Microcomputer Technical Information

CP(K), O

IE-78K0-NS, IE-78K0-NS-A 78K0 Series In-Circuit Emulators Usage Restrictions		Document No.	ZBG-CD-05-0039		1/2
		Date issued	May 16, 2005		
		Issued by	Development Tool Group Multipurpose Microcomputer Systems Division 4th Systems Operations Unit NEC Electronics Corporation		
Related documents	IE-78K0-NS User's Manual: U13731EJ3V0 IE-78K0-NS-A User's Manual: U14889EJ3V0	Notification classification	√	Usage restriction	
				Upgrade	
				Document modification	
				Other notification	

1. Affected products

IE-78K0-NS Control code[Note]: A, B, C, D, E, F, G, H, J, K, L, M, N, n, P, p, R, r

IE-78K0-NS-A Control code[Note]: A, B, C, D, E, F, G, H, h, J, j

2. New restrictions

The following restrictions have been added. See the attachment for details.

- No. 54 Restriction related to software break (3)
- No. 55 Restriction related to oscillation stabilization time

3. Workarounds

See the attachment for details.

4. Modification schedule

Correction of restrictions No. 54 and No. 55 are not planned. Please regard these items as permanent restrictions.

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

Note The "control code" is the second digit from the left in the 10-digit serial number in the warranty supplied with the product you purchased. If the product has been upgraded, a label indicating the new version is attached to the product and the x in V-UP LEVEL x on this label indicates the control code.

5. List of restrictions

See the attachment for details.

6. Document revision history

IE-78K0-NS, IE-78K0-NS-A 78K0 Series In-Circuit Emulators Usage Restrictions

Document Name	Issued on	Description
SBG-T-0864	November 16, 1998	<IE-78K0-NS> Addition of bug (No. 7)
SBG-T-0976	February 19, 1999	<IE-78K0-NS> Addition of bugs (No. 9, No. 10, No. 11, and No. 12)
SBG-T-1536	March 8,1999	<IE-78K0-NS-A> Addition of bugs (No. 8, No. 22, No. 23, and No. 38)
SBG-T-1692	July 19, 1999	<IE-78K0-NS> Addition of bugs (No. 16, No. 17, No. 18, No. 19, No. 20, No. 21, No. 22, No. 24, and No. 25)
SBG-T-1694	July 19, 1999	<IE-78K0-NS-A> Addition of bugs (No. 16, No. 17, No. 18, No. 19, No. 20, No. 21, No. 22, No. 24, and No. 25)
SBG-T-1779	October 4, 1999	<IE-78K0-NS> Addition of bugs (No. 27, No. 28, No. 29, No. 30, No. 31, No. 32, and No. 33)
SBG-T-1781	October 8, 1999	<IE-78K0-NS-A> Addition of bugs (No. 26, No. 27, No. 28, No. 29, No. 30, No. 31, No. 32, and No. 33)
SBG-T-1841	November 25, 1999	<IE-78K0-NS> Addition of bugs (No. 33, No. 34, No. 35, and No. 37)
SBG-T-1842	November 25, 1999	<IE-78K0-NS-A> Addition of bugs (No. 33, No. 34, No. 35, and No. 37)
SBG-T-2047	June 9, 2000	<IE-78K0-NS-A> Addition of bugs (No. 40, No. 41, No. 42, and No. 43)
SBG-T-2048	June 9, 2000	<IE-78K0-NS-A> Addition of bugs (No. 40, No. 41, No. 42, and No. 43)
SBG-T-2162	October 6, 2000	<IE-78K0-NS> Addition of bugs (No. 44 and No. 45)
SBG-T-2164	October 6, 2000	<IE-78K0-NS-A> Addition of bugs (No. 44 and No. 45)
SBG-TT-0167	July 29, 2002	<IE-78K0-NS> Addition of bugs (No. 46 and No. 47)
SBG-TT-0168	July 29, 2002	<IE-78K0-NS-A> Addition of bugs (No. 46 and No. 47)
SBG-DT-04-0132	April 20, 2004	<IE-78K0-NS, IE-78K0-NS-A> Addition of bugs (No. 48, No. 49, No. 50, and No. 51)
ZBG-CD-04-0055	August 18, 2004	<IE-78K0-NS, IE-78K0-NS-A> Addition of bugs (No. 52 and No. 53)
ZBG-CD-05-0039	May 16, 2005	<IE-78K0-NS, IE-78K0-NS-A> Addition of bugs (No. 54 and No. 55)

Notes on Using IE-78K0-NS and IE-78K0-NS-A

1. Product Version

IE-78K0-NS		
Control Code[Note]		Remark
A		–
B		–
C		–
D		–
E		–
F		–
G		–
H		–
J		–
K		–
L		–
M		–
N	n	–
P	p	–
R	r	–

IE-78K0-NS-A		
Control Code[Note]		Remark
A		–
B		–
C		–
D		–
E		–
F		–
G		–
H	h	–
J	j	–

Note The “control code” is the second digit from the left in the 10-digit serial number in the warranty supplied with the product you purchased (if it has not been upgraded). If the product has been upgraded, a label indicating the new version is attached to the product and the x in V-UP LEVEL x on this label indicates the control code. Control code “**I**”, “**O**”, and “**Q**” are not available.

<IE-78K0-NS>

- In addition to control code **M**, products with 78K0 Executer V2.7 are control code **N** products.
- In addition to control code **M**/**N**, products with 78K0 Executer V2.8 are control code **P** products.
- In addition to control code **M**/**N**/**P**, products with 78K0 Executer V2.9 are control code **R** products.
- In addition to control code **n**, products with 78K0 Executer V2.8 are control code **p** products.
- In addition to control code **n**/**p**, products with 78K0 Executer V2.9 are control code **r** products.
- Control code **n** and control code **N** are functionally compatible.
- Control code **p** and control code **P** are functionally compatible.
- Control code **r** and control code **R** are functionally compatible.
- Refer to the latest version of the document “IE-780148-NS-EM1 Operating Precautions” concerning control code **n**.

<IE-78K0-NS-A>

- In addition to control code **F**, products with 78K0 Executer V2.8 are control code **h** products.
- In addition to control code **F**/**h**, products with 78K0 Executer V2.9 are control code **j** products.
- In addition to control code **G**, products with 78K0 Executer V2.8 are control code **H** products.
- Control code **h** or later and control code **H** or later differ in terms of the following function.

Function	Control Code **h** or Later	Control Code **H** or Later
High-speed specification (12 MHz operation)	Not supported	Supported

The version of the 78K0 Executer is indicated in the [About…] window on the [Help] menu in the integrated debugger ID78K0-NS.

2. Product History

No.	Bugs and Changes/Additions to Specifications	Control Code																							
		IE-78K0-NS															IE-78K0-NS-A								
		A	B	C	D	E	F	G	H	J	K	L	M	N n	P p	R r	A	B	C	D	E	F	G	H h	J j
1	Bug in external memory mapping	√	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
2	Bug in FIP pin mask option function	√	√	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
3	Bug in flash memory self-programming function (1)	√	√	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
4	Bug in debugger activation	√	√	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
5	Bug related to single-step execution	√	√	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
6	Performance board (IE-78K0-NS-PA) not supported.	√	√	√	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
7	Bug in external memory instruction fetch	√	√	√	√	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
8	Bug related to section trace	Permanent restriction																							
9	Bug related to execution time counter	√	√	√	√	√	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
10	Bug related to IXS register manipulation	–	–	–	–	√	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
11	Bug in flash memory self-programming function (2)	–	–	–	–	√	√	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
12	Fan not mounted	√	√	√	√	√	√	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
13	Bug related to section measurement in Timer window	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	√	–	–	–	–	–	–	–	–
14	Bug related to debugger activation	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	√	–	–	–	–	–	–	–	–
15	Bug in break source display (1)	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	√	–	–	–	–	–	–	–	–
16	Bug in memory data display	–	–	–	√	√	√	√	–	–	–	–	–	–	–	–	√	–	–	–	–	–	–	–	–
17	Bug related to “Go-Non Break” (1)	–	–	–	√	√	√	√	–	–	–	–	–	–	–	–	√	–	–	–	–	–	–	–	–
18	Bug related to “Go-Non Break” (2)	–	–	–	√	√	√	√	–	–	–	–	–	–	–	–	√	–	–	–	–	–	–	–	–
19	Bug in external memory expansion mode	–	–	–	√	√	√	√	–	–	–	–	–	–	–	–	√	–	–	–	–	–	–	–	–
20	Bug related to data displayed in Memory window or Variable window	–	–	–	√	√	√	√	–	–	–	–	–	–	–	–	√	–	–	–	–	–	–	–	–
21	Bug related to step execution (1)	–	–	–	√	√	√	√	–	–	–	–	–	–	–	–	√	–	–	–	–	–	–	–	–
22	Bug related to snap data display (1)	–	–	–	√	√	√	√	–	–	–	–	–	–	–	–	√	–	–	–	–	–	–	–	–
23	Bug related to snap data display (2)	–	–	–	√	√	√	√	–	–	–	–	–	–	–	–	√	–	–	–	–	–	–	–	–

√: Applicable or no additional specification, –: Not applicable or additional specification

No.	Bugs and Changes/Additions to Specifications	Control Code																							
		IE-78K0-NS														IE-78K0-NS-A									
		A	B	C	D	E	F	G	H	J	K	L	M	N n	P p	R r	A	B	C	D	E	F	G	H h	J j
24	Bug related to step execution (2)	–	–	–	√	√	√	√	–	–	–	–	–	–	–	–	√	–	–	–	–	–	–	–	–
25	Bug related to step execution (3)	–	–	–	√	√	√	√	–	–	–	–	–	–	–	–	√	–	–	–	–	–	–	–	–
26	Bug related to snap trace	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	√	–	–	–	–	–	–	–	–
27	Bug related to real-time RAM sampling	√	√	√	√	√	√	√	√	–	–	–	–	–	–	–	√	–	–	–	–	–	–	–	–
28	Bug related to step execution (4)	√	√	√	√	√	√	√	√	–	–	–	–	–	–	–	√	–	–	–	–	–	–	–	–
29	Bug related to Stop command (1)	–	–	–	–	–	–	–	√	–	–	–	–	–	–	–	√	–	–	–	–	–	–	–	–
30	Bug related to software break (1)	–	–	–	√	√	√	√	√	–	–	–	–	–	–	–	√	–	–	–	–	–	–	–	–
31	Bug related to flash self-programming mode (1)	–	–	–	√	√	√	√	√	–	–	–	–	–	–	–	√	–	–	–	–	–	–	–	–
32	Bug related to software break (2)	Permanent restriction																							
33	Bug in external clock	–	–	–	√	√	√	√	√	√	–	–	–	–	–	–	√	√	–	–	–	–	–	–	–
34	Bug related to Peripheral Break	Permanent restriction																							
35	Bug in break source display (2)	–	–	–	√	√	√	√	√	√	–	–	–	–	–	–	√	√	–	–	–	–	–	–	–
36	Bug related to memory search and compare functions	–	–	–	√	√	√	√	√	√	–	–	–	–	–	–	√	√	–	–	–	–	–	–	–
37	Bug related to flash self-programming mode (2)	Permanent restriction																							
38	Bug related to execution time measurement for section specification	Permanent restriction																							
39	Bug related to Stop command (2)	–	–	–	√	√	√	√	√	√	–	–	–	–	–	–	√	√	–	–	–	–	–	–	–
40	Bug related to CAN RAM area	√	√	√	√	√	√	√	√	√	√	–	–	–	–	–	√	√	√	–	–	–	–	–	–
41	Bug related to watchdog timer	√	√	√	√	√	√	√	√	√	√	–	–	–	–	–	√	√	√	√	–	–	–	–	–
42	Bug related to external expansion memory	√	√	√	√	√	√	√	√	√	√	–	–	–	–	–	√	√	√	√	–	–	–	–	–
43	Bug related to IE-780958-NS-EM4	√	√	√	√	√	√	√	√	√	√	–	–	–	–	–	√	√	√	√	–	–	–	–	–
44	Bug related to ports 50 to 52	√	√	√	√	√	√	√	√	√	√	√	–	–	–	–	√	√	√	√	√	–	–	–	–
45	Improvement of operating clock characteristics	√	√	√	√	√	√	√	√	√	√	√	–	–	–	–	√	√	√	√	√	–	–	–	–
46	Support of device high-speed specification	√	√	√	√	√	√	√	√	√	√	√	√	–	–	–	√	√	√	√	√	√	–	–	–

√: Applicable or no additional specification, –: Not applicable or additional specification

No.	Bugs and Changes/Additions to Specifications	Control Code																								
		IE-78K0-NS															IE-78K0-NS-A								
		A	B	C	D	E	F	G	H	J	K	L	M	N n	P p	R r	A	B	C	D	E	F	G	H h	J j
47	Bug related to clock switching operation	Permanent restriction																								
48	Bug in error message description	√	√	√	√	√	√	√	√	√	√	√	√	√	–	–	√	√	√	√	√	√	√	–	–
49	Bug related to ROMless microcontroller	√	√	√	√	√	√	√	√	√	√	√	√	√	–	–	√	√	√	√	√	√	√	–	–
50	Support of memory bank function	√	√	√	√	√	√	√	√	√	√	√	√	√	–	–	√	√	√	√	√	√	√	–	–
51	Bug in emulation with 10 MHz or higher clock	√	√	√	√	√	√	√	√	√	√	√	√	√	–	–	√	√	√	√	√	√	√	–	–
52	Bug related to memory bank setting	√	√	√	√	√	√	√	√	√	√	√	√	√	√	–	√	√	√	√	√	√	√	√	–
53	Bug immediately after power is applied to ICE	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	√	√	–
54	Restriction related to software break (3)	Permanent restriction																								
55	Restriction related to oscillation stabilization time	Permanent restriction																								

√: Applicable or no additional specification, –: Not applicable or additional specification

3. Details of Bugs and Added Specifications

No. 1 Bug in external memory mapping

[Description]

The external memory address cannot be set in units other than 8 KB.

[Workaround]

There is no workaround.

This bug has been corrected in IE-78K0-NS control code B or later.

No. 2 Bug in FIP pin mask option function

[Description]

The FIP pin mask option function (V_{LOAD}, V_{SS0} pull down) cannot be set normally when using the IE-780233-NS-EM4.

[Workaround]

There is no workaround.

This bug has been corrected in IE-78K0-NS control code C or later.

No. 3 Bug in flash memory self-programming function (1)

[Description]

Flash memory self-programming cannot be emulated when using the IE-780988-NS-EM4.

[Workaround]

There is no workaround.

This bug has been corrected in IE-78K0-NS control code C or later.

No. 4 Bug in debugger activation

[Description]

The debugger does not start up normally with devices (μPD780818 or μPD780828) using the IE-78K0-NS-P04.

[Workaround]

There is no workaround.

This bug has been corrected in IE-78K0-NS control code C or later.

No. 5 Bug related to single-step execution

[Description]

If a reset vector is referenced by a reset immediately after single step execution, the PC value is incorrect.

[Workaround]

There is no workaround.

This bug has been corrected in IE-78K0-NS control code C or later.

No. 6 Performance board (IE-78K0-NS-PA) not supported.

[Description]

The performance board (IE-78K0-NS-PA) is not supported.

[Workaround]

There is no workaround.

This item has been supported in IE-78K0-NS control code D or later.

No. 7 Bug in external memory instruction fetch

[Description]

Instruction fetch from external memory is not possible when using external expansion memory emulation with the IE-78K0-NS and the μPD7881 mounted on an emulation board. (Normal memory access works fine.)

The affected target devices and combinations are as follows.

- IE-78K0-NS-P01 + IE-780988-NS-EM4: μPD78098x
- IE-78K0-NS-P01 + IE-780066-NS-EM4: μPD78006x

[Workaround]

There is no workaround.

This bug has been corrected in IE-78K0-NS control code E or later.

No. 8 Bug related to section trace

[Description]

If a DMM or snap-shot event is specified with section trace specified, the trace data may not be displayed normally.

[Workaround]

Do not specify DMM or a snap-shot event when executing section trace. Do not specify section trace when specifying DMM or a snap shot event.

Regard this as a permanent restriction.

No. 9 Bug related to execution time counter

[Description]

The count value of the execution time counter becomes incorrect if an overflow occurs when connected to the IE-78K0-NS-PA.

[Workaround]

There is no workaround.

This bug has been corrected in IE-78K0-NS control code F or later.

No. 10 Bug related to IXS register manipulation

[Description]

An SFR illegal break occurs if the IXS register is written in a program.

[Workaround]

There is no workaround.

This bug has been corrected in IE-78K0-NS control code F or later.

No. 11 Bug in flash memory self-programming function (2)

[Description]

Flash self-programming cannot be emulated when using ID78K0-NS V1.xx (16-bit ID).

[Workaround]

This bug has been corrected in IE-78K0-NS control code G or later.

No. 12 Fan not mounted

[Description]

A fan is not mounted. When mounting the IE-78K0-NS-PA + IE-78K0-NS-P04, a fan is required for cooling.

[Workaround]

There is no workaround.

This item has been supported in IE-78K0-NS control code G or later.

No. 13 Bug related to section measurement in Timer window

[Description]

When executing "Go-Non Break", section measurement cannot be stopped in the Timer window when the tracer is stopped.

[Workaround]

There is no workaround.

This bug has been corrected in IE-78K0-NS-A control code B or later.

No. 14 Bug related to debugger activation

[Description]

The debugger does not start when connected to the IE-780835-NS-EM4.

[Workaround]

There is no workaround.

This bug has been corrected in IE-78K0-NS-A control code B or later.

No. 15 Bug in break source display (1)

[Description]

If a break occurs when a timeout is detected in the Timer window or when an external sense event occurs, the incorrect break name is displayed.

[Workaround]

There is no workaround.

This bug has been corrected in IE-78K0-NS-A control code B or later.

No. 16 Bug in memory data display

[Description]

If the memory contents are changed during a break when the real-time RAM monitor is specified for the internal high-speed RAM space, when execution continues, the memory data displayed may be undefined.

[Workaround]

If a data write is performed in the program, this will be executed correctly.

This bug has been corrected in IE-78K0-NS control code H or later and IE-78K0-NS-A control code B or later.

No. 17 Bug related to “Go-Non Break” (1)

[Description]

If “Time Out Break” is set in the Timer window when executing "Go-Non Break" when connected to the IE-78K0-NS-PA or IE-78K0-NS-A, neither a break or an external sense event is issued.

[Workaround]

There is no workaround.

This bug has been corrected in IE-78K0-NS control code H or later and IE-78K0-NS-A control code B or later.

No. 18 Bug related to “Go-Non Break” (2)

[Description]

If any setting related the section event is changed while executing "Go-Non Break" when connected to the IE-78K0-NS-PA or IE-78K0-NS-A, trace may not start nor end normally.

[Workaround]

Change the settings after issuing a break.

This bug has been corrected in IE-78K0-NS control code H or later and IE-78K0-NS-A control code B or later.

No. 19 Bug in external memory expansion mode

[Description]

The external memory expansion mode cannot be used when connected to the IE-780988-NS-EM4. (The pin remains a port.)

[Workaround]

There is no workaround.

This bug has been corrected in IE-78K0-NS control code H or later and IE-78K0-NS-A control code B or later.

No. 20 Bug related to data displayed in Memory window or Variable window

[Description]

If data in a space for which real-time RAM monitoring is specified is being displayed in the Memory window or Variable window, the data displayed in the Memory window or Variable window is not updated after a break.

[Workaround]

Redraw the window (close the window, then open it again.)

This bug has been corrected in IE-78K0-NS control code H or later and IE-78K0-NS-A control code B or later.

No. 21 Bug related to step execution (1)

[Description]

The debugger hangs up if a forced break occurs during step execution (Step, Next, or Slowmotion).

[Workaround]

There is no workaround.

This bug has been corrected in IE-78K0-NS control code H or later and IE-78K0-NS-A control code B or later.

No. 22 Bug related to snap data display (1)

[Description]

The snap data in the trace data is displayed in the wrong order if a 16-bit pair register is specified in the snap shot specification when connected to the IE-78K0-NS-PA or IE-78K0-NS-A. (The lower 8 bits are shown in place of the higher 8 bits and vice versa.)

Example: If AX is specified, the values of the A and X registers are reversed in the trace data.

[Workaround]

Specify an 8-bit register.

This bug has been corrected in IE-78K0-NS control code H or later and IE-78K0-NS-A control code B or later.

No. 23 Bug related to snap data display (2)

[Description]

If execution is suspended by STOP after executing "Go-Non Break" with the snap shot setting when connected to the IE-78K0-NS-PA or IE-78K0-NS-A, the snap data is not displayed in subsequent trace data.

[Workaround]

Execute “Go-break” when using snap shot.

This bug has been corrected in IE-78K0-NS control code H or later and IE-78K0-NS-A control code B or later.

No. 24 Bug related to step execution (2)

[Description]

If data in a space for which real-time RAM monitoring is specified is being displayed in the Memory window or Variable window, and step execution is used after a break, this may result in "Send time out" or "Receive time out."

[Workaround]

There is no workaround.

This bug has been corrected in IE-78K0-NS control code H or later and IE-78K0-NS-A control code B or later.

No. 25 Bug related to step execution (3)

[Description]

If many debugger windows are open, the speed of step execution, etc., will become slower.

[Workaround]

There is no workaround.

This bug has been corrected in IE-78K0-NS control code H or later and IE-78K0-NS-A control code B or later.

No. 26 Bug related to snap trace

[Description]

One extra snap trace frame may appear.

[Workaround]

There is no workaround.

This bug has been corrected in IE-78K0-NS-A control code B or later.

No. 27 Bug related to real-time RAM sampling

[Description]

Illegal data may be written when real-time RAM sampling is executed.

[Workaround]

There is no workaround.

This bug has been corrected in IE-78K0-NS control code J or later and IE-78K0-NS-A control code B or later.

No. 28 Bug related to step execution (4)

[Description]

If step execution is used, followed by a trace clear, and then step execution is resumed, the trace data becomes incorrect.

[Workaround]

There is no workaround.

This bug has been corrected in IE-78K0-NS control code J or later and IE-78K0-NS-A control code B or later.

No. 29 Bug related to Stop command (1)

[Description]

The debugger may hang up if a forced break is applied during program execution.

[Workaround]

There is no workaround.

This bug has been corrected in IE-78K0-NS control code J or later (this bug does not apply to control code A, B, C, D, E, F, or G).

No. 30 Bug related to software break (1)

[Description]

If more than one software break point is specified and the program is executed, and then more software break points are specified, only the last break point specified is valid.

[Workaround]

There is no workaround.

This bug has been corrected in IE-78K0-NS control code J or later and IE-78K0-NS-A control code B or later.

No. 31 Bug related to flash self-programming mode (1)

[Description]

The break operation becomes illegal in flash self-programming mode.

[Workaround]

There is no workaround.

This bug has been corrected in IE-78K0-NS control code J or later and IE-78K0-NS-A control code B or later.

No. 32 Bug related to software break (2)

[Description]

If 00 is written by the program or by DMM at an address where a software break has been set, the data when the break occurs returns to the value before the program was executed.

[Workaround]

Do not set a software break at a memory address that is written to during program execution.

Regard this as a permanent restriction.

No. 33 Bug in external clock

[Description]

The debugger hangs up if "External clock" is selected in the Configuration dialog box of the debugger and the [OK] button is clicked when no target is connected (no external clock is being input).

[Workaround]

Select "Internal clock" when no target is connected.

This bug has been corrected in IE-78K0-NS control code K or later and IE-78K0-NS-A control code C or later.

No. 34 Bug related to Peripheral Break

[Description]

If “Break” is selected for the peripheral break of the debugger and the subclock is used as the main clock, the operation of the peripheral emulation chip will not stop, even if a break is applied.

[Workaround]

There is no workaround. Regard this as a permanent restriction.

No. 35 Bug in break source display (2)

[Description]

A break factor will become an event break after step execution if an event break is set for an inactive address.

[Workaround]

There is no workaround.

This bug has been corrected in IE-78K0-NS control code K or later and IE-78K0-NS-A control code C or later.

No. 36 Bug related to memory search and compare functions

[Description]

When memory search or memory comparison is performed, some data may not be detected or some mismatching data may not be detected. If a large amount of data is targeted, the processing speed is degraded. Memory search and memory comparison do not stop even if the [Stop] button is clicked during execution.

[Workaround]

There is no workaround.

This bug has been corrected in IE-78K0-NS control code K or later and IE-78K0-NS-A control code C or later.

No. 37 Bug related to flash self-programming mode (2)

[Description]

(1) Of the four access events in self-programming mode, only one may be consumed. Consequently, users should release the above events on the debugger side and then set a maximum of three events each when switching to flash self-programming mode.

(2) The system may enter restart processing once a break occurs in flash self-programming mode that is not the result of break settings. This will cause some of the time measurement results and some trace data and path counts to become invalid.

[Workaround]

There is no workaround. Regard this as a permanent restriction.

No. 38 Bug related to execution time measurement for section specification

[Description]

If a setting which causes DMM or snap shot to occur is made during execution time measurement with a section specified, the measured execution time is greater than the actual value.

[Workaround]

Do not specify DMM or snap shot during execution time measurement.

Regard this as a permanent restriction.

No. 39 Bug related to Stop command (2)

[Description]

The debugger may hang up if the user program is stopped during execution.

[Workaround]

There is no workaround.

This bug has been corrected in IE-78K0-NS control code K or later and IE-78K0-NS-A control code C or later.

No. 40 Bug related to CAN RAM area

[Description]

Reading/writing the CAN RAM area may not be performed normally when connected to the IE-78K0-NS-P04.

[Workaround]

There is no workaround.

This bug has been corrected in IE-78K0-NS control code L or later and IE-78K0-NS-A control code D or later.

No. 41 Bug related to watchdog timer

[Description]

When connected to the IE-780988-NS-EM4, output by the TO70 to TO75 pins does not stop even if watchdog timer mode 1 is set (WDTM3 = 0, WDTM4 = 1) and a watchdog timer interrupt (INTWDT) is generated. To avoid this bug, it is necessary to upgrade to DF780988 to V1.02 or later.

[Workaround]

There is no workaround.

This bug has been corrected in IE-78K0-NS control code L or later and IE-78K0-NS-A control code E or later.

No. 42 Bug related to external expansion memory

[Description]

If PM4 = 0h is not set when connected to an emulation board with external expansion memory (IE-780034-NS-EM1 or IE-780078-NS-EM1), read and write operations to the external expansion memory area xx24h may not be performed correctly.

[Workaround]

There is no workaround.

This bug has been corrected in IE-78K0-NS control code L or later and IE-78K0-NS-A control code E or later.

No. 43 Bug related to IE-780958-NS-EM4

[Description]

The debugger hangs up if an attempt is made to perform any of the following operations with the subsystem clock when connected to the IE-780958-NS-EM4.

(1) Generate an event break after executing PCC = 10H in the user program.
(2) Generate a forced break after executing PCC = 10H in the user program.
(3) Execute RUN after setting PCC = 10H on the SFR window.

[Workaround]

There is no workaround.

This bug has been corrected in IE-78K0-NS control code L or later and IE-78K0-NS-A control code E or later.

To avoid this bug, it is necessary to upgrade DF780958. Consult NEC Electronics for details of the corrected version.

No. 44 Bug related to ports 50 to 52

[Description]

A high-level signal is output from ports 50 to 52 while the power of the emulator is on and the debugger has not been started.

[Workaround]

There is no workaround.

This bug has been corrected in IE-78K0-NS control code M or later and IE-78K0-NS-A control code F or later.

No. 45 Improvement of operating clock characteristics

[Description]

The characteristics of the operating clock used in the in-circuit emulator have been improved.

[Workaround]

This item has been implemented in IE-78K0-NS control code M or later and IE-78K0-NS-A control code F or later.

No. 46 Support of device high-speed specification

[Description]

A specification change in the following devices (high-speed specification: 12 MHz operation) is now supported.

Target devices:

μPD780024A, μPD780024AY, μPD780034A, μPD780034AY Subseries

μPD780078, μPD780078Y Subseries

μPD780988 Subseries

Target emulation board:

IE-780034-NS-EM1 (control code J or later)

IE-780078-NS-EM1 (control code D or later)

IE-780988-NS-EM4 (control code B or later) + IE-78K0-NS-P01 (control code D or later)

(DF780988: V1.03 (or E1.03) or later)

Note, however, that the restrictions shown below apply to each product.

(1) IE-78K0-NS

a. The high-speed specification is not supported in the products with a manufacture code (serial No.) whose second digit from the left is A, B, or C (even if the product has been upgraded to control code D or later).

IE-78K0-NS	12 MHz Operation
The second digit from the left in the manufacture code (serial No.) is A, B, or C	Not supported
The second digit from the left in the manufacture code (serial No.) is D or later	Supported

b. The trace function may not operate normally if operation is performed at 10 MHz or higher in a product that supports 12 MHz operation.

IE-78K0-NS	Trace Function Bug
Control code D to M	Applicable
Control code N or later	Not applicable

c. In all versions, 12 MHz is not supported when the IE-78K0-NS-PA is connected.

(2) IE-78K0-NS-A

a. The high-speed specification is not supported in products with a manufacture code (serial No.) whose second digit from the left is A to F (even if the product has been upgraded to control code G or later).

IE-78K0-NS-A	12 MHz Operation
The second digit from the left in the manufacture code (serial No.) is A to F	Not supported
The second digit from the left in the manufacture code (serial No.) is G or later	Supported

[Workaround]

This item has been implemented in IE-78K0-NS control code N or later and IE-78K0-NS-A control code G or later.

No. 47 Bug related to clock switching operation

[Description]

If the main clock is stopped as shown in the program below during subclock operation and the clock is switched to the main clock, which is monitored after switching is complete, the clock is switched to the main clock in the IE system, but the program loops without switching the clock to the main clock in the target device (which incorporates a subclock).

```
XXX:  SET1  PCC.7H
      CLR1  PCC.4H
      BT    PCC.5H,$XXX
```

[Workaround]

There is no workaround. Regard this as a permanent restriction.

No. 48 Bug in error message description

[Description]

The error message “EX_SE_NONTIMER” may be output in the IE-78K0-NS-PA or IE-78K0-NS-A when the execution time is measured by the timer event, the Initialize button is clicked to erase the result, the program is resumed, and a break occurs.

[Workaround]

This bug has been corrected in IE-78K0-NS control code P or later and IE-78K0-NS-A control code H or later.

No. 49 Bug related to ROMless microcontroller

[Description]

When a CPU reset is executed in a ROMless microcontroller (such as the μPD78070), the program jumps to the reset vector set to the emulation ROM.

[Workaround]

Refer to **1.4 Cautions on μPD78070A and 78070AY Development** in the IE-78078-NS-EM1 User's Manual (U14741E).

This bug has been corrected in IE-78K0-NS control code P or later and IE-78K0-NS-A control code H or later.

No. 50 Support of memory bank function

[Description]

The memory bank function is now supported.

[Workaround]

This item has been implemented in IE-78K0-NS control code P or later and IE-78K0-NS-A control code H or later.

No. 51 Bug in emulation with 10 MHz or higher clock

[Description]

Emulation with a clock of 10 MHz or higher is not possible when using the IE-78K0-NS-A.

[Workaround]

There is no workaround.

This bug has been corrected in IE-78K0-NS-A control code H or later.

No. 52 Bug related to memory bank setting

[Description]

If a software break is performed when the low-speed operating clock (240 kHz or lower) is used and the memory bank setting is on ([Option] → [Extended Option…], Memory Bank setting: "On" in the Extended Option dialog box), "Fetch Guard" is displayed as the break source in the status field, etc.

[Workaround]

There is no workaround.

This item has been implemented in IE-78K0-NS control code R or later and IE-78K0-NS-A control code J or later.

No. 53 Bug immediately after power is applied to ICE

[Description]

The ICE operates at 5 V for several ms after the power is applied, regardless of the low-voltage emulation setting.

This bug does not apply to IE-78K0-NS and IE-78K0-NS-A of control code A, B, C, D, E, or F.

[Workaround]

After the power is applied to the ICE, wait for a while before activating the debugger.

This bug has been corrected in IE-78K0-NS-A control code J or later.

No. 54 Restriction related to software break (3)

[Description]

When a software break is set to the vector address (branch destination) to be referenced upon generation of an interrupt request, “Fetch Guard” is displayed in the trace result. (“Fetch Guard” is displayed as the break source in the status field.)

[Workaround]

The program actually stops at a software breakpoint, so read “Fetch Guard” as “Software Break”.

No. 55 Restriction related to oscillation stabilization time

[Description]

(1) The oscillation stabilization time becomes twice that selected by the oscillation stabilization time select register (OSTS), unlike the real device’s specification.

Example: μPD780024, μPD780034 Subseries

Oscillation Stabilization Time Select Register (OSTS)			Selection of Oscillation Stabilization Time When STOP Mode Is Released							
OSTS2	OSTS1	OSTS0	IE-780034-NS-EM1				μPD780024, μPD780034 Subseries			
				fx = 4 MHz	fx = 8.38 MHz	fx = 12 MHz		fx = 4 MHz	fx = 8.38 MHz	fx = 12 MHz
0	0	0	2^{13}/fx	2.05 ms	977 μs	683 μs	2^{12}/fx	1.02 ms	488 μs	341 μs
0	0	1	2^{15}/fx	8.19 ms	3.91 ms	2.73 ms	2^{14}/fx	4.10 ms	1.95 ms	1.36 ms
0	1	0	2^{16}/fx	16.4 ms	7.81 ms	5.46 ms	2^{15}/fx	8.19 ms	3.91 ms	2.73 ms
0	1	1	2^{17}/fx	32.8 ms	15.6 ms	10.9 ms	2^{16}/fx	16.4 ms	7.82 ms	5.46 ms
1	0	0	2^{18}/fx	65.5 ms	31.3 ms	21.8 ms	2^{17}/fx	32.8 ms	15.6 ms	10.9 ms
Other than above			Setting prohibited							

Remarks 1. fx: Main system clock oscillation frequency

2. Reset input sets the value set to the oscillation stabilization time select register (OSTS) to 04H.

<Affected emulation boards>

- IE-78048-NS-EM1
- IE-78098-NS-EM1
- IE-780034-NS-EM1
- IE-780066-NS-EM4
- IE-780078-NS-EM1
- IE-780208-NS-EM1
- IE-780233-NS-EM4
- IE-780338-NS-EM1
- IE-780354-NS-EM1
- IE-780701-NS-EM1
- IE-780818-NS-EM4
- IE-780828-NS-EM4
- IE-780831-NS-EM4
- IE-780835-NS-EM4
- IE-780841-NS-EM4
- IE-780852-NS-EM4
- IE-780948-NS-EM4
- IE-780974-NS-EM1
- IE-780988-NS-EM4
- IE-780994-NS-EM4
- IE-178048-NS-EM1
- IE-178054-NS-EM1
- IE-178098-NS-EM1
- IE-178134-NS-EM1

(2) When the use of the frequency divider is disabled (MCS = 1) using the oscillation mode select register (OSMS), the oscillation stabilization time becomes twice that selected by the oscillation stabilization time select register (OSTS), unlike the real device's specification.

<Affected emulation boards>

- IE-78078-NS-EM1
- IE-780308-NS-EM1
- IE-178018-NS-EM1

[Workaround]

There is no workaround. Regard this item as a permanent restriction.

4. Cautions

4.1 General cautions on handling this product

(a) Circumstances not covered by product guarantee

- If the product was disassembled, altered, or repaired by the customer
- If it was dropped, broken, or given another strong shock
- Use at overvoltage, use outside guaranteed temperature range, storing outside guaranteed temperature range
- If power was turned on while the power supply unit, PC interface cable, or target system connection was in an unsatisfactory state
- If the power supply cable, PC interface cable, emulation probe, or the like was bent or pulled excessively
- If a power supply unit other than the one supplied with the product is used
- If the product got wet
- If the product and target system were connected while a potential difference existed between the GND of the product and the GND of the target system
- If a connector or cable was removed while the power was being supplied to the product
- If an excessive load was placed on a connector or socket

(b) Safety precautions

- If used for a long time, the product may become hot (50°C to 60°C). Be careful of low temperature burns and other dangers due to the product becoming hot.
- Be careful of electrical shock. There is a danger of electrical shock if the product is used as described above in **(a) Circumstances not covered by product guarantee**.