

RENESAS TOOL NEWS on April 1, 2010: 100401/tn2

## The C Compiler Package for the M32C Series of MCUs Revised to V.5.42 Release 00

We have revised the C compiler package for the M32C series of MCUs (M3T-NC308WA) from V.5.41 Release 01A to V.5.42 Release 00.

- With performing step-over or step-out execution
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### 1. Descriptions of Revision

In this section, main items of the revision are described. For further information about the revision, see the release note of the revised product.

#### 1.1 Functions Improved

- (1) Enhanced has been the optimization of making a function from the common portions of generated codes
- (2) The number of characters typed into a command line has been increased from 256 to 2048.
- (3) In Call Walker (a stack size calculation utility tool), the methods of presenting values of stack usage have been improved as follows: If the Show Used Stack command and the Show Simple Symbols command are selected, the value of stack usage presented at the next to a function (parent) includes those of the functions (children, not displayed) that are called from the parent function. The maximum value of the stack usage includes also the values of stack usage of the functions (children) that have been not displayed.

#### 1.2 Problems Fixed

The following seventeen problems have been fixed:

- (1) On placing functions in sections

For details, see RENESAS TOOL NEWS Document No. RSO-M3T-NC308WA-051101D at:

<https://www.renesas.com/search/keyword-search.html#genre=document&q=051101tn8>

(2) With using the startup file in C language

For details, see RENESAS TOOL NEWS Document No. 070216/tn4 at:

<https://www.renesas.com/search/keyword-search.html#genre=document&q=070216tn4>

(3) With using the startup file in C language

For details, see RENESAS TOOL NEWS Document No. 070316/tn4 at:

<https://www.renesas.com/search/keyword-search.html#genre=document&q=070316tn4>

(4) With passing arguments to functions via the stack

For details, see RENESAS TOOL NEWS Document No. 070316/tn5 at:

<https://www.renesas.com/search/keyword-search.html#genre=document&q=070316tn5>

(5) With using options to optimize jump instructions at linking

For details, see RENESAS TOOL NEWS Document No. 070716/tn2 at:

<https://www.renesas.com/search/keyword-search.html#genre=document&q=070716tn2>

(6) With using preprocessing command #error

For details, see RENESAS TOOL NEWS Document No. 080301/tn2 at:

<https://www.renesas.com/search/keyword-search.html#genre=document&q=080301tn2>

(7) With issuing preprocessing directive #pragma DMAC to extend the C compiler's functionality

For details, see RENESAS TOOL NEWS Document No. 080416/tn1 at:

<https://www.renesas.com/search/keyword-search.html#genre=document&q=080416tn1>

(8) With using a volatile-qualified variable in the for or while statement

For details, see RENESAS TOOL NEWS Document No. 080616/tn1 at:

<https://www.renesas.com/search/keyword-search.html#genre=document&q=080616tn1>

(9) With comparing a bit field variable with 1 or 0

For details, see RENESAS TOOL NEWS Document No. 080616/tn2 at:

<https://www.renesas.com/search/keyword-search.html#genre=document&q=080616tn2>

(10) With using a variable volatile-qualified with the indirect member operator

For details, see RENESAS TOOL NEWS Document No. 080616/tn3 at:

<https://www.renesas.com/search/keyword-search.html#genre=document&q=080616tn3>

(11) With using a volatile-qualified variable in the bit-wise and operation

For details, see RENESAS TOOL NEWS Document No. 080616/tn4 at:

<https://www.renesas.com/search/keyword-search.html#genre=document&q=080616tn4>

(12) With initializing a member of a structure using an expression containing the sizeof operator

For details, see RENESAS TOOL NEWS Document No. 080716/tn at:

<https://www.renesas.com/search/keyword-search.html#genre=document&q=080716tn2>

(13) With using the #pragma DMAC preprocessing directive in C compilers

For details, see RENESAS TOOL NEWS Document No. 081016/tn8 at:

<https://www.renesas.com/search/keyword-search.html#genre=document&q=081016tn8>

(14) With the automatic generation function of variable vector tables

For details, see RENESAS TOOL NEWS Document No. 091001/tn4 at:

<https://www.renesas.com/search/keyword-search.html#genre=document&q=091001tn4>

(15) With calculating stack usage

For details, see RENESAS TOOL NEWS Document No. 091116/tn2 at:

<https://www.renesas.com/search/keyword-search.html#genre=document&q=091116tn2>

(16) With errors arising after linking is performed

For details, see RENESAS TOOL NEWS Document No. 091116/tn3 at:

<https://www.renesas.com/search/keyword-search.html#genre=document&q=091116tn3>

(17) With Windows being abnormally terminated when optimization of replacing external variables with constants applied

### **1.3 High-performance Embedded Workshop Updated**

The High-performance Embedded Workshop included in the package have been updated from V.4.05.01 to V.4.07.01.

For details of the revision, which was made in two steps, see the following RENESAS TOOL NEWS items:

- Document No. 090701/tn1 (to V.4.06.00) at:

<https://www.renesas.com/search/keyword-search.html#genre=document&q=090701tn1>

- Document No. 091001/tn1 (to V.4.07.00) at:

<https://www.renesas.com/search/keyword-search.html#genre=document&q=091001tn1>

In the revision from V.4.07.00 to V.4.07.01, modification is made only to the Renesas logo that appears after the IDE is started.

### **1.4 Remaining Problems**

The following two problems still remain unfixed in M3T-NC308WA V.5.42 Release 00:

(1) With Building a Static Function Having a Static Variable within It

For details, see RENESAS TOOL NEWS Document No. 080716/tn1 at:

<https://www.renesas.com/search/keyword-search.html#genre=document&q=080716tn1>

(2) With referencing the Map Symbol Information window

For details, see RENESAS TOOL NEWS Document No. 080916/tn2 at:

<https://www.renesas.com/search/keyword-search.html#genre=document&q=080916tn2>

In addition, a problem remains when the V.5.42 Release 00 product is used along with the MISRA C rule checker (SQMlint).

For details of the problem, see RENESAS TOOL NEWS Document No. 070901/tn2 at:

<https://www.renesas.com/search/keyword-search.html#genre=document&q=070901tn2>

## **2. How to Update Yours and Purchase the Revised Product**

### **2.1 Updating**

Online update is available free of charge. Update yours in either of the following ways:

(1) Use AutoUpdate Utility. This service is available on and after April 5.

(2) Download the update program of the product from:

[https://www.renesas.com/nc308wa\\_download](https://www.renesas.com/nc308wa_download)

Then execute it. This site will be opened from April 5.

### **2.2 First Ordering**

When you place an order for the product, do for the C compiler package for the R8C and M16C families.

This compiler package contains the following three compiler packages:

- the C compiler package for the M16C series, R8C family (M3T-NC30WA)
- the C compiler package for the M326C series (M3T-NC308WA)
- the C compiler package for the R32C series

In addition, supply the following items of information to your local Renesas Electronics sales office or distributor:

Product type: C compiler package for the R8C and M16C families 2010.04

Host OS: Windows Vista(R), Windows(R) XP, or Windows(R) 2000

Notice: The 64-bit editions of Windows Vista(R) and Windows(R) XP excluded.

For the price of the product, also contact the above sales office or distributor.

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