

# MCS9865 Windows XP 32 / 64 bit User Manual

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# 1. Introduction

This document describes the software driver installation procedure for MosChip MCS9865 PCI to Serial / Parallel device.

# 2. Obtaining Driver

MCS9865 software drivers can be downloadable from <u>www.moschip.com</u>. Contact <u>techsupport@moschip.com</u> for details

# 3. Driver Installation

Installing drivers for the first time:

- Run "PCIsetup.exe" file from the driver disk folder.
- **PCISetup** window will be popped up as shown below



Click on "Install" button to install the MCS9865 drivers automatically.

While installation is in process, "**Software Installation**" warning message pops up twice for Windows XP compatibility. Ignore the warning message by clicking on "**Continue Anyway**" button. This is required for un-signed driver versions ( i.e Driver not logo certified by Microsoft) only.





• On successful driver installation, the utility will display "Installation Completed" message, click on "Exit" button to complete the driver installation.



- Shutdown the PC and insert the MCS9865 based PCI card into PCI slot and then turn ON the PC.
- After restarting the PC, for the first time windows will bring up the "Found New Hardware Wizard" window to guide through the initial configuration process. Select "No, not this time" option and click on "Next" button to continue driver installation.







• Select "Install the software automatically (Recommended)" option and click "Next" button.

Found New Hardware Wize	ard
	This wizard helps you install software for: PCI Serial Port If your hardware came with an installation CD or floppy disk, insert it now.
	Install the software automatically [Recommended] Install from a list or specific location (Advanced)
The second second	Click Next to continue.
	< <u>B</u> ack <u>N</u> ext > Cancel

• If the "Hardware Installation" wizard pops for Windows XP compatibility, click on "Continue Anyway" button to ignore the warning message.







• Click on "Finish" button to complete the MosChip MCS9865 Peripheral Port installation.



**Note:** Above procedure shall be followed to install the remaining ports of MCS9865 device.

# 4. Verifying Driver Installation

MCS9865 device detection and driver installation can be confirmed from Device Manager. For Example proper detection of the MCS9865 PCI Card (2 Serial + 1 Parallel) can be confirmed by viewing the Device manager as shown below:





# 5. Serial Port Properties Sheet

In the Device Manager window, right click on required Port and then click on "**Properties**" to open the Properties page of the serial port.



# **General Tab**

The "General" Tab provides you details about "Device Type", "Manufacturer" and "Device Status".

ligh-Spe	ed PCI Seria	il Port (CC	0M3) Pr	opertie	s	?
General	Port Settings	Advanced	Driver	Details	Resources	
Ţ	High-Speed F	PCI Serial Po	t (COM3)			
	Device type:	Ports	COM & L	PT)		
	Manufacturer	: MosCl	nip Semic	onductor	Technology	Ltd
	Location:	PCI SI	ot 1 (PCI	bus 5, de	vice 0, functi	ion 0)
Devic	ce status					
lt yo start	u are having pro the troubleshoo	iblems with th	nis device	e, click Tr	oubleshoot to	
				ı <u>T</u>	oubleshoot	
<u>D</u> evice	usage:					
Use th	is device (enabl	e)				~
					ОК	Cancel





#### **Port Settings Tab**

The "**Port Settings**" Tab is used to configure parameters of the Serial Port. These settings will be overridden by the settings configured in the serial port application.

High-Speed PCI Serial Port (COM3) Properties	X
General Port Settings Advanced Driver Details Resources	
<u>B</u> its per second: 9600 ▼	
Data bits: 8	
Parity: None	
Stop bits: 1	
Change Port Number <u>R</u> estore Defaults	
OK Cance	

Bits per Second selection is used to set the default Baud rate settings.

Data bits selection will have options 4,5,6,7 and 8 data bits.

Parity selection will have Even, Odd, None, Mark and Space parity settings.

**Stop bits** selection will have 1, 1.5 and 2 selections.

Flow Control selection will have Xon/Xoff, Hardware and None settings.

If you want to change the Port Number click on "**Change Port Number**" and select the required Port Number as shown below:

Advanced Settings for COM8	? 🔀
	ОК
	Cancel
COM Port Number:	<u>D</u> efaults





#### **Driver Tab**

High-Spee	ed PCI Serial I	Port (C	омз) р	ropertie	5	? 🔀
General	Port Settings A	dvanced	Driver	Details	Resources	
Į	High-Speed PCI	Serial Po	rt (COM3	)		
	Driver Provider:	MosC	hip Semi	conducto	Technology L	.td
	Driver Date:	4/3/2	2008			
	Driver Version:	1.0.0.	4			
	Digital Signer:	Not d	igitally sig	ined		
<u>D</u> rive	r Details te Driver	To view To upda	details al ite the dri	oout the c	river files. s device.	
<u>R</u> oll B	ack Driver	If the de back to	vice fails the previ	after upd ously insta	ating the driver Illed driver.	r, roll
	ninstall	To unins	stall the d	river (Adv	anced).	
					ок (	Cancel

The **Driver Tab** shows the details of Driver Provider, Driver Release Date, Driver version installed on your PC and Digital Signer details as shown above.

# **Resource Tab**

gh-Speed PCI Ser	ial Port (COM3) Proper	ties	?
ieneral Port Settings	Advanced Driver Deta	ails Resources	
High-Speed	PCI Serial Port (COM3)		
Resource settings: Resource type	Setting		~
I/O Range III Memory Range IIII Memory Range	1058 - 105F 50006000 - 50006FFF 50005000 - 50005FFF		~
Setting based on:			~
V	Use automatic settings	Change Setting	
Conflicting device list:			
No conflicts.			~
	ſ		Cancel



The **Resource Tab** gives the details of IRQ, IO Ranges and Memory ranges that are assigned to a particular Serial Port.

Advanced Tab allows the user to configure Serial Port Features and Mode changes as explained below.

High-Speed PCI Serial Port (COM3) Properties
General Port Settings Advanced Driver Details Resources
RS 232     RS 422     RS 485 Half Duplex
Auto Hardware Flow Control
DMA Settings Adv Baudrates
Restore Defaults
OK Cancel



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# 6. Serial Port Features and Mode Changes

By default every serial Port will be in RS 232 Mode.

Serial port can also be set to **RS 422** or **RS 485** Mode. Select the appropriate Radio button as shown below:

# Selecting RS 422 Mode:

Select the RS 422 Radio button to select the RS 422 Mode.

High-Speed PCI Serial Port (COM3) Properties	? 🗙
General Port Settings Advanced Driver Details Resources	
C RS 232 C RS 422 C RS 485 Half Duplex ▼	
C Auto Hardware Flow Control	
DMA Settings	·
Restore Default	s
OK Car	ncel

#### Selecting RS 485 Mode

After selecting **RS 485** Radio button you will have different Mode settings like Full Duplex, Half Duplex and Half Duplex Echo. You can select as per your requirement.

High-Spe	ed PCI Seri	al Port (CC	мз) Р	opertie	:5	? 🔀
General	Port Settings	Advanced	Driver	Details	Resources	
	75 232 75 422 75 485 Hd Ha Ha Auto Hardware	alf Duplex II Duplex If Duplex If Duplex Ech Flow Control	x Settings	·	Adv Baudrates	
					Restore Defa	ults
					ок с	ancel



#### Selecting Hardware Flow Control

To enable Hardware flow control, select the "Auto Hardware Flow Control". This enables RTS / CTS Hardware Flow control for the selected serial port. This setting is applicable only for RS 232 Mode only.

High-Speed PCI Serial Port (COM3)	Properties 🛛 🛛 🛛
General Port Settings Advanced Driv	ver Details Resources
<ul> <li>○ RS 232</li> <li>○ RS 422</li> <li>○ RS 485 Half Duplex ▼</li> </ul>	]
Auto Hardware Flow Control	
DMA Sett	ings Adv Baudrates
	Restore Defaults
	OK Cancel





#### **Configuring Advanced Baud rates**

To Configure Advanced Baud rates click on "Adv Baudrates" button.

<ul> <li>Use Standard Baudrates</li> <li>Use Custom Baudrate</li> </ul>	3		
- Custom Baud Selection			
🔲 Use External Clook	14745600		Hz
Input Clock ( Internal )	1.8432	-	
DLL Value :	0x01	-	
DLM Value :	0x00	-	
🔲 Sampling Clocks / Bit :	16	-	
Calculated Baudrate :			1

By default "Use Standard Baudrates" option is enabled.

To configure custom Baud rate select "Use Custom Baudrate".

**Note**: When "**Use Custom Baudrate**" is selected, Serial Port baudrate is independent of the value set in the Application

Input clock:

Advanced/Custom Baudr	ates	
<ul> <li>Use Standard Baudrates</li> <li>Use Custom Baudrate</li> </ul>	3	
Custom Baud Selection		
Use External Clook	14745600	Hz
Input Clock ( Internal )	1.8432 💌	
DLL Value :	0x01 💌	
DLM Value :	0x00 💌	
Sampling Clocks / Bit :	16 💌	
Calculated Baudrate :	921600	-
ОК	Cancel	Defaults





When an external clock option is selected, the value of the external clock must be entered in the text box provided against "Use External Clock column".

<ul> <li>Use Standard Baudrate:</li> <li>Use Custom Baudrate</li> </ul>	8	
Custom Baud Selection		
<ul> <li>Use External Clook</li> </ul>	14745600	Hz
Input Clock ( Internal )	1,8432 💌	
DLL Value :	0x01 💌	
DLM Value :	0x00 💌	
Sampling Clocks / Bit :	16 💌	
Calculated Baudrate :	921600	-

Custom baud rates can be obtained by selecting required  $\ensuremath{\text{Input clock, DLL DLM}}$  and sampling clock

Values. The calculated baud rate will be shown in the Text Box provided for it.

To calculate the custom bauds please refer Custom Baud Application Note or contact

techsupport@moschip.com

# 7. Direct Memory Access (DMA)

#### Selecting DMA mode.

For Selecting DMA Mode click on **DMA Settings** on Advanced TAB as shown below:

Sample StartBit :	4 💌		4096
Sample DataBit :	4 💌	I Rx DMA Enable :	4096
Enable ILG :	0x00 👻		
Enable 9-Bit Mode			
Enable 9-Bit Mode			





→To enable DMA Mode selects "TX DMA Enable" and "Rx DMA Enable" check box options.

→Suitable value for Inter Character Gap (ICG) has to be set for special application like RAID controller devices.

→To enable 9bit Mode support, Select "Enable 9-Bit Mode"

#### 8. Parallel Port Features and Mode Changes

#### **Parallel Port Features**

Parallel port will support SPP/CBFIFO/ECP/EPP modes. Parallel port mode will be automatically configured to the required mode after handshaking with the connected device.

PCI ECP Parallel Port (LPT2) Properties
General Port Settings Driver Details Resources
Filter Resource Method
C Iry not to use an interrupt
Never use an interrupt
C ∐se any interrupt assigned to the port
Enable legacy Plug and Play detection
LPT Port Number: LPT2
OK Cancel



# 9. Uninstalling Drivers

#### **Using Uninstall Utility**

To Uninstall MCS9865 drivers, run "**MOSCHIP\_PCIUninst.exe**" available in the driver disk. PCI Multi-I/O Drivers Uninstall window will be displayed as shown below. Click on OK button.

This program wou	ld uninstall the Multi-IO drivers
install	ed on this system.
ОК	(Xit]

Click on Exit button to complete un-installation process. No need to restart the PC, unless prompted by the OS.



#### From Add/Remove Programs

The MCS9865 drivers can also be un-installed/removed from PC through Control Panel  $\rightarrow$  Add/Remove Programs. In Add/Remove programs, select "PCI-Multi I/O Controller" and click on Remove button.

#### **From Device Manager**

The MCS9865 drivers can be un-installed through device manager. In Device Manager, under Ports (COM & LPT) category, select the "High-Speed PCI Serial Port (COM X)", right click on it and select "Uninstall". OS will prompt for confirm device removal, click on "OK" to uninstall the drivers. In this method each and every port has to be uninstalled separately.



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# 10. Installation / Detection / Un-Installation of MCS9865 on Win 2000, Win 2003 server

MCS9865 drivers of XP hold good for Win 2000, Win 2003 server – 32/64 bit also. The installation, Detection and Un-installation procedures are same as explained for Win XP.

# 11. Technical Support

For queries and support contact <u>techsupport@moschip.com</u>.

# **Revision History**

Date	Reason for change	Version
12 <sup>th</sup> April 2008	First cut document	0.1
15th April 2008	Document update per internal review	0.2



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