NuIPC®

PMC-8615

PMC Gigabit Ethernet Interface Module

User's Guide

Recycled Paper

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Environment	OS: Computer Brand: M/B: CPU: Chipset: BIOS: Video Card: NIC: Other:		
Detail Description			
Suggestions for ADLINK			

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How to Use This Guide

This manual is designed to assist users in understanding the PMC-8615.

Chapter 1 **Introduction**
Overview of product features, applications, and specifications.

Chapter 2 **Getting Started**
Describes unpacking and illustrates the connector pin assignments.

Chapter 3 **Installation**
Describes setup and installation.

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1

Introduction

The PMC-8615 is a high performance PCI Mezzanine Card (PMC) based on the IEEE P1386 standard that provides high-speed Gigabit Ethernet functionality to systems through a singe Gigabit Ethernet port. The on-board Intel 82544GC Gigabit Ethernet controller supports IEEE 802.3x compliant flow control, auto-negotiation, and link setup for TBI, auto-negotiation of speed, duplex, and flow control settings, and Intel pre-boot execution environment (PXE).

This single size PMC also supports up to 4M of flash for boot agent and/or product configuration.

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1.1 Features

PCI Bus Interface

- PCI Local Bus Specification, Rev2.2 compliant
- 3.3V or 5V, 32/64-bit, 33/66MHz PCI environment

Form Factor 保

- Single size PCM: 149.0mm x 74.0mm

Ethernet Controller

- Intel 82544GC chip
- Supports IEEE 802.3x compliant flow control
- Supports internal IEEE 802.3 MII management interface for monitoring and control of the internal PHY
- Supports hardware and software-based IEEE 802.3z Auto-Negotiation and Link Setup for TBI mode (optional for fiber interface)
- Supports IEEE 802.3ab Auto-Negotiation of speed, duplex and flow control configuration
- Complete full and half duplex support
- Supports Intel pre-boot execution environment (PXE) for remote boot of WindowsNT/2000

Magnetic Module

- PULSE H5007
- Support cable interface for isolation and low common mode emissions
- Compliant with IEEE 802.3ab standard for 1000Base-T

Serializer/Deserializer (SERDES)

- Agilent HDMP-1636A (optional for fiber interface, Model TBD)

EEPROM

- Support up to 4MB of flash or boot EPROM for boot agent capabilities
- Provides a 4-wire 64x16 serial EEPROM interface for loading product configuration

IO port

- Low profile RJ-45 connector
- Delta OPT-1250A2-B optical module for fiber Gigabit applications (optional for fiber interface, Model TBD)

LDE indications

- Link/Active LED, OFF: off line, ON: link, Blinking: file transfer
- 100Mbps LED, ON: 100Mbps, OFF: other speed
- 1000Mbps LED, ON: 1000Mbps, OFF: other speed

OS Compatibility

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- MS-DOS 6.2+, Windows 95/98, Windows NT 4.0, Windows 2000, Red Hat Linux 6.2, and VxWorks (TBD)

Environment

- Operating Temperature: 0 to 55°C
- Humidity: 5 to 95% @ 40 C, non-condensing for operating, 0 to 95% @ 40 C, non-condensing for storage
- Power dissipation: 2.5W maximum
- Supports 3.3V, 5V, and universal voltage PMC modules

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1.2 Specifications

Mechanical Characteristics

- PMC-8615 is a standard single size PMC
- Board dimensions are 149mm(L) x 74mm(H)

Environmental Specifications

- Operating temperature: 0°C to +55°C (Ambient temperature around the PMC module with airflow)
- Storage temperature: -20 to +85 degrees C
- Temperature change: 20 degrees C per hour
- Relative humidity: 5% to 95% non-condensing
- Shock: 15G peak-to-peak, 11ms duration, non-operation

Operating Systems

Windows NT, Windows98, Windows2000, WindowsXP, Linux, and VxWorks (TBD).

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2

Getting Started

This chapter describes how to prepare the PM-8615 for installation. Please carefully review the unpacking information before removing the product. The optional settings are also specified below.

2.1 What's Included

In addition to this *User's Manual*, the package includes the following item:

- PMC-8615 PMC Gigabit Ethernet Interface Module

If anything is missing or damaged, contact the dealer the product was purchased. Save the shipping materials and carton to ship or store the product in the future.

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2.2 Unpacking

The PMC-8615 card contains sensitive electronic components that can be easily damaged by static electricity.

Prepare a grounded anti-static mat. The operator should be wearing an anti-static wristband, grounded at the same point as the anti-static mat.

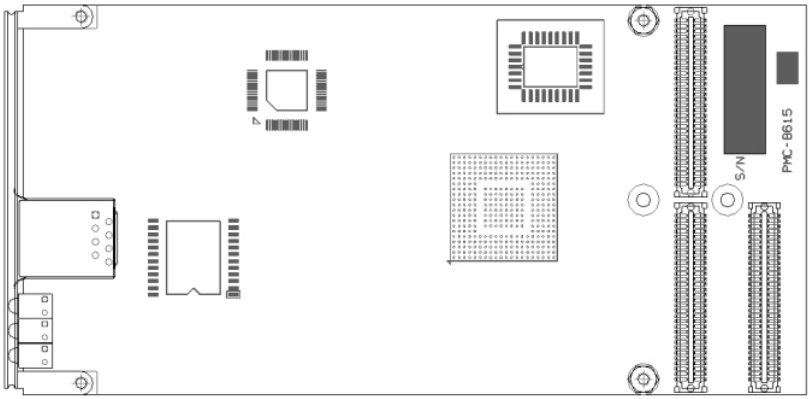
Inspect the card module carton for obvious damage. Shipping and handling may cause damage to the module. Be sure there is no obvious damage due to shipping and handing by examining the shipping box.

After opening the card module carton, extract the system module and place it only on a grounded anti-static surface, component side up.

Note: DO NOT APPLY POWER TO THE CARD IF IT HAS BEEN DAMAGED.

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2.3 PMC-8615 Layout



PMC-8615

Figure 2.1 PMC-8615 Layout

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2.4 Functional Block Diagram

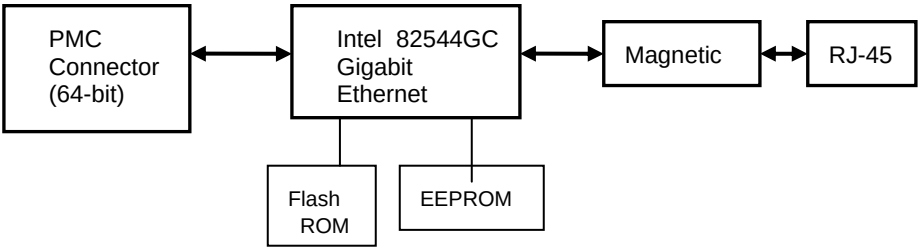
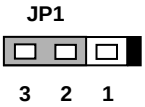


Figure 2.2 PMC-8615 Functional Layout

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2.5 Pinouts

PXE function enable/disable



JP1	Function
1-2	Disable
2-3	Enable (Default)

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2.6 Connectors

PMC Connector Pin Assignments

P1 (32 Bit)				P2 (32Bit)			
Pin	Signal	Signal	Pin	Pin	Signal	Signal	Pin
1	TCK	-12V	2	1	+12V	TRST#	2
3	GND	INTA#	4	3	TMSS	TDO	4
5	INTB#	INTC#	6	5	TDI	GND	6
7	NC	+5V	8	7	GND	NC	8
9	INTD#	NC	10	9	NC	NC	10
11	GND	NC	12	11	NC	+3.3V	12
13	CLK	GND	14	13	RST#	NC	14
15	GND	GNT#	16	15	+3.3V	NC	16
17	REQ#	+5V	18	17	NC	GND	18
19	V(I/O)	AD[31]	20	19	AD[30]	AD[29]	20
21	AD[28]	AD[27]	22	21	GND	AD[26]	22
23	AD[25]	GND	24	23	AD[24]	+3.3V	24
25	GND	C/BE[3]#	26	25	IDSEL	AD[23]	26
27	AD[22]	AD[21]	28	27	+3.3V	AD[20]	28
29	AD[19]	+5V	30	29	AD[18]	GND	30
31	V(I/O)	AD[17]	32	31	AD[16]	C/BE[2]#	32
33	FRAME#	GND	34	33	GND	NC	34
35	GND	IRDY#	36	35	TRDY#	+3.3V	36
37	DEVSEL#	+5V	38	37	GND	STOP#	38
39	GND	LOCK#	40	39	PERR#	GND	40
41	NC	NC	42	41	+3.3V	SERR#	42
43	PAR	GND	44	43	C/BE[1]#	GND	44

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45	V(I/O)	AD[15]	46	45	AD[14]	AD[13]	46
47	AD[12]	AD[11]	48	47	M66EN	AD[10]	48
49	AD[09]	+5V	50	49	AD[08]	+3.3V	50
51	GND	C/BE[0]#	52	51	AD[07]	NC	52
53	AD[06]	AD[05]	54	53	+3.3V	NC	54
55	AD[04]	GND	56	55	PMC-RSVD1	GND	56
57	V(I/O)	AD[03]	58	57	PMC-RSVD2	PMC-RSVD3	58
59	AD[02]	AD[01]	60	59	GND	PMC-RSVD4	60
61	AD[00]	+5V	62	61	ACK64#	+3.3V	62
63	GND	REQ64#	64	63	GND	NC	64

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P3 (64 Bit)			
Pin	Signal	Signal	Pin
1	NC	GND	2
3	GND	C/BE[7]#	4
5	C/BE[6]#	C/BE[5]#	6
7	C/BE[4]#	GND	8
9	V(I/O)	PAR64	10
11	AD[63]	AD[62]	12
13	AD[61]	GND	14
15	GND	AD[60]	16
17	AD[59]	AD[58]	18
19	AD[57]	GND	20
21	V(I/O)	AD[56]	22
23	AD[55]	AD[54]	24
25	AD[53]	GND	26
27	GND	AD[52]	28
29	AD[51]	AD[50]	30
31	AD[49]	GND	32
33	GND	AD[48]	34
35	AD[47]	AD[46]	36
37	AD[45]	GND	38
39	V(I/O)	AD[44]	40
41	AD[43]	AD[42]	42
43	AD[41]	GND	44
45	GND	AD[40]	46
47	AD[39]	AD[38]	48

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49	AD[37]	GND	50
51	GND	AD[36]	52
53	AD[35]	AD[34]	54
55	AD[33]	GND	56
57	V(I/O)	AD[32]	58
59	NC	NC	60
61	NC	GND	62
63	GND	NC	64

Note: A9,...,A4 correspond to PC address lines

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3

Installation

3.1 PMC Board Installation

Insert the face of the PMC module into the front of the cPCI carrier board. Carefully align the PMC connector to the carrier board and firmly place it in the slot. Secure the module to the carrier board with screws.

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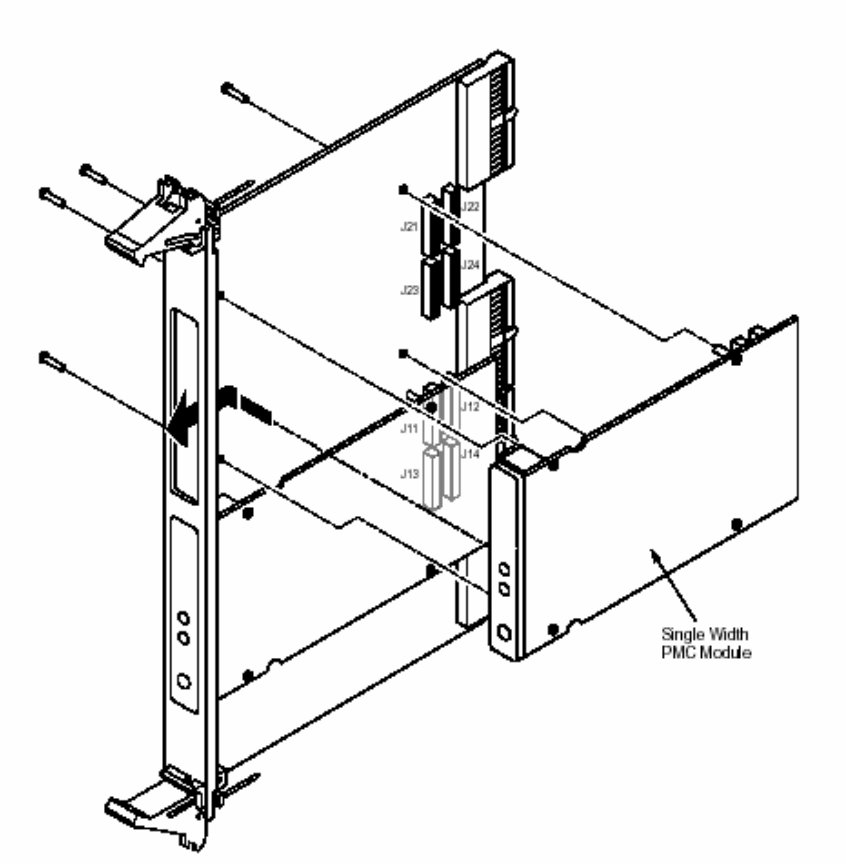


Figure 2.3 PMC Module Installation

Note: Ensure that the PMC module(s) are properly installed before connecting the cPCI carrier board to the system.

Note: If the system has more than one PMC-8615 card, only one can set JP1 to *Enable*. All other PMC-8615 cards must set JP1 to *Disable*.

Note: Driver Location: `CHIPDRV\LAN\82544GC`

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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 limited two-year warranty, one year for products bought in China.
    - The warranty period starts on the day the product is shipped 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 any 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.
3. Our repair service is not covered by ADLINK's 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 inappropriate storage environments such as with high temperatures, high humidity, or volatile chemicals.

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- Damage caused by leakage of battery fluid during or after change of batteries by customer/user.
- Damage from improper repair by unauthorized ADLINK technicians.
- Products with altered and/or damaged serial numbers are not entitled to our service.
- This warranty is not transferable or extendible.
- Other categories not protected under our warranty.

4. Customers are responsible for all fees necessary to transport damaged products to ADLINK.

For further questions, please e-mail our FAE staff: service@adlinktech.com

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