kontron

CP6000 README for Linux24

April 4, 2006

Contents

1 Notes on CP6000 ans CP6000-V for Linux kernels 2.4.x

1.1 Package overview

```
Name        : bsp-cp6000-kom               Relocations: /opt/linux_bsp_kom
Version     : 2.6.10                           Vendor: Kontron Modular Computers
Release     : 0103                          Build Date: Thu 16 Feb 2006 16:51:35 CET
Install date: (not installed)               Build Host: przero.rnd.kontron.pl
Group       : Development/Tools             Source RPM: bsp-cp6000-kom-2.6.10-0103.src.rpm
Size        : 1030844                          License: Kontron Modular Computers
Signature   : (none)
Packager    : przero
URL         : http://www.kontron.com/
Summary     : Board Support Package for CP6000 and CP6000-V
Description :
This is the Linux board support package for the Kontron CP6000 and CP6000V boards.
It contains drivers and APIs for using the on-board hardware components.
Note: This package supported the Linux kernel versions 2.6.x and 2.4.x.
This RPM package include only kernel modules for Kernel version 2.6.10

Board Support Package for CP6000 and CP6000-V
```

```
for Kernel version 2.6.10
Distribution: none
```

1.2 Peculiarities / Restrictions

This BSP has been validated for Redhat Fedora Core4, Suse 9.3 / 10.0. For other distributions or versions no warranty can be taken for functionality of this BSP.

1.3 Version History

1.3.1 Index 0103:

- Corrected HTML documentation
- Adapted to work fine with SuSE Professional 9.3, SuSE Professional 10.0, Fedora Core 4
- Created Makefile to compile modules under Linux Kernels 2.4.x
- Adapted to new KOMDRV driver model
- Adjusted to new project structure
- Update demo application

1.3.2 Index 0102:

- Adjusted BSP for Kernel 2.6

1.3.3 Index 0101:

- —

1.4 Special user hints

1.4.1 Using the SysV Init Script for the Hot Swap Monitor

Before step

```
# /etc/init.d/hsmonitor start
```

you have to set the hsmonitor script executable in /etc/init.d with

```
# chmod +x hsmonitor
```

1.4.2 IPMI-Support

Support for IPMI is not part of this BSP. IPMI-Support is available as a separate SW-package by Kontron.

1.4.3 Geographical Address

The Kontron board driver provides information about the geographical address of the CompactPCI - slot in the file /proc/drivers/kom_cp6000/cpci/gaddr.

Just enter

```
# cat /proc/drivers/kom_cp6000/cpci/gaddr
```

However, this requires, that the backplane provides this information correctly.

1.4.4 I2C Support

Ensure that the i2c-core, i2c-dev and i2c-i801 modulules are loaded.

```
# lsmod
```

For loading run modprobe

Example:

```
# modprobe i2c-dev
```

This step requires root privileges.

Now you can run ee_demo with the additional parameter -i for I2C device node selection. If your are not sure which I2C device node is available, run i2c detect and use the one which is dedicated to the I801 chipset.

Example:

```
# ee_demo -r 0 -i /dev/i2c-0
```

Reads from offset 0x0000 and I2C device node /dev/i2c-0.

1.4.5 LED Modes

The CP6000(V) has eight LEDs in two rows on front-panel. Access to the LED register is switched by jumper J22. If the jumper J22 is closed then the POSTCODE values are displayed, if opened then values from logic register are displayed.

In POSTCODE MODE the values are displayed in following order: The LEDs 0-3 (Front-II) represent LSB The LEDs 4-7 (Front-I) represent MSB

The software access to the LEDs on CP6000(V) board is realized in two ways:

- using LED API, currentmode = 0, J22 open
- using POSTCODE API, currentmode = 1, J22 close

The current mode is stored in */proc/drivers/kom_cp6000/led/currentmode* file.

```
# cat  /proc/drivers/kom_cp6000/led/currentmode
0x0
```

The read value 0 indicates LED MODE, 1 - POSTCODE MODE.

The current mode may be changed by writing value 0 or 1 to the *currentmode* file.

```
# echo 1 > /proc/drivers/kom_cp6000/leds/currentmode
```

1.4.5.1 LED MODE In the LED MODE all leds are available individually. Read from file */proc/drivers/kom_-cp6000/led/leds* gives current status of all LEDs.

```
# cat /proc/drivers/kom_cp6000/led/leds
 # Value
  0   0
  1   1
  2   1
  3   1
  4   1
  5   0
  6   1
  7   1
```

Write to the file in format "\e [nr_led] \e [state]" sets the LED [nr_led] to the state \ [state], for example turning on the LED number 5 requires following command:

```
# echo "5 1" > /proc/drivers/kom_cp6000/led/leds
```

Note:
The jumper J22 must be opened, if it is closed write to the POSTCODE register overwrite LED register.

1.4.5.2 POSTCODE MODE In this mode the LEDs display values in binary code. Read the current postcode value

```
# cat /proc/drivers/kom_cp6000/io/postcode
0xc7
```

Write the new postcode value

```
# echo 0x5f > /proc/drivers/kom_cp6000/io/postcode
```

Note:
The jumper J22 must be closed, if it is open the POSTCODE values aren't displayed.

1.5 Linux kernels 2.4.x

For compiling modules for Linux kernels 2.4.x a special *Makefile* is prepared. This *Makefile* is choosen by *initprojec.sh* script if the kernel sources 2.4.x has been detected. There are NO special hints for compilation process.

Note:
The kernel modules under kernels 2.4.x have ".o" suffixes. The suffixes ".ko" are valid only for kernels 2.6.x.

1.6 Network support

The network device is supported by "e1000" module driver. This driver may NOT be present in the Linux kernel of the used distribution. The included in the distribution driver version may NOT support the onboard Intel Ethernet chip. In such case download the last driver vesion from Intel site: http://www.intel.com