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MB9Xxxx Internal Flash Memory Instructions Manual

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Revision History

Edition	Date of issue	Description
1st Edition	May 31, 2012	• Initial publication
2nd Edition	Aug. 10, 2012	• Modified by changing file names.
3rd Edition	Sep. 10, 2012	• Table update supported version.
4th Edition	Oct. 03, 2012	• MB9A150R Series support.
5th Edition	Jul. 19, 2013	• MB9A12x/32x/52x Series support.
6th Edition	Sep. 03, 2013	• MB9A310K/110K Series support.

Contents

1   Introduction

This is a brief manual for writing to Serial flash memory.

For details of ICE operating instructions, see the microVIEW-PLUS User's Manual (Common Edition) and microVIEW-PLUS User's Manual (MPU-Specific Edition).

2   Supported SLX(ZX) Versions

| Device Model	Supported Versions	
	SLX600	ZX600
MB9A110A/MB9A310A Series	2.13 or later	--
MB9A130L/MB9A130LA/ MB9A130N/MB9AA30N Series	2.13 or later	--
MB9A150R Series	2.13 or later	--
MB9BF500 Series	2.13 or later	--
MB9B500/400/300/100/MB9A100 Series	2.13 or later	--
MB9B110T/210T/310T/410T/510T/610T Series	2.13 or later	--
MB9B110R/MB9B310R/ MB9B410R/MB9B510R Series	2.16 or later	--
MB9BF121/122/124/321/322/324/521/522/524 Series	2.16 or later	--
MB9AF111K/112K/311K/312K Series	2.16 or later	--

3   Advance Preparation

3.1   If Nothing is Recorded on the Built-in Flash Memory (Cortex-M series)

microVIEW-PLUS dumps a reset vector area to display a program (disassemble display) after connecting by reset commands. In case you are using Cortex-M series cores and nothing is recorded in the built-in flash memory (a vector table is 0xFFFFFFFF), 0xFFFFFFFE will be dumped and "ICE Error No.f58: Sticky error" may occur.

[Provision]
Right-click the Reset button on the toolbar, and then open the Reset Sync. Setting dialog box.
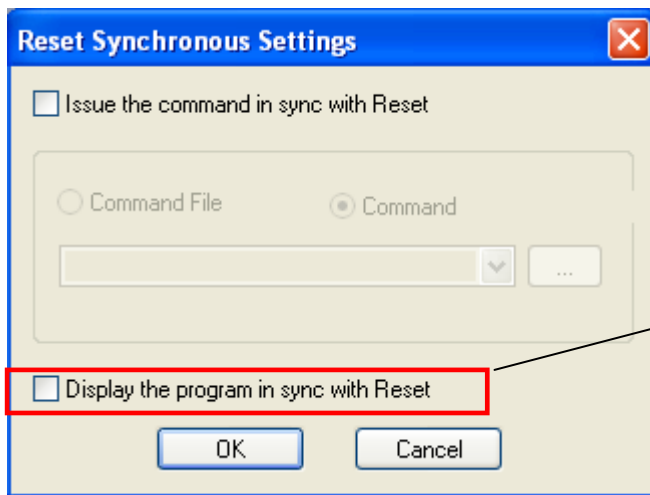
Clear the "Display the program in sync with Reset" check box.
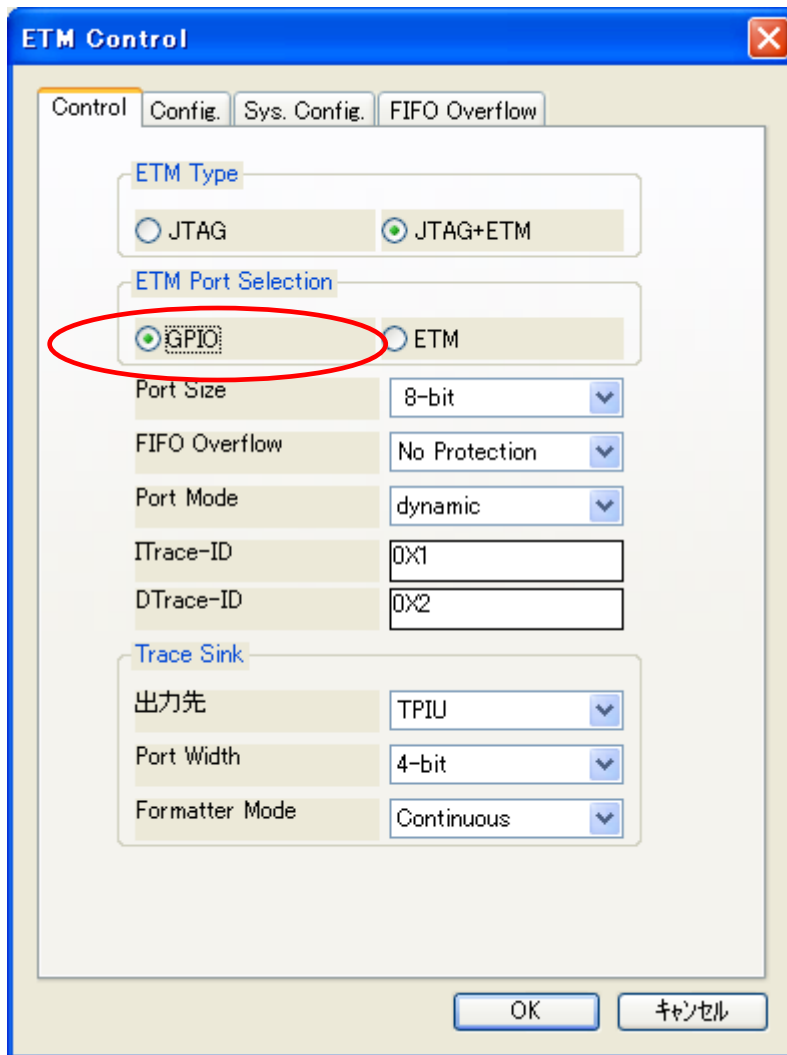(= does not dump by the reset command)

After downloading the program to the built-in flash memory (correct vector table values are written), select this check box again.

3.2 Settings for when ETM is disabled

When "ETM Type" setting is "JTAG", this setting is unnecessary.

When the ETM setting of the board is invalid, please set "GPIO" for "ETM Port Selection".
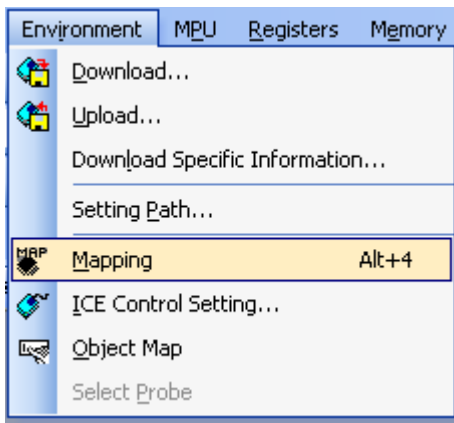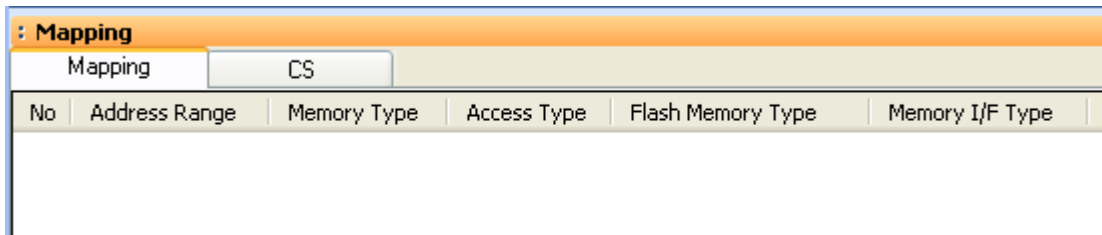
MPU → ETM Control

4   Setting the Memory Mapping

4.1   Setting up Flash Memory Mapping

Open the memory mapping window by clicking **Environments** – M**apping**.
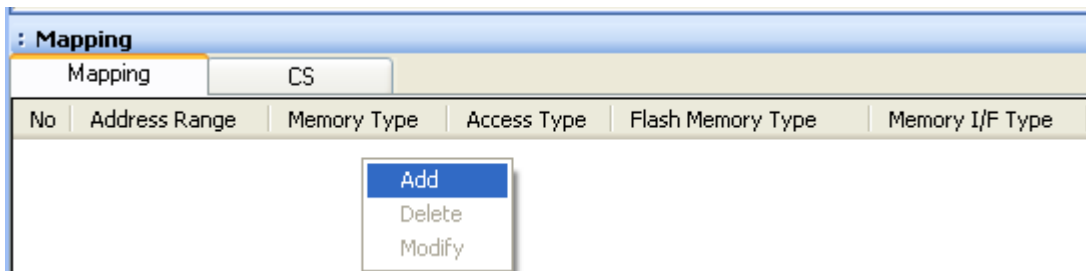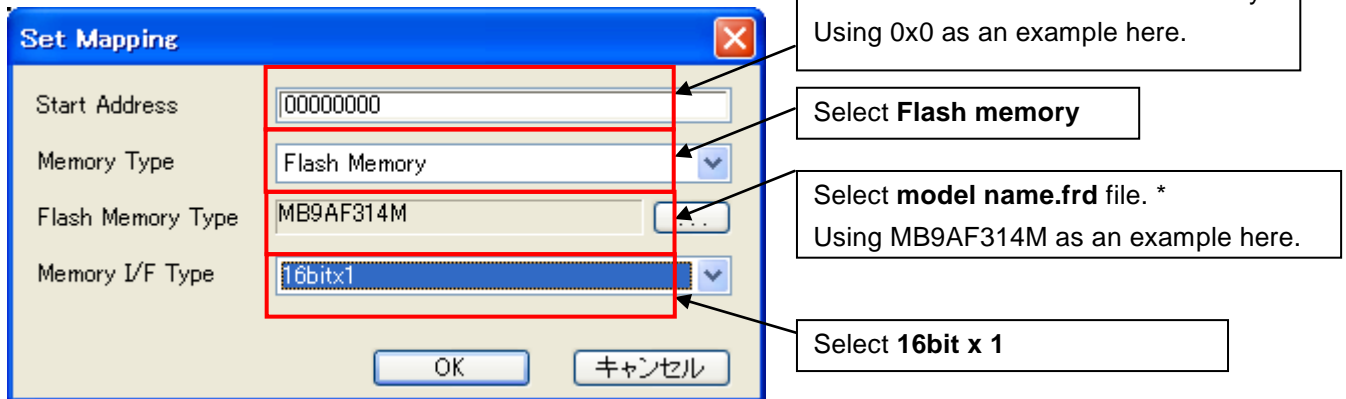

Memory map window as below is opened.

Set the mapping.

Right-click on the memory mapping window, and then select **Add**.

Configure the setting as the example below.

Start address of built-in flash memory
Using 0x0 as an example here.

Select **Flash memory**

Select **model name.frd** file. *
Using MB9AF314M as an example here.

Select **16bit x 1**

* If the flash areas are separated into two areas like MB9AF144M, set a **model name_WORK.frd** for upper side (0x200000) and set a **model name_MAIN.frd** for the lower side (0x0).
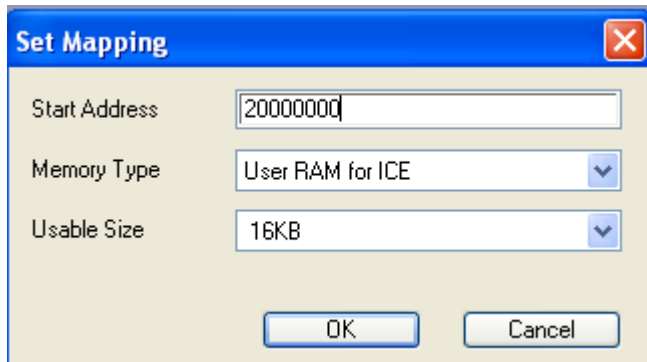
4.2   Setting up User RAM for ICE

You can increase a download speed for flash memory by mapping a user RAM for ICE.

You can download to flash memory without the mapping setting though.

For User RAM for ICE, specify an area where ICE can occupy.

The following example is for when setting 16KB from 0x20000000.

For the actual settings, refer to the Soc memory map of yours.

5   Download to Flash Memory

For details, see the microVIEW-PLUS User's Manual (MPU-Specific Edition).
Details of memory mapping settings are described on this manual. Please refer to microVIEW-PLUS User's Manual (MPU-Specific Edition) for other contents.

6   Software Break in Flash Memory

For details, see the microVIEW-PLUS User's Manual (MPU-Specific Edition).
Details of memory mapping settings are described on this manual. Please refer to microVIEW-PLUS User's Manual (MPU-Specific Edition) for other contents.

You are not allowed to set up software break for flash memory in the initial state. In case you

try to set up software break for flash memory in the disabled status, it results in "ICE Error

No. 8c4: Set Software Break Verify Error".

To enable software break setting for flash memory, check Enable for S/W Break in Flash

Memory on the Others tab of the MPU-Specific Settings dialog box.
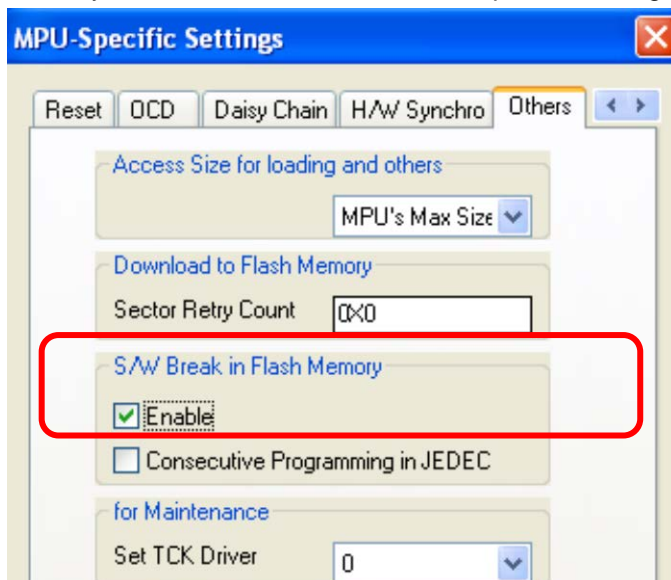
7   Notes & Points

7.1   Verify check

Make sure to do a verify check regardless of you did or didn't do a verify setting of microVIEW-PLUS.

7.2   Watchdog Timer

You can write the flash memory even if WDT (Watchdog Timer) is enabled.
WDT is temporarily disabled by an internal process of ICE while the flash memory is written. (After the writing, it is automatically restored.)

7.3   ECC model

For ECC model, a verify error occurs if ECC modification is occurred while writing a flash memory.
In such cases, write the flash memory again. If this error occurs many times, please contact our support center.

7.4   Software Break in Flash Memory

The ICE internally rewrites the flash memory when running the program after setting the software break in flash memory. Therefore operation in microVIEW-PLUS is not possible temporarily until it is ready.