# Reading and writing the flash

## How to back up and update your phone

> **CAUTION:** Trying to modify the built-in firmware of a mobile phone may render it practically unrepairable. This applies especially to phones that do not have a separate EEPROM chip for settings and calibrations (e.g. most Nokia 3xxx phones). Before trying to update the flash memory, you need to understand the functions of your flashing program and the whole flashing process, including any checksum updates required. NuukiaWorld does not give any support in flashing-related questions.

Before doing any updates first read the current contents of the flash memory to a backup file. This also checks that the flasher cable and all required drivers work as expected. If the flash read operation is successful, then you are ready to continue to writing the flash.

## Obtaining the flash file

Updating the phone software to a newer official version may fix some bugs in the phone. In addition to this, software updating may be used to change the available languages (see below). In general, you cannot upgrade your phone from one model to another just by updating the software (there are some exceptions). So do not try to use a flash file that is not for the correct phone model. For example, you cannot upgrade a Nokia 3310 to a Nokia 3330 by updating the software!

You may search the Internet for flash files floating illegally around. The other solution is to read the newer software from another phone **of same model** and copy it to your old phone. Ask your friends for similar phones and check that if they have a newer software version.

Because some phones (e.g. Nokia 5110 and 6110) have two versions of the internal ROM, called *ROM3* and *ROM4*, there are two versions of each software version for these phones. They are not interchangeable. Get prepared to the fact that if the ROM version is incorrect, the phone refuses to boot and you need to revert back to the original software or find the flash file for the other ROM version.

There are also different language packages (they are called *PPMs*), and you need to use a such *\*.fls* file that contains the languages you want. The language packages are named with capital letters, e.g. the package "`A`" usually contains English and some other most common languages. However, there is no generic rule which *PPM* letter means which languages.

> *Note:* NuukiaWorld does have any extra flash files. We will not even send flash images of our phones. We hope that you are satisfied with this free information you are currently reading — you are lucky to read even this. So, please do not ask us to send any flash files, such requests (and most of other email, too) will be ignored.

## Preparing the computer

Switch off the computer and connect your flashing cable to the LPT1 parallel port. Remove all other devices from the port, as the flasher cable may not work with them. Note that you must use the parallel port included on your PC's motherboard, e.g. USB parallel port adapter cannot be used!

In the computer BIOS, I have configured my printer port to "*ECP+EPP*" mode, however I do not know which other modes would work, too.

## Reading the FLASH



Start the *Nokia DCT3 flasher* application (using *AllowIO* if required).

1. Select the correct phone model in drop-down list.
2. Switch off the phone and connect it to the flashing cable.
3. Select *Flash — Read* in the application.
4. Press the phone power button shortly if requested in the bottom of the application window.
5. FLASH reading starts. Wait until it is completed.
6. Select the *\*.fls* file name for the backup.
7. Disconnect the phone.
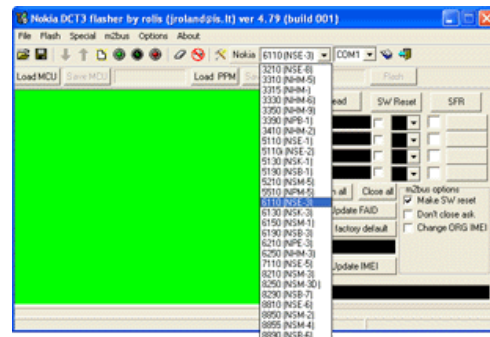
It may be a good idea to test the flash writing by rewriting the file you just read back to the phone. See the following section for details.

## Writing the FLASH



In some phones, **e.g.** Nokia 3310, 3330, 5510, 6210, 6250, 7110, 8210, 8250, 8290, 8850, and 8890, the phone settings and calibrations are stored in the same flash chip in area called "*EEPROM*". You must never overwrite the settings area, otherwise the phone may become practically unrepairable. The only exception is writing back a backup that has been read earlier from **the exactly same** phone.

1. Select the correct phone model in drop-down list.
2. Switch off the phone and connect it to the flashing cable.
3. Select *Flash — Write...* in the application.
4. Select the *\*.fls* file to write into the phone.
5. Do not touch the addresses in the address dialog unless you are playing with the "*EEPROM*" area. Just
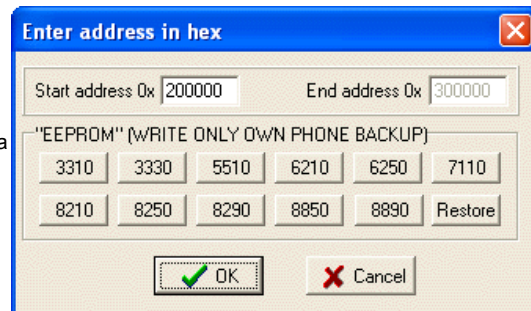
6. Press the phone power button shortly if requested in the bottom of the application window.
7. FLASH erasing starts. The write operation starts automatically after erasing. Wait until it is completed.
8. Disconnect the phone.

**CAUTION:** I have not tried to flash a phone with *"EEPROM"* area in the flash. I do not know if this settings area is erased when flashing the program area. If you are going to flash such phone, make sure that you have a valid backup of your phone's settings area before trying. May be it must be flashed back to the phone separately after updating the software.

## Post-flashing actions



After modifying the phone flash memory you need to update the FAID checksum. If the FAID does not match the flash memory contents, the phone regards itself as faulty and reboots again and again.

1. Select the correct phone model in drop-down list.
2. Switch on the phone and connect it to the selected COM port using a standard MBUS cable.
3. Check the connection by clicking the "*Read*" button.
4. If the connection works, click the "*Update FAID*" button.
5. The phone reboots and the FAID is updated.

Usually the new software version contains sightly different settings than the previous one. Therefore you should restore the factory defaults to the phone after updating the flash.

6. Switch on the phone and connect it to the selected COM port using a standard MBUS cable.
7. Check the connection by clicking the "*Read*" button.
8. If the connection works, click the "*SFR*" button.
9. Click "*SW Reset*" to reboot the phone.
10. Disconnect the phone.
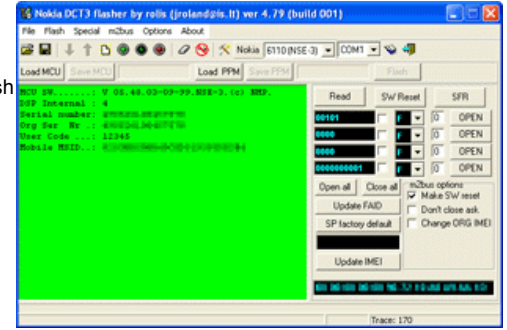
2.1.2006 www@nuukiaworld.cjb.net
No email support or answers to technical questions.