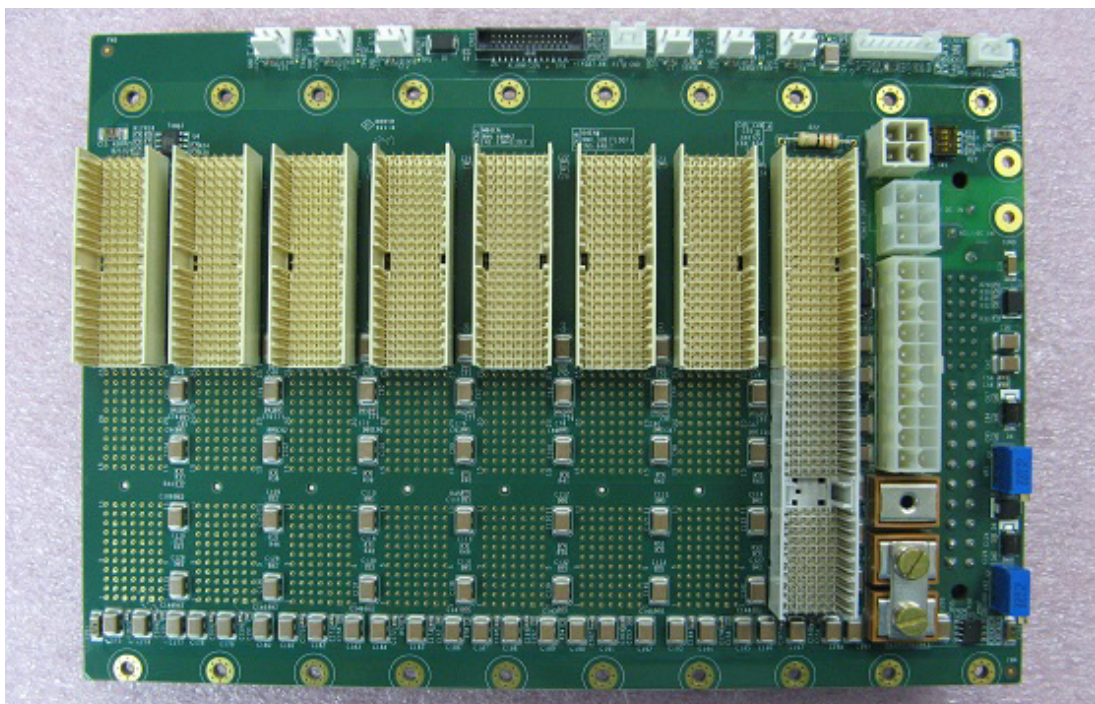
Figure 3.2 MIC-3022-BP01 bottom side

MIC-3022-BP02:

8 slots hybrid PlusIO backplane:

- CompactPCI PlusIO system slot on the fourth slot from left, which has two functions: Standard CompactPCI System Slot & CompactPCI PlusIO System Slot including interfaces as 4 x USB, 4 x SATA (2 x SATA to COMPACTPCI-S, 1 x SATA connector & 1 SATA reserved on Backplane), 4 x PCIe and 2 x ETH
- 3 CompactPCI peripheral slots to the left, 32bit, 33MHz/66MHz
- 4 CompactPCI Serial (PICMG COMPACTPCI-S.0) peripheral slots to the right
- Selectable VIO 3.3V/5V
- Hot swap support for cards and PSUs
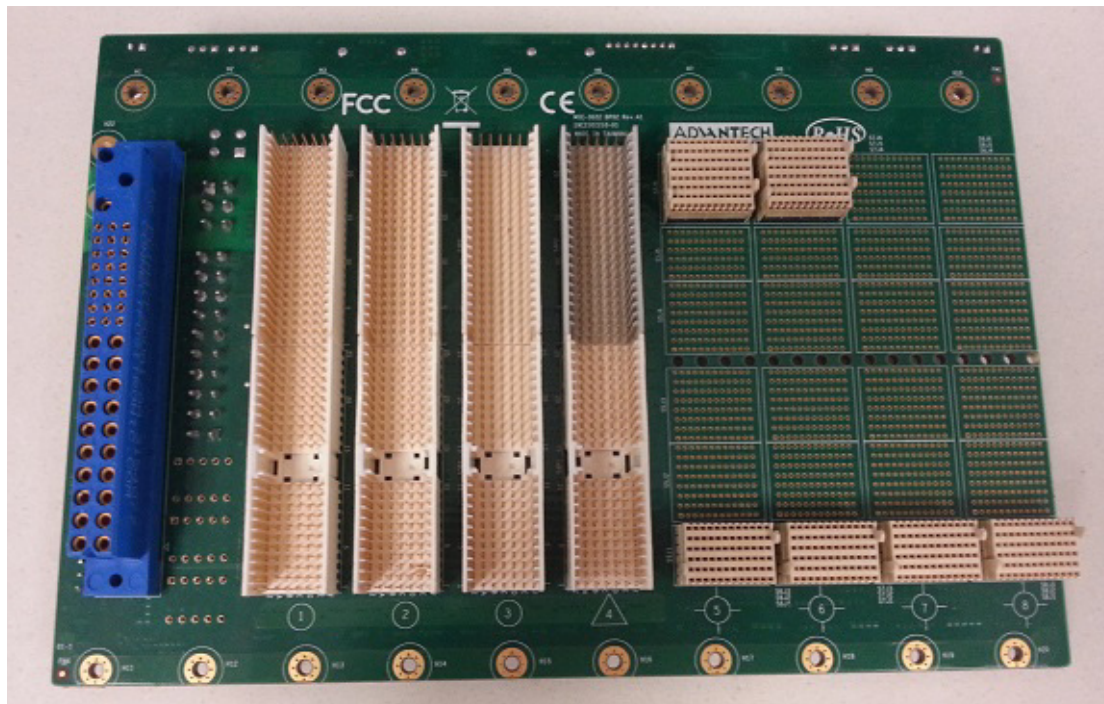
Figure 3.3 MIC-3022-BP02 top side
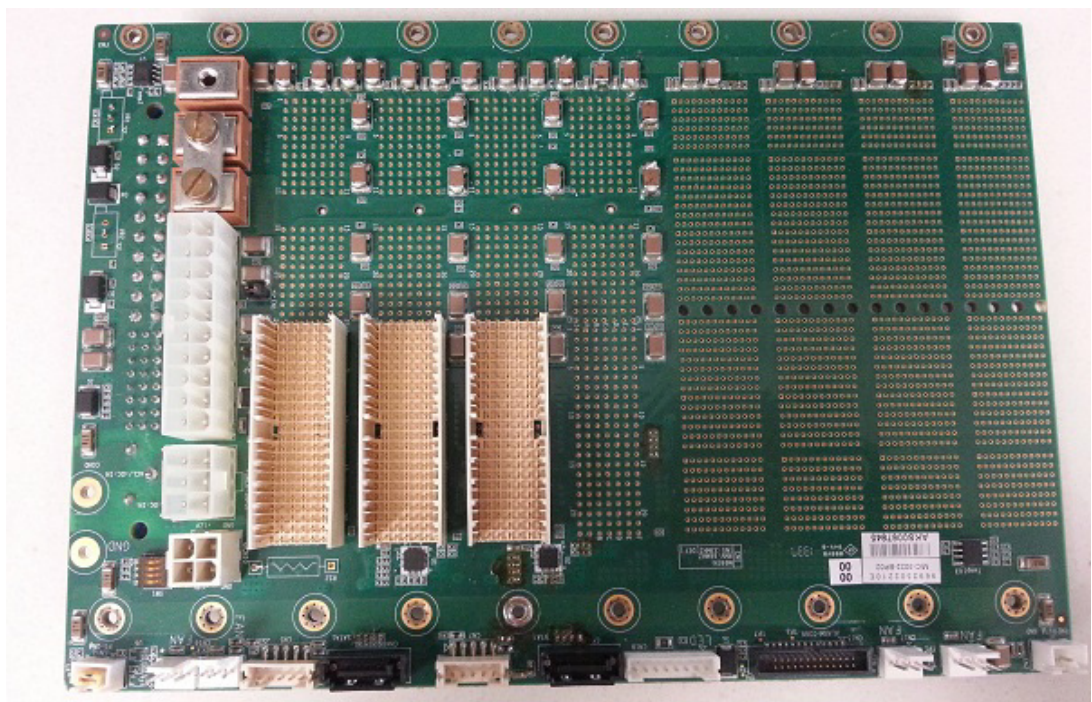
Figure 3.4 MIC-3022-BP02 bottom side

CPCI slot

System slot

CPCI-S slot
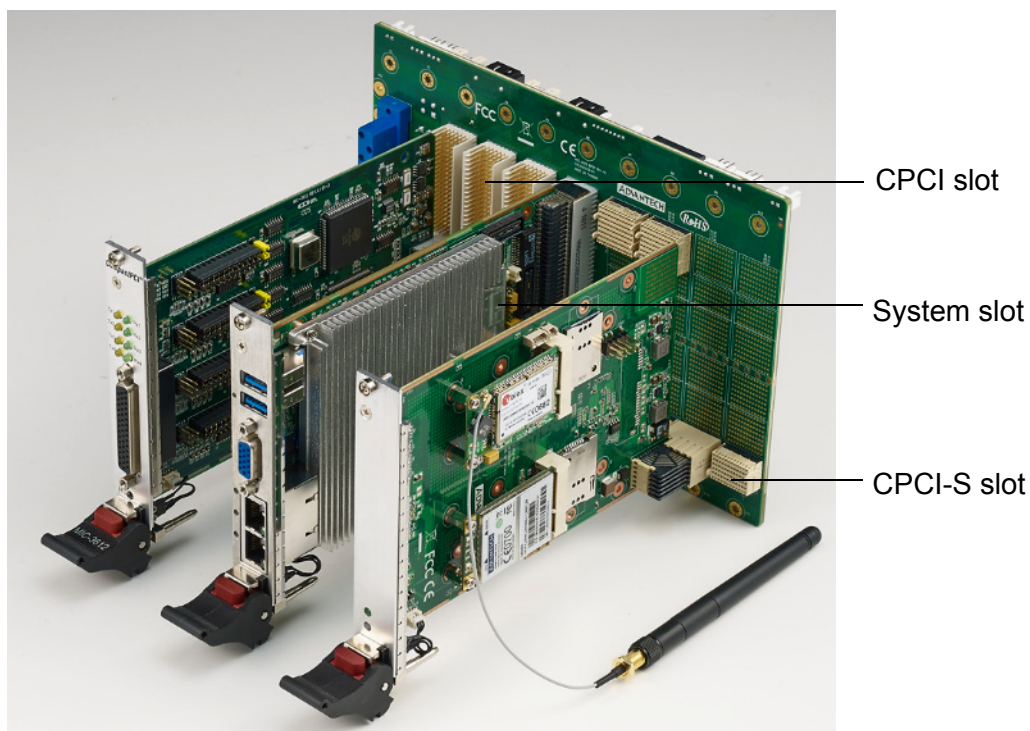
Figure 3.5 MIC-3022-BP02 with peripheral card

3.3 Specification

- Eight CompactPCI slots (one system slot and seven peripheral slots)
- 8-layer PCB; LxWxT: 140mm*203.74mm*3.0 mm thick
- Power connector: One ATX power connector for connecting standard ATX power supply and one CompactPCI connector for connecting CompactPCI power supply
- Operating temperature: 0 ~ 50° C (32 ~ 122° F)
- Complies with CompactPCI Specification PICMG 2.0, R.3.0
- Complies with PICMG 2.30 COMPACTPCI PlusIO; PICMG COMPACTPCI Serial (COMPACTPCIS.0)
- Complies with CompactPCI Hot Swap Specification; PICMG 2.1 R2.0; PICMG 2.11 R3.0 Power Specification

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. System slot of MIC-3022 series is marked by a triangle 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. The system slot has a logical number of 1 (for MIC-3022-BP01) or 4 (for MIC-3022-BP02), and the peripheral slot has a logical number of 2~8 (for MIC-3022-BP01) or 1~3 & 5~8 (for MIC-3022-BP02). The connectors in logical slot 1 are designated as 1-P1, 1-P2. Nomenclature for connectors in the other slot is similar, such as 2-P1 and 2-P2.Connector P1 on the system slot is a keyed connector providing 32-bit CompactPCI bus between the system slot and the peripheral slot. Connector P2 on the system slot is open for user definition (for MIC-3022-BP01) or for PlusIO extension by a all-new 3M UHM connector (for MIC-3022-BP02). The pin number of UHM connector is sufficient for leading four PCI Express® x1 links, four SATA 2.0, four USB 2.0 as well as two Ethernet 1000Base-T interfaces to the backplane of PlusIO function.

> **Note!** *Please check appendix A & appendix B for the pin assignment for all the connectors on the backplane.*

Table 3.1: MIC-3022-BP01 System To Peripheral Slot Signal Assignment

MIC-3022-BP01System to Logical Slot signal

Signal	Connector (Pin)	Signal	Connector (Pin)
System Slot (△), Logical Slot 1		**Peripheral Slot (◊), Logical Slot 2**	
AD31	P1:E6	IDSEL(1)	P1:B9
REQ0#	P1:A6	REQ#	P1:A6
GNT0#	P1:E5	GNT#	P1:E5
System Slot (△), Logical Slot 1		**Peripheral Slot (◊),Logical Slot 3**	
AD30	P1:A7	IDSEL(1)	P1:B9
REQ1#	P2:C1	REQ#	P1:A6
GNT1#	P2:D1	GNT#	P1:E5
System Slot (△), Logical Slot 1		**Peripheral Slot (◊), Logical Slot 4**	
AD29	P1:B7	IDSEL(1)	P1:B9
REQ2#	P2:E1	REQ#	P1:A6
GNT2#	P2:D2	GNT#	P1:E5
System Slot (△), Logical Slot 1		**Peripheral Slot (◊),Logical Slot 5**	
AD28	P1:C7	IDSEL(1)	P1:B9
REQ3#	P2:E2	REQ#	P1:A6
GNT3#	P2:C3	GNT#	P1:E5
System Slot (△), Logical Slot 1		**Peripheral Slot (◊), Logical Slot 6**	
AD27	P1:E7	IDSEL(1)	P1:B9

Table 3.1: MIC-3022-BP01 System To Peripheral Slot Signal Assignment			
REQ4#	P2:D3	REQ#	P1:A6
GNT4#	P2:E3	GNT#	P1:E5
System Slot (△), Logical Slot 1		**Peripheral Slot (◊), Logical Slot 7**	
AD26	P1:A8	IDSEL(1)	P1:B9
REQ5#	P2:D15	REQ#	P1:A6
GNT5#	P2:E15	GNT#	P1:E5
System Slot (△), Logical Slot 1		**Peripheral Slot (◊), Logical Slot 8**	
AD25	P1:D8	IDSEL(1)	P1:B9
REQ6#	P2:D17	REQ#	P1:A6
GNT6#	P2:E17	GNT#	P1:E5

Note! *(2) (1) The IDSEL signal at each slot shall be connected with minimal trace length at the slot that is intended. For example, at logical slot 6, IDSEL shall be connected to AD27 with minimal trace length.*
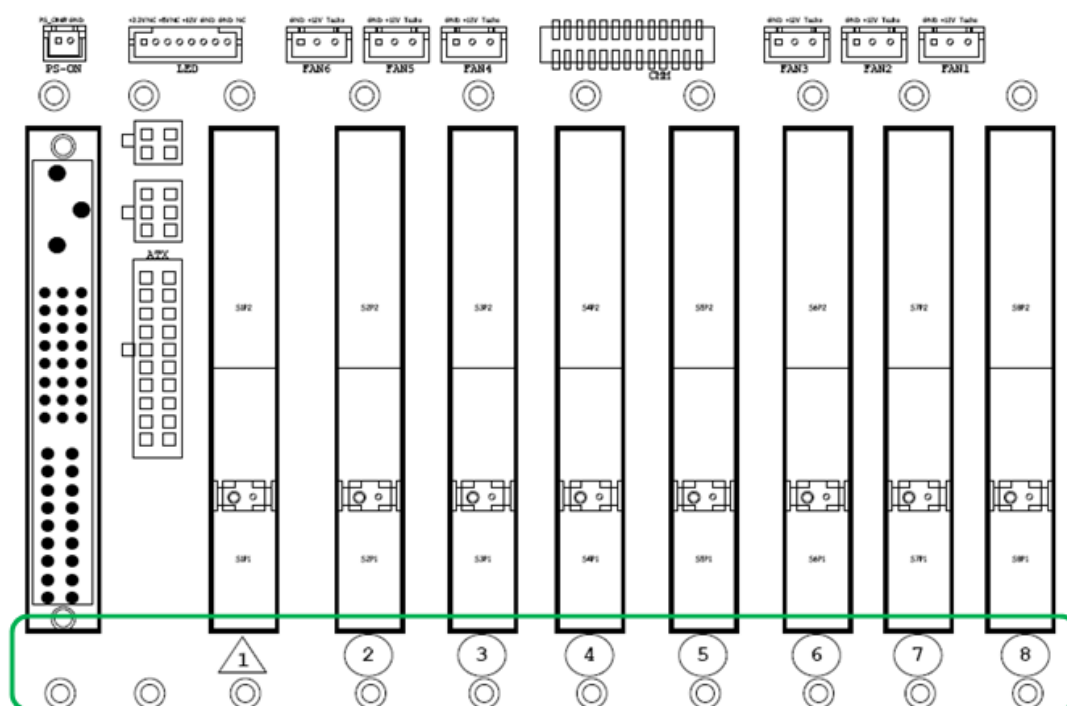

Figure 3.6 MIC-3022-BP01 backplane slot numbering

Table 3.2: MIC-3022-BP02 System To Peripheral Slot Signal Assignment

MIC3022-BP02 System to Logical Slot signal

Signal	Connector (Pin)	Signal	Connector (Pin)
System Slot (△), Logical Slot 4		**Peripheral Slot (◊), Logical Slot 1**	
AD29	P1:B7	IDSEL(1)	P1:B9
REQ0#	P1:A6	REQ#	P1:A6
GNT0#	P1:E5	GNT#	P1:E5
System Slot (△), Logical Slot 4		**Peripheral Slot (◊),Logical Slot 2**	
AD30	P1:A7	IDSEL(1)	P1:B9
REQ1#	P2:C1	REQ#	P1:A6
GNT1#	P2:D1	GNT#	P1:E5
System Slot (△), Logical Slot 4		**Peripheral Slot (◊), Logical Slot 3**	
AD31	P1:E6	IDSEL(1)	P1:B9
REQ2#	P2:E1	REQ#	P1:A6
GNT2#	P2:D2	GNT#	P1:E5
System Slot (△), Logical Slot 4		**Peripheral Slot (◊),Logical Slot 5**	
PCIE1x1_RX+	P2:B5	PCIE1x1_RX+	J1:D5
PCIE1x1_RX-	P2:B4	PCIE1x1_RX-	J1:E5
PCIE1x1_TX+	P2:A6	PCIE1x1_TX+	J1;A5
PCIE1x1_TX-	P2:A5	PCIE1x1_TX-	J1:B5
USB1_P+	P2:C5	USB1_P+	J1:B4
USB1_P-	P2:C4	USB1_P-	J1:C4
ETH2_MDIA+	P2:C19	ETH2_MDIA+	J6:D1
ETH2_MDIA-	P2:C18	ETH2_MDIA-	J6:E1
ETH2_MDIB+	P2:C21	ETH2_MDIB+	J6:A1
ETH2_MDIB-	P2:C20	ETH2_MDIB-	J6:B1
ETH2_MDIC+	P2:B18	ETH2_MDIC+	J6:J1
ETH2_MDIC-	P2:B17	ETH2_MDIC-	J6:K1
ETH2_MDID+	P2:A18	ETH2_MDID+	J6:G1
ETH2_MDID-	P2:A17	ETH2_MDID-	J6:H1
System Slot (△), Logical Slot 4		**Peripheral Slot (◊), Logical Slot 6**	
PCIE1x2_RX+	P2:B7	PCIE1x2_RX+	J1:D5
PCIE1x2_RX-	P2:B6	PCIE1x2_RX-	J1:E5
PCIE1x2_TX+	P2:A8	PCIE1x2_TX+	J1;A5
PCIE1x2_TX-	P2:A7	PCIE1x2_TX-	J1:B5
USB2_P+	P2:C7	USB2_P+	J1:B4
USB2_P-	P2:C6	USB2_P-	J1:C4
ETH1_MDIA+	P2:E19	ETH1_MDIA+	J6:D1
ETH1_MDIA-	P2:E18	ETH1_MDIA-	J6:E1
ETH1_MDIB+	P2:E21	ETH1_MDIB+	J6:A1
ETH1_MDIB-	P2:E20	ETH1_MDIB-	J6:B1
ETH1_MDIC+	P2:D19	ETH1_MDIC+	J6:J1
ETH1_MDIC-	P2:D18	ETH1_MDIC-	J6:K1
ETH1_MDID+	P2:D21	ETH1_MDID+	J6:G1

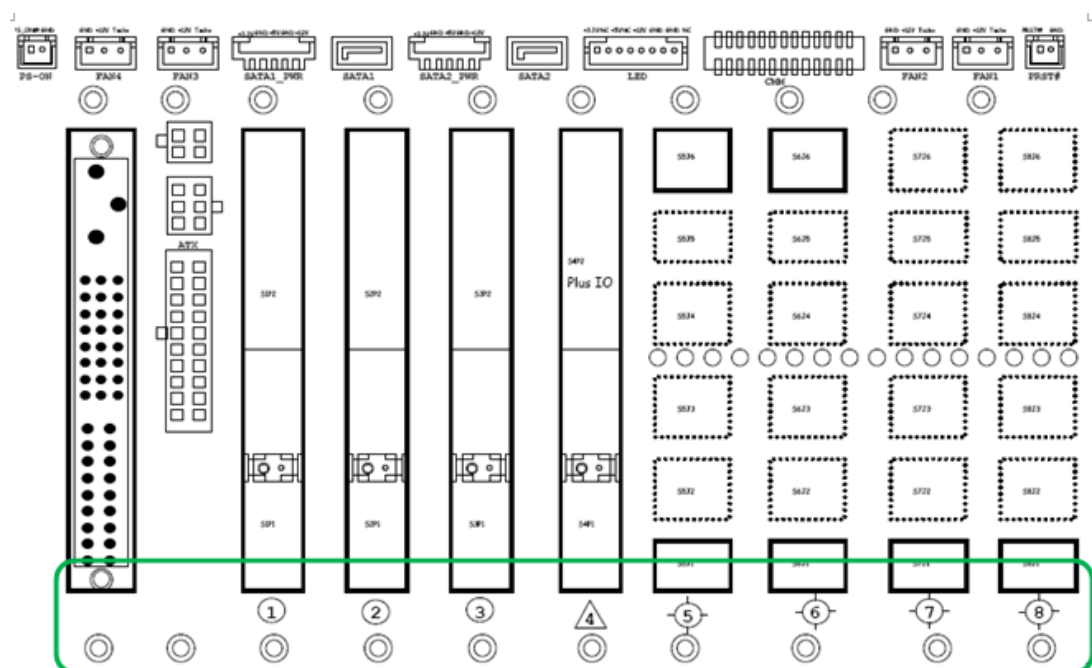| Table 3.2: MIC-3022-BP02 System To Peripheral Slot Signal Assignment			
ETH1_MDID-	P2:D20	ETH1_MDID-	J6:H1
System Slot (∆), Logical Slot 1		**Peripheral Slot (◊), Logical Slot 7**	
PCIE1x3_RX+	P2:B9	PCIE1x3_RX+	J1:D5
PCIE1x3_RX-	P2:B8	PCIE1x3_RX-	J1:E5
PCIE1x3_TX+	P2:A10	PCIE1x3_TX+	J1;A5
PCIE1x3_TX-	P2:A9	PCIE1x3_TX-	J1:B5
USB3_P+	P2:C9	USB3_P+	J1:B4
USB3_P-	P2:C8	USB3_P-	J1:C4
SATA3_RX+	P2:E10	SATA3_RX+	J1:H4
SATA3_RX-	P2:E9	SATA3_RX-	J1:I4
SATA3_TX+	P2:D9	SATA3_TX+	J1:K4
SATA3_TX-	P2:D8	SATA3_TX-	J1:L4
System Slot (∆), Logical Slot 4		**Peripheral Slot (◊), Logical Slot 8**	
PCIE1x4_RX+	P2:B11	PCIE1x4_RX+	J1:D5
PCIE1x4_RX-	P2:B10	PCIE1x4_RX-	J1:E5
PCIE1x4_TX+	P2:A12	PCIE1x4_TX+	J1;A5
PCIE1x4_TX-	P2:A11	PCIE1x4_TX-	J1:B5
USB4_P+	P2:C11	USB4_P+	J1:B4
USB4_P-	P2:C10	USB4_P-	J1:C4
SATA4_RX+	P2:E12	SATA4_RX+	J1:H4
SATA4_RX-	P2:E11	SATA4_RX-	J1:I4
SATA3_TX+	P2:D11	SATA3_TX+	J1:K4
SATA4_TX-	P2:D10	SATA4_TX-	J1:L4

Figure 3.7 MIC-3022-BP02 backplane slot numbering

3.5 Connector and Jumper Locations

The backplane provides connectors and jumpers for users to configure the backplane for specific application. Below table gives a brief description to each connector on the backplane and figures illustrate the connector locations of the backplane.

Table 3.3: Backplane's Connector and Jumper Description		
Function	**MIC-3022-BP01**	**MIC-3022-BP02**
BLOWER Connector1	CN3-CN8	CN13,CN14,CN16,CN17
BLOWER Connector2	CN12	CN10
LED Connector	CN2	CN18
POWER ON Connector	CN10	CN12
Reset Switch	CN9	-
ATX-PWR-CONN	CN16	CN11
COMPACTPCI Power AC-IN Connector	CN13	CN9
COMPACTPCI-PWR-CONN	CN1	CN8
SATA1, SATA2 connector	NA	CN6
SATA Power	NA	CN7
VIO	T1,T2,T3	T1,T2,T3

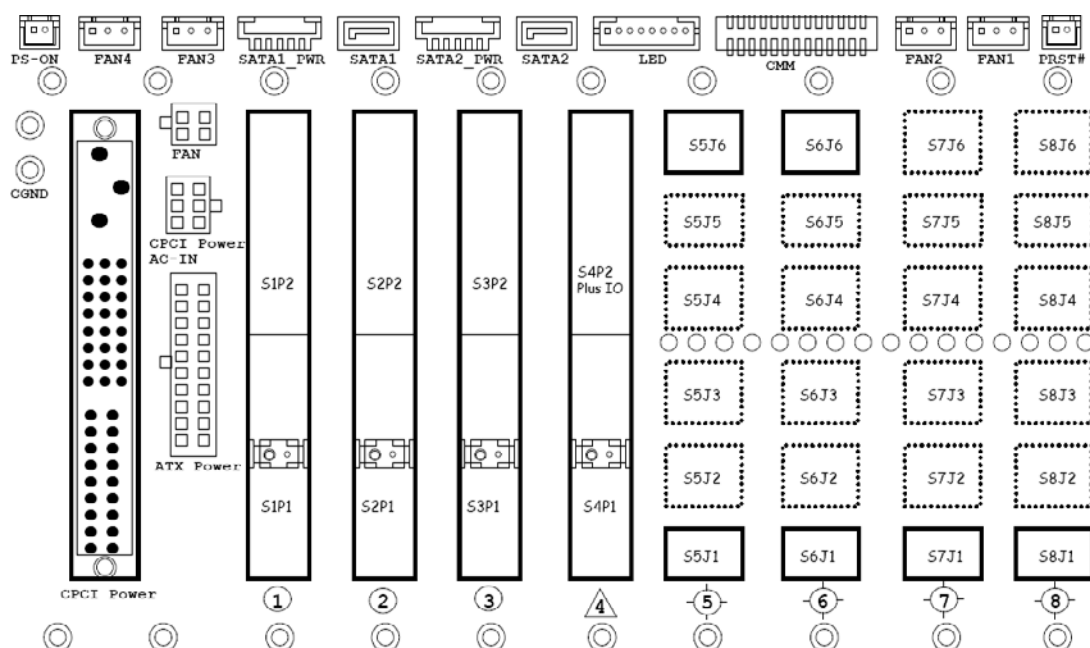**Figure 3.8 The connector and jumper locations (MIC-3022-BP01)**

Figure 3.9 The connector and jumper locations (MIC-3022-BP02)

3.5.1 ATX Power Connector (ATX1)

This connector accepts one standard ATX power supply.

> *Note!*   *Do not use ATX power supply and plug-in power module at the same*
>   *time.*

3.5.2 Power On Connector

This connector provides power on/off control of the ATX power supply or the plug-in power module. If the CompactPCI enclosure provides a 2-pin power switch cord, connect this cord to the CN10 connector and users can control the power on/off by the power switch. Or users can directly short this connector by a jumper and control the power on/off by the ATX power supply 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. The default is configured for use with 5V CompactPCI boards.
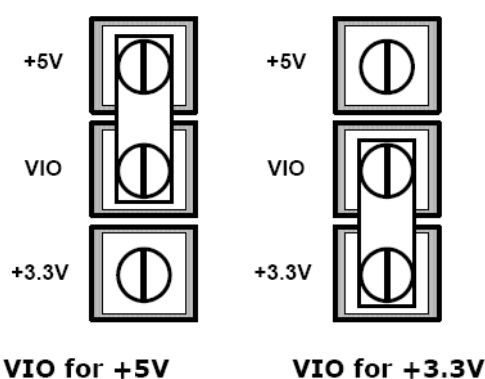

Figure 3.10 V I/O voltage selection

3.5.4 Blower Connector

The blower connectors provide +12V power for blower operation. MIC-3022 has up to 4 blower connectors, 2 blowers for single system while 4 blowers for dual system.

3.5.5 LED Status Connector

Three LED is used to indicate +3.3V/+5V/+12V power status.

## 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, PICMG 2.30 COMPACTPCI PlusIO, PICMG COMPACTPCI Serial (COMPACTPCIS.0). This Specification requires that each slot be independently clocked.

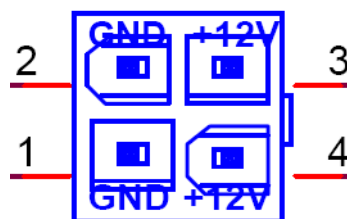# Appendix A

Pin Assignments of MIC-3022-BP01 Backplane

A.1 Pin assignment of other connectors in MIC-3022-BP01 backplane
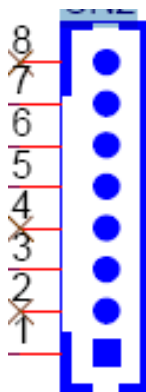
A.1.1 Blower connector (CN3 – CN8)
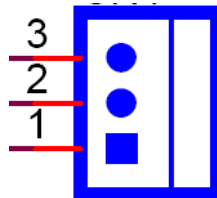
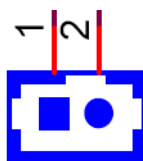| Pin	Signal
1	GND
2	+12V
3	Blower Speed

A.1.2 Blower connector (CN12)

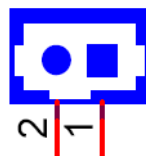| Pin	Signal
1	GND
2	GND
3	+12V
4	+12V

A.1.3 LED Connector (CN2)

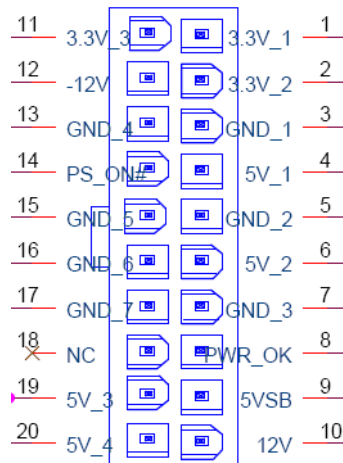| Pin	Signal	Pin	Signal
1	+3.3V	2	NC
3	+5V	4	NC
5	+12V	6	GND
7	GND	8	NC

A.1.4 POWER ON Connector (CN10)

Pin	Signal
1	PS_ON#
2	GND

A.1.5 Reset Switch (CN9)

Pin	Signal
1	PRST#
2	GND

A.1.6 ATX-PWR-CONN (CN16)

Pin	Signal	Pin	Signal
1	+3.3V	2	+3.3V
3	GND	4	+5V
5	GND	6	+5V
7	GND	8	PWR_OK
9	+5VSB	10	+12V
11	+3.3V	12	-12V
13	GND	14	PS_ON#
15	GND	16	GND
17	GND	18	NC
19	+5V	20	+5V

A.1.7 COMPACTPCI Power AC-IN Connector (CN13)
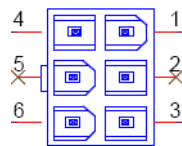
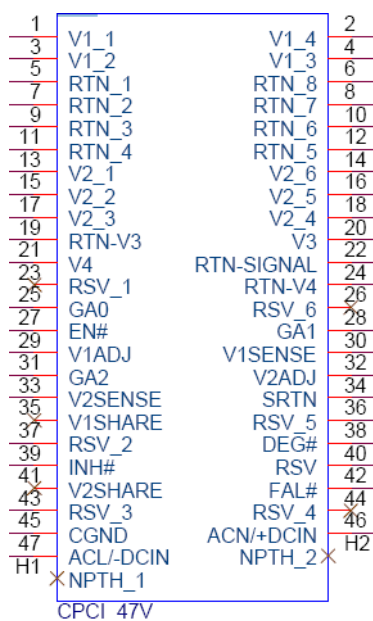| Pin	Signal
1	ACL/-DC-IN
2	NC
3	ACL/+DC-IN
4	ACL/-DC-IN
5	NC
6	ACL/+DC-IN

A.1.8 COMPACTPCI-PWR-CONN (CN1)

Pin	Signal	Pin	Signal
1	+5V	2	+5V
3	+5V	4	+5V
5	GND	6	GND
7	GND	8	GND
9	GND	10	GND
11	GND	12	GND
13	+3.3V	14	+3.3V
15	+3.3V	16	+3.3V
17	+3.3V	18	+3.3V
19	GND	20	+12V
21	-12V	22	GND
23	NC	24	GND
25	GA0	26	NC
27	PS0_EN#	28	GA1
29	V1ADJ	30	V1SENSE
31	GA2	32	V2ADJ
33	V2SENSE	34	SRTN
35	NC	36	V3SENSE
37	IPMB_SCL	38	DEG#
39	INH#	40	IPMD_SDA
41	NC	42	FAL#
43	NC	44	NC
45	CGND	46	NC
47	ACL/-DC-IN		

A.2 Pin Assignment of P1~P2 Connector in MIC-3022-BP01 Backplane

A.2.1 System Slot S1P1 Connector

Table A.1: System Slot S1P1 Connector						
System Slot P1 Connector						
PIN	**Z**	**A**	**B**	**C**	**D**	**E**	**F**
25	GND	+5V	REQ64#	ENUM#	+3.3V	+5V	GND
24	GND	AD1	+5V	V(I/O)	AD0	ACK64#	GND
23	GND	+3.3V	AD4	AD3	+5V	AD2	GND
22	GND	AD7	GND	+3.3V	AD6	AD5	GND
21	GND	+3.3V	AD9	AD8	M66EN	CBE0	GND
20	GND	AD12	GND	V(I/O)	AD11	AD10	GND
19	GND	+3.3V	AD15	AD14	GND	AD13	GND
18	GND	SERR#	GND	+3.3V	PAR	CBE1#	GND
17	GND	+3.3V	IPMB SCL	IPMB SDA	GND	PERR#	GND
16	GND	DEVSEL#	PCIX_CAP	V(I/O)	STOP#	LOCK#	GND
15	GND	+3.3V	FRAME#	IRDY#	GND (BD_SEL#)	TRDY#	GND
14							
13	KEY AREA(Default is Brilliant Blue)						
12							
11	GND	AD18	AD17	AD16	GND	CBE2#	GND
10	GND	AD21	GND	+3.3V	AD20	AD19	GND
9	GND	CBE3#	GND (IDSEL)	AD23	GND	AD22	GND
8	GND	AD26	GND	V(I/O)	AD25	AD24	GND
7	GND	AD30	AD29	AD28	GND	AD27	GND
6	GND	REQ#	GND	+3.3V	CLK	AD31	GND
5	GND	BRSVP1A5	BRSVP1B5	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 (Front only)

Short pins (Front only)

A.2.2 System Slot S1P2 Connector

Table A.2: System Slot S1P2 Connector

System Slot P2 Connector

PIN	Z	A	B	C	D	E	F
22	GND	GA4	GA3	GA2	GA1	GA0	GNA
21	GND	CLK6	GND	NC	NC	NC	GND
20	GND	CLK5	GND	NC	NC	NC	GND
19	GND	GND	GND	SMB_SDA	SMB_SCL	SMB_ALT#	GND
18	GND	NC	NC	NC	NC	NC	GND
17	GND	NC	NC	PRST#	REQ6#	GNT6#	GND
16	GND	NC	NC	DEG#	GND	NC	GND
15	GND	NC	NC	FAL#	REQ5#	GNT5#	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	64EN# (GND)	NC	NC	NC	GND
4	GND	V(I/O)	NC	NC	NC	NC	GND
3	GND	CLK4	GND	GNT3#	REQ4	GNT4#	GND
2	GND	CLK2	CLK3	GND (SYSEN#)	GNT2#	REQ3#	GND
1	GND	CLK1	GND	REQ1#	GNT1#	REQ2#	GND

Long pins (Front only)

Short pins (Front only)

A.2.3 Peripheral Slots (S2~S8) P1 Connector

Table A.3: Peripheral Slot (S2~S7) P1 Connector

P1 Connector

PIN	Z	A	B	C	D	E	F
25	GND	5V	REQ64#	ENUM#	3.3V	5V	GND
24	GND	AD1	5V	V(I/O)	AD0	ACK64#	GND
23	GND	3.3V	AD4	AD3	5V	AD2	GND
22	GND	AD7	GND	3.3V	AD6	AD5	GND
21	GND	3.3V	AD9	AD8	M66EN	CBE0	GND
20	GND	AD12	GND	V(I/O)	AD11	AD10	GND
19	GND	3.3V	AD15	AD14	GND	AD13	GND
18	GND	SERR#	GND	3.3V	PAR	CBE1#	GND
17	GND	3.3V	IPMB SCL	IPMB SDA	GND	PERR#	GND
16	GND	DEVSEL#	PCIX_CAP	V(I/O)	STOP#	LOCK#	GND
15	GND	3.3V	FRAME#	IRDY#	BD_SEL#	TRDY#	GND
14							
13		KEY AREA(Default is Brilliant Blue)					
12							
11	GND	AD18	AD17	AD16	GND	CBE2#	GND
10	GND	AD21	GND	3.3V	AD20	AD19	GND
9	GND	CBE3#	IDSEL	AD23	GND	AD22	GND
8	GND	AD26	GND	V(I/O)	AD25	AD24	GND
7	GND	AD30	AD29	AD28	GND	AD27	GND
6	GND	REQ0#	GND	3.3V	CLK0	AD31	GND
5	GND	BRSVP1A5	BRSVP1B5	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 (Front only)

Short pins (Front only)

A.2.4 Peripheral Slots (S2~S8) P2 Connector

Table A.4: Peripheral Slot (S2~S7) P2 Connector

P2 Connector

PIN	Z	A	B	C	D	E	F
22	GND	GA4	GA3	GA2	GA1	GA0	GNA
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 (Front only)

Short pins (Front only)
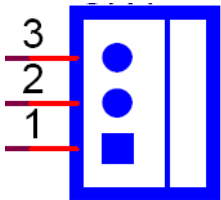
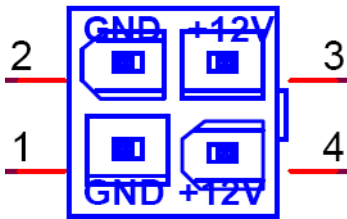# Appendix B

Pin Assignments of MIC-3022-BP02 Backplane

B.1 Pin Assignment of Other Connectors in MIC-3022-BP02 Backplane

B.1.1 Blower Connector 1 (CN13,CN14,CN16,CN17)

Pin	Signal
1	GND
2	+12V
3	Blower Speed

B.1.2 Blower Connector 2 (CN10)

Pin	Signal
1	GND
2	GND
3	+12V
4	+12V

B.1.3 LED Connector (CN18)
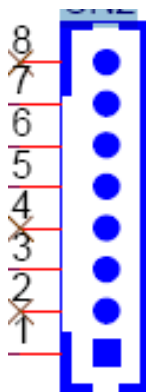
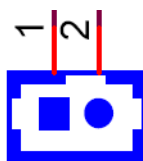| Pin	Signal	Pin	Signal
1	+3.3V	2	NC
3	+5V	4	NC
5	+12V	6	GND
7	GND	8	NC

B.1.4 POWER ON Connector (CN12)

Pin	Signal
1	PS_ON#
2	GND

B.1.5 ATX-PWR-CONN (CN11)

Pin	Signal	Pin	Signal
1	+3.3V	2	+3.3V
3	GND	4	+5V
5	GND	6	+5V
7	GND	8	PWR_OK
9	+5VSB	10	+12V
11	+3.3V	12	-12V
13	GND	14	PS_ON#
15	GND	16	GND
17	GND	18	NC
19	+5V	20	+5V

B.1.6 COMPACTPCI Power AC-IN Connector (CN9)

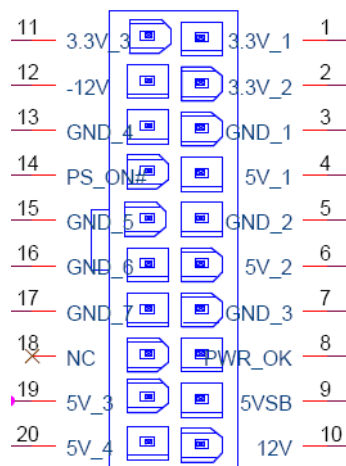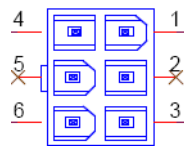| Pin	Signal
1	ACL/-DC-IN
2	NC
3	ACL/+DC-IN
4	ACL/-DC-IN
5	NC
6	ACL/+DC-IN

B.1.7 COMPACTPCI-PWR-CONN (CN8)

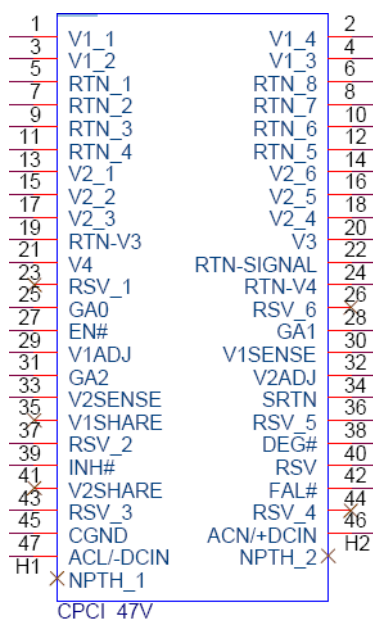| Pin	Signal	Pin	Signal
1	+5V	2	+5V
3	+5V	4	+5V
5	GND	6	GND
7	GND	8	GND
9	GND	10	GND
11	GND	12	GND
13	+3.3V	14	+3.3V
15	+3.3V	16	+3.3V
17	+3.3V	18	+3.3V
19	GND	20	+12V
21	-12V	22	GND
23	NC	24	GND
25	GA0	26	NC
27	PS0_EN#	28	GA1
29	V1ADJ	30	V1SENSE
31	GA2	32	V2ADJ
33	V2SENSE	34	SRTN
35	NC	36	V3SENSE
37	IPMB_SCL	38	DEG#
39	INH#	40	IPMD_SDA
41	NC	42	FAL#
43	NC	44	NC
45	CGND	46	NC
47	ACL/-DC-IN		

B.1.8 SATA Connector (CN6)
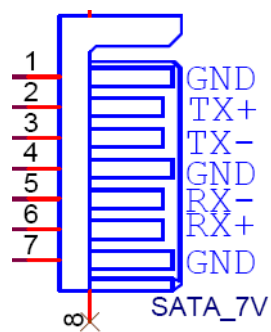
Pin	Signal
1	GND
2	TX+
3	TX-
4	GND
5	RX-
6	RX+
7	GND

B.1.9 SATA Power Connector (CN7)
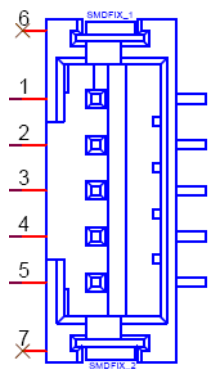
Pin	Signal
1	+3.3V
2	GND
3	+5V
4	GND
5	+12V

B.2 Pin Assignment of P1~P2 Connector in MIC-3022-BP02 Backplane

B.2.1 System Slot S4P1 Connector

Table B.1: System Slot S1P1 Connector						
System slot S4P1 connector						
PIN	Z	A	B	C	D	E	F
25	GND	+5V	REQ64#	ENUM#	+3.3V	+5V	GND
24	GND	AD1	+5V	V(I/O)	AD0	ACK64#	GND
23	GND	+3.3V	AD4	AD3	+5V	AD2	GND
22	GND	AD7	GND	+3.3V	AD6	AD5	GND
21	GND	+3.3V	AD9	AD8	M66EN	CBE0	GND
20	GND	AD12	GND	V(I/O)	AD11	AD10	GND
19	GND	+3.3V	AD15	AD14	GND	AD13	GND
18	GND	SERR#	GND	+3.3V	PAR	CBE1#	GND
17	GND	+3.3V	IPMB SCL	IPMB SDA	GND	PERR#	GND
16	GND	DEVSEL#	PCIX_CAP	V(I/O)	STOP#	LOCK#	GND
15	GND	+3.3V	FRAME#	IRDY#	GND (BD_SEL#)	TRDY#	GND
14							
13	KEY AREA(Default is Brilliant Blue)						
12							
11	GND	AD18	AD17	AD16	GND	CBE2#	GND
10	GND	AD21	GND	+3.3V	AD20	AD19	GND
9	GND	CBE3#	GND (IDSEL)	AD23	GND	AD22	GND
8	GND	AD26	GND	V(I/O)	AD25	AD24	GND
7	GND	AD30	AD29	AD28	GND	AD27	GND
6	GND	REQ#	GND	+3.3V	CLK	AD31	GND
5	GND	BRSVP1A5	BRSVP1B5	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 (Front only)

Short pins (Front only)

B.2.2 System Slot S4P2 Connector

Table B.2: System Slot S4P2 Connector

System Slot P2 Connector

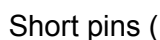| Pin	Z	A	B	C	D	E	F
22	GND	GA4	GA3	GA2	GA1	GA0	GND
21	GND	NC	GND	2_ETH_B+	1_ETH_D+	1_ETH_B+	GND
20	GND	NC	GND	2_ETH_B-	1_ETH_D-	1_ETH_B-	GND
19	GND	GND	GND	2_ETH_A+	1_ETH_C+	1_ETH_A+	GND
18	GND	2_ETH_D+	2_ETH_C+	2_ETH_A-	1_ETH_C-	1_ETH_A-	GND
17	GND	2_ETH_D-	2_ETH_C-	PRST#	NC	NC	GND
16	GND	4_PE_CLK-	2_PE_CLK+	DEG#	GND	Reserved	GND
15	GND	4_PE_CLK+	2_PE_CLK-	FAL#	NC	NC	GND
14	GND	3_PE_CLK-	1_PE_CLK+	4_PE_CLKE#	SATA_SCL	Reserved	GND
13	GND	3_PE_CLK+	1_PE_CLK-	3_PE_CLKE#	SATA_SDO	SATA_SL	GND
12	GND	4_PE_Rx00+	1_PE_CLKE#	2_PE_CLKE#	SATA_SDI	4_SATA_Rx+	GND
11	GND	4_PE_Rx00-	4_PE_Tx00+	4_USB2+	4_SATA_Tx+	4_SATA_Rx-	GND
10	GND	3_PE_Rx00+	4_PE_Tx00-	4_USB2-	4_SATA_Tx-	3_SATA_Rx+	GND
9	GND	3_PE_Rx00-	3_PE_Tx00+	3_USB2+	3_SATA_Tx+	3_SATA_Rx-	GND
8	GND	2_PE_Rx00+	3_PE_Tx00-	3_USB2-	3_SATA_Tx-	2_SATA_Rx+	GND
7	GND	2_PE_Rx00-	2_PE_Tx00+	2_USB2+	2_SATA_Tx+	2_SATA_Rx-	GND
6	GND	1_PE_Rx00+	2_PE_Tx00-	2_USB2-	2_SATA_Tx-	1_SATA_Rx+	GND
5	GND	1_PE_Rx00-	1_PE_Tx00+	1_USB2+	1_SATA_Tx+	1_SATA_Rx-	GND
4	GND	VIO	1_PE_Tx00-	1_USB2-	1_SATA_Tx-	re s e rve d	GND
3	GND	NC	GND	NC	NC	NC	GND
2	GND	CLK2	NC	SYSEN#	GNT2#	NC	GND
1	GND	CLK1	GND	REQ1#	GNT1#	REQ2#	GND

B.2.3 Peripheral Slots (S1~S3) P1 Connector

Table B.3: Peripheral Slots (S1~S3) P1 Connector

System Slot P1 Connector

PIN	Z	A	B	C	D	E	F
25	GND	5V	REQ64#	ENUM#	3.3V	5V	GND
24	GND	AD1	5V	V(I/O)	AD0	ACK64#	GND
23	GND	3.3V	AD4	AD3	5V	AD2	GND
22	GND	AD7	GND	3.3V	AD6	AD5	GND
21	GND	3.3V	AD9	AD8	M66EN	CBE0	GND
20	GND	AD12	GND	V(I/O)	AD11	AD10	GND
19	GND	3.3V	AD15	AD14	GND	AD13	GND
18	GND	SERR#	GND	3.3V	PAR	CBE1#	GND
17	GND	3.3V	IPMB SCL	IPMB SDA	GND	PERR#	GND
16	GND	DEVSEL#	PCIX_CAP	V(I/O)	STOP#	LOCK#	GND
15	GND	3.3V	FRAME#	IRDY#	BD_SEL#	TRDY#	GND
14							
13		KEY AREA(Default is Brilliant Blue)					
12							
11	GND	AD18	AD17	AD16	GND	CBE2#	GND
10	GND	AD21	GND	3.3V	AD20	AD19	GND
9	GND	CBE3#	IDSEL	AD23	GND	AD22	GND
8	GND	AD26	GND	V(I/O)	AD25	AD24	GND
7	GND	AD30	AD29	AD28	GND	AD27	GND
6	GND	REQ0#	GND	3.3V	CLK0	AD31	GND
5	GND	BRSVP1A5	BRSVP1B5	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 (Front only)

    Short pins (Front only)

B.2.4 Peripheral Slots (S1~S3) P2 Connector

Table B.4: Peripheral Slots (S1~S3) P2 Connector

P2 Connector

PIN	Z	A	B	C	D	E	F
22	GND	GA4	GA3	GA2	GA1	GA0	GNA
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 (Front only)

Short pins (Front only)

B.2.5 Peripheral Slots (S5~S8) J1~J6 Connector

Table B.5: Peripheral Slot (S5~S8) J1~J6 Connector

J1~J6 Connector

Pin	A	B	C	D	E	F
6-08	GND	NC	NC	GND	NC	NC
6-07	NC	NC	GND	NC	NC	GND
6-06	GND	NC	NC	GND	NC	NC
6-05	NC	NC	GND	NC	NC	GND
6-04	GND	NC	NC	GND	NC	NC
6-03	NC	NC	GND	NC	NC	GND
6-02	GND	2_ETH_A+	2_ETH_A-	GND	2_ETH_B+	2_ETH_B-
6-01	1_ETH_A+	1_ETH_A-	GND	1_ETH_B+	1_ETH_B-	GND
5-06	GND	IO	IO	GND	IO	IO
5-05	IO	IO	GND	IO	IO	GND
5-04	GND	IO	IO	GND	IO	IO
5-03	IO	IO	GND	IO	IO	GND
5-02	GND	IO	IO	GND	IO	IO
5-01	IO	IO	GND	IO	IO	GND
4-08	GND	IO	IO	GND	IO	IO
4-07	IO	IO	GND	IO	IO	GND
4-06	GND	IO	IO	GND	IO	IO
4-05	IO	IO	GND	IO	IO	GND
4-04	GND	IO	IO	GND	IO	IO
4-03	IO	IO	GND	IO	IO	GND
4-02	GND	IO	IO	GND	IO	IO
4-01	IO	IO	GND	IO	IO	GND
3-08	GND	IO	IO	GND	IO	IO
3-07	IO	IO	GND	IO	IO	GND
3-06	GND	IO	IO	GND	IO	IO
3-05	IO	IO	GND	IO	IO	GND
3-04	GND	IO	IO	GND	IO	IO
3-03	IO	IO	GND	IO	IO	GND
3-02	GND	IO	IO	GND	IO	IO
3-01	IO	IO	GND	IO	IO	GND
2-08	GND	IO	IO	GND	IO	IO
2-07	IO	IO	GND	IO	IO	GND
2-06	GND	IO	IO	GND	IO	IO
2-05	IO	IO	GND	IO	IO	GND
2-04	GND	IO	IO	GND	IO	IO
2-03	IO	IO	GND	IO	IO	GND
2-02	GND	NC	NC	GND	NC	NC
2-01	NC	NC	GND	NC	NC	GND
1-06	GND	1_PE_Tx02+	1_PE_Tx02-	GND	1_PE_Rx02+	1_PE_Rx02-
1-05	1_PE_Tx00+	1_PE_Tx00-	GND	1_PE_Rx00+	1_PE_Rx00-	GND
1-04	GND	1_USB2+	1_USB2-	GND	PE_CLKIN+	PE_CLKIN-

Table B.5: Peripheral Slot (S5~S8) J1~J6 Connector

1-03	1_USB3_Tx+	1_USB3_Tx-	GA0	1_USB3_Rx+	1_USB3_Rx-	GA1
1-02	GND	I²C_SCL	I²C_SDA	GND	reserved	reserved
1-01	+12V	NC	GND	+12V	+12V	GND
Pin	A	B	C	D	E	F

J1~J6 Connector

Pin	G	H	I	J	K	L
6-08	GND	NC	NC	GND	NC	NC
6-07	NC	NC	GND	NC	NC	GND
6-06	GND	NC	NC	GND	NC	NC
6-05	NC	NC	GND	NC	NC	GND
6-04	GND	NC	NC	GND	NC	NC
6-03	NC	NC	GND	NC	NC	GND
6-02	GND	2_ETH_C+	2_ETH_C-	GND	2_ETH_D+	2_ETH_D-
6-01	1_ETH_C+	1_ETH_C-	GND	1_ETH_D+	1_ETH_D-	GND
5-06	GND	IO	IO	GND	IO	IO
5-05	IO	IO	GND	IO	IO	GND
5-04	GND	IO	IO	GND	IO	IO
5-03	IO	IO	GND	IO	IO	GND
5-02	GND	IO	IO	GND	IO	IO
5-01	IO	IO	GND	IO	IO	GND
4-08	GND	IO	IO	GND	IO	IO
4-07	IO	IO	GND	IO	IO	GND
4-06	GND	IO	IO	GND	IO	IO
4-05	IO	IO	GND	IO	IO	GND
4-04	GND	IO	IO	GND	IO	IO
4-03	IO	IO	GND	IO	IO	GND
4-02	GND	IO	IO	GND	IO	IO
4-01	IO	IO	GND	IO	IO	GND
3-08	GND	IO	IO	GND	IO	IO
3-07	IO	IO	GND	IO	IO	GND
3-06	GND	IO	IO	GND	IO	IO
3-05	IO	IO	GND	IO	IO	GND
3-04	GND	IO	IO	GND	IO	IO
3-03	IO	IO	GND	IO	IO	GND
3-02	GND	IO	IO	GND	IO	IO
3-01	IO	IO	GND	IO	IO	GND
2-08	GND	IO	IO	GND	IO	IO
2-07	IO	IO	GND	IO	IO	GND
2-06	GND	IO	IO	GND	IO	IO
2-05	IO	IO	GND	IO	IO	GND
2-04	GND	IO	IO	GND	IO	IO
2-03	IO	IO	GND	IO	IO	GND
2-02	GND	NC	NC	GND	NC	NC

	Table B.5: Peripheral Slot (S5~S8) J1~J6 Connector					
2-01	NC	NC	GND	NC	NC	GND
1-06	GND	1_PE_Tx03+	1_PE_Tx03-	GND	1_PE_Rx03+	1_PE_Rx03-
1-05	1_PE_Tx01+	1_PE_Tx01-	GND	1_PE_Rx01+	1_PE_Rx01-	GND
1-04	GND	1_SATA_Tx+	1_SATA_Tx-	GND	1_SATA_Rx+	1_SATA_Rx-
1-03	SATA_SDI	SATA_SDO	GA2	SATA_SCL	SATA_SL	GA3
1-02	GND	RST#	WAKE_OUT#	GND	PCIE_EN#	SYSEN# *)
1-01	+12V	+12V	GND	+12V	+12V	GND
Pin	G	H	I	J	K	L

Note!   *SATA signal on S5J1 and S6J1 are connected to MIC-3022-BP02 back-plane as two external SATA connectors.*

Appendix C

Ordering Information

C.1 Ordering Information

- MIC-3022AE: A 4U-high CompactPCI enclosure with 2 blowers, a 400W ATX power supply and 8 slot legacy CompactPCI backplane.
- MIC-3022-CE: A 4U-high CompactPCI enclosure with 2 blowers, a 250W CompactPCI power supply and 8 slot legacy CompactPCI backplane.
- MIC-3022-PAE: A 4U-high CompactPCI enclosure with 2 blowers, a 400W ATX power supply and 8 slot PlusIO CompactPCI backplane.
- MIC-3022-PCE: A 4U-high CompactPCI enclosure with 2 blowers, a 300W CompactPCI power supply and 8 slot PlusIO CompactPCI backplane.

C.1.1 3U CompactPCI order information

Table C.1: Recommended 3U CompactPCI Enclosure

Chassis	Backplane	Master SBC	RIO
MIC-3022AE	MIC-3022-BP01	MIC-3325 series	MIC-3525 series
MIC-3022CE		MIC-3326 series	
		MIC-3328 series	
MIC-3022PAE	MIC-3022-BP02	MIC-3328 series	
MIC-3022PCE			

Table C.2: Recommended 3U CompactPCI CPU Blade

Product	Description	Remark
MIC-3325D-D2E	MIC-3325 with D525 CPU 2G RAM XTM dual slot	
MIC-3325D-S2E	MIC-3325 with D525 CPU 2G RAM single slot	
MIC-3325N-D3E	MIC-3325 w/ N455 CPU 2G RAM 8HP-2 XTM dual slot	FANLESS
MIC-3325N-S2E	MIC-3325 with N455 CPU 2G RAM single slot	FANLESS
MIC-3328A1-D1E	MIC-3328, 3517UE 8G RAM, w/ 8HP-1, 2 DP, 2 COM, PS/2	MIC-3328A1-D1E
MIC-3328B1-D1E	MIC-3328, 3555LE 8G RAM, w/ 8HP-1, 2 DP, 2 COM, PS/2	MIC-3328B1-D1E
MIC-3328C1-D1E	MIC-3328, 3612QE 8G RAM, w/ 8HP-1, 2 DP, 2 COM, PS/2	MIC-3328C1-D1E

Table C.3: Recommended 3U CompactPCI– RIO / Perip. / Extension Board

Product	Description	Remark
MIC-3525-S1E	ASS'Y MIC-3525 A101-1 Rear IO for MIC-3325	RIO
MIC-3611/3-AE	4-port RS-232/422/485	CPCI Peripheral
MIC-3716/3-A	3U 250kS/s,16-bit,16-ch multifunction Card	CPCI Peripheral
MIC-3756/3-A	64-ch Isolated DI/O Card	CPCI Peripheral
MIC-3680/3-A	2-port CAN Card	CPCI Peripheral
MIC-3953-AE	3U PMC carrier board	CPCI Peripheral
MIC-3954-AE	3U CPCI-Serial card w./ dual Mini-PCIe Slot	CPCI-S Peripheral
MIC-3954-BE	3U CPCI-Serial SATA HDD/SSD Carrier board	CPCI-S Peripheral
MIC-3665-AE	CompactPCI PMC with dual copper (RJ-45) Giga-bit Ethernet interfaces	PMC card
MIC-3665-BE	CompactPCI PMC with dual fiber Gigabit Ethernet interfaces	PMC card

Table C.4: Recommended System Config. Compatibility Matrix

Enclosure	MIC-3022AE/CE	MIC-3022-AE/CE	MIC-3022-AE/CE	MIC-3022-AE/CE	MIC-3022-PAE/PCE
4HP CPU Blade	MIC-3325 series	---	---	---	MIC-3328 series
8HP CPU Blade	---	MIC-3325 series	MIC-3326 series	MIC-3328 series	---
4HP RIO	MIC-3525-S1E	MIC-3525-S1E	---	---	---
8HP RIO	---	---	---	---	---
Peripheral	CPCI series	CPCI series	CPCI series	CPCI series	CPCI series CPCI-S series
Extension	MIC-3665-AE MIC-3665-BE	MIC-3665-AE MIC-3665-BE	MIC-3665-AE MIC-3665-BE	MIC-3665-AE MIC-3665-BE	MIC-3665-AE MIC-3665-BE

Table C.5: Peripheral parts

P/N	Description	Remark
1757004391-01	SPS AC100-240V 400W W/PFC ATX	
1757004516-01	SPS 100-240V 250W W/PFC HAC250P-490(E)	
96PS-A300WCPC-1	cPCI A/D 100-240V 300W Q-VOUT	Extended temperature support

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