**Multifunctional Flash Microcomputer
Programmer Control Software**

MFW Control

Software

Operation Manual

Sunny Giken Inc.

Multifunctional Flash Microcomputer Programmer Control Software

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Table of Contents

1 Outline

This operation manual is intended to use MFW Control Software, a control program of Multifunctional Flash Programmer S550-MFW1U/MFW-1.

The following chapters will contain installation of the MFW Control Software, function specifications, and operating instructions.

2 System Requirements and Limitations

1) System Requirements

Host Computer	IBM/PC compatible machine
CPU	Pentium 200MHz or Higher
CRT	800×600dot or more, 256 colors or more
OS	Microsoft Windows 10(64bit)
	Microsoft Windows 7(32bit/64bit)
	Microsoft Windows XP
	Microsoft Windows 2000
	Microsoft Windows Me
	Microsoft Windows 98

2) File Format Limitations

Usable ROM Programming File	Intel HEX Format (extension: .hex)
	Motorola S Format (extension: .mot)
Usable Boot Loader File	Motorola S Format (extension: .btp)

> Note: The use of a file is distinguished by the extension in the S550-MFW1U/MFW-1. Especially, it is not possible to distinguish in the S550-MFW1U/MFW-1, as the Files with ". mot" and ". btp" extension are the same format. Note the handling of the extension so that there are neither mixture nor misplacing, etc. Moreover, the setting of OS that displays the specified expansion is recommended to be used.

3) Limitations when control software ends

Programming information is preserved in an internal memory of the main body of MFW when the control software is ended. Therefore, programming information might not be preserved correctly when the main body of MFW is ended (*) before ending the control software. Please end the main body of MFW after ending the software (*).

(*) "End of the main body of MFW" indicates the following cases.
- ・The [POWER] switch on the main body of MFW is turned off.
- ・Separation of the USB cable between PC and the main body of MFW.
- ・Separation of the main body of MFW and AC adaptor.
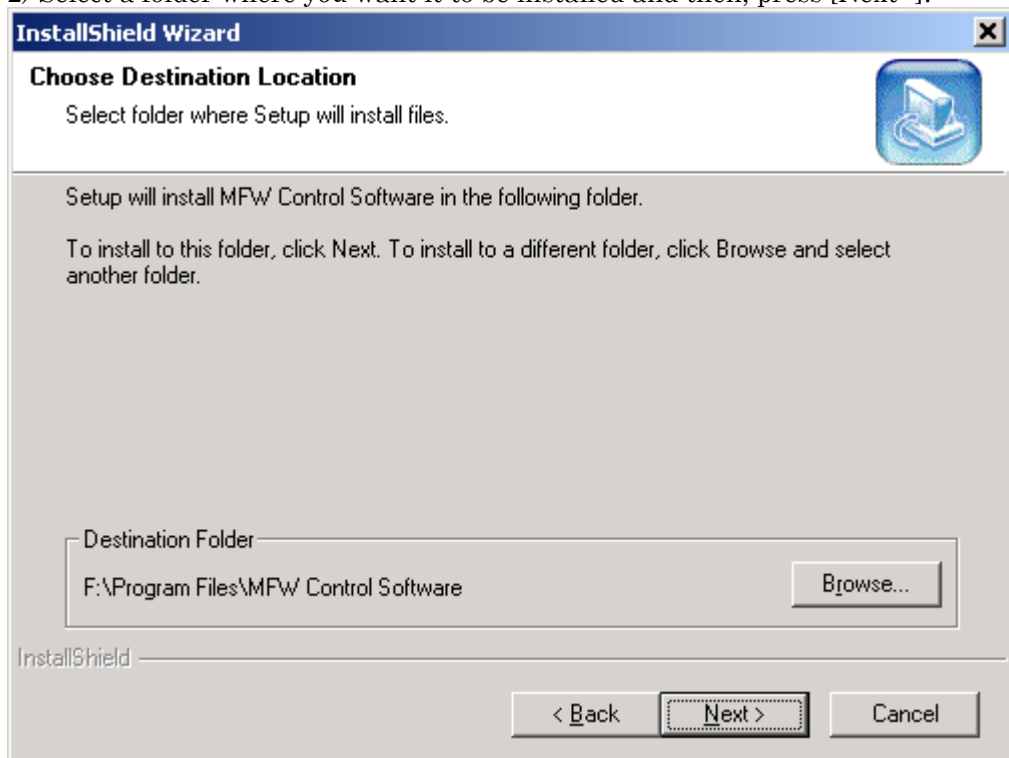
3 Installation

3.1 Software Installation

Start "Setup.exe" in the Software folder in the attached CD-ROM. The procedure for installing the Software is described below:

1) the dialog shown below will be displayed. Press [Next>].
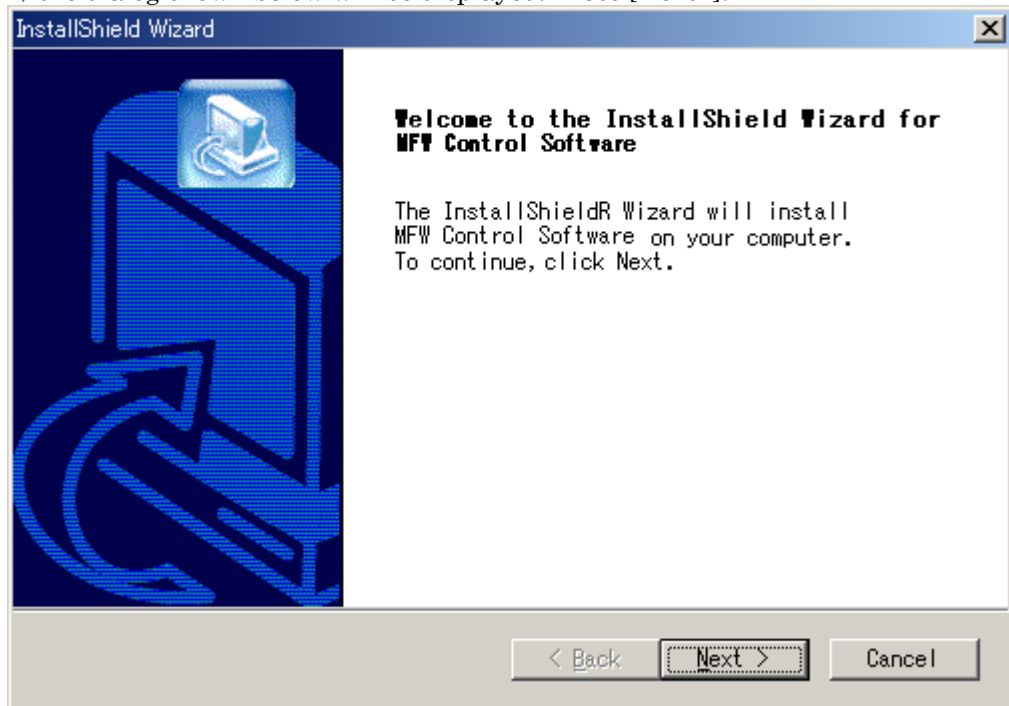
2) Select a folder where you want it to be installed and then, press [Next>].

3) The files will be copied automatically and then, installation will be completed.
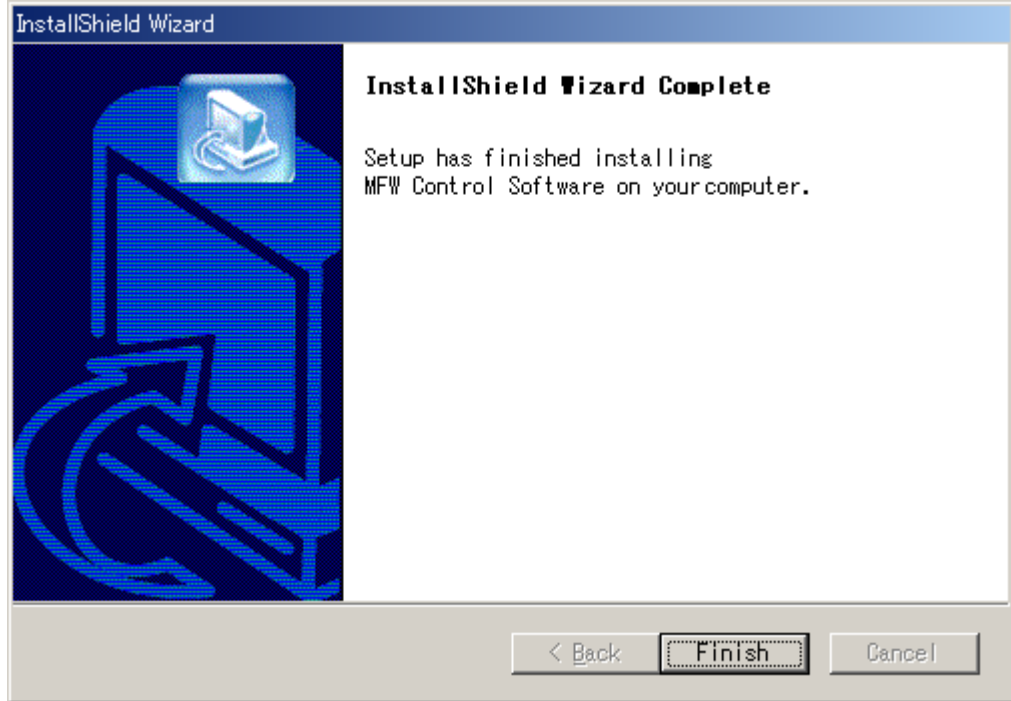
3.2 Uninstalling Software

Execute "Add/Remove Programs" in the control panel and select "MFW Control Software" in the "Change/Remove". Press the [Change/Remove] button to execute uninstallation.

3.3 Installing Acrobat Reader

You need Acrobat Reader in order to refer to the "Manual" of the "Help". If Acrobat Reader is not installed on your PC, start "AR405ENG.EXE" in ACROBAT folder in the attached CD-ROM.

4 Operation by PC Control

Operation by PC that is connected to the S550-MFW1U/MFW-1 is described below:

4.1 Activation and Termination

1) Activation

Activation method of the S550-MFW1U/MFW-1 that is controlled by PC is described below:

(1) Connect the S550-MFW1U/MFW-1 and the PC by the PC connection cable (USB or Serial).

(2) Connect one of parallel adapter, serial I/O adapter, or target board to the S550-MFW1U/MFW-1 unit.

• No connection of equipment is needed when downloading data to the MFW unit from PC. (No problem is prospected if connected to the S550-MFW1U/MFW-1 unit in this case.)

(3) Run the control program **MFW Control Software**.

(4) Basic setting is available after an Environment Set screen is displayed at the CRT.

The Main Menu screen (refer to the next page) is displayed after setting is defined and clicking an **OK** button.
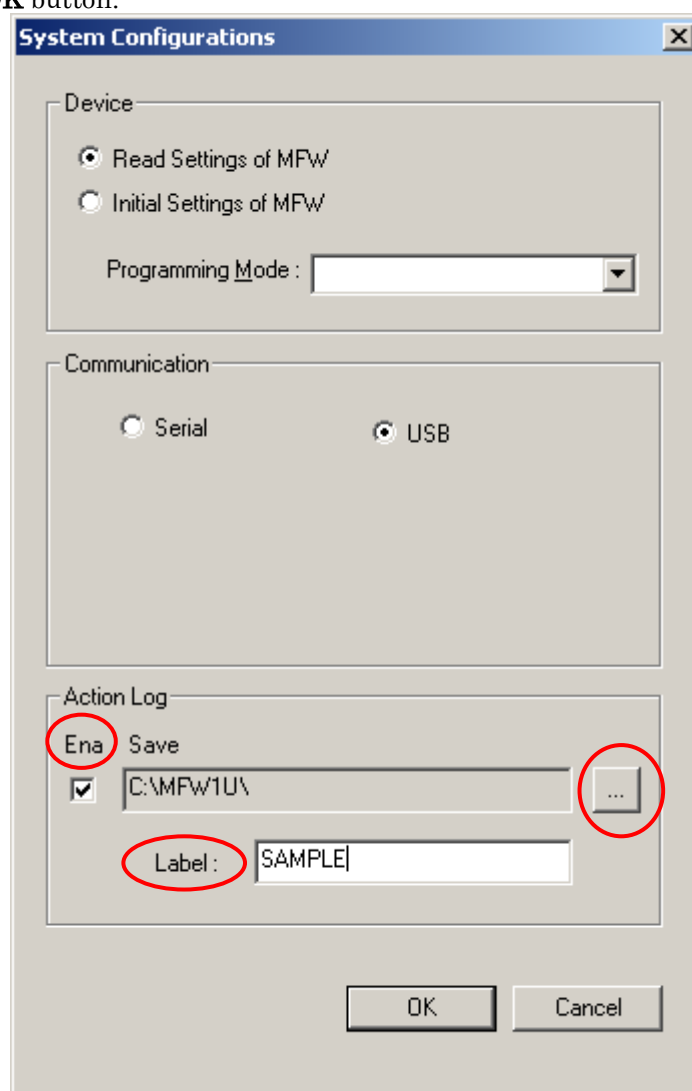
[Device]

• Read Settings of MFW / Initial Settings of MFW

Read Settings of MFW:	Currently defined S550-MFW1U/MFW-1 setting is loaded and activation is started.
Initial Settings of MFW:	The S550-MFW1U/MFW-1 is initialized and activated by the setting that had been defined at the Programming Mode.

• Programming Mode

Setting of the Programming Mode can be defined.

Parallel Mode:	When parallel adapter is adopted to use for programming. [Default] (The Parallel I/O Mode is supported)
Serial Mode (Socket Board):	When serial adapter is adopted to use for programming. (The Serial I/O Mode is supported)
Serial Mode (Target Board):	When user prepared target board is adopted to use for programming. (The Serial I/O Mode is supported)

[Communication]

• Serial / USB

If you specify "Serial", communication using a serial port of a PC will start. When "Serial" is specified, "Port" and "Baud Rate" will become available as a selection. If you are using a type of S550-MFW1U/MFW-1 that needs to be connected to a serial (hereinafter referred to as MFW1), select "Serial".

If you specify "USB", communication using a USB port of a PC will start. If you are using an S550-MFW1U that needs to be connected to a USB (hereinafter referred to as MFW1U), select "USB".

• Port

Serial port No. of PC that is to be connected to the MFW-1 unit can be set.
Default is set as COM1.

• Baud Rate

Communication rate between PC and the MFW-1 can be set.
Default is set as 115.2Kbps.
Reduce communication rate when communication is troubled.

[Action Log]

- Ena

Action log can be saved with putting a check into "Ena" check box (using "Logging" function).

- Save Directory

File opening dialog is displayed when clicking "Save Directory" button. Please select directory where the action log will be saved in. The action log file name is the time (From year to second) when the log is saved.

- Label

If you want to set initial to the log file name, please input letters to the "Label" box. It is possible to input to 10 characters or less. For example, the log file name becomes "SAMPLE_xxxxxxxxxxxx.log" when inputting "SAMPLE" to the "Label" box. The part transcribed in red is the time when the action log is saved.

2) Termination

Termination method of the S550-MFW1U/MFW-1 is described below:

(1) Click the Exit button at the Project Menu to terminate the Control Program.

(2) Turn OFF the power of the S550-MFW1U/MFW-1 unit.

* Follow the above termination method when the MFW unit is disconnected from the PC or turn OFF the power of the S550-MFW1U/MFW-1 unit to save settings to the internal memory of the S550-MFW1U/MFW-1 unit.

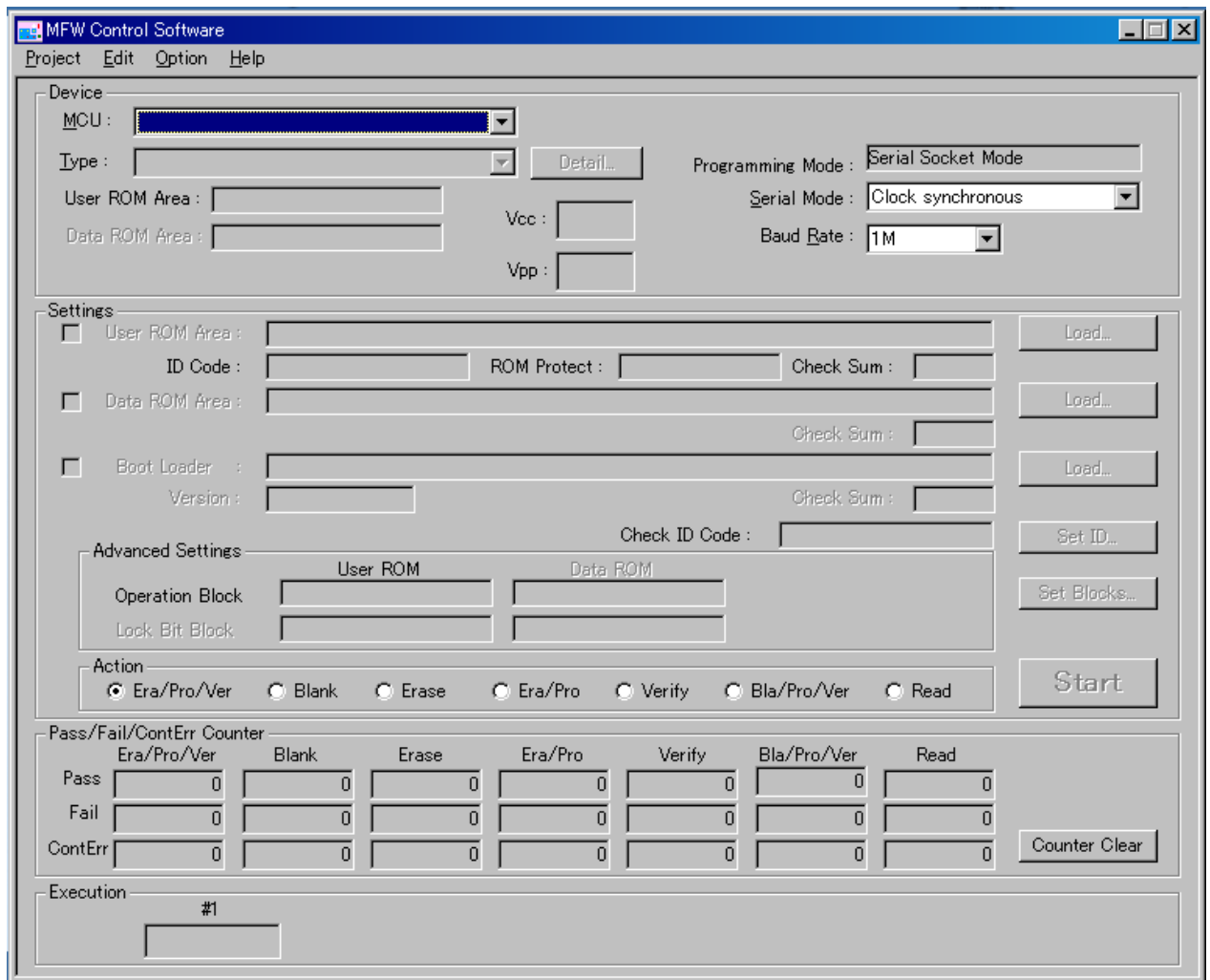## 4.2 Main Programming Screens

The main programming screens can be switched to the Parallel I/O Programming Mode or the Serial I/O Mode automatically by definition to the programming mode of the environment set.

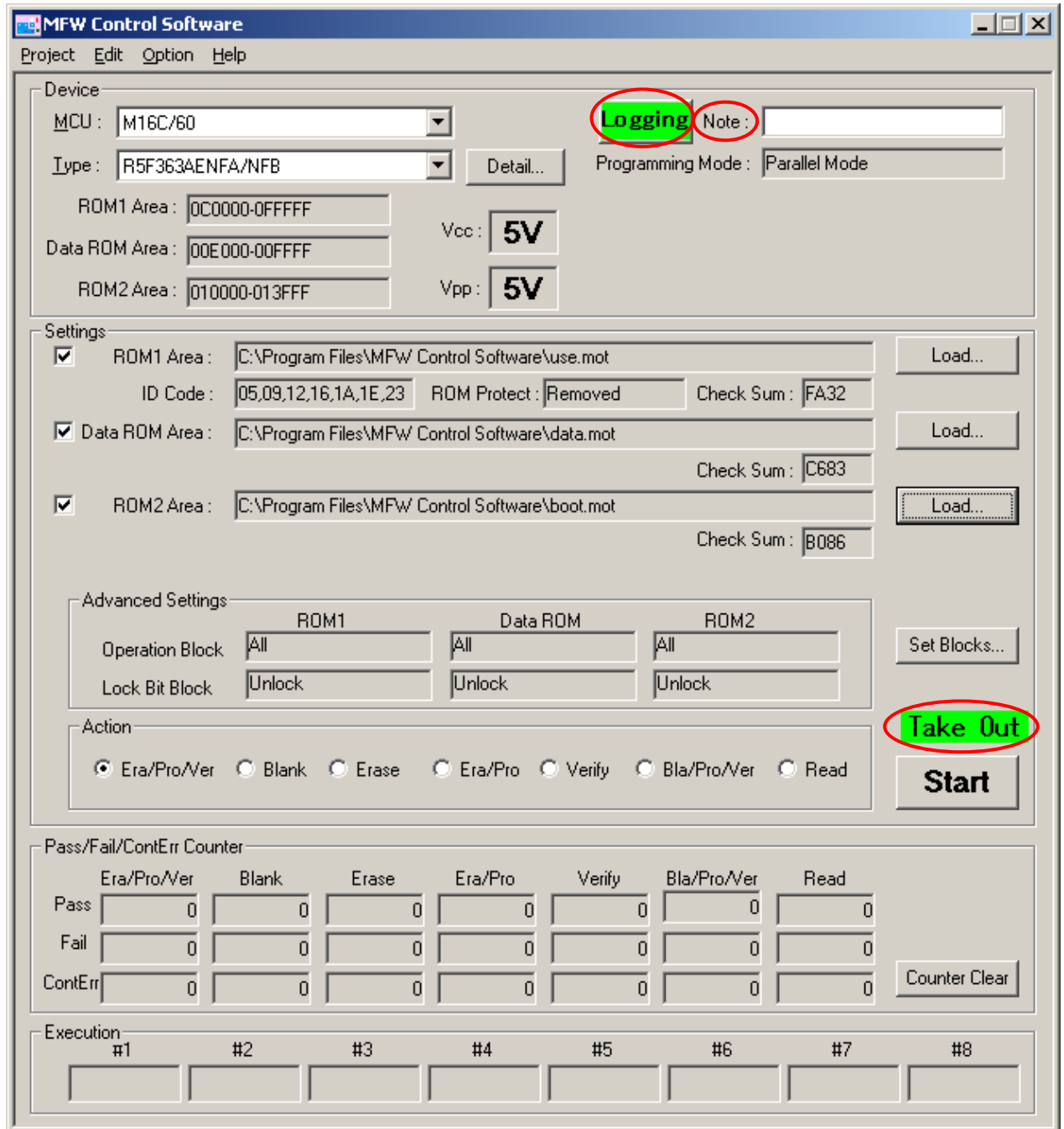• Parallel I/O Programming Mode (for parallel adapter usage)

•Serial I/O Programming Mode (for serial adapter or user target board usage)

•When using "Logging" function and "Take Out" function

Following description is commonly available to both of the parallel I/O programming mode and the serial I/O programming mode.

Device

1) Device Set [Device]

Device type selection can be made by clicking the pull down button to display the device selection list.
Following device information is to be displayed after setting.
In the serial I/O programming mode, selected device which name is displayed with ROM2 after device name in "Type", will be able to write in program ROM2 Area.

User ROM Area:	Address area of the User ROM	
	(Address area of the Program ROM1)	
Data ROM Area:	Address area of the Data ROM	
	(Data ROM Area is saved in selected device)	
Boot ROM Area:	Address area of the Boot ROM	
ROM2 Area :	Address area of the Program ROM2	
	(Program ROM2 Area is saved in selected device)	
ROM1 Area :	Address area of the Program ROM1.	
Vcc:	Power supply voltage	
Vpp:	Programming voltage	

2) Programming Mode Setting [Programming Mode]

Setting of the Programming Mode can be defined.

Parallel Mode: When parallel adapter is adopted to use for programming. [Default] (The Parallel I/O Mode is supported)
Serial Mode (Socket Board): When serial adapter is adopted to use for programming. (The Serial I/O Mode is supported)
Serial Mode (Target Board): When user prepared target board is adopted to use for programming. (The Serial I/O Mode is supported)

3) Serial Mode Setting [Serial Mode]

The communication mode to serial I/O adapter or user target board can only be set when the serial I/O mode is selected.
Synchronous Clock: Synchronous Clock
Single-wire: Single-wire Asynchronous Clock

* The serial mode setting that you can set is different by a device.
Please refer to correspondence device table (mfwdeve.pdf) for the details.

4) Baud Rate Setting [Baud Rate]

The date transmission rate to serial I/O adapter or user target board can only be set when the serial I/O mode is selected.
(Baud rate type for synchronous clock)
38.4Kbps, 57.6Kbps, 115.2Kbps, 256Kbps, 500Kbps, 1Mbps
(Baud rate type for single-wire)
9600bps, 19.2Kbps, 38.4Kbps, 57.6Kbps, 115.2Kbps

5) Logging Function [Logging]

The "Logging" button and the "Note" box are displayed when the "Logging" function is used. When the "Logging" button is clicked, the following dialog is displayed. Please refer to "4.4 Format of log files" for the contents of the action log. Moreover, it is possible to input 20 characters or less to the "Note" box, and reflect it in the action log.
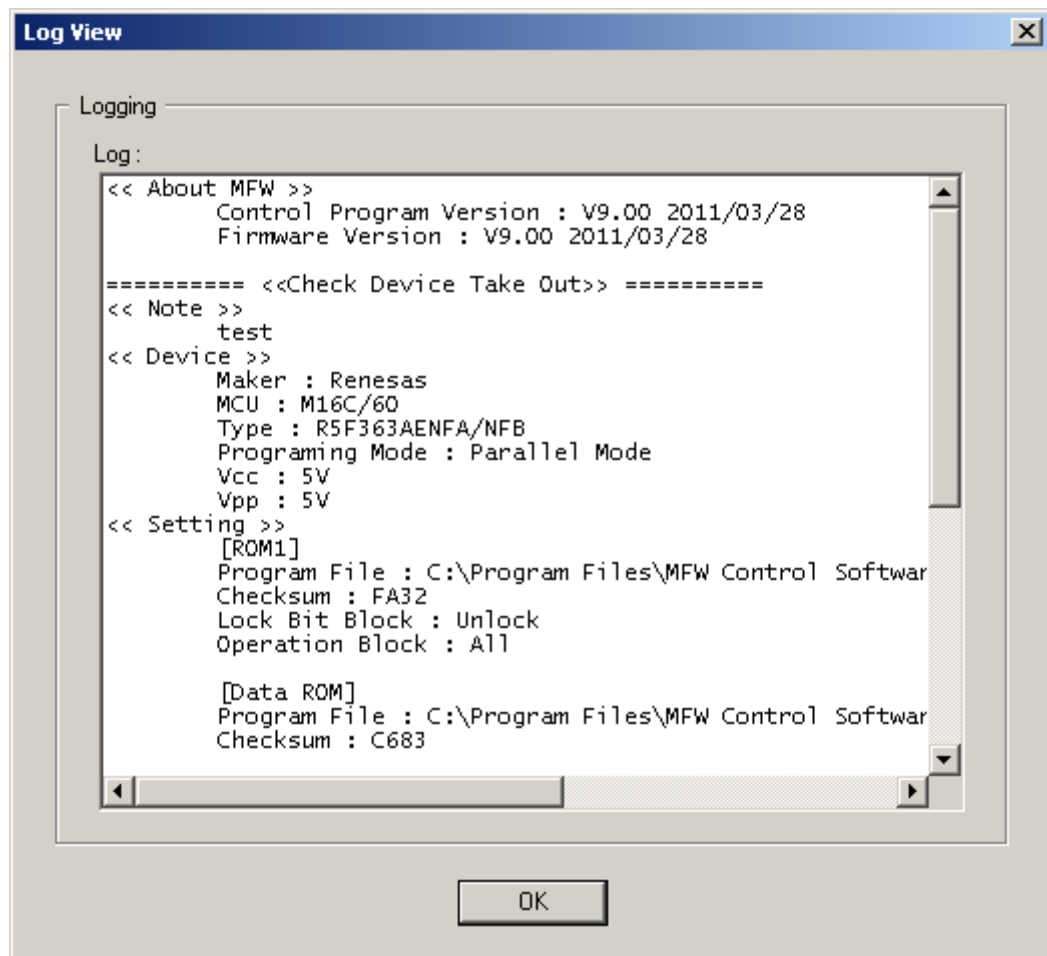
6) Detail [Detail...]

   If you click "Detail…" the following dialog will be displayed. Detailed device information including address values and block numbers will be displayed. If you click the [OK] button, the dialog will be closed.

Block	Start address	End address	Size
0	FF000	FFFFF	4K
1	FE000	FEFFF	4K
2	FC000	FDFFF	8K
3	FA000	FBFFF	8K
4	F8000	F9FFF	8K
5	F0000	F7FFF	32K
6	E0000	EFFFF	64K
7	D0000	DFFFF	64K
8	C0000	CFFFF	64K
9	B0000	BFFFF	64K
10	A0000	AFFFF	64K

Device
Type : M30626FHPFP/GP
Top address : A0000
Size : 60000 Vcc : 5V Vpp : 5V
Block : 0-10

• Settings

7) Data Load to the User ROM Area

A file list is displayed and data load to the User ROM Area (work memory) can be executed by clicking the Load button. It can load only the file with ".hex" and ".mot" extension.
Note: Padding is achieved to the entire User ROM Area by OFFH before data is loaded.
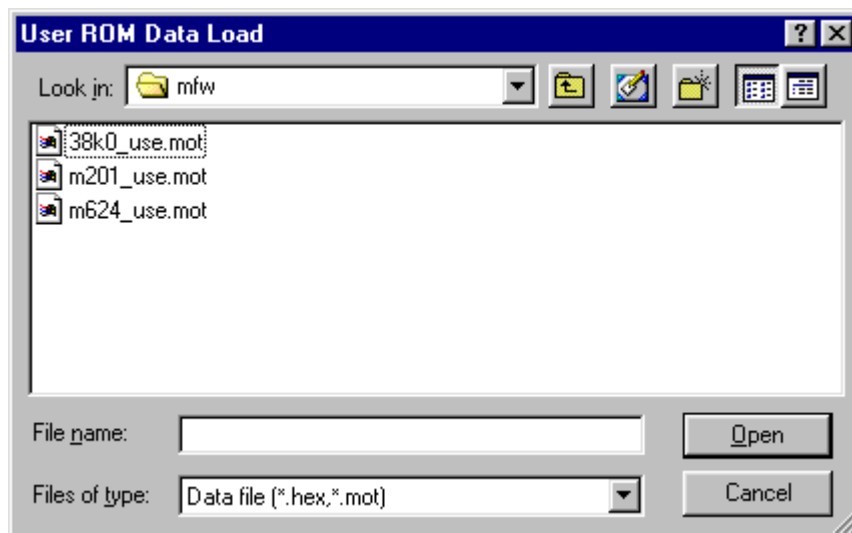
A check mark is indicated to the check box and a loaded file name is displayed when data load is successful.   ID number is displayed to the ID field when the operation is a serial I/O mode.

ROM Code Protect Check Function

The following messages are displayed when the ROM code protection that is to protect ROM code reading from a device is set when loading data to the User ROM area. Click the OK button to execute loading or Cancel button to cancel the operation.

Level 1 enabled: ROM code protection is set to level 1
Level 2 enabled: ROM code protection is set to level 2
Enabled: ROM code protection is set
Removed: ROM code protection is released

Area Set Function

When check box of User ROM Area contains a checkmark, User ROM Area is carried out for "Action". When check box of User ROM Area does not contain a checkmark, User ROM Area is not carried out for "Action".

Checksum Display

Value of checksum for the entire User ROM area is to be displayed when data is loaded to the User ROM Area.   The calculation of checksum is the last 2-byte bottom line of data that is added per 1-byte.   The address data that is not existed at the file is to be calculated as "OFFH".

8) Data Load to the Data ROM Area

    A file list is displayed and data load to the Data ROM Area (work memory) can be executed by clicking the Load button. It can load only the file with ".hex" and ".mot" extension.

Note: Padding is achieved to the entire Data ROM Area by OFFH before data is loaded.

A check mark is indicated to the check box and a loaded file name is displayed when data load is successful.

Area Set Function

When check box of Data ROM Area contains a checkmark, Data ROM Area is carried out for "Action". When check box of Data ROM Area does not contain a checkmark, Data ROM Area is not carried out for "Action".

Checksum Display

Value of checksum for the entire Data ROM Area is to be displayed when data is loaded to the Data ROM Area.   The calculation of checksum is the last 2-byte bottom line of data that is added per 1-byte.   The address data that is not existed at the file is to be calculated as "OFFH".

9) Data Load to the Boot ROM Area

   A file list is displayed and data load to the Boot ROM Area (work memory) can be executed by clicking the Load button. It can load only the file with ".hex" and ".mot" extension.
Note: Padding is achieved to the entire Boot ROM Area by OFFH before data is loaded.

A check mark is indicated to the check box and a loaded file name is displayed when data load is successful.

Area Set Function

When check box of Boot ROM Area contains a checkmark, Boot ROM Area is carried out for "Action". When check box of Boot ROM Area does not contain a checkmark, Boot ROM Area is not carried out for "Action".
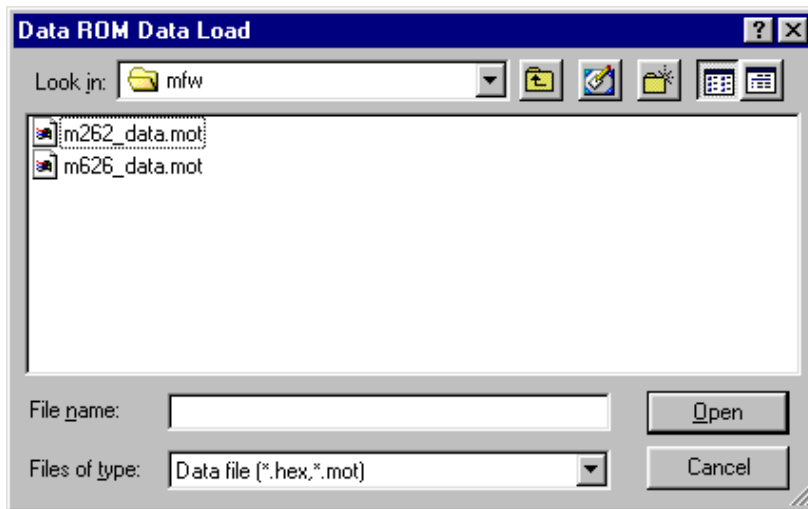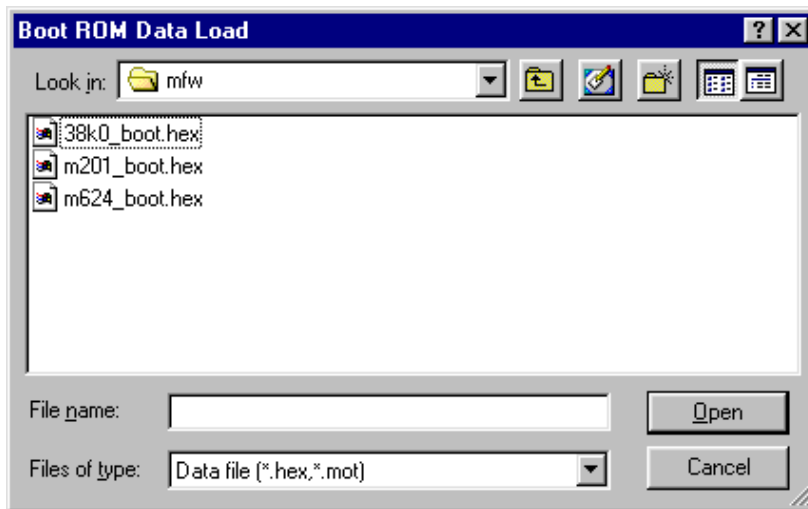
Checksum Display

   Value of checksum for the entire Boot ROM Area is to be displayed when data is loaded to the Boot ROM Area.   The calculation of checksum is the last 2-byte bottom line of data that is added per 1-byte.   The address data that is not existed at the file is to be calculated as "OFFH".

10) Data Load to the Boot Loader

    A file list is displayed and a Renesas Electronics Standard Boot Program File (extension: .btp) load to the Boot Loader can be executed by clicking the Load button.
Note: A file with ".btp" extension is a Motorola S Format file.
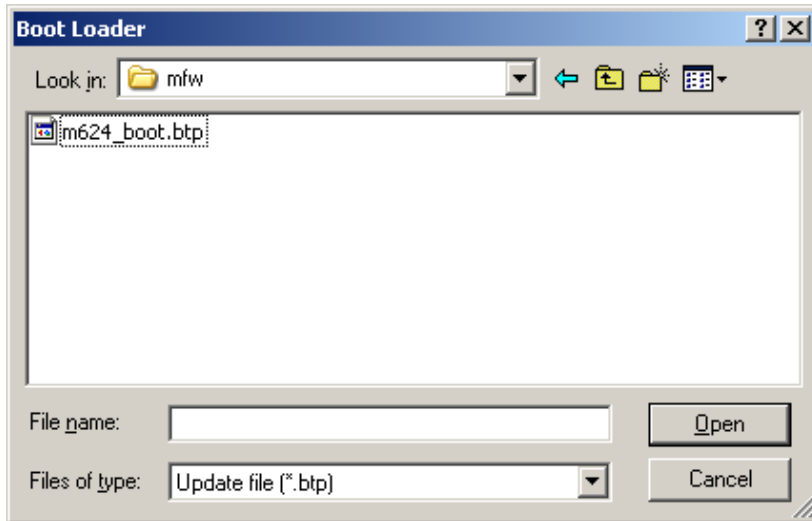
A check mark is indicated to the check box and a loaded file name is displayed when data load is successful.

Boot Program Downloading Function (Boot Loader)

    The latest Boot Program can be downloaded to the RAM area of a device by setting the Renesas Electronics Standard Boot Program File (extension: .btp) to the Boot loader. This function is only applicable to programs stored at the Boot ROM Area but not for the User Boot Programs at the User ROM Area.

  Area Set Function

When check box of Boot Loader contains a checkmark, Boot Program is downloaded to the RAM area of a device. When check box of Boot ROM Area does not contain a checkmark, Boot Program is not downloaded to the RAM area of a device.

11) Data Load to the ROM2 Area

A file list is displayed and data load to the ROM2 Area (work memory) can be executed by clicking the Load button. It can load only the file with ".hex" and ".mot" extension.
Note: Padding is achieved to the entire ROM2 Area by 0FFH before data is loaded.
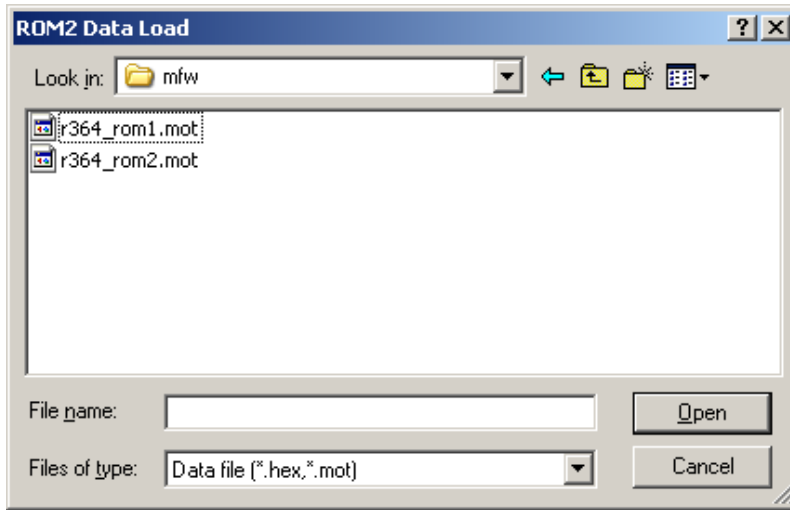
A check mark is indicated to the check box and a loaded file name is displayed when data load is successful.

Area Set Function

When check box of ROM2 Area contains a checkmark, ROM2 Area is carried out for "Action". When check box of ROM2 Area does not contain a checkmark, ROM2 Area is not carried out for "Action".

Checksum Display

Value of checksum for the entire Program ROM2 Area is to be displayed when data is loaded to the ROM2 Area. The calculation of checksum is the last 2-byte bottom line of data that is added per 1-byte. The address data that is not existed at the file is to be calculated as "0FFH".

12) Data Load to the ROM1 Area

    A file list is displayed and data load to the ROM1 Area (work memory) can be executed by clicking the Load button. It can load only the file with ".hex" and ".mot" extension.
Note: Padding is achieved to the entire ROM1 Area by OFFH before data is loaded.
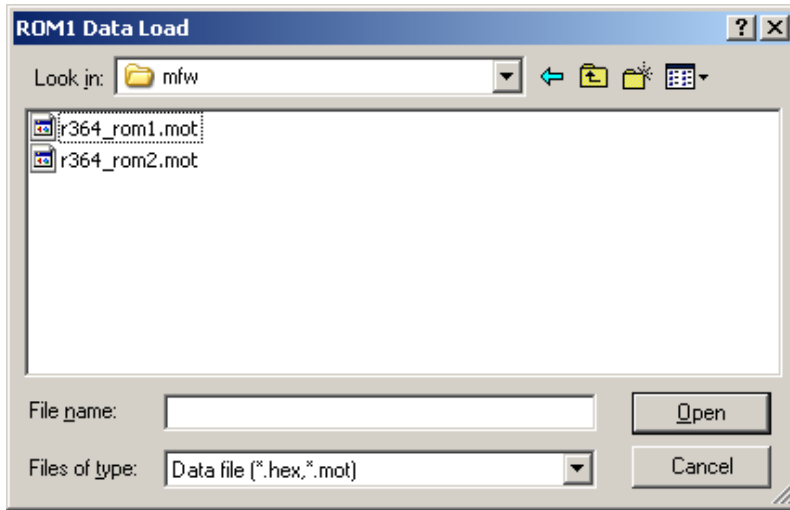
A check mark is indicated to the check box and a loaded file name is displayed when data load is successful. ID number is displayed to the ID field when the operation is a serial I/O mode.

ROM Code Protect Check Function

    The following messages are displayed when the ROM code protection that is to protect ROM code reading from a device is set when loading data to the ROM1 area. Click the OK button to execute loading or Cancel button to cancel the operation.

Level 1 enabled: ROM code protection is set to level 1
Level 2 enabled: ROM code protection is set to level 2
Enabled: ROM code protection is set
Removed: ROM code protection is released

Area Set Function

When check box of ROM1 Area contains a checkmark, ROM1 Area is carried out for "Action". When check box of ROM1 Area does not contain a checkmark, ROM1 Area is not carried out for "Action".

Checksum Display

Value of checksum for the entire Program ROM1 Area is to be displayed when data is loaded to the ROM1 Area.　The calculation of checksum is the last 2-byte bottom line of data that is added per 1-byte.　The address data that is not existed at the file is to be calculated as "OFFH".

13) ID Setting "Set ID"

ID setting for verification of a device ID can be defined.
The setting should be specified in a hexadecimal form. (See the following dialog.)
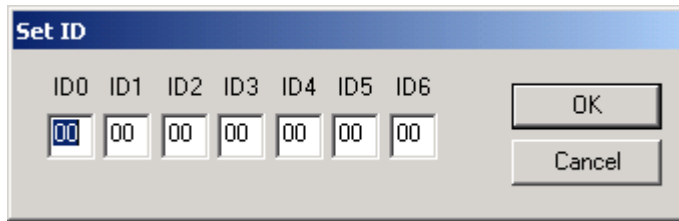
Specification of A to F is case-independence.

* ID of loaded data is displayed when data is loaded to the User ROM Area.

14) Operation Block Setting [Advanced Settings]

Operation Block	Blocks that are available for an operation for each ROM area will be displayed. (When all blocks are available, "All" will be displayed.)
Lock Bit Block	The state of lock bit block settings for each blocks of a device will be displayed. ("NoChange" or "SetLockBits")

These can be set in the Block Setting of the "Set Blocks…"

15) Blocks Setting [Set Blocks...]

Operation such as programming a device as a block is available.
Setting lock bits in order to avoid having programmed data deleted or rewritten is also available. If you click the [Set Blocks], the following dialog will be displayed and advanced setting will become available.

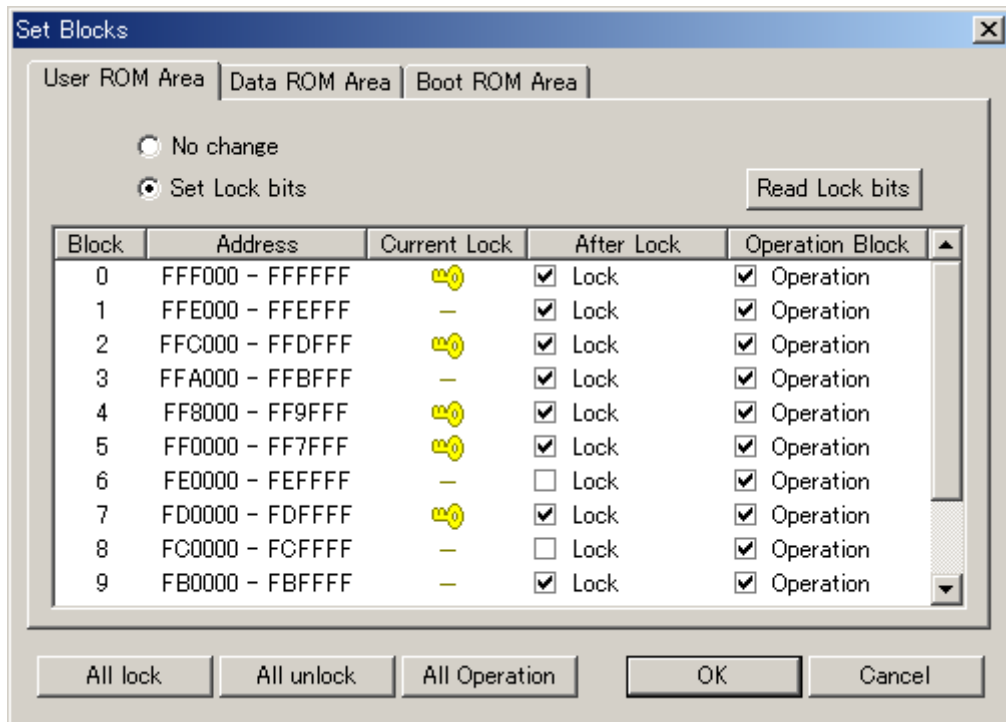| Item	Description
Block	[Block Number] Block numbers are different depending on the device.
Address	[Address of Each Block] Addresses responding to each block are listed.
Current Lock	[Current State of Lock bits] 🔒: Locked —: Unlocked
After Lock	[Selecting Blocks to be Locked After Executing a Command] Locks blocks which are checked.
Operation Block	[Selecting Blocks for Operation] Executes a command targeting the blocks which are checked.

No change, Set lock bits: If you check "No change", the current lock state that is programmed in a device will remain.
     If you check "Set lock bits", you can set a new lock state at "AfterLock".

Read Lock bits: If you click the [Read Lock bits] button, the current lock bit setting will be loaded.

All lock, All unlock: Clicking [All lock] is to select all items for After Lock.
     Clicking [All unlock] is to cancel all items of After Lock.

All Operation: Clicking [All Operation] is to select all items for Operation Block

OK: Makes the setting effective and closes the dialog

Cancel: Cancels the setting and closes the dialog

16) Protect Setting [Set Protect...]

Setting protects in order to avoid having programmed data deleted or rewritten is also available. If you click the [Set Protect], the following dialog will be displayed and advanced setting will become available.
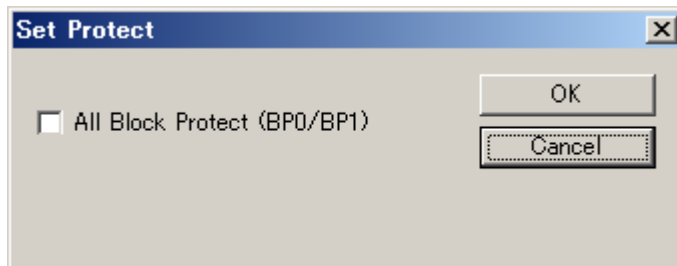

17) Execution [Action]

The following 6 types of actions to a desired block of a device are available to be executed.

Era/Pro/Ver:	Executes erase, program, and verify check functions in order.
Blank:	Executes blank check function.
Erase:	Executes erase function.
Era/Pro:	Executes erase and program functions in order.
Verify:	Executes verify check function.
Bla/Pro/Ver:	Executes blank, program, and verify check functions in order.
Read:	Data of #1 device is loaded to the memory of the S550-MFW1U/MFW-1 unit.

Select one of the above actions then click the [Start] button to start execution.
Result of action is displayed at the result fields [#1] to [#8]. (Device # is assigned from the closest to the S550-MFW1U/MFW-1 unit as #1, #2, … #8.   Only #1 is available when serial I/O more.)

Pass:	Action completed successfully
Contact Err:	Contact check error
	Available when only the parallel I/O mode is selected. There are some pins such as Vcc, GND, and mode set pins that are not applicable to be contact checked. In this case, other than contact error may be issued for actual contact error.
Program Err:	Program error
Erase Err:	Erase error
Blank Err:	Blank error
Read Err:	Read error
Verify Err:	Verification error
ID Err:	ID verification error
	Available when only the serial I/O mode is selected.
No Device	When no device is connected to a parallel adapter in parallel mode.
Device Err:	Device error
	Error is issued when the code protection is ON under the parallel I/O mode, and when device isn't serial I/O mode under the serial I/O mode.
Load Err:	Download error
	Available when only the serial I/O mode is selected.
RY/BY Err:	RY/BY error
	Available when only the parallel I/O mode is selected.

NOTE

Memory contents are checked when data to be programmed is loaded from the S550-MFW1U/MFW-1 internal memory to the S550-MFW1U/MFW-1 CPU. The following error message is displayed and beep sound is issued when the data is damaged. Click the [OK] button to release an error and reload data from PC to the S550-MFW1U/MFW-1 unit.
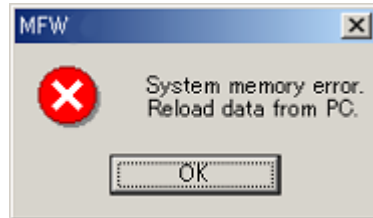
•Pass/Fail/Contact Error counter

18) Pass/Fail/ContErr counter [Pass/Fail/ContErr counter]

When the result of execution indicates Pass, the executed Pass counter is counted up. In the case of all errors except Contact Error, the executed Fail counter is counted up. Other than Pass, the executed Contact Error counter is counted up. (Counting is available up to 100 times.)
If you press the Counter Clear button, a counter clear confirmation dialog is displayed. Then, if you select [Yes], all the Pass/Fail/Cont Err counters become "0", and if you select [No], Clear is not executed.
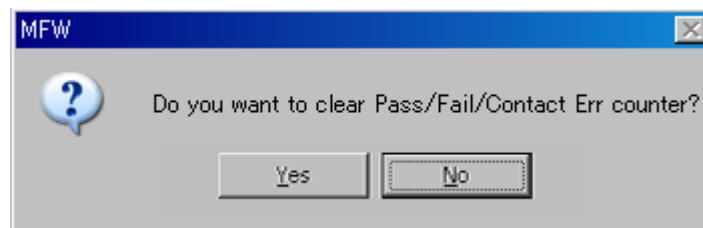
Additionally, the Pass/Fail/Cont Err counter becomes "0" when the control program is started.

19) Take Out Function [Take Out]

"Take Out" label is displayed when using "Take Out" function.

- After programming (Era/Pro/Ver, etc), "Start" button on the main screen becomes invalid.
- After programming, the main body of <<MFW>> confirms whether all the devices of the parallel adapters are taken out by the contact check.
- When all the devices of the parallel adapters are taken out, "Pass/Fail" result on the main screen will be erased and "Pass/Fail" LED on the parallel adapters will be turning off, and "Start" button on the main screen becomes effective.

However, the "Take out" function can not be used with the serial mode or the following types.

- o M30218FCFP
- o M38C29FFFP
- o M38C29FFHP
- o M38C29FFAFP
- o M38C29FFAHP

4.3 Menu Bar

4.3.1 Project Menu

The contents of setting data that is to be programmed to a device can be saved (Save) and loaded (Open) as project files in order to avoid human errors or without effort of reset.

1) New (Ctrl+N)
If you click [New] in the [Project] menu, setting data will be cleared and initialized.

2) Open (Ctrl+O)
A file list of project files can be viewed by clicking the [Open] button at the [Project] menu. The extension of project files is (.MFP).

* Data that is defined by the S550-MFW1U/MFW-1 such as device type, data files, Operation Block, Lock Bit, and so on are formatted to the project file.

3) Save as... (Ctrl+S)
A file list of project files can be saved by clicking the [Save] button at the [Project] menu. Extension of project file, (.MFP) can be omitted. (The value of the Pass/Fail counter can not be saved.)

4) Exit (Alt+F4)
Terminates the control program. Termination should be achieved when detaching the S550-MFW1U/MFW-1 from PC or turning the power of the S550-MFW1U/MFW-1.

* Termination is required to write data that has been defined by PC to the memory of the S550-MFW1U/MFW-1. This data is never deleted when the power is OFF since data is stored to the memory of the S550-MFW1U/MFW-1.

4.3.2 Edit Menu

Loaded data to the User ROM Area,the Data ROM Area,the Boot ROM Area,the ROM1 Area and the ROM2 Area can by viewed and updated at the Edit Menu.
* When data is loaded from device (when [Action]-[Read] operation is processed):
The first edit function after loading data from device can only be achieved by the PC. (To match the contents of the work memory of the PC and the S550-MFW1U/MFW-1 memory.)

1) User ROM Area

The edit dialog box of the User ROM Area is displayed.   Data display, update, deletion of specific data, and data save to file can be achieved.

2) Data ROM Area

The edit dialog box of the Data ROM Area is displayed.   Data display, update, deletion of specific data, and data save to file can be achieved.

3) Boot ROM Area

The edit dialog box of the Boot ROM Area is displayed. Data display, update, deletion of specific data, and data save to file can be achieved.

4) ROM2 Area

The edit dialog box of the ROM2 Area is displayed. Data display, update, deletion of specific data, and data save to file can be achieved.

5) ROM1 Area

The edit dialog box of the ROM1 Area is displayed. Data display, update, deletion of specific data, and data save to file can be achieved.
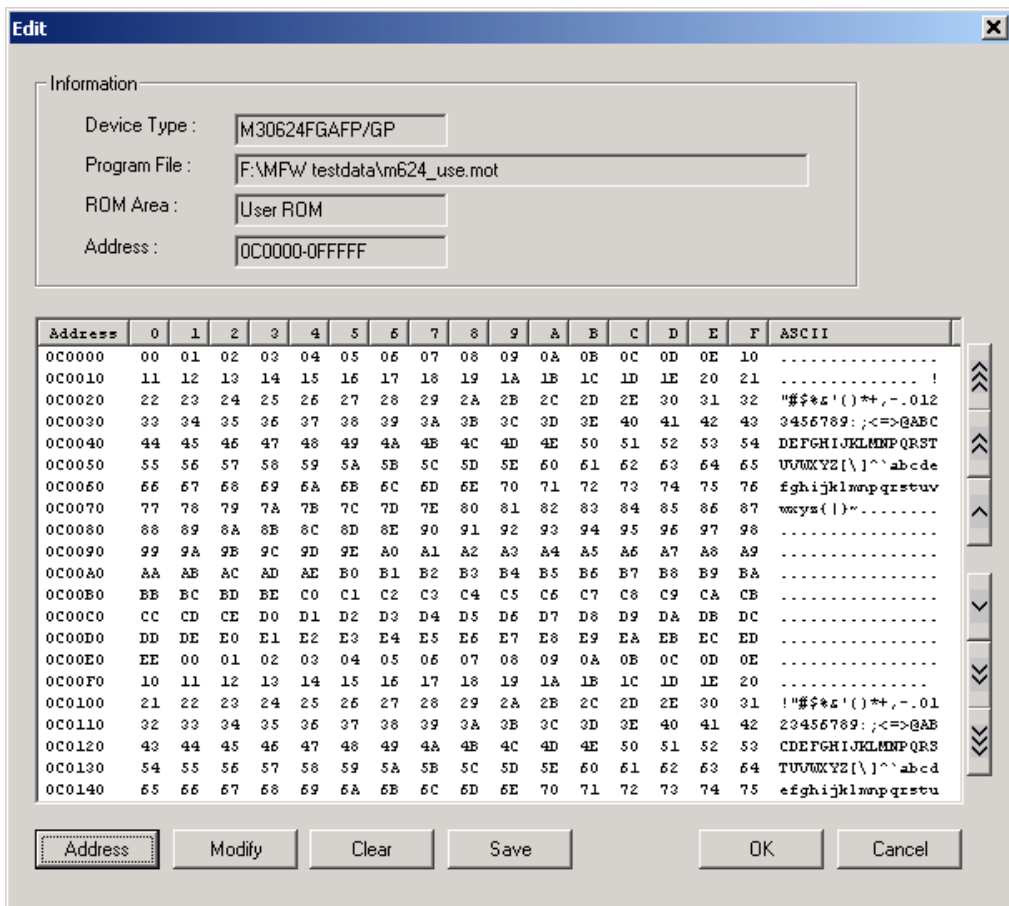
Memory dump addresses can be switched to jump to a desired address by clicking arrow buttons. Up-arrows reverse address numbers and down-arrows forward addresses. One-arrow buttons jump by ±100H, double-arrow buttons for ±1000H, and triple-arrow buttons for ±10000H.

[Address] Button

An address number that is to be dumped can be specified directly at the screen shown below by clicking the [Address] button.

[Modify] Button

Data that is corresponding to a specified address can be updated at the screen shown below by clicking the [Modify] button.

[Clear] Button

Data values can be changed to those that specify all the specified block areas by clicking the [Clear] button at the screen shown below.
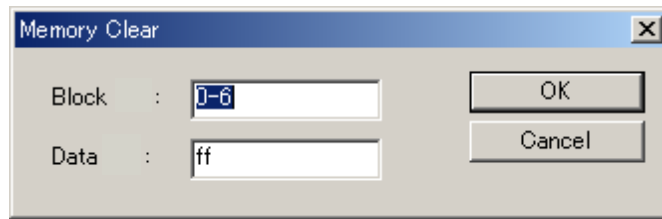
[Save] Button

Memory contents can be saved to files at the screen shown below by clicking the [Save] button.　Both of the Intel HEX Format (.HEX) and the Motorola S Format (.MOT) file types are available by selecting the extension.
Range of data to be saved can be specified by hexadecimal at the [Save Address] entry field. Data of the entire area is to be saved when no specification is entered.

Ex.)　c0000-dffff　　　　　　:Range of　C0000 - DFFFF is to be saved.
　　　c0000-cffff,ff000-fffff　　:Range of　C0000 - CFFFF and ff000 - fffff are to be saved.
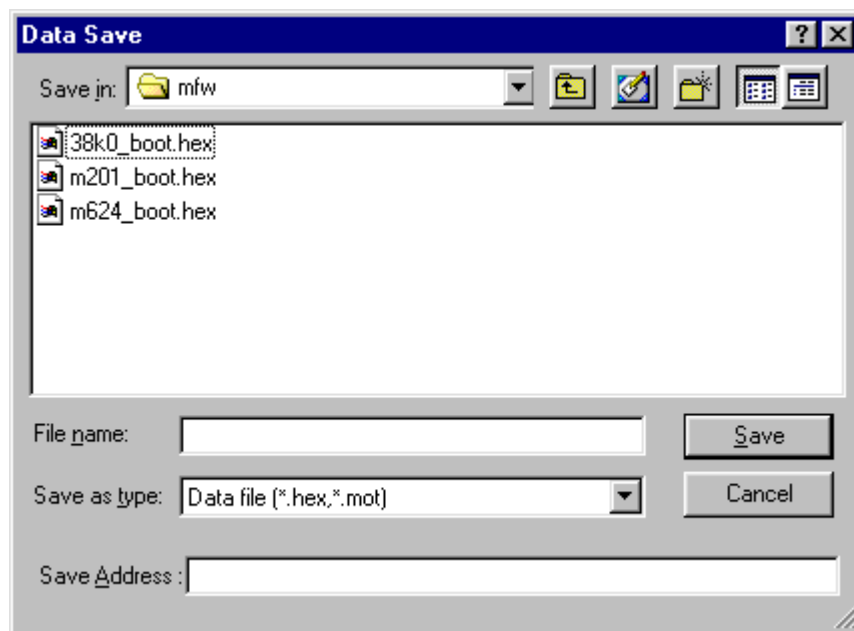
[OK] and [Cancel] Buttons

Exiting from the Edit Screen is available by clicking the [OK] or [Cancel] button.
Click the [OK] button after data update by the [Modify] or [Clear] to validate update.　Click the [Cancel] button when cancellation of update is desired.

* Memory operation by the Edit Screen is achieved to the memory area of PC to lessen transmission time of data.　Updated memory of PC is to be loaded to the S550-MFW1U/MFW-1 memory by clicking the [OK] button.

4.3.3 Option

1) Buzzer volume

The buzzer tone of the MFW can be changed.
Large : Buzzer volume Large
Small : Buzzer volume Small

2) Calculate Check Sum

The Check Sum Calculation screen starts by selecting each ROM Area (User ROM Area etc.) in Calculate Check Sum, and the checksum value of the specified area can be displayed.

* Only ROM Area from which the file has been selected can be selected.
* When data is loaded from device (when [Action]-[Read] operation is processed):
   The first Calculate Check Sum function after loading data from device can only be achieved by the PC. (To match the contents of the work memory of the PC and the S550-MFW1U/MFW-1 memory.)
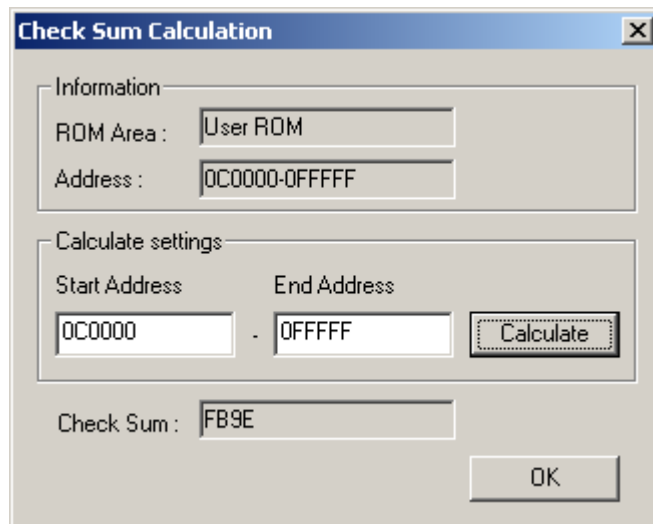
① [Calculate] button

Click [Calculate] button and the checksum of the specified address area will be displayed.

② [OK] button

Click [OK] button and the Check Sum Calculation screen will be closed.

3) Check Device Take Out

"Take Out" function can be set effectively or invalidly.

4.3.4 Help

1) About MFW

Versions of the control program and the firmware of the S550-MFW1U/MFW-1 unit can be viewed.
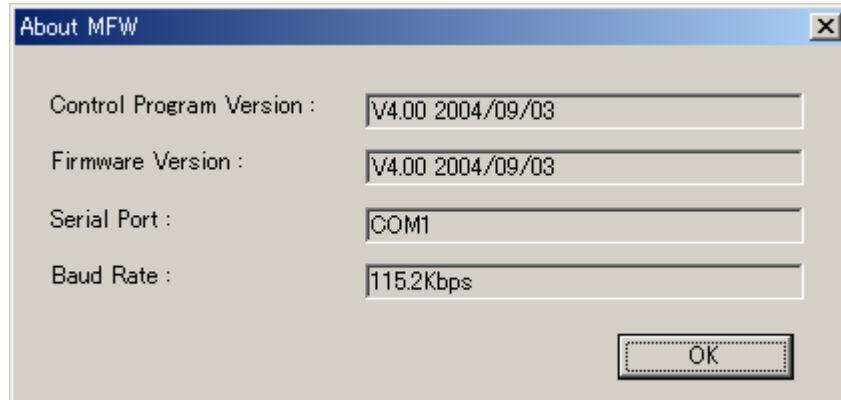
- Control Program Version

    A version of the control program is displayed.

- Firmware Version

    A version of the writing control program to attached device(s) to the S550-MFW1U/MFW-1 is displayed.

- Serial Port(Serial Mode)

    A serial port number that is needed for communication between the control program and the S550-MFW1U/MFW-1 is displayed. (A defined serial port number to the System Configurations beforehand is displayed.)

- Baud Rate(Serial Mode)

    A transmission rate for communication between the control program and the S550-MFW1U/MFW-1 is displayed. (A defined Baud Rate to the System Configurations beforehand is displayed.)

4.4 Format of Log Files

4.4.1 Ordinary Log

The image of the log is as follows.

```
<< About MFW >>
  1  Control Program Version : V8.23 2010/11/01
     Firmware Version : V8.10 2010/11/01

2  ========== <<Check Device Take Out>> ==========
<< Note >>
  3  test
<< Device >>
  4  Maker : Renesas
     MCU : M16C/60
     Type : R5F363AENFA/NFB
     Programing Mode : Parallel Mode
     Vcc : 5V
     Vpp : 5V
<< Setting >>
  5  [User Rom]
     Program File : C:¥Program Files¥MFW Control Software¥use.mot
     Checksum : FA32
     Lock Bit Block : Unlock
     Operation Block : All

     [Data ROM]
     Program File : C:¥Program Files¥MFW Control Software¥data.mot
     Checksum : C683
     Lock Bit Block : Unlock
     Operation Block : All

     [Boot Rom]
     Program File : C:¥Program Files¥MFW Control Software¥boot.mot
     Checksum : B086
     Lock Bit Block : Unlock
     Operation Block : All

     ROM Code Protect : Removed
     ID Code : 05,09,12,16,1A,1E,23
<< Action >>
  6  Action Mode : Era/Pro/Ver
<< Result >>
  7  Start Time : 2010/06/01 13:29:39
     End Time : 2010/06/01 13:30:01
     #1        #2        #3        #4        #5        #6        #7        #8
     Pass
<< Result >>
  7  Start Time : 2010/06/01 13:30:04
     End Time : 2010/06/01 13:30:25
     #1        #2        #3        #4        #5        #6        #7        #8
     Pass
<< Pass/Fail Counter >>
  8         Era/Pro/Ver   Blank    Erase    Era/Pro   Verify   Bla/Pro/Ver   Read
     Pass :      2          0        0         0        0          0          0
     Fail :      0          0        0         0        0          0          0
     ContErr :   0          0        0         0        0          0          0
```

No	Item	Explanation
1	<< About MFW >>	Output the present software version.
2	===<<Check Device Take Out>>===	Output the setting information of "Take Out" function. (Note 1)
3	<< Note >>	Output the letters set on the "Note" box of the main screen.
4	<< Device >>	Output the selected device information.
5	<< Setting >>	Output the selected programming area (User ROM Area, etc) information. (Note 2)
6	<< Action >>	Output the selected action information.
7	<< Result >>	Output the results of programming. (Note 3)
8	<< Pass/Fail Counter >>	Output the counter information. (Note 4)

Note1: It is output in the parallel mode. There are the following two kinds of logs by the "Take Out" function use or not.
    1) When using "Take Out" function, the log is as follows.
        ========== <<Check Device Take Out>> ==========
    2) When not using "Take Out" function, the log is as follows.
        ========== <<Uncheck Device Take Out>> ==========
  Moreover, the above-mentioned log is output as follows.
- The log of kind 1 is output when executing it with using "Take Out" function at the first time. The log of kind 2 is output when unexecuting it with not using "Take Out" function.
- The log of kind 1 is output when executing it in the changed state from not using "Take Out" function to using "Take Out" function.
- The log of kind 2 is output when executing it in the changed state from using "Take Out" function to not using "Take Out" function.

Note2: It is output when the programming area is not selected or does not exist.

Note3: When device information, programming information and action information are not changed, the programming results are continuously output.

Note4: Counter information is inherited even if the device is changed. Counter information is output when exiting the main screen. However, it is output when the counter is cleared. Moreover, when exiting the main screen, counter information after the counter is cleared is output. Please refer to "4.4.3 Counter Clear".

4.4.2 Setting Change Log

The image of the log is as follows.

```
      ·
      ·
      ·
1   ========== << Edit(User ROM Area) >> Change   ==========

2   ========== << Note >> Change   ==========
    << Note >>
        test2

3   ========== << Device >> Change   ==========
    ========== << Setting >> Change   ==========
    ========== << Action >> Change   ==========
    << Device >>
        Maker : Renesas
        MCU : M16C/60
        Type : R5F363AEDFA/DFB
        Programing Mode : Parallel Mode
        Vcc : 5V
        Vpp : 5V
    << Setting >>
         [User Rom]
        Program File : C:¥Program Files¥MFW Control Software¥use.mot
        Checksum : 0000
        Lock Bit Block : Unlock
        Operation Block : All

        ROM Code Protect : Removed
        ID Code : FF,FF,FF,FF,FF,FF,FF
    << Action >>
        Action Mode : Era/Pro
    << Result >>
        Start Time : 2010/06/01 13:30:04
        End Time : 2010/06/01 13:30:25
        #1          #2          #3          #4          #5          #6          #7          #8
        Pass
        ·
        ·
```

No	Item	Explanation
1	<< Edit(*** Area) >> Change	Output the change information of corresponding ROM Area when editing. *User ROM, Data ROM, Boot ROM, ROM1 or ROM2 are entered in the [***].
2	<< Note >> Change	Output when the letters on the "Note" box are changed.
3(Note 1, 2)	<< Device >> Change	Output when the information of selected device is changed.
	<< Setting >> Change	Output when the information of selected programming area (User ROM Area, etc) is changed.
	<< Action >> Change	Output when the action information is changed.

Note1: When only one of information is changed in device information, programming area information and action information, only corresponding change information is output. Moreover, when two or more information are changed, the change information is output in a line. However, even if one change, all information of the <<Device>>, <<Setting>> and <<Action>> is output.

Note2: When edit is changed, "<<Setting>> Change" will be output if it is not the first programming.

4.4.3 Counter Clear Log

The image of the log is as follows.

```
       ·
       ·
       ·
========== << Pass/Fail Counter >> Clear ==========
<< Pass/Fail Counter >>
              Era/Pro/Ver    Blank      Erase      Era/Pro    Verify     Bla/Pro/Ver    Read
    Pass :    3              3          3          0          0          0              0
    Fail :    0              0          0          0          0          0              0
    ContErr : 0              0          0          0          0          0              0
       ·
       ·
       ·
```

Item	Explanation
<< Pass/Fail Counter >> Clear	When the counter is cleared, it is output with counter information at that time.

4.4.4 Cancel Log

The image of the log is as follows.

```
       ·
       ·
       ·
<< Action >>
    Action Mode : Era/Pro
<< Result >>
    Start Time : 2010/06/01 14:10:14
    ** Cancel **
       ·
       ·
       ·
```

Item	Explanation
** Cancel **	Output when programming is cancelled.

4.4.5 Error Log

- Communication Error

  The image of the log is as follows.

```
        .
        .
        .
<< Action >>
    Action Mode : Era/Pro
<< Result >>
    Start Time : 2010/06/01 14:10:14
    End Time : 2010/06/01 14:10:27
    #1          #2          #3          #4          #5          #6          #7          #8
    Pass
    << Pass/Fail Counter >>
                Era/Pro/Ver   Blank      Erase       Era/Pro     Verify      Bla/Pro/Ver   Read
    Pass :      0             0          0           1           0           0             0
    Fail :      0             0          0           0           0           0             0
    ContErr :   0             0          0           0           0           0             0
        ** Communication error between MFW. **
```

Item	Explanation
** Communication error between MFW. **	Output when error occurs. *Counter information is output when exiting the main screen in the state of occurring communication error.

- USB Error

  The image of the log is as follows.

```
        .
        .
        .
<< Action >>
    Action Mode : Era/Pro
<< Result >>
    Start Time : 2010/06/01 14:10:14
    End Time : 2010/06/01 14:10:27
    #1          #2          #3          #4          #5          #6          #7          #8
    Pass
        ** USB removed! Exit program. **
```

Item	Explanation
** USB removed! Exit program. **	Output when USB fell out. *Counter information is not output when USB fell out.

- Memory Error

    The image of the log is as follows.

```
    .
    .
    .
<< Action >>
     Action Mode : Era/Pro
<< Result >>
     Start Time : 2010/06/01 14:10:14
        ** System memory error. **
```
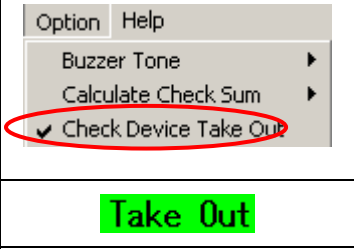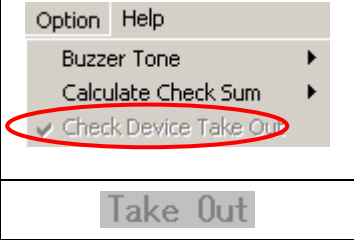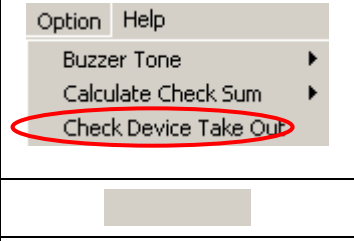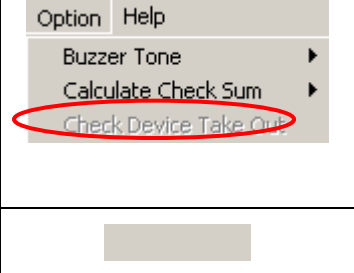
Item	Explanation
** System memory error. **	Output when memory error occurs in the main body of <<MFW>>.

4.5 Operation Procedure of "Take Out" Function

   1) GUI Setting

When the [Option] – [Check Device Take Out] of the menu is checked, the "Take Out" function becomes effective. Moreover, when the "Take Out" function is effective, a green label of "Take Out" will be displayed on the "Start" button of the main screen.
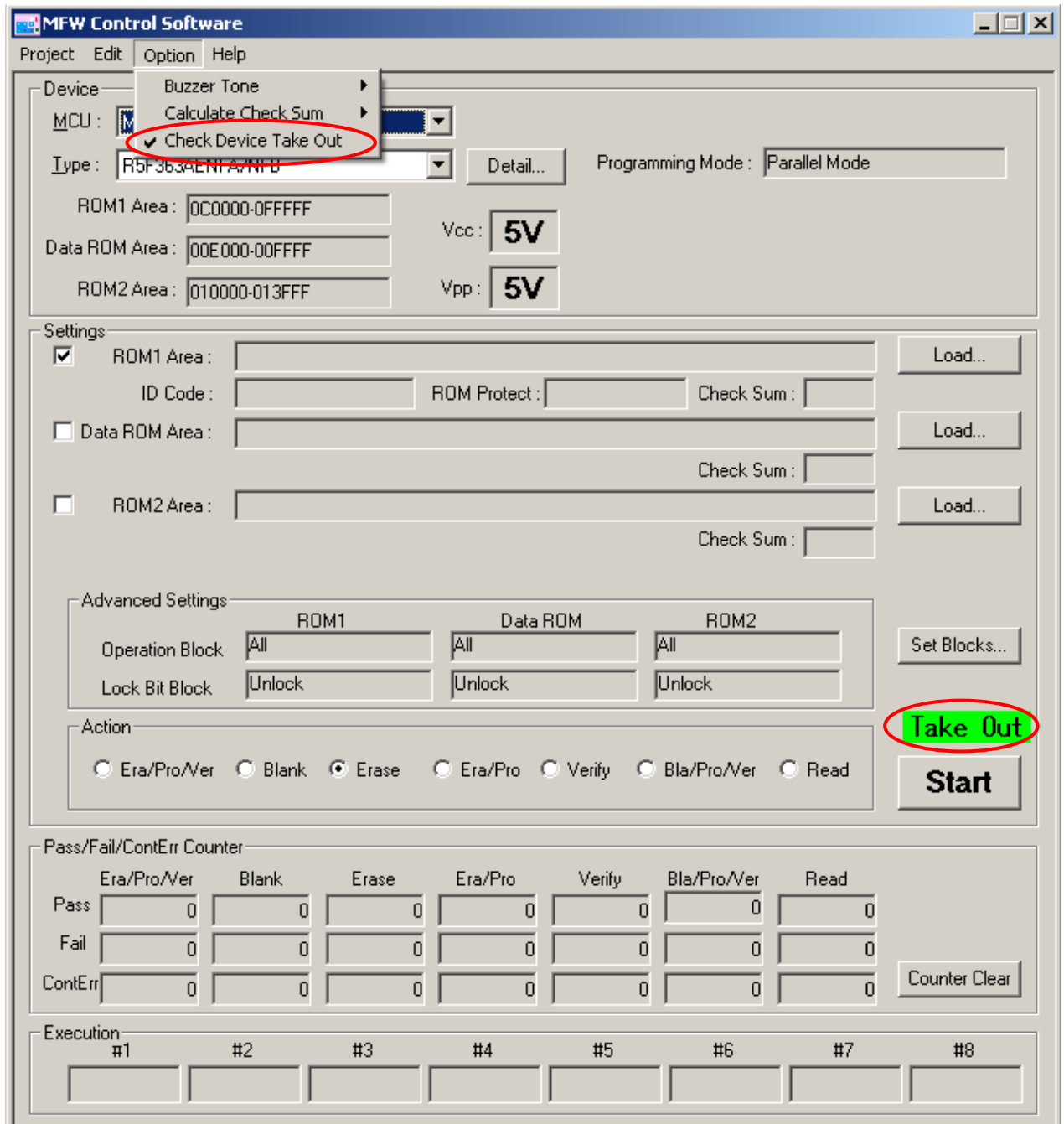
Display	Explanation
Option Help Buzzer Tone ▶ Calculate Check Sum ▶ ✔ Check Device Take Out **Take Out**	When select the device supported "Take Out" function and "Check Device Take Out" of the menu is checked. (When using "Take Out" function)
Option Help Buzzer Tone ▶ Calculate Check Sum ▶ ✔ Check Device Take Out Take Out	When select the device not supported "Take Out" function and "Check Device Take Out" of the menu is checked. (When not using "Take Out" function)
Option Help Buzzer Tone ▶ Calculate Check Sum ▶ Check Device Take Out	When select the device supported "Take Out" function and "Check Device Take Out" of the menu is unchecked. (When not using "Take Out" function)
Option Help Buzzer Tone ▶ Calculate Check Sum ▶ Check Device Take Out	When select the device not supported "Take Out" function and "Check Device Take Out" of the menu is unchecked. (When not using "Take Out" function)

2) Execution

Execute by clicking the "Start" button. After programming, the "Start" button becomes invalid. However, it does not become invalid in the following cases.
- When there is "Contact Error" in the programming results
- When all of the programming results are "IDLE (as there is no parallel adapter)" or "No Device (devices that have not been put into parallel adapter).

3) Take Out

The "Start" button becomes effective and the programming result is deleted if all devices are taken out.
* The completion of the device is taken out cannot be judged when a new device is put before all devices are taken out in the gang programming. Please put a new device after taking out all devices. When executing continuously, repeat the operation of 2) and 3).

4) Others

The "Start" button becomes effective by removing the "Take Out" setting. There are two methods to remove "Take Out" setting.
- Uncheck the 【Option】-【Check Device Take Out】 of the menu.
- Click the 【Project】-【New】 of the menu. The "Take Out" function becomes invalid when the main body is initialized.

5 Error Messages

| Error Messages	Error Causes	Solutions
MFW already started	Duplex activation of the control program has been achieved.	Avail currently running control program.
Device definition file 'mfw1type.tbl' not found	Device definition file is not existed.	Copy "mfw1type.tbl" file to the same directory of the control program.
Device definition file 'mfw1type.tbl' format error	Format of device definition file is wrong.	Copy "mfw1type.tbl" file from an attached CD-ROM to the same directory the control program is existed again.
Settings not loaded	"Read settings of MFW mode" has been executed without settings.	Activate under the "Clear settings of MFW mode".
File format error	Contents of the project file is damaged.	Retry the project file saving.
File data is different	Data difference is found between displayed file data and data stored at the S550-MFW1U/MFW-1 unit.	Reload file data.
File open error	Access of displayed file is failed.	Reload file data.
Invalid block number	Invalid block number has been entered.	Enter valid block number.
Invalid ID number	Invalid ID code has been entered.	Enter valid ID code.
Invalid address	Invalid address has been entered.	Enter valid address.
Invalid data	Invalid data has been specified.	Specify valid data.
Invalid address contained	To be loaded data file contains invalid address.	Specify proper data file against device.
ROM area not specified	To be loaded ROM area has not been specified.	Specify ROM area.
COMn cannot be used	Serial port "COMn" cannot be used.	Use the other port.
Communication error between MFW	Communication error between the S550-MFW1U/MFW-1 has been occurred.	Make sure the PC connection cable is attached. *1
System memory error. Reload data from PC.	Irregular memory contents found at the S550-MFW1U/MFW-1 unit.	Reload write data.
Device definition file 'usertype.tbl' not found	Flash memory external device definition file is not existed.	Activate the control program at the program writable directory.
Device definition file 'usertype.tbl' format error	Format of the flash memory external device definition file is wrong.	Delete "usertype.tbl" then activate the control program.
Firmware Version is different	Version difference between the control program and the S550-MFW1U/MFW-1 unit is found.	Upgrade the S550-MFW1U/MFW-1 unit to match to the control program.
Invalid input data	Inappropriate data is entered at the Block Set Screen.	Re-enter the appropriate data.

The file of ROM area is not selected. Does it continue as it is?	The file of ROM area is not selected. Does it continue as it is?	Select [Yes] for programming, and [No] for cancellation.
Do you want to clear Pass/Fail counter?	Do you want to clear Pass/Fail counter?	Select [yes] for Clear, and [No] for cancellation.
Do you want to Initialize?	Would you like to update the firmware?	If you want to update, select [Yes], and if not, select [No].
Would you like to update firmware?	Would you like to update the firmware?	If you want to update, select [Yes], and if not, select [No].
Invalid log save directory.	The selected directory for the action log doesn't exist.	Re-select the directory.
There is not enough space in the selected directory to write an action log.	There is not enough space in the selected directory to write an action log.	Ensure sufficient space.
There is the same name action log file. Rename or Overwrite?	The action log file will be overwritten.	Click "Yes" button if you don't want to overwrite.
The label is invalid.	Input prohibition letters to the "Label" box.	Do not input prohibition letters. (/ : * ? " < > |).
This Device cannot use 'Check Device Take Out' function.	Select the device not supported "Take Out" function from the state of selecting the device supported "Take Out" function and checking the "Check Device Take Out" of the menu.	

*1 Make sure the PC connection cable is completely attached then click the [OK] button release an error. Reactivate the control program and the S550-MFW1U/MFW-1 if an error is not released yet. (This communication error may be displayed repeatedly by the control program unless reactivation is not achieved.)

6 Updating Firmware

A version of the firmware of the main unit of S550-MFW1U/MFW-1 will be checked automatically after executing configuration at the System Configuration Setting (and clicking the [OK] button).
If the version is not supported by the current MFW Control Software, the firmware will be automatically updated.

---
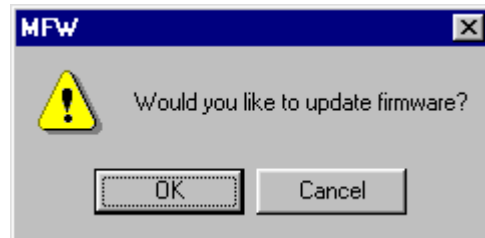
*If you turn on the Power switch while pressing the START switch, the main unit of
S550-MFW1U/MFW-1 will achieve waiting state (with only "Pass" lighted) for
updating firmware.
While it is in the waiting state, updating from the control program will be available.
If the control program does not operate properly (or updating failed) or the version of
the firmware is older than Ver.3.00, please use this method.
*If you want to update firmware in the main unit of S550-MFW1U/MFW-1
of a serial connecting type, change the Load/Write switch, following message dialogs.

---

7 Note

- It cannot save log file when there is not enough space or the selected directory is not found. The "Logging" button and the "Note" box are hidden when log file cannot be saved.
- The setting information of "Take Out" function is written on the log, but the state of extraction is not written.
- In the stand-alone (PC not connected) mode, even if the "Take Out" function is effective, the "Start" switch on the main body is effective. In addition, In the remote control (PC connected) mode, the "Start" switch on the main body is invalid.

Revision History

Version	Contents for change	Revision date
Rev.A	"4.3.3 Option" has been added.	Sep.03.2004
Rev.B	"RY/BY Err" is added to the execution result of "4.2 Main Programming Screens".	Nov.05.2004
Rev.C	"Bla/Pro/Ver" is added to "4.2 Main Programming Screens". "No Device" is added to "4.2 Main Programming Screens".	Jan.20.2006
Rcv.D	"Set Protect" is added to "4.2 Main Programming Screens".	Oct.12.2006
Rev.E	"Cont Err counter" is added to "4.2 Main Programming Screens" "Contact Error " is added to "12)Pass/Fail/Contact Error counter"	Nov.08.2006
Rev.F	"4.2 Main Programming Screens" "UART " is deleted from "2) Serial Mode Setting","3) Baud Rate Setting".	Jun.26.2007
Rev.G	"4.2 Main Programming Screens" "1) "PROM Area" is Add to "Device Set". "8) Data Load to the PROM Area" is added. "4.3.2 Edit Menu" "PROM Area" is added.	Jul.31.2008
Rev.H	"4.2 Main Programming Screens" 　"5) Data Load to the User ROM Area" 　　"Area Set Function" is added. 　"6) Data Load to the Data ROM Area" 　　"Area Set Function" is added. 　"7) Data Load to the Boot ROM Area" 　　"Area Set Function" is added. 　"8) Data Load to the PROM Area" 　　"Area Set Function" is added.	Dec.19.2008
Rev.I	"4.3.3 Option" 　"2) Calculate Check Sum" is added	Jun.25.2010
Rev.J	PROM2→ROM2 "4.2 Main Programming Screens" "1) "ROM1 Area" is Add to "Device Set". "9) Data Load to the ROM1 Area" is added. "4.3.2 Edit Menu" 　　"ROM1 Area" is added. "4.3.3 Option Menu" "Calculate Check Sum" is added.	Aug.9.2010
Rev.K	"2 Using Environment" ・The headline "2 Using Environment" is changed to 　"2 System Requirements and Limitations". ・"File Format Limitations" and "Limitations when control software ends" 　are added. "4.2 Main Programming Screens" 　"5) Data Load to the User ROM Area" 　　Explanation of file type that can be loaded is added. 　"6) Data Load to the Data ROM Area" 　　Explanation of file type that can be loaded is added. 　"7) Data Load to the Boot ROM Area" 　　Explanation of file type that can be loaded is added. 　"7) Data Load to the Boot ROM Area" 　　Explanation of the Boot Loader is deleted. 　"8)Data Load to the Boot Loader" is added.	Nov.22.2010

	"9) Data Load to the ROM2 Area"
	    Explanation of file type that can be loaded is added.
	"10) Data Load to the ROM1 Area"
	    Explanation of file type that can be loaded is added.	

Rev.L	"4.1 Activation and Termination"
	  "1) Activation "
	    "Action Log" is added.
	"4.2 Main Programming Screens"
	  Screen when using the "Logging" function and the "Take Out" function is added.
	  "2) Programming Mode Setting" is added.
	  "5) Logging Function" is added.
	  "19) Take Out Function" is added.
	"4.4 Format of log files" is added.
	"4.5 Operation procedure of "Take Out" function" is added.
	"5 Error Messages"
	  Error messages are added.
	"7 Note" is added.
		Mar.24.2011

Rev.M	"2 System Requirements and Limitations"
	  "1) System Requirements "
	    "Windows 7(64bit)" is added.
		Jul.25.2011

Rev.N	"Overseas Specifications" "CE mark obtained" is deleted.	Aug.22.2019

Rev.O	"2 System Requirements and Limitations"
	  "1) System Requirements "
	    "Windows 10(64bit)" is added.
		Jan.15.2020

Overseas Specifications
- EMC Directive Compliance: (EMI: EN55011 Group1 Class A, EMS: EN61000-6-2)

- FCC Compliance:
  This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions;
  (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.