

# Serial ports installation guide

190.7004C, Edition 2, 2012



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## Spare parts and service availability

Manufacturer provides a variety of services to support her customers after warranty expiration. Repair service can be provided on a time and material basis. Contact your local supplier for servicing. Technical support and training can be provided by qualified chemists on both contractual or as-needed basis.

## Symbols

The following pictogram is used in this installation guide:



Caution, calls attention to a procedure, which, if not correctly executed, could result in damage to the equipment or injury. Do not proceed beyond a "CAUTION" sign until the indicated conditions are fully understood and met.



Electrical hazard, calls attention to a procedure or practice which, if not adhered to, could result in injury or loss of life. Do not proceed beyond a danger sign until the indicated conditions are fully understood and met.

## General precautions



**Take precautions against electrostatic discharge during installation to prevent damage of the electronic parts**



**Use of this product outside the scope of this guide may present a hazard.**

## Safety Practices

It is assumed that the individual using this manual has sufficient training in the service of Personal Computers and is aware of the potential hazards including (but not limited to) electrical hazards. Make certain that you are familiar with the contents of this manual before working on the Personal Computer.

The following safety practices are intended to insure safe operation of the equipment.

### Electrical hazards



**The removal of protective panels on the instrument can result in exposure to potentially dangerous voltages. Therefore, disconnect the instrument from all power sources before disassembly.**

Untrained personnel should not open the instrument.



**Take precautions against electrostatic discharge during installation or removal of boards or other electrical components at all times to prevent damage of the Printed Circuit boards**



**Before installation of the PCIE cards make a back-up of all important data on the PC!!!!**

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## CHAPTER 1

## Introduction

The hardware of the ALEXYS® LC-EC systems communicates through COM-ports with the acquisition software on a computer. The Serial port (PCIe) kit 190.0202C contains parts to make all PC communication connections.



**To be able to use this kit, the PC needs to have at least one free PCI express (PCIe) slot on the PC main board.**

### Kit content

The following parts are supplied in the Serial port (PCIe) kit (pn. 190.0202C):

- 1 x 4-port RS232 PCIe card
- 1 x DB9 male cable
- 1 x Serial port installation guide



**The RS232 PCIe card driver is not provided in the kit. It has to be downloaded from the manufacturers' website thus making sure to use the newest version.**

## CHAPTER 2

## Preparation

### Download the driver

The RS232 PCIe card driver is not provided in the kit. It has to be downloaded from the manufacturers' website thus making sure to use the newest version.

1. Download the most recent Multiport Serial Board driver from the manufacturers' website [www.moxa.com](http://www.moxa.com) for board CP-104EL-A.
2. Unzip the contents to a convenient location.



**Do NOT install the driver before installation of the PCIe board!**

## CHAPTER 3

## Installation of cards into a PC

### Unpacking

Inspect the transport box for possible damage as it arrives. Immediately inform the transport company in case of damage, otherwise she may not accept any responsibility.

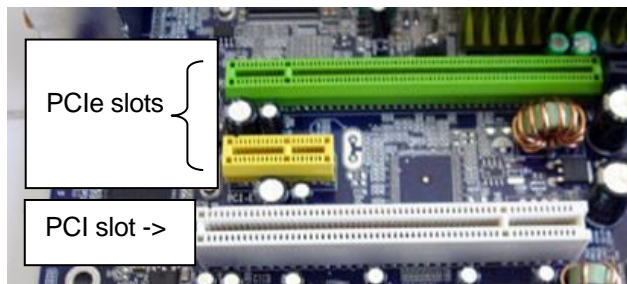
Carefully unpack the items and inspect them for completeness and possible damage. Contact your supplier in case of damage or if not all marked items on the checklist are included.

### Installation



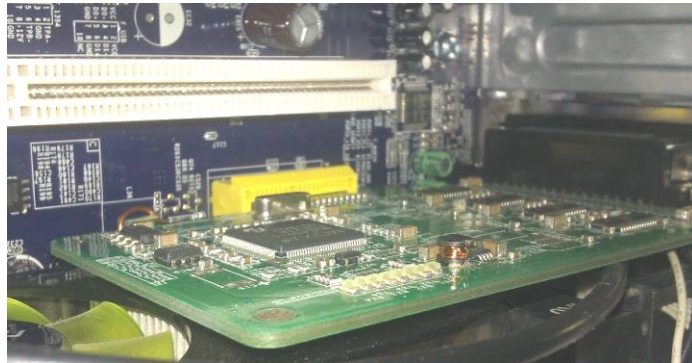
The instruction for the installation of the PCIe cards inside the PC may slightly differ for some steps due to the different PC housings and configurations on the market.

3. Power off the PC and detach the mains power plug from the PC.
4. Open the PC housing and locate one free PCIe slot on the main board. *The picture below highlights the difference between PCI and PCIe slots.*



5. Remove the cover plate from the correct PC back panel slit.
6. Carefully insert the PCIe board into the free PCIe slot on the main board (Fig. 1). Do not use excessive force because this may lead to damage to the main board.





*Fig. 1. Multiport Serial PCIe board installed into PCIe slot on the PC main board.*

7. Fasten the holding screw or fix the board in place with the retaining frame clip (dependent on type of PC housing).
8. Place the PC cover back on the PC and reconnect the power cable.
9. Connect the DB9 male cable to the board (Fig. 2).



*Fig. 2. DB9 male cable attached at the backside of the PC to the PCIe multiport serial board.*

## CHAPTER 4

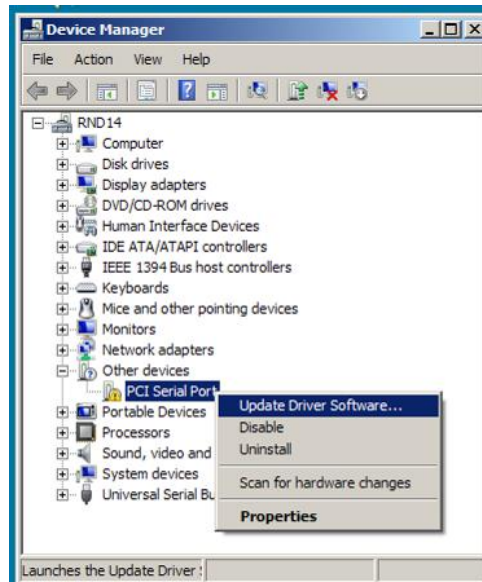
## PCIe card driver installation and update check

### Driver installation

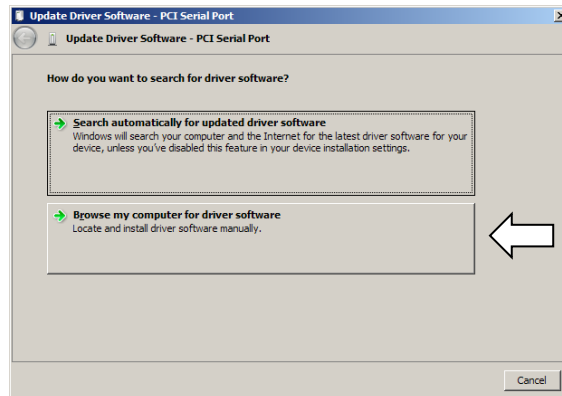


**Do not connect hardware to the PCIe board before complete installation of the driver, as this may result in erroneous behaviour.**

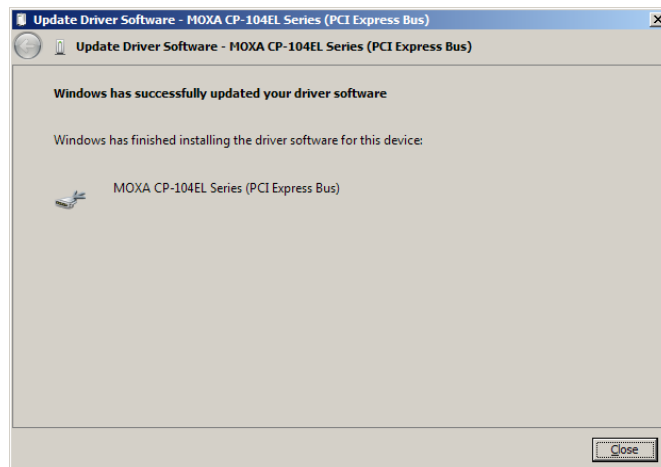
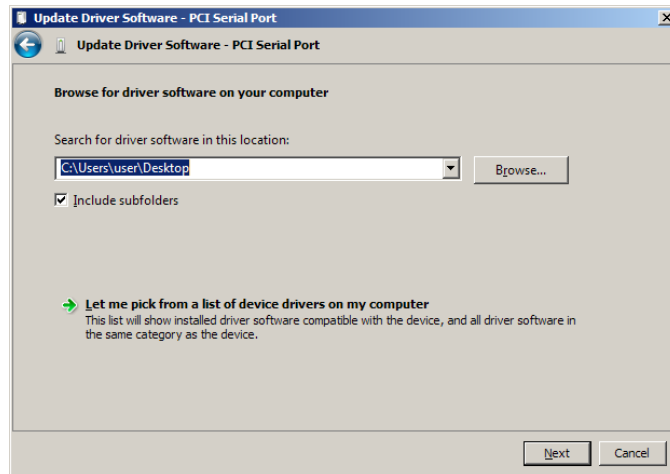
10. Restart the PC after installation of the PCIe board
11. During booting, Windows will recognise new hardware and start the “Found New Hardware” wizard, install the driver automatically or fail installing the driver.
12. Follow the steps in the wizard, select the storage location from the downloaded driver (see page 7, ‘Download the driver’) and install.
13. In case of a failed driver installation, open the Device Manager window (right mouse click on the Computer icon on the desktop, or access it through the Start/Control panel menu).



14. Right-mouse click on the ‘PCI Serial port’ and select ‘Update Driver software...’.

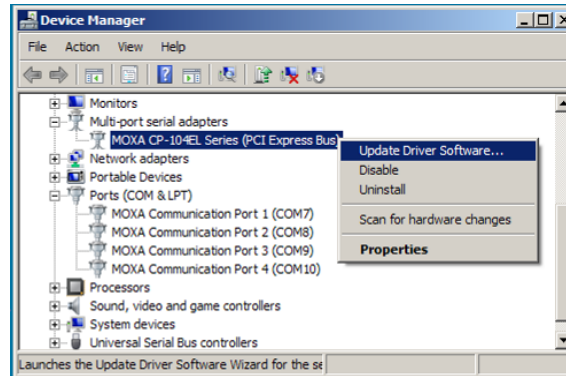


15. Choose the option 'Locate and install driver manually'.
16. Select the storage location for the downloaded driver (see page 7, 'Download the driver') and install.



## Driver update check

17. Open the 'Device Manager'
18. Unfold the item 'Multi-port serial adapters', right mouse click on the MOXA item, and select 'Update Driver Software...'



19. Select 'Install the software automatically', and Windows will check if there is a newer driver version on the internet.
20. Restart the computer

## CHAPTER 5

## Configuring the new COM ports

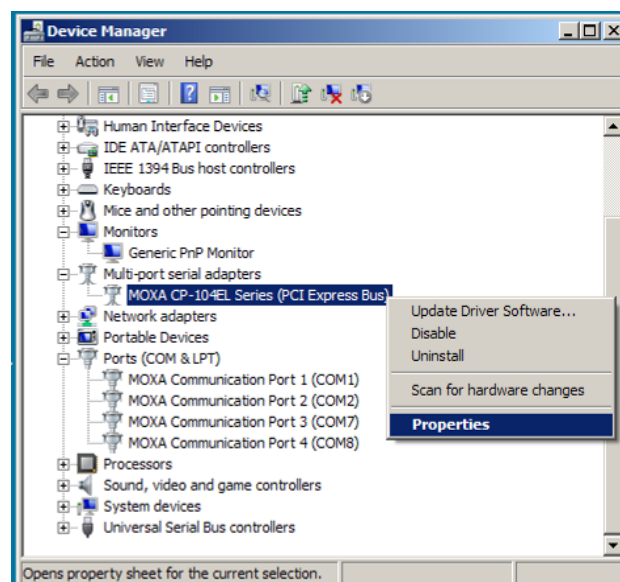
The installation of a PCIe card will add RS232 ports with an automatically incremented number. To match these numbers with the numbers assigned in the preconfigured Clarity-files, the numbering needs to be checked/changed.



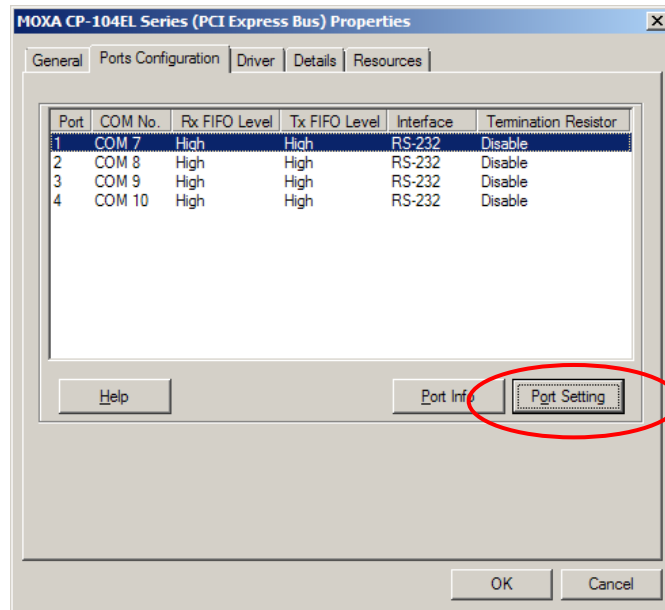
**It is strongly advised to follow these instructions carefully otherwise your hardware will not be compatible with the pre-configured Clarity system & method files!**

### Modification of the COM-port numbers

21. Open the 'Device Manager' of Windows by right mouse clicking on the Computer icon on the desktop, or access it through the Start /Control panel menu.
22. Unfold the item 'Multi-port serial adapters' and 'Ports (COM&LPT)'.
23. Right mouse click on the 'Multi-port serial adapters' MOXA device and select 'Properties' from the menu.

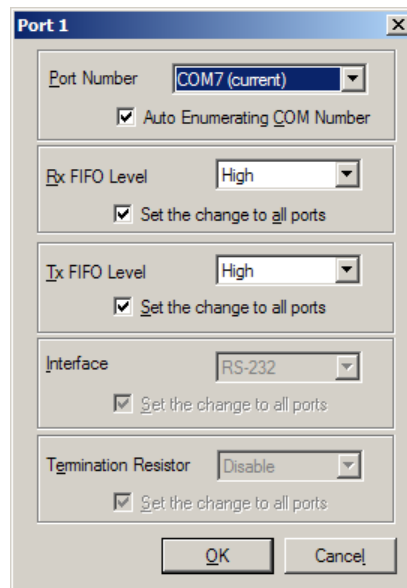


24. Open the 'Port settings'



25. For every Port, change the numbers to match the following list:

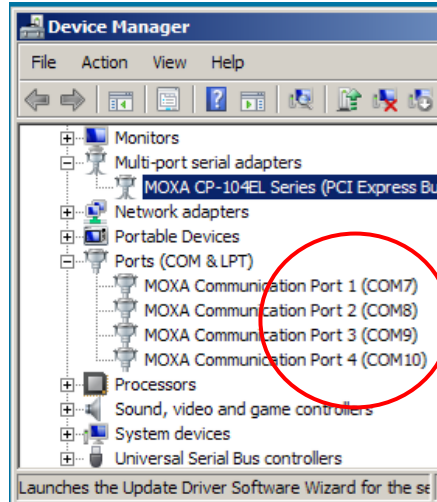
- Port 1    COM 7 (for connection with a DECADE II™)
- Port 2    COM 8 (for connection with the autosampler)
- Port 3    COM 9 (for connection with a pump)
- Port 4    COM 10 (for connection with a second pump)



26. Close the menu's by clicking 'OK'

27. Check in the Device manager window if indeed the COM

port number changed to the correct number.

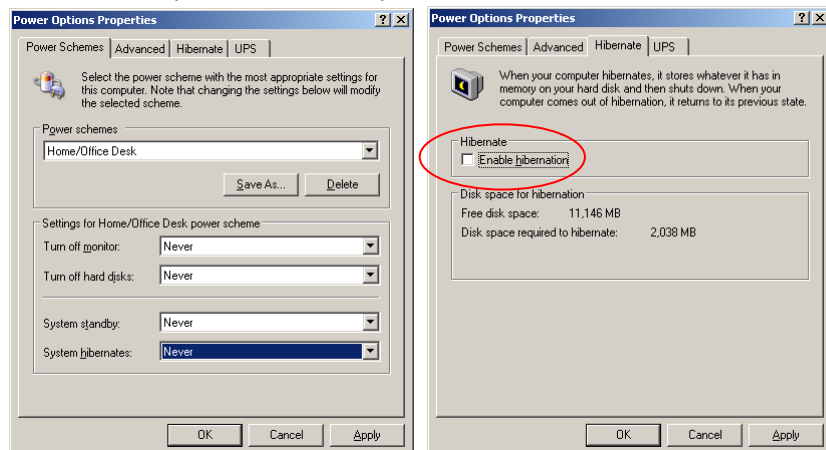


28. Restart the PC

### Check the power and virus scanner options

Change all settings in the operating system that might close down the communication ports.

29. Open the 'Power Options' menu from the Control Panel.



30. In the Power Schemes tab, change the settings to 'Never' for 'Turn off hard disks', 'System standby' and 'System Hibernation'.

31. In the Hibernate tab (Windows XP), uncheck the option 'Enable hibernation'.



**Do not use the “sleep/hibernate mode” in the Windows energy saving menu when working with ALEXYS because it may potentially affect the serial communication and result in loss of communication.**

32. If there is a virus scanner program installed on the PC, exclude the C:\Clarity folder and all its subdirectories from the scanner.



**Exclude read/write actions of data files in the C:\Clarity\ path (and its subdirectories) from scanning by an active virus scanner, as this may potentially affect the serial communication and result in loss of communication.**

33. The COM-ports are now ready for use.



## CHAPTER 6

## Connecting hardware to the new COM ports

### Identification of ports

There are 4 connectors with port numbers on the DB9.



*Fig. 3. Picture of one of the four ports of the DB9 male cable, showing the port number.*

34. For the COM-port numbering associated with each port refer to point 25 on page 14.

### Connections

35. The serial cables can be found in the ship kits of each instrument.
36. Make connections for each instrument to the correct port, and use the supplied nuts to secure the connections.

**Communication hardware between instruments and control software is now ready for use.**

