

Renesas Starter Kit for RL78/L13



- [▶ Block Diagram](#)
- [▶ Layout and Specification](#)
- [▶ Configuration](#)
- [▶ PC System Requirements](#)
- [▶ Technical Support](#)
- [▶ Ordering Information](#)

Renesas Starter Kit for RL78/L13

Target Devices

RL78/L13

Device Part No. populated on the board: R5F10WVGAFB (RL78/L13)

Product Overview

The Renesas Starter Kit for RL78/L13 is intended as a user-friendly introductory and evaluation tool for the RL78/L13 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.

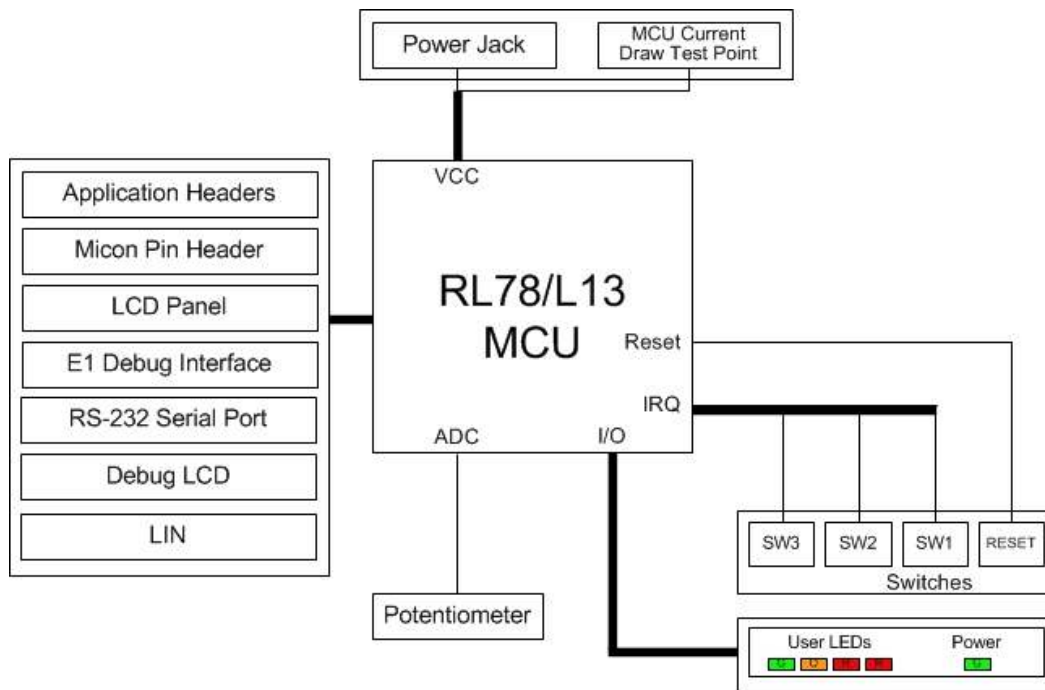
The Renesas Starter Kit for RL78/L13 may be connected to the host PC using the included USB E1 on chip debugging interface.

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.

*** In order to make a product installer active, this product needs the Internet environment.**

*** 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.**

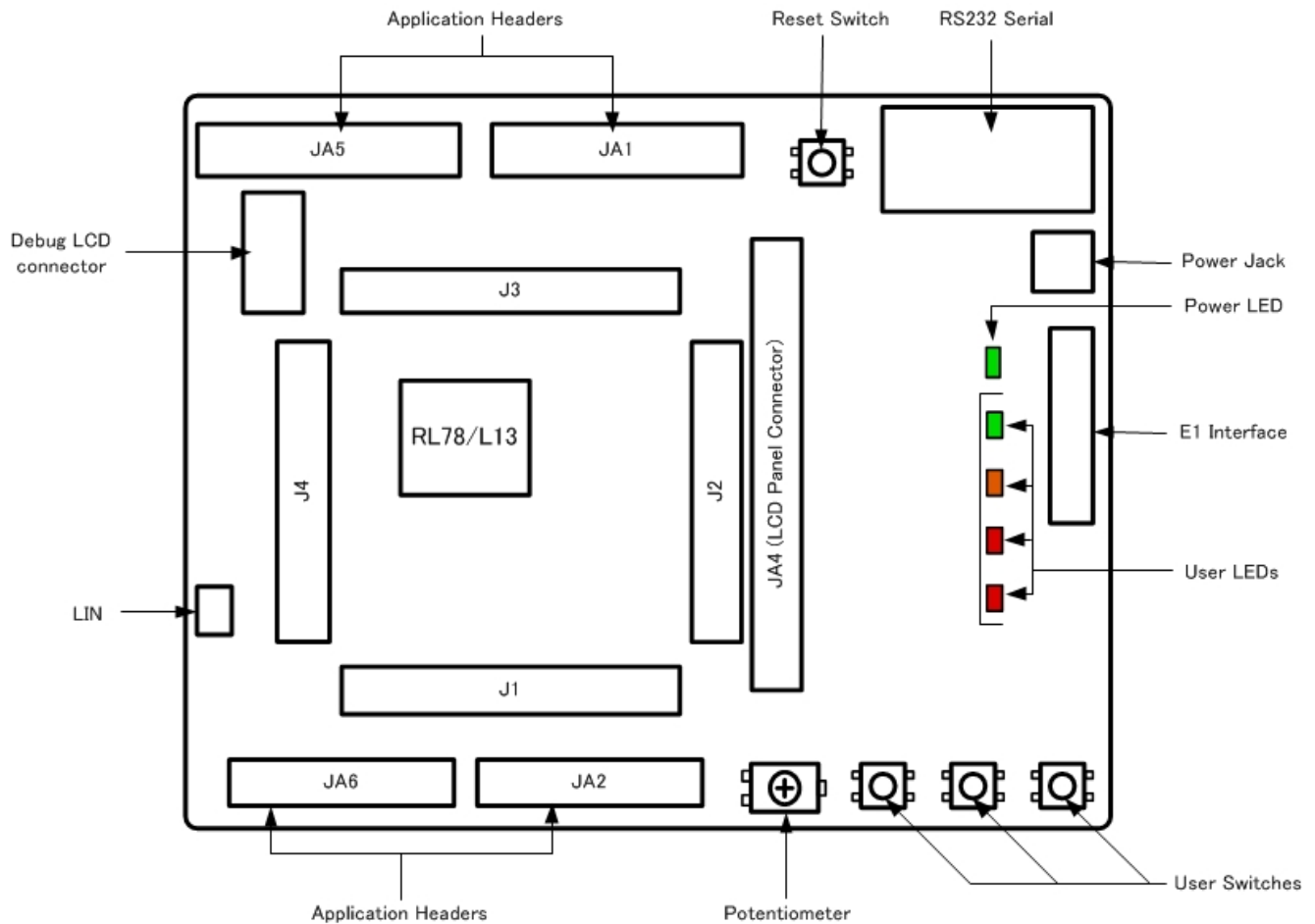
Block Diagram



[Top](#)

Layout and Specification

The LCD Application Board V2 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	R5F10WMGAFB
Input Clock	Main: 20MHz
	Sub: 32.768kHz
Potentiometer	Single-turn, 10kΩ
LED	Power indicator: green x 1 User: green x 1, orange x 1, red x2
Switch	Reset x 1 User x 3
DC Power Jack	5V Input
E1 Header	14-pin box header
RS232 Serial Connector	9-pin DSUB
LCD Display Connector	14-pin socket
LCD Panel Connector	50-pin socket (JA4)
LIN Connector	2.54mm pitch, 3-pin x 1 (VBAT x 1, LIN Bus Line x 1, GND x 1)
Microcontroller Pin Header	2.54mm pitch, 36-pin x 4 (J1, J2, J3, J4)
Application Board Interface	2.54mm pitch, 26-pin x 2 (JA1, JA2), 24-pin x 2 (JA5, JA6)

* Microcontroller Pin Header and Application Board Interface are not contained in the product. (except JA4)

* 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)

[Top](#)

Configuration

[Kit with Renesas CubeSuite+]

-

- CPU Board
- Detachable LCD Application Board V2
- Detachable AD Adjustment Shaft
- E1 Emulator
- Connection Cable (USB Cable, User Interface Cable)
- Quick Start Guide
- DVD-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-FFFFh) and to the internal RAM.

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

[Kit with e²studio]

- CPU Board
- Detachable LCD Application Board V2
- Detachable AD Adjustment Shaft
- E1 Emulator
- Connection Cable (USB Cable, User Interface Cable)
- Quick Start Guide
- DVD-ROM
 - Documents: User Manual, Tutorial, and more
 - IDE: e²studio
KPIT GNURL78 Toolchain
E1 Emulator Debugger
and more

[Top](#)

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 / Windows 8 *2
- All other necessary software environments in addition to Windows OS.
 - .NET Framework 4 + language pack
 - Microsoft Visual C++ 2010 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 e²studio]

- 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 / Windows 8 *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.

[Top](#)

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: R5F10WMGAFB), 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

This product can be purchased through the normal sales channels.

Product Name	Debugger Supplied	Part Number (Ordering Number)	Availability
Renesas Starter Kit for RL78/L13 (Kit with Renesas CubeSuite+)	E1	R0K5010WMS000BE	Available
Renesas Starter Kit for RL78/L13 (Kit with e ² studio)	E1	YR0K5010WMS000BE	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.