CS+ for CC V8.02.00

Release Note

R20UT4553EJ0100
Rev.1.00
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Chapter 1. Target Devices

The target devices supported by the CS+ are listed on the Website.
Please see this URL.
CS+ Product Page

https://www.renesas.com/cs+

Chapter 2. User's Manuals

Please read the following user's manuals along with this document.

Manual Name	Document Number
CS+ V8.02.00 Installer	R20UT4525EJ0100
CS+ V6.00.00 Editor	R20UT3991EJ0100
CS+ V8.02.00 Python Console	R20UT4532EJ0100
CS+ V5.00.00 Updater	R20UT3942EJ0100
CS+ V8.02.00 Message	R20UT4533EJ0100
CS+ V8.02.00 Project Operation	R20UT4526EJ0100
CS+ V8.01.00 Analysis Tool	R20UT4406EJ0100
CS+ V8.02.00 RH850 Debug Tool	R20UT4529EJ0100
CS+ V8.02.00 RX Debug Tool	R20UT4528EJ0100
CS+ V8.02.00 RL78 Debug Tool	R20UT4527EJ0100
CS+ V8.02.00 GHS CCRH850 Build Tool Operation	R20UT4530EJ0100

* GHS: Green Hills Software, LLC

Chapter 3. Uninstallation

There are two ways to uninstall this product.

- Use the integrated uninstaller from Renesas (uninstalls all CS+ components)
- Use the Windows uninstaller (only uninstalls this product)

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

- Programs and Features

Then select [CS+ for CC].

Chapter 4. Changes

This chapter describes changes from V8.01.00 to V8.02.00.

4.1 Improvements of CS+

4.1.1 Addition of a facility for acquiring sample scripts for the Python console

A facility for acquiring sample scripts which are executable in the Python console from the Renesas Web site has been added.
Since the list of sample scripts which are useful and convenient for reference in development is displayed and scripts are registered in a project with a single click, you can use the Python scripts in an easy and convenient manner.

4.1.2 Correction of the inability to display contents of the offline help

To rectify the problem behind the point for caution regarding the inability to display contents of the offline help, Microsoft Corporation has released the following update programs.

Windows 10 version 1809 - KB4482887
https://support.microsoft.com/help/4482887
Windows 10 version 1803 - KB4480976
https://support.microsoft.com/help/4480976/
Windows 10 version 1709 - KB4480967
https://support.microsoft.com/help/4480967/
Windows 10 version 1703 - KB4480959
https://support.microsoft.com/help/4480959/
Windows 10 version 1607 - KB4480977
https://support.microsoft.com/help/4480977/
Windows 10 version 1507 - KB4487018
https://support.microsoft.com/help/4487018
Windows 8.1 - KB4480969
https://support.microsoft.com/help/4480969/
Windows 8 - KB4480971
https://support.microsoft.com/help/4480971/
Windows 7 - KB4480955
https://support.microsoft.com/help/4480955

Details on the point for caution regarding this item are given in the document at the following URL.
https://www.renesas.com/search/keyword-search.html#genre=document&q=r20ts0375

4.2 Additions to the build tool

4.2.1 Addition of a setting to use the compiler for updating dependencies

[Use compiler for updating dependencies when the functionality is available] check box was added to the [General - Build] category of the [Option] dialog. When it is selected, the compiler is used to update the dependencies. By that, it is possible to avoid unnecessary recompilation.

4.2.2 Change to the initial values of properties for the build tool when a project is created [RL78] [RH850] [RX]

When a new project is created, the default values of two properties for the build tool have been changed as shown below.

This enables high-speed building on multi-core PCs.

Tab	Category	Property	Default value

[Common Options] tab	[Build Method]	Build simultaneously	No
		Build in parallel	Yes

Supplement: This change does not affect the settings of existing projects; it only affects new projects.
Caution: When [Yes] is selected for [Build in parallel], multiple source files are simultaneously compiled and a mixture of messages for the multiple files is also output from the compiler to the [Output] panel.

4.2.3 Enhanced support for GHS compilers [RH850]

Support for the following versions of the RH850 compiler from GHS has been added in CS+ V8.02.00.

- 2018.5.5
- 2019.1.5

4.3 Improvements to the debug tool

The abbreviations listed below collectively denote the corresponding tools in this section.
OCD (serial):
Serial or FINE interface connection for the E1 emulator, E20 emulator, E2 emulator, and E2 emulator Lite
OCD (JTAG):
JTAG interface connection for the E1 emulator, E20 emulator, E2 emulator, and E2 emulator Lite
OCD (LPD):
LPD connection for the E1 emulator, E20 emulator, and E2 emulator

4.3.1 Enhanced support for GHS compilers [RH850]

Support for the following versions of the RH850 compiler from GHS has been added in CS+ V8.02.00.

- 2018.5.5
- 2019.1.5

4.3.2 Addition of types of components supported on the [Virtual Board] panel

Applies to: Simulator for RL78/G10, RL78/G11, RL78/G12, RL78/G13, RL78/G14
Support for the following types of component has been added to the [Virtual Board] panel.

- Fan motor / DC motor / Shading sensor

4.3.3 Improvement to the saving of data from memory

Applies to: All debugging tools for RX, RH850
When the displayed contents of the [Memory] panel are saved by using the [Data Save] dialog box, data were not saved if an address around the last address in memory was specified. However, this has been corrected so that such data can now be saved.

4.3.4 Improvement to the operation of the facility for executing a specified routine

Applies to: OCD(serial) and OCD(JTAG) for RX
In the state where the facility for executing a specified routine is enabled, when a software breakpoint was set and the user program was executed, the user program would operate incorrectly. However, this has been corrected to obtain normal operation.

4.3.5 Improvement in terms of the trace output of the write data for bit manipulation instructions

Applies to: IE850A and OCD(LPD) for RH850
Operation has been improved so that both the data read and written in the execution of bit manipulation instructions are output as part of a trace.

4.3.6 Improvement to the operation in response to values being written in the [Watch] panel

The operation has been improved so that results which are the same as those of the C language specification are obtained when an integer with the unary operator '-' or '~' is input in the following panels.

- Watch panel
- Local Variables panel

- Python Console panel

Details on the point for caution regarding this item are given in the document at the following URL.
https://www.renesas.com/search/keyword-search.html#genre=document&q=r20ts0402

4.4 Improvements to the Python console

4.4.1 Addition of a facility for obtaining sample scripts

You can obtain sample scripts which are executable in the Python console from the Renesas Web site and register them with projects.
To use this facility, select [Python Console] from the [View] menu to open the [Python Console] panel and select the [Sample Scripts] tab on the panel.
Clicking on the title of a sample script shows a description of the script.
In addition, clicking on the [Add to project] button registers the script file with the active project.

4.4.2 Addition of Python functions

The following Python functions have been added.

Function Name	Functional Overview
build.Assemble.AssembleListFileOutputFolder	This property is for setting or referring to the folder for the output of assembly listing files.
build.Assemble.OutputAssembleListFile	This property is for setting or referring to whether to output assembly listing files.
build.Common.IntermediateFileOutputFolder	This property is for setting or referring to the folder for the output of intermediate files.
build.Common.MergedErrorMessageFileOutputFolder	This property is for setting or referring to the folder for the output of error message merge files.
build.Common.MergeErrorMessageFile	This property is for setting or referring to whether to merge error message files.
build.Compile.AssemblySourceFileOutputFolder	This property is for setting or referring to the folder for the output of assembly source files.
build.Compile.ListFileOutputFolder	This property is for setting or referring to the folder for the output of assembly listing files.
build.Compile.OutputAssemblySourceFile	This property is for setting or referring to whether to output assembly source files.
build.Compile.OutputListFile	This property is for setting or referring to whether to output assembly listing files or source listing files.
build.Compile.PreprocessedSourceFileOutputFolder	This property is for setting or referring to the folder for the output of preprocessed source files.
build.HexOutput.OutputFolder	This property is for setting or referring to the folder for hexadecimal output.
build.Link.OutputFolder	This property is for setting or referring to the folder for the output of the results of linkage of the object files from the active project.

4.4.3 Addition of a Python function

The following Python function has been added.

Function Name	Description
build.Version	This function is used to specify the version of the compiler package.

4.4.4 Addition of a return value for a Python function

The following return value for a Python function has been added.

Function Name	Newly Added Return Value	Description
debugger.GetBreakStatus	CurrentConsumptionFullBreak	Full of the current consumption buffer
	CurrentConsumptionTimeBreak	Current consumption time break
	ExpansionFunctionAction	E2 expansion function action break
	ExpansionFunctionStorageFull	Fully used the storage memory break
	RelayForTrace	An occurrence of Relay Break (only trace)
	SoftwareTraceLpdFull	Fully used the storage memory at LPD output of software trace

4.4.5 Improvements to the operation of downloading by using a Python function

The problem of the correct debugging of load modules downloaded by the Python function not being possible has been corrected.
Details on the point for caution regarding this item are given in the document at the following URL.
https://www.renesas.com/search/keyword-search.html#genre=document&q=R20TS0405

4.5 Improvements to the design tools

4.5.1 Improvements to the optimization performance comparison tool

The following items have been improved and extended in [Results of measurement] of the [Optimization Performance Comparison Tool] dialog box.

- The default order of option patterns was changed so that the order of the results of optimization can be expected instead of the alphabetical order.
- Option patterns can be selected by clicking on any column.
- The position of the selected color for an option pattern had been difficult to find if the user lost focus; however, the position is now easily found after a selected color is retained.

Chapter 5. Points for Caution

This section describes points for caution regarding CS+.

5.1 Points for caution regarding CS+ (general)

5.1.1 File names

The following rules apply to folder and file names.

- Folder and file names
  Do not use folder or file names that cannot be created from Windows Explorer.
- Source file names, load module file names, and project file names
  File names consist of the characters a-z, A-Z, 0-9, the period (.), the underscore (_), plus sign (+), and minus sign (–).
  File names cannot start or end with a period (.).
  Filenames cannot start with a plus sign (+) or minus sign (–).
  CS+ is not case-sensitive to file names.
  File names may have up to 259 characters, including the path.
  Do not use source files with the same file name. Even if they are on different paths, CS+ cannot classify them.
- File names other than the above
  File names comply with Windows conventions.
  Note that the following characters cannot be used in file names.
  \ / : * ? " < > | ;
  File names cannot start or end with a period (.) or space.
  CS+ is not case-sensitive to file names.
  File names may have up to 259 characters, including the path.
- Folder names
  Folder names comply with Windows conventions.
  Note that the characters below cannot be used in file names.
  ( ) , =

5.1.2 Panel display

If your hardware environment does not meet the recommended specifications for CS+, the [Property] panel may appear small and have scrambled contents.
If this happens, move the [Property] panel outside the split panel area.

- Enable [Dockable], and make it a docking panel
- Enable [Floating], and make it a floating panel

5.1.3 User Account Control (UAC) function (Windows)

If the UAC function is disabled on Windows, then if a user without administrator privileges creates a project, and no Device Dependence Information is installed, installation of the Device Dependence Information will begin, but the installation will fail. If the UAC function is disabled, create projects after logging in with administrator privileges.

5.1.4 Problem with a Windows update program 1

Your computer may suffer a "blue screen" error if you apply the KB2393802 patch published by Microsoft Corporation. If this error occurs, please apply the patch provided by your computer's manufacturer or another source.

5.1.5 Problem with a Windows update program 2

Depending on the Windows update program, starting the CS + for CC in Windows 7 or Windows 8.1 may cause an error or the PC to crash.
In this case, do any of the followings.

- install the latest VC++ 2015 runtime (x86 version)
- apply the latest Windows update program

5.1.6 [Editor] panel

- When a variable or label is selected and the Jump to Function feature is used from the context menu, execution does not jump to the variable or label.
- The following notes apply to the editor, when source files with the same name but from different folders are registered with a main project and a sub project, and load modules from both the main project and sub project are downloaded.
  - The address of the main project is displayed on the file.
  - At jumping to a source file from disassembled code, the file registered with the main project is opened.
  - If the file is opened from either project, only one file will be opened.
- On Windows 8.1 and Windows 10, the display may become unclear due to anti-aliasing.
- When saving a file in the [Save As] dialog box, the extension listed at the top of the [Save as type] drop-down list is automatically added unless another extension is specified. Note however, that an extension is not added when a file name is input with an extension that is selected in the [Save as type] drop-down list or with an extension that is registered with Windows. When an automatically added extension is not as expected, modify the name of the file by using, for example, Explorer.
- Printing the contents of the Editor panel is not possible in an environment with .NET Framework 4.6 installed. To do so in that case, use an editor other than that of CS+.

5.1.7 Creating new projects

Applies to: RX

If a new project is created by selecting [Empty Application[CC-RX]] under the environment for the RX, building the project may lead to the following errors.

```
** L2132 (E) Cannot find "D" specified in option "rom"
** L2132 (E) Cannot find "D_1" specified in option "rom"
** L2132 (E) Cannot find "D_2" specified in option "rom"
```

If you encounter these errors, change the setting of [ROM to RAM mapped section] on the [Link Options] sheet in CS+.

5.1.8 Microsoft IME

If you are using Microsoft Office IME 2010, which is included in Office 2010 from Microsoft Corporation, CS+ may output error E2000006.
Since Microsoft Office IME 2010 may have caused this problem, replace it with Microsoft's standard IME or install the KB2687611 module provided by Microsoft Corporation to fix Microsoft Office IME 2010.

5.1.9 Tutorials

The Code Generator Plug-in, Pin Configurator Plug-in and Program Analyzer Plug-in are used in tutorials. Enable them through the [Plug-in Manager] dialog box.

5.1.10 Starting multiple instances of CS+

Two or more instances of CS+ can be started on the same host machine, but if you do so, take note of the points listed below.

- When two or more instances of CS+ are started, the most recent information to have been written is saved in the information file for each user's own PC.
- When two or more instances of CS+ are started, the most recent information to have been written is saved in the information file for the stack analysis tools (including CallWalker).
- When the same project file is used in two or more instances of CS+, the most recent information to have been written is saved.
- When the same project file is used in two or more instances of CS+, do not attempt building from more than one instance at the same time since the names of the output files will be identical.

5.1.11 Loading projects by using earlier versions of CS+

If the version of CS+ being used to load a project is earlier than the CS+ version with which the project was created, some settings may be cleared since the earlier versions of CS+ do not recognize them.

5.1.12 .NET Framework from Microsoft Corporation

CS+ outputs the following message and is closed if the version of the .NET Framework you are using is earlier than 4.5.2.

E0200010
Failed to launch this product.

Please install the Microsoft .NET Framework 4.5.2 or later on this PC.

In such cases, obtain version 4.5.2 or a later version of the .NET Framework from the Web page of Microsoft Corporation and install it before starting up CS+ for CC.
Note that the update manager for CS+ for CC is not usable for updating the .NET Framework.

5.1.13 Dual-bank function of the code flash memory

Applies to: RX65N/RX651-2M Group

Products of the RX65N and RX651 groups with 2 or 1.5 MB of ROM support the dual-bank function of the code flash memory. In CS+, you can select the linear or dual mode during the process of setting up a project.
In use of dual mode, select the type name with "_DUAL".

5.1.14 Smart Manual

Applies to: RX, RL78

When the Smart Manual does not support the target MCU of an open project, the user's manuals are not displayed.

5.1.15 Mentions of "R8C" in user's manuals and online help

"R8C" is mentioned in the user's manuals and online help, but CS+ does not support the R8C family.

5.1.16 CS+ Partner OS Aware Debugging Plug-in

Applies to: RL78, RX

When CS+ is started with the CS+ Partner OS Aware Debugging Plug-in enabled and by using CubeSuite+.exe (without the Main window), the error message "(0202002) Opening a project failed." is returned.
This can be avoided in either of the following ways.

- Start CS+ by specifying an option to prevent reading of the CS+ Partner OS Aware Debugging Plug-in for CubeSuite+.exe.
  Example: CubeSuite+.exe /np PartnerOS ...
- Turn off the CS+ Partner OS Aware Debugging Plug-in before starting CS+ with CubeSuite+.exe (without the Main window).

How to turn off the plug-in:
Start CS+ (with the Main window) or CubeSuite+ (CubeSuiteW+.exe).
Select [Plug-in Setting...] from the [Tool] menu to display the [Plug-in Manager] dialog box.
Deselect the [CS+ Partner OS Aware Debugging Plug-in] checkbox.

5.1.17 RX72M

When creating a new RX72M project, there are differences between the register definition contents of iodefine.h and the contents of the RX72M User's Manual.
Applicable iodefine.h file version is V1.00A and earlier.

1. Error : unsigned short ACKCMDER:1;
   Correct : unsigned short ACKCMDERR:1;
2. Error : unsigned long PSADR:19;
   Correct : unsigned long PSADR:17;

5.2 Points for caution regarding build tools

5.2.1 Build option import

Build option import fails if setting the value of "Select modules which are output in files" property in the "I/O Header File Generation Options" tab in Build tool property to "Yes" in the project in import destination/source and importing.
Set the value of "Select modules which are output in files" property to "No" in the project of the import destination, and save the project. Then, import the build option after opening the project again.

5.3 Points for caution regarding design tools

5.3.1 Saving projects

If you save a project that has sub-projects while the [Device Top View] or [Device Pin List] panel is open, then the device top view and device pin list of the main project will always appear.

5.4 Points for caution regarding debugging tools

The abbreviations listed below collectively denote the corresponding tools in this section.
OCD (serial): E1 Emulator (serial), E20 Emulator (serial)
OCD (JTAG): E1 Emulator (JTAG), E20 Emulator (JTAG)

5.4.1 Adding sub-projects

Applies to: Common to all debugging tools and devices
If you add a sub-project while a debugging tool is connected, downloading and so on may fail. Only add sub-projects while the debugging tool is disconnected.

5.4.2 Assigning unions to registers

Applies to: All debugging tools for RX
When a union is assigned to a register, it is assumed that the members of the union are assigned to the lower-order bytes of the register. For this reason, the values of the members will be incorrect when displayed as big endian.

5.4.3 Functions with the same name and char-type parameters

Applies to: All debugging tools for RX
When three functions with char-type parameters are defined as shown below, the address of "Func(signed char)" will not be displayed (i.e. the address of "Func(char)" will be displayed instead).

```
void Func(char);
void Func(signed char);
void Func(unsigned char);
```

5.4.4 Changing the priority section among overlaid sections

Applies to: All debugging tools for RX
Changing the priority section among overlaid sections is not immediately reflected in debugger operations. To update the display of addresses in the editor, for example, you need to close the file and open it again. To update the display of variables in the [Watch] panel, execute a single step of the program.

5.4.5 PC entering the sleep state

Applies to: OCD (JTAG) and OCD (serial)
When a PC running Windows Vista or Windows 7 enters the sleep state, debugging by CS+ cannot be continued after the PC reawakes.
Please set up the PC so that it does not enter the sleep state.

5.4.6 Linkage options of CC-RX

Applies to: All debugging tools for RX
CC-RX does not support the ‘-sdebug’ linkage option.
Please set [Outputs debugging information] in the [output] category of the [Link Options] tabbed page to '-debug'.

5.4.7 Breakpoints in for statements or inline-expanded functions

Applies to: All debugging tools for all devices
If a line of C source code includes any of the functions or statements listed below, the instruction is placed at two or more addresses. However, the editor panel shows only one of the addresses.
In cases where a breakpoint is set on this line, the program stops only when the instruction at the address being displayed on the editor panel is executed.

1. Inline-expanded function (*)
2. Template function
3. First line of a for or do-while statement

* Includes those inline-expanded by optimization

5.4.8 Notice of the project of dual mode

Applies to: All debugging tools for RX65N-2M, RX651-2M group
In case of a project of a dual mode of a device with less than 1.5 MB of ROM size, a gap exists during the address of the ROM in bank 0 and bank 1.
But data in a gap exists in the following function.

- Memory panel
- Watch panel
- Disassemble panel

[E1/E20/E2/E2Lite]
Read result is 0x00, Write is ignored.
[Simulator]
Read and Write operate correctly.

5.4.9 Notice regarding the IE850A

Applies to: IE850A for RH850

Values larger than 512 K can be specified for the [Trace memory size [frames]] property. If such values are specified, however, only the latest 512 Kbytes of trace data will be used in the display of the [Trace] panel and in the Python console.

5.5 Points for caution regarding Python Console

5.5.1 Adding script file by [Add to project] button

- When [Add to project] button is clicked, the script file is copied to the project folder of the active project, but if a file with the same name already exists in the copy destination, it is overwritten. The file to be overwritten is the file described in "File Information" at the bottom of the script file description page.
- With the script file added in the project tree of the active project, when [Add to project] button is clicked again, multiple script files will be displayed in the project tree. Unwanted files can be hidden from the project tree by selecting [Remove from Project] from the context menu. This operation does not delete files in the project folder.
- When an archive file is downloaded from "Download script file" at the bottom of the script file description page, the [Add to project] button is disabled. To enable the button, click the [Refresh] button to display the script file description page again.

5.5.2 Display of python script execution result

When the [Sample Scripts] tab active in the [Python Console] panel, the [Console] tab is not automatically activated even if you execute the Python script by selecting [Execute in Python Console] in the context menu of the script file (*.py) registered in the project tree.
To check the execution results, manually select the [Console] tab.

Chapter 6. Restrictions

This section describes restrictions on CS+.

6.1 Restrictions imposed by debugging tools

The abbreviations listed below collectively denote the corresponding tools in this section.
OCD (serial):
Serial or FINE interface connection for the E1 emulator, E20 emulator, E2 emulator, and E2 emulator Lite
OCD (JTAG):
JTAG interface connection for the E1 emulator, E20 emulator, E2 emulator, and E2 emulator Lite
OCD (LPD):
LPD connection for the E1 emulator, E20 emulator, and E2 emulator

6.1.1 List of restrictions imposed by debugging tools

No.	Target tool	Target device	Description	Remarks
1	All debugging tools	RL78, RX, RH850	Division of load modules	
2	All debugging tools	RL78, RX, RH850	Display of information on variables	
3	All debugging tools	RL78, RX, RH850	Source files with the same name	

6.1.2 Details of restrictions imposed by debugging tools

No.1 Division of load modules
Applies to: All debugging tools for RL78, RX, RH850
Description: The restrictions below apply when the CC-RH compiler is used to generate split load modules from a program.
a. Source-level debugging becomes impossible.
b. The second and subsequent output files are not automatically registered with the debugging tool.
Workaround: There is no workaround.

No.2 Display of information on variables
Applies to: All debugging tools for RL78, RX, RH850
Description: If two or more variables defined in a function have the same name, the values of variables that can be viewed when the program has stopped may differ from the expected values. Whether this phenomenon arises depends on the optimization level* selected during the process of compilation.
Note: The optimization level can be set via [Build Tool] – [Common Options] – [Frequently Used Options (Link)].

[Example] In the example below, char-type variable “a” is in the innermost scope at (*1) and int-type variable “a” is in the innermost scope at (*2). Under some conditions, however, only the value of one of the variables will be visible at (*1) and (*2).

```
void main()
{
    int a = 100;
    {
        char a = ‘A’;
        a++; <-(*1)
    }
    a++; <-(*2)
}
```

- Display of (*1) in the [Watch] panel
  “a” ‘A’ (0x41) “signed char” “0xfefb1004” // Expected value
  or “a” 100 (0x00000064) “int” “0xfefb1000”
- Display of (*2) in the [Watch] panel
  “a” ‘B’ (0x42) “signed char” “0xfefb1004”
  or “a” 100 (0x00000064) “int” “0xfefb1000” // Expected value

Condition: Optimization other than for debugging at the time of compilation.

Workaround: Select [Optimize for Debugging] as the optimization level before compilation.

No.3 Source files with the same name
Applies to: All debugging tools for RL78, RX, RH850
Description: When two or more files with the same name exist in a load module being debugged, line addresses are not displayed correctly in the editor. Setting of events also does not work correctly.

Example:
C:¥Work¥CS+¥ProjA¥ProjA.mtpj¥Src¥main.c -> A.abs
C:¥Work¥CS+¥ProjB¥ProjB.mtpj¥Src¥main.c -> B.abs
This is a case where the above two load modules are being debugged simultaneously.

Note: Although multiple load modules are used in the above example, this restriction is also applicable to cases where a single load module is in use.

[Conditions] The relative paths to the files from the compilation directory are the same (including the filenames).
Building by CS+
Project file directory (*.mtpj) = compilation directory
Building by using a makefile
Current directory = compilation directory

Workaround: Source files with the same name can be distinguished in either of the following ways.
a. Change the configuration of the folders so that the relative paths to the files from the compilation directory differ.
Before: ProjA¥Src¥main.c
ProjB¥Src¥main.c
After: ProjA¥SrcA¥main.c
ProjB¥SrcB¥main.c
With this change, the relative paths will be as follows.
“SrcA¥main.c”
“SrcB¥main.c”
b. Change the names of the source files so that all of the files to be debugged have unique names.
Before: ProjA¥Src¥main.c
ProjB¥Src¥main.c
After: ProjA¥Src¥mainA.c
ProjB¥Src¥mainB.c

Chapter 7. Changes to the User's Manuals

This section describes changes to the user's manuals for CS+.

7.1 Changes related to the basic operations of CS+

This section describes changes to the description of the Project Operation.

[Location] Project Operation - WINDOW REFERENCE - Description - Option dialog box
- [General - Build] category - [Description of each area]

(8) [Enable parallel build among projects]

[Before change]

☑	Enables a parallel build among projects **(default)**. Builds projects without any dependency in parallel and in a random order, and reduces the total build time.
☐	Does not perform a parallel build among projects.

[After change]

☑	Enables a parallel build among projects. Builds projects without any dependency in parallel and in a random order, and reduces the total build time.
☐	Does not perform a parallel build among projects **(default)**.

7.2 Changes related to the build tool

This section describes additional functions of the build Tool Operation.

[Location] CC-RL Build Tool Operation - WINDOW REFERENCE - Description - Property Panel

Tab	Category	Before change	Type	After change
[Compile Options] tab	[MISRA-C Rule Check]	Enable inter-module checking	Property name	Enable checking **that spans files**
[Individual Compile Options] tab	[MISRA-C Rule Check]	Enable inter-module checking	Property name	Enable checking **that spans files**

[Location] CC-RX Build Tool Operation - WINDOW REFERENCE - Description - Property Panel

Tab	Category	Before change	Type	After change
[Compile Options] tab	[MISRA C Rule Check]	Enables inter-module checking	Property name	Enables checking **that spans files**
[Individual Compile Options] tab	[MISRA C Rule Check]	Enables inter-module checking	Property name	Enables checking **that spans files**

[Location] CC-RH Build Tool Operation - WINDOW REFERENCE - Description - Property Panel

Tab	Category	Before change	Type	After change
[Compile Options]	[Output	Control multi-core	Property	**Method for** control

tab	Code]	function	name	multi-core functions
	[MISRA-C Rule Check]	Enable inter-module checking	Property name	Enable checking **that spans files**
[Link Options] tab	[Optimization]	Perform link-time optimization	Property name	Perform optimization **at time of linkage**
[Individual Compile Options] tab	[MISRA-C Rule Check]	Enable inter-module checking	Property name	Enable checking **that spans files**
	[Output Code]	Control multi-core function	Property name	**Method for** control multi-core functions

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