# **RENESAS** Tool News

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# On-Chip Debugging Emulators E1 and E20 Support MCUs of the R8C Family

You can use the on-chip debugging emulators E1 and E20 to debug systems designed with MCUs of the R8C family. For details of the E1 and the E20, see: http://www.renesas.com/e1 http://www.renesas.com/e20 The above URLs are those of our global sites.

#### 1. Descriptions

You can use the E1 and E20 emulators to debug systems designed with MCUs of the R8C family. The newly supported are the MCUs of the following groups:

(1) Groups in the R8C/3x series R8C/32C, /33C, /34C, /35C, /36C, /38C, /3GC, /3JC, /33T, /3JT, /34W, /34X, /34Y, /34Z, /36W, /36X, /36Y, /36Z /38W, /38X, /38Y, and /38Z
(2) Groups in the R8C/Lx series

R8C/L35C, /L36C, /L38C, /L3AC, /LA6A, and /LA8A

To debug systems on which any of these MCUs is mounted, you need to use the following emulator debugger package:

Package name: E1/E20 R8C Emulator Debugger V.1.00.00 Contents of the package:

- High-performance Embedded Workshop V.4.08.00

- E1/E20 R8C Emulator Debugger V.1.00.00
- User's manual in PDF

Host computer: IBM PC/AT or compatible

Host OS: 32-bit edition of Windows XP or Windows Vista; or

32-bit or 64-bit edition of Windows 7 How to obtain this emulator debugger package is described in Section 3.

## 2. Main Functions for Debugging Systems with MCUs of the R8C Family

Main functions of the E1 and E20 emulators used for debugging systems designed with MCUs of the R8C family are the same as those of their predecessor, E8a. For those functions, see:

http://www.renesas.com/products/tools/emulation\_debugging/onchip\_debuggers/e8a/chilc

In addition to them, the E1 and E20 support the following functions:

- Programming flash memory block by block
- Continuing execution of the user program when resets take place
- Displaying proper messages for errors
- Performing time measurement by using the emulator's timer functions

Note, however, that the following limitations are imposed:

On the E1 emulator

- The E1 isolator (R0E000010ACB10) cannot be used.

On the E20 emulator

- The external trace output function is unavailable. Only the internal trace function, which uses the MCU's internal facilities, is available. So the functions usable in the E20 are equivalent to those in the E1.
- No power is supplied from the emulator to the user system.

## **3.** How to Obtain the Emulator Debugger Package

Online update is available free of charge. Download the installer of "E1/E20 R8C Emulator Debugger V.1.00.00" from:

http://www.renesas.com/e20\_download

Then execute it. This installer will be published on this Web site on and after July 5.

The above URL is one of our global sites.

If you update your High-performance Embedded Workshop from V.4.08.00 to V.4.09.00 after the installation of the software, see Section 3 in RENESAS TOOL NEWS Document No. 110316/tn1 at:

http://tool-support.renesas.com/eng/toolnews/110316/tn1.htm

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