USB Connection!

ISP Target Connection!

Real-Time Code Execution and In-Circuit Debugging without Probes—Works with All Packages

Universal—Supports the whole ST FIVE and ST7 Families

Built-In FLASH Programmer

In-System Programming and Debugging through the ST FIVE and ST7 Standard ISP Interface

Seamlessly Integrates Into your Favorite Development Environment:

- STMicroelectronics STVD7
- Metrowerks CodeWarrior for ST7
- STMicroelectronics Visual FIVE
- Raisonance RKit-ST5

inDART-STX Series
In-Circuit, Real-Time Debuggers/ Programmers for STMicroelectronics ST FIVE and ST7 FLASH Devices

inDART
S·E·R·I·E·S

inDART-STX Series

In-Circuit, Real-Time Debuggers/Programmers for STMicroelectronics ST FIVE and ST7 FLASH Devices

Overview

inDART-STX is a powerful entry-level tool for STMicroelectronics ST FIVE- and ST7-based systems. inDART-STX takes advantage of the ISP (In-System Programming) feature to program the FLASH memory of the target microcontrollers. inDART-STX seamlessly integrates into your favorite development environment: STMicroelectronics STVD7 and Metrowerks CodeWarrior for ST7 (if you are working with ST7 devices) or STMicroelectronics Visual FIVE and Raisonance RKit-ST5 (if you are working with FIVE devices). STVD7, Visual FIVE and RKit-ST5 are conveniently included with inDART-STX, thus providing you with everything you need to quick-start your projects: you can write, compile, download (program), in-circuit emulate and debug your code right out of the box. The debugger/programmer unit is connected to the host PC through a USB port, while the 10-pin connector of the product fits into the target's ISP connector. On Design Kit packages, a full-featured experiment board for a specific microcontroller is also included.

The inDART Technology

Contrariwise to traditional in-circuit emulation (where the target application is executed and emulated inside the emulator), inDART-STX uses the very same target microcontroller to carry on in-circuit execution. This means that all microcontroller's peripherals (timers, A/D converters, I/O pins, etc.) are not reconstructed or simulated by an external device, but are the very same target microcontroller's peripherals. Moreover, the inDART-STX debugging approach ensures that the target microcontroller's electrical characteristics (pull-ups, low-voltage operations, I/O thresholds, etc.) are 100% guaranteed.
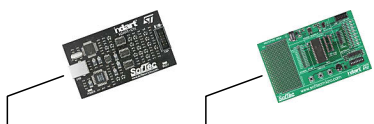
In-System Programming (ISP)

The ISP feature allows you to update the content of the FLASH program memory while the chip is still plugged in the application board. ISP programming uses a serial protocol to interface a programming tool like inDART-STX. The ISP interface can be implemented with a minumum number of added components and board area impact. inDART-STX uses the standard, 10-pin ISP connector to program and in-circuit emulate the target device. The diagrams below show typical ISP interfaces for both ST FIVE and ST7 devices.

ST FIVE ISP Interface

ST7 ISP Interface
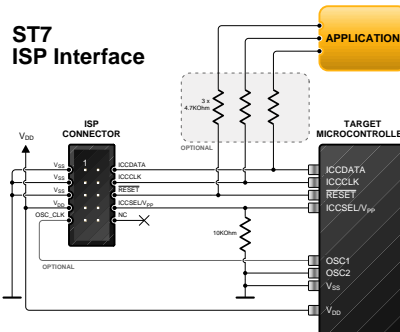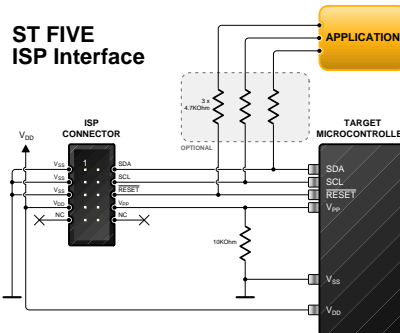
Evaluation Boards

On Design Kit packages, a full-featured, microcontroller-specific evaluation board is also included. Evaluation boards feature a socketed microcontroller, DIP-switches, jumpers, LEDs, push-buttons, potentiometers, prototyping area and an ISP connector and can be used for evaluation/experiments in the absence of a target application board.

Main Features

- In-circuit debugging;
- Real-time code execution;
- Universal–supports the whole ST FIVE and ST7 FLASH families;
- In-system programming and debugging through a standard ISP-compatible interface;
- Built-in FLASH programmer (with SofTec Microsystems DataBlaze programming utility).

Operating Features

- 1.8 to 5.5 V devices supported;
- Working frequency up to the microcontroller's maximum;
- Jumperless hardware mode setting;
- Hardware self diagnostic test.

Supported Debuggers for ST FIVE

- STMicroelectronics Visual FIVE (includes graphical editor, assembler, debugger);
- Raisonance RKit-ST5 (includes editor, assembler, C compilers, debugger).

Supported Debuggers for ST7

- STMicroelectronics STVD7 Visual Debug (includes editor, assembler, supports Cosmic and Metrowerks C compilers, debugger);
- Metrowerks CodeWarrior for ST7 (includes editor, assembler, C compiler, debugger).

Debugging Capabilities

- Reset, Start, Stop, Single Step, Step Over, Step Out;
- Breakpoints handling;
- Watch variables, registers and peripherals.

Programming Capabilities

- Blank Check/Erase/Read/Program/Verify FLASH memory.

Free Software Upgrades

SofTec Microsystems is continuously adding support for new devices to the inDART-STX In-Circuit Debugger/Programmer. The latest version of the inDART-STX software is always downloadable free from our website.

An inDART-STX Design Kit Package

Ordering Code (*)	In-Circuit Debugger	Evaluation Board	Supported Devices (*)
INDART-STX/D	●		ST FIVE 508 Family: ST52F500, 503, 510, 513; ST72F Family: ST72F260, 262, 264, 321, 324, 521, 561, 621, 622, 623, 63B, 651, 652, ST7FLITE0, LITE1, LITE2
INDART-STX/500	●	●	Same as INDART-STX/D; Evaluation Board Specific for ST52F500, 503, 510, 513 (DIP20 and DIP28 Sockets)
INDART-STX/264	●	●	Same as INDART-STX/D; Evaluation Board Specific for ST72F260, 262, 264 (SDIP32 Socket)
INDART-STX/521	●	●	Same as INDART-STX/D; Evaluation Board Specific for ST72F321, 521 (TQFP64 ZIF Socket)
INDART-STX/LITE0	●	●	Same as INDART-STX/D; Evaluation Board Specific for ST7FLITE0 (DIP16 Socket)
INDART-STX/LITE2	●	●	Same as INDART-STX/D; Evaluation Board Specific for ST7FLITE1, LITE2 (DIP20 Socket)

(*) Note: inDART-STX Series models and their respective supported devices listed in this table are updated at February 2003. For the latest news, please visit our website. Please contact STMicroelectronics for microcontrollers availability.

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