

EF1SRP-05U Supplement (7544/7545 Group Edition)

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1 . General Description

This supplement contains information on matters that require attention for reading and writing data to Renesas Technology Corp. 7544/7545 Group MCU with built-in QzROM.

* Please notice that during serial I/O mode, the content in this supplement cannot be applied to 7544 group of single power supply type.

2 . Operating Environment

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

< EFP-I >

Monitor Version : Ver.4.18.15 or later

< EFP-1M >

Monitor Version : Ver.4.A8.15 or later

< Control Software >

WinEfpRE Version : Ver.1.30.05 or later

3. Pin Connection

Table 3.1 lists the connection of target connection cable pin of 7544/7545 group.

Table 3.1 List of Target Connection Pin

Connection Pin No. (EF1SRP-05U side)	Target End Wire Color	Signal	3-Wire Cable Pin No.	MCU Connection Pin in Serial Input/Output Mode		I/O (writer side)
1	Orange/red dotted 1	GND	NC	Connects to VSS pin *3		-
2	Orange/black dotted 1					
3	Gray/red dotted 1	T_VPP	2	Connects to CNVSS pin		Output
4	Gray/black dotted 1	T_VDD	3	Connects to VCC pin *1		I/O
8	White/black dotted 1	T_PGM/OE/MD *2	6	7544 group P10/RXD	7545 group P06/KEY6	Output
9	Yellow/red dotted 1	T_SCLK *2	4	7544 group P12/SCLK	7545 group P20/INT0	Output
10	Yellow/black dotted 1	T_TXD	5	7544 group P11/TXD	7545 group P07/KEY7	Output
11	Pink/red dotted 1	T_RXD				Input
12	Pink/black dotted 1	T_BUSY	1	Unconnected		NC
14	Orange/black dotted 2	T_RESET	7	Connects to RESET pin *2		Output
15	Gray/red dotted 2	GND	8	Connects to VSS pin *3		-
16	Gray/black dotted 2					

Supplement of Pin Treatment:

***1 Power Supply Connection**

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 Mode Entry Pin**

T_PGM/OE/MD and T_SCLK signals are to be used as mode entry pins. MCU inputs output signal of this pin and mode entry into serial I/O mode is conducted. Please refrain from mounting parts that may cause a delay in output signal of condenser, etc. Moreover pull up with 1k to 5k resistance for these pins.

***3 RESET Connection**

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

***4 GND Connection**

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

(1) Fig 3.1 shows an example of target MCU peripheral circuit when using 7544/7545g group

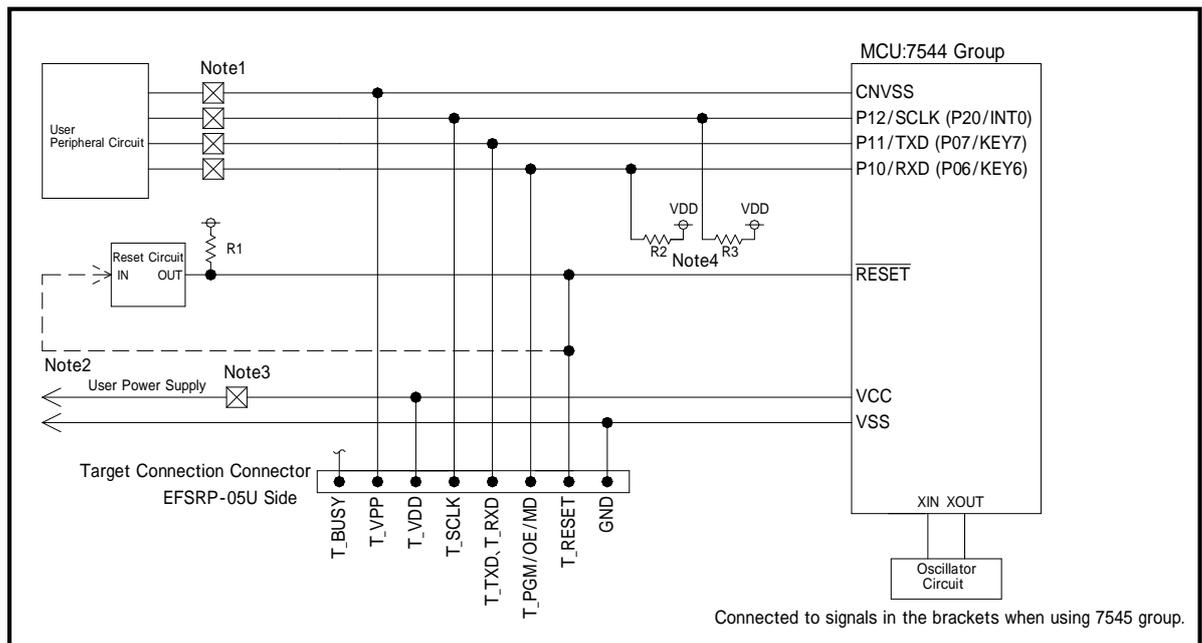


Fig 3.1 : Target MCU Peripheral Circuit Example

Notes:

- 1: If the user peripheral circuit is an output circuit, you should disconnect by jumper to avoid collision when executing serial I/O mode.
- 2: EFP-I side RESET output is an open collector, therefore connect to the RESET pin with 1k 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: 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.
- 4: T_PGM/OE/MD and T_SCLK signals are to be used as mode entry pins. If a delay in output signal of this pin occurs, mode entry into serial input/output mode cannot be conducted in MCU. Please refrain from mounting parts that may cause a delay in output signal of condenser, etc. Moreover pull up with 1k to 5k resistance for these pins.

4. Read Protect Function

7544/7545 group MCU is equipped with a read protect function to prevent unauthorized data read, and thereby the protect function can be set on writer side. The below shows how to set the read protect function.

<How to Set Read Protect>

The command can be executed after a box of "Writing of a Protection bit(W)" in the execution dialog of Program, Verify and Device Micro Command is checked.

Only when each command is terminated normally, the read protection function is set to take effect. (See Fig 4.1.)

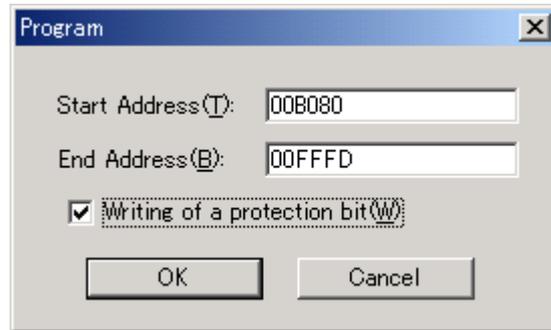


Fig 4.1 : Read Protect Function Setting Screen

<MCU After Setting Read Protect>

If read and program are conducted for MCU whose read protect function gets valid, read protect error occurs and the command is suspended.

* There is no way to cancel out the read protect function. Setting of read protect function should require attention.

5. Writing Adapter

In order for MCU single writing, writing adapter for serial I/O mode is on sale.

Fig 5.1 lists products of writing adapter.

Fig 5.1: Writing Adapters for 7544 Group Serial Input/Output mode

Product Type	Corresponding Package	Corresponding MCU
MS7544-32F	32P6U-A	M37544G2AGP
MS7544-32S	32P4B-A	M37544G2ASP
MS7545-36E	36P2R-D	M37545G2FP

* For price, etc. of each writing adapter, please contact our distributor or us.