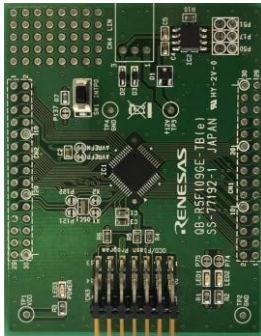
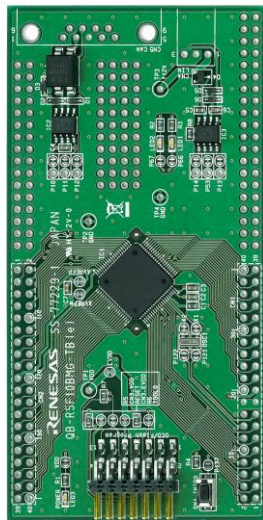


# Quick Start

# Starter Kit RL78 F12 / F13 / F14 / F15



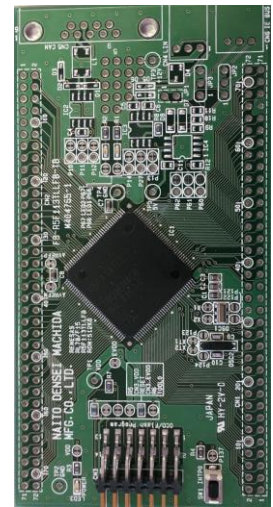
RL78/F12



RL78/F13



RL78/F14



RL78/F15

## 1. Installation

**Please note, that administrator privileges for the installation on a Windows™ 7/10 machine are required. Furthermore, the E1 debugger module should not be connected until the software has been installed.**

1. Insert the Software 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 'AutoPlay.exe'.
2. Windows 7/10 users may see 'User Account Control' dialog box. If applicable, enter the administrator password and click <Yes>.
3. To install the different available software tools please click on the corresponding button and follow the instructions below.

### **Installation of IAR Embedded Workbench for RL78.**

4. Ensure you have an Internet connection available because it is necessary to apply to IAR online for an activation license for the free of charge Kick Start version of the IAR Embedded Workbench.
5. Ensure no other instance of the IAR Embedded Workbench is running.
6. Select <Development Tools> → <IAR EWRL78> and follow the on-screen instructions to finish the installation.
7. During the first start of IAR a license wizard will pop-up. Select <Register with IAR Systems to get an evaluation license> to request a license free of charge online and follow the on-screen instructions.

### **Installation of CS+**

8. Ensure no other instance of the CS+ is running.
9. Select <Development Tools> → <CS+ for CC> and follow the on-screen instructions to finish the installation.
10. After first build the fully functional evaluation license is active for 60 days. After 60 days the size of linkable object is reduced to 64KB.

### Installation of samples

11. Select <Copy Sample Application>
12. A 'Browse Folder' window will pop-up. Please select here the destination folder for the samples.
13. Press <OK> to finish the samples copy process.

### Installation of Applilet3

14. Select <Other Tools> → <Applilet3>
15. Follow the on-screen instructions.
16. During the installation you can select your desired destination folder.

### Installation of Renesas Flash Programmer

17. If you do not have "Renesas Flash Programmer" version 3.05.01 (or newer) installed, select <Other Tools> → <RFP> and follow the on-screen instructions to install it. Please note, that earlier versions do not have the necessary device support.
18. During the installation of the Renesas Flash Programmer it is possible that you will be asked to install the .NET Framework. Please follow the on-screen instructions.

## 2. Connection for Debug

19. Connect the E1 debugger module to the connector marked 'OCD/Flash Program' on the board using the ribbon cable.
20. Connect the E1 debugger module to a spare USB port of your PC. The green 'ACT' LED on the E1 debugger will flash.

The first time the E1 is used, 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™ 7/10 machine.

### Windows™ 7 / 10

- a. "Device driver software installed successfully" pop-up will appear in the Windows toolbar and installation will complete.

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

21. The green 'ACT' LED on the E1 debugger will illuminate.
22. Disconnect the E1 debugger from the computer.

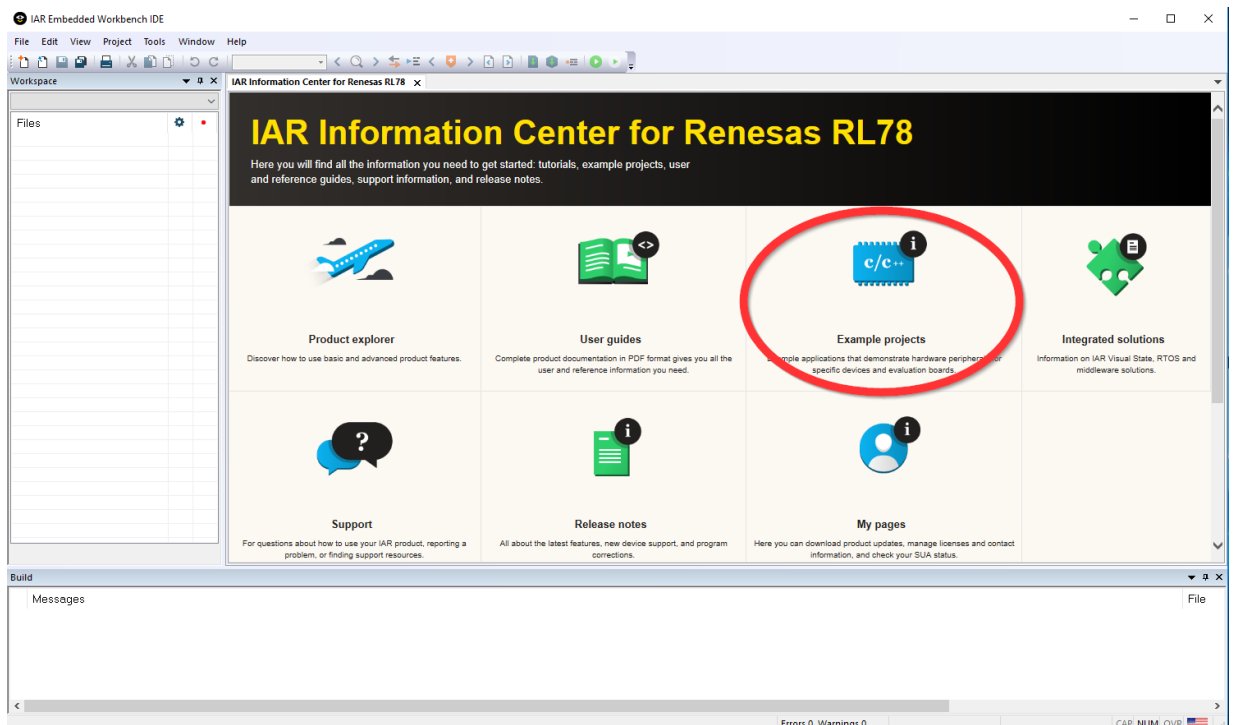
### 3. Using the IAR Embedded Workbench tools




IAR Embedded Workbench (EW) integrates various tools such as compiler, assembler, debugger and editor into a common graphical user interface.

Note: The below instructions show how to open a sample project via the IAR Information Center. However, you can also use the samples copied to your hard drive from the step “Installation of samples”.

23. Launch IAR Embedded Workbench from the Start Menu.
24. From the IAR Information Center you can open all the samples for the existing target boards. The sample below shows the step by step guide for the Starter Kit Board QB-R5F113TL-TB-V2.

EXAMPLE PROJECTS > RL78 E1 Targetboards > QB-R5F113TL-TB-V2 Targetboard Samples





25. Click on the “Open project” icon  of the sample name “StartupSampleY-QB-R5F113TL-TB-V2”.
26. Select the destination folder, where the project shall be located.
27. Connect the E1 debugger to the computer using the included USB cable
28. Select the ‘Download and Debug’ button , this builds the project and starts the debug session  
Now you can perform debugging as described in the IAR User’s Manual.
29. Now stop the debugger using the ‘Stop’ button .

#### Viewing and editing project options

30. Highlight the name of the project “StartupSampleQB-R5F113TL-TB-V2” in the Workspace tree view.
31. On the ‘Project’ menu, select ‘Options’. Here you can find the Compiler, Assembler, Linker and Debugger options pre-defined for the target board QB-R5F113TL-TB-V2. Please take a few moments to review them.
32. For more details on the IAR tools, please refer to the documentation.

## 4. Using the CS+ for CC

CS+ for CC integrates various tools such as compiler, assembler, debugger and editor into a common graphical user interface.

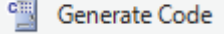
33. Launch 'CS+ for CC-RL' from the Start Menu.
34. On the 'File' menu, select 'Open...'
35. Browse to the sample folder (see above step "Installation of samples") and select the \*.mtpj file.  
Example: RL78\_F1x\_samples\CSplus\F15\StartupSampleY-QB-R5F113TL-TB-V2.mtpj
36. Connect the E1 debugger to the computer using the included USB cable
37. Select the 'Build and Download' button , this builds the project and starts the debug session.  
Now you can perform debugging.
38. To stop the debugger you can use 'Disconnect' button .

### Viewing and editing project options

39. Double click on 'CC-RL (Build Tool)' in the Workspace tree to configure Compiler, Assembler, Linker.
40. For E1 debugger configuration, please double click to 'RL78 E1(Serial)' in the Workspace tree.
41. For more details on the CS+ tools, please refer to the documentation.

## 5. Applilet3

Applilet3 is a software tool to generate device driver code for on-chip peripherals. It generates device driver codes using user settings through GUI. Initialize code and API functions are provided.

42. Launch the Applilet3 from the “Start Menu”
43. To create a new RL78/F15 project click <File> and <New...>.
44. Select the RL78/F15(ROM:512KB)→R5F113TL(144pin) device from the ‘Using microcontroller’, the IAR Compiler as ‘Using Build Tools’ and your desired ‘Project Name’ and ‘Place’. Afterwards press <OK>.
45. The project is now created and the peripherals can be configured as needed.
46. When all settings are done, the source code and necessary IAR “Project Connection” file can be created by clicking on ‘Generate Code’  .
47. The generated source files can be added to an IAR project automatically via the “Project Connection” file with the suffix \*.ipcf file (Project→Add Project Connection... in the IAR IDE).

## 6. Renesas Flash Programmer

Renesas Flash Programmer is programming software for a Renesas Electronics microcontroller with flash memory, which provides operations and functions specific to programming.

48. Launch the Renesas Flash Programmer from the Windows Start
49. Select File → New Project...
50. Define a project name, the location for the project and Microcontroller “RL78”
51. Press the button <Tools Details...>
52. Select ‘Power Supply’ 5.0V and press <Ok>
53. Press the button <Connect> and perform actions as described in the Renesas Flash Programmer User’s Manual.

## 7. Next Step

After you have completed this quick start procedure, please review documentation that came with the kit. The sample code project contains all you need to get started developing your own projects. The software tools provided are Evaluation versions and have limitations that are described in the documentation. To purchase fully functional versions, please contact your Renesas supplier.

## 8. Support

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

Latest updates:

<http://www.renesas.eu/updates?oc=Y-ASK-RL78F12>

<http://www.renesas.eu/updates?oc=Y-ASK-RL78F13>

<http://www.renesas.eu/updates?oc=Y-ASK-RL78F14>

<http://www.renesas.eu/updates?oc=Y-ASK-RL78F15>

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