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There is no change to this document as a result of offering the device as a Cypress product. Any changes that have been made are the result of normal document improvements and are noted in the document history page, where supported. Future revisions will occur when appropriate, and changes will be noted in a document history page.

Continuity of Ordering Part Numbers
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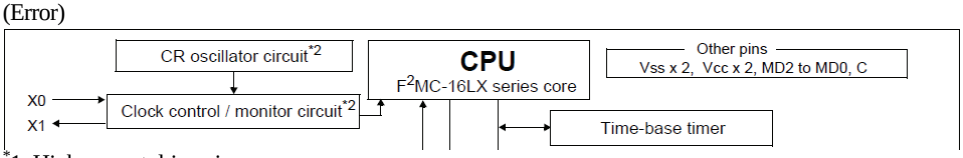
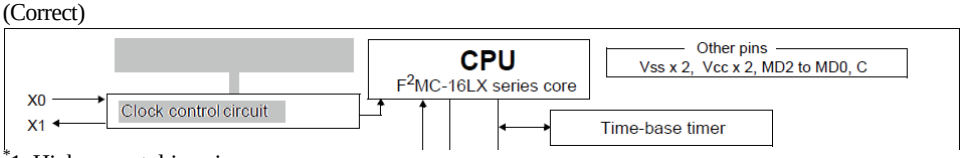
Errata

This errata sheet is for MB90820B Series Hardware Manual Rev. 2 (CM44-10147-2E).

F²MC-16LX
16-BIT MICROCONTROLLER
MB90820B Series
HARDWARE MANUAL

2012.12.7

Date	Page	Item	Description
2012/ 12/7	4	1.1	"● Clock supervisor" of "■ Internal Peripheral Features" should be deleted. [mcu_doc1192]
2012/ 12/7	5,6	1.2	"MB90F828B" row of "Table 1.2-1 MB90820B Series Product Line-up" should be deleted. [mcu_doc1192]
2012/ 12/7	5	1.2	"Clock supervisor"Line of "Table 1.2-1 MB90820B Series Product Line-up" should be deleted. [mcu_doc1192]
2012/ 12/7	7	1.3	"Figure 1.3-1 MB90820B Series Overall Block Diagram" should be corrected as indicated by the shading below. (Error)  *1: High current drive pin. *2: MB90F828B (Correct)  *1: High current drive pin. [mcu_doc1192]
2012/ 12/7	29	2.3	"Figure 2.3-1 Memory Maps" should be deleted as indicated by the shading below. Model / Address #1 / Address #2 / Address #3 MB90V820B: ($FE0000_H$) / 008000_H / $0040FF_H$ MB90F828B: $FE0000_H$ / 008000_H / $0020FF_H$ [mcu_doc1192]

<table>
<tr><th>Date</th><th>Page</th><th>Item</th><th>Description</th></tr>
<tr><td>2012/
12/7</td><td>64</td><td>3.1</td><td>"3.1 Reset" should be corrected as indicated by the shading below.

(Error)
There are five causes of a reset:
・Power-on reset
・Watchdog timer overflow
・External reset request via the RST pin
・Software reset request
・Clock supervisor reset request (MB90F828B only)

(Correct)
There are four causes of a reset:
・Power-on reset
・Watchdog timer overflow
・External reset request via the RST pin
・Software reset request

[mcu_doc1192]</td></tr>
<tr><td>2012/
12/7</td><td>64</td><td>3.1</td><td>"Table 3.1-1 Reset causes" should be deleted as indicated by the shading below.

<table><tr><th>Type of reset</th><th>Cause</th><th>Machine clock</th><th>Watchdog timer</th><th>Oscillation stabilization wait</th></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Power-on</td><td>When the power is turned on</td><td>MCLK</td><td>Stop count</td><td>Yes</td></tr><tr><td>Clock Supervisor reset*</td><td>Main clock failure detected</td><td>Internal CR oscillator clock</td><td>Stop</td><td>No</td></tr></table>MCLK: Main clock frequency (oscillation clock frequency divided by 2)
*:MB90F828B only

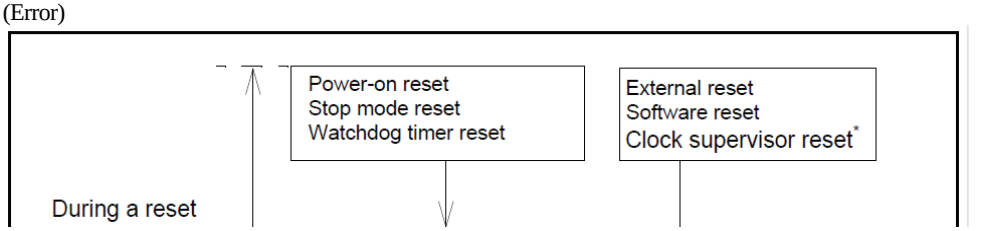
[mcu_doc1192]</td></tr>
<tr><td>2012/
12/7</td><td>65</td><td>3.1</td><td>"● Clock supervisor reset" of "■ Reset Causes" should be deleted as indicated.

[mcu_doc1192]</td></tr>
<tr><td>2012/
12/7</td><td>66</td><td>3.2</td><td>"Table 3.2-1 Reset causes and oscillation stabilization wait intervals" should be deleted as indicated by the shading below.

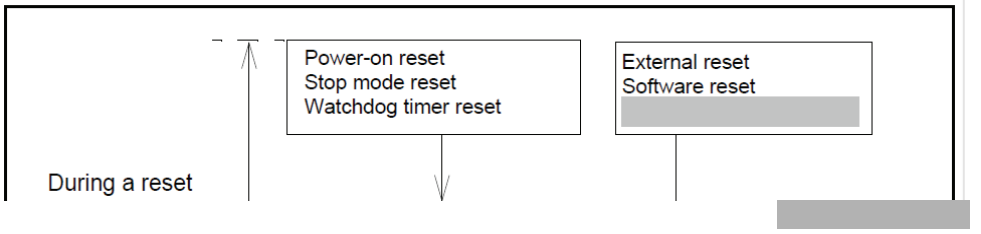
<table><tr><th>Reset cause</th><th>Oscillation stabilization wait interval
The corresponding time interval for an oscillation clock frequency of 4 MHz is given in parentheses.</th></tr><tr><td></td><td></td></tr><tr><td>Software reset</td><td>None. (However the WS1 & WS0 bits are initialized to “11”.)</td></tr><tr><td>Clock supervisor reset*</td><td>None. (However the WS1 & WS0 bits are initialized to “11”.)</td></tr></table>HCLK:Oscillation clock frequency
*: MB90F828B only

[mcu_doc1192]</td></tr>
</table>

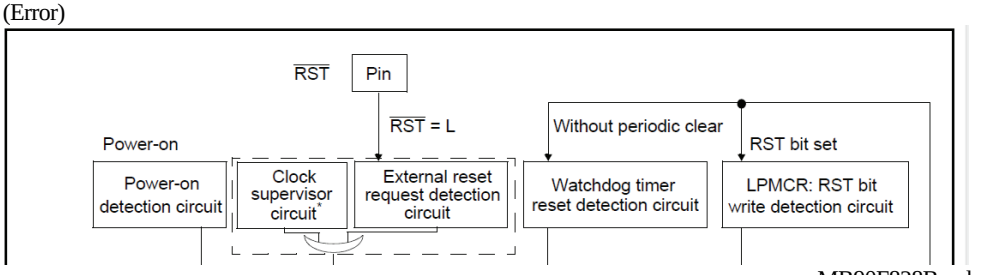
<table>
<tr><th>Date</th><th>Page</th><th>Item</th><th>Description</th></tr>
<tr><td>2012/
12/7</td><td>69</td><td>3.4</td><td>"Figure 3.4-1 Reset operation flow" should be corrected as indicated by the shading below.

(Error)
 

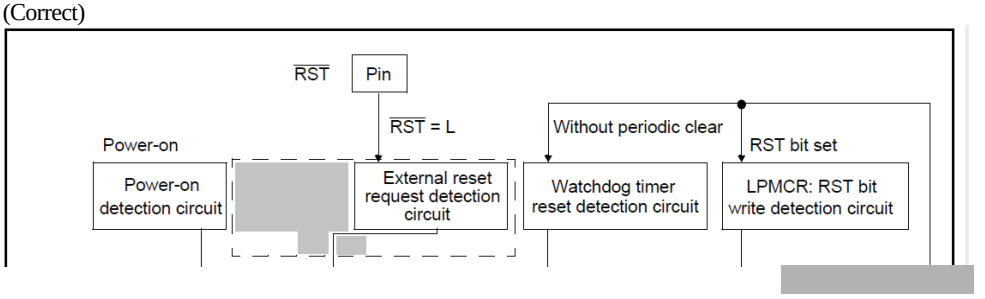
*: MB90F828B only

(Correct)
 

[mcu_doc1192]</td></tr>
<tr><td>2012/
12/7</td><td>71</td><td>3.5</td><td>"Figure 3.5-1 Block diagram of reset cause bits" should be corrected as indicated by the shading below.

(Error)
 

*: MB90F828B only

(Correct)
 

[mcu_doc1192]</td></tr>
<tr><td>2012/
12/7</td><td>72</td><td>3.5</td><td>"Table 3.5-1 Correspondence between reset cause flag bits and reset causes" should be deleted as indicated by the shading below.

<table>
<tr><th>Reset cause</th><th>PONR</th><th>WRST</th><th>ERST</th><th>SRST</th></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>External reset request via RST pin
Clock supervisor reset
(MB90F828B only)</td><td>*</td><td>*</td><td>1</td><td>*</td></tr>
<tr><td>Software reset request</td><td>*</td><td>*</td><td>*</td><td>1</td></tr>
</table>

[mcu_doc1192]</td></tr>
</table>

<table>
<tr><th>Date</th><th>Page</th><th>Item</th><th>Description</th></tr>
<tr><td>2012/
12/7</td><td>89 to
100</td><td>5.</td><td>"CHAPTER 5 CLOCK SUPERVISOR" should be deleted as indicated.

[mcu_doc1192]</td></tr>
<tr><td>2009/
8/21</td><td>505</td><td>20.4.2</td><td>Figure 20.4-3 Serial mode register (SMR0/SMR1) was corrected as indicated by the shading below.

(Error)
<table><tr><th>CS2 to CS0</th><th>Clock selection bit</th></tr><tr><td>“000_B” to ”100_B”</td><td>Baud rate by dedicated baud rate generator</td></tr><tr><td>“101_B”</td><td>Disables setting</td></tr><tr><td>“110_B”</td><td>Baud rate by internal timer
(16-bit reload timer)</td></tr><tr><td>“111_B”</td><td>Baud rate by external clock</td></tr></table>
(Correct)
<table><tr><th>CS2 to CS0</th><th>Clock selection bit</th></tr><tr><td>“000_B” to ”101_B”</td><td>Baud rate by dedicated baud rate generator</td></tr><tr><td>“110_B”</td><td>Baud rate by internal timer
(16-bit reload timer)</td></tr><tr><td>“111_B”</td><td>Baud rate by external clock</td></tr></table></td></tr>
<tr><td>2012/
12/7</td><td>548</td><td>21.4</td><td>"Notes:" should be deleted as indicated by the shading below.

・The program address detection register exists at 001FF0H to 001FF5H that overlaps with the RAM area of MB90F828B, preventing RAM access when using this feature on MB90F828B.

[mcu_doc1192]</td></tr>
<tr><td>2012/
12/7</td><td>556</td><td>22.2</td><td>"■ ROM Mirroring Function Selection Register (ROMM)" should be deleted as indicated by the shading below.

<table><tr><th></th><th>MB90822B</th><th>MB90823B</th><th>MB90F822B</th><th>MB90F823B</th><th>MB90F828B</th><th>MB90V820B</th></tr><tr><td>Address 1</td><td>$FF0000_H$</td><td>$FE0000_H$</td><td>$FF0000_H$</td><td>$FE0000_H$</td><td>$FE0000_H$</td><td>$FE0000_H$</td></tr><tr><td>Address 2</td><td>$0010FF_H$</td><td>$0010FF_H$</td><td>$0010FF_H$</td><td>$0010FF_H$</td><td>$0020FF_H$</td><td>$0040FF_H$</td></tr></table>
[mcu_doc1192]</td></tr>
</table>

<table>
<tr><th>Date</th><th>Page</th><th>Item</th><th>Description</th></tr>
<tr><td>2012/
12/7</td><td>587,589</td><td>APPENDIX
A</td><td>" Table A-1 I/O map" should be corrected as indicated by the shading below.

(Error)
<table>
<tr><th>Address</th><th>Abbreviation</th><th>Register</th><th>Byte access</th><th>Word access</th><th>Resource name</th><th>Initial value</th></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>000088H</td><td rowspan="2">TMR1 /
TMRD1</td><td rowspan="2">16 bit timer register 1 /
16-bit reload register 1</td><td rowspan="2">-</td><td rowspan="2">R/W</td><td rowspan="2">16-bit reload timer 1</td><td>XXXXXXXX$_B$</td></tr>
<tr><td>000089H</td><td>XXXXXXXX$_B$</td></tr>
<tr><td>00008AH</td><td>CSVCR</td><td>Clock supervisor control register *</td><td>R, R/W</td><td>-</td><td>Clock supervisor</td><td>00011100$_B$</td></tr>
<tr><td>00008BH</td><td colspan="6">Prohibited area</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
</table>
*: MB90F828B only. Prohibited for the other product types.

(Correct)
<table>
<tr><th>Address</th><th>Abbreviation</th><th>Register</th><th>Byte access</th><th>Word access</th><th>Resource name</th><th>Initial value</th></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>000088H</td><td rowspan="2">TMR1 /
TMRD1</td><td rowspan="2">16 bit timer register 1 /
16-bit reload register 1</td><td rowspan="2">-</td><td rowspan="2">R/W</td><td rowspan="2">16-bit reload timer 1</td><td>XXXXXXXX$_B$</td></tr>
<tr><td>000089H</td><td>XXXXXXXX$_B$</td></tr>
<tr><td>00008AH
00008BH</td><td colspan="6">Prohibited area</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
</table>

[mcu_doc1192]</td></tr>
<tr><td>2008/
11/5</td><td>661</td><td>APPENDIX
C</td><td>■Table C.9-20 XCH Ri, ea Instruction (First Byte = 7EH) is changed.

・Error

Item "A"

Line of +A "W2+d16,A"

・Correct

Item "A0"

Line of +A "@RW2+d16"</td></tr>
</table>