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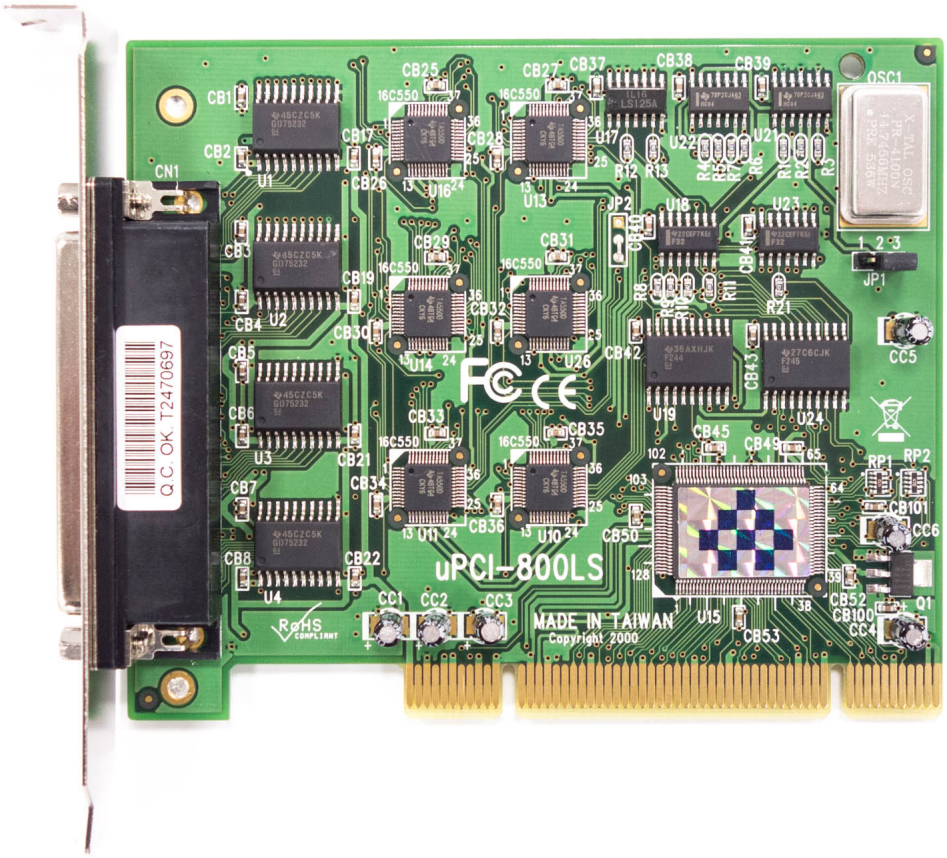
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UPCI-800LS USER'S MANUAL

2019 Edition



Titan Electronics Inc.
Web: www.titan.tw

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INTRODUCTION

The TITAN uPCI-800LS Universal PCI serial I/O card offers eight independent RS-232 serial ports. This I/O board supports both 3.3V and 5V PCI bus, and it's compatible with 32-bit PCI, 64-bit PCI and PCI-X bus. All serial ports are built by 16550A-compatible UARTS with 16 byte FIFO.

The TITAN uPCI-800LS Universal PCI serial I/O card provides connectivity to RS-232 communication devices for factory automation equipment, multi-drop data collection devices, barcode readers, time clocks, scales, data entry terminals, PC to PC serial communication.

The supplied drivers for Windows operating system install the serial ports into the Windows API, so they appear as the usual Com ports software requires. A rich set of driver options is configured via the Device Manager in Windows. The drivers allows to configure the serial ports for a bit-rate of up to 921,600 bps.

The uPCI-800LS Universal PCI serial I/O card is an advanced and high efficient solution for serial data communication and industrial automation applications.

FEATURES

- Universal PCI bus(5V and 3.3V) 32 bit 33MHz compliant
- 16C550 compatibility
- 16 bytes receive FIFO buffer
- 16 bytes transmit FIFO buffer
- Drivers provided for Windows and Linux OS
- Wide ambient temperature operation 0°C to 60°C (32°F to 140°F)
- CE, FCC approval
- Supports high speed RS-232 serial ports with data transfer rate up to 921.6kbps
- Provides 15KV ESD protection for all serial signals
- Eight DB9 male connectors for serial data communication
- RS-232 data signals: DCD, RxD, TxD, DTR, GND, DSR, RTS, CTS
- Includes one adapter cables converting a DB62 male connector to eight DB9 male connectors. Cable length: 1m (OCT-8-DB9)
- Optional adapter cable converting a DB62 male connector to eight DB25 male connectors. Cable length: 1m (OCT-8-DB25)
- Optional external serial I/O box with eight DB9 male connectors and link cable. Cable length: 1.5m (COMBOX-8)
- Optional external metal serial I/O box with eight DB25 male connectors and link cable. Cable length: 1.5m; DIN-rail and panel mountable (COMBOX-8-DB25)

SPECIFICATIONS

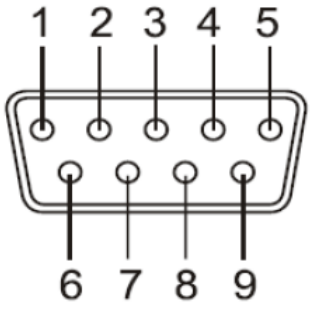
General	
Bus	Universal PCI (5V and 3.3V) 32 bit 33MHz
Chipset	TITAN BSP9216B ×1 TI TL16C550D x 6
Interface	RS-232
Plug & Play	Supported
IQR & IO Address	Assigned by system BIOS

Serial Port	
No. of Ports	Eight
Connectors & Cables	One DB62 female connector on card One DB62 male to eight DB9 male adapter cables included
RS-232 Signals	DCD, RxD, TxD, DTR, GND, DSR, RTS, CTS
Max. Bitrates	921.6kbps
Serial Configuration	Data bits: 5, 6, 7, 8 Parity: None, Odd, Even, Mark, Space Stop bits: 1, 1.5, 2
UART FIFO Buffer Size	Each port with 16 bytes FIFO for transmit & receive

Environment	
Operating Temperature	0°C to 60°C
Storage Temperature	-40°C to 85°C
Humidity	0 to 80% RH. Noncondensing
Safety Approvals	CE, FCC

PIN-OUT INFORMATION

The following are the connector pin-out for uPCI-800LS Universal PCI serial I/O card.



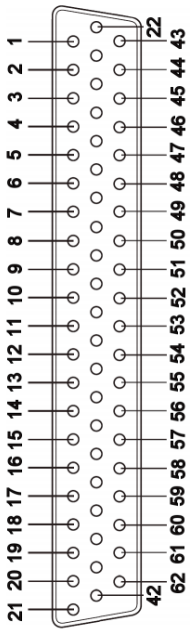
DB9 Male connector pin numbers

RS-232 Pin-out for DB9 Connector

Pin Number	Pin Type	Description
1	*Input*	DCD: Data Carrier Detect
2	*Input*	RxD: Receive Data
3	*Output*	TxD: Transmit Data
4	*Output*	DTR: Data Terminal Ready
5	*Ground*	GND: Signal Ground
6	*Input*	DSR: Data Set Ready
7	*Output*	RTS: Request to Send
8	*Input*	CTS: Clear to Send

Pin-out of DB62 Female Connectors for Eight RS-232 Ports

Pin	RS 232	Pin	RS 232	Pin	RS 232
1	TxD (1)	22	RxD (1)	43	CTS (1)
2	DTR (1)	23	DSR (1)	44	RTS (1)
3	RxD (2)	24	DCD (1)	45	GND
4	DSR (2)	25	TxD (2)	46	CTS (2)
5	DCD (2)	26	DTR (2)	47	RTS (2)
6	TxD (3)	27	RxD (3)	48	CTS (3)
7	DTR (3)	28	DSR (3)	49	RTS (3)
8	RxD (4)	29	DCD (3)	50	GND
9	DSR (4)	30	TxD (4)	51	CTS (4)
10	DCD (4)	31	DTR (4)	52	RTS (4)
11	RxD (5)	32	GND	53	CTS (5)
12	DSR (5)	33	TxD (5)	54	RTS (5)
13	DCD (5)	34	DTR (5)	55	GND
14	TxD (6)	35	RxD (6)	56	CTS (6)
15	DTR (6)	36	DSR (6)	57	RTS (6)
16	RxD (7)	37	DCD (6)	58	GND
17	DSR (7)	38	TxD (7)	59	CTS (7)
18	DCD (7)	39	DTR (7)	60	RTS (7)
19	RxD (8)	40	GND	61	CTS (8)
20	DSR (8)	41	TxD (8)	62	RTS (8)
21	DCD (8)	42	DTR (8)		



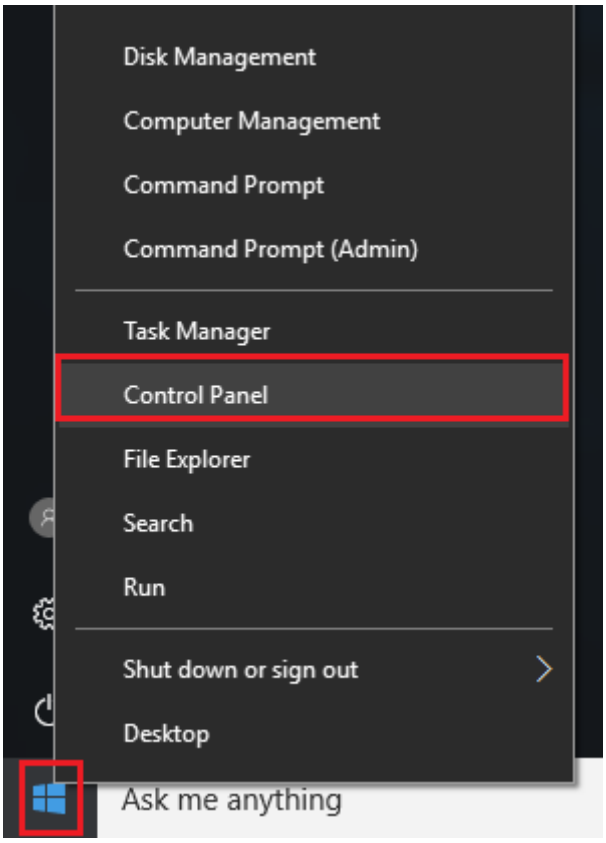
DB62 Female connector pin-out

INSTALLATION

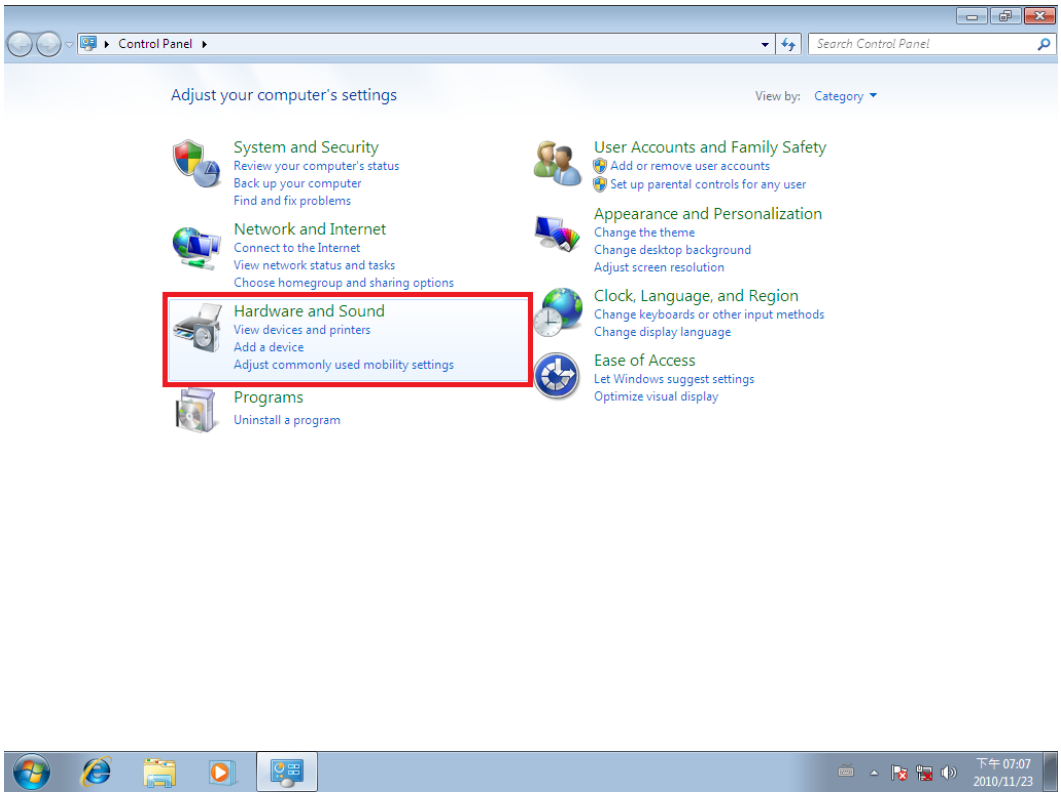
Windows 10 64-bit and 32-bit Drivers Installation

To install the Windows 10 driver from Device Manager for the uPCI-800LS Universal PCI serial I/O card, please follow the steps below:

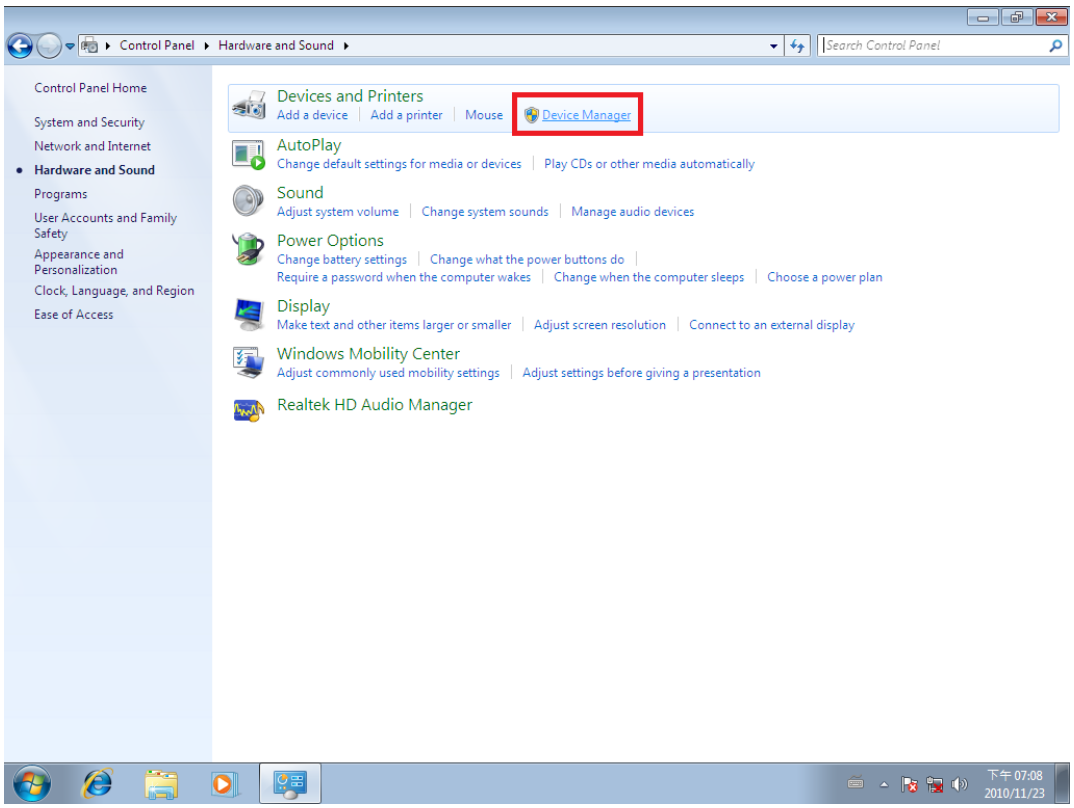
1. Switch off the computer.
2. Insert the uPCI-800LS Universal PCI serial I/O card into a free PCI Bus slot.
3. Switch on the computer and start Windows OS.
4. Windows OS will automatically detect the Universal PCI I/O Card.
5. Right-click on the “START” button and then click “Control Panel” to open it.



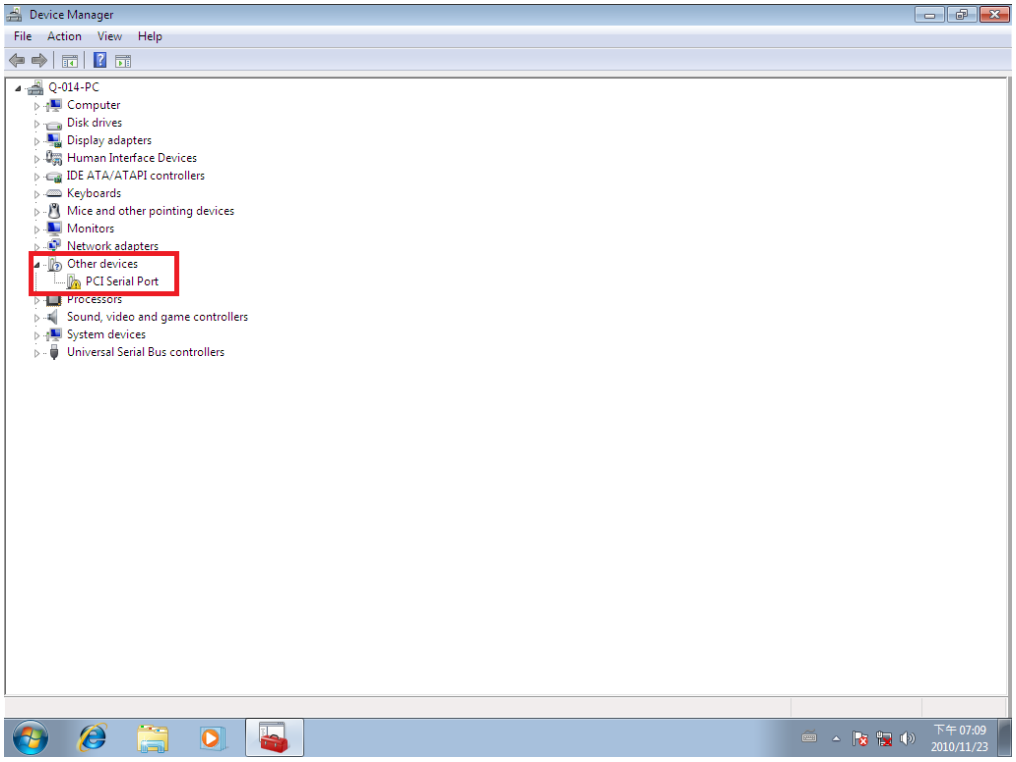
6. Select “Hardware and Sound”.



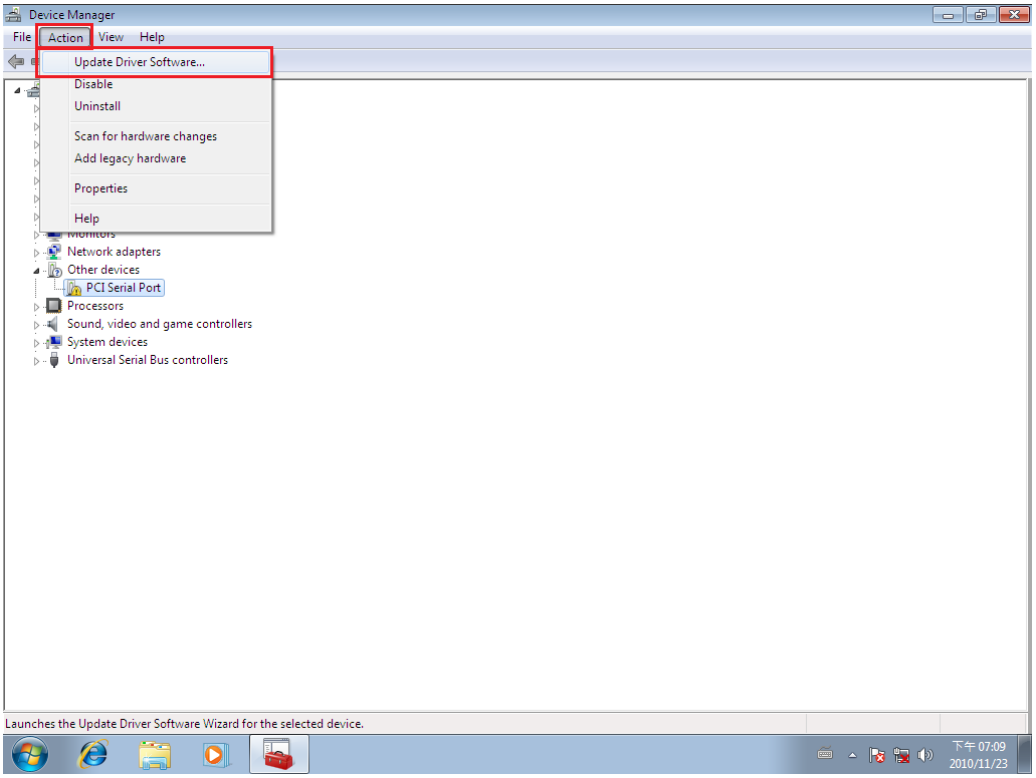
7. Select “Device Manager”.



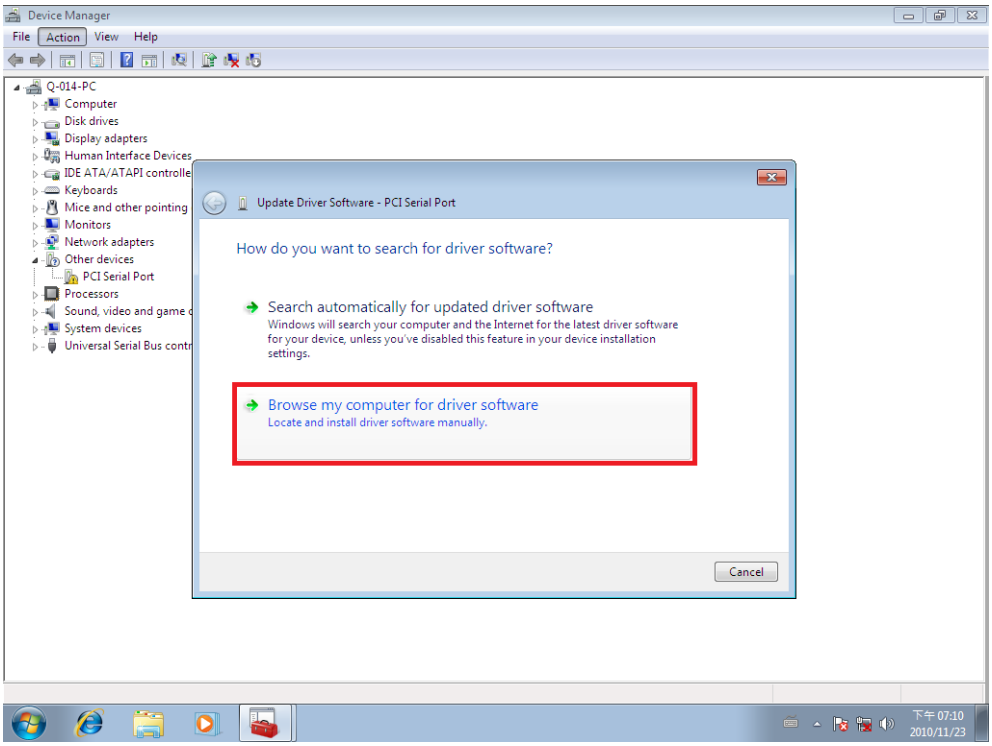
8. Under “Device Manager” of the system properties, you can find “PCI Serial Port” attached to “Other devices”. Select “PCI Serial Port”.



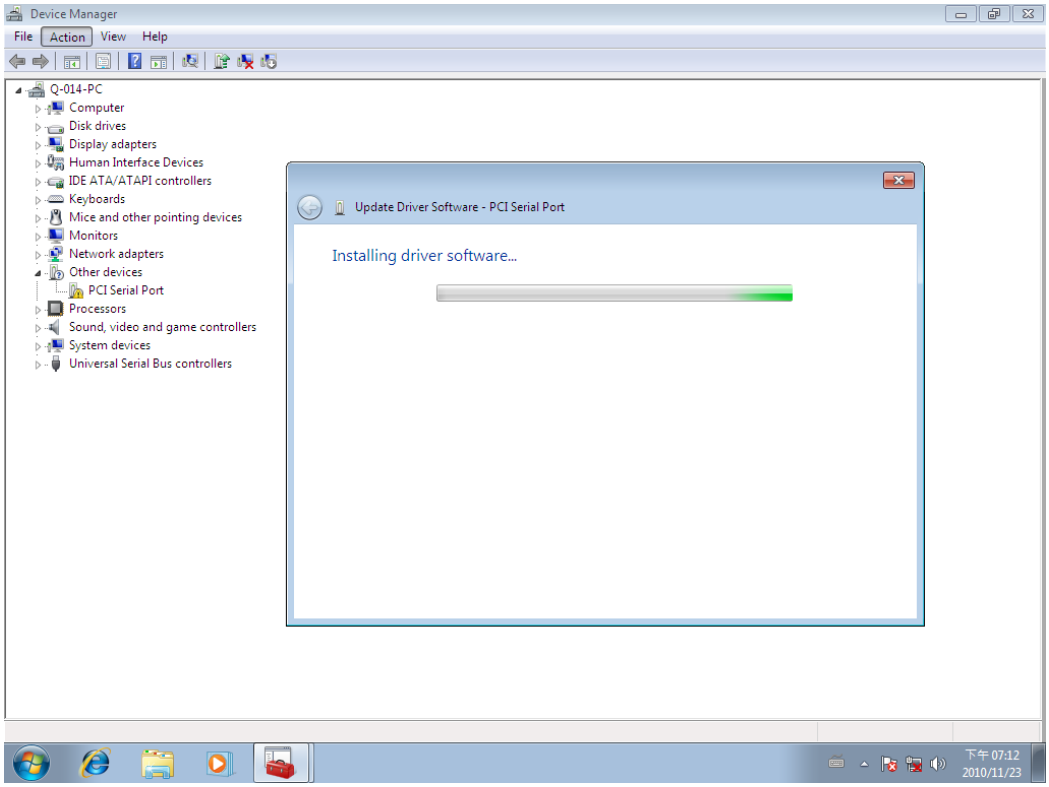
9. Select “Action” and execute “Update Driver Software”.



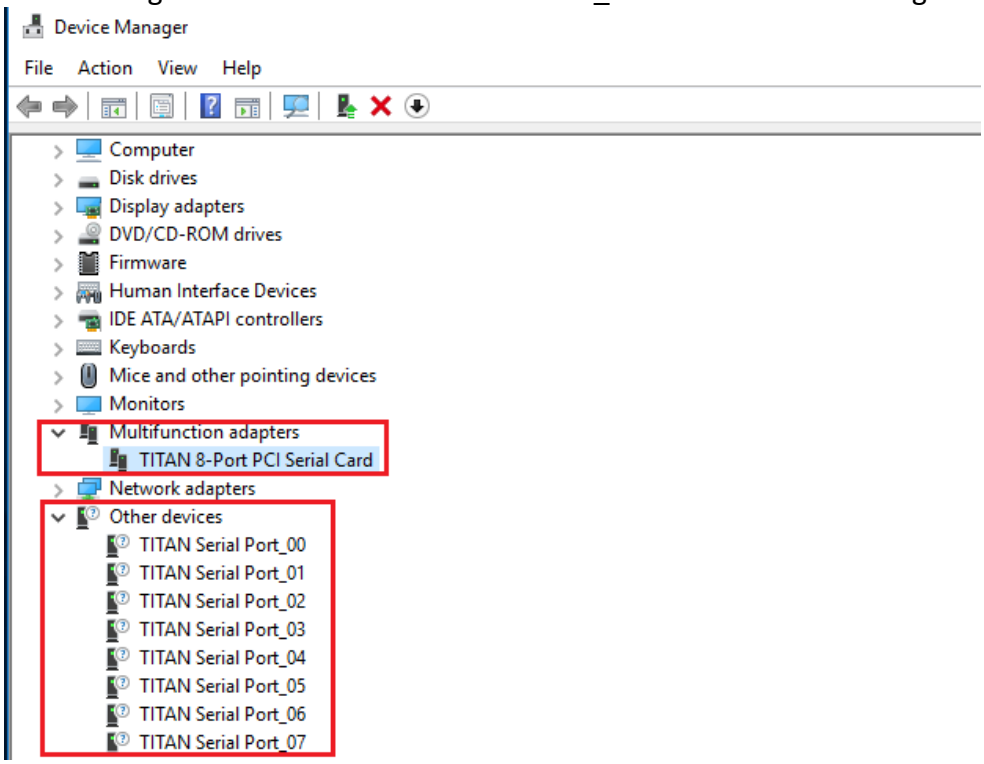
10. Click “Browse my computer for driver software”.



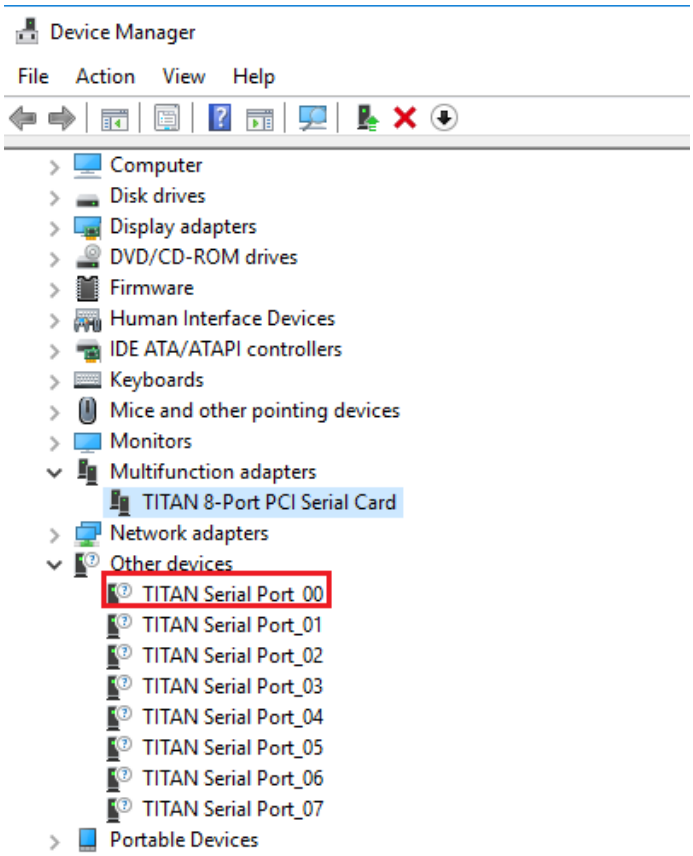
11. Insert the driver CD into the CD-ROM or DVD-ROM drive.
12. Select the directory "\PCI W10 Drivers\x86\titan” for 32 bits Windows 10 OS (“\PCI W10 Drivers\x64\titan64 for 64 bits Windows 10 OS”) as the target. Click on "OK", and on “Next” to install driver.



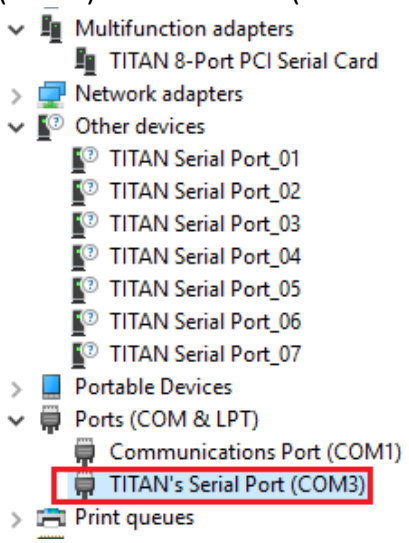
13. After driver installation is done successfully, you will find “TITAN 8-Port PCI Serial Card” and eight instances of “TITAN Serial Port_xx” under Device Manager.



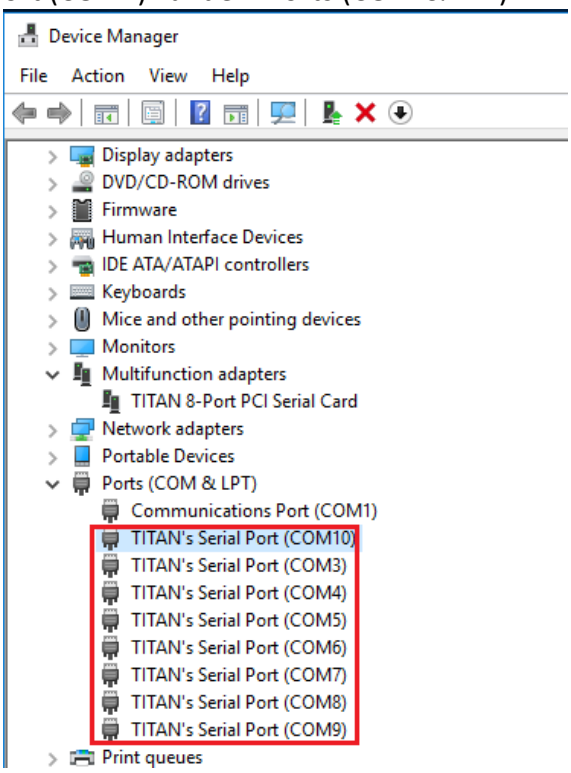
14. Select the first “TITAN Serial Port_xx”.



15. Select “Action” and execute “Update Driver Software”.
16. Click “Browse my computer for driver software” again.
17. Select the directory "\PCI W10 Drivers\x86\titanser32” for 32 bits Windows 10 OS (“\PCI W10 Drivers\x64\titanser64 for 64 bits Windows 10 OS”) as the target. Click on "OK", and on “Next” to install COM port driver.
18. After COM port driver installation is done successfully, you can find the first “TITAN’s Serial Port (COMx)” under “Ports (COM & LPT)” in Device Manager.



19. Select the next “TITAN Serial Port_xx” and repeat steps 15~17 to install all of the COM port drivers.
20. After all COM port driver installations are done successfully, you will find eight “TITAN’s Serial Port (COMx)” under “Ports (COM & LPT)” in Device Manager.

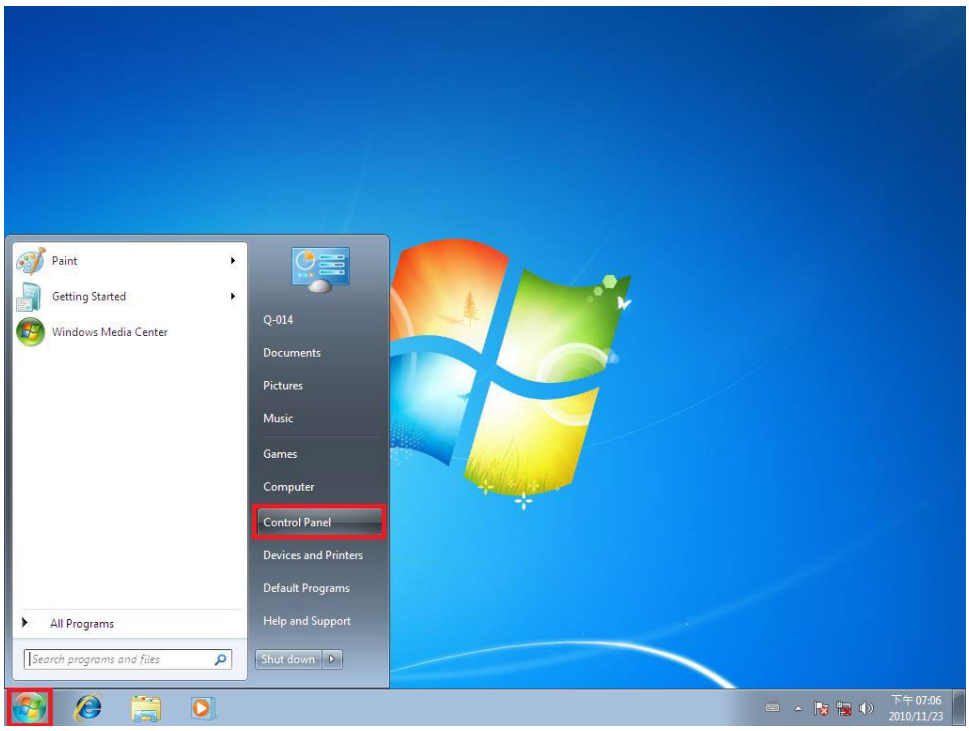


21. Restart computer to complete installation.

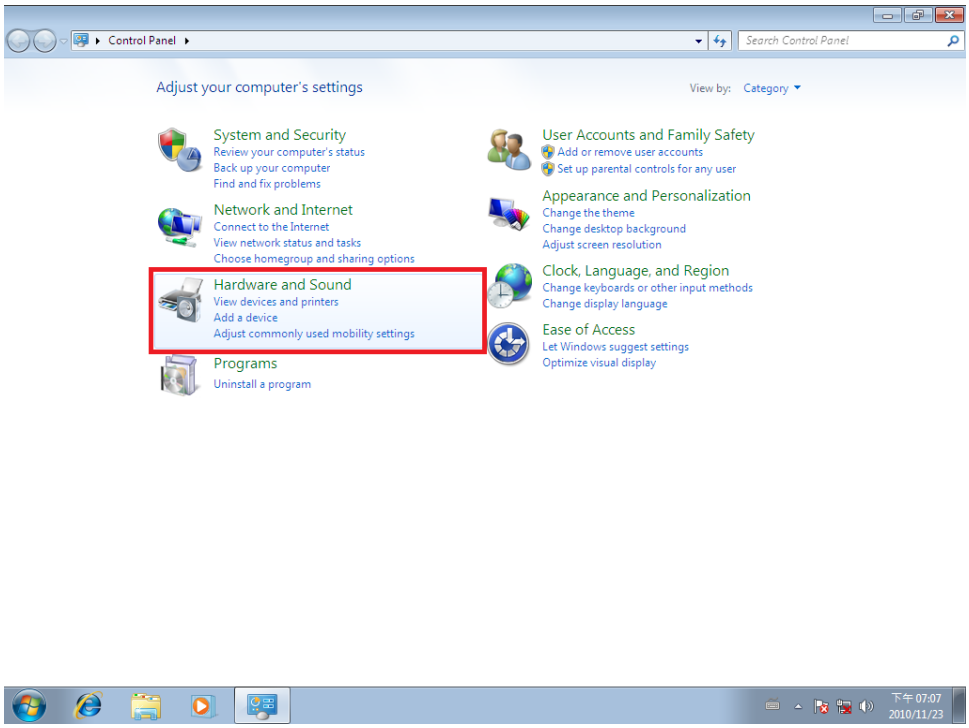
Windows 8.1/8/7 64-bit and 32-bit Drivers Installation

To install the Windows 8.1/8/7 driver from Device Manager for the uPCI-800LS Universal PCI serial I/O card, please follow the steps below:

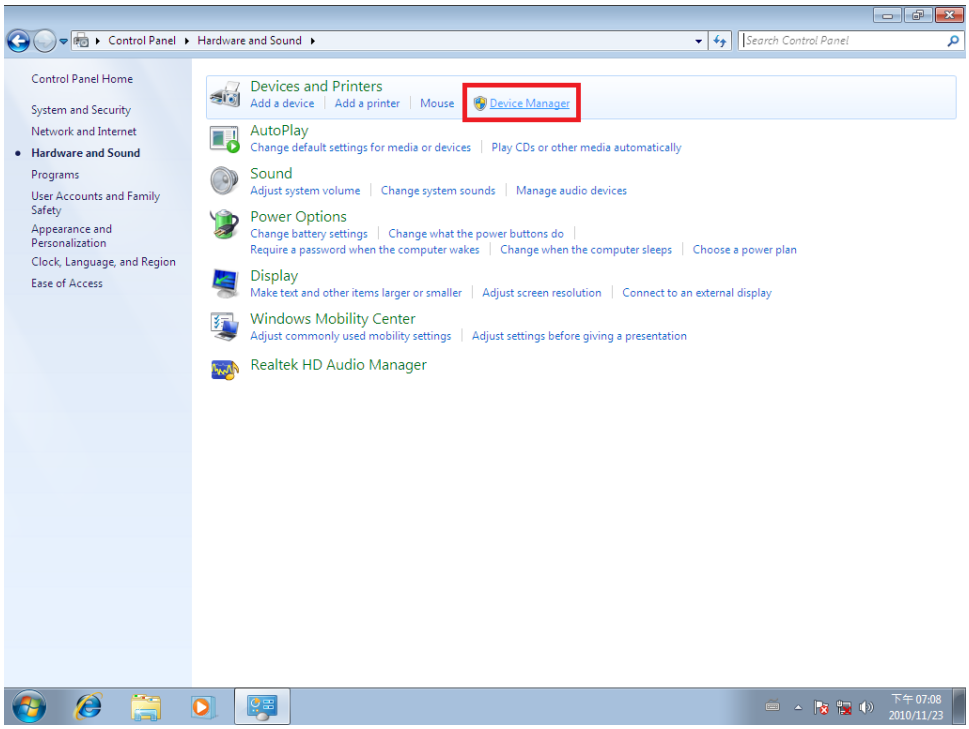
1. Switch off the computer.
2. Insert the uPCI-800LS Universal PCI serial I/O card into a free PCI Bus slot.
3. Switch on the computer and start Windows OS.
4. Windows OS will automatically detect the Universal PCI I/O Card.
5. Press “START” button and select “Control Panel”.



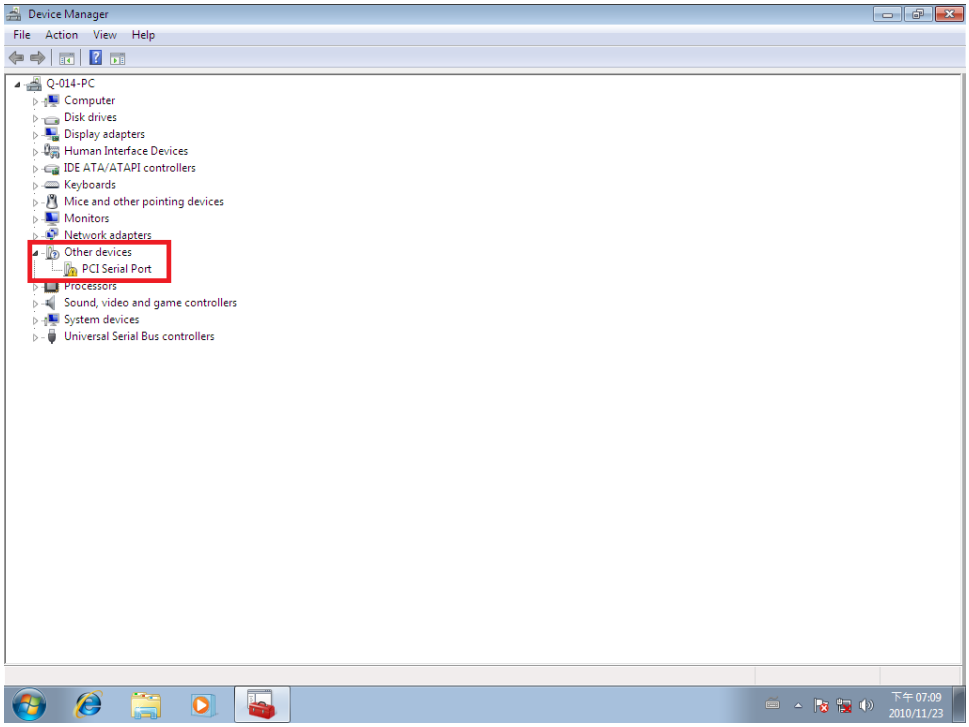
6. Select “Hardware and Sound”.



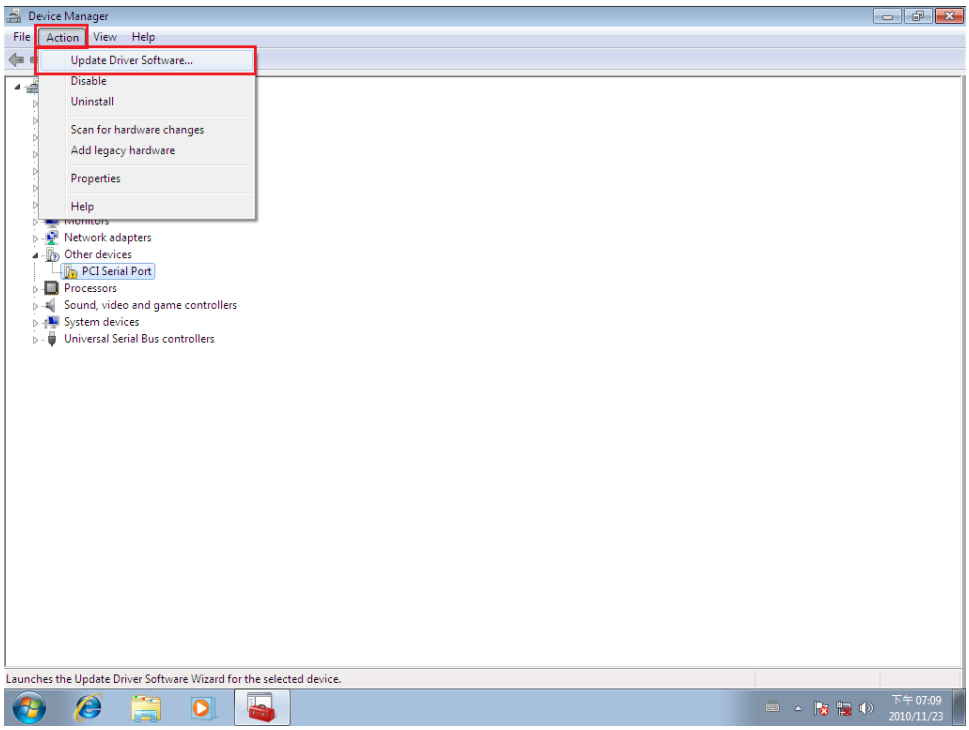
7. Select “Device Manager”.



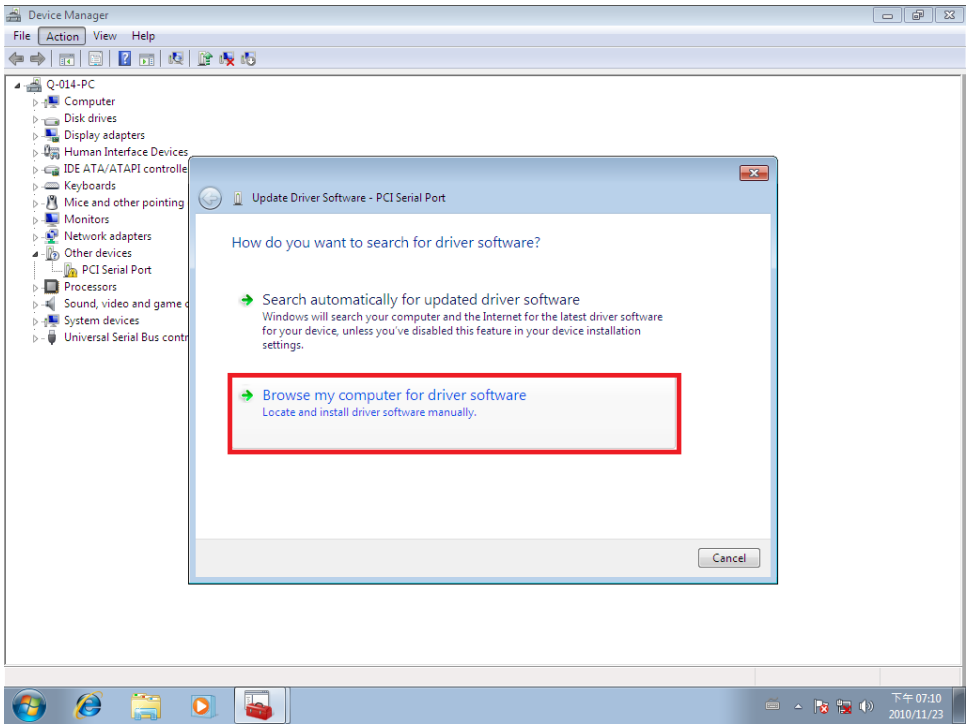
8. Under “Device Manager” of the system properties, you can find “PCI Serial Port” attached to “Other devices”. Select “PCI Serial Port”.



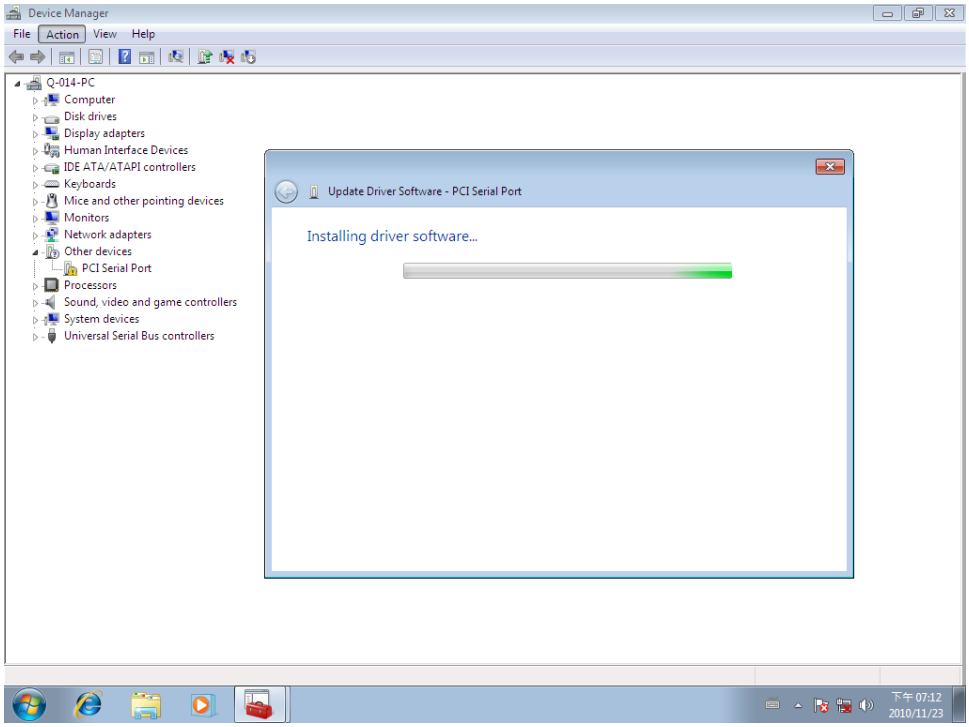
9. Select “Action” and execute “Update Driver Software”.



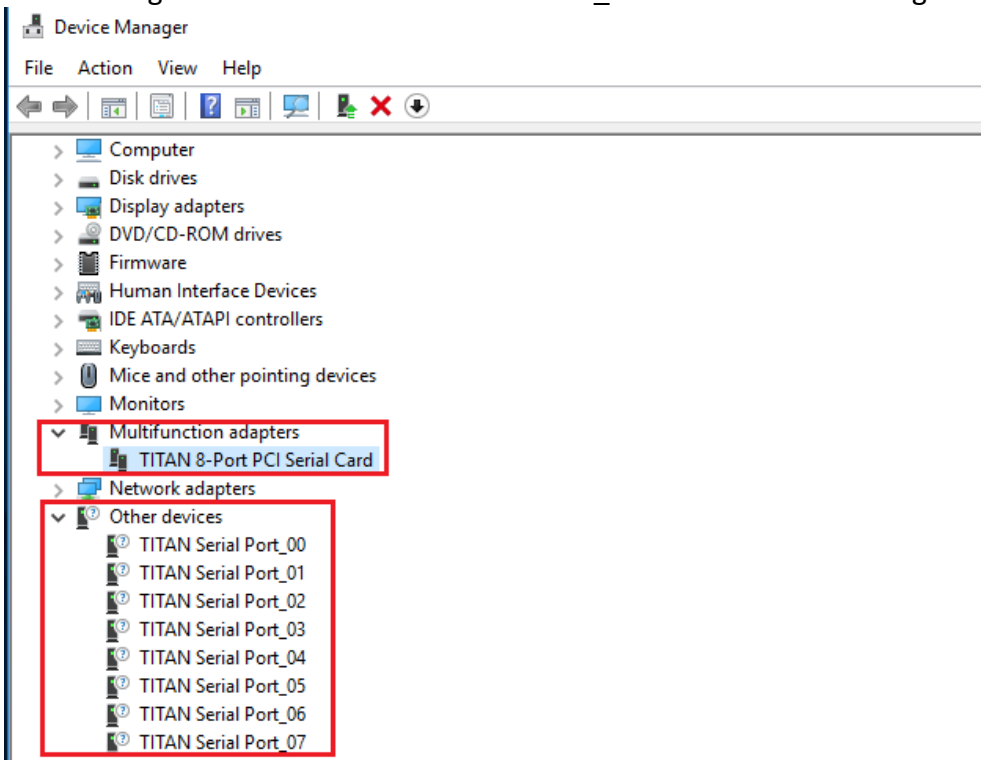
10. Click “Browse my computer for driver software”.



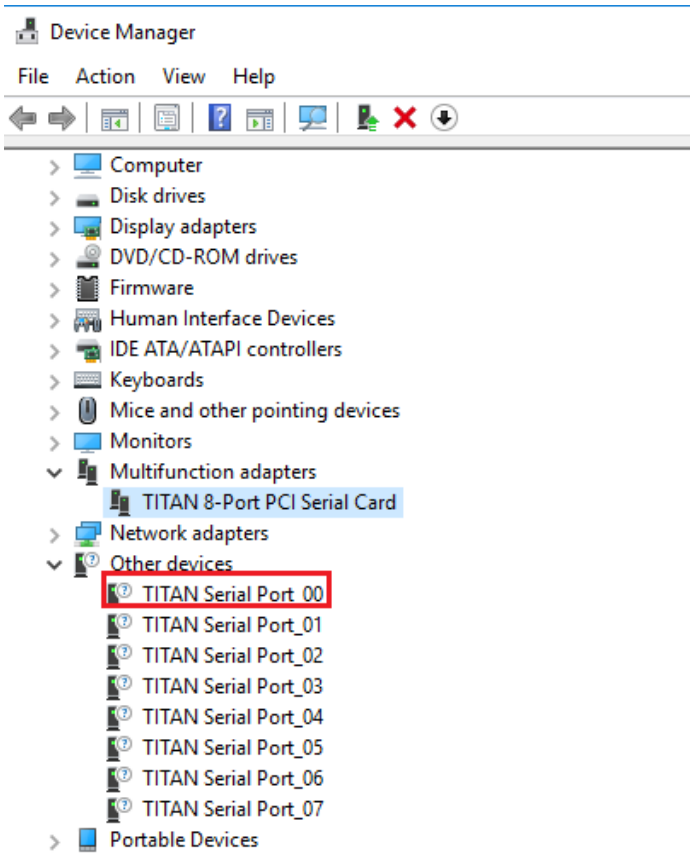
11. Insert the driver CD into the CD-ROM or DVD-ROM drive.
12. Select the directory "\PCI W7 Drivers\x86\titan” for 32 bits Windows 8.1/8/7 OS (“\PCI W7 Drivers\x64\titan64 for 64 bits Windows 8.1/8/7 OS”) as the target. Click on "OK", and on “Next” to install driver.



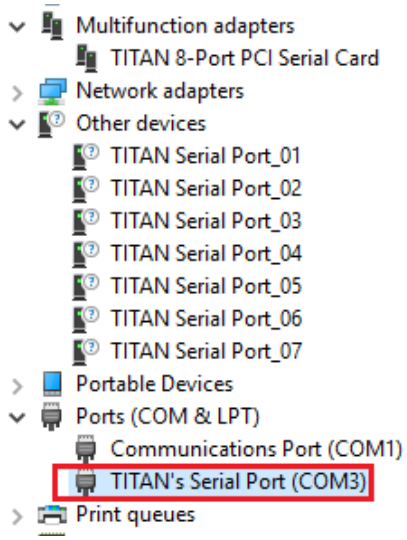
13. After driver installation is done successfully, you will find “TITAN 8-Port PCI Serial Card” and eight instances of “TITAN Serial Port_xx” under Device Manager.



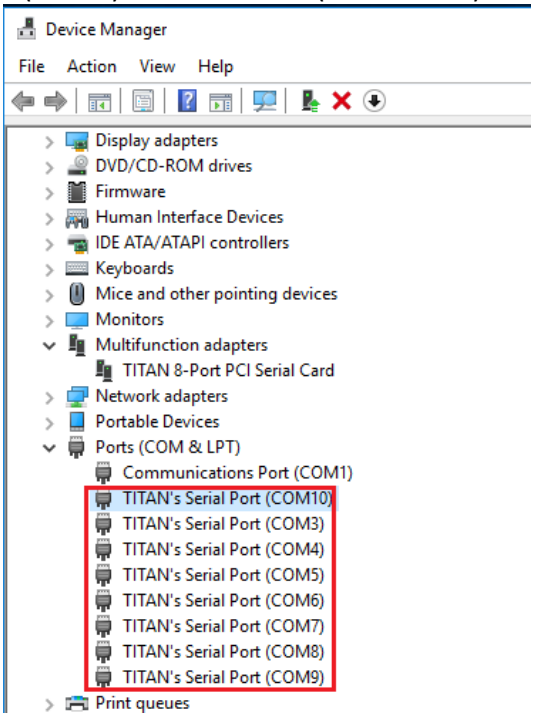
14. Select the first “TITAN Serial Port_xx”.



15. Select “Action” and execute “Update Driver Software”.
16. Click “Browse my computer for driver software” again.
17. Select the directory "\PCI W7 Drivers\x86\titanser” for 32 bits Windows 8.1/8/7 OS (“\PCI W7 Drivers\x64\titanser64 for 64 bits Windows 8.1/8/7 OS”) as the target. Click on "OK", and on “Next” to install COM port driver.
18. After COM port driver installation is done successfully, you can find the first “TITAN’s Serial Port (COMx)” under “Ports (COM & LPT)” in Device Manager.



19. Select the next “TITAN Serial Port_xx” and repeat steps 15~17 to install all of the COM port drivers.
20. After all COM port driver installations are done successfully, you will find eight “TITAN’s Serial Port (COMx)” under “Ports (COM & LPT)” in Device Manager.

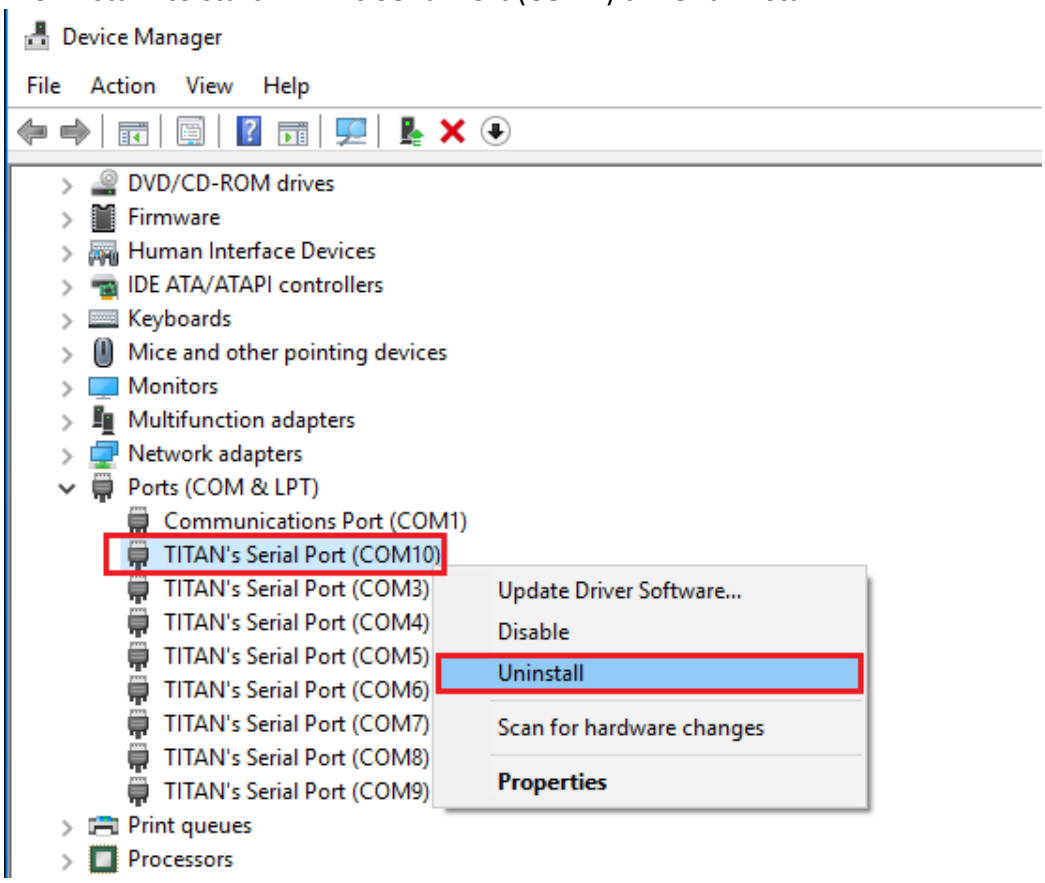


21. Restart computer to complete installation.

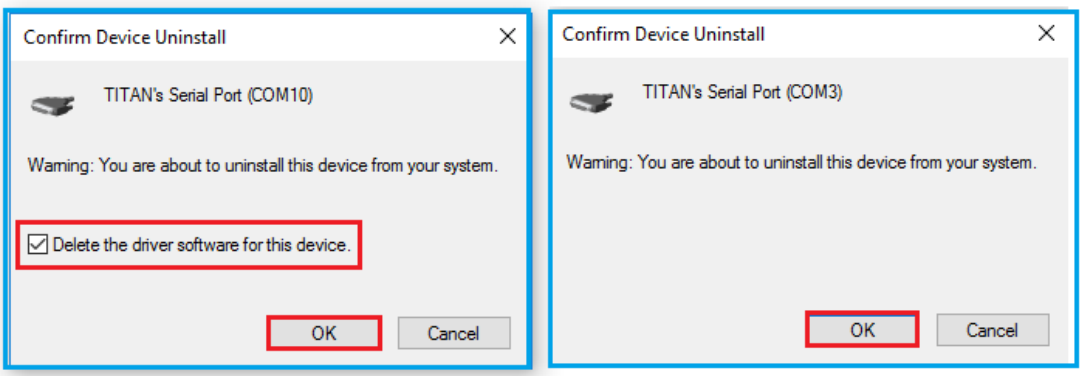
UNINSTALLING WINDOWS DRIVERS

To uninstall the Windows driver from Device Manager for uPCI-800LS Universal PCI serial I/O card, please follow the steps below:

1. Right click on “TITAN’s Serial Port (COMx)” under Device Manager and select “Uninstall” to start TITAN’s Serial Port (COMx) driver uninstall.

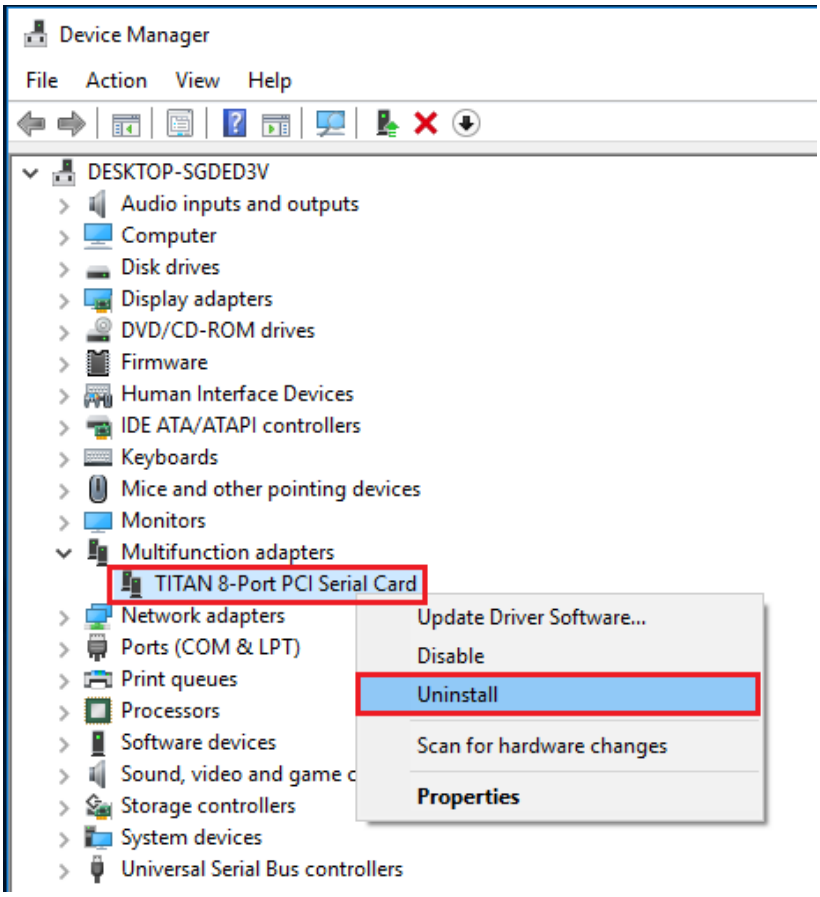


2. Under the “Confirm Device Uninstall” window, check “Delete the driver software for this device.” Click “OK” to uninstall the software driver. If there is no “Delete the driver software for this device” checkbox, just click “OK” to uninstall the software driver.



3. Right click on the remaining “TITAN’s Serial Port (COMx)” drivers and repeat steps 1 and 2 to uninstall all TITAN’s Serial Port drivers.

4. Right click on “TITAN 8-port UART PCI Serial Card” under Device Manager to and select “Uninstall” to start uninstalling “TITAN 8-port UART PCI Serial Card” software driver.



5. Under the “Confirm Device Uninstall” window, check “Delete the driver software for this device.” Click “OK” to uninstall the software driver. If there is no “Delete the driver software for this device.” message, just click “OK” to uninstall the software driver.



6. If you installed more than one TITAN 8-Port PCI serial I/O cards in your system, please right click on the other “TITAN 8-Port PCI Serial Card” drivers and repeat steps 4~5 to uninstall all TITAN 8-Port PCI serial I/O cards software drivers.

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