

# Microcomputer Technical Information

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QB-78K0MINI 78K0 Series On-Chip Debugging Emulator  Usage Restrictions		Document No.	ZBG-CD-04-0068	1/1
		Date issued	September 24, 2004	
		Issued by	Development Tool Group Multipurpose Microcomputer Systems Division 3rd Systems Operations Unit NEC Electronics Corporation	
Related documents	QB-78K0MINI User's Manual: U17029EJ2V0	Notification classification	<input checked="" type="checkbox"/>	Usage restriction
			<input type="checkbox"/>	Upgrade
			<input type="checkbox"/>	Document modification
			<input type="checkbox"/>	Other notification

1. Affected product

QB-78K0MINI Control code<sup>Note</sup>: A, B, C

2. New restriction

Restriction No. 1 has been added. See the attachment for details.

3. Workaround

See the attachment for details.

4. Modification schedule

Products in which restriction No. 1 is modified are scheduled for release as follows.

Newly shipped products: From the shipment of July 2004 (control code: C)

Upgrade for already shipped products: Available from October 2004

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

5. List of restrictions

See the attachment for details.

6. Document revision history

QB-78K0MINI 78K0 Series On-Chip Debugging Emulator Usage Restrictions

Document Name	Issued on	Description
ZBG-CD-04-0068	September 24, 2004	Addition of bug (No. 1)

**Note** 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 x on this label indicates the control code. Control codes B and C are functionally equivalent.

## Notes on Using QB-78K0MINI

This document is revised from the document “QB-78K0MINI (Control Code: A, B) Operating Precautions” (document number: SUD-DT-04-0157) included in the CD-ROM (ID78K0-QB Disk V2.81 2004.6.22), so refer to this latest document.

### 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 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 x on this label indicates the control code. Control codes B and C are functionally equivalent.

### 2. Product History

No.	Bugs and Changes/Additions to Specifications	Control Code	
		A	B, C
1	The flash data in the target device is erased before the debugger is started	×	√

×: Applicable, √: Not applicable or already corrected

### 3. Details of Bugs and Added Specifications

No. 1 The flash data in the target device is erased before the debugger is started

[Description]

The flash data in the target device is erased if the QB-78K0MINI is connected to a PC via a USB and the power to the target is turned on when the value at address 0x84 is 0x03 and the ID code is other than 0xFF.

[Workaround]

Set the value at address 0x84 to 0x02.

This bug has been corrected in control code B or later.

#### 4. Caution

The underlined description has been added to **Caution** in 3.1.2 **Clock socket for target device** in the user's manual.

**Caution** **Be sure to turn off the emulator's power supply before inserting or removing a clock in the clock socket for the target device. In addition, do not mount a clock in the clock socket when "System" is selected in the "Main Clock" field in the Configuration dialog box of the debugger.**

#### 5. Difference Manual

This section explains modifications and additions to the user's manual (U17029EJ2V0UM00).

##### ◆ Throughout

Incorrect: RESET

Correct:  $\overline{\text{RESET}}$

Incorrect: RESET\_OUT

Correct:  $\overline{\text{RESET\_OUT}}$

##### ◆ Pages 11 to 13, 30, 38, and 40

- The OCD Checker is bundled with the CD-ROM supplied with the QB-78K0MINI.

##### ◆ Pages 25 and 26

Incorrect: For description of pull-down resistance values, see the target device's User's Manual.

Correct: Connect a pull-down resistor of 470  $\Omega$  or higher.

##### ◆ Pages 42 and 43

Replace the contents of **CHAPTER 5 RESTRICTIONS** with the following.

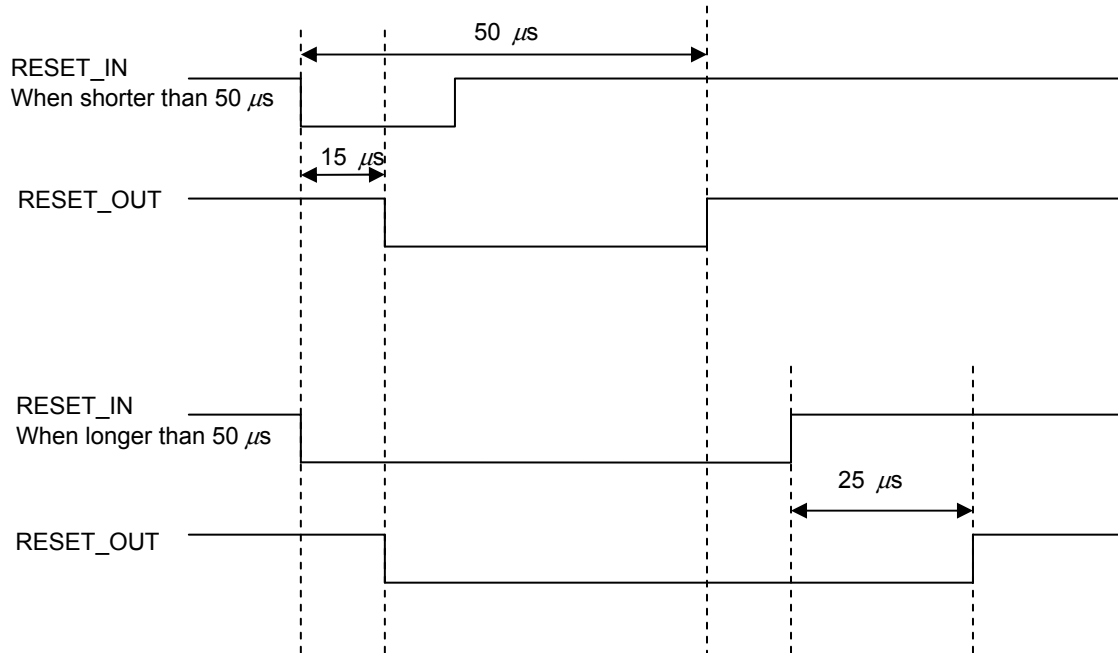
(1) A delay period of about 50  $\mu\text{s}$  from cancellation of a target reset (RESET\_IN) to cancellation of a target device reset (RESET\_OUT) (the period from when the target reset (RESET\_IN) becomes low to when the target device reset (RESET\_OUT) becomes high) is required for mode setting.

See Figure 5-1 below.

(2) A delay period of about 25  $\mu\text{s}$  is required from input of a target reset (RESET\_IN) to when the target device is reset (RESET\_OUT).

See Figure 5-1 below.

Figure 5-1. Timing of Target Reset



- (3) When setting on-chip debugging mode via the normal port, without using pins X1 and X2, two of the user ports will be unavailable for use.
- (4) When the user program is downloaded, flash memory programming is performed by self-writing. At that time, be sure to use a clock that supports the self programming routine's operating frequency range.
- (5) A high-level signal is always output from to the FLMD0 pin during emulation. Be sure to connect a pull-down resistor to the FLMD0 pin, and manipulate this pin based on high/high-impedance levels, rather than on high/low levels, when using ports for manipulation.
- (6) Restriction on using the self-check board (V1.0)<sup>Note</sup> for operation check
  - <1> There is a communication problem due to a bug in the microcontroller mounted on the self-check board when the QB-78K0MINI operates on the subclock or Ring-OSC. The debugger takes a measure to avoid this problem by forcibly switching to the main clock when a break occurs, and re-switches to the subclock or Ring-OSC when the program is executed. Consequently, the QB-78K0MINI always operates on the main clock during a break.
  - <2> A fail-safe break (Uninitialize Stack Pointer; a break that occurs due to a failure to perform stack pointer initialization) occurs when an internal reset is generated due to a bug in the microcontroller mounted on the self-check board.
 

[Workaround]

 Stop the watchdog timer operation or repeat starting the count operation to suppress generation of the internal reset by the watchdog timer.

**Note** The part number is shown as "QB-78K0KX1H-TB X.X" on the label attached to the device mounted on the self-check board. "X.X" indicates the version.

## 6. Cautions

### General cautions on handling this product

#### 1. 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 USB cable or target system connection was in an unsatisfactory state
- If the USB cable, connection cable, 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

#### 2. 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 **1 Circumstances not covered by product guarantee**.