

Customer Notification

78K0STM Series

DSWIN-CDR-78K0S

Operating Precautions

System Simulator

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(A) Changes from Version V2.30 to V2.52

- (1) Windows XP is now supported.
- (2) Windows 95 is no longer supported in V2.52 or later.
- (3) Modification of 'right-mouse-click' menu.
- (4) The display file save/restore function has been separated into a display file and an environment file.
- (5) The start frame of a function in the trace window has been changed to improve the display.
- (6) Improvement of variable display selection.
- (7) The Help menu has been changed to HTML-format help.

(B) Cautions on Installation

- (1) A product ID is required to install SM78K0S V2.52. The product ID is shown on the medium case.
- (2) Because it may be necessary to restart the computer after installation, terminate all other applications.
- (3) Administrator rights are required for installation in Windows NT, Windows 2000, or Windows XP.
- (4) Do not install the tool in a directory with a name containing a space or a multi-byte character; otherwise the tool may not be correctly executed.
- (5) To re-install the SM78K0S V2.52, uninstall the copy of SM78K0S V2.52 already installed. If the product is installed in a different directory without uninstalling the first copy of SM78K0S V2.52, the first copy of SM78K0S V2.52 cannot be uninstalled.
- (6) The following directory will be created during the installation. The content of the directory is necessary for uninstalling the tool and must not be deleted: C:\NECTools32\SETUP\
(The installation destination is assumed to be C:\NECTools32.)
- (7) The help is supplied in 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)
- (8) The font setting in the Internet Explorer affects the font size of the help menu. If the display is too large in the default size ("Medium") of the Internet Explorer, change the font size to "Smallest" in [Fonts] from the [View] menu and restart the online help.

(C) General Cautions (Debugger Block)

- (1) The cursor in the ASCII display area does not follow changes in the display address on the memory window
- (2) 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 select the lines one by one and change the SFR display order.
- (3) Up to 10,000 lines can be displayed in the Watch window. If number exceeds 10,000 an error message will be displayed.
- (4) Up to 65535 lines can be displayed in a C Source file. If the number exceeds 65535, please divide the source file.
- (5) 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

(D) General Cautions (Simulator Block)

- (1) The Input Timing Chart Editor window and the 0/1 Editor window can only be expanded up to a horizontal width of 1040 dots because the buffer size is limited.
- (2) If the screen in which ANI pins are displayed at the beginning is set on the input timing chart or the output timing chart, the pins set as #47 and #48 may or may not displayed depending on the size. They are correctly displayed if the screen is re-sized.
- (3) Only the representative interrupt name of interrupts having the same vectored interrupt address is displayed on the Interrupt drop down list of the SFR Event & Action setting window or Output Timing Chart window.
- (4) Do not use the data search function of the Input 170 editor and the I/O Timing Chart because its search performance is poor.
- (5) Even if a customized component is moved to the I/O panel window, it is displayed at the position before it was moved if it is subsequently reloaded by the project file or the custom menu of the I/O panel.
- (6) The interrupt name selection list of the internal interrupt button displays only the representative interrupt names of the interrupts having the same vector address.
- (7) If a scroll-bar level gauge is connected to two or more AD pins or if these pins are reconnected to a dial level gauge or vice versa, the array of level gauges change/overlap then.
- (8) The default value of a pin when a button is connected is '0' for both the active-high and the active-low models. As a workaround set Hi -> 0 and Lo -> 1 using the pull-up/pull-down function of an external part.
- (9) When using Windows 2000, if right mouse button is clicked once to fix the level gauge value of the external parts, the value is not fixed, but a pull-down menu is displayed, the value will still be set.

(E) Table of Operating Precautions (Debugger Block)

No.	Outline	DSWIN-CDR-78K0S					
		Version	2.10	2.30	2.52		
			×: applicable ✓: Not applicable ✓(*): Included in user' manual - : Not checked				
A1	Mask value cannot be set in the Event dialog box		×	✓	✓		
A2	A wrong error message is displayed in the Symbol to Address dialog box		×	×	✓		
A3	No error message is displayed in the Source Move dialog box, if an input value is illegal		×	✓	✓		
A4	Restriction in trace search		×	✓	✓		
A5	Maximum address '0xFFFF' isn't displayed in Assembler window		×	×	✓(*)		
A6	'Coverage' on the [Option] menu stays valid		×	✓	✓		
A7	Pointer members cannot be displayed in Watch window		×	×	✓(*)		
A8	Display problem in Source window if mixed mode is selected		×	×	✓		
A9	A part of the Status isn't displayed, if a screen-resolution less than 800X600 is used		×	✓	✓		
A10	Memory Compare Result dialog box cannot be closed the return key		×	✓	✓		
A11	Add Link Button enabled when Event Link dialog box is opened		×	✓	✓		
A12	Error message is displayed twice during program execution		×	✓	✓		
A13	Error message in illegal area is included in the Memory Compare Dialog Box		×	✓	✓		
A14	No error message if old project file is ignored after loading		×	✓	✓		
A15	Illegal data is saved, when display file is saved in Watch window		×	✓	✓		
A16	Object file is loaded although it is specified to load only symbol information		×	✓	✓		
A17	Character per line limitation in source window		×	×	✓(*)		
A18	Breakpoint to the same address as the defined symbol value cannot be set		×	×	✓		
A19	Wrong display of pointer variable of type void		×	✓	✓		
A20	Error occurs if a load module is loaded again		×	✓	✓		
A21	The display may become illegible if the right/left arrow key is used for scrolling		×	×	✓(*)		
A22	Breakpoints cannot be set in source files containing '-' or '+' in file name.		×	×	✓		
A23	Abnormal debugger termination		-	×	✓(*)		
A24	Last line of Coverage-Efficiency View dialog box is not displayed		×	×	✓		
A25	Search file function cannot be used in Source Search dialog box		×	×	✓		

Operating Precautions for DSWIN-CDR-78K0S™

No.	Outline	DSWIN-CDR-78K0S				
		Version	2.10	2.30	2.52	
			×: applicable ✓: Not applicable ✓(*): Included in user' manual - : Not checked			
A26	Display in Watch or Local Window of an array used as function argument is incorrect		×	×	✓	
A27	Files with same name, but located in different folders are not displayed in Source window		×	×	✓(*)	
A28	Dummy real-time RAM monitor function is disabled in the SFR area		×	×	✓	
A29	Symbols in func#var format cannot be converted into addresses		×	×	✓	
A30	LMF file generated by IAR Systems tools and using only absolute segments cannot be read		×	✓	✓	
A31	Debugger doesn't stop		×	×	✓	
A32	'*' display of EEPROM memory area at run-time		×	✓	✓	
A33	Bit-variables cannot be modified in Watch window		×	✓	✓	
A34	Wrong display of Bit-variables in Watch window		×	×	×	
A35	Source line information of assembler module missing		×	×	✓	
A36	Asterisk (*) indicating a break-settable line is not displayed in source window		-	×	✓	
A37	Problem in saving a display file in watch window		-	×	✓	
A38	Source Window doesn't open automatically or Source Window is empty		-	✓	×	
A39	Wrong Warning Message after download of LNK-file or opening of a project file		-	✓	×	
A40	Problem while single stepping into function called via function pointer		-	×	×	
A41	Single step problem with IAR Systems some library functions		✓	✓	×	
A42	Display problem in second Source Window if C- code is included		×	×	×	

(F) Table of Operating Precautions (Simulator Block)

No.	Outline	DSWIN-CDR-78K0S					
		×: applicable ✓: Not applicable ✓ ^(*) : Included in user' manual - : Not checked					
		Version	2.10	2.30	2.52		
B1	The data creation function of the input 0/1 editor and input timing chart not supported		×	×	✓ ^(*)		
B2	SMB arbitration not supported (μPD78916x)		×	×	×		
B3	POM register function not supported (μPD78980x)		×	✓	✓		
B4	Power-on-clear circuit not supported		×	×	×		
B5	Low-voltage detector not supported		×	×	×		
B6	TAB key operation doesn't work in Event and Action dialog box		×	×	✓ ^(*)		
B7	SFR name in Event & Action dialog box differs from the actual device		×	✓	✓		
B8	Interrupt is not displayed in timing chart		×	×	×		
B9	Wrong ADCR0, ADCR1 access		×	×	×		
B10	The time of the timer operating with the subclock may be wrong		×	×	×		
B11	Noise occurs at comparator output		×	×	×		
B12	Control of P90, P92 by PU2 not supported (μPD78904x, μPD78941xx)		×	✓	✓		
B13	Restrictions in μPD789870,μPD78F9871		×	✓	✓		
B14	Restrictions in μPD789860,μPD789861		×	×	×		
B15	Scroll bar is not displayed in I/O Panel window		×	×	×		
B16	Scroll bar is not displayed in Key Matrix Pin dialog box		×	✓	✓		
B17	Problem in system menu of I/O Panel window (only Windows NT)		×	×	✓		
B18	I/O panel can not be restored after minimizing it		×	×	×		
B19	Instruction following SET1 [HL].5 is skipped		×	✓	✓		
B20	Port P23 and P24 cannot connected to parts (μPD789166, μPD789167, μPD78(F)9176, μPD78(F)9177)		×	✓	✓		
B21	High-byte of 16-bit register TM9 always holds '0x00' (μPD78917x)		×	✓	✓		
B22	Error message if trace size is changed		×	✓	✓		
B23	Set value for level gauge cannot be input immediately after reset		×	✓	✓		
B24	Simulator inadvertently loops due to real-time monitor function		×	✓	✓		
B25	Real-time RAM monitor does not function after reading a project file		×	✓	✓		

Operating Precautions for DSWIN-CDR-78K0S™

No.	Outline	DSWIN-CDR-78K0S					
		✕: applicable ✓: Not applicable ✓(*): Included in user' manual - : Not checked					
		Version	2.10	2.30	2.52		
B26	Error message at step execution of infinite loop		✕	✓	✓		
B27	Capture function of TM20 may not operate (μPD789014, μPD789026, μPD789418)		✕	✓	✓		
B28	Trace information of SET1 and CLR1 instruction missing		✕	✓	✓		
B29	Count processing in TM8 is illegal (some Subseries)		✕	✓	✓		
B30	Undefined RXB value read by SIO0 (μPD789014, μPD.789026, μPD789418)		✕	✓	✓		
B31	Incorrect hold time of I/O panel button / key matrix		-	✕	✓		
B32	TXS register can be read if RXB is read in transmit-only mode of SIO2		-	✕	✓		
B33	Waveform is distorted when TM34 is used in carrier generator mode		-	✕	✓		

(G) Description of Operating Precautions (Debugger Block)

No. A1	<p>Mask value cannot be set in the Event dialog box</p> <p><u>Details</u> A mask value cannot be set in a specified range of the address setting area in the Event dialog box. Even if a mask value is set, however, no error or warning message is displayed. An event is set ignoring the mask.</p> <p><u>Workaround(s)</u> - none -</p>
No. A2	<p>A wrong error message is displayed in the Symbol to Address dialog box</p> <p><u>Details</u> If an SFR bit is specified in the Symbol to Address dialog box, a wrong error message is displayed: "F002(f), illegal expression".</p> <p><u>Workaround(s)</u> Check the address of an SFR bit a map file.</p> <p><u>Comment(s)</u> Regard this as usage restriction.</p>
No. A3	<p>No error message is displayed in the Source Move dialog box, if an input value is illegal</p> <p><u>Details</u> If the numeric value of a line number in the Source Move Dialog Box is illegal or omitted, no error message is displayed and the cursor moves to the first line. In addition, even if the line number is greater than the file line number, neither an error message is displayed nor does the cursor move.</p> <p><u>Workaround(s)</u> - none -</p>

No. A4	Restriction in trace search
	<p><u>Details</u></p> <p>If the cursor is placed after the end frame and the rest of a specified range is searched forward during a trace search, the trace result is not searched from the end frame, but an error message is displayed. Similarly, if the cursor is placed before the first frame and the rest of the specified range is searched backwards an error message is displayed: "F003(W): Already exceed search region"</p> <p><u>Workaround(s)</u></p> <p>Place cursor within the search range.</p>

No. A5	Maximum address '0xFFFF' isn't displayed in Assembler window
	<p><u>Details</u></p> <p>The maximum address '0xFFFF' of the Assemble window is not displayed.</p> <p><u>Workaround(s)</u></p> <p>- none -</p> <p><u>Comment(s)</u></p> <p>This is no problem because '0xFFFF' is in the SFR area. Regard this as usage restriction.</p>

No. A6	'Coverage' on the [Option] menu stays valid
	<p><u>Details</u></p> <p>'Coverage' on the [Option] menu stays valid even during program execution. Nothing can be set even if selected.</p> <p><u>Workaround(s)</u></p> <p>- none -</p>

No. A7	Pointer members cannot be displayed in Watch window
	<p><u>Details</u> 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.</p> <p><u>Workaround(s)</u> - none -</p> <p><u>Comment(s)</u> Regard this as usage restriction.</p>

No. A8	Display problem in Source window if mixed mode is selected
	<p><u>Details</u> If mixed display mode is selected for the Source window at the cursor is scrolled downward a redundant scroll occurs. As a result, the displayed line numbers may not be sequential. While the end of the source file is displayed, the last part cannot be displayed unless scroll is used during mixed display.</p> <p><u>Workaround(s)</u> - none -</p> <p><u>Comment(s)</u> Regard this as usage restriction.</p>

No. A9	A part of the Status isn't displayed, if a screen-resolution less than 800X600 is used
	<p><u>Details</u> A part of the Status line is not displayed, if a screen resolution less 800x600 pixels is used.</p> <p><u>Workaround(s)</u> - none -</p>

No. A10	Memory Compare Result dialog box cannot be closed the return key
	<p><u>Details</u> The Memory Compare Result dialog box cannot be closed with the return key even if the default button is 'Close'.</p> <p><u>Workaround(s)</u> Close the dialog box using the mouse.</p>
No. A11	Add Link Button enabled when Event Link dialog box is opened
	<p><u>Details</u> The Add Link button is disabled when the Trace dialog box is opened, but enabled when the Event Link dialog box is opened. But the Add Link button should be disabled, because an event link cannot be used in the Trace dialog box.</p> <p><u>Workaround(s)</u> - none -</p>
No. A12	Error message is displayed twice during program execution
	<p><u>Details</u> If the Timer dialog boy is opened during program execution, the error message '0302(F): User program is being traced' is displayed twice.</p> <p><u>Workaround(s)</u> Read the message as 'User program is running'.</p>
No. A13	Error message in illegal area is included in the Memory Compare Dialog Box
	<p><u>Details</u> If an illegal area (guard area or area that cannot be mapped) is included in the comparison source address range or destination address range in the Memory Compare dialog box, the error message 'F201(f), Memory mapping error' is displayed. If the OK button is clicked, the Memory Compare dialog box disappears.</p> <p><u>Workaround(s)</u> Do not include an illegal area.</p>

No. A14	No error message if old project file is ignored after loading
	<p><u>Details</u> If a project file created with SM78K0 V2.10 or earlier is loaded, no error message is displayed and the file is ignored.</p> <p><u>Workaround(s)</u> Create a new project file with version V2.10.</p>

No. A15	Illegal data is saved, when display file is saved in Watch window
	<p><u>Details</u> When the display content of the Watch Window is saved to a file, the variable values that are not displayed in the window will be saved incorrectly.</p> <p><u>Workaround(s)</u> Before saving the display file, scroll the Watch window and display all the variables in the window once.</p>

No. A16	Object file is loaded although it is specified to load only symbol information
	<p><u>Details</u> The object is also loaded if an Intel-HEX file is specified and it is specified to load only symbol information in the Download dialog box.</p> <p><u>Workaround(s)</u> - none -</p> <p><u>Comment(s)</u> Regard this as usage restriction.</p>

No. A17	Character per line limitation in source window
	<p><u>Details</u> The number of characters that can be used per line in the Source window, Assemble or watch-related windows is up to 319 (199 in V2.11). The 320th (200th in V2.11) and subsequent characters are not displayed.</p> <p><u>Workaround(s)</u> - none -</p> <p><u>Comment(s)</u> Regard this as usage restriction.</p>

No. A18	Breakpoint to the same address as the defined symbol value cannot be set
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Details

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

Workaround(s)

Define EQU symbols in a header file so that all the assembler source files can reference them.

Comment(s)

Regard this as usage restriction.

No. A19	Wrong display of pointer variable of type void
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Details

A pointer variable value of type void cannot be displayed correctly in the Variable Window.

Workaround(s)

- none -

No. A20	Error occurs if a load module is loaded again
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Details

An error occurs if a load module that is read by a project file is downloaded again from the file list on the [File] menu immediately after the project is read.

Workaround(s)

Reading a project file downloads a load module. To read the load module again either use the [File] -> [Download] menu or read the same project file again.

No. A21	The display may become illegible if the right/left arrow key is used for scrolling
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Details

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

Workaround(s)

Expand the size of the window before operating.

Comment(s)

Regard this as usage restriction.

No. A22	Breakpoints cannot be set in source files containing '-' or '+' in file name.
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Details

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

Workaround(s)

Change the file name so that it does not include a '-' (minus) or a '+' (plus).

Comment(s)

Regard this as usage restriction.

No. A23	Abnormal debugger termination
----------------	--------------------------------------

Details

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

Workaround(s)

Change the script file to one that does not have the same name as the load module file name, if the script should not automatically be executed immediately before the download. In addition, do not write the instruction to download the load module to the script file that should automatically be executed immediately before the download.

Comment(s)

Regard this as usage restriction.

No. A24	Last line of Coverage-Efficiency View dialog box is not displayed
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Details

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.

Workaround(s)

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

Comment(s)

Regard this as usage restriction.

No. A25	Search file function cannot be used in Source Search dialog box
	<p><u>Details</u> The search function cannot be used in the Source Search dialog box.</p> <p><u>Workaround(s)</u> - none -</p> <p><u>Comment(s)</u> Regard this as usage restriction.</p>
No. A26	Display in Watch or Local Window of an array used as function argument is incorrect
	<p><u>Details</u> When an attempt is made to reference the contents of an array from the Watch or Local Window when an array is declared as function argument, the displayed memory location is incorrect.</p> <p><u>Workaround(s)</u> When referencing an array variable as a function argument, do not declare the array as the argument. Instead declare a pointer and make a pointer access.</p> <p><u>Comment(s)</u> Regard this as usage restriction.</p>
No. A27	Files with same name, but located in different folders are not displayed in Source window
	<p><u>Details</u> 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</p> <p>D:\TEST\TEST.C <- source file of D:\TEST\TEST.LMF D:\TEST\TEST.LMF</p> <p>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] menu.</p> <p><u>Workaround(s)</u> - none -</p> <p><u>Comment(s)</u> Regard this as usage restriction.</p>
No. A28	Dummy real-time RAM monitor function is disabled in the SFR area

Details

Dummy real-time RAM monitor function is disabled in the SFR area.

Workaround(s)

- none -

Comment(s)

Regard this as usage restriction.

No. A29	Symbols in func#var format cannot be converted into addresses
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Details

Symbols in func#var (func: function name, var: variable name) format cannot be converted into addresses.

Workaround(s)

Convert the variable. When there is a variable with the same name as a static variable in a function, convert the variable when the program counter exists in that function.

Comment(s)

Regard this as usage restriction.

No. A30	LMF file generated by IAR Systems tools and using only absolute segments cannot be read
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Details

The LMF file generated by IAR Systems tools and using only absolute segments cannot be read.

Workaround(s)

Use relative segments and define the physical address in the linker control file.

No. A31	Debugger doesn't stop
	<p><u>Details</u> 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.</p> <p><u>Workaround(s)</u> - none -</p> <p><u>Comment(s)</u> Regard this as usage restriction.</p>

No. A32	'*' display of EEPROM memory area at run-time
	<p><u>Details</u> '*' (Asterisks) are displayed in the EEPROM memory area at run-time.</p> <p><u>Workaround(s)</u> - none -</p>

No. A33	Bit-variables cannot be modified in Watch window
	<p><u>Details</u> Bit-variables located in the address area 0xFEFC to 0xFEFF can't be modified in the Watch window.</p> <p><u>Workaround(s)</u> Modify the bit-variables in the Memory window.</p>

No. A34	Wrong display of Bit-variables in Watch window
	<p><u>Details</u> Wrong display of Bit-variables in Watch window, if the bits are defined in an IAR Systems Assembler module.</p> <p><u>Workaround(s)</u> Define the bits in a C Module and declare the bits as extern in the assembler module.</p>

No. A35	Source line information of assembler module missing
	<p><u>Details</u> If two assembler modules are existing in one IAR assembler source file, some parts of the source line information for the second module is missing. Single step through the second module is possible, but a break point cannot be set (no * in the source lines).</p> <p><u>Workaround(s)</u> Define only one assembler module in a source file.</p> <p><u>Comment(s)</u> Regard this as usage restriction.</p>
No. A36	Asterisk (*) indicating a break-settable line is not displayed in Source window
	<p><u>Details</u> An asterisk (*) indicating a break-settable line is not displayed in the Source window when only a macro (instruction) reference line is described in an include file and the line number is the same as the instruction start line in the file to be included.</p> <p><u>Workaround(s)</u> - none -</p>
No. A37	Problem in saving a display file in watch window
	<p><u>Details</u> 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.</p> <p><u>Workaround(s)</u> - none –</p>
No. A38	Source Window doesn't open automatically or Source Window is empty
	<p><u>Details</u> The source window doesn't open automatically after a download of an LNK file or the source window is empty after the opening of a project file although the debugger option setting of the compiler and linker is correct.</p> <p><u>Workaround(s)</u> Modify the Begin- and End- Label of the Startup Module in the Debugger Option Window [menu Options-> Debugger Option]. This setting is stored in the project file, so that this modification must be done only once.</p>

No. A39	Wrong Warning Message after download of LNK-file or opening of a project file																														
	<div><div><div>Details</div><div>After the download of an LNK-file or the opening of a project file the following warning is displayed: Wc01d: Selected load module different from kind(Chip) that was loaded This warning message is wrong and can be ignored.</div></div><div><div>Workaround(s)</div><div>- none -</div></div></div>																														
No. A40	Problem while single stepping into function called via function pointer																														
	<div><div><div>Details</div><div>If a function is called via function pointer the single step in doesn't work correct, a step over is executed instead.</div></div><div><div>Workaround(s)</div><div>Set a breakpoint at the beginning of the function to enter it.</div></div></div>																														
No. A41	Single step problem with IAR Systems some library functions																														
	<div><div><div>Details</div><div><p>The single step doesn't work with some IAR Systems library functions (only compiler version V3.34b). The debugger doesn't stop at the next instruction, but goes into run-mode and must be stopped manually. Existing breakpoints are ignored.</p><p>The issue occurs at the following functions for stack-, wrkseg- operations, and switch statement:</p><table><tr><td>LOAD_A_SP_L06</td><td>STORE_A_SP_L06</td><td>LOAD_AX_SP_L06</td></tr><tr><td>STORE_AX_SP_L06</td><td>LOAD_AXBC_SP_L06</td><td>STORE_AXBC_SP_L06</td></tr><tr><td>XLOAD_A_SP_L06</td><td>XSTORE_A_SP_L06</td><td>XLOAD_AX_SP_L06</td></tr><tr><td>?XSTORE_AX_SP_L06</td><td>XLOAD_AXBC_SP_L06</td><td>XSTORE_AXBC_SP_L06</td></tr><tr><td>FUNC_ENTER_L06</td><td>FUNC_DEALL_L06</td><td>FUNC_LEAVE_L06</td></tr><tr><td>MOVE_LONG_L06</td><td>IND_CALL_L06</td><td>POPB_L_L06</td></tr><tr><td>L_F_OPASG_L06</td><td>L_F_DEALLOC_L06</td><td>L_F_DEALLOC_STAT_L06</td></tr><tr><td>WRKSEG_PUSH_L09</td><td>WRKSEG_POP_L09</td><td></td></tr><tr><td>C_SSWITCH_L10</td><td>I_SSWITCH_L10</td><td>L_SSWITCH_L10</td></tr><tr><td>C_VSWITCH_L10</td><td>I_VSWITCH_L10</td><td></td></tr></table></div></div><div><div>Workaround(s)</div><div>- none -</div></div></div>	LOAD_A_SP_L06	STORE_A_SP_L06	LOAD_AX_SP_L06	STORE_AX_SP_L06	LOAD_AXBC_SP_L06	STORE_AXBC_SP_L06	XLOAD_A_SP_L06	XSTORE_A_SP_L06	XLOAD_AX_SP_L06	?XSTORE_AX_SP_L06	XLOAD_AXBC_SP_L06	XSTORE_AXBC_SP_L06	FUNC_ENTER_L06	FUNC_DEALL_L06	FUNC_LEAVE_L06	MOVE_LONG_L06	IND_CALL_L06	POPB_L_L06	L_F_OPASG_L06	L_F_DEALLOC_L06	L_F_DEALLOC_STAT_L06	WRKSEG_PUSH_L09	WRKSEG_POP_L09		C_SSWITCH_L10	I_SSWITCH_L10	L_SSWITCH_L10	C_VSWITCH_L10	I_VSWITCH_L10	
LOAD_A_SP_L06	STORE_A_SP_L06	LOAD_AX_SP_L06																													
STORE_AX_SP_L06	LOAD_AXBC_SP_L06	STORE_AXBC_SP_L06																													
XLOAD_A_SP_L06	XSTORE_A_SP_L06	XLOAD_AX_SP_L06																													
?XSTORE_AX_SP_L06	XLOAD_AXBC_SP_L06	XSTORE_AXBC_SP_L06																													
FUNC_ENTER_L06	FUNC_DEALL_L06	FUNC_LEAVE_L06																													
MOVE_LONG_L06	IND_CALL_L06	POPB_L_L06																													
L_F_OPASG_L06	L_F_DEALLOC_L06	L_F_DEALLOC_STAT_L06																													
WRKSEG_PUSH_L09	WRKSEG_POP_L09																														
C_SSWITCH_L10	I_SSWITCH_L10	L_SSWITCH_L10																													
C_VSWITCH_L10	I_VSWITCH_L10																														

No. A42	Display problem in second Source Window if C- code is included
	<p><u>Details</u></p> <p>If C code is included by the #include <name.c> the debug information for the included c-code may be invalid. This causes some display problems in a second (or higher) source window).</p> <p><u>Workaround(s)</u></p> <ul style="list-style-type: none">- Open only one Source Window.- Don't include C code, but use different source modules.

(H) Description of Operating Precautions (Simulator Block)

No. B1	The data creation function of the input 0/1 editor and input timing chart not supported <p><u>Details</u> The data creation function of the input 0/1 editor and input timing chart is not supported.</p> <p><u>Workaround(s)</u> - none -</p> <p><u>Comment(s)</u> Regard this as usage restriction.</p>
No. B2	SMB arbitration not supported (μPD78916x) <p><u>Details</u> The SMB arbitration function is not supported (affected product: μPD78916x).</p> <p><u>Workaround(s)</u> - none -</p> <p><u>Comment(s)</u> Regard this as usage restriction.</p>
No. B3	POM register function not supported (μPD78980x) <p><u>Details</u> The POM register function is not supported (affected product: μPD78980x).</p> <p><u>Workaround(s)</u> - none -</p>
No. B4	Power-on-clear circuit not supported <p><u>Details</u> The power-on-clear circuit is not supported.</p> <p><u>Workaround(s)</u> - none -</p> <p><u>Comment(s)</u> Regard this as usage restriction.</p>

No. B5	Low-voltage detector not supported
	<p><u>Details</u> The low-voltage detector is not supported.</p> <p><u>Workaround(s)</u> - none -</p> <p><u>Comment(s)</u> Regard this as usage restriction.</p>
No. B6	TAB key operation doesn't work in Event and Action dialog box
	<p><u>Details</u> The function to jump to the next input field by pressing TAB key cannot be used in the Event and Action dialog box.</p> <p><u>Workaround(s)</u> - none -</p> <p><u>Comment(s)</u> Regard this as usage restriction.</p>
No. B9	SFR name in Event & Action dialog box differs from the actual device
	<p><u>Details</u> The following SFR name in the Event & Action dialog box differs from the SFR name of the actual device. Example: SFR name on Event & Action dialog box: SIO3, CSIM3 SFR name on actual device: SIO, CSIM</p> <p><u>Workaround(s)</u> - none -</p>

No. B8	Interrupt is not displayed in timing chart
	<p data-bbox="320 311 405 338"><u>Details</u></p> <p data-bbox="320 344 1474 470">If an interrupt occurs from the interrupt controller peripheral unit when execution of one instruction has been completed, the interrupt signal information is not displayed on the timing chart. In addition, if two or more non-maskable interrupts having a separate vector address at the same time (multiple interrupts); only one interrupt can be acknowledged.</p> <p data-bbox="320 504 501 530"><u>Workaround(s)</u></p> <p data-bbox="320 535 413 562">- none -</p> <p data-bbox="320 595 469 622"><u>Comment(s)</u></p> <p data-bbox="320 629 703 656">Regard this as usage restriction.</p>

No. B9	Wrong ADCR0, ADCR1 access
	<p><u>Details</u> If conversion is completed by ADCLT0 while a read operation is being executed by the instruction of the ADCR0 register, the value of ADCR0 should be changed after reading ADCR0 according to the specifications. Actually, however, the updated value is read. If a write access to the ADCR0 register, a write access to the ADM0 register by command and a write access to the ADS0 register conflict with each other, the write access to the ADCR0 register is enabled if the conversion operation is enabled and an interrupt signal (INTAD) is generated. This behavior also applies to the ADS1 register.</p> <p><u>Workaround(s)</u> - none -</p> <p><u>Comment(s)</u> Regard this as usage restriction.</p>
No. B10	The time of the timer operating with the subclock may be wrong
	<p><u>Details</u> The time of the timer operating with the subclock may be wrong: Example: <1> Specification: 500.0 ms, SM 498.0736ms <1> Specification: 15.6 ms, SM 15.5652ms</p> <p><u>Workaround(s)</u> - none -</p> <p><u>Comment(s)</u> Regard this as usage restriction.</p>
No. B11	Noise occurs at comparator output
	<p><u>Details</u> Noise may occur in the comparator output when CMPREF < CMPIN. In addition the interrupt output signal is not synchronized with the comparator output.</p> <p><u>Workaround(s)</u> - none -</p> <p><u>Comment(s)</u> Regard this as usage restriction.</p>

No. B12	Control of P90, P92 by PU2 not supported (μPD78904x, μPD78941xx)
	<p><u>Details</u> The control of port P90 and port P92 by register PU2 is not supported. (affected products: μPD78904x, μPD78941xx)</p> <p><u>Workaround(s)</u> - none -</p> <p><u>Comment(s)</u> Regard this as usage restriction.</p>

No. B13	Restrictions in μPD789870,μPD78F9871
	<p><u>Details</u> The following restrictions exist in μPD789870,μPD789871: The value of TM50 cannot be read The corresponding interrupt names are as follows: INTTM50 -> INTTM90 INTTM51 -> INTTM91 INTTM52 -> INTTM92 The corresponding SFR names are as follows: TMC50 -> TMC90 TM50 -> Cannot be read CP50 -> CP90 CP51 -> CP91</p> <p><u>Workaround(s)</u> - none -</p>

No. B14	Restrictions in μPD789860,μPD789861
	<p><u>Details</u> The following restrictions exist in μPD789870, μPD789871: 'TO4' that is missing in the Output Timing Chart is displayed instead as the alternate function pin of 'TMO'. If INTWDT (non-maskable) and INTKR1 occur at the same time, one of them may be ignored.</p> <p><u>Workaround(s)</u> - none -</p>

No. B15	Scroll bar is not displayed in I/O Panel window
	<p><u>Details</u> The scroll bar is not displayed in I/O Panel window, if a component is moved to the edge of the I/O panel in the layout mode or if a customized component for the I/O panel is too big to be displayed.</p> <p><u>Workaround(s)</u> The scroll bar is displayed by re-sizing the I/O Panel window.</p> <p><u>Comment(s)</u> Regard this as usage restriction.</p>
No. B16	Scroll bar is not displayed in Key Matrix Pin dialog box
	<p><u>Details</u> The scroll bar is not displayed in the Key Matrix Pin dialog box.</p> <p><u>Workaround(s)</u> Move the cursor after pin setting.</p>
No. B17	Problem in system menu of I/O Panel window (only Windows NT)
	<p><u>Details</u> If the simulator is executed in Windows NT, the menu cannot be deleted or recovered using 'Display Menu' on the system menu of the I/O Panel window.</p> <p><u>Workaround(s)</u> - none -</p> <p><u>Comment(s)</u> Regard this as usage restriction.</p>
No. B18	I/O panel can not be restored after minimizing it
	<p><u>Details</u> If the I/O Panel window is minimized in layout mode, it is not restored to its original size even if the icon on the taskbar is clicked.</p> <p><u>Workaround(s)</u> Right-click the icon and select 'Restore' from the system menu.</p> <p><u>Comment(s)</u> Regard this as usage restriction.</p>

No. B19	Instruction following SET1 [HL].5 is skipped
	<p><u>Details</u> The instruction following the 'SET1 [HL].5' instruction will be skipped. When the 2-byte instruction 'SET1 [HL].5' is executed, the program counter is incremented by 3.</p> <p><u>Workaround(s)</u> Insert a NOP instruction immediately after the SET1 instruction.</p>
No. B20	Port P23 and P24 cannot connected to parts (μPD789166,μPD789167, μPD78(F)9176, μPD78(F)9177)
	<p><u>Details</u> In the μPD789166, μPD789167, μPD789176, μPD789177, μPD78F9176, μPD78F9177 Subseries, pins P23 and P24 cannot be connected to the external parts. In addition, these pins are not displayed in the pin list of the Output Timing Chart and Pin Set dialog box under the Input 0/1 Editor. Even is these pins output is 1 in output mode, the return-value is still 0.</p> <p><u>Workaround(s)</u> There is no workaround, but the restriction does not occur in the Y devices of the above Subseries.</p>
No. B21	High-byte of 16-bit register TM9 always holds '0x00' (μPD78917x)
	<p><u>Details</u> In the μPD78917x Subseries, the high-byte of the 16-bit register TM9 always holds '0x00' even if it is countered up.</p> <p><u>Workaround(s)</u> - none -</p>
No. B22	Error message if trace size is changed
	<p><u>Details</u> When the trace size is changed to 3MB or more (varies depending on the PC resources) in the Extended Option dialog box, the error message 'e000(f): Illegal argument' is displayed and trace is turned OFF.</p> <p><u>Workaround(s)</u> Increase the virtual memory size of the PC.</p>

No. B23	Set value for level gauge cannot be input immediately after reset
	<p><u>Details</u> Even is a set value for the level gauge of the I/O Panel is input immediately after CPU reset, the value is not correctly reflected in the conversion result.</p> <p><u>Workaround(s)</u> Set the value for the level gauge after executing one or more instructions following CPU reset</p>
No. B24	Simulator inadvertently loops due to real-time monitor function
	<p><u>Details</u> When a program is executed for a certain time period while the Memory Window or Watch window is open, the program may inadvertently loop or an illegal break may occur. In the case of program loop, even the program is stopped used a forced break, the message 'User program is running' may be displayed when the program is next executed.</p> <p><u>Workaround(s)</u> - none -</p>
No. B25	Real-time RAM monitor does not function after reading a project file
	<p><u>Details</u> The real-time RAM monitor does not function after reading a project file even if the Memory window is displayed.</p> <p><u>Workaround(s)</u> - none -</p>
No. B26	Error message at step execution of infinite loop
	<p><u>Details</u> The error message 'e000(F): Illegal argument' will be displayed when a step execution is performed on one line in a 'for' or 'while' statement. In addition the error message '7801(/f): Cancelled step wait' will also be displayed, but this is just processing when step execution is not terminated after a certain time, so this not problem but only a follow-up message.</p> <p><u>Workaround(s)</u> - none -</p>

No. B27	Capture function of TM20 may not operate (μPD789014, μPD789026, μPD789418) <p><u>Details</u> In μPD789014, μPD789026 and μPD789418 Subseries, the capture function of the 16-bit timer TM20 may not operate.</p> <p><u>Workaround(s)</u> - none -</p>
No. B28	Trace information of SET1 and CLR1 instruction missing <p><u>Details</u> A memory write of the SET1 and CLR1 instructions is traced in the Trace window, but a memory read is not.</p> <p><u>Workaround(s)</u> - none -</p>
No. B29	Count processing in TM8 is illegal (some Subseries) <p><u>Details</u> In the μPD789046, μPD789136, μPD789178, μPD789218, μPD789842, μPD789835, μPD789076, μPD789803, μPD789872 and μPD789088 the timer count processing may be illegal, if read access to the TM register of TM8 is performed too often.</p> <p><u>Workaround(s)</u> - none -</p>
No. B30	Undefined RXB value read by SIO0 (μPD789014, μPD.789026, μPD789418) <p><u>Details</u> In μPD789014, μPD.789026 and μPD789418 Subseries, an undefined RXB value is read be SIO0.</p> <p><u>Workaround(s)</u> - none -</p>

No. B31	Incorrect hold time of I/O panel button / key matrix
	<p><u>Details</u> When the main clock is changed in the Configuration dialog box after the simulator is activated, the hold time of the button / key matrix in the I/O panel is not simulated correctly. The old main clock is used for simulation.</p> <p><u>Workaround(s)</u></p> <ul style="list-style-type: none"> • -none-
No. B32	TXS register can be read if RXB is read in transmit-only mode of SIO2
	<p><u>Details</u> The TXS register can be read if RXB is read in transmit only mode of SIO2.</p> <p><u>Workaround(s)</u></p> <ul style="list-style-type: none"> • -none-
No. B33	Waveform is distorted when TM34 is used in carrier generator mode
	<p><u>Details</u> When TM34 is used in carrier generator mode, a waveform may be distorted depending on the setting value of the operating clock.</p> <p><u>Workaround(s)</u></p> <ul style="list-style-type: none"> • -none-

(I) List of Devices Supported by DSWIN-CDR-78K0S

The System Simulator for 78K0S devices does not support all device subseries. The support status of each subseries is shown below.

Subseries	Version	DSWIN-CDR-78K0S				
		✓: supported ✗: not supported				
		2.10	2.30	2.52		
μPD789014		✓	✓	✓		
μPD789026		✓	✓	✓		
μPD789046		✓	✓	✓		
μPD789071, μPD789072, μPD789074, μPD789076		✓	✓	✓		
μPD789088		✗	✓	✓		
μPD789104A, μPD789114A, μPD789124A, μPD789134A		✓	✓	✓		
μPD789136		✓	✓	✓		
μPD789166, μPD789166y μPD789167, μPD789167y μPD789177, μPD789177y, μPD789177AY μPD789186y, μPD789186AY, μPD789187y, μPD789187AY,		✗	✗	✓		
μPD789196Y, μPD789196AY μPD789197Y, μPD789196AY μPD789216Y, μPD789216AY μPD789217Y, μPD789217AY μPD789206Y, μPD789206AY μPD789207Y, μPD789207AY		✗	✗	✓		
μPD789304, μPD789306, μPD789314, μPD789316		✓	✓	✓		
μPD789327		✓	✓	✓		
μPD789405, μPD789406, μPD789407 μPD789415, μPD789416, μPD789417		✓	✓	✓		
μPD789405A, μPD789406A, μPD789407A μPD789415A, μPD789416A, μPD789417A		✓	✓	✓		
μPD789426, μPD789436, μPD789446, μPD789456		✓	✓	✓		
μPD789462, μPD789464, μPD789466, μPD789467		✓	✓	✓		
μPD789478		✗	✗	✗		
μPD789488		✗	✗	✗		
μPD789800		✓	✓	✓		
μPD789802, μPD789803		✓	✓	✓		
μPD789830		✓	✓	✓		
μPD789832, μPD789832A μPD789833, μPD789833A μPD789834, μPD789834A μPD789835, μPD789835A		✓	✓	✓		
μPD789841, μPD789842		✓	✓	✓		
μPD789850		✗	✗	✗		

Subseries		DSWIN-CDR-78K0S				
	Version	2.10	2.30	2.52		
μPD789860, μPD789861		✓	✓	✓		
μPD789870, μPD789871		✓	✓	✓		
μPD789881		✕	✓	✓		
μPD789052, μPD789062		✕	✕	✕		

(J) Valid Specification

Item	Date published	Document No.	Document Title
1	September 2003	U16768EJ1V0UM00	Users' Manual System Simulator 78K Series
2	February 2002	U15802EJ1V0UM00	External Part User Open Interface Specifications

(K) Revision History

Item	Date published	Document No.	Comment
1	05-08-2002	DTOP0009V10	First release
2	21-11-2003	DTOP0009V11	Update for Version V2.52
3	27-04-2004	DTOP0009V12	Items A40, A412 added