To our customers,

Old Company Name in Catalogs and Other Documents

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

April 1st, 2010
Renesas Electronics Corporation

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

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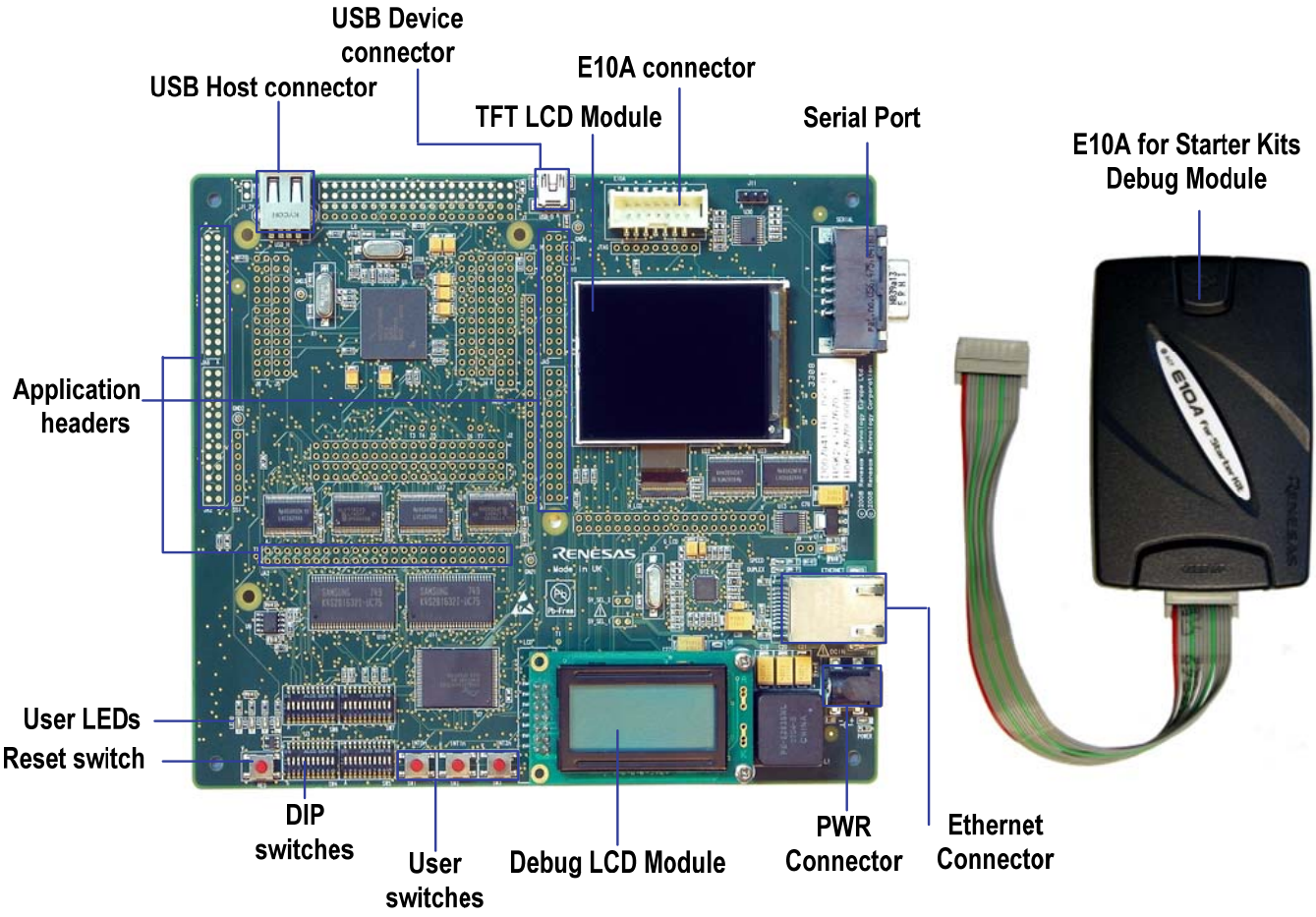
Quick Start Renesas Starter Kit2+ for SH7670



RENESAS

1. Installation

Do not connect the E10A debugger 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 and click <OK>.
3. On the first screen of the installer proper, click <Next>.
4. The License Agreement will be shown, read and click <Yes>.
5. The next screen asks you to pick the world region – please select and click <Next>.
6. The destination folders are specified on the next screens. It is recommended to accept the default settings. Click <Next> to continue.
7. Click <Next> on all screens until the Installation process commences.
8. After the completion of successful installation, click <Finish>.
9. Auto update dialog box will be launched. Configure the Auto-Update settings dialog to allow your installation to be checked for available updates.

2. Connection

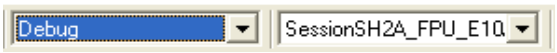
10. Fit the debug LCD module to the connector marked 'LCD' on the RSK. Ensure all the pins of the connector are correctly inserted in the socket.
11. Now connect the E10A debugger to E10A connector on the RSK using the ribbon cable.
12. Connect the E10A debugger to a spare USB port. DIP switches are already set to the default position. Default DIP switch position can found in section 6.11 of the User's Manual.
13. Connect external power supply to RSK board (12 Volts, centre positive) at PWR connector, ensure the polarity is correct!
14. 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.
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. HEW Workspace

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

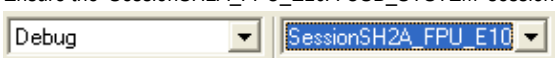
19. Launch HEW from the Start Menu. (Start Menu > All Programs > Renesas > High-performance Embedded Workshop).
20. In the "Welcome" dialog box: Verify "Create a new project workspace" is selected. Click <OK>
21. In the "New Project Workspace" dialog box: Set the "CPU Family" to "SuperH RISC engine", and verify the "Tool chain" is set to "Renesas SuperH Standard". Select "RSK2+SH7670" 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 "RSK2+SH7670 – Step 1" window: Select "Tutorial" and click <Next>.
24. On the "RSK2+SH7670 – 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 tool bar.



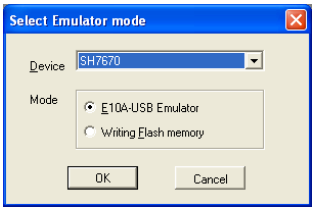
27. Click on the 'Build' icon to compile, assemble and link the project.

4. Programming and Debug

28. Ensure the 'SessionSH2A_FPU_E10A-USB_SYSTEM' session in the right hand drop down list on the tool bar is selected.



29. Correct batch file is already included. Batch file can be included by Selecting "Debug Settings" in "Debug" menu. Select "Options" Tab. Select "Before download of modules" drop-down menu. Press "Add" button. Set the correct path to $Workspace\(Project directory)\Flash_Tool to include "fmtool_rsk.hdc" file in "Filename" section and click OK.
30. Please open "Command Line" window by choosing "Command Line" in "View" menu or by pressing "Ctrl+L".
31. Click the <Connect> button on the debug toolbar
32. Select the correct device type (e.g. SH7670 for RSK2+SH7670).



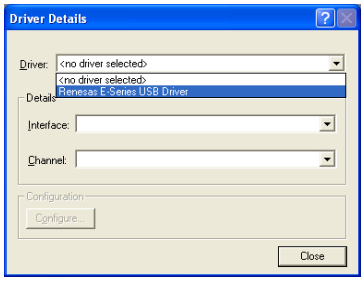
33. Select “E10A-USB Emulator” and click <OK>.

If this isn’t the first time you have used the E10A module with this RSK, please skip to step 38.

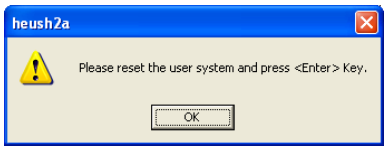
First use of the E10A module

34. The ‘Please choose driver’ dialog will be shown. Click <OK>
35. The ‘Driver Details’ dialog will be shown, please select “Renesas E-Series USB Driver” as illustrated. The ‘Interface’ and ‘Channel’ items will be automatically populated. Click <Close>.
36. The Firmware setup dialog will be shown warning you not to disconnect the USB cable until the firmware download is complete. Click <OK>.
37. The firmware will be downloaded to the E10A module; this will take a few moments.

Please do not disconnect the E10A from the host during download, doing so is likely to damage the E10A module.

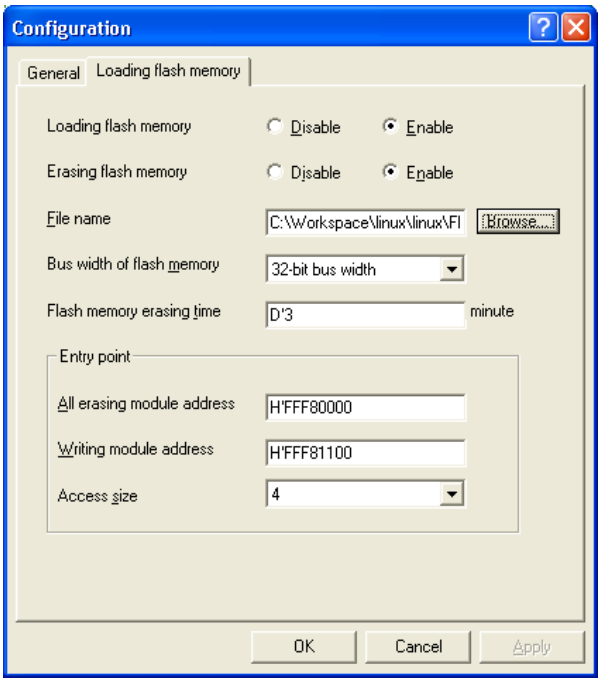


38. The adjacent dialog will appear on the screen, please press ‘Reset’ button on the RSK board and click <OK>.

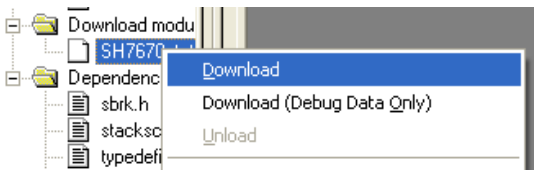


39. Please wait until message “Connected” appears in the “HEW output ” window. The RSK board is successfully connected.

40. Select “Setup” menu “Emulator -> System…” menu, open “Configuration” dialog box and then click “Loading flash memory” tab.
41. Please set the next settings by clicking on Browse option and select the flash memory download program "fmtool_MultiBank.mot". The flash memory download program can be found in $Workspace\(Project directory)\Flash_Tool
42. Set “Loading flash memory” to enable; set “Erasing flash memory” to enable; set “Bus width of flash memory” as 32-bit and “Flash memory erasing time” as D’3.
43. In the entry point set “All erasing module address” as H’FFF80000, “Writing module address” as H’FFF81100, and “Access size” as 4 and click OK.



44. Right click on the download module listed in the left hand pane and select ‘Download’. This will erase and download the code in the flash.



During the initial erase process the progress bar in “Downloading program” dialog box will not update. This is because of the erase time of the flash devices. Please wait for up to 90 seconds for erase to complete before the progress bar will be active.

45. Click the <Reset – Go> button.

The code will run and you will see the LEDs flash on the board.

46. 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 RSK is current at the time of publication. Please check for any updates to the device manual from the Renesas internet site at: www.renesas.com/renesas_starter_kits

6. Renesas SH Compiler

The version of the compiler provided with this RSK is fully functional but time limited. You have 60 days to evaluate the full product before the compiler will limit the code linker to 256k bytes. Full licensed SH compiler versions are available from your Renesas supplier.

7. Support

Online technical support and information is available at: www.renesas.com/renesas_starter_kits

Technical Contact Details

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Europe: tools.support.eu@renesas.com
Japan: 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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