EFP-S2 Control Software

WinEFP2 Instruction Manual

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Suisei Electronics System Co., Ltd.

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1. WinEFP2 Setup

This chapter contains a description of how to install WinEFP2 and the communication settings when WinEFP2 is initially started.

1.1 WinEFP2 Operating Environment

Confirm whether contents of a personal computer of use satisfy the following conditions before installing WinEFP2.

[Recommended environment]

Personal computer: The PC/AT compatible machine which Windows98SE/Me/2000/XP is installed
Hard disk space: Space capacity more than 100M byte is necessary
Memory: Memory more than 16M byte is necessary

1.2 WinEFP2 Installation

Start Setup.EXE in an EFP-S2 Product CD, and do installation work of WinEFP2.
Refer to Setup.TXT in the same folder about the details of Setup.EXE

1.3 Start WinEFP2

Before using WinEFP2,it perform EFP-S2 and communication setting between the host machine.
It is shown in following procedure of the communication setting.

1) According to contents of 3. sets up of EFP-S2 instruction manual, please connect the main body of EFP-S2 and others peripheral device.
2) Switch on the main body of EFP-S2.
3) Carry out WinEFP2.EXE., Environmental setting dialogue is displayed.
   Perform EFP-S2 and communication setting between the host machine.
   About the communication setting contents, please refer to the content of the 2.1.3Host Comm. tab (a host communication setting tab) of this book.
   Communication is performed between EFP-S2 and host machines when you click OK button.
   Acquire MCU unit information connected to EFP-S2.
   The setting such as Use Device tabs in the environmental setting dialogue is enabled.

* When communication setting finishes normalcy, the setting of the communication becomes needless by the start from the next time.

2. WinEFP2 Basic Operation

This chapter contains a description of the operation procedure for using WinEFP2. The procedures are covered in the order of environment settings, WinEFP2 window, user program download, dump window, device command execution, and script window.

2.1 Environment Settings Dialog

The environment settings dialog appears when WinEFP2 is started. Choice of a device to use and setting of ID collation parameter are set in the environment settings dialog.

2.1.1 User Device Tab

The indication of MCU unit name connected to EFP-S2 and the choice of the device to use are possible when it click a use device tab.

The constitution of the use device tab is shown in Fig. 2.1.
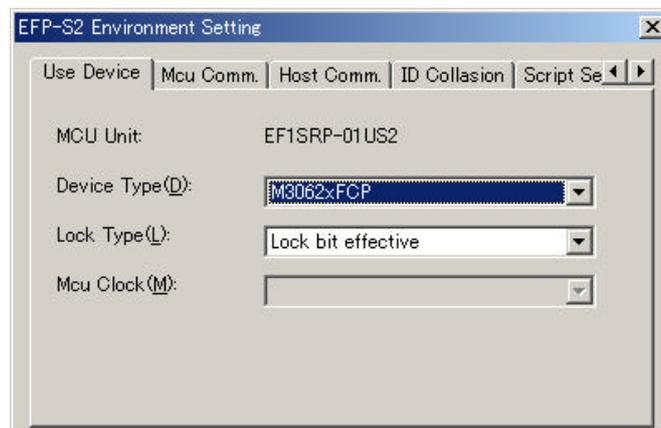
Fig. 2.1 Use Device Tab (Use Device)

• MCU Unit

    Displays the name of the MCU unit currently connected to EFP-S2/S2V.

• Device Type

    Specifies MCU to be used.

• Lock Type

    Specifies whether lock bit is to be effective or not.

    This parameter can be set only MCU with lock bit function.

• MCU Clock

    Specifies data transfer timing in serial I/O mode.

    This parameter can be set only MCU unit for serial I/O mode

* Select device type, clock timing and lock type from the drop-down list to the right of each parameter

    (displayed by clicking " " with the mouse).

2.1.2 MCU Comm. tab   MCU communication setting tab

It is possible to set EFP-S2 and a communication method between devices when you click MCU communication setting tab.

In addition, as for this parameter, setting is possible only at the time of serial I/O mode use.

Screen constitution of MCU communication setting tab is shown in Fig. 2.2.
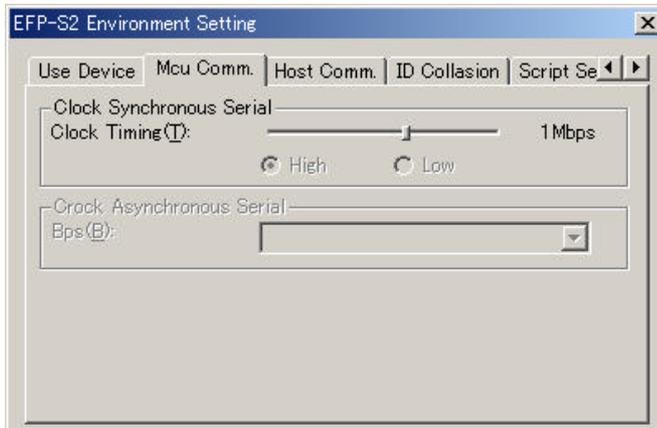
Fig. 2.2 MCU Comm. tab   MCU communication setting tab

Clock Synchronous Serial

• Clock Timing

It set data-transfer velocity in the clock synchronization-type serial I/O mode.

The transfer speed can choose 100k, 200k, 500k, 1M, 1.5M, 2Mbps.

A transfer speed is fixed by the kind of the device, and data transmission width can changes.

When it choose such a kind, a slider setting a transfer speed is if impossible of operation.

It can input radio button of High and Low.

The data transmission width shortens when you choose High and gets longer when you choose Low.

Clock Synchronous Serial

• Bps

Setting data-transfer velocity in the clock async-type serial I/O mode.

Please choose transmission rate among a list of drop-downs of the parameter right-side end.

display it when you click   in mouse cursor

2.1.3 Host Comm. tab　Host communication setting tab

It can set EFP-S2 and a communication method between host machines when you click a host communication setting tab.

Screen constitution of a host communication setting tab is shown in Fig. 2.3.
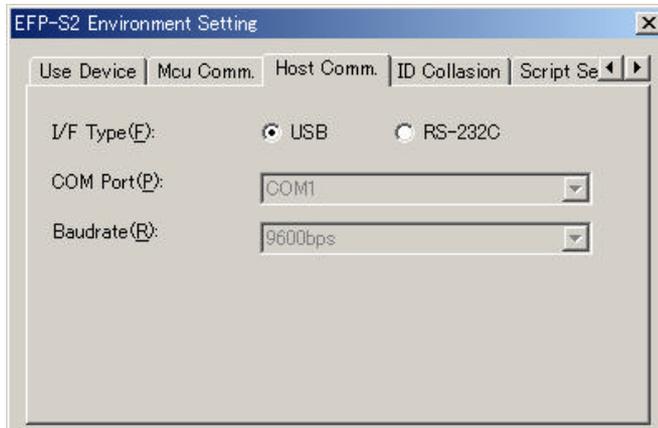
Fig. 2.3 Host Comm. tab　Host communication setting tab

• I/F Type

　　When you chose RS-232C, setting of COM Port and Baudrete is necessary.

• COM Port

　　Specifies communication port of RS-232C I/F.

• Baud rate

　　Specifies communication baud rate of RS-232C I/F.

　　*COM Port and Baud rate parameter can be set only when I/F Type is set by RS-232C.

　　Select these parameters from the drop-down list to the right of each parameter (displayed by clicking

　　"　" with the mouse).

2.1.4 ID Collation Tab

It can set ID cord protection information when you click ID collation tab.

ID collation function can be set only for device which supported a protection function with the ID cord.

The screen constitution of the ID collation tab is shown in Fig. 2.4.
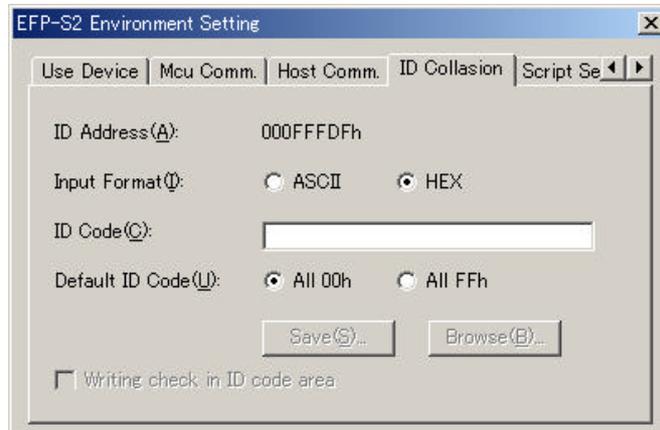
Fig. 2.4 ID Collation Tab

• ID Address

The top address of the ID coding region is displayed.

• Input Format

Set the input form of the ID cord to set in ID Code.

• ID Code

Input a collation ID cord for the ID cord protection.

• Default ID Code

Set ID cord to use by default.

*It can set an ID Code parameter only in the case of non-input.

For details concerning ID collation, see the user's guide or the supplement document for MCU unit.

2.1.5 Script Setting Tab

The supporting setting of the script function is possible when you click a script setting tab.

The screen constitution of the script setting tab is shown in Fig. 2.5.
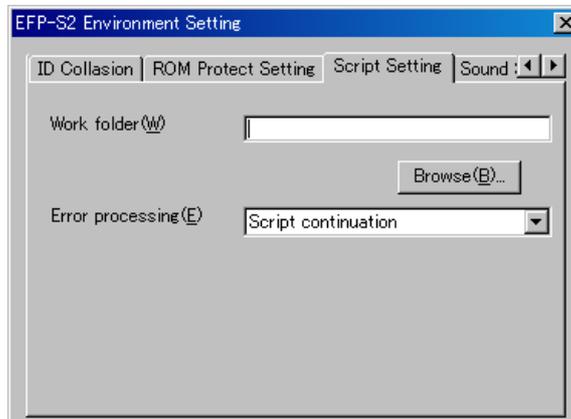
Fig. 2.5 Script Setting tab   A script setting tab

• Work folder

Appoint a current working directory of the script command.

When you use a command (a download or environmental setting) to treat a file by script command

It can omit a file pass when you appoint a current working directory and can describe a command.

Ex:download the prog.hex file C:/Temporary/user/program file/hex folder

Setting of Work folder in the case of " C:/Temporary/user/program file/hex "

script description   DL,prog.hex

When there is not setting of Work folder

script description   DL,C:/Temporary/user/program file/prog.hex

When there is not appointment, the folder which there is WinEFP2.EXE becomes a current working directory.

• Error processing

When Error occurred during script practice, it continue processing or set a stop.

2.1.6 Sound Setting Tab (Sound Setting Tab)

It can be set sound effects of the processing to carry out in an application when you click a sound setting tab.

The supporting setting of the script function is possible when you click a script setting tab.

The screen constitution of the sound setting tab is shown in Fig. 2.6.
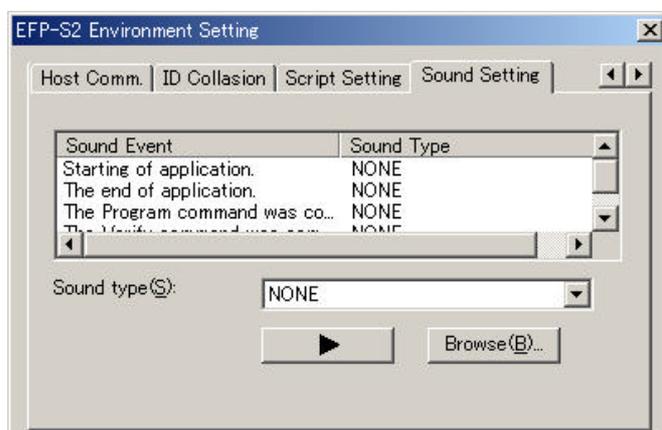
Fig. 2.6 Sound Setting Tab (Sound Setting Tab)

• Sound Event

Setting contents of the sound are displayed.

• Sound Type

Set sound file. Wav file is selectable.

• Reproduction button

Play the Wav file which is appointed in Sound Type.

2.1.7 The making of the environmental Setting file

File can store the information that you set in an environmental setting dialogue when you input a file name into the parameter of the lower part of the environmental setting dialogue.

The screen constitution of the environmental preference making parameter is shown in Fig. 2.7.
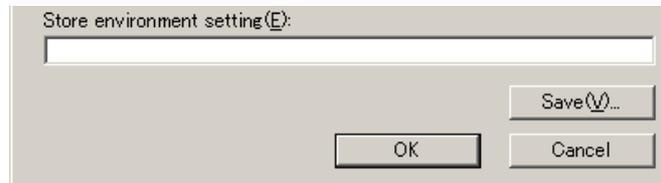
Fig. 2.7 Environmental preference making parameter

• Store environment setting　The making of the environmental preference

It can be set sound effects of the processing to carry out in an application when you click a sound setting tab.

Save setting content in the Environment Setting dialogue in a file.

Set a file name in a parameter.

In addition, you can choose a folder to store because a file section dialogue is displayed when you click a Save

button.

Environmental setting file use when it carry out environmental setting command in script command,

Please click OK button if you finish the setting of each parameter. A main window is displayed.

In addition, It can display when the Environment Setting dialogue chooses [Option] -> [Environment Setting] in

the menu of the WinEFP2 window.

2.2 WinEFP2 Window

The WinEFP2 window is the WinEFP2 main window. You can start the various types of windows and execute the various types of commands from this window.

The WinEFP2 window layout is shown in Fig. 2.8.
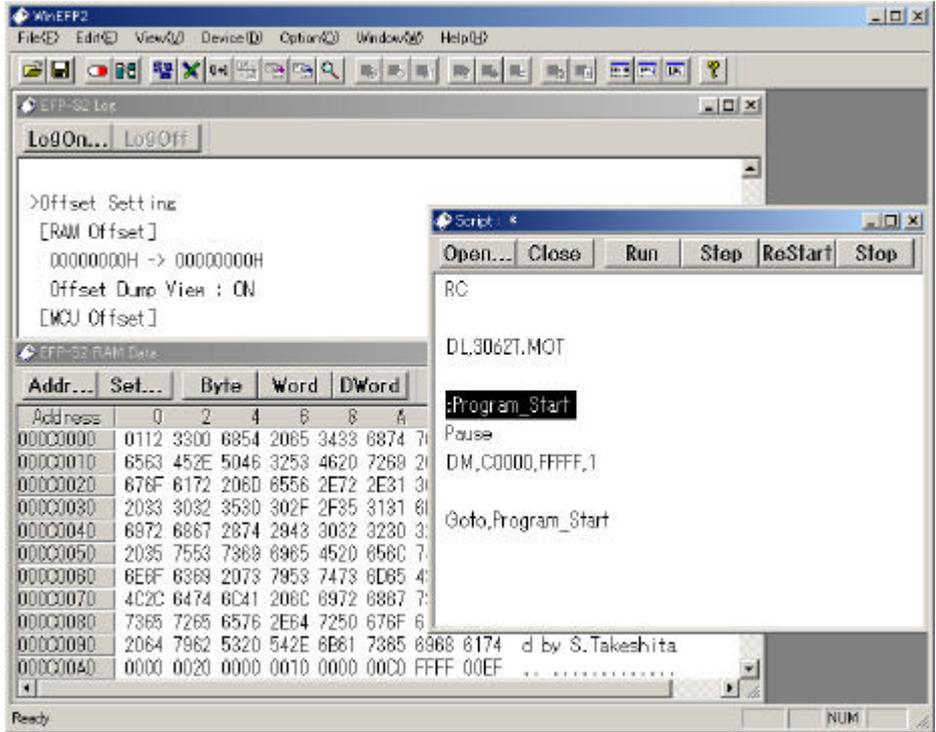
Fig. 2.8. WinEFP2 Window Layout

The following windows can be displayed in the WinEFP2 window:

1) Status Window

   Window which displays each parameter of the environment settings dialog.

2) Dump Window

   Window for viewing and editing contents of the EFP-S2's internal RAM.

3) Script Window

   Window for creating and executing script.

4) Log Window

   Window which displays execution results of various types of commands. You can also save execution results contents displayed in a window in an arbitrary file. To save execution results contents in a file, click the Log On button to upper left of a window. The file section dialog then appears, so specify the file name. To quit saving of execution results contents, click the Log Off button.

Each window is displayed in the WinEFP2 main window by selecting [Window] -> [xxxx Window] from the WinEFP2 window menu.

2.3 User Program Download

When writing to MCU, you have to download a user program in the EFP-S2's internal RAM.

To download a user program, select [File] -> [Download] from the WinEFP2 window menu. When download is selected, the download dialog appears so you can specify the download file.

The download dialog layout is shown in Fig. 2.9.
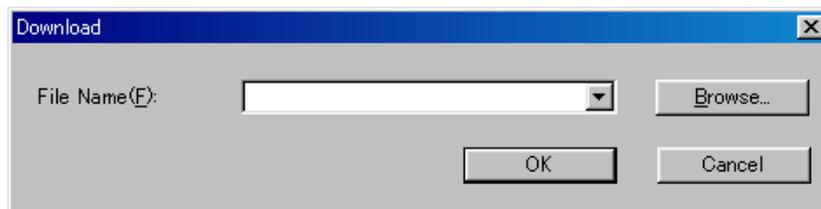
Fig. 2.9. Download Dialog Layout

Parameters specified in the download dialog are as follows:

1) File Name

Specifies the name of the file to be downloaded. The history of the downloaded file is displayed in the drop-down list to the right of file name parameter (displayed by clicking " " with the mouse). You can also specify the file from the list. If you click the Browse button, the file section dialog appears so you can specify a file in the folder of your choice.

When you have finished setting the parameters, click the OK button and download is executed.

* EFP-S2 can download a file of Intellech extension HEX format and Motorola S format.

2.4 Dump Window

Dump window can do view and edit data in the EFP-S2's internal RAM.

Please confirm whether a download of a user program is done normally with a Dump window.

The dump window layout is shown in Fig. 2.10.

Toolbar

ASCII Data
Display field

RAM Data
Display field
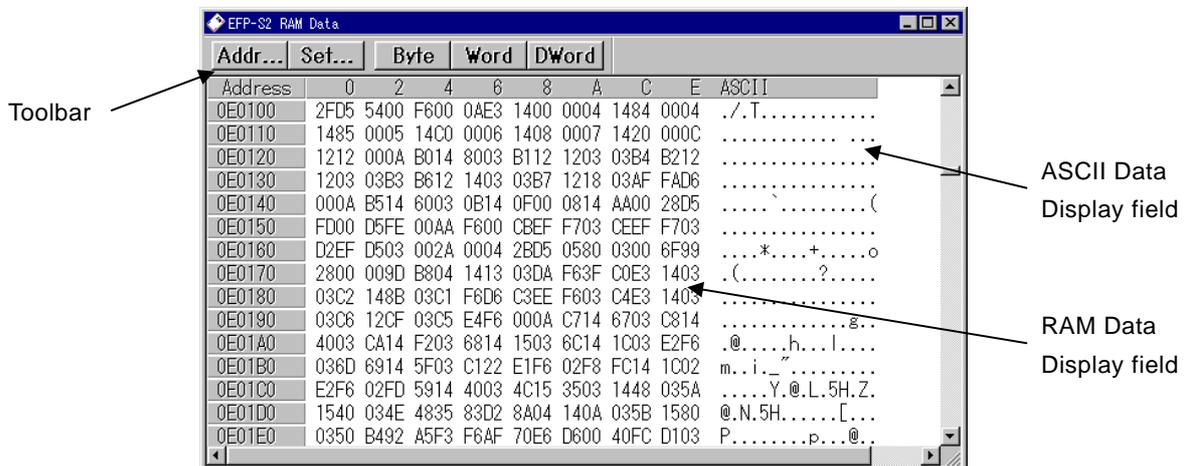
Fig. 2.10. Dump Window Layout

The dump window contains a tool bar for changing RAM data and display format. The tool bar layout is shown in Fig. 2.11.

Fig. 2.11. Tool Bar Layout (Dump Window)

1) Addr Button

To change the display address of RAM data, click the Addr button. When the Addr button is clicked, the dump address setting dialog appears, so input the address of your choice and click the OK button. If the dump window is active, press the Ctrl and J key together and the dump address setting dialog appears.

2) Set Button

To change contents of RAM data, click the Set button. When the Set button is clicked, the RAM data setting dialog appears, so input data and address of your choice and click the OK button.

3) Display Format Change Button (Byte, Word, Dword)

To change the RAM data display format, click the Byte, Word or Dword button, and the display format of memory contents changes to 1, 2 or 4-byte length.

Supplementary Explanation

You can change RAM data from the RAM data display field. Double-click the data of your choice in the RAM data display field and the RAM data setting dialog appears, so input the data of your choice and click the OK button.

2.5 Device Command Execution

To read from and write in the MCU, select the command displayed in the [Device] menu from the WinEFP2 window menu. The procedure for writing in the MCU is explained using the device command.

1) Blank Command Execution

Carries out blank check to prevent follow writing in the MCU. Select [Device] -> [Blank] from the WinEFP2 window menu. When blank is selected, the parameter input dialog (see Fig. 2.11) appears, so input the top and end addresses and click the OK button.

2) Program Command Execution

Writes data from the EFP-S2's internal RAM in the MCU. Select [Device] -> [Program] from the WinEFP2 window menu. When program is selected, the parameter input dialog (see Fig. 2.11) appears, so input the top and end addresses and click the OK button.

3) Verify Command Execution

Compares MCU internal ROM data and EFP-I internal RAM data. Select [Device] -> [Verify] from the WinEFP2 window menu. When verify is selected, the parameter input dialog (see Fig. 2.12) appears, so input the start and quit addresses and click the OK button.
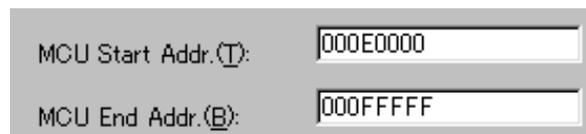
MCU Start Addr.(T):	000E0000
MCU End Addr.(B):	000FFFFF

Fig. 2.12. Parameter Input Dialog

* If writing in the MCU, you should execute blank and verify check if possible. You may also use macro commands to execute the commands in a series. The macro commands are available in the [Device] -> [Device Macro] menu from the WinEFP2 window menu.

2.6 Script Window

Script is a function that can execute a series of commands by stating the command format for each command.

To create and execute script, select [Window] -> [Script Window] from the WinEFP2 window menu.

The script window layout is shown in Fig. 2.13.
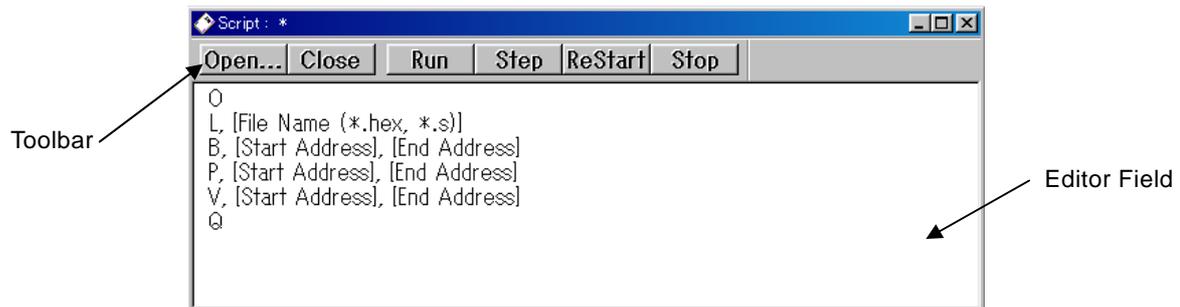
Fig. 2.13: Script Window Layout

The script window contains tool bar for opening script files and executing script commands.

The tool bar layout is shown in Fig. 2.14.

Fig. 2.14. Tool Bar 1 (Script Window)

1) Open Button

    The Open button is clicked when you want to open a script file. When the Open button is clicked, the file section dialog appears, so select the script file of your choice. When a script file is opened by the Open button, the contents of the script file are displayed in the editor field.

2) Close Button

    The Close button is clicked when you want to close a script file.

3) Run Button

    The Run button is clicked when you want to execute a script command. When the Run button is clicked, the script command is executed from the line where the cursor is positioned in the editor field.

4) Step Button

    The Step button is clicked when you want to execute a script command in steps. When the Step button is clicked, the command is executed in steps from the line where the cursor is positioned in the editor field.

5) ReStart Button

    The ReStart button is clicked when you want to re-execute a script command. When the ReStart button is clicked, the script command is executed from the top line in the editor field.

6) Stop Button

    The Stop button is clicked when you want to stop script execution.

2.6.1 Script Description

Editor field in a script window can make a script file by describing contents on the basis of a command format.

Command format is written with Table 3.1 WinEFP2 commands, but can refer with a short cut menu.

To display a short cut menu, move the mouse cursor into the editor field and display the shortcut menu by clicking the right button.

The shortcut menu is shown in Fig. 2.15.
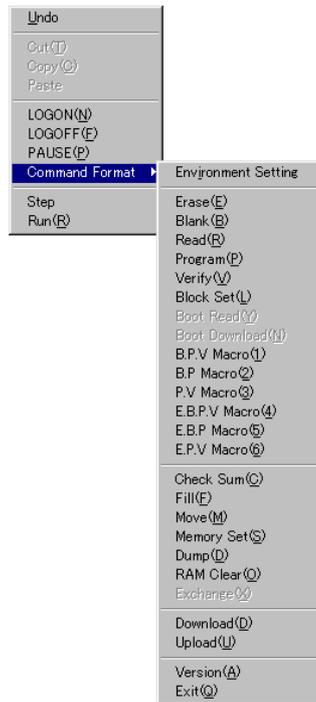
Fig. 2.15. Shortcut Menu

When choose an arbitrary command in the shortcut menu, a command format is input into an editor field in a script window.

The method for script description using the shortcut menu is as follows:

Script description example

1) Command Choice

Choose a blank command in a shortcut menu. The command format of a cursor position in an editor field is as follows:

BL, [Start address], [End address], [Flash Type (B/N)]

2) Parameter Setting

Input parameter of your choice for [ ] field in the command format.

When set an execution field of a command from C0000H to FFFFFH, description is as follows:

BL, C0000, FFFFF,N

2.6.2 Notes Concerning Writing Script Commands

Notes concerning writing script commands in the editor field are as follows:

- 128 characters can be used for a single command.
- More than one command cannot be written on the same line. After writing a command, be sure to proceed to the next line.

   Incorrect: BL, 4000, FFFF PR, 4000, FFFF

   Correct: BL, 4000, FFFF

                    PR, 4000, FFFF

2.6.3 Environment Setting within Script Command

An environment settings file is required for carrying out environment settings within script command. For method of creating an environment setting file, refer to "Store Environment Settings" of the 2.1 Environment Setting dialog. Command format for carrying out environment settings is as follows:

   Command format: IT, [Environment settings file name]

Input environment setting file name in the   field.   Within script command, environment setting is done with the contents of this file.

3. Command Outline

3.1 WinEFP2 Commands

Table 3.1 WinEFP2 Commands (Part 1)

Menu	Menu Item and Accelerator Key	Command Outline
File (F)	Download (D) Ctrl + D key	Downloads user program of Intellech extension HEX or Motorola S format to the EFP-S2's internal RAM. Command format: DL, [File name(*.hex,*.mot, *.s)]

	Upload(U)
	 Ctrl + U key
		Uploads data from the EFP-S2's internal RAM to the Intellech extension HEX or Motorola S format file.
		 Command format:
		  UL, [File name], [HEX type], [Start address], [End address]
		 * Specify 0 or 1 for HEX type in command format.
		  I: Intellech extension HEX format
		  M: Motorola S format

	Exit(X) Alt + F4 key	Quits WinEFP2. Command format: QT
Edit (E)	Check Sum(S) Ctrl + K key	Calculates sum between specified addresses in the EFP-S2's internal RAM. Command format: C, [Start address], [End address],[B/W] * [B/W] of a command format is change of Byte and Word
	Fill(F) Ctrl + L key	Writes data between specified addresses in the EFP-S2's internal RAM. Command format: F, [Start address], [End address], [Write data],[B/W] * [B/W] of a command format is change of Byte and Word
	Move(M) Ctrl + M key	Moves data between specified addresses in the EFP-S2's internal RAM to arbitrary field. Command format: M, [Start address], [End address], [Destination address]
	Copy(P)	Copys data between specified addresses in the EFP-S2's internal RAM to arbitrary field. Command format: C0, [Start address], [End address], [Destination address]
	RAM Clear(O) Ctrl + 0 key + Alt	Clears all data in the EFP-S2's internal RAM. Command format: RC
	RAM Find(I)	Finds data between specified addresses in the EFP-S2's internal RAM. Command format: FI, [Start address], [End address], [Data],[B/W] * [B/W] of a command format is change of Byte and Word
	Exchange(X) Ctrl + G key	Exchanges upper and lower byte data between specified addresses in the EFP-S2's internal RAM. Command format: EX, [Start address], [End address]

Table 3.1 WinEFP2 Commands (Part 2)

Menu	Menu Item and Accelerator Key	Command Outline
Device (D)	Erase(E) Ctrl + E key	Erases data of data in the MCU internal flash memory. Command format (for all erase): ER, All, [B/N] Command format (for block erase): ER, [Block Start Address] [B/N]
	Blank(B) Ctrl + B key	Executes blank check of MCU internal ROM data. Command format: BL, [Start address], [End address] [B/N]
	Read(R) Ctrl + R key	Reads MCU internal ROM data into the EFP-S2's internal RAM. Command format: RD, [Start address], [End address], [B/N]
	Program(P) Ctrl + P key	Writes EFP-S2's internal RAM data into the MCU internal ROM. Command format: PR, [Start address], [End address], [B/N]
	Verify(V) Ctrl + A key	Compares MCU internal ROM data and EFP-S2's internal RAM data. Command format: VE, [Start address], [End address], [B/N]
	Block Set(L) Ctrl + T key	Sets lock bit for specified block of MCU internal ROM data Command format: BS, [Block Start address], [Attribute(R/W)], [B/N] * [Attribute(R/W)] of a command format is change view and set of a lock bit.
	Boot Read(Y) Ctrl + Y key	Reads MCU internal ROM (boot area) data into the EFP-S2's internal RAM. Command format: BR, [Start address], [End address]
	Device Macro(D) Ctrl + Y key	Executes in order of Erase->blank -> program -> verify. Command format: DM, [Start address], [End address], [Micro Type], [B/N] *Setting a macrocommand to carry out in [Macro Type] of the command format. 1: E.B.P.V. 2: E.B.P. 3: E.P.V. 4: B.P.V. 5:B.P. 6:P.V.

Supplementary Explanation

Choose BOOT/NORMAL domain in the flash ROM domain in [B/N] of the command format.

B   BOOT N:NORMAL

NORMAL domain is chosen automatically when it omit this parameter.

Table 3.1 WinEFP2 Commands (Part 3)

Menu	Menu Item and Accelerator Key	Command Outline
Option (<u>O</u>)	Environment Setting (<u>I</u>)	Sets Environment of EFP-S2. Command format: IT, [Environment Setting file name]
	Offset Setting (<u>O</u>)	Sets offset address into the EFP-S2's internal RAM. Command format: none * Offset address is also set up when execute Environment Setting.

Window (<u>W</u>)	Dump Window (<u>D</u>)
	Ctrl + W key
		Used for displaying and editing EFP-S2's internal RAM data.
		Command format (to view RAM data):
		  DP, [Start address], [End address], [B/W/D]
		Command format (to edit RAM data):
		  MS, [Start address], [End address]
		* [B/W/D] of a command format is change of Byte, Word,DWORD

Supplementary Explanation

   The following commands can be used for some MCUs only. For details on each command, see the MCU unit user's guide or the supplement document for the MCU unit.

      Exchange command
      Erase command
      Boot Set command

3.2 Script Auxiliary Commands

Table 3.2: Script Auxiliary Commands

Command Format	Command Outline
LOGON, [File name]	Saves execution results of script command in specified file.
LOGOFF	Completes saving of execution results of script command.
PAUSE	Stands by for the Enter key input.
Goto, [Label]	Move to the label sentence that is appointed.
:Goto Label sentence	Become a label sentence when you describe a colon in a head of a line. It can appoint the movement of the Goto command.
; (Comment)	A semicolon at the head of a line serves as a comment.

Supplementary Explanation

It can make script command corresponding to consecutive MCU writing by using Goto command.

Script description example>

```
  RC                      <- Buffer RAM clear
  DL,Sample.hex           <- Download of program data        1)

  :BPV_start              <- Goto Command Label
  Pause                   <- Enter awaiting key input        2)
  DM,4000,FFFF,4          <- B.P.V. Macrocommand practice

  Goto,BPV_start          <- Move to BPV_start label line    3)
```

Script practice contents commentary>

  1) Download data to write in at MCU to EFP-S2 buffer RAM.

  2) Because it become awaiting Enter key input, set MCU to write in.

  3) When it move to a label line of BPV_start in Goto command, it is awaiting the Enter key input.

4．Offset Address

4.1 Usage of Offset Address

Setting Offset Address into EFP-S2 internal RAM enables you to write and load data easily to different address fields.

To set Offset address, select [Option] -> [Offset Setting] from the WinEFP2 window menu.　Then Offset Setting dialog appears, and you can input offset address.

Offset Setting dialog is shown in Fig. 4.1.
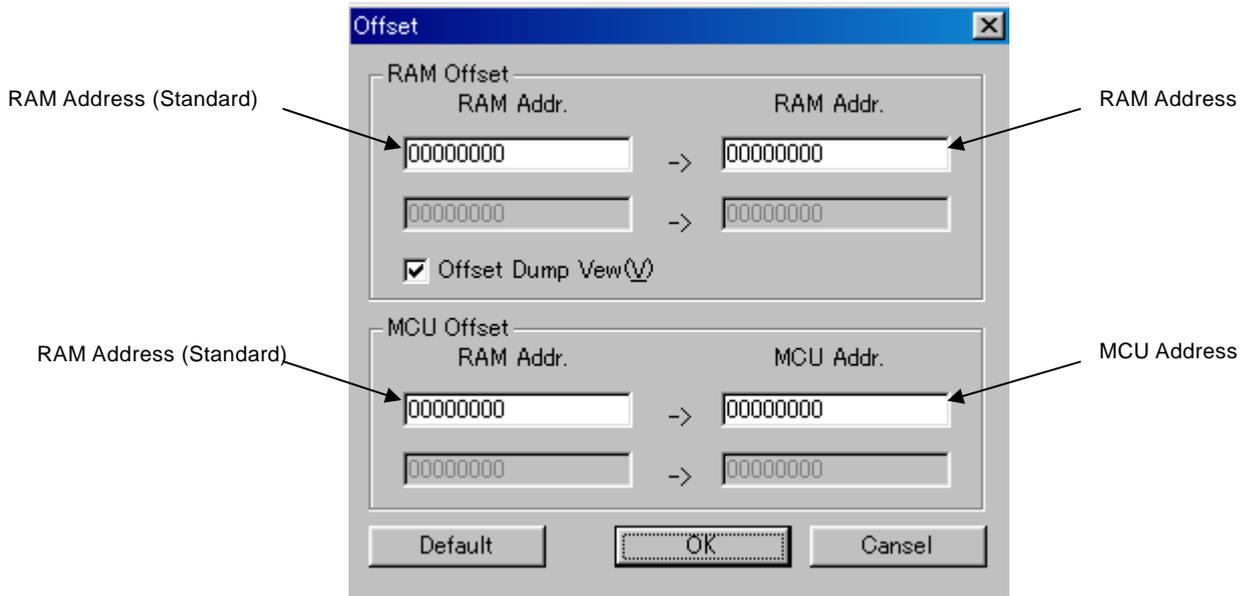
Fig. 4.1.Offset Address parameter

1) RAM address (Standard)

　　Input RAM address which being a standard of offset address.

2) RAM address

　　Input revised RAM address value against RAM address (standard).

　　This setting becomes effective on download and upload of user program.

3) MCU address

　　Input MCU address value to write or load data against RAM address (standard).

　　This setting becomes effective on writing and loading in MCU.

4) Offset Dump View

　　If you turn this check box on, offset address is added on Dump display address of buffer RAM.

　　When you set 0h of buffer RAM to 10000h and open Dump window with this check box on, 0h of buffer RAM is automatically converted 10000h and Dump display is executed.

5) Default Button

　　Returns each offset address settings to default settings.

Usage Example of offset address (1)

"Even though a user program is created with address conFiguration of 0h - FFFFh, I want to download it to C0000h - CFFFFh of EFP-S2's internal RAM."

Offset address setting

It can be done to do this action without setting offset address, however you have to move or copy a downloaded data in 0h - FFFFh to C0000h - CFFFFh.   In this case, please execute download action with setting offset address as following Fig. 4.2.

RAM Offset

RAM Addr.   RAM Addr.

c0000   ->   0

00000000   ->   00000000

Fig. 4.2. Example of offset address setting (1)

To set RAM address (standard) to C0000h and set RAM address to 0h, you can allocate RAM C0000h to 0h.

Usage Example of offset address (2)

"I want to write data on 10000h - 1FFFFh of EFP-S2's internal RAM to E0000h - EFFFFh field of MCU internal ROM."

Offset address setting

It can be done to do this action without setting offset address, however you have to move a RAM data to E0000h - EFFFFh same as the usage example(1).   In this case, please execute program with setting offset address as following Fig. 4.3.

MCU Offset

RAM Addr.   MCU Addr.

10000   ->   e0000
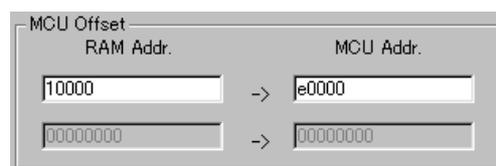
00000000   ->   00000000

Fig. 4.3. Example of offset address setting (2)

To set RAM address (standard) to 10000h and set MCU address to E0000h, you can allocate RAM 10000h to E0000h.