EF3022F-144H User's Guide

1. General Description

EF3022F-144H is a parallel writing unit to use to set to EFP-I.

Reading and writing data to MCU Renesas Technology M16C/22 series with built-in Flash memory are enabled by using EF3022F-144H.

IC socket for 144-pin 0.5mm pitch TQFP (144P6Q-A) is mounted on EF3022F-144H.

＜Packing contents＞

1）EF3022F-144H

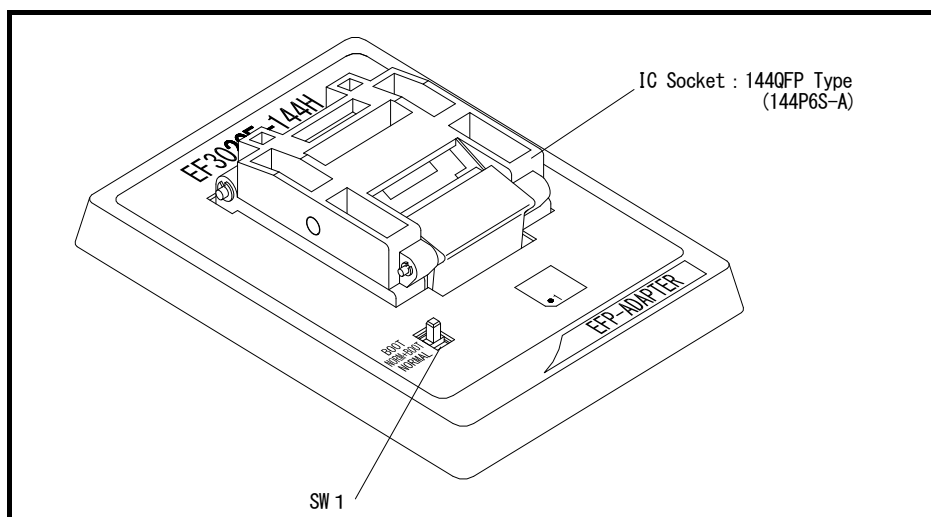2）Users guide (this manual)

Fig 1.1 shows the adapter appearance.

Fig.1.1: Appearance of EF3022F-144H

２．Insertion Direction of MCU and cleaning of IC socket

2.1 Insertion Direction of MCU

When MCU is inserted, No.1 pin of the IC socket on EF3022F-144H and MCU's No.1 pin should be connected.

The wrong insertion would cause a serious breakage of MCU.

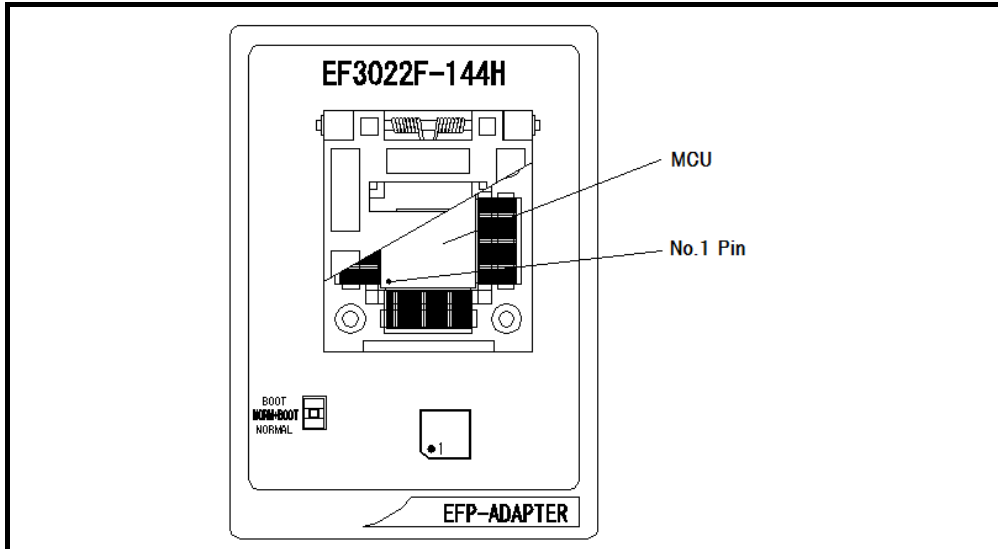Insertion direction of MCU is shown in Fig.2.1.

Figure 2.1: Pin Orientation of The socket

2.2 Cleaning of IC Socket

A contact pin inside of the IC socket of the MCU unit might deteriorate and a contact failure might occur because of the number of times used and its age of service. As the contact failure may cause incorrect writing of MCU and malfunction of the writer, please take the below measures.

Though enquiries on contact failures can be made, we regard IC sockets as consumable supplies. We may recommend you to replace them if a contact failure of IC socket occurs due to its use deterioration.

> **Measures against IC Socket Contact Failure**
>
> (i) Please clean the contact pin surface inside of IC socket with a brush, etc. regularly, depending on the number of times used.
> (ii) If the product is not to be used for a long period, please keep it with less humidity in a plastic bag, etc.

【Recommended item for cleaning】

About the cleaning of the contact pin in the IC socket, we recommend the use of the nanotech brush (Kita Mfg Co., Ltd).

The nanotech brush can remove the dirt which stuck to a contact pin, a very small amount of metastasis of solder. When a contact poor problem occurred, please try it.

About nanotech brush, please ask us or Kita Mfg Co., Ltd (refer to the following site).

Nanotech brush (Kita Mfg Co., Ltd.) http://www.kita-mfg.com/pro_nanotech_e.html

3．List of Corresponding MCU and corresponding version

3.1 Corresponding MCU

The correspondence list of EF3022F-144H

MCU type	Memory type	Correspondence MCU Name	Program memory area	SW1
M3022xFC(BOOT)	Flash memory	M30220FCGP	DE000H ～ DFFFFH	BOOT
M3022xFC(NORMAL)	Flash memory	M30220FCGP	E0000H ～ FFFFFH	NORMAL

4．About setting of SW1

It can perform writing to BOOT domain and NORMAL domain and reading by setting SW1 of EF3022F-144H.
The setting method of each domain is shown below.

  1) The setting of BOOT domain
Set SW1 of EF3022F-144H in BOOT side and set a use device parameter in the environmental setting
dialogue of WinEFP in "M3022xFC (BOOT)".

2) The setting of NORMAL domains
Set SW1 of EF3022F-144HY in NORMAL side and set a use device parameter in the environmental setting
dialogue of WinEFP in "M3022xFC (NORMAL)".

＊When the device LED (red) of the main body of EFP-I turns on, please do not set SW1.
＊When you set SW1 in "NORM + BOOT" and it performs to read and write NORMAL domain and BOOT domain,
please refer to **6. Device batch macroinstruction**.

5．Erase

The erase type parameter contained in the erase command can erase by block or erase all blocks.
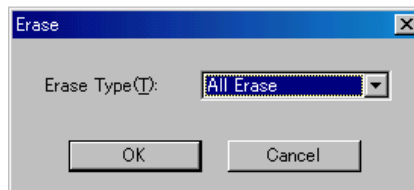The erase command parameter input dialog is shown in Fig. 5.1.

Fig. 5.1: Erase Command Parameter Input Dialog

(1) Erase type
All erase and block address field (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 block erase command.
(3) Cancel button
Cancels command.

6．Device batch macroinstruction

Device batch macro command is a command writing and reading that NORMAL domain of MCU and a BOOT domain by batch. When it uses Device batch macro command, please set SW1 in MCU unit in "NORM + BOOT".

Please use this command when it work to write in reading data at MCU of the blank after it reads data from MCU which is finished writing.

The parameter input dialogue of the device batch macro command is shown in Fig.6.1.

Fig.6.1 Device batch macro command parameter input dialogue

1）Start , End Address (BOOOT domain)

　　　　　Appoint a domain reading or writing in the BOOT domain.

　　　　　Please appoint domains from 7E000H to 7FFFFH in this parameter.

＊ In the BOOT domain, NORMAL domain and address space repeat.

From 5FDFFH to 5F000H of the EFP-I Installed RAM is assigned to the work domain for the BOOT domain.

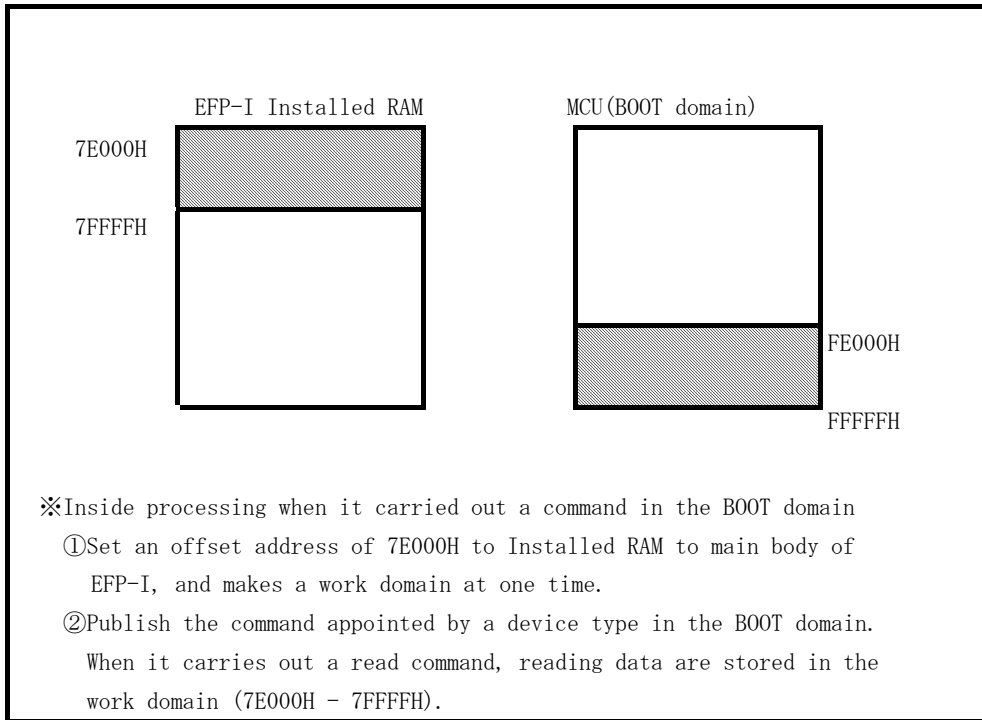The diagrammatical view of the work domain is shown in Fig. 6.2.

Fig.6.2　Work domain diagrammatical view

2）Start, End Address (NORMAL Domain)

　　　　　Appoint a domain reading or writing in the NORMAL domain.

　　　　　Please use address in NORMAL domain of the device.

3）Device Type

　　　　　Appoint a command to publish. Please choose from drop-downs list in this parameter
　　　　　displayed area right side.

　　　　　It is displayed when it click a downward arrow with a mouse.

4）Include Block Information

　　　　　It can not in this unit.

5）OK button

　　　　　Carry out a device batch macro command.

6）Cancel　button

　　　　　Cancel the command

● The use example of the device batch macro command

It shows in the follow example that it uses a device batch macro command, and begin to read data
from MCU which is finished writing and write in data to MCU of the blank article.

1) Set SW1 of EF3022F-144H in "NORM + BOOT" and choose [Device]→[Device batch macroinstruction] in the WinEFP menu.

2) Insert MCU which is finished writing in EF3022F-144H.

Start a device batch macro command, the end address set an arbitrary address and set "read" a device type and click the OK button.

When a command was finished normally, it takes out MCU from EF3022F-144H.

3) Insert MCU of the blank article in EF3022F-144H.

Set an arbitrary address in a start of the device batch macro and the end address, and set a device type in "program" and click the OK button.

7. Automatic offset address for EFP-I internal RAM

EFP-I has built-in 512k Byte user buffer RAM. In EFP-I, address space of buffer RAM are normally set from 0h to 7FFFFFh.

The address domain of the built-in flash memory of the M16C/22 series lacks a domain of the main body of EFP-I Installed RAM for FFFFFH from E0000H.

Therefore WinEFP automaticly sets HEX offset address of 80000H, and 0H of EFP-I Installed RAM becomes 80000H, and end address becomes FFFFFH.

*Please set domain of FFFFFh - 80,000h the command in the [Edit] in the WinEFP window menu.

For automatic offset setting, it cannot use the domain of 7FFFFh - 0h.

* The automatic offset of 80000H is not displayed by HEX offset addresses. It is set the offset which it added the address value that input into 80000H to is set when you input an address into HEX offsets.