

Note on Using the C Compiler Package for the RL78 Family

When using the CC-RL C Compiler package for the RL78 family, take note of the problem described in this note regarding the following point.

- External labels defined after conditional assembly control instructions (CCRL#006)

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

1. Applicable Products

CC-RL V1.01.00 to V1.02.00

2. Description

When assembly source code includes a conditional assembly control instruction in a section for an uninitialized data area, the address of an external label which is defined after that might be incorrect.

3. Conditions

The problem arises when all conditions from (1) to (3) listed below are met.

(1) A conditional assembly control instruction (*1) is used in a section (*2) for an uninitialized data area.

(2) The label which is defined in the line following the conditional assembly control instruction in (1) is externally declared with a `.public` or `.extern` directive.

(3) A memory area is secured by a `.ds` directive on the same line as the label defined in (2).

*1: `$ifdef`, `$ifndef`, `$if`, `$ifn`, `$elseif`, `$elseifn`, `$else`, and `$endif`

*2: Sections having the `bss`, `sbss`, or `bssf` attribute

Example of statements satisfying the condition:

```
-----  
.public label1  
.public label2  
  
.section .bss, bss  
label0:.ds (10)  
$if 1 ; Condition (1): $if is used in the .bss section.  
label1:.ds (4) ; Conditions (2)(3): label1 being defined was  
; externally declared by a .public directive,  
; and a 4-byte area is secured by the .ds directive  
; on the same line.  
  
label2:  
.ds (4)  
$endif  
-----
```

The label "label1" in the above example satisfies the conditions described in this note.

The correct offset from label0 to label1 is 10 bytes. However, the offset becomes $10+1=11$ -bytes, since the conditional assembly control instruction is incorrectly counted as 1- byte.

Since label2 does not satisfy condition (3), the offset from label0 is the correct 14 bytes.

4. Workaround

If you use a .ds directive, place it in the line following the label.

Example of the workaround:

```
-----  
.....  
label1:  
.ds (4) ; Place the .ds directive in the line following label1  
.....  
-----
```

5. Schedule for Fixing the Problem

This problem will be fixed in the next version.

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