

# EF7920F-100H User's Guide

Second edition issued March, 1999

## 1. General Description

The EF7920F-100H parallel writing unit is specially designed for the EFP-I and is mounted on the EFP-I. Using the EF7920F-100H enables you to write and read to/from the 7900 Series Mitsubishi Electric flash memory built-in MCU.

The EF7920F-100H is mounted with an IC socket for a 100-pin 0.5mm-pitch QFP (100P6Q-A).

The appearance of the EF7920F-100H is shown in Fig. 1.1.

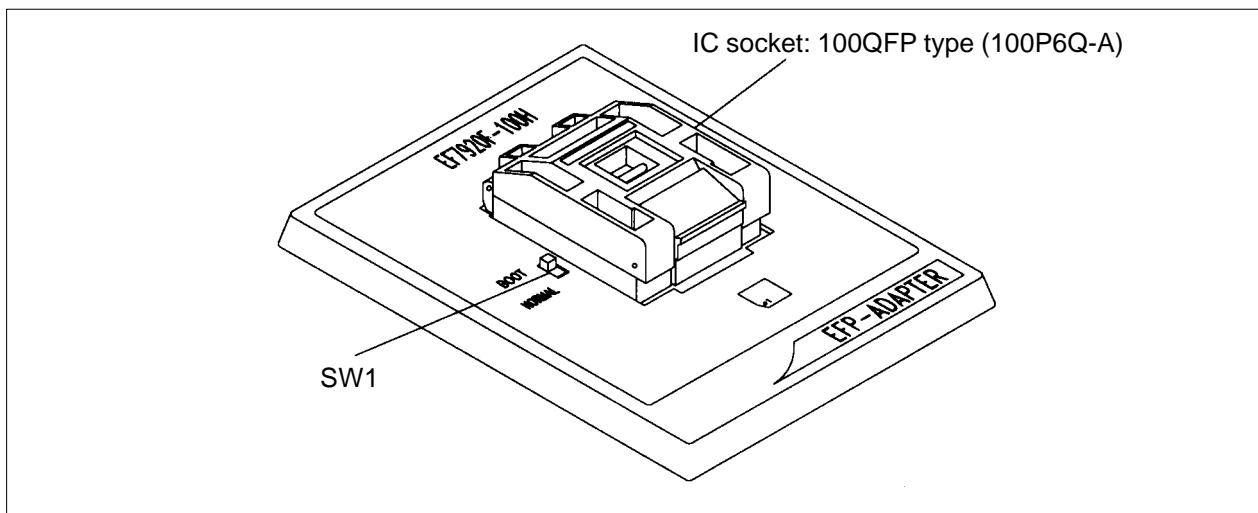


Fig. 1.1: Appearance of EF7920F-100H

## 2. MCU Insertion Method

To insert the MCU, match pin No. 1 of the IC socket on the EF7920F-100H with pin No. 1 of the MCU. Incorrect insertion will cause irreparable damage to the MCU, so be careful when doing so.

The way to insert the MCU is shown in Fig. 2.1.

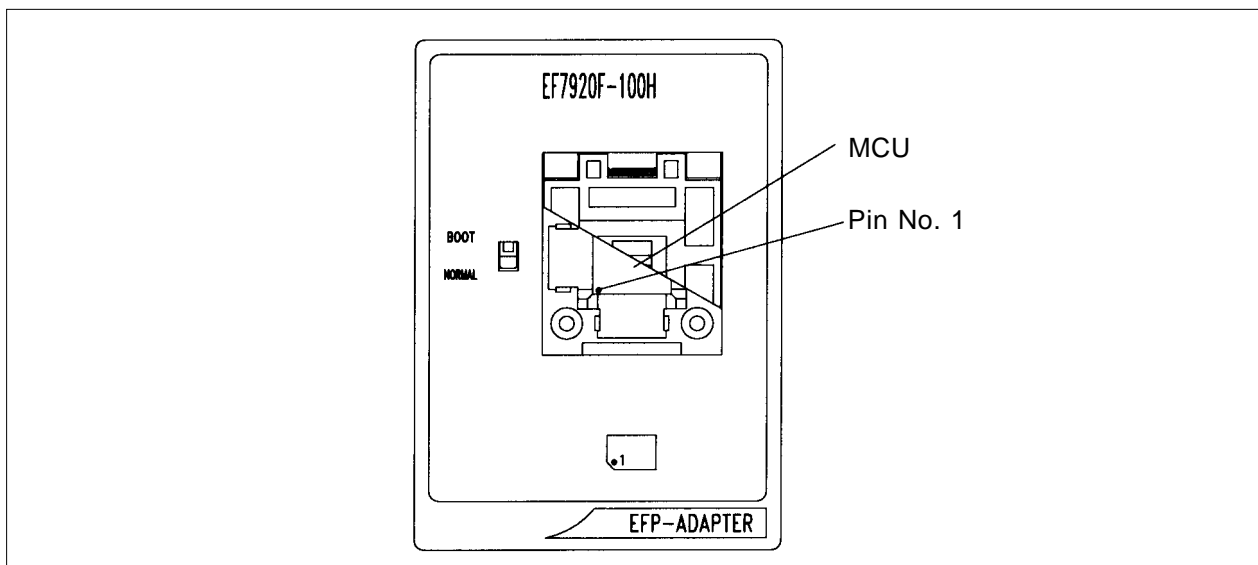


Fig. 2.1: MCU Insertion Method

### 3. Specifications

Specifications of the EF7920F-100H are listed in Table 3.1.

**Table 3.1: EF7920F-100H Specifications**

MCU Type	Memory Type	Corresponding MCU Name	Program Memory Area	SW1
M379xxF8 (NORMAL)	Flash memory	M37902F8xHP	1000H-FFFFH	NORMAL
M379xxFC (NORMAL)	Flash memory	M37902FCxHP M37920FCxHP	2000H-1FFFFH	NORMAL
M379xxFG (NORMAL)	Flash memory	M37902FGxHP M37920FGxHP	2000H-3FFFFH	NORMAL
M379xxFx (BOOT)	Flash memory	M379xxFxHP	0H-3FFFFH	BOOT
Remarks				
<ul style="list-style-type: none"><li>• Operation clock: 4MHz (Supplied from ceramic oscillator on EF7920F-100H)</li><li>• Power source: Supplied from EFP-I</li></ul>				

### 4. Cleaning MCU Unit

To prevent faulty connections of the IC socket on the MCU unit, clean connector pins in the IC socket with a brush etc. at regular intervals according to the number of using.

### 5. SW1 Setting

Setting the SW1 of the EF7920F-100H enables you to read and write from/to BOOT area and NORMAL area. The method of setting each area is as follows:

(1) BOOT area setting

Set the SW1 of the EF7920F-100H to BOOT, and set the device parameter in the WinEFP environment settings dialog to "M379xxFx (BOOT)".

(2) NORMAL area setting

Set the SW1 of the EF7920F-100H to NORMAL, and set the device parameter in the WinEFP environment settings dialog to "M379xxFx (NORMAL)".

\* Do not change the setting of the SW1 switch when the EFP-I's device LED (red) is lit.

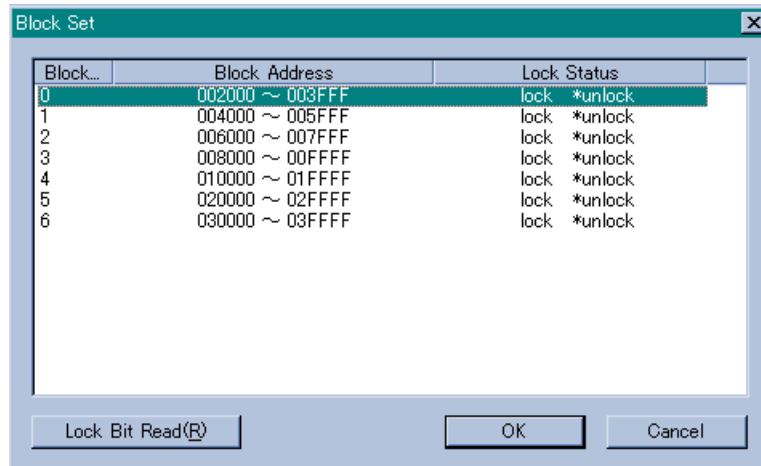
## 6. Block Set Command

The block set command handles the lock bit of each block.

Setting a block's lock bit to "Lock" allows you to protect the block from being written to or erased (i.e. the block is locked).

### 6.1 Screen Layout

Fig. 6.1 shows the screen layout of the block set command.



**Fig. 6.1: Screen Layout of Block Set Command**

(1) Block number

Indicates the block number assigned to each block.

(2) Block address

Indicates the start address and the end address of each block.

(3) Lock status

Indicates the lock bit status of each block.

xLock      Unlock      <-- The lock bit is locked.

Lock      xUnlock      <-- The lock bit is unlocked.

(4) Read Lock Bit button

Reads the content of the lock bit from a target MCU, and indicates the lock bit status according to the content.

(5) OK button

Clicking the OK button writes to the target MCU the contents of the lock bits of the blocks set to "Lock".

(6) Cancel button

Cancels the command.

### 6.2 Setting the lock bit

Here follow the steps to set a lock bit to "Lock".

(1) Position the mouse cursor on an arbitrary line and double-click. Then the lock bit status indicated in the lock status switches. Set it to "Lock".

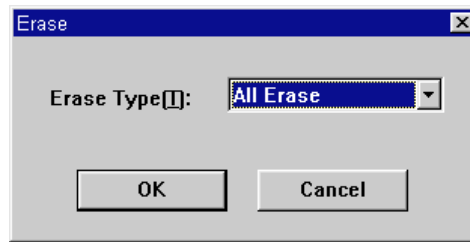
(2) Click the OK button. Then the content of the lock bit of the block set to "Lock" will be written to the target MCU.

\* Once the content of the lock bit is written to the MCU by use of the OK button, the block set command cannot return a locked block back to the unlocked status.

\* For unlocking a locked block, see 7. Erase Command.

## 7. Erase Command

The erase type parameter contained in the erase command enables you to erase by block or erase all blocks. The erase command parameter input dialog is shown in Fig. 7.1.



**Fig. 7.1: Erase Command Parameter Input Dialog**

### (1) Erase type

All Erase and block address area (xxxxxxH - xxxxxxH) are displayed in the drop-down list to the right of the erase type parameter display field (displayed by clicking the arrow pointing downward with the mouse). Select the block erase method.

### (2) OK button

Executes the block erase command.

### (3) Cancel button

Cancels the command.

- \* To erase a locked block, follow the steps given below. These steps also allow you to unlock a locked block.
  - 1) Choose [Environment Settings] from the [Option] menu in the WinEFP window to open the environment settings dialog box.  
Set the lock type parameter to "Lock bit ineffective", then click the OK button.
  - 2) Choose [Erase] from the [Device] menu in the WinEFP window to open the erase command parameter input dialog box.  
Set the erase type parameter to the locked block, then click the OK button.

## 8. Parameter Input by Device Command

The 7900 Series parallel writing MCUs write data by the page and read data by the word. The parameter input format of address area when writing and reading data to/from the MCU by the device command is given below.

### (1) Writing into MCU

When writing data from MCU, specify the address area by the page. Because one page of data is 256 bytes, the input format for the start and end addresses is set as follows.

A parameter error results if addresses outside the page unit are input for the start and end addresses.

Input format:

Start address	xxxx00h
End address	xxxxFFh

### (2) Reading from MCU

When reading data from MCU, specify the address area by the word. Input the even number into the start address of blank, read and verify command, and input the odd number into the end address.

A parameter error results if addresses outside the word unit are input for the start and end addresses.