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# RENESAS FLASH PROGRAMMER

Flash memory programming software

User's Manual

Hex Files for BB-RL78/G13\_20pin: [Click here.](#)

Hex Files for BB-RL78/G12\_30pin: [Click here.](#)

Hex Files for BB-RL78/G13\_30pin: [Click here.](#)

Hex Files for BB-RL78/G14\_30pin: [Click here.](#)

Hex Files for BB-RL78/G13\_64pin: [Click here.](#)

Hex Files for BB-RL78/G14\_64pin: [Click here.](#)

Hex Files for BB-RL78/G13\_100pin: [Click here.](#)

Hex Files for BB-RX62N\_100pin: [Click here.](#)

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### About NGX Technologies

NGX Technologies is a leader in embedded microcontroller product development. We supply reference designs and evaluation modules to silicon companies. Our customers include industry leaders like NXP and RENESAS. Our core business is in helping our customers realize their embedded products.

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## 1.0 INTRODUCTION

Renesas Flash Programmer (known hereafter as RFP) is software that erases, writes, and verifies programs on the target system or program adapter on which a Renesas Electronics single-chip microcontroller with on-chip flash memory is mounted by using an E1 emulator (E1), E20 emulator (E20), or the on-chip debug emulator with programming function, QB-MINI2 (known hereafter as MINICUBE2), or a serial interface.

*Note: We have verified using E1 emulator.*

### 1.1 Features

- Writing controlled by the host machine
- Graphical user interface (GUI) specific to writing
- Writing settings can be saved in a workspace file
- Microcontroller-specific information required for writing is included in the product package as a device information file

### 1.2 Writing Quality

Thoroughly confirm, verify and evaluate the following points before using RFP, in order to improve the writing quality.

- Design circuits as described in the user's manual for the target microcontroller, E1, E20, and MINICUBE2.
- Use the microcontroller and RFP as described in the user's manual of the target microcontroller, RFP, E1, E20, and MINICUBE2.
- Make sure that the power supplied to the target microcontroller is stable.

### 1.3 Supported Microcontrollers

Microcontrollers supported by RFP are listed on the following websites:

- Japanese: <http://japan.renesas.com/rfp>
- English: <http://www.renesas.com/rfp>

### 1.4 Operating Environment

This section explains the following items with respect to the operating environment:

- Hardware environment
- Software environment

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## 1.4.1 Hardware environment

### (1) Host machine

- PC/ATTM compatible
- Processor: 1 GHz or higher (RFP can be used with hyperthreaded and dual core CPUs)
- Main memory: 1 GB or more (2 GB or more when using 64-bit Windows 7®); 2 GB or more recommended
- Display: Resolution of 1,024 x 768 or higher and 65,536 or more colors
- Interface: USB 2.0 (when using E1, E20, MINICUBE2, USB Direct)

### (2) Tools used

- E1
- E20
- MINICUBE2

## 1.4.2 Software environment

- Windows XP®(32-bit only)
- Windows Vista® (32-bit and 64-bit)
- Windows 7®(32-bit and 64-bit)
- Microsoft .NET Framework 3.5 SP1 + Language pack
- Microsoft Visual C++ 2008 SP1 Redistributable Package (x86)
- Internet Explorer 6.0 or later

## 2.0 INSTALLATION

The Renesas Flash programmer bundled with the CubeSuite+ software package, while installing CubeSuite+ it is also installs Renesas Flash Programmer.

If not installed with CubeSuite+, follow the below section.

This section describes the following items:

- Obtaining
- Installation
- Uninstallation
- Updating RFP and firmware

### 2.1 Obtaining

Download the product package (RFP, USB driver, device information file, and utility) from the following websites:

Japanese: <http://japan.renesas.com/rfp>

English: <http://www.renesas.com/rfp>

**Caution Use of the latest version of software is recommended to guarantee RFP operation.**

## 2.2 Installation

To install the product package (RFP, USB driver, device information file, and utility), run the bundled executable file

(Renesas\_Flash\_Programmer\_Package\_Vxxxxx.exe). Install as instructed by the installer program. After the product package is installed, the folders are organized as follows:

```
C:\
|---- \Program Files
      |---- \Renesas Electronics
            |---- \Programming Tools
                  |---- \Renesas Flash Programmer V1.03
            |---- \CubeSuite+
                  |---- \E-SeriesUSB
```

### 2.2.1 Notes on installation

(1) Multiple versions of RFP can be installed on a single host machine. Although we recommend using the latest version of any development tool, leaving a previous version on your host machine and then installing the latest version lets you easily switch the development environment.

(2) You might be asked to reboot your computer after installing the RFP.  
. Be sure to close all other applications before rebooting your computer.

(3) You must have administrator privileges to install the RFP.

(4) The RFP can only be installed in a folder that is named using ASCII characters. (Note that the 11 characters / \* : < > ? | " \ ; , and character strings that begin and end with a space cannot be used.) The RFP might not operate correctly if installed in a folder that is named using other characters.

(5) The RFP cannot be installed from a network drive or on a network drive.

(6) The installer does not specify environment variable paths. If these paths are required, add them after installation.

(7) For the programming GUI installer, the .NET Framework 3.5 SP1 and Visual C++ 2008 SP1 runtime library must be installed in advance. If they are not installed yet, install them in advance.

Installing NET Framework (not required for Windows 7) Microsoft .NET Framework 3.5 Service Pack 1  
<http://www.microsoft.com/downloads/en/details.aspx?displaylang=en&FamilyId=AB99342F-5D1A-413D-8319-81DA479AB0D7>

Installing Visual C++ 2008 SP1 Redistributable Package (x86)

Microsoft Visual C++ 2008 SP1 Redistributable Package (x86)

<http://www.microsoft.com/downloads/en/details.aspx?FamilyID=A5C84275-3B97-4AB7-A40D-3802B2AF5FC2>

\* If multibyte characters are contained in Windows temporary file names, an error may occur during installation (e.g. the login name is in Japanese).

(8) The following folders created after installation (including the files under the folders) contain files required for the tools to operate. Do not delete them.

(Windows is the 32-bit edition and the system drive is C:)

C:\Program Files\Common Files\Renesas Electronics CubeSuite+\

(Windows is the 64-bit edition and the system drive is C:)

C:\Program Files\Common Files (x86)\Renesas Electronics CubeSuite+\

(9) To change the folder of the installed tools, uninstall all the CubeSuite+ related software and the programming GUI for RFP, and install them again.

(10) In the environment where the CubeSuite+, RFP, E1, E20, MINICUBE2 and USB driver for USB Boot are installed the RFP, E1, E20, MINICUBE2 and USB driver for USB Boot are included in the target software of the CubeSuite+ integrated uninstaller. If you don't want to delete them, remove them from the uninstallation targets.

## 2.3 Uninstallation

To uninstall the RFP package (RFP, USB driver, device information file, and utility), use “Add or Remove Programs”(or “Programs and Features”) on the Control Panel. The CubeSuite+ integrated uninstaller can also be used to uninstall the RFP package.

## 2.4 Updating RFP and Firmware

The firmware is a program embedded in the microcontroller for controlling E1, E20, or MINICUBE2. Updating RFP and the firmware enables the following:

- Addition of newly supported functions or microcontrollers
- Correction of restrictions

For RFP and the firmware, use of the latest version is recommended to ensure correct operation of E1, E20, and MINICUBE2.

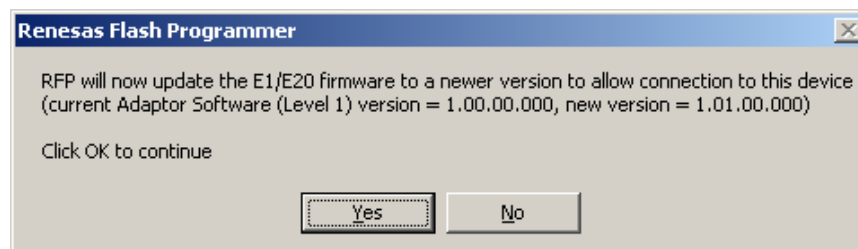
The latest version of the firmware for RFP and MINICUBE2 can be checked and obtained at the following websites:

Japanese: <http://japan.renesas.com/rfp>

English: <http://www.renesas.com/rfp>

How to check the firmware version and configure and update your system are described below.

For E1 and E20, check that RFP has the correct E1 and E20 firmware versions. If the firmware does not match, the [Renesas Flash Programmer] dialog box will open. Click the Yes button to update.



**Figure 2-1. Updating Firmware**

For MINICUBE2, see **MINICUBE2 Diagnostic Tools User's Manual (U18588E)** for how to check the firmware version, and configure and update your system.

## 3.0 BASIC OPERATION - RL78

This section describes the operation method by using the RL78/G12 as the target microcontroller as an example to help you understand a series of basic operations with the RFP for the RL78. This section covers how to start the system, execute the [Autoprocedure (E.P)] command, and write the target microcontroller.

- Series of operations described in this section:

The operating conditions are as follows:

Target microcontroller: R5F1026A (RL78/G12 20 pin)

Target system: NGX's Blueboard-RL78G12\_20pin

Tool used: E1

Communication port: UART-ch0

Communication speed setting: 1,000,000 bps

Clock setting: None (internal oscillation clock used)

Power settings: Programmer (5.0 V)

Operating mode: Chip

Flash option: Not used

Operation option: [Blank Check before Erase] enabled

The steps described in this chapter are as follows:

- (1) Installation
- (2) System connection
- (3) Connection of target system
- (4) Creation of workspace
- (5) Selection of program file
- (6) Execution of [Autoprocedure (E.P)] command
- (7) System shutdown

### (1) Installation

See **section INSTALLATION** and install in the host machine.

### (2) System connection

Connect the USB connector of RFP to the USB port on the host machine using a USB cable.

### (3) Connection of target system

Connect the target cable of the tool used to the target system.

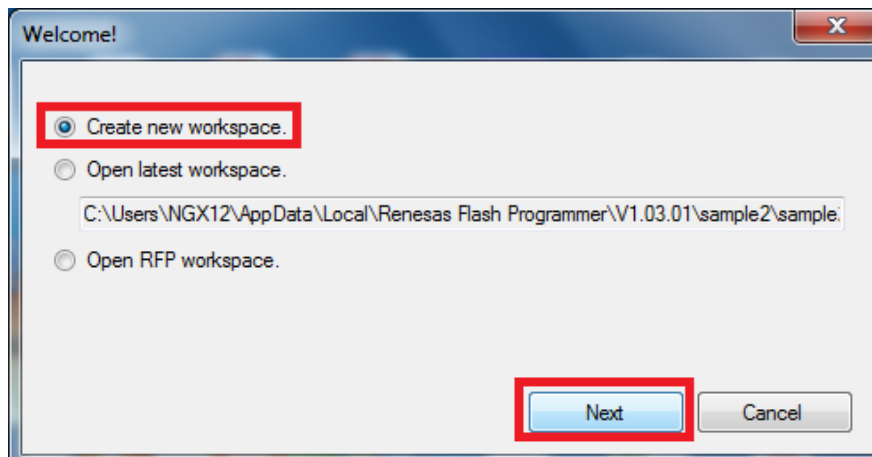
#### **Remark**

Connect the target system before supplying VDD power from the target system.



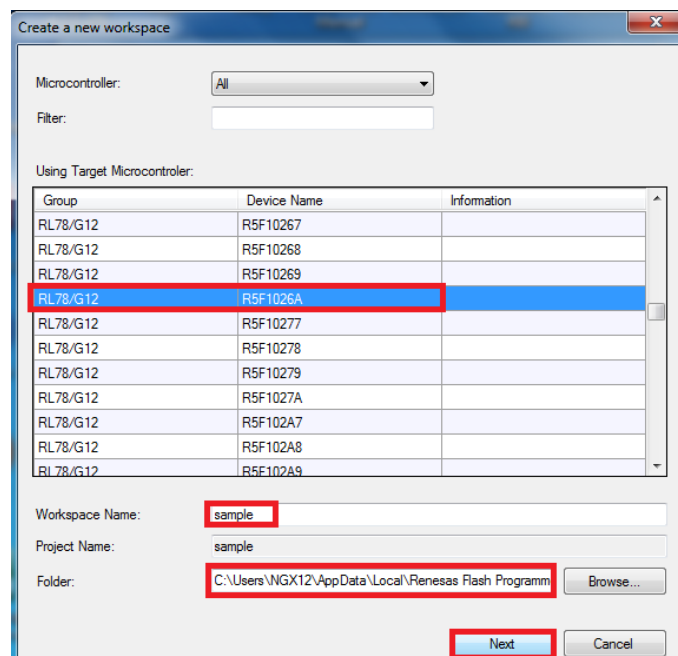
#### (4) Creation of workspace

Step 1: On the taskbar, click the Start button, point to [All Programs], [Renesas Electronics CubeSuite+], [Programming Tools], [Renesas Flash Programmer Vx.xx], and then click [Renesas Flash Programmer Vx.xx [Basic mode]]. The [Welcome!] dialog box will open. Select [Create new workspace.] and then click the Next button to open the [Create a new workspace] dialog box.



**Figure 3-1 [Welcome!] Dialog Box**

Step 2: In the [Using Target Microcontroller:] list box, select “R5F1026A”. Enter any text string (such as “sample” in this case) in the [Workspace Name:] box, and specify any folder in the [Folder:] box. Clicking the Next button displays the [Select Communication Interface] dialog box.

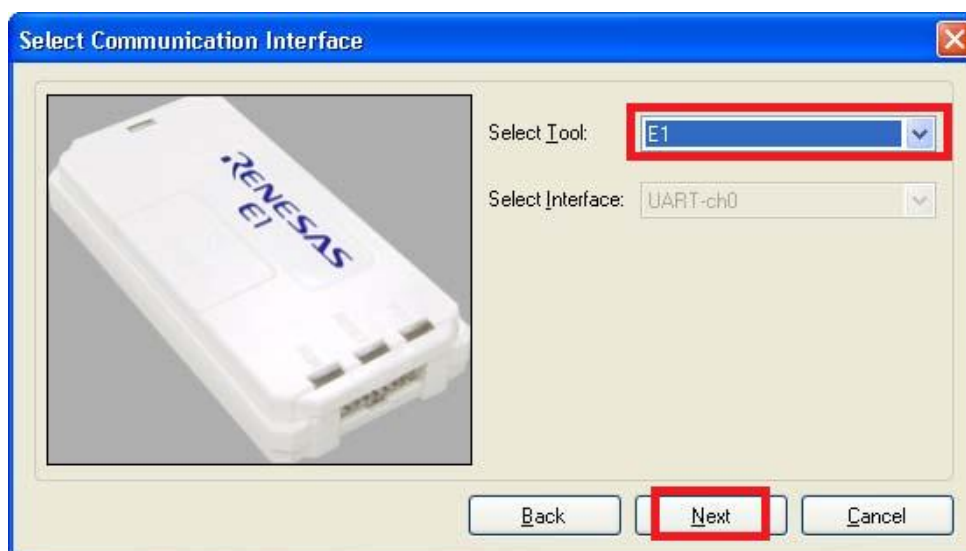


**Figure 3-2. [Create a new workspace] Dialog Box**

*Note: Select the same name as that of the target microcontroller.*

Step 3: Select “E1” in the [Select Communication Interface] dialog box. For R5F1026A, the selection in the [Select Interface:] list box is fixed to “UART-ch0”.

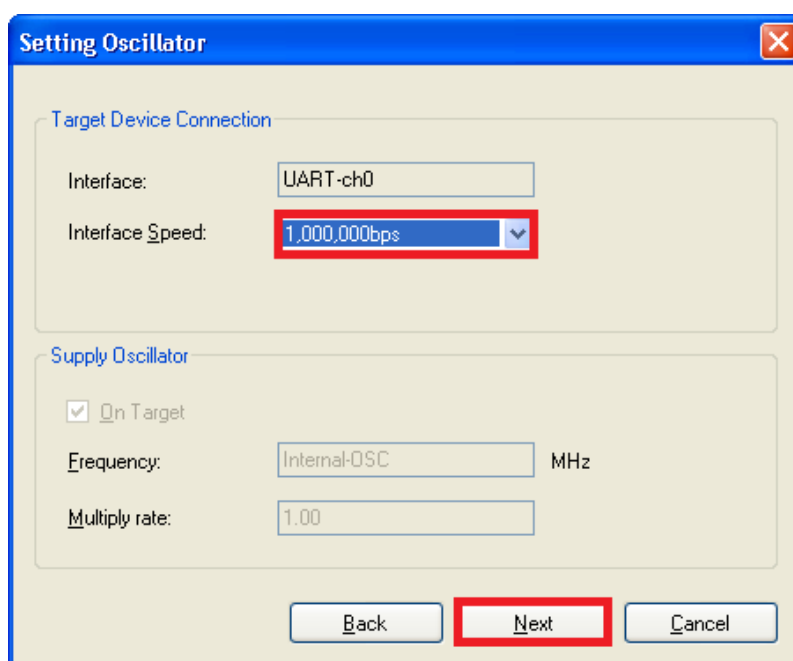
Clicking the Next button displays the [Setting Oscillator] dialog box.



**Figure 3-3. [Select Communication Interface] Dialog Box**

Step 4: Select “1,000,000bps” from the [Interface Speed:] list box. For R5F1026A, the [Supply Oscillator] area is fixed to “Internal-OSC”.

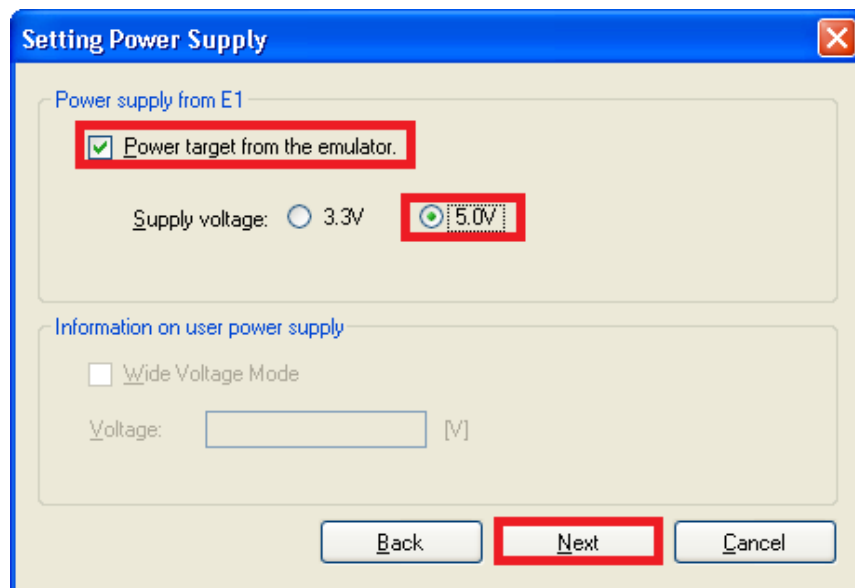
Clicking the Next button displays the [Setting Power Supply] dialog box in the case of E1.



**Figure 3-4. [Setting Oscillator] Dialog Box**

Step 5: Select the [Power target from the emulator] check box, and then select “5.0V” for [Supply voltage].

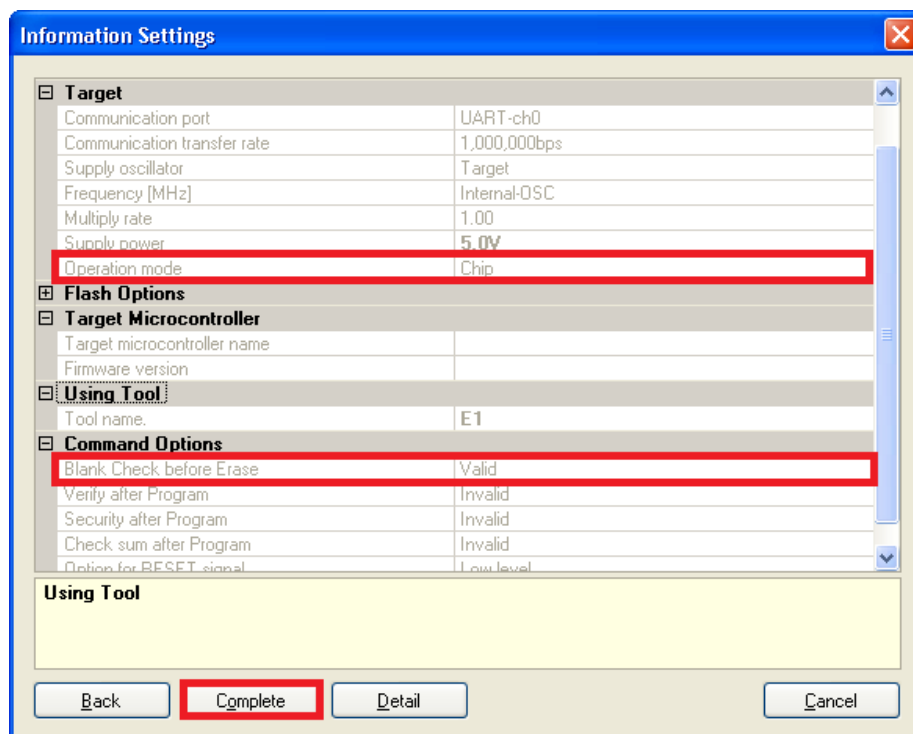
Clicking the Next button displays the [Information Settings] dialog box.



**Figure 3-5. [Setting Power Supply] Dialog Box**

Step 6: “Chip” is the default value for [Operation mode] under the [Target] category, and the default value for “Blank Check before Erase” in the [Command Options] category is “Valid”.

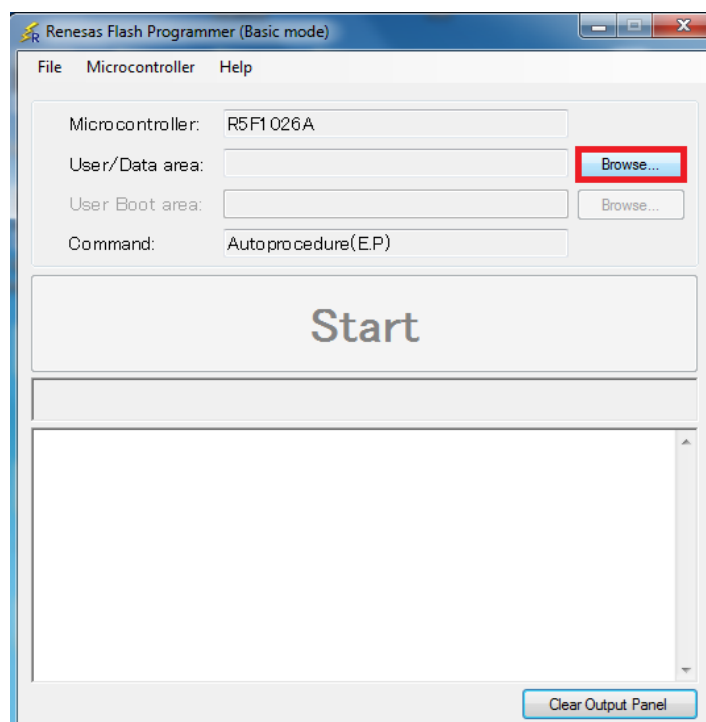
Clicking the Complete button saves the project file and displays the main window.



**Figure 3-6. [Information Settings] Dialog Box**

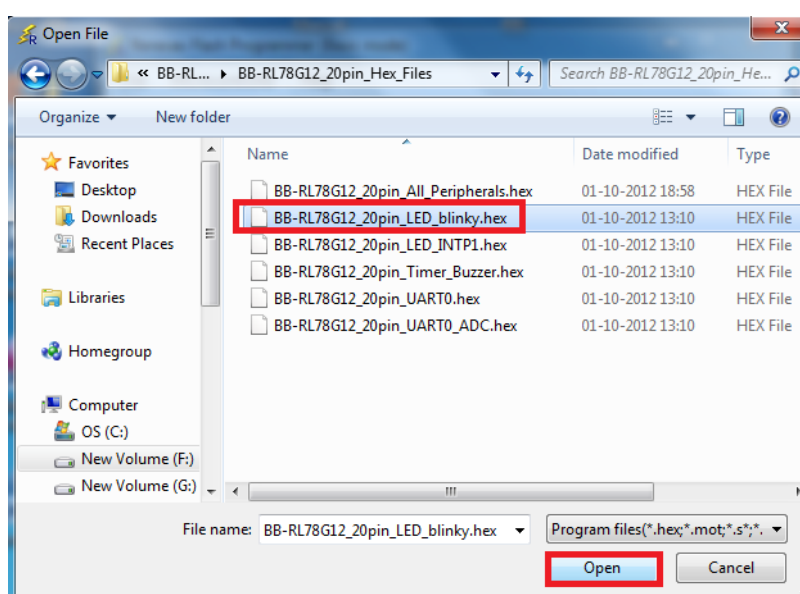
## (5) Selection of program file

Step 1: Click the Browse... button in “User/Data area:” of the program file area to open the [Open File] dialog box.



**Figure 3-7. Main Window**

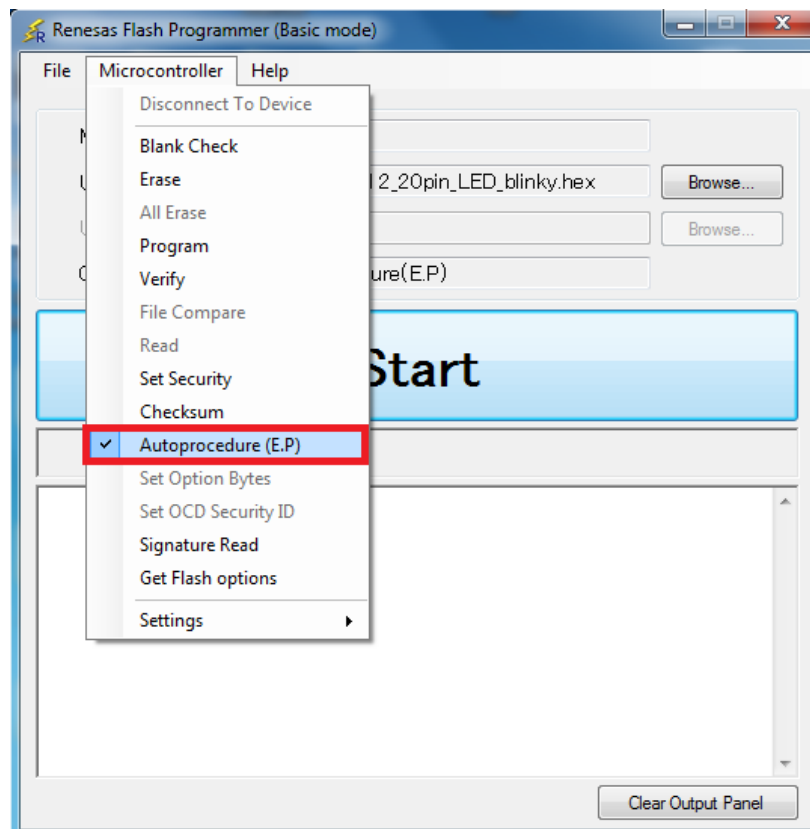
Step 2: Select “BB-RL78G12pin\_LED\_blinky.hex” in the [Open File] dialog box, and then click the Open button to open the main window.



**Figure 3-8. [Open File] Dialog Box**

## (6) Execute the [Autoprocedure (E.P)] command

Step 1: Click the [Microcontroller] menu and select the [Autoprocedure (E.P)] command. A check mark is then placed on the left of the command, and the command is assigned to the Start button.



**Figure 3-9. Main Window**

Step 2: After clicking the Start button, execute the following commands in the following order for R5F1026A: [Blank Check] command, [Erase] command (if there are no blanks), and [Program] command.

### Remarks

1. When necessary, insert the target microcontroller (microcontroller to be programmed) into the program adapter, then execute the [Autoprocedure (E.P)] command.
2. When supplying VDD power to the target system, first turn off the power, connect the target system (for programming), and then turn on the power and execute the [Autoprocedure (E.P)] command.

Step 3: When execution of the [Autoprocedure (E.P)] command ends normally, "--End (Autoprocedure(E.P)) -----" is displayed on the output panel.

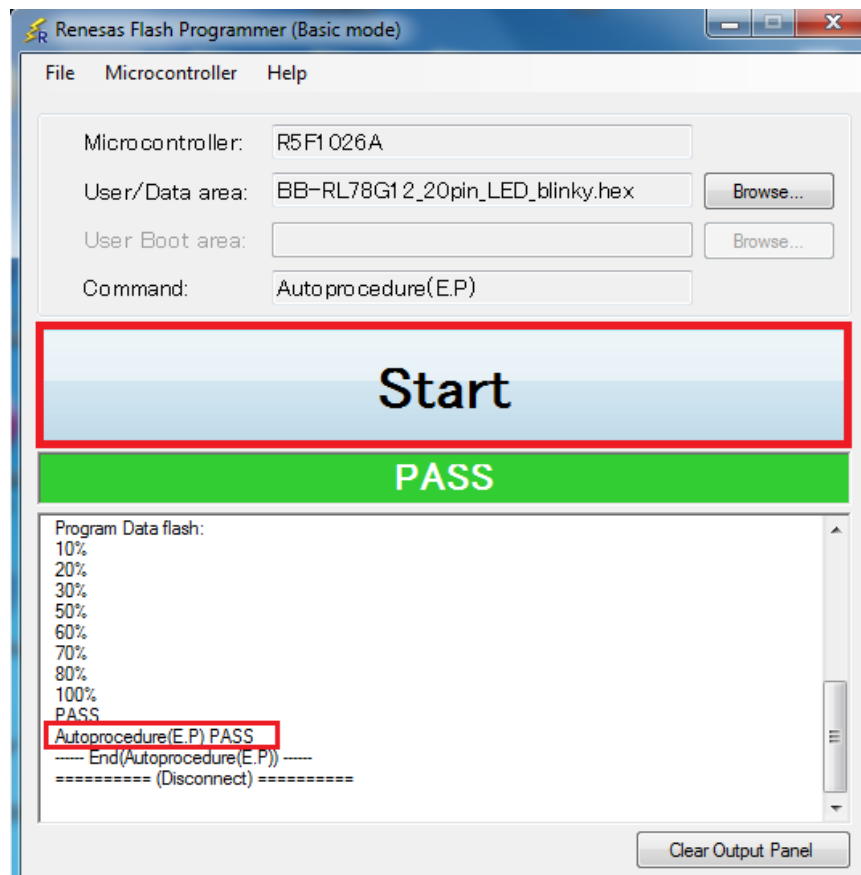


Figure 3-10. [Autoprocedure (E.P)] Command Execution Results

## (7) System shutdown

Step 1: Disconnect the target cable from the target system.

**Remark** When supplying VDD power to the target system, turn off the power before removing the target cable.

Step 2: Unless there are other target microcontrollers to be programmed, click the [File] menu and select the [Exit] command to close RFP. Because all settings made so far will be saved to a project file, they can be reused after RFP is restarted.

Step 3: Remove the USB cable from the tool used.

Step 4: Connect the external power supply to the target board then the USER LED(D1) should blink.

### Caution:

**If an error occurs during the above procedure, see section 5 TROUBLESHOOTING. Also see the user's manual of the tool used and execute diagnostic tests.**

## 4.0 BASIC OPERATION - RX

This chapter describes the operation method by using the RX as the target microcontroller as an example to help you understand a series of basic operations with the RFP for the RX. This chapter covers how to start the system, execute the [Program] command, and write the target microcontroller.

- Series of operations described in this section:

The operating conditions are as follows:

Target microcontroller: R5F562N8B (RX62N)

Target system: NGX's Blueboard-RX62N\_100pin

Tool used: E1

Connection mode: Boot mode

Communication speed setting: 1,562,500 bps

Clock setting: 12.50 MHz (main clock  $\times$  8 multiplication, peripheral clock  $\times$  4 multiplication)

Power settings: Programmer (5.0 V)

Lock bit: None

Other settings: Initial value

The steps described in this section are as follows:

- (1) Installation
- (2) System connection
- (3) Connection of target system
- (4) Creation of workspace
- (5) Selection of program file
- (6) Execution of [Program] command
- (7) System shutdown

### (1) Installation

See **section 2 INSTALLATION** and install in the host machine.

### (2) System connection

Connect the USB connector of RFP to the USB port on the host machine using a USB cable.

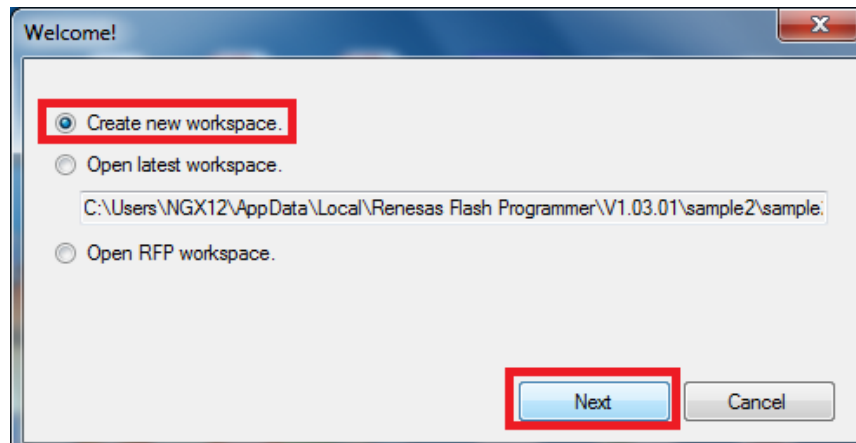
### (3) Connection of target system

Connect the target cable of the tool used to the target system.

**Remark** Connect the target system before supplying VDD power from the target system.

#### (4) Creation of workspace

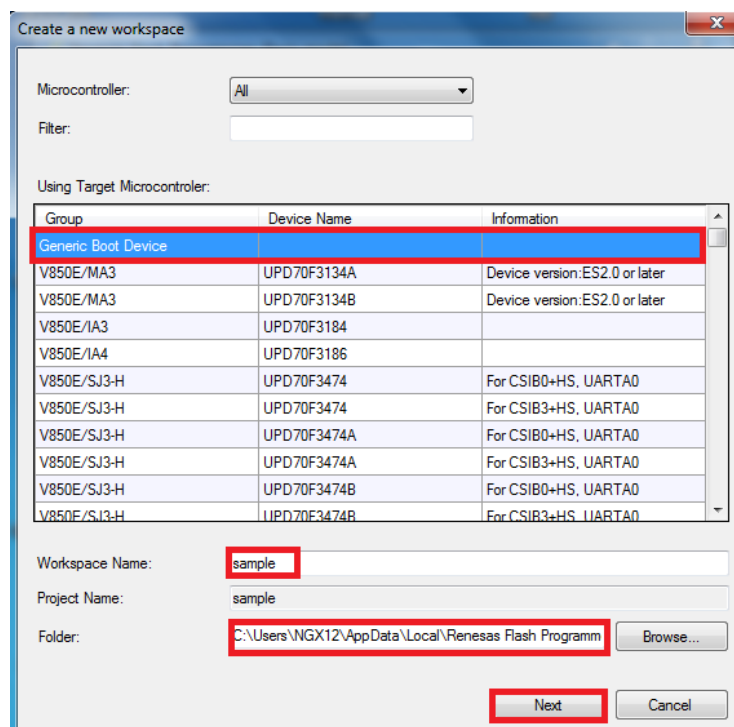
Step 1: On the taskbar, click the Start button, point to [All Programs], [Renesas ElectronicsCubeSuite+], [Programming Tools], [Renesas Flash Programmer Vx.xx], and then click [Renesas Flash Programmer Vx.xx [Basic mode]]. The [Welcome!] dialog box will open. Select [Create new workspace.] and then click the Next button to open the [Create a new workspace] dialog box.



**Figure 4-1. [Welcome!] Dialog Box**

Step 2: In the [Using Target Microcontroller:] list box, select “Generic Boot Device”. Enter any text string (such as “sample” in this case) in the [Workspace Name:] box, and specify any folder in the [Folder:] box.

Clicking the Next button displays the [Select Communication Interface] dialog box.

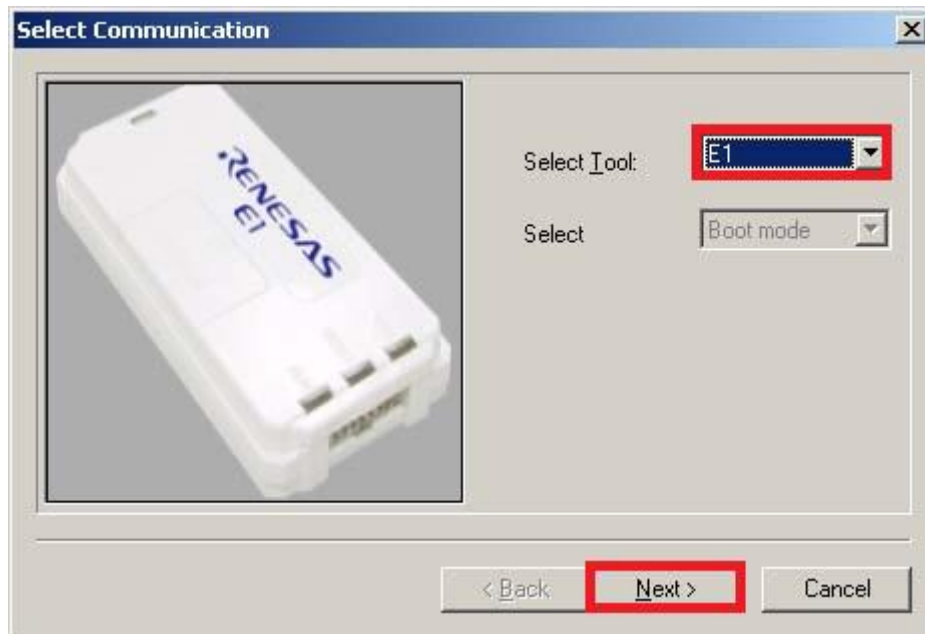


**Figure 4-2. [Create a new workspace] Dialog Box**



Step 3: Select “E1” in the [Select Tool:] list box. For R5F562N8B, the selection in the [Select] list box is fixed to “Bootmode”.

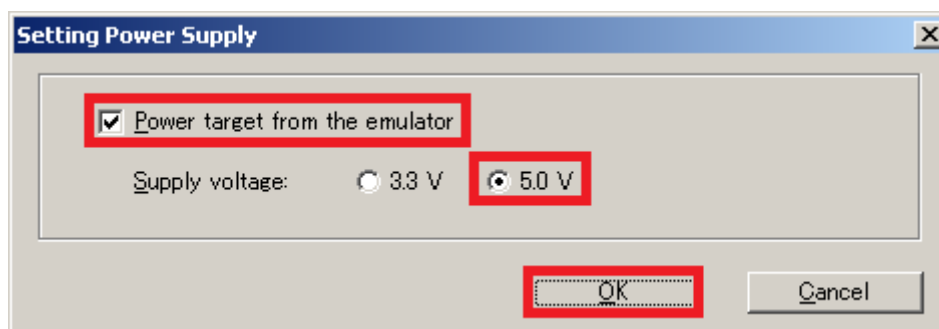
Clicking the Next > button displays the [Setting Power Supply] dialog box.



**Figure 4-3. [Select Communication] Dialog Box**

Step 4: Select the [Power target from the emulator] check box, and then select “5.0 V” for [Supply voltage].

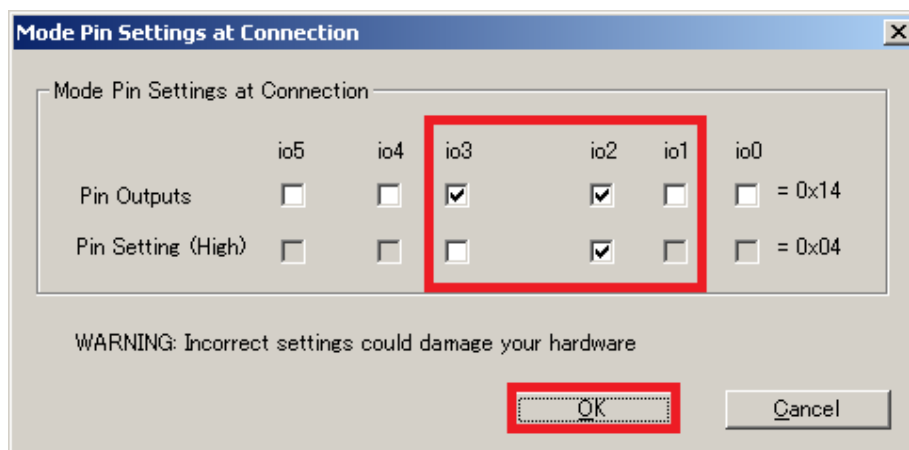
Clicking the OK button displays the [Mode Pin Settings at Connection] dialog box.



**Figure 4-4. [Setting Power Supply] Dialog Box**

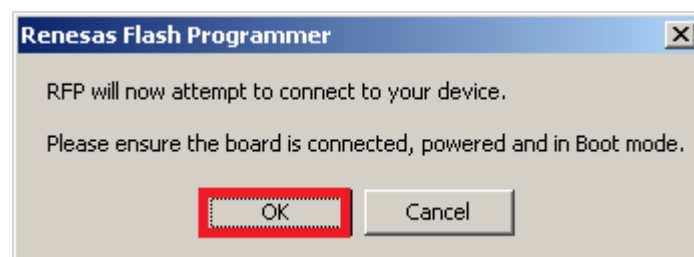
Step 5: Set the [Pin Outputs] check boxes and [Pin Setting (High)] check boxes. For R5F562N8B, set io2 of E1 to High for the MD0 pin, and set io3 of E1 to Low for the MD1 pin.

Clicking the OK button displays the [Confirmation Before Connection] dialog box.



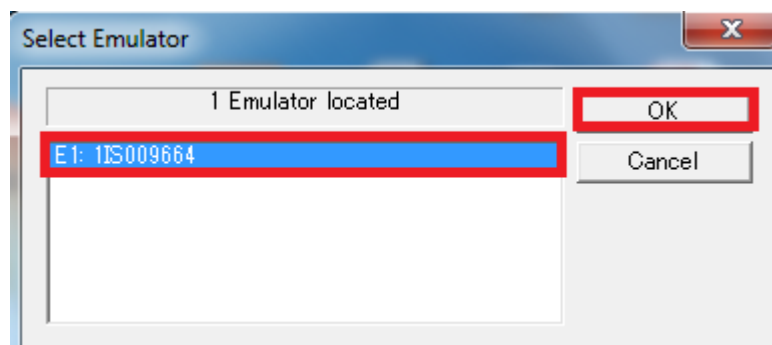
**Figure 4-5. [Mode Pin Settings at Connection] Dialog Box**

Step 6: Check that the board is connected, powered, and in Boot mode. Clicking the OK button displays the [Select Emulator] dialog box.



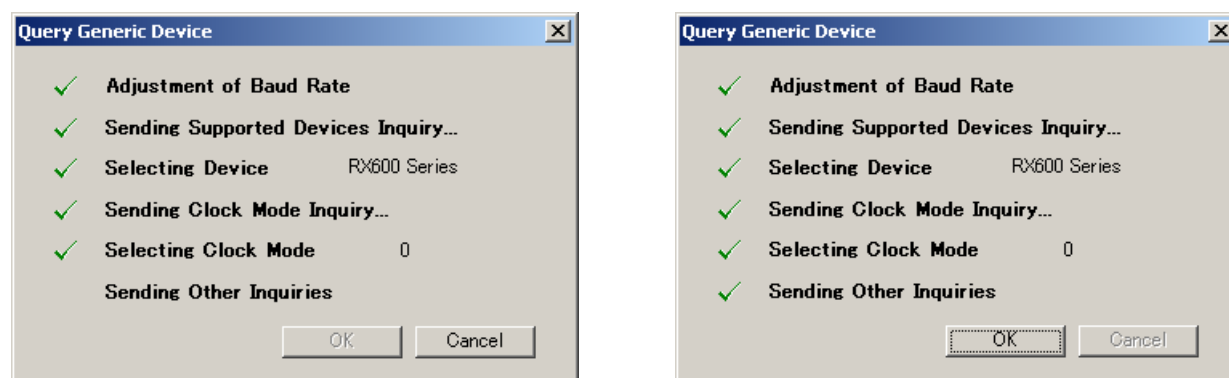
**Figure 4-6. [Confirmation Before Connection] Dialog Box**

Step 7: The name and serial number of the detected Emulator are displayed. Select it. Clicking the OK button establish connection with the device and displays the [Query Generic Device] dialog box.



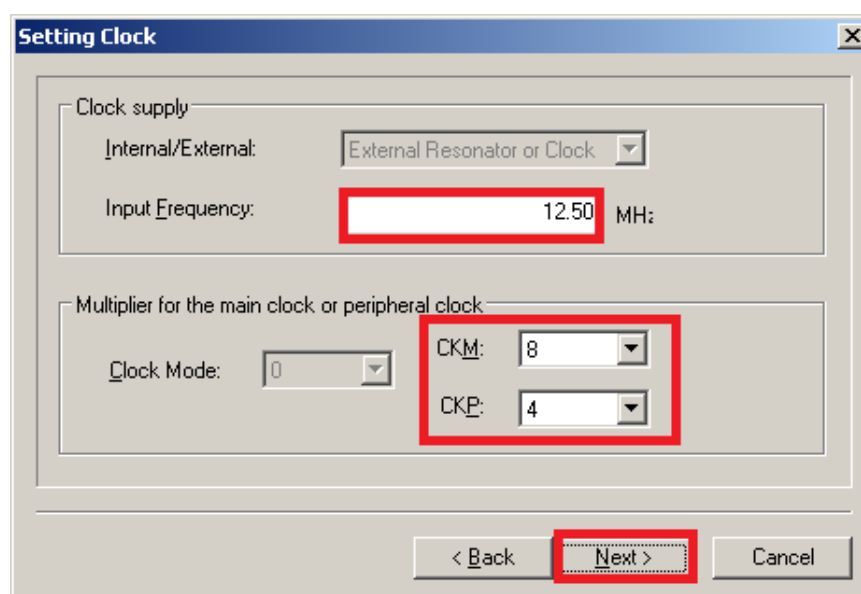
**Figure 4-7. [Select Emulator] Dialog Box**

Step 8: A query for the target microcontroller is performed.  
Clicking the OK button displays the [Setting Clock] dialog box.



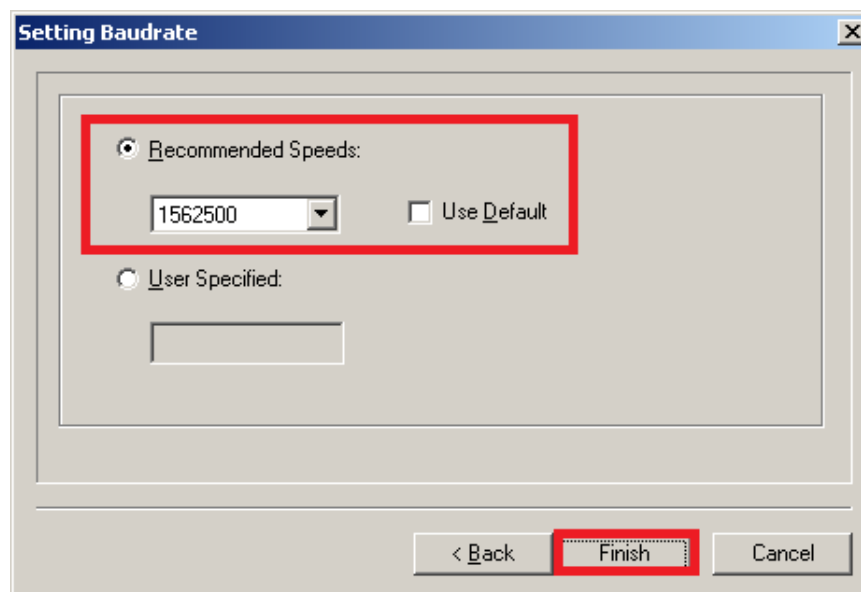
**Figure 4-8. [Query Generic Device] Dialog Box**

Step 9: Enter “12.50” in the [Input Frequency:] box in the [Clock supply] area. The [Internal/External:] list box displays the result of the query “External Resonator or Clock.” Select “8” from the [CKM:] list box in the [Multiplier for the main clock or peripheral clock] area. Select “4” from the [CKP:] list box. The [Clock Mode:] list box displays the result of the query “0”.  
Clicking the Next > button displays the [Setting Baudrate] dialog box.



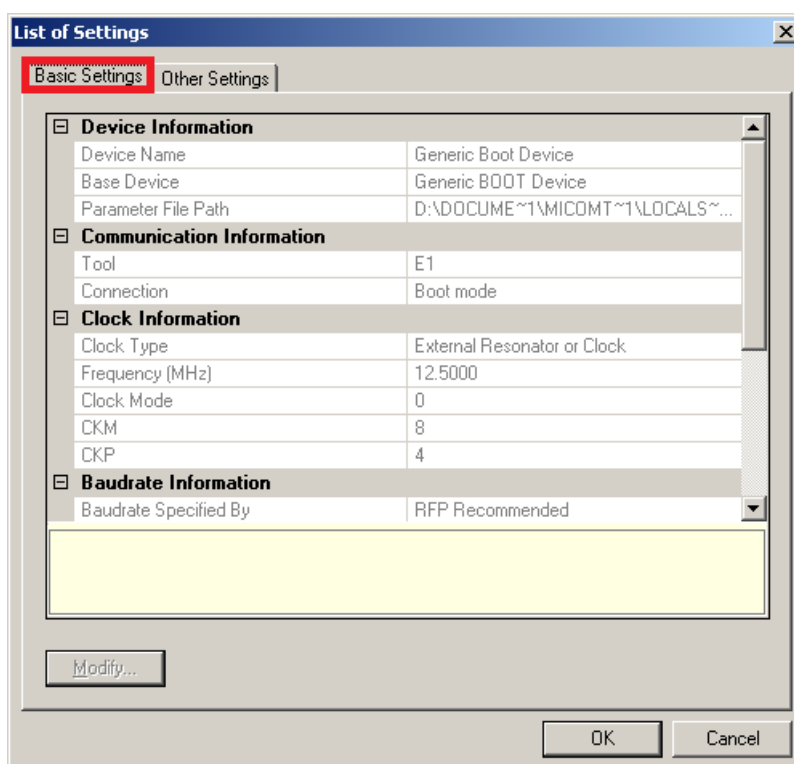
**Figure 4-9. [Setting Clock] Dialog Box**

Step 10: Clear the [Use Default] check box, and select “1562500” from the [Recommended Speeds:] list box. Clicking the Finish button displays the [List of Settings] dialog box.



**Figure 4-10. [Setting Baudrate] Dialog Box**

Step 11: The [Basic Settings] tab in the [List of Settings] dialog box allows you to check basic information about programming. Clicking the [Other Settings] tab of the [List of Settings] dialog box displays the [Other Settings] tab in the [List of Settings] dialog box.



**Figure 4-11. [List of Settings] Dialog Box [Basic Settings] Tab**

Step 12: The [Other Settings] tab in the [List of Settings] dialog box allows you to specify and check advanced information about programming. For [Connect Option] and [Disconnect Option] in the [Lock Bit] category, select “Do Nothing.” Leave the initial values for other settings. Clicking the OK button saves the project file and displays the main window.

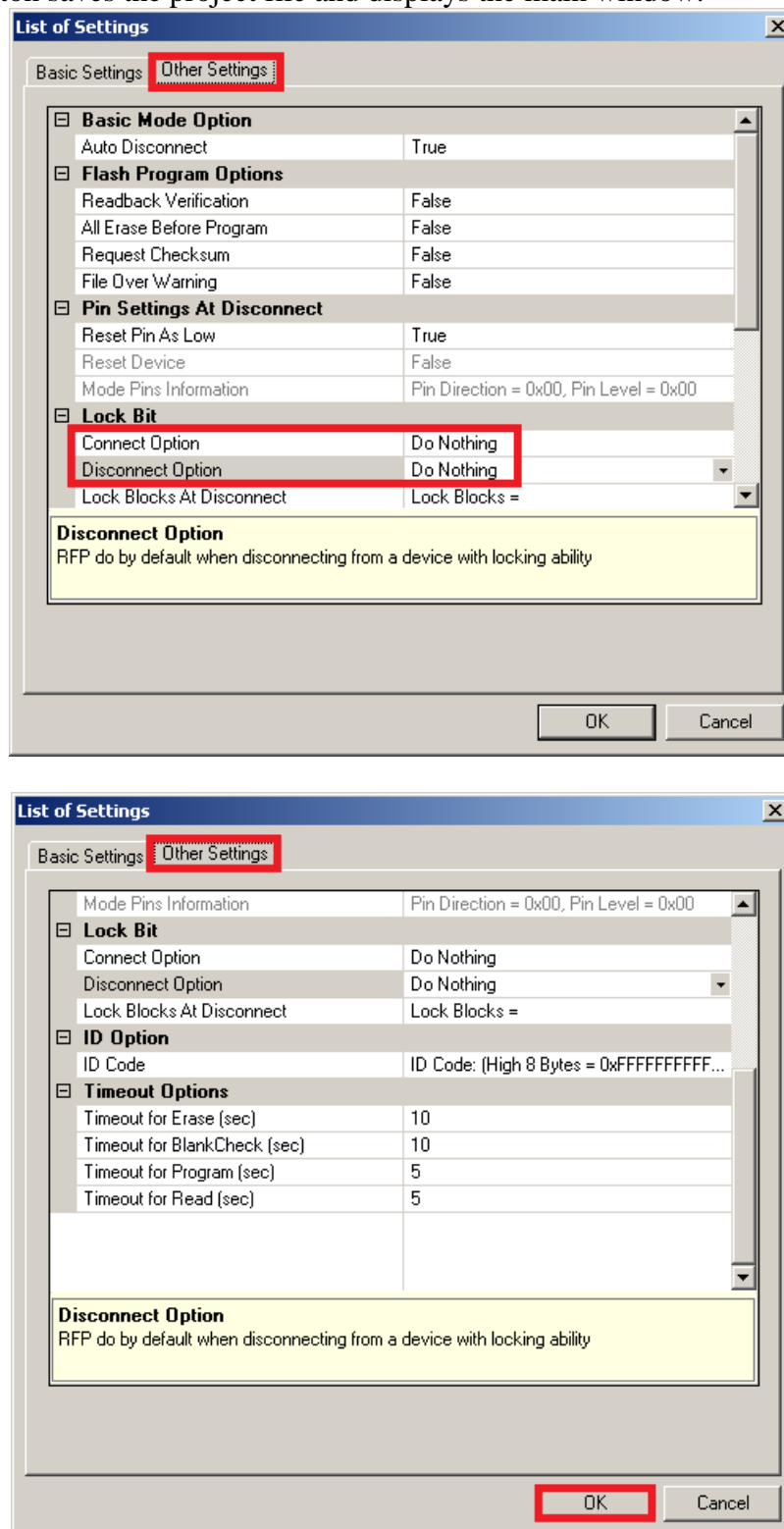


Figure 4-12. [List of Settings] Dialog Box [Other Settings] Tab

## (5) Selection of program file

Step 1: Clicking the Browse... button in the User/Data area: of the program file area displays the [Open File] dialog box.

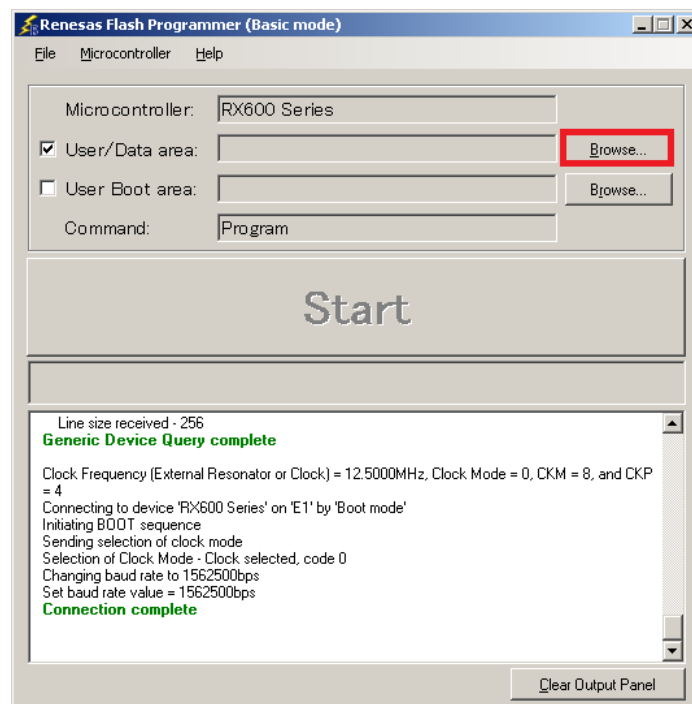


Figure 4-13. Main Window

Step 2: Select “NGX\_RX62N\_100pin\_blinky.hex” in the [Open File] dialog box, and then click the Open button to open the main window.

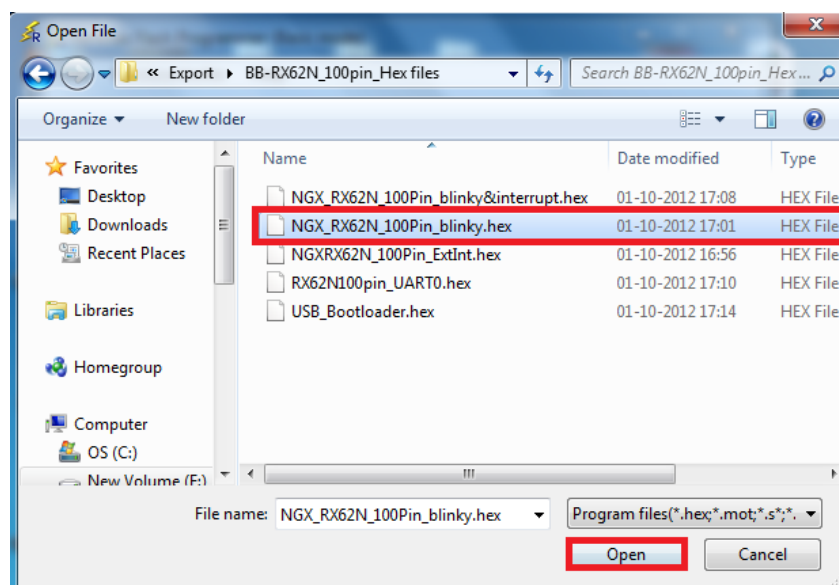
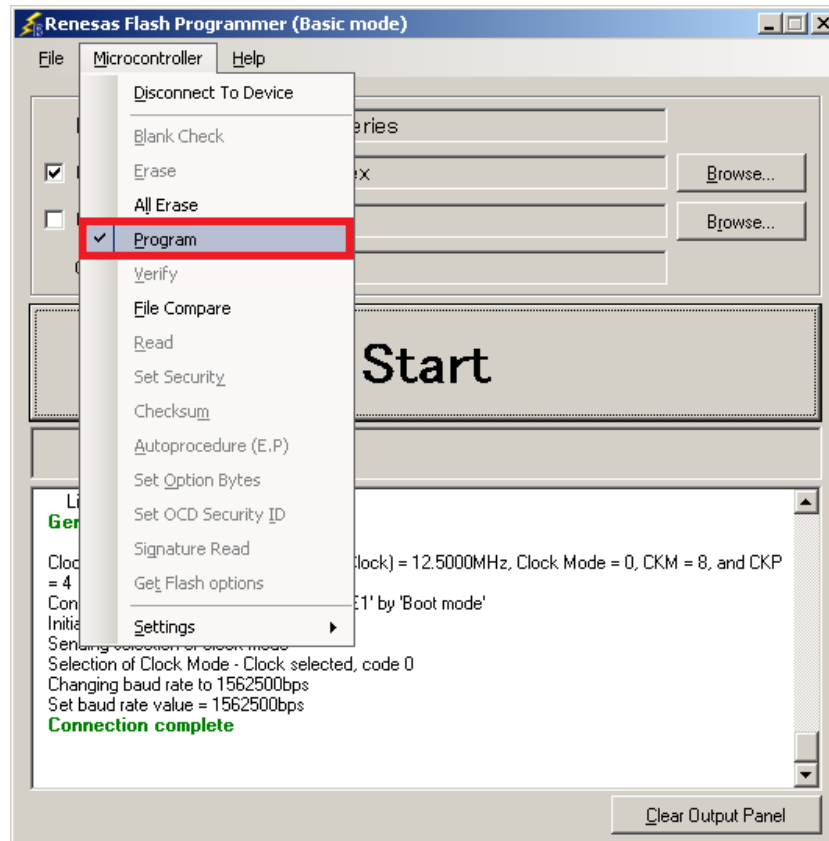


Figure 4-14. [Open File] Dialog Box

## (6) Execute the [Program] command

Step 1: Click the [Microcontroller] menu and select the [Program] command. A check mark is then placed on the left of the command, and the command is assigned to the Start button.



**Figure 4-15. Main Window**

Step 2: After clicking the Start button, execute the [Program] command for R5F562N8B.

### Remarks

1. When necessary, insert the target microcontroller (microcontroller to be programmed) into the program adapter, then execute the [Program] command.
2. When supplying VDD power to the target system, first turn off the power, connect the target system (for programming), and then turn on the power and execute the [Program] command.
3. When the [Program] command is executed, programming is performed after the block with data is Erased. To erase all blocks, set [All Erase Before Program] in the [Flash Program Options] category in the [Other Settings] tab of the [List of Settings] dialog box to “True.”

Step 3: When execution of the [Program] command ends normally, “Image written to device” and “Disconnected” are displayed on the output panel.

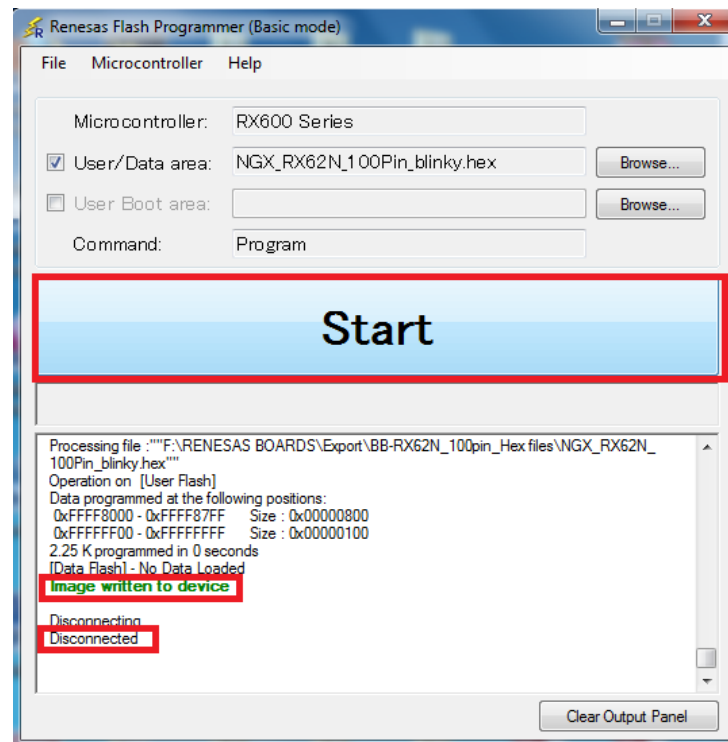


Figure 4-16. [Program] Command Execution Results

## (7) System shutdown

Step 1: Disconnect the target cable from the target system.

### Remark

When supplying VDD power to the target system, turn off the power before removing the target cable. Furthermore, if [Auto Disconnect] in the [Flash Program Options] category in the [Other Settings] tab of the [List of Settings] dialog box is set to “False,” remove the target system after Executing [Disconnect To Device].

Step 2: Unless there are other target microcontrollers to be programmed, click the [File] menu and select the [Exit] command to close RFP. Because all settings made so far will be saved to a project file, they can be reused after RFP is restarted.

Step 3: Remove the USB cable from the tool used.

Step 4: To execute the user code supply power using USB cable to the target board and set Boot switch to 1100 then LED (D2) should blink.

### Caution:

If an error occurs during the above procedure, see section TROUBLESHOOTING. Also see the user’s manual of the tool used and execute diagnostic tests.



## 5.0 TROUBLESHOOTING

This section explains how to troubleshoot RFP.

### Remark

Using the diagnostic tool, the user can find out why RFP does not run normally, such as due to a defect in the tool used, or problems in other hardware. For how to use the diagnostic tool, see the user's manual of the tool used.

### 5.1 Problems During Startup

This section explains how to troubleshoot problems that might occur in the process from installation to startup.

#### **(1) When the tool is connected to the host machine via a USB interface, the driver is not recognized by Plug and Play.**

##### Cause:

The USB connector might not be inserted properly into the USB port of the host machine.

##### Action:

Check that the USB connector is fully inserted into the USB port of the host machine. Alternatively, disconnect the USB connector, and then insert the USB connector again after a while.

#### **(2) The USB driver file cannot be found at the specified location.**

##### Cause:

The USB driver might not have been installed normally.

##### Action:

See section **2 RFP INSTALLATION** and reinstall the USB driver.

#### **(3) The tool is connected to the host machine but the power LED on the tool is not turned on.**

##### Cause:

The USB port of the tool or the host machine might have a defect.

##### Action:

Check a defect of the tool using the diagnostic tool for the tool used. If a defect is found, consider repair. If there is no defect, try connecting the tool to another machine.

#### **(4) The “Add New Hardware Wizard” screen appears when tool is connected with the host machine.**

##### Cause:

If the USB connector of the tool is inserted into a port that differs from the one used during installation, the tool might be recognized as a new hardware item.

##### Action:

Select “Search for a suitable driver for my device (recommended)” and install the USB driver.

## 5.2 Problems During Operation

This section describes the troubleshooting for problems that may occur during operation.

### **(1) One of the following errors is displayed on the output panel.**

Error (E1000001) : *E1/E20/MINICUBE2/COMx* communication time out.

Error (E1000009) : *E1/E20/MINICUBE2/COMx*

Cause 1:

The USB cable might not be connected properly or the USB driver might not have been installed normally.

Action 1:

See **5.1 Problems During Startup** and take an appropriate action.

Cause 2:

The installed USB driver is not displayed in the Device Manager.

Alternatively, the “!” or “×” is prefixed.

Action 2:

<1> With RFP connected to the host machine, right-click the driver marked with the “!” or “×”, and then click [Uninstall].

<2> Execute [Scan for hardware changes] in the Device Manager.

<3> Reinstall the USB driver by Plug and Play.

Cause 3:

The tool might not have been recognized (when connected via a USB hub).

Action 3:

Try the following:

<1> Disconnect the USB cable and then reconnect it.

<2> Connect the USB connector to another port on the USB hub.

<3> If the above measures do not resolve the problem, do not use the USB hub but directly connect the USB connector to the USB port of the host machine main unit.

### **(2) The following message is displayed in the output panel and the flash memory programming mode cannot be entered.**

Error (E1002001): No response from Target Microcontroller (FLMD).

Error (E1002002): No response from Target Microcontroller (RESET).

Error (E1002003): No response from Target Microcontroller (FREQ).

Cause 1:

The wrong microcontroller name might be selected in the [Create a new workspace] dialog box.

Action 1:

Select the same name as that of the target microcontroller.

Cause 2:

No clock might be able to be supplied to the target microcontroller.

Action 2:

---

<1> Check if the settings in the [Supply Oscillator] dialogbox are correct. For the correct settings, see the user's manual of the target microcontroller.

<2> Check the clock supply on the target system.

Cause 3:

Power might not be supplied normally to the target microcontroller.

Action 3:

<1> Check the power supply setting.

<2> Check that the power is supplied on the target system. If the power is supplied from the tool used, a power shortage might occur. In such a case, supply power from the target system.

Cause 4:

For the RX, the I/O signal setting does not match the wiring of the target system.

Action 4:

Check if the settings in the [Mode Pin Settings] dialog match the wiring of the target system.

**(3) The following message is displayed on the output panel and normal communication is not performed in the flash memory programming mode.**

Error (E1002004): Communication failure or timeout.

Cause 1:

The clock or power supply might not be stable.

Action 1:

Confirm that the clock or power is stably supplied on the target system.

Cause 2:

Communication might not be stable.

Action 2:

<1> Check that there is no noise on the communication line.

<2> Confirm that the tool used is properly connected with the target system.

<3> Confirm that unused pins are properly handled.

<4> Confirm that the correct clock and communication rate are selected. Stable programming might be achieved by setting a lower value for the clock or communication rate.

## 6.0 CHANGE HISTORY

### 6.1 Change History

Rev	Changes	Date (dd/mm/yy)	By
1.0	Initial release of the User Manual	04/10/2012	Veeresh Tumbaragi

## 7.0 REFERENCES

RENESAS Flash Programmer 1.0x User's manual:

[http://documentation.renesas.com/doc/products/tool/doc/r20ut0599ej0400\\_rfp.pdf](http://documentation.renesas.com/doc/products/tool/doc/r20ut0599ej0400_rfp.pdf)

Additional references include:

- Information on development tool and Emulator being used:

CubeSuite+, [http://sg.renesas.com/products/tools/ide/ide\\_cubesuite\\_plus/](http://sg.renesas.com/products/tools/ide/ide_cubesuite_plus/)

E1 Emulator: [http://sg.renesas.com/products/tools/emulation\\_debugging/onchip\\_debuggers/e1/index.jsp](http://sg.renesas.com/products/tools/emulation_debugging/onchip_debuggers/e1/index.jsp)

**About this document:**

### Revision History

Version: V1.0 author: Veeresh Tumbaragi

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