

Condensed know-how for application development

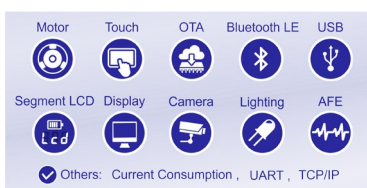
QE: Tools for Particular Applications

Quick and Effective tool solution

<https://www.renesas.com/qe>

Quick and Effective tool solution

QE tools allow you to just make simple setting to start developing your applications.



Applications can be initiated by utilizing know-how and configuring simple settings.

Have you ever wondered "What's the matter with this thing? I understand the development environment, and have pulled the application together, but it still doesn't go!"?

The Renesas QE (Quick and Effective) tool solution goes beyond conventional development tools by providing detailed support for developing various applications.

This solution adds application-specific development know-how (functionality) to an existing integrated development environment with standard debugging functions, thus allowing for easy setting up of an application through simple configuration.

Supported applications are also being expanded according to needs, continuously supporting the minimization of labor and development time for our customers.

Efficiently configuring motor middleware and drivers through a GUI

QE for Motor

[Details](https://www.renesas.com/qe-motor) www.renesas.com/qe-motor

This is a development assistance tool for developing embedded systems that use motors. The tool facilitates the easy configuration of motor middleware and drivers, along with motor tuning and analysis.

Configuration of motor middleware and drivers can be easily achieved through block-diagram visualization (simulating the actual hardware configuration).

Renesas Motor Workbench configuration is fully automated, allowing for immediate tuning and analyzing of motors by the press of a button.

Supported MCUs RA Family / RL78 Family / RX Family

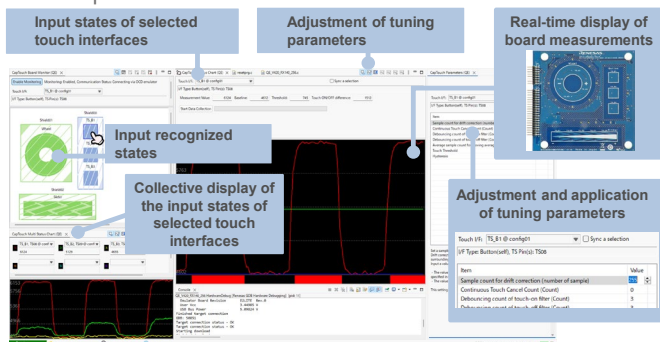
Easy tuning of touch interface sensitivity

QE for Capacitive Touch

[Details](https://www.renesas.com/qe-capacitive-touch) www.renesas.com/qe-capacitive-touch

This is a development assistance tool for developing embedded systems that use capacitive touch sensor units. Sensitivity can be tuned during the operation of the touch interface (results are immediately fed back to the source program).

Normally, this requires the following sequence of processes: perform measurement, calculate parameters, modify the parameters in the source program, and build the program. Automating this sequence reduces labor and development time.



e-AI x 3D Gesture Recognition 3D gesture recognition based on e-AI technology supports the development of gesture applications with the use of AI. The recording, AI generation, and monitoring and tuning functions ease application development.

Supported MCUs RA Family / RL78 Family / RX Family

Simple realization of LCD operation and adjustment of input from a camera

QE for Display

[Details](https://www.renesas.com/qe-display) www.renesas.com/qe-display

QE for Camera

[Details](https://www.renesas.com/qe-camera) www.renesas.com/qe-camera

These tools allow initial adjustment of a display connection (adjustment of the display timing and image quality) and creation of a GUI with the use of Video Display Controller 5 (VDC5) and the image display function of the Graphics LCD Controller (GLCDC). They also allow initial adjustment of the size and starting position of images captured by a camera, saving the images in memory, and displaying them on an LCD.

Supported MCUs **Display:** RA6 / RA8 / RZ/A / RX600 / RX700
Camera: RA8 / RZ/A

Linkage to the emWin GUI platform from SEGGER or Aeropoint GUI for RX from CRI Middleware Co., Ltd. facilitates operations from initial display adjustment to the creation and display of GUI screens.

Supported MCUs RA Family / RX Family

Microcontrollers without GLCDC can control an LCD display via a serial connection. The GUI screen creation tool (available when a serial connection is used) is compatible with emWin.

Supported MCUs RX Family

Easy software updating using a cloud service

QE for OTA

[Details](https://www.renesas.com/qe-ota) www.renesas.com/qe-ota

This is a development assistance tool for cloud applications. It provides total support from cloud service registration to software updating. Only four steps are needed from signing in to a cloud service to updating software for IoT devices.

To use the OTA (Over the Air) technology, many procedures are automated, including registration with the cloud system and installation of security information to the MCU. You can quickly use the OTA technology without special knowledge, thus reducing development time.

Supported MCUs RA Family / RL78 Family / RX Family

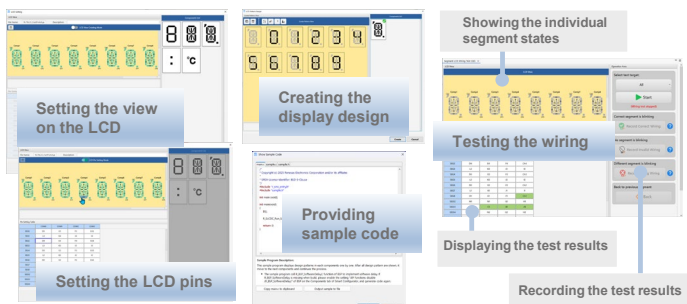
Easy checking of the wiring states by clicking operations

QE for Segment LCD

[Details](#) www.renesas.com/qe-segment-lcd

This is a development assistance tool for creating display designs required for the development of embedded systems that use segment LCDs and check the wiring states.

The tool supports the development of software and hardware designs, facilitating the creation of display designs through GUI operations.



[Supported MCUs](#) RL78/L23

Easy creation of a communications profile via Bluetooth LE

QE for BLE

[Details](#) www.renesas.com/qe-ble

This application is a tool intended for the development of Bluetooth® Low Energy (Bluetooth LE) communications systems. This tool can add profiles required for Bluetooth LE communication and generate code by defining unique profiles.

In a system combined with the DA14531 Bluetooth LE module, you can add and customize a Bluetooth profile.

[Supported MCUs](#) RA Family / RL78 Family / RX Family

* Bluetooth is a registered trademark of Bluetooth SIG, Inc. in the United States.

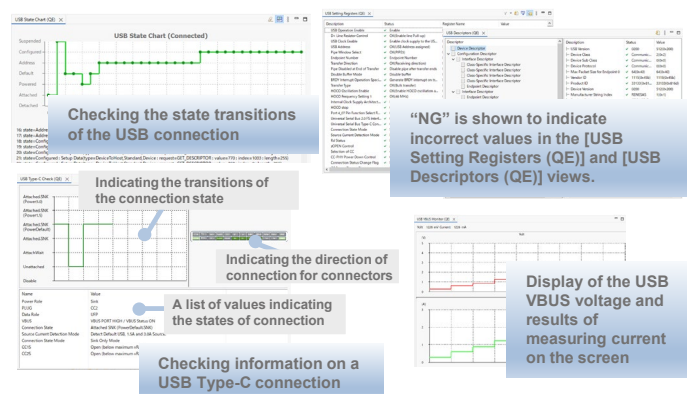
Easy checking of the state of a USB connection

QE for USB

[Details](#) www.renesas.com/qe-usb

This is an embedded software development tool that assists the development of USB systems.

The following views show the register values and descriptions related to the settings for a USB connection and a list of descriptor values and states which are set in the process of making a USB connection (enumeration), easing the debugging of USB systems, shortening development time, and reducing costs.



[Supported MCUs](#) RA2L2 / RL78 Family / RX Family

Checking AD conversion results on the monitor screen to adjust analog signals while viewing a circuit diagram

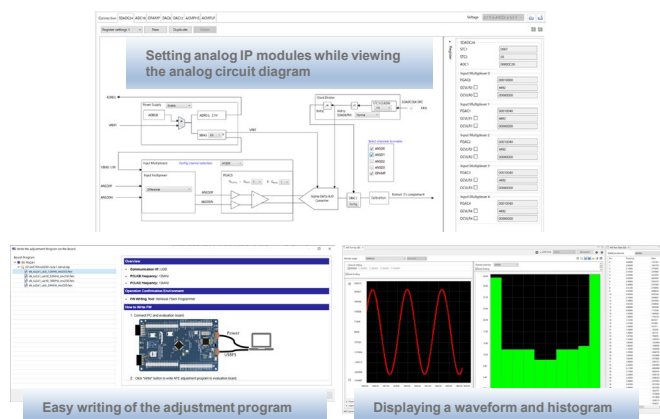
QE for AFE

[Details](#) www.renesas.com/qe-afe

This is a development assistance tool for developing embedded systems that handle high-precision sensing by using MCUs that include an analog front end (AFE).

The AFE configuration can be set or changed by using a circuit diagram. You can adjust analog signals while viewing the results of AD conversion (waveform and histogram) on the monitor screen without the need for an oscilloscope.

Setting an incorrect value prompts an error notification and conflict between pin functions is also checked, thus allowing for smooth settings of or changes to the AFE configuration. Use of the adjustment program also enables the quick adjustment of an AFE.



[Supported MCUs](#) RA2A1 / RA2A2 / RX23E-B

Easy configuration of lighting control (DALI) parameters

QE for Lighting & Power

[Details](#) www.renesas.com/qe-lighting

This is a development assistance tool that provides seamless integration with lighting system libraries, sample source code, various compilers, and evaluation boards from Renesas.

You can use this tool to optimize the settings of lighting communications and power control, making for the simple, quick, and efficient development of lighting systems.

[Supported MCUs](#) RL78 Family

Installation

For how to install each QE tool, see the following Web page:

www.renesas.com/software-tool/qe-support

FAQ

en-support.renesas.com/knowledgeBase

Community

community.renesas.com

Videos

Tutorial videos for microcontrollers are available:

[For RA Family](#) www.renesas.com/ra-how-to-video

[For RL78 Family](#) www.renesas.com/rl78-how-to-video

[For RX Family](#) www.renesas.com/rx-how-to-video

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