

EF1SRP-01U Supplement (R8C/Tiny Series Edition)

Second issued March 2006

1. General Description

This supplement contains information on matters that require attention for reading, writing and cleaning data to Renesas Technology Corp.

2. Operating Environment

Please use the MCU mentioned in this supplement in the environment as follows.

Please use EF1SRP-01U which is finished with **remodeling for R8C/Tiny series**.

List2.1 Operating Environment List

MCU Group name	EFP- Monitor Version	WinEFP Version	SRPMCU12.TBL Version
R8C/10 group	Ver.3.00.77 or later	Ver.1.20.42 or later	Ver.1.03.00 or later
R8C/11 group			
R8C/12 group			
R8C/13 group			

The version number such as EFP-I and WinEFP is displayed in [Help]→[About] in the WinEFP window menu.

When S/W versions such as EFP-I of the use are old, please download a most recent version updater in the following site.

<EFP-I latest S/W free download site>
http://www.susei.co.jp/download/efps2/efps2_down.htm

3. Pin Connection

Table 3.1 lists the connection of target connection cable pin of the R8C/Tiny Series.

Table 3.1: List of Target Connection Pin

Connection Pin No.(EF1SRP-01U side)	Target End Wire Color	Signal	4-Wire Cable Pin No.	MCU Connection Pin in Serial I/O Mode	I/O (Writer side)
1	Orange/red dotted 1	GND	1	Connects to VSS pin *3	-
2	Orange/black dotted 1				
3	Gray/red dotted 1	T_VPP	4	Unconnected	Output
4	Gray/black dotted 1	T_VDD	5	Connects to VDD pin *1	I/O
8	White/black dotted 1	T_PGM/OE/MD	8	Connects to D3/AIN5 pin	Output
9	Yellow/red dotted 1	T_SCLK	6	P21/A1N1	Output
10	Yellow/black dotted 1	T_TXD	7	Connects to P20/A1N0 pin *3	Output
11	Pink/red dotted 1	T_RXD	2		Input
12	Pink/black dotted 1	T_BUSY	3	Unconnected	I/O
14	Orange/black dotted 2	T_RESET	9	Connects to RESET pin *4	Output
15	Gray/red dotted 2	GND	10	Connects to VSS pin *	-
16	Gray/black dotted 2				

Supplement of Pin Treatment:

*1 In case user consumption current is high (20mA or more except MCU), please provide VDD power from user target side. VDD power should not be supplied from EFP-I.

*2 RESET cancel in MCU is not carried out during using a writer. To execute user program, you should therefore unplug the user target connection to the writer. As for RESET output at writer side, see Note 2 in the page 3.

*3 The signal GND has 4 pins (No.1, 2, 15 and 16) of EF1SRP-05U side connector. When connecting to the target board, you can connect with using only 1 pin, but connecting 2 or more pins is recommended

*4 Connect XIN terminal to VSS whether you connect a ceramic resonance circuit, and please throw XOUT terminal open.

(1) Fig3.1 shows an example of user target MCU peripheral circuit R8C/Tiny series.

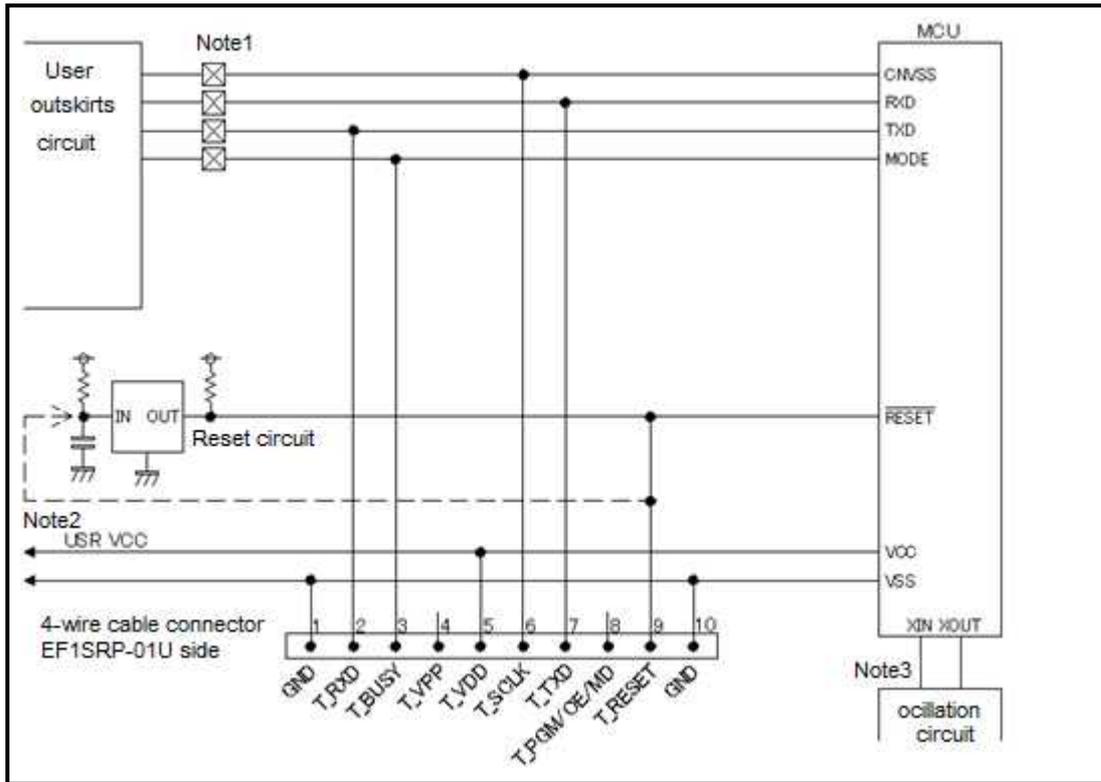


Fig.3.1: Target MCU Peripheral Circuit Example

Notes:

- 1: If the user peripheral circuit is an output circuit, you should disconnect by jumper to avoid output collision when executing serial I/O mode.
- 2: EFP-I side RESET output is an open collector, therefore connect to the RESET pin with 1kΩ pull-up processing if RESET circuit is open collector output. If the RESET circuit is CMOS output, disconnect by jumper as described in Notes 1, or connect the EFP-I side T_RESET signal to RESET circuit input.
- 3: When you operate it with a ring oscillator clock, the connection of the oscillation circuit is unnecessary.

4 . I D Code Area

ID code area is provided in the internal flash memory of 7900 Series MCUs.

It can prohibit the renewal and reading of the MCU flash memory when it satisfies the following conditions.

I D code protection function outbreak condition >

Condition 1 : Write in data except FFh in FFFFh of the flash memory.

Condition 2 : Write in an arbitrary ID cord at the ID coding region.

Condition 3 : switch on the power supply of MCU after practice Condition 1,2.

MCU which became the protection state by writing of the ID cord can remove a protection state by ID collation function of WinEFP. Please refer to 6.ID collation about the ID collation function.

This function is a function to prevent unjust data reading of the user's program.

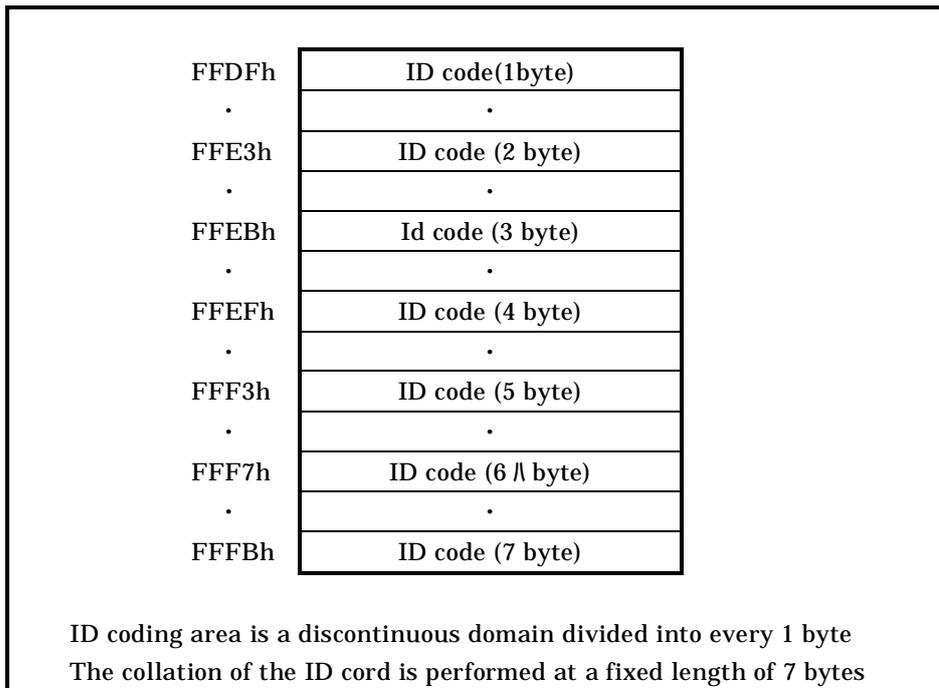


Fig.4.1 Constitution of ID code area

5. ID Collation

The ID code collation is carried out by inputting the ID code etc. for the ID collation parameter of the WinEFP environment setting dialog. Be sure to carry out the ID code collation if an ID has been written in the ID code area of the target MCU. The commands of [Device] of the WinEFP window menu cannot be used if the ID code does not match.* If the ID code area is blank, the ID collation is not carried out even if you input the ID code.

The ID collation parameter configuration is shown in Fig. 6.1.



Fig. 5.1: ID Collation Parameter Configuration

1) Input Format

The ID code input format is specified as ASCII or HEX.

2) Start Address

Specifies the top address of ID code area.

ID code top address of MCU is automatically set in this parameter.

3) ID Code

Input the ID code of the 7 bytes fixed length.

5.1 ID collation operation step

When it is used MCU establishing the ID coding region, please be careful to the wrong writing of the ID coding area. In addition, please manage the written ID code in user side not to forget it. This is written about use example and the procedure of the ID cord. Series of procedures from writing of the ID cord to cancellation is shown as follows.

The procedure example is based on the assembly operation of the M16C/62 group. When it is used MCU of the other group, please be careful because ID cord size and the addresses of the ID coding area are different.

Step 1 Setting of ID code

In the domain equivalent to the ID code area of the buffer RAM in the main body of EFP-I, set an ID cord. It is "SUISEI" with an ID cord in the example.(Cf. Fig.5.2)

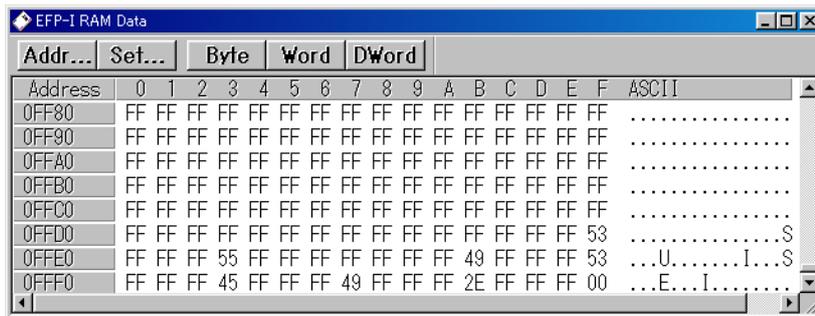


Fig.5.2 Dump window (ID cord setting data)

Table 5.1 Buffer RAM setting fact sheet

Flash memory address	Setting date	Flash memory address	Setting data
F F D F h	5 3 h	F F F 3 h	4 5 h
F F E 3 h	5 5 h	F F F 7 h	4 9 h
F F E B h	4 9 h	F F F B h	2 E h
F F E F h	5 3 h	F F F F h	0 0 h

Step 2 Writing to ID Code area

Write in data of the buffer RAM in the main body of EFP-I at flash memory in MCU.

In the example, it writes that using a program command and in the domain including the ID code area.

Please switch on again a power supply of MCU after writing to the ID code area was finished.



Fig.5.3 Writing to ID code area

Program command designated address
 Start Address : F F 0 0 h
 End address : F F F F h

Step 3 The confirmation and cancellation of the protection state

Error message dialogue of Fig.5.4 is displayed and cancels a command when it carry out a command in the [Device] in WinEFP window menu for MCU which ID cord was written.



Fig5.4 ID Error

Collate the ID cord with an ID collation command. Remove a protection state of MCU side. The ID input by code in each input form is shown in fig.5.5, 5.6.



Fig.5.5 I D Collation (Input form : ASCII)

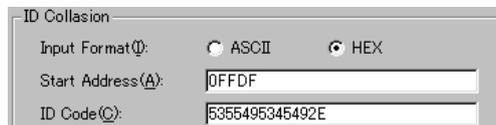


Fig5.6 I D Collation (Input form HEX)

When ID cord accords, the protection of MCU is removed, and reading and renewal of MCU are enabled.

When an error occurred after ID collation command practice, please carry out ID collation command after confirmation with ID cord once again.

6. Erase

It can be perform block elimination and the collective elimination of all blocks using Erase type parameter in Erase command. Parameter input dialogue of Erase command is shown in Fig.6.1.

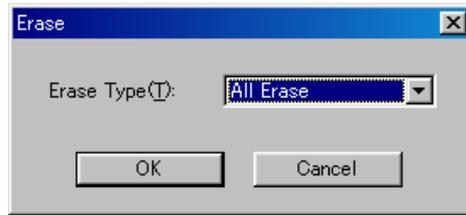


Fig6.1 Parameter input dialogue of Erase command

1) Erase Type

All Erase and the address domain of each block (xxxxxxh - xxxxxxh) is displayed in the list of drop-downs of the Erase type parameter display area right side.

Please choose an elimination method.

Drop -downs list is displayed when you click a lower arrow with a mouse

2) OK

Practice Erase command

3) Cancel

Cancel the command

7. The parameter input by the device command

MCU to use at this MCU unit performs the writing of data, reading by a page unit.

Data size of one page is 256 bytes.

Please input an address about Start, End Address of each command to obey the following input forms.

Input forms

Start Address : xxxxx00h

End Address : xxxxxFFh

In addition, if you input an address except the page unit into Start, End Address, parameter error occurs and command is canceled.