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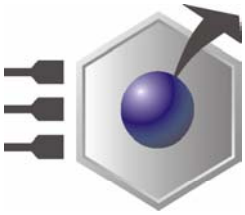

EuroTecH

THE COMPLETE EMBEDDED PC SOLUTION

An0032

CPU-1220/CPU-1410; Linux Driver for Watchdog Timer

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ABOUT THIS MANUAL

This application note contains information about the use of the Watchdog functionality of the CPU-1220 or CPU-1410 under the Linux operating System.

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Conventions

The following table lists conventions used throughout this guide.

Icon	Notice Type	Description
	Information note	Important features or instructions
	Warning	Information to alert you to potential damage to a program, system or device or potential personal injury

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Chapter 1 Using Watchdog Functionality of the CPU-1220/1410 under Linux O.S.

This brief document describes the Linux Kernel support for the watchdog management of the CPU-1220 and CPU-1410 modules.

The watchdog is part of the onboard SUPER I/O device: *SMSC FDC 37B782*

The Super I/0 watchdog enables managing time-out in seconds or minutes (depending on the Super I/O programming).

This document doesn't contain any information on how to write program code for controlling the watchdog. For this purpose, please refer to the respective CPU board manual.

Where to find the drivers:

The driver is released with all official kernels starting from the 2.4.18 release. Please refer to the following link to download the updated kernel release: www.kernel.org

Installing the Linux driver for the CPU-1220 and CPU-1410 Watchdog

After obtaining the kernel sources, the user should compile the Kernel including the Eurotech CPU-1220/1410 Watchdog timer support. For further information on how to compile the Kernel, please refer to "The Linux Kernel HOWTO" www.tldp.org

Starting a shell:

- bash# cd /usr/src/linux-2.4.18/
- bash# make menuconfig

After starting the graphical configurator, from the Main Menu you should enter into the Character devices menu and select the Watchdog Cards option. A list of cards should be displayed. Select the Eurotech CPU-1220/1410 Watchdog Timer (NEW), setting the flag as you prefer:

<M> as module
<*> compiled into the kernel architecture

Save the Configuration to an Alternative File and exit from the menu configuration program. Then proceed with the compilation of the kernel and the modules. For this purpose, the user can refer to the Kernel HOW-TO documentation.

Testing the CPU-1220/1420 Watchdog Driver Functionality

If you compile the driver as a module, you can load it with the following command:

- bash# insmod eurotechWDT

Please pay attention during the loading of the module that the Watchdog is initialized with proper values to prevent erroneous reset situations.

Chapter 2 Source Code and Documentation

This section describe where to find information about the Linux CPU-1220 and CPU-1410 Watchdog Linux driver.

Related Documents

Browsing the kernel source Linux directory, you can find the driver sources in general at the following path:

/usr/src/linux-2.4.18/

For further information about the SUPER I/O device *SMSC FDC 37B782, please refer to the chip manufacturer's datasheet*

Where to find us

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