EF1SRP-01U Supplement (3803,3804 Series Edition)

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1. General Description

This supplement contains information required for reading, writing and clearing data to/from Mitsubishi Electric 3803,3804 series MCUs with built-in flash memory. The supplement also contains a description of command operation for the various functions of the 3803,3804 series.

2. Operating Environment

Use the MCUs mentioned in this supplement in an environment as follows.

[EFP-I]
Monitor Version: Ver.3.00.24 or later
[Control Software]
WinEFP Version: Ver.1.20.10 or later
SRPMCU.TBL Version: Ver.1.02.05 or later

3. Individual Writing Specifications

3-wire serial writing

4. Pin Connection

Table 4.1 lists the connection of target connection cable pin of the 3803,3804 series.

Table 4.1: Connection of the Target Connection Cable Pin

Pin No. (EF1SRP-01U side)	Target End Wire Color	Signal	3-Wire Cable Pin No.	MCU Connection Pin for Serial Writing
1	Orange/red dotted 1	GND	NC	Connects to VSS pin *3
2	Orange/black dotted 1	GND	NC	Connects to VSS pin *3
3	Gray/red dotted 1	T_VPP	2	Connects to CNVSS pin *1
4	Gray/black dotted 1	T_VDD	3	Connects to VCC *1
8	White/black dotted 1	T_PGM/OE/MD	6	Connects to OE pin
9	Yellow/red dotted 1	T_SCLK	4	Connects to SCLK pin
10	Yellow/black dotted 1	T_TXD	5	Connects to SDA pin
11	Pink/red dotted 1	T_RXD	5	Connects to SDA pin
12	Pink/black dotted 1	T_BUSY	1	Connects to BUSY pin
14	Orange/black dotted 2	T_RESET	7	Connects to RESET pin *2
15	Gray/red dotted 2	GND	8	Connects to VSS pin *3
16	Gray/black dotted 2	GND	8	Connects to VSS pin *3

*1. The T_VDD and T_VPP supplied from the target cable when programming are limited to 50mA. When the voltage consumed by target MCU peripheral circuits is high, separate MCU from the VCC supplied from peripheral circuits.

*2. Reset cancel is not carried out following write verify. To execute MCU, you should therefore unplug the target connection cable.

*3. The signal GND has 4 pins (No. 1, 2, 15 and 16) of EF1SRP-01U side connector. When connecting to the target board, there is no problem for connecting only one pin, but it is recommended to connect more than 2 pins.

*4. Connect the MCU's Xin and Xout terminals to the oscillator circuit.

(1) An example of target MCU peripheral circuit when using the 3803,3804 series is shown in Fig. 4.1.

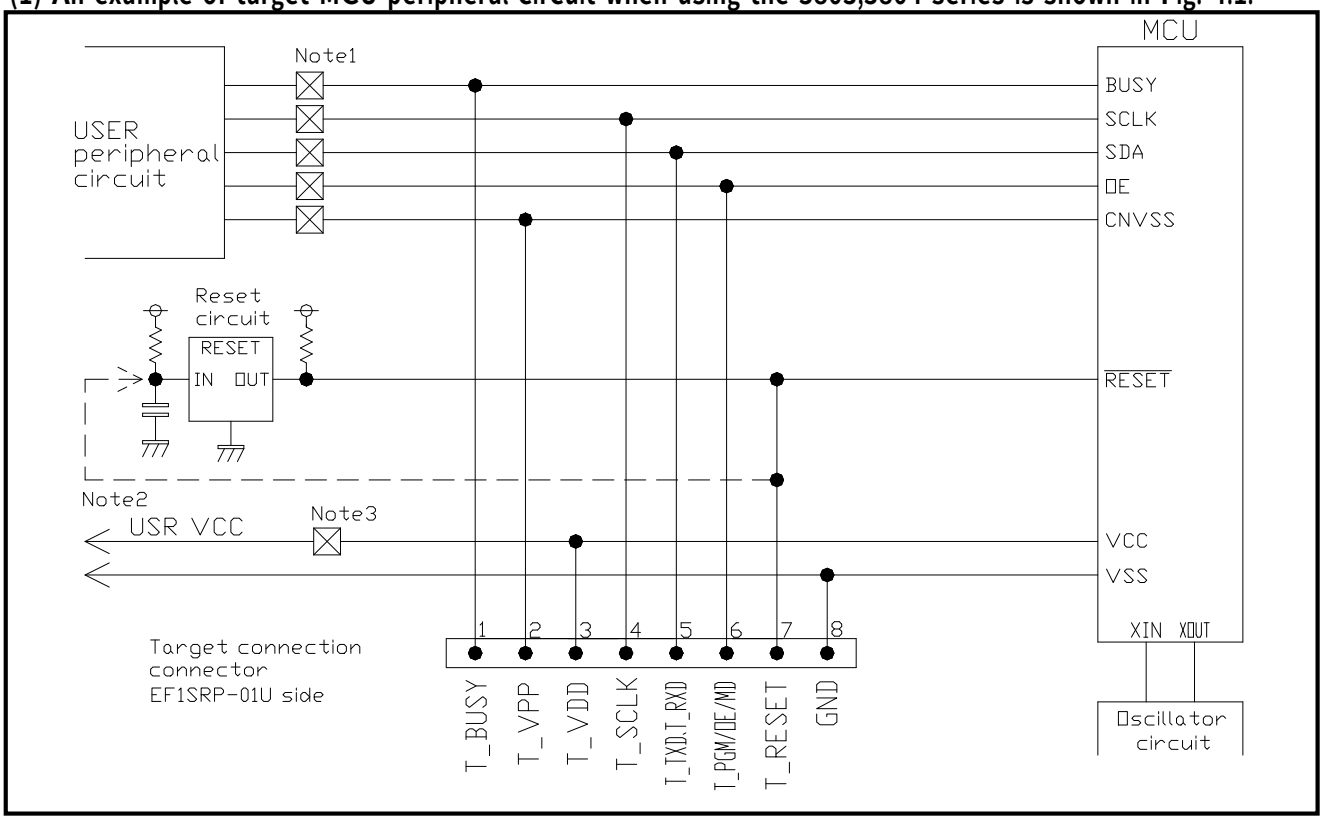

Fig. 4.1: Target MCU Peripheral Circuit Example

Notes

1. If the user peripheral circuit is an output circuit, you should disconnect by jumper to avoid output collision when serial writing.
2. EFP-I side reset output is an open collector, therefore connect directly to the $\overline{\text{RESET}}$ pin for open collector output. A pull-up resistor however must be connected. If the reset circuit is CMOS output, do as described in note 1, or connect the EFP-I side T_RESET signal to reset circuit input. Make reset delay within 30ms.
3. When the voltage consumed by target MCU peripheral circuits is high, separate MCU from the VCC supplied from peripheral circuits.

(2) An example of a collision prevention circuit when user peripheral circuit outputs is shown in Fig. 4.2 and 4.3.

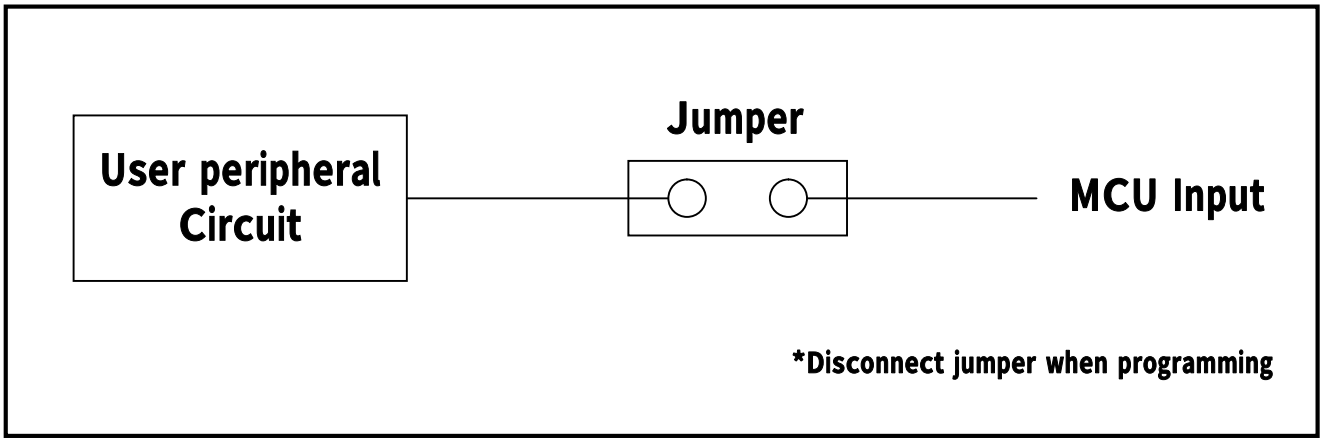

Fig. 4.2: Collision Prevention Circuit Using Jumper

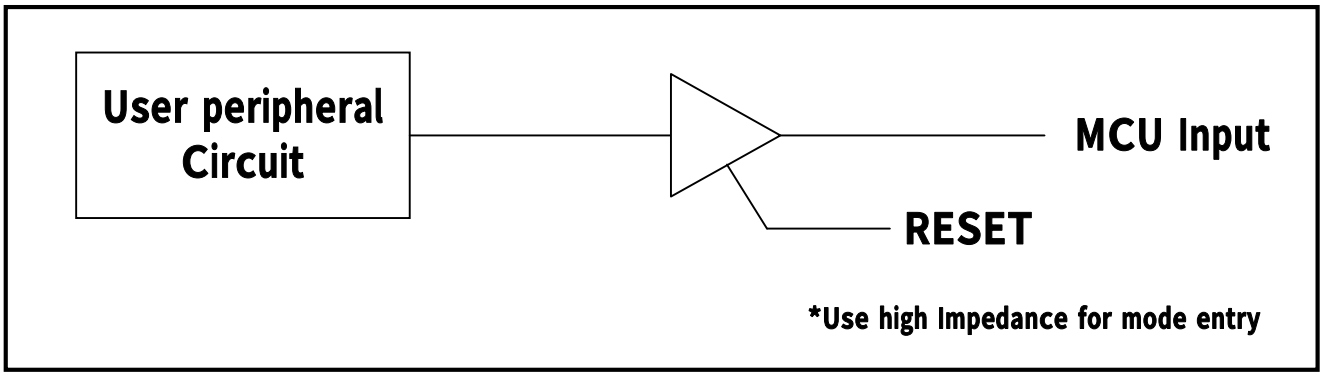

Fig. 4.3: Collision Prevention Circuit Using Three State Buffer