

USER'S MANUAL

RS-232/422/485 Universal PCI/PCI Express

Industrial Multiport Serial Cards

Ver. 1.0, Feb. 2007





RS-232/422/485 Universal PCI/PCI Express

Industrial Multuport Serial Cards

Copyright

Copyright© 2005 SUNIX Co., Ltd. All Rights Reserved.

No part of this publication may be reproduced, transcribed, stored in a retrieval system, translated into any language, or transmitted in any from or by any means, photocopying, manual, or otherwise, without prior written permission from SUNIX Co., Ltd.

Disclaimer

SUNIX Co., Ltd. Shall not be liable for any incidental or consequential damages resulting from the performance or use of this equipment.

SUNIX Co., Ltd. makes no representations or warranties regarding the contents of this manual. Information in this manual has been carefully checked for reliability; however, no guarantee is given as to the correctness of this content. In the interest of continued product improvement, this company reserves the right to revise the manual or include change in the specifications of the product described within it at any time without notice and without obligation to notify any person of such revision or changes. The information contained in this manual is provided for general use by the customers.

Trademarks

SUNIX is a registered trademark of SUNIX Co., Ltd.

Other registered marks used herein are for identification purposes only and may be trademarks of their respective owners.

Safety Information

- 1. Keep this User's Manual for future reference.
- 2. Always read the safety information carefully.
- 3. Keep this equipment away from direct sunlight, or in humid or damp places.
- 4. Do not place this equipment in an unstable position, or on vibrating surface before setting it up.
- 5. Do not use or place this equipment near magnetic fields, televisions, or radios to avoid electronic interface that affects device performance.
- 6. Do not attempt to disassemble or repair the equipment or the warranty would be useless.
- 7. To avoid damaging your system and equipment, please make sure that your computer is off before you install the product.



INDEX

Chapter 1	Introduction		
	Overview1-2		
	Package Checklist		
	Product Features		
	Product Specifications1-4		
Chapter 2	Hardware Installation		
	Hardware Installation 2-1		
	Pin Assignment 2-2		
Chapter 3	Software Installation		
	Windows 2000/XP/2003 (32bit)		
	Windows 2000/XP/2003 (32bit WHQL)		
	Windows XP/2003 (64bit)		
	Windows Vista (32bit)		
	Linux		
Chapter 4	Trouble Shooting		
Chapter 5	Appendix		
	Contract Information 5-1		



1. Introduction

SUNIX Serial Communication Boards family provides an array of PCI Express, PCI, PCI-104 and PC/104 interfaces to meet your serial port expansion needs. Multi-port Serial Communication Board comes in the selection of 2.4.8 ports in choice of RS-232, RS-422/485 or 3-in-1 combo with DB9 or DB25 serial connectors and compatible with all major operating system for industrial applications.

The following topics covered in this chapter:

- Overview
- Package Checklist
- Product Features
- Product Specifications

1-1. Overview

Thanks for purchasing Universal PCI / PCI-E Industrial Multi-Port Communication Card. The Multi-port serial card equips with 2, 4, or 8 independent DB9 or DB25 RS-232/422/485 high-speed serial ports which accessed through DB-9 or DB-25 male connectors for industrial communication and automation applications. Each serial port has built-in 64byte hardware FIFO, on-chip hardware flow control, provides baudrate speed up to 921Kb/Sec and also compatible with the popular 16C750/16C450/16C450 UART controller.

1-2. Package Checklist

Please check if the following items are present and in good condition upon opening your package. Contract your vendor if any item is damaged or missing.

1. Hardware:

- Serial Communication Board : Communication Board \times 1
- Cable : (Depend on what product you bought)

2 ports PCI series: DB44 Female to 2 ports DB9/25 Male Cable \times 1

4 ports PCI series: DB44 Female to 4 ports DB9/25 Male Cable \times 1

8 ports PCI series: Mini SCSI 68pin to DB9 Male Cable \times 1

Bracket : Standard Bracket \times 1

Low Profile Bracket $\times \ 1$

- 2. CD Driver
- 3. Quick Installation Guide
- 4. User's Manual (This document)



1-3. Product Features

New Design of Matrix UART controller

Matrix is a highly integrated multi-port UART controller that includes all of its functions into a single chip. In addition to those functions provided by a standard 16C750 UART chip, it also equips lots of advanced features that make the serial communication much more reliable and easy to use.

With the large buffer and special designed flow-control circuit inside the chip, it could provide the transfer speed up to 921Kbps for each port. Highly integration makes the response time much fast and consumes little power dissipation even when it is worked at full speed. Those features together make it suitable for those applications that require low latency, real-time control, high reliability and low-power environments.

The Matrix is ideal for POS system, industrial automation, data collection and any other applications that require serial connection.

Sunix Proprietary AHDC/CS for Automatic RS-485 Direction Control

In the early days, RS-485 transmission required manual switching of the direction of the line driver. Switching manually is prone to error and is not an efficient way. In order to solve such problem, Sunix has developed a special technique call AHDC/CS for RS-485 transmission to provide a precise data direction control automatically. Unlike ordinary RS-485 direction control, AHDC/CS also makes its best to avoid possible collisions which provides even more reliable communication.

AHDC/CS works seamlessly with transmit and receive unit of Matrix UART Controller and control the direction on-the-fly, hence it won't incur any additional overhead and latency.

Automatic RS-422/RS-485 Detection and Switching

SUNIX developed a unique technology "Auto Detect and Switching RS-422 / 485", which can automatically detect the state of RS-422 full duplex or RS-485 half duplex and control the data transmitting and receiving wires at the same port without any jumper settings. This design gives users the convenience to change the communication mode setting without any system shut downs.

Built-in Surge protection and Isolation (Option for SI version)

Surges are high amplitude electrical pulses lasting only several millionths of a second in duration. They can be caused by heavy-duty equipment, power lines, short circuits, or large motors. A surge suppressor has the ability to effectively absorb the high energy in an extremely short period of time, preventing the connected devices from damage. Sunix Martix Multi-port Serial Card (SI version) has built-in 400W surge protection on all of the signals that meets IEC61000-4-5 standards.

Isolation eliminates the direct galvanic connection between digital system and output drivers/receivers. Optocouplers is used for data isolation and magnetic transformers for power source isolation.



Galvanic isolation removes the ground-loop currents from data lines; hence, the impressed noise voltage that affects the signal also is eliminated. Common-mode noise can be removed completely and many forms of radiated noise can be reduced to negligible limits using this technique.

It is highly recommended for use in high-noise environments.

1.10. Product Specifications

Universal PCI Interface

Function

Туре	Universal PCI Industrial Multi-Port Serial Card
Bus Transceivers	RS-232, 422 Full-Duplex, RS-485 Half-Duplex
Drivers per Line	RS-232, RS-422, RS-485 1 Driver
Receivers per Line	RS-232 1, RS-422 10, RS-485 32 Receivers

Hardware

IC	Matrix
Controller	16C750 compatible UART
Dus Interface	64-bit & 32-bit PCI Bus
Bus interface	3.3V & 5V Connector Key
Number of Ports	2, 4 or 8 ports
Bracket	Standard 121 mm, Low Profile79.2 mm

• Communication

IRQ & I/O address	Assigned by BIOS / O.S.
FIFO	64 byte hardware FIFO
Baud rate	75bps ~ 921.6 Kbps
Data bit	5,6,7,8
Stop bit	1,1.5,2
Parity	even, odd, none, mark, space
Flow Control	none, Software, Hardware
	15KV ESD Surge Protection (for RS-232)
Protection	400W Surge Protection (for RS-422/485)
	2.5KV Isolation Protection (for RS-422/485)
	232 : TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND
Signal	422 : TxD+, TxD-, RxD+, RxD-, GND
Signal	485 : 4 Wire – TxD+, TxD–, RxD+, RxD–, GND
	2 Wire – Data+, Data-, GND

• Driver support

Driver Support	Microsoft Windows 2000/XP/2003/VISTA
	DOS, Linux 2.0.x / 2.2.x / 2.4.x / 2.6.x



• Dimensions

Dimensions (W $ imes$ D)	125 x 63 mm (for RS-232 only and RS-422/485 only)
	135 x 63 mm (for 3-in-1 only)
Regulatory Approvals	

Regulatory Approvals	CE, FCC

PCI Express Interface

• Function

Туре	PCI Express Industrial Multi-Port Serial Card
Mode of Operation	Hand-Shaking
Bus Transceivers	RS-232, 422 Full-Duplex, RS-485 Half-Duplex
Drivers per Line	RS-232, RS-422, RS-485 1 Driver
Receivers per Line	RS-232 1, RS-422 10, RS-485 32 Receivers

• Hardware

IC	Matrix
Controller	16C750 compatible UART
Bus Interface	PCI Express Bus Spec. Revision 1.0a
Number of Ports	2, 4 or 8 ports
Bracket	Standard 121 mm, Low Profile79.2 mm

Communication

IRQ & I/O address	Assigned by BIOS / O.S.
FIFO	64 byte hardware FIFO
Baud rate	75bps ~ 921.6 Kbps
Data bit	5,6,7,8
Stop bit	1,1.5,2
Parity	even, odd, none, mark, space
Flow Control	none, Software, Hardware
	15KV ESD Surge Protection (for RS-232)
Protection	400W Surge Protection (for RS-422/485)
	232 : TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND
Signal	422 : TxD+, TxD-, RxD+, RxD-, GND
Signal	485 : 4 Wire – TxD+, TxD–, RxD+, RxD–, GND
	2 Wire – Data+, Data-, GND

• Driver support

Duiver Sugarent	Microsoft Windows 2000/XP/2003/VISTA	
	DOS, Linux 2.0.x / 2.2.x / 2.4.x / 2.6.x	
Dimensions		
Dimensions (W/ X/ D)	125 x 63 mm (for RS-232 only)	
Dimensions (w × D)	135 x 63 mm (for 3-in-1 only)	

• Regulatory Approvals



Regulatory Approvals

2. Hardware Installation

CE, FCC

This chapter includes information about hardware installation for RS-232 Universal PCI Multi-Port Communication Board. The following topics are covered:

- Hardware Installation
- Pin Assignments

2-1. Hardware Installation

The hardware installation of PCI / PCI-E serial boards is easy to carry out. Before inserting the card into the PCI / PCI-E bus, please follow the detailed steps given below to install the PCI / PCI-E serial board in your computer.



Safety First

To avoid damaging your system and boards, make sure your PC's power is turned off before installing PCI/PCI-E card.

- Step 1: Turn your PC's power off, and shut off the power to any peripheral.
- **Step 2:** Remove the power plug from the plug socket.
- **Step 3:** Remove the cover from the computer case.
- **Step 4**: If fitted. Remove the metal cover plate on the rear of a free PCI slot.
- Step 5: Insert Universal PCI / PCI-E Multi-Port Communication Board into the free PCI / PCI-E slot and screw it firmly on the bracket side.
- **Step 6**: Place the cover back onto the computer.
- **Step 7**: Insert the plug into the plug socket.





2-2. Pin Assignment

• RS-232



RS-422





• RS-485









3. Software Installation

After installing the RS-232/42/485 Universal PCI / PCI Express Multi-Port Communication Board in your system successfully, please follow the step by step software installation guide to confirm how to install appropriate driver and configure the serial port settings.

The driver for PCI / PCI-E serial board supports various operating systems, and you can select your requirement in the following chapter:

The following topics covered in this chapter:

- Windows 2000
- Windows XP (32 / 64-bit)
- Windows Server 2003 (32 / 64-bit)
- VISTA (32-bit)
- ♦ Linux

3-1. Windows 2000/XP/2003 (32-bit)

Installing Driver

On booting up, system will detect present of the PCI Serial Board and prompt for driver installation wizard, and show the picture.

Found New Hardware Wizard	
	Welcome to the Found New Hardware Wizard This wizard helps you install a device driver for a hardware device.
	< Black Next > Cancel



- (1) Please insert the driver CD in your CD/DVD-ROM drive.
- (2) Please click "Next" to continue.

(3) Please choose "Search for a suitable driver for my device (recommended) "option, and click "Next" again to continue.

Found New Hardware Wizard				
Install Hardware Device Drivers A device driver is a software program that enables a hardware device to work with an operating system.				
This wizard will complete the installation for this device:				
PCI Serial Port				
A device driver is a software program that makes a hardware device work. Windows needs driver files for your new device. To locate driver files and complete the installation click Next.				
What do you want the wizard to do?				
 Search for a suitable driver for my device (recommended) 				
Display a list of the known drivers for this device so that I can choose a specific driver				
< Back Next > Cancel				

(4) Please choose the 2 items as bellow, then click "Next" to continue.

Found New Hardware Wizard				
Locate Driver Files Where do you want Windows to search for driver files?				
Search for driver files for the following hardware device:				
PCI Serial Port				
The wizard searches for suitable drivers in its driver database on your computer and in any of the following optional search locations that you specify.				
To start the search, click Next. If you are searching on a floppy disk or CD-ROM drive, insert the floppy disk or CD before clicking Next.				
Optional search locations:				
Floppy disk drives				
CD-ROM drives				
Specify a location				
Microsoft Windows Update				
< Back Next > Cancel				

(5) Please click " **Browser** " to choose driver folder.





(6) Please choose the CD/DVD-ROM drive, and choose the path "Windows\2K&XP&2003&Vista_32bit", and click "Open" to

continue.

Locate File				<u>? ×</u>
Look in:	C 2K&XP&20	03&Vista_32bit	수 🗈 💣 🎟•	
History Desktop My Documents My Computer	snxcard snxport			
	, File name:	snxcard.inf	•	Open
	Files of type:	Setup Information (*.inf)	7	Cancel

(7) Please click "OK" to continue.



(8) Please click "Next" to continue.





(9) Please click "Yes" to continue.

Digital Signature Not Found				
3	The Microsoft digital signature affirms that software has been tested with Windows and that the software has not been altered since it was tested.			
	The software you are about to install does not contain a Microsoft digital signature. Therefore, there is no guarantee that this software works correctly with Windows.			
	SUNIX Matrix Series Multiport Serial Card - 2 ports RS-232			
	If you want to search for Microsoft digitally signed software, visit the Windows Update Web site at http://windowsupdate.microsoft.com to see if one is available.			
Do you want to continue the installation?				
	Yes No More Info			

(10) Please click "Finish" to continue.





(11) Please click "Next" to continue.

Found New Hardware Wizard	
Found New Hardware Wizard	Welcome to the Found New Hardware Wizard This wizard helps you install a device driver for a hardware device.
	To continue, click Next.
	< Back Next > Cancel

(12) Please choose "Search for a suitable driver for my device (recommended) "option, and click "Next" again to continue.



Found New Hardware Wizard				
Install Hardware Device Drivers A device driver is a software program that enables a hardware device to work with an operating system.				
This wizard will complete the installation for this device:				
SUNIX Communications Port 1				
A device driver is a software program that makes a hardware device work. Windows needs driver files for your new device. To locate driver files and complete the installation click Next.				
What do you want the wizard to do?				
 Search for a suitable driver for my device (recommended) 				
O Display a list of the known drivers for this device so that I can choose a specific driver				
< Back Next > Cancel				

(13) Please choose the 2 items as below, then click "Next" to continues.

Found New Hardware Wizard
Locate Driver Files Where do you want Windows to search for driver files?
Search for driver files for the following hardware device:
SUNIX Communications Port 1
The wizard searches for suitable drivers in its driver database on your computer and in any of the following optional search locations that you specify.
To start the search, click Next. If you are searching on a floppy disk or CD-ROM drive, insert the floppy disk or CD before clicking Next.
Optional search locations:
Floppy disk drives
D-ROM drives
Ppecify a location
Microsoft Windows Update
< Back Next > Cancel

(14) Please click "OK" to continue.





(15) Please click "Next" to continue.

Found New Hardware Wizard
Driver Files Search Results The wizard has finished searching for driver files for your hardware device.
The wizard found a driver for the following device:
SUNIX Communications Port 1
Windows found a driver for this device. To install the driver Windows found, click Next.
d:\sunix matrix driver final\windows\2kxp2003vista_32bit\snxport.inf
< Back Next > Cancel

(16) Please click "Finish" to continue.

Note. Please return step11~step16 to install.





Configure the Serial Port Settings

1. Please launch the "Device Manager"

2. Right click the "SUNIX Matrix Serial port XXX (COMXXX)" item from the "Ports (COM & LPT)" sub-tree and click

"Properties".





3. Click "Port Settings" tab page and click "Advanced" for advanced settings.

X Matrix S	erial Port 1	I (COM3) Pro	perties		
neral Port :	Settings D	river			
J SUN	IX Matrix Se	erial Port 1 (CO	M3)		
Dev	ce type:	Ports (COM	& LPT)		
Man	ufacturer:	SUNIX GR	OUP		
Loca	ation:	Location 2	(1002-po	t 1, RS-232)	
			22		÷
				Troubleshool	ter
)evice usage	5				
Use this devi	ce (enable)				
			-	οκ	Cano
			0	0.000	

General	Port Settings Driver
	Bits per second: 9600
	Data bits: 8
	Parity: None
	Stop bits: 1
	Advanced Restore Defaults

4. Click "Defaults" button for restoring default advanced settings.



Advanced Settings for COM3	<u>?</u> ×
Enable 64 Byte FIFO buffers	OK Cancel
Receive Buffer: Low (1)	High (56) Defaults High (64)
COM Port Number: COM3	

5. Check/Un-check the "**Enable 64 Byte FIFO buffers**" checkbox to enable / disable the hardware FIFO buffering feature or you can select the size of FIFO if "Use FIFO buffers control" is enabled.

Advanced Settings for COM3	<u>?</u> ×
Phable 64 Byte FIFO buffers	OK Cancel
Receive Buffer: Low (1) High (56)	Defaults
I ransmit Burrer: Low (1)	
COM Port Number: COM3	

6. Re-map the COM port number by select a free COM port number from the "**COM Port Number**" combo box. The (in use) means this COM port number is used by another COM port.

Advanced Settings for COM3					<u>?</u> ×
☑ Enable 64 Byte FIFO but	ifers				OK Cancel
Receive Buffer: Low (1)	1	1		— High (56)	Defaults
Transmit Buffer: Low (1)	1	•	ı	—— [] High (64)	
COM Port Number: COM3					

7. Click "**OK**" to save your settings, and repeat above steps for each serial port.



Advanced Settings for COM3	<u>? ×</u>
Enable 64 Byte FIFO buffers	OK Cancel
Receive Buffer: Low (1) High (56)	
Transmit Buffer: Low (1)	Defaults
COM Port Number: COM3	

• Uninstalling Device

1. Please launch the Device Manager, and find the SUNIX Matrix Serial Port XXX (COMXXX).



2. Right click the "SUNIX Matrix Serial port XXX (COMXXX)" item from the "Ports (COM & LPT)" sub-tree and click "Uninstall".





3. Please click "**OK**" to remove driver, and repeat step2~step3 to remove other ports.

Device Removal			
SUNIX Communications Port 1 (COM3)			
Warning: You are about to uninstall this device from your system.			
OK Cancel			

3-2. Windows XP (32 / 64-bit)

The following procedure is for installing PCI / PCI-E serial board driver under 32 / 64- bit hardware system under Windows XP. This driver is certified by Microsoft.

Installing Driver

On booting up, system will detect present of the PCI / PCI-E Serial Board and prompt for driver installation wizard, and show the picture.





(1) Please choose "No, not this time" option, and click "Next" to continue.

(2) Please insert the driver CD in your CD/DVD ROM drive, and choose "Install from a list or specific location (Advanced)" option, and click "Next" to continue..

Found New Hardware Wizard			
If your hardware came with an installation CD If your hardware came with an installation CD If your want the wizard to do? Install the software automatically (Recommended) Install from a list or specific location (Advanced) Click Next to continue.			
< Back Next > Cancel			

(3) Please choose "Include this location in the search:" option, and click "Browser" to choose driver folder.



Found New Hardware Wizard
Please choose your search and installation options.
 Search for the best driver in these locations.
Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed.
Search removable media (floppy, CD-ROM)
Include this location in the search:
F:\ Browse
O Don't search. I will choose the driver to install.
Choose this option to select the device driver from a list. Windows does not guarantee that the driver you choose will be the best match for your hardware.
< Back Next > Cancel

(4) Please choose the CD-ROM drive, and find the driver folder , and click "**OK**" to continue.

- $P.S.1. \ XP \ 32bit, \ please \ use \ the \ folder \ \ \ Windows \ \ \ 2K\&XP\&2003\&Vista_32bit$
- P.S.2. XP 64bit, please use the folder $\Mindows\XP\&2003_64bit$

Browse For Folder	? 🗙
Select the folder that contains drivers for your hardv	vare.
🖃 🧼 App (D:)	~
🗉 🗀 Software	
🗉 🛅 SOP-070205	
🗉 🛅 SUNIX Matrix Driver Beta	
🖃 🚞 SUNIX Matrix Driver Final	
🗉 🚞 Linux	
🖃 🧰 Windows	
🗁 2K&XP&2003&Vista_32bit	
🚞 XP&2003_64bit	
🗄 🧼 Backup (E:)	
🗉 💽 CDBOOT (F:)	~
To view any subfolders, click a plus sign above.	
OK Can	cel

(5) Please click "Next" to continue.



Found New Hardware Wizard
Please choose your search and installation options.
 Search for the best driver in these locations.
Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed.
Search removable media (floppy, CD-ROM)
Include this location in the search:
D:\SUNIX Matrix Driver Final\Windows\XP&2003_6 🔽 🛛 Browse
O Don't search. I will choose the driver to install.
Choose this option to select the device driver from a list. Windows does not guarantee that the driver you choose will be the best match for your hardware.
< Back Next > Cancel

(6) Please click "Continue Anyway" to continue.

Hardwa	re Installation
<u>.</u>	The software you are installing for this hardware: SUNIX Matrix Series Multiport Serial Card - 2 ports RS-232 has not passed Windows Logo testing to verify its compatibility with this version of Windows. (Tell me why this testing is important) Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.
	Continue Anyway STOP Installation

(7) Please click "Finish" to continue.





(8) Please choose "Install from a list or specific location (Advanced)" option, and click "Next" to continue.

Found New Hardware Wizard			
	Welcome to the Found New Hardware Wizard		
	This wizard helps you install software for:		
	SUNIX Communications Port 1		
	If your hardware came with an installation CD or floppy disk, insert it now.		
	What do you want the wizard to do?		
	 Install the software automatically (Recommended) Install from a list or specific location (Advanced) 		
	Click Next to continue.		
	< Back Next > Cancel		

(9) Please click "Next" to continue.





(10) Please click "Continue Anyway" to continue.

Hardwa	re Installation
⚠	The software you are installing for this hardware: SUNIX Communications Port 1 has not passed Windows Logo testing to verify its compatibility with Windows XP. (<u>Tell me why this testing is important</u> .) Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.
	Continue Anyway STOP Installation

(11) Please click "Finish" to continue.

Note. Please repeat step8~step11 to install.



Found New Hardware Wizard			
	Completing the Found New Hardware Wizard The wizard has finished installing the software for: SUNIX Communications Port 1		
	Llick Finish to close the wizard.		
	< Back Finish Cancel		

• Configure the Serial Port Settings







2. Right click the "SUNIX Matrix Serial port XXX (COMXXX)" item from the "Ports (COM & LPT)" sub-tree and click

"Properties".



3. Click "Port Settings" tab page and click "Advanced" for advanced settings.

SUNIX Co	mmunications A	Port 1 (COM3) Properties	? 🗙	
General	Port Settings Driv	'er		
Į	SUNIX Communica	ations Port 1 (COM3)		
	Device type:	Ports (COM & LPT)		
	Manufacturer:	SUNIX GROUP		
	Location:	Location 2 (SUNIX - P1002 Port 1)		
This d If you start th	This device is working properly. If you are having problems with this device, click Troubleshoot to start the troubleshooter.			
Device u Use this	isage: : device (enable)	Troubleshoot		
		OK Ca	incel	



SUNIX Communications Port 1 (COM3) Properties 🛛 🔹 💽
General Port Settings Driver
Bits per second: 9600
Data bits: 8
Parity: None
Stop bits: 1
Flow control: None
Advanced Restore Defaults
OK Cancel

4. Click "Defaults" button for restoring default advanced settings.

Advanced Settings for COM	13	? 🔀
☑ Enable 64 Byte FIFO bu	ffers	OK Cancel
Receive Buffer: Low (1)		Defaults
Transmit Buffer: Low (1)	High (64)	
COM Port Number: COM3		

5. Check/Un-check the "Enable 64 Byte FIFO buffers" checkbox to enable / disable the hardware FIFO buffering feature or you can select the size of FIFO if "Use FIFO buffers control" is enabled.

Advanced Settings for COM	3				? 🔀
E able 64 Byte FIFO buf	fers				OK Cancel
Receive Buffer: Low (1)				— High (56)	
Transmit Buffer: Low (1)	' 			í [High (64)	Defaults
	1	ı.	I.	i ingri(ou)	
COM Port Number: COM3	•				



6. Re-map the COM port number by select a free COM port number from the "**COM Port Number**" combo box. The (in use) means this COM port number is used by another COM port.

Advanced Settings for COM3	? 🛛
✓ Enable 64 Byte FIFO buffers	OK Cancel
Receive Buffer: Low (1) High (56)	Defaults
Transmit Buffer: Low (1) / High (64)	
COM Port Number COM3	

7. Click "**OK**" to save your settings, and repeat above steps for each serial port.

Advanced Settings for COM		? 🛛
Enable 64 Byte FIFO buff	91S	OK Cancel
Receive Buffer: Low (1)	Higl	h (56)
Tarrado D. (Carabara (1)	a e e f Flusa	Defaults
Transmit Burrer: Low (T)	Higr	1(64)
COM Port Number: COM3	•	

Uninstalling Device

1. Please launch the Device Manager, and find the SUNIX Matrix Serial Port XXX (COMXXX).





2. Right click the "SUNIX Matrix Serial port XXX (COMXXX)" item from the "Ports (COM & LPT)" sub-tree and click

"Uninstall".



3. Please click "OK" to remove driver, and repeat step2~step3 to remove other ports.





3.3. Windows Server 2003 (32 / 64-bit)

The following procedure is for installing PCI / PCI-E serial board driver under 32 and 64- bit operation system Server 2003 including 32bit driver and both INTEL and AMD 64-bit hardware systems.

INTEL:

Windows Server 2003 for 64-Bit Itanium-based Systems (IA64)

AMD:

Windows Server 2003 for 64-Bit Extended Systems (AMD64)

Installing Driver

On booting up, system will detect present of the PCI / PCI-E Serial Board and prompt for driver installation wizard. Please insert the driver CD bound with PCI / PCI-E serial board in your CD/DVD ROM drive.

(1) Please select "No, not this time" and click "Next" to continue in Found New Hardware Wizard window.





(2) Please select "Install from a list or specific location (Advance)", and Click "Next" to continue.

Found New Hardware Wizard	
This wizard help PCI Serial Po What do you wa If your or flop What do you wa Install the Install from Click Next to co	is you install software for: art hardware came with an installation CD py disk, insert it now. ant the wizard to do? e software automatically (Recommended) m a list or <u>specific location (Advanced)</u> intinue.
	< <u>B</u> ack <u>N</u> ext > Cancel

(3) Please choose the 2 items as below, and click "Browser" to continue.



nd New Hardware Wizard	
Please choose your search and installation options.	
Search for the best driver in these locations.	
Use the check boxes below to limit or expand the default search, which includes loca paths and removable media. The best driver found will be installed.	d
Search removable media (floppy, CD-ROM)	
Include this location in the search:	
F:\ Browse	
Don't search. I will choose the driver to install.	
Choose this option to select the device driver from a list. Windows does not guarante the driver you choose will be the best match for your hardware.	e that
< <u>B</u> ack <u>N</u> ext > Canc	el

(4) Please choose CD driver folder to install multi-port card driver, and click "OK" to continue.

P.S.2. 64bit, please use the folder \Windows\XP&2003_64bit

Bro	owse For Folder	? ×
5	Select the folder that contains drivers for your hardwar	re.
	🗉 🛅 Linux	
	🖂 🚞 Windows	
	🗀 2K&XP&2003&Vista_32bit	
	🛅 XP82003_64bit	
	🕀 🖙 2G_SD (E:)	
	🕀 💽 CDBOOT (F:)	
	🕀 😪 Nero Scout	
	표 😼 My Network Places	-
		_
٦	To view any subfolders, click a plus sign above.	
	OK Cance	

(5) Please click "Next" to continue



Found New Hardware Wizard
Please choose your search and installation options.
Search for the best driver in these locations.
Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed.
Search removable media (floppy, CD-ROM)
Include this location in the search:
D:\SUNIX Matrix Driver Final\Windows\2K&XP&200 Browse
O Don't search. I will choose the driver to install.
Choose this option to select the device driver from a list. Windows does not guarantee that the driver you choose will be the best match for your hardware.
< <u>Back</u> Next > Cancel

(6) Please click "Continue Anyway" to continue install.

Hard	Hardware Installation				
4	The software you are installing for this hardware: SUNIX P1002 Industrial Multiport Serial Card has not passed Windows Logo testing to verify its compatibility with this version of Windows. (Tell me why this testing is important) Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.				
	<u>Continue Anyway</u> <u>STOP Installation</u>				

(7) Please click "Finish" to continue.





(8) Please choose "No, no this time" option, and click "Next" to continue.

Found New Hardware Wizard				
	Welcome to the Found New Hardware Wizard Windows will search for current and updated software by looking on your computer, on the hardware installation CD, or on the Windows Update Web site (with your permission). Online privacy information			
	Can Windows connect to Windows Update to search for software? O Yes, this time only O Yes, now and givery time I connect a device O No, not this time Click Next to continue.			
	< <u>B</u> ack. <u>N</u> ext > Cancel			



(9) Please choose "Install from a list or specific location (Advance)" option, and click "Next" to continue.



(10) Please click "Next" to continue.

Found New Hardware Wizard
Please choose your search and installation options.
Search for the best driver in these locations.
Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed.
Search removable media (floppy, CD-ROM)
Include this location in the search:
D:\SUNIX Matrix Driver V1.0\Windows\Win2003_32
Don't search. I will choose the driver to install.
Choose this option to select the device driver from a list. Windows does not guarantee that the driver you choose will be the best match for your hardware.
< <u>B</u> ack <u>N</u> ext > Cancel

(11) Please click "**Continue Anyway**" to continue.





- (12) Please click "Finish" to continue.
- Note. Please repeat step8~step12 to install.

Found New Hardware Wizard	
	Completing the Found New Hardware Wizard
	The wizard has finished installing the software for:
	SUNIX Communications Port 1
	Click Finish to close the wizard.
	< Back Finish Cancel

Configure the Serial Port Settings

1. Please launch the "Device Manager"





2. Right click the "SUNIX Matrix Serial Port (COMXXX)" item from the "Ports (COM & LPT)" sub-tree and click

"Properties".

🖵 Computer Management		×
🗐 File Action View Window Help		_8×
⇔→ 🖻 🖬 🗳 🔮 🔧 🕿 😹		
Computer Management (Local) Computer Management (Local) Computer Management (Local) Computer Management (Local) Computer Viewer Computer Viewe	rt Adapter - 2 ports R5-232 1) Update Driver Disable Uninstall Scan for hardware changes Properties	

3. Click "Port Settings" tab page and click "Advanced" for advanced settings.



SUNIX Con	nmunications Por	t 1 (COM3) Prop	oerties	? ×
General	Port Settings Driv	ver Details		
Į	SUNIX Communic	ations Port 1 (COM	3)	
	Device type:	Ports (COM & LP	T)	
	Manufacturer:	SUNIX GROUP		
	Location:	Location 2 (SUN	X - P1002 Port 1)
This of If you start t	e status device is working pr are having problem he troubleshooter.	operly. Is with this device,	click Troubleshoo Iroubleshoo	ot to
Use this	usage: s device (enable)			•
1.200				
			ОК	Cancel

SUNIX Cor	mmunications Port 1 (COM3) F	Properties		?	×
General	Port Settings Driver Details				
	<u>B</u> its per second:	9600		-	
	<u>D</u> ata bits:	8		•	
	<u>P</u> arity:	None		•	
	<u>S</u> top bits:	1		•	
	<u>F</u> low control:	None		•	
	<u></u> dv	vanced	<u>R</u> esto	re Defaults	
		40		Cancel	

4. Click "Defaults" button for restoring default advanced settings.



<u>?</u> ×

OK.

Cancel

<u>D</u>efaults

UNIX				
	Ad	vanced Settings for COM3		
		☑ Enable <u>6</u> 4 Byte FIFO b	uffers	
		Receive Buffer: Low (1)	High (56)	
		<u>T</u> ransmit Buffer: Low (1)		

COM Port Number: COM3

5. Check/Un-check the "Enable 64 Byte FIFO buffers" checkbox to enable / disable the hardware FIFO buffering feature or you can select the size of FIFO if "Use FIFO buffers control" is enabled.

•

Advanced Settings for COM3	? ×
Imable 64 Byte FIFO buffers Beceive Buffer: Low (1) Image:	OK Cancel Defaults
COM Port Number: COM3	

6. Re-map the COM port number by select a free COM port number from the "**COM Port Number**" combo box. The (in use) means this COM port number is used by another COM port.

,	
Receive Buffer: Low (1)	igh (56)
Iransmit Buffer: Low (1)	gh (64)

7. Click "**OK**" to save your settings, and repeat above steps for each serial port.



Advanced Settings for COM3	<u>? ×</u>
☑ Enable <u>6</u> 4 Byte FIFO buffers	OK Cancel
Receive Buffer: Low (1) High (56)	
<u>I</u> ransmit Buffer: Low (1) ↓ · · · · · · · · · · · · · · · · · · ·	<u>D</u> efaults
COM Port Number: COM3	

Uninstalling Device

1. Please launch the "Device Manager"



2. Expand the "Ports (COM & LPT)" sub-tree and right-click the mouse on "SUNIX Matrix Serial Port (COMXXX)" item, and select "Uninstall".



SUNIX NCCI Co., Ltd. TEL : +886-2-8913-1987 Email : info@sunix-ncci.com.tw



3. Please click "OK" to remove driver, and repeat step2~step3 to remove other ports.

Confirm [Device Removal
Į	SUNIX Communications Port 1 (COM3)
Warning	You are about to uninstall this device from your system.
	Cancel

3.4. Vista (32-bit)

The following procedure is for installing PCI / PCI-E serial board driver under 32 -bit operation system Vista including 32bit driver.

♦ Installing Driver

On booting up, system will detect present of the PCI / PCI-E Serial Board and prompt for driver installation wizard. Please insert the driver CD bound with PCI / PCI-E serial board in your CD/DVD-ROM drive.

(1) Please click "Locate and install driver software (recommended)" to continue in Found New Hardware Wizard window.





(2) Please click "Don't search online" to continue.

9	Found New Hardware - PCI Serial Port	×
	Allow Windows to search online for driver software for your PCI Serial Port?	
	Yes, always search online (recommended) Windows will automatically search for the latest drivers and applications for your hardware and download them to your computer.	
	Yes, search online this time only Windows will search for the latest drivers and applications for this device and download them to your computer.	
	 Don't search online Your device may not function properly until you get the latest software. 	
	<u>Please read Microsoft's privacy statement</u>	
	Cancel	

(3) Please click "I don't have the disc. Show me other options." to continue.





(4) Please click "Browse my computer for drivers software (advanced)" to continue.

<u></u>	Found New Hardware - PCI Serial Port		×
N	Vindows couldn't find driver software for your device		
	Check for a solution Windows will check to see if there are steps you can take to get your device working.		
	 Browse my computer for driver software (advanced) Locate and install driver software manually. 	Ĵ	
			Cancel

(5) Please click "Browse" to choose driver folder.



E Found New Hardware - PCI Serial Port	
Browse for driver software on your computer	
Search for driver software in this location:	
-	Browse
✓ Include subfolders	
	Next Cancel

(6) Please choose the CD/DVD-ROM drive, and select the driver folder "\Windows\2K&XP&2003&Vista_32bit", and click "OK" to continue install.

Browse For Folder	×
Select the folder that contains drivers for your hardwa	re.
SUNIX Matrix Driver Final	*
D Linux	
Windows	
🍌 2K&XP&2003&Vista_32bit	
🍌 XP&2003_64bit	
D 👝 Backup (E:)	
DVD RW Drive (F:) CDBOOT	-
▷ 👝 2G_SD (G:)	-
Network	
	-
To view subfolders, click the symbol next to a folder.	
OK Cance	

(7) Please click "Next" to continue.



E Found New Hardware - PCI Serial Port	x
Browse for driver software on your computer	
Search for driver software in this location: D:\SUNIX Matrix Driver Final\Windows\2K&XP&2003&Vista_32bit Browse	
✓ Include subfolders	
Next Cance	:

(8) Please click "Install this driver software anyway" to continue.



(9) Please click "Close" to continue.





(10) Please click "Don't search online" to continue.



(11) Please click "I don't have the disc. Show me other options" to continue.





E Found New Hardware - SUNIX Communications Port 1	x
Insert the disc that came with your SUNIX Communications Port 1 If you have the disc that came with your device, insert it now. Windows will automatically search the disc for driver software.	
I don't have the disc. Show me other options.]
Next	Cancel

(12) Please click "Browse my computer for driver software (advanced)" to continue.



(13) Please click "Next" to continue.



		x
\bigcirc	Found New Hardware - SUNIX Communications Port 1	
	Browse for driver software on your computer	
	Search for driver software in this location:	
	D:\SUNIX Matrix Driver Final\Windows\2K&XP&2003&Vista_32bit Browse	
	✓ Include subfolders	
		_
	Next Cancel	

(14) Please click "Install this driver software anyway" to continue.

😵 Wine	dows Security
\bigotimes	Windows can't verify the publisher of this driver software
	Don't install this driver software You should check your manufacturer's website for updated driver software for your device.
	Install this driver software anyway Only install driver software obtained from your manufacturer's website or disc. Unsigned software from other sources may harm your computer or steal information.
S s	ee details

(15) Please click "Close" to continue.

Note. Please repeat step10~step15 to install.





• Configure the Serial Port Settings

1. Please launch the "Control Panel", and launch the "Device Manager"





2. Right click the "SUNIX Matrix Serial Port XXX (COMXXX)" item from the "Ports (COM & LPT)" sub-tree and click

"Properties".



3. Click "**Port Settings**" tab page and click "**Advanced**" for advanced settings.





	mmunications P	ort I (COMS) Pr	operties		
General	Port Settings [Driver Details			
	SUNIX Commun	nications Port 1 (C	OM3)		
Renoration of					
	Device type:	Ports (COM &	LPT)		
	Manufacturer:	SUNIX GROU	JP		
	Location:	1002-port 1,	RS-232		
Devic	ce status				
This	device is working	properly.			*
					Ŧ
			0		Cancel
			U		Cancel
NIX Cor	mmunications P	ort 1 (COM3) Pr	operties		Cancel
NIX Cor	mmunications P	ort 1 (COM3) Pr	operties		Cancel ନ
NIX Cor General	mmunications P Port Settings	ort 1 (COM3) Pr Driver Details	operties		Cancel ନୁ
NIX Cor General	mmunications P Port Settings	ort 1 (COM3) Pr Driver Details Bits per second:	operties		Cancel १
NIX Cor	mmunications P Port Settings	ort 1 (COM3) Pr Driver Details Bits per second: Data bits:	operties 9600		Cancel
NIX Con	mmunications P	ort 1 (COM3) Pr Driver Details Bits per second: Data bits:	operties		Cancel २
NIX Cor	mmunications P	ort 1 (COM3) Pr Driver Details Bits per second: Data bits: Parity:	operties 9600 8 None		Cancel ?
NIX Cor	mmunications P	ort 1 (COM3) Pr Driver Details Bits per second: Data bits: Parity: Stop bits:	operties 9600 8 None		Cancel ?
NIX Cor	mmunications P Port Settings	ort 1 (COM3) Pr Driver Details Bits per second: Data bits: Parity: Stop bits: Flow control:	operties 9600 8 None 1 None		
NIX Cor	mmunications P Port Settings	ort 1 (COM3) Pr Driver Details Bits per second: Data bits: Parity: Stop bits: Flow control:	operties 9600 8 None 1 None		Cancel ?
NIX Cor	mmunications P Port Settings	ort 1 (COM3) Pr Driver Details Bits per second: Data bits: Parity: Stop bits: Flow control: Adv	operties 9600 8 None 1 None anced	Restore	Cancel ?
NIX Cor	mmunications P Port Settings	ort 1 (COM3) Pr Driver Details Bits per second: Data bits: Parity: Stop bits: Flow control: Adv	operties 9600 8 None 1 None anced	Restore	Cancel ?
NIX Cor	mmunications P Port Settings	ort 1 (COM3) Pr Driver Details Bits per second: Data bits: Parity: Stop bits: Flow control: Adv	operties 9600 8 None 1 None anced	Restore	Cancel ?
NIX Cor	mmunications P Port Settings	ort 1 (COM3) Pr Driver Details Bits per second: Data bits: Parity: Stop bits: Flow control: Adv	operties 9600 8 None 1 None anced	Restore	Cancel ?
NIX Cor	mmunications P Port Settings	ort 1 (COM3) Pr Driver Details Bits per second: Data bits: Parity: Stop bits: Flow control: Adv	operties 9600 8 None 1 None anced	Restore	Cancel ?
NIX Cor	mmunications P Port Settings	ort 1 (COM3) Pr Driver Details Bits per second: Data bits: Parity: Stop bits: Flow control: Adv	operties 9600 8 None 1 None anced	Restore	Cancel ?

4. Click "Defaults" button for restoring default advanced settings.



Advanced Settings for COM3	? <mark>x</mark>
Enable 64 Byte FIFO buffers	OK Cancel
Receive Buffer: Low (1) High (56)	
Transmit Buffer: Low (1) High (64)	Defaults
COM Port Number: COM3	

SUNIX

5. Check/Un-check the "Enable 64 Byte FIFO buffers" checkbox to enable / disable the hardware FIFO buffering feature or you can select the size of FIFO if "Use FIFO buffers control" is enabled.

Advanced Settings for COM3				? ×
Phable 64 Byte FIFO but	fers			OK Cancel
Receive Buffer: Low (1)			— High (56)	Defaults
Transmit Buffer: Low (1)			— High (64)	
COM Port Number: COM3	•			

6. Re-map the COM port number by select a free COM port number from the "COM Port Number" combo box. The (in use) means this COM port number is used by another COM port.

Enable 64 Byte FIFO bu	ffers			Cancel
Receive Buffer: Low (1)		 	— High (5	6) Defeuilte
Transmit Buffer: Low (1)			High (6/	
Transmit Durier. Low (1)	1			"

7. Click "OK" to save your settings, and repeat above steps for each serial port.



Advanced Settings for COM3	? X
Enable 64 Byte FIFO buffers	OK Cancel
Receive Buffer: Low (1) High (56)	
Transmit Buffer: Low (1) High (64)	Defaults
COM Port Number: COM3	

Uninstalling Device

SUNIX

1. Please launch the "Device Manager"

🚔 Device Manager	
File Action View Help	
🖶 🚛 Computer	
🕀 👝 Disk drives	
🖶 📲 Display adapters	
DVD/CD-ROM drives	
IDE ATA/ATAPI controllers	
⊕ — — Keyboards	
Mice and other pointing devices	
Monitors	
🗄 🐺 Multi-port serial adapters	
Network adapters	
Portable Devices	
Ports (COM & LPT)	
Communications Port (COM1)	
ECP Printer Port (LPT1)	
SUNIX Communications Port 1 (COM3)	
SUNIX Communications Port 2 (COM4)	
Processors	
Sound, video and game controllers	
E Storage controllers	
Jystem devices	

2. Expand the "Ports (COM & LPT)" sub-tree and right-click the mouse on "SUNIX Matrix Serial Port (COMXXX)" item, and select "Uninstall".

I	EL		+	000	-2-0	591	5-	19	07		
E	ma	١i	:	info	@su	nix	-n	cci	.coi	n.	tw

File Action View Help	Q 🕅 🙀 🚯				
Ecomputer Management (Local	🗄 🖣 Display adapters	Display adapters		Actions	
a 🎁 System Tools	System Tools				
 Comparison of the second second		More Actions (More Actions)			
<	SUNIX Matrix Serial Port	Update Driver Software Disable Uninstall \leftarrow Scan for hardware changes Properties			

3. Please choose "Delete the driver software for this device", and click "OK" to remove driver, and repeat step2~step3 to remove other ports.

Confirm Device Uninstall		
SUNIX Communications Port 1 (COM3)		
Warning: You are about to uninstall this device from your system.		
Delete the driver software for this device.		
OK Cancel		

3.5. Linux

SUNIX

The drivers for Linux support both kernel 2.4.x and 2.6.x along with various Linux distributions. Separate packages are used for different version of kernels. Driver with suffix "2.4_Vx.xx" supports kernel 2.4.x, and driver with suffix "2.6_Vx.xx" supports kernel 2.6.x.



The installation steps described below is showed as a general case. More detail description about installation could be found on the readme file along with the driver package.

3.5.1. Driver Installation

To install the driver, follow each steps showed below. Package for kernel 2.6.x is used as example in the following steps, version 2.4.x works in the same way. Check the readme file for differences.

1. Please create a directory under root directory, e.g /temp, do command as below.

cd /

mkdir temp

2. Select a driver package according to kernel version and copy it into /temp directory, then extract and install, do commands as below.

cp matrix_2.6_Vx.xx.tgz /temp

cd /temp

tar xvfz matrix_2.6_Vx.xx.tgz

cd /temp/matrix_2.6

make clean ; make install

3. To load driver module, please do command as below.

modprobe sunix_matrix

or

insmod /temp/matrix_2.6/driver/sunix_matrix.ko

4. To check if driver is loaded, do as below.# lsmod | grep sunix_matrix

5. If want to remove driver, do command as below.# rmmod sunix_matrix

6. Each serial port has its file node whose name will be "ttySMX?". To create device nodes do commands as below.

cd /temp/matrix_2.6/smxmknod

./smxmknod

This will create device nodes in /dev



If there are more than two boards installed, device nameing convention table as below.

Board Number	Device Name		
1st board	ttySMX0 ~ ttySMX7		
2nd board	ttySMX8 ~ ttySMX15		
3rd board	ttySMX16 ~ ttySMX23		
4th board	ttySMX24 ~ ttySMX31		

7. To dump information for those serial ports, do command as below

smxdump

This will show the info about those serial ports, the result should be like this

ttySMX0 --

RS-232 (bus:2 device: 1) , base address = a000, irq = 169

ttySMX1 --

RS-232 (bus:2 device: 1) , base address = a008, irq = 169

ttySMX2 ---

RS-232 (bus:2 device: 1) , base address = a010, irq = 169

ttySMX3 --

RS-232 (bus:2 device: 1) , base address = a018, irq = 169

ttySMX8 --

RS-422/485 (bus:2 device: 2) , base address = a800, irq = 177

ttySMX9 --

RS-422/485 (bus:2 device: 2) , base address = a808, irq = 177

8. To build softlink for device node, do as below

snxlink

9. Use snxterm to test those installed serial ports.

snxterm



4. Troubleshooting

This chapter shows some problems that user came with usually. Also you can check it if the PCI / PCI-E serial board can not work properly in your system after following hardware and software installation steps.

Troubleshooting

1. System fails to find the PCI / PCI-E serial board or COM port.

- A: It may cause by following issue:
 - a. The board is not properly plugged into the PCI / PCI-E slot.
 - b. Please clean the golden finger.
 - c. The PCI / PCI-E slot is defective. Please try other slots until you find one that works.
 - d. The mainboard does not have an available IRQ for the PCI / PCI-E serial board. Enter the PC.s BIOS and make sure an IRQ setting is available in the PCI/PnP settings.
 - e. The board itself might be defective. You can try another mainboard testing this board working or not.
- 2. There is a blue screen when I entry operation system.
- A: The possible reason is an IRQ or I/O address conflict with other PCI / PCI-E bus adapters, such as LAN or serial boards, or with the system BIOS. Refer to the corresponding problem in the previous FAQ for solutions.
- 3. There are some exclamation marks in device manager and serial ports can not work properly.



- A: It caused by the wrong driver installing or hardware settings. Please turn off your computer firtly and re-install hardware and software.
- 4. The PCI / PCI-E serial board cannot be detected by the attached driver while installing the driver.
- A: It may cause by following issue:
 - a. The board is not installed. Please install the board in an empty PCI / PCI-E slot.
 - b. The board is not properly plugged into the system's PCI / PCI-E slot. If that is the case, re-plug the board in a 32-bit PCI / PCI-E slot. It may also be the case that the PCI PCI-E slot is defective. In this case, try other PCI / PCI-E slots until you find one that works.
- 5. FIFO overrun or Buffer overrun occurs during transmission

A: This is due to the buffer size is too large such that the CPU can not process those data in time. The problem usually happens when running at very high baudrate speed. Try lowering the buffer size one step at a time until overrun no longer occurs or enable the flow control during transmission.



Advanced Settings for COM3					?
☑ Enable 64 Byte FIFO buffer	15				OK Cancel
Receive Buffer: Low (1) -			1	High (56)	
	I.	1	• Y		Defaults
Transmit Buffer: Low (1) -			J	High (64)	
COM Port Number: COM3	•				

5. Appendix

This chapter shows PCI / PCI-E serial board core technologies and shows you how to contact with us for information about this and other products.

In this appendix, we cover the following topics.

Contract Information

Customer satisfaction is our number one concern, and to ensure that customers receive the full benefit of our products, SUNIX services has been set up to provide technical support, driver updates, product information, and user's manual updates.

The following services are provided

E-mail for technical support	info@sunix-ncci.com.tw
World Wide Web (WWW) Site for product information:	http://www.sunix-ncci.com.tw