Microcomputer Technical Information

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IE-78K0S-NS-A In-Circuit Emulator for 78K0S Series Usage Restrictions		Document No.	ZBG-CD-05-0104		1/2
		Date issued	November 1, 2005		
		Issued by	Development Tool Group Multipurpose Microcomputer Systems Division 4th Systems Operations Unit NEC Electronics Corporation		
Related documents	IE-78K0S-NS-A User's Manual: U15207EJ1V0	Notification classification	√	Usage restriction	
				Upgrade	
				Document modification	
				Other notification	

1. Affected product

   IE-78K0S-NS-A Control code[Note]: A, B, C, D

2. Restrictions

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

   - No. 5 The debugger hangs when an interrupt and software break conflict.
   - No. 6 Restriction when an interrupt and software break conflict.
   - No. 7 The debugger hangs if a break occurs while the internal RAM area is displayed.
   - No. 8 The program may be stopped due to an illegal fetch break if an external reset input by the $\overline{\text{RESET}}$ pin or an internal reset (reset by POC, LVI, etc.) occurs.
   - No. 9 The program stops at an illegal fetch break when a reset is generated by the watchdog timer.

3. Workarounds

   There is no workaround. See the attachment for details.

4. Correction schedule

   Items No. 6 and No. 9 are not planned for correction, so regard these items as permanent restrictions.

   Products in which No. 2, No. 5, No. 7 and No. 8 are corrected are scheduled for release as follows.

   Newly shipped products: From the shipment of late November 2005 (control code: D)

   Upgrade for already shipped products: Available from November 15, 2005

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

5. List of restrictions

   See the attachment.

Note The "control code" is the second digit from the left in the 10-digit serial number.
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.

6. Document revision history

IE-78K0S-NS-A In-Circuit Emulator for 78K0S Series - Usage Restrictions

Document Number	Issued on	Description
SBG-T-2260	January 30, 2001	Addition of new bug (No. 2) (Details on bug No. 1 are described in the document supplied with the product.)
ZBG-CD-04-0095	November 26, 2004	Correction of bugs (No. 3 and No. 4)
ZBG-CD-05-0104	November 1, 2005	Correction of bugs (No. 2, No. 5, No. 7 and No. 8) Addition of permanent restrictions (No. 6 and No. 9)

Notes on Using IE-78K0S-NS-A

1. Product Version

Part number: IE-78K0S-NS-A

Control Code[Note]	Remark
A	–
B	–
C	–
D	–

Note The “control code” is the second digit from the left in the 10-digit serial number.
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.

2. Product History

No.	Bugs and Changes/Additions to Specifications	Control Code			
		A	B	C	D
1	Addition of performance functions	–	√	√	√
2	Bug in contact between emulation board fixing stays (metal fittings) and emulation board test pin	×	×	×	√
3	After time measuring is performed in RUN-BREAK mode, if Go is executed without rewriting the program counter (PC) or applying RESET, time measuring is not performed normally.	×	×	√	√
4	Illegal operations occur if a software break is set to an instruction immediately before/after the instruction to which a SNAP/DMM event is set.	×	×	√	√
5	The debugger hangs when an interrupt and software break conflict.	×	×	×	√
6	Restriction when an interrupt and software break conflict	Permanent restriction			
7	The debugger hangs if a break occurs while the internal RAM area is displayed.	×	×	×	√
8	The program may be stopped due to an illegal fetch break if an external reset input by the $\overline{\text{RESET}}$ pin or an internal reset (reset by POC, LVI, etc.) occurs.	×	×	×	√
9	The program stops at an illegal fetch break when a reset is generated by the watchdog timer.	Permanent restriction			

×: Applicable, √: Not applicable or already corrected, –: Specification change not implemented

3. Details of Bugs and Added Specifications

No. 1 Enhancement of performance function

[Description]

Addition of coverage function and improvement of tracer function and timer functions.

Specifications have been added in IE-78K0S-NS-A control code B.

No. 2 Bug in contact between emulation board fixing stays (metal fittings) and emulation board test pin

[Description]

When connecting the IE-789488-NS-EM1, IE-789850-NS-EM1, or IE-789882-NS-EM1 to the main board, the test pins of the emulation board contact the emulation board fixing stays (metal fittings).

[Workaround]

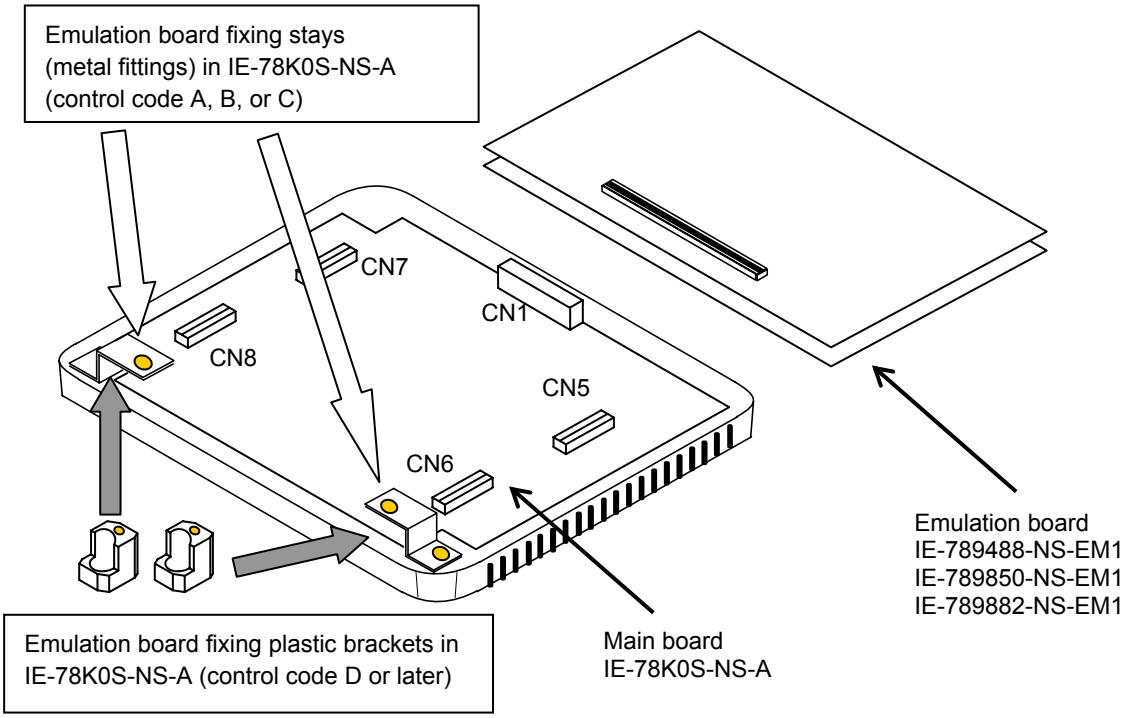
As a temporary workaround, connect the emulation board after removing the IE-78K0-NS-A emulation board fixing stays (metal fittings). Figure 2-1 shows the positions of the stays.

The emulation boards will be revised by upgrading to the following versions (control code).

- IE-789488-NS-EM1: Control code C
- IE-789850-NS-EM1: Control code C
- IE-789882-NS-EM1: Control code B

The metal fittings have been replaced with the plastic brackets in IE-78K0S-NS-A control code D or later.

Figure 2-1. Removal of Emulation Board Fixing Stays (Metal Fittings)



No. 3 After time measuring is performed in RUN-BREAK mode, if Go is executed without rewriting the program counter (PC) or applying RESET, time measuring is not performed normally.

[Description]

After time measuring is performed in RUN-BREAK mode, if Go is executed without rewriting the program counter (PC) or applying RESET, time measuring is not performed normally.

[Workaround]

There is no workaround.

This bug has been corrected in IE-78K0S-NS-A control code C or later.

No. 4 Illegal operations occur if a software break is set to an instruction immediately before/after the instruction to which a SNAP/DMM event is set.

[Description]

If a software break is set to an instruction immediately before/after the instruction to which a SNAP/DMM event is set, the following illegal operations occur.

- The software break does not occur.
- The instruction to which the software break is set is not executed.
- The software break code is traced.
- The SNAP/DMM event is traced twice.

[Workaround]

There is no workaround.

This bug has been corrected in IE-78K0S-NS-A control code C or later.

No. 5 The debugger hangs when an interrupt and software break conflict

[Description]

The debugger may hang when an interrupt and an instruction to which a software break is set conflict.

[Workaround]

There is no workaround.

This bug has been corrected in IE-78K0S-NS-A control code D or later.

No. 6 Restriction when an interrupt and software break conflict

[Description]

When an interrupt and an instruction to which a software break is set conflict, the user program breaks at the interrupted location.

This restriction applies to products in which item No. 5 is corrected (it is not applicable to control codes A, B and C).

[Workaround]

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

No. 7 The debugger hangs if a break occurs while the internal RAM area is displayed.

[Description]

The debugger may hang if a break (other than a forced break) occurs during user program execution under either of the following conditions.

- The Watch window is open with the internal RAM area displayed.
- The Memory window is open with the internal RAM area displayed.

[Workaround]

There is no workaround.

This bug has been corrected in IE-78K0S-NS-A control code D or later.

No. 8 The program may be stopped due to an illegal fetch break if an external reset input by the $\overline{\text{RESET}}$ pin or an internal reset (reset by POC, LVI, etc.) occurs.

[Description]

If an external reset input by the $\overline{\text{RESET}}$ pin or an internal reset (reset by POC, LVI, etc.) occurs, the program may be stopped due to an illegal fetch break (fail-safe break function).

This bug does not depend on the emulation board, emulation probe, or target system.

[Workaround]

There is no workaround.

This bug has been corrected in IE-78K0S-NS-A control code D or later.

No. 9 The program stops at an illegal fetch break when a reset is generated by the watchdog timer.

[Description]

When the watchdog timer is used in a mode in which a reset is generated upon program loop detection, and then a reset occurs, the program may be stopped due to an illegal fetch break (fail-safe break function).

- Products affected by this bug:

  IE-789014-NS-EM1, IE-789026-NS-EM1, IE-789046-NS-EM1, IE-789088-NS-EM1, IE-789136-NS-EM1, IE-789177-NS-EM1, IE-789306-NS-EM1, IE-789418-NS-EM1, IE-789436-NS-EM1, IE-789456-NS-EM1, IE-789468-NS-EM1, IE-789488-NS-EM1, IE-789801-NS-EM1, IE-789831-NS-EM1, IE-789835-NS-EM1, IE-789840-NS-EM1, IE-789850-NS-EM1, IE-789852-NS-EM1, IE-789860-NS-EM1, IE-789862-NS-EM1, IE-789871-NS-EM1

- Products not affected by this bug:

  IE-789234-NS-EM1, IE-789842-NS-EM1, IE-789882-NS-EM1

[Workaround]

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

4. Cautions

4-1. Caution when used with integrated debugger ID78K0S-NS

When the IE-78K0S-NS-A is used with an integrated debugger, use the ID78K0S-NS V2.20 or later for debugging (the latest version recommended). V1.1 or earlier cannot be used for debugging.

4-2. 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, PC interface cable, or target system connection was in an unsatisfactory state
- If the power supply, PC interface cable, emulation probe, or the like was bent or pulled excessively
- If a power supply 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**.