cPCIS-3320 Series

9U Dual-System

CompactPCI Platform

User's Manual

Manual Rev. 2.00

Revision Date: April 20, 2005

Part No: 50-15037-100

Recycled Paper

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1 Introduction

The cPCIS-3320 Series 9U Dual-System Platform is ideal for developing telecom applications focusing on media and signaling gateways, as well as telecom value-added services like Location Based Service (LBS), Ring Back Tone (RBT), and Multimedia Message Systems (MMS).

This flexible and reliable development platform with optimized I/O and storage provides the best solution for equipment manufacturers and system integrators and shortens time-to-market for fast growing business revenues.

The cPCIS-3320 supports dual systems and two 5.25” drive bays. System A (left side) supports 1+7 slots (1 host slot + 7 peripheral slots), and System B (right side) supports 1+4 slots (1 host slot and 4 peripheral slots). Both segments support 64-bit/66MHz PCI and H.110 CT buses.

1.1 Features

- Standard 6U CompactPCI
- PICMG 2.9 compliant & H.110 CT Bus
- Dual System support
- System A: 1 + 7 (1 host slot + 7 peripheral slots)
- System B: 1 + 4 (1 host slot + 4 peripheral slots)
- N+1 (750W + 250W) hot swappable redundant cPCI power
- Optional PICMG 2.9 Chassis Management Module (CMM) with Intelligent Platform Management Interface (IPMI) for remote monitoring and control of the system via Ethernet
- 64-bit/66MHz cPCI bus
- 6-fan (5 lower intake + 1 upper exhaust) hot swappable redundant cooling architecture with removable air filter
- 2 conventional upper exhaust fans
- Designed for NEBS Level 3 compliance

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1.2 Specifications

CompactPCI Standards	PICMG 2.0; 2.1; 2.5; 2.9; 2.11
Form Factor	6U cPCI with 80 mm depth rear I/O
Enclosure	EIA RS-310C 19" 9U high rack-mount enclosure Coated metal plate outer covering Guarded power switch and reset button
Basic Alarm Module (model dependent)	Monitors inner chassis temperature & fan status (model dependent) Abnormal status will generate alarm and LED warning Audible alarm reset LED indicators display voltage status on 5V, 3.3V, 12V, -12V
Remote Chassis Monitoring Module (model dependent)	Basic Alarm functions plus: Monitors boards via the Intelligent Platform Management Interface (IPMI) Monitors backplane voltages and power supply status Remote login and management via LAN or modem Remote reset control for host boards Web-based GUI for both remote and stand-alone applications
Cooling System	Front access hot swappable fan trays for intake and exhaust: 12V DC brushless, dual ball bearing 5 fans for intake and 1 fan for exhaust Rated power for each fan: 2.64W Air flow for intake: 241 CFM Air flow for exhaust: 48.2 CFM Two upper blower fans (22.4 CFM, 4.56W each)
Drive Bays	Two 5.25” drive bays
Power Supply	Supports up to 4 in-rack 3U cPCI 8HP power modules Supports current sharing on 5V, 3.3V and 12V PICMG 2.11 47-pin power interface Available power module: cPS-H325/AC (250W N+1 redundant each)
Dimension	483.2 x 399 x 299.1 (mm, WxHxD, w/o handles)
Operating temperature	0 to 50°C
Storage temperature	-20 to 80°C
Humidity	5% to 95%, non-condensing
Safety, Certification, EBS	CE, FCC class A, Designed for NEBS Level 3
Recommended System Boards	cPCI-6810, cPCI-6820, cPCI-6830V, cPCI-6831, cPCI-6840, cPCI-6841, cPCI-6842, cPCI-6860A

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1.3 Mechanical Layout

Refer to the figures below for the mechanical layout and external dimensions of the cPCIS-3320.

cPCIS-3320 Series Mechanical Layout

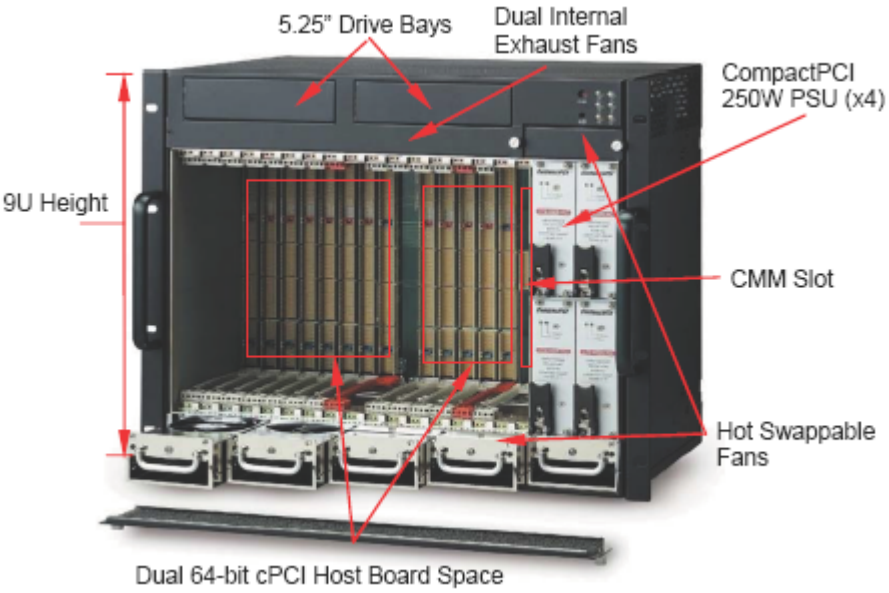


Figure 1-1: Mechanical Layout of the cPCIS-3320

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cPCIS-3320 Series External Dimensions (mm)



Figure 1-2: cPCIS-3320 Series Front View

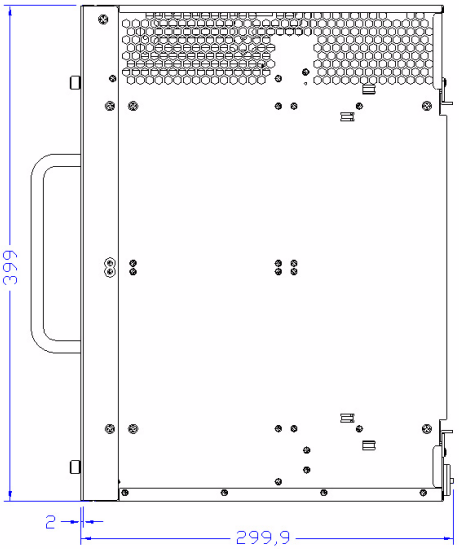


Figure 1-3: cPCIS-3320 Series Side View

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1.4 cPCIS-3320 Configurations

The cPCIS-3320 Base Model comes in the configurations shown in the table below. The “M” designation indicates the optional Chassis Management Module (CMM).

Model Number	Management System
cPCIS-3320/AC	Standard Alarm Board
cPCIS-3320/M/AC	CMM

1.5 System Architecture

The cPCIS-3320 Series uses the system architecture shown in the figures below. System A supports 1+7 slots and System B supports 1+4 slots. All configurations come standard with four 250W CompactPCI power supplies installed. The “M” designation model comes with the CMM and its Rear Transition Module (RTM) installed.

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cPCIS-3320/AC: Standard Alarm Board

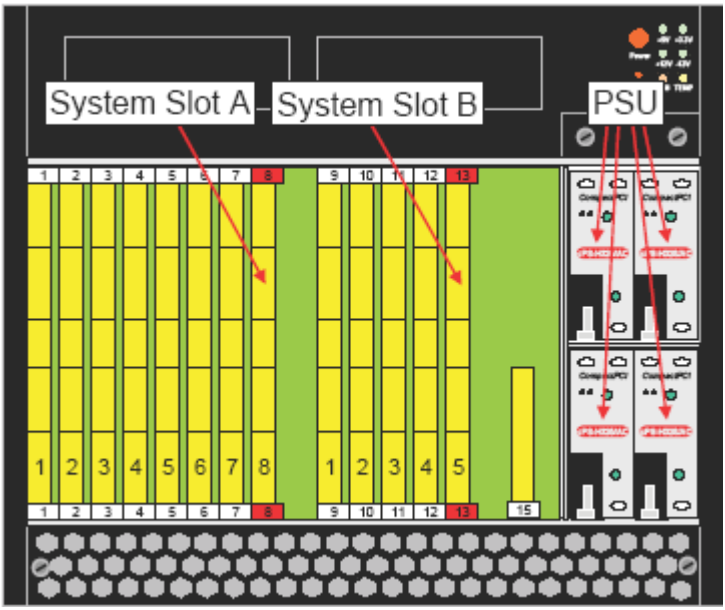


Figure 1-4: cPCIS-3320/AC Architecture (Front View)

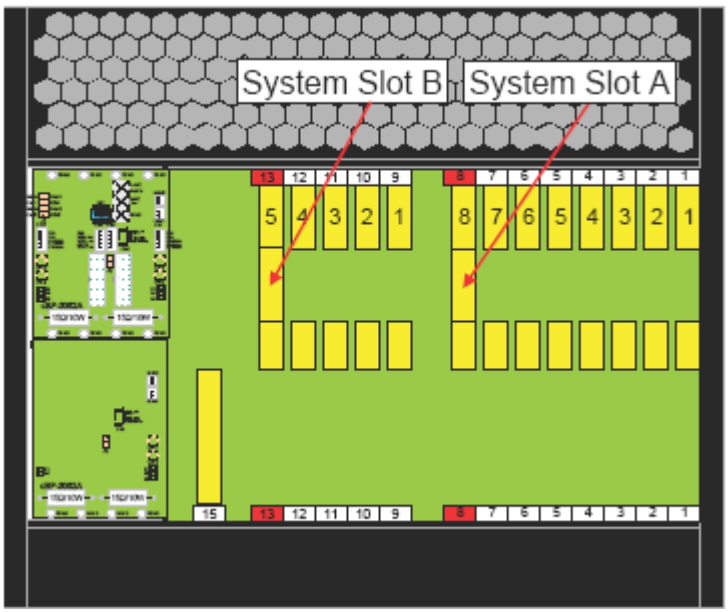


Figure 1-5: cPCIS-3320/AC Architecture (Rear View)

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cPCIS-3320/M/AC: Optional CMM

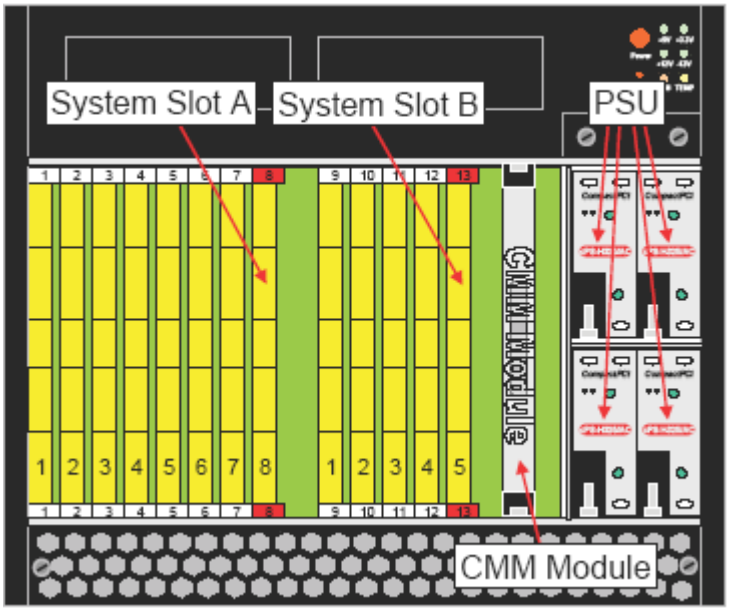


Figure 1-6: cPCIS-3320/M/AC Architecture (Front View)

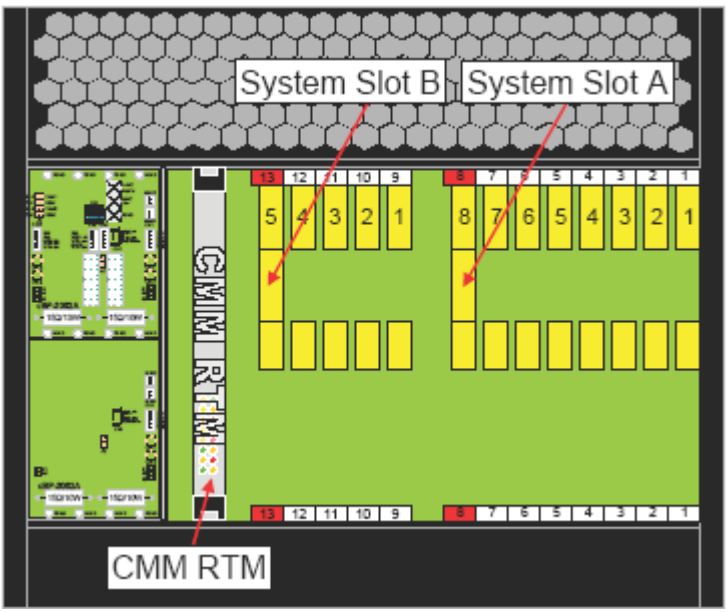


Figure 1-7: cPCIS-3320/M/AC Architecture (Rear View)

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1.6 Power Distribution

The cPCIS-3320 Series a redundant power supply distribution as shown in figure below. The CMM portion of the diagram applies to the cPCIS-3320/M/AC model and indicates the fan status monitored by the CMM.

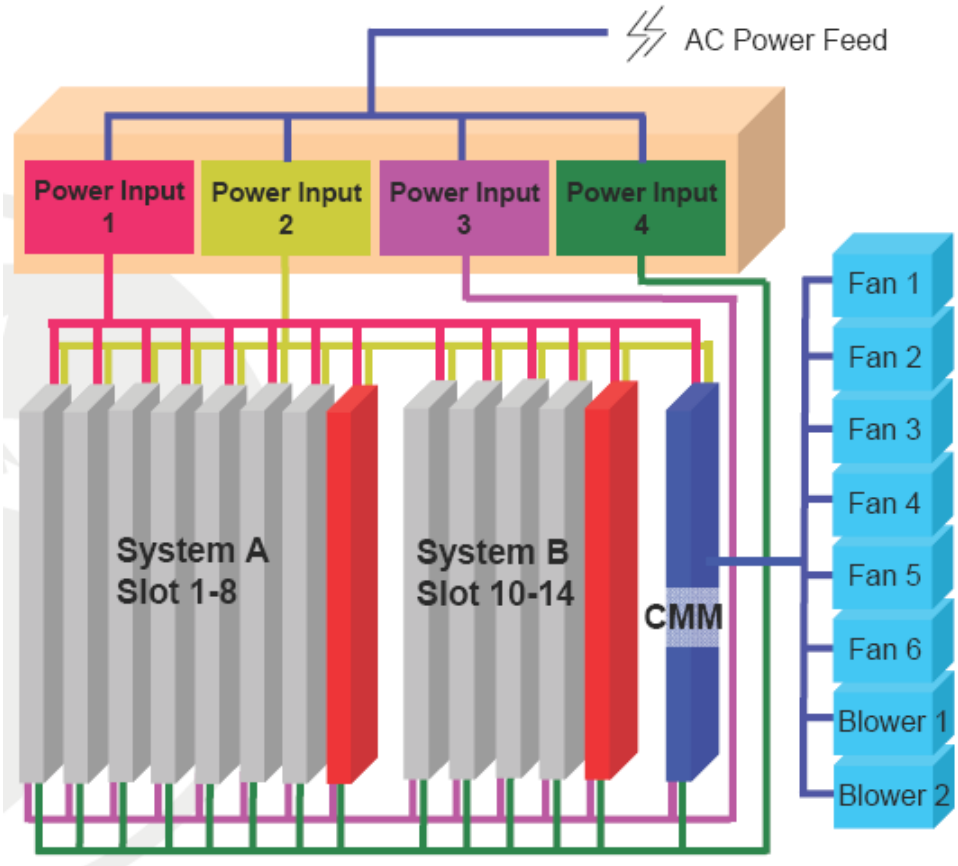


Figure 1-8: cPCIS-3320 Series power distribution

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2 Getting Started

This chapter describes the unpacking procedure of the sub-system and installation procedures for CompactPCI boards, power supply units (PSUs) and drive bays.

2.1 Shipping Contents

Check the shipping carton for any damage. If the shipping carton and contents are damaged, please notify the dealer for a replacement. Retain the shipping carton and packing material for inspection by the dealer. Obtain authorization before returning any product to ADLINK.

Check that the following items are included in the package. If there are any missing items, please contact your dealer:

- One cPCIS-3320 Series platform
- This User's Manual
- Accessory Kit (includes N. American or European power cord, air filter and spare screws)

2.2 CompactPCI Computing Blade & PSU Installation

The CompactPCI connectors are rigid and require careful handling when inserted and removed. Improper handling of cards can easily damage the backplane.

The host board slot is red, peripheral slots are gray, and PSU slots are green. The Chassis Management Module (CMM) slot is also gray, but the pin connector of the CMM is different than that of the peripheral board. Be certain to insert each module into the correct type of slot. The slot left of the PSU slots shown in the figure below is for CMM use only.

Host board slots have obvious indicators (e.g. red card guide rail, triangle mark enclosing the slot number on the backplane) A host board can only be installed in a host board slot. Do not insert a host board into any other slot, or insert any peripheral card into a host board slot.

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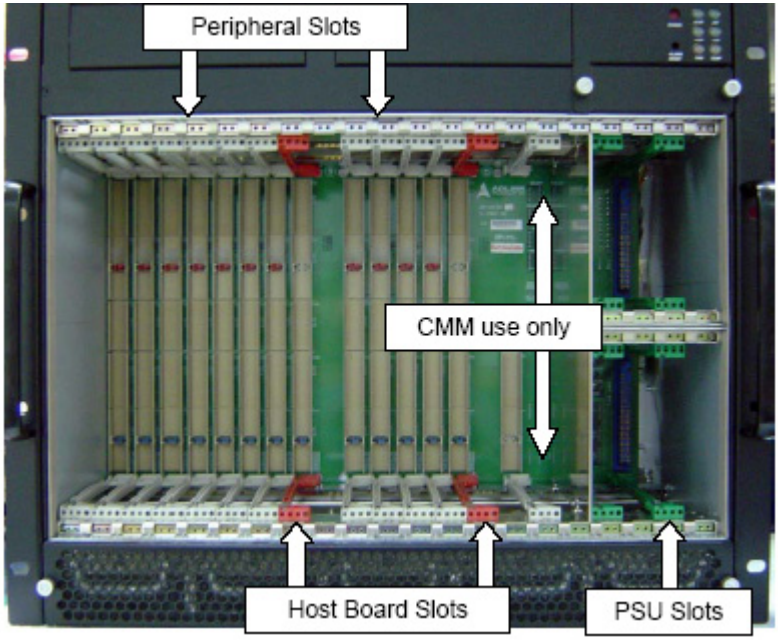


Figure 2-1: cPCIS-3320 Series slot layout.

The handles on CompactPCI cards and PSUs ensure simple and safe installation and removal. Please follow the procedures below to install a CompactPCI module into a chassis:

CompactPCI Card Installation/Removal Procedure

1. Place the sub-system on a level surface or rackmount it. Remove the blanking plates where required by undoing the retaining screws at each end. Retain the blanking plates for possible future use. The system should not be put into use without blanking plates for all empty slots, otherwise the EMC and cooling performance will be compromised
2. Hold the host board or peripheral card module vertically. Make sure that the handles are unlatched (i.e. that they

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are pulled outwards) by first pressing on the release buttons with your thumb.

3. Carefully insert the module into the desired slot by sliding the edges of the board into the appropriate card guide rail. Take care to ensure correct alignment of the card with the chassis during insertion to prevent damage to the card and/or backplane.

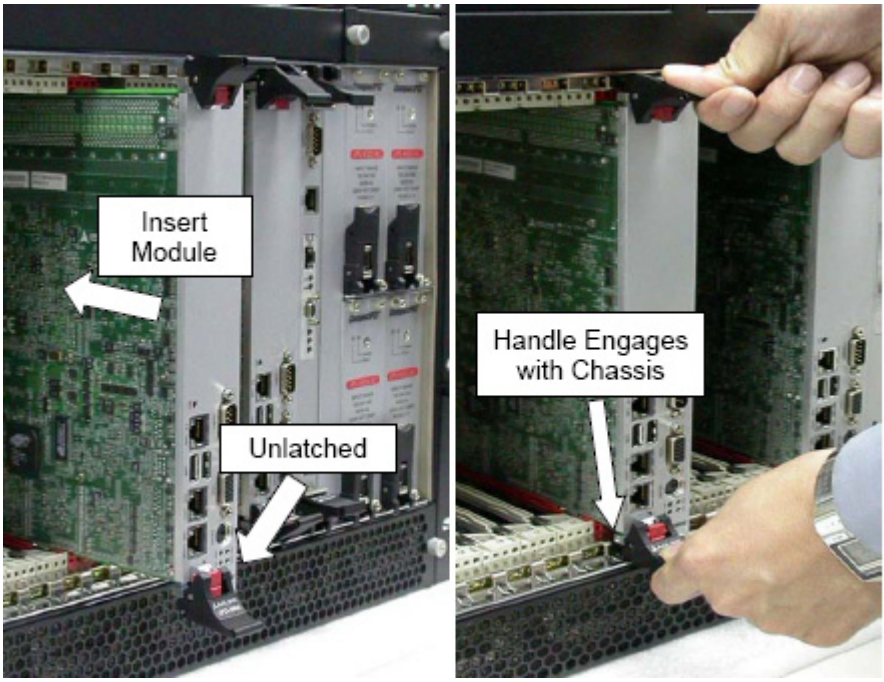


Figure 2-2: Installing 6U modules.

4. Continue inserting the card until the handles engage with the chassis.

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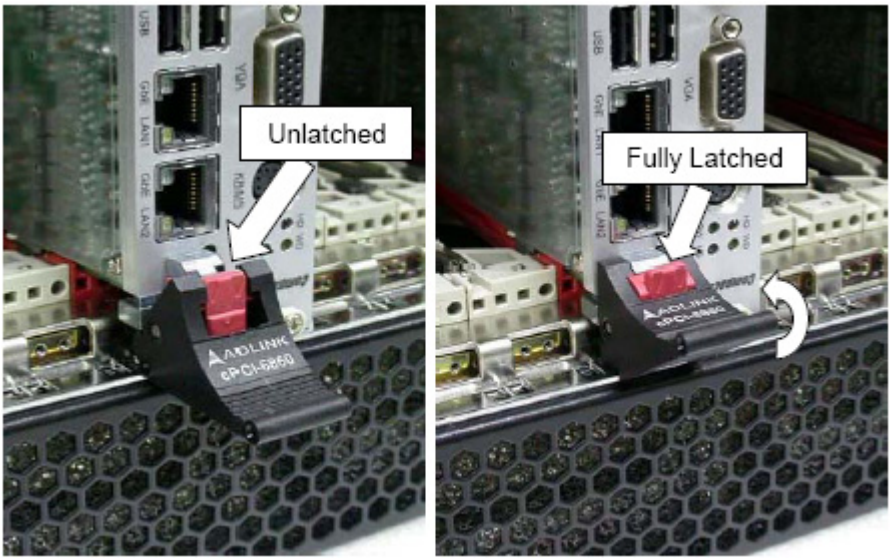


Figure 2-3: Latching the cPCI module handles securely.

5. Push inwards on the handles for final insertion. Ensure that the buttons on the handles fully latch into position as unless this is done the card is not correctly inserted. Fasten the retaining screws at each end of the card (2 for single slot cards, 4 for double slot cards).
6. To remove the module, undo the retaining screws, press the release buttons (if necessary), and reverse steps 1 through 5 above.

CompactPCI PSU Installation/Removal Procedure

The cPCIS-3320 Series come with cPS-H325 PSUs pre-installed. The removal and installation procedures for PSUs are the same as for CompactPCI cards, except there is only one handle. To replace a PSU module, refer to the figures and instructions below.

1. To remove the PSU module, undo the retaining screws and unlatch the handle by pressing on the release button.

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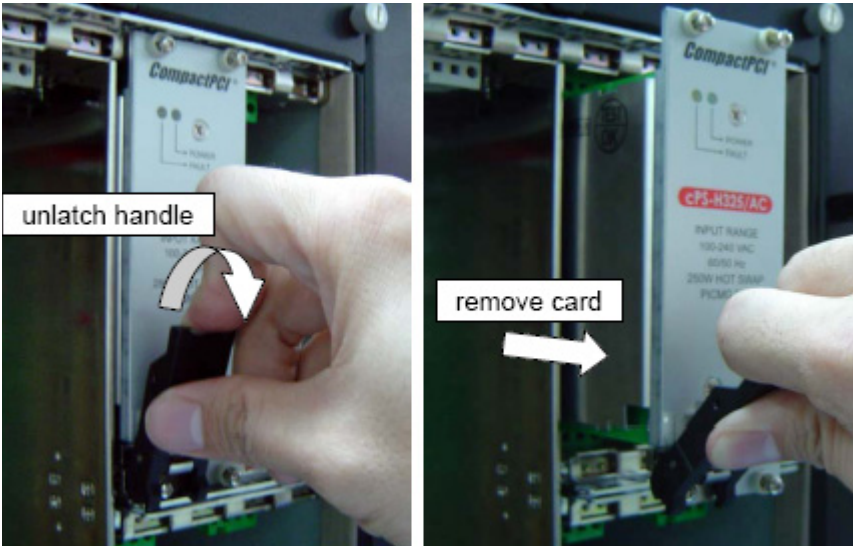


Figure 2-4: Unlatching and removing a cPCI PSU.

2. Pull outwards to remove the PSU.
3. Insert the new PSU module, push on the handle until it latches into position, and replace the retaining screws.

2.3 Rear Transition Module Installation/Removal

The installation and removal procedures for a Rear Transition Module (RTM) are the same as those for CompactPCI boards. Because they are shorter than front boards, pay careful attention when inserting or removing RTMs. Only models with an “R” at the end of the model number support RTMs.

Note: We strongly recommended the use of RTMs with AB type connectors to prevent the damage to the backplane during RTM installation.

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2.4 Drive Bay Access

To install the required hardware in the two 5.25” drive bays, follow the procedure below:

1. Remove the 16 screws fastening the chassis lid and lift it off of the cPCIS-3320.
2. Remove the three screws fastening the drive bay bracket to the internal chassis structure as shown in the figure below. Remove the bracket from the chassis, undo the four screws attaching the blanking cover to the drive bay bracket, and remove the blanking cover.

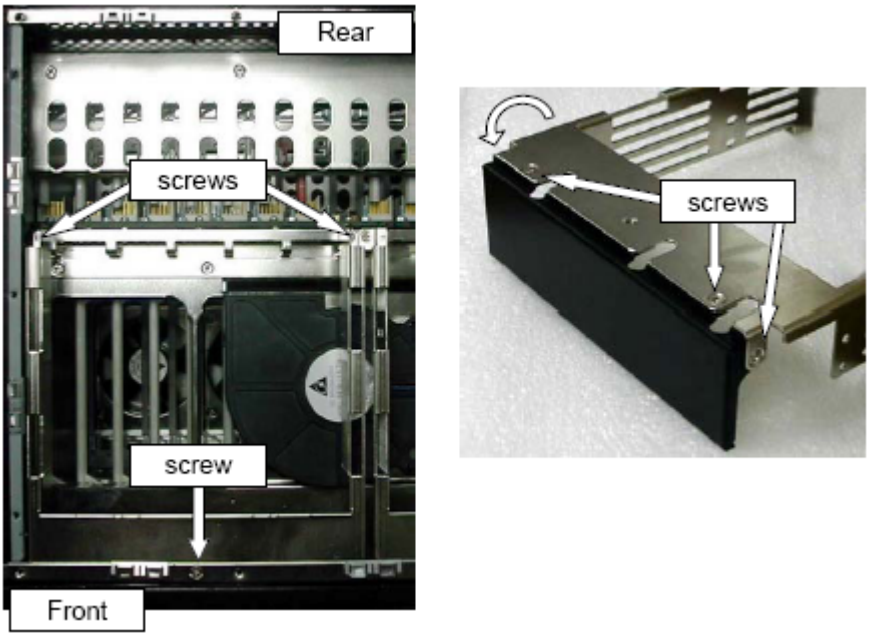


Figure 2-5: 5.25” drive bay access.

3. Install the necessary hardware into the drive bay bracket, replace the bracket into the chassis, and fasten the screws attaching it to the internal chassis structure.
4. Make the necessary cable connections and replace the chassis lid.

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2.5 Powering Up the System

Connect the supplied power cord to the socket on the back of the chassis. All supplied PSUs are full range 90-240VAC and do not require input voltage setting. Insert the desired boards into the appropriate card slots as described in Section 2.2 and 2.3.

The cPCIS-3320 Series features a guarded power switch. Use a suitably shaped object (such as a pen) to actuate the power switch. After the system is powered up, all LEDs will light up to indicate normal operating conditions.

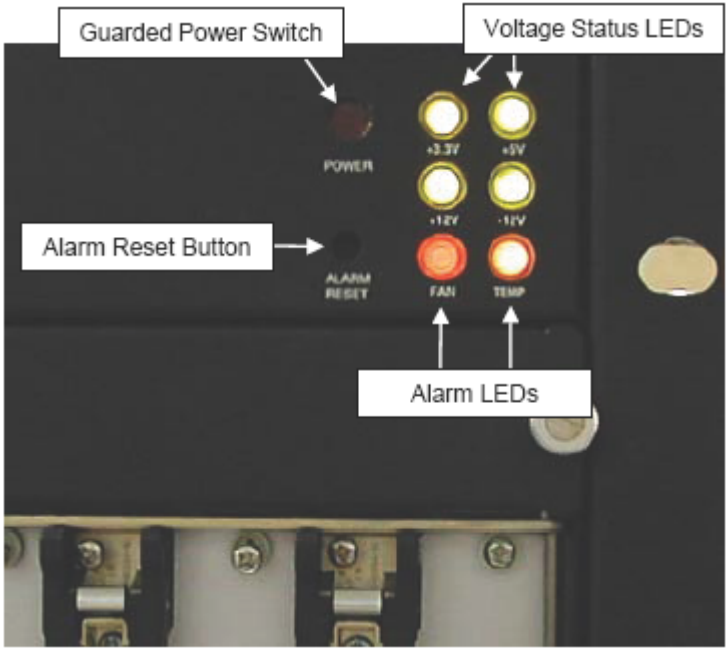


Figure 2-6: cPCIS-3320 switch and LED legend.

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2.6 System Alarm Board

The cPCIS-3320/AC features an embedded alarm board that monitors temperature and fan status. Should a fan become disabled or the temperature exceed 50°C, the Alarm LED will light up and an audible warning will be heard.

To disable the audible warning, press the Alarm RST button. The Alarm LED will continue to flash until the fault is corrected.

The cPCIS-3320/M/AC features the optional Chassis Management Module (CMM) that provides a remote management interface for both chassis and board management. See **Chapter 6** for details.

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3 Backplane

In this chapter, we will describe the backplane for the cPCIS-3320 Series, the cBP-6413DR, a dual-system 64-bit 6U CompactPCI H.110 bus backplane.

3.1 Specifications

CompactPCI Standards	PICMG 2.0 R3.0, 2.1 R2.0, 2.5 R1.0, 2.9 R1.0, 2.11 R1.0
Dimensions	415.56 x 262.05 (mm, W x H)
Segments	Two
CompactPCI Bus	Up to 64-bit/66MHz
System Slots	Two (R-hand side)
System Slot Rear I/O	P3, P4, and P5 rear I/O with AB-type shroud
Peripheral Slots	System A: 7, System B: 4
Peripheral Slot Rear I/O	P3 and P5 rear I/O with AB-type shroud
H.110 Bus	Complies with PICMG 2.5, for all peripheral slots
Power Sockets	PICMG 2.11 47-pin socket x3 (for 8HP power module)
V (I/O)	3.3V or 5V selectable, default 5V
Power Connectors	ATX connector x 2, DC Screw terminals x 1
CMM Slots	1
Other Connectors	INH#, Reset, PWR_FAL#, Voltage LEDs
Recommended System Boards	cPCI-6810, cPCI-6820, cPCI-6830V, cPCI-6831, cPCI-6840, cPCI-6841, cPCI-6842, cPCI-6860A

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3.2 Mechanical Drawing

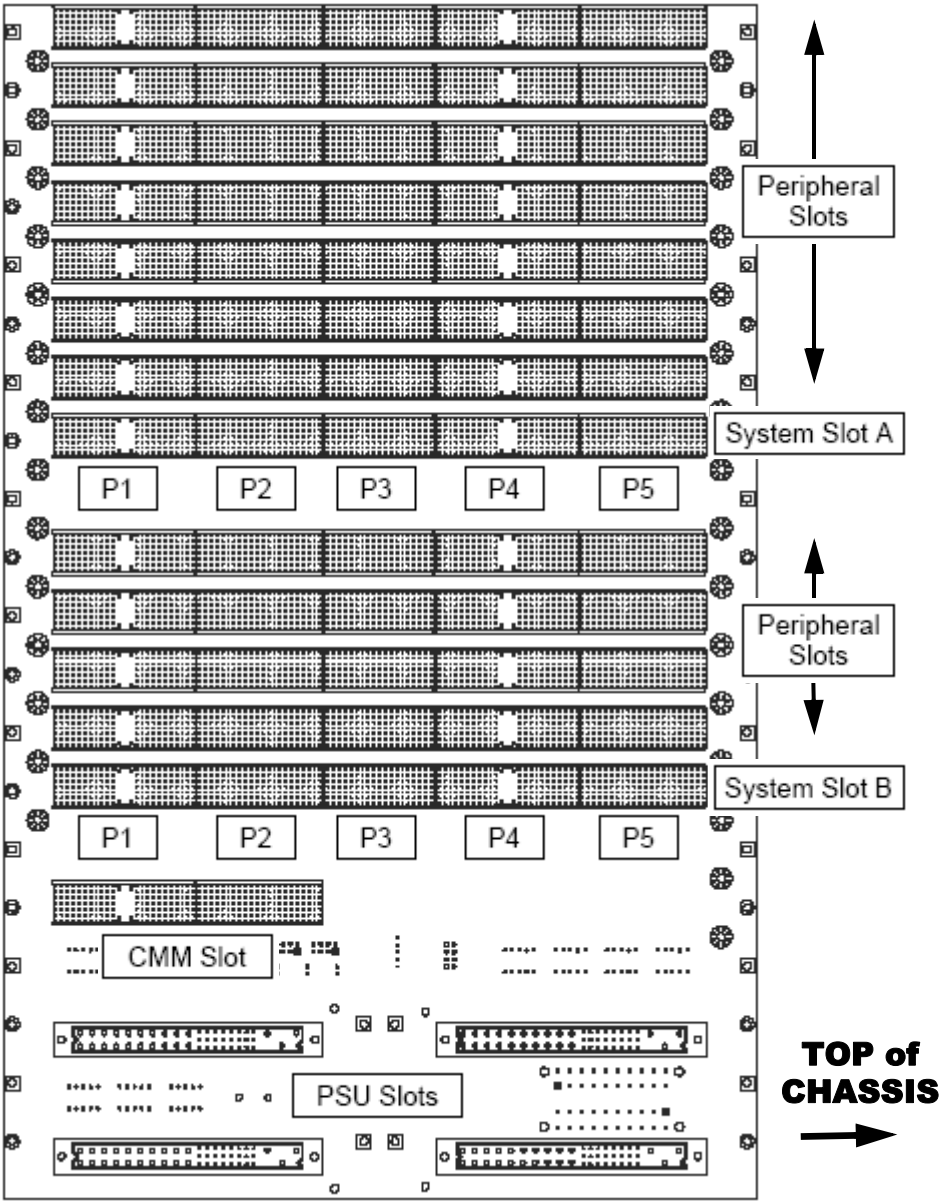


Figure 3-1: cBP-6413DR Backplane Front View

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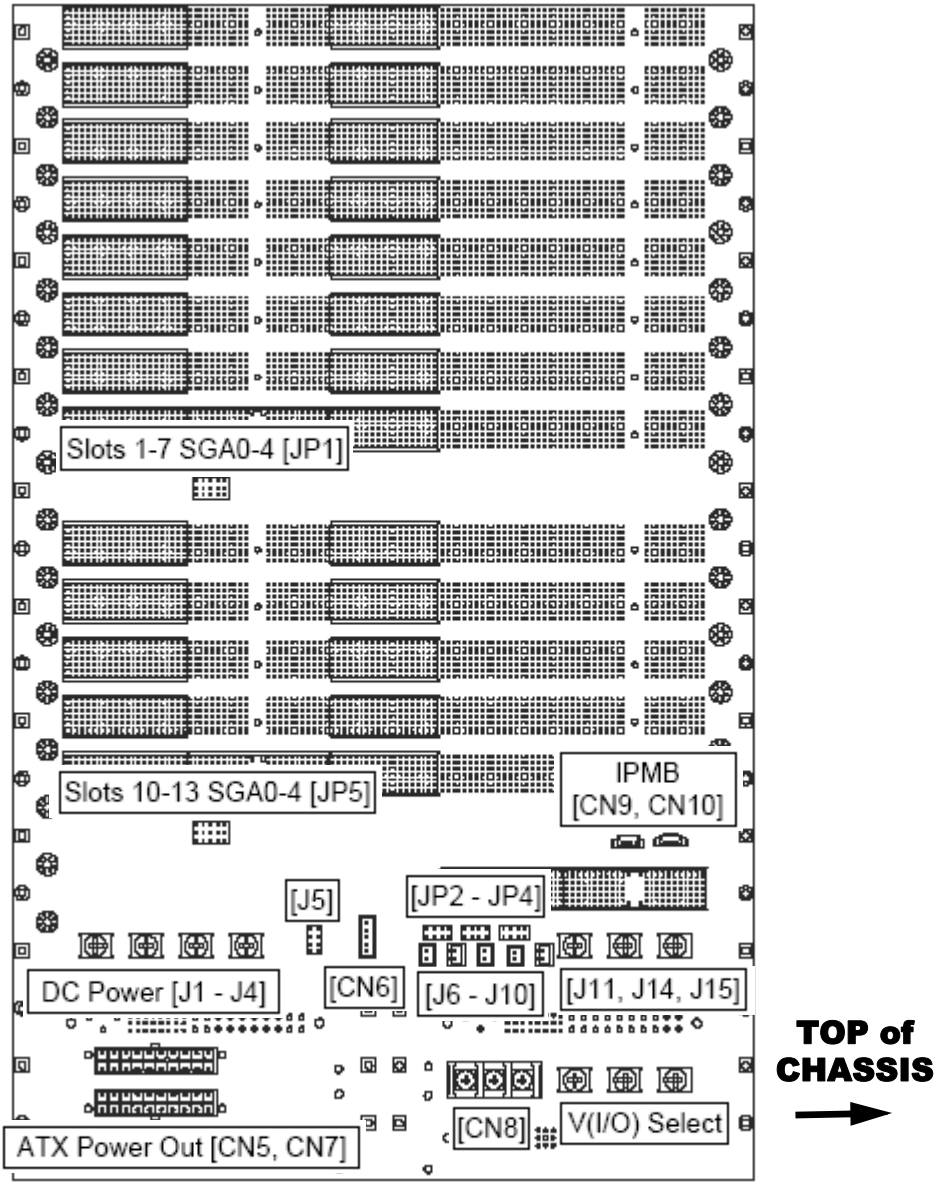


Figure 3-2: cBP-6413DR Backplane Rear View

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3.3 Connector Pin Assignments

System Slots

System Slots [8-P1], [14-P1]

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#	BDSEL	TRDY#	GND
12-14	Keying 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	Reserved	Reserved	PCIRST#	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

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System Slots [8-P2], [14-P2]

Pin	Z	A	B	C	D	E	F
22	GND	GA4	GA3	GA2	GA1	GA0	GND
21	GND	CLK6	GND	Reserved	Reserved	Reserved	GND
20	GND	CLK5	GND	Reserved	GND	Reserved	GND
19	GND	GND	GND	SMDATA	SMCLK	ALERT#	GND
18	GND	Reserved	Reserved	Reserved	GND	Reserved	GND
17	GND	Reserved	GND	PRST#	REQ6#	GNT6#	GND
16	GND	Reserved	Reserved	DEG#	GND	Reserved	GND
15	GND	Reserved	GND	FAL#	REQ5#	GNT5#	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)	Reserved	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

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System Slots [8-P3], [14-P3]

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

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System Slots [8-P4], [14-P4]

Pin	Z	A	B	C	D	E	F
25	GND	Reserved	Reserved	Reserved	Reserved	Reserved	GND
24	GND	Reserved	Reserved	Reserved	Reserved	Reserved	GND
23	GND	Reserved	Reserved	Reserved	Reserved	Reserved	GND
22	GND	Reserved	Reserved	Reserved	Reserved	Reserved	GND
21	GND	Reserved	Reserved	Reserved	Reserved	Reserved	GND
20	GND	Reserved	Reserved	Reserved	Reserved	Reserved	GND
19	GND	Reserved	Reserved	Reserved	Reserved	Reserved	GND
18	GND	Reserved	Reserved	Reserved	Reserved	Reserved	GND
17	GND	Reserved	Reserved	Reserved	Reserved	Reserved	GND
16	GND	Reserved	Reserved	Reserved	Reserved	Reserved	GND
15	GND	Reserved	Reserved	Reserved	Reserved	Reserved	GND
12-14	Keying Area						
11	GND	Reserved	Reserved	Reserved	Reserved	Reserved	GND
10	GND	Reserved	Reserved	Reserved	Reserved	Reserved	GND
9	GND	Reserved	Reserved	Reserved	Reserved	Reserved	GND
8	GND	Reserved	Reserved	Reserved	Reserved	Reserved	GND
7	GND	Reserved	Reserved	Reserved	Reserved	Reserved	GND
6	GND	Reserved	Reserved	Reserved	Reserved	Reserved	GND
5	GND	Reserved	Reserved	Reserved	Reserved	Reserved	GND
4	GND	Reserved	Reserved	Reserved	Reserved	Reserved	GND
3	GND	Reserved	Reserved	Reserved	Reserved	Reserved	GND
2	GND	Reserved	Reserved	Reserved	Reserved	Reserved	GND
1	GND	Reserved	Reserved	Reserved	Reserved	Reserved	GND

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System Slots [8-P5], [14-P5]

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

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Peripheral Slots

Peripheral Slots [1-P1] - [7-P1], [10-P1] - [13-P1]

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#	BDSEL	TRDY#	GND
12-14	Keying 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	REQ#	GND	+3.3V	CLK	AD[31]	GND
5	GND	Reserved	Reserved	PCIRST#	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

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Peripheral Slots [1-P2] - [7-P2], [10-P2] - [13-P2]

Pin	Z	A	B	C	D	E	F
22	GND	GA4	GA3	GA2	GA1	GA0	GND
21	GND	Reserved	GND	Reserved	Reserved	Reserved	GND
20	GND	Reserved	GND	Reserved	GND	Reserved	GND
19	GND	GND	GND	Reserved	Reserved	Reserved	GND
18	GND	Reserved	Reserved	Reserved	GND	Reserved	GND
17	GND	Reserved	GND	Reserved	Reserved	Reserved	GND
16	GND	Reserved	Reserved	Reserved	GND	Reserved	GND
15	GND	Reserved	GND	Reserved	Reserved	Reserved	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)	Reserved	C/BE[7]#	GND	C/BE[6]#	GND
3	GND	Reserved	GND	Reserved	Reserved	Reserved	GND
2	GND	Reserved	Reserved	SYSEN#	Reserved	Reserved	GND
1	GND	Reserved	GND	Reserved	Reserved	Reserved	GND

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Peripheral Slots [1-P3] - [7-P3], [10-P3] - [13-P3]

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

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Peripheral Slots [1-P4] - [7-P4], [10-P4] - [13-P4]

Pin	Z	A	B	C	D	E	F
25	GND	SGA4	SGA3	SGA2	SGA1	SGA0	GND
24	GND	GA4	GA3	GA2	GA1	GA0	GND
23	GND	+12V	Reserved	CT_EN#	-12V	CT_MC	GND
22	GND	PFS0#	CT_RESET	Reserved	Reserved	Reserved	GND
21	GND	-SELVbat	PFS1#	Reserved	Reserved	-SELVbat Rtn	GND
20	GND	No Pin	No Pin	No Pin	No Pin	No Pin	GND
19	GND	No Pin	No Pin	No Pin	No Pin	No Pin	GND
18	GND	VRG	No Pin	No Pin	No Pin	VRG Rtn	GND
17	GND	No Pin	No Pin	No Pin	No Pin	No Pin	GND
16	GND	No Pin	No Pin	No Pin	No Pin	No Pin	GND
15	GND	-Vbat	No Pin	No Pin	No Pin	-Vbat Rtn	GND
12-14	Keying Area						
11	GND	CT_D29	CT_D30	CT_D31	V(I/O)	CT_FRAME_A	GND
10	GND	CT_D27	+3.3V	CT_D28	+5V	CT_FRAME_B	GND
9	GND	CT_D24	CT_D25	CT_D26	GND	RF_COMP	GND
8	GND	CT_D21	CT_D22	CT_D23	+5V	CT_C8_A	GND
7	GND	CT_D19	+5V	CT_D20	GND	CT_C8_B	GND
6	GND	CT_D16	CT_D17	CT_D18	GND	CT_NETREF_1	GND
5	GND	CT_D13	CT_D14	CT_D16	+3.3V	CT_NETREF_2	GND
4	GND	CT_D11	+5V	CT_D12	+3.3V	SCLK	GND
3	GND	CT_D8	CT_D9	CT_D10	GND	SCLK-D	GND
2	GND	CT_D4	CT_D5	CT_D6	CT_D7	GND	GND
1	GND	CT_D0	+3.3V	CT_D1	CT_D2	CT_D3	GND

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Peripheral Slots [1-P5] - [7-P5], [10-P5] - [13-P5]

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

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CMM Slots

CMM Slots [S69]

Pin	Z	A	B	C	D	E	F
25	GND	+5V	Reserved	Reserved	+3.3V	+5V	GND
24	GND	Reserved	+5V	V(I/O)	Reserved	Reserved	GND
23	GND	+3.3V	Reserved	Reserved	+5V	Reserved	GND
22	GND	Reserved	GND	+3.3V	Reserved	ENUM5#	GND
21	GND	+3.3V	Reserved	Reserved	GND	ENUM4#	GND
20	GND	Reserved	GND	V(I/O)	AD[11]	ENUM3#	GND
19	GND	+3.3V	Reserved	Reserved	GND	ENUM2#	GND
18	GND	Reserved	GND	+3.3V	Reserved	ENUM1#	GND
17	GND	+3.3V	IPMB_SCL	IPMB_SDA	GND	Reserved	GND
16	GND	Reserved	GND	V(I/O)	Reserved	Reserved	GND
15	GND	+3.3V	Reserved	Reserved	GND	Reserved	GND
12-14	Keying Area						
11	GND	Reserved	Reserved	Reserved	GND	Reserved	GND
10	GND	Reserved	GND	+3.3V	Reserved	Reserved	GND
9	GND	Reserved	Reserved	Reserved	GND	Reserved	GND
8	GND	Reserved	GND	V(I/O)	Reserved	Reserved	GND
7	GND	Reserved	Reserved	Reserved	GND	Reserved	GND
6	GND	Reserved	GND	+3.3V	Reserved	Reserved	GND
5	GND	Reserved	Reserved	Reserved	GND	Reserved	GND
4	GND	IPMB_PWR	Reserved	V(I/O)	Reserved	Reserved	GND
3	GND	Reserved	Reserved	Reserved	+5V	Reserved	GND
2	GND	Reserved	+5V	Reserved	Reserved	Reserved	GND
1	GND	+5V	-12V	Reserved	+12V	+5V	GND

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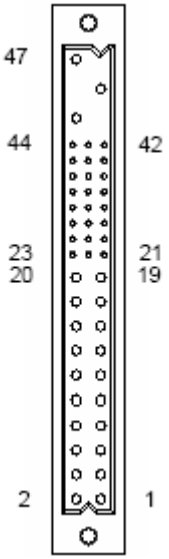
CMM Slots [S55]

Pin	Z	A	B	C	D	E	F
22	GND	GND	GND	GND	GND	GND	GND
21	GND	LPA13_DA+	LPA13_DA-	Reserved	INH#1	DEG#1	GND
20	GND	LPA13_DB+	LPA13_DB-	Reserved	Reserved	FAL#1	GND
19	GND	LPB13_DA+	LPB13_DA-	Reserved	INH#2	DEG#2	GND
18	GND	LPB13_DB+	LPB13_DB-	Reserved	Reserved	FAL#2	GND
17	GND	Reserved	Reserved	Reserved	INH#3	DEG#3	GND
16	GND	Reserved	Reserved	Reserved	Reserved	FAL#3	GND
15	GND	Reserved	Reserved	Reserved	INH#4	DEG#4	GND
14	GND	Reserved	Reserved	Reserved	Reserved	FAL#4	GND
13	GND	Reserved	Reserved	Reserved	INH#5	DEG#5	GND
12	GND	Reserved	Reserved	Reserved	Reserved	FAL#5	GND
11	GND	IPMB_PWR	SMB_SCL_A	SMB_SDA_A	INH#6	DEG#6	GND
10	GND	IPMB_SCL_A	IPMB_SDA_A	SMB_ALERT_A	Reserved	FAL#6	GND
9	GND	IPMB_PWR	SMB_SCL_B	SMB_SDA_B	INH#7	DEG#7	GND
8	GND	IPMB_SCL_B	IPMB_SDA_B	SMB_ALERT_B	Reserved	FAL#7	GND
7	GND	IPMB_PWR	SMB_SCL_C	SMB_SDA_C	INH#8	DEG#8	GND
6	GND	IPMB_SCL_C	IPMB_SDA_C	SMB_ALERT_C	Reserved	FAL#8	GND
5	GND	PRSTA#17	PRSTA#18	PRSTA#19	PRSTA#20	Reserved	GND
4	GND	PRSTA#13	PRSTA#14	PRSTA#15	PRSTA#16	Reserved	GND
3	GND	PRSTA#9	PRSTA#10	PRSTA#11	PRSTA#12	Reserved	GND
2	GND	PRSTA#5	PRSTA#6	PRSTA#7	PRSTA#8	Reserved	GND
1	GND	PRSTA#1	PRSTA#2	PRSTA#3	PRSTA#4	Reserved	GND

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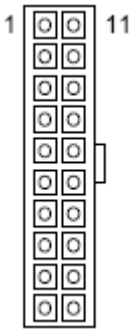
Other Connectors

CompactPCI 47-Pin PSU Connectors [CN1-CN4]



Pin	Signal	Pin	Signal
47	ACL/-DC IN	31	GA2
46	ACN/+DC IN	30	V1 SENSE
45	CGND	29	V1ADJ
44	V3 SHARE	28	GA1
43	IPMB_PWR	27	EN#
42	+FAL#	26	RESERVED
41	V2 SHARE	25	GA0
40	IPMB_SDA	24	RTN
39	INH#	23	RESERVED
38	DEG#	22	RTN
37	IPMB_SCL	21	V4
36	V3 SENSE	20	V3
35	V1 SHARE	19	RTN
34	S RTN	13-18	V2
33	V2 SENSE	5-12	RTN
32	V2ADJ	1-4	V1

ATX Power Out [CN5, CN7]

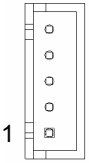


Pin	Signal	Pin	Signal
1	+3.3V	11	+3.3V
2	+3.3V	12	-12V
3	GND	13	GND
4	+5V	14	PS_ON#
5	GND	15	GND
6	+5V	16	GND
7	GND	17	GND
8	PWRGOOD	18	-5V
9	STB5V	19	+5V
10	+12V	20	+5V

Note: +5VSB & -5V not supported

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5-Pin DC (Out) Power Connector [CN6]



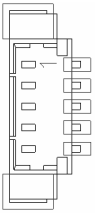
Pin	Signal
1	Ground
2	+3.3V
3	-12V
4	+12V
5	+5V

AC-Inlet Connector [CN8]



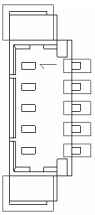
Pin	Signal
1	ACN/DC+
2	ACL/DC-
3	CGND

IPMB Connector - System A (Slots 1-8) [CN9]



Pin	Signal
1	CLK
2	GND
3	DATA
4	V(I/O)
5	ALERT#

IPMB Connector - System B (Slots 10-14) [CN10]



Pin	Signal
1	CLK
2	GND
3	DATA
4	V(I/O)
5	ALERT#

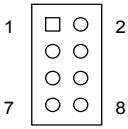
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H.110 DC Power Terminal [J1 - J4]



Connector	Signal
J1	-SELVbat
J2	-SELVbat Rtn
J3	VRG
J4	VRGRtn

Power LED Connector [J5]



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

RSTA# Connector (System A) [J6]



Pin	Signal
1	PRSTA#
2	GND

RSTA# Connector (System B) [J7]



Pin	Signal
1	PRSTB#
2	GND

DEG# Connector [J8]



Pin	Signal
1	DEG#
2	GND

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INH# Connector [J9]



Pin	Signal
1	INH#
2	GND

FAL# Connector [J10]



Pin	Signal
1	FAL#
2	GND

DC Power Terminal [J11, J14, J15]



Connector	Signal
J11	GND
J14	+12V
J15	-12V

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3.4 Jumper Settings

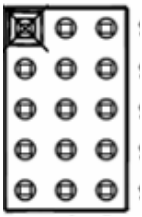
V(I/O) Select [J12, J13, J16]



Connector	Signal
J12	+5V
J13	V(I/O)
J16	+3.3V

(default: J12-J13 shorted)

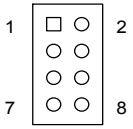
H.110 Slots 1-7 SGA0-4 Jumper [JP1]



Column 1	Column 2	Column 3
NC	SGA0	GND
NC	SGA1	GND
NC	SGA2	GND
NC	SGA3	GND
NC	SGA4	GND

(default: 1-2 shorted)

Power DEG# Jumper [JP2]

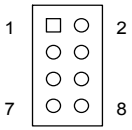


Pin	Signal	Pin	Signal
1	DEG#	2	DEG1#(POWER1)
3	DEG#	4	DEG2#(POWER2)
5	DEG#	6	DEG3#(POWER3)
7	DEG#	8	DEG4#(POWER4)

(default: 1-2, 3-4, 5-6, 7-8 shorted)

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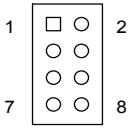
Power FAL# Jumper [JP3]



Pin	Signal	Pin	Signal
1	FAL#	2	FAL1#(POWER1)
3	FAL#	4	FAL2#(POWER2)
5	FAL#	6	FAL3#(POWER3)
7	FAL#	8	FAL4#(POWER4)

(default: 1-2, 3-4, 5-6, 7-8 shorted)

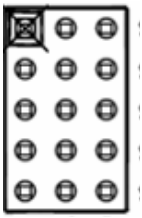
Power INH# Jumper [JP4]



Pin	Signal	Pin	Signal
1	INH#	2	INH1#(POWER1)
3	INH#	4	INH2#(POWER2)
5	INH#	6	INH3#(POWER3)
7	INH#	8	INH4#(POWER4)

(default: 1-2, 3-4, 5-6, 7-8 shorted)

H.110 Slots 10-13 SGA0-4 Jumper [JP5]



Column 1	Column 2	Column 3
NC	SGA0	GND
NC	SGA1	GND
NC	SGA2	GND
NC	SGA3	GND
NC	SGA4	GND

(default: 1-2 shorted)

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4 Cooling System

The cPCIS-3320 Series subsystems are equipped with six front-access hot swappable fans (five intake on the bottom, one exhaust on the top) to provide an effectively cooled environment. Two conventional upper exhaust fans provide additional ventilation.

The chassis is equipped with an air filter that is removable for cleaning and/or replacement. The cPCIS-3320/AC features an embedded alarm board that monitors fan status and initiates a visible and audible alarm upon fan failure.

The cPCIS-3320/M/AC features the optional Chassis Management Module (CMM) that provides a remote management interface for both chassis and board management and gives more detailed information on the system status. See Chapter 6 for details.

The following procedures are for all cPCIS-3320 Series subsystems.

4.1 Fan Alarm

The embedded alarm board monitors temperature & fan status. Should a fan become disabled, the Alarm LED will light up and an audible warning will be heard.

To disable the audible warning, press the Alarm RST button. The Alarm LED will continue to flash until the faulty fan is replaced.

4.2 Fan Removal and Replacement

To remove and replace a faulty fan module, follow the procedures below.

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Intake Fans

1. Loosen the two screws attaching the intake fan tray cover at the base of the chassis and remove the cover. (Note filter location for **Section 4.3 Fan Tray Filter Replacement**.)

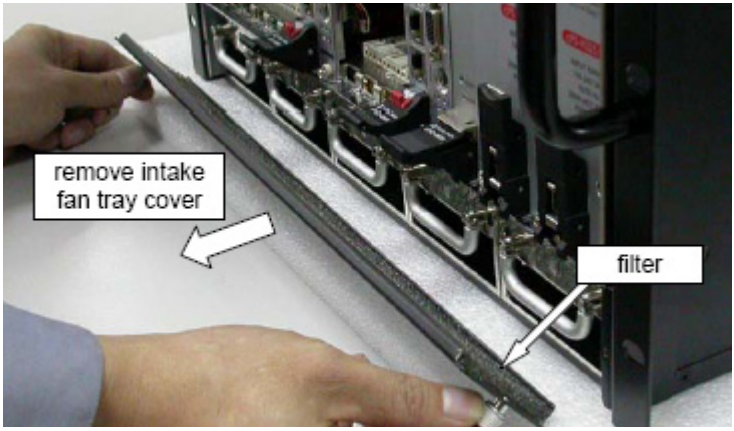


Figure 4-1: Remove the intake fan tray cover
(note filter location)

2. Remove the two screws securing the faulty fan module, lift the handle, and pull the module out of the fan tray.

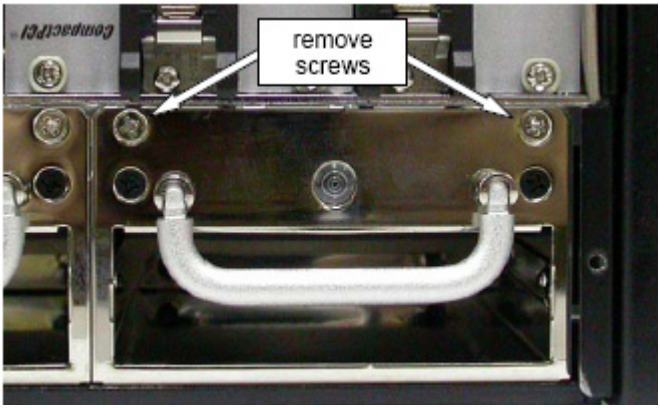


Figure 4-2: Remove the screws securing the fan module

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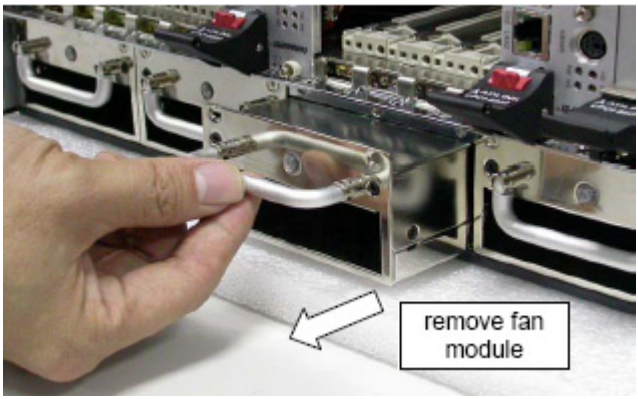


Figure 4-3: Remove the faulty intake fan module

3. Replace with a functional fan module and reinstall the fan tray cover.

Exhaust Fan

1. Loosen the two screws attaching the exhaust fan tray cover at the upper right of the chassis and remove the cover.

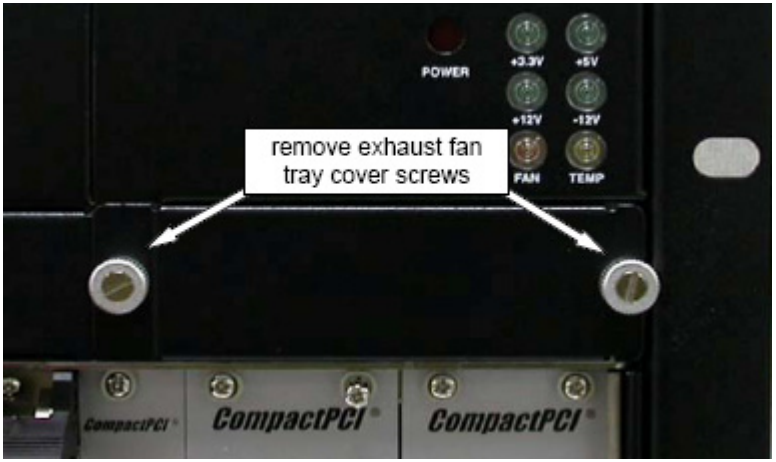


Figure 4-4: Remove the exhaust fan tray cover

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2. Remove the two screws securing the fan module, lift the handle, and pull the faulty fan module out of the fan tray.

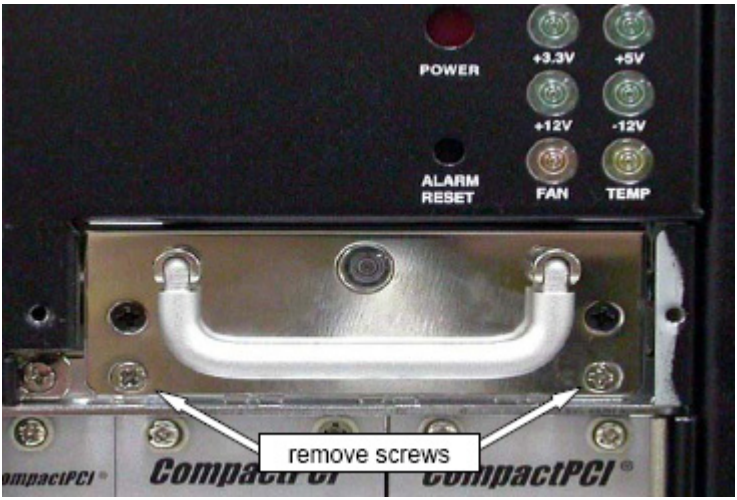


Figure 4-5: Remove the screws securing the fan module

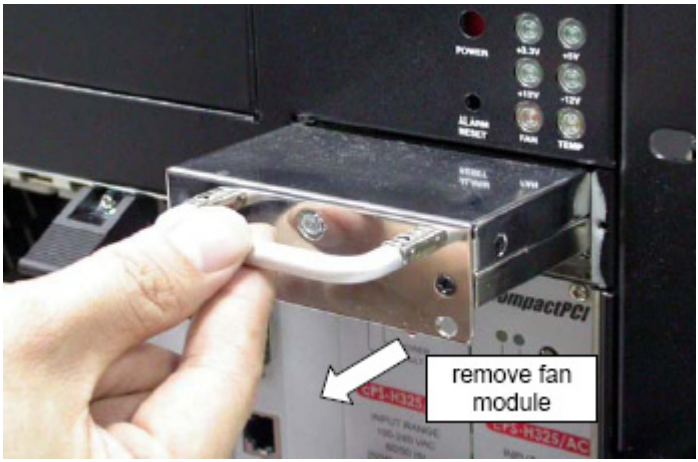


Figure 4-6: Remove the faulty exhaust fan module

3. Replace with a functional fan module and reinstall the fan tray cover.

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For replacement fan modules, please contact your ADLINK distributor.

4.3 Fan Tray Filter Replacement

The air filter is located in the front intake fan tray cover at the base of the chassis. To clean/replace the filter, remove the tray cover as shown in Figure 4.1 above. Clean the filter or replace it with a new one, and reinstall the fan tray cover.

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5 Power Supply Unit

The cPCIS-3320 Series subsystems are equipped with four ADLINK cPS-H325/AC CompactPCI power modules.

5.1 Features

- PICMG 2.11 CompactPCI power interface compliant
- 250W 3U X 8HP Eurocard package
- Meets IEC1000-3-2 harmonic correction
- Internal OR-ing diodes for N+1 redundancy
- Hot-swappable
- Third-wire current sharing
- EMI meets EN 55022 / FCC CLASS A
- CE marking compliance

5.2 Specifications

- Operating Temperature Range: 0°C to 50°C at full load with specified air flow (Derates linearly to 50% at +70 °C)
- Storage Temperature: -40 to +85 °C
- Temperature Coefficient: Typ. ±0.02% / °C
- Cooling: >20 CFM moving air required to achieve full rated power
- Dimensions: Eurocard 3U X 8HP X 160mm CompactPCI format
- Efficiency: 78-79% typical
- Switching Frequency: 120K Hz
- Safety: IEC60950 Class I
- Circuit Topology: Forward circuit
- Transient Response: Peak transient less than 100mV and recovers within 2ms after 25% load-change

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5.3 Input Characteristics

- Input Voltage: Typ. 90 - 264 VAC
- Power Factor Correction: Meets Harmonic Correction IEC1000-3-2. Power Factor typ. 0.95-0.97
- Input Connector: Positronic 47-pin PCIH47M400A1
- Input Frequency: 47-63Hz
- Inrush Current: Less than 30A @ 230VAC
- Input Current: 2.8A @115VAC / 1.4A @230VAC
- Dielectric Withstand: Meets IEC950 regulations
- EMI: Meets EN55022 / FCC Class A
- Hold-up Time: 5ms after power fail signal
- Remote ON/OFF: Available at [INH#] & [EN#] pins
- Power Fail Signal: Available at [FAL#] pin
- Status LED: <Green> means valid input voltage; <Amber> means a critical fault.
- Thermal Protection (OTP): Installed NTC and thermostat for thermal sensor at [DEG#] pin
- Power OK: Installed at all outputs
- Leakage Current: Typ. 0.5mA

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5.4 Output Characteristics

Output Voltage (see below for properties)	Output Current (A)			
	MIN.	MAX.	TYP.	PEAK.
5V MAIN +VO1 (1, 2, 3, 4, 6)	2.0	33.0	25.0	–
3.3V AUX. +VO2 (1, 2, 3, 4, 6, 7)	0	33.0	18.0	–
12V AUX. +VO3 (1, 2, 3, 4, 6, 7)	0	5.5	5.5	6.0
-12V AUX. –VO4 (1, 5, 6, 8, 9)	0	1	0.5	1.5

Properties
1: OVP built-in
2: Adjustable
3: Remote sensing
4: 3rd-wire Load Sharing
5: Droop Current Sharing
6: Installed with Or-ing diode
7: Magnetic Amplifier
8: Installed with Post-regulator
9: Common Choke

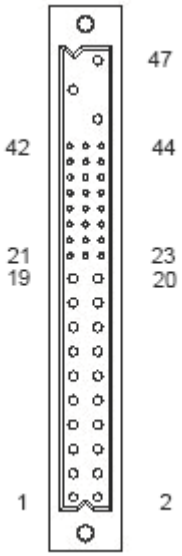
Remarks Peak load sustainable for less than 60sec. with duty cycle <10%. Max. load is the continuous operating load of each rail. Max. load of each rail cannot be drawn from all outputs at the same time.

- Over Load Protection: Fully protected against output over-load or short circuit. Typical 120% max. load.
- Over Current Protection: Installed at each rail
- Output Wattage: Typ. 250W continuous.
- Output Connector: Positronic 47-pin PCIH47M400A1.
- Line Regulation: Typ. 0.1%.
- Load Regulation: Typ. ±1–2%.

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- Noise & Ripple: Typ. 1% peak to peak or 50mV, whichever is greater.
- OVP: Built-in at all outputs.
- Adjustability: Available at VO1, 2 & 3.
- Output Trim: Electrical trim available at VO1/VO2 [ADJ #].
- Remote Sensing: Available at VO1, VO2 & VO3.
- Hot-Swap: Available.
- N+1 Redundancy: Installed with internal OR-ing diodes at all outputs for N+1 redundancy operation.
- Current Sharing: Third-wire current sharing at VO1,2 &3.
- Power OK Signal: Available for all output.
- Over Current Protection: Installed at each rail.
- Overload Protection: Fully protected against output over-load or short circuit. Typical 120% max. load.

5.5 Pin Assignments



Pin	Signal	Pin	Signal
31	GA2	47	ACL/-DC IN
30	V1 SENSE	46	ACN/+DC IN
29	V1ADJ	45	CGND
28	GA1	44	NC
27	EN#	43	NC
26	NC	42	+FAL#
25	GA0	41	V2 SHARE
24	RTN	40	IPMB_SDA
23	NC	39	INH#
22	RTN	38	DEG#
21	V4	37	NC
20	V3	36	NC
19	RTN	35	V1 SHARE
13-18	V2	34	S RTN
5-12	RTN	33	V2 SENSE
1-4	V1	32	V2ADJ

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6 Chassis Management Module

The ADLINK cPCI-8603-pRMC is a Chassis Management Module (CMM) that provides a remote management interface for both chassis and board management. The CMM is an optional module for the cPCIS-3320 Series Its features include monitoring and event logging of board status, temperature, fans and power supply. Remote control board reset is also provided. The user can remotely access and configure the CMM via Ethernet with a web-based user interface.

6.1 CMM Overview

The CMM is comprised of the following three major components:

- cPCI-8603 (Carrier Board)
- cPCI-8603R (RTM)
- N2525A (CMM module)

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CMM Mechanical Diagrams

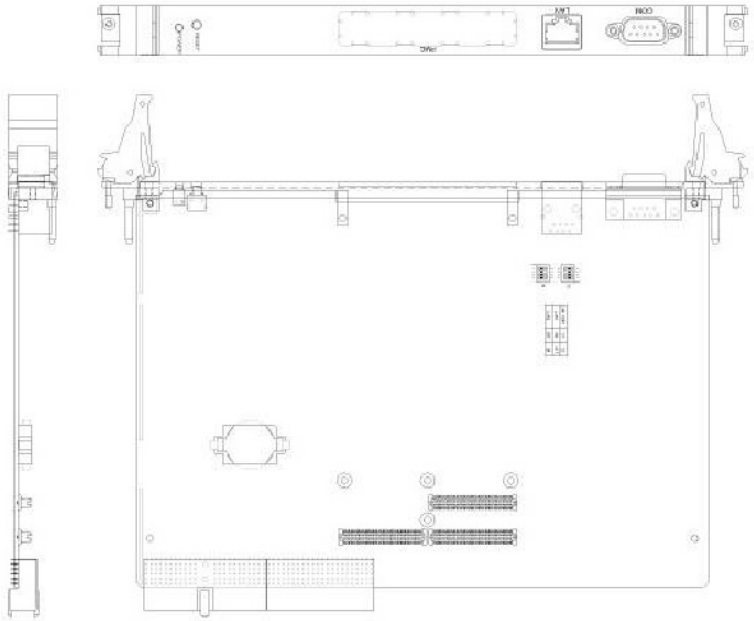


Figure 6-1: cPCI-8603 Top, Front and Side View

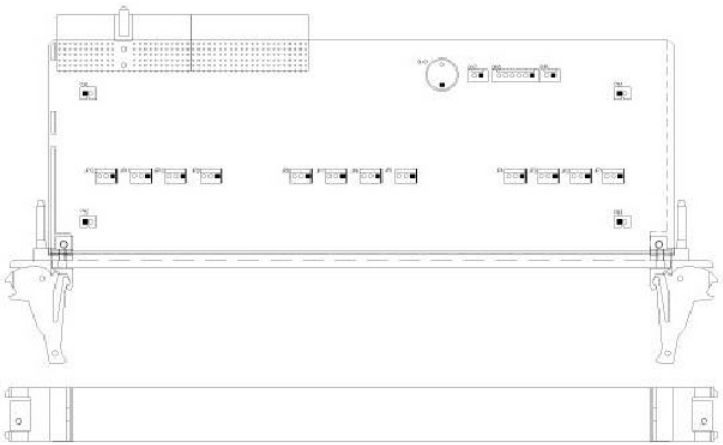


Figure 6-2: cPCI-R8603 RTM Top and Front View

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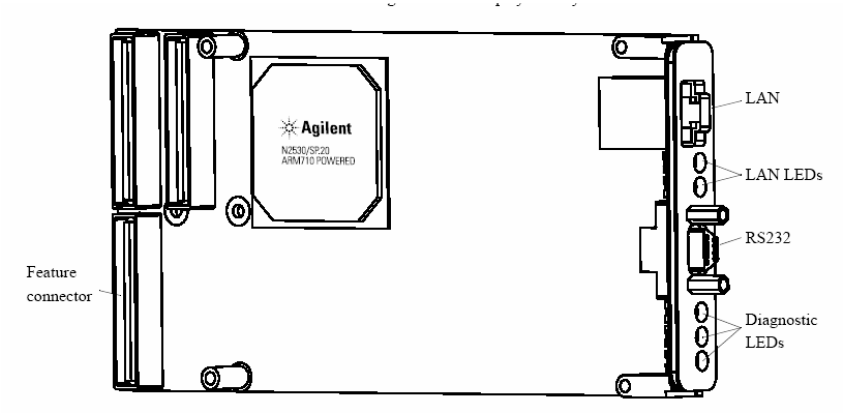
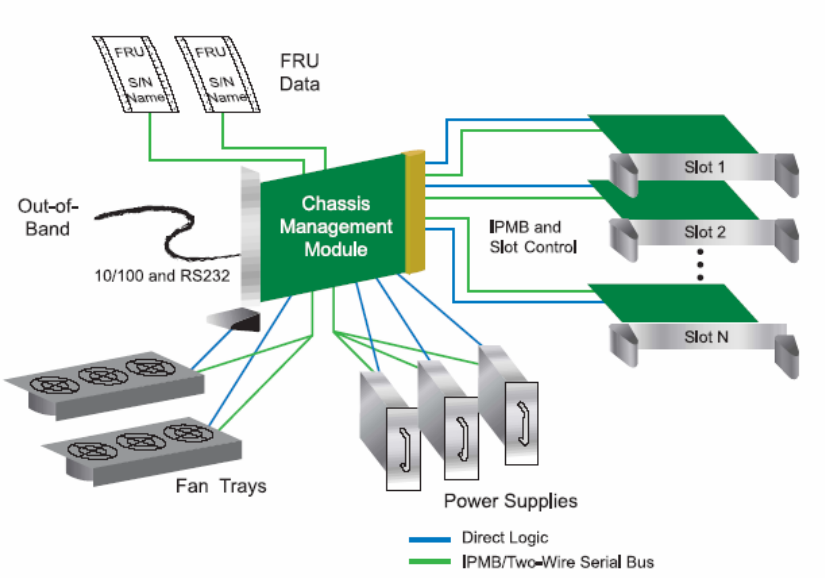




Figure 6-3: N2525A CMM module Top and Isometric View

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CMM System Management Architecture



Features

- PICMG 2.0 CompactPCI Specification R3.0 Compliant
- PICMG 2.9 System Management R1.0 Compliant
- Compatible with PICMG 2.16-compliant components
- 6U cPCI form factor, 1-slot (4TE/HP) width
- Monitors boards via the Intelligent Platform Management Interface (IPMI)
- Monitors backplane voltages and power supply status
- Monitors system temperature sensors
- Monitors system fan tray status
- System event logging for abnormal status
- Remote login and management via LAN or Modem
- Remote reset control for host boards
- Web-based GUI for remote and stand-alone application

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Specifications

General CompactPCI Features	PICMG 2.0 CompactPCI Specification R3.0 Compliant PICMG 2.9 System Management R1.0 Compliant Compatible with PICMG 2.16-compliant components
Form Factor	Standard 6U CompactPCI 1-slot (4TE/HP, 20.32mm) width
CPU	Agilent eRMC 2.0 SOC (system on chip) with built-in ARM710 processor
Memory	4MB on-board Flash memory, holds the firmware, database, GUI and expansion ROM, 8MB on-board SDRAM for pRMC running stage
Serial Interface	Standard RS-232 interface with DB-9 connector on front faceplate for modem connection, support remote login. Reserved RS-485 interface with DB-9 connector on front faceplate
LAN Interface	Single 10/100Mbps Ethernet port with RJ-45 on front faceplate, support remote login from LAN. The Ethernet port can be redirected to backplane I/O for PICMG 2.16 switch connection
Watchdog Timer	The watchdog feature can reset the pRMC in case the firmware hangs
Hardware Monitoring	Monitors backplane voltages for 5V, 3.3V, +12V and –12V Monitors system temperature sensors, up to 4 sensors Monitors system fan tray status, up to 12 fans System event logging for abnormal status
Board Management	Monitors boards via the Intelligent Platform Management Interface (IPMI) Monitors CPU temperature, board voltages, WDT status for each board Provides reset command directly to each host board Identifies different host boards via GA (Geographic Address) information
Operating System	Embedded real time operating system
Front Panel LED Indicators	Power status (green) Ethernet activity (closet to the LAN port), status Diagnostic LEDs (three red LEDs for pRMC self-test)

Table 6-1: cPCI-8603 Chassis Management Module Specifications

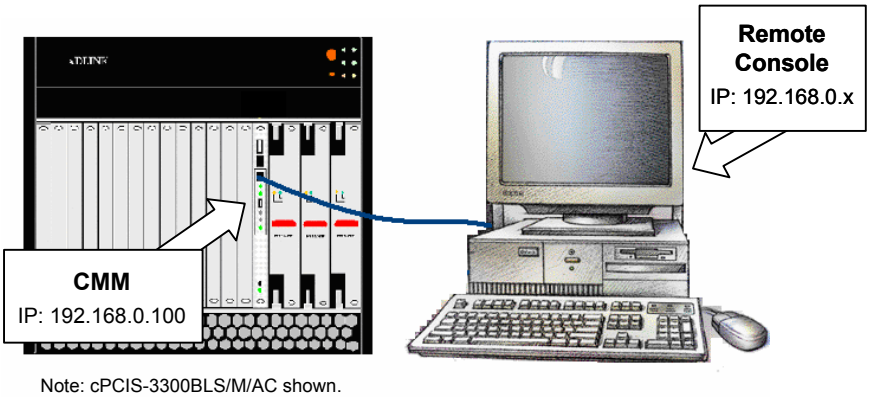
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Environment	Operating temperature: 0 to 40°C Storage temperature: -20 to 65°C Humidity: 20% to 80% non-condensed Shock: 10G peak-to-peak, 11ms duration, non-operation Vibration: Non-operation: 1.5Grms, 5-500Hz, each axis Operation: 0.5Grms, 5-500Hz, each axis, with 2.5” HDD
Certificates/ Tests	CE, FCC

Table 6-1: cPCI-8603 Chassis Management Module Specifications

6.2 CMM Setup

To setup the CMM, connect a remote console running Windows 2000 platform (IP address - 192.168.0.x) with keyboard, mouse and monitor to the CMM’s LAN port using a LAN cross-over cable as shown below.

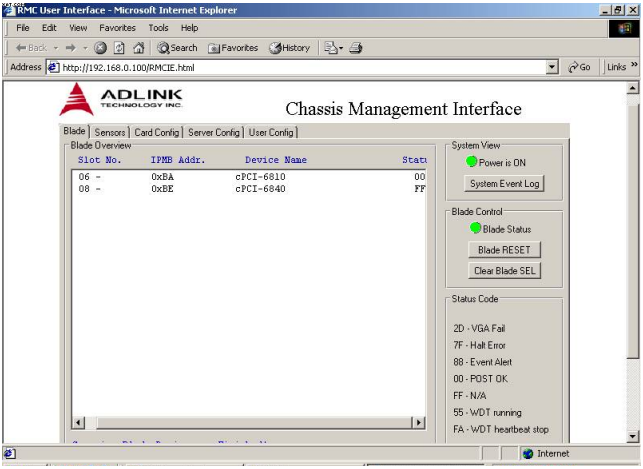


Note: cPCIS-3300BLS/M/AC shown.

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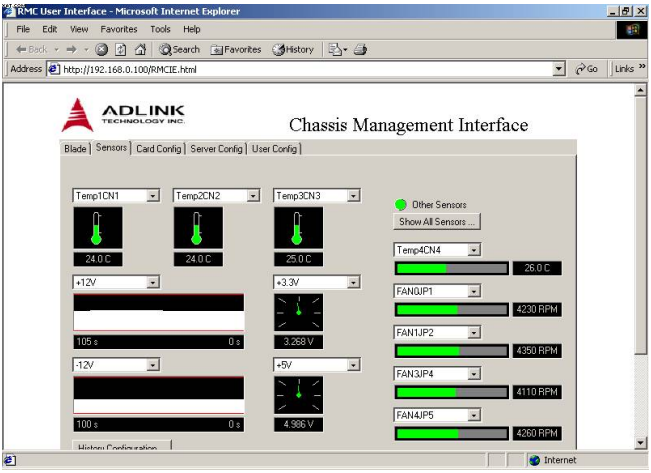
Enter the Chassis Management Interface as follows:

1. Open Internet browser on the remote console (requires Java Virtual Machine: http://java.com/).
2. Enter URL Address ? http://192.168.0.100
3. Login: ADMIN (Default)
4. Password: ADMIN (Default)
5. Click on the **Blades** tab to monitor board status (you may need to wait for the CMM to scan the PCI Bus).

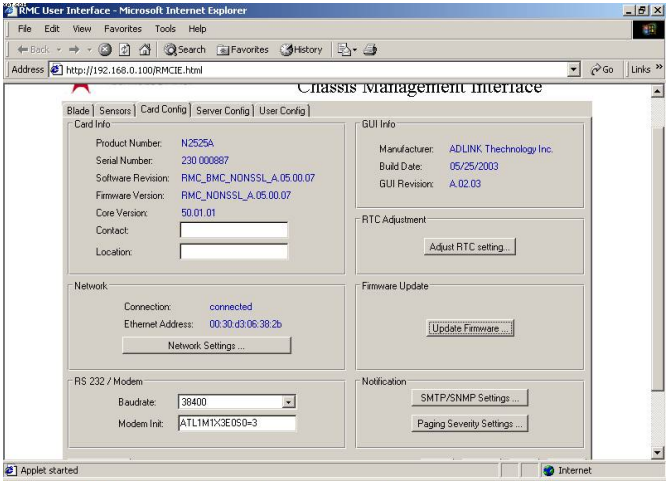


6. Click on the **Sensors** tab. Settings will depend on user requirements.

The following settings are for a sample system which includes four Temperature Sensors (Temp1CN1, TempCN2, TempCN3, TempCN4), twelve FAN Sensors (FAN0JP1 ~ FN11JP12) and four Voltage Sensors: +3.3V,+5V,+12V,-12V.

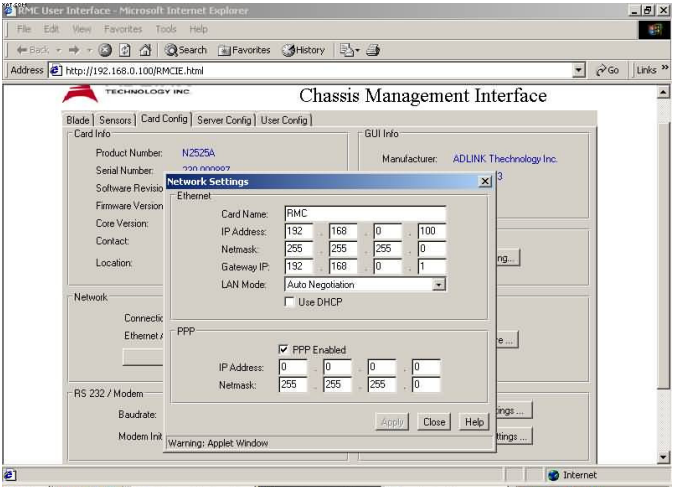


7. Click on the **Card Config** tab.

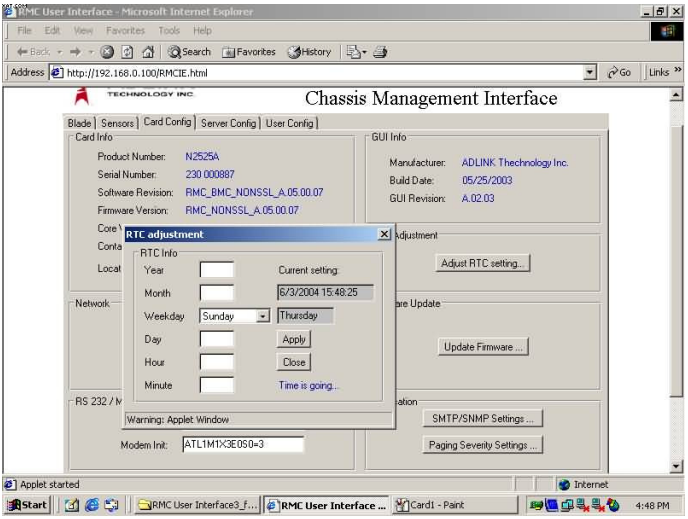


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8. Click on the **Network Settings** button and make and changes as required.



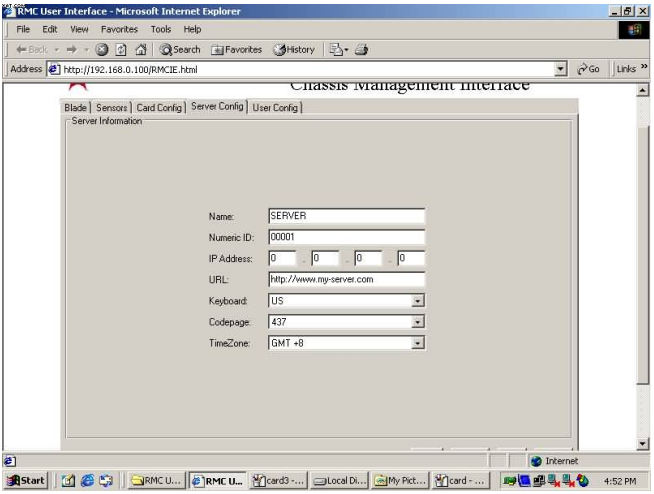
9. Adjust the **RTC** (Real Time Clock) setting.



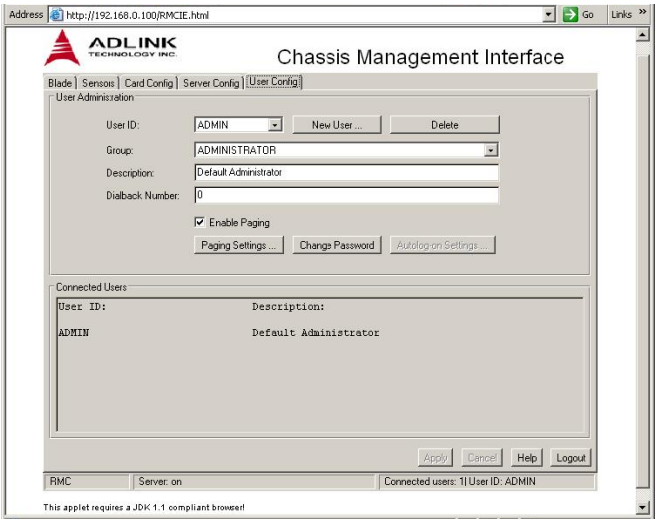
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10. If it is necessary to update the firmware of the CMM, click on the **Update Firmware** button and follow the instructions in **Section 5.6** below.

11. Click on the **Server Config** tab and make any changes as required.



12. Click on the **User Config** tab.



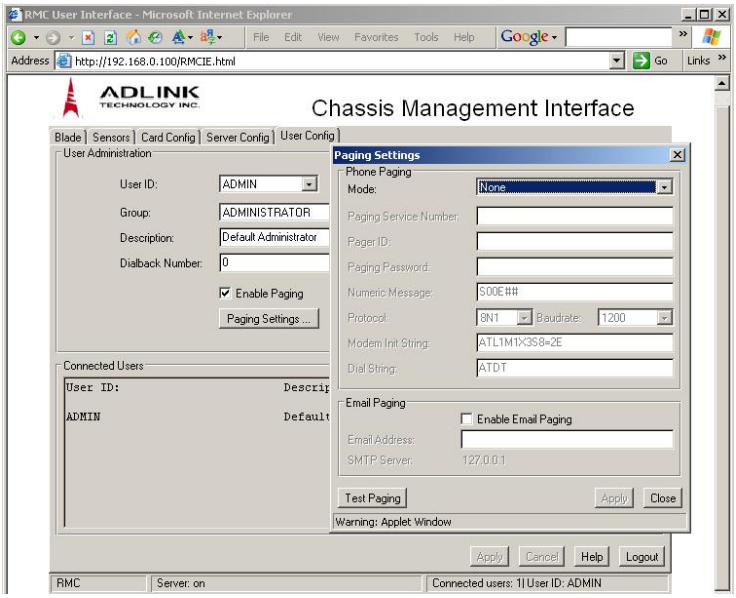
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There are three predefined user's groups: ADMINISTRATOR, OPERATOR and USER. The privileges are as follows:

USER	General property access, session info, sensor info, user info, SEL info, board status, history
OPERATOR	General property access, session info, sensor info, user info, SEL info, board status, history, server action, board control
ADMINISTRATOR	All Privileges.

To setup new accounts, click on the **New User** button.

13. Click on the **Paging Settings** tab to setup paging.



Paging severity settings can be accessed from the Card Config page (Step 7).

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6.3 CMM Firmware Update

This section describes how to perform a firmware update for the CMM. You will need the following:

- TFTPD32 (Windows TFTP server – freeware, available at http://tftpd32.jounin.net/)
- New firmware binary file (complete.bin & complete.001)

Connect the remote console to the CMM's LAN port with a cross-over cable as described in Section 5.5 above.

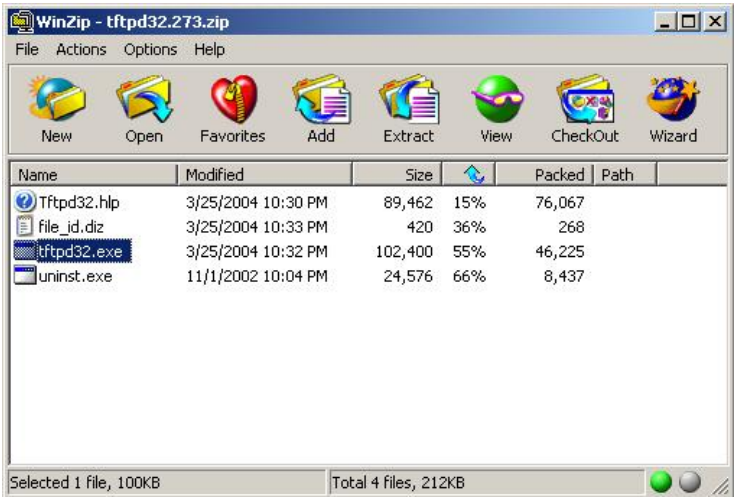
Create new folder for firmware files:

Create a new folder (e.g. E:\RMC-SDK\Build\fwupdate) and then, copy the new firmware (complete.bin & complete.001) into it. This directory will be entered into the TFTP server's parameter settings below.

Install TFTP Server

Before the CMM firmware upgrade can be performed, it is necessary to setup up a TFTP server on the remote console.

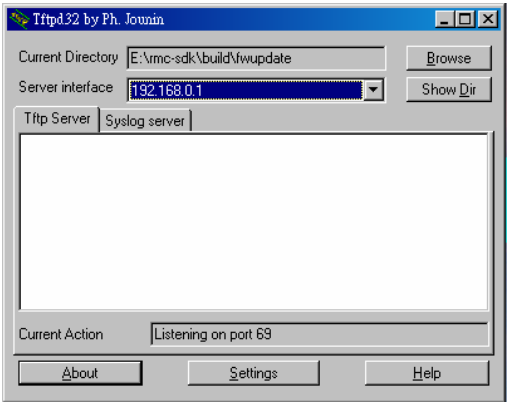
1. Power up the remote console.
2. Extract the downloaded TFTP files to a folder.
3. Run TFTPD32.exe.



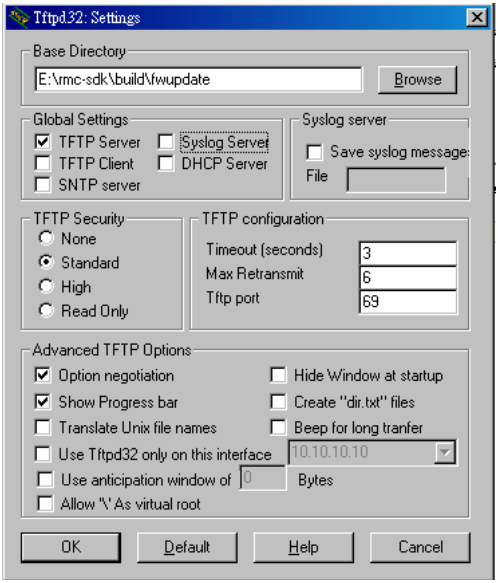
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TFTP Parameter Settings

1. Open a Command Console and run **ipconfig** to check that the Remote Console's IP address is the one listed under **Server Interfaces** (e.g. 192.168.0.x).



2. Click the **Settings** button and browse to the directory you created above to store the firmware update files (e.g. "E:\RMC-SDK\Build\Fwupdate").



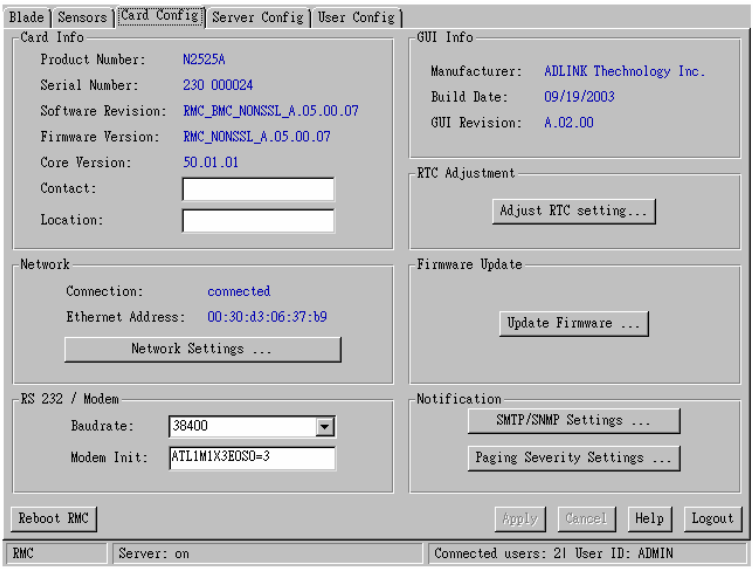
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3. Under Global Settings, select TFTP server.
4. Make sure the other parameters are as shown in the screen capture above.
5. Click OK to save these settings.

CMM Firmware Update

After completing TFTP server installation & parameter settings, begin the CMM firmware update process as follows:

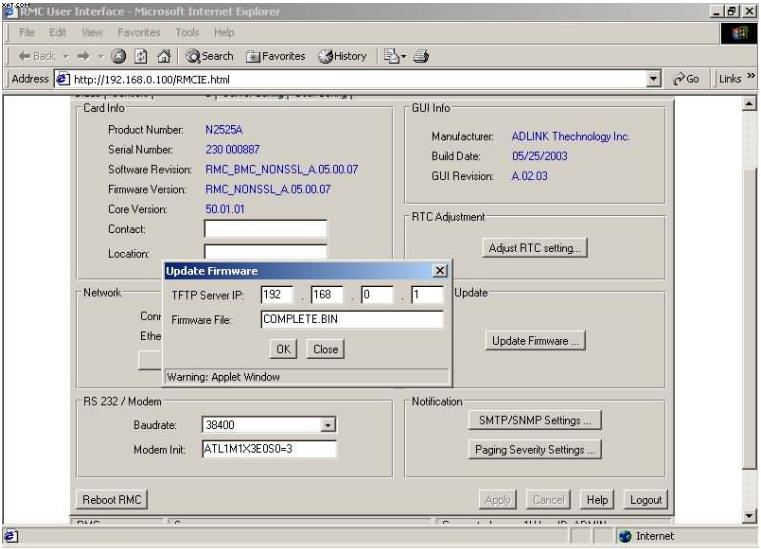
1. Make sure the firmware update files (complete.bin & complete.001) have been copied to Base Directory as specified in TFTP Parameter Settings, Step 2 above.
2. Follow Steps 1 to 7 of Section 5.5 above (CMM Setup) and navigate through the **Chassis Management Interface** to the **Card Config** page.



3. Click on **Update Firmware**.

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4. Enter the IP address of the remote console that you confirmed in **TFTP Parameter Settings**, Step 1 above (e.g. 192.168.0.x). Enter the name of the BIN firmware update file (e.g. complete.bin).



5. Click on OK to begin the firmware upgrade. The process will proceed automatically.
6. Refresh the browser to confirm the new firmware version.

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Important Safety Instructions

Please read and follow all instructions marked on the product and in the documentation before operating the system. Retain all safety and operating instructions for future use.

- Please read these safety instructions carefully.
- Please keep this User's Manual for future reference.
- The equipment should be operated in an ambient temperature between 0 to 50°C.
- The equipment should be operated only from the type of power source indicated on the rating label. Make sure the voltage of the power source is correct when connecting the equipment to the power outlet.
- If the user's equipment has a voltage selector switch, make sure that the switch is set to the proper position for the area. The voltage selector switch is set at the factory to the correct voltage.
- For pluggable equipment, ensure they are installed near a socket-outlet that is easily accessible.
- Secure the power cord to prevent unnecessary accidents. Do not place anything over the power cord.
- If the equipment will not be in use for long periods of time, disconnect the equipment from mains to avoid being damaged by transient overvoltage.
- All cautions and warnings on the equipment should be noted.
- Please keep this equipment away from humidity.
- Do not use this equipment near water or a heat source.
- Place this equipment on a reliable surface when installing. A drop or fall could cause injury.
- Never pour any liquid into the opening, this could cause fire or electrical shock.

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- Openings in the case are provided for ventilation. Do not block or cover these openings. Make sure there is adequate space around the system for ventilation when setting up the work area. Never insert objects of any kind into the ventilation openings.
- To avoid electrical shock, always unplug all power and modem cables from the wall outlets before removing covers.
- Lithium Battery provided (real time clock battery)

  "CAUTION - Risk of explosion if battery is replaced by an incorrect type. Dispose used batteries as instructed in the instructions"
- The equipment should be checked by service personnel if one of the following situation arises:
  - The power cord or plug is damaged.
  - Liquid has penetrated the equipment.
  - The equipment has been exposed to moisture.
  - The equipment is not functioning or does not function according to the user's manual.
  - The equipment has been dropped and damaged.
  - If the equipment has obvious sign of breakage.
- Never open the equipment. For safety reasons, the equipment should only be opened by qualified service personnel.

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Warranty Policy

Thank you for choosing ADLINK. To understand your rights and enjoy all the after-sales services we offer, please read the following carefully.

1. Before using ADLINK's products please read the user manual and follow the instructions exactly. When sending in damaged products for repair, please attach an RMA application form which can be downloaded from: http://rma.adlinktech.com/policy/.
2. All ADLINK products come with a two-year guarantee:
   - The warranty period starts from the product's shipment date from ADLINK's factory.
   - Peripherals and third-party products not manufactured by ADLINK will be covered by the original manufacturers' warranty.
   - For products containing storage devices (hard drives, flash cards, etc.), please back up your data before sending them for repair. ADLINK is not responsible for loss of data.
   - Please ensure the use of properly licensed software with our systems. ADLINK does not condone the use of pirated software and will not service systems using such software. ADLINK will not be held legally responsible for products shipped with unlicensed software installed by the user.
   - For general repairs, please do not include peripheral accessories. If peripherals need to be included, be certain to specify which items you sent on the RMA Request & Confirmation Form. ADLINK is not responsible for items not listed on the RMA Request & Confirmation Form.

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3. Our repair service is not covered by ADLINK's two-year guarantee in the following situations:
   - Damage caused by not following instructions in the user's manual.
   - Damage caused by carelessness on the user's part during product transportation.
   - Damage caused by fire, earthquakes, floods, lightening, pollution, other acts of God, and/or incorrect usage of voltage transformers.
   - Damage caused by unsuitable storage environments (i.e. high temperatures, high humidity, or volatile chemicals).
   - Damage caused by leakage of battery fluid during or after change of batteries by customer/user.
   - Damage from improper repair by unauthorized technicians.
   - Products with altered and/or damaged serial numbers are not entitled to our service.
   - Other categories not protected under our warranty.
4. Customers are responsible for shipping costs to transport damaged products to our company or sales office.
5. To ensure the speed and quality of product repair, please download an RMA application form from our company website: http://rma.adlinktech.com/policy. Damaged products with attached RMA forms receive priority.

If you have any further questions, please email our FAE staff: service@adlinktech.com.

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