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April 1st, 2010
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (<http://www.renesas.com>)

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3858 Group

Timer X Operation (Timer Mode: 1 Second Timer)

1. Abstract

This document describes how to set up and use timer X (timer mode: 1 second timer) on the 3858 Group device.

2. Introduction

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

MCU: 3858 Group

Oscillation frequency: 32.768 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 1 Second Timer

Outline:

- The timer divides the clock and counts up the watch every second.

Specifications:

- Clock $f(X_{IN}) = 32.768 \text{ kHz}$ is divided by timer X count source selection, prescaler X, and timer X.
- A 1 second flag is set in the timer 1 interrupt routine (generated every second).
- The 1 second flag value is checked by the main routine and the watch is counted up if 1 second has elapsed.

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

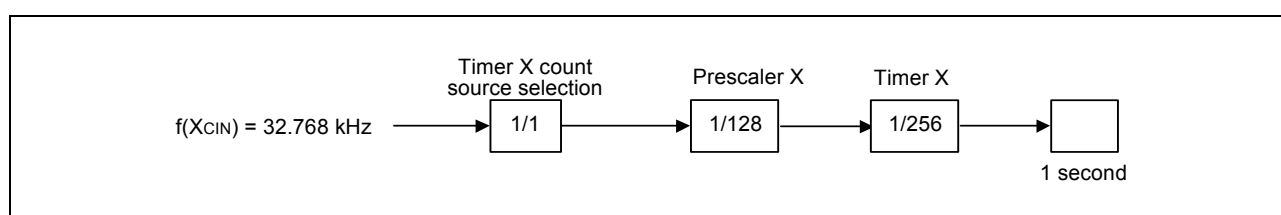


Figure 3.1 Timer Connection and Division Ratios

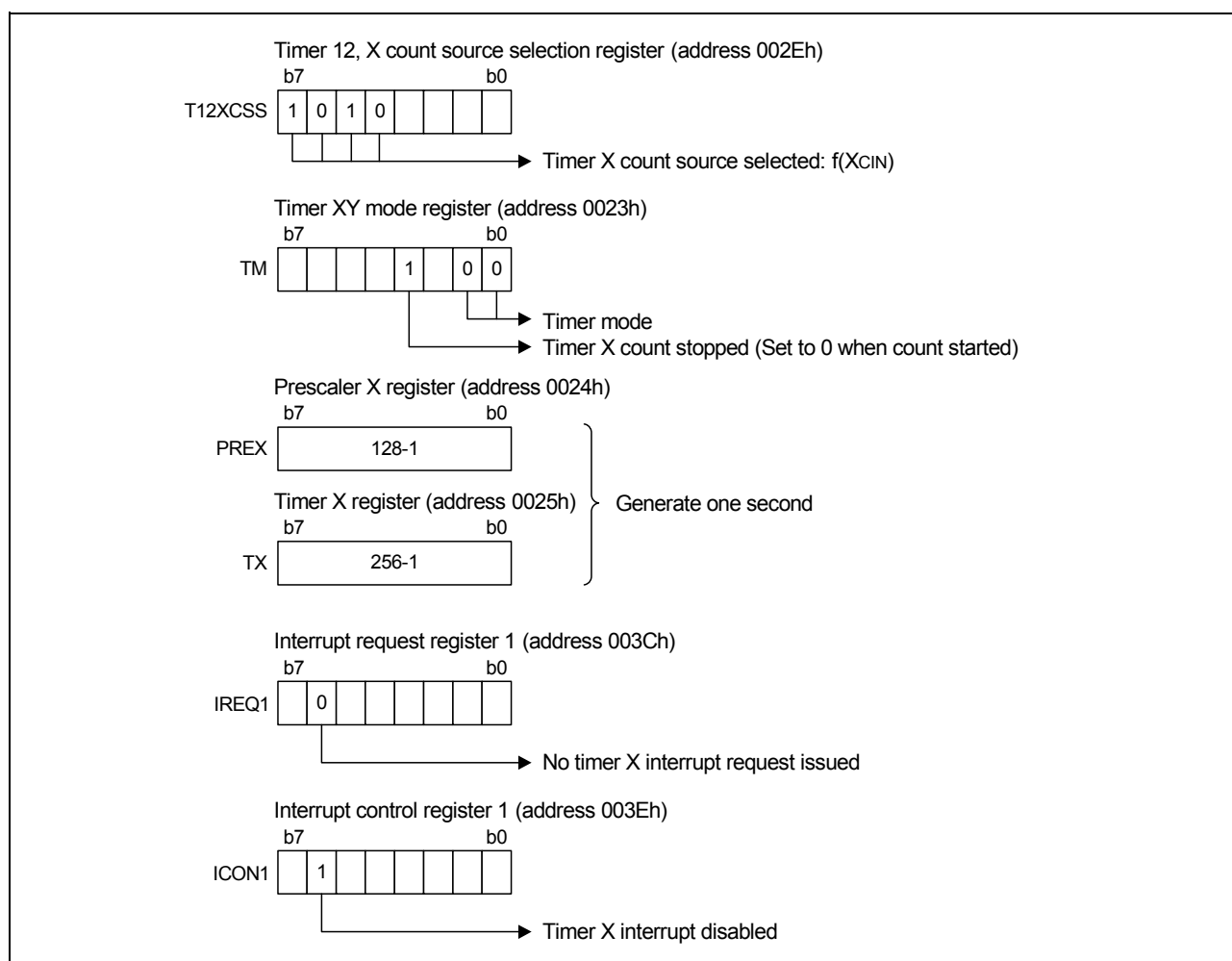


Figure 3.2 Relevant Register Settings

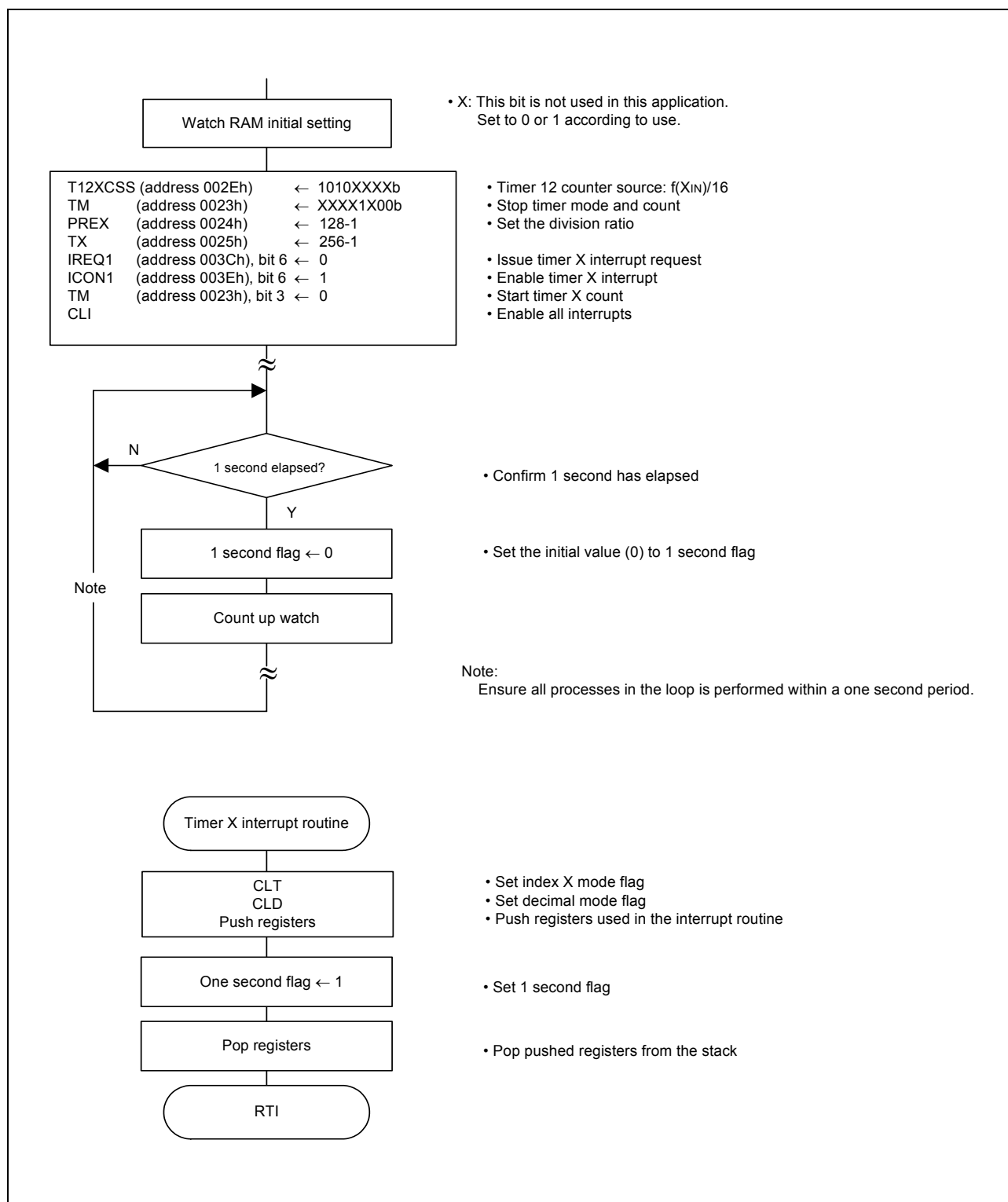


Figure 3.3 Control Procedure

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 3858 Group.

5. Reference Document

Datasheet

3858 Group Datasheet

Download the latest version from the Renesas Technology website.

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REVISION HISTORY	3858 Group Timer X Operation (Timer Mode: 1 Second Timer) Application Note
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Rev.	Date	Description	
		Page	Summary
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