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April 1st, 2010
Renesas Electronics Corporation

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7548 Group, 7549 Group

Oscillation Stop Detection Function

1. Abstract

This document describes an application example of the oscillation stop detection function for the 7548 and 7549 Groups.

2. Introduction

The application example described in this document applies to the following MCU and parameters:

- MCU: 7548 Group, 7549 Group
- Main clock: Ceramic resonator

Function set ROM data 0 to 2 are the areas in which peripheral functions are set by written data in the QzROM. These areas cannot be set by a program. Values set to these areas become enabled after reset is deasserted. Regardless of the use/non-use of peripheral functions, an applicable value for the system must be set.

In this sample program, the following values are set:

Function set ROM data 0 FSROM0 (address FFD8₁₆): 1000000₂

Function set ROM data 1 FSROM1 (address FFD9₁₆): 10000001₂

Function set ROM data 2 FSROM2 (address FFDA₁₆): 00001001₂

This sample program may include operations of unused bit functions for the convenience of the SFR bit layout. Set the values according to the operating conditions of the user system.

3. Application Example

3.1 Application Example of Oscillation Stop Detection Function

Outline: This function triggers the oscillation stop detection reset when detecting XIN oscillator stop.

Specifications:

- Select the ceramic resonator as an oscillation method, and high-speed mode as internal clock ϕ .
- After reset, the main process starts after confirming that XIN is oscillating.
- The XIN oscillation stop detection function active bit and the oscillation stop detection status bit are not initialized if an oscillation stop detection reset is triggered and these bits retain their value of 1. Confirm XIN oscillation after setting the oscillation stop detection status bit to 0. The oscillation stop detection status bit becomes 0 by writing 0 to the XIN oscillation stop detection function active bit.
- Confirm XIN oscillation by the oscillation stop detection status bit after disabling the oscillation stop detection reset.
- If XIN oscillates, the oscillation stop detection reset is enabled and the main process starts.
- If XIN does not oscillate, a countermeasure routine is performed.
- The watchdog timer is used.

Figure 3.1 and Figure 3.2 show the settings of relevant registers. Figure 3.3 shows the control procedures.

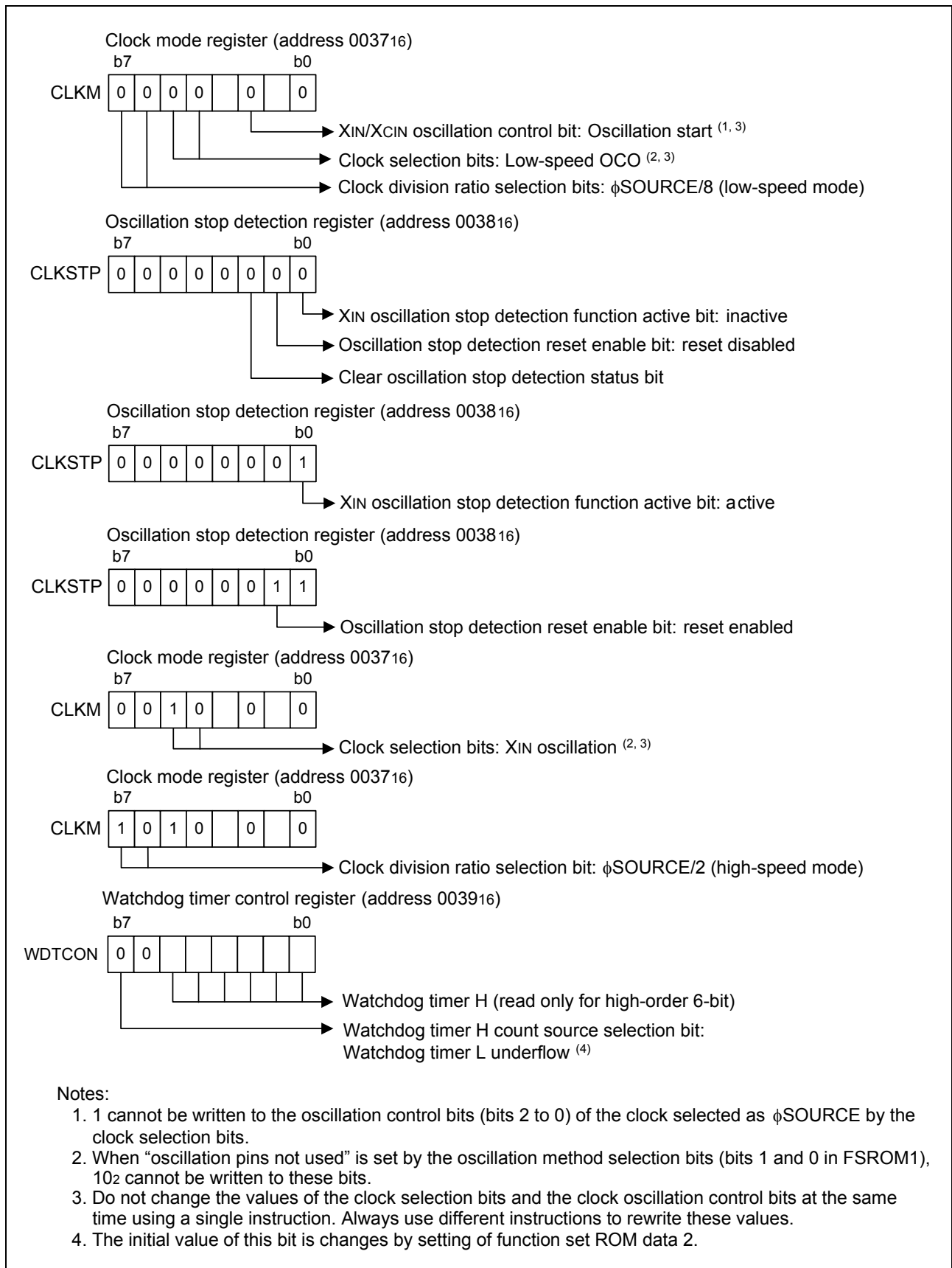


Figure 3.1 Relevant Register Settings (1)

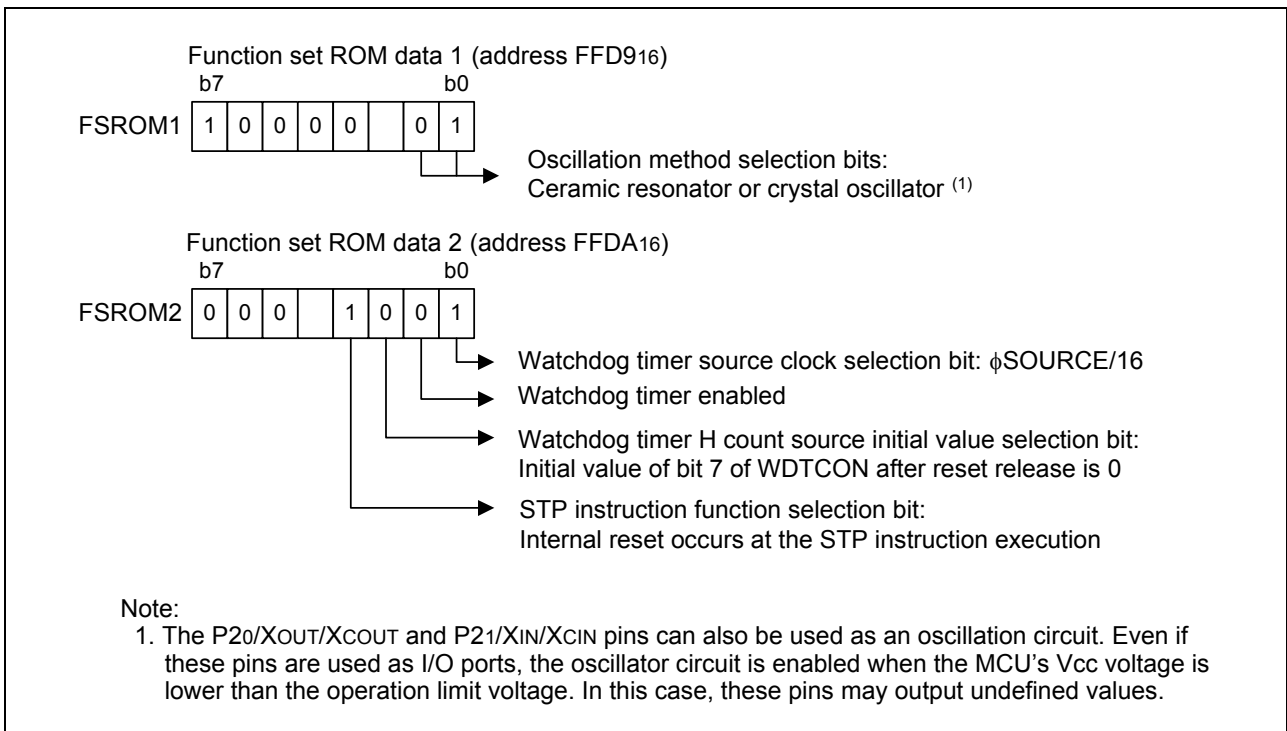


Figure 3.2 Relevant Register Settings (2)

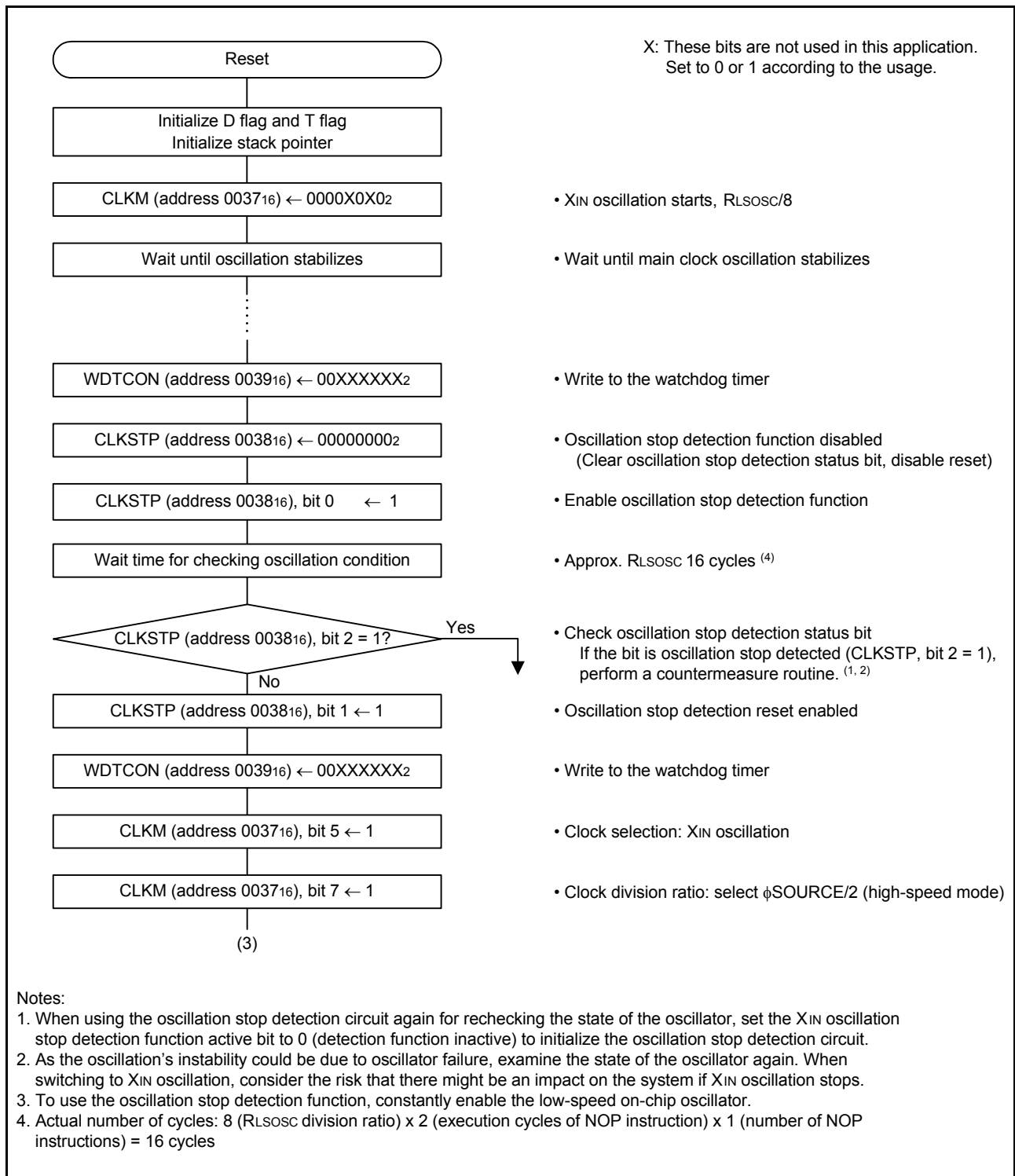


Figure 3.3 Control Procedures

4. Sample Programming Code

A sample program can be downloaded from the Renesas Technology Website.
To download, click “Application Notes” in the left-hand side menu of the 7548 and 7549 Groups.

5. Reference Documents

Datasheet

7548 Group Datasheet

7549 Group Datasheet

The latest version can be downloaded from the Renesas Technology Website.

Technical News/Technical Update

The latest information can be downloaded from the Renesas Technology Website.

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REVISION HISTORY	7548 Group, 7549 Group Oscillation Stop Detection Function
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		Page	Summary
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