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Uploading MDT Firmware

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1 Overview

When new features are added to the MDT, some users elect to try these on hardware they already have on hand rather than ordering units with the new firmware. Unless otherwise noted in the Release Notes, field-upgrade/upload of the firmware is supported. The MDT may be put into a “Command Mode”, by entering a sequence of three plus characters (+++). Once in “Command Mode”, the firmware version can be checked by issuing “ATVR” command.

This Application Note details the upgrade/upload process for MDT.

2 Entering Boot Loader Mode

In order to enter the bootloader mode, the Bootloader pin on the MCU needs to be pulled high on power up.

To enter bootloader mode on the MDT hold buttons ‘0’ and ‘1’ on the MDT upon power up. This will force the MDT to go into bootloader mode. Refer to figure 1.



Figure 1 - Bootloader buttons MDT

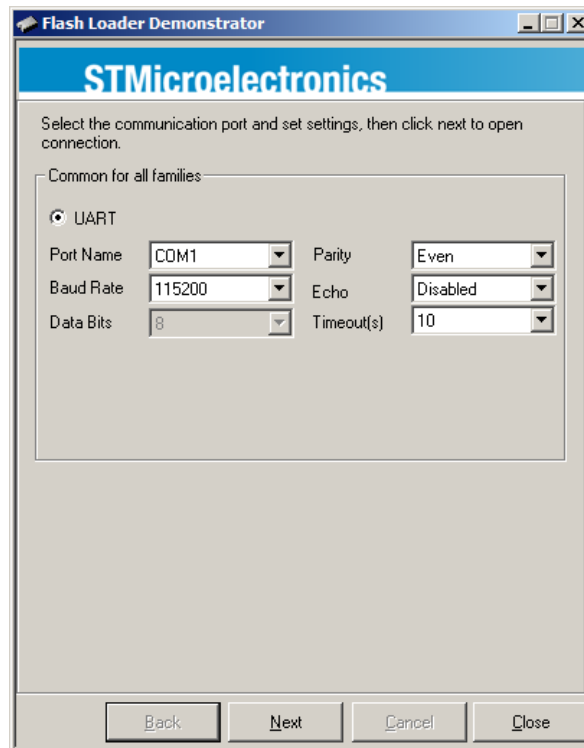
3 Boot Loader Protocol

The M8 uses the standard STM32 UART boot loader from ST Microelectronics. The protocol is documented in ST Microelectronics [AN3155](#). An open-source project, [stm32flash](#), has an implementation of this protocol available.

4 Uploading Firmware

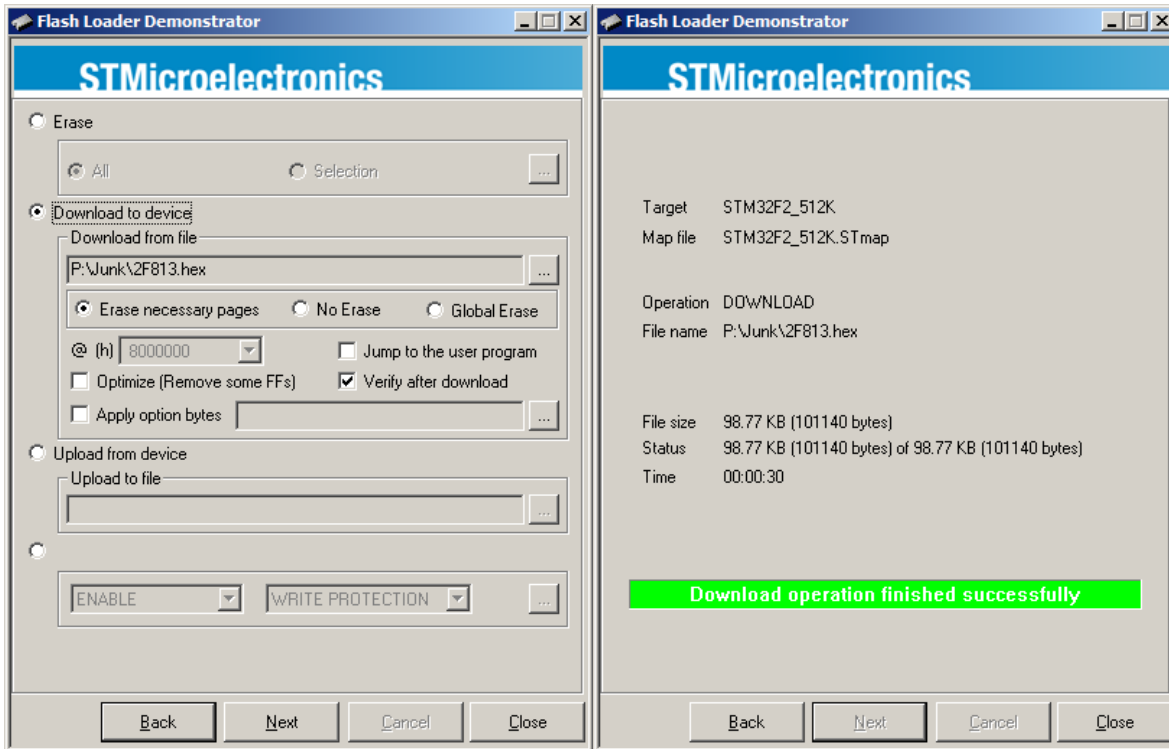
This procedure will use the [Flash Loader Demonstrator](#), provided by ST Microelectronics to show the features of the boot loader.

To start, enter boot loader mode as described in the section above. Afterwards, start the Flash Loader Demonstrator. The following screen will appear:



Select the serial port connected to the MDT and leave the other options at their default value. Click Next. The screen below should appear

Click Next again. On the screen that appears, select “STM32F2_512K” and click Next.



Choose the “Download to device” option and then select a Hex file. Ensure options are selected as shown. Click Next. The download will initiate. After about 30 seconds (but sometimes up to 2 minutes), the operation will complete and the “Download successful” display will be shown. At this point, the firmware has been successfully loaded and the modem will run the new version of firmware once power is cycled.

If another device is to be programmed, it is not necessary to close this software. Simply select “Back” until the Communication Settings screen is shown again and re-run this procedure from the beginning.

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