SSV
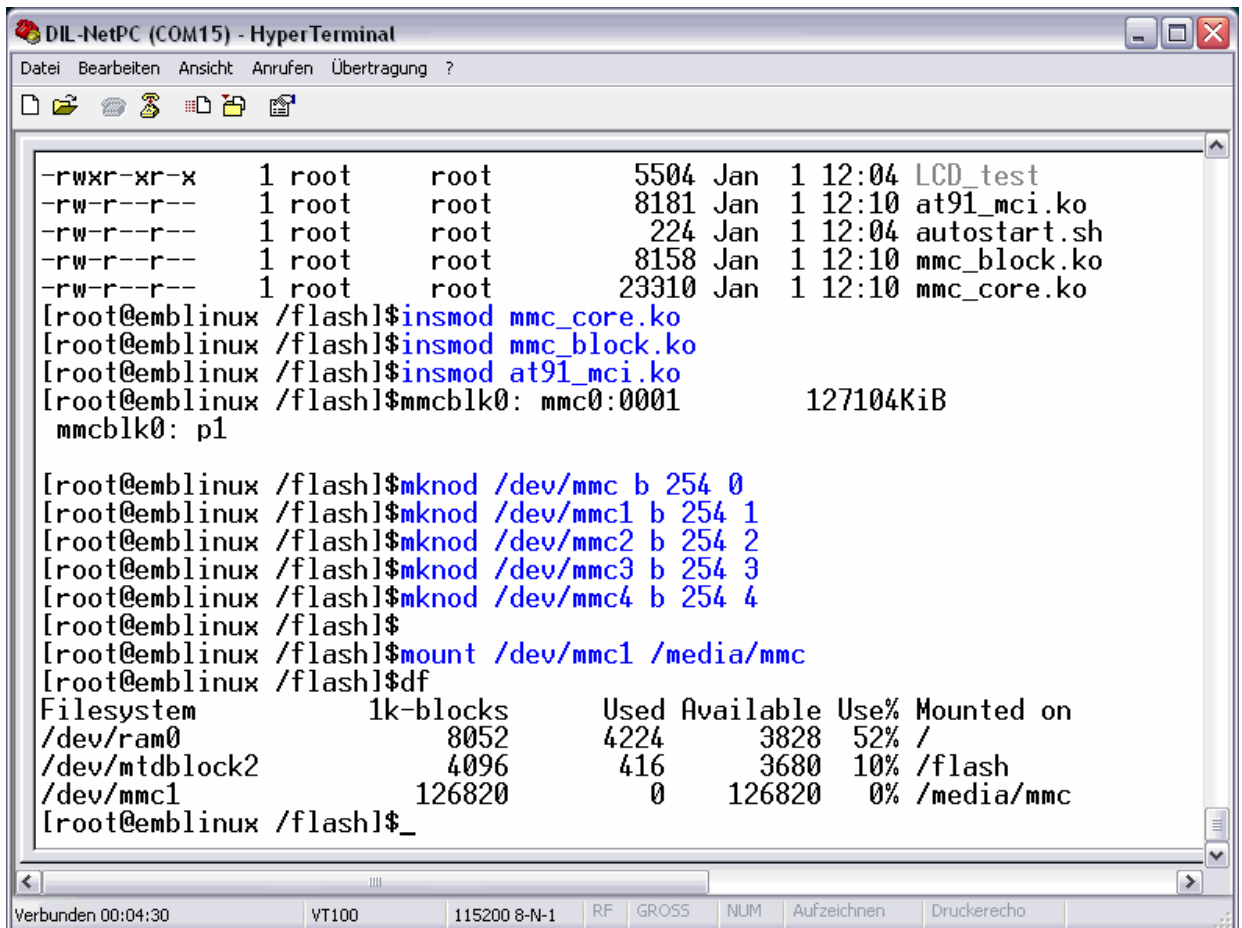
How to use a MMC (MultiMediaCard) with Linux Kernel 2.6.16

The MultiMediaCard (MMC) is a flash memory card standard. Unveiled in 1997 by Siemens AG and SanDisk, it is based on NAND-based flash memory technology. MMC is about the size of a postage stamp: 24 mm x 32 mm x 1.5 mm. The MMC used a (SPI-based) 1-bit serial interface.

The DIL/NetPC DNP/9200 DNP/SK23 starter kit is prepared for MMC usage, if the DNP/9200 runs Linux O/S kernel version 2.6.16. The necessary MMC Linux driver files (***mmc_core.ko***, ***mmc_block.ko*** and ***at91_mci.ko***) are downloadable over www.dilnetpc.com/dnp0078.htm.

- **1. Step:** Insert a MMC to the DNP/EVA9 SD/MMC socket J15. The default settings of MMC mode jumper JP8 is MMC enabled.

- **2. Step:** Turn the power on and download the three driver files ***mmc_core.ko***, ***mmc_block.ko*** and ***at91_mci.ko*** to the DNP/9200 directory */flash*.

```
DIL-NetPC (COM15) - HyperTerminal
Datei  Bearbeiten  Ansicht  Anrufen  Übertragung  ?

-rwxr-xr-x    1 root     root        5504 Jan  1 12:04 LCD_test
-rw-r--r--    1 root     root        8181 Jan  1 12:10 at91_mci.ko
-rw-r--r--    1 root     root         224 Jan  1 12:04 autostart.sh
-rw-r--r--    1 root     root        8158 Jan  1 12:10 mmc_block.ko
-rw-r--r--    1 root     root       23310 Jan  1 12:10 mmc_core.ko
[root@emblinux /flash]$insmod mmc_core.ko
[root@emblinux /flash]$insmod mmc_block.ko
[root@emblinux /flash]$insmod at91_mci.ko
[root@emblinux /flash]$mmcblk0: mmc0:0001         127104KiB
 mmcblk0: p1

[root@emblinux /flash]$mknod /dev/mmc b 254 0
[root@emblinux /flash]$mknod /dev/mmc1 b 254 1
[root@emblinux /flash]$mknod /dev/mmc2 b 254 2
[root@emblinux /flash]$mknod /dev/mmc3 b 254 3
[root@emblinux /flash]$mknod /dev/mmc4 b 254 4
[root@emblinux /flash]$
[root@emblinux /flash]$mount /dev/mmc1 /media/mmc
[root@emblinux /flash]$df
Filesystem           1k-blocks      Used Available Use% Mounted on
/dev/ram0                 8052      4224      3828  52% /
/dev/mtdblock2            4096       416      3680  10% /flash
/dev/mmc1               126820         0    126820   0% /media/mmc
[root@emblinux /flash]$_

Verbunden 00:04:30        VT100      115200 8-N-1    RF  GROSS   NUM   Aufzeichnen   Druckerecho
```

- **3. Step:** Execute the following Linux commands from within */flash* to load the driver files and mount the MMC to the DNP/9200 file system. You need root rights for this step.

```
insmod mmc_core.ko
insmod mmc_block.ko
insmod at91_mci.ko
mknod /dev/mmc b 254 0
```
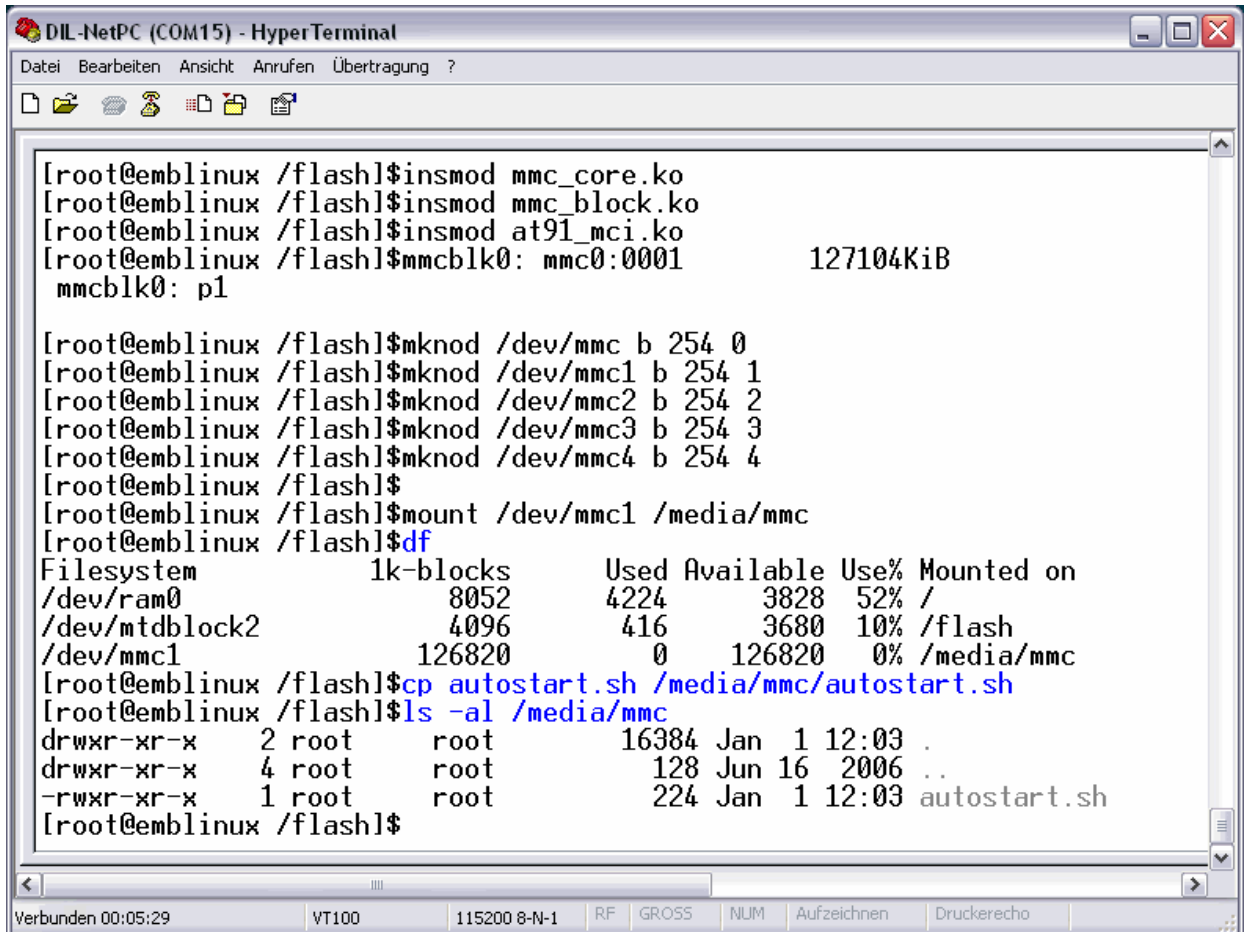
```
mknod /dev/mmc1 b 254 1
mknod /dev/mmc2 b 254 2
mknod /dev/mmc3 b 254 3
mknod /dev/mmc4 b 254 4
mount /dev/mmc1 /media/mmc
```

- **4. Step:** Copy files to the directory */media/mmc*. The directory is a part of the MMC flash memory.

That's all.