

The C Compiler Package M3T-NC308WA Revised to V.5.40 Release 00

We have revised the C compiler package M3T-NC308WA from V.5.20 Release 02 to V.5.40 Release 00. This compiler package is used for the M32C/90, M32C/80, and M16C/80 series of MCUs.

1. Descriptions of Revision

For details, please see the release note included with this product.

1.1 Functions Introduced and Improved

- (1) The M32C/90 series of MCUs newly supported by this version and later.
- (2) Code-optimizing capabilities enhanced. Examples of optimization are as follows:
 - The controlling expression not generated of the "for" construct that executes its iteration statement only once.
 - In the case where any statement or expression is repeatedly used in a program, it is made into a subroutine, to which calls are made instead of the statement or expression.
- (3) Optimizing options `-OR_MAX` and `-OS_MAX` introduced in the compiler. Their functions are as follows:

`-OR_MAX`

Performs optimization that gives high priority to coding efficiency (equivalent to using all of these options, `-O5`, `-OR`, `-OGJ`, `-OSA`, `-fCE`, `-fD32`, `-fNA`, `-fSA`, `-fUD`, and `-fNC`).

`-OS_MAX`

Performs optimization that gives high priority to the speed of execution of user programs (equivalent to using all of these options, `-O4`, `-OS`, `-OGJ`, `-OSA`, `-OSTI`, `-OLU=10`, `-fCE`, `-fD32`, `-fSA`, `-fUD`, and `-fNC`).

- (4) The start-up program in the C language introduced in addition to the assembly language.
- (5) The en-size blank space usable for names of directories (folders) under which tool products are installed; and of the files and paths that the compiler, assembler, linker and others handle.
- (6) The type of the type definition `size_t` changed from unsigned int to unsigned long, and that of `ptrdiff_t` from signed int to signed long.
In addition, compile options `-fsizet_16` and `-fptrdiff_16` introduced to maintain compatibility with the previous versions. Option `-fsizet_16` treats the type of `size_t` as unsigned int and `-fptrdiff_16` does that of `ptrdiff_t` as signed int.

1.2 The High-performance Embedded Workshop Revised

The High-performance Embedded Workshop that is bundled with the NC308WA has been revised from V.4.00.00 to V.4.00.03.

For detailed information on the revision, see the following items of RENESAS TOOL NEWS:

- (1) "The High-performance Embedded Workshop, an Integrated Development Environment, Revised to V.4.00.01"
- (2) "The High-performance Embedded Workshop, an Integrated Development Environment, Revised to V.4.00.02"
- (3) "The High-performance Embedded Workshop (an Integrated Development Environment) Revised to V.4.00.03"

1.3 The AutoUpdate, an extended function of the High-performance Embedded Workshop V.4, has been revised from V.1.00.01 to V.1.00.02.

For details, see RENESAS TOOL NEWS RSO-AutoUpdate-051226D.

1.4 The "Simulator Debugger for M32C MCUs" which runs on the High-performance Embedded Workshop V.4.00.03 have been added

1.4.1 Functionality

The simulator debugger is provided with the functionality covering the following product:

Simulator Debugger M3T-PD308SIM

(for the M32C/90, M32C/80, and M16C/80 series of MCUs)

Main features in comparison with the above simulator debugger is as follows:

When the High-performance Embedded Workshop is used conventionally to develop programs for M32C MCUs, it performs builds of programs only, and any of the debuggers has to be used as an external development tool.

Now, running this simulator debugger on the High-performance Embedded Workshop V.4.00.03 enables you to debug programs using a simulator; that is, the emulators for the M32C MCUs can perform seamless operations of coding, compiling, simulating, and debugging under the single development environment of the V.4.00.03. So you need not invoke an editor, a compiler, a simulator debugger, and an emulator debugger independently.

1.4.2 Host System Requirements

Computer: IBM PC/AT compatible

OS: Windows XP, Windows 2000, Windows Me. or Windows 98SE

1.4.3 Main Points of Difference between this Simulator Debugger and the M3T-PD308SIM Simulator Debugger

- (1) If you run application programs created using the PDSDK COM kit on this simulator debugger, consult our technical support contact.
- (2) This simulator debugger does not run in combination with ZIPC CASE tool, manufactured by CATS Co., Ltd. If you want to utilize ZIPC's debugging functions, use the M3T-PD308SIM simulator debugger.
- (3) On this simulator debugger, the commands and windows created by the CB (Custom Builder) do not operate.

1.5 Problems Fixed

The following known problems have been fixed:

- (1) On using assembler options "-mode60" and "-mode60p"
For details, see RENESAS TOOL NEWS.
- (2) On using if-else constructs
For details, see RENESAS TOOL NEWS.
- (3) On passing a pointer or address to a function as an argument
For details, see RENESAS TOOL NEWS.
- (4) On referencing array-type variables qualified with "const"
For details, see RENESAS TOOL NEWS.
- (5) On defining more than one void function

- For details, see RENESAS TOOL NEWS.
- (6) On using optimizing option "-OR"
For details, see RENESAS TOOL NEWS.
 - (7) On machine-language files created by the load module converter (lmc308 or lmc30) with the "-F" option selected
For details, see RENESAS TOOL NEWS.
 - (8) On compiling programs where the real-time OS M3T-MR308 used
For details, see RENESAS TOOL NEWS.
 - (9) On incorrect description of do statements
For details, see RENESAS TOOL NEWS.
 - (10) On performing a subtraction containing a constant as a subtrahend
For details, see RENESAS TOOL NEWS.
 - (11) On using the linker's option "-JOPT"
For details, see RENESAS TOOL NEWS.
 - (12) On changing the version or release of a tool chain to another(We informed you of this problem as the one arising from the High-performance Embedded Workshop in May 2005. However it has been found that the problem is caused by the M3T-NC308WA and M3T-NC30WA.)
For details, see RENESAS TOOL NEWS.

2. How to Update Your Product and Purchase the Revised One

2.1 Free-of-Charge Update

Free-of-charge update is available. If you are using the product concerned, download the installer of the revised product from Download site and execute it.

2.2 First Ordering

If you place an order for the product, please supply the following items of information to your local Renesas Technology sales office or distributor (for the price of the product, also contact them):

Product Type	M3T-NC308WA
Version No.	V.5.40
Release No.	Release 00
Host OS	Windows XP, Windows Me, Windows 98, Windows 2000, or Windows NT 4.0

[Disclaimer]

The past news contents have been based on information at the time of publication. Now changed or invalid information may be included. The URLs in the Tool News also may be subject to change or become invalid without prior notice.

© 2010-2016 Renesas Electronics Corporation. All rights reserved.