Renesas Promotional Board Quick Start for R8C/M12A



WEEE Directive



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RENESAS

Setting Up the Development Environment

Create the necessary environment before evaluating the sample code.

- Download and install the latest versions of the software below from the Renesas website: http://www.renesas.com/e8a. 1. Install the C compiler package before installing the E8a emulator debugger.
 - [Evaluation Software] M16C Series, R8C Family C Compiler Package M3T-NC30WA
 - R8C E8a Emulator Debugger
 - [Evaluation Software] Flash Development Toolkit
- Download the board schematics, device placement diagram, and sample code workspace (zip file) from the Renesas 2. website: http://www.renesas.com/rpbr8cm12a.

Downloading the Sample Code

3 Toggle the pins on on-board DIP switch SW2 to ON. SW2 pin settings are as follows.

Operation	SW2
Power supply	1 2 3 4
Debug / Program External 5V from USB bus power	ON OFF
Debug / Program	ON
External 5V / 3.3V (via J1 or J2)	OFF
MCU stand-alone operation	ON
External 5V from USB bus power	OFF
MCU stand-alone operation	ON
External 5V / 3.3V (via J1 or J2)	OFF

Connect a USB cable to the USB connector on the back of the board. Next connect the USB cable to the USB port in the 4. computer

- 5. When the "Found New Hardware" wizard appears, follow the wizard instructions and install the driver. Note that, administrator privileges are required for a Windows[™] XP/Vista machine.
- Note: The Windows driver signing dialog may be displayed. Please accept the driver to continue.
- Extract the workspace suite downloaded in Step 2, and copy the RPBR8CM12A_Tutorial folder to C:¥WorkSpace. Open the 6. folder and double click on the "RPBR8CM12A.hws" file. ******
- 7. Click on the 'Build' icon to compile, assemble and link the project.



8. 9. The Emulator Setting dialog box will launch. Confirm the following setting and click 'OK'.

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Device	BF2HR22A		•
Mode	 Erang Flash and Co Keep Flash and Co 	nnect	
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Power II.	coly r Target Iron Emulator	(MAX 300mA)	1
	0.33A 0	50V	1

Note: When debugging the sample code, choose an option other than "Program Flash". For details on debugging mode, refer to the E8a Emulator Additional Document for R8C/M11A and R8C/M12A.

Note: This board requires an external power source. Do not check the "Power Target from emulator" checkbox.

- '≚ timeradc.c 🔄 Download modules Data_Flash_and_Power_Control_x30 · 🔄 Dependencies
- Double click the download module and download the sample code (the sample 10. code can also be downloaded through the Flash Development Toolkit).
- 11. After closing the High-performance Embedded Workshop, unplug the USB cable from the board.

Running the Sample Code

- 12. Set DIP switch SW2 as follows: 1 = ON, 2 = OFF, 3 = OFF, 4 = OFF.
- 13 After connecting the USB cable to the board and pressing the Reset Switch, the sample code downloaded to the MCU will be executed.
- 14. First, the LEDs will start blinking. LED blink speed is controlled by the ANO pin connected to potentiometer RV1 on-board. To change the blinking speed, adjust the RV1 control knob on the potentiometer. At the same time, as the blinking pattern is recorded, the A/D conversion value is written to the data flash. The LEDs stop blinking after 200 times.
- Pushing SW1 will cause the LEDs to blink in the pattern (A/D conversion value) written to the data flash in Step 14. The 15. LEDs stop blinking after 200 times.
- 16. After the blinking is finished, the sample code will run the power control demo. LED0 will turn on, and the MCU will enter standard operating mode. Current consumption in standard operating mode is between 3 mA and 7 mA (see Note 1).
- By pressing SW1 again, the MCU enters wait mode, and LED1 will turn on. Current consumption in wait mode is between 15 17. uA and 100 uA (see Note 1).
- 18. By pressing SW1 again, the MCU enters stop mode, and LED2 will turn on. Current consumption in stop mode is between 1 uA and 4 uA (see Note 1).
- Note 1. Remove R22 from the board and connect ammeter across J3 to measure current.

Support

Technical inquires can be submitted to:

- techsupport.america@renesas.com America:
- Europe: tools.support.eu@renesas.com
- Japan: csc@renesas.com

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