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Guide to Using the Download Program to Flash Memory for the E10A-USB Emulator

Introduction

1. The web site, where this document is posted, discusses a sample program to write an user program which uses the function of the “Download to Flash Memory” of the E10A-USB emulator.
2. This document is a guide to practically use the Application Note introduced on the web site. This guide explains some points of each document introduced on the web site so that the users can write the program efficiently.

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1. Web Structure

Documents introduced on the web site are as follows:

1. **User's Guide:** This document
2. **Application Note for the Flash Memory Download Program for the E10A-USB Emulator:** Description of operation-confirmed sample program
3. **Sample program:** ZIP file
4. **Points of Sample Program:** Guide to create a program to download the user program to the flash memory whose operation is not confirmed.
5. **readme:** Explanation of operation environment and flash memory product type number by which the sample program operation is confirmed.

2. Overview of Application Note

1. Preparation

Before using this Application Note, be sure to read the section of Download Function to the Flash Memory Area, in the Debugger Part of the E10A-USB emulator user's manual for each microcomputer family (HS0005KCU01HE). In order to use this function, the program to write to the flash memory used (called the write module hereafter), the program to erase the flash memory (called the erase module hereafter) and RAM area to download and execute these two modules are required.

Please understand that the E10A-USB emulator does not support the download function to flash memory for some device groups.

Also, the E10A-USB emulator does not support the page-write function to flash memory.

2. Configuration of this Application Note

The sample program introduced in the Application Note cannot be used as it is in the user system. It is necessary to customize the program to suit the user system. The configuration of this Application Note is as shown below:

- **Function:** Explains the function of sample program
- **Creation of write and erase modules:** Describes the address change, etc. in accordance with the specifications of the user system.
- **Creation of the execution file:** Describes how to create the execution file of the write and erase modules.
- **Procedure of downloading the user program:** The procedure to download the user program by setting the E10A-USB emulator [Configuration] dialog box, etc.

3. Structure of Sample Program

The contents of sample programs that can be downloaded from the web are shown below. (Unzip the sample program after downloading as it is compressed.)

```

FM_xxx_B folder          < ----- Folder name
|-- FMTOOL.HWS          < ----- HEW workspace
|-- FMTOOL.HWW
|-- FMTOOL.tws
|
|-- FMTOOL folder
    |-- debug_session.hsf
    |-- fmtool.hwp
    |-- fmtool.src       < ----- Source file
    |-- fmtool.tps
    |
    |-- release folder
        |-- fmtool.abs
        |-- fmtool.hlk
        |-- fmtool.mot   < ----- Execution file
        |-- fmtool.sha
        |-- Release.hdp
  
```

[Folder name]: Folder name is the same as the zip file that is available on the web page.

xxx specifies the name of manufacturer of the flash memory.

_B/_W: _B indicates the program for the system that uses the flash memory in byte mode.

_W indicates the program for the system that uses flash memory in word mode.

[HEW workspace]: This is a set of workspace for HEW. This workspace is opened on the HEW when a sample program is edited.

[Source file]: This is an assembly-language source file of write and erase modules to be used for the download function to the flash memory of the E10A-USB emulator.

[Execution file]: This file is specified by “the download function to the flash memory area” which is a function of the E10A-USB emulator.

4. Points of the Sample Program

This section explains the creation of write and erase modules when downloading the user program to the flash memory that is not verified using the E10A-USB Emulator. It includes the following.

- Verification of writing format of flash memory: Describes the verification of flash memory write format used.
- Customization of source program: Explains the modified portions and customization of the source program, following the example of the source program of typical write format introduced in the sample program.

Revision Record

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

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