

CUSTOMER NOTIFICATION

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78K0S Series Integrated Debugger ID78K0S-NS V2.52 Operating Precautions

Windows Based

Be sure to read this document before using the product.

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Thank you for purchasing 78K0S Series integrated debugger ID78K0S-NS V2.52.

This document explains the modifications from ID78K0S-NS V2.31 to V2.52, cautions, and usage restrictions.

Be sure to read this document before using ID78K0S-NS V2.52.

1. USER'S MANUAL

The following user's manual is available for this version as a PDF file only.

- Integrated debugger ID78K0S-NS V2.52 - Operation (document number: U16584E)

2. SUPPORTED TOOLS

Use the following tool versions when used in combination with ID78K0S-NS V2.52.

- Assembler: RA78K0S V1.40 or later
- Compiler: CC78K0S V1.50 or later
- Device driver: IE-PC driver V2.10 or later
- Project manager: PM plus V5.10 or later

3. ITEMS REVISED FROM V2.31 TO V2.52

This section explains the changes from V2.31 to V2.52.

3.1 Added or Modified Functions

- Windows XP is now supported. Windows 95 is no longer supported in V2.52 and later.
- PM plus is now supported. Project Manager is no longer supported.
- The right-click menu has been modified.
- A variable, octadecimal, hexadecimal, and negative number can now be specified as a subscript of arrays in windows displaying variables such as the Watch window.
Example) Variable: var[i], octadecimal: var[010], hexadecimal: var[0xab], negative number: var[-6]
- The display file save/restore function has been separated into a display file and an environment file.
- The color of the frame at the start of a function in the Trace window has been changed to make it easier to see.
- The Help menu has been changed to an HTML-format help.

3.2 List of Handling of Restrictions

Since the numbers assigned to the restrictions have not been changed, the restriction numbers shown below are not consecutive.

No.	Bugs and Changes/Additions to Specifications	Version	
		V2.31	V2.52
2	Wrong error message is output in Symbol to Address dialog box	×	√
5	Maximum display address of Assemble window is not displayed	×	√
7	Members of pointers cannot be displayed in Watch window	×	√
8	Bug when mixed display is set in Source window	×	√
9	Part of status is not displayed on screens with less than 800 x 600 resolution	×	√
16	Object is also loaded in Download dialog box	×	√
17	320th and subsequent characters are not displayed	×	√
20	Breakpoint cannot be set to the same address as the defined symbol value	×	√
23	Display may become illegible if right/left arrow key is used to scroll area	×	√
24	Break point cannot be set if a file name that includes a “-” (minus) or “+” (plus) exists in a source file	×	√
25	Debugger is abnormally terminated	×	√
28	Bug in search file function in Source Search dialog box	×	–
29	Display in Watch and Local window is incorrect when an array is declared as a function argument	×	√
30	All traces are executed if the trace includes snap shot event	×	√
31	Program cannot be edited when Source window is in mixed-display mode	×	√
32	Files with the same name cannot be displayed in Source window	×	√
33	Dummy RRM is disabled in SFR area	–	–
34	Memory search is aborted	×	√
40	Variable display in Watch window may not be valid	×	–
44	Bug in saving a display file in Watch window	×	√

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

3.3 Details of Handling of Restrictions

No.2 Wrong error message is output in Symbol to Address dialog box

[Description]

If an SFR bit is specified in the Symbol to Address dialog box, an error occurs but the wrong error message "F002(f), Illegal expression" is output.

[Action]

This bug has been corrected in V2.52.

No.5 Maximum display address of Assemble window is not displayed

[Description]

The maximum display address "0xFFFF" of the Assemble window is not displayed.

[Action]

This item has been included in the ID78K0S-NS V2.52 user's manual as a caution on use.

No.7 Members of pointers cannot be displayed in Watch window

[Description]

Even if the members of pointers such as structures and arrays are displayed and saved to the project file, the members are not displayed in the Watch window when the project file is loaded. At this time, the display radix of each member is not displayed.

[Action]

This item has been included in the ID78K0S-NS V2.52 user's manual as a caution on use.

No.8 Bug when mixed display is set in Source window

[Description]

If mixed display is set in the Source window and the cursor is scrolled downward (in the direction of the end of the file), a redundant scroll occurs. As a result, the displayed line numbers may not be sequential. While the end of the source is displayed, the last part cannot be displayed unless scroll is used during mixed display.

[Action]

This item has been included in the ID78K0S-NS V2.52 user's manual as a caution on use.

No.9 Part of the status is not displayed on screens with less than 800 x 600 resolution

[Description]

Part of the status is not displayed on screens with less than 800 x 600 resolution.

[Action]

This item has been included in the ID78K0S-NS V2.52 user's manual as a caution on use.

No.16 Object is also loaded in Download dialog box

[Description]

The object is also loaded if HEX file is specified and it is specified to load only symbol information in the

Download dialog box.

[Action]

This item has been included in the ID78K0S-NS V2.52 user's manual as a caution on use.

No.17 320th and subsequent characters are not displayed

[Description]

The number of characters that can be input in a line in the Source window, Assemble window, or watch-related windows is up to 319 . The 320th and subsequent characters are not displayed.

[Action]

This item has been included in the ID78K0S-NS V2.52 user's manual as a caution on use.

No.20 Breakpoint cannot be set to the same address as the defined symbol value

[Description]

If valid EQU symbols are defined only in an assembler source file, a breakpoint cannot be set to the same address as the defined symbol value.

[Action]

This bug has been corrected in V2.52.

No.23 Display may become illegible if right/left arrow key is used to scroll area

[Description]

When there is insufficient space in the data value display/setting area (in the SFR or Register window, etc.), if the right/left arrow key is used to scroll the area, the display in the data value display/setting area may become illegible.

[Action]

This item has been included in the ID78K0S-NS V2.52 user's manual as a caution on use.

No.24 Break point cannot be set if a file name that includes a "-" (minus) or "+" (plus) exists in a source file

[Description]

If a file name that includes a "-" (minus) or "+" (plus) exists in a source file, a break point cannot be set in the debugger.

[Action]

This item has been included in the ID78K0S-NS V2.52 user's manual as a caution on use.

No.25 Debugger is abnormally terminated

[Description]

In the debugger specifications, if there is a script file with the same name as the load module to be downloaded and with the extension ".tcl", the script is automatically executed immediately before downloading. If the program to download the load module is written in a script, the download loops and the debugger is abnormally terminated.

[Action]

This item has been included in the ID78K0S-NS V2.52 user's manual as a caution on use.

No.28 Bug in search file function in Source Search dialog box

[Description]

The search file function cannot be used in the Source Search dialog box.

[Action]

This function has been removed in V2.52.

No.29 Display in Watch and Local window is incorrect when an array is declared as a function argument

[Description]

When an attempt is made to reference the contents of an array from the Watch or Local window when an array is declared as a function argument, the incorrect memory location is displayed.

[Action]

This bug has been corrected in V2.52.

No.30 All traces are executed if the trace includes snap shot event

[Description]

All traces are executed even if a conditional trace is selected by setting a snap shot event. Consequently, the result of the snap shot event will be included in all traces. If another conditional trace (such as zone trace or qualify trace) is set, all traces are not executed but the results of the conditional trace and snap shot event can be obtained.

[Action]

This item has been included in the ID78K0S-NS V2.52 user's manual as a caution on use.

No.31 Program cannot be edited when Source window is in mixed-display mode

[Description]

The program in the disassembled program section cannot be edited if the Source window is in mixed display mode.

[Action]

This item has been included in the ID78K0S-NS V2.52 user's manual as a caution on use.

No.32 Files with the same name cannot be displayed in Source window

[Description]

The source file in the folder set in the source path under [Option] → [Debugger Option] is opened by priority in the Source window.

C:\TEST\TEST.C ← Source file of C:\TEST\TEST.LMF
C:\TEST\TEST.LMF

D:\TEST\TEST.C ← Source file of D:\TEST\TEST.LMF
D:\TEST\TEST.LMF

C:\TEST\ is set in the source path under [Option] → [Debugger Option].

At this time, C:\TEST\TEST.LMF is displayed even if D:\TEST\TEST.LMF is opened from [File] → [Download].

[Action]

This item has been included in the ID78K0S-NS V2.52 user's manual as a caution on use.

No.33 Dummy RRM is disabled in SFR area

[Description]

Dummy RRM (real-time RAM monitor function) is disabled in the SFR area and in the SFR area.

[Action]

The ID78K0S-NS does not have the dummy RRM function, so this item is not applicable.

No.34 Memory search is aborted

[Description]

If the memory search target address is in a non-mapped area or SFR area, the memory search is aborted.

[Action]

This bug has been corrected in V2.52.

No.40 Variable display in Watch window may not be valid

[Description]

When a local variable is registered in the Watch window and the valid area (within the scope) of the registered variable is executed, the registered variable display may remain gray and the valid display (display in black) may not be output. In addition, when variables whose count exceeds the size of the Watch window are registered immediately after the project file is read, the variable display may remain gray and the valid display (display in black) may not be output even if the window is scrolled.

[Action]

Display in gray is not implemented in V2.52, so this item is not applicable.

No.44 Bug in saving a display file in Watch window

[Description]

If data is added to the Watch window by specifying the address, the data cannot be saved correctly even if the display file saving command is executed.

[Action]

This item has been included in the ID78K0S-NS V2.52 user's manual as a caution on use.

4. CAUTIONS

Cautions on using ID78K0S-NS V2.52 are described below.

4.1 Device File

A device file is necessary to execute the ID78K0S-NS. The device file is not included in the ID78K0S-NS. 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]

4.2 Device Driver

A device driver is necessary to execute the ID78K0S-NS. Install the device driver by following the instructions in "README_E.TXT" in the folder "ID78K0S-NS\DRIVER" on the CD-ROM.

4.3 Cautions on Installation

4.3.1 Product ID

A product ID is required to install ID78K0S-NS V2.52. The product ID is shown on the medium or medium case.

4.3.2 Caution on activating installer

Insert the CD-ROM of ID78K0S-NS V2.52 in the CD-ROM drive. The installer is started automatically. If it does not start automatically, execute "setup.exe" in the directory DISK1 under ID78K0S-NS from Windows Explorer.

4.3.3 Caution on restarting computer

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

4.3.4 Caution on authority for installation

Administrator right is required for installation of ID78K0S-NS V2.52 in Windows NT, Windows 2000, or Windows XP.

4.3.5 Caution on installation directory

Do not install ID78K0S-NS V2.52 in a directory with a name containing a space; otherwise the development tools may not be correctly executed.

4.3.6 Caution on re-installation

To re-install ID78K0S-NS V2.52, uninstall the copy of ID78K0S-NS V2.52 already installed. If this product is installed in a different directory without uninstalling the first copy of ID78K0S-NS V2.52, the first copy of ID78K0S-NS V2.52 already installed cannot be uninstalled.

4.3.7 Caution on file created at installation

The following file will be created after ID78K0S-NS V2.52 has been installed. This file is necessary for uninstalling ID78K0S-NS V2.52 and must not be deleted (the installation destination is assumed to be C:\NECTools32).

C:\NECTools32\SETUP*.*

4.3.8 Caution on help

The 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)

4.3.9 Caution on 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.

4.3.10 Caution on project manager

The project manager is not supported in ID78K0S-NS V2.52 or later. Use PM plus. PM plus is included in RA78K0S V1.40 or later, so upgrade to RA78K0S to V1.40 or later. If the project manager is used with ID78K0S-NS V2.52, the following warning is displayed.

Wf109: project manager cannot be used with the debugger of this version. Please use PM plus.

4.3.11 Caution on language used in Windows

ID78K0S-NS V2.52 can be installed in the English Windows environment only.

If an attempt is made to install ID78K0S-NS V2.52 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.

4.4 Cautions Related to ID78K0S-NS

4.4.1 Memory window

The cursor in the ASCII display area does not follow changes in the display address on the memory window.

4.4.2 IAR compiler

The IAR compiler V3.30A or above is supported.

4.4.3 SFR selection dialog box

When the SFR names in several lines are selected in the SFR Select dialog box, the order of the selected SFR names cannot be changed. As a workaround for this problem, select the lines one by one and change the SFR display order.

4.4.4 Watch window

Up to 10,000 lines can be displayed in the Watch window. If the number exceeds 10,000, an error message will be output.

4.4.5 Number of lines in C source file

Up to 65535 lines can be supported (displayed) in a C source file. If the number exceeds 65535, divide the source.

4.4.6 Project file

The debugger cannot be activated when a project file for which "Target" is selected as the operating power supply is read when the target power supply is off.

The workarounds are shown below.

- 1) Terminate PM plus if it is activated.
- 2) Specify "Internal" as the operating power supply and activate the ID78K0S-NS alone.
- 3) Select the project file to be read from "Open" under "Project" in the File menu in the main window.

4.4.7 Switching application while icon is being dragged

If an application is switched for any reason while an event icon is being dragged, the icon cannot be dropped. In such a case, release the drag status using the ESC key.

5. RESTRICTIONS

5.1 List of Restrictions

Since the numbers assigned to the restrictions have not been changed, the restriction numbers shown below are not consecutive.

No.	Bugs and Changes/Additions to Specifications	Version	
		V2.31	V2.52
26	Last line is not displayed in Coverage-Efficiency View dialog box (applicable to English version only)	×	×
35	Symbols with the func#var (func: Function name, var: Variable name) format cannot be converted into addresses	×	×
37	Run may not stop	×	×
47	Display digit of bit variable and bit field is wrong in Watch window	×	×
48	Read-only project file can be overwritten	×	×
49	Help does not open in Trace window even if F1 key is pressed	×	×
50	Active project cannot be switched correctly in PM	–	×
51	Bug in changing file type by inputting "*.hex"	×	×
52	Source path cannot be added even if addition is specified by PM plus	–	×
53	Bug in redraw	×	×
54	Modification of the address of a label to be snapped is not reflected in snapshot execution	×	×
55	Deleted break remains	×	×
56	Program execution stops at an unexpected address	×	×

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

5.2 Details of Restrictions

No.26 Last line is not displayed in Coverage-Efficiency View dialog box

[Description]

The last line is not displayed in the Coverage-Efficiency View dialog box. The last line is hidden behind the horizontal scroll bar when an item consisting of 21 characters or more is included and the total number of items exceeds 12 in the survey list. (This bug occurs only in the English Windows environment.)

[Workaround]

Add one or more dummy items at the end of the list.

No.35 Symbols with the func#var (func: Function name, var: Variable name) format cannot be converted into addresses

[Description]

Symbols with the func#var (func: Function name, var: Variable name) format cannot be converted into addresses.

[Workaround]

Only convert var (variable name). When there is a variable with the same name as a static variable in a function, convert the variable when the PC exists in that function.

No.37 Run may not stop

[Description]

When [Run] → [Slowmotion] is selected while Go & Go is under execution, the program does not stop even if [Run] → [Stop] is selected (or the stop button is clicked).

[Workaround]

There is no workaround.

No.47 Display digit of bit variable and bit field is wrong in Watch window

[Description]

If both a bit variable and bit field are displayed in the Watch window, the digit is not displayed as 1 digit, but as 16 digits (in binary, not 0b1 but 0b0000000000000001). The contents of data are correct.

[Workaround]

There is no workaround.

No.48 Read-only project file can be overwritten

[Description]

Project files (*.prj, *.pri) can be overwritten depending on the OS even if the file attribute is set to Read-only. In Windows XP, an error is output when attempting to overwrite the file, but the file can be overwritten in Windows 2000.

[Workaround]

There is no workaround.

No.49 Help does not open in Trace window even if F1 key is pressed

[Description]

The Help window is not displayed when the F1 key is pressed while no trace result is displayed, such as immediately after activation of the debugger. This is because the Help window can be opened by the F1 key only in the window on which the caret is placed, and the caret cannot be moved if there are no trace results.

[Workaround]

Open the Help window by selecting [Current Window Help] under the Help menu.

No.50 Active project cannot be switched correctly in PM plus

[Description]

When both PM plus and the ID are activated and the active project is switched by PM plus, if the activated project does not include the project file (.pri) of the debugger, the load module loaded by the previous active project is not reset and remains as is.

[Workaround]

Select "Execute symbol reset after download" in the Debugger Settings dialog box by selecting [Debugger settings...] on the [Tool] menu of PM plus before creating a project.

No.51 Bug in changing file type by inputting "*.hex"

[Description]

Even if the display of the extension select area is changed by specifying the file type as "*.hex" in the file selection area in a file selection dialog box, the change is not reflected internally.

[Workaround]

Specify the file type in the extension select area.

No.52 Source path cannot be added even if addition is specified by PM plus

[Description]

When a project is saved in the ID78K0S-NS and then a new source path is added in PM plus, the new source path cannot be added to the debugger.

[Workaround]

Add the source path manually.

No.53 Bug in redraw

[Description]

If the caret is moved when the Memory window or Coverage window is activated, the line on which the caret was placed cannot be redrawn normally.

[Workaround]

Redraw can be performed by moving the caret to a line on which redraw was not performed.

No.54 Modification of address of a label to be snapped is not reflected in snapshot execution

[Description]

When a label is specified for a memory address subject to snap in the Snap Shot dialog box, if the address of the registered label is changed in line with a user program modification, the address before modification is snapped.

[Workaround]

When the address of the registered label is changed, re-register the snap information using the Change button.

No.55 Deleted break remains

[Description]

When an 8-bit external sense event (when using the IE-78K0S-NS-A) is set as a break event and a break occurs at the event, the program stops at the event even if the break event is inactivated or deleted later.

[Workaround]

There is no workaround.

No.56 Program execution stops at an unexpected address

[Description]

When using the IE-78K0S-NS, the commands Next Over, Come Here, and Return Out are not executed correctly and execution stops at an unexpected address.

These functions normally use Pre-execute Break, but Pre-execute Break is not provided to the IE-78K0S-NS, so Post-execute Break is used instead of Pre-execute Break in the IE-78K0S-NS.

For example, when a cursor is placed in a line for calling a function and Come Here is executed up to the cursor position, the execution should stop at the line where the cursor is placed but actually stops at the first line of the called function.

[Workaround]

There is no workaround.