

To our customers,

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## Old Company Name in Catalogs and Other Documents

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Renesas Electronics website: <http://www.renesas.com>

April 1<sup>st</sup>, 2010  
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (<http://www.renesas.com>)

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## **Customer Notification**

# **IE-78K0-NS-A<sup>TM</sup>**

**In-Circuit Emulator**

**Operating Precautions**

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**Target Devices**  
**78K/0 Series**

Global Document No. U18087EE3V0IF00 (3rd edition)  
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IE-78K0-NS-A

**(A) Table of Operating Precautions**

No.	Outline	Control Code <sup>Note</sup>	IE-78K0-NS-A						
			E	F	G	H			
1	P50...P52 output (Technical Limitation)		7	3	3	3			
2	Improvement of operation clock characteristics (Technical Limitation)		7	3	3	3			
3	Support of specification change for several devices (Technical Limitation)		7	7	3	3			
4	Execution time measurement (Technical Limitation)		7	7	7	3			
5	Section Trace – Displayed trace data (Technical Limitation)		7	7	7	7			
6	Break – Software breakpoints (Technical Limitation)		7	7	7	7			
7	Break – Peripheral break at subclock operation (Technical Limitation)		7	7	7	7			
8	Flash self-programming mode emulation (Technical Limitation)		7	7	7	7			
9	Timer Event – Execution time measurement (Technical Limitation)		7	7	7	3			
10	Memory banking (Technical Limitation)		7	7	7	3			
11	ROMless microcontroller support (Technical Limitation)		7	7	7	3			

3: Not applicable

7: Applicable

**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. The rank is indicated by the letter appearing at the 5<sup>th</sup> position from the left in the lot number, marked on each product.
2. The Operating Precautions for products with control codes A-D have been deleted from this document, because it is expected, that all products used in the field have at least a control code E or later.

**(B) Description of Operating Precautions**

No. 1	P50...P52 output (Technical Limitation)
	<u>Details</u> 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.
No. 2	Improvement of operation clock characteristics (Technical Limitation)
	<u>Details</u> The characteristics of the operation clock used in the in-circuit emulator have been improved (addition of specification). This is supported on products control code F or later.
No. 3	Support of specification change for several devices (Technical Limitation)
	<u>Details</u> A specification change in the following devices (high-speed specification: 12 MHz operation) has been supported. <ol style="list-style-type: none"> <li>Target devices:  μPD780024A, 780024AY, 780034A, 780034AY Subseries  μPD780078, 780078Y Subseries  μPD780988 Subseries</li> <li>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)</li> </ol> <p>The high-speed specification is not supported in IE-78K0-NS-A products with a control code F or lower. It is not possible to upgrade those products to control code G or later, because products with control code F or lower are using separated main and option boards, which are limiting the high-speed operation.</p>
No. 4	Execution time measurement (Technical Limitation)
	<u>Details</u> If a setting which causes DMM or snap shot to occur is made during execution time measurement with a zone specified, the measured execution time is greater than the actual value.  <u>Workaround</u> Do not specify DMM or snap shot during execution time measurement.

No. 5	Section Trace – Displayed trace data (Technical Limitation)
	<p><u>Details</u> If a DMM or snap shot event is specified with section trace specified, the trace data may not be displayed correctly.</p> <p><u>Workaround</u> When executing section trace, do not specify DMM or a snap shot event. When specifying DMM or a snap shot event, do not specify section trace.</p>
No. 6	Break – Software breakpoints (Technical Limitation)
	<p><u>Details</u> If 00H 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.</p> <p><u>Workaround</u> Do not set a software break at a memory address that is written to during program execution.</p>
No. 7	Break – Peripheral break at subclock operation (Technical Limitation)
	<p><u>Details</u> If Break is selected for the peripheral break of the Debugger and the subclock is used as the cpu-clock, the operation of the peripheral emulation chip will not stop, even if a break is applied.</p>
No. 8	Flash self-programming mode emulation (Technical Limitation)
	<p><u>Details</u></p> <ol style="list-style-type: none"> <li>1. Of the four access events in flash self-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-mode.</li> <li>2. The system may enter restart processing once a break occurs in flash self-mode that is not the result of break settings. This will cause some of the time measurement results and some trace data and path count to become invalid.</li> </ol>



No. 9	Timer Event – Execution time measurement (Technical Limitation)
	<p><u>Details</u></p> <p>The error message “EX_SE_NONTIMER” may be displayed, when the execution time is measured by using a timer event, the initialize button is clicked to erase the result, the program is resumed and a break occurs.</p>
No. 10	Memory banking (Technical Limitation)
	<p><u>Details</u></p> <p>The memory banking is not supported.</p>
No. 11	ROMless microcontroller support (Technical Limitation)
	<p><u>Details</u></p> <p>When a CPU reset is executed on a ROMless microcontroller, the program jumps to the reset vector set to the emulation ROM.</p> <p><u>Workaround</u></p> <p>Pls. refer to chapter 1.4 “Cautions on μPD78070A and 78070AY Development” in the IE-78078-NS-EM1 User’s Manual (DOC.-No. U14741E)</p>

**(C) Valid Specification**

Item	Date published	Document No.	Document Title
1	October 2003	U14889E	IE-78K0-NS-A In-Circuit Emulator User's Manual

**(D) Revision History**

Item	Date published	Document No.	Comment
1	August 28, 2002	TPS-LE-OP-0T016	1 <sup>st</sup> Release This document is a replacement of the document TPS-LE-B-0T016-3
2	December 11, 2003	TPS-LE-OP-0T016-1	1 <sup>st</sup> Update Level G inserted
3	January 12, 2005	TPS-LE-OP-0T016-2	2 <sup>nd</sup> Update Level A-D removed Level H inserted Items for level A-D removed Remaining items renumbered Items 9, 10, and 11 added