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April 1st, 2010
Renesas Electronics Corporation

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7542 Group

Timer A, B Operation (Output Compare Function: Compare 0, 1 Modulation Mode)

1. Abstract

The following article introduces and shows an example of how to use the Timer A, B Operation (Output Compare Function: Compare 0, 1 Modulation Mode) on the 7542 Group device.

2. Introduction

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

Applicable MCU: 7542 Group

Oscillation frequency: 8 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 operational conditions of the user system.

3. Contents

3.1 Output compare function (compare 0, 1 modulation mode) application example

Outline: A pulse signal with the PWM signal width and fixed period is output.

Specifications:

- PWM signal: A signal of 5 μs “H” width and 20 μs period
 - A signal of 1 ms width PWM signal and 2 ms period is output from the P01/CMP0 pin.
- Example: When $f(XIN) = 8\text{ MHz}$, the timer A 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 shows the Compare 0 Output Waveform (Internal Signal), Figure 3.4 and Figure 3.5 show the Relevant Register Settings, and Figure 3.6 shows the Control Procedure.

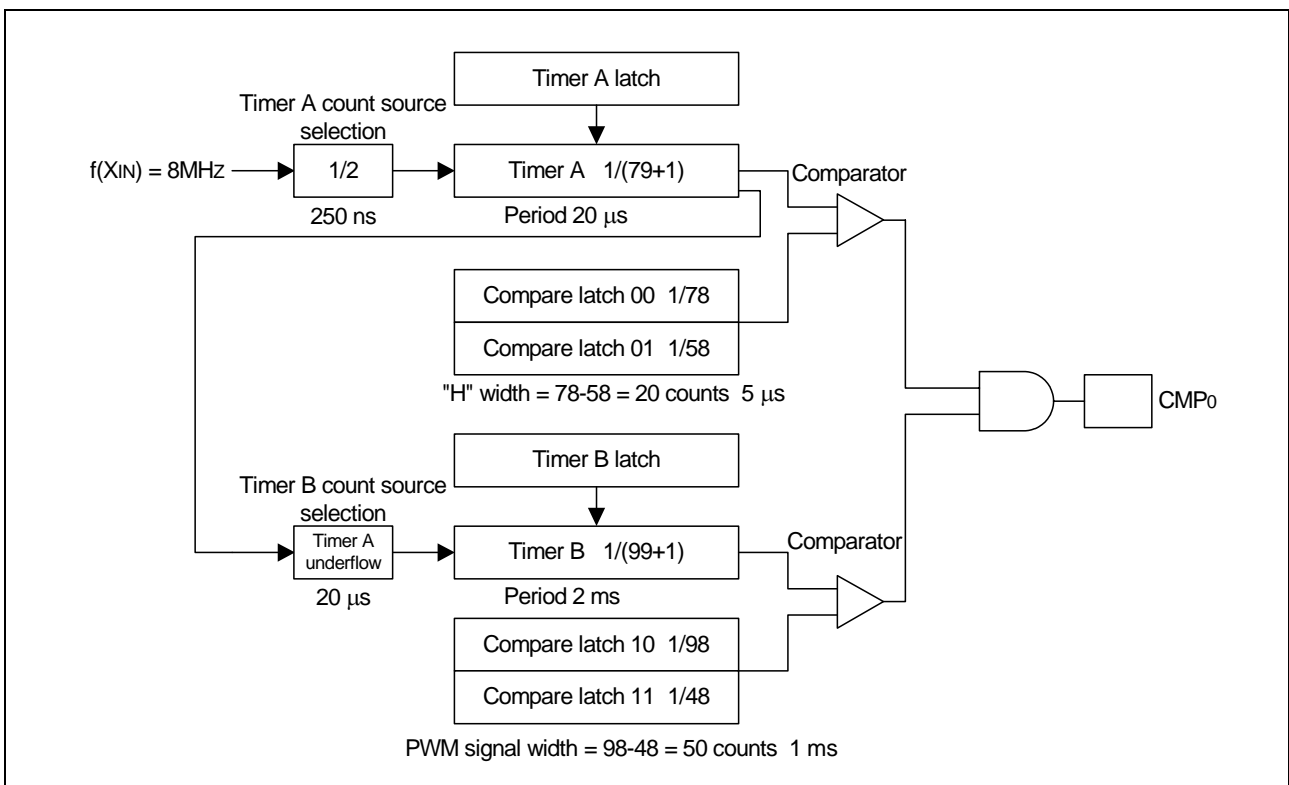


Figure 3.1 Connection Diagram and Division Ratio of Timer

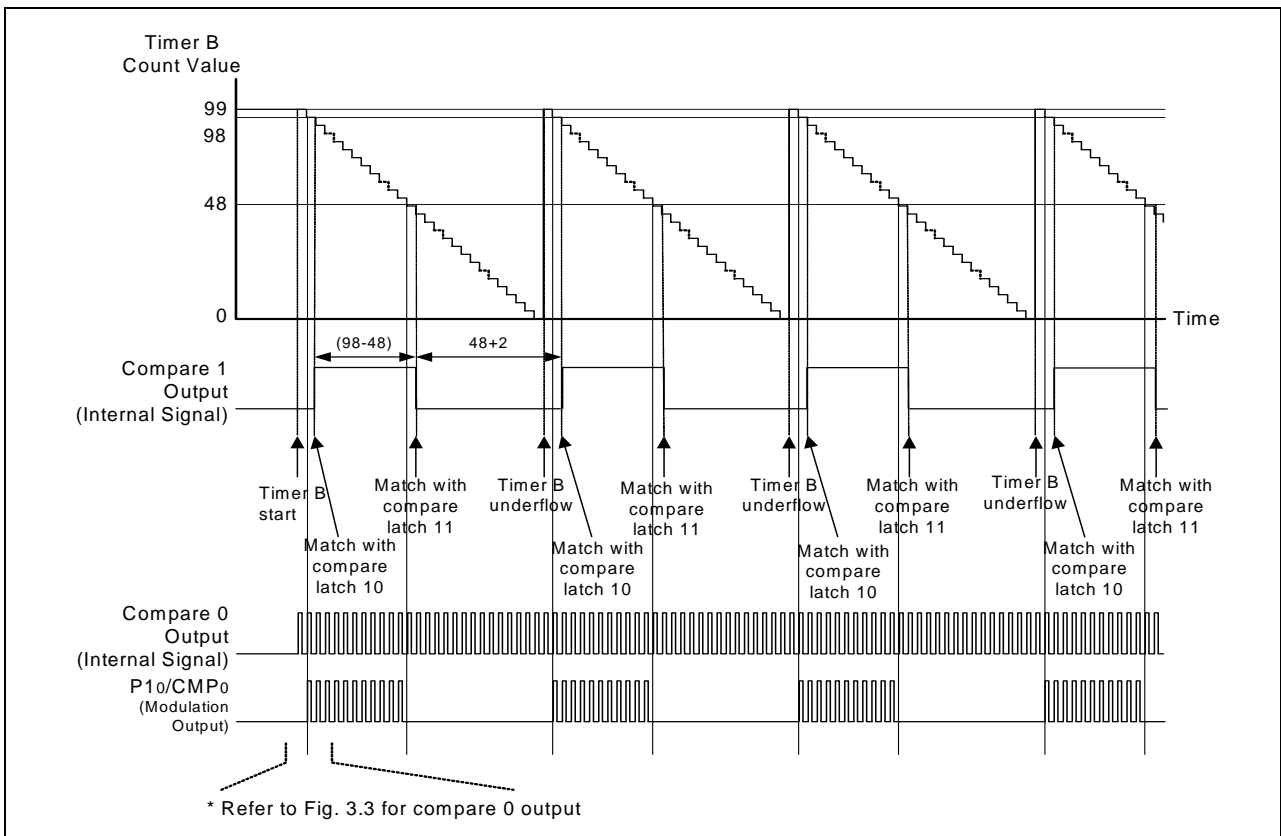


Figure 3.2 CMP0 Output Waveform

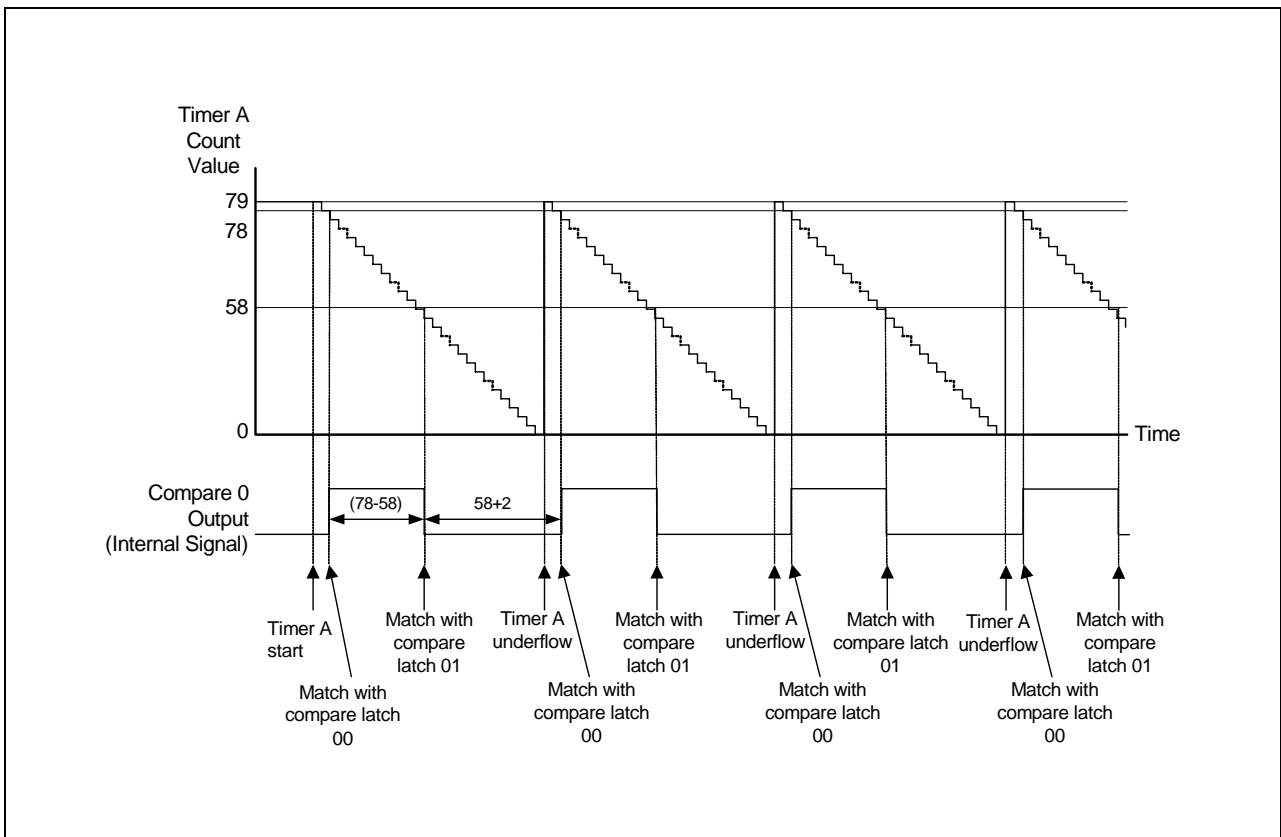


Figure 3.3 Compare 0 Output Waveform (Internal Signal)

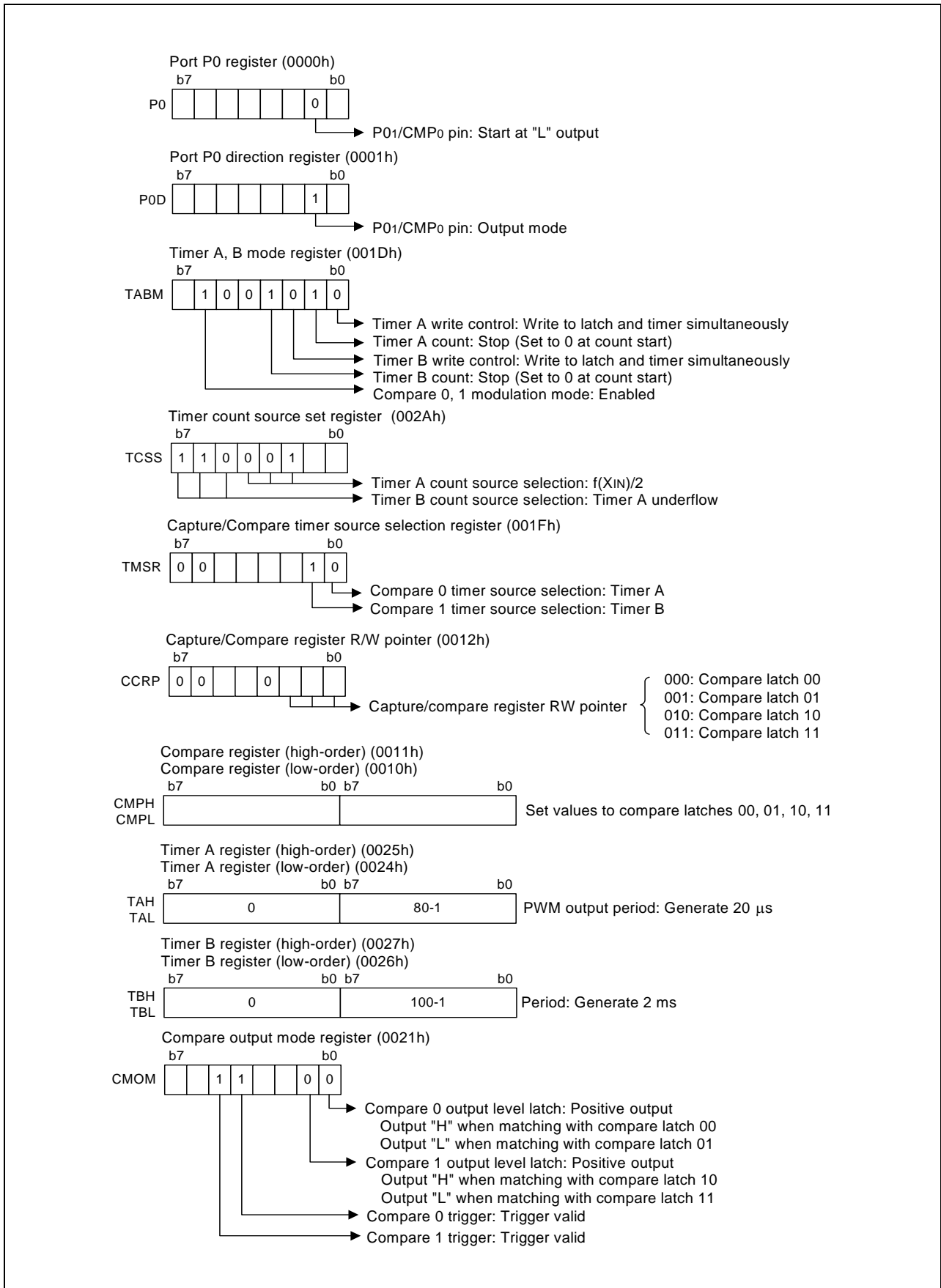


Figure 3.4 Relevant Register Settings (1)

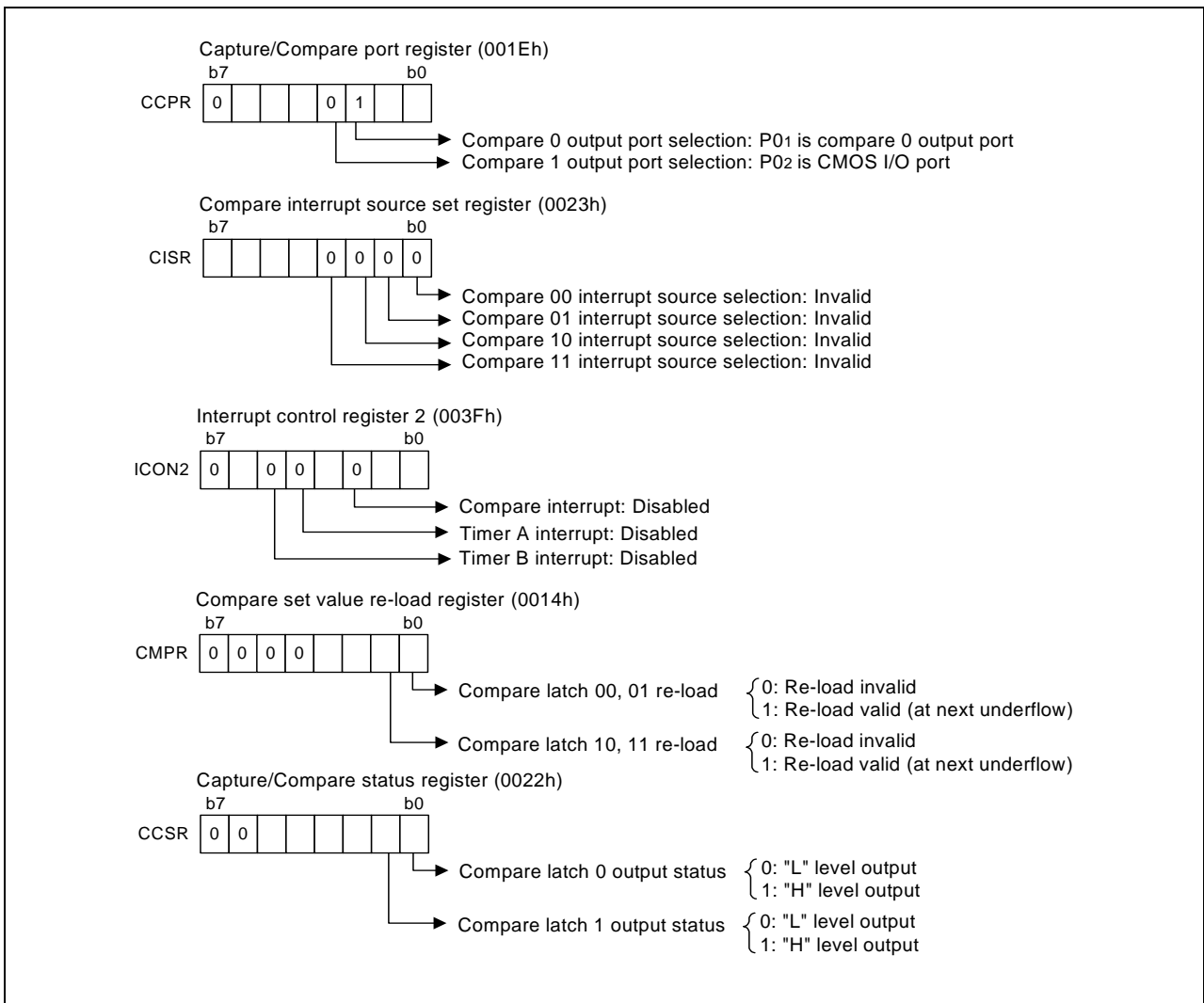


Figure 3.5 Relevant Register Settings (2)

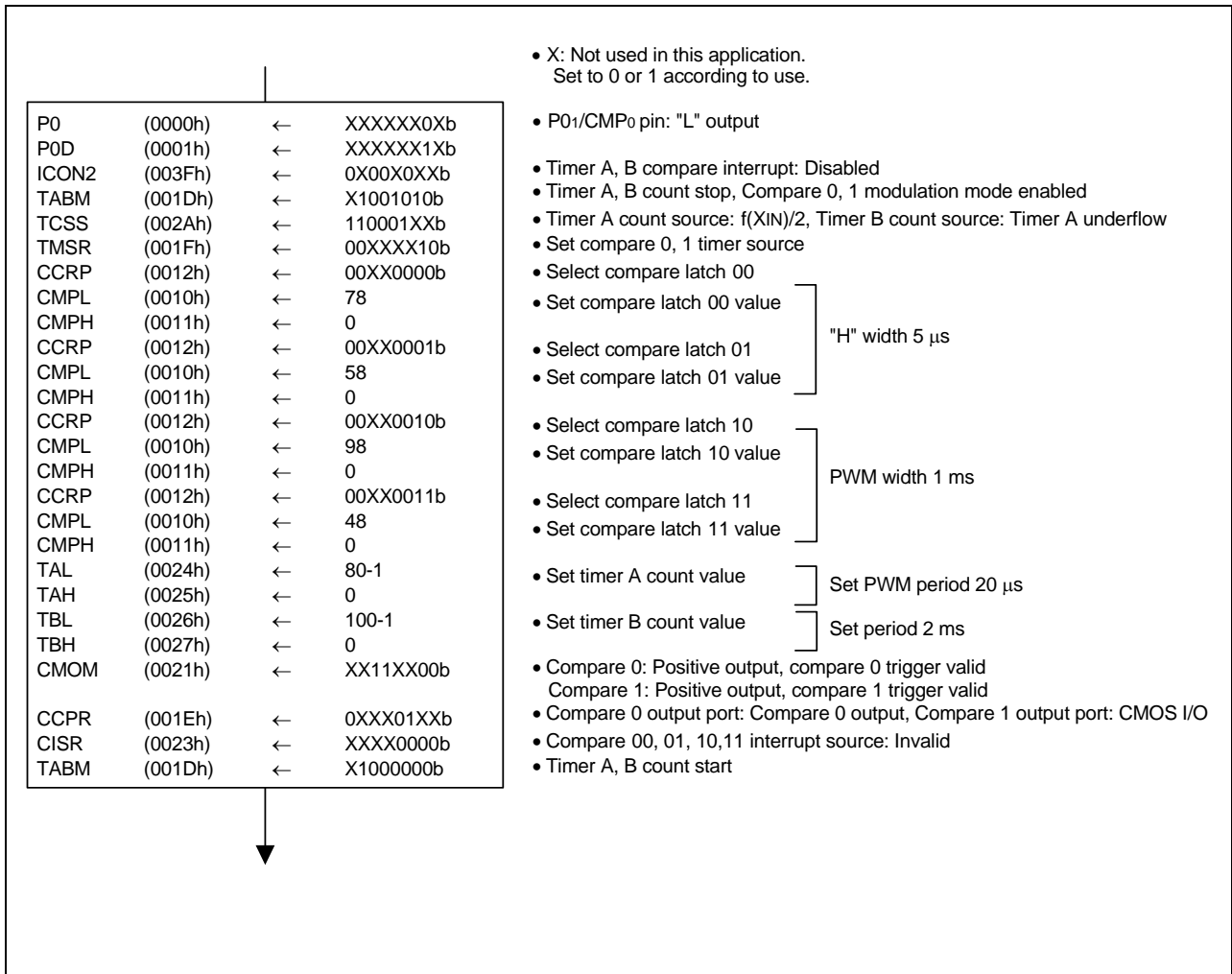


Figure 3.6 Control Procedure

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 7542 Group.

5. Reference Document

Datasheet
7542 Group Datasheet
Download the latest version from the Renesas Technology website.

Technical News/Technical Update
Download the latest information from the Renesas Technology website.

Website and Support

Renesas Technology website
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REVISION HISTORY	7542 Group Timer A, B Operation (Output Compare Function: Compare 0, 1 Modulation Mode)
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Rev.	Date	Description	
		Page	Summary
1.00	Mar 26, 2007	-	First Edition issued

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