CSB Quickstart with USB driver

Installation procedure

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1. INTRODUCTION

This manual explains how to install Pro-Active USB driver for CSB, K531, and compliant devices. USB driver is shipped in a software package named "CSB Quickstart", together with diagnostic utilities and other demonstration programs.

This manual is separated into two parts :

- **Chapter 2** describes the installation of the CSB Quickstart with the USB driver. **This is the only part you'll have to read for normal operation.**
- **Chapter 3** describes the replacement of the USB driver by a virtual communication port driver (VCP). This part is intended only for developers and people wanting to upgrade the device firmware.

1.1. COVERED PRODUCTS AND TARGET

Pro-Active CSB4-U is an USB contactless reader / writer. Its core is a K531 contactless module, together with an USB-to-serial bridge (FDTI chipset).

Every product using the same architecture are covered by this manual, namely :

- **Pro-Active MOD-K531-PRN** : OEM contactless reader / writer for card printers,
- **Pro-Active CSB5-U** : USB contactless reader / writer with embedded smartcards and SIM/SAM readers, and optional biometric (fingerprint) capabilities,
- **Pro-Active INT-K531-USB** interface for MOD-K531 modules, IWM-K531 proximity readers, and others.

The USB driver for CSB and K531 targets **Microsoft Windows 2000** and **Microsoft Windows XP** only.

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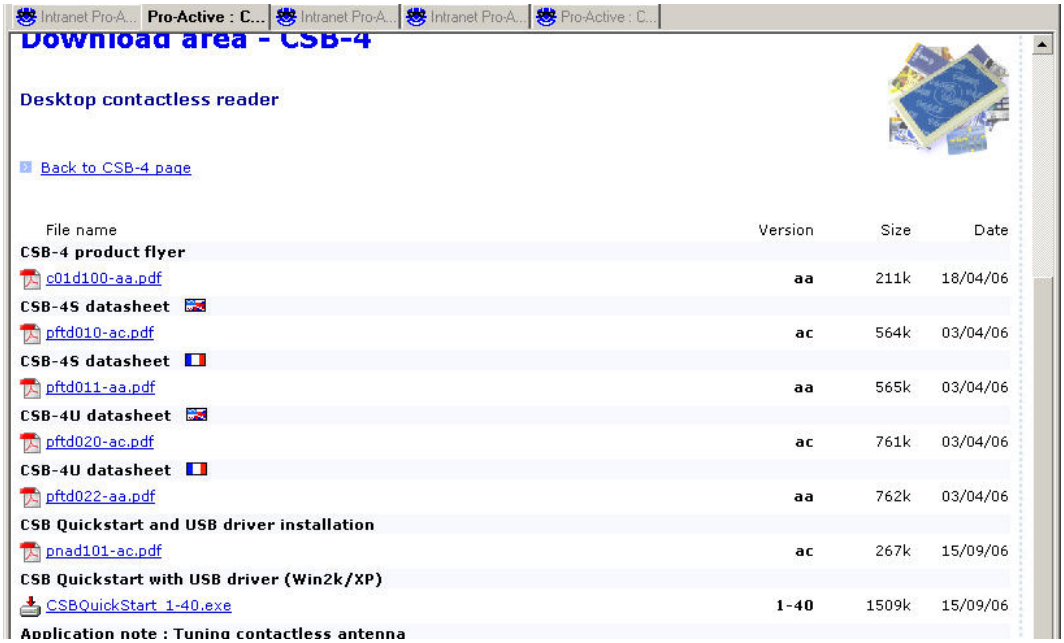
1.2. WHERE CAN I FIND THE SOFTWARE ?

The **CSB Quickstart with USB driver** is available online at :

www.pro-active.fr



- Go to www.pro-active.fr ,
- Click "Downloads" in main menu,
- Select "CSB4" in the downloads page,
- Download the file labelled "**CSB Quickstart with USB driver (Win2k/XP)**" (`CSBQuickstart.exe`).

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1.3. ALTERNATE OPERATING SYSTEMS

On most operating systems, developers can use the K531 SDK to build applications for the CSB or K531 products. Generally speaking, the USB device will be seen as a Virtual Communication Port (VCP), and will be operated is if it where a serial device.

Please refer to K531 development related documentations for more information.

Linux : kernel 2.6 includes the driver for the FDTI USB-to-serial bridge. Pro-Active USB devices are seen as a VCP, with the name `/dev/ttyUSBxx`. Developers can use the K531 SDK to build applications using the CSB4-U through this channel. Driver for older kernels can be found at FDTI's web site (see § 1.4).

FDTI provides also drivers for **Windows CE** and **Mac OS** (see § 1.4).

1.4. MORE DRIVERS, INTERESTING INFORMATION AND FAQ

You can find drivers for different operating systems, as well as a troubleshooting knowledge base, on Future Technology Device International's web site, at

www.ftdichip.com

USB identifiers that can be used by Pro-Active products :

- VID=0403, PID=6001 : *Generic FDTI USB device*. This is the default identifier for all our basic USB products,
- VID=0403, PID=D968 : *Pro-Active Generic USB Device*. This is the identifier for advanced Pro-Active USB-to-serial adapters,
- VID=0403, PID=D969 : *Pro-Active CSB USB Coupler*. This is the identifier for advanced Pro-Active CSB.

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2. QUICKSTART WITH USB DRIVER INSTALLATION

2.1. READ ME FIRST

Please read observe following advertisement before connecting the CSB4-U (or any other Pro-Active USB device) to your computer :

Do not connect the device now !

The USB driver must be installed before connecting the device to your computer.

Connecting the device before actual driver installation may lead to a faulty configuration, due to Windows automatically installing other drivers than the one expected.

Disconnect Windows XP SP 1 from the Internet during this procedure

Some users have been experiencing problems installing under Windows XP with Service Pack 1. This is due to Windows XP Update trying to automatically install XP certified replacement drivers in place of the Pro-Active USB drivers.

This problem can be overcome by temporarily disconnecting from the Internet while installing the driver and when connecting the device to the computer for the first time.

Don’t forget to download the driver before disconnecting from the Internet.

Use a direct USB connection

When you will connect the device to your computer for the first time, plug it directly into an USB port of the computer. Do not connect it through any kind of USB hub or other adapter.

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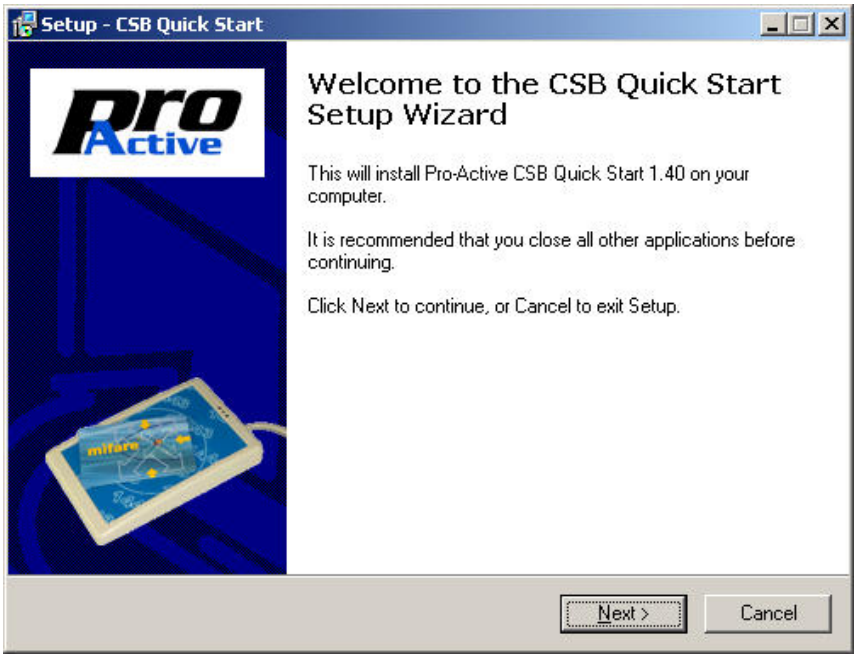
2.2. RUN CSB QUICKSTART SETUP WIZARD

- Log-on to your computer with administrative privileges (Administrator account).
- Download CSBQuickstart.exe according to § 1.2 .
- Run the downloaded installation program.



- During the installation process, you may change the destination directory. Default destination are
  - `C:\Program Files\Pro-Active\CSBQuickstart` for the USB driver itself,
  - `C:\Program Files\Pro-Active\UsbDrivers` for testing tools and sample software,
- If prompted by a security warning, please accept driver installation anyway. This warning is only because Pro-Active USB drivers are not-WHQL certified.

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2.3. CONNECT THE DEVICE TO THE COMPUTER

- Plug the CSB4-U connector into a free USB port.
- In most cases, Windows will automatically activate the device which the USB driver installed during § 2.2 . Sometimes, the "Found new hardware wizard" will be launched instead. Please follow the procedure below, depending on the operating system version :

2.3.1. Windows 2000

If prompted by the "Found new hardware wizard",

- Select "Search for a suitable driver for my device",
- Check the "Specify a location" box,
- When the prompted "Copy manufacturer's files from", browse to the driver installation directory
  (namely `C:\Program Files\Pro-Active\UsbDrivers`),
- Confirm your choice,
- Once finished, the device is ready for use.

2.3.2. Windows XP

If prompted by the "Found new hardware wizard",

- If prompted for connection to Windows Update, select "Do not connect to Windows Update this time",
- Select "Install from a list or specific location",
- Select "Search the best driver in the locations", check the "include this location in the search" box, and browse to the driver installation directory (namely `C:\Program Files\Pro-Active\UsbDrivers`),
- If Windows XP is configured to warm when unsigned (non-WHQL certified) drivers are about to be installed, click "Continue anyway".
- Once finished, the device is ready for use.

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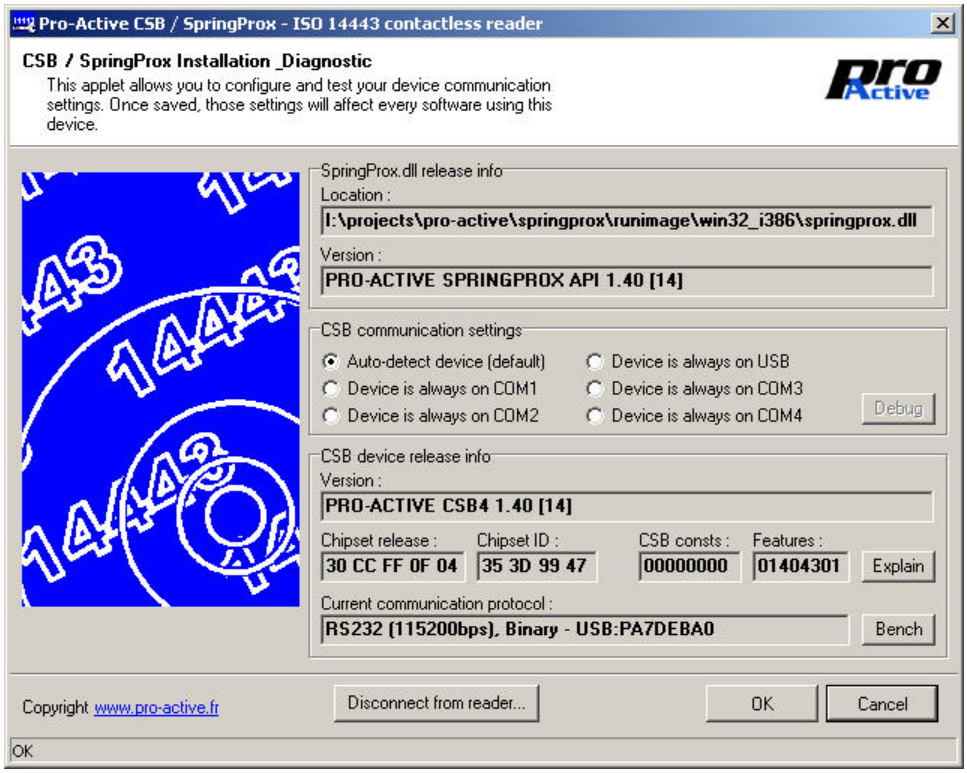
2.4. TEST DRIVER INSTALLATION

- In the "Start menu", "Pro-Active CSB Quickstart" program group, launch "Diagnostic and Configuration" (`CSBDiag.exe` software).



- Check the "Device is always on USB" radio,
- Click "Device connection test",
- After a few seconds, the "CSB device release info" fields are populated with CSB-4 or K531 data. Congratulation, the USB driver has been successfully installed !
- Click "OK" to exit.

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2.5. TROUBLESHOOTING

If the test described in § 2.4 is unsuccessful, please observe the following procedure :

- Un-plug the CSB, restart the computer, plug the CSB, and do the test again,
- Un-plug the CSB, install the driver again, and restart the computer before doing the test again.

If still unsuccessful,

- Go to "Control Panel", "System", "Hardware" and "Device Manager",
- Locate the device entry in the tree,
- Right-click on the device and click "Properties",
- Choose "Driver update" or "Change driver" in the "Driver" tab of the dialog box,
- Force a manual installation of the driver from the installation directory.

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3. VIRTUAL COM PORT DRIVER INSTALLATION

3.1. WHEN SHALL I INSTALL THE VCP DRIVER ?

When the VCP driver is used, the CSB4-U (or other Pro-Active USB device) is seen as a regular Windows communication port, with the name "COM*x*".

This is useful if you need either to :

- Upgrade the firmware of your CSB or K531 ("flashing" the device),
- Develop and/or use an application that doesn't rely on the `springprox.dll` library to access the contactless reader[1],
- Access the device console though HyperTerminal or another terminal emulator program. For example, when you have to configure an IWM-K531 reader.

[1] Note that the `springprox.dll` library can also access the device through the VCP, but this is much slower than using native USB support.

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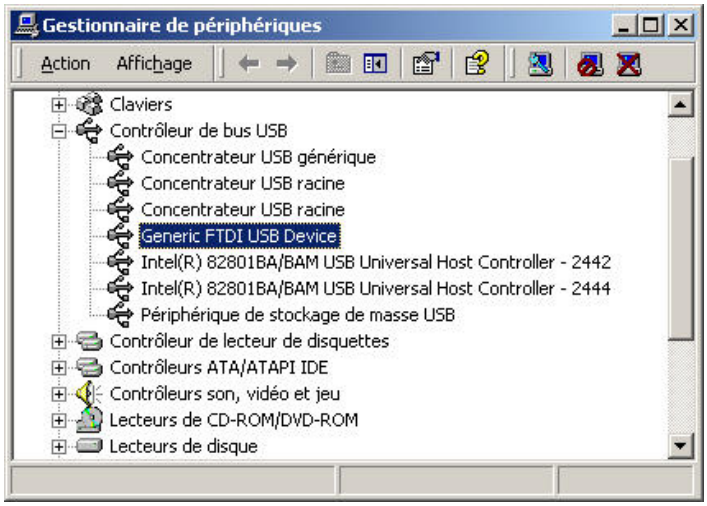
3.2. INSTALLING AND TESTING THE VCP DRIVER

3.2.1. Installation

Proceed as follow :

- Perform the USB driver installation, exactly as explained in chapter 2,
- Plug the device in,
- Go to "Control Panel", "System", "Hardware" and "Device Manager",
- Locate the device entry in the tree (name "Generic FTDI USB Device", "Pro-Active Generic USB Device", or "Pro-Active CSB USB Coupler"),



- Right-click on the device and click "Properties",
- Choose "Driver update" or "Change driver" in the "Driver" tab of the dialog box,
- Force a manual installation of the driver located in the "VCP" subdirectory of the driver installation directory
  (namely `C:\Program Files\Pro-Active\UsbDrivers\VCP`),.
- After installation of the replacement driver, the device now appears in group "Ports (COM & LPT)", with the name "USB Virtual COM. Port (COM*x*)".

The actual name depends on your system history, it can be "COM2", "COM3",… or any other COM number.

3.2.2. Selecting a different COM number

If you want to force another number for the device,

- Right-click on the device and click "Properties",
- Go to the "Port settings" tab, click "Advanced", and select the "COM Port Number" you want. Click "OK".

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3.2.3. Test the VCP installation

Launch HyperTerminal. Create a new connection to the Virtual COM Port using the actual name provided by the system or selected in § 3.2.2 .

Default communications settings for most Pro-Active products are :

- Baudrate = 38400bps,
- 8 data bits, 1 stop bit, no parity,
- No flow control, no handshaking.

The device start-up string will appear on the HyperTerminal screen. Congratulation, you are now connected !

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3.3. BACK TO NATIVE USB DRIVER

If you want to replace the VCP driver by native USB driver, proceed as follow :

- Go to "Control Panel", "System", "Hardware" and "Device Manager",
- Locate the "USB Virtual COM Port" entry in the tree,
- Right-click on the device and click "Properties",
- Choose "Driver update" or "Change driver" in the "Driver" tab of the dialog box,
- Force a manual installation of the native USB driver from the driver installation directory
  (namely `C:\Program Files\Pro-Active\UsbDrivers`).

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