# RC-G4

**Users Manual** 

The Second Version Suisei Electronics System Co., Ltd The First Version: Issued in March 2007 The Second Version: Issued in May 2007

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- This product is a writing device only for one tip microcomputer with built- in flash ROM, EPROM and onetime PROM produced by Renesas Technology Corp. It can not be used for writing to other devices and for other purposes.
- Warranty period for this product is one year after from the date of the purchase. Fault(s) cause by the defect(s) in manufacturing will be repaired without charge during this period. Please notify the local distributor or us.

Please note a fault of the consumables such as a socket and a switch will be repaired at your expense. A fault of MCU device written by this product and an error caused by the fault accordingly will not be warranted.

- In case this product is used for mass production, please make sure to consider usage environment, etc. in advance by yourself and to check the reliability.
- In case this product is used in Japan, Electrical Appliance Regulations and electro magnetic interference measures will not be applied.

This product obtains neither safety standard such as UL nor standard such as IEC. Please be aware of this point when you bring it abroad.

- The content written in this manual may be revised without notice on account of performance improvement, etc. Suisei Electronics System Co.,Ltd will not be responsible for the result of operating the description.
- For enquiries on the content of this manual and the software, please contact the following. E-mail or Fax will be accepted.

## 1. Overview

RC-G4 is a gang writing unit only used for EFP-RC, connecting four EFP-RC main bodies. By connecting four EFP-RC main bodies to RC-G4, four EFP-RCs can conduct reading and writing simultaneously in the serial input-output mode into MCU with built-in flash memory and MCU with built-in QzROM produced by Renesas Technology Corp.

Figure 1.1 shows external figures of RC-G4.



Figure 1.1 RC-G4 External Figures

## [Note] Unusable EFP-RC

EFP-RC of serial number 5A00049 or before (shipped in February 2005 or before) can not be used with this product. Please prepare EFP-RC of serial number of No.5A00050 or later if this product is used.

#### 2. Names of RC-G4 Panels and Functions

Figure 2.1 RC-G4 Panel Figure shows names of each LED, switch and connector on RC-G4 and their functions.



Figure 2.1 RC-G4 Panel Figure

#### 3. How to Connect RC-G4

Figure 3.1 shows how to connect RC-G4.



Figure 3.1 RC-G4 Connection figure

#### 3.1 Note

- Note1: RC-G4 and EFP-RC should be connected with powers of RC-G4 and EFP-RC being turned off.
- Note2: When the device LED(orange) of RC-G4 is turned on, please do not plug/unplug the cable, as the connection cable between EFP-RC and user target board is energized.
- Note3: RC-G4 and EFP-RC should be disconnected with powers of RC-G4 and EFP-RC being turned off.
- Note4: RC-G4 side supplies power to EFP-RC and user target. The supplied current to the user target is 50mA (when four EFP-RCs are used).

## 4. Lighting Pattern of Displayed LED

Figure 4.1 shows lighting pattern of displayed LED.

Device A(When EFP-RC is connected, green is turned on.)							
			(When EFP-RC is not connected, it is turned off.)				
		O Status	(Turned off.)				
When power is turned on							
Device A Connect (Green is turn on.)							
		Device	(Orange is turned on.)				
		O Status	(Turned off.)				
When device command is being in execution							
		evice A	Device A				
	(Green is turn on.)	Connect	Connect (Green is turn on.)				
	(Turned off.) (Green is turned on.)		Status (Red is turned on.)				
	When normally terminated	Display of result for device co	ommand execution When terminated in error				
No.	Operation	LED Name	Content				
	When power is turned on		When EFP-RC is connected, "green" is				
		Connect	turned on. When EFP-RC is not				
1							
1	When power is turned on		connected, it is turned off.				
1	When power is turned on	Device	connected, it is turned off. Turned off.				
1	When power is turned on	Device Status	connected, it is turned off. Turned off. Turned off.				
1	When power is turned on	Device Status Connect	connected, it is turned off. Turned off. Turned off. "Green" is turned on.				
2	When power is turned on When device command is	Device Status Connect Device	connected, it is turned off. Turned off. "Green" is turned on. "Orange" is turned on.				
2	When power is turned on When device command is executed	Device Status Connect Device Status	connected, it is turned off. Turned off. Turned off. "Green" is turned on. "Orange" is turned on. Turned off.				
2	When power is turned on When device command is executed	Device Status Connect Device Status Connect	connected, it is turned off. Turned off. "Green" is turned on. "Orange" is turned on. Turned off. "Green" is turned on.				
2	When power is turned on When device command is executed	Device Status Connect Device Status Connect Device	connected, it is turned off. Turned off. "Green" is turned on. "Orange" is turned on. Turned off. "Green" is turned on. Turned off. Turned off.				
2	When power is turned on When device command is executed After device command is executed	Device Status Connect Device Status Connect Device	connected, it is turned off. Turned off. "Green" is turned on. "Orange" is turned on. Turned off. "Green" is turned on. Turned off. If normally terminated, "green" is turned				
2	When power is turned on When device command is executed After device command is executed	Device Status Connect Device Status Connect Device Status	connected, it is turned off. Turned off. "Green" is turned on. "Orange" is turned on. Turned off. "Green" is turned on. Turned off. If normally terminated, "green" is turned on. If terminated with an error, "red" is				

Figure 4.1 Lighting Pattern of Displayed LED

#### 5. T\_VDD and T\_VPP Voltage Setting Switch

Figure 5.1 shows silk figure of T\_VDD and T\_VPP voltage setting switch.

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Name	Content				
	This is a voltage setting switch of T_VDD supplied to user target.				
T_VDD Select	Voltage of T_VDD can be set to 3.3V, 4.5V or 5V.				
	Please set 4BitQzROM to 4.5V and 8BitQzROM to 5V.				
	This is a voltage setting switch of T_VPP supplied to user target.				
T_VDD Select	Voltage of T_VPP can be set to 4.5V, 5V, 7.9V or 12V.				
	Please set both 4BitQzROM and 8BitQzROM to 7.9V.				

Figure 5.1 Silk Figure of T\_VDD and T\_VPP voltage setting switch

Note1: When device LED (orange) of RC-G4 main body is turned on, please do not switch over  $T_VDD$  and  $T_VPP$  voltage setting switch.

#### 6. User Target Connection Connector

Figure 6.1 shows pin allocation figure of user target connection connector. Table 6.1 shows terminal table of user target connection connector.



Figure 6.1 Pin Allocation Figure of Target Connection Connector

Pin NO.	Terminal	Input-	Explanation	
	Ivame	Output		
1	GND		GND	
2	( N.C )	-		
3	T_VPP	Output	Target writing power output. 4.5V, 5V, 7.9V or 12V.	
4	T_VDD	Output	Target power output. 3.3V, 4.5V or 5V.	
5	T_VPP 2	Output	Target writing power output2.	
6	Err	Output	Error display when external execution.	
7	Busy	Output	Display in external execution	
8	T_PGM/OE	Output	Target writing-reading pulse.	
9	T_SCLK	Output	Clock for synchronous communications	
10	T_TXD	Output	Serial send data	
11	T_RXD	Input	Serial receive data	
12	T_Busy	Input	Target busy signal	
13	Start	Input	External start switch	
14	T_Reset	Output	Target reset control signal	
15	( N.C )	-		
16	GND		GND	

Table 6.1 Terminal Table of User Target Connector

#### 7. How to Operate RC-G4

When RC-G4 is used, each EFP-RC needs to be set to memory execution mode.

For how to set EFP-RC memory execution mode, please refer to "EFP-RC Operation Manual: "S" key operation on menu". Please set each EFP-RC to memory execution mode in advance.

The following explains a set of operation procedure of RC-G4.



## (viii) To start executing script file.

\*If used continuously, (vii) and (viii) are executed again.

Each file is made with C compiler and editor application.
To be operated with EFP-RC control software.
To be operated on EFP-RC main body.
To be operated on RC-G4 main body.

\*\*\* Push a start switch 1 second or more. If time is short, EFP-RC will not operate.