Installing MIport Driver on Ubuntu 10.04

Ubuntu 10.04 Desktop (32-bit and 64-bit)

1. Install the MIport serial card in the computer.

2. Open a terminal window. This can be found on the desktop menu under Application | Accessories | Terminal.

3. [optional] Start recording everything entered into, and output to, the terminal. This step is only required if there is a problem installing the driver.

```
username@computer$ script -t 2> ~/MIport.time -a ~/MIport.script ↲
```

```
Script started on Tue 31 Aug 2010 03:56:11 AM CDT
```

5. Extract the archive that stores the MIport driver.

```
username@computer$ tar -zxvf /media/MIport\ 3.0/linux/drivers/2.6/MIport/MIport-3.0.0.tar.gz ↲
```

```
MIport-3.0.0/linux/
MIport-3.0.0/linux/driver/
MIport-3.0.0/linux/driver/rc.local
MIport-3.0.0/linux/driver/bbmknod.sh
MIport-3.0.0/linux/driver/README
MIport-3.0.0/linux/driver/README.pdf
MIport-3.0.0/linux/driver/Makefile
MIport-3.0.0/linux/driver/MIport.c
Miport-3.0.0/linux/driver/rc.MIport
```

6. Change the current working directory to where the MIport driver source code is located.

```
username@computer$ cd MIport-3.0.0/linux/driver/ ↲
```

7. Compile the MIport device driver.

```
username@computer$ make ↲
```

```
make -C /lib/modules/2.6.32-24-generic/build M=/home/username/MIport-3.0.0/linux/driver modules
make[1]: Entering directory `/usr/src/linux-headers-2.6.32-24-generic'
  CC [M]  /home/username/MIport-3.0.0/linux/driver/MIport.o
  Building modules, stage 2.
  MODPOST 1 modules
  CC      /home/username/MIport-3.0.0/linux/driver/MIport.mod.o
  LD [M]  /home/username/MIport-3.0.0/linux/driver/MIport.ko
make[1]: Leaving directory `/usr/src/linux-headers-2.6.32-24-generic'
```

8. Install the MIport device driver. The current user's password may need to be entered. (Note that the characters around pwd below is <u>not</u> the single-quote character; it is the character for inline execution of a command.)

```
username@computer$ sudo make PWD=`pwd` install ↲
```

```
make -C /lib/modules/2.6.32-24-generic/build M=/home/username/MIport-3.0.0/linux/driver modules_install
make[1]: Entering directory `/usr/src/linux-headers-2.6.32-24-generic'
  INSTALL /home/username/MIport-3.0.0/linux/driver/MIport.ko
  DEPMOD  2.6.32-24-generic
make[1]: Leaving directory `/usr/src/linux-headers-2.6.32-24-generic'
cp ./rc.MIport /etc/rc.MIport
chmod 755 /etc/rc.MIport
```

9. Start the MIport driver.

```
username@computer$ sudo /etc/rc.MIport ↲

Searching for MIport driver in: ...
The MIport driver was found in: ...
The MIport driver is loaded.
Making special nodes for MIport.

Making /dev/ttyM0 /dev/cum0
Making /dev/ttyM1 /dev/cum1
Making /dev/ttyM2 /dev/cum2
Making /dev/ttyM3 /dev/cum3
Making /dev/ttyM4 /dev/cum4
Making /dev/ttyM5 /dev/cum5
Making /dev/ttyM6 /dev/cum6
Making /dev/ttyM7 /dev/cum7
```

10. Verify that the device driver is running. If the output is similar to what is shown below, then the MIport driver is running. If the output is blank, then the MIport driver is not running.

```
username@computer$ dmesg | grep MIport ↲

[  271.828182] B&B Electronics PCI MIport serial driver Revision: 4.5
[  314.159265] MIport 0000:07:05:05.0: PCI INT A -> GSI 26 (level, low) -> IRQ 26
```

11. [optional] If recording was started in Step 2, stop recording.

```
username@computer$ exit ↲

exit

Script done on Tue 31 Aug 2010 03:58:48 AM CDT
```

12. Test serial communications using gtkterm. Change the serial port under Configration | Ports and set the port to /dev/ttyM0 (for each serial port, increment the number at the end of the name; e.g., /dev/ttyM1).

```
username@computer$ gtkterm & ↲
```

13. If the driver works correctly, modify /etc/rc.local to automatically load the driver when the operating system starts.

```
username@computer$ sudo gedit /etc/rc.local
```

Add the following code to the file (before the "exit 0" statement):

```
    if [ -f /etc/rc.MIport ] ; then
        exec /etc/rc.MIport
    fi
```

An example of the code to add to /etc/rc.local is in the MIport driver folder in the file rc.local.

14. Restart the computer, and then test serial communications again with gtkterm.