

**A Note on Using C/C++ compiler packages
for the SuperH RISC engine,
H8SX, H8S, and H8 MCU Families
and C Compiler Package
for M16C Series and R8C Family
--With using the Scan All Dependencies function on High-
performance Embedded Workshop--**

Please take note of the following problem in using C/C++ compiler packages for the SuperH RISC engine, H8SX, H8S, and H8 MCU Families and C compiler package for M16C series and R8C family.

- With using the Scan All Dependencies function on High-performance Embedded Workshop
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1. Product and Versions Concerned

- (1) The C/C++ compiler packages for the SuperH RISC engine family
V.9.01 Release 00, V.9.01 Release 01, and V.9.02 Release 00
- (2) The C/C++ compiler packages for the H8SX, H8S, and H8 MCU families
V.6.01 Release 03, V.6.02 Release 00, and V.6.02 Release 01
- (3) The C Compiler Package for M16C Series and R8C Family
V.5.44 Release 00

2. Description

Due to a failure in updating of file dependencies, the following problems occur.

- (1) When you build a header file after it has been edited, the source file including the header file is not built. For this reason, the generated object file does not reflect the current code of the source file or header file.

(2) When you click on the [Configure View...] popup-menu option in the Workspace window to open the [Configure View] dialog box and select the [Show dependencies under each file] checkbox, the included header files are not shown under the corresponding source files.

3. Condition

Select [Build -> Renesas XXX Standard Toolchain] to open the [XXX Standard Toolchain] dialog box. If the [Support dependency scan of preprocessor statement] checkbox on the [Toolchain Option] tabbed page is off (default: off) and the source files registered with the project are in the structure shown in the following example, the problems occur when any of the user operations given in section 4, Timing, is attempted.

File Structure Example:

```
+ - - a.h --- e.h
a.c +-
|
| +- b.h --- e.h
|
+- --- b.h --- e.h (Note)
b.c
```

Description of File Structure:

In a project containing two or more levels of nesting of header files, a header file 'e.h' included by a source file 'a.c' is found multiple times (under a.h and b.h) while another source file 'b.c' includes 'b.h' that also includes 'e.h.'

Note: When the [Show dependencies under each file] checkbox in the [Configure View] dialog box has been selected, this file is not shown.

4. Timing

Any of the following user operations triggers the problems.

- (1) When the [Disable automatic dependency scanning] checkbox has not been selected on the [Build] tabbed page of the [Options] dialog box;
 - Select [Build -> Update All Dependencies] to update dependencies.

- Build an edited file that has not been saved.
- Build an edited file immediately after it has been saved.

(2) When the [Disable automatic dependency scanning] checkbox has been selected on the [Build] tabbed page of the [Options] dialog box, select [Yes] in the confirmation dialog box that appears to ask if you wish to update the file dependencies before executing the build.

Select the [Setup -> Options] to open the [Options] dialog box.

5. How to Prevent the Problems

Download the HEW_PATCH_090201.zip file from here.

Then run the patch-program under the following procedure:

- (1) Decompress the downloaded file to a directory.
- (2) Execute the obtained PatchTool.exe file.
- (3) Check the Compiler Package checkbox which you want to update from the listed packages. If the patch-program can't find the selected compiler package on your PC, it displays a message and terminates.
- (4) The log message of update result is displayed when the updating procedure ended.
- (5) Click OK button to terminate the program.
- (6) If two or more High-performance Embedded Workshop are installed, execute again the method from (2) to (5) after switching the active High-performance Embedded Workshop by the Install Manager.

6. Permanent Resolution

The problems will be resolved in the next version of compiler packages.

7. How to Check If the Problems Will Occur

Whether the problems occur or not depend on the structure of the project and user operations. Follow the one of procedures listed in section 7.1 and 7.2 to check if the problems will occur in the project you are using. This check is not necessary if you have used [Build All] because there is no problem with the generated object file.

7.1 Comparing Motorola-S files

Follow the procedures listed below to check if the object file has been created from the current source file.

- (1) Back up the files of the workspace (copy all of the files in the workspace to another directory).
- (2) Copy the workspace in the current directory (the original and the

copy are hereafter referred to as workspace 1 and workspace 2, respectively).

- (3) Invoke the HEW and open workspace 1.
- (4) Select [Stype via absolute] for [Type of output file] under category [Output] on the [Link/Library] tabbed page so that a Motorola-S file will be output. If you already have a Motorola-S file (because [Stype via absolute] is selected by default), go to step 6.
- (5) Select [Build -> Build] to build the files.
- (6) Open workspace 2.
- (7) Select [Stype via absolute] for [Type of output file] under category [Output] on the [Link/Library] tabbed page so that a Motorola-S file will be output.
- (8) Select [Build -> Build All] to build all of the files.
- (9) Compare the Motorola-S files created from workspaces 1 and 2. If you do not find any differences, there is no problem with the object file.

7.2 Check the timestamp of generated files

If the number of source files registered with each project is few, you can also check the object file in the following way.

See the dates of the source file, included header files, and the intermediate files generated in compilation of the source file.

There is no problem with the object file if the dates of the intermediate files are later than the dates of the source file and included header files, or the date of the output object file is later than the dates of the intermediate files.

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