This document is a compilation of the restrictions of the corresponding products that have already been reported, and will be utilized in the NEC microcomputer technical document browsing service. All the restrictions as of September 18, 2001 are included.

NEC Microcomputer Technical Information

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µPD780338 Subseries Usage Restrictions		Document No.	SBG-T-2508-E	1/1
		Date issued	September 18, 2001	
		Issued by	Microcomputer Engineering Dept. Solution Engineering Div. NEC Electron Devices NEC Corporation	
Related documents	User's manual (U14701EJ1V0UM00)	Notification classification	√	Usage restriction
				Upgrade
				Document modification
				Other notification

1. Affected products

  µPD780336, 780338
  µPD780326, 780328
  µPD780316, 780318
  µPD78F0338

2. List of restrictions

  The restriction history and detailed information is described in the attachment.

List of Usage Restrictions in μPD780338 Subseries

1. Product Version

μPD780336, 780338: Rank K

μPD780326, 780328: Rank K

μPD780316, 780318: Rank K

μPD78F0338:　　　　 Rank K, E

　　* The rank is indicated by the letter appearing as the 5th digit from the left in the lot number marked on each product.

2. Product History

<Mask ROM version>

	Description		UPD780336, 780338 UPD780326, 780328 UPD780316, 780318
		Rank	K
Item 1	Restriction on infrared communication function		Δ
Item 2	Restriction on A/D conversion time selection		√
Item 3	Restriction on LCD specifications		Δ
Item 4	Restriction on 16-bit timer		Δ
Item 5	Restriction on writing to flash memory		−

<Flash memory version>

	Description		UPD78F0338	
		Rank	K	E
Item 1	Restriction on infrared communication function		Δ	Δ
Item 2	Restriction on A/D conversion time selection		×	√
Item 3	Restriction on LCD specifications		Δ	Δ
Item 4	Restriction on 16-bit timer		Δ	Δ
Item 5	Restriction on writing to flash memory		×	√

Notes 1. The rank is indicated by the fifth character from the left in the lot number marked on the package.

　　2. The meaning of each symbol is as follows.

　　　−: Restriction does not apply

　　　√: Restriction already corrected

　　　×: Restriction applies (correction is planned)

　　　Δ: Restriction applies (correction is not planned)

3. Details of Usage Restrictions

Item 1: Refer to Attachment 2 for details.
Item 2: Refer to Attachment 3 for details.
Item 3: Refer to Attachment 4 for details.
Item 4: Refer to Attachment 5 for details.
Item 5: Refer to Attachment 6 for details.

4. Other Cautions

None.

Item 1. Restriction on infrared communication function

[Description]

The infrared data transfer mode of UART0 cannot be used.

Therefore, always clear IRDAM0 of the ASIM0 register to 0 by software.

<Old specifications>

ASIM0	TXE0	RXE0	PS01	PS00	CL0	SL0	IRDAM0

IRDA0	Specification of infrared data transfer mode
0	UART (transmission/reception) mode
1	Infrared data transfer (transmission/reception) mode

<New specifications>

ASIM0	TXE0	RXE0	PS01	PS00	CL0	SL0	0

Clear bit 0 of the ASIM0 register to 0.

[Workaround]

Regard this as a usage restriction.

This restriction will be included in the next revision of the document.

Item 2. Restriction on A/D conversion time selection

[Description]

To increase the number of A/D conversion time settings selectable when a 10 MHz main resonator is used, the contents of the conversion time selection flag have been changed as follows.

FR02	FR01	FR00	Selection of Conversion Time	
			Old Specifications	New Specifications
0	0	0	144/fx	144/fx
0	0	1	120/fx	120/fx
0	1	0	96/fx	96/fx
1	0	0	72/fx	576/fx
1	0	1	48/fx	480/fx
1	1	0	68/fx	384/fx
Other than above			Setting prohibited	

[Workaround]

Regard this as a usage restriction.

This restriction will be included in the next revision of the document.

Item 3. Restriction on LCD specifications

[Description]

It has been discovered that, when using ports 8 and 9 as LCD output ports, the voltage deviation between VLCD2 and the LCD output does not satisfy the previously stated specifications. The modified specifications are shown below.

This restriction does not affect to seg0 to seg23.

<Previous specifications> (T_A = −40 to +85°C)

Parameter	Symbol	Test Conditions			MIN.	TYP.	MAX.	Unit
LCD output voltage deviation (segment)**Note**	VODS	IO = ±1 μA static, 1/3 bias	Gain≥1.2 Gain<1.2	1.8V≤ V_{DD} ≤5.5V	0		±0.2	V

<Modified specifications> (T_A = −40 to +85°C)

Parameter	Symbol	Test Conditions			MIN.	TYP.	MAX.	Unit
LCD output voltage deviation (segment)**Note**	VODS	IO = ±1 μA static, 1/3 bias	Gain ≥ 1.2	1.8V≤ V_{DD} ≤5.5V	0		±0.2	V
			Gain < 1.2	2.7V≤ V_{DD} ≤5.5V	0		±0.2	
				1.8V≤ V_{DD} ≤2.7V	0		−0.2/ +0.3	

Note The voltage deviation is the difference between the segment output voltage (VLCD) and the LCD output voltage.

[Workaround]

Regard this as a usage restriction.

This restriction will be included in the next revision of the document.

Item 4. Restriction on 16-bit timer

[Description]

The source of the counter clear and start in the one-shot trigger mode of the 16-bit timer is the AND condition of the software trigger (OSPTn = 1) and the external trigger input (TI input). Selecting only one of them is disabled. (n = 0, 1).

As a result, the output pulse generated by the software trigger generates a trigger again, resulting in the same operation as PPG instead of a one-shot pulse operation.

[Workaround]

The description of the one-shot pulse output mode will be deleted from the user's manual.

Item 5. Restriction on writing to flash memory

[Description]

In flash memory writing using the FlashPro via communication other than UART, if a main clock of greater than 2.7 MHz is used when writing using the E.P.V or Program command, because the flash firmware may not be able to support the high-speed main clock, there is a small possibility that a verify error may occur.

[Workaround]

If a verify error occurs, rewrite the memory as indicated below. This enables the same quality of writing as when writing is performed correctly.

Communication Mode	Oscillation Frequency	
	$f_X \leq 2.7$ MHz	2.7 MHz $> f_X$
UART	Normal write	Normal write
SIO3	Normal write	If a verify error occurs, rewrite
IIC0	Normal write	the memory (see attachment)

Note Flash memory conditions other than those described above conform to the specifications indicated on the data sheet.

[Rewrite flow upon occurrence of verify error]
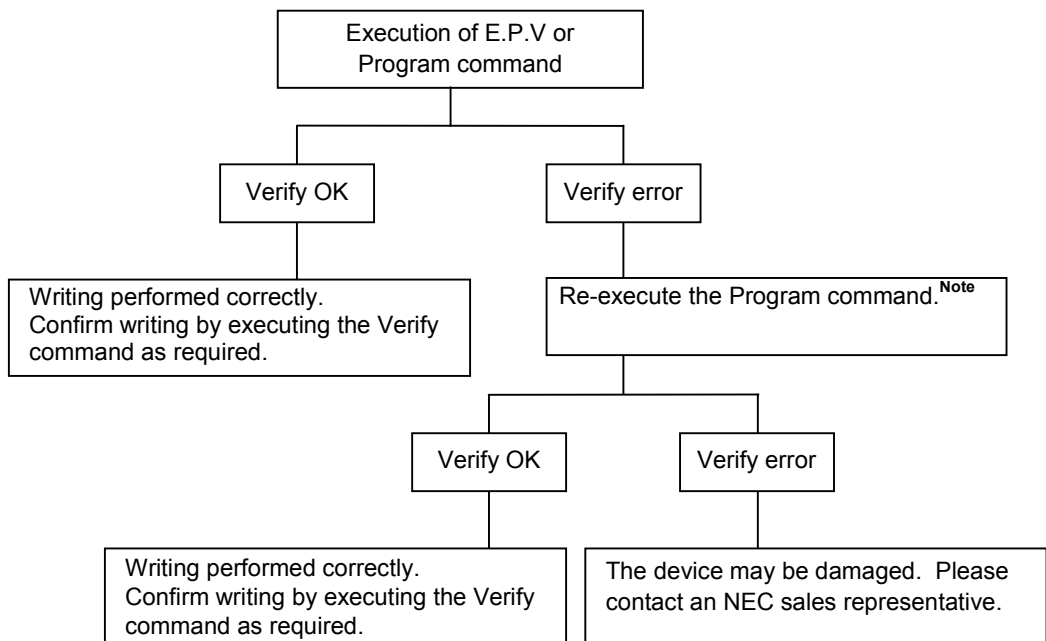
Note Only the Program command can be executed. Do not execute the E.P.V command.

Remark The Program command executed here will not be counted as a rewrite. Even when the memory is rewritten using this flow, the maximum number of rewrites remains 20.

[Permanent workaround]

The device will be corrected.