

[Notes]

R20TS0302EJ0100

Rev.1.00

Apr. 16, 2018

RX Driver Package,  
 RX Family Board Support Package Module  
 Using Firmware Integration Technology

**Outline**

When using the product in the title, note the following points.

1. Execution of build
2. Port initialization processing using the “bsp\_non\_existent\_port\_init” function

**1. Execution of Build**

**1.1 Applicable Products**

- RX family Board Support Package module using Firmware Integration Technology (referred to as “BSP FIT module” hereafter)

The relevant revisions and documents are as shown in "Table 1.1, Applicable BSP FIT modules".

Table 1.1 Applicable BSP FIT modules

Revision of the BSP FIT module	Document number
Rev.3.71 and all previous revisions	R01AN1685EJxxxx <sup>(Note)</sup>

Note: xxxx indicates 0371 or smaller.

The problem also applies to the following RX Driver Package products which include any of the above BSP FIT modules\*1.

\*1: The BSP FIT module is included as r\_bsp\_rx\_v\*.\*.zip (\*.\* is the revision number).

➤ RX Driver Package

The product names and revisions of the relevant RX Driver Package products and the revisions of the included BSP FIT module are as shown in "Table 1.2, Products which include the BSP FIT module".

Table 1.2 Products which include the BSP FIT module

Product name of the RX Driver Package	Revision of the RX Driver Package	Document number	Revision of the included BSP FIT module
RX113 Group RX Driver Package Ver.1.00	Rev.1.00	R01AN2466EJ0100	Rev.2.70
RX110, RX111, RX113, RX231 Group RX Driver Package Ver.1.01	Rev.1.01	R01AN2670EJ0101	Rev.3.01
RX110, RX111, RX113, RX130, RX231, RX23T Group RX Driver Package Ver.1.02	Rev.1.02	R01AN3159EJ0102	Rev.3.20
RX110, RX111, RX113, RX130, RX230, RX231, RX23T, RX24T Group RX Driver Package Ver.1.03	Rev.1.03	R01AN3233EJ0103	Rev.3.30
RX64M Group RX Driver Package Ver.1.00	Rev.1.00	R01AN2144EJ0100	Rev.2.60
RX64M Group RX Driver Package Ver.1.01	Rev.1.01	R01AN2460EJ0101	Rev.2.70
RX64M, RX71M Group RX Driver Package Ver.1.02	Rev.1.02	R01AN2606EJ0104	Rev.3.00
RX Family RX Driver Package Ver.1.10	Rev.1.10	R01AN3345EJ0100	Rev.3.31
RX Family RX Driver Package Ver.1.11	Rev.1.11	R01AN3467EJ0111	Rev.3.40
RX Family RX Driver Package Ver.1.12	Rev.1.12	R01AN3651EJ0112	Rev.3.50
RX Family RX Driver Package Ver.1.13	Rev.1.13	R01AN3859EJ0113	Rev.3.60
RX Family RX Driver Package Ver.1.14	Rev.1.14	R01AN4191EJ0114	Rev.3.71

## 1.2 Applicable MCUs

RX113, RX210, and RX63T groups

## 1.3 Details

A build error occurs when the BSP FIT module is added to a user project for an applicable MCU group and that user project is built.

➤ For the RX210

An error with error number F0520035 occurs.

➤ For the RX113 and RX63T

An error with error number E0520136 occurs.

## 1.4 Conditions

An error occurs when one of the values listed in Table 1.3 is specified for BSP\_CFG\_MCU\_PART\_PACKAGE in the “r\_bsp\_config.h” header file that is included in an applicable RX Driver Package product and build is performed.

Table 1.3 Setting values for BSP\_CFG\_MCU\_PART\_PACKAGE that trigger the problem (when performing build)

Group name	Setting value for BSP_CFG_MCU_PART_PACKAGE
RX113	0x0
RX210	0x8
RX63T	0xA or 0xB

## 1.5 Workaround

Modify the “mcu\_init.c” source code of the BSP FIT module.

The details of modifications differ depending on the MCU. For details, see sections 1.5.1 to 1.5.3.

### 1.5.1 RX113 Group

Delete the lines in red.

Before modification:

```
#elif (BSP_PACKAGE_PINS == 64)
    /* HW Manual Table 18.4 */
    #define BSP_PRV_PORT0_NE_PIN_MASK    (0xFF)
    ----- (Omitted)-----
    #define BSP_PRV_PORTF_NE_PIN_MASK    (0xFF)
    #define BSP_PRV_PORTH_NE_PIN_MASK    (0x7F)
    #define BSP_PRV_PORTJ_NE_PIN_MASK    (0x3A)
#else
```

```
void bsp_non_existent_port_init (void)
{
    #if (BSP_PACKAGE_PINS != 100)
        /* OR in missing pin masks from above. */
        PORT0.PDR.BYTE |= BSP_PRV_PORT0_NE_PIN_MASK;
        ----- (Omitted)-----
        PORTF.PDR.BYTE |= BSP_PRV_PORTF_NE_PIN_MASK;
        PORTH.PDR.BYTE |= BSP_PRV_PORTH_NE_PIN_MASK;
        PORTJ.PDR.BYTE |= BSP_PRV_PORTJ_NE_PIN_MASK;
    #endif
}
```

After modification:

```
#elif (BSP_PACKAGE_PINS == 64)
    /* HW Manual Table 18.4 */
    #define BSP_PRV_PORT0_NE_PIN_MASK    (0xFF)
    ----- (Omitted)-----
    #define BSP_PRV_PORTF_NE_PIN_MASK    (0xFF)
    #define BSP_PRV_PORTJ_NE_PIN_MASK    (0x3A)
#else
```

```
void bsp_non_existent_port_init (void)
{
    #if (BSP_PACKAGE_PINS != 100)
        /* OR in missing pin masks from above. */
        PORT0.PDR.BYTE |= BSP_PRV_PORT0_NE_PIN_MASK;
        ----- (Omitted)-----
        PORTF.PDR.BYTE |= BSP_PRV_PORTF_NE_PIN_MASK;
        PORTJ.PDR.BYTE |= BSP_PRV_PORTJ_NE_PIN_MASK;
    #endif
}
```

### 1.5.2 RX210 Group

Change or add the items in blue.

Before modification:

```
#if (BSP_PACKAGE_PINS == 144)
```

```
void bsp_non_existent_port_init (void)
{
    #if (BSP_PACKAGE_PINS != 144)
        /* OR in missing pin masks from above. */
        PORT0.PDR.BYTE |= BSP_PRV_PORT0_NE_PIN_MASK;
        PORT1.PDR.BYTE |= BSP_PRV_PORT1_NE_PIN_MASK;
        PORT2.PDR.BYTE |= BSP_PRV_PORT2_NE_PIN_MASK;
        PORT3.PDR.BYTE |= BSP_PRV_PORT3_NE_PIN_MASK;
```

After modification:

```
#if ((BSP_PACKAGE_PINS == 145) || (BSP_PACKAGE_PINS == 144))

void bsp_non_existent_port_init (void)
{
#if ((BSP_PACKAGE_PINS == 145) || (BSP_PACKAGE_PINS == 144))
    /* Do nothing, this is the maximum number of pins. */
#else
    /* OR in missing pin masks from above. */
    PORT0.PDR.BYTE |= BSP_PRV_PORT0_NE_PIN_MASK;
    PORT1.PDR.BYTE |= BSP_PRV_PORT1_NE_PIN_MASK;
    PORT2.PDR.BYTE |= BSP_PRV_PORT2_NE_PIN_MASK;
    PORT3.PDR.BYTE |= BSP_PRV_PORT3_NE_PIN_MASK;
```

### 1.5.3 RX63T Group

Delete the lines in red.

Before modification:

```
#elif (BSP_PACKAGE_PINS == 120)
#define BSP_PRV_PORT0_NE_PIN_MASK (0x3C) /* Missing pins: P02 P03 P04 P05 */
#define BSP_PRV_PORT1_NE_PIN_MASK (0x10) /* Missing pins: P14 */
#define BSP_PRV_PORT2_NE_PIN_MASK (0x00) /* Missing pins: None */
#define BSP_PRV_PORT3_NE_PIN_MASK (0x30) /* Missing pins: P34 P35 */
#define BSP_PRV_PORT4_NE_PIN_MASK (0x00) /* Missing pins: None */
#define BSP_PRV_PORT5_NE_PIN_MASK (0xC0) /* Missing pins: P56 P57 */
#define BSP_PRV_PORT6_NE_PIN_MASK (0x00) /* Missing pins: None */
#define BSP_PRV_PORT7_NE_PIN_MASK (0x00) /* Missing pins: None */
#define BSP_PRV_PORT8_NE_PIN_MASK (0x00) /* Missing pins: None */
#define BSP_PRV_PORT9_NE_PIN_MASK (0x00) /* Missing pins: None */
#define BSP_PRV_PORTA_NE_PIN_MASK (0x40) /* Missing pins: PA6 */
#define BSP_PRV_PORTB_NE_PIN_MASK (0x00) /* Missing pins: None */
#define BSP_PRV_PORTC_NE_PIN_MASK (0x3F) /* Missing pins: PC0 PC1 PC2 PC3
PC4 PC5 */
#define BSP_PRV_PORTD_NE_PIN_MASK (0x00) /* Missing pins: None */
#define BSP_PRV_PORTE_NE_PIN_MASK (0x00) /* Missing pins: None */
#define BSP_PRV_PORTF_NE_PIN_MASK (0x10) /* Missing pins: PF4 */
#define BSP_PRV_PORTG_NE_PIN_MASK (0x00) /* Missing pins: None */
```

```

#elif (BSP_PACKAGE_PINS == 112)
    #define BSP_PRV_PORT0_NE_PIN_MASK    (0x0C)    /* Missing pins: P02 P03 */
    #define BSP_PRV_PORT1_NE_PIN_MASK    (0x18)    /* Missing pins: P13 P14 */
    #define BSP_PRV_PORT2_NE_PIN_MASK    (0x60)    /* Missing pins: P25 P26 */
    #define BSP_PRV_PORT3_NE_PIN_MASK    (0x30)    /* Missing pins: P34 P35 */
    #define BSP_PRV_PORT4_NE_PIN_MASK    (0x00)    /* Missing pins: None */
    #define BSP_PRV_PORT5_NE_PIN_MASK    (0xC0)    /* Missing pins: P56 P57 */
    #define BSP_PRV_PORT6_NE_PIN_MASK    (0x00)    /* Missing pins: None */
    #define BSP_PRV_PORT7_NE_PIN_MASK    (0x00)    /* Missing pins: None */
    #define BSP_PRV_PORT8_NE_PIN_MASK    (0x00)    /* Missing pins: None */
    #define BSP_PRV_PORT9_NE_PIN_MASK    (0x00)    /* Missing pins: None */
    #define BSP_PRV_PORTA_NE_PIN_MASK    (0x40)    /* Missing pins: PA6 */
    #define BSP_PRV_PORTB_NE_PIN_MASK    (0x00)    /* Missing pins: None */
    #define BSP_PRV_PORTC_NE_PIN_MASK    (0x3F)    /* Missing pins: PC0 PC1 PC2 PC3
PC4 PC5 */
    #define BSP_PRV_PORTD_NE_PIN_MASK    (0x00)    /* Missing pins: None */
    #define BSP_PRV_PORTE_NE_PIN_MASK    (0x00)    /* Missing pins: None */
    #define BSP_PRV_PORTF_NE_PIN_MASK    (0x03)    /* Missing pins: PF0 PF1 */
    #define BSP_PRV_PORTG_NE_PIN_MASK    (0x40)    /* Missing pins: PG6 */

```

```
void bsp_non_existent_port_init (void)
{
#if (BSP_PACKAGE_PINS != 144)
    /* OR in missing pin masks from above. */
    PORT0.PDR.BYTE |= BSP_PRV_PORT0_NE_PIN_MASK;
    PORT1.PDR.BYTE |= BSP_PRV_PORT1_NE_PIN_MASK;
    PORT2.PDR.BYTE |= BSP_PRV_PORT2_NE_PIN_MASK;
    PORT3.PDR.BYTE |= BSP_PRV_PORT3_NE_PIN_MASK;
#if (BSP_PACKAGE_PINS > 100)
    PORT4.PDR.BYTE |= BSP_PRV_PORT4_NE_PIN_MASK;
    PORT5.PDR.BYTE |= BSP_PRV_PORT5_NE_PIN_MASK;
    PORT6.PDR.BYTE |= BSP_PRV_PORT6_NE_PIN_MASK;
#endif
    PORT7.PDR.BYTE |= BSP_PRV_PORT7_NE_PIN_MASK;
    PORT8.PDR.BYTE |= BSP_PRV_PORT8_NE_PIN_MASK;
    PORT9.PDR.BYTE |= BSP_PRV_PORT9_NE_PIN_MASK;
    PORTA.PDR.BYTE |= BSP_PRV_PORTA_NE_PIN_MASK;
    PORTB.PDR.BYTE |= BSP_PRV_PORTB_NE_PIN_MASK;
#if (BSP_PACKAGE_PINS > 100)
    PORTC.PDR.BYTE |= BSP_PRV_PORTC_NE_PIN_MASK;
#endif
    PORTD.PDR.BYTE |= BSP_PRV_PORTD_NE_PIN_MASK;
```

After modification:

```
#elif (BSP_PACKAGE_PINS == 120)
    #define BSP_PRV_PORT0_NE_PIN_MASK      (0x3C)    /* Missing pins: P02 P03 P04 P05 */
    #define BSP_PRV_PORT1_NE_PIN_MASK      (0x10)    /* Missing pins: P14 */
    #define BSP_PRV_PORT2_NE_PIN_MASK      (0x00)    /* Missing pins: None */
    #define BSP_PRV_PORT3_NE_PIN_MASK      (0x30)    /* Missing pins: P34 P35 */
    #define BSP_PRV_PORT7_NE_PIN_MASK      (0x00)    /* Missing pins: None */
    #define BSP_PRV_PORT8_NE_PIN_MASK      (0x00)    /* Missing pins: None */
    #define BSP_PRV_PORT9_NE_PIN_MASK      (0x00)    /* Missing pins: None */
    #define BSP_PRV_PORTA_NE_PIN_MASK      (0x40)    /* Missing pins: PA6 */
    #define BSP_PRV_PORTB_NE_PIN_MASK      (0x00)    /* Missing pins: None */
    #define BSP_PRV_PORTD_NE_PIN_MASK      (0x00)    /* Missing pins: None */
    #define BSP_PRV_PORTE_NE_PIN_MASK      (0x00)    /* Missing pins: None */
    #define BSP_PRV_PORTF_NE_PIN_MASK      (0x10)    /* Missing pins: PF4 */
    #define BSP_PRV_PORTG_NE_PIN_MASK      (0x00)    /* Missing pins: None */
```

```
#elif (BSP_PACKAGE_PINS == 112)
    #define BSP_PRV_PORT0_NE_PIN_MASK      (0x0C)    /* Missing pins: P02 P03 */
    #define BSP_PRV_PORT1_NE_PIN_MASK      (0x18)    /* Missing pins: P13 P14 */
    #define BSP_PRV_PORT2_NE_PIN_MASK      (0x60)    /* Missing pins: P25 P26 */
    #define BSP_PRV_PORT3_NE_PIN_MASK      (0x30)    /* Missing pins: P34 P35 */
    #define BSP_PRV_PORT7_NE_PIN_MASK      (0x00)    /* Missing pins: None */
    #define BSP_PRV_PORT8_NE_PIN_MASK      (0x00)    /* Missing pins: None */
    #define BSP_PRV_PORT9_NE_PIN_MASK      (0x00)    /* Missing pins: None */
    #define BSP_PRV_PORTA_NE_PIN_MASK      (0x40)    /* Missing pins: PA6 */
    #define BSP_PRV_PORTB_NE_PIN_MASK      (0x00)    /* Missing pins: None */
    #define BSP_PRV_PORTD_NE_PIN_MASK      (0x00)    /* Missing pins: None */
    #define BSP_PRV_PORTE_NE_PIN_MASK      (0x00)    /* Missing pins: None */
    #define BSP_PRV_PORTF_NE_PIN_MASK      (0x03)    /* Missing pins: PF0 PF1 */
    #define BSP_PRV_PORTG_NE_PIN_MASK      (0x40)    /* Missing pins: PG6 */
```



```
void bsp_non_existent_port_init (void)
{
#if (BSP_PACKAGE_PINS != 144)
    /* OR in missing pin masks from above. */
    PORT0.PDR.BYTE |= BSP_PRV_PORT0_NE_PIN_MASK;
    PORT1.PDR.BYTE |= BSP_PRV_PORT1_NE_PIN_MASK;
    PORT2.PDR.BYTE |= BSP_PRV_PORT2_NE_PIN_MASK;
    PORT3.PDR.BYTE |= BSP_PRV_PORT3_NE_PIN_MASK;
    PORT7.PDR.BYTE |= BSP_PRV_PORT7_NE_PIN_MASK;
    PORT8.PDR.BYTE |= BSP_PRV_PORT8_NE_PIN_MASK;
    PORT9.PDR.BYTE |= BSP_PRV_PORT9_NE_PIN_MASK;
    PORTA.PDR.BYTE |= BSP_PRV_PORTA_NE_PIN_MASK;
    PORTB.PDR.BYTE |= BSP_PRV_PORTB_NE_PIN_MASK;
    PORTD.PDR.BYTE |= BSP_PRV_PORTD_NE_PIN_MASK;
```

## 1.6 Schedule for Fixing the Problem

➤ BSP FIT module

This problem will be fixed in Rev.3.80, which will be the next release.

➤ RX Driver Package

The BSP FIT module Rev.3.80 modified in accord with this note will be included in Ver.1.15, which will be the next release.

## 2. Port Initialization Processing Using the “bsp\_non\_existent\_port\_init” Function

### 2.1 Applicable Products

- RX family Board Support Package module using Firmware Integration Technology (referred to as “BSP FIT module” hereafter)

The relevant revisions and documents are as shown in "Table 2.1, Applicable BSP FIT modules".

Table 2.1 Applicable BSP FIT modules

Revision of the BSP FIT module	Document number
Rev.3.71 and all previous revisions*1	R01AN1685EJ xxxx <sup>(Note),*1</sup>

Note: xxxx indicates 0371 or smaller.

The problem also applies to the following RX Driver Package products which include any of the above BSP FIT modules\*2 and the corresponding application notes.

- \*1: This note also applies to Rev.3.80 (xxxx in the document number is 0380) which will be the next release.  
For details about the schedule for fixing the problem, see section 2.6.

- \*2: The BSP FIT module is included as r\_bsp\_rx\_v\*.\*.zip (\*.\* is the revision number).

➤ RX Driver Package and application notes

The product names and revisions of the relevant RX Driver Package products and the corresponding application notes, and the revisions of the included BSP FIT module are as shown in "Table 2.2, Products which include the BSP FIT module".

Table 2.2 Products which include the BSP FIT module

Product name of the RX Driver Package and application note	Revision of the RX Driver Package	Document number	Revision of the included BSP FIT module
RX113 Group RX Driver Package Ver.1.00	Rev.1.00	R01AN2466EJ0100	Rev.2.70
RX110, RX111, RX113, RX231 Group RX Driver Package Ver.1.01	Rev.1.01	R01AN2670EJ0101	Rev.3.01
RX110, RX111, RX113, RX130, RX231, RX23T Group RX Driver Package Ver.1.02	Rev.1.02	R01AN3159EJ0102	Rev.3.20
RX110, RX111, RX113, RX130, RX230, RX231, RX23T, RX24T Group RX Driver Package Ver.1.03	Rev.1.03	R01AN3233EJ0103	Rev.3.30
RX64M Group RX Driver Package Ver.1.00	Rev.1.00	R01AN2144EJ0100	Rev.2.60
RX64M Group RX Driver Package Ver.1.01	Rev.1.01	R01AN2460EJ0101	Rev.2.70
RX64M, RX71M Group RX Driver Package Ver.1.02	Rev.1.02	R01AN2606EJ0104	Rev.3.00
RX Family RX Driver Package Ver.1.10	Rev.1.10	R01AN3345EJ0100	Rev.3.31
RX Family RX Driver Package Ver.1.11	Rev.1.11	R01AN3467EJ0111	Rev.3.40
RX Family RX Driver Package Ver.1.12	Rev.1.12	R01AN3651EJ0112	Rev.3.50
RX Family RX Driver Package Ver.1.13	Rev.1.13	R01AN3859EJ0113	Rev.3.60
RX Family RX Driver Package Ver.1.14	Rev.1.14	R01AN4191EJ0114	Rev.3.71
RX231 Group Serial Transfer Demo using RX real-time OS Package	Rev.1.00	R01AN3783ES0100	Rev.3.40

**2.2 Applicable MCUs**

RX113, RX210, RX231, RX610, RX62G, RX62N, RX62T, RX631, and RX63N groups

## 2.3 Details

The initialization settings of nonexistent ports in the “bsp\_non\_existent\_port\_init” function in the “mcu\_init.c” source code of the BSP FIT module are incorrect.

The details differ depending on the MCU. Read sections 2.3.1 to 2.3.4.

### 2.3.1 RX63N and RX631 Groups

When a 64-pin TFLGA package is selected, the “bsp\_non\_existent\_port\_init” function initializes the nonexistent ports of a 64-pin LQFP package. For this reason, the definition for the 64-pin TFLGA package is not executed.

- Example: Excerpt from “mcu\_init.c” for the RX63N

```
#elif (BSP_PACKAGE_PINS == 64)
    #define BSP_PRV_PORT0_NE_PIN_MASK      (0x3C)      /* Missing pins: P02 P03 P04 P05 */
    ----- (Omitted)-----
    #define BSP_PRV_PORTG_NE_PIN_MASK      (0x7F)      /* Missing pins: PG0 PG1 PG2 PG3
PG4 PG5 PG6 */
```

The condition within the red box, if 64 is specified as the pin count, does not execute the settings for the 64-pin TFLGA.

### 2.3.2 RX113 and RX231 Groups

When a 100-pin package is selected, the “bsp\_non\_existent\_port\_init” function does not initialize the nonexistent ports.

- Example: Excerpt from “mcu\_init.c” for the RX231

```
#if (BSP_PACKAGE_PINS != 100)
    /* OR in missing pin masks from above. */
    PORT0.PDR.BYTE |= BSP_PRV_PORT0_NE_PIN_MASK;
    ----- (Omitted)-----
    PORTJ.PDR.BYTE |= BSP_PRV_PORTJ_NE_PIN_MASK;
#endif
```

The condition within the red box, if 100 is specified as the pin count, does not initialize the nonexistent ports.

### 2.3.3 RX210 Group

When a package of 80, 64, or 48 pins is selected, the “bsp\_non\_existent\_port\_init” function incorrectly initializes nonexistent ports.

➤ Example: Excerpt from “mcu\_init.c” for the RX210

```
#elif (BSP_PACKAGE_PINS == 80)
#define BSP_PRV_PORT0_NE_PIN_MASK (0x07) /* Missing pins: P00 P01 P02 */
#define BSP_PRV_PORT1_NE_PIN_MASK (0x00) /* Missing pins: None */
#define BSP_PRV_PORT2_NE_PIN_MASK (0x3C) /* Missing pins: P22 P23 P24 P25 */
#define BSP_PRV_PORT3_NE_PIN_MASK (0x08) /* Missing pins: P33 */
#define BSP_PRV_PORT4_NE_PIN_MASK (0x00) /* Missing pins: None */
#define BSP_PRV_PORT5_NE_PIN_MASK (0x4F) /* Missing pins: P50 P51 P52 P53 P56 */
#define BSP_PRV_PORT6_NE_PIN_MASK (0xFF) /* Missing pins: P60 ~ P67 */
#define BSP_PRV_PORT7_NE_PIN_MASK (0xFF) /* Missing pins: P70 ~ P77 */
#define BSP_PRV_PORT8_NE_PIN_MASK (0xCF) /* Missing pins: P80 P81 P82 P83 P86 P87 */
#define BSP_PRV_PORT9_NE_PIN_MASK (0x0F) /* Missing pins: P90 P91 P92 P93 */
#define BSP_PRV_PORTA_NE_PIN_MASK (0x80) /* Missing pins: PA7 */
#define BSP_PRV_PORTB_NE_PIN_MASK (0x00) /* Missing pins: None */
#define BSP_PRV_PORTC_NE_PIN_MASK (0x03) /* Missing pins: PC0 PC1 */
#define BSP_PRV_PORTD_NE_PIN_MASK (0xF8) /* Missing pins: PD3 PD4 PD5 PD6 PD7 */
#define BSP_PRV_PORTE_NE_PIN_MASK (0xC0) /* Missing pins: PE6 PE7 */
#define BSP_PRV_PORTF_NE_PIN_MASK (0x20) /* Missing pins: PF5 */
#define BSP_PRV_PORTH_NE_PIN_MASK (0x00) /* Missing pins: None */
#define BSP_PRV_PORTJ_NE_PIN_MASK (0x28) /* Missing pins: PJ3 PJ5 */
#define BSP_PRV_PORTK_NE_PIN_MASK (0x3C) /* Missing pins: PK2 PK3 PK4 PK5 */
#define BSP_PRV_PORTL_NE_PIN_MASK (0x03) /* Missing pins: PL0 PL1 */
```

The values within the red boxes are the incorrect initialization settings.

### 2.3.4 RX610, RX62T, RX62G, and RX62N Groups

When one of the following packages is selected, the “bsp\_non\_existent\_port\_init” function performs unnecessary processing. Specifically, the function specifies the settings for output port “1” as the settings for nonexistent ports (nonexistent because the number of pins of the selected package is less than the maximum pin count for the applicable MCU group). However, such processing is unnecessary.

Note that for 85-pin packages of RX62N, the settings of output port “1” are specified for the port that exists (P03) and P03 output goes low.

- RX610: 144-pin packages
- RX62T: Packages other than 120-pin packages
- RX62G: 100-pin packages
- RX62N: Packages other than 176-pin packages<sup>(Note)</sup>

➤ Example: Excerpt from “mcu\_init.c” for RX62N

```
void bsp_non_existent_port_init (void)
{
#if (BSP_PACKAGE_PINS != 176)
    /* OR in missing pin masks from above. */
    PORT0.DDR.BYTE |= BSP_PRV_PORT0_NE_PIN_MASK;
    PORT1.DDR.BYTE |= BSP_PRV_PORT1_NE_PIN_MASK;
    PORT2.DDR.BYTE |= BSP_PRV_PORT2_NE_PIN_MASK;
    ----- (Omitted) -----
    PORTE.DDR.BYTE |= BSP_PRV_PORTE_NE_PIN_MASK;
    PORTF.DDR.BYTE |= BSP_PRV_PORTF_NE_PIN_MASK;
    PORTG.DDR.BYTE |= BSP_PRV_PORTG_NE_PIN_MASK;
#endif
}
```

The lines within the red box are unnecessary processing.

```
#elif (BSP_PACKAGE_PINS == 85)
    #define BSP_PRV_PORT0_NE_PIN_MASK (0x0F) /* Missing pins: P00 P01 P02 P03 */
    #define BSP_PRV_PORT1_NE_PIN_MASK (0xA3) /* Missing pins: P10 P11 P15 P17 */
    #define BSP_PRV_PORT2_NE_PIN_MASK (0x00) /* Missing pins: None */
```

Because the value within the red box is incorrect, P03 output goes low.

## 2.4 Conditions

The problem occurs when one of the values listed in Table 2.3 is specified for BSP\_CFG\_MCU\_PART\_PACKAGE in the “r\_bsp\_config.h” header file that is included in an applicable RX Driver Package product and port initialization is performed.

Table 2.3 Setting values for BSP\_CFG\_MCU\_PART\_PACKAGE that trigger the problem (when initializing ports)

Group name	Setting value for BSP_CFG_MCU_PART_PACKAGE
RX113	0x9 or 0xA
RX210	0x1, 0x2, 0x3, 0x6, 0x7, or 0xB
RX231	0x0 or 0x9
RX610	0x1
RX62N	0x1, 0x2, 0x3, or 0x4
RX62T	0x1, 0x2, or 0x3
RX62G	0x1
RX631	0xB
RX63N	0xB

## 2.5 Workaround

### 2.5.1 RX63N and RX631 Groups

Add the initialization settings for nonexistent ports of the 64-pin TFLGA package in the “mcu\_init.c” source code of the BSP FIT module.

For details about the initialization settings, see the following URL:

<https://www.renesas.com/search/keyword-search.html#genre=document&q=r01uh0041>

RX63N Group, RX631 Group User’s Manual: Hardware

Chapter 21, I/O Ports

### 2.5.2 RX113 and RX231 Groups

To change the source code so that it initializes nonexistent ports, delete the following “if” statement from the “bsp\_non\_existent\_port\_init” function in “mcu\_init.c”.

```
#if (BSP_PACKAGE_PINS != 100)
```

### 2.5.3 RX210 Group

For the nonexistent ports of a 100-pin package, specify the settings for output port “1” in “mcu\_init.c”.

For details about the ports in each type of package, see the following URL:

<https://www.renesas.com/search/keyword-search.html#genre=document&q=r01uh0037>

RX210 Group User’s Manual: Hardware

Chapter 19, I/O Ports

### 2.5.4 RX610, RX62T, RX62G, and RX62N Groups

The settings for output port “1” are not necessary for nonexistent ports (nonexistent because the number of pins of the selected package is less than the maximum pin count for the applicable MCU group).

Delete the applicable lines in “mcu\_init.c”.

For details about the ports in each type of package, see the User’s Manual for the applicable MCU.

- RX610 group

<https://www.renesas.com/search/keyword-search.html#genre=document&q=r01uh0032>

RX610 Group User’s Manual: Hardware

Chapter 14, I/O Ports

- RX62T and RX62G groups

<https://www.renesas.com/search/keyword-search.html#genre=document&q=r01uh0034>

RX62T Group, RX62G Group User’s Manual: Hardware

Chapter 15, I/O Ports

- RX62N group

<https://www.renesas.com/search/keyword-search.html#genre=document&q=r01uh0033>

RX62N Group, RX621 Group User’s Manual: Hardware

Chapter 17, I/O Ports

### 2.6 Schedule for Fixing the Problems

- BSP FIT module

The problems will be fixed in the revision after Rev.3.80<sup>(Note)</sup> which will be the next release.

Note: This note will not be applied to Rev.3.80.

- RX Driver Package

The modified BSP FIT module will be bundled with the version after Ver.1.15<sup>(Note)</sup> which will be the next release.

Note: This note will not be applied to Ver.1.15.



**Revision History**

Rev.	Date	Description	
		Page	Summary
1.00	Apr. 16, 2018	-	First edition issued

TOYOSU FORESIA, 3-2-24 Toyosu, Koto-ku, Tokyo 135-0061 Japan  
 Renesas Electronics Corporation

■Inquiry

<https://www.renesas.com/contact/>

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