[Upgrade to revision]
C Compiler Package for RH850 Family V2.01.00/V1.07.01

R20TS0380EJ0100
Rev.1.00
Jan. 16, 2019

Outline

We have updated the C Compiler Package for RH850 Family CC-RH from V2.00.00 to V2.01.00, and from V1.07.00 to V1.07.01.

V2.01.00 includes addition of link-time optimization and C99 standard library functions.
The professional edition has enhanced functionality of the checking source code against MISRA-C:2012 rules.

In V1.07.01, points for caution have been rectified.

1. Products and Versions to Be Updated

1.1 CC-RH V2.01.00 Target Versions for Update

CC-RH V2.00.00
To use the CC-RH 2.01.00, a V2 license is required.

1.2 CC-RH V1.07.00 Target Versions for Update

CC-RH V1.00.00 to V1.07.00
To use the CC-RH V1.07.00, a V1 license is required.

2. Main Features of Update in V2.01.00

The main features of the update are described in the following sections. The features that are only available to users holding a registered license for the professional edition are indicated by [Professional edition]. For details, refer to the release note from the following URL.

(Scheduled to be released on January 21.)
https://www.renesas.com/search/keyword-search.html#genre=document&q=r20ut4422

2.1 Addition of Checking Source Code Across Multiple Files Against MISRA-C: 2012 Rules [Professional edition]

The -misra_intermodule option has been added to check source code across multiple files against MISRA-C:2012 rules.
MISRA-C is a set of software development guidelines whose purpose is to maintain the safety, portability and reliability of embedded systems programmed in the C language.
Although source code had previously only been checked within the individual files, specifying this option now enables the checking of source code across multiple files.

2.2 Extensions to the Checking of Source Code Against MISRA-C:2012 Rules [Professional edition]

The rule numbers 8.5 and 8.6 have been added as arguments of the -Xmisra2012 option for checking source code against the MISRA-C:2012 rules.

2.3 Link-time Optimization

Link-time optimization in the form of the removal of unused functions and variables has been added.
Unlike conventional optimization at compilation, the entire program is analyzed at linkage. Thus, global functions and global variables can be removed if they are unused to reduce program size.

2.4 Compile-Time Optimization

The code size and speed of execution have been improved, mainly by adding optimization on the following points.

-Conditional branches

-Order of memory access

2.5 Addition of a Feature for Changing a Section Name When a Library File is Input

The -lib_rename linkage option has been added. With this option, section names or symbol names in a file within a library that is input at the time of linkage can be changed and linked, allowing them to be allocated to the addresses where users can easily manage.

2.6 C99 Standard Library Functions

The following C99 standard library functions have been supported.

acosl()	asinl()	atanl()	atan2l()	cosl()	sinl()	tanl()	coshl()	sinhl()
tanhl()	expl()	frexpl()	ldexpl()	logl()	log10l()	modfl()	fabsl()	powl()
sqrtl()	ceill()	floorl()	round()	roundf()	roundl()	lround()	lroundf()	lroundl()
llround()	llroundf()	llroundl()	trunc()	truncf()	truncl()	fmodl()	copysignl()	fmaxl()
fminl()								

2.7 Items Revised

The following points for caution have been corrected.

-RENESAS TOOLNEWS, Document No. R20TS0379EJ0100

1. Point for caution regarding constant expressions that include type conversion from the floating-point type to the 64-bit integer type (No.23)
2. Point for caution when the -Xmisra2012 option is specified (No.24)
   For details about the problems, refer to the URL below.
   https://www.renesas.com/search/keyword-search.html#genre=document&q=r20ts0379

3. Main Features of Update in V1.07.01

The main features of the update are described in the following section. For details, refer to the release note from the following URL.

(Scheduled to be released on January 21.)
https://www.renesas.com/search/keyword-search.html#genre=document&q=r20ut4421

3.1 Items Revised

The following points for caution have been corrected.

-RENESAS TOOLNEWS, Document No. R20TS0317EJ0100

1. Static declaration of a structure, an array, or a union that has an initializer (No. 19)
2. Assembly-language code using reserved symbol (No. 20)
3. Section where the initializers of auto variables are allocated when the -Xmulti_level option is specified (No. 21)
4. Compiler option “-store_reg” (No. 22)

For details about the problems, refer to the URL below.
https://www.renesas.com/search/keyword-search.html#genre=document&q=r20ts0317

-RENESAS TOOLNEWS, Document No. R20TS0379EJ0100

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   https://www.renesas.com/search/keyword-search.html#genre=document&q=r20ts0379

4. Updating Your Product

4.1 Updating Online

On the start menu, select Programs → Renesas Electronics CS+ and start the Update Manager to update the program. (The update will be available on January 21.)

If you are using a floating license, download the Floating License Management Software V2.02.00 from the following URL for an installation.
https://www.renesas.com/rh850-c-download

4.2 Download Installer from the Web

Download the installer from the following URL for an installation. (Scheduled to be released on January 21.)
https://www.renesas.com/rh850-c-download

- For V2.01.00: RH850 Compiler CC-RH V2.01.00
- For V1.07.01: RH850 Compiler CC-RH V1.07.01

Also download and install the License Manager V2.02.01 from the URL above.

When you are using a floating license, you also need to download the Floating License Management Software V2.02.00 from the above URL to install the program.

5. How to Purchase a Product

To order a product, contact your local Renesas Electronics sales office or distributor with a product name and orderable part number.
For product pricing, contact us in the same manner.

For product names and orderable part numbers, see the URL below.
https://www.renesas.com/rh850_c

Revision History

Rev.	Date	Description	
		Page	Summary
1.00	Jan. 16, 2019	-	First edition issued

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■Inquiry

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