

can4vxworks - Device Driver for VxWorks

Overview

The *can4vxworks* driver is a universal VxWorks device driver and is used for controlling of ISA-, PCI- and PC104 interface cards with CAN bus interface. It supports the CAN controller Philips SJA1000 and the sources can easily be adapted to use any other CAN controller .

Application

The *can4vxworks* driver is a result of the **can4linux** project which was developed in 1997 to control laboratory devices that use CAN. Besides the IOCTL function calls both drivers use the same data structures for parameter passing. Thus changing an application between LINUX™ and VxWorks is trouble-free.

During compilation the driver is optimized for the target hardware.

Driver Interface

Controlling the device driver is done via the standard function calls for devices like `open()`, `close()`, `read()`, `write()` and `ioctl()`.

The driver is highly configurable with the IOTCL functions.

Furthermore it is possible to use up to four interface boards with the device files `/dev/can0 ... /dev/can3`.

Hardware

The driver supports various single and dual-channel standard PC interface cards with ISA, PCI and PC104 interface:

- *port* AT-CAN-MINI (PeliCAN mode 29bit)
- EMS CPC-PCI
- IXXAT PCI03 (only SJA1000)
- Advantech Pcm-3680 (PC 104)
- DigiTec PCMatic® Feldbusmodul FC-CAN (SJA1000)
- ESD PC104/200

The driver was developed for x86 machines but can also be used on other target hardware.

Products available

The *can4vxworks* driver can be used with different products of *port*.

In order to send, receive and display CAN messages the command line application *horch* is available as CAN layer 2 server. It can be used interactively from within an xterm or in batch mode as TCP/IP server. In the latter mode the graphical CAN analyzer CAN-RE*port* can be used to send, receive and display the CAN messages.

Based on this source code the compiled and configured CANopen server *m4d* is available. It also provides an interactive and a batch server mode. To use it in server mode *port* offers the tool *CANopen Device Monitor* with an easy to use graphical interface.

System

The *can4vxworks* device driver is available as ANSI-C source code and can be compiled on different target platforms.

Ordering Information

0643/01 can4vxworks Device Driver

Engineering Services

port is providing engineering services and trainings for our business activities:

- CAN and CAN-based protocols: CANopen, J1939, DeviceNet
- Industrial Ethernet Protocols: POWERLINK, EtherNet/IP, EtherCAT
- Implementation of devices according to CANopen device profiles
- VHDL based solutions for industrial applications
- application specific implementations or enhancements
- embedded LINUX projects

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