

To our customers,

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April 1<sup>st</sup>, 2010  
Renesas Electronics Corporation

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# 7544 Group

## Watchdog Timer

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### 1. Abstract

This document describes how to set up and use the watchdog timer on the 7544 Group device.

### 2. Introduction

The application example described in this document is applied to the following:

MCU: 7544 Group

Oscillation frequency: 4 MHz

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. Contents

#### 3.1 Watchdog Timer

Outline: If a program goes out of control, the MCU is reset using the watchdog timer for internal program runaway detection.

Specifications:

- Frequency/2 mode is selected for the system clock  $\phi$ .
- Select the watchdog timer L underflow as the count source for the watchdog timer H.
- Before the watchdog timer underflows, writing to the watchdog timer control register is performed at every cycle in the main routine.
- Stop mode is not used.

Figure 3.1 shows the Watchdog Timer Connection and Division Ratio Settings, Figure 3.2 shows the Relevant Register Settings, and Figure 3.3 shows the Control Procedure.

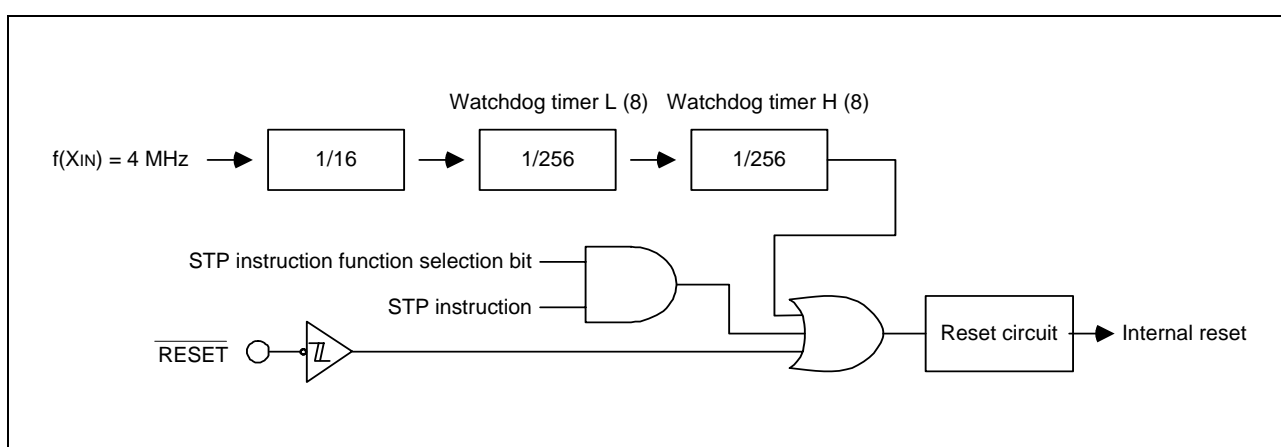


Figure 3.1 Watchdog Timer Connection and Division Ratio Settings

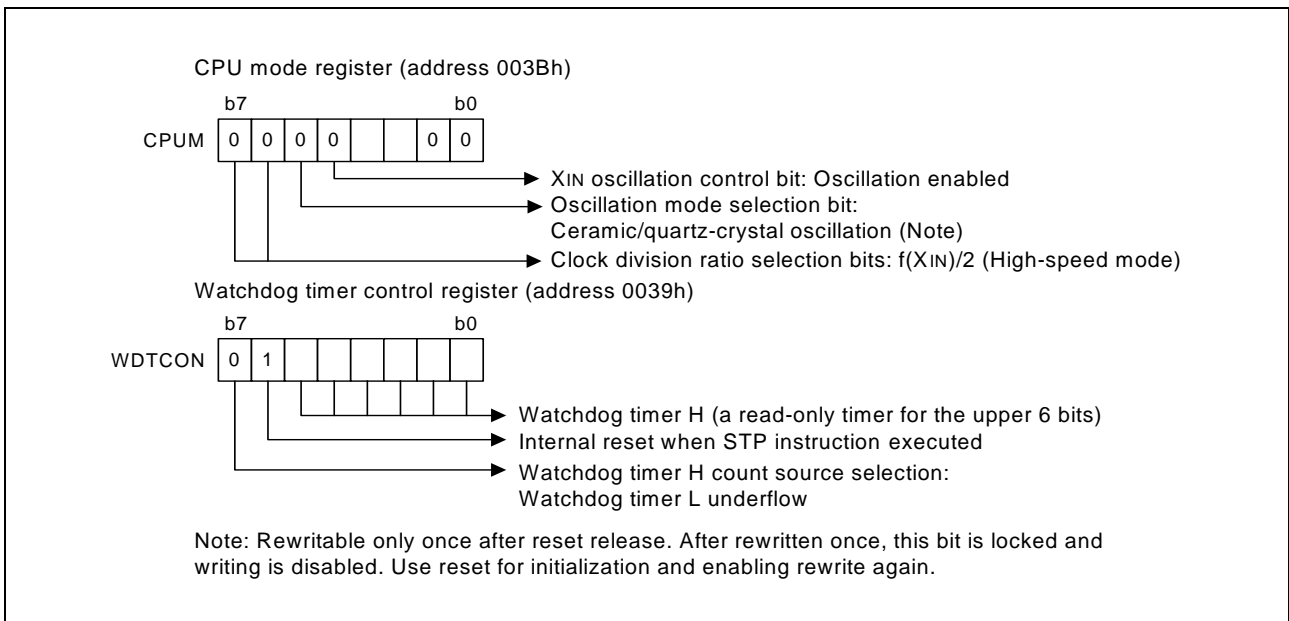


Figure 3.2 Relevant Register Settings

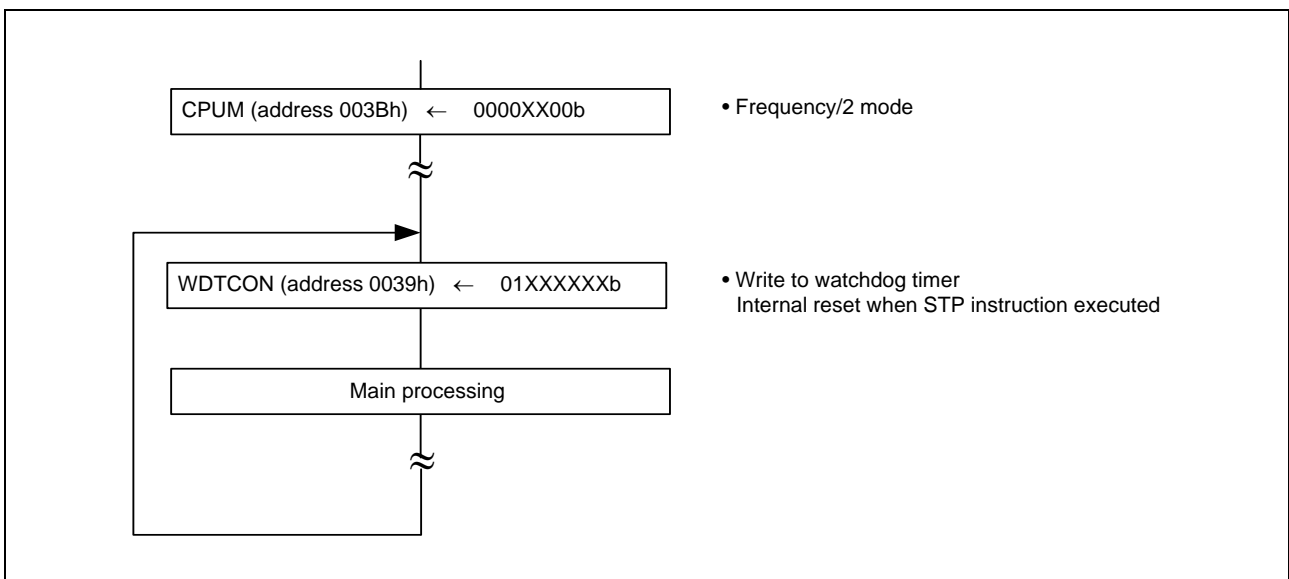


Figure 3.3 Control Procedure

#### **4. Sample Programming Code**

Download a sample program from the Renesas Technology website.

To download, click “Application Notes” in the left-hand side menu on the page of the 7544 Group.

#### **5. Reference Document**

Datasheet

7544 Group Datasheet

Download the latest version from the Renesas Technology website.

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REVISION HISTORY	7544 Group Watchdog Timer Application Note
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Rev.	Date	Description	
		Page	Summary
1.00	Feb 23, 2007	-	First Edition issued

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