
PCIe-multi-series Cards User's Manual

PCIe-S112, PCIe-S142,
PCIe-S114, PCIe-S144,
PCIe-S118, PCIe-S148
Linux Software Manual

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1. Linux Software Installation

The PCIe-multi serial cards can be used in linux kernel 2.6.32 to 5.16.0. For Linux O.S, the recommended installation and uninstall steps are given in Sec 1.1 ~ 1.2

1.1 Linux Driver Installing Procedure

Step 1: Download the latest driver from our website to the linux host.

Step 2: Must use the '**root**' identity to compile and install PCIe linux driver.

Step 3: Decompress the tarball "PCIe-multi_serial.tgz".

```
# tar zxvf PCIe-multi_serial.tgz
```

Step 4: Please follow below steps to compile and install driver:

```
#cd PCIe-multi_serial/
```

```
#make
```

```
# ./install.sh
```

Check driver is installed, please refer Fig1-1

```
root@winson-G41M-ES2L:~/winson/PCIe-multi_serial# ./install.sh
Install driver OK!
PCIe-S112 mode 232, ttyXR0 to ttyXR1
PCIe-S148 mode 485, ttyXR2 to ttyXR9
root@winson-G41M-ES2L:~/winson/PCIe-multi_serial# █
```

Fig-1.1

1.2 Linux Driver Uninstalling Procedure

Step 1: # ./remove.sh

Step 2: Refer Fig-1.2 to check driver is uninstal.

```
root@winson-G41M-ES2L:~/winson/PCie-mult_i_serial# ./remove.sh
Remove driver OK!
root@winson-G41M-ES2L:~/winson/PCie-mult_i_serial# █
```

Fig-1.2

2. PCIe-multi Series Linux Demo

Users can use demo “sb_test” to test comport send & receive in sub directory “async_multiport”. Please refer to Fig-2.1

```
root@winson-G41M-ES2L:~/winson/PCIe-multi_serial# ls
async_multiport  Changelog  Makefile  Module.symvers  xr17v35x.c
card_list.sh    install.sh  modules.order  remove.sh  xr17v35x.ko
root@winson-G41M-ES2L:~/winson/PCIe-multi_serial# cd async_multiport/
root@winson-G41M-ES2L:~/winson/PCIe-multi_serial/async_multiport# ls
Makefile  sb_test  sb_test.c  sb_test.o
root@winson-G41M-ES2L:~/winson/PCIe-multi_serial/async_multiport#
```

Fig-2.1

2.1 Demo sb_test

This demo program has three mode to test: Loopback · Send · Receive, if you want to know how to use the sb_test, you just type the name without any argument, and you can see the method of usage. Please refer Fig-2.2

```
Makefile  sb_test  sb_test.c  sb_test.o
[root@localhost async_multiport]# ./sb_test
Usage: ./sb_test [Port Name] [Baudrate] [TestMode]
Port Name : /dev/ttyXR0 ~ /dev/ttyXR32
Baudrate  : 9600, 19200, ...
TestMode  : 0(Loopback) 1(Send) 2(Recv)
[root@localhost async_multiport]#
```

Fig-2.2

Example:

```
#!/sb_test /dev/ttyXR0 9600 0
```

If you don't know comport device file name in you OS, you can use script “card_list.sh” to check. card_list.sh file is in PCIe-multi_serial directory.

Here is an example to use loopback mode to test. The test pattern is “abcdefghijklmnopqrstuvwxy^z” and the program generated increase one more character from ‘a’ to ‘z’ repeatedly. Please refer Fig-2.3

```
[root@localhost async_multiport]# ./sb_test /dev/ttyXR0 9600 0
Loopback Test Mode !
a
ab
abc
abcd
abcde
abcdef
abcdefg
abcdefgh
abcdefghi
abcdefghij
abcdefghijk
abcdefghijkl
abcdefghijklm
abcdefghijklmn
abcdefghijklmno
abcdefghijklmnop
abcdefghijklmnopq
abcdefghijklmnopqr
abcdefghijklmnopqrs
abcdefghijklmnopqrst
abcdefghijklmnopqrstu
abcdefghijklmnopqrstuv
abcdefghijklmnopqrstuvw
^C
[root@localhost async_multiport]# █
```

Fig-2.3