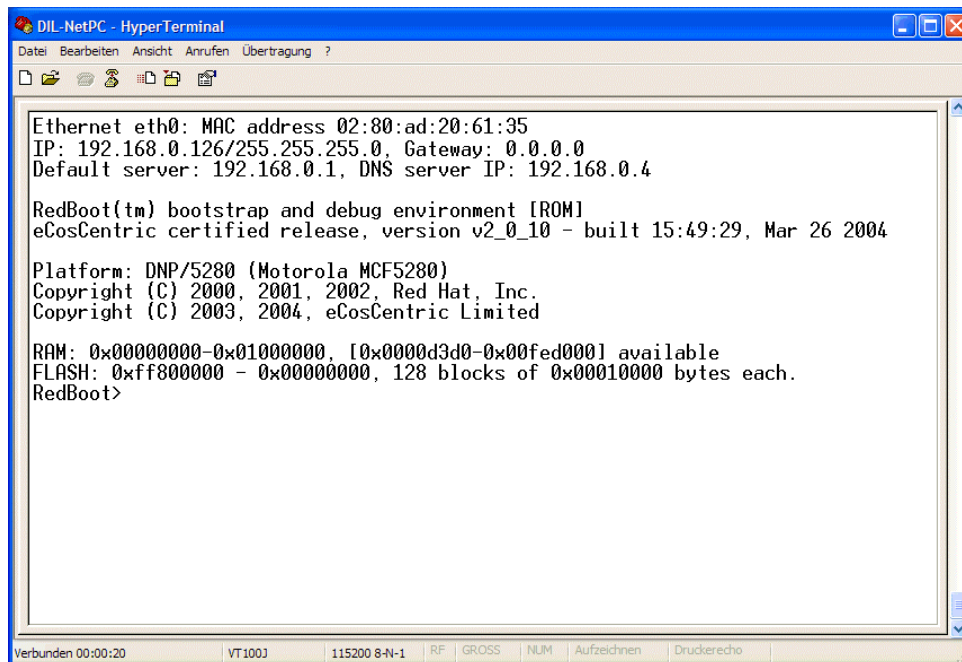


First Steps with the RedBoot Boot Loader

Within the eCos Starter Kit, the DIL/NetPC DNP/5280 comes with a preinstalled RedBoot boot loader. RedBoot offers a user interface useable over a simple serial line. When connected with a terminal or terminal emulation program, you can interactively enter commands and see the results.

- **1. Step:** Setup a Ethernet connection with a 10/100 Mbps switch and Ethernet patch cables between the DIL/NetPC DNP/5280 and your PC.
- **2. Step:** Setup a serial link (**RS232 Serial Link**) between the DNP/5280 COM1 serial port and a serial port of your PC system. Use a null-modem cable for the physical connection between the COM1 port of the DNP/5280 and the PC COM port. Setup the line parameters to **115.200 bps, 8 data bits, 1 stop bit, no handshake**.
- **3. Step:** Run your terminal emulation program. Microsoft Windows-based PC systems offer *HyperTerminal* for this task. Linux-based systems comes with *Minicom*. Then provide the DNP/5280 with power. Wait for the RedBoot prompt “RedBoot>”.



```
DIL-NetPC - HyperTerminal
Datei Bearbeiten Ansicht Anrufen Übertragung ?
Ethernet eth0: MAC address 02:80:ad:20:61:35
IP: 192.168.0.126/255.255.255.0, Gateway: 0.0.0.0
Default server: 192.168.0.1, DNS server IP: 192.168.0.4

RedBoot(tm) bootstrap and debug environment [ROM]
eCosCentric certified release, version v2_0_10 - built 15:49:29, Mar 26 2004

Platform: DNP/5280 (Motorola MCF5280)
Copyright (C) 2000, 2001, 2002, Red Hat, Inc.
Copyright (C) 2003, 2004, eCosCentric Limited

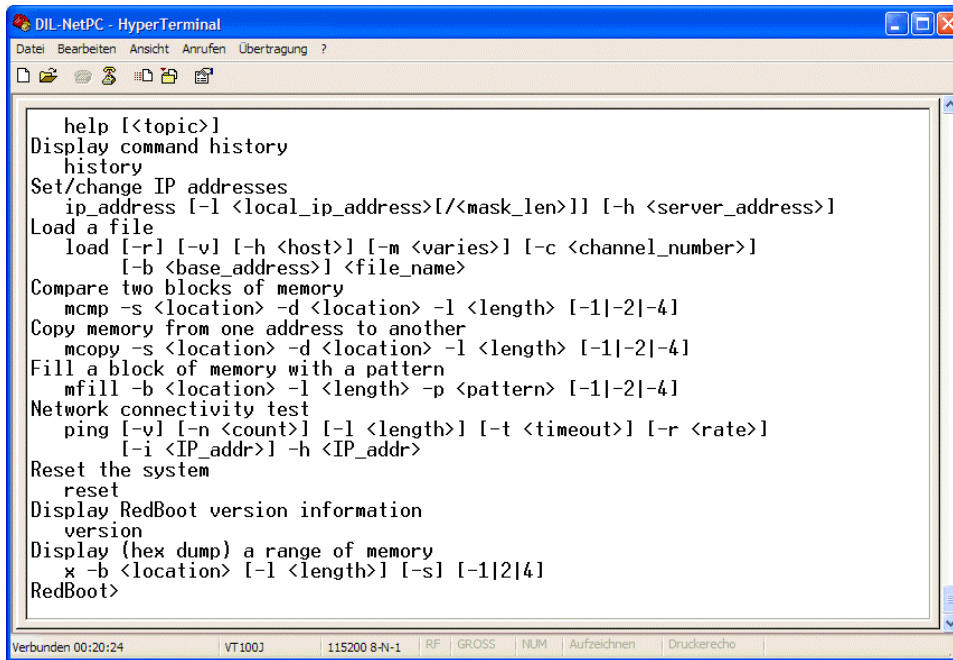
RAM: 0x00000000-0x01000000, [0x0000d3d0-0x00fed000] available
FLASH: 0xff800000 - 0x00000000, 128 blocks of 0x00010000 bytes each.
RedBoot>
```

- **4. Step:** The user interface to RedBoot consists of a command line interpreter (CLI), much like a Linux shell prompt.

When connected via a serial line you can interactively enter commands and see the results. Please type in the command

```
help
```

and hit Enter. RedBoot executes the `help` command and shows the results within your terminal window.



- **5. Step:** The RedBoot help command shows the available commands and the syntax of this commands.

Command	Function
alias	Manage aliases kept in FLASH memory
baudrate	Set/Query the system console baud rate
cache	Manage machine caches
channel	Display/switch console channel
cksum	Compute a 32bit checksum [POSIX algorithm] for a range of memory
dump	Display (hex dump) a range of memory
fis	Manage FLASH images
fconfig	Manage configuration kept in FLASH memory
go	Execute code at a location
help	Help about help?
history	Display command history
ip_address	Set/change IP addresses
load	Load a file
mcmp	Compare two blocks of memory
mcopy	Copy memory from one address to another
mfill	Fill a block of memory with a pattern
ping	Network connectivity test
reset	Reset the system
version	Display RedBoot version information
x	Display (hex dump) a range of memory

- **6. Step:** Check the Ethernet connection between the DIL/NetPC DNP/5280 and your PC. Use the RedBoot ping command for this task. Please enter the following command:

```
ping -v -n 5 -h 192.168.0.1
```

```

DIL-NetPC - HyperTerminal
Datei Bearbeiten Ansicht Anrufen Übertragung ?
Compare two blocks of memory
  mcmp -s <location> -d <location> -l <length> [-l|-2|-4]
Copy memory from one address to another
  mcopy -s <location> -d <location> -l <length> [-l|-2|-4]
Fill a block of memory with a pattern
  mfill -b <location> -l <length> -p <pattern> [-l|-2|-4]
Network connectivity test
  ping [-v] [-n <count>] [-l <length>] [-t <timeout>] [-r <rate>]
    [-i <IP_addr>] -h <IP_addr>
Reset the system
  reset
Display RedBoot version information
  version
Display (hex dump) a range of memory
  x -b <location> [-l <length>] [-s] [-l|2|4]
RedBoot> ping -v -n 5 -h 192.168.0.1
Network PING - from 192.168.0.126 to 192.168.0.1
seq: 1, time: 0 (ticks)
seq: 2, time: 0 (ticks)
seq: 3, time: 0 (ticks)
seq: 4, time: 0 (ticks)
seq: 5, time: 0 (ticks)
PING - received 5 of 5 expected
RedBoot> _

```

Please note: “192.168.0.1” is the IP address of your PC in this sample. Use another IP address if necessary. The default IP address of the DNP/5280 with RedBoot is **192.168.0.126**.

- **7. Step:** The RedBoot dump command allows you a direct view to the current memory content. Please enter the following command:

```
dump -b 0x0 -l 0xff
```

```

DIL-NetPC - HyperTerminal
Datei Bearbeiten Ansicht Anrufen Übertragung ?
seq: 1, time: 0 (ticks)
seq: 2, time: 0 (ticks)
seq: 3, time: 0 (ticks)
seq: 4, time: 0 (ticks)
seq: 5, time: 0 (ticks)
PING - received 5 of 5 expected
RedBoot> dump -b 0x0 -l 0xff
00000000: 00 00 00 00 FF 80 01 00 FF 81 00 F4 FF 81 00 F4 | .....|
00000010: FF 81 00 F4 FF 81 00 F4 FF 81 00 F4 FF 81 00 F4 | .....|
00000020: FF 81 00 F4 FF 81 00 F4 FF 81 00 F4 FF 81 00 F4 | .....|
00000030: FF 81 00 F4 FF 81 00 F4 FF 81 00 F4 FF 81 00 F4 | .....|
00000040: FF 81 00 F4 FF 81 00 F4 FF 81 00 F4 FF 81 00 F4 | .....|
00000050: FF 81 00 F4 FF 81 00 F4 FF 81 00 F4 FF 81 00 F4 | .....|
00000060: FF 81 00 F4 FF 81 00 F4 FF 81 00 F4 FF 81 00 F4 | .....|
00000070: FF 81 00 F4 FF 81 00 F4 FF 81 00 F4 FF 81 00 F4 | .....|
00000080: FF 81 00 F4 FF 81 00 F4 FF 81 00 F4 FF 81 00 F4 | .....|
00000090: FF 81 00 F4 FF 81 00 F4 FF 81 00 F4 FF 81 00 F4 | .....|
000000A0: FF 81 00 F4 FF 81 00 F4 FF 81 00 F4 FF 81 00 F4 | .....|
000000B0: FF 81 00 F4 FF 81 00 F4 FF 81 00 F4 FF 81 00 F4 | .....|
000000C0: FF 81 00 F4 FF 81 00 F4 FF 81 00 F4 FF 81 00 F4 | .....|
000000D0: FF 81 00 F4 FF 81 00 F4 FF 81 00 F4 FF 81 00 F4 | .....|
000000E0: FF 81 00 F4 FF 81 00 F4 FF 81 00 F4 FF 81 00 F4 | .....|
000000F0: FF 81 00 F4 FF 81 00 F4 FF 81 00 F4 FF 81 00 F4 | .....|
RedBoot>

```

That is all.