

This installation guide describes the procedure to install MCS9805, MCS9815, MCS9820, MCS9835 and MCS9845 PCI Serial / Parallel ports on Linux platform.

Note: In this document MCS9835 is taken as an example. Please follow the same procedure to install MCS9805, MCS9815, MCS9820 and MCS9845.

To know the number of available serial ports:

Linux only supports 4 serial ports (ttyS0, ttyS1, ttyS2, ttyS3) under the default condition. Most likely, ttyS0 & ttyS1 are supported by mother board's built-in serial controllers and ttyS2 & ttyS3 are free for additional I/O card. If you want to add more serial ports use the following command.

For example you want to add ttyS4:

Mknod /dev/ttyS4 C 4 68 (and press ENTER)

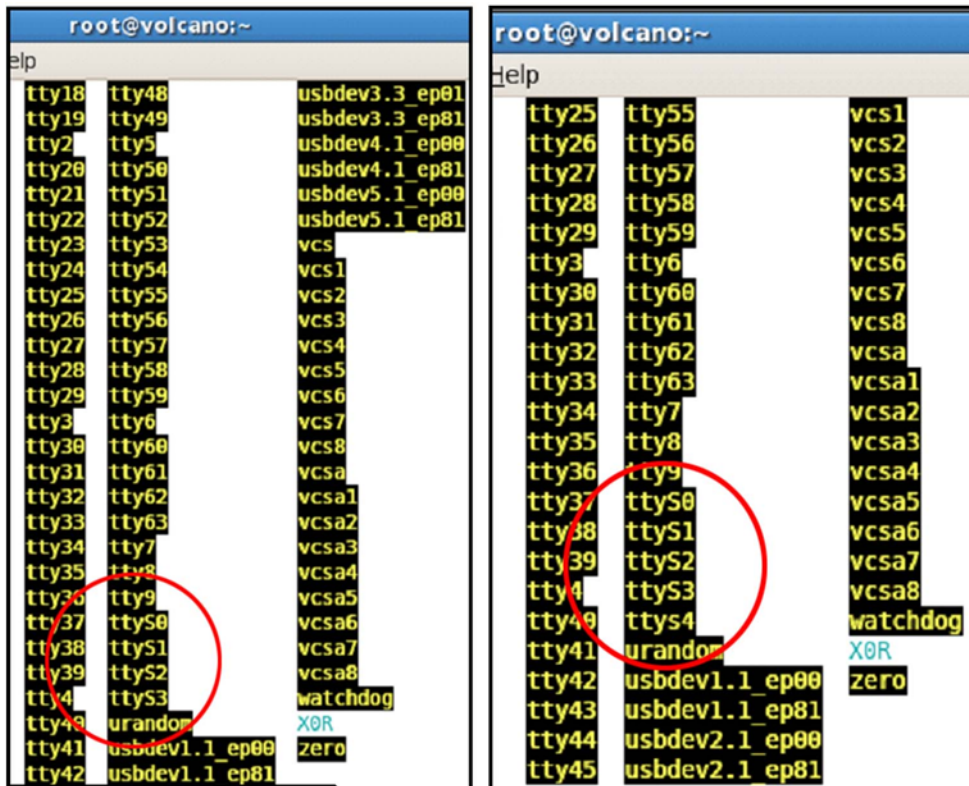


Fig 1

Default condition

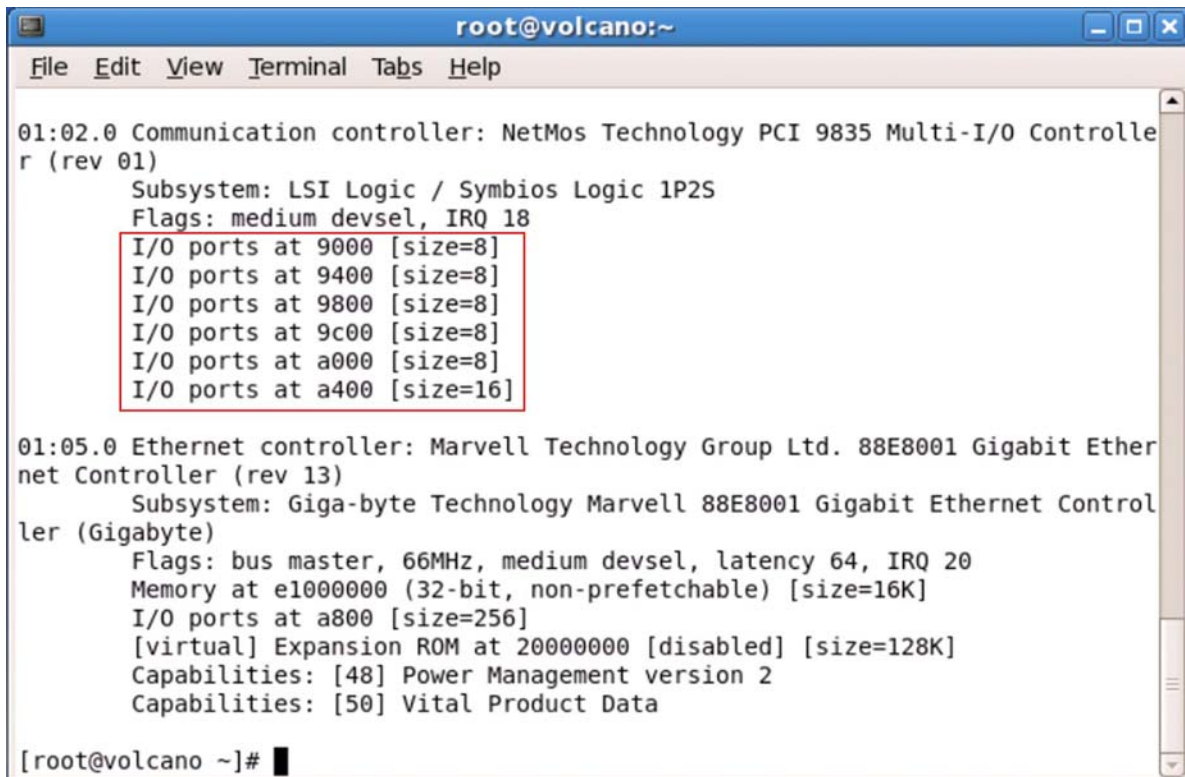
After adding a serial port

Installing MCS98XX Serial Ports on Linux Platform:

Step 1:

Find the PCI card resource (I/O port address & IRQ) for the serial ports by using the below command.

lspci -v (and press ENTER)



```
root@volcano:~  
File Edit View Terminal Tabs Help  
01:02.0 Communication controller: NetMos Technology PCI 9835 Multi-I/O Controller (rev 01)  
    Subsystem: LSI Logic / Symbios Logic 1P25  
    Flags: medium devsel, IRQ 18  
    I/O ports at 9000 [size=8]  
    I/O ports at 9400 [size=8]  
    I/O ports at 9800 [size=8]  
    I/O ports at 9c00 [size=8]  
    I/O ports at a000 [size=8]  
    I/O ports at a400 [size=16]  
01:05.0 Ethernet controller: Marvell Technology Group Ltd. 88E8001 Gigabit Ethernet Controller (rev 13)  
    Subsystem: Giga-byte Technology Marvell 88E8001 Gigabit Ethernet Controller (Gigabyte)  
    Flags: bus master, 66MHz, medium devsel, latency 64, IRQ 20  
    Memory at e1000000 (32-bit, non-prefetchable) [size=16K]  
    I/O ports at a800 [size=256]  
    [virtual] Expansion ROM at 20000000 [disabled] [size=128K]  
    Capabilities: [48] Power Management version 2  
    Capabilities: [50] Vital Product Data  
[root@volcano ~]#
```

Fig 2

The response is similar to the above screen shot.

Step 2:

Use the below commands to install Serial ports

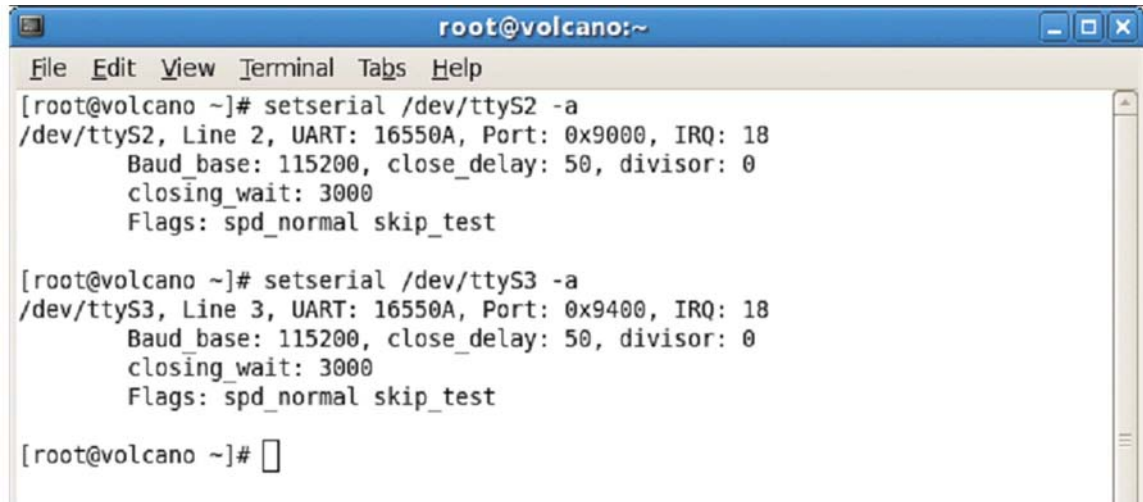
```
Setserial /dev/ttyS2 port 9000 UART 16550A irq 18 Baud_base 115200  
Setserial /dev/ttyS3 port 9400 UART 16550A irq 18 Baud_base 115200
```

Now the Serial ports of MCS9835 installed.

Step 3:

To check the setting of ttyS2 or ttyS3, type the following command and press Enter.

setserial /dev/ttyS2 -a (and press ENTER)



```
root@volcano:~  
File Edit View Terminal Tabs Help  
[root@volcano ~]# setserial /dev/ttyS2 -a  
/dev/ttyS2, Line 2, UART: 16550A, Port: 0x9000, IRQ: 18  
  Baud_base: 115200, close_delay: 50, divisor: 0  
  closing_wait: 3000  
  Flags: spd_normal skip_test  
  
[root@volcano ~]# setserial /dev/ttyS3 -a  
/dev/ttyS3, Line 3, UART: 16550A, Port: 0x9400, IRQ: 18  
  Baud_base: 115200, close_delay: 50, divisor: 0  
  closing_wait: 3000  
  Flags: spd_normal skip_test  
  
[root@volcano ~]#
```

Fig 3

Now the Serial ports ttyS2 & ttyS3 are ready to use.

Installing MCS98XX Parallel Port on Linux Platform:

To install the parallel port use the following command.

/sbin/modprobe parport_pc io=0x3f8,a400 irq=4,18 (and press ENTER)

The above command indicates onboard parallel port at 0x3f8 with IRQ 4 and MCS9835 parallel port at a400 with IRQ18. (Refer to fig 2)

Incase if you require using more than 2 parallel ports (for example MCS9815) make use of the following command:

/sbin/modprobe parport_pc io=0x3f8,8800,8c00,9c00 irq=4,18 (and press ENTER)

In the above command **9c00** is 16 bit I/O address and **8800 / 8c00** are 8 bit addresses. Refer to the screen shot below for clarity.

```
root@volcano:~  
File Edit View Terminal Tabs Help  
01:02.0 Communication controller: NetMos Technology PCI 9815 Multi-I/O Controller (rev 01)  
Subsystem: LSI Logic / Symbios Logic 2P0S (2 port parallel adaptor)  
Flags: medium devsel, IRQ 18  
I/O ports at 8800 [size=8]  
I/O ports at 8c00 [size=8]  
I/O ports at 9000 [size=8]  
I/O ports at 9400 [size=8]  
I/O ports at 9800 [size=8]  
I/O ports at 9c00 [size=16]  
01:05.0 Ethernet controller: Marvell Technology Group Ltd. 88E8001 Gigabit Ethernet Controller (rev 13)  
Subsystem: Giga-byte Technology Marvell 88E8001 Gigabit Ethernet Controller (Gigabyte)  
Flags: bus master, 66MHz, medium devsel, latency 64, IRQ 20  
Memory at e1000000 (32-bit, non-prefetchable) [size=16K]  
I/O ports at a000 [size=256]  
[virtual] Expansion ROM at 20000000 [disabled] [size=128K]  
Capabilities: [48] Power Management version 2  
Capabilities: [50] Vital Product Data  
[root@volcano ~]#
```

Fig 4

Caution:



Take care when you handle the MCS 98XX PCI cards. Like any electronic device, they are sensitive to static electricity, use normal static precautions such as wearing an Earth ground strap.