CodeWarrior™ Development Studio for Freescale 56800/E Digital Signal Controllers V8.3

Overview

The comprehensive, award-winning, highly visual CodeWarrior development environment lets both 56800 and 56800E designers build and deploy even the most sophisticated DSC systems quickly and easily by integrating support for both architectures into a single integrated solution. Whether your application is targeting motor control, smart appliances, industrial control or braking/steering by-wire applications, CodeWarrior tools provide you with everything you need to exploit the advanced capabilities of the Freescale 56800/E digital signal controllers. CodeWarrior Development Studio for Freescale 56800/E digital signal controllers is uniquely designed to take advantage of the powerful microcontroller capabilities of the 56800/E architectures.

CodeWarrior Compiler, Assembler, Linker and Libraries

The CodeWarrior build system helps you develop applications with the smallest codesize and fastest execution time. Primary features include:

- Optimizing ANSI C compiler
- GUI based with command-line option
- Advanced optimization technology generates fast, compact, high-quality code
- ELF output in compiler/assembler
- Linker generates both ELF and S-Records
- MSL supports file IO through debugger interface

Graphical Source-Level Debugger

The CodeWarrior IDE includes a state-of-the-art C source-level debugger with a wide array of sophisticated features that help you debug your DSC application faster than ever. The debugger provides all of the power you need with the simplicity of a Windows® based point-and-click environment for fast and easy execution. Key capabilities include:

- Graphical display of complex data structures and expressions to speed runtime analysis
- Fast, flexible and comprehensive run-control capabilities for complete target control
- Precise breakpoints help solve sophisticated problems
- High-performance host-target interfaces for faster flash programming
- Download to internal flash with the click of a button
- Interactively debug software running in internal flash using hardware breakpoint mechanism

Processor Expert™

Processor Expert provides a rapid application design (RAD) tool that combines easy-to-use component-based software application creation with an expert knowledge system. CPU on-chip peripherals, external peripherals and software functionality is encapsulated into components called Embedded Components. Each component's functionality can be tailored to fit your application requirements by modifying the component's properties, methods and events. When you build the project, Processor Expert automatically generates highly optimized C code and places the files into your project. Processor Expert also makes porting a breeze. Simply select the new 56800 or 56800E processor and Processor Expert maps the software and peripheral components that describe your application's functionality to the resources available on the new processor. All you have to do is resolve any problems flagged by Processor Expert and you're finished.

Features

- Code generation for low-level driver source
- Hardware independence reduces application porting time
- Drag-and-drop components
- Expert knowledge base constantly checks CPU-dependent settings
- Automatically generates highly optimized C code within your CodeWarrior project
- Latest IDE version 5.9 (New)
- Linker Memory Initialization (LMI) feature, which allows every word in a non-empty section to be initialized with a value (New)
- Open-source BDM (JTAG) connection support (New)
- Data visualization allows display of more than one variable at a time on one chart, or use of multiple charts (New)
- Supports 56F824x/5x (New)

Processor Expert Components

- Memory management
- Components (drivers) for all peripherals
- Digital signal processing and filtering
- Bit manipulation
- Vocoders
- Modems
- RTOS integration support
- Comprehensive software, hardware and silicon documentation
- Software testing and debug utilities
- Networking
- Telephony
- Security
- Voice recognition
- Sample applications
- Processor architecture services additional applications (56F800 and 56F8300 series)
- Uninterruptible power supply
- Motor control primitives and algorithms
- Motor control applications additional applications (56850 series only)
- Feature phone

Check online for the latest list of Processor Expert embedded components.

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Component Wizard

The Component Wizard is the tool that allows you to create your own Components to address the specific needs of an application, such as support for using a generic peripheral in a very specific way. This tool is sold separately.

Real-Time Operating System (RTOS)

- Freescale OSEKturbo is a small, fast, reliable, scalable RTOS. Fully compliant to the latest OSEK/VDX specifications it works seamlessly with CodeWarrior Development Studio for Freescale 56800/E digital signal controllers MC56F834x series of processors

Specifications

Languages Supported

- C
- 56800/E assembly language

Host Development Platform

- Windows® XP (32-bit)
- Windows® Vista (32-bit) (Home Premium and Business Editions)

Supported Digital Singal Controllers Families

- 56F8xxx device (56800E core): MC56F800x, MC56F801x, MC56F803x, MC56F824x/5x (New), and MC56F83xx
- 56F8xx device (56800 core): DSP56F80x
- 568xx device: DSP5685x

Supported DSC DEMO/EVM Boards

- DSP56F800DEMO-E, DSP56F827EVM, DSP56852EVM, DSP56858EVM, MC56F8323EVM, MC56F83567EVM, DEMO56F8013, DEMO56F8014, MC56F8037EVM, MC56F8006DEMO and TWR-56F8257 (New)

Target Connections

- CodeWarrior USBTAP (Order Part#: CWH-UTP-ONCE-HE)
- Open Source BDM (HCS08JM60 based) (Supports only 56F800x and 56F824x/5x)

Peripherals

- Stand-alone flash programming support

System Requirements

- 1.0 GHz processor: Intel® Pentium® or equivalent
- Windows XP/Vista (32-bit) (Home Premium and Business Editions)
- 2 GB RAM minimum
- 2.0 GB free hard drive space
- CD-ROM drive for installing Freescale Support Policy
- On-line help and documentation
- Free 30-day evaluation license available

Codewarrior Development Studio for Freescale 56800/E Digital Signal Controllers Product Part Numbers

Part Numbers:	Products:
CWS-568-CX (Note: Individual part number is no longer in use, product is now included in **Standard** and **Professional Suites**)	CodeWarrior Development Studio for 56800/E Digital Signal Controllers, Standard Edition
CWS-568-C64K-CX (Individual part number is no longer in use, product is now included in **Basic Suite**)	CodeWarrior Development Studio for 56800/E Digital Signal Controllers, 256 KB Edition
CWX-568-SE	CodeWarrior Development Studio for 56800/E Digital Signal Controllers, Special Edition 64 KB Code Size Limit

CodeWarrior Development Studio for 56800/E Digital Signal Controllers is included in the CodeWarrior Development Tool Suites. To order the product, select the part number for the CodeWarrior Development Tool Suite that meets your needs.

Special Suite—CodeWarrior for 56800/E Digital Signal Controllers, Special Edition	
Special Edition	CWX-568-SE
Basic Suite—C Compiler Upgrade	
Perpetual	**$995**
• Node Locked	CWP-BASIC-NL
• Floating	CWP-BASIC-FL
• Tech Support *After first year*	CWT-BASIC $195
Annual Subscription	**$395**
• Node Locked	CWA-BASIC-NL
• Floating	CWA-BASIC-FL
Standard Suite—CodeWarrior for 56800/E Digital Signal Controllers, Full Product	
Perpetual	**$2495**
• Node Locked	CWP-STANDARD-NL
• Floating	CWP-STANDARD-FL
• Tech Support *After first year*	CWT-STANDARD $495
Annual Subscription	**$995**
• Node Locked	CWA-STANDARD-NL
• Floating	CWA-STANDARD-FL
Professional Suite—CodeWarrior for 56800/E Digital Signal Controllers, Full Product	
Perpetual	**$4995**
• Node Locked	CWP-PRO-NL
• Floating	CWP-PRO-FL
• Tech Support *After first year*	CWT-PRO $995
Annual Subscription	**$1995**
• Node Locked	CWA-PRO-NL
• Floating	CWA-PRO-FL

Contact your local Freescale representative for more information.

Fast Track™

Learn More: For more information about Freescale CodeWarrior products, please visit **www.freescale.com/codewarrior**.

You can also find more information about Fast Track, Freescale's online support services center, at **www.freescale.com/fasttrack**.

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