The C Compiler Package for the M16C MCU Series Revised to V.5.44 Release 00

We have revised the C compiler package--M3T-NC30WA--for the M16C MCU series* from V.5.43 Release 00 to V.5.44 Release 00.

*The M16C series is the generic name of the M16C/60, /30, /20, /10, /Tiny, and R8C/Tiny series.

1. Descriptions of Revision

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

1.1 Functions Introduced and Improved

(1) Supported MCUs increased
The following MCU groups have been added to the support line:
- In R8C/Tiny series
  R8C/2E, R8C/2F, R8C/2G, R8C/2H, R8C/2J, R8C/2K, R8C/2L
  R8C/32A, R8C/33A, and R8C/35A groups
- In M16C/60 series
  M16C/64 and M16C/65 groups

(2) Compile option -I improved*
The maximum number of directories that can be specified with compile option -I has been extended from 50 to 256.
* The -I option specifies the directory names of the files specified using preprocessing command [directive] #include.

(3) Assembler Startup program improved
The istack section has been introduced to the Assembler Startup program to debug systems using the E100 emulator.

1.2 Problems Fixed
The following 12 known problems have been fixed:
(1) With using preprocessing command #error
For details see RENESAS TOOL NEWS Document No. 080301/tn2,
published on March 1, 2008, at
http://tool-support.renesas.com/eng/toolnews/080301/tn2.htm

(2) With compiling programs using the -R8C option
For details see RENESAS TOOL NEWS Document No. 080116/tn2,
published on January 16, 2008, at
http://tool-support.renesas.com/eng/toolnews/080116/tn2.htm

(3) With creating projects for the MCUs with 48-KB ROM
in the R8C/2D group
For details see RENESAS TOOL NEWS Document No. 071216/tn7,
published on December 16, 2007, at
http://tool-support.renesas.com/eng/toolnews/071216/tn7.htm

(4) With using the R8C/Tiny MCU series coming with large ROM such as
128 KB or more
For details see RENESAS TOOL NEWS Document No. 070916/tn1,
published on September 16, 2007, at
http://tool-support.renesas.com/eng/toolnews/070916/tn1.htm

(5) With using options to optimize jump instructions at linking
For details see RENESAS TOOL NEWS Document No. 070716/tn2,
published on July 16, 2007, at
http://tool-support.renesas.com/eng/toolnews/070716/tn2.htm

(6) With using preprocessing directive #pragma SECTION
For details see RENESAS TOOL NEWS Document No. 070716/tn3,
published on July 16, 2007, at
http://tool-support.renesas.com/eng/toolnews/070716/tn3.htm

(7) With using C-language startup files
For details see RENESAS TOOL NEWS Document No. 070701/tn4,
published on July 1, 2007, at
http://tool-support.renesas.com/eng/toolnews/070701/tn4.htm

(8) With creating projects for the R8C/24 and R8C/25 groups of MCUs
For details see RENESAS TOOL NEWS Document No. 070601/tn2,
published on June 1, 2007, at
http://tool-support.renesas.com/eng/toolnews/070601/tn2.htm

(9) With creating projects for the R8C/2A, R8C/2B, R8C/2C, and R8C/2D
groups of MCUs
For details see RENESAS TOOL NEWS Document No. 070601/tn3,
published on June 1, 2007, at
http://tool-support.renesas.com/eng/toolnews/070601/tn3.htm

(10) With adding more than one relocatable file
For details see RENESAS TOOL NEWS Document No. 070416/tn3,
published on April 16, 2007, at
http://tool-support.renesas.com/eng/toolnews/070416/tn3.htm

(11) With passing arguments to functions via the stack
For details see RENESAS TOOL NEWS Document No. 070316/tn5,
published on March 16, 2007, at
http://tool-support.renesas.com/eng/toolnews/070316/tn5.htm

(12) With the IDE neglecting build error messages when a real-time OS is being used
For details see RENESAS TOOL NEWS Document No. 080301/tn1,
published on March 1, 2008, at
http://tool-support.renesas.com/eng/toolnews/080301/tn1.htm

1.3 High-performance Embedded Workshop Updated
The revised compiler package includes High-performance Embedded Workshop V.4.04.01, the latest version. For details of this,
see RENESAS TOOL NEWS Document No. 080118/tn1, published on January 18, 2008, at
http://tool-support.renesas.com/eng/toolnews/080118/tn1.htm

2. Restrictions
The two problems listed below remain not resolved in the revised product. We plan to fix them in the next release of the product.
(1) With performing right-shift operations
For details see RENESAS TOOL NEWS Document No. 070716/tn4,
published on July 16, 2007, at
http://tool-support.renesas.com/eng/toolnews/070716/tn4.htm

(2) With using compile option -OSFA (-Ostack_frame_align)
For details see RENESAS TOOL NEWS Document No. 070701/tn5,
published on July 1, 2007, at
http://tool-support.renesas.com/eng/toolnews/070701/tn5.htm

3. How to Update Your Product and Purchase the Revised One
3.1 How to Update Your Product
Free-of-charge online update is available. Download the installer of the product's update program from the Web site at http://www.renesas.com/nc30wa_download and execute it. This site will be opened from April 21 onward. The above URL is that of our global site (in English).

**NOTICE:**
AutoUpdate Utility cannot be used for this updating.

### 3.2 How to Purchase the Revised Product
When you place an order for the revised product, supply the following items of information to your local Renesas Technology sales office or distributor:

<table>
<thead>
<tr>
<th>Product Type:</th>
<th>C compiler package for the M16C MCU series</th>
</tr>
</thead>
<tbody>
<tr>
<td>Version No.:</td>
<td>V.5.44</td>
</tr>
<tr>
<td>Release No.</td>
<td>Release 00</td>
</tr>
<tr>
<td>Host OS:</td>
<td>Windows XP or Windows 2000</td>
</tr>
</tbody>
</table>

For the price of the product and volume purchase discounts, contact the above sales office or distributor.

### 4. Note on Using SQMlint, the MISRA C Rule Checker
If you use the C compiler in combination with SQMlint, take note of the following problems.

- **With using options "MISRA2004" and "Group definition file"**
  For details of this, see RENESAS TOOL NEWS Document No. 070901/tn2, published on September 1, 2007, at http://tool-support.renesas.com/eng/toolnews/070901/tn2.htm

- **With using option -ignore_files_misra**
  This site will be opened from May 12 onward.
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