

Condensed know-how for application development

QE: Tools for Particular Applications

Quick and Effective tool solution

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

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 initiation of an application through simple configuration.

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

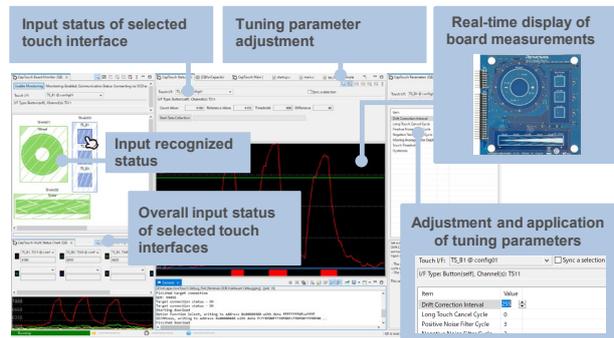
Easy adjustment of touch interface responsiveness

QE for Capacitive Touch

This is a development aid tool for developing embedded systems that use capacitive touch sensor units. Responsiveness can be adjusted during touch interface operation (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, build the program. Because this sequence is automated, labor and development time can be reduced.

Supported MCUs RA Family / RL78 Family / RX Family

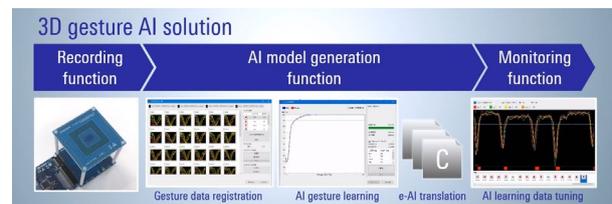
[Detail www.renesas.com/qe-capacitive-touch](http://www.renesas.com/qe-capacitive-touch)



e-AI x 3D Gesture Recognition

3D gesture recognition based on e-AI technology supports development of AI-based gesture applications. The recording function, AI generation function, and monitoring & tuning function ease development of applications.

Supported MCUs RA Family / RL78 Family / RX Family



Efficiently configuring motor middleware and drivers from the GUI

QE for Motor

[Detail www.renesas.com/qe-motor](http://www.renesas.com/qe-motor)

This is a development aid tool for developing embedded systems that use motors. The tool facilitates 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 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

Easily checking AD conversion results on the monitor screen to adjust analog signals without referencing manuals

QE for AFE

[Detail www.renesas.com/qe-afe](http://www.renesas.com/qe-afe)

This is a development aid tool for developing embedded systems that perform high-accuracy sensing for AFE (analog front end) internal microcontrollers. The AFE configuration can be set or changed by using a circuit diagram. You can adjust analog signals while viewing the AD conversion results (waveform and histogram) on the monitor screen without the need for an oscilloscope. Setting an incorrect value prompts an error notification. Items that cannot be set are locked and conflict between pin function is also checked, thus, allowing for signal adjustment without the need to reference manuals.

The stand-alone version of the tool allows for adjustment of AFE while viewing the schematics without the need for a program.

Supported MCUs RA2A1 / RX23E-B

Easy settings without the need for hardware manuals

QE for Display [Detail](https://www.renesas.com/qe-display) www.renesas.com/qe-display

This application is a solution tool intended for the development of an embedded system using the Video Display Controller 5 (VDC5) and the image display function of the Graphic LCD Controller 5 (GLCDC). This tool enables easy adjustment of the initial screen of the display and image quality, achieving a reduced development period.

Supported MCUs RA6M3 / RA8D1 / RZ/A / RX600 / RX700

Linkage to emWin (SEGGER GUI platform) is supported.

This facilitates operations from initial display adjustment to creation and display of GUI screens.

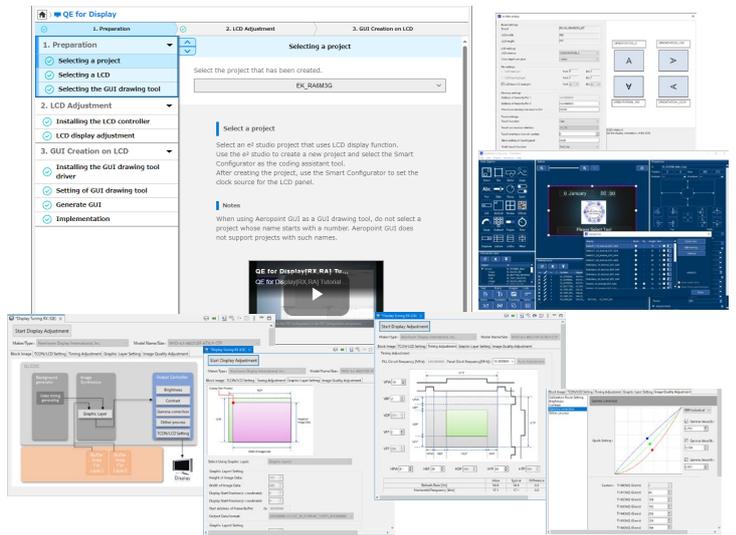
Supported MCUs RA6M3 / RA8D1 / RX600 / RX700

Linkage with Aeropoint GUI for RX (from CRI Middleware) enables creation of GUI screens and video/audio playback using PowerPoint.

Supported MCUs RX600 / RX700

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

Supported MCUs RX Family

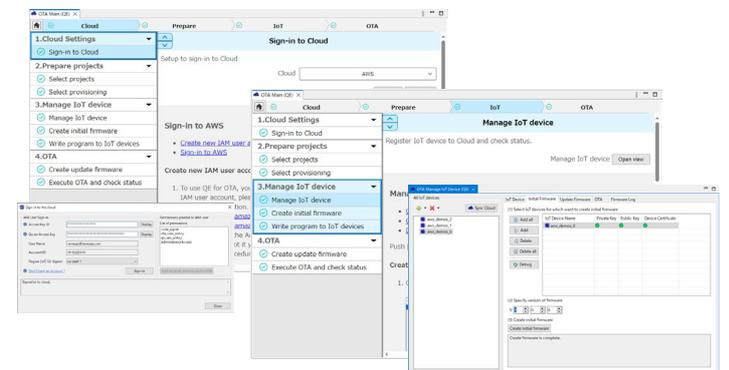


Easy software updating using a cloud service

QE for OTA [Detail](https://www.renesas.com/qe-ota) www.renesas.com/qe-ota

This is a development aid tool for cloud applications providing total support from cloud service registration to software updating. Cloud service sign in and IoT device software update takes just 4 steps. Before you can use the OTA (Over the Air) technology, many procedures are needed, including cloud system registration and installation of security information to the MCU. Because these procedures are automated, you can use the OTA technology quickly without specialist knowledge, thus reducing development time.

Cloud services and Supported MCUs Amazon Web Service RX65N / RX671 / RX72N
Microsoft Azure RX65N



Easy and immediate trial of communication based on Bluetooth® Low Energy

QE for BLE [Detail](https://www.renesas.com/qe-ble) www.renesas.com/qe-ble

This application is a tool intended for the development of the Bluetooth® Low Energy (BLE) communication system.

This tool can add profiles required for BLE communication and generate codes by defining unique profiles.

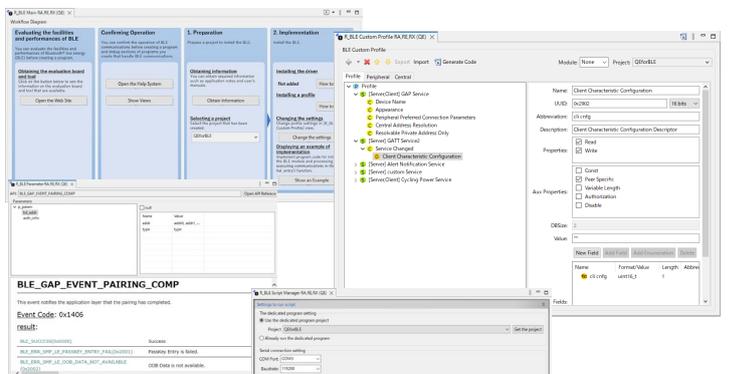
Supported MCUs RA Family / RX Family

This tool allows you to create a script by using the Bluetooth protocol stack API. Bluetooth communication is readily achieved by executing the script. This tool will also help you understand the basic communication functionality.

Supported MCUs RA Family / RL78 Family / RX Family

In a system combined with the RY2012 module, you can add and customize a Bluetooth profile.

Supported MCUs RA Family / RX Family



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

Installation

For how to install each QE tool, see the following webpage:
www.renesas.com/software-tool/qe-support

FAQ en-support.renesas.com/knowledgeBase

Community community.renesas.com

Video

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

renesas.com

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