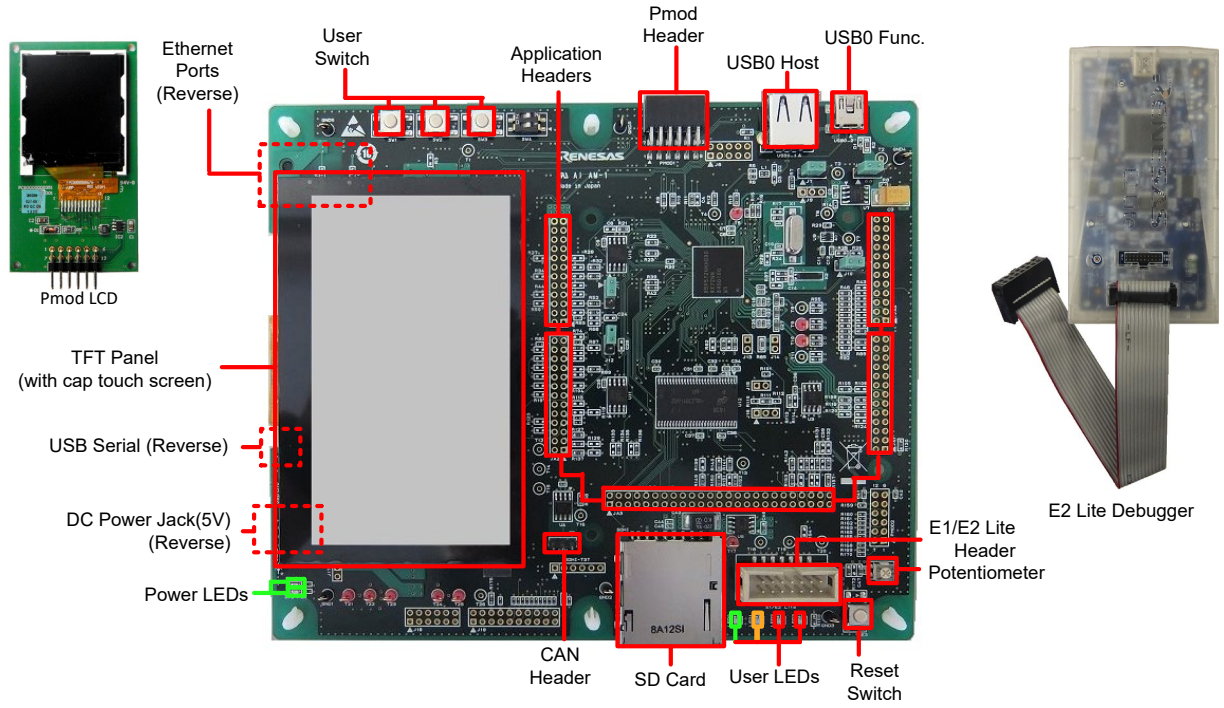
Quick Start Guide Renesas Starter Kit+ for RX72N



NOTE: This Quick Start Guide covers installation of the CS+ IDE.
To download the RSK+RX72N installer, you need an internet connection environment.

1. Installation

Do not connect the E2 Lite debugger module until the software support has been installed.
Internet access is required during the installation process.
A PC with a processor over 1GHz is recommended to install the software.

1. Software for this Renesas Starter Kit is available for Download from;

https://www.renesas.com/rskrx72n/install/cs

2. Windows™ 10 / 8.1 users may see a “User Account Control” dialog box. If applicable, enter the administrator’s user name and password and click ‘Yes’.

3. When you execute downloaded installer, 'Readme first' window is appeared.
   Please read 'Readme first' first, click 'Begin CS+ Setup' and follow the instructions on the screen to install the RSK+ software.
   This process takes several minutes.

4. The End User License Agreement appears. Read the license and select ‘Accept’ if you wish to continue. Click ‘Next’

5. The ‘Select Components’ window appears. Review the components by selecting each component in turn. Click ‘Next’ to continue.

6. The ‘Installation Settings Confirmation’ window appears. Review the information and click ‘Next’ to begin installation.

7. The ‘Installation Execution’ window will appear showing the installation progress.
   Note: The Windows™ driver signing dialog box may be displayed. Please accept the driver to continue.
   Note: If an information dialog prompting for updates such as Visual C ++ ™ is displayed, please update the software.

8. After the installation has completed, click ‘Next’.

9. Uncheck ‘Launch Update Manager’, then click ‘Finish’ to exit the installer. *It is recommended to run the CS+ Update Manager and install updates after completion of this guide.*
   Note: The Renesas Flash Programmer included with the installer may not be the latest version.

2. Connection

10. Ensure the PMOD LCD is fitted to the connector marked ‘PMOD1’ on the RSK+. Make sure that the pin numbers of each connector match as shown in the figure on the right.



11. Connect the E2 Lite debugger module to the connector marked ‘E1/E2 Lite’ on the RSK+ using the ribbon cable.

12. Connect the center positive +5V PSU to the PWR connector on the RSK+ and apply power.

13. Connect the E2 Lite debugger module to a spare USB port of your PC. The green ‘ACT’ LED on the E2 Lite debugger will flash.

14. The E2 Lite debugger drivers will now be installed. Note that, this may take up to a minute and administrator privileges will be required.

Windows™ 8.1	**Windows™ 10**
An icon will appear in the Windows™ Taskbar and installation will complete.	A “Device Setup” button will appear in the Windows™ Taskbar and installation will complete.

3. CS+ Project

CS+ integrates various tools such as compiler, assembler, debugger and editor into a common graphical user interface.
To learn more on how to use CS+, refer to the CS+ Tutorial manual from the menu bar (Help > Tutorial).
Other CS+ manuals are available:

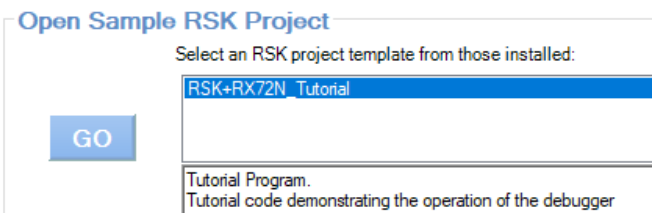
Windows™ 8.1: From Apps View, all documents are under "Renesas Electronics CS+"
Windows™ 10: Start Menu > All Apps > Renesas Electronics CS+

15. Launch CS+:
    Windows™ 8.1: From Apps View, click ‘CS+ for CC (RL78, RX, RH850)’ icon
    Windows™ 10: Start Menu > All Apps > Renesas Electronics CS+ > CS+ for CC (RL78, RX, RH850)

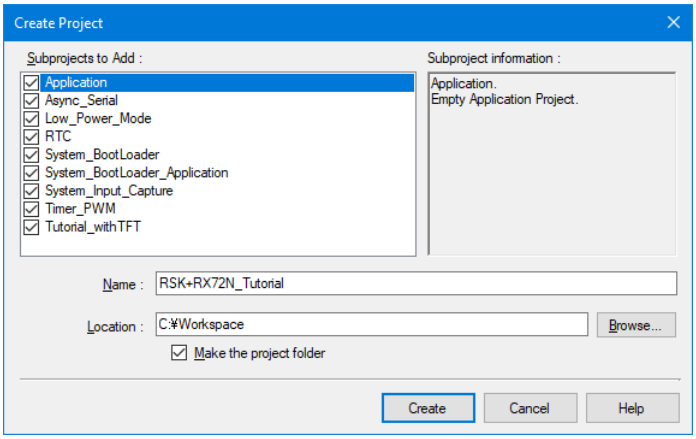
    When start up for the first time, the "Confirm an agreement" dialog is displayed. After reading the contents, check the tick box and click ‘Yes (Y)’ or ‘No (N)’ button.

16. The ‘One Point Advice’ dialog box, which provides useful tips, will open. Click ‘OK’.

17. The Start panel will appear. Select the ‘RSK+RX72N_Tutorial’ project under the ‘Open Sample RSK Project’ entry and click ‘GO’.



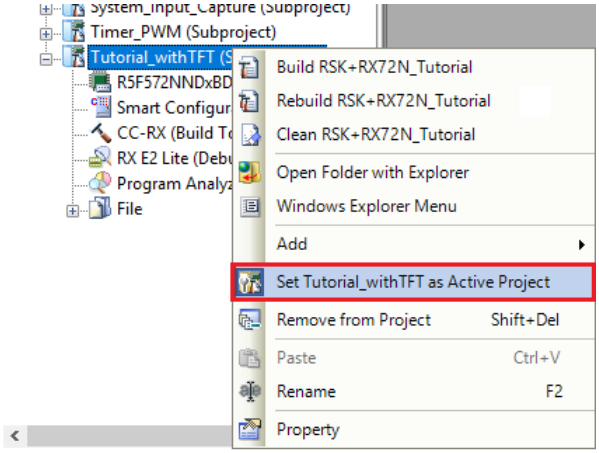
18. In the “Create Project” dialog box that follows, specify a name for the project. Select all sub-projects by clicking on each checkbox.



19. Click “Create” to launch the main Tutorial project.

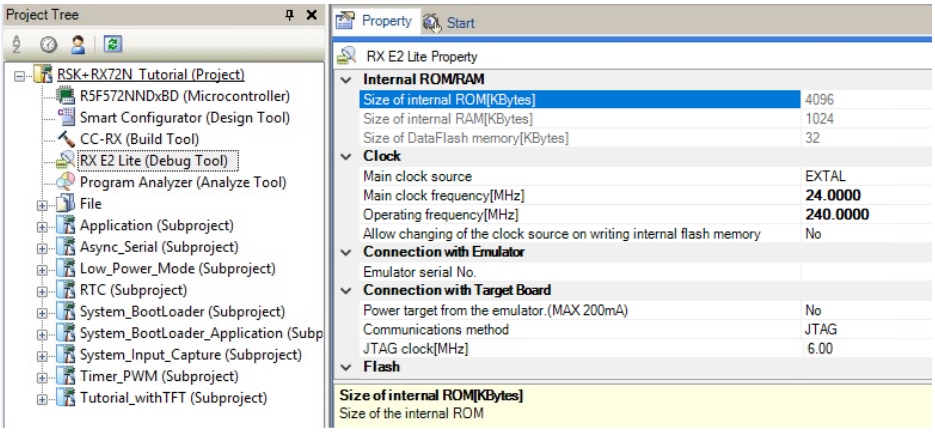
20. If asked to create the project folder, click ‘Create’.

21. Change active project to Tutorial_withTFT. To change the active project, right-click on the Tutorial_withTFT (Subproject) and select “Set Tutorial_withTFT as Active Project”.



4. Programming and Debug

22. Double-click on the Debug Tool to open the Property pane, ‘Connect Settings’ tab.



23. Verify that the option to ‘Power target from the emulator’ is set to ‘No’.

24. Build the project by clicking on the Build Project button. 

25. Download the code to the microcontroller by clicking on the download button. 

26. Click the ‘Restart’ button to reset the CPU and start program execution. 

27. The LCD will display “RSK+RX72N”, “Tutorial” and “Press Any Switch” on the first three lines of the panel. Also, the picture of the RSK+ and the emulator are displayed on the TFT panel.

28. Press any switch (SW1, SW2 or SW3). An A/D conversion will be performed and the result will be displayed on the LCD panel.

29. Rotate the Potentiometer Control and press any switch again. A new A/D conversion will be performed and the count of A/D conversions will be displayed in binary form using LEDs 0-3.

30. Click the 'Stop' button. 

    The code will stop and the source code will be opened at the current program counter.

31. To end the debug session, click the disconnect button. 

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 review other samples by selecting sub-projects during the Open Sample RSK Project step(step 17) and setting the required project as active in the Project Tree. The Tutorial Manuals will help you understand the device and the development process using Renesas Development Tools.

Please refer to "description.txt" in each sample project for sample code specification and operating procedure.

The content of the manuals included in the installer are correct at the time of publication. Please check for any updates to the manual from the Renesas internet site at: https://www.renesas.com/rskrx72n

6. Renesas RX Compiler

The version of the compiler provided with this RSK+ is fully functional for 60 days and then code size will be limited to 128Kbytes of Code and Data. This restriction can be removed by purchasing a licenced copy of the tools.

7. User Manuals

User manuals can found in the following locations:
Windows™ 8.1: From Apps View ⊙, all documents are under "Renesas Electronics CS+"
Windows™ 10: Start Menu > All Apps > Renesas Electronics CS+

8. Support

Online technical support and information is available at: https://www.renesas.com/rskrx72n

Technical Contact Details
Global & Japan: https://www.renesas.com/support/contact.html

Note on Update Manager: The Update Manager checks via the Internet for any updated resources available for each installed CS+ tool and downloads and installs them to simplify the update process. It is recommended to run the Update Manager and check for updates regularly.

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