



Proven-in-use Documentation

Austin, Texas

May 2011

Pursuant to your request for proven in use documentation for HCS08 compiler on the CodeWarrior Development Studio for Microcontrollers, Freescale is pleased to provide the following information as a courtesy. While the following information is accurate at the time of this letter, the information is provided “AS IS” without warranty of any kind and Freescale disclaims all warranties, either express or implied on the data or other information below, including but not limited to implied warranties of merchantability or fitness for a particular purpose.

System data

This document outlines and describes the quality process used to create and maintain the Freescale compiler for HCS08 microcontrollers.

1. Description:

- a. Development process standard: ISO-9000
- b. HCS08 build tools are C90 compliant
- c. HCS08 build tools contained in CodeWarrior Development Studio for Microcontrollers v6.3

HCS08 Build Tool Version	
Linker	5.0.37.9279
Maker	5.0.11.9279
Libmaker	5.0.9.9279
Compiler	5.0.32.9279
Assembler	5.0.23.9279

- d. HCS08 build tools contained in CodeWarrior Development Studio for Microcontrollers v6.3.1 Patch did not change. This patch only updated the ColdFire compiler, assembler and linker.

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2. Documentation

The compiler comes with online documentation describing the compiler architecture, the GUI, the command line options and the messages produced. Documentation is available online as PDF/CHM files.

Each compiler release comes with a release note, including the release notes of previous versions (list of new features, list of fixed bugs, and list of known bugs).

3. Configuration and Version Management

Software versions and configurations are tracked and stored in a software version and configuration management system (CVS) with standard tagging/tracking mechanism.

a. Test Suites

The compiler has to pass a large test suite for each release. This test suite contains commercial test suites, public test suites and internal test code/sources. The test suite also contains applications Freescal receives from customers for testing, and special test/code sequences to cover regression testing. Defect reports and feature requests are associated with tracking numbers, so they can be found easily in the test suite. The test suite tests for both code correctness and code generation performance.

Internal test suites are extended on a regular basis with incoming code examples, snippets and applications that are provided from the technical support team or directly from customers.

Test reports are generated (failures, code/data/execution time) to compare with previous releases. A compiler is only released if there are no regressions against previous bug fixes.

b. Bug Fixes

Reported bugs are stored in a bug data base.

The current Release Notes are available in the \Release_Notes folder of the product installation. The Release Notes provide up to date information regarding the bugs fixed and known issues for each component of the product.

c. Known & Solved Problems

The known issues and solved bugs are described in the release notes.



Application

Number of Users: Globally, there are on average seven thousand users, who download CodeWarrior Development Studio for Microcontrollers per quarter.

1. Time in service:
 - a. Major Releases:
 - The Freescal compiler for HCS08 microcontrollers has been in service for over 19 years.
 - b. Release history of CodeWarrior Development Studio for Microcontrollers:
 - CodeWarrior for the HC08 V2.0 was issued on 23-Apr-2002.
 - CodeWarrior for the HC08 V2.1 was issued on 6-Sep-2002.
 - CodeWarrior for the HC08 V3.0 was issued on 19-May-2003.
 - CodeWarrior for the HC08 V3.1 was issued on 2-Dec-2004.
 - CodeWarrior for the HC08 V5.0 was issued on 30-Nov-2005.
 - CodeWarrior for the HC08 V5.1 was issued on 24-May-2006.
 - CodeWarrior for the HC08 V5.1 patch 1 was issued on 21-Jul-2006.
 - CodeWarrior for MCU V6.0 was issued on 30-May-2007.
 - CodeWarrior for MCU V6.1 was issued on 30-Oct-2007.
 - CodeWarrior for MCU V6.2 was issued on 8-May-2008.
 - CodeWarrior for MCU V6.2.2 Compiler Patch was issued on 23-Apr-2009.
 - CodeWarrior for MCU V6.3 was issued on 2-Nov-2009.
 - CodeWarrior for MCU V6.3.1 Patch was issued on 10-May-2010.
 - c. Hours of operation: n/a

Evidence

1. Procedure for the selection of systems and specific applications used for proof
 - a. Perennial C test suites for ANSI C conformance
 - b. Autotest (internal Freescal test suite)
 - c. All solved problems encountered are tested with regression tests
 - d. Test set randomly generated
 - e. Dedicated assembler test suite
 - f. Dedicated Linker test suite
2. Procedure for error detection, failure recording and fault correction
 - a. Error detection (after release):
 - by customer with test and debug tools
3. Failure recording:
 - a. by Freescal technical support



- b. central, worldwide database of all reported problems with workarounds
- 4. Fault correction:
 - a. In previous versions: workaround or project level
 - b. In current version: systematic fault correction in new release
 - c. For critical errors by point releases

Signed,

A handwritten signature in black ink that reads "William R Rhoades".

Ruth Rhoades
Sr. Product Manager
CodeWarrior

