



Release Note

SPEED4 for Linux v2.2.x

Release v0.6

5600039-10

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1. Introduction

This release note covers the installation and configuration of the SPEED4 Driver for Linux.

At the time of going to press the latest release of the Linux kernel sources were 2.2.13 and this does not currently contain built in support for the SPEED cards. A future release of the kernel shall contain built in support for the SPEED cards, but until then a patch file has been made available.

Before proceeding, the User should make sure that both a kernel patch file and utilities RPM are available. These can be found either on the HandyWEB CDROM (in the drivers/speed/linux directory) or from the Specialix website (<http://www.specialix.com>).

2. Driver Installation

The kernel patch file is named: `speed.patch-<driver vers>-<kernel vers>.gz`

e.g. `speed.patch-6-2.2.10.gz`

Copy this file to a temporary directory and uncompress it. The patch can then be applied to the Linux kernel as follows:

```
cd /usr/src/linux <cr>
patch -p1 </tmp/speed.patch-6-2.2.10 <cr>
```

If the patch is successful the driver will need to be enabled using the `make config` or `make xconfig` kernel utility. The SPEED driver is a patch of the existing serial port driver and appears in the "Character devices" section.

Make sure the "Support more than 4 serial ports" and "Support special multiport boards" options are set to 'y'. You may also want to enable "Support for sharing serial interrupts".

Now rebuild the kernel.

Note: Please consult your Linux distribution documentation on how to rebuild and install a new kernel and modules.

3. Quick Setup

After you have installed the new kernel & hardware, and have rebooted the machine. The following procedure can be followed to create devices for the added ports.

1. Firstly determine how many on board devices are present:

```
grep ttyS /var/log/messages
```

2. This will produce an output similar to this:

```
Nov 12 09:41:43 pro800x2 kernel: ttyS00 at 0x03f8 (irq = 4) is a 16550A
Nov 12 09:41:43 pro800x2 kernel: ttyS01 at 0x02f8 (irq = 3) is a 16550A
```

3. In the above example there are 2 tty devices already present in the machine and thus the first 2 nodes will relate to these devices i.e. `/dev/ttyS0` and `/dev/ttyS1`

4. Four more nodes will be required for support of the SPEED4 card:

```
ttys2, ttys3, ttys4, ttys5
```

5. Determine the major and minor node numbers:

```
ls -l /dev/ttyS[0-9]*
```

6. This will produce similar output to the following:

```
crw-rw-rw-  1 root    tty      4,  64 May  5 1998 /dev/ttyS0
crw-----  1 root    tty      4,  65 Nov 12 14:12 /dev/ttyS1
```

7. The next 4 nodes need to follow on from the ones already defined. These are made using the following commands:

```
mknod /dev/ttyS2 c 4 66
mknod /dev/ttyS3 c 4 67
mknod /dev/ttyS4 c 4 68
mknod /dev/ttyS5 c 4 69
```

8. If you require callout devices as well as tty devices the create them using the following commands:

```
mknod /dev/cua2 c 5 66
mknod /dev/cua3 c 5 67
mknod /dev/cua4 c 5 68
mknod /dev/cua5 c 5 69
```