

Contents

1.	Packaged Tools	3
2.	User's Manual	4
3.	Target Devices	5
4.	Operating Environment	6
4.1.	Hardware Environment	6
4.2.	Software Environment	6
4.3.	Supported Tools	6
5.	Installation Cautions	7
5.1.	Cautions for Installation	7
5.1.1.	Cautions for administrator privileges	7
5.1.2.	Cautions for execution environment	7
5.1.3.	Cautions for network drives	7
5.1.4.	Cautions for installation folder name	7
5.1.5.	Cautions for modifying and repairing functions	7
5.1.6.	Cautions for required files after installation	8
5.1.7.	Cautions for version of installed tools	8
5.1.8.	Cautions for staring installer	8
5.1.9.	Enable Plug-ins	8
5.2.	Cautions for Uninstallation	9
5.2.1.	Cautions for administrator privileges	9
5.2.2.	Cautions for uninstallation folder name	9
5.2.3.	Cautions for adding/repairing via other than the installer	9
5.2.4.	Key Word for Uninstallation	9
6.	Changes from Previous Version	10
6.1.	Kernel	10
6.2.	Configurator	10
6.3.	Realtime OS Build Tool Plug-in	10
6.4.	Realtime OS Analysis Control Plug-in	10
6.5.	Realtime OS Resource Information Displaying Plug-in	10

7.	Cautions.....	11
7.1.	Enable Plug-ins	11
7.2.	Cautions for Realtime OS Resource Information Panel.....	12
7.2.1.	View after real-time OS is initialized	12
7.2.2.	Use programs with debug information generated.....	12
8.	Restrictions	13
8.1.	Restrictions of CS+ for CACX	13
8.1.1.	Realtime OS Build Tool Plug-in	13
8.1.2.	Realtime OS Analysis Control Plug-in	13
8.1.3.	Realtime OS Resource Information Displaying Plug-in	13

1. Packaged Tools

Agreement type and contents are different according to the product.

Product Name	Agreement Type	Contents
R0R07800TCW011	Evaluation License, Limited 1 host	A
R0R07800TCW01A	Evaluation License, Unlimited hosts	A
R0R07800TCW01K	Mass-production License, 3000 copies	A
R0R07800TCW01U	Mass-production License, Unlimited copies	A
R0R07800TCW01Z	Mass-production License, Unlimited copies, With source code	B

The following tools are provided.

Contents		Name	Version
B	A	Realtime OS RI78V4 Kernel Object	V1.00.02
		Command-line Configurator "CF78V4"	V1.00.00.01
		Plug-ins for CS+ for CACX	
		Realtime OS Build Tool Plug-in (Common)	V3.00.00.03
		Realtime OS Build Tool Plug-in (RI78V4)	V3.00.00.02
		Realtime OS Analysis Control Plug-in (Common)	V3.00.00.03
		Realtime OS Analysis Control Plug-in (μ ITRON4)	V3.00.00.02
		Realtime OS Analysis Control Plug-in (RI78V4)	V3.00.00.03
		Realtime OS Resource Information Displaying Plug-in (Common)	V3.00.00.06
		Realtime OS Resource Information Displaying Plug-in (μ ITRON4)	V3.00.00.06
		System Performance Analyzer AZ78K0R	V4.00
		Realtime OS RI78V4 Kernel Source Code	V1.00.02

2. User's Manual

The following user's manuals are included with this version. Please read these manuals together with this document.

Manual Name	Document Number
RI Series Real-Time Operating System User's Manual: Start	R20UT0751JJ0102
RI78V4 Real-Time Operating System User's Manual: Coding	R20UT0511JJ0101
RI78V4 Real-Time Operating System User's Manual: Debug	R20UT0753JJ0101
RI78V4 Real-Time Operating System User's Manual: Analysis	R20UT0513JJ0100
RI Series Real-Time Operating System User's Manual: Message	R20UT0756JJ0102

These PDF files are provided by this package or Renesas Electronics Home page.

3. Target Devices

The following devices are supported by the product.

- 78K0R family
- RL78 family

4. Operating Environment

Below is described the operating environment for using the product.

4.1. Hardware Environment

- Processor: At least 1GHz (supported for hyper threading/multicore CPU)
- Memory capacity: 2 GB or more recommended. Minimum requirement is 1 GB or more (64-bit Windows® 7, Windows® 8, Windows® 8.1 requires 2 GB or more)
- Display: Resolution at least 1024 x 768; at least 65,536 colors

4.2. Software Environment

The following software environments are supported.

- Windows 7(32bit, 64bit)
- Windows 8(32bit, 64bit)
- Windows 8.1(32bit, 64bit)
- Windows Vista(32bit, 64bit)
- .NET Framework 4
- Runtime library of Microsoft Visual C++ 2010 SP1
- Internet Explorer 6.0 or later

Remark: For any of these, we recommend having the latest service pack installed.

4.3. Supported Tools

The following tools are supported.

Tool Name	Manufacturer	Version
Integrated development environment CS+ for CACX	Renesas Electronics	V3.00.00 or later
C Compiler CA78K0R	Renesas Electronics	V1.70 or later

5. Installation Cautions

This section provides cautions for installation and uninstallation

5.1. Cautions for Installation

5.1.1. Cautions for administrator privileges

Windows® administrator privileges are required to install the software.

5.1.2. Cautions for execution environment

The .NET Framework and the Visual C++ runtime libraries are required to run the installer.

5.1.3. Cautions for network drives

The software cannot be installed from a network drive.

It also cannot be installed to a network drive.

5.1.4. Cautions for installation folder name

The available characters for specifying the installation folder are the same as for Windows®.

The 11 characters / * : < > ? | " \ ; , cannot be used. Folder names also cannot start or end with a space.

Specify folders as absolute paths. Do not use relative paths.

Use the backspace character (\) as the path separator for the installation folder. Do not use the forward slash (/).

5.1.5. Cautions for modifying and repairing functions

To modify or repair the function of a tool that has already been installed, have the tool's installer package on hand, and run the installation program. The program maintenance program will start; select Modify or Repair.

Uninstall or change a program dialog boxes will cause an error.

5.1.6. Cautions for required files after installation

The following folder is created after installation. Do not delete it, because it contains files that are necessary for the tools to run.

- If Windows® is 32bit and the installation drive is C:
C:\Program Files\Common Files\Renesas Electronics CS+\
- If Windows® is 64bit and the installation drive is C:
C:\Program Files (x86)\Common Files\Renesas Electronics CS+\

5.1.7. Cautions for version of installed tools

If the newer version tool is already installed, the older version tool may not be installed.

5.1.8. Cautions for starting installer

If the installer is started on a non-Japanese version of Windows®, then if the path contains multi-byte characters it will cause an error, and the installer will not start.

5.1.9. Enable Plug-ins

Plug-ins of this product may be disabled immediately after installation of this product. Please enable Plug-ins of this product. For details, refer to "7.1 Enable Plug-ins".

5.2. Cautions for Uninstallation

5.2.1. Cautions for administrator privileges

Windows® administrator privileges are required to uninstall the software.

5.2.2. Cautions for uninstallation folder name

Depending on the order in which tools are uninstalled, the folders may not be completely deleted. If this happens, remove any remaining folders via Explorer or the like.

5.2.3. Cautions for adding/repairing via other than the installer

If you added or modified files to the folders in which tools and manuals were installed using other means than the installers, they cannot be deleted during uninstallation.

5.2.4. Key Word for Uninstallation

There are two ways to uninstall this product.

- Use the integrated uninstaller (uninstalls CS+ for CACX)
- Use separate uninstaller (uninstalls this product only)

To use the separate uninstaller, select the following from the Control Panel:

- Programs and Features

After the applet appears, delete from the following.

- CS+ Realtime OS Common Plugins
- CS+ Realtime OS RI78V4 Plugins
- CS+ Realtime OS RI78V4 Object Release, or CS+ Realtime OS RI78V4 Source Release

6. Changes from Previous Version

6.1. Kernel

There is no difference in the kernel.

6.2. Configurator

There is no difference in the configurator.

For the reason of 6.1 and 6.2, the package version is same as the previous version.

6.3. Realtime OS Build Tool Plug-in

- (1) The "CS+ for CACX" tools are supported
The "CS+ for CACX" tools are supported. In addition, this plug-in of this version does not operate on the "CubeSuite+".
- (2) The help can be opened from [RI78V4] tab and [System Configuration File Related Information] tab

6.4. Realtime OS Analysis Control Plug-in

The "CS+ for CACX" tools are supported. In addition, this plug-in of this version does not operate on the "CubeSuite+".

6.5. Realtime OS Resource Information Displaying Plug-in

- (1) The "CS+ for CACX" tools are supported
The "CS+ for CACX" tools are supported. In addition, this plug-in of this version does not operate on the "CubeSuite+".
- (2) The waiting factor which are showed by the "ID" are changed to "name"
The waiting factor which are showed by the "ID" are changed to "name". It became intelligible the waiting factor.
- (3) It became intelligible the tabs
The tab selection area is divided into two columns, and adds the icon to each tabs.
- (4) A part of messages is improved
A part of messages, for example error message, is improved.
- (5) The following restriction is canceled.

The resource information panel does not get focus even if a display menu or a display button on toolbar is selected.

7. Cautions

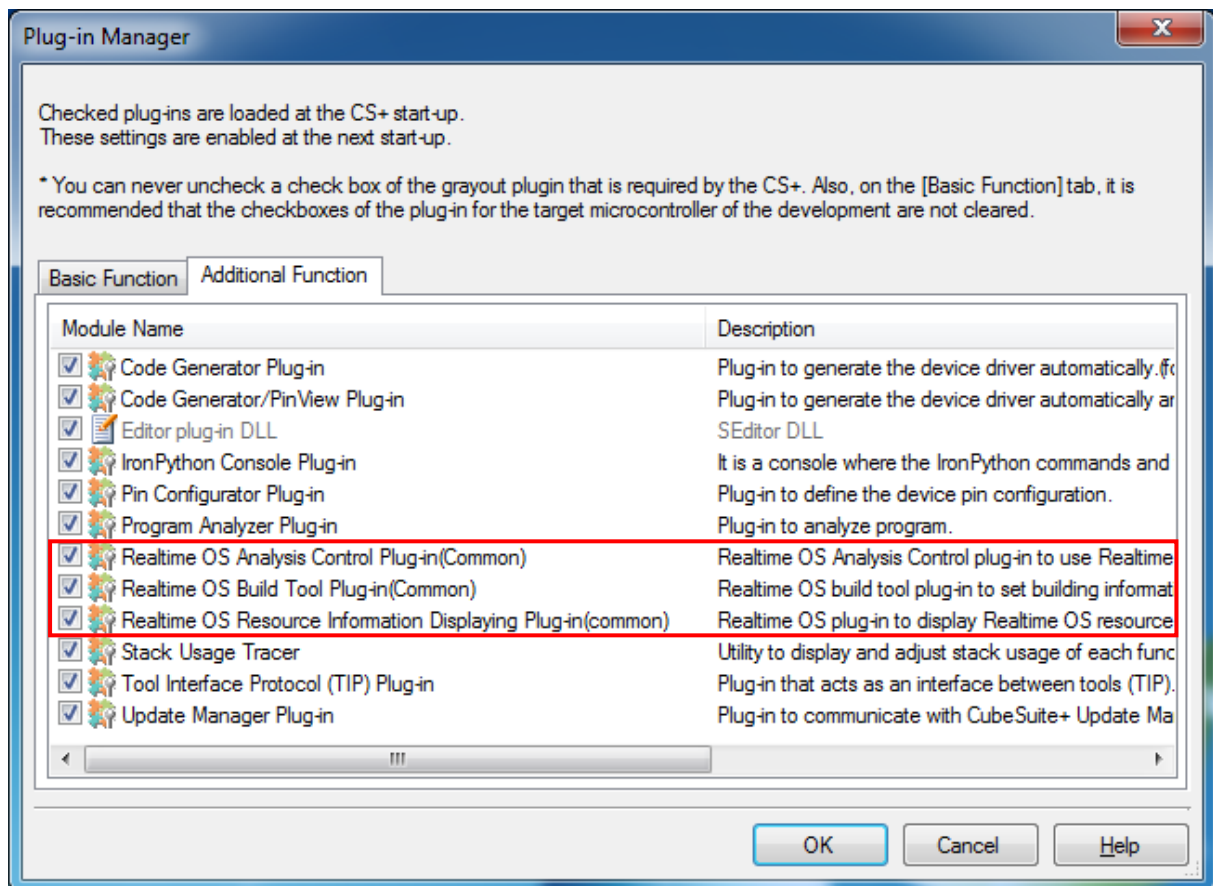
7.1. Enable Plug-ins

Plug-ins of this product may be disabled immediately after installation of this product. If plug-ins are disabled, the problem of being unable to build arises.

Please enable following Plug-ins by [Additional Function] tab in [Plug-in Manager] dialog box of the CS+ for CC

- Realtime OS Analysis Control Plug-in(Common)
- Realtime OS Build Tool Plug-in(Common)
- Realtime OS Resource Information Displaying Plug-in(common)

figure 7-1 Plug-in Manager



7.2. Cautions for Realtime OS Resource Information Panel

7.2.1. View after real-time OS is initialized

View the Realtime OS Resource Information Panel after the real-time OS has been initialized. Before the real-time OS has been initialized, the information in the Realtime OS Resource Information Panel is undefined.

7.2.2. Use programs with debug information generated

When using the Realtime OS Resource Information Panel, download a program for which debug information has been generated. Downloading a program without debug information and viewing it in the Realtime OS Resource Information Panel will cause an error.

To generate debug information, under Build Tool, under the Link Options properties, set "Generate debug information" to "Yes".

8. Restrictions

8.1. Restrictions of CS+ for CACX

8.1.1. Realtime OS Build Tool Plug-in

(1) Multiple build modes

Do not use multiple build modes for the following reasons.

- The configurator options are common to all build modes. Even if multiple build modes are used, the same configurator options are applied.
- Every time the build mode is changed, the path to the kernel_id.h file is added to [Additional include paths] of the build tool. Although the build-setting plug-in sets the correct path in [System include paths], the IDE adds the old path prior to the change of the build mode to [Additional include paths]. In the process of building, the build tool refers to the old path set by the IDE. This means that editing the configuration file to change the build mode before editing kernel_id.h, for example, will not be reflected in building.

(2) Utilizing existing projects

If you choose to recycle as the basis of a new project an existing project that does not contain any files such as sit.s which are generated by the configurator, and you select copy processing for the files you will be reusing, the missing files such as sit.s that are supposed to be grayed out in the project tree will be deleted from the project tree.

8.1.2. Realtime OS Analysis Control Plug-in

No restriction.

8.1.3. Realtime OS Resource Information Displaying Plug-in

- (1) Effect of resetting the display of waiting tasks (child nodes) on the display of the [Task] tabbed page
- Resetting the display of waiting tasks also resets the display of other tasks in the [Task] tabbed page. However, the information being displayed will be correct.

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 of these circuits, software, and information in the design of your equipment. Renesas Electronics assumes no responsibility for any losses incurred by you or third parties arising from the use of these circuits, software, or information.
 2. Renesas Electronics has used reasonable care in preparing the information included in this document, but Renesas Electronics does not warrant that such information is error free. Renesas Electronics assumes no liability whatsoever for any damages incurred by you resulting from errors in or omissions from the information included herein.
 3. Renesas Electronics does not assume any liability for infringement of 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. 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 should not alter, modify, copy, or otherwise misappropriate any Renesas Electronics product, whether in whole or in part. Renesas Electronics assumes no responsibility for any losses incurred by you or third parties arising from such alteration, modification, copy or otherwise misappropriation of Renesas Electronics product.
 5. Renesas Electronics products are classified according to the following two quality grades: "Standard" and "High Quality". The recommended 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; and industrial robots etc.
"High Quality": Transportation equipment (automobiles, trains, ships, etc.); traffic control systems; anti-disaster systems; anti-crime systems; and safety equipment etc.
Renesas Electronics products are neither intended nor 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 damages (nuclear reactor control systems, military equipment etc.). You must check the quality grade of each Renesas Electronics product before using it in a particular application. You may not use any Renesas Electronics product for any application for which it is not intended. Renesas Electronics shall not be in any way liable for any damages or losses incurred by you or third parties arising from the use of any Renesas Electronics product for which the product is not intended by Renesas Electronics.
 6. You should use the Renesas Electronics products described in this document within the range specified by Renesas Electronics, especially with respect to the maximum rating, operating supply voltage range, movement power voltage range, heat radiation characteristics, installation and other product characteristics. Renesas Electronics shall have no liability for malfunctions or damages arising out of the use of Renesas Electronics products beyond such specified ranges.
 7. Although Renesas Electronics endeavors to improve the quality and reliability of its products, semiconductor products have specific characteristics such as the occurrence of failure at a certain rate and malfunctions under certain use conditions. Further, Renesas Electronics products are not subject to radiation resistance design. Please be sure to implement safety measures to guard them against the possibility of physical injury, and injury or damage caused by fire in the event of the failure of a Renesas Electronics product, 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, please evaluate 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. Please use Renesas Electronics products in compliance with all applicable laws and regulations that regulate the inclusion or use of controlled substances, including without limitation, the EU RoHS Directive. Renesas Electronics assumes no liability for damages or losses occurring as a result of your noncompliance with applicable laws and regulations.
 9. Renesas Electronics products and technology may 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 should not use Renesas Electronics products or technology described in this document for any purpose relating to military applications or use by the military, including but not limited to the development of weapons of mass destruction. When exporting the Renesas Electronics products or technology described in this document, you should comply with the applicable export control laws and regulations and follow the procedures required by such laws and regulations.
 10. It is the responsibility of the buyer or distributor of Renesas Electronics products, who distributes, disposes of, or otherwise places the product with a third party, to notify such third party in advance of the contents and conditions set forth in this document, Renesas Electronics assumes no responsibility for any losses incurred by you or third parties as a result of unauthorized use of Renesas Electronics products.
 11. This document may not be 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, or if you have any other inquiries.
- (Note 1) "Renesas Electronics" as used in this document means Renesas Electronics Corporation and also includes its majority-owned subsidiaries.
(Note 2) "Renesas Electronics product(s)" means any product developed or manufactured by or for Renesas Electronics.



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.

2880 Scott Boulevard Santa Clara, CA 95050-2554, U.S.A.
Tel: +1-408-588-6000, Fax: +1-408-588-6130

Renesas Electronics Canada Limited

1101 Nicholson Road, Newmarket, Ontario L3Y 9C3, Canada
Tel: +1-905-898-5441, Fax: +1-905-898-3220

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: +49-211-65030, Fax: +49-211-6503-1327

Renesas Electronics (China) Co., Ltd.

7th Floor, Quantum Plaza, No.27 ZhiChunLu Haidian District, Beijing 100083, P.R.China
Tel: +86-10-8235-1155, Fax: +86-10-8235-7679

Renesas Electronics (Shanghai) Co., Ltd.

Unit 204, 205, AZIA Center, No.1233 Lujiazui Ring Rd., Pudong District, Shanghai 200120, China
Tel: +86-21-5877-1818, Fax: +86-21-6887-7858 / -7898

Renesas Electronics Hong Kong Limited

Unit 1601-1613, 16/F., Tower 2, Grand Century Place, 193 Prince Edward Road West, Mongkok, Kowloon, Hong Kong
Tel: +852-2886-9318, Fax: +852 2886-9022/9044

Renesas Electronics Taiwan Co., Ltd.

13F, No. 363, Fu Shing North Road, Taipei, 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 906, 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 Korea Co., Ltd.

11F., Samik Lavied' or Bldg., 720-2 Yeoksam-Dong, Kangnam-Ku, Seoul 135-080, Korea
Tel: +82-2-558-3737, Fax: +82-2-558-5141