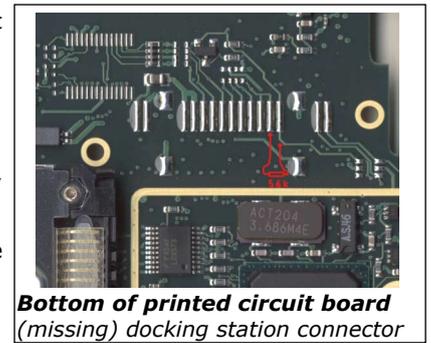# How to enter the BooSt superuser mode in the Netbook Pro

If you need to change your keyboard layout setting, recalibrate your touchscreen or want to solve NAND errors like the following:

NAND block 0x55C: ECCBAD, read failed

you need to enter the superuser mode in the Netbook Pro which provides some special commands which are not available in the normal mode. I guess there is a reason for this, because you can cripple your settings and make your Netbook unbootable.
To enter, you first need to reset the system with the tiny reset button next to the Enter key. Then you need to connect a resistor between two pins at the bottom of the PCB. The two pins can be found at the connector which connects to the docking station. (See image.) (Mind that not all Netbooks Pro seem to have this connector. If it hasn't, you need to get access to the PCB below instead.) I tried several values, but something between 33k and 68k seems to be appropriate. To boot into BooSt, press the magic key combination [Ctrl+Shift+D+Esc]. If the resistor is correctly connected, the text 'BooSt dongle detected' (See right column) should appear. If the left column is shown, you need to switch it off with [Fn+Esc], check the connection and power on with pressing [Esc].

Bottom of printed circuit board
(missing) docking station connector

Normal mode

```
nand0-0 mounted: size = 21136 KB
(42272 * 512)
Command>
netBookPro boot menu
-------------------
1) Run main OS
!) Clean start main OS
2) Begin YMODEM load
3) Show configuration
4) Audio test
5) Display test
6) Touch test
7) RAM test
8) NAND ECC
F) Erase flash file system

Command>
```

Superuser mode

```
Psion Teklogix netBook2 BooSt.
Copyright Psion Teklogix Inc. 2002, 2004
Starting BooSt...
Powering up AC97 CODEC...
Graphical console connected.
CPU (rev = 0x6) clock 400 MHz
Psion Teklogix netBook Pro MLB rev. D (board ID 1)
NAND flash: 32 MB (Samsung K9F5616U0), 20 MB reserved
for OS partition
RAM: 128 MB
BooSt version K295q (0x438CC3C2)
PCon version K295q
Boot code image info: size = 232000
          BooSt OS for netBook2
          Build version K295q
nBkProOS.img image info: size = 20841943
          NetBookPro Windows CE.NET
          K295q
BooSt dongle detected.
BooSt key combo detected.
OS load skipped.
Touch calibration read from EEPROM successful.
nand0-0 mounted: size = 21136 KB (42272 * 512)
> ?
Registered console commands:
?       Displays a list of registered commands
ac97    AC97 link command
ac97drv AC97 driver control
adc     Capture touch screen ADC samples
audio   Audio test command
cksum   Calculate POSIX.2 CRC for a file
```

```
config  Configuration command
debug   Display debugging information
distest Display test
editmem Edit memory
go      Jump to boot code or flash module (OS)
i2c     I2C
kbd     Keyboard test
load    Image file loader
ls      Directory list command
memtest Test unused memory regions
modem   Modem test command
nand    Perform NAND flash operations
pcctest Sycard PCCtest172/CFtest222 interface test
command
pcon    PCon interface
rtc     Real Time Clock
sertest Serial port tests
sleep   Delay for the specified amount of time
standby Put the terminal in suspend mode
touch   Touch driver calibration commands
usb     USB device related commands
usbhost USB Host Controller test
ver     Display BooSt version information
ymodem  Perform a YMODEM transfer
```

Serial connection

In order to get access to your screen output, it is advisable to connect the Netbook Pro with the serial connection to a pc. On windows one may use Hyperterminal (115200 8N1 Hardware flow control), or on linux cu:
Install with:

```
$sudo apt-get install cu
```

Start cu with:

```
$cu -l /dev/ttyS0 -s 115200
```

NAND Flash Problems

If someone tried to install Linux on the Netbook Pro, and tried to revert to Windows CE afterwards, both the NAND ECC and Erase flash file system from the normal BooSt option may fail. To erase the NAND flash memory, one must enter the superuser mode, and erase the NAND flash starting at block 18. ERASING YOUR NAND FLASH BELOW BLOCK 18 WILL ERASE BOOST, AND MAKE YOUR NETBOOK PRO UNBOOTABLE! (If someone knows an option to recover even from this, please let me know)
Type the following:

```
nand check
(For Netbook Pro 32 MB:)                        (For Netbook Pro 64 MB:)
nand -ignore erase 18 7e8                        nand -ignore erase 18 fe8
```

Configuring keyboard layout setting

```
config get
```
Settings of the keyboard layout
```
config set keyboard
```

Recalibrating the touchscreen

```
touch i a
```
(When everything is set, press the key w to write the new configuration into memory)

More information about commands

Informatoin about commands can be retrieved with the ? command. For example:
```
config ?
```
Will provide more information about the config command.