

Personal Computer Data Loading System



PCD-3000 Data Loaders

February 29, 2016
Frank Gutierrez



PCD-3000 Overview

PCD-3000 Set up & Trouble Shooting

- There are two versions of the PCD-3000 software that are targeted for particular operating systems. See SIL 2-01 Revision 4 (CPN 523-0802960) for details.
- PCD-3000 software version 3.0 (CPN 832-6621-006) is to be used with Windows 98 or Windows Xp. Use Quatech driver version 2.21 only.
- PCD-3000 software version 3.1 (CPN CPN 831-8530-004) is to be used with Windows Vista or Windows 7. This version can use Quatech driver version 2.30 or newer but version 2.21 it is still preferred for ease of set up. Both options are explained in this presentation.
- Customers that require the PCD-3000 kit call 319-295-5000 ask for the order administrator.
- Customers that require the PCD-3000 software version upgrade only need to call the Customer Response Center 888-265-5467.

Aircraft with the DBU 4000 / 4100

Cable/Kit Assembly (CPN 822-1631-003), which includes the following items:



Rockwell Collins PCD-3000
Data Loader

QUATECH
Communication Product

**Rockwell
Collins**

PCD-3000

Personal Computer Dataloading System (V. 3.0)

20 Sep, 04

PCD-3000 SB 502

Technical Support

1 319 295-5000

www.rockwellcollins.com/fms

CPN 832-6621-006

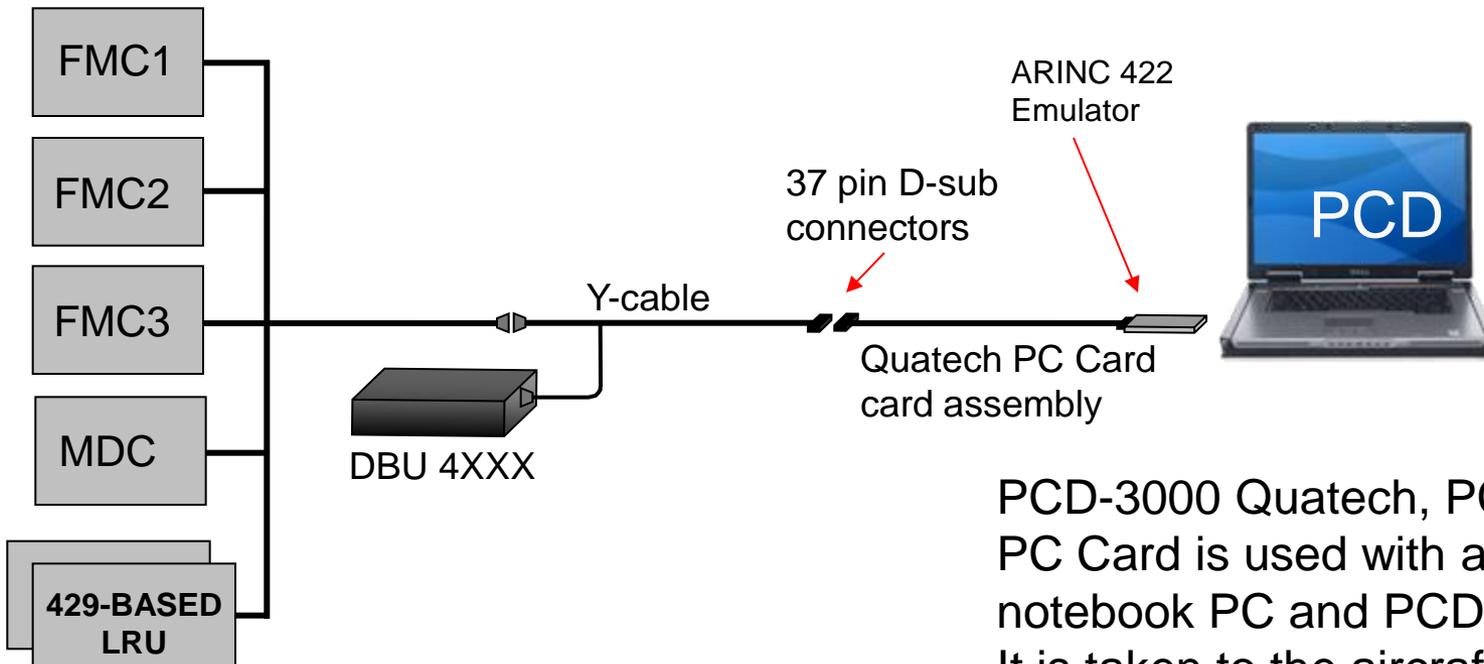
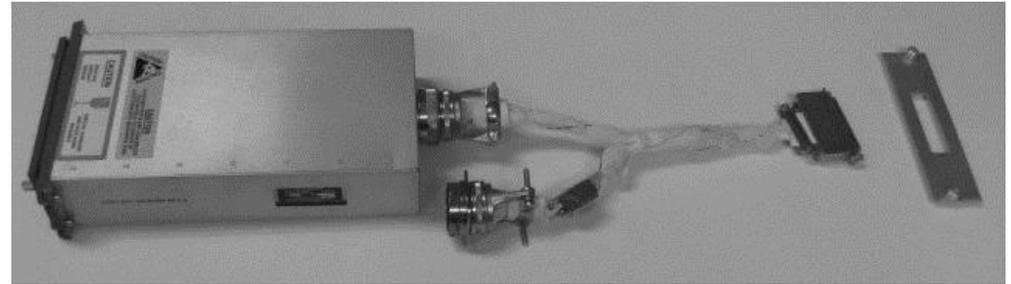
© Rockwell Collins, Inc. 2003
All rights reserved.
SchweB 8534-00-0070 ECCN:EAR99

- Quatech PCMCIA PC Card/cable (CPN 270-2659-020) and driver.
- Quatech driver software.
- Install CD (CPN 832-6621-006 or later) contains the Rockwell Collins PCD-3000 Data Loader software V. 3.0 and Quatech driver software.
- PCD-3000 Data Loader User's Guide 5th Edition (CPN 523-0780041)

user's guide

PCD-3000 Assembly

PCD-3000 uses the Y-cable to bypass the DBU for dataload. The Y-cable is permanently mounted in the aircraft.



PCD-3000 Quatech, PCMCIA PC Card is used with a notebook PC and PCD software. It is taken to the aircraft when dataloads are required.

PCD-3000 Kit

| CPN | Price (FY2010) |
|--------------|----------------|
| 822-1631-004 | \$2,312 |

Computer with PCMCIA card slot

| Price (FY2010) |
|-------------------|
| \$1,750 to \$3800 |

New Y-Cable Orders

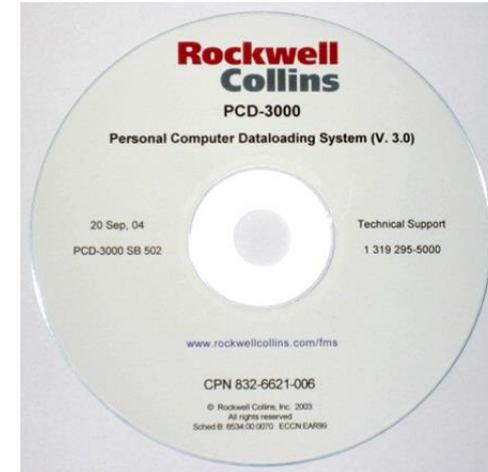
| New (SAP) CPN | Length | Price (FY2010) |
|---------------|---------|----------------|
| 827-7419-052 | 1 Foot | \$2,328 |
| 827-7419-053 | 2 Feet | \$2,792 |
| 827-7419-054 | 3 Feet | \$3,256 |
| 827-7419-055 | 8 Feet | \$3,876 |
| 827-7419-056 | 20 Feet | \$4,648 |

Total estimated cost of complete PCD-3000 hardware only.

\$7,415.00

Databases

- The PCD-3000 is used to upload databases to LRUs such as:
 - FMC (FMS Database)
 - MDC (checklists and tables)



Personal Computer Data
Loading System (PCD) CPN
810-0032-003

PC Card PCMCIA Type II; 16-bit Assembly



Collins part number on the PC Card.

Quatech part number and revision.

Quatech P/N 930-1200-01C G
Assembly Rev. C was a bad card and we
will replace any card that made it to the
field with the
Quatech P/N 930-1200-01C 2G
Assembly Rev. C2
or
Quatech P/N 930-1200-01C 3G
Assembly Rev. C3

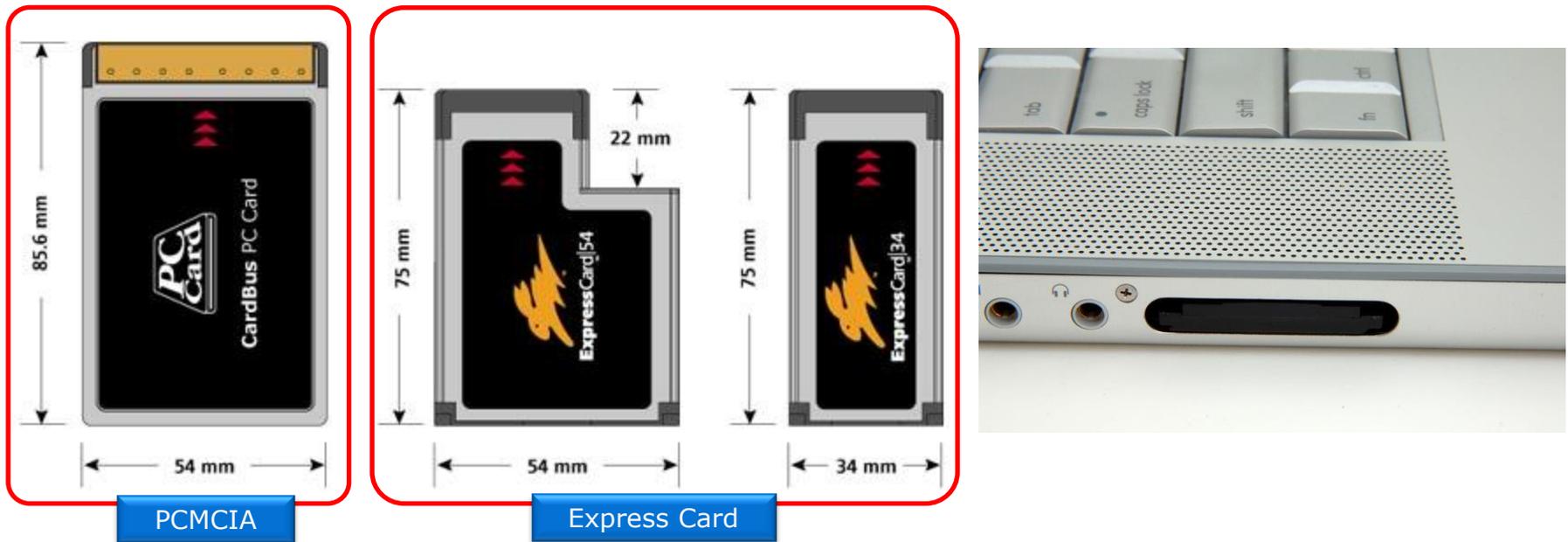


Problems

- Incompatibility issues due to changes in computer I/O expansion slots.
 - Express slot vs PCMCIA cardbus slot, Type I, II, and III compatibility.
- Incompatibility issues due to changes in Microsoft operating systems.
 - PCD-3000 Version 3.0 Windows 98/Xp
 - PCD-3000 Version 3.1 Windows Xp/Vista
 - PCD-3000 Version 3.1 Microsoft 7 compatible but not verified.
- Inability to retrieve engine trend and engine exceedence data required by the airlines and engine manufactures. (Works with old Quatech "Rev. B" cards no longer sold due to parts obsolescence)
- Problems with new computers with PCMCIA slot working with the Quatech card due to computer bus speed compatability issues.

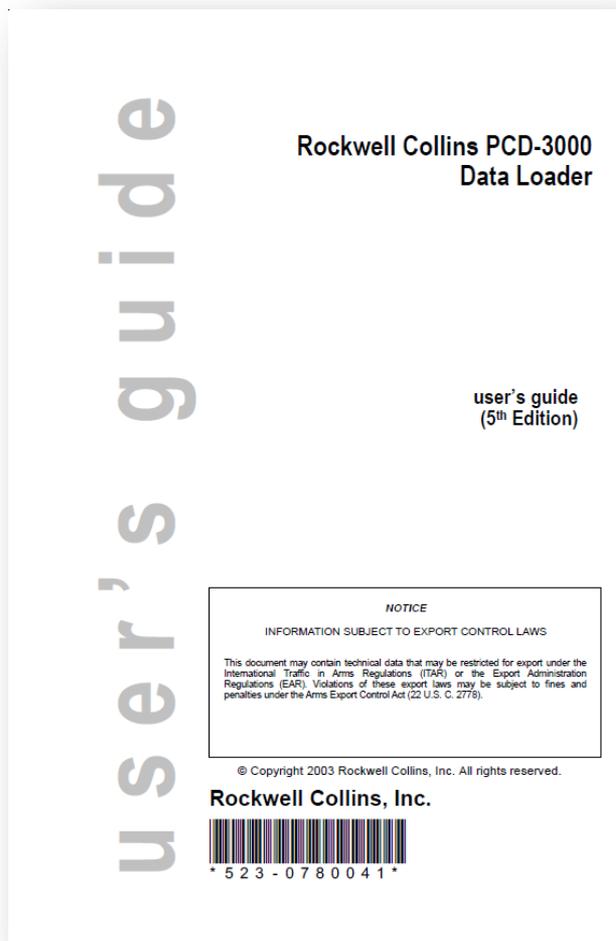
Non-compatible PCI Express computers

- The ExpressCard Standard is the next generation of PC Card technology used in more than 95% of all notebook computers for adding new hardware capabilities.
- Over time, ExpressCard technology is expected to replace CardBus as the preferred solution for hot-pluggable internal I/O expansion for notebook and desktop computers.
- Computers that are purchased with the PCI Express slot are not compatible with the PCMCIA CardBus / PC Card for the (PCD-3000).



PCD-3000 Version 3.0 Setup – Windows Xp

PCD-3000 Version 3.0



CPN 523-0780041

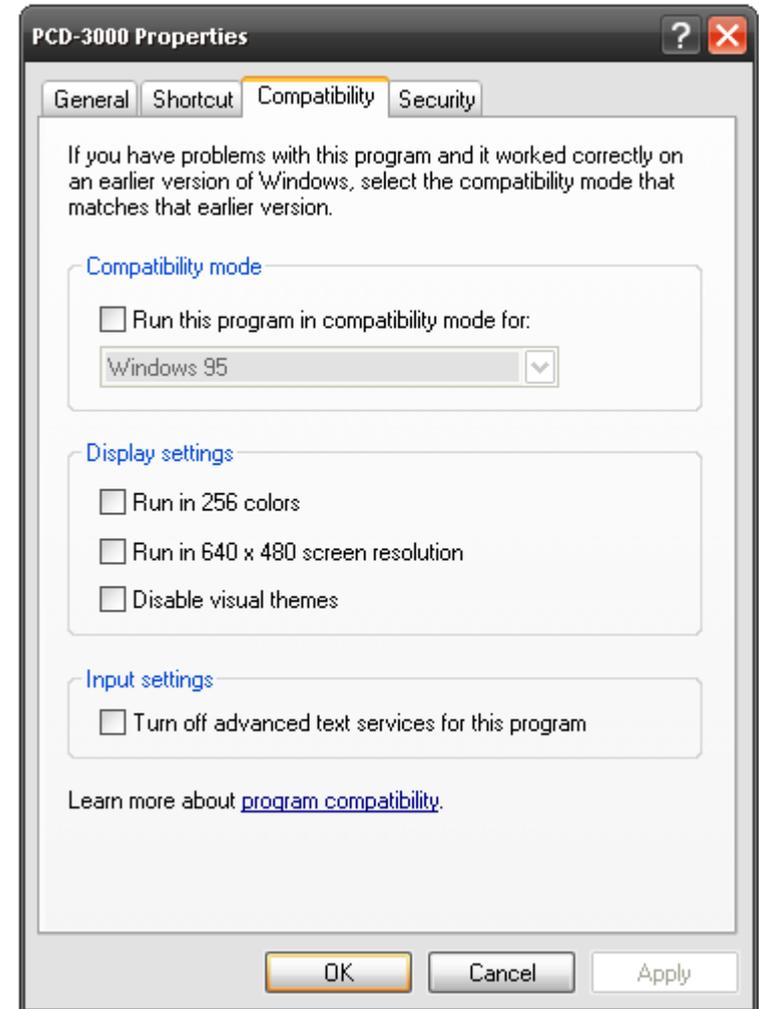
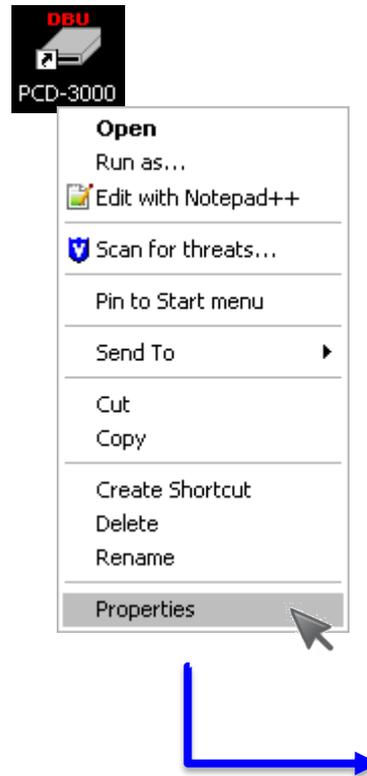
Cable/Kit Assembly (CPN 822-1631-004), which includes the following items:

- Quatech PCMCIA card/cable (CPN 270-2659-020) and driver software for the card. The driver software is also available on the PCD-3000 CD. Note: It is recommended to only use the driver on the PCD-3000 CD.
- Install CD (CPN 832-6621-007 or later) contains the Rockwell Collins PCD-3000 Data Loader software.
- PCD-3000 Data Loader User's Guide v3.0 (CPN 523-0780041)

PCD-3000 Properties

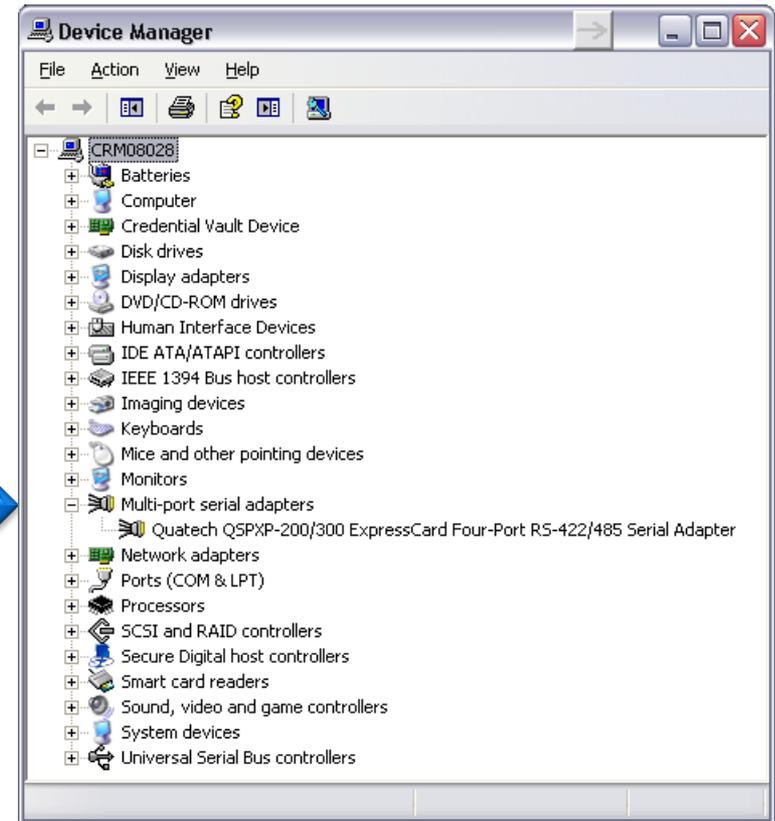
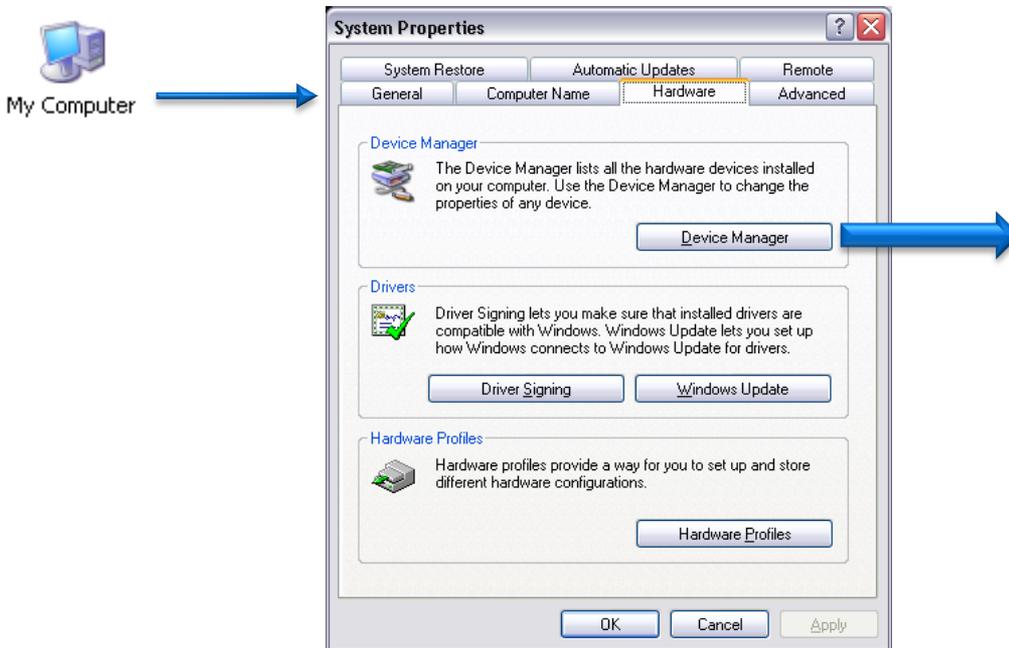
Note:

If you are getting errors trying to run the PCD-3000 program, select properties by right clicking the PCD-3000 program shortcut icon then check that the compatibility mode for windows 95 is not checked.



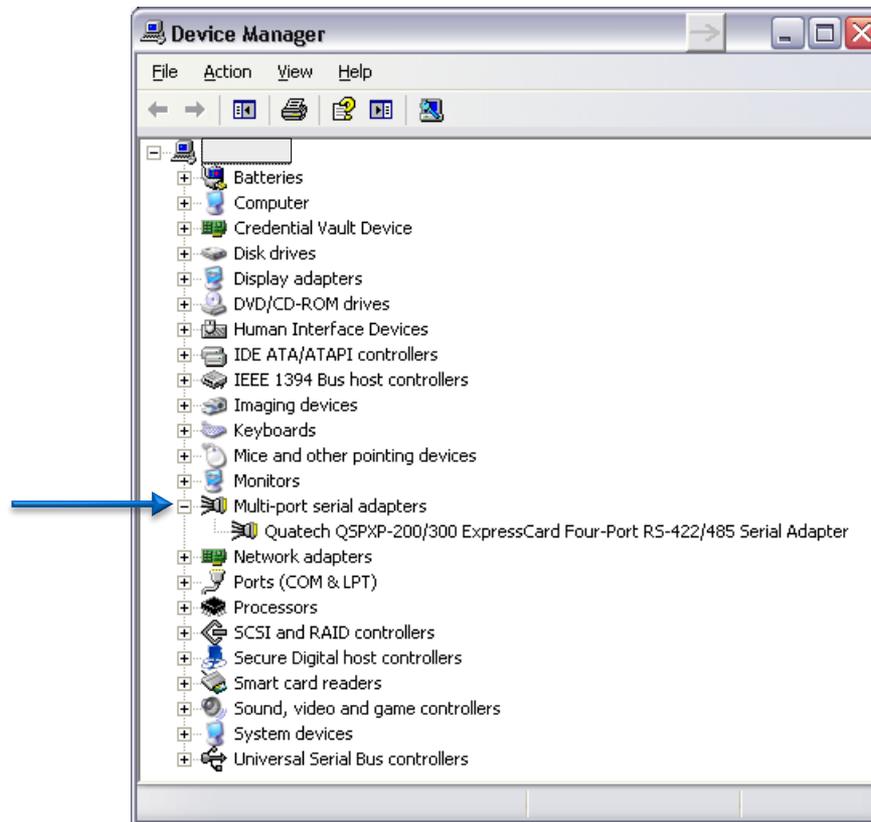
Setting up PCD-3000 Version 3.0 Port Settings (Windows 98 or Xp)

- Right click on “My Computer” desktop icon and select “Properties” or
 - Start / control panel / system.
- Left click the “Hardware” tab.
- Left click the “Device Manager” button

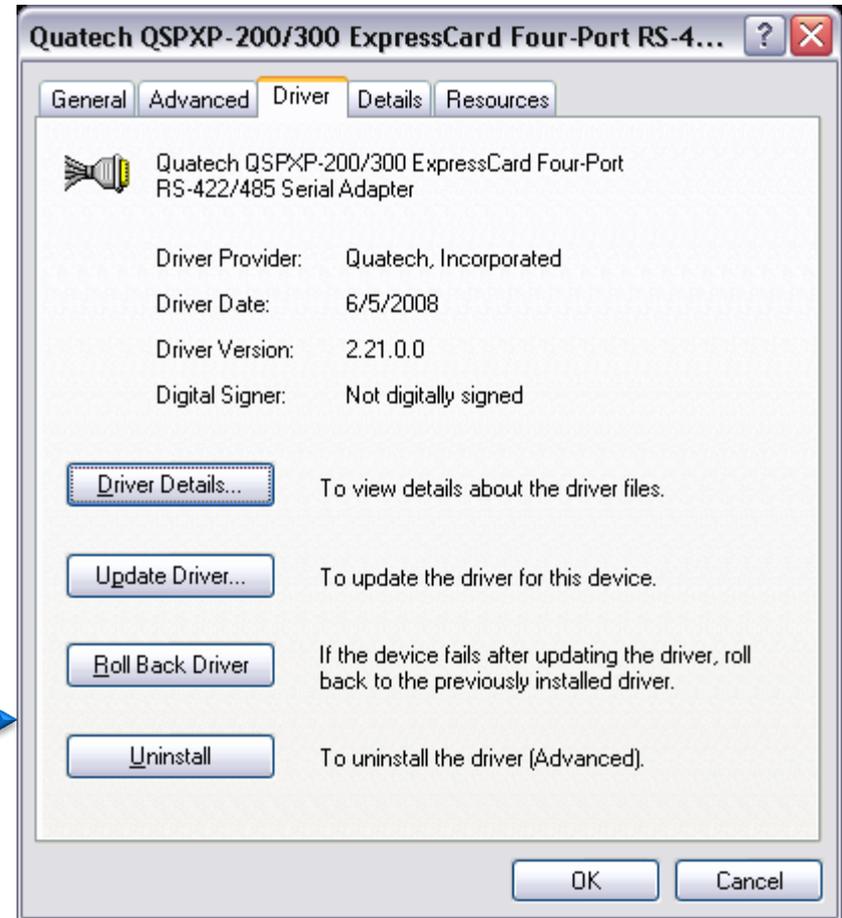
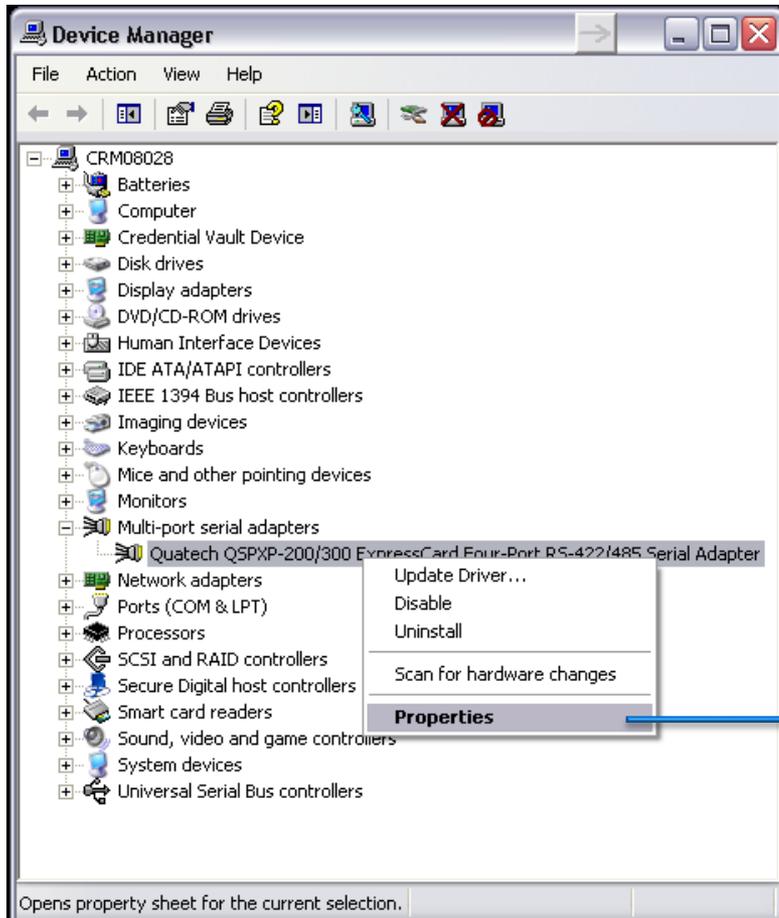


Multi-port serial adapters QSPXP-200/300

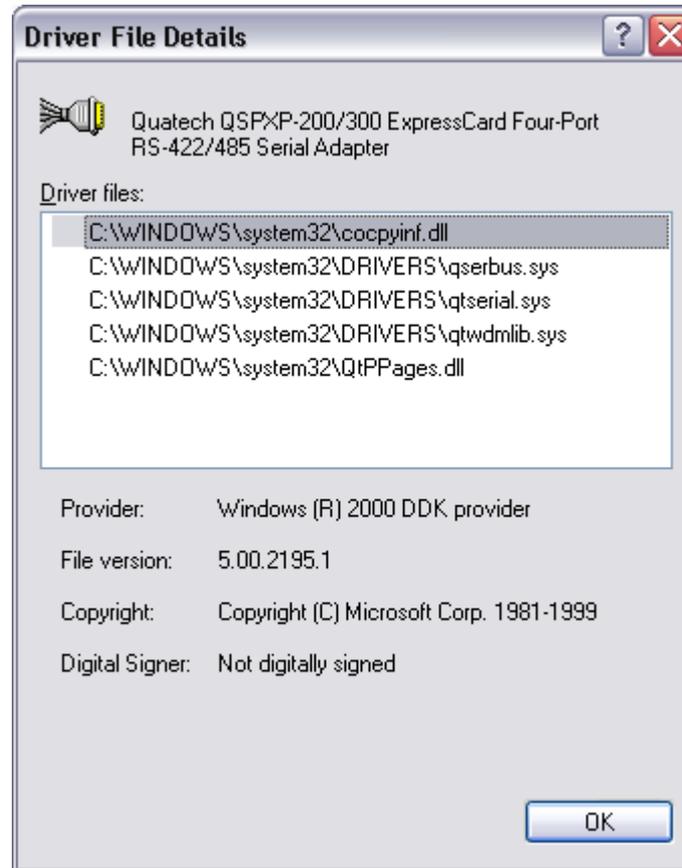
- With the Quatech PCMCIA card in the computer, click on Multi-port serial adapters and verify the PCMCIA card shows up in the sub directory. If not then the driver is not installed and must be installed prior to moving to the next step.



Driver Information Window



Driver list and location (information only)



Recommended Quatech QSP-200/300 Driver

- The Recommended PCD-3000 Version 2.21 Quatech Driver

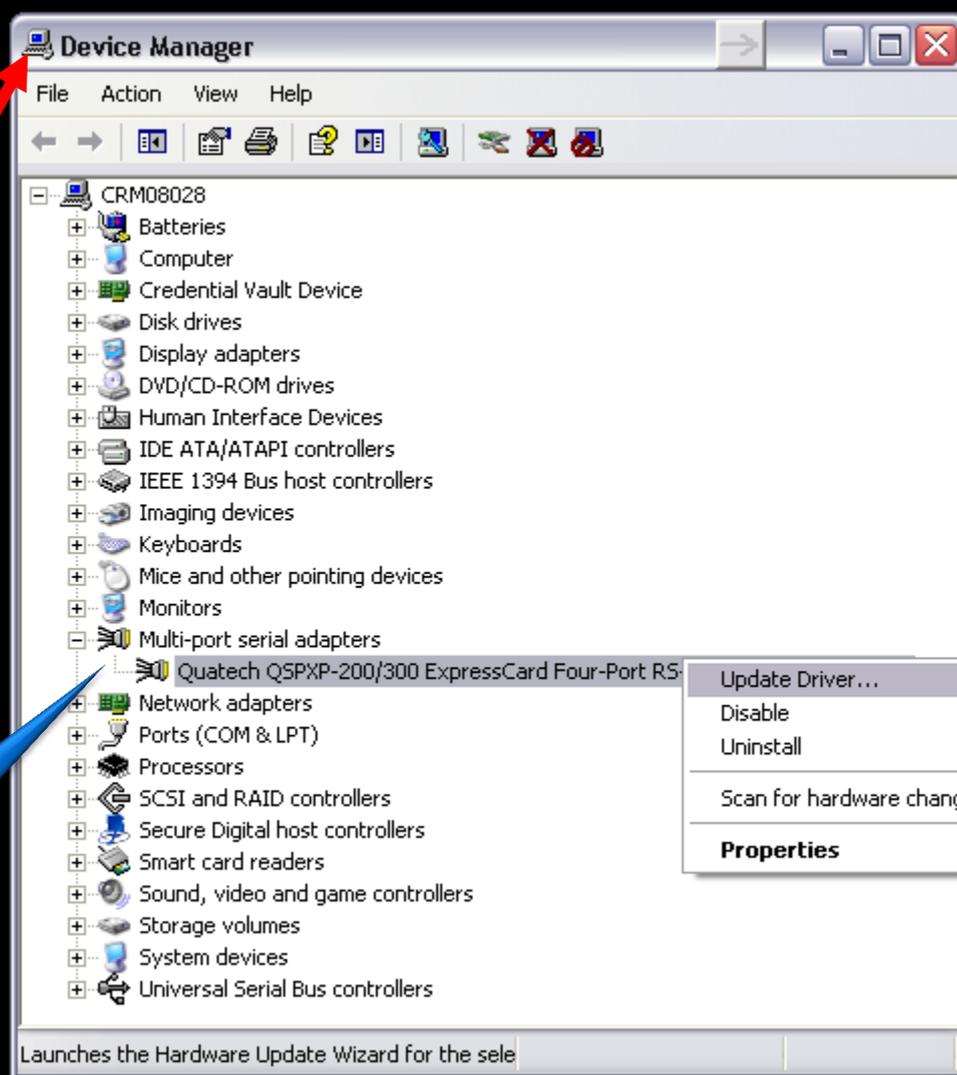
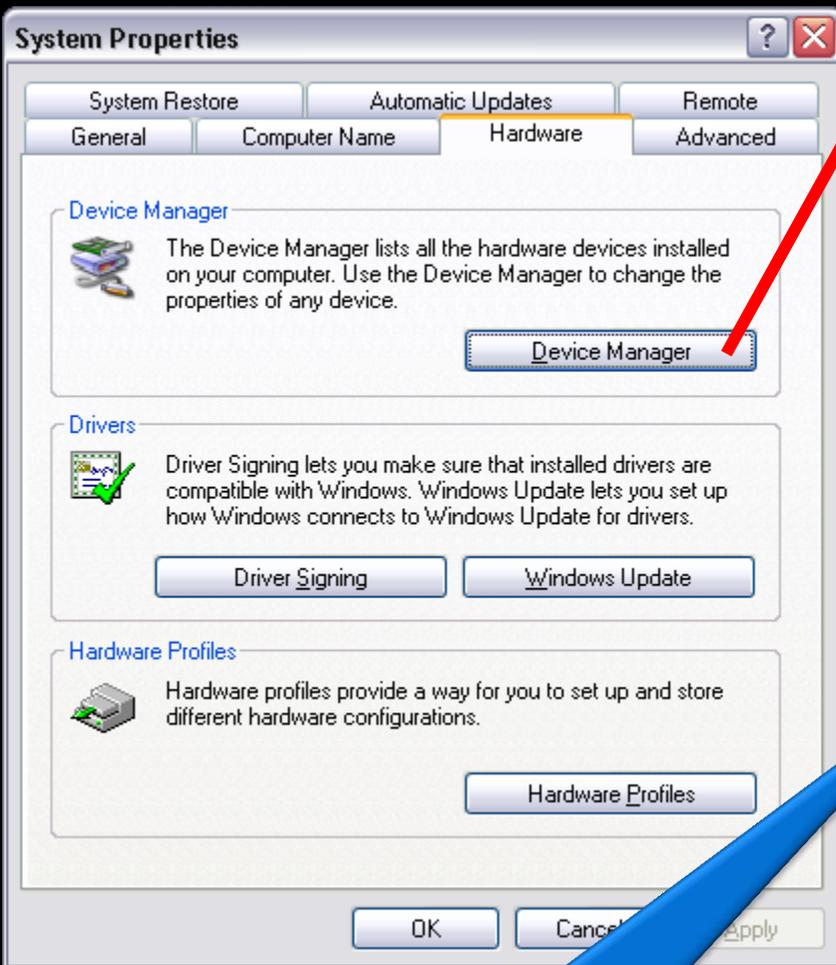
Windows 32/64-bit 2000/XP/Vista/Win7

Version 2.21

Date: 6/08

File Size: 657 KB

<http://www.bb-elec.com/getattachment/4d9b7ec8-95d2-48d7-b270-fc591c72f2d4/win2kxpcom221.zip.aspx>



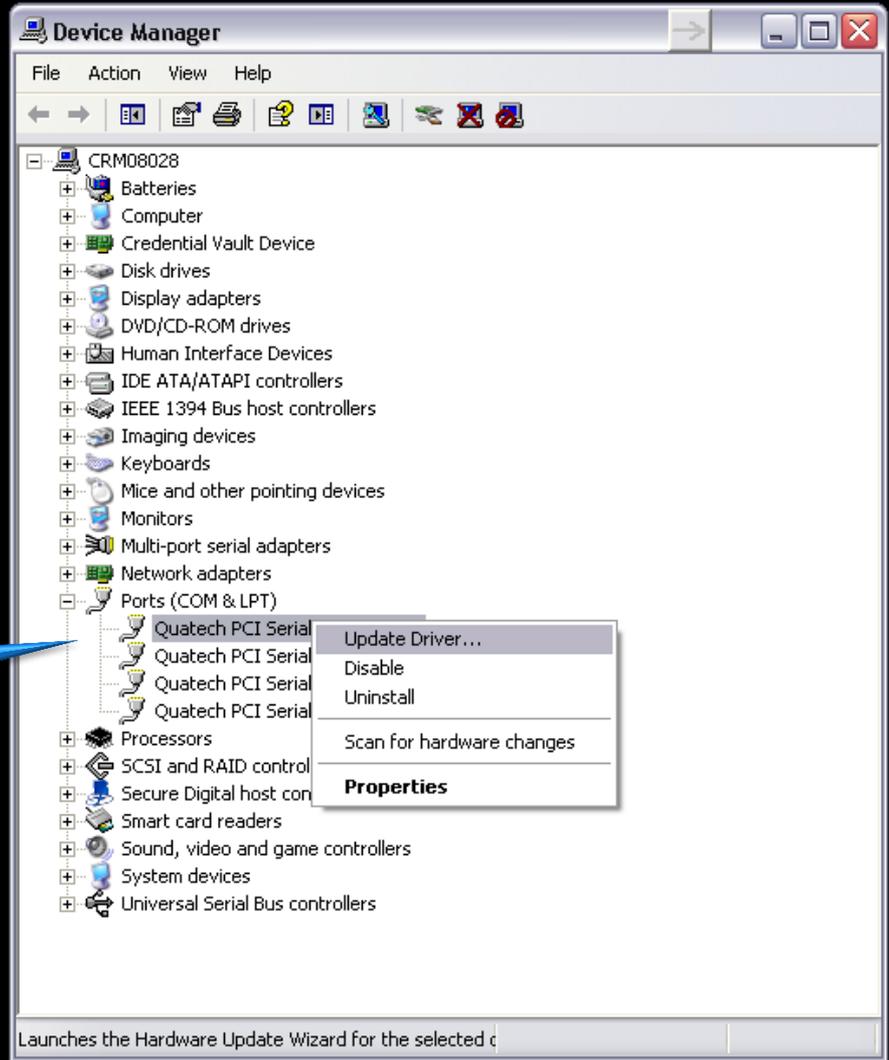
Update com ports with
Quatech driver 2.21

http://www.quatech.com/support/drivers_pcmciaser.php#qsp23

http://www.quatech.com/support/drivers_pcmciaser.php#qsp23

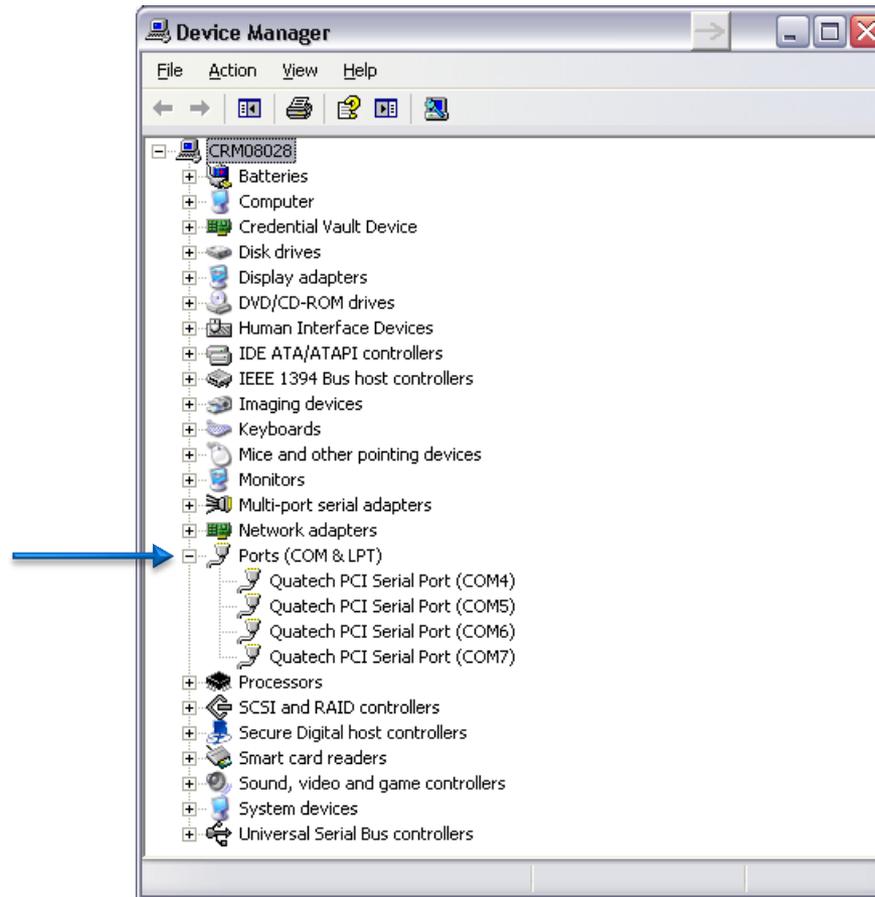


Update each com port with Quatech driver 2.21



Port Settings

- Click on “Ports” to see the COM port numbers. Write them down.

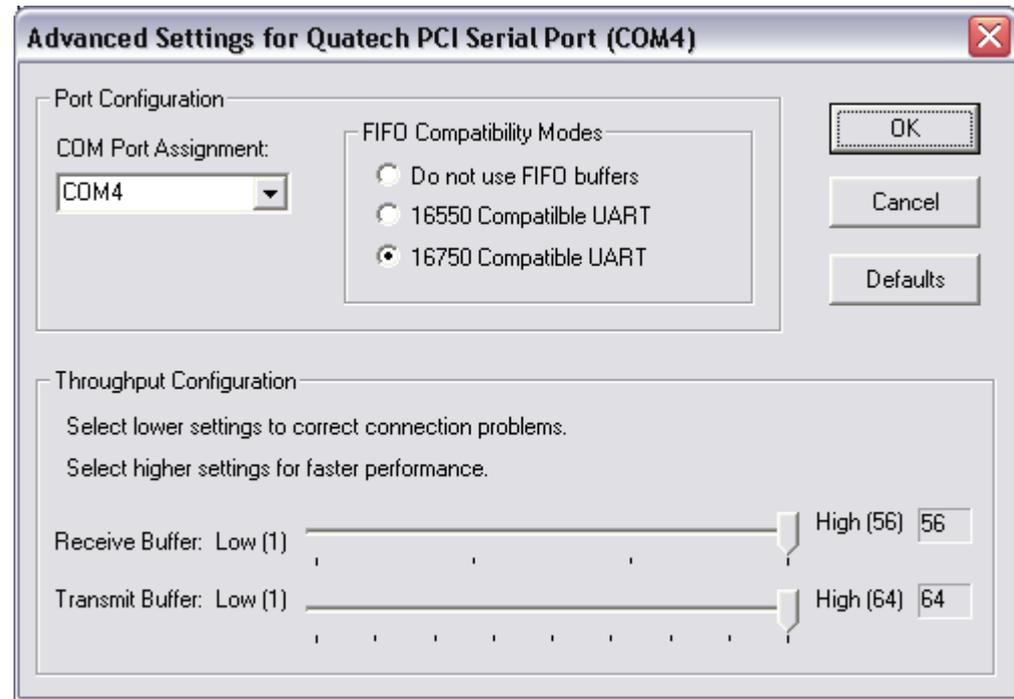


Manual Port Set Up

- In some cases you may need to manually assign com port settings in the device manager
- port / properties / port settings / Advanced
(See next slide for details.)
- Set ports to.... (recommended settings)
 - Port 1 as 5,
 - Port 2 as 6,
 - Port 3 as 7,
 - Port 4 as 8.
- Then check and set the ports in the Microsoft operating system registry to match.

Advanced COM Port Settings

- Select the Port Settings tab and click on the Advanced button to assign the COM ports if needed.



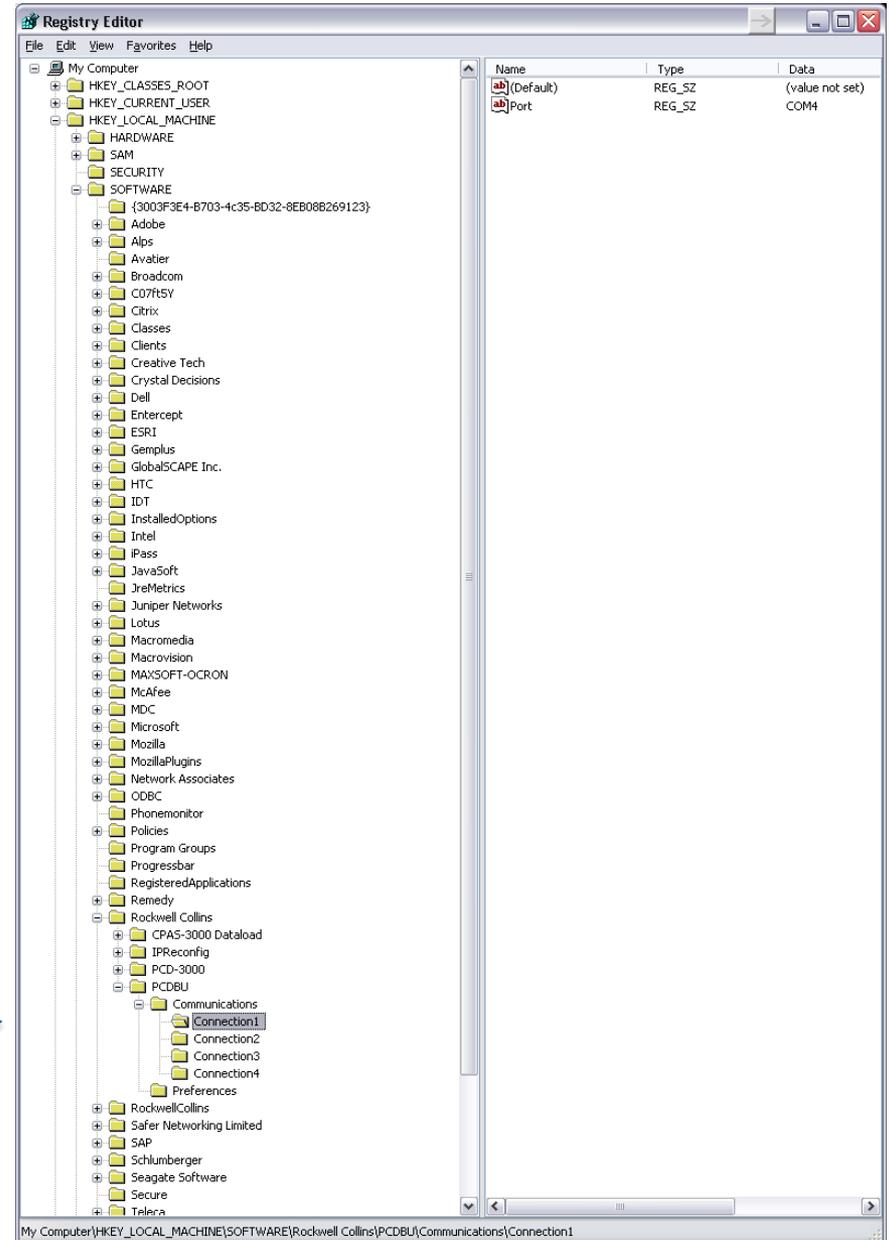
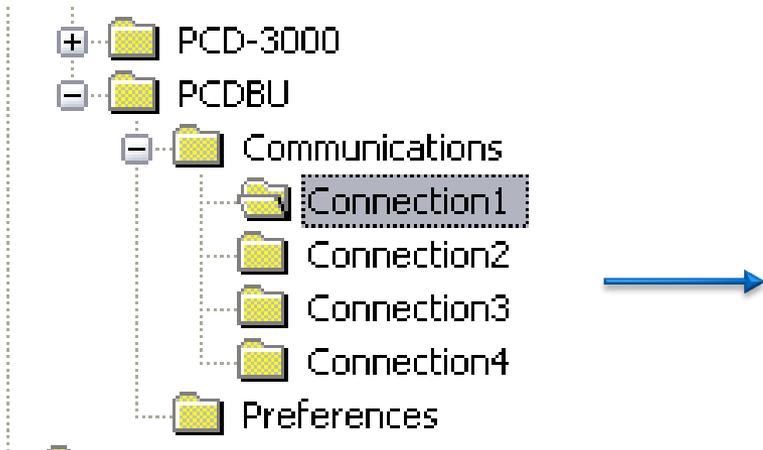
Microsoft Operating System Registry

- Click on "START" "RUN" and type in regedit. This will bring up the Windows registry.



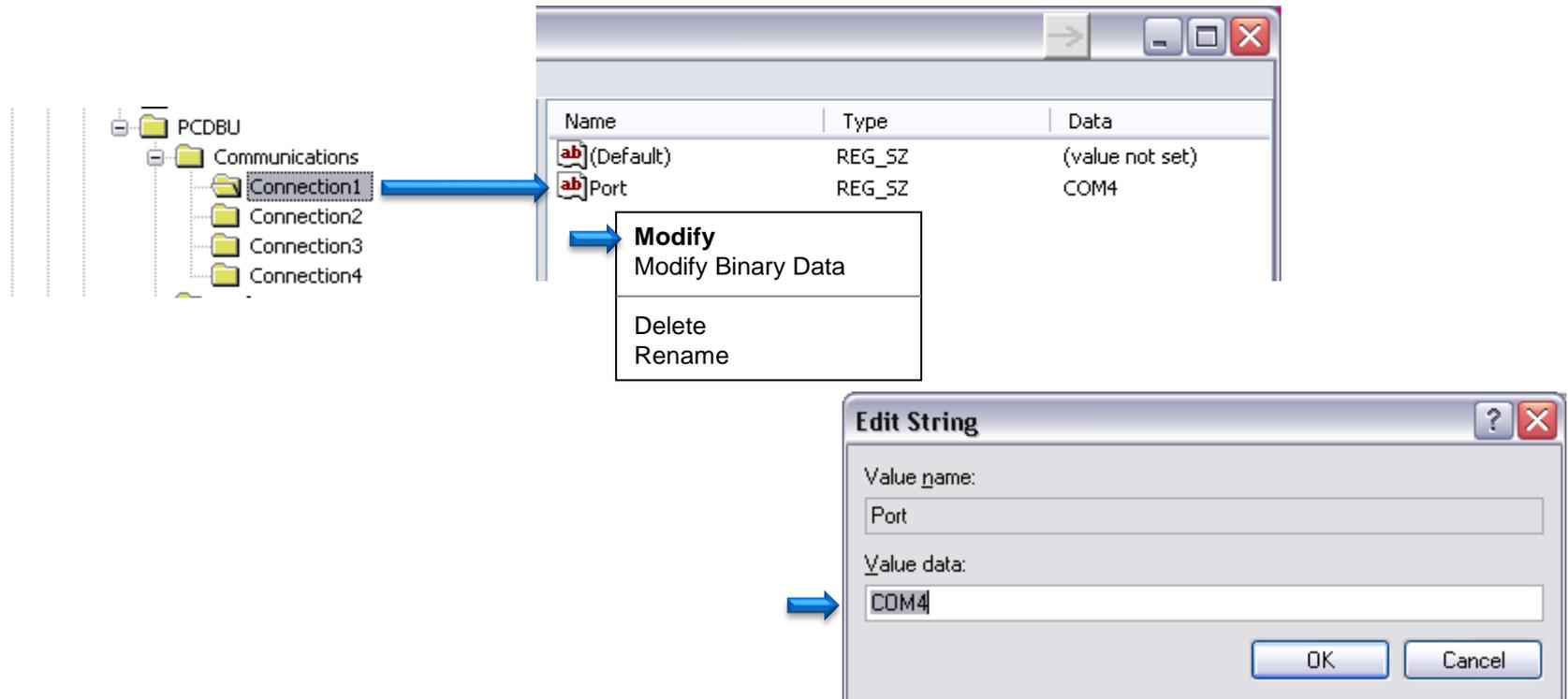
Registry Editor

- Go to:
**HKEY_LOCAL_MACHINE/
 SOFTWARE/Rockwell
 Collins/PCDBU/
 Communications/
 Connection1, ~2, ~3, ~4**



Registry COM Port Settings

- In the Connection# folder if the Ports are not the same as the device manager then:
 - Right click on the Port name, select “Modify” and change to the correct COM port number.



Notes:

- In cases where the PCD-3000 may have all green lights but will not dataload the last two ports may need to be shut down.
- Other issues may be in the cabling the card or the computer itself.
- Make sure all virus protection and firewalls are turned off prior to installing the PCD-3000 software.



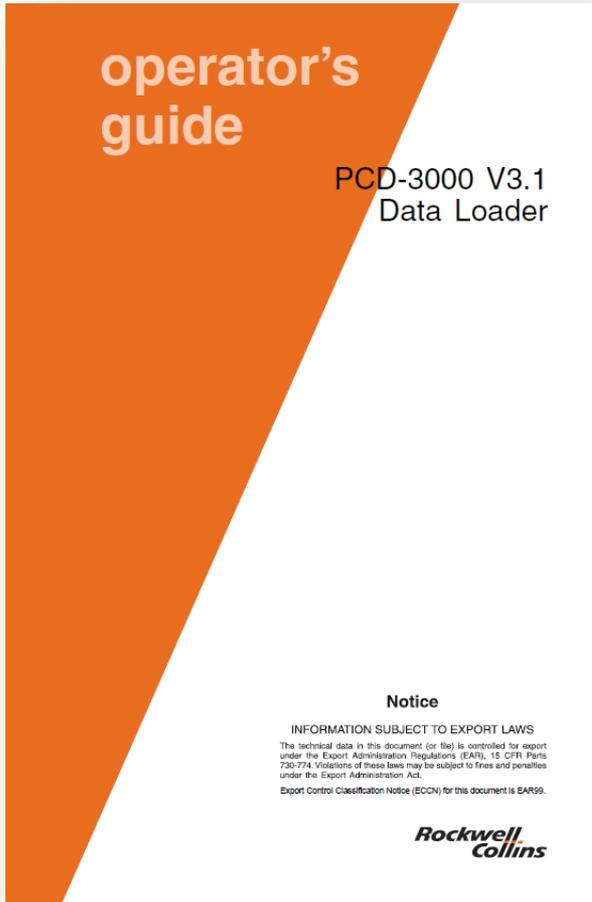
PCD-3000

Summary for PCD-3000 version 3.0 Setup

- **Note 1:** In some cases you may need to update the driver for the Quatech card.
- **Note 2:** In some cases you may need to manually assign com port settings in the device manager (port – properties – port settings – Advanced)
- **Note 3:** In nearly every case you will need to set the com port settings in the Microsoft Operating System Registry.
- The PCD-3000 should work after this setup is complete.

PCD-3000 Version 3.1 Setup

PCD-3000 Version 3.1



CPN 523-0810680

Cable/Kit Assembly (CPN 822-1631-004), which includes the following items:

- Quatech PCMCIA card/cable (CPN 270-2659-020) and driver software for the card. The driver software is also available on the PCD-3000 CD. Note: It is recommended to only use the driver on the PCD-3000 CD.
- Install CD (CPN 832-6621-007 or later) contains the Rockwell Collins PCD-3000 Data Loader software.
- PCD-3000 Data Loader Operator's Guide v3.1 (CPN 523-0810680)

Setting up PCD-3000 Version 3.1 Port Settings (Windows Vista or Microsoft 7)

- Rules
 - Must have administrator rights on the computer.
 - All spyware/virus protection and firewalls should be turned off prior to installation.
 - Turn off the User Access Control in Microsoft Vista and Windows 7 prior to installation.

Vista

1. Start Button 
2. Control Panel
3. User Accounts and Family Safety
4. User Accounts
5. Turn User Account Control on or off

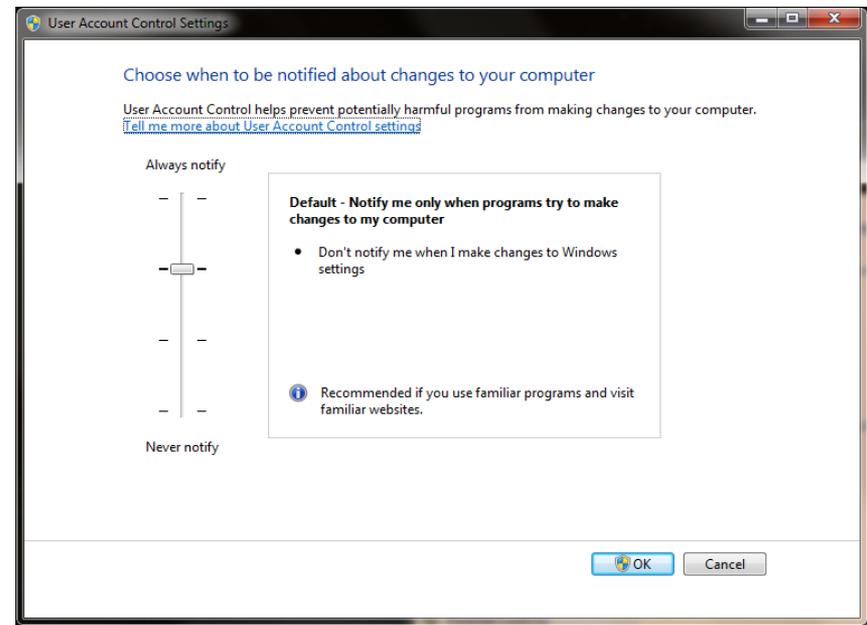
Windows needs your permission to continue Click the continue button.



6. Uncheck (UAC) box..... click OK

Windows 7

1. Start Button 
2. Control Panel
3. User Accounts and Family Safety
4. User Accounts
5. Change User Account Control settings
6. { Set slider to "Never notify"}... click OK



Setting up PCD-3000 Version 3.1 Port Settings

- The Quatech PCMCIA Ver. 2.30 driver comes with PCD-3000 version 3.1 (Full administrative rights are required).

Windows 32-bit and 64-bit XP/Vista/7

Version 2.30

Date: 1/10

File Size: 1.4 MB

<http://www.bb-elec.com/getattachment/8dda5a56-5252-4c64-b272-28c91a3dbab3/win2kxp7com230.zip.aspx>



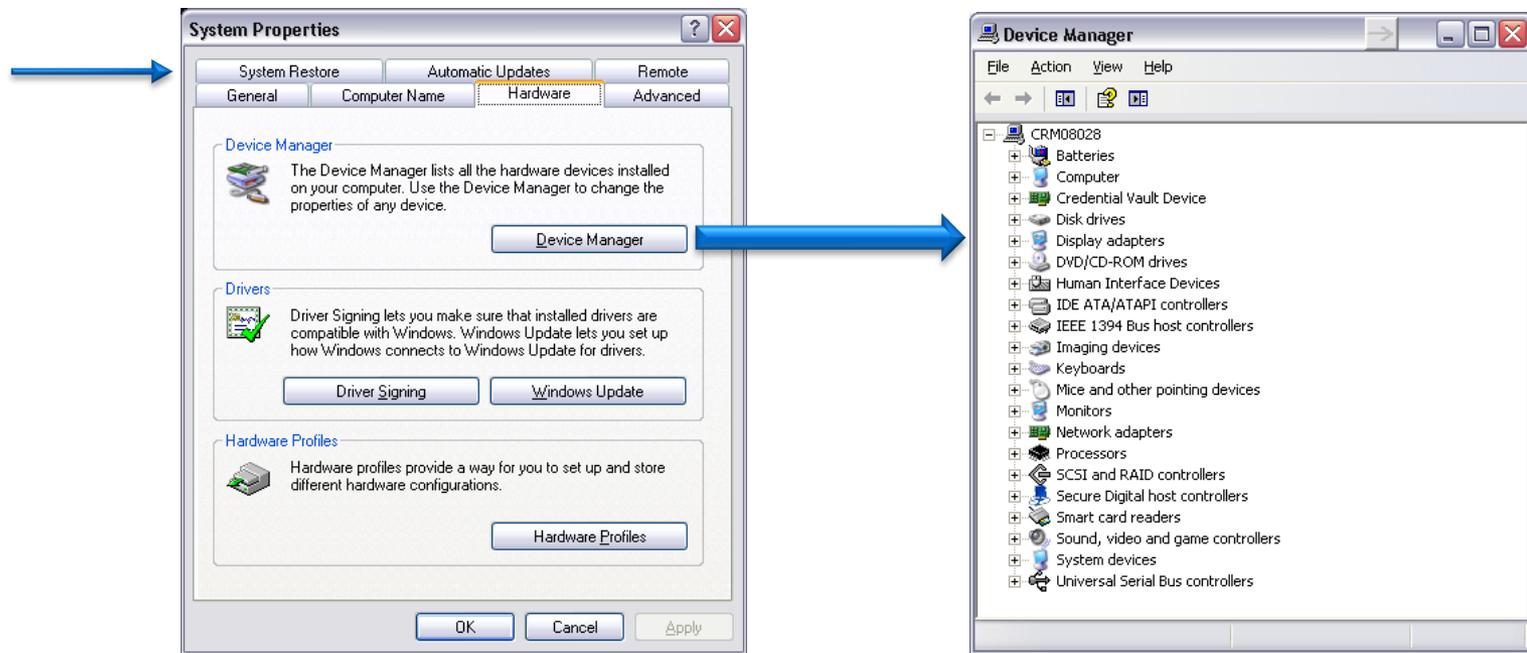
NOTE: If you use the latest Quatech drivers that are available, Version 2.30 or later, you may encounter some difficulty setting up the ports. It is highly recommended you use the Quatech ver. 2.21 driver.

<http://www.bb-elec.com/getattachment/4d9b7ec8-95d2-48d7-b270-fc591c72f2d4/win2kxpcom221.zip.aspx>

Setting up PCD-3000 Version 3.1 Port Settings (Windows Vista or 7)

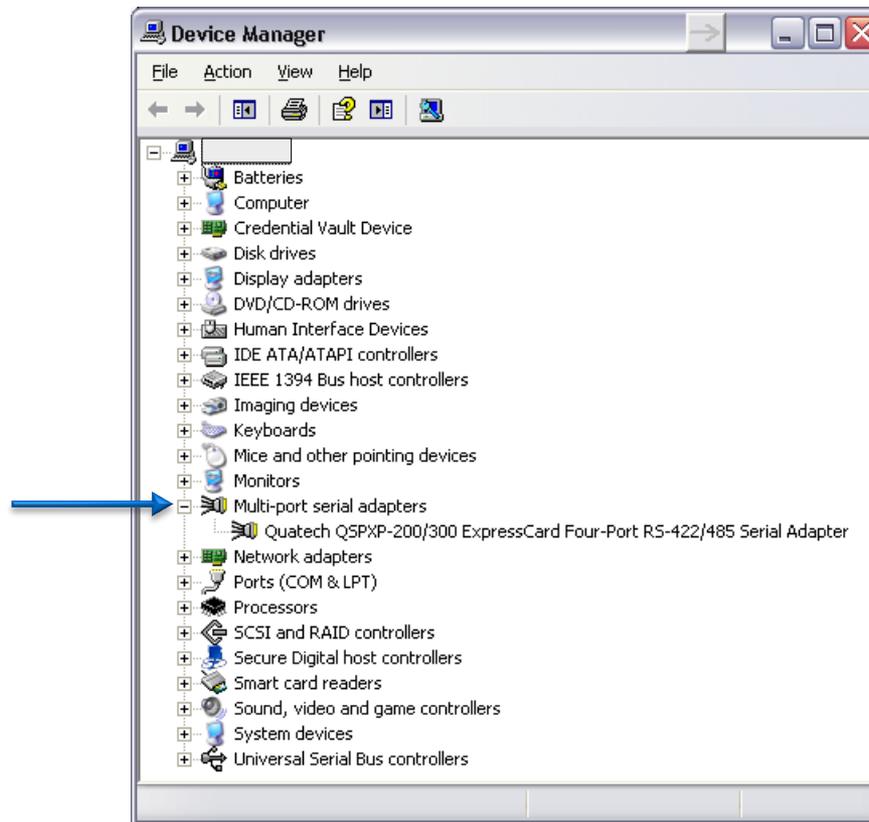
- Right click on “My Computer” desktop icon and select “Properties”
- Left click the “Hardware” tab.
- Left click the “Device Manager” button

Check on getting
to the device
manager



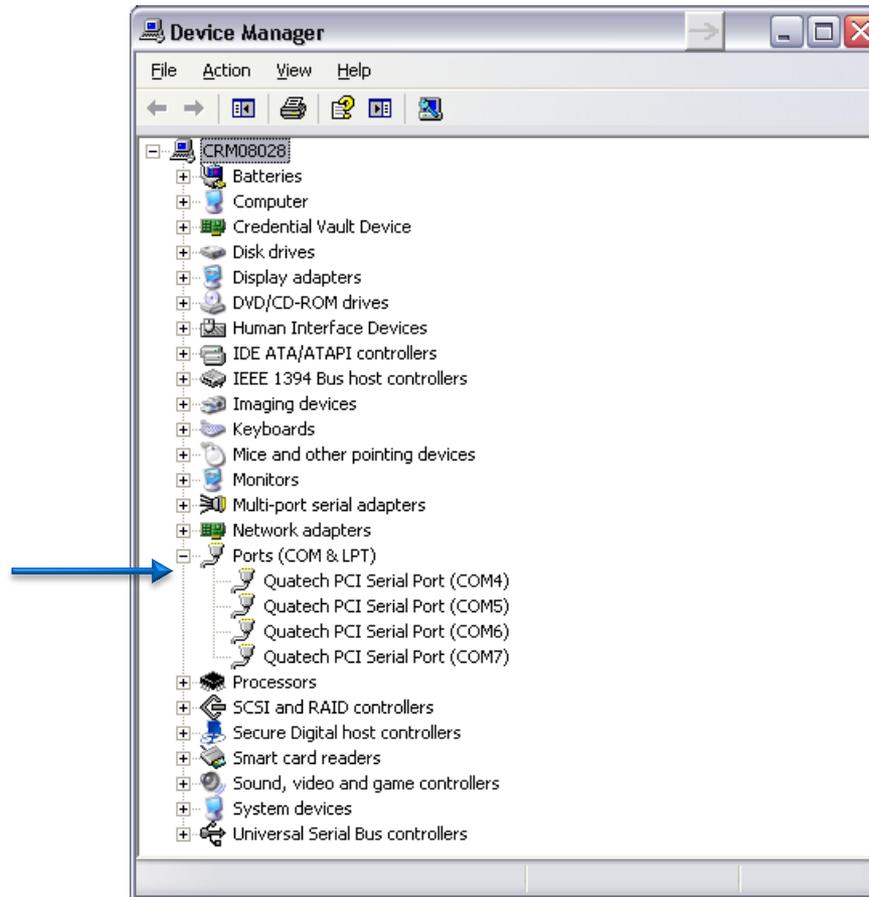
Multi-port serial adapters QSPXP-200/300

- With the Quatech PCMCIA card in the computer, click on Multi-port serial adapters and verify the PCMCIA card shows up in the sub directory. If not then the driver is not installed and must be installed prior to moving to the next step.



Port Settings

- Click on “Ports” to see the COM port numbers. Write them down.

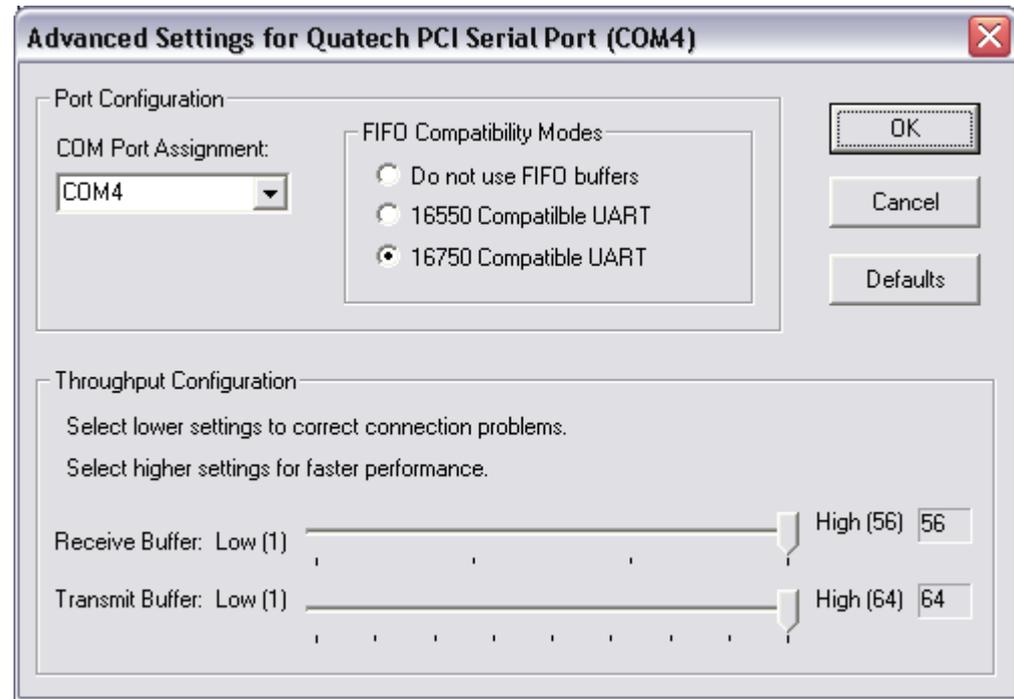


Manual Port Set Up

- In some cases you may need to manually assign some port settings in the device manager
- (port – properties – port settings – Advanced)
- Set ports to.... (recommended)
 - Port 1 as 5,
 - Port 2 as 6,
 - Port 3 as 7,
 - Port 4 as 8.
- Then check and set the ports in the Microsoft operating system registry to match.

Advanced COM Port Settings

- Select the Port Settings tab and click on the Advanced button to assign the COM ports if needed.



Microsoft Operating System Registry

- Click on "START" "RUN" and type in regedit. This will bring up the Windows registry.



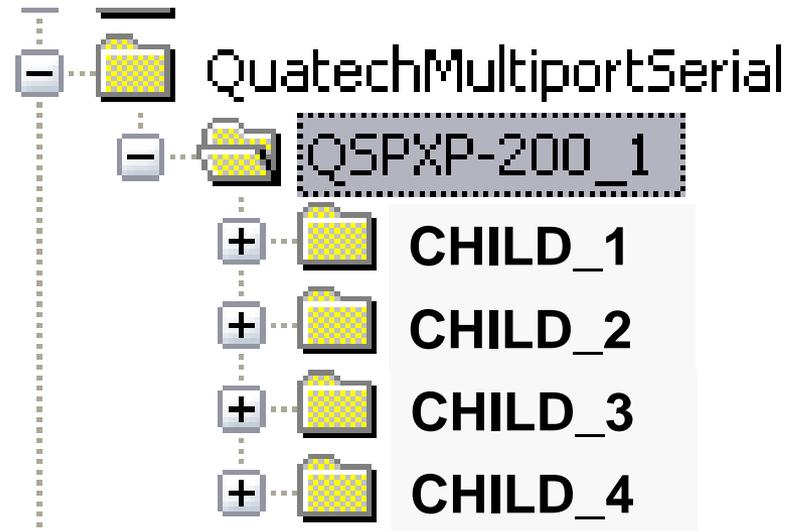
Registry Editor

- On startup, the PCD searches the registry to determine what COM ports the Quatech card is using.
- It finds the QUATECH subkey under **HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Enum\QatechMultiportSerial\QSPXP-200_1**
- The subdirectory's **\PORT_X** where X goes from 1 to 4 and **\FreindlyName**, and reads the "(COM X)" value under each of those sub keys where the COM port value matches the settings in the Device Manager.
- The Value name is the Quatech PCI Serial Port setting that needs to match the port settings in the device manager.

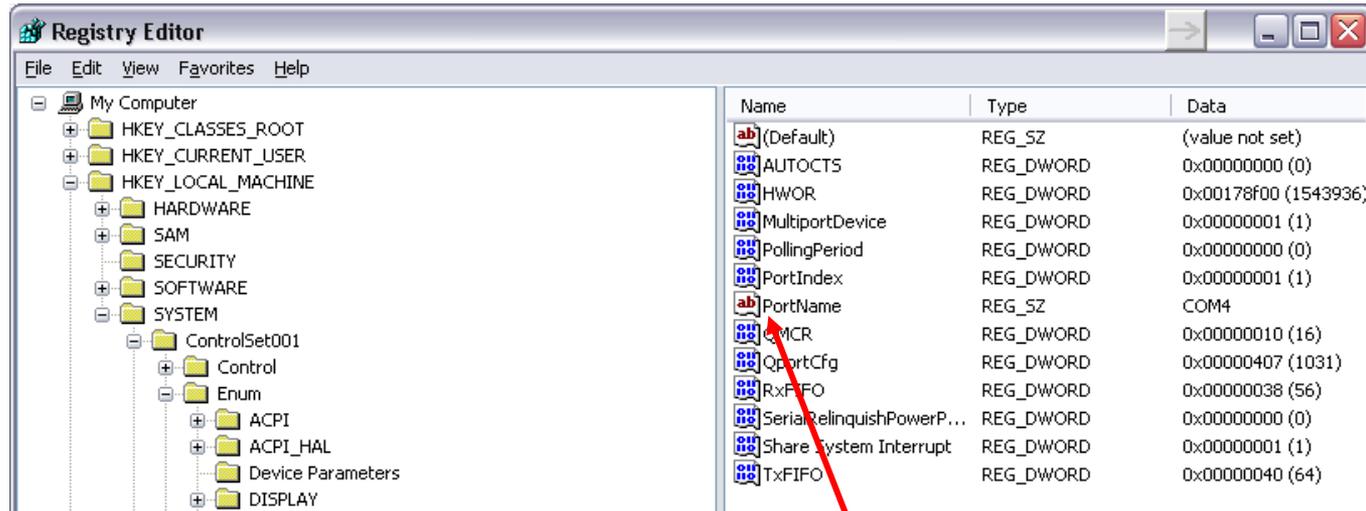


Registry Editor

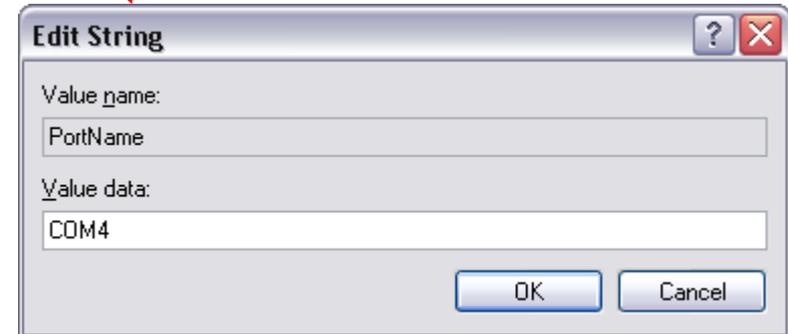
- Note: PORT_X may be named Child_X. If this is the case then right click on the folder name and rename Child to Port and it should work.
- The reason for this is the Quatech driver changes the port name to one not recognized by the PCD-3000 software.



Registry COM Port Settings



- If you need to modify the port settings right click on Value name, select Modify, change the COM port number to match the device manager and click OK. Repeat for each port setting.



PCD Map

- PCD maps the ports to the LRUs as follows:
 - a. The value from PORT_1 is used for FMC 1
 - b. The value from PORT_2 is used for FMC 2
 - c. The value from PORT_3 is used for MDC
 - d. The value from PORT_4 is used for FMC 3



Summary for PCD-3000 version 3.1 Setup

- The PCD-3000 should work after this setup is complete.
- **Note 1:** In some cases you may need to update the driver for the Quatech card.
- **Note 2:** In some cases you may need to manually assign some port settings in the device manager (port – properties – port settings – Advanced)
- **Note 3:** In nearly every case you need to change the registry name from CHILD_X to PORT_X
- (Must Have Full Administrative Rights on your Computer)



For more information, visit
rockwellcollins.com
or call 319-295-5000