

To our customers,

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## Old Company Name in Catalogs and Other Documents

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

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## 7548/7549 Group

### Timer A Operation (Output Compare Function)

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#### 1. Abstract

The following article introduces and shows an example of how to use the Timer A Operation (Output Compare Function) on the 7548/7549 Group device.

#### 2. Introduction

The application explained in this document applies to the following MCU and parameter(s):

Applicable MCU: 7548/7549 Group

Oscillation frequency: 8 MHz

Function set ROM data 0 to 2 are areas used to set peripheral functions by data written to the QzROM and can not be set by program. Data set to these areas are valid after a reset of the MCU is released. Make sure to set values according to the user system regardless of the use of peripheral functions. Set values used in this sample program are as follows.

Function set ROM data 0 FSR0M0 (address FFD8h): 1000000b

Function set ROM data 1 FSR0M1 (address FFD9h): 1000001b

Function set ROM data 2 FSR0M2 (address FFDAh): 00001011b

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

3. Contents

3.1 Output compare function application example

Outline: The PWM signal of a fixed "H" width and period is output.

Specifications:

- A signal of 5 μs "H" width and 20 μs period is output from the P10/CMP0 pin.
- Example: When  $f(XIN) = 8\text{ MHz}$ , the count source is 250 ns.

Figure 3.1 shows the Connection Diagram and Division Ratio of Timer, Figure 3.2 shows the CMP0 Output Waveform, Figure 3.3 and Figure 3.4 show the Relevant Register Settings, and Figure 3.5 shows the Control Procedure.

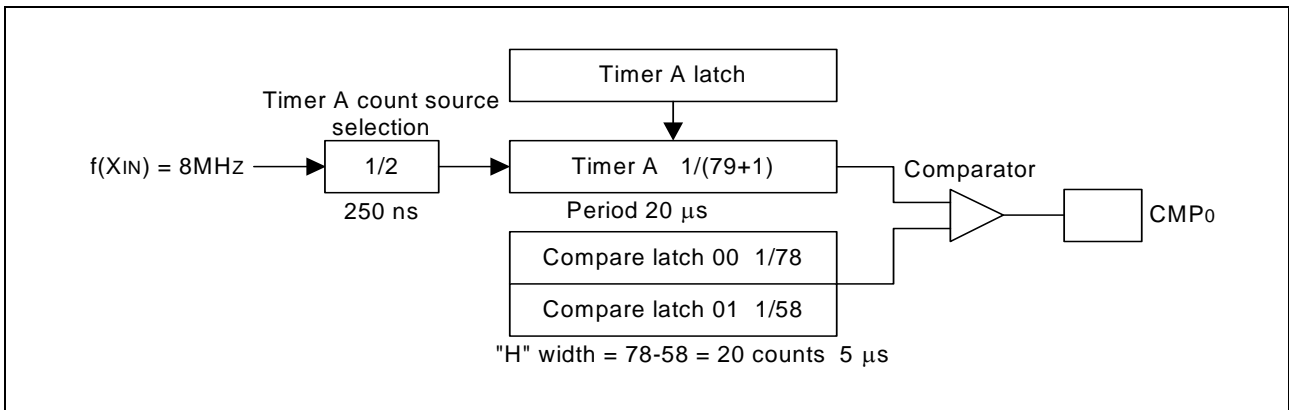


Figure 3.1 Connection Diagram and Division Ratio of Timer

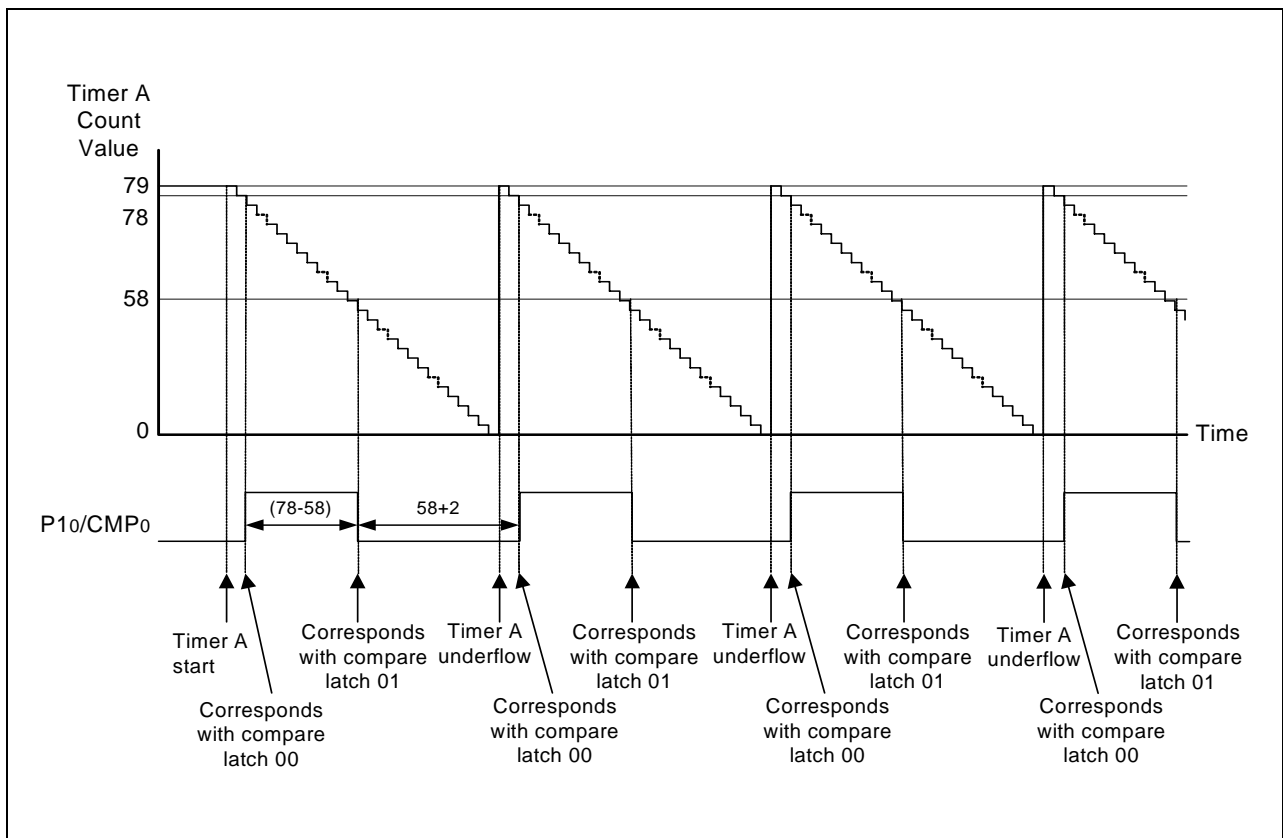


Figure 3.2 CMP0 Output Waveform

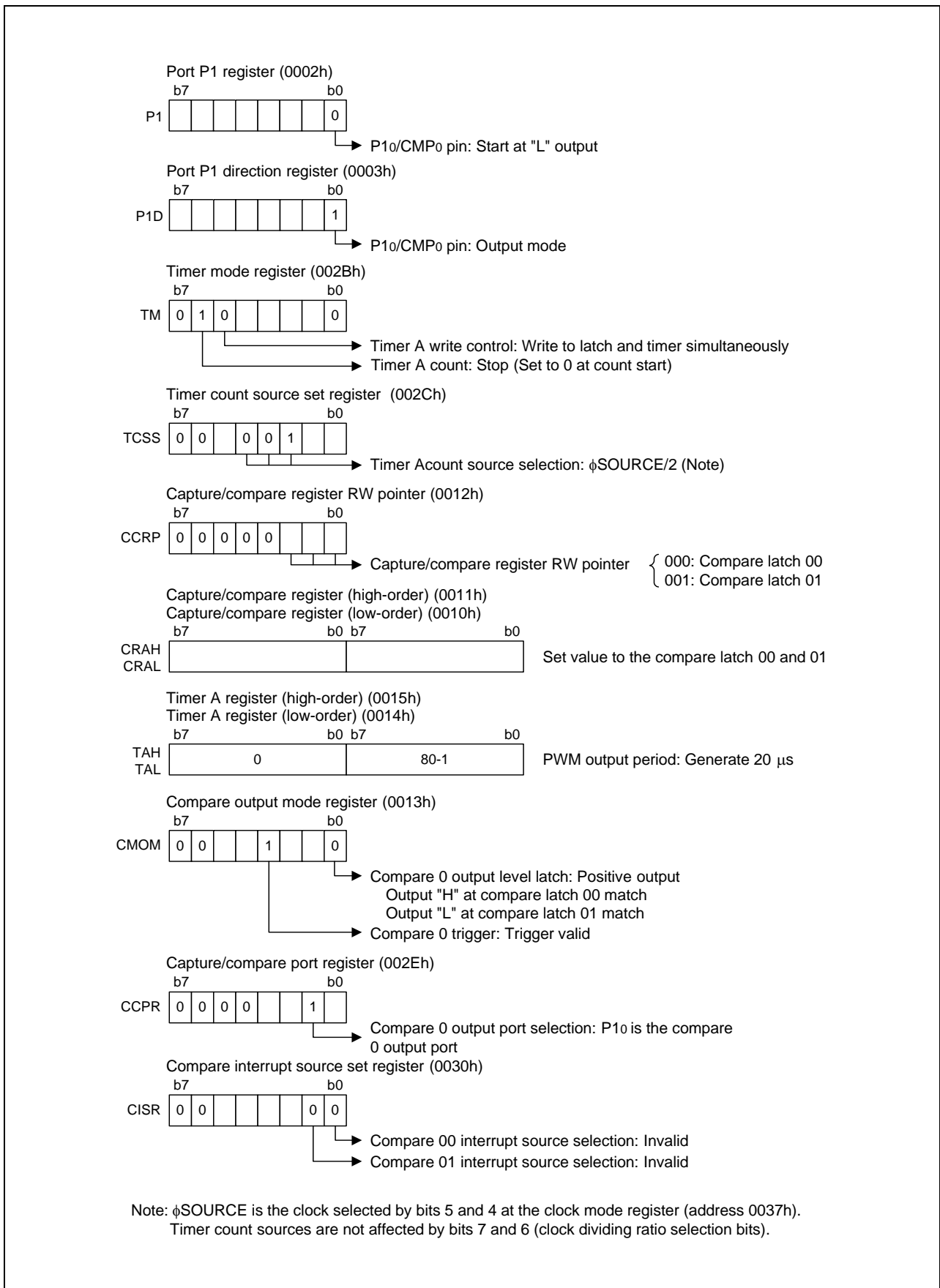


Figure 3.3 Relevant Register Settings (1)

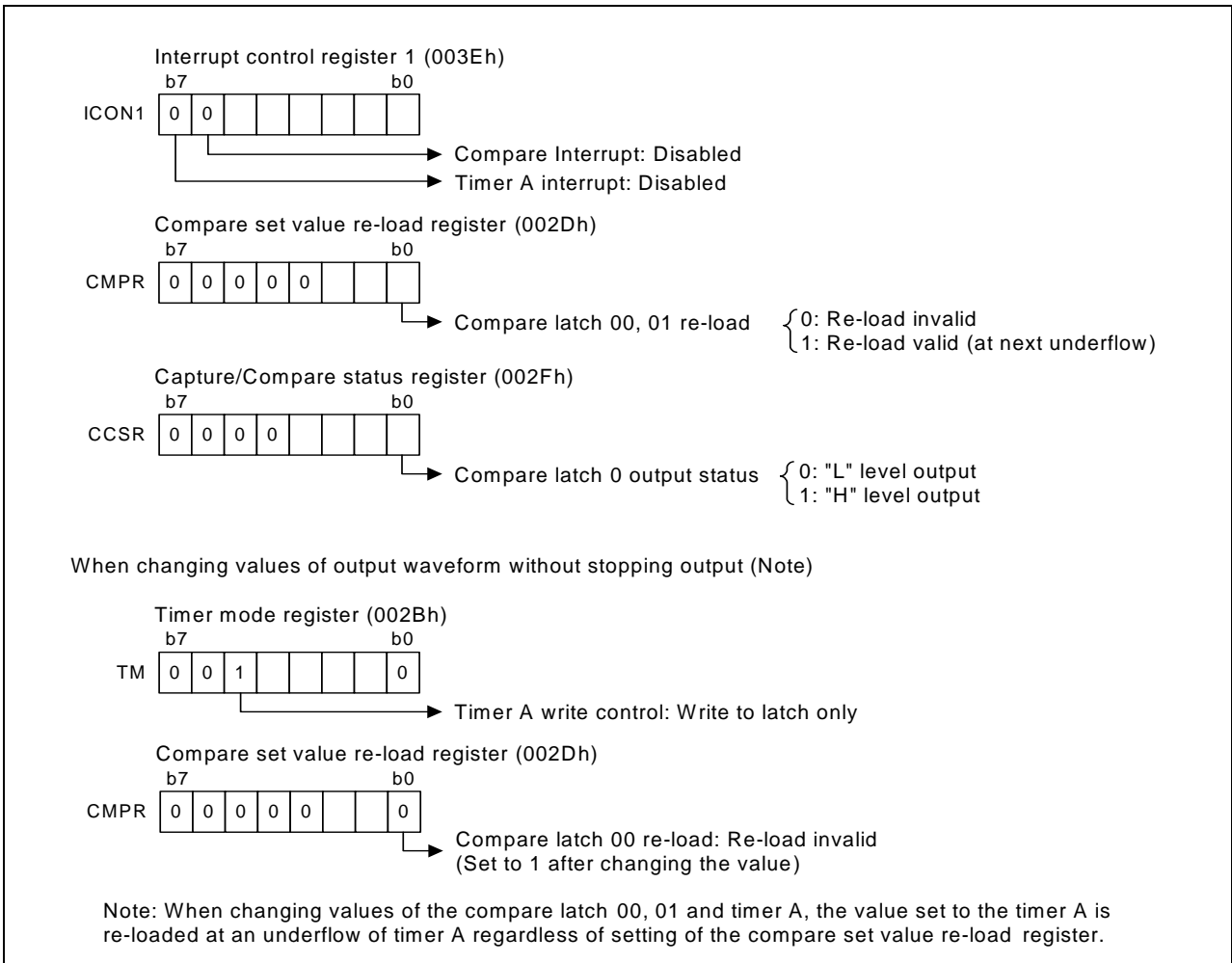


Figure 3.4 Relevant Register Settings (2)

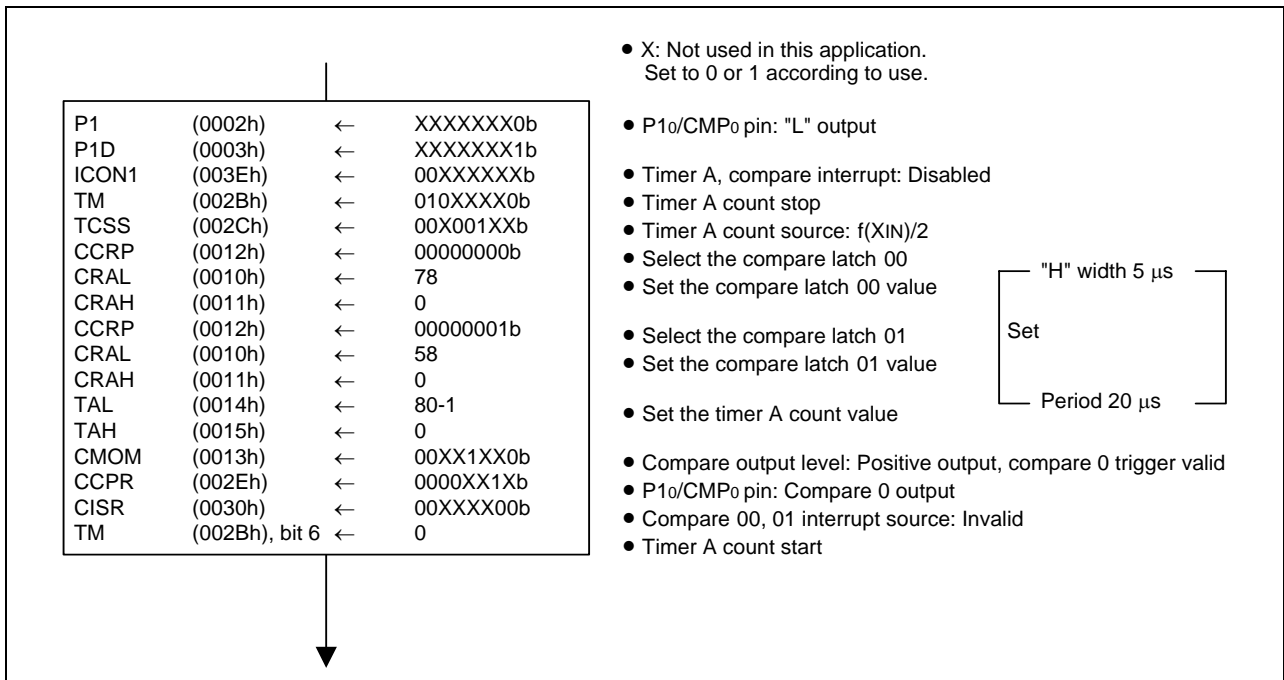


Figure 3.5 Control Procedure

#### 4. Sample programming Code

Download a sample program from the Renesas Technology website.

To download, click “Application Notes” in the left side menu on the page of the 7548/7549 Group.

#### 5. Reference Document

Datasheet

7548/7549 Group Datasheet

Download the latest version from the Renesas Technology website.

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REVISION HISTORY	7548/7549 Group Timer A Operation (Output Compare Function)
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Rev.	Date	Description	
		Page	Summary
1.00	Mar 26, 2007	-	First Edition issued



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