

To our customers,

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## Old Company Name in Catalogs and Other Documents

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Renesas Electronics website: <http://www.renesas.com>

April 1<sup>st</sup>, 2010  
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (<http://www.renesas.com>)

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## Notice

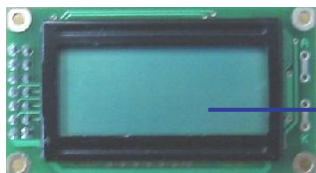
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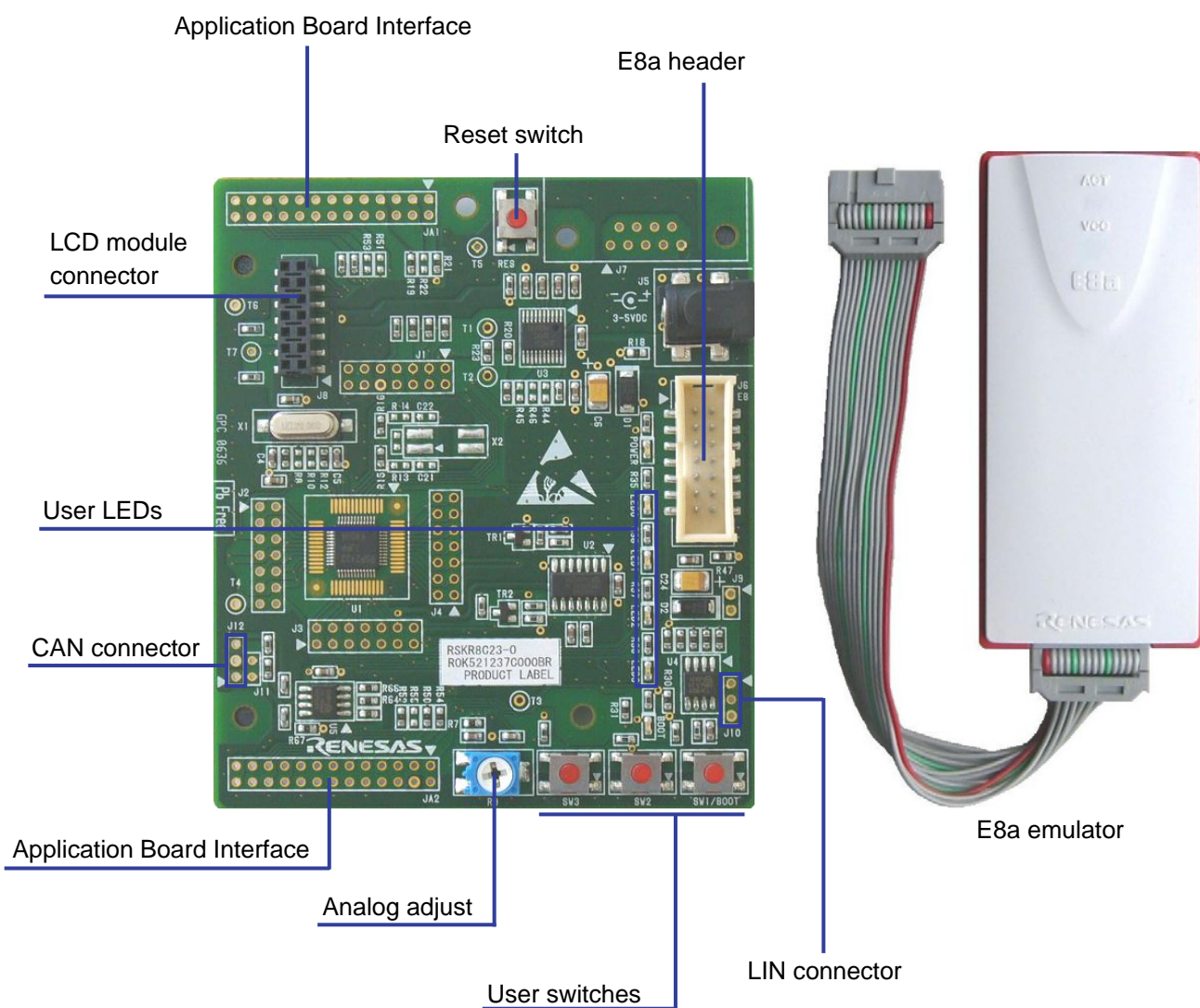
(Note 2) “Renesas Electronics product(s)” means any product developed or manufactured by or for Renesas Electronics.

# Quick Start

## Renesas Starter Kit for R8C/23



LCD module



## 1. Installation

**Do not connect the E8a emulator hardware until the software support has been installed.**

1. Insert the CD into your computer's CD-ROM drive. The CD should automatically run the installation program. If the installer does not start, browse to the CD root folder and double click on "setup.exe".
2. The installer will ask you which language is to be used, please choose the appropriate one.
3. On the first screen of the installer proper, click <Next>.
4. The License Agreement will be shown, click <Yes>.
5. The next screen asks you to pick the world region – please select and click <Next>.
6. Select the Renesas Starter Kit you wish to install and click <Next>.
7. The destination folders are specified on the next screens. It is recommended to accept the default settings. Click <Next> to continue.
8. Click <Next> on all screens until the installation process commences.
9. After the installation the machine's site code will be shown, this is not important at this stage, click <Next>.
10. Ensure 'Launch AutoUpdate' is selected and click <Finish>.
11. Configure Auto-Update to finish the installation.

## 2. Connection

12. Now connect the E8a to J6 on the board using the ribbon cable, also connect the LCD module to J8 on the board ensuring that the pin 1 designation corresponds to the marking on the board.

13. Connect the E8a emulator to a spare USB port.

The "Found New Hardware" Wizard will appear. Please follow the steps below to install the drivers. Note that administrator privileges are required for a Windows™ 2000/XP machine.

14. Select 'No, not this time' if dialog appears and click <Next>.
15. Verify the "Recommended" option is selected and click <Next>.
16. If using Windows XP, skip to step 18; otherwise click <Next>.
17. Click <Next> to install the driver.
18. Click <Finish> to close the wizard.

*Note: The Windows driver signing dialog may be displayed. Please accept the driver to continue.*

## 3. High-performance Embedded Workshop Workspace

High-performance Embedded Workshop integrates various tools such as compiler, assembler, debugger and editor into a common graphical user interface. To learn more on how to use High-performance Embedded Workshop, open the High-performance Embedded Workshop manual installed on your computer (Start Menu > All Programs > Renesas > High-performance Embedded Workshop > Manual Navigator).

19. Launch High-performance Embedded Workshop from the Start Menu. (Start Menu > All Programs > Renesas > High-performance Embedded Workshop > High-performance Embedded Workshop)
20. In the "Welcome" dialog box: Verify "Create New Workspace" is selected. Click <OK>.
21. In the "New Project Workspace" dialog box: Set the "CPU Family" to "M16C", and verify the "Tool chain" is set to "Renesas M16C Standard". Select "E8A\_RSKR8C23" from the left hand pane.
22. Enter a name for the workspace. The project name will be automatically completed with the Workspace name. You can change this name to "Tutorial" if required. Click <OK>.
23. On the "E8A\_RSKR8C23- Step 1" window: Select "Tutorial" and click <Next>.
24. On the "E8A\_RSKR8C23- Step 2" window: Click <Finish>.
25. On the Project Generator Information window: Click <OK>.

The project that is created has two configurations. The Release configuration can be used for the final release code version. The Debug configuration allows modifications to the configuration for debugging.

26. Select the Debug build configuration in the left hand drop down list on the toolbar.



27. Click on the "Build" icon to compile, assemble and link the project.



#### 4. Programming and Debug

28. Ensure the "SessionR8C\_E8a\_SYSTEM" session in the right hand drop down list on the toolbar is selected.



29. Click the <Connect> button on the debug toolbar.



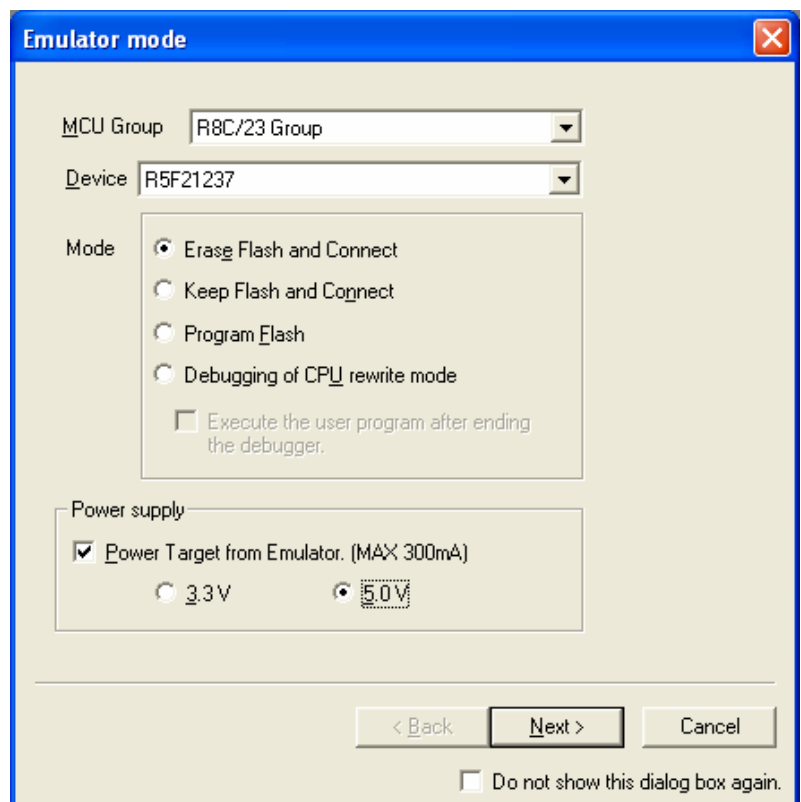
30. The "Emulator mode" dialog will be shown. Select the correct MCU group and device type (e.g. R8C/23 Group and R5F21237 for E8A\_RSKR8C23).

**Please note that the "Emulator mode" dialog shown here will only appear the FIRST time you connect to the target within a project. On subsequent connections the "Emulator setting" dialog will appear, please choose the same options to connect.**

31. Select "Erase Flash and Connect".  
32. If the E8a is to provide power to the CPU board, select "Power Target from Emulator" and choose the "5.0V" option.

Otherwise connect a 5V centre positive supply.

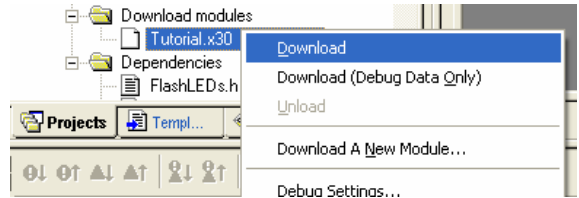
33. Click <Next>.  
34. The "Firmware Location" dialog will be shown. Click <Next>, then <Finish>.





35. Accept any dialog warning that an older version of E8a firmware is necessary to work with the application. Allow download of firmware to complete, this may take several seconds.

The connection to the Renesas Starter Kit will be completed and will activate the debugger buttons on the High-performance Embedded Workshop toolbar.

36. Right click on the download module listed in the left hand pane and select "Download".  
The code will be downloaded to the microcontroller. This may take several seconds.



37. Click the <Reset Go> button.   
The code will run and you will see the LEDs flash on the board.

38. Click the <Stop> button.   
The code will stop and the source code will be opened at the current program counter.

## 5. Next Step

After you have completed this quick start procedure, please review the tutorial code and sample code that came with the kit. You can add projects to the current workspace by selecting (Project > Insert Project) from the main menu. The tutorials will help you understand the device and development process using Renesas Development Tools. The Hardware manual supplied with this kit is current at the time of publication. Please check for any updates to the device manual from the Renesas website at: [www.renesas.com/renesas\\_starter\\_kits](http://www.renesas.com/renesas_starter_kits)

## 6. Renesas M16C Compiler

The version of the compiler provided with this kit is fully functional but time limited. You have 60 days to evaluate the full product before the compiler will limit the code linker to 64k bytes. Full licensed M16C compiler versions are available from your Renesas supplier.

## 7. Support

Online technical support and information is available at: [www.renesas.com/renesas\\_starter\\_kits](http://www.renesas.com/renesas_starter_kits)

Technical Contact Details

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Japan: [csc@renesas.com](mailto:csc@renesas.com)

**Note on Autoupdate:** The Autoupdater is configured to automatically add itself to the Startup folder in the Windows Start Menu and use the registry defaults for access to the web. After restarting the machine the Icon will appear in the System Tray next to the clock. To change the settings or access Autoupdate simply right-click on the icon and use the menu that appears.

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