EFP– RC

Users Manual

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Suisei electronics system Co., Ltd.

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EFP-RC is ROM programmer who can use it only for the single-chip microcomputer made of the Renesas technology.
It is not possible to use for writing in other MCU, and to use it for other usages.

The guaranteed term of EFP-RC has been one year since purchase.
Meanwhile, the defect that occurs due to the problem in manufacturing is repaired free of charge.
Please contact the shop or our company.
However, in the following case, it becomes for a fee.
Breakage of articles of consumption (a socket, switch, etc.)
When it is made to damage by the mistake of handling of EFP-RC.

Moreover, it is not warrantable of the cost generated by the defect and those of MCU programmed with this device.

EFP-RC is a product for the development usage.
Please confirm the following by customer's responsibility before using EFP-RC for the mass production usage.
Please check to see the factor which makes use environment and an used procedure generate fault in MCU writing does not lurk.

The contents indicated by this EFP-RC manual may be changed without a preliminary announcement by the reasons of performance improvement etc. in the future from now on.
In addition, please understand that our company cannot take the responsibility about the result which written contents employed.

Please give me the inquiry about the contents of this description and software to the following.
In addition, on the occasion of the inquiry, it is receiving by E-mail and FAX.

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1. EFP-RC externals chart.

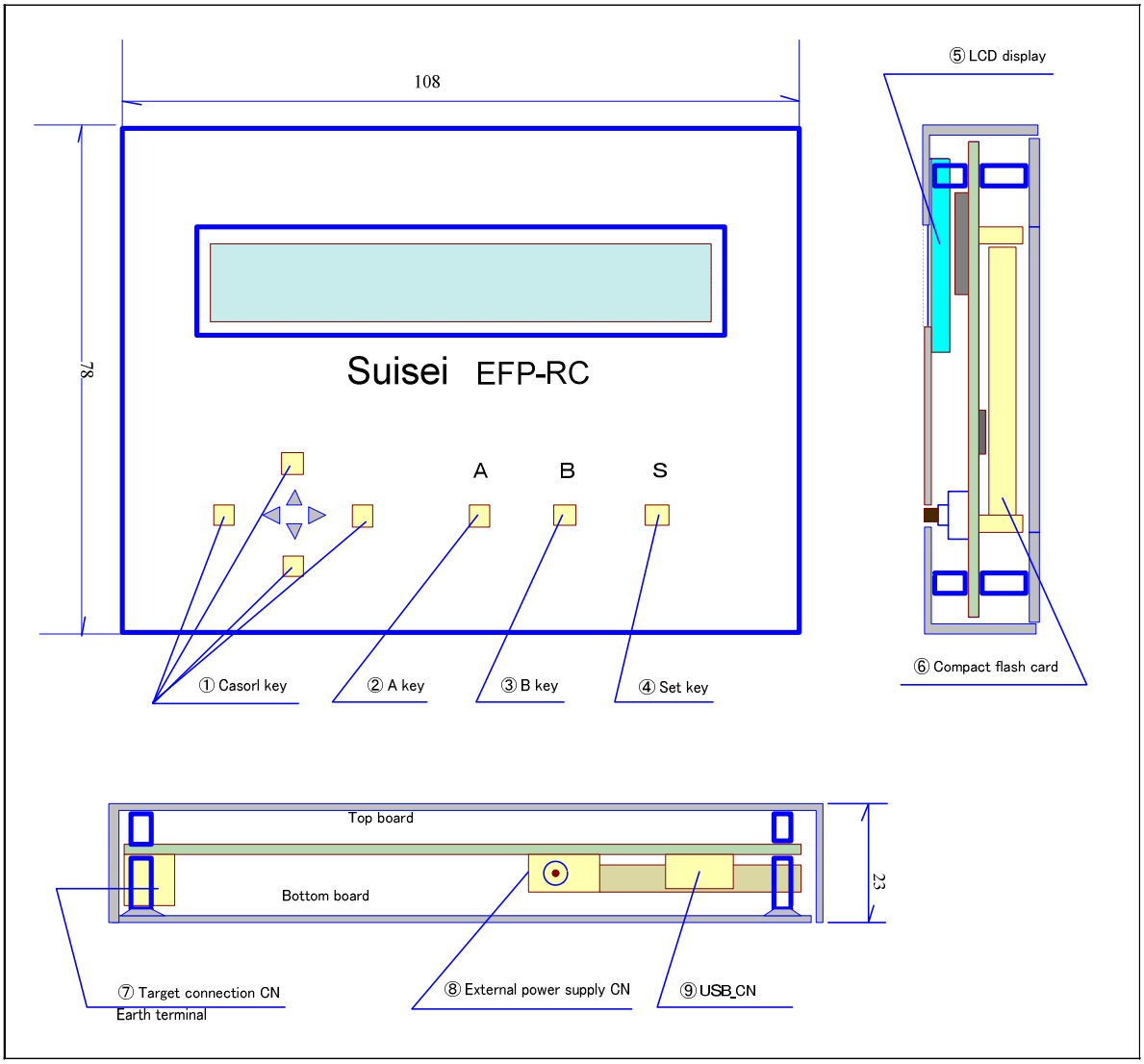

Fig.1 Externals chart

Explanation of outline of externals each part.

	Name	Outline
①	Cursor key	Cursor movement key to select content displayed in LCD.
②	A key	Use changes on each occasion. (Refer to the operating manual.)
③	B key	The backing key: It is a key that returns an operation route that is advanced up to now.
④	Set Key	It is a key that executes the command, and decides the parameter.
⑤	LCD Display	The command and the parameter, etc. are displayed.
⑥	Compact-Flash card	The writing data, the script file, and the upgrade firmware are memorized there.
⑦	Target-connection connector	Connects with the target substrate when the serial-write. The same specification for EFP-1 as serial unit.
⑧	External power supply connector	Power supply connector. 1.3φ round pin Jack. (Outside=GND Inside=Vcc)
⑨	USB_I/F connector	It uses it the data to download and to control from the personal computer.

2. EFP-RC Method of connecting

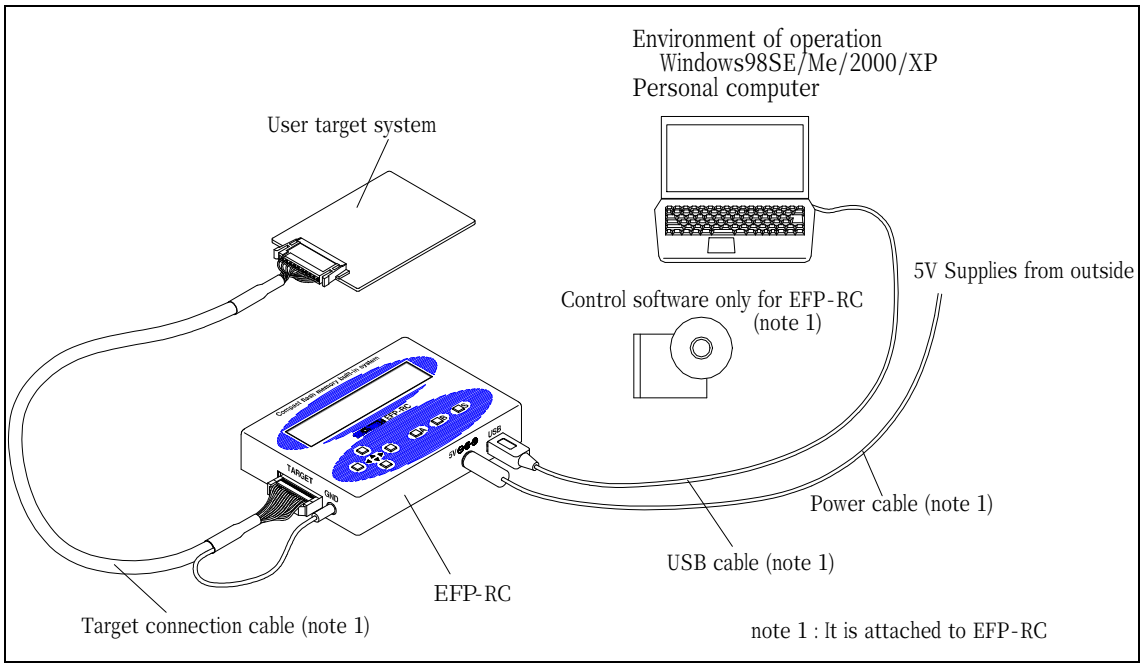

Fig.2 Example of connecting EFP-RC

2.1. Connection at the case of Data-file transfer.

① TG cable: Especially, it is unnecessary of the connection.
② The USB cable: It is necessary to connect it.
(The power is supplied by the USB cable.)
③ The power cable: Especially, it is unnecessary of the connection.

2.2. Connection at the case of writing to MCU.

① TG cable: Connected necessity. (The power supply to EFP-RC is done) Note2
② USB cable: Necessity none connection.
③ Power cable: Connection if necessary. (Note 3:, the following reference)

Note 2: The TG cable might be different from above-mentioned figure at the shipment time.
Note 3: In the following cases, please supply power by the power supply connector. (4V-5.5V)
(It is supplied by the target connector usually.)
a. When the voltage of the target is less than 3.3V.
(When the voltage becomes 3.0V or less, operation becomes unstable)
b. When repeatedly operation is executed.
(The power supply is turned off once, and it will turn on again.)

3. Notes on Handling

3.1. Power Supply Input

1: The power supply of EFP-RC can be inputted from the following lines.

⑧ External power supply connector (CN1 Outside=GND Inside=Vcc /4.5V-5V)

⑨ USB_I/F connector (CN3_1: +5V, CN3_5: GND)

⑦ Target connector (CN5_1: GND, CN5_4: T_VDD)

* When two kinds of power supplies are connected simultaneously, it is supplied from a higher voltage side.

2: Please use external power supply voltage more than 4V and is less than 5.5V .
Moreover, when the voltage of a target is less than [3.3V], please use an external power supply.

3: Connecting EFP-RC of a power supply OFF and the target-board of a power supply ON should avoid.

4: When you repeat writing and you perform it, please use an external power supply.

- In order to shorten the loss of starting time generated with power supplies ON and OFF.
- In order to lessen the burden of the power supply by the side of a target.

EFP-RC Power supply current (Standard)

Supply voltage	3.3V	4.0V	5.0V
Supply current	0.3A	0.25A	0.15A

3.2. About the target connection method.
When you connect with a target board, please refer to the following data.
EF1SRP-01U Users guide. EF1SRP-01US2 Users guide.
Each supplementary data of MCU

3.3. About Switch
* When you operate a switch, please do not press down by strong power.

4. About Operation Method

Please understand the following content before executing writing ROM by using EFP-RC.

① Files used with EFP-RC are the following two files.
Writing data file (xxx.HXW): File of form looks like binary that converts HEX file.
Script file (xxx.PBT) for writing: Text form file that set writing procedure.

- Please forward it to EFP-RC after executing the control software with the personal computer, and making HXW file.
- Please forward it to EFP-RC with the control software after making the script file with a text editor.
- There is a method of transmitting data to EFP-RC with the control software through USB_I/F.
- Moreover, a Compact-Flash card (CF) is removed from an EFP-RC main body, and there is the method of writing in direct CF by Compact-Flash R/W.
  (Please refer to a [EFP-RC control software manual] about the data transfer method)
  (Please refer to a [EFP-RC operations manual] about a control software script file)

② When you write in the file set up by '①' by EFP-RC, please write in by choosing a LCD display menu.
(Please refer to a [EFP-RC operation manual] about operation of EFP-RC)

5. Connector Table

5.1. Power Supply Input Pin Jack (CN1)

	Signal name	In/Out	Explanation
Outside	0V	In	0V Input
Inside	VIN_Ext	In	4V to 5.5V Input

5.2. USB I/F Connector (CN3)

	Signal name	In/Out	Explanation
1	V_BUS	In	USB power supply (+5V): Use it as a power supply of EFP-RC.
2	D-	In-Out	Differential Data line (?Side)
3	D+	In-Out	Differential Data line (+Side)
4	(N.C)	—	
5	GND	In	USB GND

5.3. Connector for Internal MCU Rewriting (CN4)

	Signal name	In/Out	Explanation
1	GND		GND
2	RXD	Out	MCU to (EFP) Reply serial data
3	BUSY	Out	MCU Busy Signal
4	VPP	(N.C)	
5	VDD	Out	Power supply output (for EFP buffer IC)
6	SCLK	In	The clock signal for synchronous communications
7	TXD	In	(EFP) to MCU Receiving serial data
8	PGM/OE	In	Write-in read-out pulse
9	Reset	In	Reset signal input
10	GND		GND

5.4. Target Connector (CN5)

	Signal name	In/Out	Explanation
1	GND		GND
2	(N.C)	—	
3	T_VPP	Out	Target Programming power supply output
4	T_VDD	Out	Target power supply input (3.3V to 5V)
5	T_VPP 2	Out	Target Programming power supply output 2
6	Err	Out	External display signal: Programming execution error
7	Busy	Out	External display signal: Under command execution
8	T_PGM/OE	Out	Target : write-in read-out pulse
9	T_SCLK	Out	Target : Clock for synchronous communications
10	T_TXD	Out	Target : Serial transmitting data
11	T_RXD	In	Target : Serial receiving data
12	T_Busy	In	Target : Busy signal
13	Start	In	External switch : Start
14	T_Reset	Out	Target reset control signal
15	(N.C)	—	
16	GND		GND

6. Basic Specification

Program system		A system MCU write-in [made from RENESAS technology]
MCU for a program		Flash ROM built-in MCU made from RENESAS technology
		M16C/6x, and / 8x M16C/6xP R8 C Qz_ROM etc
Memory	CF	32MB or more, a user program, for write-in script storing
	ROM	For 256KB flash ROM (MCU built-in) firmware program
	RAM	20KB (MCU built-in)
Communication interface	USB 1.1	12Mbps(Max)
Correspondence OS		Windows98SE,Me,2000,XP
Power supply	USB I/F	From USB bus power to supply (5V)
	User target	From a user target system to supply (3.3V to 5V)
	exclusive terminal	From an exclusive power supply jack to supply (5V)
Power consumption		3.3V-400mA 5V-250mA (Max)
Outside size		108(W) x78(D) x23 (H) [mm]
Weight		150g

7. Data Transfer Procedure by Removal and R/W of CompactFlash Card

1: The lid on the case back side is removed. (It slides outside)
2: Draw out CF card.
3: Insert in CF_R/W by which CF card was connected to the personal computer, and perform data transfer etc.
4: After data transfer removes CF card from R/W.
5: Please cover with the lid of CF card after inserting CF card in EFP-RC.

8. Product Composition (Packing Article)

Product composition of the set corresponding to QzROM

Name	Explanation
1: EFP-RC main part	It Compact-Flash builds in an EFP-RC main part.
2: USB cable	1.5m length MinUSB Cable
3: Power supply cable	1m length (a supply side tip is unsettled)
4: EFXQZP-01 conversion board	
5:EFTGCB-16W16W	300mm length of EFP-RC EFXQZP-01 connecting cables (both-sides 16PinCN processing)
6:EFTGCB-16WX	300mm length of target connecting cables (single-sided 16PinCN processing)
7:EF0PCB-10WX	Operation part connection connector 1000mm length (single-sided 10PinCN processing)
8: Control software	Inside of CD
7: Manuals	Inside of CD (User, Operation, Control software Manuals)
8:Users Manual	This document EFXQZP-01 description

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