K531, CSB4 and related products

Firmware update procedure

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1. INTRODUCTION

This document is the user manual related to **Pro-Active's Firmware Upgrade Utility** ("Flasher" software).

Up-to-date version of **Flasher** software can be downloaded from Pro-Active's web site, at URL http://www.pro-active.fr/download/flash/

1.1. COVERED PRODUCTS

At the date of writing this document, current version of **Flasher** software (0.20) is able to flash any device based on Renesas R8C/25 or Renesas H8/3664F CPU, connected to the computer via a serial communication device.

This covers any Pro-Active device based either on K531 or K531-R (Renesas H8/3664F), or on K531-2R (Renesas R8C/25), including CSB4, IWM-K531...

New versions of the software may already be available and cover other devices.

1.2. NOTE ON USB DEVICES

USB devices (such as CSB4-U, K531-PRN, K531-USB …) can be upgraded using **Flasher** software provided that they are seen as a serial communication device by the computer.

Please read carefully chapter 3 of document "**CSB Quickstart with USB driver – Installation procedure**" (ref. PNAD101) and install the Virtual COM Port Driver (VCP) before running **Flasher** software.

Note the COM number assigned to your device before proceeding (see § 3.2.1 and 3.2.2 of PNAD101 for explanations).

1.3. DOWNLOADING AND INSTALLING THE FLASHER SOFTWARE

The **Flasher** software is available online at :

http://www.pro-active.fr/download/flash/

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- Click on the "download Pro-Active Flasher" link and save the setup program onto your hard disk.
- Now double-click on setup program (`FlasherSetup.exe`) to launch the installation wizard.

You must have administrative privileges (Administrator account) in order to install the software.

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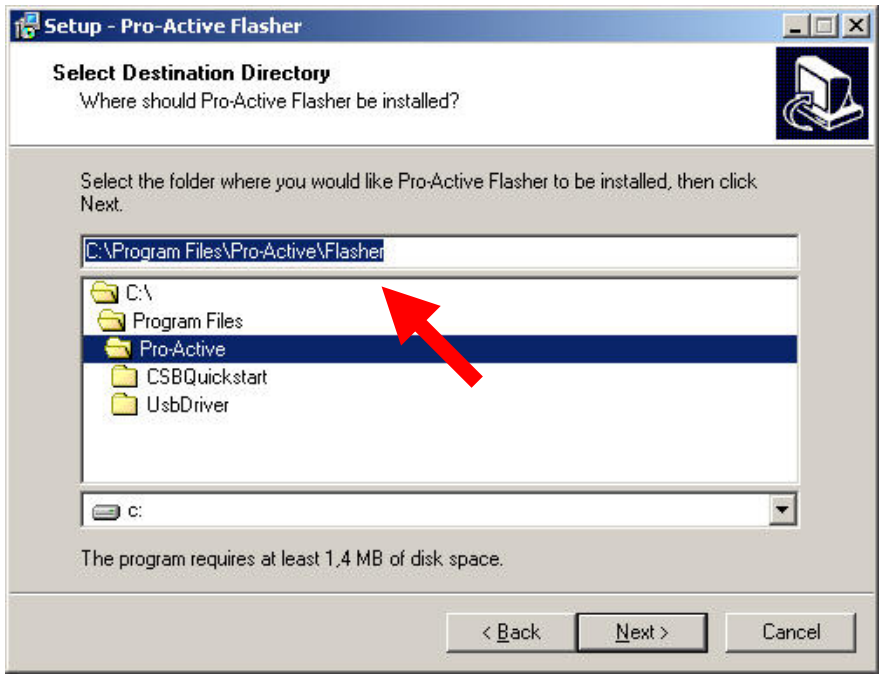
- Click next, read and agree the software license, and select the destination folder.

The setup program will install Flasher software on your hard drive, typically in `C:\Program Files\Pro-Active\Flasher`.

Be sure to remember the installation directory, since you'll have to place the firmware files here later.



- Follow the installation wizard, until software is successfully installed.

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2. GETTING STARTED WITH FLASHER SOFTWARE

Launch the **Flasher** software from Start Menu :

Start Menu → Programs → Pro-Active Firmware Upgrade Utility → Pro-Active Flasher

On first start, **Flasher** software will ask you to download the available firmwares from the Internet. If your computer is connected to the Internet, go to § 2.1 . If your computer is not connected to the Internet, or if automatic download fails for any reason, go to § 2.2 .

2.1. DOWNLOADING FIRMWARES FROM THE INTERNET

Click "Download firmwares" in the "File" menu to begin the automatic firmware retrieving process (on first start, this procedure is started automatically).

Flasher software connects to Pro-Active's website and downloads all available firmwares. Be patient, this process can take a few minutes.

Once download has ended, the text box on the right displays the list of firmware files that have been found. Proceed with § 2.3 .

The download program will be unable to download the firmwares from Pro-Active's website if your computer is behind a proxy or if a firewall prevents the connection. In this case, follow manual procedure described in chapter 2.2 .

2.2. INSTALLING NEW FIRMWARES MANUALLY

Exit the **Flasher** software.

Go to Pro-Active's firmware download page again, at URL

http://www.pro-active.fr/download/flash/

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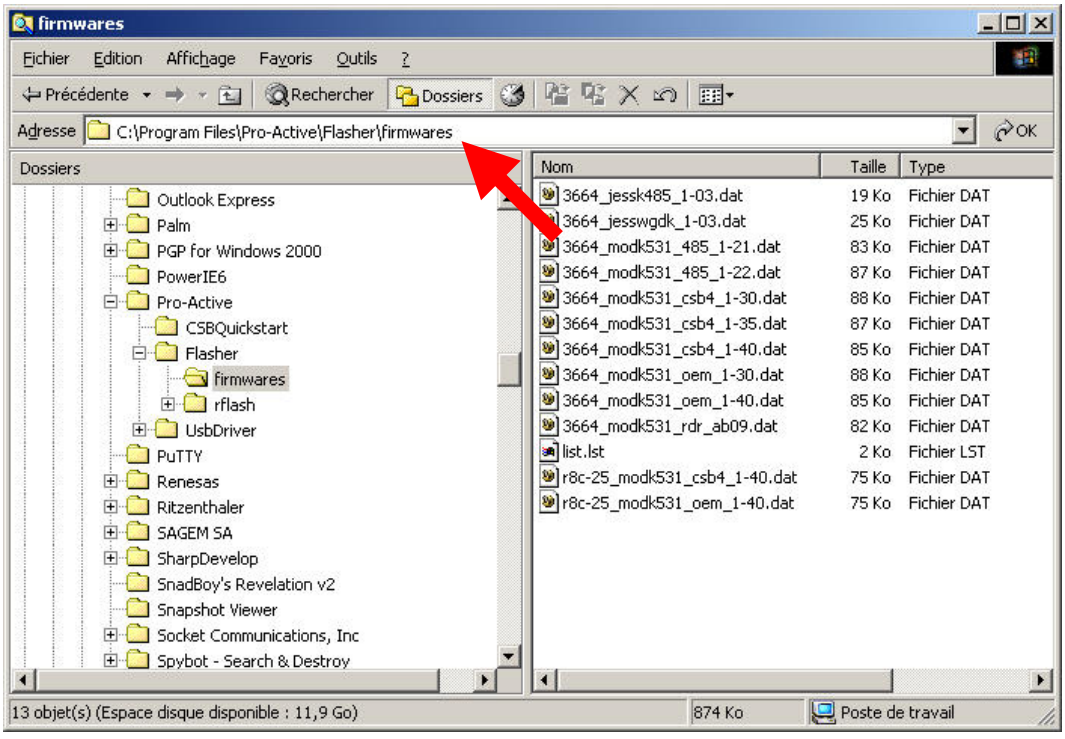
Available firmwares

File name	Product	Version	Details	Date	Size
3664_jessk485_1-03.dat	JESS 485	1.03	Firmware for the Pro-JESS RS-485 daughter board		20k
3664_modk531_oem_1-30.dat	K531 OEM	1.30	Firmware for the K531 or K531-R OEM module		89k
3664_modk531_csb4_1-30.dat	CSB4	1.30	Firmware for the CSB4 (USB or serial) based on K531 or K531-R		89k
3664_modk531_csb4_1-40.dat	CSB4	1.40	Firmware for the CSB4 (USB or serial) based on K531 or K531-R	15/09/2006	86k
3664_modk531_csb4_1-35.dat	CSB4	1.35	Firmware for the CSB4 (USB or serial) based on K531 or K531-R		88k
3664_jesswgdk_1-03.dat	JESS WGD/DTC	1.03	Firmware for the Pro-JESS Wiegand/Dataclock daughter board		26k
3664_modk531_485_1-22.dat	K531/485	1.22	Firmware for the K531 or K531-R OEM module with RS-485 hardware		87k
r8c-25_modk531_csb4_1-40.dat	CSB4 (Mk2)	1.40	Firmware for the CSB4 (USB or serial) based on K531-2R	15/09/2006	75k
3664_modk531_rdr_ab09.dat	IWM-K531	AB 09	Firmware for IWM-K531 reader, based on K531 or K531-R, hardware release AB		83k
3664_modk531_485_1-21.dat	K531/485	1.21	Firmware for the K531 or K531-R OEM module with RS-485 hardware		83k
3664_modk531_oem_1-40.dat	K531 OEM	1.40	Firmware for the K531 or K531-R OEM module	15/09/2006	86k
r8c-25_modk531_oem_1-40.dat	K531 OEM (Mk2)	1.40	Firmware for the K531-2R OEM module	15/09/2006	75k

Download the firmware files you need. Copy them into the `Firmwares` directory under the directory where you've installed **Pro-Active Flasher** (typically, this is `C:\Program Files\Pro-Active\Flasher\Firmwares`).

- Download the firmwares you want, and place them in the "firmwares" sub-directory, under the directory where you've installed the **Flasher** software.



- Now launch the Flasher software again, the text box on the right displays the list of firmware files that you've placed in the "firmwares" sub-directory. Proceed with § 2.3 .

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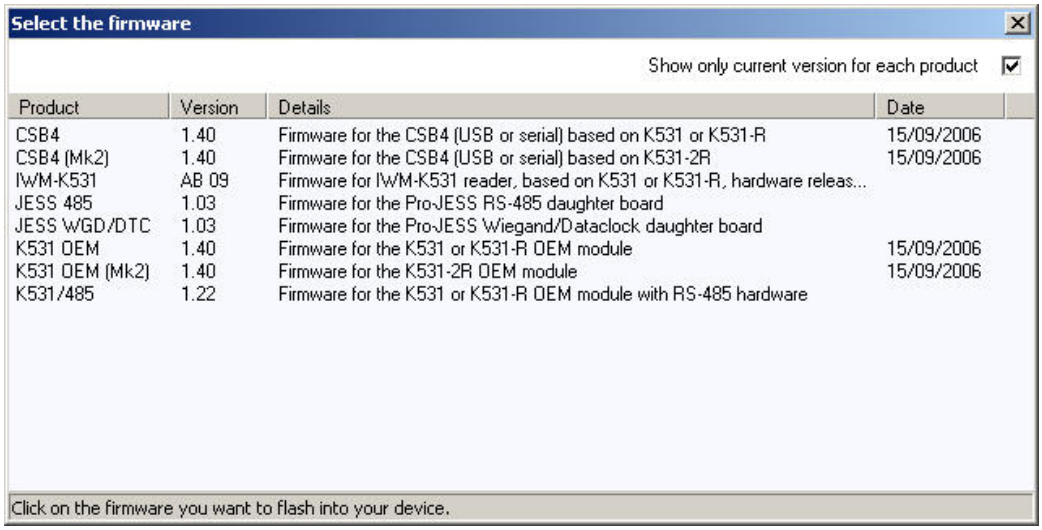
2.3. SELECTING A FIRMWARE

Click "Select" in the "Device" to display the list of available firmwares (on first start, this procedure is started automatically).



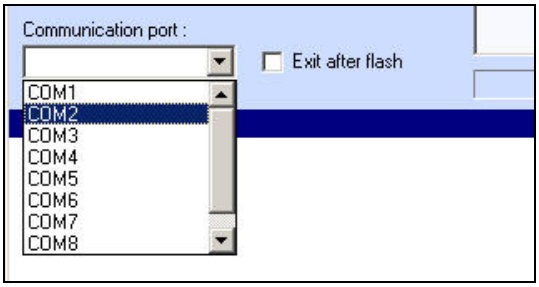
If the "Show only current version for each product" box is checked, only latest firmwares are displayed. If you want to flash your product with an older (obsolete) release, uncheck the box.

Click on the firmware you want to select.

The "Select the firmware" screen closes, and main screen now displays selected firmware details.

2.4. READY TO FLASH !

- Connect your device on a serial communication port,
- Select the port in the drop-down list on the left :



(please refer to § 1.2 if working with an USB device)

- Put your device in "flash mode" (see chapter 3),

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- Click the "Flash" button (or hit F3).

- Wait until flash process terminates.

Once connected to the device, if the flash operation fails for any reason, or if you decide to cancel it, the device will be left erased (i.e. without firmware in the CPU).

You will not be able to use the device anymore, until you download a working firmware successfully.

- Disconnect the device, put it back in "operation mode" (see chapter 3).

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3. PUTTING DEVICES INTO "FLASH" MODE

3.1. DEVICES WITH "FLASH" SWITCH

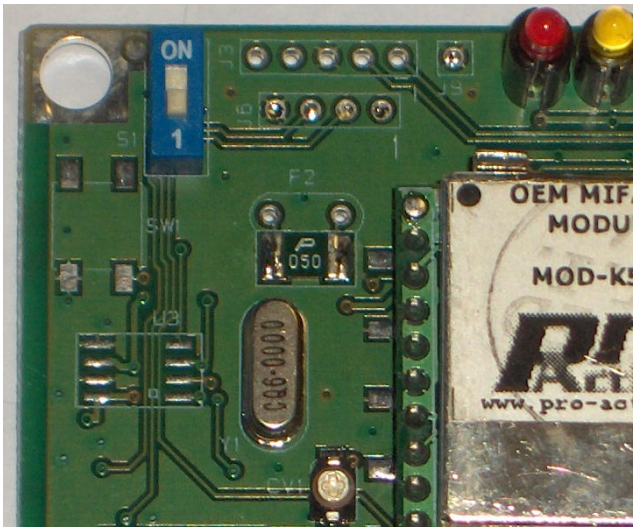
Some Pro-Active's devices feature a "Flash" switch on their main board, near the CPU or near the K531 module.

To access this switch, unplug the device, open the encasing (the number and the position of the screws depends on the device, please refer to relevant datasheet).

Locate the "Flash" switch on the main board according to product datasheet.

Some devices feature plenty of switches, whilst only one is the "Flash" switch. Read the datasheet carefully. If unsure, contact Pro-Active support.

3.1.1. Entering "Flash" mode



Unplug the device.

Move the "Flash" switch to the "ON" position.

Plug the device again.

(alternatively, you can reset the device if it features a reset button)

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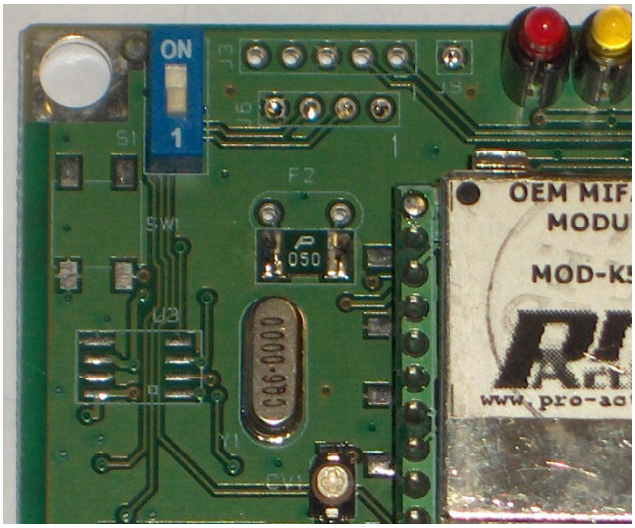
3.1.2. Back to "Operation" mode



Unplug the device.

Move the "Flash" switch off from "ON" position (near to the "1" digit).

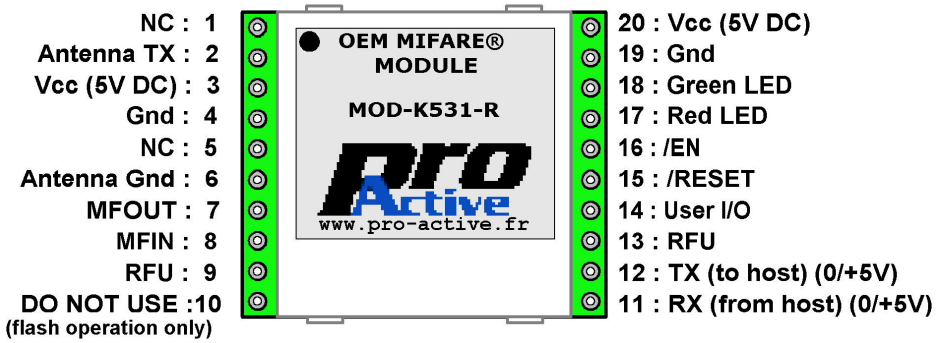
Plug the device again.

(alternatively, you can reset the device if it features a reset button)

Test the newly flashed device, for example issuing the " commands through an HyperTerminal connection (default connection settings are : 38400bps, 8 data bits, 1 stop bit, no parity, no flow control).

3.2. DEVICES WITHOUT "FLASH" SWITCH

The K531 module is put into "Flash" mode by applying a low level (0V) to pin 10 on start-up (pin 10 is referred as "DO NOT USE – Flash operation only" in K531 datasheet).



3.2.1. Entering "Flash" mode

Tie pin 10 to GROUND level.

Cycle VCC (power off / power on), or set pin 15 (RESET) to GROUND level for a few milliseconds to reset the module.

You can choose to keep pin 10 to GROUND, or release the connection after the device has reset.

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3.2.2. Back to "Operation" mode

Untie pin 10 from GROUND (pin 10 must be left unconnected in operation mode).

Cycle VCC (power off / power on), or set pin 15 (RESET) to GROUND level for a few milliseconds to reset the module.

Test the newly flashed device, for example issuing a few commands through an HyperTerminal connection.

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