[Notes] C/C++ Compiler Package for RX Family	R20TS0213EJ0100 Rev.1.00 Sep. 16, 2017

Outline

When using the CC-RX C/C++ compiler package for the RX family, note the following point.

1. Using a goto statement to move to a label in a switch statement (CCRX#045)

Note: The number which follows the description of the precautionary note is an identifying number for the precaution.

1. Using a goto Statement to Move to a Label in a switch Statement (CCRX#045)

1.1 Applicable Products

CC-RX V2.00.00 to V2.07.00

1.2 Details

When a goto statement to move to a label in a switch statement is used, an unintended case label clause may be executed.

1.3 Conditions

An invalid code may be generated when all of conditions (1) to (4), described below, are met:

(1) The clause of the last case label or the last default label in a switch statement contains a break statement.

(2) A switch statement after the break statement of (1) contains a label.

(3) There is a goto statement to move to the label of (2).

(4) There is no break statement to exit from the clause of the label of (2).

1.4 Example

The following is an example of the problem. Characters in red are the parts that correspond to the conditions.

[C source]

```
 1    void func(int c) {
 2      switch (c) {
 3        case 'a':
 4          func1();
 5          break;
 6        case 'b':
 7          func2();
 8          goto LABEL;        /* Condition (3) */
 9        default:
10          func3();
11          break;             /* Condition (1) */
12    LABEL:                   /* Condition (2) */
13          func4();
14        }                    /* Condition (4) */
15    }
```

- Line 11: Condition (1) is met since the clause of the last default label in a switch statement contains a break statement.

- Line 12: Condition (2) is met since a label "LABEL" exists after the break statement of Condition (1).

- Line 8: Condition (3) is met since a goto statement to move to the label "LABEL" of Condition (2) exists.

    Additionally, Condition (4) is met since there is no break statement to exit from the clause of the label "LABEL".

Supplement: In the above case, when c == 'b' holds in the processing of the switch statement of line 2, the correct operation is to execute processing in the order from func2() to func4(), but the clause of case 'a' is also executed improperly after processing from func2() to func4().

1.5 Workarounds

To avoid this problem, take any of the following steps:

(1) Do not describe a label after the break statement of Condition (1).

(2) Add a break statement at the location where to exit the switch statement from the label of Condition (2).

(3) Replace the switch statement with an equivalent if statement.

1.6 Schedule for Fixing the Problem

The problem will be fixed in CC-RX V2.08.00.

Revision History

Rev.	Date	Description	
		Page	**Summary**
1.00	Sep. 16, 2017	-	First edition issued

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