CubeSuite+ Code Generator for V850 V2.00.01
Release Note

R20UT2723EJ0100
Rev.1.00
August 27, 2013

Contents

Chapter 1. Target Devices

Below is a list of devices supported by the Code Generator for V850ES/Jx3 V3.00.00.06.	
Nickname	Device name
V850ES/JG3	μPD70F3739, μPD70F3740, μPD70F3741, μPD70F3742
V850ES/JJ3	μPD70F3743, μPD70F3744, μPD70F3745, μPD70F3746
V850ES/JC3-L	μPD70F3797, μPD70F3798, μPD70F3799, μPD70F3800, μPD70F3838, μPD70F3801, μPD70F3802, μPD70F3803, μPD70F3804, μPD70F3839
V850ES/JE3-L	μPD70F3805, μPD70F3806, μPD70F3807, μPD70F3808, μPD70F3840
V850ES/JF3-L	μPD70F3735, μPD70F3736
V850ES/JG3-L	μPD70F3737, μPD70F3738, μPD70F3792, μPD70F3793 μPD70F3794(USB), μPD70F3795(USB), μPD70F3796(USB)

The Code Generator for is based on the following documents.	
Manual Name	Document Number
V850ES/JG3 User's Manual	U18708JJ2V0UD00
	U18708EJ2V0UD00
V850ES/JJ3 User's Manual	U18376JJ3V0UD00
	U18376EJ3V0UD00
V850ES/JF3-L User's Manual	U18952JJ2V0UD00
	U18952EJ2V0UD00
V850ES/JG3-L User's Manual	U18953JJ5V0UD00
	U18953EJ2V0UD00

Below is a list of devices supported by the Code Generator for V850ES/Jx3-E V3.00.00.05.	
Nickname	Device name
V850ES/JH3-E	μPD70F3778, μPD70F3779, μPD70F3780, μPD70F3781, μPD70F3782, μPD70F3783
V850ES/JJ3-E	μPD70F3784, μPD70F3785, μPD70F3786
The Code Generator is based on the following documents.	
Manual Name	Document Number
V850ES/JH3-E, V850ES/JJ3-E User's Manual	U19601JJ2V0UD00
	U19601EJ2V0UD00

Below is a list of devices supported by the Code Generator for V850ES/Jx3-H V3.00.00.05.	
Nickname	Device name
V850ES/JC3-H	μPD70F3809, μPD70F3810, μPD70F3811, μPD70F3812, μPD70F3813 μPD70F3814, μPD70F3815, μPD70F3816, μPD70F3817, μPD70F3818, μPD70F3819
V850ES/JE3-H	μPD70F3820, μPD70F3821, μPD70F3822, μPD70F3823, μPD70F3824, μPD70F3825
V850ES/JG3-H	μPD70F3760, μPD70F3761, μPD70F3762, μPD70F3770
V850ES/JH3-H	μPD70F3765, μPD70F3766, μPD70F3767, μPD70F3771
The Code Generator for is based on the following documents.	
Manual Name	Document Number
V850ES/JC3-H, V850ES/JE3-H User's Manual	U20153EJ1V0UD00
V850ES/JG3-H, V850ES/JH3-H User's Manual	U19181JJ3V0UD00
	U19181EJ3V0UD00

Below is a list of devices supported by the Code Generator for V850ES/Sx3-H V3.00.00.05.	
Nickname	Device name
V850E/SJ3-H	μPD70F3474, μPD70F3475, μPD70F3476, μPD70F3477, μPD70F3478, μPD70F3479, μPD70F3931, μPD70F3932, μPD70F3933, μPD70F3934, μPD70F3935, μPD70F3936, μPD70F3937, μPD70F3938, μPD70F3939
V850E/SK3-H	μPD70F3480, μPD70F3481, μPD70F3482, μPD70F3486, μPD70F3487, μPD70F3488, μPD70F3925, μPD70F3926, μPD70F3927

The Code Generator for is based on the following documents.	
Manual Name	Document Number
V850ES/Sx3-H User's Manual	U19201JJ3V0UD
	U19201EJ2V0UD

Chapter 2. User's Manuals

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

Manual Name	Document Number
CubeSuite+ V1.03.00 V850 Design	R20UT2134EJ0100
CubeSuite+ V2.01.00 Message	R20UT2687EJ0100

Chapter 3. Key Points for Selecting Uninstallation Method

There are two ways to uninstall this product.

- Use the integrated uninstaller (uninstalls CubeSuite+)
- Use separate uninstaller (uninstalls this product only)

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

- Add/Remove Programs (Windows XP)
- Programs and Features (Windows Vista, Windows 7, Windows 8)

Then select "CubeSuite+ Code Generator for V850".

Chapter 4. Changes

This chapter describes change from V1.00.02 to V2.00.00

(There is no changed part from V2.00.00 to V2.00.01.)

4.1 Changes List

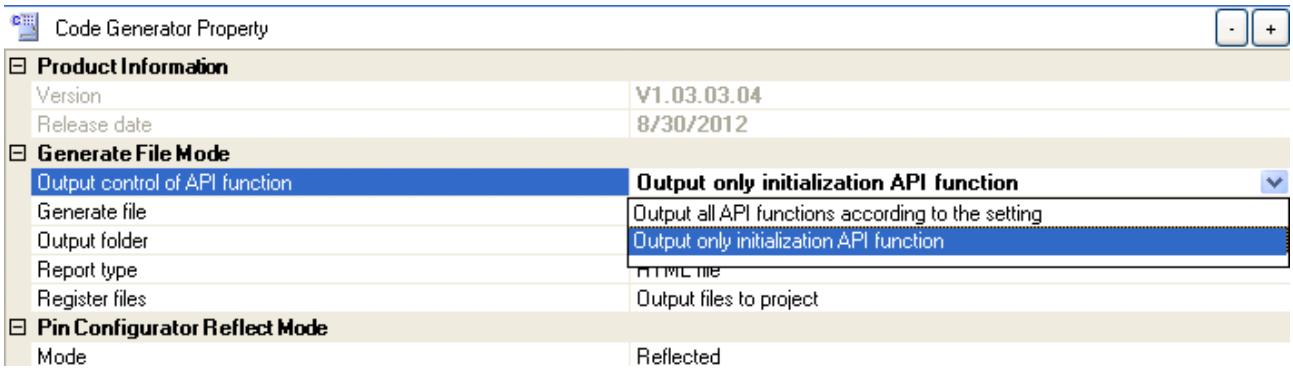
No.	Description	Corresponds of code generation			
		V850ES/JX3 V3.00.00.06	V850ES/Jx3-E V3.00.00.05	V850ES/Jx3-H V3.00.00.05	V850E/Sx3-H V3.00.00.05
1	Additional function generation file mode	○	○	○	○
2	Changes of hdwinit() function	○	○	○	○

○ : Correspondence, ×: Not correspondence

4.1.1 Additional function generation file mode

In the A/D converter, it corrected so that the message displayed with the fixed value as the number of analog input channels might be dynamically displayed according to a number of channels. In the RL78/G1A A/D converter, since conversion time was not able to be set up, it corrected that an A/D converter could not be used.

This issue has been corrected in Code Generator for V850 V1.00.02



4.1.2 Changes of hdwinit() function

We have changed the initial code for the hdwinit() and main() functions.

```
void hdwinit(void)
{
    DI();
   R_Systeminit();
   EI();
}
```

The above code has been changed to the code given below. Accordingly, interrupts are not enabled within the hdwinit function.

```
void hdwinit(void)
{
    DI();
   R_Systeminit();
}
```

Interrupts are now enabled within the main() function.

```
/***********************************************************************************************************************
* Function Name: main
* Description  : This function implements main function.
***********************************************************************************************************************/
void main(void)
{
   R_MAIN_UserInit();
   /* Start user code. Do not edit comment generated here */
   while (1U)
   {
      ;
   }
   /* End user code. Do not edit comment generated here */
}
/***********************************************************************************************************************
* Function Name: R_MAIN_UserInit
* Description  : This function adds user code before implementing main function.
***********************************************************************************************************************/
void R_MAIN_UserInit(void)
{
   /* Start user code. Do not edit comment generated here */
   EI();
   /* End user code. Do not edit comment generated here */
}
```

When an old project is used in code generation, the definitions of variables within the main function may lead to errors.

[Old project]
```
void main(void)
{
    /* Start user code. Do not edit comment generated here */
    char c;
    while (1U)
    {
        ...
```

[When an old project is loaded into CubeSuite+V1.03.00 and used for code generation]
```
void main(void)
{
    R_MAIN_UserInit();
    /* Start user code. Do not edit comment generated here */
    char c;         <- error!!
    while (1U)
    {
        ...
```

In that case, use { }.
```
void main(void)
{
    R_MAIN_UserInit();
    /* Start user code. Do not edit comment generated here */
    {               <- add "{"
      char c;       <- not error!
      while (1U)
      {
          ...
          }
    }               <- add "}"
```

This issue has been corrected in Code Generator for V850 V1.00.02

Chapter 5. Cautions

This section describes cautions for using Code Generator for V850.

5.1 Cautions List

No.	Description	Corresponds of code generation			
		V850ES/JX3 V3.00.00.06	V850ES./Jx3-E V3.00.00.05	V850ES/Jx3-H V3.00.00.05	V850E/Sx3-H V3.00.00.05
1	Cautions of the LIN-bus function of UARTA or UARTC	○	○	○	○
2	Cautions of USB functions	○	○	○	×
3	Cautions of extension code, multimaster, wakeup function of serial interface IIC	○	○	○	○
4	Cautions of the operation for slave transmission of serial interface IIC	○	○	○	○
5	Cautions of Ethernet controllers	×	○	×	×
6	Cautions of IEBus controllers	×	×	×	○
7	Cautions of CAN controllers	×	○	○	○
8	Cautions of project preservation of the watchdog timer2	○	×	×	×

○ : Correspondence, ×: Not correspondence

5.2 Cautions Details

5.2.1 Cautions of the LIN-bus function of UARTA or UARTC

The code generator is not supporting the LIN-bus functions of serial interface UARTA or UARTC.

5.2.2 Cautions of USB functions

The code generator is not supporting the USB functions.

5.2.3 Cautions of extension code, multimaster, wakeup function of serial interface IIC

The code generator is not supporting the extension code, multimaster, wakeup function of serial interface IIC.

5.2.4 Cautions of the operation for slave transmission of serial interface IIC

During slave transmission, if the master receiver does not return an ACK after the final data is received, then the error API IIC00_SlaveErrorCallback(MD_NACK) will be called, regardless of whether the actual slave transmission process ended. For this reason, the program will not terminate normally.

[Work-around]

If the master being communicated with does not return an ACK after the final data reception, change IIC00_SlaveHandler's internal code as follows. (So that it does not check for an ACK after the final data is received)

```
void IIC0_SlaveHandler(void)
{
    ...
    if (TRC0 == 1U)
    {
        if (ACKD0 == 0U)
    {
            IIC0_SlaveErrorCallback(MD_NACK);
    }
        else
    {
            if (glic0TxCnt > 0U)
      {
                IIC0 = *gplic0TxAddress;
                gplic0TxAddress++;
                glic0TxCnt--;
      }
            else
      {
                IIC0_SlaveSendEndCallback();
                WREL0 = 1U;
      }
    }
  }
}
```

if ((ACKD0 == 0U) && (glic0TxCnt != 0))

5.2.5 Cautions of Ethernet controllers

T he code generator is not supporting the USB controllers.

5.2.6 Cautions of IEBus controllers

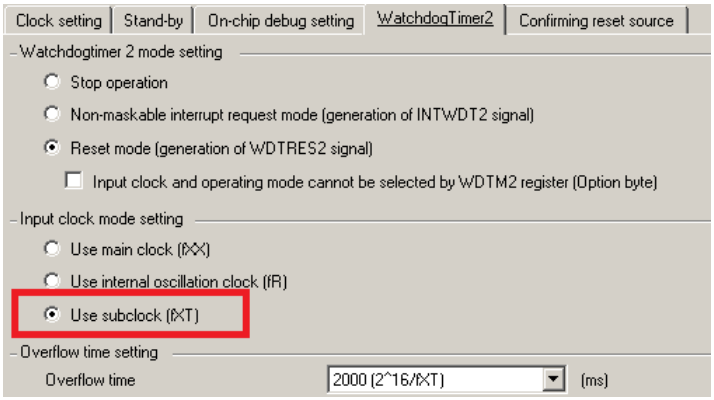
The code generator is not supporting the IEBus Controllers.

5.2.7 Cautions of CAN controllers

The code generator is not supporting the CAN Controllers.

5.2.8 Cautions of project preservation of the watchdog timer2

If the project which chose "Use subclock (fXT)" and was saved by the item of the base clock setup by the watchdog timer 2 is read, a setup will change to "Use main clock (fXX)."



There is no workaround. Repair by the following version is expected

Chapter 6. Restrictions

This section describes the restrictions for the Code Generator for V850.

6.1 Restrictions List

No.	Description	Corresponds of code generation			
		V850ES/JX3 V3.00.00.06	V850ES./Jx3-E V3.00.00.05	V850ES/Jx3-H V3.00.00.05	V850E/Sx3-H V3.00.00.05
1	Restrictions of the coding rule of MISRA-C	○	○	○	○

○ : Correspondence, ×: Not correspondence

6.2 Restrictions Details

6.2.1 Restrictions of the coding rule of MISRA-C

Compliance with the MISRA-C (Guidelines for the Use of the C Language in Vehicle Based Software) coding convention is not supported for source code output by the code generator.

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.

RENESAS

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

Colophon 2.2