
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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Tables of Content

1.	LINUX SOFTWARE INSTALLATION	3
1.1	LINUX DRIVER INSTALLING PROCEDURE	3
1.2	LINUX DRIVER UNINSTALLING PROCEDURE.....	4
2.	PCIE-MULITI SERIES LINUX DEMO	5
2.1	DEMO SB_TEST	5

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
```

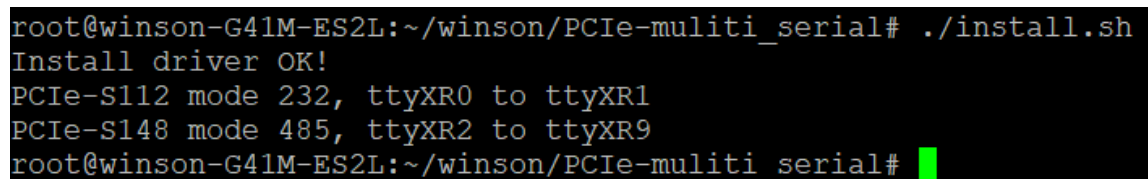
Step 4: Please follow below steps to compile and install driver:

```
#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 uninstall.

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

Fig-1.2

2. PCIe-muliti 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-muliti_serial# ls
async_multiport  Changelog  Makefile  Module.symvers  xrl7v35x.c
card_list.sh    install.sh  modules.order  remove.sh  xrl7v35x.ko
root@winson-G41M-ES2L:~/winson/PCIe-muliti_serial# cd async_multiport/
root@winson-G41M-ES2L:~/winson/PCIe-muliti_serial/async_multiport# ls
Makefile  sb_test  sb_test.c  sb_test.o
root@winson-G41M-ES2L:~/winson/PCIe-muliti_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-muliti_serial directory.

Here is an example to use loopback mode to test. The test pattern is “abcdefghijklmnopqrstuvwxyz” 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