

[Upgrade to revision]

R20TS0252EJ0100

Rev.1.00

C Compiler Package for RH850 Family V1.07.00

Jan. 16, 2018

## Outline

We have revised the CC-RH C compiler package for the RH850 family from V1.06.00 to V1.07.00.

Functional extension in V1.07.00 is support of the C99 standard, addition of the PIC/PID function that is effective for program updating, enhancement of optimization, and others. In the professional version, the MISRA-C source check function conforms to the C99 standard, and a function to detect illegal indirect function calls has been added.

## 1. Products and Versions to Be Updated

CC-RH V1.00.00 to V1.06.00

## 2. Items Revised

The major revision point is as follows. Note that the features which are only available to users holding a registered license for the Professional edition are indicated as [Professional edition]. For details, refer to the Release Notes at the URL below.

This information will be available from January 22.

<https://www.renesas.com/search/keyword-search.html#genre=document&q=r20ut4208>

### 2.1 C99 Standard

The C99 standard is now supported as the language specification.

Note that V1.07.00 does not support the variable length array type, complex type, and some standard library functions of the C99 standard.

### 2.2 Improvements to the Feature for Checking Source Code against MISRA-C:2012 Rules [Professional edition]

The number of MISRA-C:2012 rules (against which source code can be checked) has been increased from 111 to 119 so that whether rules for the C99 standard are kept can be checked.

MISRA-C is a software design standard aimed at ensuring safety, portability and reliability in embedded systems written in C.

### 2.3 Function to Detect Illegal Indirect Function Calls [Professional edition]

A function to detect indirect function calls to illegal addresses is now supported. This function is useful for improving the security and quality of programs.

### 2.4 PIC/PID Function

The PIC/PID function to allocate functions, constants, and variables at an arbitrary address which is different from the address when they were linked is now supported. This function is effective for developing programs whose execution address is not fixed such as update programs.

### 2.5 Improved Optimization

Optimization such as improvement of code generation for bit operation and elimination of redundant sign extension has been improved.

## 2.6 Extended Upper Limit of Memory Usage

The amount of memory on the host PC that CC-RH can use has been expanded. This expansion allows for building of projects larger than previously possible.

	V1.06.00 or earlier	V1.07.00 or later
32-bit OS	2 G bytes	3 G bytes
64-bit OS	2 G bytes	4 G bytes

## 2.7 Initialization of Automatic Variables with Immediate Values

A compile option to initialize automatic variables of the structure type or array type with immediate values is now supported. This function may improve the execution speed of programs.

## 2.8 Message Control Function

A compile option to change warning messages to error messages has been added. This option allows you to prevent warning messages from being overlooked.

## 2.9 Function to Fix the Record Length of Hex Files

A link option to match the output addresses of an Intel expanded hex file (.hex) and Motorola S type file (.mot) with the specified alignment and perform output with the fixed record length has been added. Since a hex file is always output with a constant record length, efficiency in tasks such as comparison of hex files is improved.

## 2.10 Problems Fixed

The following problems have been fixed.

- RENESAS TOOL NEWS March 1, 2016: 160301/tn2

1. The pow Function Returning Incorrect Values (No.9)

For details about the problem, refer to the following URL:

[https://www.renesas.com/en-us/doc/toolnews/eng/2016/160301tn2\\_e.pdf](https://www.renesas.com/en-us/doc/toolnews/eng/2016/160301tn2_e.pdf)

- RENESAS TOOL NEWS, Document No. R20TS0206EJ0100

1. Using a goto Statement to Move to a Label in a switch Statement (No.16)
2. Math Library Functions That Contain FPU Instructions (No. 17)

For details about the problems, refer to the following URL:

<https://www.renesas.com/search/keyword-search.html#genre=document&q=r20ts0206>

- RENESAS TOOL NEWS, Document No. R20TS0251EJ0100

1. Loop Statements with Loop-Control Variables in Which Constants are Used as the Condition for Ending the Loop (No.18)

For details about the problem, refer to the following URL:

<https://www.renesas.com/search/keyword-search.html#genre=document&q=r20ts0251>

### **3. Updating Your Product**

#### **3.1 Online Updating**

On the Start menu, select Programs and then Renesas Electronics CS+ to start the Update Manager.  
This service will be available from January 22.

When you use floating licenses, you also need to download V2.01.00 of Floating License Management Software from the URL below to install the program.

<https://www.renesas.com/rh850-c-download>

#### **3.2 Download the Installer of the Product from Our Web Site**

Download the installer from the following URL and install the product.

This program will be available from January 22.

<https://www.renesas.com/rh850-c-download>

Also download V2.01.00 of License Manager from the URL above to install the program.

When you use floating licenses, you also need to download V2.01.00 of Floating License Management Software from the above URL to install the program.

### **4. How to Purchase the New Software**

For product ordering, contact your local Renesas Electronics marketing office or distributor with the product name and orderable part name.

For product pricing, make inquiries in the same manner.

You can check for product names and orderable part names at the URL below.

[https://www.renesas.com/rh850\\_c](https://www.renesas.com/rh850_c)

**Revision History**

Rev.	Date	Description	
		Page	Summary
1.00	Jan. 16, 2018	-	First edition issued

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