MCS9900
PCIe to Multi IO Controller

Windows-7 Driver User Manual

Revision History

Revision	Revision History	Date
1.0		30th Mar 2010

Information furnished by MosChip Semiconductor in this document is believed to be accurate and reliable. However, no responsibility is assumed by MosChip Semiconductor for its use, or for any infringements of patents or other rights of third parties which might result from its use. No license is granted by implication or otherwise under any patent or patent rights of MosChip Semiconductor. MosChip Semiconductor may have patents, trademarks, copyrights or other intellectual property that is related to the presented subject matter. MosChip Semiconductor may make changes to specifications or plans at any time, without notice.

MosChip Semiconductor products are not authorized for use as critical components in life support devices or systems. Life support devices are applications that may involve potential risks of death, personal injury or severe property or environmental damages. These critical components are semiconductor products whose failure to perform can be reasonably expected to cause the failure of the life support systems or device, or to adversely impact its effectiveness or safety.

MosChip Semiconductor warrants the performance of its products to the specifications in effect at the time of sale per MosChip Semiconductor standard limited warranty. MosChip Semiconductor imposes testing & quality control processes that it deems necessary to support this warranty. The customer should be aware that not all parameters are 100% tested for each device. Sufficient testing is done to ensure product Quality & Reliability.

Introduction

This document describes the software driver installation procedure for MosChip MCS9900 PCIe to Serial / Parallel / Display products or other manufacturer's product based on MosChip MCS9900.
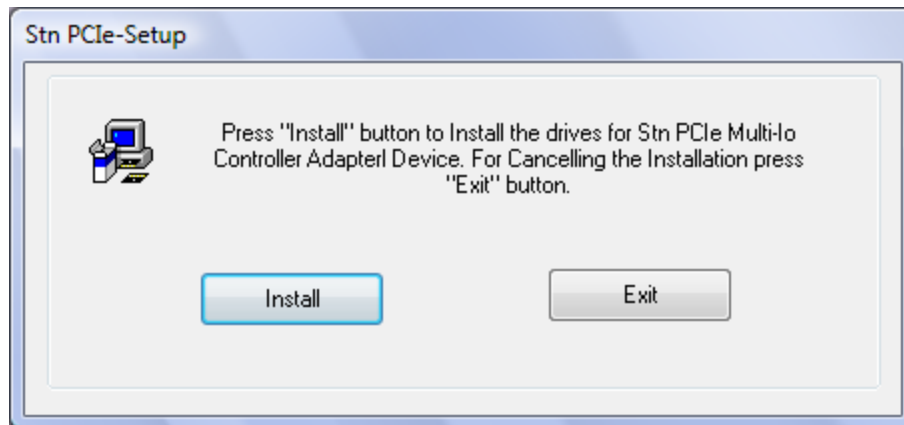
Obtaining Driver

MCS9900 software drivers can be downloaded from www.moschip.com. Alternately, drivers can also be procured by writing to techsupport@moschip.com .
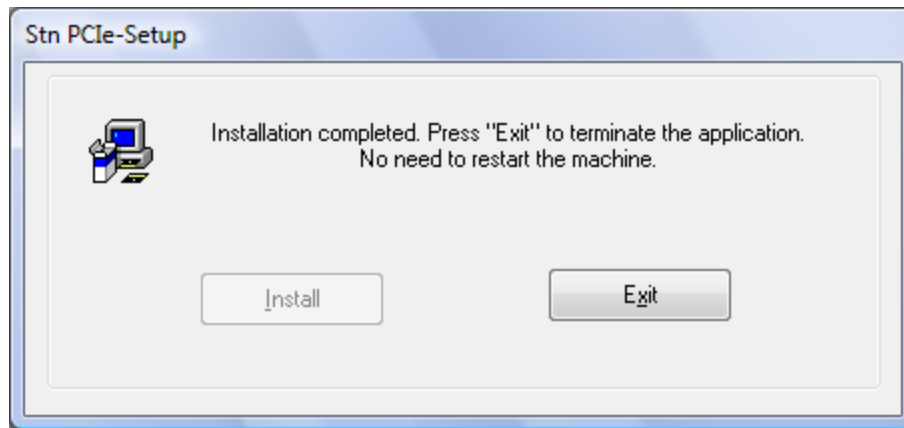
Driver Installation

WHQL Driver Installation:

Installing drivers for the first time:

Run "StnSetup.exe" file from the driver disk. PCIeSetup window will be popped up as shown below.

Click on "Install" button to install the MCS9900 drivers automatically.

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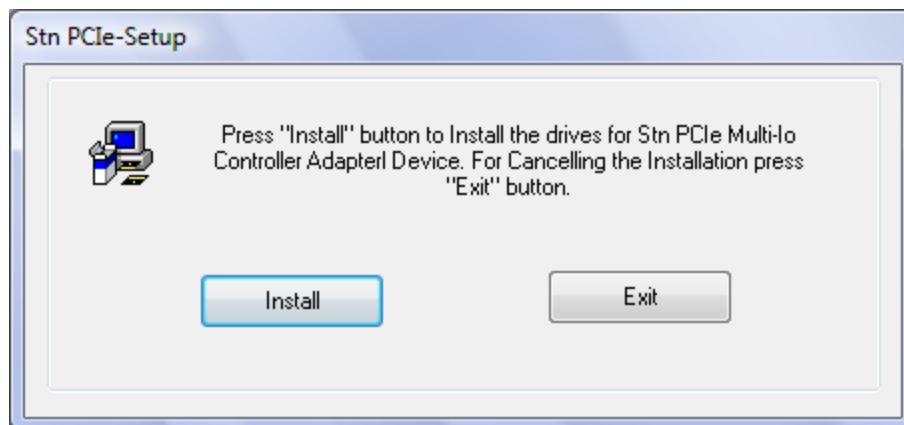

Shutdown the PC and insert the MCS9900 based PCIe card into PCIe slot and then turn ON the PC.
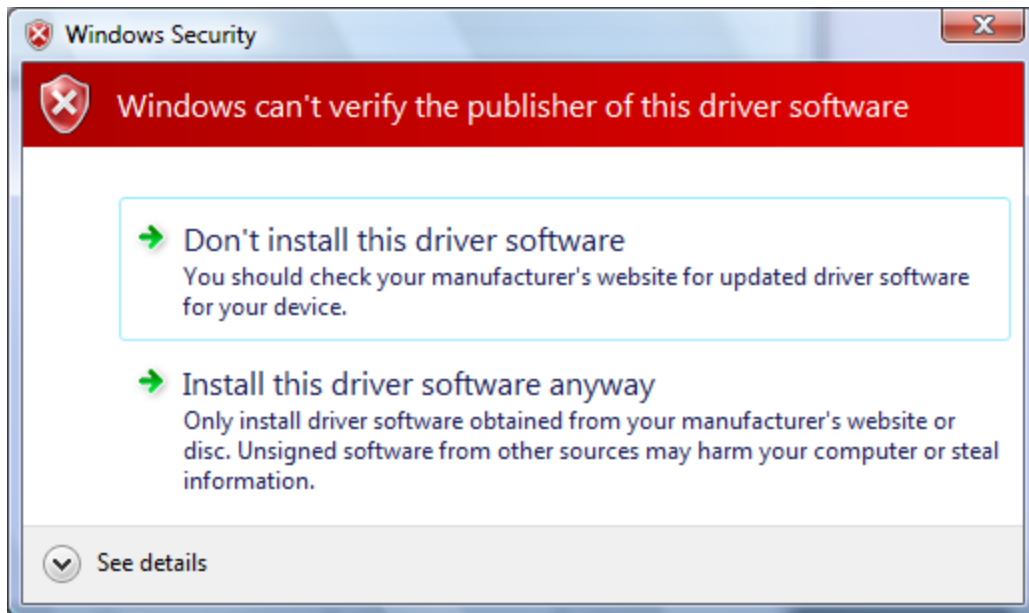
Non-WHQL Driver Installation:

Installing drivers for the first time:

Run "StnSetup.exe" file from the driver disk. PCIeSetup window will be popped up as shown below.


Click on "Install" button to install the MCS9900 drivers automatically.

While installation is in process, "Windows Security" warning message pops up for Windows Vista compatibility, this message appears for three times. Ignore the warning message by clicking on "Install this driver software anyway" button.


On successful driver installation, the utility will display "Installation Completed" message. Click on "Exit" button to complete the driver installation.
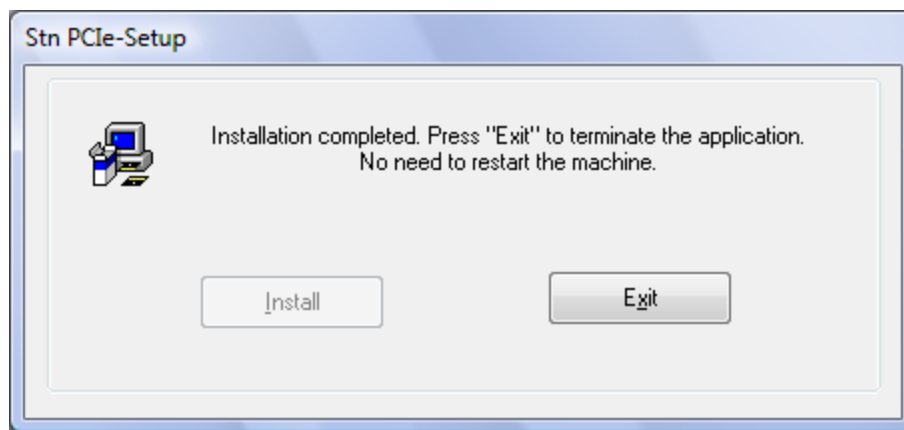
Shutdown the PC and insert the MCS9900 based PCIe card into PCIe slot and then turn ON the PC.

Verifying Driver Installation

MCS9900 device detection and driver installation can be confirmed from Device Manager. For Example proper detection of the MCS9900 PCIe Card (2 Serial 1 Parallel) can be confirmed by viewing the Device manager as shown below:
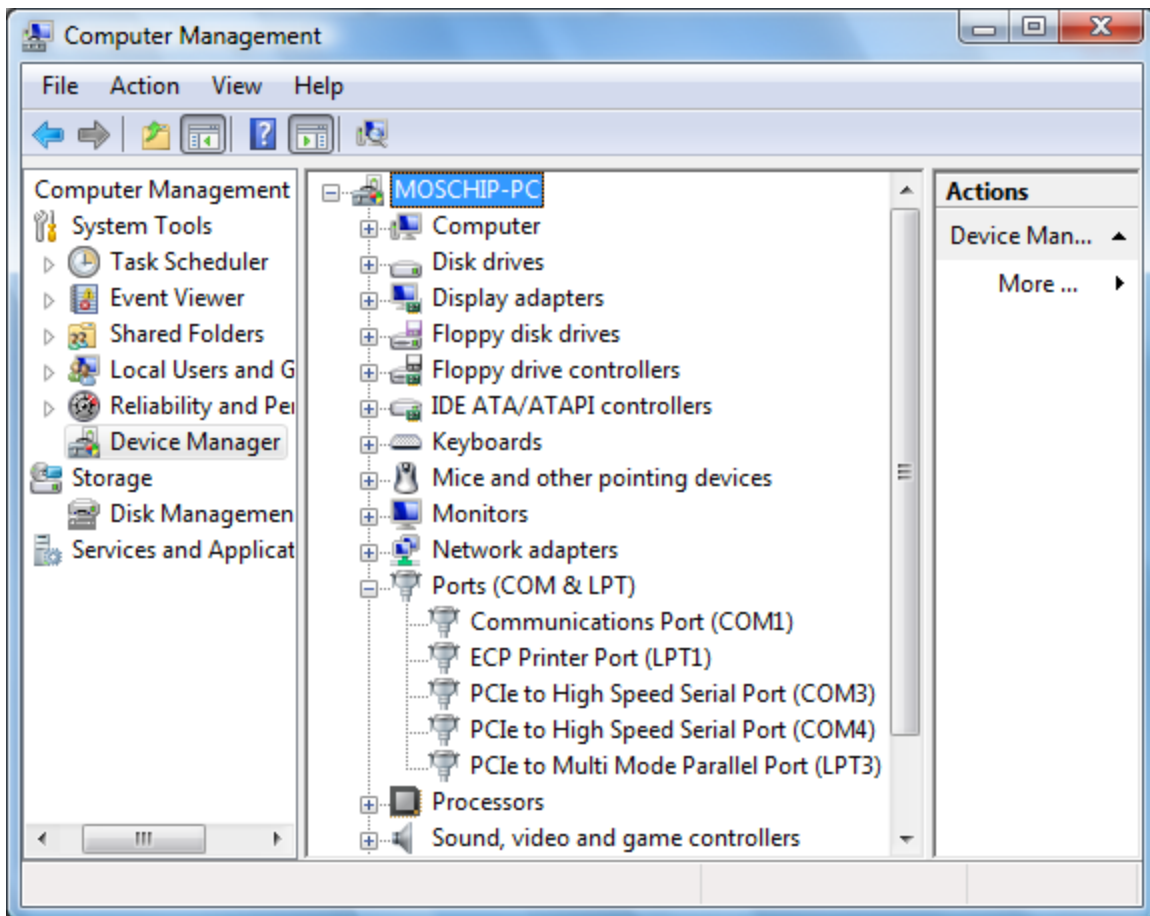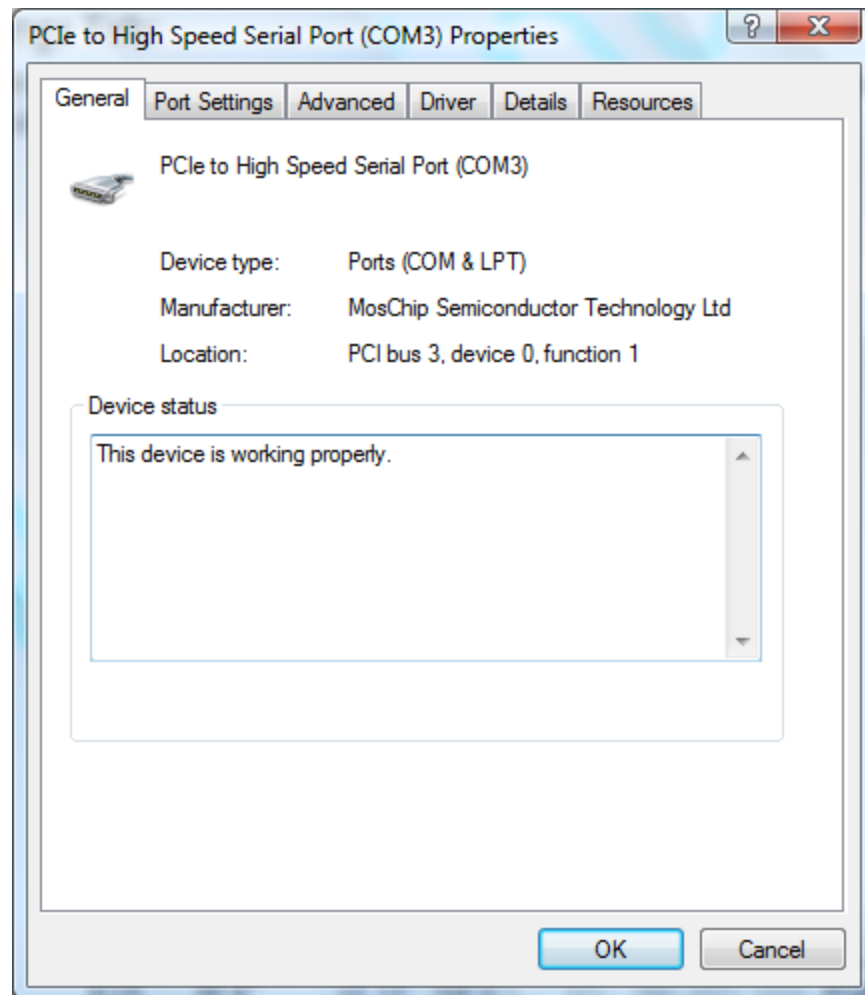
Serial Port Properties Sheet:

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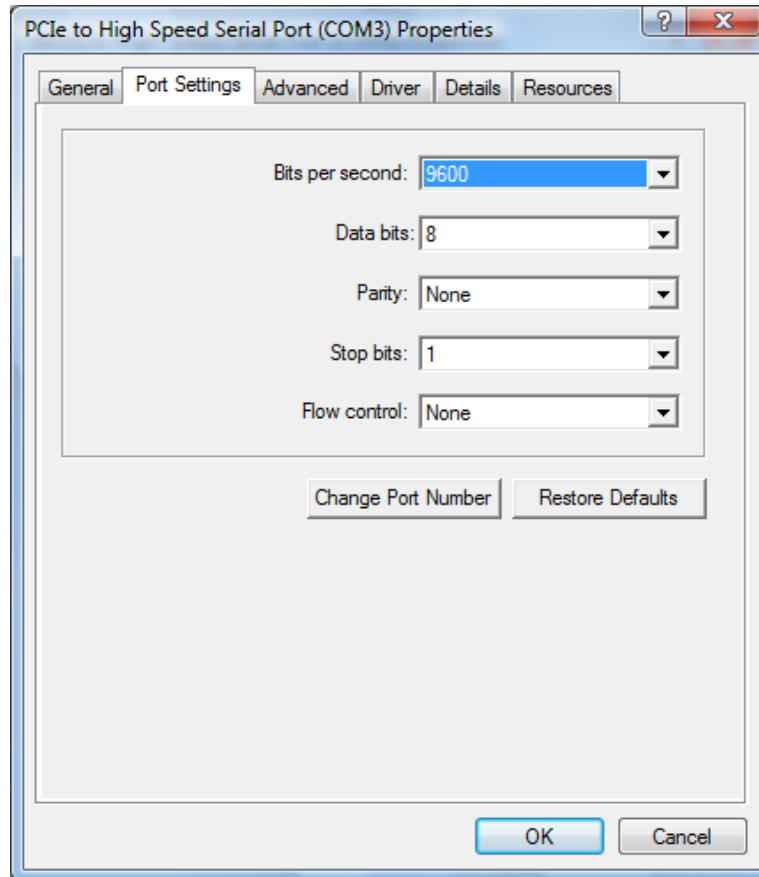
General Tab:

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

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.

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.

To change the Port Number click on "Change Port Number" and select the required Port Number as shown below:
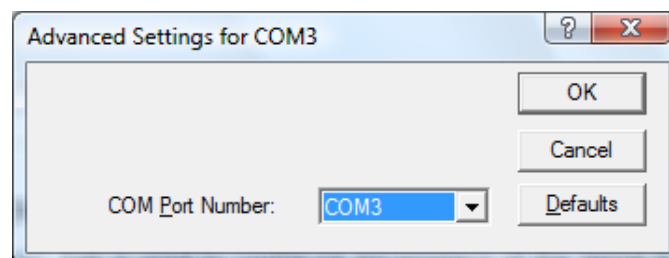
Driver Tab:
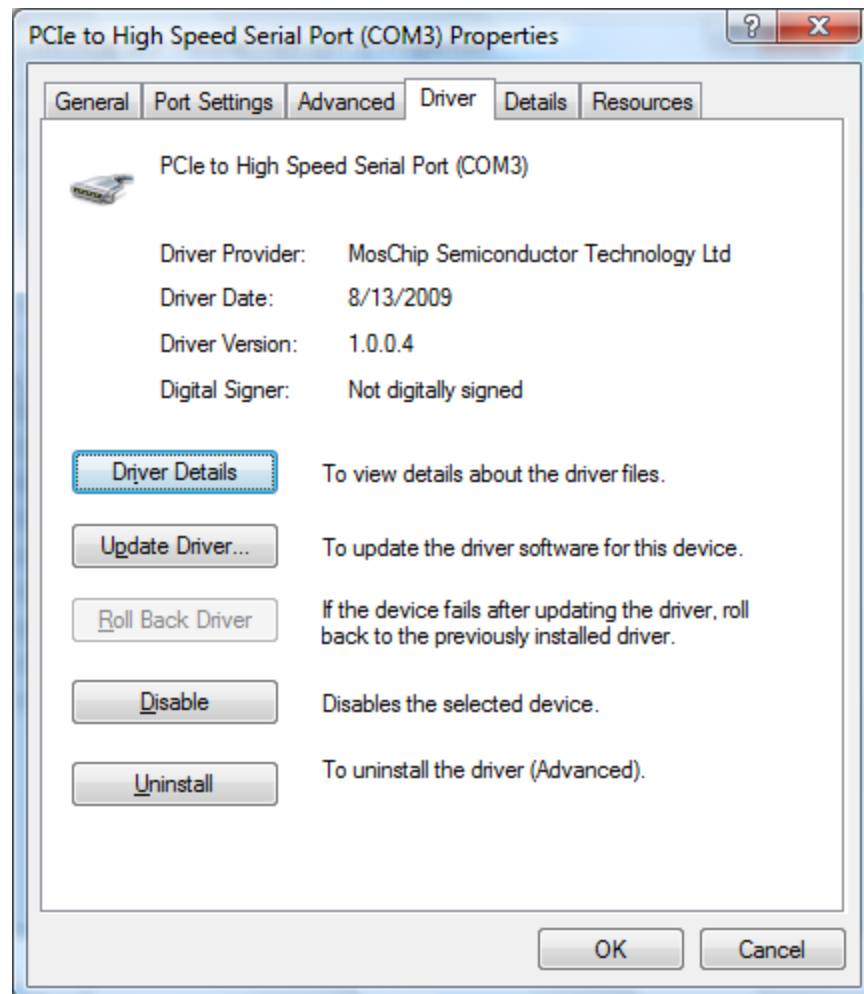
The Driver Tab shows the details of Driver Provider, Driver Release Date, Driver version installed on your PC and Digital Signer details as shown above.

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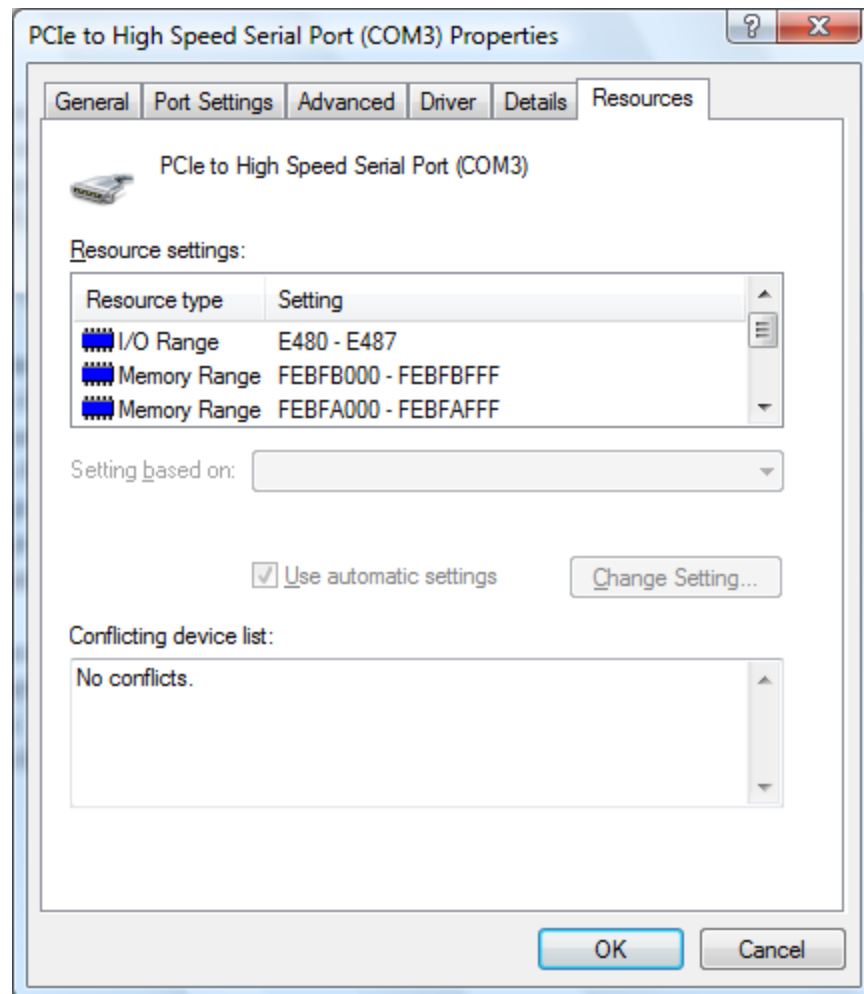
The Resource Tab gives the details of IRQ, IO Ranges and Memory ranges that are assigned to a particular Serial Port.

Advance Tab:

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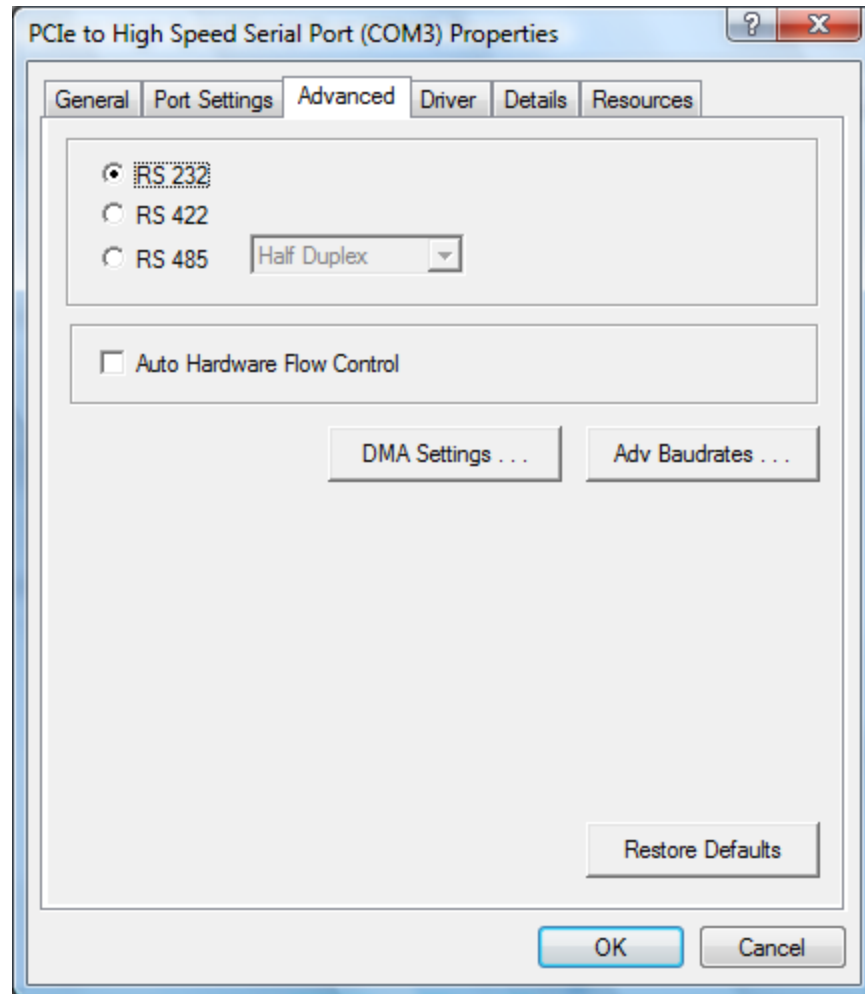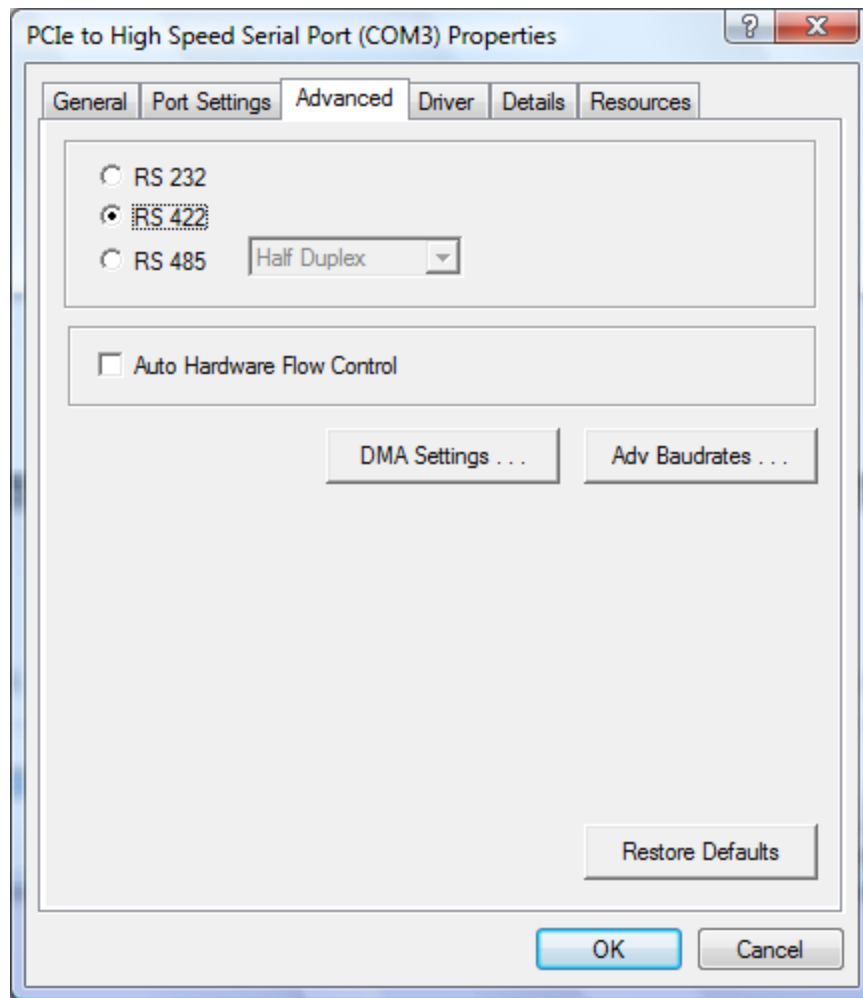
Serial Port Features and Mode Changes:

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:
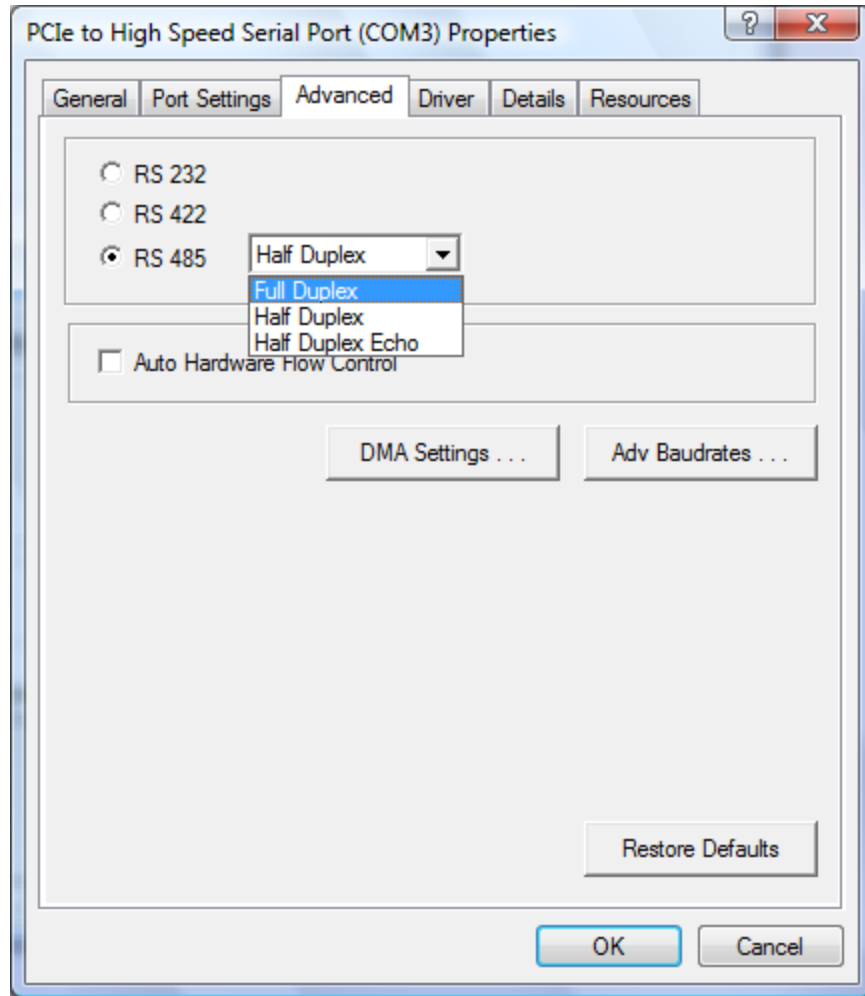
Selecting RS 422 Mode:

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

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.
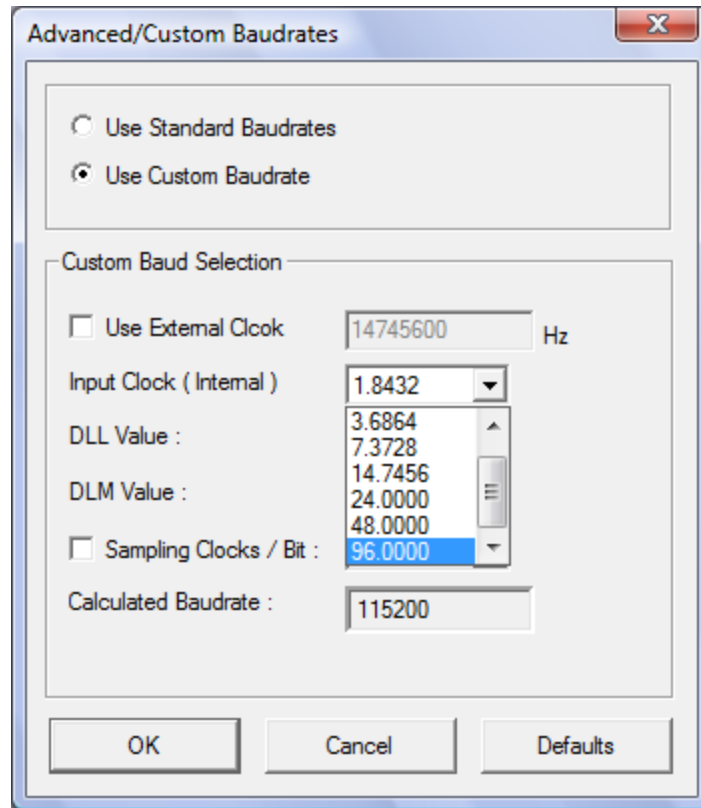
Selecting Hardware Flow Control:

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.
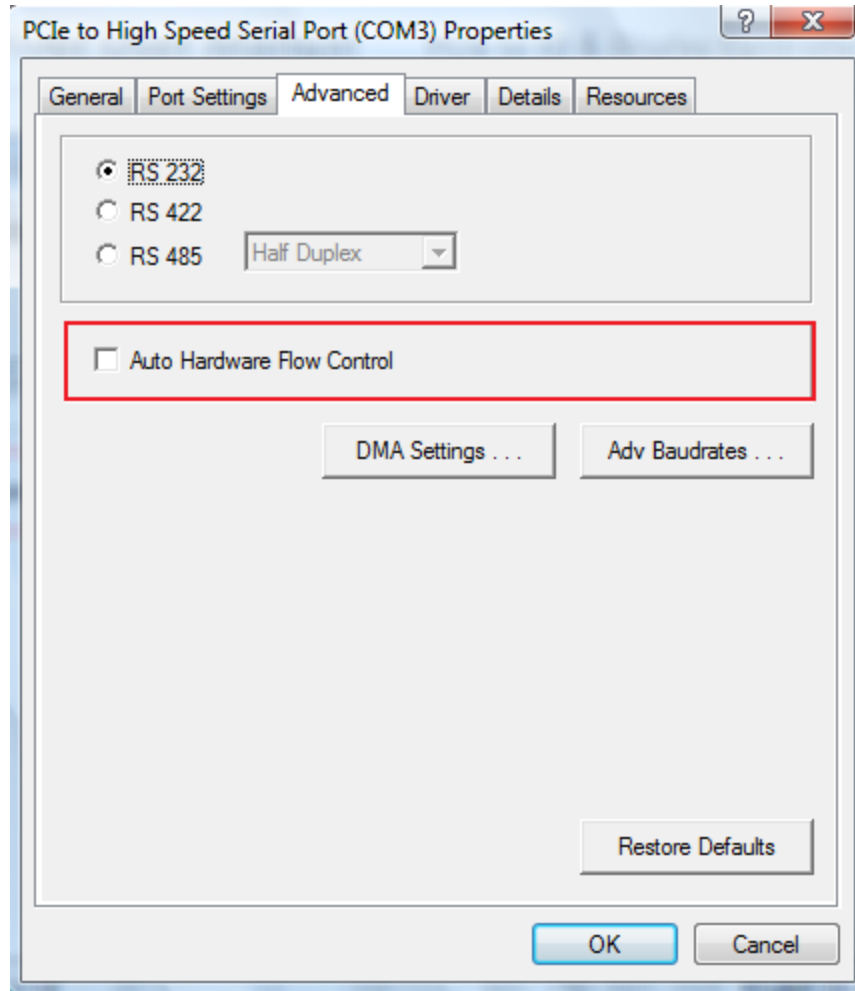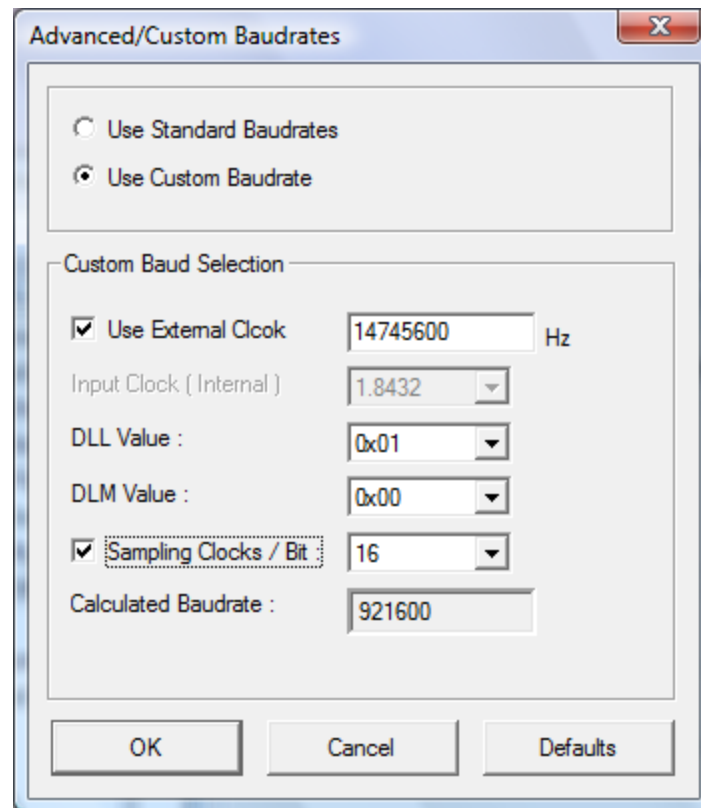
Configuring Advanced Baud rates:

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

By default "Use Standard Baud rates" option is enabled.

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

Note: When "Use Custom Baud rate" is selected, Serial Port baud rate is independent of the value set in the Application

Input clock:

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".

Custom baud rates can be obtained by selecting required 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 available on MosChip website or contact techsupport@moschip.com.

Direct Memory Access (DMA):

Selecting DMA mode.

For Selecting DMA Mode click on DMA Settings on Advanced TAB as shown below:
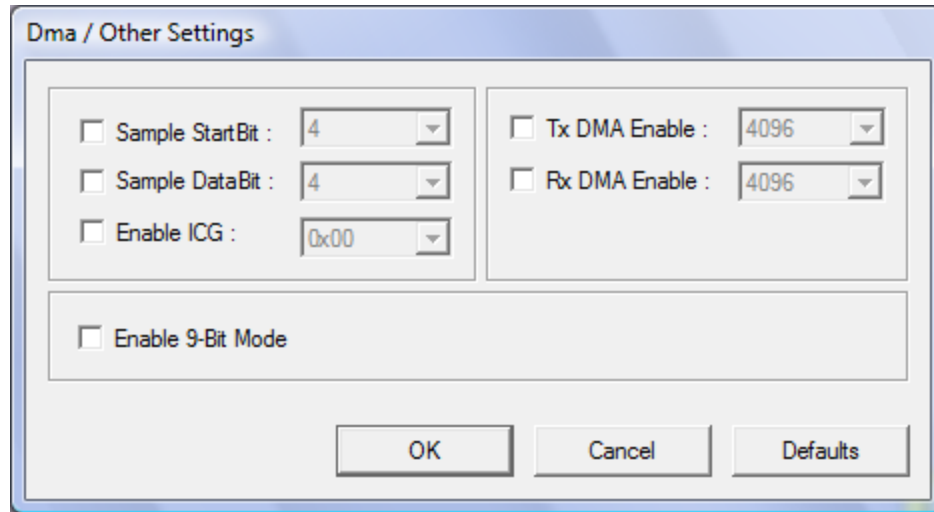
- To enable DMA Mode selects "TX DMA Enable" and "Rx DMA Enable" check box options.

- 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".

Uninstalling Drivers:

Using Uninstall Utility:

To Uninstall MCS9900 drivers, run "MOSCHIP_StnUninst.exe" available in the driver disk. PCI Express Multi-I/O Drivers Uninstall window will be displayed as shown below. Click on OK button.
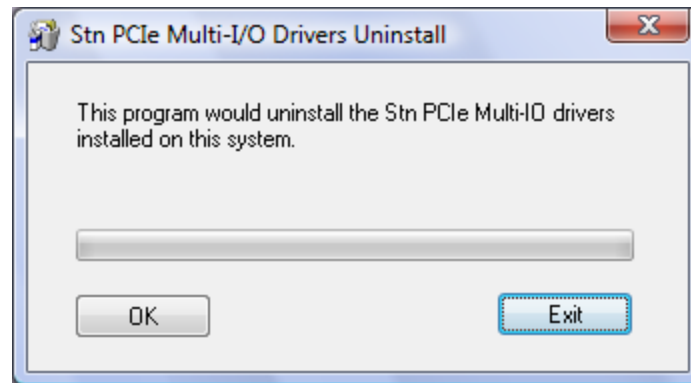
Click on Exit button to complete un-installation process. No need to restart the PC, unless prompted by the OS.
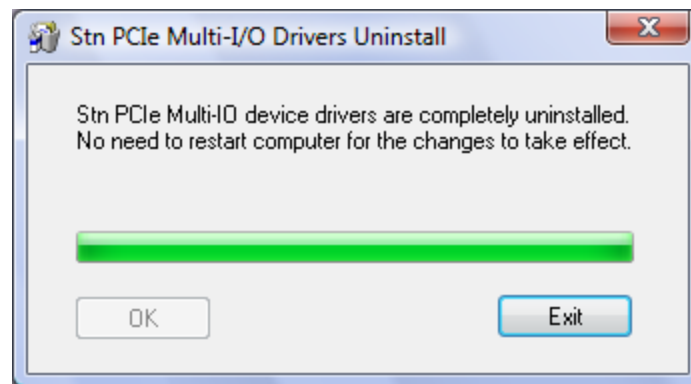
From Device Manager:

The MCS9900 drivers can be un-installed through device manager. In Device Manager, under Ports (COM & LPT) category, select the "Stn PCIe High-Speed Serial Port (COM X)", right click on it and selects "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.

Technical Support:

For queries and support contact techsupport@moschip.com.