

CUSTOMER NOTIFICATION

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CP(K), O

# 78K0 Series Assembler Package RA78K0 V3.51 Operating Precautions

PC-9800 Series (Windows) based  
IBM PC/AT Compatibles (Windows) based  
HP9000 Series 700 (HP-UX) based  
SPARCstation Family (SunOS/Solaris) based

Be sure to read this document before using the product.

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## 1. PRODUCT OUTLINE

The tool versions when the 78K0 Series assembler package is installed are as follows.

Component	Tool	Version
(1) RA78K0 78K/0 assembler package V3.51	Structured assembler preprocessor ST78K0	V3.50
	Relocatable assembler RA78K0	V3.51
	Linker LK78K0	V3.51
	Object converter OC78K0	V3.50
	Librarian LB78K0	V3.50
	List converter LCNV78K0	V3.50
(2) Project manager V3.19	Project manager Prjtmn32	V3.19
	Standard editor idea-L	V4.17

- Component (1)

This tool is installed when “RA78K0 78K/0 Assembler Package V3.51” is selected in the Select Components dialog box in the install wizard of the installer for the Windows version ( $\mu$ SAB17RA78K0 and  $\mu$ SBB17RA78K0).

This is the same when the HP version ( $\mu$ S3P17RA78K0) or SPARCStation version ( $\mu$ S3K17RA78K0) is installed.

- Component (2)

This tool is installed when “Project manager V3.19” is selected in the Select Components dialog box in the install wizard of the installer for the Windows version.

## 2. CAUTIONS

### 2.1 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](http://www.necel.com/micro/index_e.html))

→ [Development Tools Download] → [DeviceFile]

### 2.2 Supported Tools

When RA78K0 V3.51 is used with other tools, use tools with the following versions.

Tools		Version
C compiler	CC78K0	V3.40 or later
Integrated debugger	ID78K0	V2.30 or later
	ID78K0-NS	V2.31 or later
System simulator	SM78K0	V2.40 or later

## 2.3 Installation (Windows Version)

A product ID is required to install RA78K0 V3.51. The product ID is shown on the CD-ROM or CD-ROM case.

## 2.4 Cautions Related to Project Manager

### 2.4.1 Project file

- (a) An error may occur if a project file created with a different version is read. Create project files using the version of the product used.
- (b) File and path names including a square bracket cannot be handled.

### 2.4.2 Parameter file created by user

When a parameter file created by the user is specified for the project manager, the contents will be loaded to the parameter file created by the project manager. Note the following points when creating a parameter file; otherwise an error will be output when building.

- Do not specify a parameter file with the same name as that created by the project manager.
- Do not describe the model specification option -C, device file search path specification option -Y, and source file.
- The validity of options described in the parameter file created by the user is not checked.

### 2.4.3 Online help

When the RA78K0 online help is opened from the help menu of the project manager while the online help window of another tool is open, the online help window of the other tool may not disappear. This window is closed when the RA78K0 online help is exited.

### 2.4.4 When using project manager in Windows 2000

When using the project manager in Windows 2000, set the standard user (Power Users group) or Administrators group for the group membership of the user logging on.

## 2.5 Cautions Related to Assembler

### 2.5.1 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.**

### 2.5.2 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.

### 2.5.3 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 V3.40 Operating Precautions" for cautions on debugging the C source file when an assembler source output by the C compiler is assembled.

### 2.5.4 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.

### 2.5.5 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.

### 2.5.6 Object converter

Specify the -R (object address sort) and -U (complement value specification) options before using the object converter. In particular, -R is important because an error occurs when the ROM code is ordered without sorting the object addresses.

### 3. RESTRICTIONS

#### 3.1 List of Restrictions

No.	Bugs and Changes/Additions to Specifications	Version	
		V3.50	V3.51
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

#### 3.2 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 _____ ← Range from #ifdef to #else/#endif
  case 1: _____ ← Range from case to next case/default/ends
    break
#endif
  default: _____
    break
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.

## 4. CHANGED POINTS IN USER'S MANUAL AND ONLINE HELP

The affected user's manuals are as follows.

User's Manual	Version	Document Number
RA78K0 Ver.3.50 or Later Assembler Package Operation	2nd	U14445EJ2
RA78K0 Ver.3.50 or Later Assembler Package Language	2nd	U14446EJ2

### 4.1 Changed Points in Operation User's Manual

#### 4.1.1 Correction of "2.1 Host Machine and Supply Medium"

The shaded portions in Table 2-1 on page 37 are corrected as shown below.

<Incorrect>

**Table 2-1. Supply Medium and Recording Format for Assembler Package**

Host Machine	Corresponding OS (Version)	Supply Medium	Recording Format
PC-9800 series	Japanese Windows (95/98/2000/NT4.0) <sup>Note</sup>	3.5" 2HD FD	Supports Windows standard installer
IBM PC/AT compatible	Japanese Windows (95/98/2000/NT4.0) <sup>Note</sup> English Windows (95/98/2000/NT4.0) <sup>Note</sup>	CD-ROM	
HP9000 series 700™	HP-UX™ (Rel. 10.10 or later)	DAT	Compressed in tar format
SPARCstation family	SunOS™ (Rel. 4.1.4 or later) Solaris™ (Rel. 2.5.1 or later)	1/4" CGMT 3.5" 2HD FD	

<Correct>

**Table 2-1. Supply Medium and Recording Format for Assembler Package**

Host Machine	Corresponding OS (Version)	Supply Medium	Recording Format
PC-9800 series	Japanese Windows (95/98/2000/NT4.0) <sup>Note</sup>	CD-ROM	Supports Windows standard installer
IBM PC/AT compatible	Japanese Windows (95/98/2000/NT4.0) <sup>Note</sup> English Windows (95/98/2000/NT4.0) <sup>Note</sup>		
HP9000 series 700™	HP-UX™ (Rel. 10.10 or later)	CD-ROM	cp command
SPARCstation family	SunOS™ (Rel. 4.1.4 or later) Solaris™ (Rel. 2.5.1 or later)		

#### 4.1.2 Addition to "2.2.4 Directory configuration"

The shaded portion on page 51 has been added.

<Before addition>

The drive and install directory may be changed during installation.

<After addition>

The drive and install directory can be changed during installation. However, the project manager and the RA78K0 must be installed in the same directory.

#### 4.1.3 Correction of “2.2.5 Installation of EWS version”

The description on page 53 indicates the installation method when the supply medium is CGMT. It has been corrected to the description when the supply medium is CD-ROM.

<Correct>

##### 2.2.5 Installation of EWS version

The supply medium is CD-ROM.

##### (1) Installation procedure

Install the RA78K0 in the following procedure.

<1> Log on the host machine.

<2> Move to the installation directory.

Here, the files are assumed to be installed in /nectools/bin.

```
%cd /nectools/bin
```

<3> Insert the CD-ROM in the CD-ROM drive.

<4> Execute the cp command and copy the files from the CD-ROM.

##### (2) File configuration

The file configuration after installation is as follows.

Assume that the files were installed in /nectools/bin.

/nectools/bin/	
ra78k0	Executable format of assembler
st78k0	Executable format of structured assembler preprocessor
lk78k0	Executable format of linker
oc78k0	Executable format of object converter
lcnv78k0	Executable format of list converter
lb78k0	Executable format of librarian
*.hlp	Help file corresponding to each program (text file)
ra78k0.is*	Table file defining instruction set used by assembler
*.asm, *.s	Sample program for installation confirmation
*.sh	Shell file for installation confirmation
readme.doc	Explanation of how to use the shell file for installation confirmation(text file)

It is recommended to install the C compiler, integrated debugger, system simulator, and device file in the directory in which the assembler is installed.

#### 4.1.4 Correction of “2.3.2 Environmental variables”

In “With PC-9800 series or IBM PC/AT-compatible machines” in **[Example]** on page 54, the path description has been corrected as follows. <<Japanese manual only>>

<Incorrect> PATH = %PATH%;C:\NECTools32\bin

<Correct> PATH = %PATH%;C:\NECTools32\bin

In “With HP9000 series 700 or SPARCstation family” in **[Example]** on page 54, the description is the case when the assembler is installed in the directory /ra78K0. If the assembler is installed in /necools/bin, read /ra78K0 as /necools/bin.

#### 4.1.5 Correction of “3.2.4 Creation of Projects”

The description in (1) Creating project on page 62 has been corrected as follows. <<**Japanese manual only**>>

<Incorrect> Title (I)

<Correct> Title (T)

#### 4.1.6 Correction of “4.4.2 Explanation of structured assembler options”

The description in (11) Device file search path specification (-Y) Default assumption 1) on page 114 has been corrected as follows. <<**Japanese manual only**>>

<Incorrect> \.\dev

<Correct> <.\dev>

#### 4.1.7 Correction of “4.5.2 Options”

The description in the eighth item on page 119 has been corrected as follows. <<**Japanese manual only**>>

<Incorrect> Other options

<Correct> Other options (O)

#### 4.1.8 Correction and addition to “5.4.3 Explanation of assembler options”

The description in (8) Assemble list file format specification (-LW, -LL, -LH, -LT, -LF/-NLF) (c) -LH on page 147 has been corrected as follows.

<Incorrect> Syntax : -LH [character-string]

<Correct> Syntax : -LH character-string

The description in (11) Specification of path for temporary file creation (-T) on page 156 has been corrected as follows.

<Incorrect> Syntax : -T [path-name]

<Correct> Syntax : -T path-name

The following description has been added to (13) Symbol definition specification (-D) [Explanation] on page 158.

6) The symbol defined by -D is assigned to EQU/\$SET/\$RESET.

An error will be output if the symbol name specified for -D is already defined in the source.

4.1.9 Correction of “6.5.1 Linker startup”

The description in (1) Startup from the command line on page 170 has been corrected as follows.

<<Japanese manual only>>

<Incorrect> bus-name

<Correct> path-name

4.1.10 Correction of “6.6.3 Explanation of linker options”

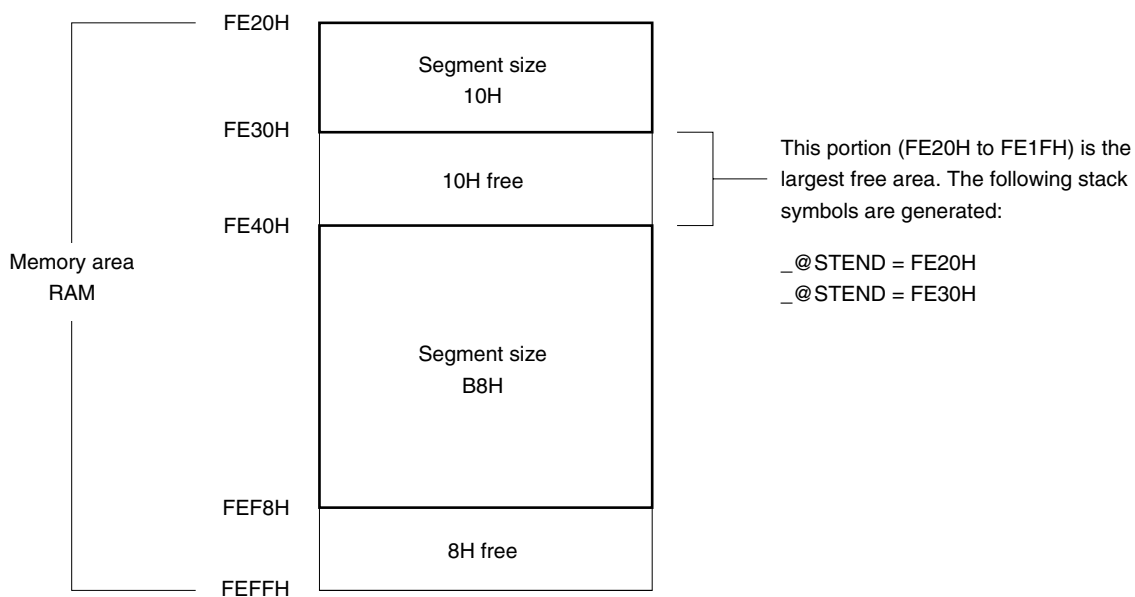
The address and size in (4) Generation of stack decision symbols specification (-S/-NS) [Example of use] on page 181 has been corrected as follows.

<Incorrect>

**[Example of use]**

Reserve the stack area in memory area RAM (however, the linker will assume that a segment of size 10H in RAM and a segment of size B8H located in the saddr area are input).

```
C>lk78k0 k0main.rel k0sub.rel -s
```

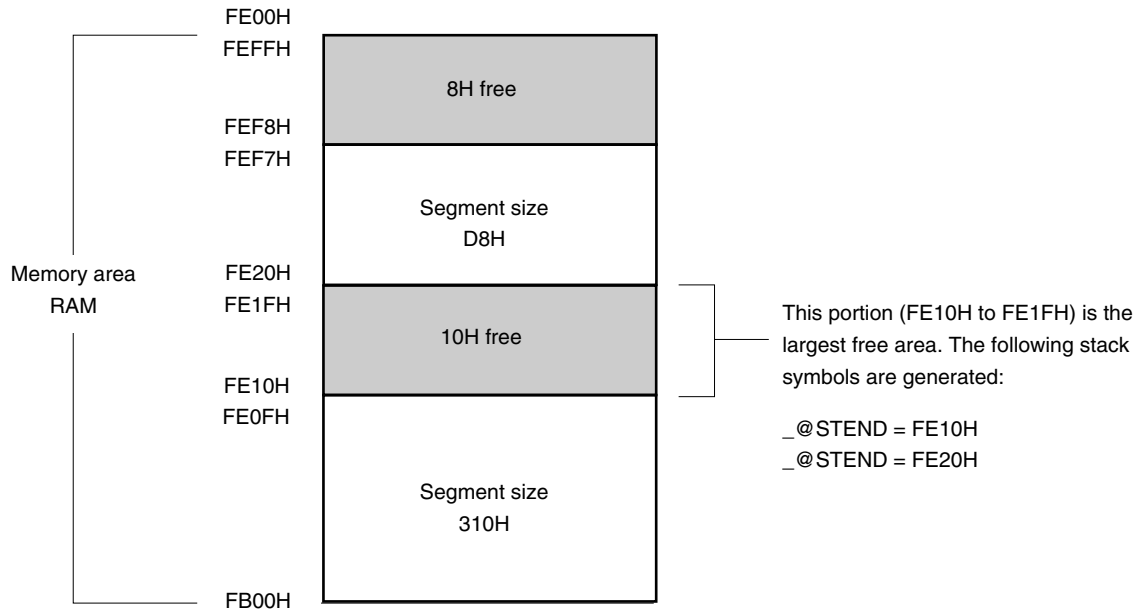


<Correct>

**[Example of use]**

Reserve the stack area in memory area RAM (however, the linker will assume that a segment of size 310H in RAM and a segment of size D8H located in the saddr area are input).

```
C>lk78k0 k0main.rel k0sub.rel -s
```



The description in (13) Specification of path for temporary file creation (-T) on page 199 has been corrected as follows.

<Incorrect> Syntax : -T [path-name]

<Correct> Syntax : -T path-name

The description in (14) Specification of path for temporary file creation (-Y) on page 200 has been corrected as follows.

<Incorrect> Syntax : -Y [path-name]

<Correct> Syntax : -Y path-name

#### 4.1.11 Correction of "7.4.2 Explanation of object converter options"

The description in (4) Object complement specification (-U) [Example of use] on page 223 has been corrected as follows.

<Incorrect> C>oc78k0 k0.lmf -u00h, 003eh, 0fc2h

<Correct> C>oc78k0 k0.lmf -u00h,003eh,0fc2h

The description in (7) Device file search path specification (-Y) on page 226 has been corrected as follows.

<Incorrect> Syntax : -Y [path-name]

<Correct> Syntax : -Y path-name

4.1.12 Correction of “8.4.2 Explanation of librarian options”

The description in (2) Specification of path for temporary file creation (-T) on page 240 has been corrected as follows.

<Incorrect> Syntax : -T [path-name]

<Correct> Syntax : -T path-name

The description in (7) Device file search path specification (-Y) on page 241 has been corrected as follows.

<Incorrect> Syntax : -Y [path-name]

<Correct> Syntax : -Y path-name

4.1.13 Correction of “8.4.2 Explanation of subcommands”

The description in (3) DELETE [Example of use] on page 246 has been corrected as follows.

<Incorrect> \*delete k0.lib m1.rel m3.rel

<Correct> \*delete k0.lib (m1.rel, m3.rel)

The description in (5) PICK [Example of use] on page 248 has been corrected as follows.

<Incorrect> \*pick k0.lib m2.rel

<Correct> \*pick k0.lib (m2.rel)

The description in (6) LIST on page 249 has been corrected as follows.

<Incorrect> • Option : -PUBLIC/-NOPUBLIC  
                  : - O ∇file-name

<Correct> Option : -PUBLIC/-NOPUBLIC  
                  : - O ∇file-name

4.1.14 Correction of “12.2 Structured Assembler Error Messages”

The company name in the A112 error on page 296 has been corrected as follows.

<Incorrect> Contact NEC.

<Correct> Contact NEC Electronics.

4.1.15 Addition to “12.3 Assembler Error Messages”

The error A108 has been added to page 299.

A108	Message	Symbol table overflow ‘symbol name’
	Cause	The number of symbols that can be defined exceeds the limit.



## 4.1.16 Addition to “12.4 Linker Error Messages”

The error F410 has been added to page 310.

F410	Message	Multiple module name definition 'module name' in file 'file 1' First defined in file 'file 2'
	Cause	The module names of object module file 1 and 2 are the same.

## 4.1.17 Correction of “APPENDIX B NOTES ON USE”

The description in (6) EQU definitions of SFR names on page 329 has been corrected as follows.

<Incorrect> Although SFR names can be specified for EQU Directive operands, an assembly error will occur if an SFR name outside the saddr area is specified.

PUBLIC declarations and EQU definitions are possible for SFR names in the saddr area.

<Correct> Although SFR names can be specified for EQU Directive operands, an assembly error will occur if an SFR name outside the saddr area is specified for PUBLIC.

## 4.1.18 Correction of “C.1 List of Structured Assembler Options”

The description formats on pages 331 and 332 are corrected as follows.

<Incorrect>

No.	Classification	Format
5	Include file path specification	-I[, path-name]...
11	Device file search path specification	-Y[path]

<Correct>

No.	Classification	Format
5	Include file path specification	-I path-name
11	Device file search path specification	-Y path name

## 4.1.19 Correction of “C.2 List of Assembler Options”

The description formats on pages 333 and 334 are corrected as follows.

<Incorrect>

No.	Classification	Format
1	Device type specification	-C [device-type]
5	Include file read path specification	-I[, path-name]...
8	Assemble list file output specification	-LH [character-string]
10	Parameter file specification	-F [file-name]
11	Specification of path for temporary file creation	-T [path-name]
12	Device file search path specification	-Y[path]

&lt;Correct&gt;

No.	Classification	Format
1	Device type specification	-C device-type
5	Include file read path specification	-I path-name[,path-name]...
8	Assemble list file output specification	-LH character-string
10	Parameter file specification	-F file-name
11	Specification of path for temporary file creation	-T path-name
12	Device file search path specification	-Y path-name

## 4.1.20 Correction of “C.3 List of Linker Options”

The description formats on page 336 are corrected as follows.

&lt;Incorrect&gt;

No.	Classification	Format
11	Library file read path specification	-I[, path-name]...
13	Specification of path for temporary file creation	-T [path-name]
14	Device file search path specification	-Y[path]

&lt;Correct&gt;

No.	Classification	Format
11	Library file read path specification	-I path-name[,path-name]...
13	Specification of path for temporary file creation	-T path-name
14	Device file search path specification	-Y path-name

## 4.1.21 Correction of “C.4 List of Object Converter Options”

The description formats on page 337 are corrected as follows.

&lt;Incorrect&gt;

No.	Classification	Format
6	Parameter file specification	-F [file-name]
7	Device file search path specification	-Y[path]

&lt;Correct&gt;

No.	Classification	Format
6	Parameter file specification	-F file-name
7	Device file search path specification	-Y path-name

## 4.1.22 Correction of “C.5 List of Librarian Options”

The description formats on page 338 are corrected as follows.

<Incorrect>

No.	Classification	Format
2	Specification of path for temporary file creation	-T [path-name]
3	Device file search path specification	-Y[path]

<Correct>

No.	Classification	Format
2	Specification of path for temporary file creation	-T path-name
3	Device file search path specification	-Y path-name

## 4.1.23 Correction of “APPENDIX D LIST OF SUBCOMMANDS”

The description formats on page 341 are corrected as follows. <<Japanese manual only>>

<Incorrect>

No.	Classification	Format
3	DELETE	DELETEΔlibrary-file-name∇ ∇module-name [∇, ...]∇
5	PICK	PICKΔlibrary-file-name∇ ∇module-name [∇, ...]∇
6	LIST	LIST[Δoption]Δlibrary-file-name [∇(∇module-name)]

<Correct>

No.	Classification	Format
3	DELETE	DELETEΔlibrary-file-name∇ (∇module-name [∇, ...]∇)
5	PICK	PICKΔlibrary-file-name∇ (∇module-name [∇, ...]∇)
6	LIST	LIST[Δoption]Δlibrary-file-name [∇(∇module-name[∇,...]∇)]

## 4.2 Changed Points in Language User's Manual

### 4.2.1 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.

### 4.2.2 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.

### 4.2.3 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.

### 4.2.4 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] )

#### 4.2.5 Correction of “4.6 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)

### 4.3 Changed Points in Online Help

#### 4.3.1 Description EWS version

Ignore the description on EWS version.

#### 4.3.2 Topic “Operating Environment”, “Installation”

Location:     (1) Overview → Operating Environment

              (2) Installation and Environment Settings → Installation → Host machine and supply medium

Description: Erroneous descriptions exist in the table “Supply Medium” and “Recording Format”.

See **4.1.1** for the corrected description.

#### 4.3.3 Topic “Installation”

Location:     Installation and Environment Settings → Installation → “Directory configuration”

Description: Some descriptions are missing in “Directory configuration”.

See **4.1.2** for the corrected description.

#### 4.3.4 Topic “Explanation of Options” (Assembler)

Location: Operation → Assembler (RA78K0) → Explanation of Options

              → Assemble list file format specification (-LH)             ...(1)

              → Specification of path for temporary file creation (-T)     ...(2)

              → Symbol definition specification (-D)                     ...(3)

Description: Erroneous descriptions exist in the “Description format” of (1) and (2). A description has been added to “Explanation” of (3). See **4.1.8** for the corrected description.

#### 4.3.5 Topic “Explanation of Options” (Structured Assembler)

Location:     Operation → Structured Assembler (ST78K0) → Explanation of Options

              → Device file search path specification (-Y)

Description: There are two places that indicate the device file search order as “\.\dev”, but the correct description is <.\dev>.

## 4.3.6 Topic "Explanation of Options" (Linker)

Location: Operation → Linker (LK78K0) → Explanation of Options → Stack symbol generation specification (-S/-NS) → "Use example"

Description: Erroneous descriptions on the address and size exist in "Application example".  
See **4.1.10** for the corrected description.

## 4.3.7 Topic "Explanation of Options" (Librarian)

Location: Operation → Librarian (LB78K0) → Explanation of Options  
→ Specification of path for temporary file creation (-T) ... (1)  
→ Device file search path specification (-Y) ... (2)

Description: Erroneous descriptions exist in "Description format" of (1) and (2).  
See **4.1.12** for the corrected description.

## 4.3.8 Topic "Subcommands" (Librarian)

Location: Operation → Librarian (LB78K0) → Subcommands → DELETE ... (1)  
→ PICK ... (2)

Description: Erroneous descriptions on address and size exist in "Application example".  
See **4.1.13** for the corrected description.

## 4.3.9 Topic "Assembler error messages"

Location: Operation → Error Message → Assembler error messages

Description: The A108 error has been added. See **4.1.15** for the added description.

## 4.3.10 Topic "Linker error messages"

Location: Operation → Error Message → Linker error messages

Description: The F410 error has been added. See **4.1.16** for the added description.

## 4.3.11 Topic "Object converter error messages" &lt;&lt;Japanese version only&gt;&gt;

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.

## 4.3.12 Topic "Segment definition directives" &lt;&lt;Japanese version only&gt;&gt;

Location: Language → Assembler Language Specification → Directives  
→ Segment definition directives → Data segments

Description: The "segment field" in the 6th item of "Explanation" under DSEG has been corrected to "segment name".

#### 4.3.13 Topic “Linkage directives” <<Japanese version only>>

Location: Language → Assembler Language Specification → Directives → Linkage directives  
→ EXTRN (EXTeRNal)

Description: Erroneous descriptions exist in “Description format”. See **4.2.3** for the corrected description.

#### 4.3.14 Topic “Notes on Use”

Location: Notes on Use → Notes on Use → Cautions

Description: Erroneous descriptions exist in “EQU definitions of SFR names”.  
See **4.1.17** for the corrected description.

## 5. ITEMS REVISED FROM V3.50 TO V3.51

The assembler, linker, and project manager have been modified. For details of changed points in the project manager, see “Project manager release note” in “NEC Tools32” in the [Program] menu that is registered after installation of the tool.

### 5.1 Change of Specifications

#### 5.1.1 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.

### 5.2 Change of Cautions

None.

### 5.3 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.

## 5.4 Correction of Bugs

### 5.4.1 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



## 5.4.2 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.