

# Microcomputer Technical Information

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<b>QB-78K0FX1</b> In-Circuit Emulator for 78K0/FC1+, 78K0/FE1+, 78K0/FF1+  <b>Usage Restrictions</b>		Document No.	ZBG-CD-06-0063	1/2
		Date issued	August 3, 2006	
		Issued by	Development Tool Group Multipurpose Microcomputer Systems Division 4th Systems Operations Unit NEC Electronics Corporation	
Related documents	QB-78K0FX1 User's Manual: U17543EJ1V0UM00	Notification classification	√	Usage restriction
				Upgrade
				Document modification
				Other notification

## 1. Affected product

Product	Outline	Control Code <sup>Note</sup>
QB-78K0FX1	In-circuit emulator for 78K0/FC1+, 78K0/FE1+, 78K0/FF1+	A, B, C

## 2. New restriction

Bug No. 7 has been added. See the attachment for details.

## 3. Workaround

See the attachment for details.

## 4. Modification schedule

Newly shipped products: None  
 Upgrade for already shipped products (ODS): Posted on August 22, 2006  
 Upgrade for already shipped products: Available from August 22, 2006

\* 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, the control code can be checked in the About dialog box in the ID78K0-QB.  
 "X" in version information "IECUBE \*\*\*\* X F/W: V\*.\*\*" is the control code.

## 6. Document revision history

### QB-78K0FX1 In-Circuit Emulator for 78K0/FC1+, 78K0/FE1+, 78K0/FF1+ Usage Restrictions

Document Number	Issued on	Description
ZBG-CD-06-0063	August 3, 2006	Newly created. Addition of new restriction (No. 7)

## Notes on Using QB-78K0FX1

This document describes restrictions applicable only to the emulator and restrictions that are planned for correction in the emulator.

Refer to the following documents for the restrictions in the target device.

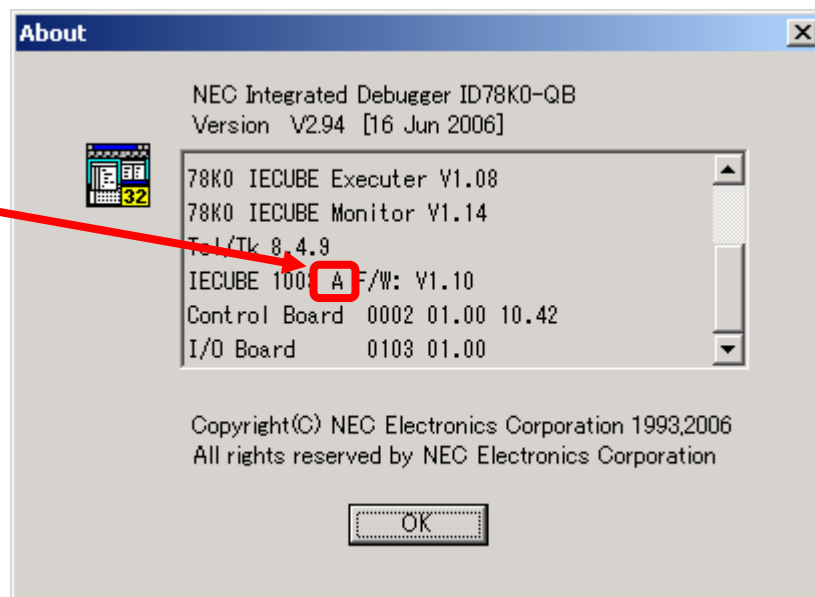
- User's manual of target device
- Restrictions notification document for target device

Also refer to the user's manual of the emulator for cautions on using the emulator.

### 1. Product Version

Control Code <sup>Note</sup>	Remark
A	—
B	—
C	—

**Note** The “control code” is the second digit from the left in the 10-digit serial number.  
If the product has been upgraded, the control code can be checked by selecting [About] from the [Help] menu while the ID78K0-QB is running.  
“X” in version information “IECUBE \*\*\*\* X F/W: V\*. \*\*” is the control code.



## 2. Product History

No.	Bugs and Changes/Additions to Specifications	Control Code		
		A	B	C
1	Bug related to peripheral break setting	Permanent restriction		
2	Bug when using CAN receive/transmit history list	×	√	√
3	Bug in LVI reset during break mode	×	√	√
4	Bug that occurs when a software break and an interrupt request conflict	×	√	√
5	Bug related to accesses to SFR that generates retries during a break	×	√	√
6	The program operation may be illegal when an instruction is re-executed after a software break	×	√	√
7	Internal ROM area is overwritten during program execution	×	×	√

×: Bug applicable, √: Bug not applicable or already corrected, -:Specification change not implemented

## 3. Details of Bugs and Added Specifications

### No. 1 Bug related to peripheral break setting

#### [Description]

When “Break” is selected in the Peripheral Break area in the debugger’s Configuration dialog box, the following restrictions apply to emulation of the CAN block. (Emulation of peripheral functions other than CAN is performed normally.)

- Values displayed in the Register window or SFR window that are used by the CAN controller during a break and the message buffer RAM values displayed in the Memory window will be illegal.
- If an access<sup>Note</sup> is performed for the first time after the program returns from a break and starts running, and the access is for a register used by the CAN controller or for a message buffer RAM, the access may be invalid.

**Note** Including the case when Step In or Slow Motion command is executed.

#### [Workaround]

Select “Non Break” in the Configuration dialog box.

Regard this as a permanent restriction.

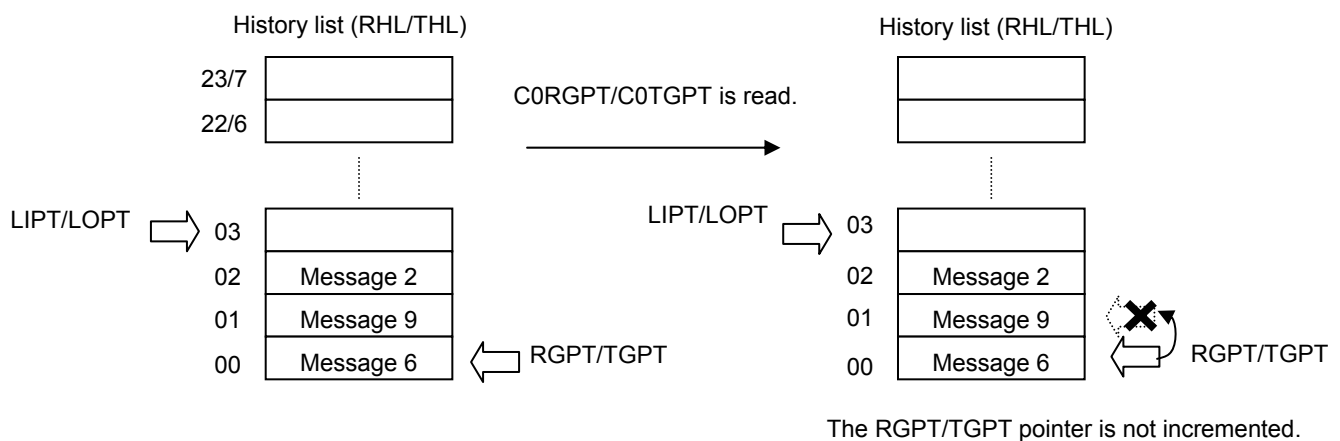
## No. 2 Bug when using CAN receive/transmit history list

## [Description]

The following restriction applies to the case where the CAN receive/transmit history list function is used for software configuration.

- The RGPT/TGPT pointer is not incremented automatically even if a message buffer number is read from the C0RGPT/C0TGOT register. Consequently, the same message buffer will be read repeatedly.

Figure - RGPT/TGPT Pointer



## [Workaround]

There is no workaround. This item has been corrected in control code B and later.

## No. 3 Bug in LVI reset during break mode

## [Description]

If an LVI reset occurs during break mode and the user program is resumed after that, the reset control flag register (RESF) will be cleared.

## [Workaround]

There is no workaround. This item has been corrected in control code B and later.

## No. 4 Bug that occurs when a software break and an interrupt request conflict

## [Description]

The following restrictions apply to the case where a software break and an interrupt request conflict.

- The execution breaks immediately before start of an interrupt service routine.
- After the break, the program counter (PC) points to an address 1 byte before the start address of the interrupt service routine. When user program execution is continued, the program starts at the address pointed to by the PC, so the program may not run correctly.
- "XCHW AX, AX" (meaningless code for the user program) is displayed in the Trace View window.

## [Workaround]

Use hardware breaks.

This item has been corrected in control code B and later.

No. 5 Bug related to accesses to SFR that generates retries during a break

[Description]

When "Break" is selected in the Peripheral Break area in the debugger's Configuration dialog box and an SFR (special function register) that generates retry requests is read during a break, a peripheral macro operates for one clock. For example, the timer counter register is counted up each time the SFR window is refreshed, with an SFR that generates retry requests being displayed.

[Workaround]

There is no workaround.

This item has been corrected in control code B and later.

No. 6 The program operation may be illegal when an instruction is re-executed after a software break

[Description]

When the data at an address next to the address where a software breakpoint is set is C0H, the values of the PC, PSW, and SP will become incorrect after a break.

Accordingly, when user program is re-executed, the program will not run correctly.

[Workaround]

Use hardware breaks.

This item has been corrected in control code B and later.

No. 7 Internal ROM area is overwritten during program execution

[Description]

Data in the internal ROM area may be overwritten if the Source window or Assemble window is open during program execution. As a result, an unexpected fail-safe break (such as Write Protect Break or Non Map Break) may occur.

[Workaround]

There is no workaround.

This bug has been corrected in products with control code C and later.

## 4. Cautions

### No. 1 Caution on target voltage during break

Do not decrease the target voltage during a break. If a reset by LVI or POC occurs during a break, the debugger operation may become illegal or a communication error may occur.

### No. 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 AC adapter, interface cable, or target system connection was in an unsatisfactory state
- If the AC adapter cable, interface cable, emulation probe, or the like was bent or pulled excessively
- If an AC adapter 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**.