Microcontroller Technical Information

RA78K0R 78K0R Assembler Package Usage Restrictions	Document No.	ZBG-CD-08-0039	1/1
	Date issued	September 18, 2008	
	Issued by	Development Tool Solution Group Multipurpose Microcomputer Systems Division Microcomputer Operations Unit NEC Electronics Corporation	
Related documents RA78K0R Ver. 1.20 Language: U18546EJ1V0 (1st) RA78K0R Ver. 1.20 Operation: U18547EJ1V0 (1st) 78K0R Assembler Package RA78K0R Ver. 1.20 Operating Precautions: ZUD-CD-07-0112	Notification classification	√	Usage restriction
			Upgrade
			Document modification
			Other notification

1. Affected product

   RA78K0R V1.00, V1.10, V1.20

2. New restriction

   Restriction No. 5 has been added. See the attachment for details.

   - No. 5 Restriction whereby an error may occur when optimizing BR/CALL quasi directive

3. Workaround

   The following workaround is available for the above restriction. See the attachment for details.

   - No. 5 Replace the CALL quasi directive which outputs error with CALL $!addr16 or CALL !!addr20. In addition, replace the BR quasi directive with BR $!addr16 or BR !!addr20.

4. Modification schedule

   Restriction No. 5 will be corrected in RA78K0R V1.31 (planned for release in late September 2008).

   * Note that this schedule is subject to change without notice. For the detailed release schedule of modified products, contact an NEC Electronics sales representative.

5. List of restrictions

   A list of restrictions in the RA78K0R, including the revision history and detailed information, is described on attachment.

6. Revision history

RA78K0R 78K0R Assembler Package Usage Restrictions

Document Number	Date Issued	Description
ZBG-CD-06-0089	December 21, 2006	Newly created.
ZBG-CD-07-0083	November 27, 2007	Addition of restriction No. 4
ZBG-CD-08-0039	September 18, 2008	Addition of restriction No. 5

List of Restrictions in RA78K0R

1. Product History

No.	Bugs and Changes/Addition to Specifications	Version		
		V1.00	V1.10	V1.20
1	An F4106 error occurs if the *-Dsymbol* option is specified in the RA78K0R.	×	○	○
2	The offset value of a public symbol (from the top of a segment) becomes invalid in the LK78K0R.	×	○	○
3	The value resulting from 78K0R macro expansion for 78K0-dedicated DIVUW instruction becomes invalid.	×	○	○
4	Restriction on the case where the Object Complement check box in the Object Converter Options dialog box in PM+ is cleared	×	×	○
5	Restriction whereby an error may occur when optimizing BR/CALL quasi directive	×	×	×

×: Applicable, ○: Not applicable, –: Not relevant

2. Details of Usage Restrictions

No. 1 An F4106 error occurs if the *-Dsymbol* option is specified in the RA78K0R.

[Description]

If a *-Dsymbol* option symbol is specified in the RA78K0R for the assembler source file that is output from the CC78K0R with debug information appended, illegal symbol information (symbol name cannot be referenced) will be output. As a result, an F4106 error for the symbol table will be output by the OC78K0R.

[Workaround]

Output the assembler source file with the *-Dsymbol* specified in the CC78K0R and input it to the RA78K0R.

[Correction]

This issue has been corrected in Ver. 1.10.

No. 2 The offset value of a public symbol (from the top of a segment) becomes invalid in the LK78K0R.

[Description]

If a value of 10000H or larger is set for the offset value (from the top of a segment) of a relocatable public symbol in the object module file input to the LK78K0R, the offset value becomes invalid.

It is correct if the input segment size in a *.map file is smaller than 10000H.

----------*.map file----------

:

BASE ADDRESS=10000H SIZE=20000H

OUTPUT SEGMENT	INPUT SEGMENT	INPUT MODULE	BASE ADDRESS	SIZE		
@@CODEL			10000H	**1492BH**	CSEG	
	@@CODEL	func	10000H	**1492BH**		
@@CNSTL			2492BH	00000H	CSEG	PAGE64KP

:

[Workaround]

Divide the relevant source file (C or asm source) for the object module file to be input to the LK78K0R so that the offset value does not exceed 10000H.

[Correction]

This issue has been corrected in Ver. 1.10.

No. 3 The value resulting from 78K0R macro expansion for 78K0-dedicated DIVUW instruction becomes invalid.

[Description]

The value resulting from 78K0R macro expansion for 78K0-dedicated DIVUW instruction becomes invalid.

If a value larger than 256 is set to the AX register and then division is executed during the above processing, the resulting value becomes invalid.

[Workaround]

There is no workaround.

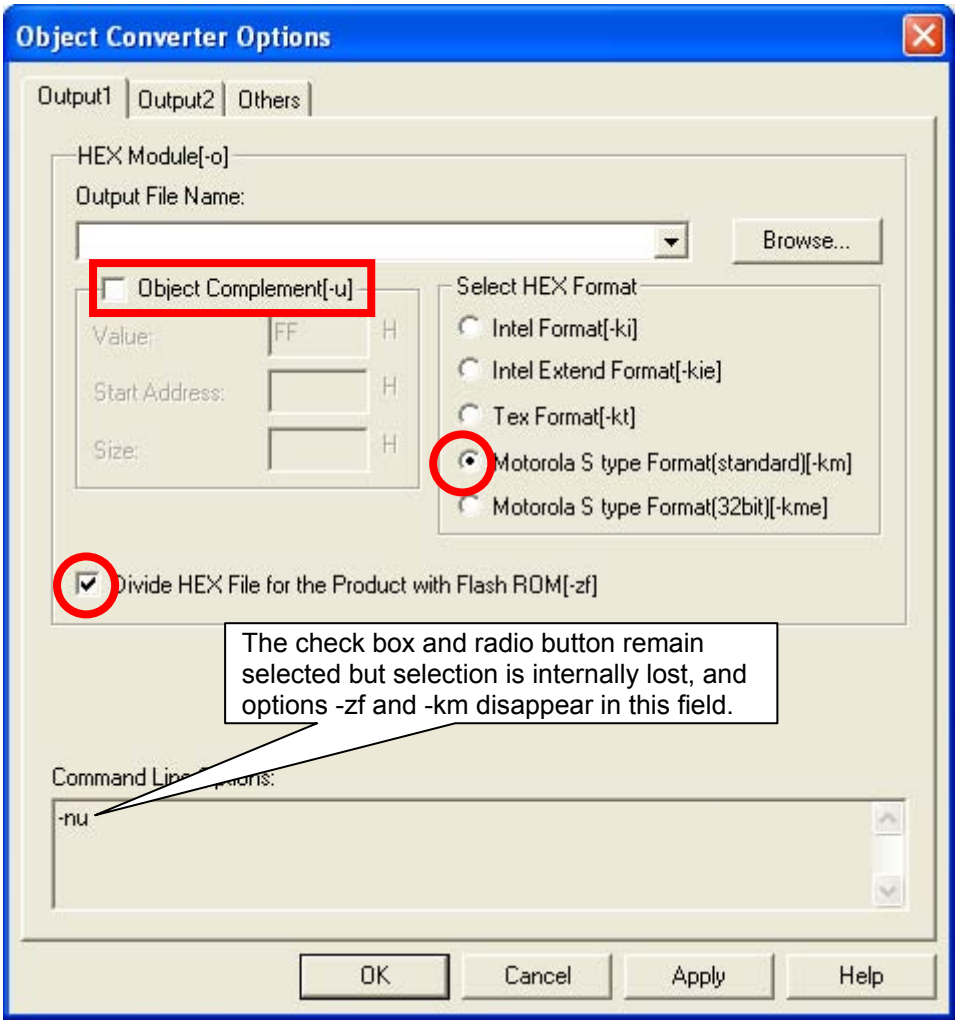
[Correction]

This issue has been corrected in Ver. 1.10.

No. 4 Restriction on the case where the Object Complement check box in the Object Converter Options dialog box in PM+ is cleared

[Description]

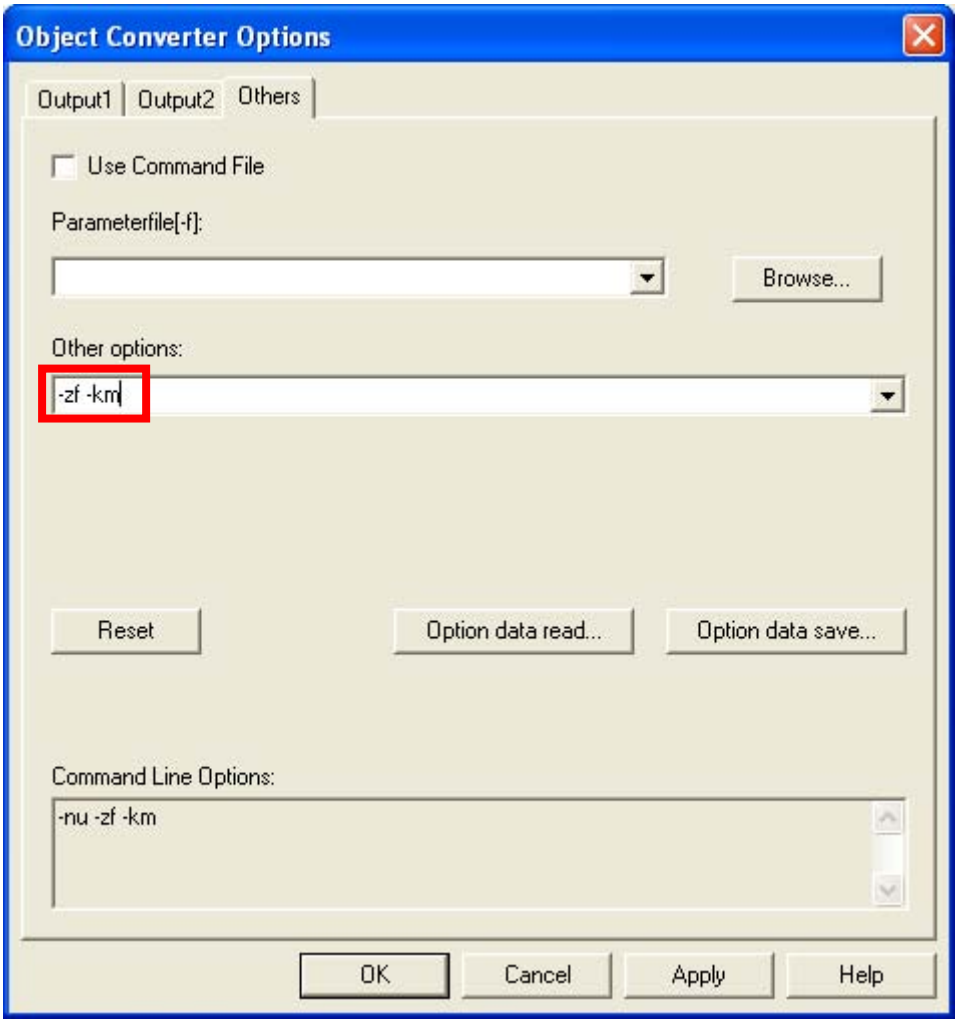
When the Object Complement check box in the Object Converter Options dialog box is cleared, selection in the Select HEX Format area and selection of the “Divide HEX File for the Product with Flash ROM” check box, which have been performed, are disabled.



[Workaround]

To enable options -zf and -km, select the Others tab in the Object Converter Options dialog box and enter the option names into the [Other options] text box.

Example:



[Correction]

This issue has been corrected in Ver. 1.20.

No. 5 Restriction whereby an error may occur when optimizing BR/CALL quasi directive

[Description]

Error E2330 is output to the line of CALL L1 for optimization of the BR/CALL quasi directive in assembler source codes such as shown below.

This restriction does not apply to compiler CC78K0R because it does not output the BR/CALL quasi directive.

Example:

----------*.asm----------

```
                        ORG     0FFF8H
                        CALL    L1              ; An error is output to this line
                        BR      L2

                        NOP

                L1:
                        RET

                        ORG     20000H
                L2:
                        BR      L2
```

----------*.prn----------

```
   1    1
   2    2
   3    3 -----                 ORG     0FFF8H
   4    4 0FFF8  FD0000         CALL    L1              ; An error is output to this line
*** ERROR E2330, STNO 4 ( 4) Operand out of range (!addr16 / BR or CALL)
   5    5 0FFFB  EC000002       BR      L2
   6    6
   7    7 0FFFF  00             NOP
   8    8
   9    9 10000         L1:
  10   10 10000  D7             RET


  17   17                      END
```

[Workaround]

Replace the CALL quasi directive that caused the error with CALL $!addr16 or CALL !!addr20. In addition, replace the BR quasi directive with BR $!addr16 or BR !!addr20.

[Correction]

This issue will be corrected in Ver. 1.31.

3. Cautions

None