



BETA DRIVER FOR CF & PC CARDS

SocketSerial™, a brand of Socket Mobile, Inc.

Beta software release

Windows® Vista, XP, 2000 driver

Introduction

Version 2.0.0.7 drivers are made available as a "beta" release for Socket Mobile High-Speed Serial I/O Compact Flash and PC Cards. This update is provided as a courtesy with the understanding that it has not yet been fully tested by Socket Mobile. USE THIS SOFTWARE AT YOUR OWN RISK.

The changes from version 2.0.0.6 are related to improved installation and compatibility with a wide range of desktop and notebook computers.

Supported Cards

This beta driver release supports the following products, both standard and rugged cable versions:

- Hi-Speed Serial I/O CF Card
- Hi-Speed Serial I/O PC Card
- Hi-Speed Dual Serial I/O PC Card
- Hi-Speed Quad Serial I/O PC Card

Operating Systems

This beta driver release is also compatible with the following operating systems

- Windows Vista
- Windows XP
- Windows 2000

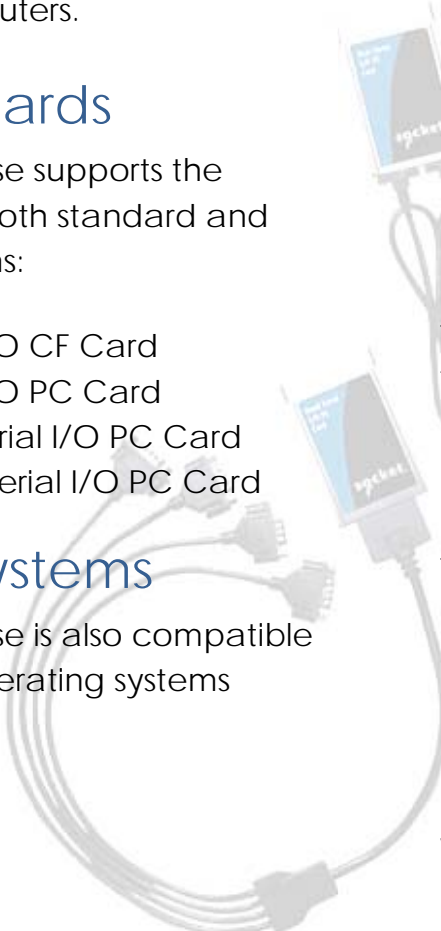
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Installation

This software release is installed "hardware first". That means you insert your serial card and then the Windows operating system will look for and install the drivers and configuration utilities.

These are general installation steps; it is assumed that you are familiar with Windows and able to execute the Windows driver installation procedure that will appear on your computer screen.

Consult your user guide or visit www.socketserial.com for further information.



NOTE: You must log into Windows as an Administrator before installing this software.

Step 1

If you downloaded this software from the www.socketserial.com, please copy it to an empty folder on your computer – remember the name of this folder, you will need to specify the folder during installation.

If you received this software on CD-ROM be sure to have the CD loaded and ready when you first insert the serial card into your computer.

Step 2

Make sure that no previous version of this software is installed on your computer. If you have a previous version, or if you are not sure, please see UNINSTALL PROCEDURES below.

IMPORTANT: You must uninstall any previously installed older version of the serial card driver before installing the new version. Failure to uninstall an older version of the driver will cause the new driver installation to fail. The previous version will remain the active driver.

Step 3

NOTE: Be sure you have logged into Windows as an Administrator before continuing.

Insert your serial card.

Windows will begin to search for a driver. Windows will first look on your computer for the driver, AND IT SHOULD NOT FIND ONE.

If Windows does find a driver at this stage it may be an older version that should not be installed. If this is the case please exit the installation, uninstall the older driver, and then go back to Step 1.

If your computer is connected to the Internet, Windows will search online for the latest driver. If Windows finds a driver online you may use it. Follow the on-screen instructions to complete the installation.

If Windows cannot find a driver you should see on your screen options to install the driver from a CD-ROM or other user specified location. Select the location of this software and follow the on-screen instructions to complete the installation.

It may be necessary to restart your computer after installing this software.

Hi-Speed COM Tools

Important:

- 1) You must be signed into Windows as an Administrator in order to change settings in Hi-Speed COM Tools. If you are not an Administrator, any changes you make will not be saved.***

- 2) *Do not make changes in Hi-Speed COM Tools when the target serial card isn't in the PC card slot of your computer.*
- 3) *Always use the Windows "safely remove hardware" feature before removing a serial card*

Using the Hi-Speed COM Tools

The Socket® Hi-Speed COM Tools were installed when you installed the software driver for your Socket Serial I/O Card. Use the Hi-Speed COM Tools whenever you want to identify or change the COM Port assigned to your card; or if you want to override the settings for baud rate or flow control. If, for example, your software expects COM1 and your serial I/O card is assigned to COM5, the Hi-Speed COM Tools allow you to make this change. This version of the Hi-Speed COM Tools works with Microsoft Windows® Vista, Windows XP, and Windows 2000 operating systems.

Open Hi-Speed COM Tools

There are two ways to open the main window for Hi-Speed COM Tools. Look for a serial connector icon in Windows Control panel, or a similar icon in your system tray (part of the Windows Task Bar, usually at the lower right side of your screen). There is a an option in the Hi-Speed COM Tools main window to "Always show icon on the taskbar", uncheck this option box if you don't want to see the Hi-Speed COM Tools icon in the system tray.

The main window is divided into three sections. At the top are buttons for EXIT, REFRESH, HELP, APPLY, and ADVANCED OPTIONS.

In the middle is the status display and COM port assignment control, and at the bottom is the check box to display (or not) the Hi-Speed COM Tools icon in the system tray.

View or Change COM Port Assignments

If Hi-Speed COM Tools has been open for a while, or if you have removed or inserted a serial I/O card since Hi-Speed COM Tools was opened, please click the Refresh button to make sure the fields in the Card Status group are updated.

The following settings are available:

- **Card Type:** Make sure the currently inserted serial I/O card is displayed. If necessary use the drop down control to select the current card. Any high-speed Socket cards previously installed on your computer will appear as choices in the drop-down menu.
- **Ports:** Reports the number of ports detected for the selected card. You can't edit this field.
- **Status:** Reports the availability status of the port(s). You can't edit this field.
- **Assigned COM Port(s):** Shows the COM port(s) assigned to the selected card. To change the port assignment, use the drop-down menu to select another port. Ports already in use will be labeled as {in use}. After making any changes to this field click APPLY. If you try to apply a COM port that is in use, you will see a warning that asks if you really want to continue (it might not be a good idea).

- Card detection status: The field at the bottom reports how many available Socket COM ports your computer detects. If no card is inserted, a NO SOCKET CARD DETECTED message will appear. You can't edit this field.

Remember: To update the Card Status report, click REFRESH. After making any changes, click APPLY.

Note: When changing COM port assignments, the application currently using the COM port to be reassigned must be shut down before reassignment of the COM port.

Advanced Options

Click the ADVANCED OPTIONS menu button to open a window with additional settings. This is where you can override the settings for baud rate or flow control.

Baud Rate Mapping

If you have legacy software that only supports a low baud rate, but your peripheral device can support a higher baud rate, you can take advantage of the higher speed of your Socket Serial I/O card by mapping the old rate to a new higher rate. Before using this feature identify the maximum baud rate that your Serial, Dual, or Quad I/O Card can handle. Current revisions of the card can handle baud rates, up to 921 Kbps, whereas earlier versions could only support up to 115 Kbps. Check the Revision Level (Rev) of your card and refer the to User's Guide to determine the maximum baud rate of your card.

To use Baud Rate Mapping you must open the Advanced Options window by selecting the Advanced Options menu button.

For example, suppose you want to connect to a serial peripheral at a baud rate of 230,400 bps and you are using older Windows application software that only supports speeds up to 1200 kbps.

- In the Baud Rate Selection area select 1200 kbps in the FROM column, and 230,400 kbps in the TO column.
- Click the Enable checkbox to activate Baud Mapping
- Click the APPLY button so your changes take effect

NOTES:

- After mapping a baud rate option to communicate at a new speed, the original speed will no longer be available unless you map baud rates again or disable the mapping by unchecking the Enable checkbox.
- Make sure the new baud rate does not exceed the maximum baud rate for your card (see user's guide for chart).
- The new baud rate will not apply until you click the APPLY button

- Uncheck the Enable checkbox, exit the Advanced Options window, and select Apply to restore the application baud rates.
- If you modify settings when a serial I/O port is open, then the new settings will not take effect until you close and re-open the serial port.

Override Input Signals

If your application software has signal requirements not supported by your serial peripheral device you may want to force the DCD, CTS, and DSR signals to be either ON or OFF. You can use the checkbox and radio buttons in this control group to override signal states so that your software sees the signals you specify.

You can also override the reported max baud rate using the drop down control.

Override Output Signals

If your serial peripheral device has signal requirements not supported by your application software then you may want to force the DTR and RTS signals to be either ON or OFF. You can use the checkbox and radio buttons in this control group to override signal states so that your peripheral device sees the signals you specify.

Special Cases

If you run into one of these special cases, reading this section can save you a lot of time.

Run Hi-Speed COM Tools as an Administrator

You must be signed into Windows as an Administrator in order to change settings in Hi-Speed COM Tools. If you are not an Administrator, any changes you make will not be saved.

Changing COM Port Assignments

When switching COM ports the application currently using the COM port to be reassigned must be shut down first before reassignment of COM port.

If You Install More Than one Hi-Speed Serial Card

If you have previously installed the Hi-Speed COM Tools (Baud Mapper) and you are planning to install another Hi-Speed Serial (SIO, DIO, QIO) Card, you must remove the Hi-Speed COM Tools ICON from the Task Bar.

If the icon does not show up in the Task Bar you may continue the installation. If the icon is present in the Task Bar, it can be removed by clicking on the ICON to open the Hi-Speed COM Tools and unchecking "Always show icon on the task bar" at the bottom of the screen. The icon should disappear and you can proceed with the installation of the new card. If you don't uncheck the box to remove the icon, the new Serial card will not install correctly.

Hot Swapping

Hot Swapping is removing and inserting the card when the computer is turned on. You can safely hot swap your serial card only if you have stopped the operation of the card. This can be done by double clicking on the task tray ICON "Safely Remove Hardware" and select "Stop". If the communication port assigned to the card is open, DO NOT remove the card.

If you remove the card from your system, you may receive a system error and be required to reboot. Socket is not responsible for any data loss.

Using More than one Socket Serial Product

If you happen to have more than one of the following Socket products that include the Hi-Speed COM Tools, you must install the software related to each product. To ensure that you have available the latest version of the Hi-Speed COM Tools, install the most updated software version last.

- Hi-Speed Serial I/O Card
- Hi-Speed Dual Serial I/O Card
- Hi-Speed Quad Serial I/O Card
- Hi-Speed Digital Phone Card

Whatever software is installed last will override the previously installed Hi-Speed COM Tools software. Any enhancements or updates included in the latest version of the software will be available to the user when installed.

However, if you install an older software version on top of the most updated version of software, the old software will override and whatever was offered in the latest version for Hi-Speed COM Tools will not be available. Each of the above products will work as long as you install the corresponding software.

These instructions do not eliminate the need to uninstall a previous version driver before installing a new driver. They do, however, insure the installation of product specific utilities besides the driver.

To determine which software is the latest, refer to the Readme. The Readme will include the Rev letter and date.

Using the Hi-Speed Dual Serial Card with an Older I/O Card

In some cases, the Hi-Speed Dual Serial card may not work with an older serial I/O card simultaneously.

Release Notes

File names

This software distribution includes the following files

- SCBaud.cpl - Hi-Speed COM Tools Control Panel utility
- SCTray.exe - Hi-Speed COM Tools System Tray utility
- sio9502K.sys - Device driver for SIO, DIO, QIO serial cards
- SiUI2K - Windows Device Manager uses this file to display the Properties Page of a Socket COMx port
- sktsio.inf - setup information for SIO card
- SktDIO.inf - Setup information for DIO card
- SktDIOP.inf - Setup information for DIO card
- SktQcHS.inf - Setup information for QIO card
- SktQpHS.inf - Setup information for QIO card
- UninstallSIO.exe – Uninstalls serial I/O card drivers (this version and older)

File locations

Files are copied to the following locations during the driver installation process:

- Windows\SCTray.exe
- Windows\System32\SIOUi2K.dll
- Windows\System32\SCBaud.cpl
- Windows\System32\Drivers\SIO9502k.sys

In addition, OEMxxx.INF and OEMxxx.PNF files are created in the Windows\Inf directory, and some registry information is added.

See UNINSTALL PROCEDURES below for information about deleting OEMxxx files.

Limitations for older Socket serial cards

Some older version serial PC Cards are limited to 230 kbps. If you are using a lower speed serial card you must select a baud rate below 230 Kbps. The low speed serial card may not operate properly if you select a baud rate higher than 230 Kbps.

Hi-Speed serial cards can be identified by the rev letter on the back of the card. The following are hi-speed serial cards and are capable of transferring data at 921 Kbps. For a complete list of Serial cards see the User's Guide.

CompactFlash with Removable cable

8510-00094 Rev D or later

8010-00075 Rev D or later

CompactFlash with Ruggedized cable

8510-00115 Rev D or later

8010-00087 Rev D or later

PC Card with Removable Cable

8510-00012 Rev N or later

8010-00012 Rev N or later

PC Card with ruggedized cable

8510-00073 Rev H or later

8010-00065 Rev H or later

Hi-Speed Serial Dual Cards can be identified by the rev letter on the back of the card. The following are hi-speed serial cards and are capable of transferring data at 921 Kbps.

PC Card with Removable Cable

8510-00054 Rev K or later

8010-00057 Rev K or later

PC Card with ruggedized cable

8510-00092 Rev F or later

8510-00182 Rev F or later

8510-00077 Rev F or later

Quad I/O Card supported:

Ruggedized - #8510-00158 - Revision A

Driver Uninstall Utility for Windows

Note: Full administrator rights are required to use the uninstaller on Windows Vista. The user can not just be assigned administrator rights but must login as the Administrator or the uninstaller will fail to delete registry entries. Administrator rights are not required to run this program in Windows 2000 or Windows XP.

Name of program: UninstallSio.exe

To gain full Administrator Rights on Vista

1. Start, right-click Computer and select Manage
2. Expand Local Users and Groups, click on Users
3. Right-click Administrator and give it a new password (may receive a warning, but since the account has never been used, it will be ok).
4. Right-click again and select Properties
5. Uncheck the Account if Disabled
6. Logoff
7. Login as Administrator and enter the password

Compatible Cards

This program will remove the driver, support files, and the registry entries for the standard and rugged cable version of these products

- Hi-Speed Serial I/O PC Card
- Hi-Speed Dual Serial I/O PC Card
- Hi-Speed Quad Serial I/O PC Card

Files that will be deleted

- Device driver - c:\windows\system32\drivers SIO9502K.SYS
- Property Page - c:\windows\system32 SIOUI2k.DLL
- Control panel - c:\windows\system32 SCBAUD.CPL
- Task Bar tray - c:\Windows SCTray.exe
- Setup Information file - c:\windows\INF OEMxx.INF and OEMxx.PNF

Registry folders, entries and locations that will be deleted

- HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\services\SocketSerial\Enum
- HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\services\SocketSerial\Security
- HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\services\SocketSerial
- HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Run SockeComm
- HKEY_LOCAL_MACHINE\SOFTWARE\Socket Communications\Baud Mapper

Uninstall Menu Options

These are the menu options of the uninstall utility.

- **Exit** – Closes the uninstall utility.
- **Search** - Locates all installed serial I/O PC cards and displays their name in the user select box. The select box can be used to one or more PC cards to be uninstalled.
- **Uninstall** - Unregisters the user selected card from the Windows operating system. It is similar in function to driver removal using the Windows Device Manager, except that the driver and support files are erased and the Windows registry is more completely purged. Also, unlike

Device Manager, the uninstall utility does not require the PC Card to be inserted into its slot before it can be uninstalled.

Note: If more than one card has been installed on the Windows computer then the uninstall function only unregisters the selected PC Card, and no registry entries or support files are deleted. Only the setup information files OEMxx.inf and OEM.xx.pnf are deleted from the c:\windows\inf folder. If a single Serial PC card is installed and this function is used it will delete all support and INF files as well as all registry entries and linkages.

After uninstalling a driver the user will be prompted to reboot the computer. Rebooting is required since a service was deleted.

- **Advanced Options** – Opens a window allowing the user to select which parts of the driver to delete.

Note: Checking any of the Advanced Options marks them to be executed when the Remove menu item is selected. The Advanced Options will not run until then.

- **Remove Taskbar Tray Utility** – Removes the task bar tray icon for Hi-Speed COM Tools. A handy option if the control panel application scbaud.cpl was deleted and the sctray.exe application was left to execute each time the system was booted. When this feature is run it signals the sctray.exe application to close and then deletes a registry entry so it will not be re-loaded the next time Windows is started.
- **Remove Registry Service** - Deletes the Service "SocketSerial" from the registry. The user will be prompted to reboot the system before any new installation of hardware. Very useful in cases where there was a partial installation of a Serial PC Card driver.
- **Remove BaudMapper** - Deletes registry entry Baud Mapper and the parameters used by the SCBaud.cpl application. These parameters can be restored the next time SCBaud.cpl is run and selected control options are saved with the **Apply** button.
- **Remove Support Files** - Deletes all the serial PC Card support files from the computer. These files are SIO9502K.SYS, SIOUI2k.DLL, SCTRAY.EXE and SCBAUD.SYS. It isn't a good idea to use this feature if a serial PC Card is still installed on the system. It is best to use this feature if Device Manager was used to uninstall the Serial PC Card.
- **Remove** - Executes those items checked in the Advance Options dropdown menu.
- **Help** - This menu item is used to display this text in an edit window. The file help.txt is loaded each time the Help button is pressed. The help file has to be located in the same folder as the Uninstallsio.exe application program. The Help.txt file can be edited with Notepad.

There are two text boxes on the main dialog window. One reports the number of Serial PC Cards installed and the other displays status reports of the function that was just executed by the User.

Manual Driver Uninstall Procedure

Advanced users may optionally use this procedure instead of the Uninstall Utility described above.

Uninstall the Hi-Speed Serial Card from the Device Manager

1. Plug in the Socket serial card you wish to uninstall
2. Go to Start | Settings | Control Panel and double click on System icon. This will take you to the System Properties
3. Open the Device Manager

In Windows 2000 and XP:

Go to "Hardware" tab and click on "Device Manager" button. Make sure to "View the devices by type"

In Windows Vista:

In the "Tasks Panel", click on the "Device Manager" link

4. Under "Ports (COM & LPT)", select the serial card you want to uninstall
5. Right click and select UNINSTALL
6. If there is a checkbox to delete the driver files, be sure to select it
7. Click OK to confirm the Device Removal
8. Remove the Serial HS I/O Card from your Device

Delete any .INF and .PNF files

1. Open Windows Explorer. Go to Tools and select Folder Options.
2. Make sure the folder view is set to "Show Hidden Files and Folders". Consult your Windows user guide for more information
3. Go to the Windows\Inf folder on your system drive (for Windows 2000 the folder is WINNT\INF)
4. Search for OEMx.INF and OEMx.PNF files where x is a number (example OEM1.INF or OEM102.PNF)

In Windows 2000 and XP:

If you have multiple OEM files it is important that you view each OEM file to find the correct one. For a quick search, open each file and look for the name "socketmobile" and the file

name SKTSIOXP.INF. Once you find the file, delete it and also delete the corresponding OEMx.PNF file.

In Windows Vista:

Open a DOS prompt window and execute the command "PNPUTIL -e" (don't type the quotes). This will display a list of OEMx files by company and type. Look for the ones labeled Socket and COM to help narrow your search. Then follow the instructions for Windows 2000 and XP to finish deleting these files

Brute Force Method:

You can try moving all OEMx.INF and OEMx.PNF files to a new folder you create inside the inf folder. After you install the new driver you can copy these files back.

Remove the Hi-Speed COM Tools & System files

First you need to make sure that the Hi-Speed COM Tools app is not running in the task tray of your system. Hit CTRL+ALT+DELETE to get to your task manager. Click on "Processes". If you see SCTRAY.EXE, select it and click "End Task".

Open Windows Explorer and delete the files in the following locations:

1. WINDOWS\System32\SCBaud.cpl
2. WINDOWS\System32\SioUi2K.dll
3. WINDOWS\System32\Drivers\Sio9502k.sys
4. WINDOWS\SCtray.exe

Note: On Window 2000 the Windows directory is called WINNT instead of Windows.

Troubleshooting

Installation problems

Problem: Software installation fails to complete (Vista only)

Symptom: Error message "A service installation section in this INF is invalid"

Applies to: All Serial I/O Cards (Single, Dual, and Quad)

Cause: C:\Windows\System32\driver\mf.sys file is missing

Solution: Copy missing file from

c:\windows\system32\DriverStore\FileRepository\mf.inf_dc41db51

to

C:\Windows\System32\driver\mf.sys

Problem: Need support for a different version of Windows

Resolution: Look for a different version of the driver on www.socketmobile.com or www.socketserial.com

Application specific problems

Problem: ActiveSync does not work

Applies to: All Serial I/O cards (Single, Dual and Quad)

Resolution: ActiveSync is not a supported application

Using Hi-Speed COM Tools

Problem: Changes in Hi-Speed COM Tools do not take effect

Symptom: Unable to save changes

Applies to: All Serial I/O Cards (Single, Dual, and Quad)

Cause: Not running as Administrator

Solution: Sign into Windows as an administrator before using Hi-Speed COM Tools to make changes

Note: Do not change compatibility setting of Hi-Speed COM Tools to "Run As An Administrator" when you are not signed into Windows as an Administrator

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