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April 1st, 2010 Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (http://www.renesas.com)

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Introduction

Points to be noted when creating the write and erase modules for writing to the flash memory, which is not stated on the web site, is described.

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1. Writing to the Flash Memory

There are the following ways to write the user program to the flash memory:

JEDEC Standard Command Compatibility Method: Issues a command to the predefined address such as 0x555, 0x2AA.

CUI Command Method: Issues the write command (0x40) or the erase command (0x20) via the CUI (Command User Interface).

Please check the writing method by referring to the definition of commands described in the datasheet of the flash memory to be used.

When the JEDEC standard command compatibility method is used, the flash memory sample program from Fujitsu can be reused.

When the CUI command method is used, the flash memory sample program from Renesas can be reused.

When a writing method other than above is used, the sample programs cannot be used. Accordingly, the user needs to write a new program for downloading.

Note that the flash memory downloading function of the E10A-USB does not support the page-write mode.



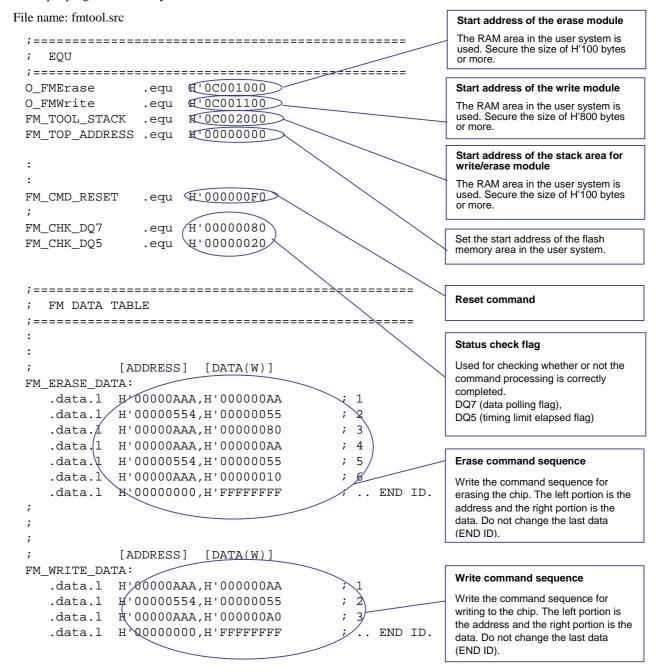
2. Customizing the Source Program

This section describes how to customize the individual programs according to each writing method. Please check the datasheet of the flash memory to be used, and change the parts of the program which are enclosed in circles. The parts to be modified are the same for both byte mode and word mode. However, the command may differ depending on the mode, so please set the commands for the used mode. In byte mode, the bus width is 8 bits (one unit of flash memory is used), 16 bits (two units of flash memory is used), or 32 bits (four units of flash memory is used). Similarly, in word mode, the bus width is 16 bits (one unit of flash memory is used) or 32 bits (two units of flash memory is used).



JEDEC Standard Command Compatibility Method:

A sample program created by FUJITSU is used.





CUI Command Method:

```
A sample program created by RENESAS is used.
                                                                  Start address of the erase module
                                                                  The RAM area in the user system is
File name: fmtool.src
                                                                  used. Secure the size of H'100 bytes
  Start address of the write module
 ;=======<del>-</del>
                                                                  The RAM area in the user system is
 O_FMErase .equ #'0C001000
O_FMWrite .equ #'0C001100
                                                                  used. Secure the size of H'800 bytes
                                                                  or more.
 FM_TOOL_STACK .equ M'0C002000
                                                                  Start address of the stack area for
 FM_TOP_ADDRES .equ H'00000000
                                                                  write/erase module
                                                                  The RAM area in the user system is
                                                                  used. Secure the size of H'100 bytes
                                                                  or more.
 ;; Word
                                                                  Set the start address of the flash
 FM_CMD_ERASE .equ H'00020020
                                                                  memory area in the user system.
 FM_CMD_WRITE .equ 1100400040
 FM_CMD_READ .equ M_00ff00ff
FM_CMD_STSCLR .equ M_00500050
                                                                  Erase command
 FM_CMD_CONFIRM .equ M'00d000d0
                                                                  Write command
                                                                  Read command
                                                                  Clear status register command
 FM CHK SR7
                  .equ M'00800080
 FM_CHK_SR7
                  .equ M'00000020
                                                                  Check command
 FM_CHK_SR4
                  .equ M'00100010
                                                                  Command that is used at the last cycle
 FM_CHK_SR3
                   .equ M'00080008
                                                                  of the command sequence.
                                                                  Write state machine status
                                                                  Erase status
                                                                  Program status
                                                                  Block status after erasure
 FM_ERASE_ADDRESS:
     .data.l H'00000000, H'00080000, H'00100000, H'00180090
     .data.l H'00200000, H'00280000, H'00300000, H'00380000
     .data.l H'00400000, H'00480000, H'00500000, H'00580000
     .data.l H'00600000, H'00680000, H'00700000, H'00780000
     .data.l H'FFFFFFFF
                                                                  Start addresses of the individual
                                                                  A list of start addresses of each block
```

in the flash memory. Do not change

H'FFFFFFF at the end.



Revision Record

		Description		
Rev.	Date	Page	Summary	
1.00	Sep.23.04	_	First edition issued	
	·			



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