

# R8C E8a Emulator Debugger

## Release Notes

This document describes the notes of this debugger, and please read before you start to use this debugger.

And also, please refer to the “High-performance Embedded Workshop Release Notes” about the notes of High-performance Embedded Workshop IDE.

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# 1 Application

This release notes is applicable to the following parts of the E8a emulator software.

- R8C E8a Emulator Debugger V.1.05.01

## 2 System Requirements

### 2.1 Operating Environment (Windows® 7, Windows Vista® or, Windows® XP)

PC Environment	
PC	IBM PC/AT compatible
OS	Windows® 7 *1 32-bit editions of Windows Vista® *1 *3 32-bit editions of Windows® XP *1 *2
CPU	Pentium 4 running at 3 GHz or more recommended
Memory	Windows® 7, Windows Vista®: 1.5 Gbytes or larger (more than 10 times the file size of the load module) recommended Windows® XP: 768 Mbytes or larger (more than 10 times the file size of the load module) recommended
Hard disk	Installation of the simulator debugger requires free space of 200 Mbytes or larger. Also keep additional free space that is at least twice the memory capacity (four times or larger recommended) for use as swap space.
Display resolution	1024 × 768 or higher recommended

\*1: Windows and Windows Vista are either registered trademarks or trademarks of Microsoft Corporation in the United States and other countries.

\*2: The 64-bit editions of Windows® XP is not supported.

\*3: The 64-bit edition of Windows Vista® is not supported.

## 3 Supported MCUs

### 3.1 R8C/1x Series

Group	Part No.
R8C/10	R5F21102, R5F21103, R5F21104
R8C/11	R5F21112, R5F21113, R5F21114
R8C/12	R5F21122, R5F21123, R5F21124
R8C/13	R5F21132, R5F21133, R5F21134
R8C/14	R5F21142, R5F21143, R5F21144
R8C/15	R5F21152, R5F21153, R5F21154
R8C/16	R5F21162, R5F21163, R5F21164
R8C/17	R5F21172, R5F21173, R5F21174
R8C/18	R5F21181, R5F21182, R5F21183, R5F21184
R8C/19	R5F21191, R5F21192, R5F21193, R5F21194
R8C/1A	R5F211A1, R5F211A2, R5F211A3, R5F211A4
R8C/1B	R5F211B1, R5F211B2, R5F211B3, R5F211B4

### 3.2 R8C/2x Series

Group	Part No.
R8C/20	R5F21206, R5F21207, R5F21208, R5F2120A, R5F2120C
R8C/21	R5F21216, R5F21217, R5F21218, R5F2121A, R5F2121C
R8C/22	R5F21226, R5F21227, R5F21228, R5F2122A, R5F2122C
R8C/23	R5F21236, R5F21237, R5F21238, R5F2123A, R5F2123C
R8C/24	R5F21244, R5F21245, R5F21246, R5F21247, R5F21248
R8C/25	R5F21254, R5F21255, R5F21256, R5F21257, R5F21258
R8C/26	R5F21262, R5F21264, R5F21265, R5F21266

R8C/27	R5F21272, R5F21274, R5F21275, R5F21276
R8C/28	R5F21282, R5F21284, R5F21286
R8C/29	R5F21292, R5F21294, R5F21296
R8C/2A	R5F212A7, R5F212A8, R5F212AA, R5F212AC
R8C/2B	R5F212B7, R5F212B8, R5F212BA, R5F212BC
R8C/2C	R5F212C7, R5F212C8, R5F212CA, R5F212CC
R8C/2D	R5F212D7, R5F212D8, R5F212DA, R5F212DC
R8C/2E	R5F212E2, R5F212E4
R8C/2F	R5F212F2, R5F212F4
R8C/2G	R5F212G4, R5F212G5, R5F212G6
R8C/2H	R5F212H1, R5F212H2
R8C/2J	R5F212J0, R5F212J1
R8C/2K	R5F212K2, R5F212K4
R8C/2L	R5F212L2, R5F212L4

### 3.3 R8C/3x Series

Group	Part No.
R8C/32A	R5F21321A, R5F21322A, R5F21324A
R8C/33A	R5F21331A, R5F21332A, R5F21334A, R5F21335A, R5F21336A
R8C/35A	R5F21354A, R5F21355A, R5F21356A, R5F21357A, R5F21358A, R5F2135AA, R5F2135CA,
R8C/36A	R5F21364A, R5F21365A, R5F21366A, R5F21367A, R5F21368A, R5F2136AA, R5F2136CA,
R8C/38A	R5F21386A, R5F21387A, R5F21388A, R5F2138AA, R5F2138CA,
R8C/3GA	R5F213G2A, R5F213G4A, R5F213G5A, R5F213G6A
R8C/3JA	R5F213J2A, R5F213J4A, R5F213J5A, R5F213J6A
R8C/32C	R5F21321C, R5F21322C, R5F21324C
R8C/33C	R5F21331C, R5F21332C, R5F21334C, R5F21335C, R5F21336C
R8C/34C	R5F21344C, R5F21345C, R5F21346C
R8C/36C	R5F21364C, R5F21365C, R5F21366C, R5F21367C, R5F21368C, R5F2136AC, R5F2136CC
R8C/38C	R5F21386C, R5F21387C, R5F21388C, R5F2138AC, R5F2138CC
R8C/3GC	R5F213G1C, R5F213G2C, R5F213G4C, R5F213G5C, R5F213G6C
R8C/3JC	R5F213J2C, R5F213J4C, R5F213J5C, R5F213J6C
R8C/3JT	R5F213J4T, R5F213J5T, R5F213J6T
R8C/32D	R5F21321D, R5F21322D, R5F21324D
R8C/33D	R5F21331D, R5F21332D, R5F21334D, R5F21335D, R5F21336D
R8C/35D	R5F21354D, R5F21355D, R5F21356D
R8C/3GD	R5F213G1D, R5F213G2D, R5F213G4D, R5F213G5D, R5F213G6D
R8C/34E	R5F21346E, R5F21347E, R5F21348E, R5F2134AE, R5F2134CE,
R8C/34F	R5F21346F, R5F21347F, R5F21348F, R5F2134AF, R5F2134CF,
R8C/34G	R5F21346G, R5F21347G, R5F21348G, R5F2134AG, R5F2134CG,
R8C/34H	R5F21346H, R5F21347H, R5F21348H, R5F2134AH, R5F2134CH,
R8C/36E	R5F21368E, R5F2136AE, R5F2136CE,
R8C/36F	R5F21368F, R5F2136AF, R5F2136CF,
R8C/36G	R5F21368G, R5F2136AG, R5F2136CG,
R8C/36H	R5F21368H, R5F2136AH, R5F2136CH,
R8C/38E	R5F21388E, R5F2138AE, R5F2138CE,
R8C/38F	R5F21388F, R5F2138AF, R5F2138CF,
R8C/38G	R5F21388G, R5F2138AG, R5F2138CG
R8C/38H	R5F21388H, R5F2138AH, R5F2138CH
R8C/33T	R5F21334T R5F21335T R5F21336T
R8C/34W	R5F21346W,, R5F21347W,, R5F21348W,, R5F2134AW,, R5F2134CW
R8C/34X	R5F21346X,, R5F21347X, R5F21348X, R5F2134AX, R5F2134CX
R8C/34Y	R5F21346Y, R5F21347Y, R5F21348Y, R5F2134AY, R5F2134CY
R8C/34Z	R5F21346Z, R5F21347Z, R5F21348Z, R5F2134AZ, R5F2134CZ
R8C/36W	R5F21368W, R5F2136AW, R5F2136CW
R8C/36X	R5F21368X, R5F2136AX, R5F2136CX
R8C/36Y	R5F21368Y, R5F2136AY, R5F2136CY

R8C/36Z	R5F21368Z, R5F2136AZ, R5F2136CZ
R8C/38W	R5F21388W, R5F2138AW, R5F2138CW
R8C/38X	R5F21388X, R5F2138AX, R5F2138CX
R8C/38Y	R5F21388Y, R5F2138AY, R5F2138CY
R8C/38Z	R5F21388Z, R5F2138AZ, R5F2138CZ
R8C/32G	R5F21324G, R5F21326G
R8C/32H	R5F21324H, R5F21326H
R8C/33G	R5F21334G, R5F21336G
R8C/33H	R5F21334H, R5F21336H
R8C/34P	R5F21344P, R5F21346P
R8C/34R	R5F21344R, R5F21346R
R8C/3NT	R5F213N7T, R5F213N8T, R5F213NAT, R5F213NCT
R8C/34U	R5F21346U, R5F21348U, R5F2134CU
R8C/34K	R5F21348K, R5F2134CK
R8C/3MU	R5F213M6U, R5F213M8U, R5F213MCU
R8C/3MK	R5F213M8K, R5F213MCK
R8C/3MQ	R5F213M6Q, R5F213M7Q, R5F213M8Q, R5F213MAQ, R5F213MCQ
R8C/32M	R5F21321M, R5F21322M, R5F21324M
R8C/33M	R5F21331M, R5F21332M, R5F21334M, R5F21335M, R5F21336M
R8C/34M	R5F21344M, R5F21345M, R5F21346M
R8C/35M	R5F21354M, R5F21355M, R5F21356M, R5F21357M, R5F21358M, R5F2135AM, R5F2135CM
R8C/36M	R5F21364M, R5F21365M, R5F21366M, R5F21367M, R5F21368M, R5F2136AM, R5F2136CM
R8C/38M	R5F21386M, R5F21387M, R5F21388M, R5F2138AM, R5F2138CM
R8C/3GM	R5F213G2M, R5F213G4M, R5F213G5M, R5F213G6M
R8C/3JM	R5F213J2M, R5F213J4M, R5F213J5M, R5F213J6M

### 3.4 R8C/LxSeries

Group	Part No.
R8C/L35A	R5F2L357A, R5F2L358A, R5F2L35AA, R5F2L35CA
R8C/L36A	R5F2L367A, R5F2L368A, R5F2L36AA, R5F2L36CA
R8C/L38A	R5F2L387A, R5F2L388A, R5F2L38AA, R5F2L38CA
R8C/L3AA	R5F2L3A7A, R5F2L3A8A, R5F2L3AAA, R5F2L3ACA
R8C/L35B	R5F2L357B, R5F2L358B, R5F2L35AB, R5F2L35CB
R8C/L36B	R5F2L367B, R5F2L368B, R5F2L36AB, R5F2L36CB
R8C/L38B	R5F2L387B, R5F2L388B, R5F2L38AB, R5F2L38CB
R8C/L3AB	R5F2L3A7B, R5F2L3A8B, R5F2L3AAB, R5F2L3ACB
R8C/L35C	R5F2L357C, R5F2L358C, R5F2L35AC, R5F2L35CC
R8C/L36C	R5F2L367C, R5F2L368C, R5F2L36AC, R5F2L36CC
R8C/L38C	R5F2L387C, R5F2L388C, R5F2L38AC, R5F2L38CC
R8C/L3AC	R5F2L3A7C, R5F2L3A8C, R5F2L3AAC, R5F2L3ACC
R8C/LA6A	R5F2LA64A, R5F2LA66A, R5F2LA67A, R5F2LA68A, R5F2LA6AA, R5F2LA6CA
R8C/LA8A	R5F2LA84A, R5F2LA86A, R5F2LA87A, R5F2LA88A, R5F2LA8AA, R5F2LA8CA
R8C/L35M	R5F2L357M, R5F2L358M, R5F2L35AM, R5F2L35CM
R8C/L36M	R5F2L367M, R5F2L368M, R5F2L36AM, R5F2L36CM
R8C/L38M	R5F2L387M, R5F2L388M, R5F2L38AM, R5F2L38CM
R8C/L3AM	R5F2L3A7M, R5F2L3A8M, R5F2L3AAM, R5F2L3ACM
R8C/LA3A	R5F2LA32A, R5F2LA34A, R5F2LA36A, R5F2LA38A
R8C/LA5A	R5F2LA52A, R5F2LA54A, R5F2LA56A, R5F2LA58A
R8C/LAPS	R5F2LAP6S, R5F2LAP7S, R5F2LAP8S, R5F2LAPAS, R5F2LAPCS

### 3.5 R8C/xSeries

R8C/M11A	R5F2M110A, R5F2M111A, R5F2M112A
R8C/M12A	R5F2M120A, R5F2M121A, R5F2M122A
R8C/M13B	R5F2M131B, R5F2M132B, R5F2M134B

## 4 Notes

This document is supplementary information for the E8a Emulator Additional Document for User's Manual.

### 4.1 Note on rewriting flash memory

Do not execute debugging operations when rewriting the flash memory. Flash memory rewrite ends when the "Flash memory write end" is displayed in the output window of the High-performance Embedded Workshop. Flash memory rewrite occurs:

- When downloading the user program
- After setting PC breaks in the flash memory and executing the user program
- After canceling PC breaks in the flash memory and executing the user program
- After rewriting the value of the flash memory in the memory window and executing the user program

### 4.2 Notes on using automatic memory update

- If the automatic memory update is enabled in the Memory or Watch window, do not reset the MCU.
- When automatic memory update is enabled, do not execute Step Out or Multiple-steps.

### 4.3 Note on memory verification

- As the E8a emulator debugger does not support the following memory verification, the emulator always runs without verifying memory.
  - Memory Setting (e.g. [Set] popup menu in the Memory window)
  - Memory Fill (e.g. [Fill] popup menu in the Memory window)
  - Memory Copy (e.g. [Move] popup menu in the Memory window)
  - Loading a memory area from a file (e.g. [Load] popup menu in the Memory window)
- The E8a emulator debugger does not support "Perform memory verify during download" and "Access size" of the Download Module dialog box. Please run the debugger without memory verification and with access size set to 1.
- From [Debug] > [Verify Memory] you cannot select any format containing debug information. Though an option may appear in [File format] drop-down list, do not select it.

### 4.4 The function to apply the settings selected in creating a new workspace

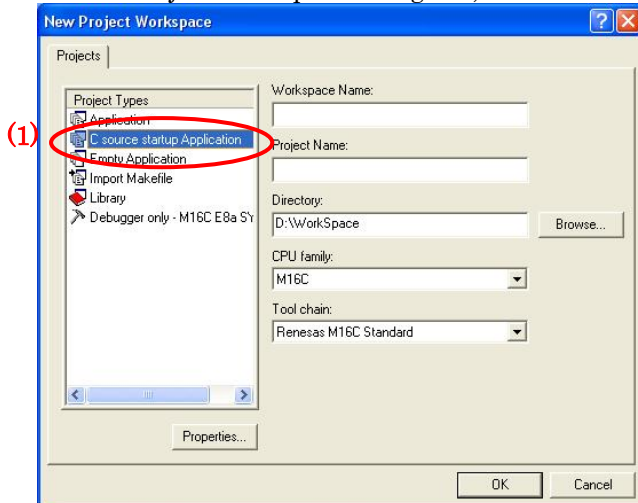
The Settings ("CPU Group", "firmware Address" and "WorkRAM Address") selected in creating a new workspace can be applied to the emulator setting dialog box. This function had been added since the R8C E8a emulator debugger V.1.03.00.

This function can run if the following conditions are all satisfied:

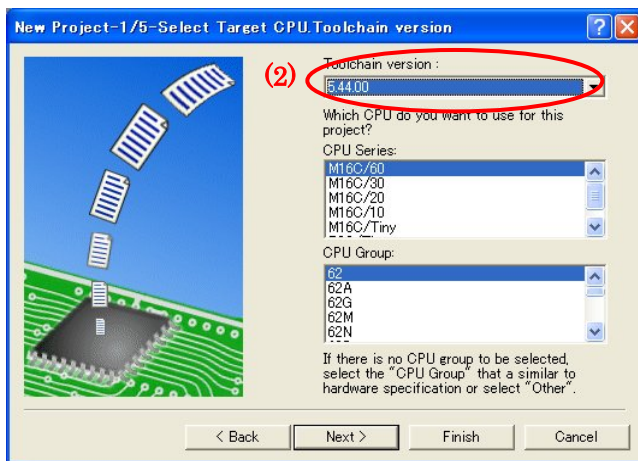
- Install the following software:

software name	version
High-performance Embedded Workshop	V.4.05.00 or later
C Compiler Package M3T-NC30WA	V.5.42 Release 00 or later

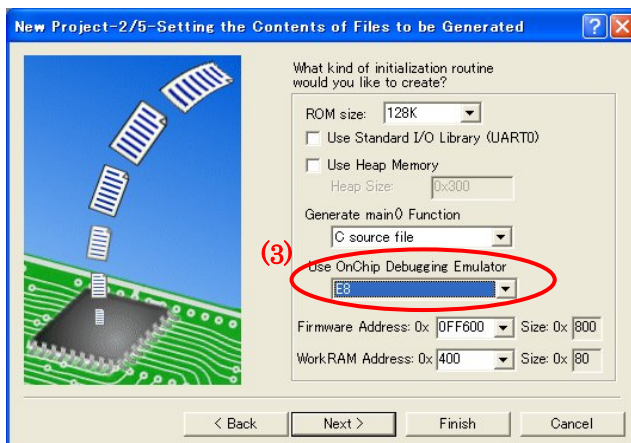
- Create a new workspace with the following settings:
  - (1) In the New Project Workspace dialog box, select “C source startup Application” in project type.



- (2) In the “TargetCPU Toolchain version” page of the wizard dialog box, select “5.42.00” or later in Toolchain version.



- (3) In the “Setting the Contents of Files to be Generated” page of the wizard dialog box, select “E8” in Use Onchip Debugging Emulator.



\*Note:

The E8a emulator debugger supports the selected MCUs, however, you might not be able to select "E8" in the above list box.

This problem will be solved by the revision of the M16C tool chain in the future.

#### 4.5 Note on using Windows Vista® and Windows® 7

- Low power mode in Windows Vista® and Windows® 7  
When Windows Vista® and Windows® 7 goes into sleep mode or suspend mode, a communication error may occur in the USB communication between the host machine and the emulator. Therefore, configure Windows Vista® and Windows® 7 not to enter sleep mode or suspend mode.
- No Help (including the context-sensitive help) may be displayed.  
Install the Windows Help file (WinHlp32.exe file) from Microsoft Corporation's Web site.  
<http://www.microsoft.com/downloads/details.aspx?displaylang=en&FamilyID=6ebcfad9-d3f5-4365-8070-334cd175d4bb>

#### 4.6 Note on I/O Files

- In this product, the following I/O files are not attached.  
R8C/32G group R8C/32H group R8C/33G group R8C/33H group R8C/34P group  
R8C/34R group and R8C/LAPR group  
We will release them after their hardware manual Rev.1.00 has been released.
- The incorrect descriptions in the I/O window might be solved by correcting the I/O files.
- You can make or edit the I/O file with a text editor. For details, please refer to “I/O File Format” in High-performance Embedded Workshop Help.

## 5 Version Report

This section describes the specification of the changed software.

### 5.1 R8C E8a Emulator Debugger V.1.05.01

In this version, the following specifications were changed from the previous version R8C E8a Emulator Debugger V.1.05.00.

#### 5.1.1 Supported MCUs Increased

- R8C/35M group R5F21357M R5F21358M R5F2135AM R5F2135CM
- R8C/36M group R5F21364M R5F21365M R5F21366M R5F21367M R5F21368M R5F2136AM R5F2136CM
- R8C/38M group R5F21386M R5F21387M R5F21388M R5F2138AM R5F2138CM
- R8C/3GM group R5F213G2M R5F213G4M R5F213G5M R5F213G6M
- R8C/3JM group R5F213J2M R5F213J4M R5F213J5M R5F213J6M
- R8C/LA6A group R5F2LA6AA R5F2LA6CA
- R8C/LA8A group R5F2LA8AA R5F2LA8CA
- R8C/LAPS group R5F2LAP6S R5F2LAP7S R5F2LAP8S R5F2LAPAS R5F2LAPCS

#### 5.1.2 Problems Fixed

1. The following problems have been fixed:  
With the size of internal RAM accessible by the E8a emulator (RENESAS TOOL NEWS Document No. 110716/tn3)

### 5.2 R8C E8a Emulator Debugger V.1.05.00

In this version, the following specifications were changed from the previous version R8C E8a Emulator Debugger V.1.04.00.

#### 5.2.1 Supported MCUs Increased

- R8C/34W group R5F21346W R5F21347W R5F21348W R5F2134AW R5F2134CW
- R8C/34X group R5F21346X R5F21347X R5F21348X R5F2134AX R5F2134CX
- R8C/34Y group R5F21346Y R5F21347Y R5F21348Y R5F2134AY R5F2134CY
- R8C/34Z group R5F21346Z R5F21347Z R5F21348Z R5F2134AZ R5F2134CZ
- R8C/36W group R5F21368W R5F2136AW R5F2136CW
- R8C/36X group R5F21368X R5F2136AX R5F2136CX
- R8C/36Y group R5F21368Y R5F2136AY R5F2136CY
- R8C/36Z group R5F21368Z R5F2136AZ R5F2136CZ
- R8C/38W group R5F21388W R5F2138AW R5F2138CW
- R8C/38X group R5F21388X R5F2138AX R5F2138CX
- R8C/38Y group R5F21388Y R5F2138AY R5F2138CY
- R8C/38Z group R5F21388Z R5F2138AZ R5F2138CZ
- R8C/32G group R5F21324G R5F21326G
- R8C/32H group R5F21324H R5F21326H
- R8C/33G group R5F21334G R5F21336G
- R8C/33H group R5F21334H R5F21336H
- R8C/34P group R5F21344P R5F21346P
- R8C/34R group R5F21344R R5F21346R
- R8C/3NT group R5F213N7T R5F213N8T R5F213NAT R5F213NCT
- R8C/34U group R5F21346U R5F21348U R5F2134CU
- R8C/34K group R5F21348K R5F2134CK
- R8C/3MU group R5F213M6U R5F213M8U R5F213MCU
- R8C/3MK group R5F213M8K R5F213MCK
- R8C/LA3A group R5F2LA32A R5F2LA34A R5F2LA36A R5F2LA38A
- R8C/LA5A group R5F2LA52A R5F2LA54A R5F2LA56A R5F2LA58A
- R8C/M13B group R5F2M131B R5F2M132B R5F2M134B
- R8C/3MQ group R5F213M6Q R5F213M7Q R5F213M8Q R5F213MAQ R5F213MCQ



- R8C/32M group R5F21321M R5F21322M R5F21324M
- R8C/33M group R5F21331M R5F21332M R5F21334M R5F21335M R5F21336M
- R8C/34M group R5F21344M R5F21345M R5F21346M
- R8C/35M group R5F21354M R5F21355M R5F21356M
- R8C/L35M group R5F2L357M R5F2L358M R5F2L35AM R5F2L35CM
- R8C/L36M group R5F2L367M R5F2L368M R5F2L36AM R5F2L36CM
- R8C/L38M group R5F2L387M R5F2L388M R5F2L38AM R5F2L38CM
- R8C/L3AM group R5F2L3A7M R5F2L3A8M R5F2L3AAM R5F2L3ACM

### 5.2.2 Problems Fixed

1. The following problems have been fixed:  
With debugging systems designed with MCUs of the R8C/M11A or /M12A group (RENESAS TOOL NEWS Document No. 101101/tn3)
2. The following problems have been fixed:  
With downloading programs extending over the data flash area and the program ROM or program ROM2 area; or manipulating data on memory in those areas (RENESAS TOOL NEWS Document No. 101201/tn4)

### 5.2.3 Functional Extensions and Modifications

1. The debuggers can run on Windows ® 7 with your user rights.
2. The following command to set the event break point of the R8C/3x series, the R8C/Mx series, and the R8C/Lx series was added. Please refer to the Help file of the emulator for details.
  - EVENT\_SET
  - EVENT\_DISPLAY
  - EVENT\_BREAK\_POINT
  - EVENT\_TRACE\_POINT

## 5.3 R8C E8a Emulator Debugger V.1.04.00

In this version, the following specifications were changed from the previous version R8C E8a Emulator Debugger V.1.03.03.

This version supports all of the function extensions and the revisions to the restrictions in the High-performance Embedded Workshop V.4.06.00 and V.4.07.00. For more details, please refer to the RENESAS TOOL NEWS "090701/tn1" issued on July 1st, 2009 and "091001/tn1" issued on October 1st, 2010.

### 5.3.1 Supported MCUs Increased

- R8C/M11A group  
R5F2M110A, R5F2M111A, R5F2M112A
- R8C/M12A group  
R5F2M120A, R5F2M121A, R5F2M122A
- R8C/LA6A group  
R5F2LA64A, R5F2LA66A, R5F2LA67A, R5F2LA68A
- R8C/LA8A group  
R5F2LA84A, R5F2LA86A, R5F2LA87A, R5F2LA88A

### 5.3.2 Functional Extensions and Modifications

1. Up to now, it was necessary to end the debugger for "Communication timeout error" to occur if there is no response from MCU, and to recover the state. In this version, the state can be recovered without ending the debugger..
2. Trouble shoot collections of E8a emulators can be opened from the following error message display dialog box.
  - "Boot failed"
  - "Communication timeout Error"
  - "ID code error !"
3. In the following MCU of the R8C/3x series, the firmware can be arranged in not only the program flash area but also the data flash area.  
R8C/3xA Group : R5F21336A, R5F21356A, R5F2135CA, R5F2136CA, R5F2138CA,  
R5F213G6A, R5F213J6A

R8C/3xC Group: R5F21336C, R5F21346C, R5F21356C, R5F2135CC, R5F213G6C,  
R5F213J6C  
R8C/3xE Group: R5F2134CE, R5F2136CE, R5F2138CE  
R8C/3xG Group: R5F2134CG, R5F2136CG, R5F2138CG

## 5.4 R8C E8a Emulator Debugger V.1.03.03

In this version, the following specifications were changed from the previous version R8C E8a Emulator Debugger V.1.03.02.

### 5.4.1 Supported MCUs Increased

- R8C/34C group  
R5F21344C, R5F21345C, R5F21346C
- R8C/3JTCgroup  
R5F213J4T, R5F213J5T, R5F213J6T

## 5.5 R8C E8a Emulator Debugger V.1.03.02

In this version, the following specifications were changed from the previous version R8C E8a Emulator Debugger V.1.03.01.

### 5.5.1 Supported MCUs Increased

- R8C/32C group  
R5F21321C, R5F21322C, R5F21324C
- R8C/33Cgroup  
R5F21331C, R5F21332C, R5F21334C, R5F21335C, R5F21336C
- R8C/34C group  
R5F21347C, R5F21348C, R5F2134AC, R5F2134CC
- R8C/36C group  
R5F21364C, R5F21365C, R5F21366C, R5F21367C, R5F21368C, R5F2136AC, R5F2136CC
- R8C/38C group  
R5F21386C, R5F21387C, R5F21388C, R5F2138AC, R5F2138CC
- R8C/3GC group  
R5F213G1C, R5F213G2C, R5F213G4C, R5F213G5C, R5F213G6C
- R8C/3JC group  
R5F213J2C, R5F213J4C, R5F213J5C, R5F213J6C
- R8C/32D group  
R5F21321D,, R5F21322D,, R5F21324D
- R8C/33D group  
R5F21331D, R5F21332D, R5F21334D, R5F21335D, R5F21336D
- R8C/35D group  
R5F21354D, R5F21355D, R5F21356D
- R8C/3GD group  
R5F213G1D, R5F213G2D, R5F213G4D, R5F213G5D, R5F213G6D
- R8C/33T group  
R5F21334T, R5F21335T, R5F21336T
- R8C/L35C group  
R5F2L357C, R5F2L358C, R5F2L35AC, R5F2L35CC
- R8C/L36C group  
R5F2L367C, R5F2L368C, R5F2L36AC, R5F2L36CC
- R8C/L38C group  
R5F2L387C, R5F2L388C, R5F2L38AC, R5F2L38CC
- R8C/L3AC group  
R5F2L3A7C, R5F2L3A8C, R5F2L3AAC, R5F2L3ACC

## 5.6 R8C E8a Emulator Debugger V.1.03.01

In this version, the following specifications were changed from the previous version R8C E8a Emulator Debugger V.1.03.00.

### 5.6.1 Supported MCUs Increased

- R8C/L35A, R8C/L35B group:  
R5F2L357A, R5F2L358A, R5F2L35AA, R5F2L35CA  
R5F2L357B, R5F2L358B, R5F2L35AB, R5F2L35CB
- R8C/L36A, R8C/L36B group:  
R5F2L367A, R5F2L368A, R5F2L36AA, R5F2L36CA  
R5F2L367B, R5F2L368B, R5F2L36AB, R5F2L36CB
- R8C/L38A, R8C/L38B group:  
R5F2L387A, R5F2L388A, R5F2L38AA, R5F2L38CA  
R5F2L387B, R5F2L388B, R5F2L38AB, R5F2L38CB
- R8C/L3AA, R8C/L3AB group:  
R5F2L3A7A, R5F2L3A8A, R5F2L3AAA, R5F2L3ACA  
R5F2L3A7B, R5F2L3A8B, R5F2L3AAB, R5F2L3ACB

## 5.7 R8C E8a Emulator Debugger V.1.03.00

In this version, the following specifications were changed from the previous version R8C E8a Emulator Debugger V.1.02.00.

This version supports all of the function extensions and the revisions to the restrictions in the High-performance Embedded Workshop V.4.05.00 and V.4.05.01. For more details, please refer to the RENESAS TOOL NEWS “081125/tn1” issued on November 25<sup>th</sup>, 2008 and “090201/tn3” issued on February 1<sup>st</sup>, 2009.

### 5.7.1 Supported MCUs Increased

- R8C/34E, R8C/34F, R8C/34G, R8C/34H group:  
R5F21346E, R5F21347E, R5F21348E, R5F2134AE, R5F2134CE  
R5F21346F, R5F21347F, R5F21348F, R5F2134AF, R5F2134CF  
R5F21346G, R5F21347G, R5F21348G, R5F2134AG, R5F2134CG  
R5F21346H, R5F21347H, R5F21348H, R5F2134AH, R5F2134CH
- R8C/36E, R8C/36F, R8C/36G, R8C/36H group:  
R5F21368E, R5F2136AE, R5F2136CE  
R5F21368F, R5F2136AF, R5F2136CF  
R5F21368G, R5F2136AG, R5F2136CG  
R5F21368H, R5F2136AH, R5F2136CH
- R8C/38E, R8C/38F, R8C/38G, R8C/38H group:  
R5F21388E, R5F2138AE, R5F2138CE  
R5F21388F, R5F2138AF, R5F2138CF  
R5F21388G, R5F2138AG, R5F2138CG  
R5F21388H, R5F2138AH, R5F2138CH
- R8C/35A, R8C/36A, R8C/38A group:  
R5F21357A, R5F21358A, R5F2135AA, R5F2135CA,  
R5F21364A, R5F21365A, R5F21366A, R5F21367A, R5F21368A, R5F2136AA, R5F2136CA,  
R5F21386A, R5F21387A, R5F21388A, R5F2138AA, R5F2138CA,
- R8C/3GA, R8C/3JA group:  
R5F213G2A, R5F213G4A, R5F213G5A, R5F213G6A  
R5F213J2A, R5F213J4A, R5F213J5A, R5F213J6A

### 5.7.2 Functional Extensions and Modifications

1. The debuggers can run on Windows Vista® with your user rights.  
Note, however, the 64-bit Windows Vista has not been supported.
2. The settings selected in creating a new workspace can be applied to the emulator setting dialog box.

## 5.8 R8C E8a Emulator Debugger V.1.02.00

In this version, the following specifications were changed from the previous version R8C E8a Emulator Debugger V.1.01.00.

This version supports all of the function extensions and the revisions to the restrictions in the High-performance Embedded Workshop V.4.04.00 and V.4.04.01. For more details, please refer to the RENESAS TOOL NEWS “071216/tn5” issued on December 16<sup>th</sup>, 2007 and “080118/tn1” issued on January 18<sup>th</sup>, 2008.

### 5.8.1 Supported MCUs Increased

- R8C/28, /29 group:  
R5F21286, R5F21296
- R8C/32A, /33A, /35A group:  
R5F21321A, R5F21322A, R5F21324A  
R5F21331A, R5F21332A, R5F21334A, R5F21335A, R5F21336A  
R5F21354A, R5F21355A, R5F21356A

### 5.8.2 Problems Fixed

3. The following problems have been fixed:  
With debugging target systems designed with MCUs of the R8C/2G or R8C/2H group (RENESAS TOOL NEWS Document No. 080216/tn3)
4. The following problems have been fixed:  
With using the IO files for the R8C/2A, /2B, /2C, and /2D groups included in the debuggers for the R8C/Tiny MCU Series (RENESAS TOOL NEWS Document No. 080616/tn8)

### 5.8.3 Functional Extensions and Modifications

1. Debug functions that R8C/3x have been supported.
2. The automatic sampling period of the watch-points was sped up.
3. MR window has been supported.
4. OS Object window has been supported.

## 5.9 R8C E8a Emulator Debugger V.1.01.00

In this version, the following specifications were changed from the previous version R8C E8a Emulator Debugger V.1.00.00.

This version supports all of the function extensions and the revisions to the restrictions in the High-performance Embedded Workshop V.4.03.00. For more details, please refer to the RENESAS TOOL NEWS “070701/tn1” issued on July 1<sup>st</sup>, 2007.

### 5.9.1 Supported MCUs Increased

- R8C/2E, /2F group:  
R5F212E2, R5F212E4  
R5F212F2, R5F212F4
- R8C/2G, /2H, /2J group:  
R5F212G4, R5F212G5, R5F212G6  
R5F212H1, R5F212H2  
R5F212J0, R5F212J1
- R8C/2K, /2L group:  
R5F212J0, R5F212J1  
R5F212L2, R5F212L4

### 5.9.2 Problems Fixed

1. The following problems have been fixed:  
With debugging systems designed with a member of the R8C/22 group of MCUs (RENESAS TOOL NEWS Document No. 071001/tn7)
2. The following problems have been fixed:
  - If you select the Debugging of CPU rewrite mode in the Emulator Setting dialog box that appears when the debugger is invoked, and if you modify values in the data flash area in the Memory or Watch window, the contents of the un-modified data flash area will resume those before CPU reprogramming is performed by the user program.
  - When you load the user program into the target system, no error message may be dispatched even if the user program area overlaps the area occupied by the emulator debugger.

## 5.10 R8C E8a Emulator Debugger V.1.00.00

The first version