Freescale Semiconductor's
High Performance Emulator System
Freescale In-circuit Emulator (FSICE)

February 2005

Frequently Asked Questions

What is the FSICE?

The Freescale In-circuit Emulator (FSICE) is the next generation, high performance emulator system for HC08 microcontrollers (MCU) families. The FSICE builds on the history of the popular Modular Development Systems (MMDS) and Modular Evaluation Systems (MMEVS) emulator platforms.

FSICE is the ideal platform for advance HC08 application development. This system reduces the critical time-to-market cycle by allowing the engineer or designer to access all internal MCU resources. With the real-time bus analyzer, the FSICE can even help debug the surrounding support circuitry in the target system.

What Freescale devices are supported by the FSICE?

The FSICE supports the current and future Freescale portfolio of HC08 microcontrollers.

The FSICE also maintains the functional of its predecessors, the MMDS and MMEVS emulator platforms. For example, if you are currently using a HC08 emulator module, you will be pleased to hear that the new FSICE is backwards compatible with most HC08 emulator modules. Therefore, if you currently own a HC08 Emulator Module (M68EML08xxxx[1] or M68EM08xxxx[1]), sometimes called a daughter card, you can upgrade by ordering the FSICE base station (FSICEBASE).

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Does the FSICE replace the MMDS & MMEVS systems?

The FSICE replaces the Modular Development Systems (MMDS) and Modular Evaluation Systems (MMEVS) emulator platforms, but the FSICE does not replace the current HC08 MCU emulator modules (EM). The FSICE only replaces the platform system, sometimes called a base station, which interfaces with the EM and the PC.

Please note that future MCU emulator modules with the EML08xxxx[1] and EM08xxxx[1] part number formats will only be supported by the FSICE base station.

What are the key features on the FSICE system?

Key Features:
- Real-time and full speed Emulation
- Unlimited instruction breakpoints and data watch points
- Complex data, instruction, or address breakpoints
- 128 Kbytes of MCU emulation memory
- Real time memory readout and trace data
    o Raw data
    o Disassembled instructions
    o Assembly-language source code
- Real-time bus state analyzer:
    o 1.33M x 92-bit real-time trace buffer
    o Nine triggers modes
    o Four hardware triggers
    o 32-bit time tag
    o 1.33M pre- or post-trigger points
    o Trace buffer can be filled while single stepping
    o Custom time tag clock from 4100 Hz to 40 MHz
    o 24 general-purpose logic inputs
- USB and Ethernet interfaces to PC
- Built-in USBMULTILINK08 cable
- CodeWarrior ™ debugging interface

What software interface supports the FSICE system?

The FSICE system interfaces with the popular CodeWarrior IDE. Depending on your version of CodeWarrior, you may need to install a service pack for the FSICE system.

What does a complete FSICE system consist of?

Since the FSICE maintains the module approach of the MMDS and MMEVS systems, the FSICE system is designed to support present and future HC08 MCU families. Here is a summary of a complete FSICE system:

1) FSICEBASE
   FSICE Base Station is the interface between the MCU emulator module and the PC. The FSICEBASE is the "control box" of the system.

2) M68EML08xxxx[1], M68EM08xxxx[1], EML08xxxx[1], or EM08xxxx[1]
   HC08 Emulator Module, sometimes called a daughter card, contains the target MCU the user is emulating. This component is interchangeable and reduces the costs of supporting different HC08 families.

3) M68CBLxxxx[1] or EMCBLxxxx[1]
   Target Cables are the cables used to the transmit data from the target system to the EM.

4) M68TA08xxxx[1], M68TB08xxxx[1], M68TC08xxxx[1], M68TE08xxxx[1], or TH08xxxx[1]
   Target Head Adapters are the components that attach to the target system and target cables.

5) M68CPA08xxxx[1]
   HC08 Programming Adapters allow a user to program loose HC08 MCUs. The programming adapter boards feature ZIF sockets, standard MON08 header, and MCU breakout headers.

What is a FSICE Kit?

To simplify the ordering process, Freescale offers device specific HC08 FSICE Kits. These kits contain everything needed to begin developing for a HC08 MCU family.

FSICE Kits include:
- FSICE Base Station (Part Number: FSICEBASE)
- Device-specific emulation module
- Device-specific target cable
- Device-specific target head adapters
- Package-specific Programming Adapters (M68CPA08xxxx[1])
- CodeWarrior™ Development Studio for HC(S)08, Special Edition

How do I order a FSICE system?

To order your FSICE system, please contact your local Freescale distributor or order directly from www.freescale.com/devtooldirect.

[1]Refer to the "Software and Development Tool Selector Guide" (Order Number: SG1011), Product Fact Sheets, or www.freescale.com/mcu for ordering information.

For future updates please visit: www.freescale.com.