

Thank you for purchasing the Flash memory programming software Renesas Flash Programmer (hereafter referred to as RFP).

This document describes specifications that have been added or changed, restrictions, and cautions on using the RFP. Also see the user's manual of the RFP for cautions on using the RFP.

See the following documents for restrictions related to the target device.

- User's manual of target device
- Restriction notification document for target device

Chapter 1 Product Version .....	2
Chapter 2 Additions and Changes to Specifications .....	3
Chapter 3 Restrictions .....	7

## Chapter 1 Product Version

Item No.	RFP Version	Remark
<1>	V1.01.00	
<2>	V1.01.01	
<3>	V1.02.00	
<4>	V1.03.00	
	V1.03.01	
<5>	V2.00.00	
	V2.00.01	
<6>	V2.01.00	
<7>	V2.01.01	
<8>	V2.03.00	

To check the version, perform the following procedure:

- RFP Version: On the menu bar, click **Help**, and then select **Version Information**.

## Chapter 2 Additions and Changes to Specifications

### 2.1 List of additions and changes to specifications

No.	Microcontroller	Additions and Changes to Specifications	Product Version (Item No.)							
			<1>	<2>	<3>	<4>	<5>	<6>	<7>	<8>
1	RL78 78K V850	Addition of Serial interface programming function	x	x	○	○	○	○	○	○
2	RL78 78K V850	Addition of HCUHEX file reading function	x	x	○	○	○	○	○	○
3	RL78 78K V850	Addition of program file size monitoring function	x	x	○	○	○	○	○	○
4	RX	Support of RX family	x	x	x	○	○	○	○	○
5	All	Addition of two types of writing operation windows (basic mode and full mode)	x	x	x	x	○	○	○	○
6	All	Addition of execution of scripts function	x	x	x	x	○	○	○	○
7	All	Addition of embedding of unique codes function	x	x	x	x	○	○	○	○
8	RX	Addition of user boot area options	-	-	-	x	○	○	○	○
9	RL78 78K V850	Addition of reset pin as low function	x	x	x	x	○	○	○	○
10	All	Change of Windows supported	x	x	x	x	x	○	○	○
11	RX	Addition of workspace file moving function	-	-	-	x	x	○	○	○
12	RX200	Addition of programming through the FINE pin	-	-	-	-	-	○	○	○
13	RX100	Addition of programming through the FINE pin	-	-	-	-	-	-	○	○
14	RX	Addition of file merging function	x	x	x	x	x	x	x	○
15	RX	Addition of ID code saving function	x	x	x	x	x	x	x	○
16	RX	Deletion of connect option for lock bits	-	-	-	x	x	x	x	○
17	RX100 RX200	Addition of mode pin setting on disconnection of FINE	-	-	-	-	-	x	x	○

-: Not relevant, x: Specification change not implemented, ○: Specification change implemented

## 2.2 Details of additions and changes to specifications

### No. 1 Addition of Serial interface programming function

**Microcontroller:** RL78, 78K, V850

**Description:** The **COMx** has been added to the **Select Communication Interface** dialog box. The **COMxVoltage:** box has been added to the **Setting Power Supply** dialog box. It is a function to program it as a flash programmer by using the serial port of PC (COM port).

**Implementation:** This item has been implemented in products with RFP V1.02.00 and later versions.

### No. 2 Addition of HCUHEX file reading function

**Microcontroller:** RL78, 78K, V850

**Description:** The HCUHEX files created using the HEX Consolidation Utility (HCU), which is used for generating ROM code for ordering Renesas Electronics preprogrammed flash memory devices, can now be read.

**Implementation:** This item has been implemented in products with RFP V1.02.00 and later versions.

### No. 3 Addition of program file size monitoring function

**Microcontroller:** RL78, 78K, V850

**Description:** The **Program file size monitor function** has been added to the **Information Settings** dialog box. If this check box is selected, execution of the **Program** command is suspended if the program file is larger than the area to be written to.

**Implementation:** This item has been implemented in products with RFP V1.02.00 and later versions.

### No. 4 Support of RX family

**Microcontroller:** RX

**Description:** The RX family is now supported.

**Implementation:** This item has been implemented in products with RFP V1.03.00 and later versions.

### No. 5 Addition of two types of writing operation windows (basic mode and full mode)

**Microcontroller:** All

**Description:** Two types of writing operation windows (Basic and Full modes) have been added.

**Implementation:** This item has been implemented in products with RFP V2.00.00 and later versions.

### No. 6 Addition of execution of scripts function

**Microcontroller:** All

**Description:** Script execution function has been added.

**Implementation:** This item has been implemented in products with RFP V2.00.00 and later versions.

### No. 7 Addition of embedding of unique codes function

**Microcontroller:** All

**Description:** Unique code embedding function has been added.

**Implementation:** This item has been implemented in products with RFP V2.00.00 and later versions.

#### No. 8 Addition of user boot area options

**Microcontroller:** RX

**Description:** [User Boot Area Option] has been added in the [Project Settings] dialog box. It is used to specify whether or not to include the user boot area in the scope of erase.

**Implementation:** This item has been implemented in products with RFP V2.00.00 and later versions.

#### No. 9 Addition of reset pin as low function

**Microcontroller:** RL78, 78K, V850

**Description:** [Reset Pin as Low] has been added in the [Project Settings] dialog box.

**Implementation:** This item has been implemented in products with RFP V2.00.00 and later versions.

#### No. 10 Change of Windows supported

**Microcontroller:** All

**Description:** The 32-bit and 64-bit editions of Windows 8 are now supported.

**Implementation:** This item has been implemented in products with RFP V2.01.00 and later versions.

#### No. 11 Addition of workspace file moving function

**Microcontroller:** RX

**Description:** Even after a saved workspace file is moved to a different folder, the file can be opened.

**Implementation:** This item has been implemented in products with RFP V2.01.00 and later versions.

#### No. 12 Addition of programming through the FINE pin

**Microcontroller:** RX200

**Description:** Support for programming by the E1 or E20 emulator through the MCU's FINE pin has been added.

**Implementation:** This item has been implemented in products with RFP V2.01.00 and later versions.

#### No. 13 Addition of programming through the FINE pin

**Microcontroller:** RX100

**Description:** Support for programming by the E1 or E20 emulator through the MCU's FINE pin has been added.

**Implementation:** This item has been implemented in products with RFP V2.01.01 and later versions.

#### No. 14 Addition of file merging function

**Microcontroller:** RX

**Description:** In full mode, a function that merges data from all program files in a project for output as a single program file has been added.

**Implementation:** This item has been implemented in products with RFP V2.03.00 and later versions.

#### No. 15 Addition of ID code saving function

**Microcontroller:** RX

**Description:** Saving the ID code data in an ID code file instead of a project file is now possible.

**Implementation:** This item has been implemented in products with RFP V2.03.00 and later versions.

#### No. 16 Deletion of connect option for lock bits

**Microcontroller:** RX

**Description:** [Connect Option] has been deleted from the [Lock Bit] category in the [Project Settings] dialog box.

**Implementation:** This item has been implemented in products with RFP V2.03.00 and later versions.

#### No. 17 Addition of mode pin setting on disconnection of FINE

**Microcontroller:** RX

**Description:** When FINE is selected as the connection method, the [Mode Pin At Disconnection] category in the [Project Settings] dialog box is now enabled.

**Implementation:** This item has been implemented in products with RFP V2.03.00 and later versions.

## Chapter 3 Restrictions

### 3.1 Restriction List

No.	Microcontroller	Restrictions	Product Version (Item No.)							
			<1>	<2>	<3>	<4>	<5>	<6>	<7>	<8>
1	RL78/G13	Restriction that cannot release security setting	×	×	○	○	○	○	○	○
2	V850ES/Jx3 V850ES/Sx3	Restriction about programming of V850ES/Jx3 and V850ES/Sx3	×	×	×	○	○	○	○	○
3	RL78 78K V850	Restriction about choosing a HCUHEX file and changing a HEX file	-	-	-	×	○	○	○	○
4	RX	Restriction that terminates RFP abnormally opening the workspace	-	-	-	×	×	○	○	○
5	RL78 78K V850	Restriction that invalidates items in which HCUHEX file is specified on the first priority	×	×	×	×	×	×	×	×
6	RL78	Restriction that relates voltage detection function with E1/E20	×	×	×	×	×	×	×	○
7	All	Restriction that relates script execution time	×	×	×	×	×	×	×	×
8	RX	Restriction about reading data	-	-	-	-	×	○	○	○
9	RX	Restriction about errors arising during command execution	-	-	-	-	×	○	○	○
10	RX	Restriction about starting programmer after selecting workspace file	-	-	-	-	×	×	×	○
11	RX	Restriction on connection of an emulator other than E1 or E20	-	-	-	×	×	○	○	○
12	RX	Restriction on timeout during FINE connection	-	-	-	-	-	×	×	○
13	RX	Restriction with Display of Mode Pins at Disconnection Category while Programming	-	-	-	-	-	×	×	○
14	RL78/G10 RL78/G12	Restriction with Connecting Target System to Host PC via COMx Port	-	-	-	×	×	×	×	○
15	RX100	Restriction about Program	-	-	-	-	-	-	×	○
16	All	Restriction about starting programmer after double clicking a workspace file	-	-	-	-	-	×	○	○
17	RX200 RX600	Restriction on user boot area option	-	-	-	-	-	×	×	○
18	RX100	Restriction on flash shield window that leads to abnormal termination of the RFP	-	-	-	-	-	-	×	○

-: Not relevant, ×: Applicable, ○: Corrected

## 3.2 Restriction Details

### No. 1 [Restriction that cannot release security setting](#)

**Microcontroller:** The RL78/G13 group with no data flash memory (product type R5F101\*\*\*\*)

**Description:** Even if the flash memories of the MCUs for which security settings have been made are erased in the Chip mode, the settings cannot be canceled. So if write protection has been enabled by security settings, it cannot be disabled.

**Workaround:** To avoid this problem, do not enable write protection by using security settings. If write protection is enabled in your MCU, disable it by the PG-FP5 flash memory programmer; then reprogram flash memory.

**Action:** This issue has been corrected in products with RFP V1.02.00 and later versions.

### No. 2 [Restriction about programming of V850ES/Jx3 and V850ES/Sx3](#)

**Microcontroller:** V850ES/Sx3, V850ES/Jx3

**Description:** If the Erase, Blank Check, or Set Security command is executed for programming the flash ROM on any MCU involved, a communication error may arise. Note, however, that when the command was executed normally with no communication error arising, the erasure, blank checking or security setting has been performed correctly.

**Workaround:** If a communication error arises, re-execute the command concerned.

**Action:** This issue has been corrected in products with RFP V1.03.00 and later versions.

### No. 3 [Restriction about choosing a HCUHEX file and changing a HEX file](#)

**Microcontroller:** RL78, 78K, V850

**Description:** If choosing a HCUHEX file and changing a HEX file, the setting item which can be changed in a [List of Settings] Dialog cannot be changed.

**Workaround:** [List of Settings] Dialog is closed with a Cancel button, and is opened again.

**Action:** This issue has been corrected in products with RFP V2.00.00 and later versions.

### No. 4 [Restriction that terminates RFP abnormally opening the workspace](#)

**Microcontroller:** RX

**Description:** RFP will be terminated abnormally, opening the workspace with following operation steps.

- (1) Create a workspace file, A.rws in Basic mode and a workspace file, B.rws in Full mode.
- (2) Open A.rws at the [Welcome!] dialog.
- (3) Point to [File], [Create New Workspace], and then open [Create New Workspace] dialog and click Cancel button to close.
- (4) Open B.rws by pointing at [File], [Open Workspace].

**Workaround:** Do not conduct the operations: (3) and (4).

**Action:** This issue has been corrected in products with RFP V2.01.00 and later versions.



**No. 5** Restriction that invalidates items in which HCUHEX file is specified on the first priority**Microcontroller:** RL78, 78K, V850**Description:** HCUHEX file is not specified on the first priority in items and items operate in inappropriate way when conducting following operations.

&lt;Invalid operation 1&gt;

- (1) Choose HCUHEX file in Full mode, HEX file in Basic mode.
- (2) Edit the project setting in Basic mode.
- (3) The project setting in Basic mode is able to use in Full mode by shifting the mode from the Basic to the Full. However, settings which are applied by reading HCUHEX file are not applied.

&lt;Invalid operation 2&gt;

- (1) Choose HEX file in Basic mode.
- (2) Edit the project setting in Basic mode.
- (3) Choose HCUHEX file.
- (4) After opening [Project Settings] dialog box in Basic mode and then click Cancel button to close, re-open [Project Settings] dialog box.
- (5) [Project Setting] edited at (2) is shown, This setting is applied clicking Complete button.

&lt;Invalid operation 3&gt;

- (1) Choose HEX file in Basic mode.
- (2) Choose commands unsupported in HCUHEX file in Basic mode.
- (3) Choose HCUHEX file.
- (4) The unsupported commands remain chosen.

**Workaround:** Do not change the Basic or Full mode in using HCUHEX. Have HCUHEX file read again when using HCUHEX file together with HEX file, before commands execution.**Action:** In planning.**No. 6** Restriction that relates to voltage detection function with E1/E20**Microcontroller:** RL78**Description:** E1/E20 detects a voltage with VDD pin, and then sends the detected voltage value to microcontroller. Especially, when the target system operates at low voltage and an error of the detected voltage value is out of the operating range, "Error(E1002004) : Communication failure or timeout." ,abnormal voltage value may occurs.**Workaround:** There is no workaround.**Action:** This issue has been corrected in products with RFP V2.03.00 and later versions.

**No. 7 Restriction that relates script execution time****Microcontroller:** All**Description:** When many script commands are executed with a single execution of the script execution function, its execution rate may slow.**Workaround:** Do not enter many of the same script commands in a single script file not to execute many script commands.**Action:** In planning.**No. 8 Restriction about reading data****Microcontroller:** RX**Description:** When data is read from the flash memory on an MCU of the RX family, either of the two symptoms described below arises and no program files can be saved if you follow these steps:

1. In the Read dialog box, click the Addresses tab.
2. Type a value into the Start Address and the End Address text box so that a read-out range of 1 byte can be selected.
3. Then execute the Read command.

Symptom 1.

RFP is abnormally closed. If the programmer is restarted, an error appears, and all the commands cannot be executed.

Examples of errors are as follows:

Error (E1017010): E1/E20 communication error.

Error (E1010006): Connection failed.

Symptom 2.

"Error (E1010016): Reading data failed." appears.

**Workaround:** Select a read-out range of 2 bytes; not 1 byte.**Action:** This issue has been corrected in products with RFP V2.01.00 and later versions.

## No. 9 Restriction about errors arising during command execution

### Microcontroller: RX

**Description:** If any of the errors described in Section 2. arises while any of the commands in Section 1. is executed, Renesas Flash Programmer is not closed by the error, but it continues the remaining processing in error as explained in Section 3. Depending on the processing performed, in addition, the programmer may interpret the command to be normally executed and output the results obtained as the correct ones.

#### 1. Commands and setting Involved

- Program ("program" in script command)
- Verify ("verify" in script command)
- Read (not used in script command)
- Lock Bit setup before disconnecting (not used in script command)

#### 2. Errors Involved

##### (1) List of errors arising during execution of Program command

- Error (E1014044): Writing Data - Checksum error.
- Error (E1014045): Writing Data - Address error.
- Error (E1014046): Writing Data - Write error.
- Error (E1014047): Writing Data - Invalid response.
- Error (E1014001): The device sent an unrecognized response: xxxx.
- Error (E1014003): The device does not support this command.

##### (2) List of errors arising during execution of Verify or Read command

- Error (E1014040): Reading Data - Checksum error.
- Error (E1014041): Reading Data - Address error.
- Error (E1014042): Reading Data - Length error.
- Error (E1014043): Reading Data - Invalid response.
- Error (E1014001): The device sent an unrecognized response: xxxx.
- Error (E1014003): The device does not support this command.
- Error (E1014048): Read Checksum mismatch.

##### (3) List of errors arising Lock Bit setup before disconnecting

- Error (E1017023): E1/E20 connection timed out.
- Error (E1010004): Lock failed for xx (0XXXXX - 0XXXXX)
- Error (E1014030): Setting Lock Bit - Checksum error.

#### 3. Descriptions of Processing Performed in Error

(1) Case where the programmer is used in the Full or Basic mode If any of the errors described in 2. is displayed on the Output panel, the processing may be continued, and PASS be displayed on the Status bar.

(2) Case where the script-executing function is performed If any of the errors described in 2. arises, the processing may be continued, and the result code "0" (PASS) be returned.

NOTE: The Read command is not supported by the script function, so the problem does not arise in this command.

**Workaround:** To avoid this problem, use any of the following methods:

1. Check to see that the checksum after writing memory is correct.

(1) In the Full or Basic mode

To check to see that the checksum after writing memory is correct, follow these steps:

1. In the Project Settings dialog box, click the Other Settings tab.
2. In the Flash Program Options category, select Request Checksum and select "True".
3. Execute any of the commands in Section 1. to check the result of checksum calculation.

(2) In script commands

Place the "checksum" command after "program"; then check to see that the checksum is correct.

2. Check to see that an error is displayed on the Output panel. If any of the errors described in 2. is displayed, interpret the programmer to be abnormally closed.

3. Use Flash Development Toolkit.

Flash Development Toolkit is not concerned with this problem, so it can be used for the MCUs that are listed in "Flash Development Toolkit target device list." To see this list, go to:

<http://www.renesas.com/fdt>

**Action:** This issue has been corrected in products with RFP V2.01.00 and later versions.

#### No. 10 Restriction about starting programmer after selecting workspace file

**Microcontroller:** All

**Description:** Suppose that you are using the user account with which neither Operation Group 1 nor Operation Group 2 described below has ever been performed. If you select a work-space file and then start RFP, it is abnormally closed.

To select a workspace file and then start RFP, you can use any of the following three ways:

- Double clicking a workspace file.
- Dragging and dropping a workspace file onto RFP.exe.
- Typing RFP.exe followed by the name of a workspace file at the command prompt and so on; then executing it.

Operation Group 1:

1. Install RFP.
2. In the Welcome! dialog box, select the Create new workspace check box.
3. In the Create new workspace dialog box, create a workspace.

Operation Group 2:

1. Install RFP.
2. In the Welcome! dialog box, select a workspace file from among the ones already created; then open it.

**Workaround:** To avoid this problem follow these steps:

1. On the Start menu, start RFP.
2. In the Welcome! dialog box, select Create new workspace and click Next.
3. In the Create new workspace dialog box, click the Cancel button to exit RFP.

**Action:** This issue has been corrected in products with RFP V2.03.00 and later versions.

**No. 11 Restriction on connection of an emulator other than E1 or E20****Microcontroller:** RX**Description:** If the [Select Emulator] dialog is opened when an emulator other than E1 or E20 (E10A-USB, E10T-USB, E7, E200F) is connected to the host PC through USB, many [The parameter is incorrect] dialog boxes appear one after another.**Workaround:** Do not connect an emulator other than E1 or E20. If many [The parameter is incorrect] dialog boxes appear, disconnect the USB cable from the emulator that is not E1 or E20 and close all open dialog boxes.**Action:** This issue has been corrected in products with RFP V2.01.00 and later versions.**No. 12 Restriction on connection of an emulator other than E1 or E20****Microcontroller:** RX**Description:** If an error "Error(E1017023) : E1/E20 connection timed out." occurs due to a communication failure during FINE connection, connection cannot be resumed after that. In contrast, even if an error occurs during the display of [Query Generic Device] dialog, connection can be established again.**Workaround:** Remove the USB cable from E1 or E20 and connect it again. Terminate RFP and open it.**Action:** This issue has been corrected in products with RFP V2.03.00 and later versions.**No. 13 Restriction with Display of Mode Pins at Disconnection Category while Programming****Microcontroller:** RX**Description:** In a project created under the conditions described in a), if the Tool list box for the project is switched to E1 or E20, the Mode Pins at Disconnection category on the Other Settings tab in Project Settings window is not shown.

a) This problem arises if the following conditions are all satisfied:

- (1) RX is selected in the Using Target Microcontroller list box.
- (2) COMx or USB Direct is selected in the Tool list box.

**Workaround:** On the File menu in the menu bar, select Open a workspace command so that the workspace file can be reopened.**Action:** This issue has been corrected in products with RFP V2.03.00 and later versions.

#### No. 14 [Restriction with Connecting Target System to Host PC via COMx Port](#)

**Microcontroller:** RL78/G10, RL78/G12 (The reset pin can be used for other functions than reset.)

**Description:** Suppose that the program file where the PORTSELB value of the option byte 000C1H is 0 is written to an MCU, and the COMx port of the host PC is used to connect the target system with the PC. If any command is executed in the above MCU, the following errors arise and the MCU cannot enter to the Flash Memory Programming mode:

- Error (E1000001): COMx communication time out.
- Error (E1002004): Communication failure or timeout.

**Workaround:** If you connect the target system to the COMx port of the host PC, do not write to the MCU any program file where the PORTSELB value of the option byte 000C1H is 0. Otherwise, do not use the COMx port but connect the E1 or E20 emulator via a USB cable.

**Action:** This issue has been corrected in products with RFP V2.03.00 and later versions.

#### No. 15 [Restriction about Program](#)

**Microcontroller:** RX100

**Description:** It is necessary to erase the block to program before program execution. RFP is treated as a blank block to any block that has not been written of the data area and user area. It does not execute a block erase before programming to even write data.

**Workaround:** In the case of [Basic mode]

Execute Program command after the following setting.

1. In the Project Settings dialog box, click the Other Settings tab.
2. In the Flash Program Options category, select All Erase Before Program and select "True".

In the case of [Full mode]

Erase a target block by the Erase command, and execute Program command.

It does not erase, even if it operates the following.

[Project Settings] -> [Other Settings] tab -> [Flash Program Options] category -> [Erase Before Program]

**Action:** This issue has been corrected in products with RFP V2.03.00 and later versions.

#### No. 16 [Restriction about starting programmer after double clicking a workspace file](#)

**Microcontroller:** All

**Description:** If a work space file double-click with host PC which installed the RFP version V2.01.00 after installing V2.00.00 or V2.00.01, originally, the main window of the version installed recently opens. However, the main window of V2.00.00 or V2.00.01 opens.

**Workaround:** Open a work space file by the following method.

- Dragging and dropping a workspace file onto RFP.exe.
- Typing RFP.exe followed by the name of a workspace file at the command prompt and so on; then executing it.

**Action:** This issue has been corrected in products with RFP V2.01.01 and later versions.

**No. 17** [Restriction on user boot area option](#)**Microcontrollers:** RX200 and RX600 (MCUs that have a user boot area)**Description:** Even when [Eraseable] under the [User Boot Options] category is set to "False" in the [Project Settings] dialog box, the user boot area can be erased through the operations below.

- (1) Execute the [Read] command to save a file with an arbitrary name.
- (2) Click on the [Cancel] button in the [Read] dialog box.
- (3) On executing the Erase command, the user boot area is specifiable in the [Erase] dialog box.

**Workaround:** There is no workaround.**Action:** This issue has been corrected in products with RFP V2.03.00 and later versions.**No. 18** [Restriction on flash shield window settings](#)**Microcontroller:** RX100**Description:** The operations shown below for the flash shield window settings in the [Project Settings] dialog box lead to abnormal termination of the RFP.

- (1) Setting the [Set Security] drop-down list to "True."
- (2) Changing the [Start of flash shield block number] or [End of flash shield block number] to any value.
- (3) Ending RFP operations.

**Workaround:** After operation (2) above, click on the [Other Settings] tab in the [Project Settings] dialog box.**Action:** This issue has been corrected in products with RFP V2.03.00 and later versions.

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