User Manual

CPC-Series Runtime Kit for MS-Windows Environment

EMS

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Our products are continuously improved. Due to this fact specifications may be changed at any time and without announcement.

WARNING: **EMS hardware and software may not be used in applications where damage to life, health or private property may result from failures in or caused by these components.**

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1   Introduction

This document describes the MS-WINDOWS Runtime Kit for EMS CAN Interfaces.

The following chapter describes the installation and configuaration of the CPC-Series Runtime Kite for MS-Windows Environment.

1.1   Driver Overview

The following table shows which operating systems are supported by EMS interfaces and which features are available:

	9X	NT	2K	XP
CPC-PP/Eco	1,2,3, 4	1,2,3, 4	1,2,3, 4	1,2,3, 4
CPC-PP	1	1	1	1
CPC-XT/ CPC-104	1,2,3, 4	1,2,3, 4	1,2,3, 4	1,2,3, 4
CPC-XTI/ CPC-104I	N/A	1	1	1
CPC-PCI	1,2,3, 4	1,2,3, 4	1,2,3, 4	1,2,3, 4
CPC-Card	N/A	N/A	1,2,3, 4	1,2,3, 4
CPC-USB	1,2	N/A	1,2	1,2

Please notice that Windows ME is not supported by our drivers.

1. Standard: OpenChannel, CloseChannel, CANInit, Control, SendMsg, SendRTR, CANState, BufferCnt, BufferClear, GetInfo

2. Extended: SendXMsg, SendXRTR

3. BusError

4. CANExit, Overrun

2   Installation

2.1   Installation Hints

Depending on the interface you are installing the driver for, there are some supplementary steps to be done during and after the installation.

All interfaces not mentioned below do not require further installation steps.

Windows 9x
CPC-PCI: We recommend installing the Runtime Kit before inserting the interface. After rebooting the hardware wizard appears. Point to the location of the inf/driver combination ('drivers/win9x' within your installation directory) to install the interface. After the following reboot please execute the 'PCIdetect' application from the Start menu to insert the correct parameters into the file 'cpcconf.ini' in your Windows directory.
If you insert the interface before installing the kit, skip the hardware wizard that appears upon the first boot.

CPC-USB: Please install the Runtime Kit before connecting the CPC-USB interface. When you restart your computer, the Hardware Wizard will appear to install the interface. The .inf file nessessary for the installation is found within the 'drivers\win9x' directory of your installation.

Windows 2000/XP
CPC-PCI: Insert the interface and boot your PC. Skip the hardware wizard that appears to install CPC-PCI. Install the Runtime Kit. After the installation the 'PCIdetect' application will start to insert the correct interface parameters into the file 'cpcconf.ini' within your Windows directory. Should 'PCIdetect' not start, please execute it manually from the start menu after reboot.

CPC-Card: Please install the Runtime Kit before inserting the CPC-Card interface. When you insert the CPC-Card after the installation, the Hardware Wizard will appear to install the interface. The .inf file nessessary for the installation is found within the 'drivers\win2k' (or 'drivers\winxp' in case that Windows XP is running) subdirectory of your installation directory.
Please notice that Win2K/XP currently only allows one PC-Card of the same type connected to the PC!

CPC-USB: Please install the Runtime Kit before connecting the CPC-USB interface. When you restart your computer, the Hardware Wizard will appear to install the interface. The .inf file nessessary for the installation is found within the 'drivers\win2k' (or 'drivers\winxp' in case that Windows XP is running) subdirectory of your installation directory.

2.2   Installation Update

If you install a newer version of the Runtime Kit over an existing one, we recommend to use the same installation path in order to replace all older file versions by newer ones.

Windows 9x

Please notice that for CPC-PCI and CPC-USB the driver are only copied to the disk You will have to choose the 'update driver' option within the device manager to install the newest driver. The procedure is the same as described above within the 'Installation Hints' section.

Windows 2000/XP

The drivers are updated automatically when the appropriate interface is connected.

2.3   Installation Process

The Runtime kit setup consists of two files: wrkxxxx.exe and wrkxxxx.w02 where xxxx is the current version number. Be sure to have both files and if needed the license file available.
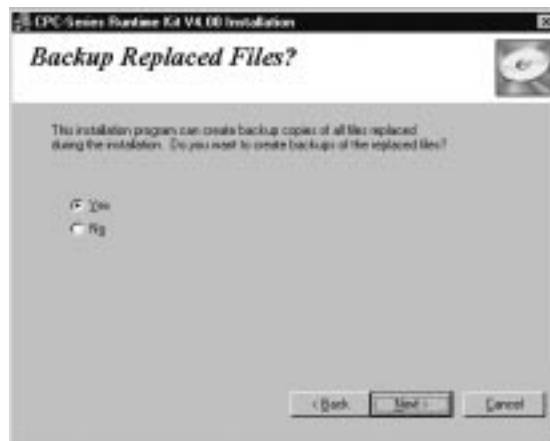
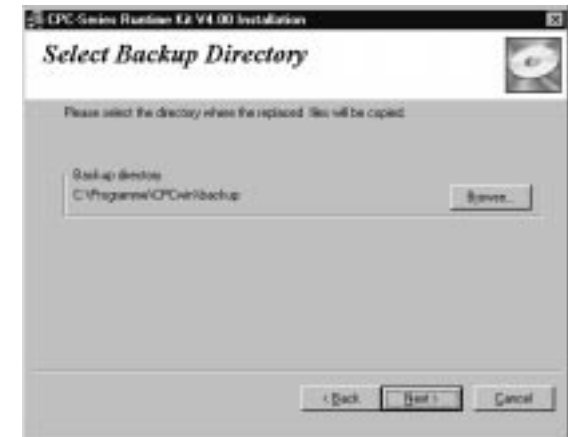Doubleclick wrkxxxx.exe to see the following screen appear:

Click 'Next' and choose your destination directory:

Click 'Next' and select if you would like to backup replaced files (only necessary when updating an installation).

Press 'next' and choose the directory that will store the replaced files:

Click 'next' and choose the components that will be installed.

If this is the first installation, you may check all boxes except the last one ('Copy all files ...').

When you are installing an update for the runtime kit, you will normally only need to update the drivers and the library.

Click 'Next' to install the driver files. The setup program detects the running Windows version and offers the drivers currently supported.

Click 'Next' to begin with the installation process.

Click 'Next' to start the installation.

After the installation click 'Finish' to exit the setup program

3 CAN Channel Configuration

3.1 The file 'cpcconf.ini'

The configuration of the different CAN channels used by the application is done within the file 'cpcconf.ini' that is copied to the Windows root directory at installation time.

The file contains different sections named [CHANXX] where 'XX' is a number between 00 and 99.
Example for a section:

; Entry created on Friday, 03. September 2004 17:01:56
[CHAN00]
InterfaceType=CPC-PCI
BusNr=0
SlotNr=11
ChannelNr=1

The parameters within the sections depend on the type of the interface. The parameter 'InterfaceType' is mandatory. The following Interfaces are supported at this time:

CPC-PP
CPC-PP/ECO
CPC-XT1000 (represents CPC-104 interfaces also)*
CPC-PCI
CPC-XTI (represents CPC-104I interfaces also)
CPC-CARD
ETHERCAN
CPC-USB

* currently only the Philips CAN controllers are supported

Additional parameters:

CPC-PP and CPC-PP/Eco
PortNr=X (with 1 < X < 3: number of the parallel port)

CPC-XT1000
BaseAddress=0xXXXXX (the jumpered base address)
IrqNr=X (the jumpered IRQ number)

CPC-PCI
BusNr=X (the PCI bus number)
SlotNr=X (the PCI slot number)
ChannelNr=X (0 < X < 1: the channel on the board)

The values for the bus number and slot number can be retrieved by using the 'pcidetect.exe' tool that is located within the 'tools\pci' path of your installation. The values can be entered as HEX (0x10) or DECIMAL (16) numbers

CPC-XTI/CPC-104I
BaseAddress = 0xXXXXXXXX (the jumpered base address)
IrqNr=X (the jumpered IRQ)
ChannelNr=X (0 < X < 1: the channel on the board, if 2chan)

CPC-Card
BusNr=X (the PCMCIA bus number; currently not evaluated)
SlotNr=X (the PCMCIA slot number; currently not evaluated)
ChannelNr=X (0 < X < 1: the channel on the board)

ETHERCAN
IpAddress=XXX.XXX.XXX.XXX (IP address)
IpPort=XXXX (the server port)

CPC-USB
SerialNumber=XXXXXXX (the devices serial number)

Note: if only one device is connected, the serial number may be set to '9999999'. However, if you use more than one interface or plan to connect and disconnect the device upon operation, the correct serial number must be entered.

Upon installation of an interface modifications are made to 'cpcconf.ini'. If no file exists a new file is created and the interface parameters are inserted. If a file already exists, the

user has to decide if the file should be overwritten by a new one or if the new parameters should be appended to the existing file. Please notice that if the latter is chosen, the installation program will create commented sections with section numbers XX. An appended section could look like this:

```
; Entry created on Friday, 03. September 2004 17:01:56
;[CHANXX]
;InterfaceType=CPC-PCI
;BusNr=0
;SlotNr=11
;ChannelNr=1
```

The customer then has to modify 'cpcconf.ini' to reflect his current environment by deleting the semicolon at the beginning of each line as well as assigning a correct section number.

The 'cpcconf.ini' file allows the changing of interfaces and CAN channels without having to modify the application.

NOTES