

RI600/4

R20UT0588EJ0100

Rev.1.00

Supplementary Information

Apr. 1, 2011

This document explains notes of RI600/4 V.1.00 Release 02.

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1. Timer Template File

The Table 1.1 shows the relation between template file provided by RI600/4 and corresponded MCUs.

Timer template file should be specified for "clock.template" in the configuration file.

Table 1.1 Timer Template File

Template File	Corresponded MCUs
rx610.tpl	RX600 series: RX610 group, RX62N group, RX62T group, RX630 group RX200 Series: RX210 group

Using MCU which support Register Write Protection Function

A part of MCU, such as RX210 group and RX630 group, supports Register Write Protection Function.

Please permit writing in registers related to the low power consumption functions before calling "_RI_init_cmt()" when you use these MCUs.

Please refer to "7.2 Creating Startup File (resetprg.c)" for "_RI_init_cmt()".

2. Option Setting Memory, ID Code Area, etc.

Option setting memory (Endian selection register, etc.) and ID code area for flash memory, etc. are allocated in the fixed vector table area (0xFFFFFFF8 - 0xFFFFFFFF) by a part of MCU. Please do as follows to set the given value to the fixed vector table.

1. The arbitrary symbol of assembly language is defined as an interrupt handler of a fixed vector.
2. The given value is set to the defined symbol.

Example:

To set 0xFFFFFFF8 into the address 0xFFFFFFF8 (Endian selection register),

Description of configuration file:

```
interrupt_fvector[0]{
    entry_address = SELECT_ENDIAN;
};
```

Linkage editor option:

```
-define=SELECT_ENDIAN=0FFFFFFF8
```

3. Using C/C++ Compiler Package for RX Family V.1.01 or later

3.1 Using RX200 series MCU

3.1.1 Configuration File (cfg File)

Do not specify "FPSW" for "system.context" because the RX200 series MCU does not support FPU.

3.1.2 Cpu Option

Specify "-cpu=rx200" for compiler and assembler.

3.2 Generation of RI600/4 Workspace by High-performance Embedded Workshop

3.2.1 Using RX600 series MCU

Select "RX600" for CPU series (Figure 3.1), and select "RI600/4" for RTOS (Figure 3.2), and generate workspace. Please add L section to the block started from 0xFFFF0000 by the Optimized Linkage Editor's setting (Figure 3.3).

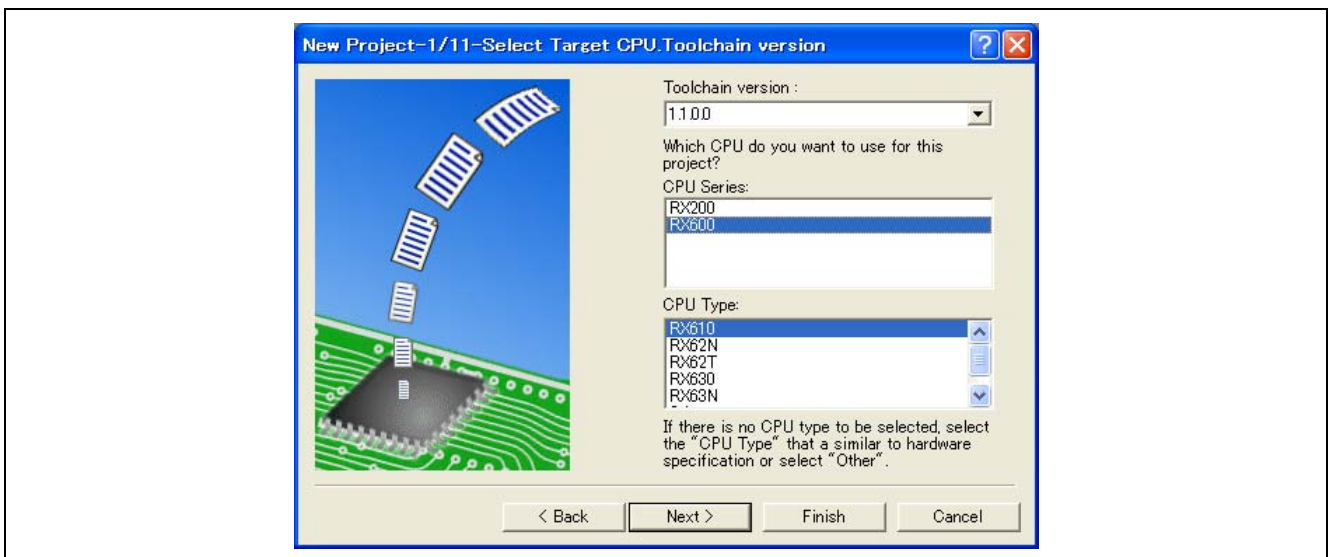


Figure 3.1 Select CPU series (RX600)

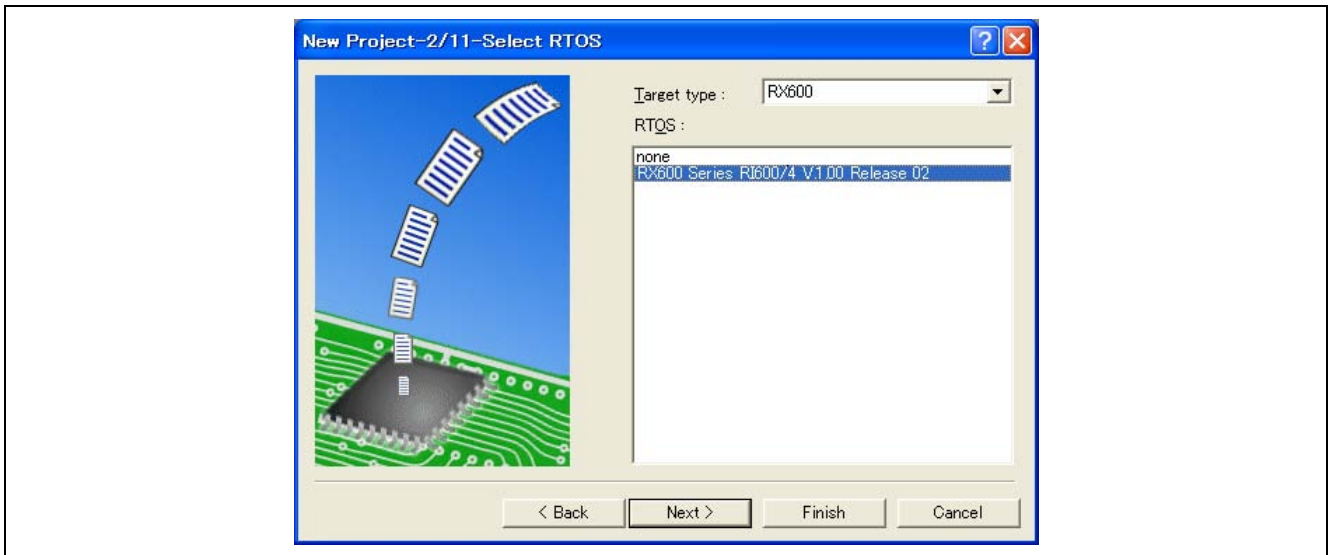


Figure 3.2 Select RTOS

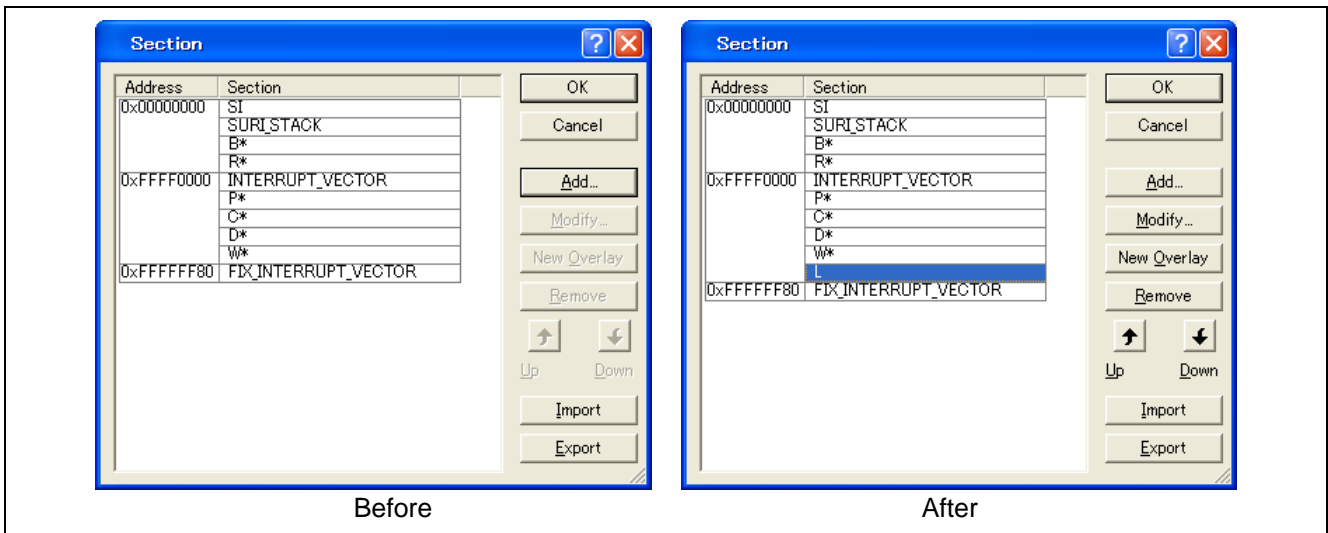


Figure 3.3 Modify Section Setting

3.2.2 Using RX200 series MCU

(1) Generate Workspace

Select "RX200" as [CPU Type] (Figure 3.4), then "none" is displayed in the [RTOS] field (Figure 3.5 upper part). Please change [Target type] to "RX600", then "RI600/4" can be selected in the [RTOS] field (Figure 3.5 lower part).

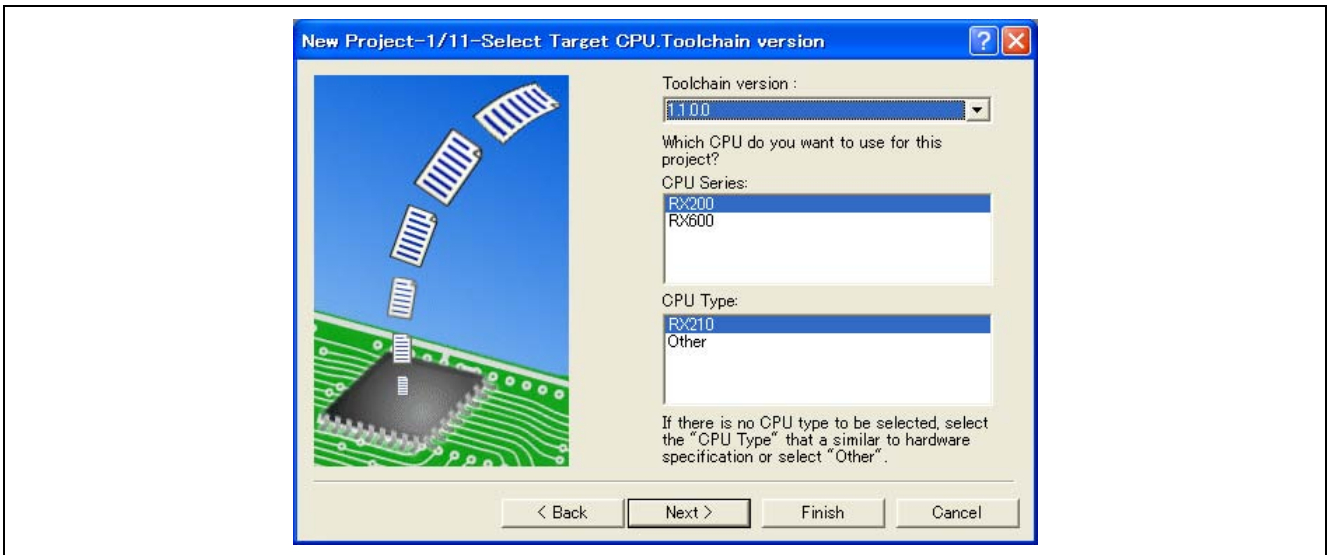


Figure 3.4 Select CPU series (RX200)

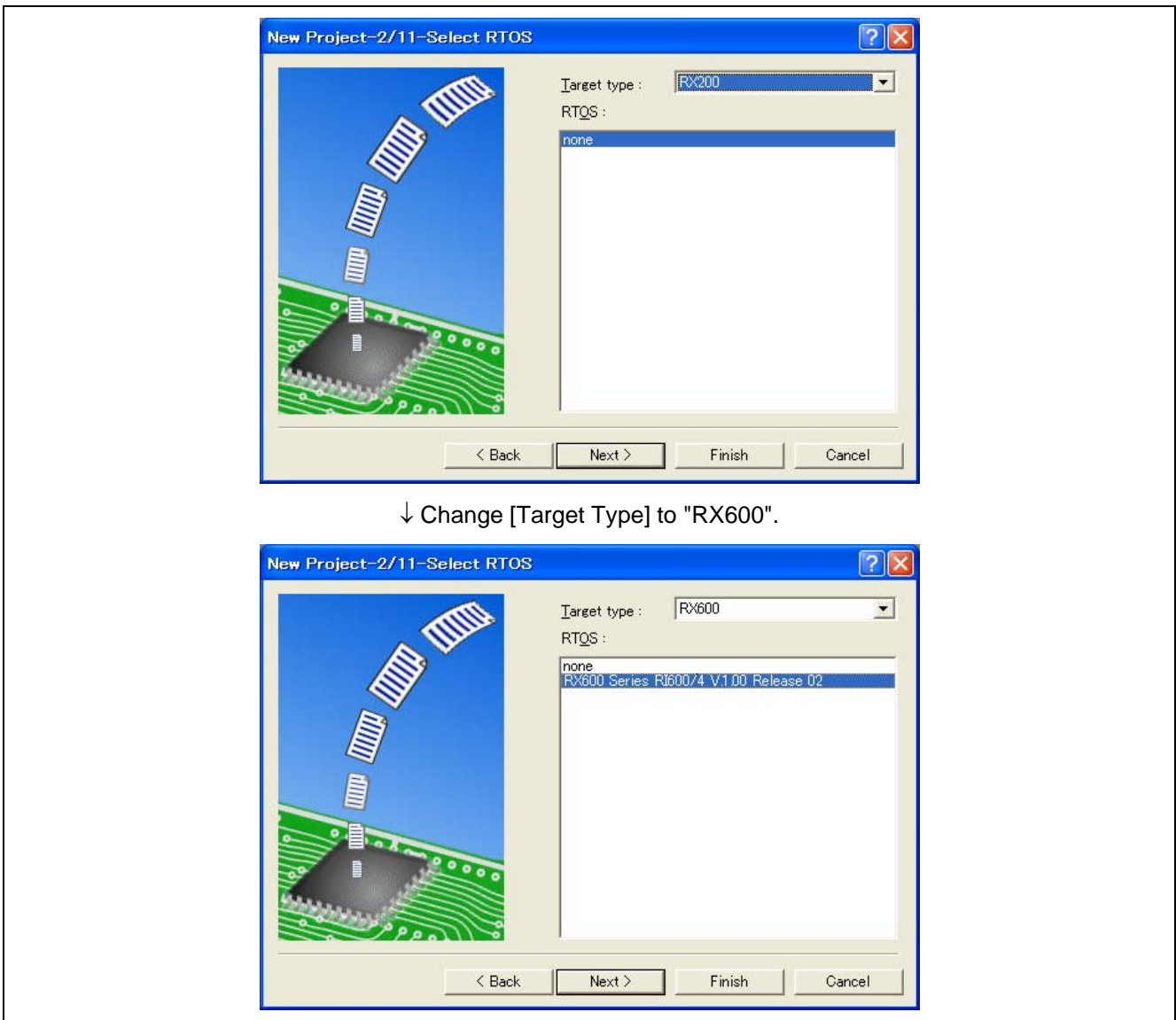


Figure 3.5 Select RTOS

(2) **Modify files generated by High-performance Embedded Workshop**

(a) **Configuration File (cfg File)**

Remove "FPSW from "system.context".

(b) **resetprg.c**

Remove FPSW setting statement in the "PowerON_Reset_PC()".

```

////////////////////////////////////
// Power-on Reset Program
////////////////////////////////////
void PowerON_Reset_PC(void)
{
    set_fpsw(FPSW_init);      ← Remove this statement

    _INITSCT();
}
    
```

(3) **Modify Section Setting**

Please add L section to the block started from 0xFFFF0000 by the Optimized Linkage Editor's setting (Figure 3.6).

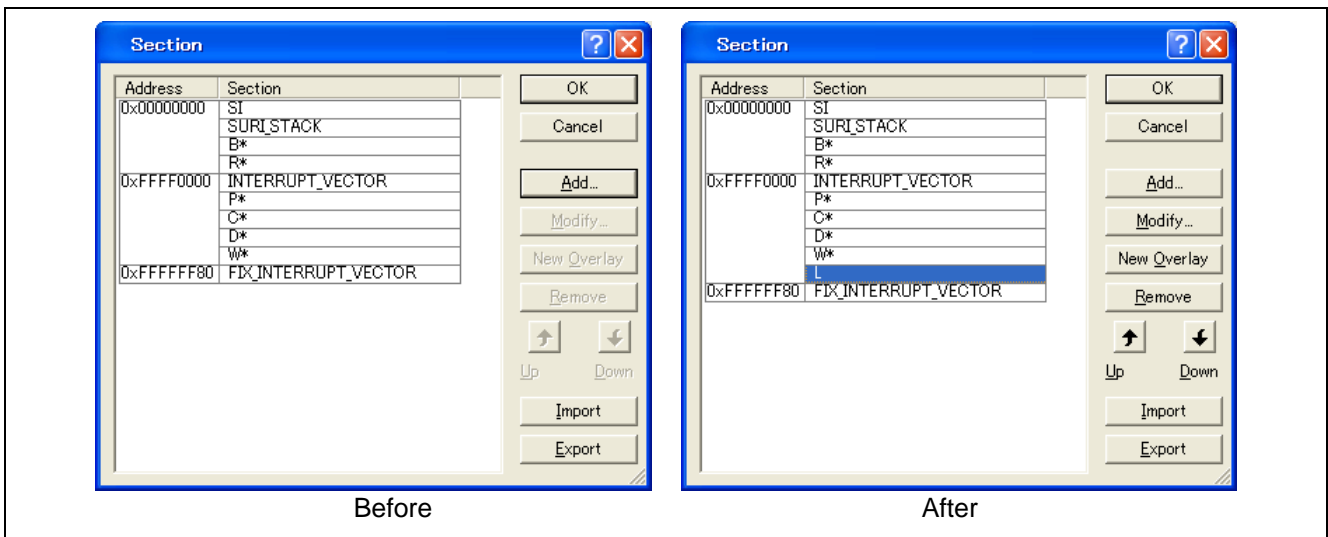


Figure 3.6 Modify Section Setting

4. Correction of User's Manual

The user's manual (document number: REJ10J2052-0100) is corrected as follows.

(1) Section 5.6.8 (ref_tsk, iref_tsk)

The description of "tskpri" and "tskbpri" are corrected as follows.

◆ tskpri

Current priority of the task. If the task is in the DORMANT state, its initial priority is returned.

◆ tskbpri

Base priority of the task. If the task is in the DORMANT state, its initial priority is returned.

(2) Section 5.12.3 (ref_mtx)

Following note for E_CTX in the "Error Code" is removed.

~~Note : The E_CTX is not detected in the following cases.~~

~~(1) Invocation of ref_mtx from non-task context~~

(3) Section 6.8 (2) (ref_mtx)

The description is corrected as follows.

(2) Interrupt Handlers

If the application contains any tasks or interrupt handlers that use the above-mentioned instructions, it is necessary that all of the interrupt handlers guarantee the ACC register. There are the following two method.

(a) Interrupt handlers explicitly guarantee the ACC register

Figure 6.7 in the user's manual shows an example of how to write a handler that guarantees the ACC register.

(b) Use "save_acc" compiler option (only for compiler package V.1.01 or later)

Specify "save_acc" option.

(4) Figure 6.7 in Section 6.8

The last line but one is corrected as follows.

```
set_acc(&st_acc); // Restores the ACC register
```

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