Microcomputer Technical Information

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QB-78K0LX2 In-Circuit Emulator for 78K0/LE2, 78K0/LF2, 78K0/LG2 Usage Restrictions		Document No.	ZBG-CD-06-0051		1/2
		Date issued	August 2, 2006		
		Issued by	Development Tool Group Multipurpose Microcomputer Systems Division 4th Systems Operations Unit NEC Electronics Corporation		
Related documents	QB-78K0LX2 User's Manual: U17468EJ3V0UM00	Notification classification	√	Usage restriction	
				Upgrade	
				Document modification	
				Other notification	

1. Affected product

Product	Outline	Control Code[Note]
QB-78K0LX2	In-circuit emulator for 78K0/LE2, 78K0/LF2, 78K0/LG2	A, B, C

2. New restriction

Bug No. 4 has been added. See the attachment for details.

3. Workaround

See the attachment for details.

4. Modification schedule

Products in which No. 4 is corrected are scheduled for release as follows.

Newly shipped products: Shipments as of late August, 2006 (control code: C)

Upgrade for already shipped products: Available from August 24, 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-78K0LX2 In-Circuit Emulator for 78K0/LE2, 78K0/LF2, 78K0/LG2 Usage Restrictions

Document Number	Issued on	Description
ZBG-CD-05-0087	October 3, 2005	Newly created. Deletion of bug item (No. 1) Support of specification changes (No. 2) Addition of new restriction (No. 3)
ZBG-CD-06-0051	August 2, 2006	Addition of new restriction (No. 4)

Notes on Using QB-78K0LX2

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.

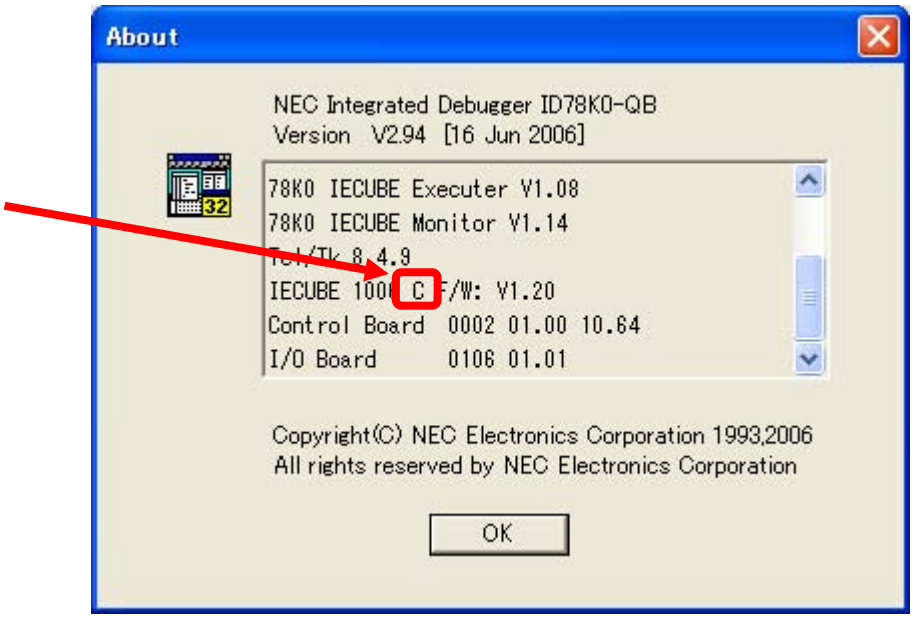
- User's manual of target device
- Restrictions notification document for target device

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

1. Product Version

Control Code[Note]	Emulation CPU	Remark
A	μPD78F0547 1.0	–
B	μPD78F0547 2.0	Specification changes for option byte, etc.
C	μPD78F0547 2.0	–

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
2	Support of specification changes for option byte	–	√	√
3	Restrictions on power-on-clear (POC) function	Permanent restriction		
4	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. 2 Support of specification changes for option byte

[Description]

The POC mode (POCMODE) of the option byte is supported in control code B or later.

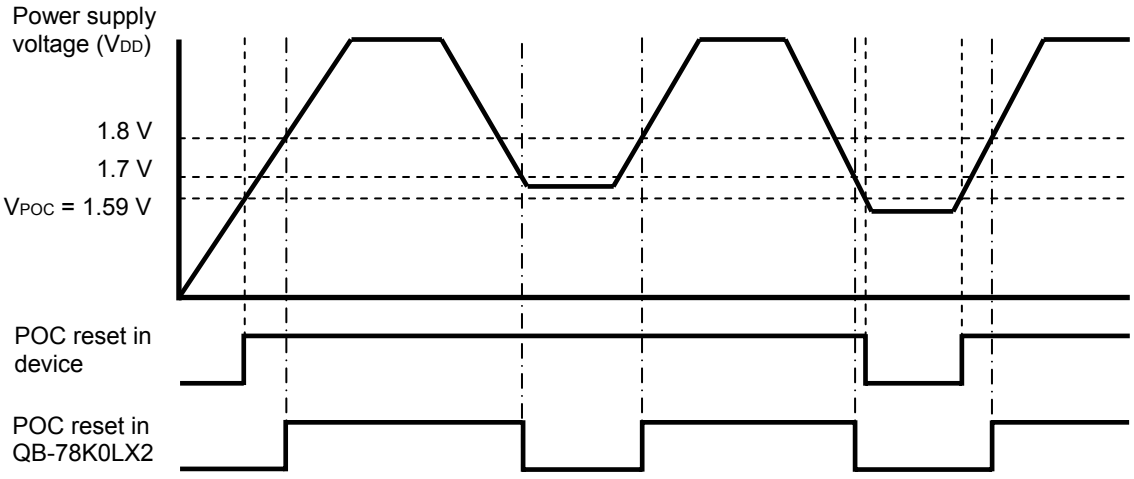
No. 3 Restrictions on power-on-clear (POC) function

[Description]

The POC detection voltage differs between the QB-78K0LX2 and the device.

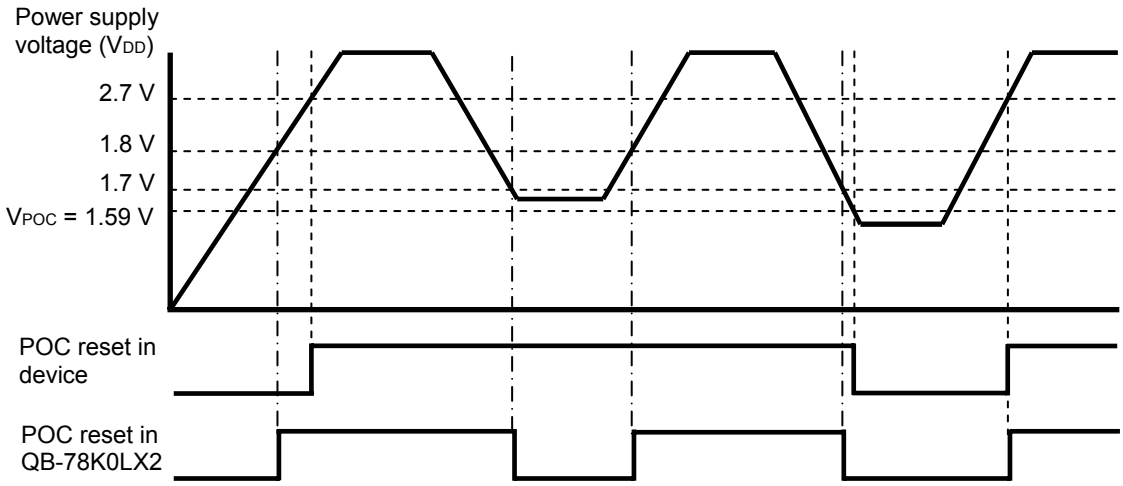
(1) In 1.59 V POC mode (option byte: POCMODE = 0)

- Device: An internal reset signal is generated at power application, and the reset state is released when the power supply voltage (V_{DD}) exceeds the detection voltage (V_{POC} = 1.59 V ±0.15 V).
  The power supply voltage (V_{DD}) and detection voltage (V_{POC} = 1.59 V ±0.15 V) are compared, an internal reset signal is generated when V_{DD} drops lower than V_{POC} ($V_{DD} < V_{POC}$), and the reset state is released when V_{DD} becomes V_{POC} or higher ($V_{DD} \geq V_{POC}$).
- QB-78K0LX2: An internal reset signal is generated at power application, and the reset state is released when the power supply voltage (V_{DD}) exceeds 1.80 V.
  An internal reset signal is generated when V_{DD} drops lower than 1.70 V (V_{DD} < 1.70 V), and the reset state is released when V_{DD} becomes 1.80 V or higher ($V_{DD} \geq$ 1.80 V).



(2) In 2.7 V/1.59 V POC mode (option byte: POCMODE = 1)

- Device: An internal reset signal is generated at power application, and the reset state is released when the power supply voltage (V_{DD}) exceeds V_{POC} (power detection voltage at power application; V_{POC} = 2.7 V ±0.2 V).
  The power supply voltage (V_{DD}) and detection voltage (V_{POC} = 1.59 V ±0.15 V) are compared, an internal reset signal is generated when V_{DD} drops lower than V_{POC} ($V_{DD} < V_{POC}$), and the reset state is released when V_{DD} becomes 2.7 V or higher ($V_{DD} \geq$ 2.7 V).
- QB-78K0LX2: An internal reset signal is generated at power application, and the reset state is released when the power supply voltage (V_{DD}) exceeds 1.80 V.
  An internal reset signal is generated when the detection voltage (V_{POC} = 1.59 V ±0.15 V) < V_{DD} < 1.70 V, and the reset state is released when V_{DD} becomes 1.80 V or higher ($V_{DD} \geq$ 1.80 V).
  If the power supply voltage (V_{DD}) drops to a level of the detection voltage (V_{POC} = 1.59 V ±0.15 V), the reset state is released the next time the power supply voltage (V_{DD}) exceeds V_{POC} (power detection voltage at power application; V_{POC} = 2.7 V ±0.2 V).



[Workaround]

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

No. 4 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 or 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**.