mPCI-8220

Mini-PCI Type III

Dual Intel 82559 10/100Mbps Ethernet Card

User's Guide



Recycled Paper

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

©Copyright 2003 ADLINK Technology Inc;

All Rights Reserved.

Manual Rev.: 1.00, April 11, 2003

Part No: 50-13036-000

The information in this document is subject to change without prior notice in order to improve reliability, design and function and does not represent a commitment on the part of the manufacturer.

In no event will the manufacturer be liable for direct, indirect, special, incidental, or consequential damages arising out of the use or inability to use the product or documentation, even if advised of the possibility of such damages.

This document contains proprietary information protected by copyright. All rights are reserved. No part of this manual may be reproduced by any mechanical, electronic, or other means in any form without prior written permission of the manufacturer.

Trademarks

NuIPC is a registered trademark of ADLINK Technology Inc., Other product names mentioned herein are used for identification purposes only and may be trademarks and/or registered trademarks of their respective companies.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Getting service from ADLINK

Customer Satisfaction is the most important priority for ADLINK Tech Inc. If you need any help or service, please contact us.

ADLINK Technology Inc.			
Web Site	http://www.adlinktech.com		
Sales & Service	Service@adlinktech.com		
Technical Support	NuDAQ + USBDAQ + PXI	nudaq@adlinktech.com	
	Automation	automation@adlinktech.com	
	NuIPC	nuipc@adlinktech.com	
	NuPRO / EBC	nupro@adlinktech.com	
TEL	+886-2-82265877	FAX	+886-2-82265717
Address	9F, No. 166, Jian Yi Road, Chungho City, Taipei, 235 Taiwan.		

Please email or FAX us of your detailed information for a prompt, satisfactory and constant service.

Detailed Company Information			
Company/Organization			
Contact Person			
E-mail Address			
Address			
Country			
TEL		FAX	
Web Site			
Questions			
Product Model			
Environment to Use	OS: Computer Brand: M/B: CPU: Chipset: BIOS: Video Card: Network Interface Card: Other:		
Detail Description			
Suggestions to ADLINK			

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Table of Contents

Introduction 1

1.1 Checklist 1
1.2 Description 2
1.3 Features 2
1.4 Technical Specifications 3

Installation 5

2.1 mPCI-8220 Installation 5

LAN Driver Installation 7

3.1 Software and Driver Support 7
3.1.1 Intel 82559 Driver Installation on Windows 98 8
3.1.2 INTEL 82559 Driver Installation on Windows 2000 9
3.1.3 Intel 82559 Driver Installation on Windows XP 10
3.1.4 Intel 82559 Driver Installation on Windows NT 11

Warranty Policy 12

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

1

Introduction

This manual is designed to give you information about the mPCI-8220 2-Port 10Base-T/100Base-TX Fast Ethernet MiniPCI card. This chapter covers the following topics:

Checklist 1

Description 2

Features 2

Technical Specifications 3

1.1 Checklist

Check the shipping carton for any damages. If the shipping carton and contents are damaged, 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 the following items are included in the package, if there is any missing items, contact your dealer:

- 2-Port 10Base-T/100Base-TX Fast Ethernet MiniPCI card
- A User's manual
- 1 CD Containing hardware configuration file and LAN Driver

CAUTION: This board must be protected from static discharge and physical shock. Never remove any of the socketed parts except at a static-free workstation. Use the anti-static bag shipped with the product to handle the board. Wear a wrist strap grounded through one of the system's ESD Ground jacks when servicing system components.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

1.2 Description

The mPCI-8220 perhaps one of the smallest and most efficient Dual LAN MiniPCI cards in the world. The card is designed for embedded systems utilizing the miniPCI interface.

The 82559 is Intel's second-generation fully integrated 10Base-T/100Base-TX LAN solution. The 82559 consist of both the Media Access Controller (MAC) and the physical layer (PHY) interface combined into a single component solution. The 82559 can operate in either full duplex or half duplex mode. In full duplex mode the 82559 adheres with the IEEE 802.3x Flow Control specification. Half duplex performance is enhanced by a proprietary collision reduction mechanism.

Support for all of these features are provided under Windows 95, Windows 98, Windows NT 4.0, Windows 2000 and Windows Millennium Edition.

1.3 Features

- Two Intel 82559 Single-chip Ethernet controller
- 10BaseT/100BaseTX support, full duplex
- IEEE802.3, IEEE802.3U compliant
- Support for latchless Flash interface with up to 128Kbyte of Flash addressing.
- Lower power consumption

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

1.4 Technical Specifications

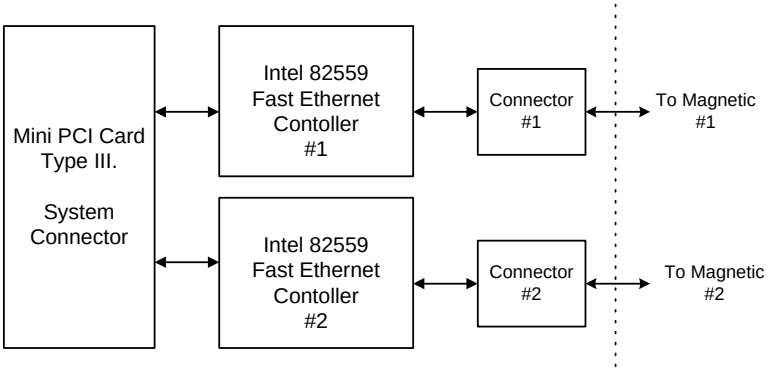


Figure 1: mPCI-8220 Functional Block Diagram

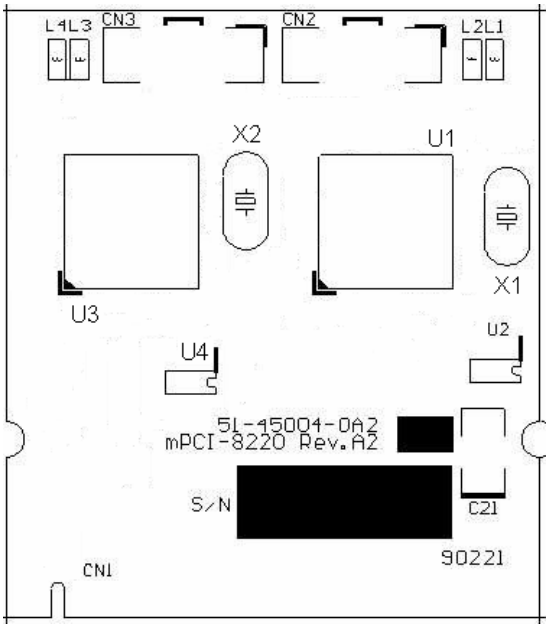


Figure 2: mPCI-8220 PCB

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Bus architecture:

- Fully complied with PCI Rev2.2
- Fully support 32bit and 33MHz
- Glueless CardBus master interface

Ethernet I/F:

- Intel 82559 Ethernet Controller
- Complied with PCI V2.2, IEEE802.3, IEEE802.3u
- True 32-bit PCI bus master
- Full duplex support
- 10 Base-T/ 100 Base-TX support
- 100Mbps Fast Ethernet or 10Mbps data transfer, selected via auto-negotiation
- Drivers support: DOS, Windows 98 SE, Windows ME, Windows NT, Windows 2000, Linux Red Hat

Power requirements:

- 3.3V @ 4mA (max.)

Compliant Standards:

- EMI Test: European Standard EN 55022 Class B
- Harmonic Test: European Standard EN 61 000-3-2
- Voltage fluctuations Test: European Standard EN 61 000-3-3
- EMS Test: European Standard EN 50 082-1:1997
- FCC Test According to: Standard for Methods of Measurement
- ANSI C63.4 – 1992
- Test in Compliance with CISPR PUB. 22 and FCC Part 15

Environment:

- Operating Temperature: 0 to 60^{o}C
- Storage Temperature: -20 to 80^{o}C
- Humidity: 10%~90% non condensing

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

2

Installation

This chapter provides information on installation procedures of the PCI-8220 MiniPCI Card. The topic covered is:

mPCI-8220 Installation 5

2.1 mPCI-8220 Installation

To insert the MiniPCI cards, position it at 30° to the PCB and gently push it into the MiniPCI connector (similar to 144-pin socket). The card will not fit when inserted at an angle of 45° or 15°. Once inserted, slowly press the card towards the PCB until it locks on both sides to the clips of the connector. Screw the card to the PCB to secure the installation. To remove the MiniPCI card, pull the 'clips' sideways.

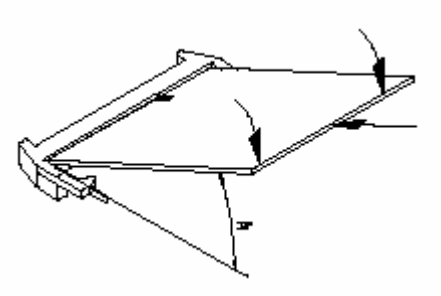


Figure 3: Installing the MiniPCI Card

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

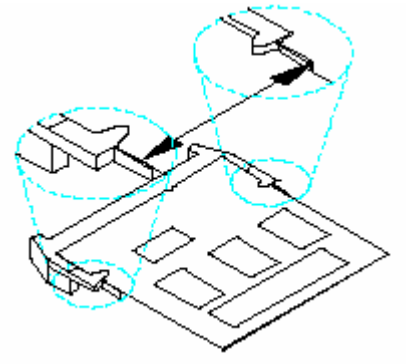


Figure 4: Removing the MiniPCI Card

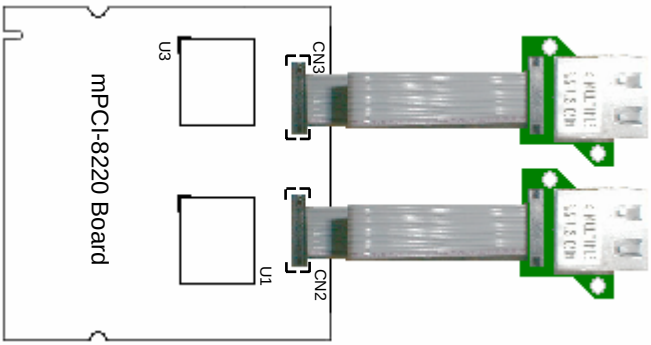


Figure 5: Connecting to the RJ-45 Board

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

3

LAN Driver Installation

This chapter provides information on how to install the Intel 82559 Ethernet controller drivers that come in the driver CD with your mPCI-8220 MiniPCI card. Please follow the instructions carefully. Please note that there must be relevant software installed in your system before you can proceed to install the driver for the 2-Port 10Base-T/100Base-TX Fast Ethernet MiniPCI card.

The following items are covered in this chapter:

Software and Driver Support 7

Intel 82559 Driver Installation on Windows 98 8

Intel 82559 Driver Installation on Windows 2000 9

Intel 82559 Driver Installation on Windows XP 10

Intel 82559 Driver Installation on Windows NT 4.0 11

3.1 Software and Driver Support

The Intel 82559 driver support the following Operating Systems or platforms:

- Windows 98, Windows XP, Windows 2000, Windows NT
- Novell Netware, DOS Setup for Novell NetWare DOS
- UNIX, OS2, Linux

All the above drivers are included in the ADLINK CD. In the following section, driver installation for Windows 98, Windows XP, Windows 2000, and Windows NT are outlined. For driver installation of non-Windows Operating Systems, refer to the readme file inside the CD.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

3.1.1 Intel 82559 Driver Installation on Windows 98

Windows 98 will attempt to install a standard LAN driver automatically. To guarantee compatibility, manually install the most updated LAN driver, which is stored in the ADLINK CD. After installing Windows 98, update to the most updated driver using the following procedures.

1. Boot Windows 98, Click ***Start***. Select ***Settings*** then double-click the ***Control Pane***l.
2. Double-click on the ***System*** icon, click on the ***Device Manager*** tab.
3. Double-click on the Network Adapters entry; select the Intel PRO 100+ Management Adapter entry. Click the Properties button.
4. Click on the ***Driver*** button, then click ***Update Driver…*** button.
5. An Update Device Driver Wizard window appears, click NEXT
6. Select ***Display a list of ...*** and click ***NEX***T. The next window allows the user to specify a specific path. Insert the CD and click ***Have Disk***.
7. Browse the 82559 driver in the following path: ***X:\CHIPDRV\LAN\82559,*** highlight **net82557.inf,** click ***OK***. The ***Update Wizard*** displays a message indicating it has found the driver. Click ***OK*** again to update the driver.

Note: Windows 98 may ask you to insert the original Windows 98 CD to install the LAN protocols.

8. Click NEXT button, then the Wizard summary window appears.
9. Click the *Finish* button, and then restart the computer for the new driver to take effect.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

3.1.2 INTEL 82559 Driver Installation on Windows 2000

Windows 2000 will attempt to install a standard LAN driver automatically. To guarantee compatibility, manually install the most updated LAN driver, which is stored in the ADLINK CD. After installing Windows 2000, update to the most updated driver using the following procedures

1. Boot Windows 2000, Click ***Star***t. Select ***Settings*** then double-click on the ***Control Panel***.
2. Double-click ***System*** icon, click ***Hardware*** tab, then click ***Device Manager*** button.
3. Double-click ***Network Adapters*** entry, Double-click the ***Intel PRO 100+ Management Adapter*** entry.
4. Click ***Driver*** tab, then click ***Update Driver…*** button.
5. An Upgrade Device Driver Wizard window will appear, click ***Next***>.
6. Select ***Display a list of ...*** and click ***Next***>. The next window may show a list of hardware models.
7. Insert the CD and click ***Have Disk***.
8. Browse the LSI 53C895 driver in the following path: ***X:\CHIPDRV\LAN\82559***, highlight ***oemsetup.inf***, click ***Open***, then click ***OK***.
9. Highlight the model: ***Intel PRO 100+ Management Adapter,*** then click ***NEXT***>. An Update Driver Warning window may pop up, click ***Yes*** to continue.
10. Click ***NEXT>*** button, a Wizard summary window will appear.
11. Click ***Finish***, then the ***CLOSE*** button.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

3.1.3 Intel 82559 Driver Installation on Windows XP

Windows XP will attempt to install a standard LAN driver automatically. To guarantee compatibility, manually install the most updated LAN driver, which is stored in the ADLINK CD. After installing Windows XP, update to the most updated driver using the following procedures.

1. Boot into Windows XP, Click ***Star***t. Select ***Settings*** then double-click the ***Control Pane***l.
2. Double-click ***System*** icon, click ***Hardware*** tab, then click the ***Device Manager*** button.
3. Double-click Network Adapters entry, Double-click the Intel PRO/100B PCI Adapter entry.
4. Click ***Driver*** tab, then click the ***Update Driver…*** button.
5. An Upgrade Device Driver Wizard windows will appear on screen, click ***Next***> to continue.
6. Select Install from a list or specific ... and click ***Next>***.
7. Select ***Don't search; I will choose the driver to install***.
8. Insert the CD and click ***Have Dis***k, Browse the LAN driver in the following path: ***X: \CHIPDRV\LAN\82559***, highlight the **oemsetup.inf** file click ***Open***, and then click ***OK***.
9. Highlight the model: ***Intel PRO/100B PCI Adapter*** and, then click ***NEXT***>.
10. Click the ***Finish*** button, then click ***CLOSE*** button.
11. Reboot the system to make the new driver active.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

3.1.4 Intel 82559 Driver Installation on Windows NT

Before installing the LAN driver on Windows NT, copy the LAN driver files in the CD to a floppy diskette. Insert a new diskette into drive ***A:*** then type the following batch command under a DOS environment to copy the relative NT LAN drivers ***X:\CHIPDRV\LAN\100PDISK\Makedisk\Makedisk NT.***

Windows NT may ask to install a LAN driver from its own library of drivers. To guarantee compatibility, manually updated the LAN driver, which comes with the ADLINK CD. After installing Windows NT, update to the new driver using the following procedures.

1. In the ***Control Panel***, double-click on the ***Network*** icon, a ***Network Configuration*** window will appear. Click ***Yes***.
2. In the ***Network Setup Wizard***, click ***Next***>, click the ***Select From List…*** button.
3. Insert the LAN driver floppy diskette into drive ***A:*** and click ***Have Disk***.
4. In the dialog box of Insert Disk window, type in ***A:*** then Click ***OK***.
5. An OEM Selection Options window pops up, click ***OK,*** and then click ***Next***>.
6. Select the necessary Network Protocols, and click ***Next***>.
7. Select the necessary Network Services, and click ***Next***>.
8. Continue to click ***Next***> until Window NT Setup dialog box pops up. Type in ***D:\i386*** (drive D:\ is assumed to be where WinNT resides) in the dialog box, then insert the original Windows NT CD, click ***Continue***.
9. Click ***OK*** when the setup is completed.
10. Reboot the computer.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

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.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

- 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

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000