RENESAS Tool News

The E8 Emulator Software Revised to V.2.09 Release 00

We have revised the software for the E8 on-chip debugging emulator from V.2.08 Release 00 to V.2.09 Release 00. The emulator software and emulator are used for emulating the M16C and H8 families of MCUs.

1. **Descriptions of Revision**

    1.1 **Emulator Debuggers Revised**

    The emulator debuggers included in the E8 emulator software V.2.09
    Release 00 have been revised to those listed below.
       The R8C/Tiny E8 emulator debugger V.2.05.00
       The M16C/Tiny, M16C/62P E8 emulator debugger V.2.01.00
       The M32C/80 E8 emulator debugger V.2.01.00
       The H8/300H Tiny, H8/300H Super Low Power, H8/300L Super Low Power
         E8 emulator debugger V.1.03.00

    1.2 **Supported MCUs Increased**

    The following MCUs have been added to the support line:

    (1)   In the R8C/Tiny series:
           R5F21208 (the R8C/20 group)
           R5F21218 (the R8C/21 group)
           R5F21228 (the R8C/22 group)
           R5F21238 (the R8C/23 group)
           R5F21245, R5F21247, and R5F21248 (the R8C/24 group)
           R5F21255, R5F21257, and R5F21258 (the R8C/25 group)
           R5F21262, R5F21264, R5F21265, and R5F21266

(the R8C/26 group)
R5F21272, R5F21274, R5F21275, and R5F21276
(the R8C/27 group)
R5F21282 and R5F21284 (the R8C/28 group)
R5F21292 and R5F21294 (the R8C/29 group)

(2)   In the M16C/Tiny series:
      M30263F3, M30263F6, and M30263F8 (the
      M16C/26A group)

(3)   In the M16C/60 series:
      M30627FJP, M3062AFC, M3062CF8, M3062JFH, and
      M3062LFGP (the M16C/62P group)

(4)   In the M32C/80 series:
      M30873FH, M30875FH, M30876FJ, M30878FJ,
      M30879FK, and M3087BFK (the M32C/87 group)

(5)   In the H8/300H Super Low Power series:
      H8/38099F and H8/38799F (the H8/38099 group)

1.3   **The High-performance Embedded Workshop Updated**
      The High-performance Embedded Workshop included with
      the product has been updated directly from V.4.00.03 to
      V.4.01.01 (intermediate V.4.01.00 skipped).
      For details of these versions, see the following:
      ○ RENESAS TOOL NEWS Document No. 060701/tn1,
        "The High-performance Embedded Workshop Revised
        to V.4.01.00," published on July 1, 2006
      ○ RENESAS TOOL NEWS Document No. 060801/tn1,
        "The High-performance Embedded Workshop Revised
        to V.4.01.01," published on August 1, 2006

1.4   **Functions Improved and Introduced**
      1.4.1 In All the Debuggers

(1)   The three mode names provided in the Emulator
      Setting dialog box have been modified as follows:

Modified	Previous
Erase Flash and Connect	Download emulator firmware
Keep Flash and Connect	Does not download emulator firmware
Program Flash	Writing Flash memory

1.4.2 In the R8C/Tiny E8-, the M16C/Tiny, M16C/62P E8-, and the M32C/80 E8 Emulator Debugger

(1)   The dialog box that appears when the debugger is connected to E8 for the first time immediately after a project workspace is created has been changed to a type of wizard. For the second time and later, it is provided in a type of dialog box.

(2)   Modifications have been made to the specifications of the Keep Flash and Connect mode.
In this mode, you can start debugging your program while the data is kept in flash memory.
In the previous mode (Dose not download emulator firmware), it is necessary that firmware has already been written to the on-chip flash memory of the MCU.
Therefore, right after using the Writing Flash memory mode, in which firmware is not written into the flash memory, you were not able to use this mode.
Now after the above modifications have been made, the debugger only writes firmware into the on-chip flash memory of the MCU whether firmware is already written or not.
So you are able to restart debugging your program without erasing the contents of flash memory even if firmware is not written into the on-chip flash memory of the MCU.

(3)   Characters can be typed into the ID Code Verification dialog box in the ASCII code.

(4)   ID codes can be provided in the Message dialog box that appears after programming in the Program Flash mode is finished.

1.4.3 In the R8C/Tiny E8 Emulator Debugger

(1)   Baud rates have been made selectable in the communication between the MCU and the E8 using the Communication Baud Rate tab of the Emulator Setting dialog box.

1.4.4 In the M16C/Tiny, M16C/62P E8-, the M32C/80

E8-, and the H8/300H Tiny, H8/300H Super Low Power, H8/300L Super Low Power E8 Emulator Debugger

(1) The dialog boxes that appear when the debugger is connected to E8 have been integrated into one.

(2) When any of the above debuggers is used in the Memory Extension mode, software breakpoints can be established within the external area that is rewritten by usual access to memory only in the M16C/Tiny, M16C/62P E8- and the M32C/80 E8 emulator debugger.

(3) The MR window that displays the status of any Renesas-made real-time OS conforming to the uITORN specifications has been supported only in the 16C/Tiny, M16C/62P E8- and the M32C/80 E8 emulator debugger.

1.5 **Problems Fixed**
The following known problems have been fixed:

(1) The problem with debugging the user's programs using watch-dog timers
For details, see the Renesas Tool News.

(2) The problem that "Communication Timeout Error" arises when the R8C/Tiny E8 emulator debugger invoked
For details, see the Renesas Tool News.

2. **How to Avoid the Problem with Executing Programs on the Target System Disconnected from the E8 Emulator**
We will not rectify the problem notified in RENESAS TOOL NEWS Document No. 060916/tn7.

So please avoid this problem in the way described in Section 3 of the above news.

When you execute the user program with the E8 disconnected from the user system after debugging the program in the Download emulator firmware mode or the Dose not download emulator firmware mode, the program dedicated to the emulator starts before the user program does, which causes the timing of operations and the initial conditions of the registers to be different from those in the case when only the user program is written by the

debugger in the Program Flash mode (previous: Writing Flash memory mode) or by a flash programmer and executed.

As a result, if you make the final evaluation under the above condition, errors in the user program may not be detected.
So, when you make the final evaluation of your programs, be sure to select the Program Flash mode (previous: Writing Flash memory mode).

Note that in the revised version, changes have been made to the specifications of the emulator software as follows: when you execute the user program with the E8 disconnected from the user system after debugging the program in the Erase Flash and Connect mode (previous:
Download emulator firmware mode) or the Keep Flash and Connect mode (previous: Dose not download emulator firmware mode), the program is not executed but goes to the command-waiting state after the firmware executed.

3. **How to Update Your Product**
   Free-of-charge online update is available. If you are using the product concerned, download either of the two update programs of the product from the download site and execute it.
   * Download service has been stopped now. Please wait for a few days.

   NOTICES:
   1. You can select an update program out of two: the full-package and the debugger-package edition. The former contains a full set of the emulator debuggers for the E8 emulator, the High-performance Embedded Workshop, the evaluation version of the C compiler package, the AutoUpdate utility, and the user's manual. Note, if you select the latter, that it contains the emulator debuggers for the E8 emulator and the High-performance Embedded Workshop only.
   2. If the update program is installed in the system where the High- performance Embedded Workshop V.4.00.03 or earlier resides, it will be upgraded to V.4.01.01.

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