ST Visual Programmer (STVP) release 3.3.8

# Introduction

### About these release notes

These are the release notes for Release 3.3.8 of the ST microcontroller programming software, which is named **ST Visual Programmer** and abbreviated to **STVP**.

These release notes are updated periodically, in order to keep the user abreast of any problems or limitations found in this release. Check the ST microcontroller support web site at *www.st.com,* to ensure that this is the latest version of these release notes.

# Customer support

For more information on help concerning STVP, contact the nearest sales office. A complete and up-to-date listing of ST offices and distributors is available at *www.st.com*.

### Software updates

The user can get software updates from the ST microcontroller support web site *www.st.com*.

# Content

# List of tables

# 1 Read me first

## 1.1 Overview

STVP is a common standard programming interface used for ST microcontroller programming systems (programming boards EPBs), development kits (DVPs), ST7-STICK, ICC add-on connected to a ST Micro Connect box, Raisonance STX-RLINK, STice, ST-LINK (all versions) and ST-TSLINK.

STVP must be configured for each ST microcontroller programming hardware system and microcontroller device.

This tool allows the user to read, program, verify and check ST microcontrollers. For more explanations on how to perform a typical programming session, refer to STVP online help file `stvp.chm`.

## 1.2 System requirements

PC and compatibles running with:

- Windows® XP, Vista® and Windows® 7 32-bit operating systems (for all targets)
- Windows Vista and 7 64-bit operating systems (for RLINK, ST-LINK, STice, ST-TSLINK targets only).
- Windows® 8 operating system (for RLINK, ST-LINK and STice targets only).

To access to the online help (`*.chm` format) of STVP, the user must have installed Microsoft® Internet Explorer 4.0 or higher.

*Note:1 To install STVP, Windows XP, Vista, 7 and 8 users must have administrator privileges.*

*Note:2 ST-LINK/V1 dongle hardware users must have administrator privileges.*

*Note:3 Raisonance RLink USB driver is not installed upon installation of STVP. RLink users must install RLink USB driver by selecting Start>Programs>ST Toolset>Setup>Install RLink driver. On Windows 8 operating system, users must install the RLink USB driver with the installation files that are available under*
*<Program Files> \STMicroelectronics\st_toolset\stvd\icd\rlink_driver directory.*

*Note:4 On Windows 8 operating system, the STice USB driver is not installed during the STVP installation. STice users must install STice USB driver using the installation files available under <Program Files>\STMicroelectronics\st_toolset\stvd\STice\signedDriver directory.*

# 2 What is new in STVP 3.3.8

## 2.1 Summary of changes in release 3.3.8

- Added support for STM32L44xxC, STM32L43xxC and STM32L43xxB devices on ST-LINK dongle hardware.

- Added support for STM32F77xxI, STM32F77xxG, STM32F76xxI and STM32F76xxG devices on ST-LINK dongle hardware.

- Corrected issue for ST7 Flash devices when using the GUI preference "Erase device memory before programming".

## 2.2 Hardware and targets supported by this release

### 2.2.1 In-circuit programming

The microcontrollers listed inside *Table 1* can be in-circuit programmed from STVP.

**Table 1. Microcontrollers supported by STVP release 3.3.8**

| Product line | Microcontroller |
|---|---|
| STM32 | STM32F03xxx, STM32F04xxx, STM32F05xxx, STM32F07xxx, STM32F09xxx |
| | STM32F100xx, STM32F101xx, STM32F102xx, STM32F103xx, STM32F105xx, STM32F107xx, STM32F20xxx, STM32F3xxx, STM32F4xxx, STM32F74xxx, STM32F75xxx, STM32F76xxx, STM32F77xxx |
| | STM32L01xxx, STM32L02xxx, STM32L03xxx, STM32L04xxx, STM32L05xxx, STM32L06xxx, STM32L07xxx, STM32L08xxx, STM32L100xx |
| | STM32L15xx6, STM32L15xx8,STM32L15xxB, STM32L151xC, STM32L151xD, STM32L152xC, STM32L152xD, STM32L15xxE, STM32L16xRCxxA, STM32L16xVCxxA, STM32L162xC, STM32L162xD, STM32L162xE |
| | STM32L43xxx, STM32L44xxx, STM32L47xxx, STM32L48xxx |
| | STM32TS60 |
| | STM32W108C8, STM32W108xB, STM32W108xC, STM32W108xZ |
| STM8 | STM8AF51x, STM8AF52x, STM8AF61x, STM8AF62x, STM8AH51x, STM8AH61x |
| | STM8AL31xx, STM8AL3Lxx |
| | STM8S003K3, STM8S003F3, STM8S005C6, STM8S005K6, STM8S007C8, STM8S103xx, STM8S105xx, STM8S207xx, STM8S208xx, STM8S903F3, STM8S903K3 |
| | STM8L05x |
| | STM8L101xx, STM8L15x, STM8L16x |
| STM8T | STM8T141, STM8T142, STM8T143_Rev1, STM8T143_Rev2, STM8TL53x4, STM8TL52x4 |

**Table 1. Microcontrollers supported by STVP release 3.3.8 (continued)**

| Product line | Microcontroller |
|---|---|
| ST7 LITE | ST7FLITEUSA2/5, ST7FLITEU02/05, ST7FLITEU09, ST7FLITEUSN, ST7FLITEUS2/5, ST7FLITES2/5, ST7FLITE0x, ST7FLITE1x, ST7FLITE2x, ST7FLITE3x, ST7FLITE49, ST7FLIT1xB, ST7FLI49M, ST7FOXA0, ST7FOXF1, ST7FOXK1, ST7FOXK2, ST7FLUx, ST7FL0x, ST7FL1x, ST7FL3x, ST7FDALI, ST72F260G1, ST72F262Gx, ST72F264Gx, ST72F34x |
| ST7 MID-RANGE | ST72F32AJ1, ST72F32AJ2, ST72F32AK1, ST72F32AK2, ST72F321xx, ST72F321Bxx, ST72F324xx, ST72F324Bxx, ST72F325xx, ST72F361xx, ST72F34xx, ST7FAUDIOxx |
| ST7 CAN | ST72F521xx, ST72F561xx |
| ST7 LCD | ST7FLCD1 |
| ST7 MC | ST7FMCxx |
| ST7 HUB | ST7FHUB |

The STM32 microcontrollers listed in *Table 1* can be in-circuit programmed from STVP using an **ST-LINK** dongle accessed from STVP as *ST-LINK*.

The STM8T14x devices listed in *Table 1* can be programmed in-circuit from STVP using an **ST-TSLINK** dongle accessed from STVP as *ST-TSLINK*.

All ST7 and STM8 microcontrollers listed in *Table 1* can be in-circuit programmed from STVP using the following ST development tools:

- **STice emulator** (accessed from STVP as *STice*)
- **STX-RLINK** from Raisonance (accessed from STVP as *RLINK*)

The STM8 microcontrollers listed in *Table 1* can also be in-circuit programmed from STVP using an **ST-LINK** dongle accessed from STVP as *ST-LINK*.

The ST7 microcontrollers listed in *Table 1* can also be in-circuit programmed from STVP using these ST7 development tools:

- **ST7-STICK** (accessed from STVP as *STICK*)
- **ST7MDT10-DVP3**, **ST7MDT20-DVP3**, **ST7MDT25-DVP3 series emulators** (all are accessed from STVP as *ST7-DVP3*)
- **ST7-EMU3 series emulators** – ST Micro Connect with ICC Add-on (All are accessed from STVP as *ST7-EMU3*)

### 2.2.2 ST7-EPB programming boards and ST7SB socket boards

This section provides a list of supported devices and packages by programming board, engineering programming board (ST7-EPB) and socket board (ST7SB):

*Note:* *Programming with socket boards (ST7SB) requires connection via a tool with in-circuit programming (ICP) capability (ST7-STICK, ST7-DVP3, ST7-EMU3, STice or STX-RLINK). In STVP the user must select the ICP tool that is in use, to connect to the socket board.*

**Table 2. Devices and packages supported by the ST7-EPB and ST7SB**

| EPB | SB | Packages | Supported targets | ISP/ICP mode |
|---|---|---|---|---|
| ST7MDT1-EPB2 | None | SDIP32, SO28 | ST72101G1/2, ST72212G2, ST72213G1, ST72251G1/2 | Not present |
| | | | ST72104G1/2, ST72215G2, ST72216G1, ST72254G1/2 | ISP |
| ST7MDT2-EPB2 | None | TQFP44, SDIP42 | ST72121J2/4, ST72311J2/4, ST72331J2/4 | Not present |
| | | | ST72124J2, ST72314J2/4, ST72334J2/4 | ISP |
| | | SDIP56 | ST72311N2/4, ST72331N2/4 | Not present |
| | | | ST72314N2/4, ST72334N2/4 | ISP |
| | | TQFP64 | ST72311N2/4, ST72311R6/7/9, ST72331N2/4, ST72511R6/7/9, ST72512R4, ST72532R4 | Not present |
| | | | ST72314N2/4, ST72334N2/4 | ISP |
| ST7MDT6-EPB2 | None | SO34, SDIP32 | ST72C171 | ISP |
| ST7MDT7-EPB2 | None | TQFP64 | ST72C411 | ISP |
| ST7MDP01-EPB | None | TQFP80 | ST7MDP01 | Not present |
| ST7MDT10-EPB[1] | ST7SB10-26x | SDIP32, SO28, TFBGA36 | ST72F260G1, ST72F262Gx, ST72F264Gx | ICP |
| | ST7SB10-SU0 | DIP16, SO16 (150-mil), DIP8, SO8 | ST7FLITE02/5/9, ST7FL05/9, ST7FLITES2/5, ST7FLITEUS2/S5, ST7FLITEUSA2/ 5, ST7FLITEU05/9, ST7FLUS5, ST7FLU05, ST7FLU09 | |
| | ST7SB-123 | DIP20, SO20, DIP16, SO16 | ST7FLITE10/5/9, ST7FLIT10/15/19B, ST7FLITE20/5/9, ST7FLITE30/5/9, ST7FL15/9, ST7FL34/5/8/9, ST7FDALI | |
| ST7MDT20J-EPB | ST7SB20J | TQFP44, SDIP42 | ST72F32AJ1/2, ST72F324J2/4/6, ST72F324BJ2/4/6, ST72F325J4/6/7/9 | ICP |
| | | TQFP44 | ST72F321J7/9, ST72F321BJ6/7/9 ST72F340S2/4, ST72F344S2/4, ST7FAUDIOJ6/7/9 | |
| | | TQFP32, SDIP32 | ST72F32AK1/2, ST72F324K2/4/6, ST72F324BK2/4/6, ST72F321BK6, ST72F325K4/6, ST72F340K2/4, ST72F344K2/4 | |
| | | TQFP48[2] | ST72F325C6/7/9, ST72F325S4/6 | |

**Table 2. Devices and packages supported by the ST7-EPB and ST7SB (continued)**

| EPB | SB | Packages | Supported targets | ISP/ICP mode |
|---|---|---|---|---|
| ST7MDT20M-EPB | ST7SB20M | TQFP64 (14x14) | ST72F521R6/9, ST72F321R6/7/9, ST72F321BR6/7/9, ST72F325R6/7/9, ST7FAUDIOR6/7/9 | ICP |
| | | TQFP64[(3)] (10x10) | ST72F521AR6/9,ST72F321AR6/7/9, ST72F321BAR6/7/9, ST72F325AR6/7/9, ST7FAUDIOAR6/7/9 | |
| | | TQFP80 | ST72F521M9, ST72F521M6, ST72F321M9, ST72F321M6 | |
| ST7MDT25-EPB | ST7SB25 | TQFP64 (14x14) | ST72F561R6/9, ST72F361R6/7/9 | ICP |
| | | TQFP64 (10x10) | ST72F561AR4/6/9,ST72F361AR6/7/9 | |
| | | TQFP44 | ST72F561J4/6/9, ST72F361J6/7/9 | |
| | | TQFP32 | ST72F561K4/6/9, ST72F361K6/7/9 | |
| ST7MDT4-EPB | None | SDIP32 | ST72272K2/4 | Not present |
| | | SO34 | ST72272K2/4, ST7275 | |
| | | TQFP64 | ST72371N4, ST72671N4/6, ST7277 | |
| ST7MDT5-EPB | None | SO34, SDIP32 | ST72141 | Not present |
| ST7MDTH1-EPB | None | TQFP64 (10x10), TQFP44, SO34 | ST7FHUB | ICP |
| ST7MDTS1-EPB | None | TQFP64 | ST7FSCR1R4T1 | ICP |
| | | SO24 | ST7FSCR1x4M1 | |
| ST7MDTU2-EPB | None | DIP20, SO20 | ST72F621F1, ST72F623F2 | ICP |
| | | SDIP32 | ST72F622K2/4 | |
| | | SO34 | ST72F622L2/4 | |
| | | SDIP42, TQFP44 | ST72F621J2/4 | |
| ST7MDTU3-EPB | None | SDIP32, SO34 | ST72F63BK1/2/4/6 | ICP |
| | | SO24 | ST72F63BE1/2/4/6, ST72F60E1/2 | |
| | | TQFP48 | ST72F63BH2/4/6 | |
| | | QFN40[(4)] | ST72F63BD6, ST72F60K1/2 | |
| ST7MDTU5-EPB | None | TQFP64 (10x10) | ST72F651AR6 | ICP |
| ST7UD05 / UD13-EPB | None | HiQuad64 | ST7UD05, ST7UD13 | Not present |
| ST72E55-EPB | None | SO28 | ST7255A/B | Not present |
| ST72E589-EPB | None | QFP128, EQFP128 | ST72589 | Not present |

**Table 2. Devices and packages supported by the ST7-EPB and ST7SB  (continued)**

| EPB | SB | Packages | Supported targets | ISP/ICP mode |
|---|---|---|---|---|
| ST72E6X-EPB | None | SDIP32, SO34 | ST72631K4, ST72632K2, ST72633K1 | Not present |
| ST727X4-EPB | None | SO34 | ST72753 | Not present |
| | | SDIP42 | ST72752, ST72774, ST72734 | |
| | | SDIP56 | ST7277, ST72751 | |
| | | TQFP44 | ST72774 | |
| | | TQFP64 | ST7277 | |

1.  ST7FLIT1(0/5/9)B, ST7FLITE3(0/5/9) and ST7FL3(5/9) DIP20 packages are not supported on ST7MDT10-EPB but only on ST7SB-123 socket board.

2.  TQFP48 socket is present on version 3 and later versions of ST7SB20J socket board.

3.  TQFP64 (10x10) socket is mounted on the new ST7MDT20M-EPB. If not supplied, the socket reference number is Yamaichi IC51-0644-807.

4.  QFN40 socket is present on version 5 and later versions of ST7MDTU3-EPB.

## 2.3 Support of ICP mode

- Two ICP modes can be selected:
  - ICP mode with **Option Bytes Enabled** on application.
    Because option bytes are enabled before accessing the device, their settings must be compatible with application configuration. Incompatible settings (for example: 'PLLx2 enabled' programmed with a 16 MHz resonator on the application, or 'External Source' programmed with a resonator on the application) result in a failure to access the target device. In the case of failure, the device can still be accessed and option byte settings ignored using the ICP mode with Option Bytes Disabled. However, this requires either an in-application oscillator, a logic clock, or that the OSC pin of the HE10-type ICP connector be relayed to the device's clock pin. Also, in Option Bytes Enabled ICP mode, the **Hardware WatchDog** option is switched to Software type on all devices except the **ST7Lite0x** family. If it is programmed and the user is using a ST7MDT10-EPB version 1.01 or earlier, he will no longer be able to access the device. The other ICP mode with Option Bytes Disabled must be used. See *Section 3.2 on page 13* to modify the board to v1.02 to solve this problem.
  - ICP mode with **Option Bytes Disabled** on application.
    All options are disabled, the clock source is 'External clock' coming **either** from the OSC pin connected to the HE10 ICP connector, **or** from the application board.
- VDD_Appli is now connected on the new ICP-enabled programming boards, **however the user must ensure that the VDD_Appli pin is connected to the supply voltage of the application board**
- On F6x devices, the Reset pin should have a capacitance lower than 330 nF (between the Reset pin and GND)

## 2.4 Support of ISP mode

The driver firmware S19 file has been included with STVP software since STVP v 1.4.1. The driver is an ST72C254G2 device, latest version 2.5, that is soldered on the EPB.

The ISP mode using this driver is only for ST7MDT1-EPB2, ST7MDT2-EPB2 and ST7MDT6-EPB2 boards. The ST7MDT1-DVP2 and ST7MDT2-DVP2 use a different driver code.

### Updating the ISP driver

If the version indicated on the user's driver is lower than 2.5, the user must update it as follows:

1. Plug in the EPB and launch STVP.
   The ISP cable must not be plugged in and there should be no devices in the sockets.
2. Put a jumper on JP3 (located near the voltage regulator) to access the driver.
3. Select ST7MDT1-EPB2 with socket mode and ST72254G2 device.
4. Open the `Driver.s19` file in program memory.
   The checksum for V2.5 must be 0xC433.
5. Select *Program -> Current Tab* and verify that the option bytes values are at FE FF (checksum 1FD). If they are different, program these values.
6. **Remove JUMPER JP3** and write the new version number (2.5) on the driver label.
   The EPB can now be used normally in socket or ISP mode.

# 3 Known problems and limitations

## 3.1 ST7MDT20x-EPB programming board versions

- For the following programming boards:
    - ST7MDT20J-EPB version 2.00
    - ST7MDT20M-EPB version 3.00

    The user must perform a hardware patch in order to reliably program targets with these EPBs using ICP mode. Details on how to perform this hardware patch can be found in the application note, *AN 1483 Modifying your ST7MDT20J-EPB and ST7MDT20M-EPB to support STVP Release 1.3.1 and onwards*, available from the ST microcontroller support web site at *www.st.com*.

    This hardware patch is designed to solve a communication problem that can occur when attempting to program with these boards.

*Note:* *The version number of the user's EPB follows the serial number on a sticker attached to the top-face of the board.*

- For the **ST7MDT20J-EPB (versions 2.00 and 2.01)** and **ST7MDT20M-EPB (versions 3.00 to 3.02)**, the user must provide an application VDD (5 V only) because the VDD **is not provided** by the programming board via the ICC connector. The application VDD is used by the programming board as a reference to generate the programming signal. A maximum of 10 μA is used for the VDD reference by the programming board.

- For the **ST72F321M** and **ST72F521M** MCU targets, programmed with the **ST7MDT20M-EPB**, when programming in ICP mode, during the RESET phase, certain I/Os are not always in the RESET configuration. These I/Os will move according to the following sequence:

| PG[1:7] and PH[0:1, 3:7] | RS/WPU | ? | PP High | ? | RS/WPU | ? | PP High | ? | RS |
|---|---|---|---|---|---|---|---|---|---|
| PG[0] | RS/WPU | ? | PP Low | ? | RS/WPU | ? | PP Low | ? | RS |
| PH[2] | RS/WPU | ? | PP Low | ? | RS/WPU | ? | PP High | ? | RS |

where the abbreviations are as follows:

| | |
|---|---|
| RS | Reset state |
| WPU | Input weak pull-up |
| PP | Output push-pull |
| RS/WPU | RS if TQFP80 package is selected in option bytes. WPU otherwise. |

**Caution:** Use extreme caution when using these I/O pins on the application board, because of their unstable state during RESET mode.

## 3.2      ST7MDT10-EPB

- When programming in ICP mode, the user must provide an application VDD (between 3 V and 5 V) because the VDD **is not provided** by the programming board via the ICC connector. The application VDD is used by the programming board as a reference to generate the programming signal. A maximum of 10 μA is used for the VDD reference by the programming board.

- When programming the ST7LITE0x devices in "ICP OPT Enable" mode, if the Hardware Watchdog is enabled, the ST7MDT10-EPB must be modified to version 1.02 in order to operate without problems. If the user's board version is 1.01, the following modification must be done to update it to version 1.02:

  a) **Solder side**: Cut the track from RS1-3 to the via. Connect U1 pin 8 to U1 pin 11. Connect U1 pin 9 to U8 pin 11. Connect U1 pin 10 to W1 pin 6.

  b) **Components side**: Cut the track from the via located at the right-top side of W1 (above the 10 mark).

## 3.3      ST7MDTUx-EPB programming board versions

- For the following programming boards (all versions):
  – ST7MDTU2-EPB
  – ST7MDTU3-EPB
  – ST7MDTU5-EPB

  When programming in ICP mode, the OSC_IN pin on the user's application board must not be connected to the OSC_CLK pin on the ICC connector.

## 3.4      ST7MDT25-EPB

- For the **ST72F561x9** or **ST72F561x6** MCU targets, programmed with the **ST7MDT25-EPB**, when programming in ICP mode, during the RESET phase, certain I/Os are not always in the RESET configuration. These I/Os will move according to the following sequence:

| PE[1:7] and PF[4:7] | RS/WPU | ? | PP High | ? | RS/WPU | ? | PP High | ? | RS |
|---|---|---|---|---|---|---|---|---|---|
| PE[0] | RS/WPU | ? | PP Low | ? | RS/WPU | ? | PP Low | ? | RS |
| PF[0:3] | RS/WPU | ? | RS/WPU | ? | RS/WPU | ? | PP High | ? | RS |

where the abbreviations are as follows:

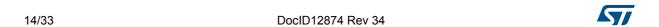| RS | Reset state |
|---|---|
| WPU | Input weak pull-up |
| PP | Output push-pull |
| RS/WPU | RS if TQFP80 package is selected in option bytes. WPU otherwise. |

**Caution:**    Use extreme caution when using these I/O pins on the application board, because of their unstable state during RESET mode.

## 3.5 MCU type-specific limitations

- With this release of STVP, the user cannot program **ST72F264** MCUs with trace codes ending with 01XYA, where "XY" is less than or equal to "43". These devices must be programmed with Release 1.2.0 of STVP.

# 4 Release information for older releases

## 4.1 Release 3.3.7 (December 2015)

- Added support for STM32L01xx4, STM32L01xx3 and STM32L02xx4 devices on ST-LINK dongle hardware.
- VDD voltage for flash sector erase and mass erase on STM32F2/F4/F7xx devices is taken into account, resulting in a faster erase with voltage greater than 2.7V.

## 4.2 Release 3.3.6 (October 2015)

- On the ST-LINK dongle hardware added support for the following products:
  - STM32L16xRCxxA, STM32L16xVCxxA
  - STM32L03xx6, STM32L03xx4
  - STM32L04xx6, STM32L04xx4
  - STM32L073xZ/L073xB/L073x8, STM32L072xZ/L072xB/L072x8, STM32L071xZ/L071xB/L071x8
  - STM32L083xZ/L083xB/L083x8, STM32L082xZ/L082xB, STM32L081xZ/L081xB

## 4.3 Release 3.3.5 (September 2015)

- Added support for STM8AL318x, STM8AL3L8x, STM8AL31E8x and STM8AL3LE8x devices on STice, STX-RLINK and ST-LINK hardware programming boards.
- Added support for STM8AF6213 device on STice, STX-RLINK and ST-LINK hardware programming boards.
- Added support for STM32F410xB and STM32F410x8 devices on ST-LINK dongle hardware.

## 4.4 Release 3.3.4 (July 2015)

- Added support for STM32L486xG, STM32L476xG, STM32L476xE, STM32L476xC, STM32L471xG, STM32L471xE, STM32L475xG, STM32L475xE,STM32L475xC, STM32L485xE, STM32L485xC devices on ST-LINK dongle hardware
- Added support for STM32F479xI, STM32F479xG, STM32F469xI, STM32F469xG, STM32F469xE devices on ST-LINK dongle hardware
- Added support for STM32L100C6xxA, STM32L100R8xxA, STM32L100RBxxA devices on ST-LINK dongle hardware
- Added support for STM32L151VDYxX, STM32L152VDTxX, STM32L162VDYxX devices on ST-LINK dongle hardware

## 4.5 Release 3.3.3 (June 2015)

- Added support for STM32F756xG, STM32F746xG, STM32F746xE, STM32F745xG, STM32F745xE devices on ST-LINK dongle hardware
- Added support for STM32F446xE, STM32F446xC devices on ST-LINK dongle hardware
- Added support for STM32F030xC, STM32F070xB, STM32F070x6 devices on ST-LINK dongle hardware
- Correct RDP option byte unprotection from level1 to level0 on STM32L05x and STM32L06x devices
- Correct RDP level2 option byte programming on STM32F2xx devices

## 4.6 Release 3.3.2 (September 2014)

- Added support for STM32F411xE, STM32F411xC devices on ST-LINK dongle hardware.
- Added support for STM32F038x6 device on ST-LINK dongle hardware.
- Added support for STM32F048x6 device on ST-LINK dongle hardware.
- Added support for STM32F058x8 device on ST-LINK dongle hardware.
- Added support for STM32F078xB device on ST-LINK dongle hardware.
- Added support for STM32F318x8 device on ST-LINK dongle hardware.
- Added support for STM32F328x8 device on ST-LINK dongle hardware.
- Added support for STM32F429xE device on ST-LINK dongle hardware.
- Added support for STM32F091xC, STM32F091xB, STM32F098xC devices on ST-LINK dongle hardware.
- Added support for STM32F303xE, STM32F303xD, STM32F302xE, STM32F302xD, STM32F398xE devices on ST-LINK dongle hardware
- Updated STM32F401xC and STM32F401xB option bytes default value.

## 4.7      Release 3.3.1 (March 2014)

- Added support for STM32L151xBxxA, STM32L151x8xxA, STM32L151xx6xA devices on ST-LINK dongle hardware.

- Added support for STM32L051x8, STM32L051x6, STM32L052x8, STM32L052x6, STM32L053x8, STM32L053x6, STM32L062x8, STM32L063x8 devices on ST-LINK dongle hardware.

- Added support for STM32F042x6, STM32F042x4 devices on ST-LINK dongle hardware.

- Added support for STM32L151xE, STM32L152xE, STM32L162xE devices on ST-LINK dongle hardware.

- Added support for STM32F303x8, STM32F303x6, STM32F303x4 devices on ST-LINK dongle hardware.

- Added support for STM32F334x8, STM32F334x6, STM32F334x4 devices on ST-LINK dongle hardware.

- Added support for STM32F302x8, STM32F302x6, STM32F302x4 devices on ST-LINK dongle hardware.

- Added support for STM32F301x8, STM32F301x6, STM32F301x4 devices on ST-LINK dongle hardware.

- Corrected sector size to 2K on STM32F07xx devices.

- Updated STM32F401xC and STM32F401xB user option byte to force reserved bit 4 to 1.

- Updated Swim Dll to support ST-LINK multi-instance on STM8 (STM32 already supported) (ST-Link multi-instance working only with STVP_CMdLine.exe).

- Updated ST-Link driver to support STM32 Nucleo boards.

## 4.8 Release 3.3.0 (December 2013)

- Added support for STM8AF6223, STM8AF6223PxA and STM8AF6226 devices on STice, STX-RLINK and ST-LINK hardware programming boards.
- Added support for STM32L152xBxxA, STM32L152x8xxA and STM32L152x6xxA devices on ST-LINK dongle hardware.
- Added support for STM32L100RC device on STLINK dongle hardware.
- Added support for STM32F030x8, STM32F030x6 and STM32F030x4 devices on ST-LINK dongle hardware.
- Added support for STM32F031x6 and STM32F031x4 devices on ST-LINK dongle hardware.
- Added support for STM32F072xB and STM32F072x8 devices on ST-LINK dongle hardware.
- Added support for STM32F071xB and STM32F071x8 devices on ST-LINK dongle hardware.
- Added support for STM32F401xE and STM32F401xD devices on ST-LINK dongle hardware.
- Renamed STM32F383xC device into STM32F378xC and renamed STM32F313xC device into STM32F358xC.
- Updated option byte description on STM32F427xI, STM32F427xG, STM32F437xI and STM32F437xG devices.
- Updated STM32 Device ID check: Wrong device detected is no more a warning but an error.
- Fixed bug on STVP Graphical User Interface menu Edit:Copy All (Copy to clipboard) feature that was not working on STM32 devices.
- Provided signed Windows 8 drivers for RLink, ST-LINK and STice hardware programming boards.

## 4.9 Release 3.2.9 (July 2013)

- Added support for STM32F439xI, STM32F439xG, STM32F429xI, and STM32F429xG devices on ST-LINK dongle hardware.
- Added support for STM32F401xC, and STM32F401xB devices on ST-LINK dongle hardware.
- Added support for STM32L100RB, STM32L100R8, STM32L100C6 devices on ST-LINK dongle hardware.
- Added support for STM8AL3166, STM8AL3168, STM8AL3146, STM8AL3148, STM8AL3136xxSSS, STM8AL3138xxSSS, STM8AL3L66, STM8AL3L68, STM8AL3L46, and STM8AL3L48 devices on STice, STX-RLINK and ST-LINK hardware programming boards.
- Updated programming voltage on STM8T142 and STM8T143 devices and power-off device after each action on ST-TSLINK dongle hardware.
- Updated default option byte values on STM32L15xxC, STM32L16xxC, STM32L15xxD, and STM32L16xxD devices.

## 4.10      Release 3.2.8 (January 2013)

- Added support for STM32F437xI, STM32F437xG, STM32F427xI, STM32F427xG devices on ST-LINK dongle hardware.
- Added support for STM32L15xCC, STM32L15xUC, STM32L15xRC, STM32L15xVC, STM32L162RC, STM32L162VC devices on ST-LINK dongle hardware.
- Replaced STM32L151xC, STM32L152xC devices by STM32L15xRCxxA, STM32L15xVCxxA, STM32L15xRCY, STM32L15xQC, STM32L15xZC devices.
- Added support for STM32L162QC, STM32L162ZC devices on ST-LINK dongle hardware.
- Renamed STM8AF6226 device into STM8AF6226TxSSS.

## 4.11      Release 3.2.7 (September 2012)

- Added support for STM32F373xC, STM32F373xB, STM32F373x8 devices on ST-LINK dongle hardware.
- Added support for STM32F372xC, STM32F372xB, STM32F372x8 devices on ST-LINK dongle hardware.
- Added support for STM32F383xC device on ST-LINK dongle hardware.
- Added support for STM32F303xC, STM32F303xB devices on ST-LINK dongle hardware.
- Added support for STM32F302xC, STM32F302xB devices on ST-LINK dongle hardware.
- Added support for STM32F313xC device on ST-LINK dongle hardware.
- Added support for STM32F050x6, STM32F050x4 devices on ST-LINK dongle hardware.
- Fixed issue using STX-RLINK dongle in SWIM if STX-RLINK driver is not installed.

## 4.12 Release 3.2.6 (July 2012)

- Added support for STM32F051x8, STM32F051x6, STM32F051x4 devices on ST-LINK dongle hardware.
- Added support for STM32F050x6xxA, STM32F050x4xxA devices on ST-LINK dongle hardware.
- Added support for STM32F405xE device on ST-LINK dongle hardware.
- Added support for STM8TL52x4 device on STice, STX-RLINK and ST-LINK hardware programming boards.
- Added support for STM8S207K8 device on STice, STX-RLINK and ST-LINK hardware programming boards.
- Added support for STM8L052R8, STM8L052C6, STM8L051x3 devices on STice, STX-RLINK and ST-LINK hardware programming boards.
- Updated RAM size and EEPROM data size on several STM8A devices.
- Added support for STM8AF518A and STM8AF618A devices to differentiate with other STM8AF518 and STM8AF618 devices.
- Updated STM8T141 communication dll to increase the reliability.
- Updated STLinkUSBDriver dll for ST-LINK/V1 enumeration in case there are more CDROM drives than disk drives before the ST-LINK logical drive.
- STVP Programming Toolkit sample STVP_CmdLine.exe now installed with STVP.

## 4.13 Release 3.2.5 (January 2012)

- Added support for STM8T143_Rev1 and STM8T143_Rev2 devices on ST-TSLINK dongle hardware. Removed STM8T143 device and recognize STM8T143_Rev1 and STM8T143_Rev2 devices.
- Added support for STM8TL53x4 device on STice, STX-RLINK and ST-LINK hardware programming boards.
- Added support for STM32L151xC, STM32L151xD, STM32L152xC, STM32L152xD, STM32L162xD devices on ST-LINK dongle hardware.
- Added support for STM32W108xC, STM32W108xZ devices on ST-LINK dongle hardware.
- Fixed new project path issue on STM32 devices in project mode.
- Fixed STM8T143 third option byte read and verify.
- Fixed File Save feature (issue only on PROGRAM MEMORY on STM32 devices).
- Corrected Hex file save format (extended addresses line prefix).
- Corrected RAM size on some STM8S20xx devices for RAM execution feature.

## 4.14      Release 3.2.4 (October 2011)

- Added support for STM8S003K3, STM8S003F3, STM8S005C6, STM8S005K6, STM8S007C8 devices on STice, STX-RLINK and ST-LINK hardware programming boards.
- Added support for STM8T143 device on ST-TSLINK dongle hardware.
- Added support for STM32F417xG, STM32F417xE, STM32F415xG, STM32F407xG, STM32F407xE, STM32F405xG devices on ST-LINK dongle hardware.
- Added support for STM32L151x6,STM32L152x6 devices on ST-LINK dongle hardware.
- Added support for STM32W108C8 device on ST-LINK dongle hardware.
- STM32 Reset line driven on ST-Link V2 dongle hardware in SWD mode.
- Voltage checked on ST-Link V2 dongle hardware for STM32F2xx and STM32F4xx devices to program by 8-, 16- or 32-bits.
- Faster STM32 device blank check (executed in RAM) (blank check after Erase faster).
- Faster STM32 Flash programming by skipping 0xFF value programming (0xFF is the Flash erased value).
- Displays STM32 Flash sectors and checks if sectors checked are consecutive for actions.
- Proposed workaround (with Power On Reset) for STM8 applications that use SWIM pin disable and Reset pin as output or use SWIM CCR register.

## 4.15      Release 3.2.3 patch 1 (April 2011) and patch 2 (May 2011)

- Added support for STM8L151x3 and STM8L151x2 devices on STice, STX-RLINK and ST-LINK hardware programming boards.
- Fixed issue that caused application crash during ST-LINK enumeration on some PCs with STLinkUSBDriver.dll v4.2.1.0
- Modified timings for correct initialization of the SWIM communication with STM8L DISCOVERY boards.
- Fixed infinite loop issue that occurred in case of SWIM communication error after SWIM_COMM_RESET command.

## 4.16      Release 3.2.3 (February 2011)

- Added support for STM32F205xB, STM32F205xC, STM32F207xC, STM32F205xE, STM32F207xE, STM32F215xE, STM32F217xE, STM32F205xF, STM32F207xF, STM32F205xG, STM32F207xG, STM32F215xG, STM32F217xG on ST-LINK dongle hardware.
- Added support for STM32L151x8, STM32L151xB, STM32L152x8, STM32L152xB, on ST-LINK dongle hardware.
- Added support for STM32TS60 on ST-LINK dongle hardware.
- Added support for STM32F101xF, STM32F101xG on ST-LINK dongle hardware.
- Added support for STM8L101F1 on STice, STX-RLINK and ST-LINK dongle hardware.
- Added a new function for STM32 after Verify:
  - Reset and run device

- Added firmware upgrade for ST-TSLink hardware.
- Updated option bytes description on STM8T142 device.
- Added support for Windows 7.
- STice driver updated for 64-bit Vista and 64-bit Windows 7.

## 4.17 Release 3.2.2 (September 2010)

- Added support for STM8L162M8, STM8L162R8, STM8L15xM8, STM8L15xR8, STM8L15xC8, STM8L15xR6 on STice, STX-RLINK and ST-LINK dongle hardware.
- Renamed STM8L151xx and STM8L152xx devices into STM8L15xC6, STM8L15xK6, STM8L15xG6, STM8L15xC4, STM8L15xK4 and STM8L15xG4.
- Added support for STM8S208M8 on STice, STX-RLINK and ST-LINK dongle hardware.
- Added support for STM8AF52A, STM8AF528, STM8AF526, STM8AF62A, STM8AF628 and STM8AF6269 on STice, STX-RLINK and ST-LINK dongle hardware.
- Added support for STM32F100xCxxB, STM32F100xDxxB and STM32F100xExxB on ST-LINK dongle hardware.
- Updated option bytes description on STM8T142 device.
- Enlarged "Configuration" window to select hardware tool and device.

## 4.18 Release 3.2.1 (June 2010)

- Added support for STM32W108xB on ST-LINK dongle hardware.
- Added support for STM32F103xG and STM32F103xF on ST-LINK dongle hardware.
- Added support for STM8S903F3 on STice, STX-RLINK and ST-LINK hardware programming boards.
- Added support for STM8AF6268, STM8AF6266, STM8AF6248, STM8AF6246, STM8AF6226 on STice, STX-RLINK and ST-LINK hardware programming boards.
- Updated option bytes description on STM8T141 device.
- Improved progress bar advancement when programming STM32 devices.
- Improved PROGRAM MEMORY programming time for STM8L15xx6 devices.
- Fixed issue when using project mode with STM32 devices.
- Fixed issue when switching modes using STX-RLINK hardware in ICC mode.
- Fixed issue when programming STM8 application that uses Reset pin as output and activates watchdog.

## 4.19 Release 3.2.0 (February 2010)

- Added support for STM32 device family programming on ST-LINK dongle hardware (via JTAG or SWD communication protocol). STM32F100x, STM32F101x, STM32F102x, STM32F103x, STM32F105x, STM32F107x devices supported.

## 4.20 Release 3.1.4 (December 2009)

- Added support for STM8F/H6126 on STice, STX-RLINK and ST-LINK hardware programming boards.
- Removed STM8S207xx and STM8S208xx and added support for STM8S208MB, STM8S208RB, STM8S208CB, STM8S208SB, STM8S208R8, STM8S208C8, STM8S208S8, STM8S208R6, STM8S208C6, STM8S208S6, STM8S207MB, STM8S207RB, STM8S207CB, STM8S207SB, STM8S207M8, STM8S207R8, STM8S207C8, STM8S207S8, STM8S207R6, STM8S207C6, STM8S207S6, STM8S207K6 on STice, STX-RLINK and ST-LINK hardware programming boards.
- Renamed STM8T151 to STM8T142.
- Updated for STM8L15xx option bytes.

## 4.21 Release 3.1.3 (September 2009)

- Added support for STM8L152x6, STM8L152x4, STM8L151x6, STM8L151x4 on STice, STX-RLINK and ST-LINK hardware programming boards.
- Updated for STM8L101x2 option byte (DATASIZE option removed).
- Updated for Windows® 2000 on ICC and SWIM for STX-RLINK hardware programming board.

## 4.22 Release 3.1.2 (June 2009)

- Added support for ST-TSLINK programming tool for STM8Txxx devices.
- Added support for STM8T141and STM8T151 on ST-TSLINK hardware programming board.

## 4.23 Release 3.1.1 (February 2009)

- Added support for STM8S105x6, STM8S105x4 on STice, STX-RLINK and ST-LINK hardware programming boards.
- Added support for STM8S103K3, STM8S903K3, STM8S103F3, STM8S103F2 on STice, STX-RLINK and ST-LINK hardware programming boards.
- Added support for STM8L101x3, STM8L101x2 on STice, STX-RLINK and ST-LINK hardware programming boards.
- Updated to close communication when changing configuration or exiting STVP on STX-RLINK and ST-LINK hardware programming boards.
- Updated for Windows Vista on ICC and SWIM for STX-RLINK hardware programming board.

## 4.24 Release 3.1.0 (December 2008)

- Added support for ST-LINK debugging/programming tool featuring SWIM programming mode.
- Improved SWIM communication on STice.
- Added support for STM8AH51x and STM8AH61x devices on STice, STX-RLINK and ST- LINK hardware programming boards.
- Renamed STM8SF20xx, STM8S207x and STM8S208x (removed 'F' identifier).
- Replaced STM8AF616 by STM8AF6166, STM8AF6168, and STM8AF6169.
- Replaced STM8AF614 by STM8AF6146 and STM8AF6148.
- Added support for ST7FMC2R9 and ST7FMC2S9 devices on STICK, ST7-DVP3, ST7-EMU3, STice and STX-RLINK hardware programming boards.
- Added support for ST7FLITEUSA2 and ST7FLITEUSA5 devices on STICK, ST7-DVP3, ST7-EMU3, STice and STX-RLINK hardware programming boards.

## 4.25 Release 3.0.1 (June 2008)

- Added support for STM8SF207x and STM8SF208x devices on STice and STX-RLINK hardware programming boards.
- New feature allowing to program memory with SWIM on non-write-protected areas.
- Corrected SWIM programming error in project mode.
- Corrected reprogramming in SWIM mode, when reprogramming option bytes that are not complemented properly.
- Corrected SWIM connection problems with STice hardware on some devices.

## 4.26 Release 3.0.0 (March 2008)

- Added support for STice hardware programming board. STice hardware supports ICP or SWIM programming modes.
- Added support for SWIM protocol on STice and STX-RLINK hardware programming boards.
- Added support for STM8AF51x and STM8AF61x devices family on STice and STX-RLINK hardware programming boards.
- Renamed ST7FLI49, ST7FLITE49.
- Renamed ST7FOXU0, ST7FOXA0.

## 4.27 Release 2.0.6 (December 2007)

- Added support for ST7FLI49 device on STICK, ST7-DVP3, ST7-EMU3 and STX-RLINK hardware programming boards.
- Added support for ST7FLUS5, ST7FLU05, ST7FLU09 devices on STICK, ST7-DVP3, ST7-EMU3 and STX-RLINK hardware programming boards.
- Added support for ST7FOXU0, ST7FOXF1, ST7FOXK1, ST7FOXK2 devices on STICK, ST7-DVP3, ST7-EMU3 and STX-RLINK hardware programming boards.
- Renamed ST7FLITE49M, ST7FLI49M.
- Removed ST7FLITE54K4, ST7FLITE54S4, and ST7FLITE55C4 devices.
- Increased number of bytes of pattern in Search function.

## 4.28 Release 2.0.5 (August 2007)

- Added support for ST7FLITE49M device on STICK, ST7-DVP3, ST7-EMU3 and STX-RLINK hardware programming boards.
- Added support for ST7FLITE54K4, ST7FLITE54S4, ST7FLITE55C4 devices on STICK, ST7-DVP3, ST7-EMU3 and STX-RLINK hardware programming boards.

## 4.29 Release 2.0.4 (April 2007)

- Added support for ST7FLITEU02/05, ST7FLITEU09 devices on STICK, ST7-DVP3, ST7-EMU3 and STX-RLINK hardware programming boards.
- Added support for ST7FLITEUSN device on STICK, ST7-DVP3, ST7-EMU3 and STX-RLINK hardware programming boards (only "ICP OPT Disable" programming mode supported).
- Added support for ST72F63BH4 device on ST7MDTU3-EPB and STX-RLINK hardware programming boards.
- Added support for ST72F324Lxx low voltage devices on STICK, ST7-DVP3, ST7-EMU3 and STX-RLINK hardware programming boards (only "ICP OPT Disable" programming mode supported).
- Problem with STX-RLINK Hardware and capacitor on Reset line corrected.

## 4.30 Release 2.0.3 (November 2006)

- Added support for ST7FMC2S7 device on ST7MDT25-EPB, STICK, ST7-DVP3, ST7-EMU3 and STX-RLINK hardware programming boards.
- Updated option bytes description on ST72F325xx devices (LQFP48 package).
- Updated option bytes description on ST7FL05 and ST7FL09 devices.
- Updated option bytes description on ST7FL15F1 and ST7FL19F1 devices.
- Updated option bytes description on ST72F34x devices.
- Updated option bytes description on ST72F321x6 device (TQFP80 added).
- Split ST72F321x9 into 3 devices: ST72F321R/AR9, ST72F321J9 and ST72F321M9.

## 4.31 Release 2.0.2 (July 2006)

- Added support for ST72F340xx, ST72F344xx and ST72F345x4 devices on ST7MDT20J-EPB, STICK, ST7-DVP3, ST7-EMU3 and STX-RLINK hardware programming boards.

- Added support for ST7FLITEUS2/S5 device on STICK, ST7-DVP3, ST7-EMU3 and STX-RLINK hardware programming boards.

- Added support for ST72F63Bxx, ST72F60xx and ST72F62xx family devices on STX-RLINK hardware programming board.

- Added support for ST72F321BLJ6 and ST72F324BLx6 devices on STICK, ST7-DVP3, ST7-EMU3 and STX-RLINK hardware programming boards. These devices operate at 3.3V so the jumpers should be set to 3.3V position on STICK and Socket Board, ST7-DVP3 or ST7-EMU3 ICC Add-on board.

- When loading a S19 or Hex file, the bytes detected out of the memory mapping are ignored and a warning is displayed with the line in the file and address of the byte. The file loading now continues and doesn't stop anymore on first byte found not in the memory mapping.

## 4.32 Release 2.0.1 (June 2006)

- Added support for ST72F63BE1, ST72F63BE4 and ST72F63BD6 devices on ST7MDTU3-EPB hardware programming board.

- Added support for ST72F32AJ1, ST72F32AJ2 and ST72F32AK1 devices on ST7MDT20J-EPB, STICK, ST7-DVP3, ST7-EMU3 and STX-RLINK hardware programming boards.

- Added support for ST72F321Bx6, ST72F321Bx7 and ST72F321Bx9 devices on ST7MDT20J-EPB, ST7MDT20M-EPB, STICK, ST7-DVP3, ST7-EMU3 and STX-RLINK hardware programming boards.

- Added support for ST7FAUDIOx6, ST7FAUDIOx7 and ST7FAUDIOx9 devices on ST7MDT20J-EPB, ST7MDT20M-EPB, STICK, ST7-DVP3, ST7-EMU3 and STX-RLINK hardware programming boards.

- Removed ST72F361x4 device on ST7MDT25-EPB, STICK, ST7-DVP3, ST7-EMU3 and STX-RLINK hardware programming boards.

## 4.33 Release 2.0.0 (January 2006)

- Improved XFlash devices programming time (ST7FLITE1x/2x/3x, ST7FL1x/3x, ST7FDALI, ST72F34x).

- Added support for new hardware programming tool: STX-RLINK from Raisonance. Connection to this hardware is via USB port. STX-RLINK supports all devices that can be programmed with the STICK.

- Added support for ST72F561x4 devices on ST7MDT25-EPB, STICK, ST7-DVP3 and ST7-EMU3 hardware programming boards.

- Added support for ST72F60K1, ST72F60K2, ST72F60E1, ST72F60E2 devices on ST7MDTU3-EPB hardware programming board.

- Added support for ST7FL15F1, ST7FL19F1 devices on STICK, ST7-DVP3 and ST7-EMU3 hardware programming boards.

- Added support for ST7FL34, ST7FL38 devices on STICK, ST7-DVP3 and ST7-EMU3 hardware programming boards.

- Removed ST72F340xx, ST72F344xx, ST72F345x4 devices on ST7MDT20J-EPB, STICK, ST7-DVP3 and ST7-EMU3 hardware programming boards.

## 4.34 Release 1.9.5 (September 2005)

- Added support for ST7FLIT10Bx, ST7FLIT15Bx, ST7FLIT19Bx devices on ST7MDT10-EPB, STICK, ST7-DVP3 and ST7-EMU3 hardware programming boards. On ST7MDT10-EPB, the DIP20 socket is reserved for ST7FLITE2x devices ONLY and SO20 socket supports ST7FLIT1xBx, ST7FLITE2x and ST7FLITE3x devices. The Socket Board has the 2 different DIP20 sockets. The ST7FLIT15Bx and ST7FLIT19Bx devices are only supported in Socket and ICP programming mode, because the Internal RC oscillator clock is active whatever the option bytes programmed in the device. ST7FLIT10Bx devices are only supported in Socket and ICP OPT Disable programming mode. Since the RCCR default values are accessible in user mode, they aren't recopied in PROGRAM Memory or DATA Memory after Read-out Un-protection. Also, the protections choice of the RCCR values are not activated by default. If users have their own values (use a VDD other than 5V or 3.3V), these values can be programmed and protected.

- ST7FLITE30 device only supported in Socket and ICP OPT Disable programming mode.

- Added support for ST72F340xx, ST72F344xx, ST72F345xx devices on ST7MDT20J-EPB, STICK, ST7-DVP3 and ST7-EMU3 hardware programming boards.

- Added support for ST72F361x4, ST72F361x6, ST72F361x7, ST72F361x9 devices on ST7MDT25-EPB, STICK, ST7-DVP3 and ST7-EMU3 hardware programming boards.

- Added support for ST7FMC1K6 device on STICK, ST7-DVP3 and ST7-EMU3 hardware programming boards.

- Added support for ST72F324Bx6 device on ST7MDT20J-EPB, STICK, ST7-DVP3 and ST7-EMU3 hardware programming boards.

- Added support for ST72F325x6, ST72F325x7, ST72F325x9 devices on ST7MDT20J-EPB, ST7MDT20M-EPB, STICK, ST7-DVP3 and ST7-EMU3 hardware programming boards.

## 4.35 Release 1.9.4 (May 2005)

- Added support for ST7FLITE30/35/39, ST7FL35/39 on ST7MDT10-EPB, STICK, ST7-DVP3 and ST7-EMU3 hardware programming boards. On ST7MDT10-EPB, the DIP20 socket is reserved for ST7FLITE2x devices only and SO20 socket supports ST7FLITE2x and ST7FLITE3x devices. The Socket Board has the 2 different DIP20 sockets. The ST7FLITE3x and ST7FL3x devices are supported in "Socket" and "ICP" programming mode only, because the Internal RC oscillator clock is active whatever the option bytes programmed in the device. Since the RCCR default values are accessible in user mode, they aren't recopied in PROGRAM Memory or DATA Memory after Read-out Un-protection. Also, the protections choice of the RCCR values are not activated by default, if the user has its own values (if using a different VDD than 5V or 3.3V), they can be programmed and protected.

- Added support for ST7FL05/09 on ST7MDT10-EPB, STICK, ST7-DVP3 and ST7-EMU3 hardware programming boards.

- Added support for ST72F63BE2, ST72F63BH2, ST72F63BE6, ST72F63BH6, ST72F63BK6 devices on ST7MDTU3-EPB hardware programming board.

- Added support for ST7FMC1K4, ST7FMC2S6 on STICK, ST7-DVP3 and ST7-EMU3 hardware programming boards. Remove ST7FMC2S5 device support.

- Added support for ST72F32AK2, ST72F324Bx, ST72F325x devices on ST7MDT20J-EPB, STICK, ST7-DVP3 and ST7-EMU3 hardware programming boards. ST72F32AK2 and ST72F324Bx devices are NOT supported in "ICP OPT Enable" programming mode.

- Increased time-out for Erasing sectors to 170 seconds.

- Corrected bug on XFlash devices: when FMP_W option bit (Write Protection) is programmed ON, now, DATA Memory can still be programmed.

- Added RAM execution feature in ISP programming mode for all ST72Cxxx devices. There is a restriction on ram mapping, the program to execute in ram must start at address 0x90 and must not exceed address 0x17F.

- Removed ST72124J4 device from ST7MDT2-EPB2 and ST7MDT2-DVP2 hardware programming board.

- Removed CSS option bit choice on all ST72F321 and ST72F324 devices.

## 4.36 Release 1.9.3 (December 2004)

- Added support for ST7MDT25-DVP3 hardware programming board.

- Renamed STMC-ICC hardware programming board name to ST7-EMU3. If the user is using a project with this hardware, he must recreate his project file with the ST7-EMU3 name.

- Updated Help.chm online help file to describe the original RC Calibration values restoring feature when Read-out Un-protection is performed on ST7FLITE0x and ST7FLITE2x devices.

- Added support for ST72F264G1 device on all possible hardware programming boards.

- ST72F63B devices have the LVD Enabled option bit by default.

- Removed CSS option bit feature on all ST72F521, ST72F26x and ST72F561 devices.

- Removed obsolete JTAG EPB (ST72F264-EPB and ST7MDT00-EPB).

## 4.37 Release 1.9.2 (April 2004)

- Both ST7 Visual Develop (STVD7) and ST7 Visual Programmer (STVP) use the same installation package, ST7 Toolset.

- Windows$^®$ 95 operating system no more supported.

- Added support for LPT2 parallel port for all programming boards hardware.

- Added support for "RAM execution from a file" feature in all ICP modes. Addresses 0x80 and 0x81 are reserved to load in RAM (ICC protocol). Beware, these two addresses are always skipped (not downloaded in RAM). Program is started from First RAM address of device or address 0x82 if first RAM address is 0x80. Once the RAM is loaded with the file contents, a GO command is sent to the ST7 followed by an "ICC CLK Release" to execute the command.

- Changed behavior in project mode when reading a device area: the files previously loaded are not anymore removed from the list but a '*' character is displayed in the Device Status window.

- Removed ST72F652 device (only ROM device exist).

- Warning message box added if programming ST72F63 devices with LVD Option Bit "Disabled". USB will be disabled too (by hardware) in that case.

- Removed delay for all JTAG accessed devices.

## 4.38 Release 1.9.1 (December 2003)

- Added support for ST7MDT10-DVP3 programming hardware, board name to select is ST7-DVP3.

- Corrected bug on ST72F321x7 device: programming is now working.

- Corrected bug in Socket mode during automatic erasing of sectors after unprotection of HDFlash devices.

*Note:* *There was no bug in ICP mode.*

- Added Check of XFlash complementary option bytes (on ST7FLITExx & ST72F26x devices).

- Erasing HDFlash devices on EPB sockets should be faster.

- Added WDG SW option bit on ST7FSCR1 device. Silicon revision B minimum required, older silicon revisions (A, Z, Y and X) WDG option bit does not work. (Last letter of trace code on device marking indicates silicon revision).

- Changed to 32 bytes data per line when saving a file in S19 format, in order to have the same format than the file generated by the toolset for easy comparison if needed.

- Minor text changes on error and result strings displayed.

- Warning message boxes before programming Read-Out Protection on option bytes can be disabled when using STVP DLL API.

## 4.39 Release 1.9.0 (July 2003)

- Upgraded ParSTm parallel port driver to improve speed communication on Windows$^®$ NT, 2000 and XP operating systems. Version 1.5.0.0 of ParSTm driver. All ST7 EPBs (JTAG, ISP or ICP) and STICK programming hardware concerned.

- Added support for ST7FLITE10, ST7FLITE15, ST7FLITE19, ST7FLITES2/S5 devices on ST7MDT10-EPB, STICK, ST7-DVP3 and STMC-ICC programming hardware.

- Split ST7FLITE20/25 device into ST7FLITE20 and ST7FLITE25 devices.

- Renamed ST7FLITE05 device to ST7FLITE02/05 device.

- Regrouped ST72F321(A)R/Mx and ST72F321Jx devices into ST72F321xx devices.

- Renamed ST72F521(A)R/Mx devices into ST72F521xx devices.

- Removed ST72F521(A)R/M7 and ST7FSUPERLITE devices from all programming hardware.

- Removed all obsolete ST7MDTxx-EPBJTAG programming hardware names from list. If Read-out Protection is programmed on devices, these EPBs do not work in socket mode (JTAG is disabled). These boards are obsolete and not supported anymore.

- Added new feature: Automatic Restoring of RCCR values after Un-protection of XFlash devices.

- Added new feature: Automatic Erasing of sectors after Un-protection of HDFlash devices.

- Removed "External RC Oscillator" clock choice in option bytes settings for ST72F26x, ST72F521x, ST72F32xx and ST72F561x devices.

- Corrected inversion of DIV2 option bit description on all ST7FMCx devices.

# 5 Revision history

**Table 3. Document revision history**

| Date | Revision | Changes |
|---|---|---|
| 20-Nov-2006 | 1 | Release for STVP version 2.0.3. |
| 17-Apr-2007 | 2 | Release for STVP version 2.0.4. |
| 22-Aug-2007 | 3 | Release for STVP version 2.0.5. |
| 05-Dec-2007 | 4 | Release for STVP version 2.0.6. |
| 03-Mar-2008 | 5 | Release for STVP version 3.0.0. |
| 07-May-2008 | 6 | Release for STVP version 3.0.1. |
| 10-Jun-2008 | 7 | Additional updates for STVP version 3.0.1. |
| 04-Dec-2008 | 8 | Release for STVP version 3.1.0. |
| 26-Feb-2009 | 9 | Release for STVP version 3.1.1. |
| 15-Jun-2009 | 10 | Release for STVP version 3.1.2. |
| 08-Sep-2009 | 11 | Release for STVP version 3.1.3. |
| 07-Dec-2009 | 12 | Release for STVP version 3.1.4. |
| 05-Feb-2010 | 13 | Release for STVP version 3.2.0. |
| 09-Jun-2010 | 14 | Release for STVP version 3.2.1. |
| 17-Sep-2010 | 15 | Release for STVP version 3.2.2. |
| 11-Feb-2011 | 16 | Release for STVP version 3.2.3. |
| 07-Apr-2011 | 17 | Release for STVP version 3.2.3 patch1. |
| 24-May-2011 | 18 | Release for STVP version 3.2.3 patch2. |
| 28-Sept-2011 | 19 | Release for STVP version 3.2.4. |
| 16-Jan-2012 | 20 | Release for STVP version 3.2.5. |
| 06-Jul-2012 | 21 | Release for STVP version 3.2.6. |
| 24-Sep-2012 | 22 | Release for STVP version 3.2.7. |
| 15-Jan-2013 | 23 | Release for STVP version 3.2.8. |
| 2-Jul-2013 | 24 | Release for STVP version 3.2.9. |
| 04-Dec-2013 | 25 | Release for STVP version 3.3.0. |
| 06-Mar-2014 | 26 | Release for STVP version 3.3.1. |
| 22-Jul-2014 | 27 | Release for STVP version 3.3.2. |
| 22-Sep-2014 | 28 | Added support for STM32F091xC, STM32F091xB, STM32F098xC, STM32F303xE, STM32F303xD, STM32F302xE, STM32F302xD and STM32F398xE devices on *Section 2.2* and on *Table 1*, for STVP version 3.3.2. |
| 2-Jun-2015 | 29 | Release for STVP version 3.3.3. Added support for STM32F7xxx. |

**Table 3. Document revision history (continued)**

| Date | Revision | Changes |
|---|---|---|
| 07-Jul-2015 | 30 | Release for STVP version 3.3.4.<br>Added support for STM32L4xxx and STM32F46x/F47x devices. |
| 23-Sep-2015 | 31 | Release for STVP version 3.3.5: added support for STM8AL318x, STM8AL3L8x, STM8AL31E8x, STM8AL3LE8x,STM8AF6213, STM32F410xB and STM32F410x8 devices. |
| 23-Oct-2015 | 32 | Release for STVP version 3.3.6.<br>Added support for STM32L16xRCxxA, STM32L16xVCxxA, STM32L03xxx/L04xxx and STM32L07xxx/L08xxx devices. |
| 27-Nov-2015 | 33 | Release for STVP version 3.3.7.<br>Added support for STM32L01xxx, STM32L02xxx devices. |
| 23-Mar-2016 | 34 | Release for STVP version 3.3.8.<br>Added support for STM32L43xxx, STM32L44xxx, STM32F76xxx, STM32F77xxx devices. |