

## **MCS98XX - Frequently Asked Questions**

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**1. What is the difference between MCS9805, MCS9820, MCS9815, MCS9835 and MCS9845?**

The difference is number of Serial / Parallel ports, which can be derived. Following combinations can be configured by using MCS98XX:

Sl. No.	Device	Serial Port(s)	Parallel Port(s)	EEProm
1	MCS9805	0	1	N/A
2	MCS9815	0	2	N/A
3	MCS9820	1	0	Required
4	MCS9835	1	1	Required
		0	1	Required
		2	0	Required
		2	1	N/A
5	MCS9845	4	1	N/A
		4	0	Required
		6	0	Required

Using an EEPROM is a must to achieve some of the above combinations. For example MCS9835 will enumerate as 2S1P without an EEPROM. If you require configuring it as 1S1P or 2S, you have to use an EEPROM which is programmed with the appropriate bin file. For the bin files please send your request to [support@moschip.com](mailto:support@moschip.com)

**2. Does MCS98XX Vista Drivers have Microsoft Certification?**

Yes, MCS98XX Vista 32 bit and 64 bit drivers are Microsoft Certified.

**3. Why do I observe the Red mark at IO address / IRQ on Vista OS? Also the OS reports Conflict in “Conflicting device list”? Is there any problem with the Ports?**

The I/O ranges of all the ports are visible in both Multi Function Adapters and COM Ports. On Vista OS, the operating system will be checking the I/O addresses/IRQ in both MF category as well as COM & LPT Port category. Since the I/O range/IRQ is common in both the places, the Vista OS reports a conflict of I/O address/IRQ. This is more related to Vista OS behavior. There should be no functional related problem with the ports in this scenario.

**4. Can you provide Linux Source Code for MCS98XX?**

There is no Linux driver/source code for MCS98XX. You have to manually configure the ports on Linux. Please use the following steps:

- `setserial /dev/ttyS2 port 0xecf8 UART 16550A irq 10 Baud_base 115200`
- `setserial /dev/ttyS3 port 0xece8 UART 16550A irq 10 Baud_base 115200`
- `/sbin/modprobe parport_pc io=0x3f8,0xecd8 irq=4,10`

*Note: Use the appropriate IRQ number as per your system.*

For the complete details, refer to “Read me” file which is available on our website. It can be downloaded from the following link:

[http://www.moschip.com/html/download\\_drivers.html](http://www.moschip.com/html/download_drivers.html)

**5. Can I use MCS98XX chips in PCMCIA Cards?**

Yes, you can use MCS9820 in PCMCIA cards.

**6. Which operating systems you provide driver support for MCS 98XX? Where can I download the driver for MCS98XX on your website?**

Sl.No	Operating systems	Service Pack
1	MS DOS (6.22 and later versions)	---
2	MS Windows 98 SE	---
3	Windows Millennium	---
4	Microsoft WinNT	---
5	Windows 2000	Service Pack 4
6	MS Windows XP Professional	Service Pack 2
	MS Windows XP Home / Media Center	
7	MS Windows Server 2003 (Standard and Enterprise Versions)	---
8	Windows Vista 32bit & 64bit	---
9	<b>Linux</b>	---
	Fedora (2.6.XX)	
	Redhat (2.4.XX)	
	SUSE (9, 10.0, 10.1, 10.2, 10.3)	
	Slackware 10.0	
10	Apple Macintosh ... <b>For MCS9835 only</b>	---

*Note: Currently MCS98XX series doesn't have driver support for UNIX, SCO-UNIX, OS/2 and Solaris Operating Systems.*

You can download the driver from the following URL:  
[http://www.moschip.com/html/download\\_drivers.html](http://www.moschip.com/html/download_drivers.html)

There are specific links for each of the OS under the category "PCI Connectivity". The driver is common for NM98XX and MCS98XX.

**7. What are the Serial protocols supported by MCS98XX Serial Card?**

MCS98XX chip supports RS232 serial communication protocol. We can also use for RS422 / 485 applications by using respective line drivers.

**8. Does MCS98XX series have driver support for WinCE Platforms?**

No, currently we do not have driver support for **WinCE** platforms.

**9. What is the Operating temperature condition for MCS98XX ?**

The commercial operating temperature condition for MCS98XX series is from **0 ° C to +70 °C**.

**10. What is the PCI clock frequency for MCS98XX?**

The supported PCI clock frequency for MCS98XX is 33 MHz; all the devices on the same PCI bus will be forced to 33 MHz.

**11. MCS98XX ports are not detecting Modem in Windows 98. How can I Install Modem?**

To install the Modem you have to follow the steps below:

1. Launch Control Panel and select **Add New Hardware**
2. Select **“No, the device isn't in the list”** and click **“Next”**.
3. Select **“No, I want to select the Hardware from a list”** and click **“Next”**.
4. Select Modem from the List and click **“Next”**
5. Now the Wizard search for the device, then click **“Next”** to finish.

**12. Which EEPROM should I use for MCS98XX?**

We recommend using **MICROCHIP 93LC46B** 16bit EEPROM or any equal logic supported.

**13. What are the maximum LPT ports I can use with MCS98XX?**

You can use up to 8 LPT ports inclusive of standard LPT port.

**14. What Baud Rate is achievable with MCS 98XX?**

MCS98XX will support up to 115200bps.

**15. Is it possible to remap the I/O Addresses to desired value or change the IRQ value?**

"In order to be compatible with most software, our PCI Products and Drivers will attempt to "Re-Map" the I/O Addresses used back to Legacy (ISA type) values. Re-Map feature is supported in DOS, Windows-95, Windows-98 and Windows-ME

operating systems. In the DOS operating system, we can remap Serial ports and Parallel ports IO Address. However, in case of 95 / 98 / ME operating systems, we can remap only Serial ports.

At the same Windows NT / 2000 / XP / Vista operating systems do not support Re-Map function. As these versions of Windows maintain a much tighter control over the I/O devices and prevent any Re-Mapping at Driver level. When the Re-Mapping is not permitted, the device must use the Addresses assigned by the PCI System at Boot-Up. The Re-Mapping only affects the I/O Addresses.

The IRQ used by the device is assigned by the PCI System and can NOT be changed. Usually the only way to change the IRQ for a PCI device is to move it to a different PCI slot. Each slot is usually assigned a different IRQ, although this is not always true. Each system may handle the assignment of IRQs differently. If the software application (or Driver) expects the Port to use Legacy resources, it will not be possible to make it work with a PCI based Port when using Windows NT / 2000 / XP / Vista Operating Systems.

### **16. Is there a utility by which I can switch between the modes such as EPP to ECP?**

"Only our DOS and Windows-NT Drivers have a mechanism to manually select the desired Mode for the Port. The other versions of Windows are supposed to be able to change Modes automatically when needed. Unfortunately, this automatic switching does not work very well with PCI based Ports. The way the PCI system allocates resources often interferes with the automatic switching mechanism.

EPP and ECP Modes require a second bank of registers to control the enhanced functionality. These registers must be located at an offset of +400h Bytes above the Standard registers to meet the IEEE-1284 requirements. Our Drivers make two resource allocation requests.

- The first one for the Standard registers used by all Modes.
- The second request is for the Extended registers.

The PCI system does not guarantee that any two requests will have any fixed relationship to each other. While we request the second bank with the desired offset, it is not always honored. Sometimes the PCI system allocates resources where ever it wants to. The PCI system was designed around ""Plug & Play"", so assumes any address is as good as any other. Most (virtually all) software was written with the assumption that Parallel Ports are ISA devices, and the Extended registers will always have the expected offset. For this reason, a lot of software (including Device Drivers for Printers etc.) will not work with our PCI based Parallel Ports."

### **17. Can the parallel port of MCS98XX fully support SPP/PS2/EPP/ECP mode?**

We can support SPP and PS/2 Modes without any problems. EPP & ECP Mode support varies from machine to machine, and depends on the Operating System being used. Both Modes require two banks of registers to control the chip. The IEEE-1284 specification requires these be separated by an offset of +400h Bytes.

The PCI specification does not make any guarantees that two resource requests will have any specific relationship to each other. We request the two banks with the desired offset, but the system does not always honor those requests, and often returns the extended register bank at some entirely different address than what we requested. When this occurs, neither EPP nor ECP Mode will be usable.

An additional problem exists with EPP Mode. We have identified a timing problem in the chip that affects reading data from the remote device in EPP Mode. We are able to write data to the device (printer etc.) just fine under all conditions. The problem only affects reading data back from the device (scanner etc.) in EPP Mode. The symptoms result in the same Byte of data being returned for every read request. This problem does not affect ECP Mode. For this reason we recommend PS/2 or ECP Modes for applications that require bi-directional data transfers.

### **18. What kind of data format are you using to write in EEPROM? Is there any tool available to edit its contents using the PCI bus?**

The data is saved in Intel HEX format and we cannot edit the contents through PCI bus. Instead it can be done using an EEPROM programmer.

Please send your request to [support@moschip.com](mailto:support@moschip.com), if you want to know the contents of EEPROM.

### **19. My PC freezes while I switch ON/OFF the modem when it is connected to the MCS98XX card? The CPU utilization goes to 100% when I try to open a serial application such as HyperTerminal. What could be the reason?**

Such problems were reported with Windows XP / 2000 operating systems, Please download the latest driver from following link to over come such problems.

[http://www.moschip.com/data/products/NM/WinXP\\_2K\\_NT.zip](http://www.moschip.com/data/products/NM/WinXP_2K_NT.zip)

Interrupts were not being handled properly when only serial based products are designed with MCS9835 parts. Issue got resolved by adding 'dummy Parallel Port' to the system.

**20. Why do I get a warning message while installing the driver on WinXP? Is WinXP driver of MCS98XX passed the Windows Logo testing / Digitally signed by Microsoft?**

We do not have Digitally Signed Drivers that have passed the Microsoft Logo Certification testing at this time. Please note that the unsigned driver does not hamper the functionality of your PC in anyway. We have tested the driver thoroughly across multiple platforms. You can click "Continue Anyway" button without any reservations.

**21. Why the LPT port number is not visible in the list of Ports available for use by printers?**

"Sometimes the new ports do not get automatically added into the list of ports available for use by printers. They can be added manually however.

In the Printer Dialog, press the "Create a new Port" button. Add a new "Local Port" with the name "LPT2" or "LPT3" as shown in the Device Manager. When entering the name, use all capital letters, and do not put a colon ( : ) at the end of the name (like in the old DOS days).

Sometimes after adding the Port(s) manually, the printer still does not work. In that case, delete the printer from the Control Panel, and then add it back in. The new Port should now be in the list, and all should go smoothly.

**22. Why Software Keys / Security keys can't be used in Win Vista / XP / 2K OS?**

Most (if not all) Software Keys (Dongles) require the Parallel Port to use Legacy resources. They expect the I/O Addresses and IRQ to match the "traditional" values used by Legacy ISA based Ports. For those reasons, such devices cannot be used with PCI based ports. Our chips and Drivers can "Re-Map" the I/O Addresses to match the Legacy values in some versions of Windows (Refer FAQ No.5), but the IRQ will always be the one assigned by the PCI system at Start-Up.

**23. Why do the PCI Diagnostic program report "Error: HAL/BIOS did not program the device correctly", even though the card seems to be working fine?**

The PCI Diagnostic Program may report an error when none really exists. The error is reported when the IRQ assigned to the NM device is higher than 0Fh. This used to be a problem, but our current Drivers have been updated to correct this issue. Unfortunately, the Diagnostic Program was not updated at the same time. It still reports the error simply by looking at the value of the IRQ number, not by having

performed a Functional Test that actually failed. If the card seems to be working, this error can safely be ignored.

### **24. Is there an option to change the COM port number of MCS98XX?**

If you are using Windows-2000 or Windows-XP, there is a control which will let you change the COM Port number easily.

1. Go into the Device Manager.
2. Open the Properties page for the Port in question (under Ports COM & LPT).
3. In the "*Port Settings*" tab, click the "*Advanced*" button. On the screen that opens is the control to change the Port number.

In Windows 95, 98, 98SE and Windows-Me the only way to change the numbers assigned to COM Ports is to manually edit the Windows Registry.

Under Windows 95, 98, 98SE and Windows-Me, all PCI serial port assignments start from COM5 and up. Windows 95, 98, 98SE and Windows-ME reserve COM1-4 for ISA legacy ports.

#### **Manually reconfiguring the COM ports:**

As with any modifications to the registry, it is recommended that a backup of the registry be made before making changes. Copy registry files (SYSTEM.DAT and USER.DAT) to a different sub-directory.

- Be sure to disable any device that uses COM (1-4) in the machine BIOS if it would conflict with the new Port.
- Be sure that COMx does not appear in Device Manager under Ports (COM & LPT).
- Run REGEDIT.
- In the path "My Computer\HKEY\_LOCAL\_MACHINE\Enum", find a key like NMMF" or "NMENUM" or "NMMFENUM" inside it there should be a key PCI9710\_COM" inside that there should be one or more keys with names like "68F000&PORT\_0000". Find the one that has the "PORTNAME" key you want to change.
- Select and edit the "PORTNAME" key to change the value to the one you want "COM5" or "COM6" to "COM3" or "COM4" for example.
- If there is a key named "ForcedConfig", delete it.
- In the path:  
"MyComputer\HKEY\_LOCAL\_MACHINE\HARDWARE\devicemap\serialcomm", be

sure to have a string with the name of the desired Port. There should be an entry for each Port. They will look like this:

COM1 "COM1"

COM2 "COM2"

If there is no entry for your new Port, add it.

- Close REGEDIT and re-boot the computer.

**25. I have a problem installing the MCS98XX driver, how can I overcome this problem?**

"Many times if the Drivers refuse to install, it is due to poor connections at the card's edge fingers. If the card has sat on the shelf a long time before being purchased, the edge fingers can become tarnished. The result is that the system can read some of the data, but not enough to properly identify the card. Without a proper identification, the system does not know which Drivers to install, so refuses to install any.

Usually, all that is required to correct this situation is to remove and re-insert the card several times. This will ""wipe"" the contacts in the PCI slot connector over the edge fingers, removing the tarnish or any other deposits that may have accumulated. Stubborn cases may require cleaning the edge fingers with a pink pencil eraser, so that the fingers are bright and shiny. When clean, the normal operation of the contact mechanism in the slot connector is to make a gas tight seal against the edge fingers. This prevents corrosion from breaking the connection in the future. If cleaning the edge fingers does not solve the problem, try moving the card to a different PCI slot in the computer.

**26. Which driver can I use for Windows Server 2003 and Win XP Embedded for MCS98XX series?**

Windows XP 32-bit driver can be used for Windows Server 2003 and WinXP Embedded (32bit).

Windows XP 64bit driver can be used for Windows Server 2003 64bit.

**27. Is there any difference between Nm98XX and MCS98XX category?**

MCS98XX devices are offered in ROHS package where as NM98XX were supplied in NM98XX in standard package. MCS98XX supports 3.3V & 5V operations, where as NM98XX works with 5V Power only. Device drivers are same for both parts. NM98XX is no longer supplied by MosChip.

MCS98XX can be a direct replacement in all existing designs of NM98XX, without any changes.

**28. Does MCS98XX support Serial mouse under DOS?**

In DOS OS, serial mouse driver expects the standard IRQ to be present for serial port. IRQ for MCS98xx serial ports, which is different from that of standard serial ports, is assigned by system BIOS and can not be altered.

Therefore, serial mouse support is not possible under DOS.

**29. Is it possible to change the LPT port number?**

Yes, we can change the LPT port number by using a drop down list located in Port Properties. To change the LPT number, go to **“Port Properties => Port Setting => LPT Port Number”**.

If there is no standard LPT port available on motherboard, MCS98XX LPT port will automatically enumerate as **LPT1**, otherwise it will enumerate as **LPT3**.

**30. "A service installation section of the INF-file is invalid" error occurs while installing the MCS98XX Drivers on Windows XP. How to overcome this problem?**

Generally, this problem occurs when one tries to update the driver or select the wrong path while installing the driver. We recommend following the steps given below to overcome this issue:

1. Uninstall the drivers using uninstall.exe utility available in the drivers downloaded from MosChip website.
2. Reboot the PC.
3. Install the downloaded driver after restarting the PC.

For further queries write to [support@moschip.com](mailto:support@moschip.com)

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