

RX72M handbook for engineers

The information/materials required at the time of product development summarized and listed for each development phase.

Please use it as a handbook when developing.

Table of contents:

[Step1: MCU selection](#)

[Step2: Designing and evaluating](#)


[Step3: Mass production](#)

Step1: MCU selection

	Item	Content	Link
1	Hardware information	Datasheet	Doc
2	Products & Solutions	Video	Web site
3		Blog	Web site
4		Reference designs (Winning combination)	Web site
5	Product longevity program (PLP)	Overview of product longevity program (PLP)	Web site
6		Product selection (product selector) Note: Refer to PLP column in the chart.	Web site
7	Replacement information	Differences of specification among RX products	Doc
8		[SH/H8/H8S/H8SX/M16C/V850] → RX microcontroller migration guide	Web site
9		Design guide for migration between RX family differences in package external form	Doc

[Go to Top](#)

Step2: Designing and evaluating

Item		Content	Link
Common			
1	Hardware information	User's manual: Hardware	Doc
2		RX family hardware manual guidance (how to read user's manual: hardware)	Doc
3		Technical update (errata information)	Web site
4		Product change notice (PCN)	Web site
5		Part number guide for RX family product (the meaning of character in part number)	Doc
6		Semiconductor reliability handbook	Doc
7		RELIABILITY REPORT	Doc
8		RoHS Product Options → Part Number → Package information → RoHS Info	Web site
9	Software information	Instruction set for RXv3 core architecture (user's manual)	Doc
10	Evaluation board (for general purpose)	Renesas starter kit+ for RX72M (all functions could be evaluated)	Web site
11	Solution board	CPU card RX72M CPU card with RDC-IC industrial NW support	Web site
12		CPU card for motor control	Web site
13	Solution board	Industrial automation functional safety reference board	Web site
14		FSoE reference Kit with RX MCU	Web site
15	Partner information	Partner products (system solutions provider)	Web site
16		Partner products (trusted technology partners that deliver commercial-grade building blocks)	Web site
Hardware design			
1	Design information	Hardware design guide	Web site
2		Design guide for main clock circuit and Sub-Clock circuit	Doc
3		Notes regarding high-temperature operation	Doc
4		Guidelines for full-speed USB2.0 board design	Doc
5		Ethernet Hardware Design Guide	Doc
6	Board simulates	ECAD, board simulation model (IBIS) Note: ECAD can be found by clicking on the respective part number of the product options. 	Web site
7	Other	Resonator and matching circuit information	Web site

Item		Content	Link	
Hardware design				
8	Other	Package information (package outline information, mount manual, etc.)	Web site	
9	Development environment	Supplemental user's manual for E1/E20/E2 Lite/E2 emulator	Doc	
Software design				
1	Software information	Getting started with the RX family development environment	Web site	
2		Development tools for RX family	Web site	
3		Software environment (OS, middleware, drivers)	Web site	
4		RX smart configurator user's guide (tools for code generation)	Doc	
5	Training information	Smart configurator tutorial - create a LED blinking program using RX family MCU	Web site	
6		How to use tools and solutions (video clips)	Web site	
7	System design	Examples of transitioning to low power consumption modes	Doc Sample	
Solution				
1	Cloud	Portal page	RX cloud connectivity solution	Web site
2		Application notes	How to Create Azure ADU environment	Doc
3			AzureRTOS sample projects using e2 studio or IAR EW	Doc
4	Security	Portal page	RX security solutions	Web site
5		Manual	Security key management tool manual	Doc
6		Application notes	TSIP (Trusted Secure IP) driver (binary version)	Doc Sample
7			How to use AES cryptography with Trusted Secure IP(TSIP)	Doc
8	Other information	Video	Web site	
9	Voice recognition	Portal page	Voice recognition solutions	Web site
10		Application notes	Voice recognition demonstration (AmiVoice Micro)	Doc
11	Industrial network	Portal page	RX72M network solution	Web site
12		Application notes	Industrial ethernet protocol sample program for CPU card	Doc Sample
13			Sample programs for major industrial ethernet and fieldbus protocols	Doc Sample
14			Encoder BLDC motor control using EtherCAT communications	Doc Sample

	Item		Content	Link	
Solution					
15	GUI	Portal page	Graphical user interface (GUI) solutions	Web site	
16		Support information	RX family LCD-related FAQ list	Web site	
17		Application notes		GUI development sample using QE for display [RX]	Doc Sample
18				QE for display [RX] user's manual	Doc Sample
19				WVGA display sample program using GLCDC	Doc Sample
20				WQVGA display sample program using GLCDC	Doc Sample
21		Module for image rendering (emWin)	Doc Sample		
22	Functional safety	Portal page	IEC61508 functional safety solutions for industry	Web site	
23		Other information	Functional safety solution for Industrial automation	Doc	
24			Introduction to Renesas functional safety (Video)	Web site	
25	Motor and inverter control	Tool	Renesas motor workbench	Web site	
Support					
1	Support information		FAQ (frequently asked inquiries)	Web site	
2			RX forum (community)	Web site	
3			Ask to technical support Note: Please click login in the upper right corner	Web site	

[Go to Top](#)

Step3: Mass production

	Item		Content	Link
1	Writing a program	Programmer	PG-FP6	Web site
2		Writing tool	Renesas flash programmer (GUI tool for PC)	Web site
3	Firmware update	Application notes	Renesas MCU firmware update design policy	Doc
4			Firmware update module using firmware integration technology	Doc Sample
5			How to manage the access control for flash memory	Doc
6	Inspection	Design information	Boundary scan description language (BSDL) file	Web site

[Go to Top](#)