[Notes]

C Compiler Package for RH850 Family (No. 41)

Outline

When using the CC-RH C Compiler Package for RH850 Family, note the following point.

1. Note on using designators for anonymous unions or structures (No. 41)

*The number in the parentheses is the identification number of the note.

1. Note on Using Designators for Anonymous Unions or Structures (No. 41)

1.1 Applicable Products

For Windows: CC-RH V1.07.00 to V2.07.00

For Linux: CC-RH V2.06.01 to V2.07.00

1.2 Details

When you use a designator to initialize any member of an anonymous union or structure, the initial value may be incorrect. This may also cause an internal error and prevent building.

1.3 Conditions

The problem might occur when all conditions (1) to (3) listed below are met.

(1) The lang=c99 option is specified.

(2) An anonymous union or structure is used.

(3) A designator is used to initialize a member* of the union or structure mentioned in (2).
   * This includes cases where the member is also a union or structure.

[Example]

An example of commands and code that will cause the problem is given below.

ccrh -lang=c99 tp.c // (1)

```
/* tp.c */
union UNI {
  struct {
    int iii;
    char ccc[4];
  };          // (2)
} var = { .iii = 1, .ccc = {2, 3, 4, 5} }; // (3)
```

In this example, member iii is erroneously initialized to 0 although it should be 1.

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1.4 Workaround

Take either of the following actions.

(1) Name the union or structure.

```
/* tp.c */
union UNI {
  struct {
    int iii;
    char ccc[4];
  } st;        // Name the structure
} var = { .st.iii = 1, .st.ccc = {2, 3, 4, 5} };
```

(2) Avoid using designators.

```
/* tp.c */
union UNI {
  struct {
    int iii;
    char ccc[4];
  };
} var = { 1, {2, 3, 4, 5} };  // Initialization without using designators
```

1.5 Schedule for Fixing the Problem

Upcoming version of the CC-RH compiler will report a compilation error and output the error message stated below in cases where a designator is used to initialize any member of an anonymous union or structure. The release dates of the new versions have not been determined.

    Anonymous unions and structures cannot be initialized using designators.

We recommend using either of the workarounds given in 1.4 even after you have upgraded your compiler to a new version.

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Revision History

Rev.	Date	Page	Summary
		Description	
1.00	Mar.20.25	-	First edition issued

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