To our customers,

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April 1\(^{st}\), 2010
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation ([http://www.renesas.com](http://www.renesas.com))

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R8C/Tiny Series
General-purpose Program for Clearing RAM

1. Abstract
This program initializes memory by using a block constant setup instruction (SSTR).

2. Introduction
This program stores 0s in memory in units of words by using a block constant setup instruction (SSTR).
The program sets the transfer data (0H) in R0, the number of transfers performed (half the number of bytes of the area to be initialized) in R3, and the start address at destination in A1 before executing the SSTR instruction.

<table>
<thead>
<tr>
<th>Subroutine name : -</th>
<th>ROM capacity : 11 bytes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interrupt during execution : Accepted</td>
<td>Number of stacks used : None</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Register/memory</th>
<th>Input</th>
<th>Output</th>
<th>Usage condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>R0</td>
<td>-</td>
<td>0000&lt;sub&gt;16&lt;/sub&gt;</td>
<td>Transfer data</td>
</tr>
<tr>
<td>R1</td>
<td>-</td>
<td>-</td>
<td>Unused</td>
</tr>
<tr>
<td>R2</td>
<td>-</td>
<td>-</td>
<td>Unused</td>
</tr>
<tr>
<td>R3</td>
<td>-</td>
<td>0000&lt;sub&gt;16&lt;/sub&gt;</td>
<td>Number of transfers performed</td>
</tr>
<tr>
<td>A0</td>
<td>-</td>
<td>-</td>
<td>Unused</td>
</tr>
<tr>
<td>A1</td>
<td>-</td>
<td>Last address at destination</td>
<td>Destination address</td>
</tr>
<tr>
<td>Specified area</td>
<td>-</td>
<td>Transfer data</td>
<td>←</td>
</tr>
</tbody>
</table>

Usage precautions: Memory is initialized in units of words.

3. Flowchart

```
ENTER

Set transfer conditions

Execute transfer

EXIT
```
4. The example of a reference program

;--------------------------------------------------------------------
;                          *                                   *
; M16C Program Collection No. 1                                    *
; CPU : R8C/Tiny                                                    *
;--------------------------------------------------------------------

VramTOP .EQU 000400H ; USER PROGRAM RAM START ADDRESS
VramEND .EQU 0006FFH ; USER PROGRAM RAM END ADDRESS
VromTOP .EQU 00D000H ; 12Kbyte Flash version

; Title: Clearing RAM
; Outline: Clears RAM using block constant setup instruction
; Input: ---------------------> Output:
; R0 ( ) R0 (Transfer data)
; R1L ( ) R1L (Unused)
; R1H ( ) R1H (Unused)
; R2 ( ) R2 (Unused)
; R3 ( ) R3 (Indeterminate)
; A0 ( ) A0 (Unused)
; A1 ( ) A1 (Indeterminate)
; Stack amount used: None
; Notes:

;--------------------------------------------------------------------

.SECTION PROGRAM, CODE ;
.ORG VromTOP ; ROM area
MOV.W #0,R0 ; Sets transfer data
MOV.W #((VramEND+1)-VramTOP)/2,R3 ; Sets number of transfers performed
MOV.W #VramTOP,A1 ; Sets destination address
SSTR.W ; Executes clearing of RAM

; .END ;
5. Reference

SOFTWARE MANUAL
R8C/Tiny Series SOFTWARE MANUAL
(Acquire the most current version from Renesas web-site)

6. Web-site and contact for support

Renesas Web-site
    http://www.renesas.com

Contact for Renesas technical support
    Mail to: support_api@renesas.com
## REVISION HISTORY

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<thead>
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<th>Rev.</th>
<th>Date</th>
<th>Description</th>
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<tr>
<td>1.00</td>
<td>Dec 24, 2003</td>
<td>First edition issued</td>
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Page Summary
Keep safety first in your circuit designs!

1. Renesas Technology Corporation puts the maximum effort into making semiconductor products better and more reliable, but there is always the possibility that trouble may occur with them. Trouble with semiconductors may lead to personal injury, fire or property damage.
   Remember to give due consideration to safety when making your circuit designs, with appropriate measures such as (i) placement of substitutive, auxiliary circuits, (ii) use of nonflammable material or (iii) prevention against any malfunction or mishap.

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