

To our customers,

Old Company Name in Catalogs and Other Documents

On April 1st, 2010, NEC Electronics Corporation merged with Renesas Technology Corporation, and Renesas Electronics Corporation took over all the business of both companies. Therefore, although the old company name remains in this document, it is a valid Renesas Electronics document. We appreciate your understanding.

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

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Renesas Electronics Corporation

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MAEC TECHNICAL NEWS

No. M16C-90-0302

Replacement Sheets of Technical News No. M16C-62-0009

Classification

Corrections and supplementary
explanation of document

✓Notes

Knowhow

Others

Products Effected

M16C/80 Group

Technical news regarding differences in interrupt operation of the M16C/80 group pursuant to interrupt revision (Technical News No. M16C-62-0009) is revised as attached because the affected devices are changed as follows.

Technical News No. M16C-62-0009 should be replaced with the attached technical news.

Changes

1. Affected devices are changed as follows:

[old]

- M16C/80 group (not including the M16C/80T group)

[new]

- M16C/80 group
M30800MCHT-XXXFP
M30800FCHTFP

(However, not including M30800MCT-XXXFP and M30800FCTFP)

2. Under current state of revision, all products, except M30800MCT-XXXFP and M30800FCTFP, are already revised. The M30800MCT-XXXFP and M30800FCTFP are excluded because these products are not subject to the revision of precautions regarding the M16C/80 group interrupt control registers (Technical News No. M16C-42-0001).

MAEC TECHNICAL NEWS

No. M16C-90-0302

Differences in Interrupt Operation of the M16C/80 Group Pursuant to Interrupt Revision

Classification

Corrections and supplementary explanation of document

✓Notes

Knowhow
Others

Products Effected

M16C/80 Group
M30800MCHT-XXXFP
M30800FCHTFP
(not including M30800MCT-XXXFP, M30800FCTFP)

1. Precaution

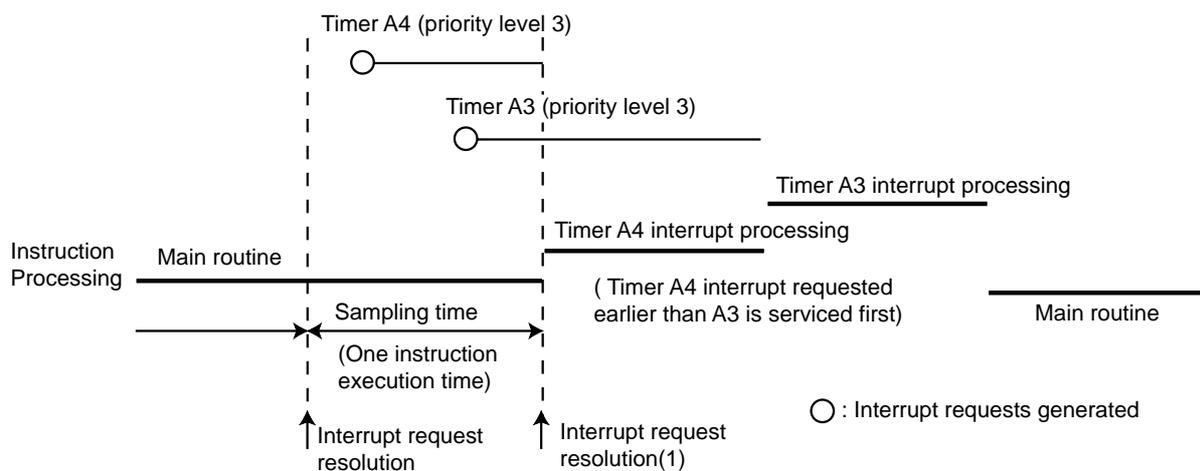
Pursuant to the revision of precautions regarding the M16C/80 group interrupt control registers (MESC Technical News No. M16C-42-0001), the operation of interrupts in this group of microcomputers has changed as described below.

<Before Revision>

When two or more interrupt requests which have the same priority level are sampled active at the time of priority resolution, they are arbitrated in such a way that the first interrupt requested has priority.

Example:

Hardware priority is Timer A3 > Timer A4



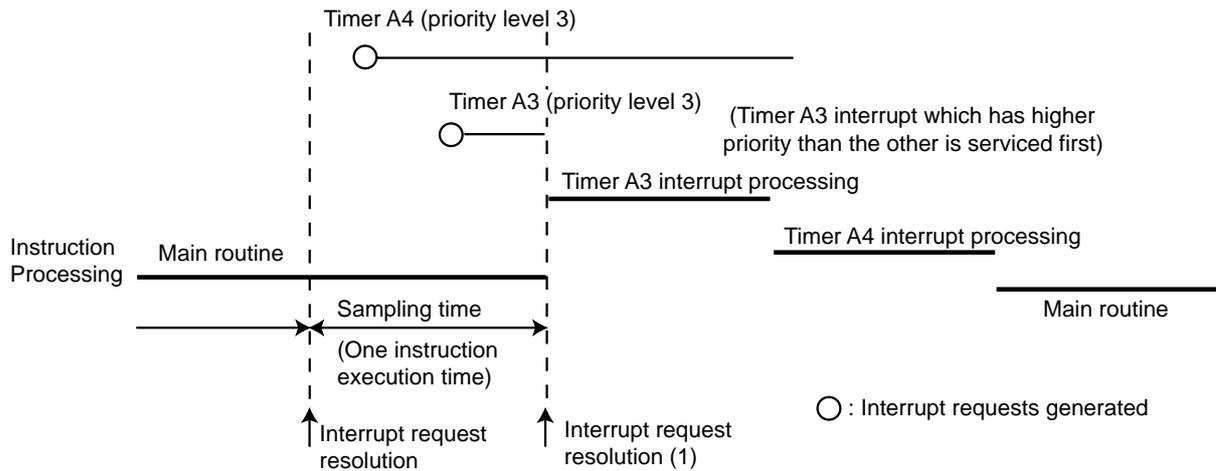
When timer A3 and timer A4 interrupt requests which have the same priority level are sampled active in interrupt priority resolution (1), the timer A4 interrupt generated earlier than timer A3 is given priority and serviced first.

<After Revision>

When two or more interrupt requests which have the same priority level are sampled active at the time of priority resolution, they are arbitrated in such a way that the interrupt which has the highest hardware priority is prioritized over the other interrupts.

Example:

Hardware priority is Timer A3 > Timer A4



When timer A3 and timer A4 interrupt requests which have the same priority level are sampled active in interrupt priority resolution (1), the timer A3 interrupt which has a higher hardware priority than timer A4 is given priority and serviced first.

Priority of interrupt requests normally are resolved at a break of instructions, but for a period when interrupts are disabled or an interrupt sequence is being executed, priority resolution does not take place until after the said period is over.

2. How to Set Interrupts

- When the priority of interrupt processing is predetermined, do not set the priority of an interrupt to the same level as another.

When two or more interrupt requests with different priority levels are sampled active at the time of priority resolution, the interrupt which has the highest priority is serviced before the other interrupts.

- When setting the priority of an interrupt to the same level as another, please consider their hardware priorities as well.

3. Current state of revision

Already revised products:

M30800MC-XXXFP/GP
M30802MC-XXXGP
M30803MG-XXXFP/GP
M30805MG-XXXGP
M30800FCFP/GP
M30802FCGP
M30803FGFP/GP
M30805FGGP
M30800SFP/GP
M30802SGP
M30803SFP/GP
M30805SGP
M30800SFP/GP-BL
M30802SGP-BL
M30803SFP/GP-BL
M30805SGP-BL
M30800MCHT-XXXFP
M30800FCHTFP

4. Unrevised Products

M30800MCT-XXXFP
M30800FCTFP

These two products are not revised pursuant to the revision of precautions regarding the M16C/80 group interrupt control registers (Technical News No. M16C-42-0001). Thus the operation remains the same (see the Before Revision on page 2).