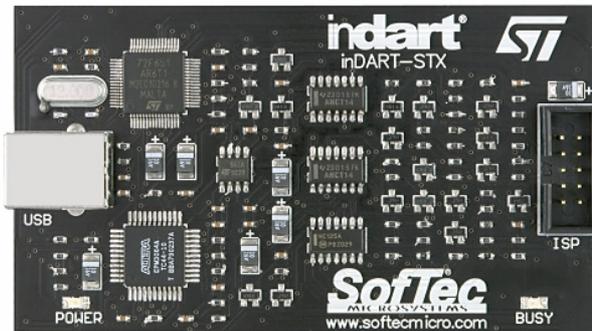


## **inDART-STX/D**

### **In-Circuit Debugger/Programmer for STMicroelectronics ST FIVE 508 and ST72F Families (USB)**

- ❖ **Real-Time Code Execution Without Probes--Works with All Packages**
- ❖ **Standard Chip Used--No Bondouts, 100% Electrical Characteristics Guaranteed**
- ❖ **Seamlessly Integrates Into you Favorite Development Environment**
- ❖ **Built-In ISP Programmer**
- ❖ **USB Connection to the PC**



## **Overview**

inDART-STX/D is a powerful entry-level tool for STMicroelectronics ST FIVE- and ST7- based systems. inDART-STX/D is an in-circuit debugger/programmer which supports all of the devices of the ST72F FLASH family as well as all of the devices of the ST FIVE 508 FLASH family. inDART-STX/D takes advantage of the ISP (In-System Programming) feature to program the FLASH memory of the target microcontrollers. inDART-STX/D 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). All of these development environments are conveniently included with inDART-STX, thus providing you with everything you need to quick-start your projects: you can write, compile (the provided compilers are limited evaluation versions), 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.

## **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.

### **Program Execution Notes**

inDART-STX executes programs in real-time. However, under some circumstances, program execution is not performed in real-time. This happens when working with HDFlash target devices (such as ST72F321, 324, 521, 621, 651, etc.) and one or more breakpoints are set. For detailed information, please refer to the inDART-STX for ST7 user's manual and user's manual addendum.

### **ST7 Software Updates**

The System Software CD provided with the instrument contains the STMicroelectronics STVD7 IDE, an evaluation versions of the Cosmic C Compiler and an evaluation version of Metrowerks CodeWarrior for ST7. To get updated versions of these software packages, please refer to the respective websites (<http://www.stmcu.com>, <http://www.cosmic-software.com> and <http://www.metrowerks.com>).

### **ST FIVE Software Updates**

The System Software CD provided with the instrument contains the STMicroelectronics Visual FIVE IDE and an evaluation versions of the Raisonance RKit-ST5 Development Suite. To get updated versions of these software packages, please refer to the respective websites (<http://www.stmcu.com> and <http://www.raisonance.com>).

### **Programming Library (DLL)**

The optional IPL-ST7 Programming Library is a DLL which includes all of the low-level functions that allow users to set up the instrument and perform, from within their own Windows application, most of the programming commands and functions of the DataBlaze user interface. The IPL-ST7 Programming Library contains C written routines, and can be used to interface the instrument from within, for example, a Microsoft Visual C or Visual Basic application, as well as any other programming language that supports the DLL mechanism. The IPL-ST7 Programming Library can be purchased both as an accessory to every instrument of the inDART-ST7 series and inDART-STX for ST7 series, or separately. Full documentation and examples are included. An USB software protection key is provided with every copy of IPL-ST7: the protection key must be plugged into any USB port on the PC where the library functions of IPL-ST7 are used.

### **Supported Devices**

MC9S12E128  
MC9S12E64

## **At a Glance**

### **Debugging Capabilities**

Source Level Debugging; Step Instructions; Breakpoint Handling

### **Programming Capabilities**

ISP Programming; Full Option Bytes Control; DataBlaze Programming Utility Included

### **ST7 Supported Debuggers**

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

### **ST FIVE Supported Debuggers**

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

### **Communication**

USB Connection to the Host PC, ISP Connection to the Target Board

### **Power Supply**

Provided by the USB Bus, No External Power Supply Needed