

PER-C101

Broadcom BCM5721/51/89,
Dual PCI Express 10/100/1000
Dual PCI Express Giga
Ethernet DaughterBoard

Copyright Notice

This document is copyrighted, 2005. All rights are reserved. The original manufacturer reserves the right to make improvements to the products described in this manual at any time without notice.

No part of this manual may be reproduced, copied, translated, or transmitted in any form or by any means without the prior written permission of the original manufacturer. Information provided in this manual is intended to be accurate and reliable. However, the original manufacturer assumes no responsibility for its use, or for any infringements upon the rights of third parties that may result from its use.

The material in this document is for product information only and is subject to change without notice. While reasonable efforts have been made in the preparation of this document to assure its accuracy, AAEON assumes no liabilities resulting from errors or omissions in this document, or from the use of the information contained herein.

AAEON reserves the right to make changes in the product design without notice to its users.

Packing List

Before you begin installing your card, please make sure that the following materials have been shipped:

- 1 PER-C101 DaughterBoard
- 1 Quick Installation Guide
- 1 CD-ROM for manual (in PDF format) and drivers
- 1 Flat Cable (For COM Port Version Only)
- 1 PCI Express Cable
- 1 Jumper

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

Contents

Chapter 1 General Information

1.1 Introduction.....	1-2
1.2 Features	1-3
1.3 Specifications	1-4

Chapter 2 Quick Installation Guide

2.1 Safety Precautions	2-2
2.2 Mechanical Drawing	2-3
2.3 Mechanical Drawing Showing Connector Locations .	2-4
2.4 List of Jumpers.....	2-5
2.5 List of Connectors	2-5
2.6 Setting Jumpers	2-7
2.7 LAN1, LAN2 Enable/Disable (JP1, JP2)	2-8
2.8 RS-232 Serial Port Connector (CN5)	2-8
2.9 LAN 1, LAN 2 Active LED Connector (CN3, CN7)	2-8
2.10 LAN 1, LAN 2 Speed LED Connector (CN2, CN6) .	2-8
2.11 PCI Express Connector x1 (CN4)	2-9

Chapter 3 Driver Installation

3.1 Installation	3-3
------------------------	-----

Chapter

1

General Information

1.1 Introduction

The PER-C101 is a Dual PCI Express 10/100/1000 Gigabit Ethernet DaughterBoard that onboard two Broadcom 10/100/1000Base-T Gigabit Ethernet Controllers for high-performance network applications such as Firewall PC, Workstation PC, Server PC, etc.

1.2 Features

- Dual PCI Express Host Interface
- Dual 10/100/1000Base-T Triple-speed Ethernet Controller
- Supports IPMI 1.5 Standard (BCM5751/BCM5721 Optional)
- Supports ASF2.0 Standard (BCM5721 Optional)
- Supports Teaming Functions (BCM5721 Optional)
- Supports Wake on LAN

1.3 Specifications

System

- Form Factor Dual PCI Express 10/100/1000 Ethernet Daughter Board
- Chipset PCI Express 10/100/1000Mb LAN Optional RJ-45 x 2 Broadcom BCM5721/BCM5751/BCM5789
- Expansion Interface Dual PCI Express Interface x 1
- PCI Express Support i915G or i945G-based
- Serial Port One COM port: Internal 5x2 Box Header x 1, External D-sub x 1
- Power Supply Request From PCI Express Connector (DF-13 30Pin)
- Qualification Formal Certification CE / FCC Class A
- Operating Temp. 0°C ~ 60°C

Note: The PER-C101 has been tested by the following OS systems,

1. **Windows 2000 Professional English Version / 5.00.2195 with Service Pack4**
2. **Windows XP Professional English Version / 2002 with Service Pack2**
3. **Linux 9.0 Kernel Version 2.4.20-8**

Chapter

2

Quick Installation Guide

Notice:

The Quick Installation Guide is derived from Chapter 2 of the user manual. For other chapters and further installation instructions, please refer to the user manual CD-ROM that came with the product.



2.1 Safety Precautions

Warning!



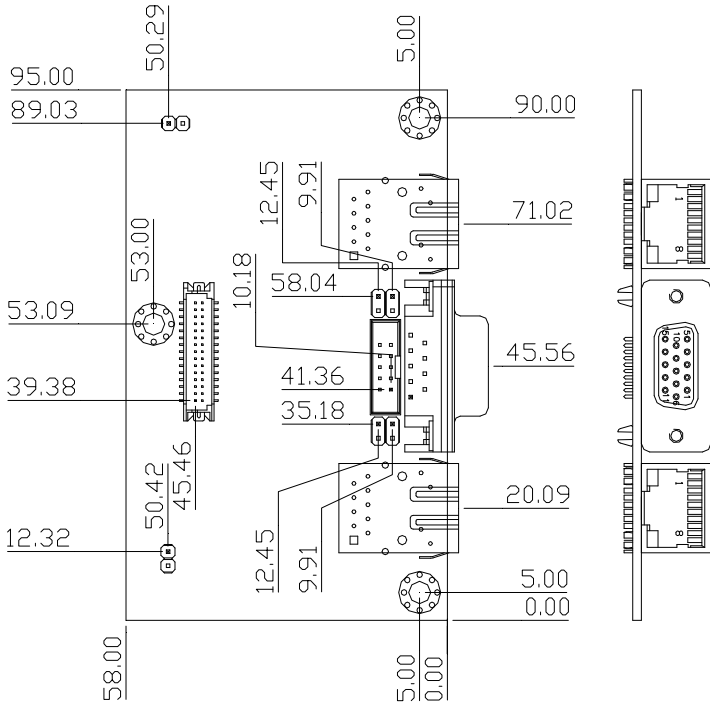
Always completely disconnect the power cord from your board whenever you are working on it. Do not make connections while the power is on, because a sudden rush of power can damage sensitive electronic components.

Caution!

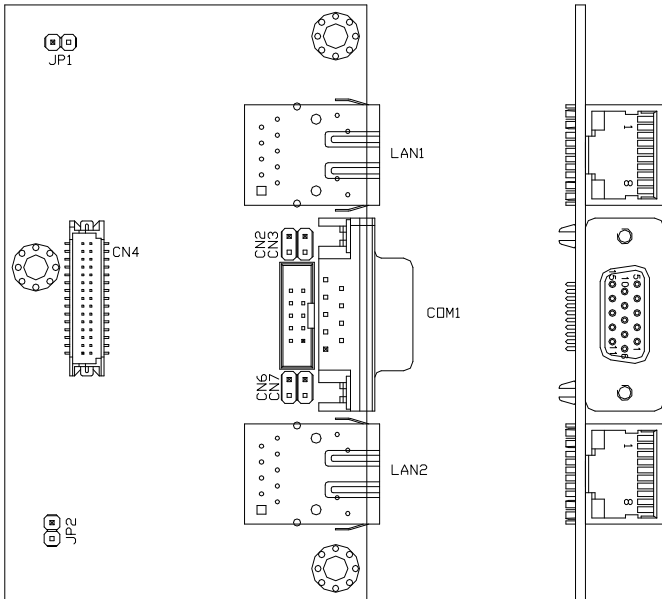


Always ground yourself to remove any static charge before touching the board. Modern electronic devices are very sensitive to static electric charges. Use a grounding wrist strap at all times. Place all electronic components on a static-dissipative surface or in a static-shielded bag when they are not in the chassis

2.2 Mechanical Drawing



2.3 Mechanical Drawing showing connector locations



2.4 List of Jumpers

The board has a number of jumpers that allow you to configure your system to suit your application.

The table below shows the function of each of the board's jumpers:

Jumpers

Label	Function
JP1	LAN1 Enable / Disable
JP2	LAN2 Enable / Disable

2.5 List of Connectors

The board has a number of connectors that allow you to configure your system to suit your application. The table below shows the function of each board's connectors:

Connectors

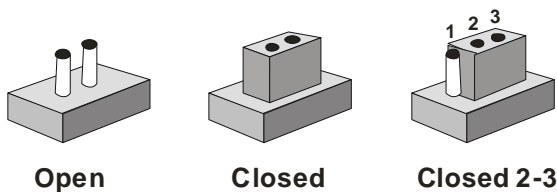
Label	Function
COM1	DB9 RS-232 Serial Port Connector
CN5	RS-232 Serial Port Connector
LAN1	10/100 or 100/1000 Base-Tx Ethernet Connector
LAN2	10/100 or 100/1000 Base-Tx Ethernet Connector
CN3	LAN1 Active LED Connector
CN2	LAN1 Speed LED Connector
CN7	LAN2 Active LED Connector

CN6	LAN2 Speed LED Connector
CN4	PCI Express Connector x 1

2.6 Setting Jumpers

You configure your card to match the needs of your application by setting jumpers. A jumper is the simplest kind of electric switch. It consists of two metal pins and a small metal clip (often protected by a plastic cover) that slides over the pins to connect them. To “close” a jumper you connect the pins with the clip.

To “open” a jumper you remove the clip. Sometimes a jumper will have three pins, labeled 1, 2 and 3. In this case you would connect either pins 1 and 2 or 2 and 3.



A pair of needle-nose pliers may be helpful when working with jumpers.

If you have any doubts about the best hardware configuration for your application, contact your local distributor or sales representative before you make any change.

Generally, you simply need a standard cable to make most connections.

2.7 LAN1, LAN2 Enable/Disable (JP1, JP2)

JP1, JP2	Function
LAN Disable	Close
LAN Enable	Open

2.8 RS-232 Serial Port Connector (CN5)

Pin	Signal	Pin	Signal
1	DCD	2	RXD
3	TXD	4	DTR
5	GND	6	DSR
7	RTS	8	CTS
9	RI	10	N.C

2.9 LAN1, LAN2 Active LED Connector (CN3, CN7)

Pin	Signal	Pin	Signal
1	Link_LED (-)	2	Active_LED (+)

2.10 LAN1, LAN2 Speed LED Connector (CN2, CN6)

Pin	Signal	Pin	Signal
1	#LINK1000_LED (G+/O-)	2	#LINK100_LED (G-/O+)

- * 10 Speed LED OFF
- 100 Speed Green LED ON (G+, G-)
- 1000 Speed Orange LED ON (O+, O-)

2.11 PCI Express Connector x 1 (CN4)

Pin	Signal	Pin	Signal
1	GND	2	+3.3V
3	PCIe-RX1	4	+3.3V
5	PCIe-RX1#	6	PCIe-WAKE#
7	GND	8	PCIe-RST#
9	PCIe-CLK1	10	+3.3VSB
11	PCIe-CLK1#	12	+3.3VSB
13	GND	14	PCIe_TX2
15	PCIe_TX1	16	PCIe_TX2#
17	PCIe_TX1#	18	GND
19	+12V	20	PCIe-CLK2
21	+12V	22	PCIe-CLK2#
23	SMBDATA	24	GND
25	SMBCLK	26	PCIe-RX2
27	+3.3V	28	PCIe-RX2#
29	+3.3V	30	GND

Chapter

3

**Driver
Installation**

The PER-C101 comes with a CD-ROM that contains all drivers your need.

In addition, you can activate the installation items through Autorun program which will install each driver directly. If your system do not support Autorun program or you cannot install drivers successfully, please read instructions below for further detailed installations.

Follow the sequence below to install the drivers:

- For Chipset BCM5721 please install **BCM5721** Drivers
- For Chipset BCM5751 and BCM-5789 please install **BCM5751&BCM-5789** Drivers

Please read following instructions for detailed installations.

3.1 Installation

Insert the PER-C101 CD-ROM into the CD-ROM Drive. And install the drivers.

1. Click on the **BCM5721 or BCM5751&BCM5789 (depend on the chip your card supports)** folder.
2. Choose the OS your system is.
3. Double click on the *.**exe** file located in each OS folder.
4. Follow the instructions that the window shows.
5. The system will help you install the driver automatically.
6. Please re-start your computer.