

## Note on Using C compilers for RL78 Family and 78K0 MCUs CA78K0 and CC78K0

When using the C compilers for the RL78 family and 78K0 MCUs CA78K0 and CC78K0, take note of the following problem:

- With using a conditional operator (No.77)

### 1. Products and Versions Concerned

CA78K0 V1.20 and V1.21 (included in the integrated development environment CubeSuite+)

CA78K0 V1.10 and V1.11 (included in the integrated development environment CubeSuite)

CC78K0 V4.10 (bundled with the integrated development environment PM+)

### 2. Problem

If the second and third operands of the conditional operator are Boolean variables, incorrect code may be generated. Note that sreg variable.bit and single-bit SFRs are interpreted as Boolean variables.

So if the second and third operands of the operator are the these types of Boolean variables, the above problem may arise.

Examples

```
-----  
[*c]  
__boolean b1;  
unsigned char uc1;  
void func()  
{  
    b1 = (uc1 & 0x80) ? (__boolean)1 : (__boolean)0;  
}
```

### 3. Workarounds

To avoid this problem, do either of the following:

(1) Use the if statement.

```
-----  
if (uc1 & 0x80) {  
    b1 = 1;  
}  
else {  
    b1 = 0;  
}  
-----
```

(2) Do not use Boolean variables for the second or third operators.

```
-----  
b1 = (uc1 & 0x80) ? 1 : 0;  
-----
```

#### 4. Schedule of Fixing Problem

This problem has already been fixed in CA78K0 V1.30 (included in integrated development environment CubeSuite+). For details see RENESAS TOOL NEWS Document No. 121101/tn2.

This news can be seen at:

<https://www.renesas.com/search/keyword-search.html#genre=document&q=121101tn2>

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