CUSTOMER NOTIFICATION

SUD-DT-04-0170 (1/16)

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CP(K), O

# IE-78K0-NS
(Control Code: A, B, C, D, E, F, G, H, J, K, L, M, N, P)

# IE-78K0-NS-A
(Control Code: A, B, C, D, E, F, G, H)

# Operating Precautions

Be sure to read this document before using the product.

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

## 1. Product History

| No. | Bugs and Changes/Additions to Specifications |
|---|---|
| 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 |
| 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) |
| 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) |
| 33 | Bug in external clock |
| 34 | Bug related to Peripheral Break |
| 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) |
| 38 | Bug related to execution time measurement for section specification |
| 39 | Bug related to Stop command (2) |

| No. | Bugs and Changes/Additions to Specifications |
|---|---|
| 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 |
| 47 | Bug in error message description |
| 48 | Bug related to ROMless microcontroller |
| 49 | Support of memory bank function |
| 50 | Bug in emulation with 10 MHz or higher clock |
| 51 | Bug related to clock switching operation |

| No. | Control Code[Note 1] | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | IE-78K0-NS | | | | | | | | | | | | | | IE-78K0-NS-A | | | | | | | |
| | A | B | C | D | E | F | G | H | J | K | L | M | N<br>n | P<br>p | A | B | C | D | E | F | G | H<br>h |
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| 7 | √ | √ | √ | √ | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| 8 | Permanent restriction | | | | | | | | | | | | | | | | | | | | | |
| 9 | √ | √ | √ | √ | √ | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
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| 11 | – | – | – | – | √ | √ | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| 12 | √ | √ | √ | √ | √ | √ | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| 13 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | √ | – | – | – | – | – | – | – |
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| No. | Control Code[Note 1] | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | IE-78K0-NS | | | | | | | | | | | | | | IE-78K0-NS-A | | | | | | | |
| | A | B | C | D | E | F | G | H | J | K | L | M | N<br>n | P<br>p | A | B | C | D | E | F | G | H<br>h |
| 26 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | √ | – | – | – | – | – | – | – |
| 27 | √ | √ | √ | √ | √ | √ | √ | √ | – | – | – | – | – | – | √ | – | – | – | – | – | – | – |
| 28 | √ | √ | √ | √ | √ | √ | √ | √ | – | – | – | – | – | – | √ | – | – | – | – | – | – | – |
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| 31 | – | – | – | √ | √ | √ | √ | √ | – | – | – | – | – | – | √ | – | – | – | – | – | – | – |
| 32 | Permanent restriction | | | | | | | | | | | | | | | | | | | | | |
| 33 | – | – | – | √ | √ | √ | √ | √ | √ | – | – | – | – | – | √ | √ | – | – | – | – | – | – |
| 34 | Permanent restriction | | | | | | | | | | | | | | | | | | | | | |
| 35 | – | – | – | √ | √ | √ | √ | √ | √ | – | – | – | – | – | √ | √ | – | – | – | – | – | – |
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| 37 | Permanent restriction | | | | | | | | | | | | | | | | | | | | | |
| 38 | Permanent restriction | | | | | | | | | | | | | | | | | | | | | |
| 39 | – | – | – | √ | √ | √ | √ | √ | √ | – | – | – | – | – | √ | √ | – | – | – | – | – | – |
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| 42 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | – | – | – | – | √ | √ | √ | √ | – | – | – | – |
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| 45 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | – | – | – | √ | √ | √ | √ | √ | – | – | – |
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| 47 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | – | √ | √ | √ | √ | √ | √ | √ | – |
| 48 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | – | √ | √ | √ | √ | √ | √ | √ | – |
| 49 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | – | √ | √ | √ | √ | √ | √ | √ | – |
| 50 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | – | √ | √ | √ | √ | √ | √ | √ | – |
| 51 | Permanent restriction | | | | | | | | | | | | | | | | | | | | | |

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

**Notes 1.** 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.

<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 **n**, products with 78K0 Executer V2.8 are control code **p** products.
- Control code **n** and control code **N** are functionally compatible.
- Control code **p** and control code **P** are functionally compatible.
- Refer to IE-780148-NS-EM1 Operating Precautions (SUD-DT-04-0036) 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 **G**, products with 78K0 Executer V2.8 are control code **H** products.
- Control code **h** and control code **H** differ in terms of the following function.

| Function | Control Code **h** | Control Code **H** |
|---|---|---|
| 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. Control code "**I**" and "**O**" are not available.

## 2. 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 ($\mu$PD780818 or $\mu$PD780828) 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:

$\mu$PD780024A, 780024AY, 780034A, 780034AY Subseries

$\mu$PD780078, 780078Y Subseries

$\mu$PD780988 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 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.48 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.49 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.50 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.51 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.