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

April 1st, 2010
Renesas Electronics Corporation

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

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Customer Notification

IE-780862-NS-EM1TM

Emulation Board

Operating Precautions

Target Devices

uPD780861

uPD780862

uPD78F0862

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Table of Contents

| | | |
|-----|---|---|
| (A) | Table of Operating Precautions..... | 4 |
| (B) | Description of Operating Precautions..... | 5 |
| (C) | Valid Specification..... | 8 |
| (D) | Revision History | 9 |

(A) Table of Operating Precautions

| No. | Outline | Control Code ^{Note} | IE-780862-NS-EM1 |
|-----|--|------------------------------|------------------|
| | | | B |
| 1 | Differences between target device and IE system (Part 1) (Technical Limitation) | | X |
| 2 | Differences between target device and IE system (Part 2) (Technical Limitation) | | X |
| 3 | RESET ist set to MASK in the Configuration dialog box (Technical Limitation) | | X |
| 4 | The values of RESF, LVIM, LVIS registers (Technical Limitation) | | X |
| 5 | General cautions (Technical Limitation) | | X |
| | | | |

✓ : Not applicable

X : applicable

Note: The control code is the **second letter** from the left of the 10 digit serial number (version that have not been upgraded).

For upgraded versions, an upgrade label is affixed to the product. The version-up level on this sticker corresponds to the actual control code (i.e. the X in the V-UP LEVEL X indicates the control code X).

(B) Description of Operating Precautions

| | |
|--------|---|
| No. 1a | Differences between target device and IE system (Part 1). Initial value of PCC register (Technical Limitation) |
| | <u>Details</u> The initial value of the SFR PCC differs between the target device and the IE system. Target device: 00H IE system: 04H <u>Workaround</u> Set the correct value (PCC=00H) direct after startup. |
| No. 1b | Differences between target device and IE system (Part 1). Setting of external or internal main clock (Technical Limitation) |
| | <u>Details</u> Set the external/internal main clock in the “Configuration Dialog Box” of the debugger when the debugger is started. After that, do not change the setting for the clock. |
| No. 1c | Differences between target device and IE system (Part 1). Reset pin circuit (Technical Limitation) |
| | <u>Details</u> The processing of the reset pin differs from that of the target device. Target device: Without pull up IE system: A 4.7 KOhm pull up is included in the IE system. |
| No. 1d | Differences between target device and IE system (Part 1). Initial value of Port 2 (Technical Limitation) |
| | <u>Details</u> The initial value of P20 to P23 are undefined when the IE-780862-NS-EM1 is connected to the target system. |
| No. 1e | Differences between target device and IE system (Part 1). The output timing for the ports (Technical Limitation) |
| | <u>Details</u> The output timing (Write timing) of the ports is one CPUCLK earlier than that in the target device. (1 CPUCLK = Clock after the PCC register selection (f_{CPU})). |

| | |
|--------|---|
| No. 1f | Differences between target device and IE system (Part 1). High level is applied to some port pins during power up (Technical Limitation) |
| | <u>Details</u> Since a 10 to 100kOhm pull-up resistor is connected to some port pins, the port pins become +5V high level. This is valid for the time when the IE system is powered up until the debugger (ID78K0-NS) is started (the debugger screen comes up). Relevant port pins: - P00 to P02 - P20 to P23 - Avref |
| No. 2a | Differences between target device and IE system (Part 2). Power-fail function of the A/D converter (Technical Limitation) |
| | <u>Details</u> The power-fail function of the A/D converter cannot be emulated using the IE-780862-NS-EM1. |
| No. 2b | Differences between target device and IE system (Part 2). Read time taken by the A/D converter retry function (Technical Limitation) |
| | <u>Details</u> The read time taken for the response by the A/D converter retry function is different from the target device. No waits are generated by a retry request in the IE system. |
| No. 2c | Differences between target device and IE system (Part 2). A/D Converter operating voltage range (Technical Limitation) |
| | <u>Details</u> Using the IE780862-NS-EM1, the guaranteed operating voltage range for the A/D Converter is 3.0 to 5.5V |
| No. 2d | Differences between target device and IE system (Part 2). One bit of the ADM can not be read (Technical Limitation) |
| | <u>Details</u> Bit 0 of the ADM register (ADCE) can not be read. The read value is always 0. However, it is possible by the user software to set this bit to 1. |
| No. 2e | Differences between target device and IE system (Part 2). One bit of the ADCR register is 0 (Technical Limitation) |
| | <u>Details</u> The least significant bit of the A/D conversion result register (ADCR) is fixed to 0 under the condition that bit 5 of the ADM register (FR2) is set to 1. |

| | |
|-------|--|
| No. 3 | RESET is set to MASK in the Configuration dialog box (Technical Limitation) |
| | <p><u>Details</u></p> <p>Even if RESET is set to MASK in the Configuration dialog box of the ID78K0-NS, the values of RESF, LVIM and LVIS registers are initialized when a reset signal is input from the target system to the IE system.</p> |
| No. 4 | The values of RESF, LVIM, LVIS registers (Technical Limitation) |
| | <p><u>Details</u></p> <p>The values of RESF, LVIM, LVIS registers cannot be initialized using the CPU reset button of the integrated debugger ID78K0-NS.</p> <p><u>Workaround</u></p> <p>a) The initialization conditions of the RESF register:</p> <ul style="list-style-type: none"> - Reset from the target system - Internal reset by comparing the power supply voltage and the detected voltage of the POC circuit <p>b) The initialization conditions of the LVIM and LVIS registers:</p> <ul style="list-style-type: none"> - Reset from the target system - Internal reset by comparing the power supply voltage and the detected voltage of the POC circuit - Clock monitor reset using the clock monitor emulation switch (SW2) - Reset by the watchdog timer |
| No. 5 | General cautions (Technical Limitation) |
| | <p><u>Details</u></p> <p>For a proper operation an IE-78K0-NS-A with the control code F^{Note} or later has to be used. If you have an older version pls. contact your NEC sales representative.</p> <p>Note: The control code is the second letter from the left of the 10 digit serial number (version that have not been upgraded). For upgraded versions, an upgrade label is affixed to the product. The version-up level on this sticker corresponds to the actual control code (i.e. the X in the V-UP LEVEL X indicates the control code X).</p> |

(C) Valid Specification

| Item | Date published | Document No. | Document Title |
|------|----------------|--------------------|---|
| 1 | November 2002 | SUD-DT-02-0026-1-E | Preliminary User's Manual IE-780862-NS-EM1 |
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(D) Revision History

| Item | Date published | Document No. | Comment |
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| 1 | May 23, 2003 | TPS-LE-OP-T0862-B | 1 st release |
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