



## Renesas Starter Kit for RL78/G14

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Renesas Starter Kits

### Renesas Starter Kit for RL78/G14

Renesas Starter Kit for RX610

Renesas Starter Kit for RX62G

Renesas Starter Kit+ for RX62N

Renesas Starter Kit for RX62T

Renesas Starter Kit+ for RX63N

Renesas Starter Kit for RX630

Renesas Starter Kit for RX210

Renesas Starter Kit for RL78/G13

Renesas Starter Kit for SH7124

Renesas Starter Kit+ for SH7264

Renesas Starter Kit+ for SH7269

Renesas Starter Kit for SH7201

Renesas Starter Kit+ for SH7203

Renesas Starter Kit for SH7137

Renesas Starter Kit+ for SH7216

Renesas Starter Kit for SH7211

Renesas Starter Kit for R8C/23

Renesas Starter Kit for R8C/25

Renesas Starter Kit for R8C/27

Renesas Starter Kit for R8C/2D

Renesas Starter Kit for R8C/35C

Renesas Starter Kit for R8C/38C

Renesas Promotional Board for R8C/M12A

Renesas Starter Kit for R8C/L3AC

Renesas Starter Kit for R8C/LA8A

Renesas Starter Kit for M16C/29

Renesas Starter Kit for M16C/62P

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Renesas Starter Kit for M32C/87



Community site and gathering place for technical information

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### Renesas Starter Kit for RL78/G14

#### Target Devices

[RL78/G14](#)

Device Part No. populated on the board: R5F104PJAFB (RL78/G14)

#### Product Overview

The Renesas Starter Kit for RL78/G14 is intended as a user-friendly introductory and evaluation tool for the RL78/G14 microcontroller. The board also provides a useful platform for evaluating the Renesas suite of development tools for coding and debugging, using CubeSuite+ as well as programming the device using E1 emulator and/or Renesas Flash Programmer.

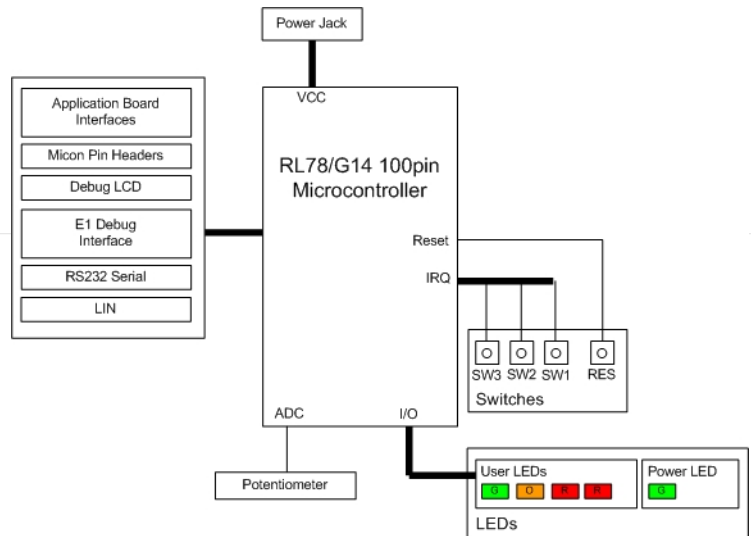
The Renesas Starter Kit for RL78/G14 may be connected to the host PC using the included USB E1 on chip debugging interface.

The purpose of the board is to enable the user to evaluate the capabilities of the device and its peripherals by giving the user a simple platform on which code can be run only minutes from opening box. It can also prove an invaluable tool in development by providing a useful test platform for code already debugged using one of our more powerful emulation tools.

\* CubeSuite+ is not generally promoted to the U.S. and European customers. Customers in the U.S. and Europe who are interested in CubeSuite+ are requested to contact our regional marketing departments for details.

- Renesas Starter Kit for R32C/111
- Renesas Starter Kit for R32C/118
- Renesas Starter Kit for H8SX/1622F
- Renesas Starter Kit for H8SX/1668
- Renesas Starter Kit for H8S/2215R
- Renesas Starter Kit for H8S/2456R
- Renesas Starter Kit for H8/38099
- Renesas Starter Kit for H8/38347
- RX62N TFT-LCD Direct-Drive Demo Kit
- Renesas Starter Kit LCD Application Board
- Renesas Starter Kit Ethernet & USB Application Board
- DM-78K0R-KE3L (78K0R Low-Power Kit)
- EV-K0-HCD
- RX600 TFT-LCD Direct-Drive Demo Kit
- Renesas Starter Kit+ for SH7267
- TFT-LCD Direct Drive Demo Kit YLCDRSK2456S
- TFT-LCD Direct-Drive Demo Kit YLCDRSK1668
- TFT-LCD Direct-Drive Demo Kit YLCDRSK2378

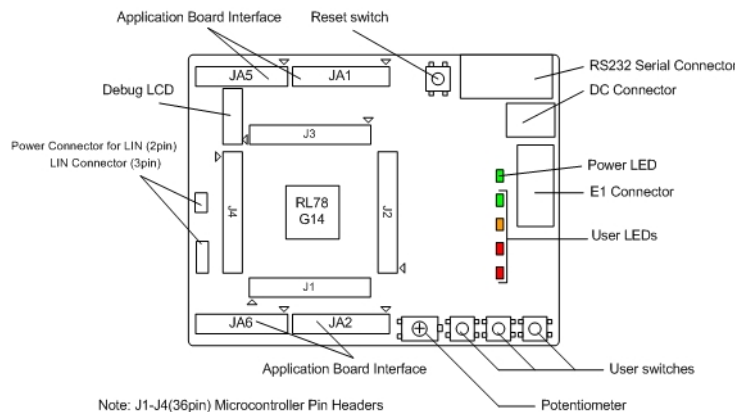
**Block Diagram**



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**Layout and Specification**

The LCD display module is supplied as a detachable sub-board. The board dimensions are 120 mm by 100 mm, detailed dimensions are available in the user manual.



Item	Specification
Microcontroller	R5F104PJAFB
Input Clock	Main: 20 MHz Sub: 32.768 kHz
Potentiometer	Single-turn, 10 kΩ
LED	Power indicator: green x 1 User: green x 1, orange x 1, red x 2
Switch	Reset x 1 User x 3
DC Power Jack	5 V Input
E1 Header	14-pin box header
RS232 Serial Connector	9-pin DSUB
LCD Display Connector	14-pin socket
LIN Connector	2.54 mm pitch, 3-pin x 1 (VBAT x 1, LIN Bus Line x 1, GND x 1)
Microcontroller Pin Header	2.54 mm pitch, 36-pin x 4 (J1, J2, J3, J4)
Application Board Interface	2.54 mm pitch, 26-pin x 2 (JA1, JA2), 24-pin x 2 (JA5, JA6)

\* Microcontroller Pin Header, Application Board Interface and LCD Connector are not contained in the product.

\* The potentiometer is fitted to offer an easy way of supplying a variable analog input to the controller. It does not necessarily reflect the accuracy of the controllers ADC. Please see the device manual for details.

Manufacturer Name: PIHER INTERNATIONAL CORPORATION  
Part Number: N6R (6 mm RoHS reflowable potentiometer)

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## Configuration

### [Kit with Renesas CubeSuite+]

- CPU Board
- Detachable LCD Display Module
- Detachable AD Adjustment Shaft
- E1 Emulator
- Connection Cable (USB Cable, User Interface Cable)
- Quick Start Guide
- CD-ROM
- Documents: User Manual, Tutorial, and more
- IDE: CubeSuite+ (Evaluation Software)  
RL78, 78K0R Compiler  
Debugger: E1 Emulator Debugger
- Flash Memory Programmer: Renesas Flash Programmer (Evaluation Software)

### Notes

The CubeSuite+ Evaluation Software does not come with technical support services. In addition, The CubeSuite+ Evaluation Software has some restrictions compared to the Product Version.

- The scope of available memory is restricted to 64 KB of the internal ROM (0-FFFh) and to the internal RAM.

The Renesas Flash Programmer Evaluation Software does not come with technical support services.

### [Kit with e<sup>2</sup> studio]

- CPU Board
- Detachable LCD Display Module
- Detachable AD Adjustment Shaft
- E1 Emulator
- Connection Cable (USB Cable, User Interface Cable)
- Quick Start Guide
- CD-ROM
- Documents: User Manual, Tutorial, and more
- IDE: e<sup>2</sup> studio  
KPIT GNURL78 Toolchain  
E1 Emulator Debugger  
and more

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## PC System Requirements

### [Kit with Renesas CubeSuite+]

- IBM PC/AT or compatible PC (USB2.0 interface necessary) \*1
- Processor 1 GHz or higher (must support hyper-threading, multi-core CPUs)
- Memory 2 GB or more recommended. Minimum requirement is 1 GB or more (64-bit Windows requires 2 GB or more) \*2
- Hard disk 600 MB or more spare capacity
- Display 1024 x 768 or higher resolution, 65,535 or more colors
- Microsoft Windows XP / Windows Vista / Windows 7 \*2
- All other necessary software environments in addition to Windows OS.
- .NET Framework 3.5 SP1
- Microsoft Visual C++ 2008 SP1 runtime library
- Internet Explorer 6.0 or later

\*1: IBM and PC/AT are registered trademarks of International Business Machines Corporation of the U.S.

\*2: Windows are registered trademarks of Microsoft Corporation of the U.S.

### [Kit with e<sup>2</sup> studio]

- IBM PC/AT or compatible PC (USB2.0 interface necessary) \*1
- Processor 1.6 GHz or higher
- Memory 1 GB or more recommended.
- Microsoft Windows XP / Windows 7 \*2

\*1: IBM and PC/AT are registered trademarks of International Business Machines Corporation of the U.S.

\*2: Windows are registered trademarks of Microsoft Corporation of the U.S.

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## Technical Support

If you encounter problems concerning the bundled debugger (E1), please contact <http://www.renesas.com/contact/>.

When contacting us, please have the following information ready:

your name, company name, department name, fax number, MCU part number (ex. MCU: R5F104PJAFB), tool part number, version of debugger and a brief description of the problem.

CubeSuite+ Evaluation Software and Renesas Flash Programmer Evaluation Software do not come with technical support services.

## Ordering Information

These products can be purchased through [the normal sales channels](#).

Product Name	Debugger Supplied	Part Number (Ordering Number)	Availability
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Renesas Starter Kit for RL78/G14 (Kit with Renesas CubeSuite+)	E1	R0K50104PS000BE	Available
Renesas Starter Kit for RL78/G14 (Kit with e <sup>2</sup> studio)	E1	YR0K50104PS000BE	Available

\* CubeSuite+ is not generally promoted to the U.S. and European customers. Customers in the U.S. and Europe who are interested in CubeSuite+ are requested to contact our regional marketing departments for details.

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