

# AP4 for RH850 V1.05.00

## Release Note

R20UT4356EJ0100

Rev.1.00

Jul 20, 2018

Thank you for using the AP4 for RH850.  
This document describes the restrictions and points for caution. Read this document before using the product.

## Contents

Chapter 1. Introduction .....	2
Chapter 2. Target Devices .....	3
Chapter 3. Operating Environment.....	4
Chapter 4. Changes .....	5
4.1 List of Changes .....	5
4.2 Detail of Changes.....	5
Chapter 5. Points for Cautions .....	6
5.1 Cautions List.....	6
5.2 Details of Cautions .....	7
5.2.1 About online Help.....	7
5.2.2 The function which isn't supported.....	7
Chapter 6. Correction History.....	8
6.1 List of RENESAS TOOL NEWS.....	8
6.2 Details of RENESAS TOOL NEWS .....	8
6.2.1 RENESAS TOOL NEWS Document No. R20TS0274EJ0100.....	8

## Chapter 1. Introduction

AP4 for RH850 is a software tool to generate control programs (device driver programs) for peripheral modules (timers, UART, A/D, etc.). It generates device driver codes using user settings through GUI. Initialize code and API (Application Programming Interface) functions are provided.

## Chapter 2. Target Devices

Below is a list of devices supported by the AP4 for RH850 V1.05.00.

RH850/F1K group	
PIN	Device name
100pin	R7F701610, R7F701611, R7F701560, R7F701561 R7F701620, R7F701621, R7F701580, R7F701581
144pin	R7F701602, R7F701603, R7F701542, R7F701543 R7F701612, R7F701613, R7F701562, R7F701563 R7F701622, R7F701623, R7F701582, R7F701583
176pin	R7F701557, R7F701546, R7F701547 R7F701577, R7F701566, R7F701567 R7F701597, R7F701586, R7F701587
Following documents.	
Manual Name	Document Number
RH850/F1K User's Manual: Hardware	R01UH0562JJ0090
	R01UH0562EJ0090

## Chapter 3. Operating Environment

### ▪ Host machine

- IBM PC/AT compatibles (Windows® 10, Windows® 8.1, Windows® 7, Windows Vista®)
- Processor: 1 GHz or higher (must support hyper-threading, multi-core CPUs)
- Memory capacity: 2 GB or more recommended. Minimum requirement is 1 GB or more (64-bit Windows requires 2 G or more)
- Hard disk capacity: 200 MB or more spare capacity
- Display: 1024 x 768 or higher resolution, 65,536 or more colors
- All other necessary software environments in addition to Windows OS
  - .NET Framework version4.5
  - Microsoft Visual C++ 2010 SP1 runtime library

### ▪ Development Environments

Product Name	Version
Renesas CC-RH	V1.07 or later
GHS Multi®	V6.1.6 or later

## Chapter 4. Changes

This section describes change to AP4 for RH850 V1.05.00.

### 4.1 List of Changes

No.	Description	version *1
		RH850/F1K V1.01.02.02
1	Fix notes on Interrupt Priority Settings	○

○: Correspondence, ✖: Not correspondence (finish of correction), /: Outside of function

Note 1: Version is described in the generated code.

### 4.2 Detail of Changes

#### 4.2.1 Fix notes on Interrupt Priority Settings

The following caution was fixed.

##### 1. Interrupt Priority Settings

Applicable MCUs: RH850/F1K group

The code generated when the priority of the interrupt setting of each peripheral function is changed has an error and is always set to "lowest". Therefore, the peripheral functions cannot be executed with the correct interrupt priority

For details of the problem, refer to the URL below.

<https://www.renesas.com/doc/toolnews/eng/2018/r20ts0274ej0100-rhcqtn.pdf>

## Chapter 5. Points for Cautions

This section describes cautions for using AP4 for RH850 V1.04.00.

### 5.1 Cautions List

No.	Description	version *1
		RH850/F1K V1.02.01.05
1	About online Help	○
2	The function which isn't supported	○

○: Correspondence, -: Not correspondence (finish of correction), /: Outside of function

Note 1: Version is described in the generated code.

## 5.2 Details of Cautions

### 5.2.1 About online Help

AP4 for RH850F1K is not supporting online help.

### 5.2.2 The function which isn't supported

AP4 for RH850F1K doesn't support following function.

- Supply Voltage Monitor
- Clock Monitor
- Low-Power Sampler
- LIN Master Interface
- LIN/UART Interface ( UART is supported)
- I2C Bus Interface
- CAN Interface
- Encoder Timer
- Motor Control
- PWM Output/Diagnostic
- Functional Safety
- Security Function
- On-Chip Debug Unit
- Flash Memory
- RAM
- Boundary Scan
- FE Level Maskable Interrupt(OS Timer)
- VAC function(Window Watchdog Timer)
- Cyclic RUN/Stop, WakeUp function
- Self-test, EDL function, RCB, job concept, buffer memory (Clocked Serial Interface)
- External analog multiplexer, Self-Diagnostic Function, PWM Output/Diagnostic, Alignment Control  
Suspend, A/D conversion channel repeat function (A/D Converter )
- Expansion Bits(UART)
- Setting of option byte

## Chapter 6. Correction History

This section describes correction history of RENESAS TOOL NEWS.

### 6.1 List of RENESAS TOOL NEWS

Issue Date	Document No.	Description	Device Concerned	Fixed version
Feb. 16, 2018	R20TS0274EJ0100	1. Interrupt Priority Settings	RH850/F1K	V1.05.00

### 6.2 Details of RENESAS TOOL NEWS

#### 6.2.1 RENESAS TOOL NEWS Document No. R20TS0274EJ0100

This issue has been corrected in AP4 for RH850 V1.05.00.

##### 1. Interrupt Priority Settings

Applicable MCUs: RH850/F1K group

The code generated when the priority of the interrupt setting of each peripheral function is changed has an error and is always set to "lowest". Therefore, the peripheral functions cannot be executed with the correct interrupt priority

For details of the problem, refer to the URL below.

<https://www.renesas.com/doc/toolnews/eng/2018/r20ts0274ej0100-rhcgtn.pdf>



## Notice

1. Descriptions of circuits, software and other related information in this document are provided only to illustrate the operation of semiconductor products and application examples. You are fully responsible for the incorporation or any other use of the circuits, software, and information in the design of your product or system. Renesas Electronics disclaims any and all liability for any losses and damages incurred by you or third parties arising from the use of these circuits, software, or information.
2. Renesas Electronics hereby expressly disclaims any warranties against and liability for infringement or any other claims involving patents, copyrights, or other intellectual property rights of third parties, by or arising from the use of Renesas Electronics products or technical information described in this document, including but not limited to, the product data, drawings, charts, programs, algorithms, and application examples.
3. No license, express, implied or otherwise, is granted hereby under any patents, copyrights or other intellectual property rights of Renesas Electronics or others.
4. You shall not alter, modify, copy, or reverse engineer any Renesas Electronics product, whether in whole or in part. Renesas Electronics disclaims any and all liability for any losses or damages incurred by you or third parties arising from such alteration, modification, copying or reverse engineering.
5. Renesas Electronics products are classified according to the following two quality grades: "Standard" and "High Quality". The intended applications for each Renesas Electronics product depends on the product's quality grade, as indicated below.

"Standard": Computers; office equipment; communications equipment; test and measurement equipment; audio and visual equipment; home electronic appliances; machine tools; personal electronic equipment; industrial robots; etc.

"High Quality": Transportation equipment (automobiles, trains, ships, etc.); traffic control (traffic lights); large-scale communication equipment; key financial terminal systems; safety control equipment; etc.

Unless expressly designated as a high reliability product or a product for harsh environments in a Renesas Electronics data sheet or other Renesas Electronics document, Renesas Electronics products are not intended or authorized for use in products or systems that may pose a direct threat to human life or bodily injury (artificial life support devices or systems; surgical implantations; etc.), or may cause serious property damage (space system; undersea repeaters; nuclear power control systems; aircraft control systems; key plant systems; military equipment; etc.). Renesas Electronics disclaims any and all liability for any damages or losses incurred by you or any third parties arising from the use of any Renesas Electronics product that is inconsistent with any Renesas Electronics data sheet, user's manual or other Renesas Electronics document.
6. When using Renesas Electronics products, refer to the latest product information (data sheets, user's manuals, application notes, "General Notes for Handling and Using Semiconductor Devices" in the reliability handbook, etc.), and ensure that usage conditions are within the ranges specified by Renesas Electronics with respect to maximum ratings, operating power supply voltage range, heat dissipation characteristics, installation, etc. Renesas Electronics disclaims any and all liability for any malfunctions, failure or accident arising out of the use of Renesas Electronics products outside of such specified ranges.
7. Although Renesas Electronics endeavors to improve the quality and reliability of Renesas Electronics products, semiconductor products have specific characteristics, such as the occurrence of failure at a certain rate and malfunctions under certain use conditions. Unless designated as a high reliability product or a product for harsh environments in a Renesas Electronics data sheet or other Renesas Electronics document, Renesas Electronics products are not subject to radiation resistance design. You are responsible for implementing safety measures to guard against the possibility of bodily injury, injury or damage caused by fire, and/or danger to the public in the event of a failure or malfunction of Renesas Electronics products, such as safety design for hardware and software, including but not limited to redundancy, fire control and malfunction prevention, appropriate treatment for aging degradation or any other appropriate measures. Because the evaluation of microcomputer software alone is very difficult and impractical, you are responsible for evaluating the safety of the final products or systems manufactured by you.
8. Please contact a Renesas Electronics sales office for details as to environmental matters such as the environmental compatibility of each Renesas Electronics product. You are responsible for carefully and sufficiently investigating applicable laws and regulations that regulate the inclusion or use of controlled substances, including without limitation, the EU RoHS Directive, and using Renesas Electronics products in compliance with all these applicable laws and regulations. Renesas Electronics disclaims any and all liability for damages or losses occurring as a result of your noncompliance with applicable laws and regulations.
9. Renesas Electronics products and technologies shall not be used for or incorporated into any products or systems whose manufacture, use, or sale is prohibited under any applicable domestic or foreign laws or regulations. You shall comply with any applicable export control laws and regulations promulgated and administered by the governments of any countries asserting jurisdiction over the parties or transactions.
10. It is the responsibility of the buyer or distributor of Renesas Electronics products, or any other party who distributes, disposes of, or otherwise sells or transfers the product to a third party, to notify such third party in advance of the contents and conditions set forth in this document.
11. This document shall not be reprinted, reproduced or duplicated in any form, in whole or in part, without prior written consent of Renesas Electronics.
12. Please contact a Renesas Electronics sales office if you have any questions regarding the information contained in this document or Renesas Electronics products.

(Note 1) "Renesas Electronics" as used in this document means Renesas Electronics Corporation and also includes its directly or indirectly controlled subsidiaries.

(Note 2) "Renesas Electronics product(s)" means any product developed or manufactured by or for Renesas Electronics.

(Rev.4.0-1 November 2017)



### SALES OFFICES

### Renesas Electronics Corporation

<http://www.renesas.com>

Refer to "<http://www.renesas.com/>" for the latest and detailed information.

#### **Renesas Electronics America Inc.**

1001 Murphy Ranch Road, Milpitas, CA 95035, U.S.A.  
Tel: +1-408-432-8888, Fax: +1-408-434-5351

#### **Renesas Electronics Canada Limited**

9251 Yonge Street, Suite 8309 Richmond Hill, Ontario Canada L4C 9T3  
Tel: +1-905-237-2004

#### **Renesas Electronics Europe Limited**

Dukes Meadow, Millboard Road, Bourne End, Buckinghamshire, SL8 5FH, U.K.  
Tel: +44-1628-651-700, Fax: +44-1628-651-804

#### **Renesas Electronics Europe GmbH**

Arcadiastrasse 10, 40472 Düsseldorf, Germany  
Tel: +49-211-6503-0, Fax: +49-211-6503-1327

#### **Renesas Electronics (China) Co., Ltd.**

Room 1709 Quantum Plaza, No.27 ZhichunLu, Haidian District, Beijing, 100191 P. R. China  
Tel: +86-10-8235-1155, Fax: +86-10-8235-7679

#### **Renesas Electronics (Shanghai) Co., Ltd.**

Unit 301, Tower A, Central Towers, 555 Langao Road, Putuo District, Shanghai, 200333 P. R. China  
Tel: +86-21-2226-0888, Fax: +86-21-2226-0999

#### **Renesas Electronics Hong Kong Limited**

Unit 1601-1611, 16/F., Tower 2, Grand Century Place, 193 Prince Edward Road West, Mongkok, Kowloon, Hong Kong  
Tel: +852-2265-6688, Fax: +852 2886-9022

#### **Renesas Electronics Taiwan Co., Ltd.**

13F, No. 363, Fu Shing North Road, Taipei 10543, Taiwan  
Tel: +886-2-8175-9600, Fax: +886 2-8175-9670

#### **Renesas Electronics Singapore Pte. Ltd.**

80 Bendemeer Road, Unit #06-02 Hyflux Innovation Centre, Singapore 339949  
Tel: +65-6213-0200, Fax: +65-6213-0300

#### **Renesas Electronics Malaysia Sdn.Bhd.**

Unit 1207, Block B, Menara Amcorp, Amcorp Trade Centre, No. 18, Jln Persiaran Barat, 46050 Petaling Jaya, Selangor Darul Ehsan, Malaysia  
Tel: +60-3-7955-9390, Fax: +60-3-7955-9510

#### **Renesas Electronics India Pvt. Ltd.**

No.777C, 100 Feet Road, HAL 2nd Stage, Indiranagar, Bangalore 560 038, India  
Tel: +91-80-67208700, Fax: +91-80-67208777

#### **Renesas Electronics Korea Co., Ltd.**

17F, KAMCO Yangjae Tower, 262, Gangnam-daero, Gangnam-gu, Seoul, 06265 Korea  
Tel: +82-2-558-3737, Fax: +82-2-558-5338