

CUSTOMER NOTIFICATION

SUD-DT-03-0255-E

June 20, 2003

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CP(K), O

78K0 Series Assembler Package RA78K0 V3.60 Operating Precautions

Windows (Japanese Version)
HP9000 Series 700 (HP-UX)
SPARCstation Family (SunOS/Solaris)

Be sure to read this document before using the product.

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Thank you for purchasing 78K0 Series assembler package RA78K0 V3.60.

This document explains the modifications from RA78K0 V3.51 to V3.60, cautions, and usage restrictions.

Be sure to read this document before using RA78K0 V3.60.

1. USER'S MANUAL

The following user's manuals are available for this version as a PDF file only.

- RA78K0 Assembler Package - Structured Assembly Language (document number: U11789E)
- RA78K0 Assembler Package - Language (document number: U14446E)
- RA78K0 Assembler Package - Operation (document number: U16629E)
- PM plus (document number: U16569E) ^{Note}

Note Windows version only.

2. PRODUCT CONTENTS

The tool versions when RA78K0 V3.60 is installed are as follows.

Component	Tool	Version
RA78K0 V3.60	Structured assembler preprocessor	ST78K0
	Relocatable assembler	RA78K0
	Linker	LK78K0
	Object converter	OC78K0
	Librarian	LB78K0
	List converter	LCNV78K0
PM plus V5.10	PM plus	PMplus
		V5.10

Caution PM plus V5.10 for HP9000 Series 700 and SPARCstation Family is not available.

3 SUPPORTED TOOLS

Use the following tool versions when used in combination with RA78K0 V3.60; otherwise the tools cannot be linked with PM plus.

- Compiler: CC78K0 V3.50 or later
- Integrated debugger: ID78K0 V2.30 or later (ID78K0 does not support PM plus)
ID78K0-NS V2.52 or later
- System simulator: SM78K0 V2.52 or later

4 ITEMS REVISED FROM V3.51 TO V3.60

This section explains the changes from V3.51 to V3.60. The project manager has been changed (only the version numbers have been changed in other tools). This section explains the changes in the project manager.

(Some restrictions in project manager V3.50 have been corrected in V3.51. See the attachment "ITEMS REVISED FROM V3.50 TO V3.51" for details.)

4.1 Changes in project manager

The project manager has been changed to PM plus. The functions added to PM plus are described below.

4.1.1 Integration with editor

The conventional project manager and standard editor (idea-L) have been integrated. As a result, errors that occur during build can now be corrected in PM plus.

4.1.2 Addition of wizard function

A wizard function that can be used to create a network space has been added.

4.1.3 Enhancement of project window

A function to display the function list in the source file in the Project window has been added.

4.1.4 Support of multiple projects

A workspace function that collectively manages multiple projects has been added.

4.1.5 Addition of directory specification function

A function to specify the directory at source file registration has been added.

4.1.6 Addition of function in project window

A function to display the files (startup, link directive, etc.) related to the project has been implemented in the Project window. It is also possible to add such files from the Project window.

In addition, the user can now register any file in "Other file" in the Project window.

4.1.7 Addition of build pre processing and postprocessing function

A function that enables execution of a command before or after build has been added.

4.1.8 Modification of function to register external tools

Information of the external tool registration function has been modified so that the tools are registered in the registry.

4.1.9 Addition of function to highlight SFR register reserved word names

A function that highlights the display of the reserved word names in the SFR has been added. In addition, the reserved words of the C language and user-defined keywords can also be highlighted.

4.1.10 Addition of smart lookup function

When a function name is coded, the candidate for the function name to be input is displayed from the names registered in a project.

4.1.11 Addition of customize function

A function to customize menus and toolbars has been added.

4.1.12 Addition of source management link function

A function to link with some source management tools has been added.

5 CAUTIONS

Cautions on using RA78K0 V3.60 are described below.

5.1 Device File

A device file is necessary to execute the RA78K0. The device file is not included in the RA78K0 package. Download the device file via ODS (online delivery service).

NEC Electronics Microprocessor website (URL: http://www.necel.com/micro/index_e.html)

→ [Development Tools Download] → [DeviceFile]

5.2 Cautions on Installation

5.2.1 Product ID

A product ID is required to install RA78K0 V3.60. The product ID is shown on the medium or medium case.

5.2.2 Caution on activating installer

Insert the CD-ROM of RA78K0 V3.60 (Windows version) in the CD-ROM drive. The installer is started automatically. If it does not start automatically, execute "setup.exe" in the directory DISK1 under RA78K0 from Windows Explorer.

5.2.3 Caution on restarting computer

Because it may be necessary to restart the computer after installation, terminate all other applications.

5.2.4 Caution on authority for installation

Administrator right is required for installation of RA78K0 V3.60 in Windows NT, Windows 2000, or Windows XP.

5.2.5 Caution on installation directory

Do not install RA78K0 V3.60 in a directory with a name containing a space; otherwise the development tools may not be correctly executed.

5.2.6 Caution on re-installation

To re-install RA78K0 V3.60, uninstall the copy of RA78K0 V3.60 already installed. If this product is installed in a different directory without uninstalling the first copy of RA78K0 V3.60, the first copy of RA78K0 V3.60 already installed cannot be uninstalled.

5.2.7 Caution on file created at installation

The following file will be created after RA78K0 V3.60 has been installed. This file is necessary for uninstalling RA78K0 V3.60 and must not be deleted (the installation destination is assumed to be C:\NECTools32).

C:\NECTools32\SETUP*.*

5.2.8 Caution on PM plus help

The PM plus help is supplied in the HTML help format. If the help does not operate correctly, proceed as follows.

- Install Microsoft Internet Explorer 5.0 or later (IE5.5 SP2 or later recommended)

5.2.9 Caution on uninstalling the project manager

The project manager (PM) is not included in RA78K0 V3.60. Even if RA78K0 V3.60 is installed while the old version of RA78K0 is installed, the PM is not uninstalled. This is because the PM may be used in other Series development tools. Uninstall the PM using "Add/Remove Programs" on the Control Panel if development tools of other series are not installed.

5.2.10 Caution on language used in Windows

RA78K0 V3.60 can be installed in the English Windows environment only.

If an attempt is made to install RA78K0 V3.60 in an environment other than English Windows, a message indicating a file transfer error is displayed and the installation is aborted.

This situation also occurs if a language other than English is specified as the system language in the "Regional Settings Properties" tab.

5.3 Cautions Related to Assembler

5.3.1 Object converter

Specify the -R (object address sort) and -U (complement value specification) options before using the object converter. In particular, be sure to specify -R because **an error occurs when the ROM code is ordered** (also known as the ACROSS processing or tape out) **without sorting the object addresses.**

5.3.2 Memory initialization directive

When the memory initialization directive DW or DB is described in a data segment (DSEG), the object code is output, but the warning message W301 will be output in the object converter. This is because the code exists in an address other than that of the ROM area (code area).

An error occurs if ROM code ordering (also known as the ACROSS processing or tape out) **is performed in such a state.**

5.3.3 Segment name

When describing a segment name, do not describe a segment name with the same name as the primary name of the source file; otherwise the abort error A106 will be output at assembly.

5.3.4 Debug option

If an assembler source output by the C compiler or structured assembler preprocessor includes debug information, and the assembler source needs to be assembled, do not specify the debug information output specification option -NGA.

If the -NGA option is specified, it may be impossible to debug the C source or structured assembler source.

See the attached document of the C compiler "78K0 Series C Compiler CC78K0 V3.50 Operating Precautions" for cautions on debugging the C source file when an assembler source output by the C compiler is assembled.

5.3.5 Memory directive

The default memory area name of each device cannot be erased. The size of the default memory area name that is not used must be 0. However, some names can be assigned to the default area depending on the segment. Therefore, be careful when changing the area name.

See the user's manual of each device for details of the default memory area name.

5.3.6 Description of macro definition in structured assembler source

When describing a macro definition in a structured assembler source, use the assembly language instead of structured assembly language; otherwise a duplicated label definition error may be output.

5.4 Cautions on PM plus

5.4.1 Network environment

PM plus does not support operation in a network environment. Do not use PM plus in a network environment.

5.4.2 Installation folder

Be sure to install RA78K0 V3.60 in the folder in which other NEC Electronics tools are installed; otherwise the tool may not be able to be activated.

5.4.3 Installation of language tools

If the compiler or assembler is not installed, the source file cannot be added in the [Source File] page opened from [Project Settings...] or in the [Step 6/8 [Setup Source Files]] dialog box opened by the [New WorkSpace...] or [Add New Project...] command.

5.4.4 File name

Although a workspace file and project file can be created under the name “.prw” or “.prj”, they do not operate correctly. Be sure to add a file name before the extension (in the format “xxx.prw”, xxx is arbitrary characters).

5.4.5 When opening project file to specify a device that is not installed yet

When a device name that is not installed in the host machine is specified in a project file and the project file is opened, if an attempt is made to find the device using the [Project Settings...] command in the [Project] menu, normally the device name is not displayed (blank). In the following cases, however, the device name at the top of the device list is displayed.

- When [Project Settings...] in [Project] is selected after any device is registered using DFINST.
- When any device is registered in the [Step 1/8 [Project Information]] dialog box opened from [Add New Project...] using DFINST

In such cases, close the workspace first, install the device file used by the project, open the workspace (project) again, and execute the [Project Settings...] or [Add New Project...] command.

5.4.6 Location of source file

The source file added by dragging on the project window is located at the end of the source file list, not next to the selected file. The order of the source files can be changed in the source file setting dialog box opened by the [Project Settings...] command in the [Project] menu.

5.4.7 Function name in Project window

When a function name is edited in the Edit window and is updated in the Project window, if the change is cancelled using the [Undo]/[Redo] command, the function name is not updated even if the Project window is activated. The function name is updated by performing build or saving the file.

5.4.8 Project window display

Up to 260 characters can be specified as a project group name or project title, but only the 259 characters can be displayed in the Project window.

5.4.9 Title of dialog box

If there is no information required for PM plus in an opened project file, the project file must be updated. At this time, the dialog box with the title [Project Information] or [Source File], not [Project Settings], is displayed. This does not affect the actual operation, so made the project setting in this dialog box.

5.4.10 Addition of source file

If "source file name + \" (e.g.: aaa.c\) is input to add a source file when RA78K0 V3.60 is used in Windows 95, Windows 98, or Windows Me, an error message is displayed but the file name in the message is not displayed correctly. Just close the error message to continue the operation.

5.4.11 Change of series name when creating a new workspace

In the [Step 6/8 [Setup Source Files]] dialog box opened by the [Add New Project...] or [New WorkSpace...] command, if a source file is selected, Step 1/8 is returned to in order to change the series name, and the Step 6/8 is returned to again, a file that does not correspond to the new series (previously registered) remains in the source file list. Delete such a source file name from the source file list.

5.4.12 Project-related file

Even if a file type is selected from the drop-down list in the Open As field in the Add Project Related Files dialog box, the file list does not match the selected extension. The corresponding file name can be displayed by changing the file type.

5.4.13 Smart lookup function

When there is only one item in the list box displayed by the smart lookup function, the list box cannot be closed by pressing the up/down arrow key on the keyboard. Use the ESC key or Return key to close the list box.

5.4.14 Smart lookup function and automatic prototype generation function

When a function name without a return value is described as shown below, a character on the previous line is recognized as the return value in the detailed display of the smart lookup function and in automatic prototype generation. In such a case, declare the function type.

(Example)

```
a.def  
main() {}
```

The function is displayed as "def main();".

5.4.15 Automatic generation of function list, smart lookup function, and prototype declaration

If a variable is declared between a function name and '{', it is not recognized as the function. Declare the argument type in the line in which the function is defined.

(Example)

```
int main( argc, argv[] )
int argc;
char* argv[];
{
}
main is not regarded as a function.
```

5.4.16 Customization of keyboard

The "Alt+A", "Alt+I", "Alt+Shift+A", "Alt+Shift+I" keys cannot be assigned in the keyboard page of customization.

5.4.17 Shortcut key display

When a shortcut key is assigned to the [Object] menu, the assigned shortcut key is not displayed.

5.4.18 Applying layer rules

When using the [Apply Layer Rule...] command in the [Layer] menu, the layer rule is not applied to the conditional compilation #elseif. Use #elif.

5.4.19 Font size of help

The font size of the help menu is affected by the font settings in Internet Explorer. The display is too large in the default size ("Medium") of Internet Explorer. Therefore, change the font size to "Smallest" in [Fonts] from the [View] menu and restart the help.

In case of IE 4.0, however, the font size for the help menu cannot be changed.

5.5 Changed Points in Language User's Manual

The affected user's manual is as follows.

User's Manual	Version	Document Number
RA78K0 Ver.3.50 or Later Assembler Package Language	2nd	U14446EJ2

5.5.1 Document number

The document number on page 5 is corrected as follows.

<Incorrect> RA78K0 Assembler Package Operation User's Manual (U14445E)

<Correct> RA78K0 Assembler Package Operation User's Manual (U16629E)

The document numbers on page 7 are corrected as follows.

<Incorrect> RA78K0 Assembler Package Operation U14445E

<Correct> RA78K0 Assembler Package Operation U16629E

<Incorrect> CC78K0 C Compiler Operation U14297E

<Correct> CC78K0 C Compiler Operation U16613E

<Incorrect> SM78K0S, SM78K0 System Simulator Operation Windows Based U14297E

<Correct> SM78K0 System Simulator Operation To be prepared

<Incorrect> Project Manager Windows Based U14610E

<Correct> PM plus Ver. 5.10 U16569E

<Incorrect> ID78K0-NS Integrated Debugger Windows Based Operation U14379E

<Correct> ID78K0-NS Integrated Debugger Ver. 2.51 or Later Operation U16488E

5.5.2 Addition to "2.3.1 Restrictions on operations"

The description of EXT has been added to <Explanation> in attributes Table 2-11 Combinations of Terms and Operators by Relocation Attribute (External Reference Terms) under (1) Operators and relocation on page 67 as follows.

<Addition> EXT: External reference term.

5.5.3 Correction and addition to "3.2 Segment Definition Directives"

The description in [Explanation] under (2) DSEG (data segment) on page 89 has been corrected as follows. <<Japanese manual only>>

<Incorrect> By describing a segment field in the symbol field of the DSEG directive,

<Correct> By describing a segment name in the symbol field of the DSEG directive,

The following description has been added to [Explanation] under (3) BSEG (big segment) on page 93 as follows.

<Addition> The segment name is case-sensitive.

The following description has been added to [Explanation] under (4) ORG (origin) on page 98 as follows.

<Addition> The segment name is case-sensitive.

5.5.4 Correction of “3.5 Linkage Directives”

The description of the operand field in [Description Format] under (1) EXTERN on page 116 has been corrected as follows. <<Japanese manual only>>

<Incorrect> {symbol-name [...]

<Correct> symbol-name [...]

The description of (3) in <Explanation> under [Application Example] on page 117 has been corrected as follows.

<Incorrect> ...and outputs a code that references the saddr2 area.

<Correct> ...and outputs a code that references the saddr area.

5.5.5 Correction of “4.6 Assembly List Control Instructions”

The description in [Description Format] under (5) TITLE (title) on page 168 has been corrected as follows. <<Japanese manual only>>

<Incorrect> [Δ] \$ [Δ] TITLE [Δ] ([Δ] , ' title-string ' [Δ])

<Correct> [Δ] \$ [Δ] TITLE [Δ] ([Δ] ' title-string ' [Δ])

The description in [Description Format] under (6) SUBTITLE (subtitle) on page 170 has been corrected as follows. <<Japanese manual only>>

<Incorrect> [Δ] \$ [Δ] SUBTITLE [Δ] ([Δ] , ' title-string ' [Δ])

<Correct> [Δ] \$ [Δ] SUBTITLE [Δ] ([Δ] ' title-string ' [Δ])

5.5.6 Correction of “4.7 Conditional Assembly Control Instructions”

The description in (1) IF/_IF/ELSEIF/_ELSEIF/ELSE/ENDIF Example 4 on page 182 has been corrected as follows. <<Japanese manual only>>

<Incorrect> ENDIF ; (3)

<Correct> \$ ENDIF ; (3)

5.6 Changed Points in Operation User's Manual

The affected user's manual is as follows.

User's Manual	Version	Document Number
RA78K0 Ver.3.60 or Later Assembler Package Operation	2nd	U16629EJ1

5.6.1 Document number

The document number on page 5 is corrected as follows.

- <Incorrect> RA78K0 Assembler Package Language User's Manual (U16628E)
 <Correct> RA78K0 Assembler Package Language User's Manual (U14446E)

The document numbers on page 7 are corrected as follows.

- <Incorrect> CC78K0 C Compiler Operation Ver. 3.50 or Later Language U16628E
 <Correct> CC78K0 C Compiler Operation Ver. 3.40 or Later Language U14298E
- <Incorrect> RA78K0 Assembler Package Ver. 3.60 or Later Assembly Language U16630E
 <Correct> RA78K0 Assembler Package Ver. 3.50 or Later Language U14446E

5.7 Changed Points in Online Help

5.7.1 Description EWS version

Ignore the description on EWS version.

5.7.2 Topic "Overview of Assembler Package", "PM plus"

Location: (1) Overview → Overview of Assembler Package

(2) Overview → Overview of Assembler Package → PM plus

Description: The program name of PM plus is described as "prjtman", but "PMplus" is correct.

5.7.3 Topic "Object converter error messages" <<Japanese version only>>

Location: Operation → Error Message → Object converter error messages

Description: The action has been corrected in the description of the warning message W301.

Incorrect: If DB/DW is written in DSEG of the assembly source, either change the object to DS or write the DB/DW instruction in DSEG.

Correct: If DB/DW is written in DSEG of the assembly source, either change the object to DS or write the DB/DW instruction in CSEG.

5.7.4 Topic "Cautions" and "Restrictions"

Cautions and restrictions described in the online help assume V3.51.

Refer to this document (SUD-DT-03-0255-E) for cautions and restrictions in V3.60.

6. RESTRICTIONS

6.1 List of Restrictions

No.	Bugs and Changes/Additions to Specifications	Version	
		V3.51	V3.60
1	Restriction that an error occurs if a control statement is crossed in a structured assembly language description	×	×
2	Restriction that the assembler performs illegal processing if the label receiving the effect of optimization is described in the saddr part when an EQU definition is performed for a bit symbol with the value saddr.bit	×	×
3	Restriction that concatenate (&) will not be linked if the macro quasi directive IRP is nested	×	×
4	Restriction on the dependence of include files when the structured assembler is activated by the project manager	×	×
5	Restriction on the dependence of include files when the assembler is activated by the project manager	×	×
6	Bug that an error occurs when the project file created by ID78K0-NS (V2.30 or later), ID78K0 (V2.30 or later), or SM78K0 (V2.30 or later) operating alone is opened by the project manager	×	×

×: Applicable, √: Not applicable, -: Not relevant

6.2 Details of Restrictions

No.1 Restriction that an error occurs if a control statement is crossed in a structured assembly language description

[Description]

If a control statement is divided or crossed by #ifdef-#endif, an error occurs when #ifdef is true.

(Example)

```

switch (mode)
#ifdef stsw
  case 1:
    break
#endif
  default:
    break
ends

```

← Range from #ifdef to #else/#endif

← Range from case to next case/default/ends

[Workaround]

In the case of nesting, there is no error. The source should be rewritten so that the ranges of the control statements do not cross.

```

#ifdef stsw
  switch (mode)
  case 1:
    break
  default:
    break
  ends
#else
  switch (mode)
  default:
    break
  ends
#endif

```

← Range from #ifdef to #else/#endif

← Range from case to next case/default/ends

No.2 Restriction that the assembler performs illegal processing if the label receiving the effect of optimization is described in the saddr part when an EQU definition is performed for a bit symbol with the value saddr.bit

[Description]

The assembler performs illegal processing if the label receiving the effect of optimization is described in the saddr part when an EQU definition is performed for a bit symbol with the value saddr.bit.

[Phenomenon]

The assembler performs illegal processing in the following cases.

- When saddr is 0FD20H, path 1 of a label is outside the area, and path 2 is inside the area, an error is output in path 1 for the EQU definition line, but not output in path 2. At this time, the object is created but it is incorrect.
- When saddr is 0FF1FH, path 1 of a label is inside the area, and path 2 is outside the area, no error is output in path 1 for the EQU definition line, while an error is output in path 2. The following assembly error will be output for a label that is defined after this EQU symbol has been referenced.

F410 Phase error

Also, when this label is referenced, the object becomes incorrect.

[Workaround]

There is no workaround.

No.3 Restriction that concatenate (&) will not be linked if the macro quasi directive IRP is nested

[Description]

Nesting IRP that includes the character string concatenation symbol "&" will render the macro expansion results illegal since the parameter is not converted.

(Example)

```

IRP ZZZ, <1,2,3>
    IRP      XXX, <4,5,6>
        LABEL&ZZZ&XXX:      ; Incorrect
    ENDM
ENDM

```

[Workaround]

Do not use "&" when an IRP is nested.

No.4 Restriction on the dependence of include files when the structured assembler is activated by the project manager

[Description]

In checking the dependence of include files described in structured assembler language when creating a make file in the project manager, only the deletion of comments and character strings is processed, and conditions such as `#ifdef` are ignored.

[Phenomenon]

In the description example below, the `#ifdef`, `#else`, and `#endif` lines are ignored. As a result, the existence of the file name specified by `#include` is checked regardless of whether the file is referenced or not. An error will occur if the file specified by `#include` does not exist when executing a build.

(Example)

```

#ifdef SYM
#include "func1.inc"
#else
#include "func2.inc"
#endif

```

[Workaround]

There is no workaround.

No.5 Restriction on the dependence of include files when the assembler is activated by the project manager

[Description]

In checking the dependence of include files described in assembler language when creating a make file in the project manager, only the deletion of comments and character strings is processed, and conditions such as `$if` and `$_if` are ignored.

[Phenomenon]

In the description example below, the `#if`, `#else`, and `#endif` lines are ignored. As a result, the existence of the file name specified by `#include` is checked regardless of whether the file is referenced or not. An error will occur if the file specified by `#include` does not exist when executing a build.

(Example)

```
#if (SYM)
#include (func1.h)
#else
#include (func2.h)
#endif
```

[Workaround]

There is no workaround.

No.6 Bug that an error occurs when the project file created by ID78K0-NS (V2.30 or later), ID78K0 (V2.30 or later), or SM78K0 (V2.30 or later) operating alone is opened by the project manager

[Description]

If an attempt is made to read a project file created by ID78K0-NS (V2.30 or later), ID78K0 (V2.30 or later), or SM78K0 (V2.30 or later) operating alone (a file that is created by tools other than the project manager), the following error message is output.

F150: Failed to read the project file.

[Workaround]

Create a new project file in the project manager that has the same name as the project file created by ID78K0-NS (V2.30 or later), ID78K0 (V2.30 or later), or SM78K0 (V2.30 or later) operating alone. After that, select [Select Debugger] from the [Option] menu in the project manager and specify the debugger (ID or SM) used.

ITEMS REVISED FROM V3.50 TO V3.51

1. Change of Specifications

1.1 Assembler -D option

The symbol name defined by the -D option cannot be used for defining EQU/\$SET/\$RESET. Although no error was output before the specification change, specification of -D causes a bug operation. The effect of the simultaneous specification of the -D option and EQU/\$SET/\$RESET definition was not described clearly, so it has now been clarified in line with the correction of the bug.

2. Change of Cautions

None.

3. Change of Restrictions

None.

However, the descriptions of the following two items were incorrect in V3.50, though they have already been removed in V3.50.

The description on No.1 was the same as that before the restriction was removed.

The description on No.2 was missing.

No.1 Restriction that the assembler does not operate correctly when "^Z" is not placed at the end of an include file (Windows version only)

[Description]

The absence of "^Z" at the end of an include file may cause an error or the output of illegal debug information.

[Workaround]

Enter a line containing only ^Z at the end of the include file.

No.2 An error will be output from the command prompt if there is no device file when the structured assembler is activated from the command prompt

[Description]

An error will be output from the command prompt or no response will be sent from the program if there is no device file when the structured assembler is activated from the command prompt.

[Workaround]

Make sure that the device file is installed. In addition, when the folder in which the structured assembler or device file is installed is not specified by default, specify the path for the device file using the -Y option.

4. Correction of Bugs

4.1 List of corrected bugs

The following bugs have been corrected.

No.	Description
1	Restriction that a multi-byte character comment described in a macro definition in an assembler source is not displayed in the macro expansion in the assemble list
2	Even if a numeric value is specified for a symbol using the -D option, the macro can use it only as a truth value
3	An illegal code may be output as a result of calculating the number of codes after the BR directive in the last segment of the assembler source is optimized
4	A segment for which "MARGE AT" is specified by a directive is not prioritized for allocation
5	The debugger or simulator outputs an error if the ancillary symbol table output from the compiler exists in the PUBLIC/EXTRN symbol
6	When the segment name consists of eight characters, the linker may output an illegal segment name in the error message

4.2 Details of corrected bugs

The details of corrected bugs are as follows.

No.1 Restriction that a multi-byte character comment described in a macro definition in an assembler source is not displayed in the macro expansion in the assemble list

[Description]

If a multi-byte character comment is described in a macro definition, only the multi-byte character comment cannot be displayed in macro expansion in the assemble list file created after assembly.

(Example)

sample.asm

```

NAME    sample
MAC1    MACRO
        NOP    ; comment1 Multi-byte character Single-byte Japanese syllabary
        ENDM

        CSEG
SAMPLE1:
        MAC1

        END

```

sample.prn

Assemble list

ALNO	STNO	ADRS	OBJECT	M	I	SOURCE STATEMENT
1	1					NAME SAMPLE
2	2			M	MAC1	MACRO
3	3			M		NOP ; comment1 <i>Multi-byte character Single-byte Japanese syllabary</i>
4	4			M		ENDM
5	5					
6	6	----				CSEG
7	7	0000				SAMPLE1:
8	8					MAC1
	9	0000 00		#1		NOP ; comment1 <i>Single-byte Japanese syllabary</i>
9	10					
10	11					END

[Workaround]

There is no workaround.

No.2 Even if a numeric value is specified for a symbol using the -D option, the macro can use it only as a truth value

[Description]

A symbol value specified using the -D option in the assembler source instead of describing \$set/\$reset/EQU does not become valid.

Example 1) (2) may be valid even if “other than -Dsyma=0” is specified

Normally, the A109 error should be output if there is a \$set(syma)/\$reset(syma) description when -D is specified, but \$set(syma)/\$reset(syma) becomes valid and the -D option is ignored.

```

$if (syma)
    ; (1) When “-Dsyma” or “other than -Dsyma=0” is specified
$else
    ; (2) When “-Dsyma=0” is specified
$endif

```

Example 2) The -D option is ignored and F303 or F407 will be output.

Normally, the A109 error should be output if there is an EQU description when -D is specified, but EQU becomes valid because -D is ignored.

```

$_if ( symb = 0FFH )
    ; (3) When “-Dsymb=0FFH” is specified
$_elseif ( symb = 01H )
    ; (4) When “-Dsymb” or “-Dsymb=1” is specified
$else
    ; (5) When a value other than (3) or (4) is specified for symb
$endif

```

[Workaround]

Describe \$set(syma)/\$reset(syma)/EQU without using the -D option.

No.3 An illegal code may be output as a result of calculating the number of codes after the BR directive in the last segment of the assembler source is optimized

[Description]

An illegal code may be output as a result of calculating the number of codes after the BR directive in the last segment of the assembler source is optimized.

Though information in the assemble list file (*.prn) and link list file (*.map) is correct, information in the relocatable object file (*.rel) is illegal. Consequently, information in the load module file (*.lmf) and HEX-format object module file (*.hex) also becomes illegal.

[Workaround]

Implement any of the following workarounds.

- Use the BR instruction instead of the BR quasi directive because its instruction length is clear.
- Insert NOPs for the amount of insufficient code at the end of the segment in which codes are lacking.

No.4 A segment for which "MARGE AT" is specified by a directive is not prioritized for allocation

[Description]

A segment for which "MARGE AT" is specified by a directive must be prioritized for allocation to the address specified by AT, but is not. Consequently, a segment without AT specification is allocated first, which may cause the error F206 or F304.

[Workaround]

Move the already allocated segment to the area where the segment for which "MARGE AT" is specified is to be allocated.

No.5 The debugger or simulator outputs an error if the ancillary symbol table name output from the compiler exists in the operand field of the PUBLIC/EXTRN quasi directive

[Description]

Because of a linker bug, the debugger or simulator outputs the error message "b019(A): Cannot seek file" if there is an ancillary symbol table name output from the in the operand field of the PUBLIC/EXTRN quasi directive.

[Workaround]

There is no workaround.

No.6 When the segment name consists of eight characters, the linker may output an illegal segment name in the error message

[Description]

When the segment name consists of eight characters, the linker may output an illegal segment name in the error message.

[Workaround]

There is no workaround.