# RENESAS Tool News

## The High-performance Embedded Workshop, an Integrated Development Environment, Revised to Its V.4.00.00

We have revised the High-performance Embedded Workshop, an integrated development environment, from its V.3.01.08 to V.4.00.00.

1. **Product Concerned**

   The High-performance Embedded Workshop included with the following compiler packages and emulators are concerned:

   (1)  The C/C++ compiler packages for the SuperH RISC engine family
   
   R0C40700XSW09R
   R0C40700XSW08R
   P0700CAS7-MWR

   (2)  The C/C++ compiler packages for the H8SX, H8S, and H8 families
   
   R0C40008XSW06R
   PS008CAS5-MWR

   (3)  C compiler packages for the M32R family
   
   M3T-CC32R V.4.20 Release 1 through V.4.30 Release 00

   (4)  A C compiler package for the M32C/80 and M16C/80 series
   
   M3T-NC308WA V.5.20 Release 1

   (5)  C compiler packages for the M16C/60, M16C/30, M16C/20, M16C/10, M16C/Tiny, and R8C/Tiny series
   
   M3T-NC30WA V.5.20 Release 1 through V.5.30 Release 02

   (6)  C compiler packages for the R8C/Tiny series (freeware

products)
  M3T-NC30WA V.5.20 Release 1 (*)
  M3T-NC8C V.5.30 Release 1
 * This product's name was changed from M3T-NC30WA
 to M3T-NC8C on April 1, 2004.

(7)  The E10A-USB emulators
    Please refer to Section 4, "To the Users Who are Using
    the E10A-USB emulator".
     HS0005KCU01H
     HS0005KCU02H

(8)  The E7 emulator
       HS0007TCU01H

(9)  The E8 emulator
      R0E000080KCE00

(10) The E6000H emulators

(11) The E6000 emulators

(12) The E10A emulators

(13) The E10T emulators

(14) The E10T-USB emulator
       HS0005TCU01H

(15) The E200F emulators
      R0E0200F0EMU00
      R0E0200F1EMU00


For information on the above product types concerned, see "The Products Associated with
the High-performance Embedded Workshop 3".


2. **Descriptions of Revision**

  2.1 Functions Introduced
     The following functions have been introduced:

   (1)  Supporting emulators for the M16C/60, M16C/30,
        M16C/20, M16C/10, M16C/Tiny, and R8C/Tiny series,
        M16C family of MCUs
        The following emulators for the M16C family can
        performs seamless operations of coding, compiling,
        simulating, and debugging under the development
        environment of the High-performance Embedded

Workshop V.4.00.00:
  - the PC7501 emulator
  - the PC4701 emulator
  - the compact emulators
  - the FoUSB/UART emulator

(2)  Displaying a toolbar in the client area within each window
     A toolbar with buttons having the same functions as a
     pop-up menu is provided in the client area within each
     window. This toolbar and their buttons are customizable
     (for example, switching on and off of the display of them
     and the arrangement of the buttons), which makes
     operations in each window much easier.

(3)  Displaying disassembling results in the editor
     The editor of the High-performance Embedded Workshop
     V.4 is capable of disassemble display and mix display
     (display of disassembling line by line corresponding to the
     source code lines) as well as source program display.
     Those displays can be switched between them by toolbar
     buttons.

(4)  Customizing shortcut keys
     The function of assigning a shortcut key to a menu item
     is available. You can use your accustomed keystrokes as
     before in the High-performance Embedded Workshop.

(5)  Adding new sessions
     A wizard allows you easily to create new sessions and to
     add them to a project. New sessions are also created by
     importing (copying) sessions from another file.
     Note, however, that the above functions are available
     only when you use the tool chain in any compiler package
     that includes the High-performance Embedded Workshop
     V.4.

(6)  Deleting software breakpoints automatically
     When the user program is downloaded to the target, all
     the software breakpoints are deleted automatically if you
     specify so. (This function does not be applied to several
     types of debugger.)

2.2 Functions Improved
    The following functions have been improved:

(1)  Representing addresses in windows and dialog boxes
     Addresses are represented in the size of the space allowable

in the target, and the radix in front of address values is omitted.

>    Example in the target with 16-bit address space
>        V.3.01.08 and earlier:   0x0000FFFF
>        V.4.00.00:               FFFF

Note, however, that if you update the emulator software component originally included with any High-performance Embedded Workshop previous to V.4(hereafter called a previous version), addresses are represented in the previous format in several types of windows and dialog boxes.

(2)  Displaying the menu bars and the toolbars

-   The menus on each menu bar have been rearranged, several of which removed, so that the configuration of menus has become easy to see.
    Note, however, that if you update the emulator software component originally included with any previous version of the High-performance Embedded Workshop, several menus are placed in the same position as before.

-   Frequently used toolbars only are displayed (all the toolbars have hitherto been displayed).

(3)  Memory window

-   Displayed is the register name that contains the values matching with the label and address of the data item in front of a line (only in the emulators for the M16C family).

-   The updated data items are highlighted.

-   Displayed is the label of the data item in front of a line and the register name that contains the values matching with the address in front of a line. (only in the emulators for the M16C family).

-   After splitting a window, the original window is restored without closing the split windows.

(4)  Register window

-   Every flag in the flag register can be set and displayed in bits.

-   Displayed are the contents of the registers in the bank indicated by the Specify Register Bank flag of the flag

register (only in the emulators for the M16C family and R8C/Tiny series).

- A radix is specified in each register.

- After splitting a window, the original window is restored without closing the split windows.

(5) Performing multiple-step execution
At performing multiple-step execution, a mode is added in which the window is not updated, which allows the execution to be performed faster than before.

(6) Path information on the files added to a project
When a file is added to a project, the file is entered using the relative path to the project by default. So, when a workspace is copied or moved, files can be searched for using their relative paths to the project even if the files are not in the directory where the workspace exists.

(7) Monitor window (only the emulators for the SuperH and H8 families)
Actual intervals of updates in milliseconds are provided in the Monitor window.

(8) Displaying updated windows
The numbers of updates of the buttons on the menu bar and toolbar and all the windows are optimized, so that screen flickering at using the editor is reduced.

(9) Basic performance
The following times reduced: start-up time, closing time, loading time of the user program, step-execution time, and scanning time in navigation.

## 2.3 Problems Fixed

The following problems have been fixed:

(1) On virtual desktop functions
When virtual desktop functions used, the trace and status windows in the hidden state are not updated.

(2) On buttons not displayed on the toolbar
Consider that the High-performance Embedded Workshop is now using the language different from the one selected at its installation. When the workspace created using such a High-performance Embedded Workshop is opened, the buttons on all the toolbars are not displayed.

In addition, if you update the emulator software component originally included with any previous version of the High-performance Embedded Workshop, the toolbars on several windows may not be displayed.

(3) On making changes to the properties of the Image window
When colors and buffers are changed in the Image Properties dialog box of the Image window, application errors may arise.

(4) On the I/O window at resetting the CPU
If the CPU is reset, the caches and the values of the timers are not updated in this window.

(5) On automatic execution of command batch files
When "Before download of modules" is selected in the "Command batch file load timing" list of the Debug Settings dialog box, and the "Download modules after build" check box is checked, no command batch file is executed if modules are automatically downloaded after a build.

(6) On typing commands in Windows Me
When the High-performance Embedded Workshop is running on Windows Me, data input through a dialog interface becomes impossible if the ASSEMBLE or MEMORY_EDIT command is used in the Command Line window.

(7) On executing the MEMORY_EDIT command
If the target is disconnected or initialized during executing the MEMORY_EDIT command, an application error arises.

(8) On opening windows
In several types of window, they cannot be opened at once by selecting the menu item or clicking any button on its toolbar.

(9) On opening the Trace window
In the E200F emulator, which supports more than one Trace window, no Trace window cannot be opened with the error message "All supported trace window already opened" being displayed even if no Trace window has already been opened.

(10) On displaying a pop-up menu in the Workspace window
- If any file is selected from the project tree in the Workspace window and an unoccupied area of the window is right-clicked to display a pop-up menu, the Exclude Build command does not appear.

- If any project is selected from the project tree in the Workspace window and an unoccupied area of the window is right-clicked to display a pop-up menu, the Remove Project command does not also appear.

For details, see RENESAS TOOL NEWS "A Note on Using the High-performance Embedded Workshop, an Integrated Development Environment" issued on January 16, 2005.

(11) On using the networking function
When the networking function is used, workspaces may not be saved with the message "Project file 'file.hwp' is invalid; cannot open project" being displayed.
For details, see RENESAS TOOL NEWS "A Note on Using the High-performance Embedded Workshop--On Using the Network Facilities" issued on December 16, 2004.

Please refer to ⤏ RENESAS TOOL NEWS "Supplements to Renesas Tool News on the High-performance Embedded Workshop Issued on January 26, 2005 --Three Problems Arising at Using the monitor_set Command Fixed" issued on March 1, 2005 too.

## 3. How to Revise Your Product
Free-of-charge online revision is available.
So revise yours by downloading the update program from the Download Site.

## 4. To the Users Who are Using the E10A-USB emulator
If any member of the device groups listed in 4.1 below are emulated by the E10A-USB emulator software V.1.10 Release 00 or earlier used in combination with the High-performance Embedded Workshop V.4.00.00, the problem described in 4.2 may arise.
So, you are recommended not to update your High-performance Embedded Workshop to V.4.00.00 if you are using the E10A-USB emulator.

4.1 Supported Devices Concerned
Among the devices supported by the E10A-USB, the following groups are concerned:
- SH-4A group
- New_SH-Mobile group
- SH-Mobile group
- SH-3 group
- SH-2 group

4.2 Description

If the target program is downloaded into the emulator immediately after opening the Disassembly window, a Timeout error arises.

## 4.3 Workaround

When using the High-performance Embedded Workshop V.4.00.00, don't download the program into the emulator immediately after opening the Disassembly window, but perform the following steps:

- Close the Disassembly window.
- Open the Memory window and then download the program.

## 4.4 Schedule of Fixing the Problem

We have already released the problem-fixed emulator software component V.1.10 Release 00 for the E10A-USB on the Software Download Site.
So please download this problem-fixed emulator software component and update your emulator software component to this new version and then update your High-performance Embedded Workshop to V.4.00.00.

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