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Rev.1.01

Aug. 01, 2020

[Upgrade to version] QE for Display[RX]V2.0.0: Development Assistance Tool for Display

Outline

The product in the title has been upgraded as follows.

(1) QE for Display[RX]: Development Assistance Tool for Display: V1.1.0 to V2.0.0

1. Products and Versions to Be Updated

> QE for Display[RX]: Development Assistance Tool for Display V1.1.0 or earlier

2. Description of the Version Upgrade

The main features of the upgrade are described in the following sections. Refer to the following release note for details.

QE for Display[RX]: Development Assistance Tool for Display
 QE for Display[RX] V2.0.0 Release Note (Scheduled to be released on August 5.)
 https://www.renesas.com/search/keyword-search.html#genre=document&g=r20ut4841

For the list of supported devices by QE for Display[RX], see the URL below.

https://www.renesas.com/qe-display

2.1 Improvements to Functionality

- > Enhanced integration with emWin from SEGGER Microcontroller
 - (1) The workflow view that makes a series of configurations straightforward

You can now include an Segger emWin using QE for Display[RX].



Figure 1. [Workflow Diagram] of QE for Display[RX]



(2) Free GUI library for the RX family

The GUI library is provided as a FIT module, so it can be easily integrated into a user program. For details about Firmware Integration Technology (FIT), refer to the following URL:

https://www.renesas.com/fit

- r_emwin_rx v6.10
- 2D graphic engine driver r_drw2d_rx v1.10
- RX family graphic LCD controller module FIT r_gldcd_rx v1.40
- (3) Starting Segger emWin from QE for Display
 - You can now directly start Segger emWin (AppWizard) from QE for Display. You can also configure emWin by using the QE for display GUI.

e ² emWin setting		>
Board settings Board LCD width LCD height LCD settings	Custom 480 272	
LCD rotation Color depth	ORIENTATION_180 ~ 16bits ~	
Pin settings LCD reset pin LCD backlight pin LCD touch IC reset pin	Port: Bit: Bit: Bit: Bit: Bit: Bit: Bit: G	ORIENTATION_0 ORIENTATION_CW
Memory settings Address of frame buffer 1 Address of frame buffer 2 Maximum memory size used in GUI	0x00000000 0x00800000 81920	∀ <
Touch setting Slave address of touch panel Multi-touch setting	0x38	ORIENTATION_180 ORIENTATION_CCW
Multi-touch function Maximum number of touch panel points	Not Use V 10	
Communication channel IIC channel number	6	
DRW2D setting DRW2D	Use 🗸	
		OK Cancel <u>H</u> elp

Figure 2. emWin setting dialog

(4) Easier system configuration and integration

The QE for Display adjustment results (for example, timing and image quality) can be reflected to a FIT module added to a user project, reducing the need for merging them to the user project.

The Segger emWin is a GUI platform that can be used to create flexible and sophisticated graphics. It can be used to create an extremely advanced, high quality, and interactive graphical interface efficiently.

For details about and to download the Segger emWin package, refer to the following URL:

https://www.segger.com/products/user-interface/emwin/add-ons/emwin-support-renesas-rx-mcu/



> Improvement of the display adjustment function

Graphic layers in the Graphic LCD Controller (GLCDC) can now be configured through the GUI.

🖵 Display Tuning RX (QE) 🙁 🖵 LCD Main RX (QE) 🔛 🐨 🖳						
Start Display Adjustment						
Maker/Type : Newhaven Display International, Inc. V Model Name/Size : NHD-4.3-480272EF-ATXL#-CTP V						
Block Image TCON/LCD Setting Timing Adjustment Graphic Layer Setting Image Quality Adjustment						
Display Start Position HDP						
VDP Height of						
VDP Height of Image Data						
Width of Image Data						
Select Using Graphic Layer: Graphic Layer1 and Graphic Layer2						
Graphic Layer1 Setting Height of Image Data: 480						
Width of Image Data: 272 🗣						
Display Start Position(x-coodinate): 0						
Display Start Position(y-coodinate): 0						
Start Address of Frame Buffer: 0x 00000040						
Output Data Format: ARGB8888 (GLCDC_IN_FORMAT_32BITS_ARGB8888) ~						
Graphic Layer2 Setting						
Height of Image Data: 480						
Width of Image Data: 272 🖨						
Display Start Position(x-coodinate):						
Display Start Position(y-coodinate): 0						
Start Address of Frame Buffer: 0x 00000040 Output Data Format: ARGB8888 (GLCDC_IN_FORMAT_32BITS_ARGB8888)						
Interrupts Setting Interrupts Setting Inable VPOS Detection						
Enable VPOS Interrupt						
Callback Function Callback Function						

Figure 3. [Display Tuning RX (QE)] view



3. Updating Your Product

Update your program in either of the following methods.

3.1 Updating from the e² studio Installer

For how to update e² studio, refer to "3.Updating Your Product" in RENESAS TOOL NEWS Document number R20TS0592EJ0100.

https://www.renesas.com/search/keyword-search.html#genre=document&g=r20ts0592

[Upgraded to version] e² studio 2020-07

In the [Additional Software] pane of the e² studio installation wizard, select QE for Display.

Note 1: This step is disabled in situations where an internet connection is not available. In that case, perform an update following the instructions in 3.2.

Note 2: Use e^2 studio V7.8 or e^2 studio 2020-07.

🗟 e² studio Setup	- 0	×		
e ² studio 7.7.0.R20191210 Select additional software to		12		
Welcome	Renesas QE (0) Toolchains & Utilities (2)			
 Install Folder 	Renesas Quick and Effective Tool Solutions (QE)	* ^		
 Device Families Extra Components 	QE for Capacitive Touch[RX] 1.1.0 Assisting in the configuration, tuning, and monitoring of touch interfaces			
 Components Additional Software 	QE for BLE[RX] 1.0.0 Assisting in development work involving Bluetooth® Low Energy			
C Licenses	QE for Display[RX] 1.1.0 Adjusting timing settings or the image quality of displays (for use with display controllers from Renesas)			
O Summary	QE for TCP/IP (Technical Preview Edition) 1.0.1 Checking communications problems originating in TCP/IP. (RX family from Renesas running the M3S-T4-Tiny TCP/IP protocol stack.)			
O Results	< 29.9 MB download	> required		
<u>v201912161630</u>	< Back Next > Install Can	cel		

Figure 4 Updating from the e² studio Installer



3.2 Using the QE Installer

Download the installer from the URL below and proceed with the installation.

(Download will be available as of August 5.)

 QE for Display: Development Assistance Tool for Display <u>https://www.renesas.com/qe-display#downloads</u>
 QE for Display Package V2.0.0

Use the following procedure to install the product.

- (1) Activate e² studio.
- (2) Click [Help], and then click the [Install New Software...] menu to open the [Install] dialog box.
- (3) Click the [Add...] button to open the [Add Repository] dialog box.
- (4) Click the [Archive...] button, select the installation file (zip file) in the opened file selection dialog box, and then click the [Open] button.
- (5) Click the [OK] button in the [Add Repository] dialog box.
- (6) Expand the [Renesas QE] item shown in the [Install] dialog box, select the [Renesas QE for Display[RX] check box, and then click the [Next>] button.
 * You can check off the [Contact all update sites during install to find required software] check box to shorten the installation time.
- (7) Confirm that the installation target is correct, and then click the [Next>] button.
- (8) After checking the license, select the [I agree to the terms of the license agreements] radio button, and then click the [Finish] button.
- (9) When the dialog box for selecting a trusted certificate appears, check the displayed certificate, and then click the [OK] button to continue installation.
- (10) Restart e² studio according to the instructions on the screen.
- (11) Start this product from the [Renesas Views] [Renesas QE] menu of e² studio. For details about how to use this product, refer to the QE items from the [Help] menu of e² studio.



Revision History

		Description	
Rev.	Date	Page	Summary
1.00	Aug.01.20	-	First edition issued
1.01	Aug.17.20	1, 2	Description corrected

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