

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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MSC TECHNICAL NEWS

No.M16C-09-9705

Note on using the A-D converter of the M16C/60 series MCU

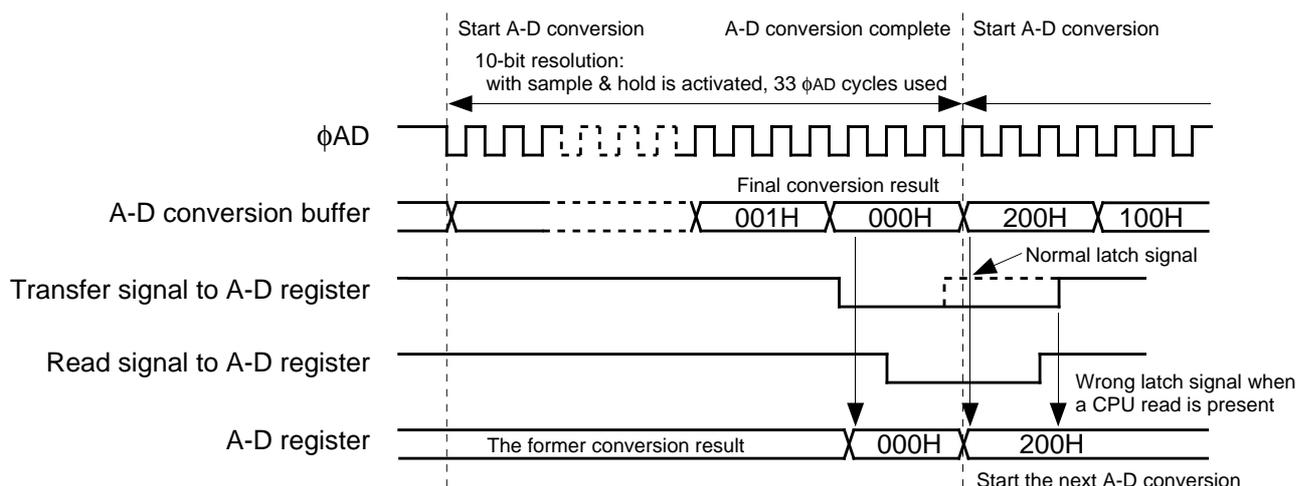
1. Related devices

M16C/60 series

2. Symptoms

After A-D conversion is complete, if the CPU reads the A-D register at the same time as the A-D conversion result is being saved to A-D register, wrong A-D conversion value is saved into the A-D register. This happens when the internal CPU clock is selected from divided main clock or sub-clock.

(When connected an A-D input port and GND)



Normally, A-D conversion value is saved at the rising edge (dashed rising edge) of the latch signal. However, when the CPU is doing a read to A-D register at this time, the A-D register latch signal is delayed, and wrong value is stored at A-D conversion register.

3. Precaution

(1) When using the one-shot or single sweep mode

Confirm that A-D conversion is complete before reading the A-D register.

(Note: When A-D conversion interrupt request bit is set, it shows that A-D conversion is completed.)

(2) When using the repeat mode or repeat sweep mode 0 or 1

Use the undivided main clock as the internal CPU clock.