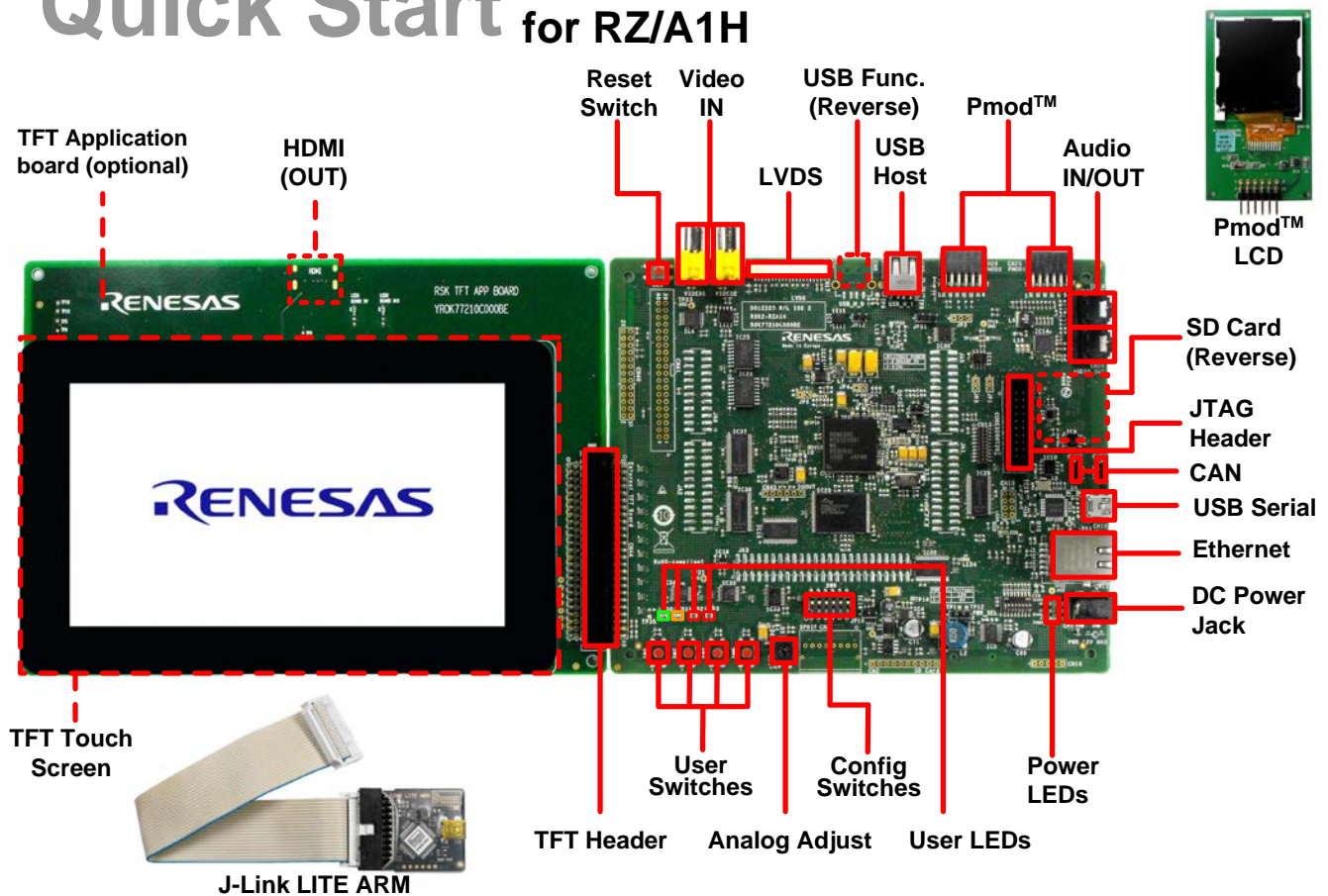


Quick Start Renesas Starter Kit+ for RZ/A1H



RENEASAS

NOTE: This Quick Start Guide covers installation of the e² studio.

1. Installation

Do not connect the J-Link LITE ARM debugger module or any hardware until the software support has been installed.

1. Insert the DVD into your computer's DVD-ROM drive. The DVD should run the installation program automatically. If the installer does not start, browse to the DVD's root folder and double click on 'setup.exe'.
2. Windows™ 7/ 8 users may see "User Account Control" dialog box. If applicable, enter the administrator password and click 'Yes'.
3. The installer welcome screen will open. Follow the on-screen instructions to install the RSK+ software. This process will take several minutes.

Note:

You will be prompted to obtain a product activation code by logging onto the My Renesas website. Please follow the on screen instructions.

When prompted to specify a different location for installing any of the tools, it is recommended that default entries are accepted.

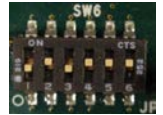
The Windows™ driver signing dialog box may be displayed. Please accept the driver to continue.

2. Connection

4. Connect the J-Link LITE ARM debugger module to the connector marked 'CN14 ARM JTAG 20' on the silk screen ('JTAG Header' on the diagram) using the ribbon cable.
5. Connect the J-Link LITE ARM debugger module to a spare USB port of your PC. The green LED on the debugger will flash.
6. Please follow the steps below to install the drivers. Note that administrator privileges are required to install the drivers.

Windows™ 7 / 8

- Windows™ 7: A "Device driver software installed successfully" pop-up will appear in the Windows™ toolbar and installation will complete.
 - Windows™ 8: An icon will appear in the Windows™ toolbar and installation will complete.
7. The green LED on the J-Link LITE ARM debugger will illuminate.
 8. Ensure that SW6.1 and SW6.3 are set to the OFF position, to run from QSPI memory.
 9. Connect the Pmod™ LCD to CN25 (PMOD1) connector.
 10. Ensure pins 2 and 3 of the PWR_SEL header are shorted to configure the board for use with a 5V power supply.
 11. Connect a centre-positive +5V power supply to the connector marked PWR and apply the power.



3. Importing Sample Code into e² studio

e² studio integrates various tools such as compiler, assembler, debugger and editor into a common graphical user interface.

12. Start e² studio from the start menu:

Start > All Programs > Renesas Electronics e2 studio 3.1 > Renesas e2 studio



Windows™ 8:

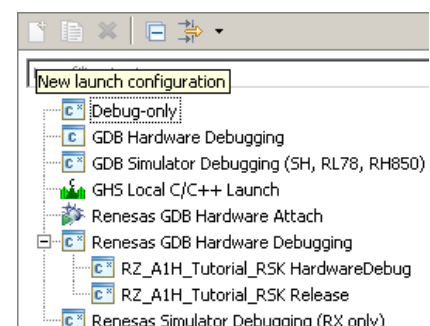
Apps > Renesas e2 studio

Note: A firewall warning may be displayed for 'eclipse.exe'. Check the 'Private networks, such as my home or work network' box and click 'Allow access'.

13. In the 'Select a workspace' folder that appears, browse a suitable location and folder name to save your new workspace. Click 'OK'.
14. Toolchain registration dialog will appear. Select the available toolchains. Click 'Register'.
15. In the 'Code Generator Registration' dialog click 'OK'. A 'Code Generator COM component register' dialog will pop-up with the text "Please restart e2 studio to use Code Generator". Click 'OK'.
16. In the 'Restart e2 studio' dialog click 'OK'. e² studio will be restarted due to first-time registration of the Code Generator COM components.
17. In the e² studio welcome screen, click 'Go to the workbench', which is the last item under the e² studio Resources' heading.
18. Right-click in the Project Explorer window, and select 'Import'.
19. Under 'Import Source' select General > Existing Projects into Workspace, and click 'Next'.
20. Click the 'Browse' button, and locate the following root project directory:
'C:\Renesas\Workspace\RSK\RSK+RZA1_E2'
21. Ensure the 'Copy projects into workspace' option is ticked and then click 'Finish'.

4. Programming and Debug

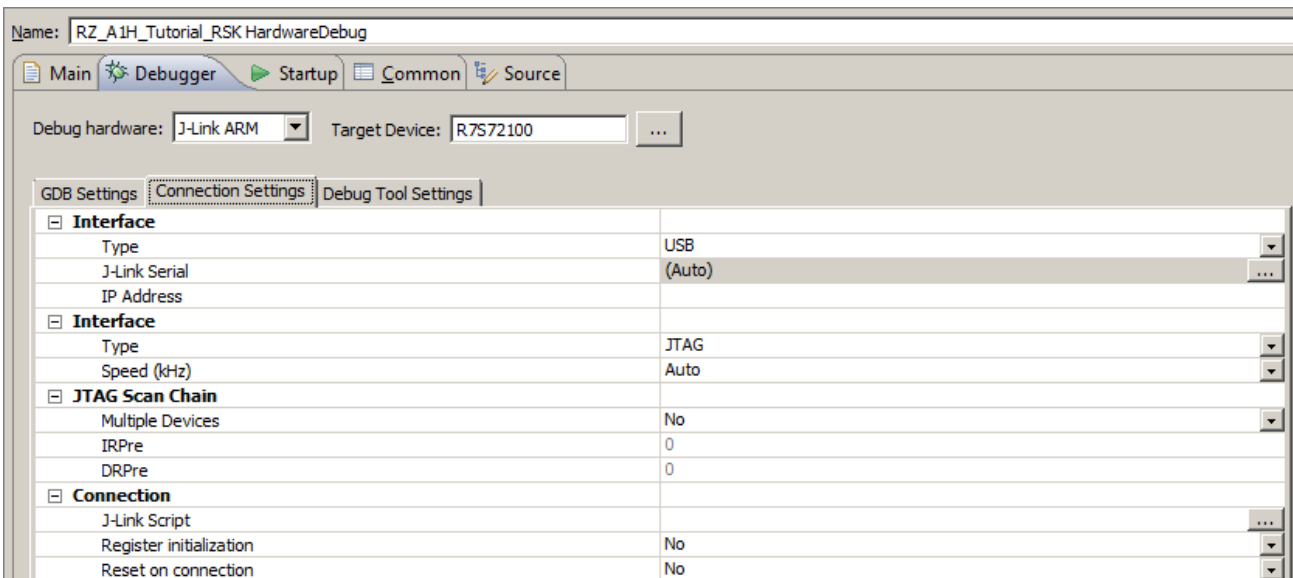
22. Left-click the Tutorial project to select it, then click the arrow next to the build button (hammer icon), and select 'HardwareDebug' from the drop down menu.
23. e² studio will now build the project. Once this is complete, debugging can be started by clicking the arrow next to the debug button (bug icon), and selecting 'Debug Configurations...'.


24. Click the symbol next to the entry 'Renesas GDB Hardware Debugging' to expand the list. Select the configuration entry which matches the current project.





25. The debug configurations control page will contain settings for the device selected during project creation. There is no need to alter the preset configurations.
26. In the 'Debugger' tab, verify that the 'Debug hardware' selected is 'J-Link ARM' and the 'Target Device' is R7S72100.


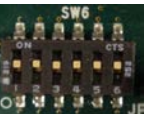


27. Click the 'Debugger' tab, then the 'Connection Settings' secondary tab. Review the settings listed in the screenshot below.



28. Click the 'Debug' button to download the code to the target, and begin debugging.
29. A firewall warning may be displayed for 'e2-server-gdb.exe'. Select the check-box for 'Private networks, such as my home or work network', and click 'Allow access'.
30. A User Account Control dialog may be displayed. Enter the administrator password and click 'Yes'.
31. e2 studio will ask you to change to the 'Debug Perspective', click 'Yes'.
32. Once the code has been downloaded, click the 'Resume' button to run the code up to the first line of the main function, R_RIIC_rza1h_rsk_init(); click the 'Resume' button to run the target through the code. 
33. Refer to the LCD display. Press SW1, SW2 or SW3. The text 'STATIC' will appear near the bottom of the LCD panel, before being replaced with 'TESTTEST' one character at a time.
34. Rotate the analog adjust control (RV1). The rate of flashing of LED0 will vary.
35. Click the 'Suspend' button. The program will stop and the source code will be opened at the current program counter. 

5. Running the TFT Touchscreen Sample Program

36. To disconnect from the target board click the 'Disconnect' button on the toolbar; then select the C/C++ perspective (at the top right) to return to the editor view. 
37. Power down the RSK+.
38. The TFT Touchscreen sample is programmed into the RSK+ NOR FLASH. To run the program from NOR FLASH, first ensure that all SW6 switches are set to the ON position. 
39. Connect the RSK TFT App Board to the RSK on CN44.
40. Connect a USB cable between the USB Serial connector (CN18) on the RSK+ and an available USB port on the host PC.
41. Use any serial terminal (e.g. HyperTerminal, Tera Term or PuTTY), select the appropriate COM port and set the baud-rate to 115200 bps, Data bits to 8, Stop bits to 1, Parity to None and Flow as None.
42. Re-apply power to the RSK+.
43. The program responds to up to five simultaneous finger presses on the touchscreen, by colouring the screen in the touch locations in various colours. The co-ordinates of all five concurrent touches are displayed in the serial terminal.

6. MAC Address

When running any Ethernet software, a unique MAC address should be used. A unique Renesas allocated MAC address is attached to the RSK+RZA1H PCB as a sticker, and should always be used with this device to ensure full compatibility when using other Renesas hardware on a common Ethernet connection.

7. 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 review the other samples using the sub-projects in the Project Explorer. The Tutorial Manual will help you understand the device and the 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/rsk+rza1h. To learn more on how to use e² studio, open the program's help files by using Help > Help Contents.

8. User Manuals

User manuals can be found in the Windows™ 7 Start Menu. (Start Menu > All Programs > Renesas Electronics Tools > RSK+RZA1 e2 studio > Manuals).

For Windows™ 8, click the down arrow in the Start page. The user manuals are available in Apps > Renesas Electronics Tools.

9. Compiler Support

The version of the compiler provided with this RSK is a fully functional GNU compiler but requires registration before it can be used.

Support for the GNU NONE Compiler is available from <http://www.kpitgnutools.com>

10. Support

Online technical support and information is available at: <http://www.renesas.com/rsk+rza1h>

The Hardware Manual supplied with this RSK is current at the time of publication. Please check for any updates and additional content from the Renesas internet site at: <http://www.renesas.com/rsk+rza1h>

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