RENESAS Tool News

A Note on Using Relocatable Assembler M3T-SRA74

Please take note of the following problems in using the M3T-SRA74 relocatable assembler for the 740 family MCUs:

- On describing conditional expressions in structured description

1. **Versions Concerned**

    M3T-SRA74 V.1.00 Release 1 through V.4.10 Release 1B

2. **Description**

    In a conditional expression in structured description, if the equality or inequality is tested between a memory bit variable and a memory variable, an unnecessary instruction will be created without interpreting the evaluation as an error.

    2.1 Conditions

    This problem occurs if the following three conditions are satisfied:

    (1) An equality or inequality operator (== or !=) is used in a conditional expression in structured description.

    (2) The left operand of the operator in (1) is a memory bit variable.

    (3) The right operand of the operator in (1) is a memory variable.

    2.2 Example

    In the example shown below, flag1 and work1 denote a memory bit variable and a memory variable respectively.

    ```
    -----------------------------------
    if [flag1] == [work1]
      nop
    ```

endif

When the above example is assembled, the following assembler instructions including an unnecessary one are generated:

```
----------------------------------
;if [flag1] == [work1]
     CMP  work1      ; Unnecessary instruction
     BBS  flag1,.I0
  nop
;endif
.I0:
----------------------------------
```

3. **Workaround**

   In a conditional expression in structured description, don't test the equality or inequality between a memory bit variable and a memory variable.

   NOTE:

   When the left term of a conditional expression is a memory bit variable, only 0 (zero) or 1 is allowed in its right term. For details, see Appendix F.4 "Syntax maps of Structured Commands" in the M3T-SRA74's User's manual.