SofTec MICROSYSTEMS

Development Tools for the Embedded World

freescale™ Enabled

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

Universal—Supports the Full Range of S12 and S12X FLASH Products

Built-In FLASH Programmer

In-System Programming and Debugging through a BDM-Compatible Interface

Metrowerks CodeWarrior IDE with Editor, Assembler, C Compiler and Debugger

inDART-HCS12 Series

In-Circuit Debuggers/ Programmers for Freescale HCS12 and HCS12X Families

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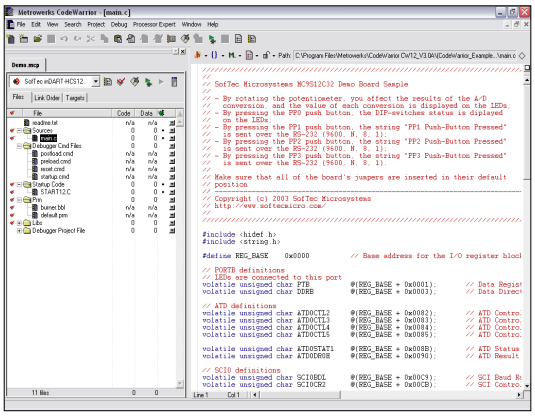
Overview

inDART-HCS12 is a powerful entry-level tool for Freescale HCS12- and HCS12X-based systems. inDART-HCS12 takes advantage of Metrowerks CodeWarrior HC(S)12 Integrated Development Environment and the BDM (Background Debug Module) feature to debug the user program. Together with CodeWarrior HC(S)12, inDART-HCS12 provides you with everything you need to compile, download (program), in-circuit emulate and debug user code. Full-speed program execution allows you to perform hardware and software testing in real time. inDART-HCS12 is connected to the host PC through a USB port, while the 6-pin BDM connector of the product fits into the target's standard BDM connector. Design Kit packages also include a full-featured experiment board for a specific HCS12 microcontroller.



The CodeWarrior IDE

Background Debug Module (BDM)

All MCUs in the HCS12 family contain a single-wire background debug interface which supports in-circuit programming of on-chip non-volatile memory and sophisticated non-intrusive debug capabilities. This system does not interfere with normal application resources. It does not use any user memory or locations in the memory map and does not share any on-chip peripherals.The background debug module (BDM) uses a single-wire communication interface to allow non-intrusive access to target system memory and registers. inDART-HCS12 uses the standard, 6-pin BDM connector defined by Freescale to program and debug the target device.

CodeWarrior Integrated Development Environment

inDART-HCS12 comes with a free version of CodeWarrior Development Studio for HC(S)12 Microcontrollers, Special Edition. The CodeWarrior Development Studio for Freescale HC(S)12 Microcontrollers enables you to build and deploy HC(S)12 systems quickly and easily. CodeWarrior Development Studio for HC(S)12 Microcontrollers, Special Edition, includes the CodeWarrior integrated development environment (IDE); 12 KB code-size limited C compiler and C source-level debugger; macro assembler and Assembly-level debugger. The Special Edition allows you to evaluate CodeWarrior Development Studio for HC(S)12 Microcontrollers at no cost.

Evaluation Boards

Design Kit packages include a full-featured, microcontroller-specific experiment board (device sample provided). The demo board can be used for evaluation/experiments in the absence of a target application board. All demo boards feature a standard BDM connector, DIP-switches, push-buttons, user LEDs, a potentiometer, an RS-232 connector and a prototype area.

Main Features

- In-circuit debugging;
- Real-time code execution;
- Built-in FLASH programmer (with SofTec Microsystems DataBlaze programming utility);
- In-circuit programming and debugging through a BDM-compatible interface;
- Enhanced BDM connector featuring additional signals (MODA, MODB, ECLK, VSS) to extend the standard debugging capabilities;
- Metrowerks CodeWarrior IDE with editor, assembler, C compiler and debugger.

Operating Features

- 1.8 to 5.5 V devices supported;
- Working frequency up to the microcontroller's maximum;
- Jumperless hardware mode setting;
- Automatic target frequency detection;
- Hardware self diagnostic test;
- Powered by the USB connector.

CodeWarrior IDE

- Editor;
- Assembler;
- C Compiler (12 KB limited);
- Linker;
- Source level and symbolic debugger.

Debugging Capabilities

- Reset, Start, Stop, Single Step, Step Over, Step Out;
- Hardware breakpoints (number varies depending on device);
- Trace (on some devices);
- Full handling of target's on-chip debug peripheral;
- Real-time refresh of RAM, variables, registers and peripherals.

Programming Capabilities

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

System Requirements

- A 133-MHz (or higher) PC running Windows 98, 2000 or XP;
- 128 MB of RAM plus 500 MB of free HD space;
- A USB port;
- CD-ROM drive for installation.

Ordering Code (*)	Emulator/Programmer	Evaluation Board	Supported Devices (*)
INDART-HCS12/D	●		HCS12 and HCS12X FLASH Family
INDART-HCS12/C32	●	●	Same as INDART-HCS12/D; Evaluation Board Specific for MC9S12C32 (QFP80 Package)
INDART-HCS12/DP256	●	●	Same as INDART-HCS12/D; Evaluation Board Specific for MC9S12DP256 (QFP112 Package)
INDART-HCS12/E128	●	●	Same as INDART-HCS12/D; Evaluation Board Specific for MC9S12E128 (QFP112 Package)

(*) Note: inDART-HCS12 Series models and their respective supported devices listed in this table are up-to-date as of February 2005. For the latest news, please visit our website.

An inDART-HCS12 Design Kit Package

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