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April 1st, 2010
Renesas Electronics Corporation

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3858 Group

PWM Function (Motor Control)

1. Abstract

This document describes how to set up and use the PWM function (motor control) on the 3858 Group device.

2. Introduction

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

MCU: 3858 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 Motor Control

Outline: The rotation speed of the motor is controlled by using the PWM output.

Specifications:

- The motor is controlled using the 8-bit resolution of the PWM output function.
- Clock $f(XIN) = 4 \text{ MHz}$.
- PWM period “T”: $127.5\mu\text{s}$.
- “H” level width “t” of output pulse: $50 \mu\text{s}$.
- The motor speed can be changed by modifying the “H” level width of the output pulse.
- “L” level output from the P43 pin.
- PWM output from the P44 pin.

Figure 3.1 shows the Connection Diagram, Figure 3.2 shows the PWM Output Waveform, and Figure 3.3 shows the Relevant Register Settings.

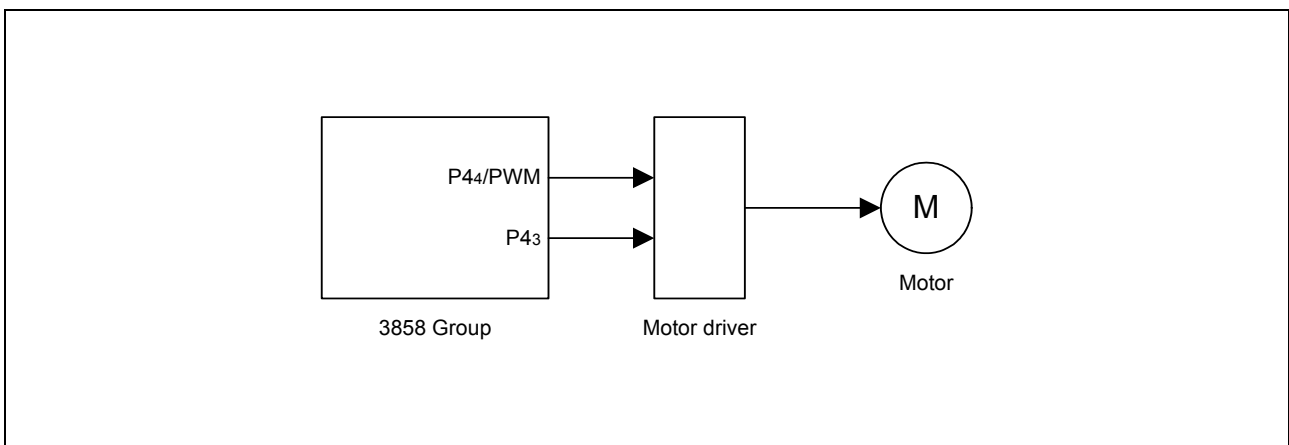


Figure 3.1 Connection Diagram

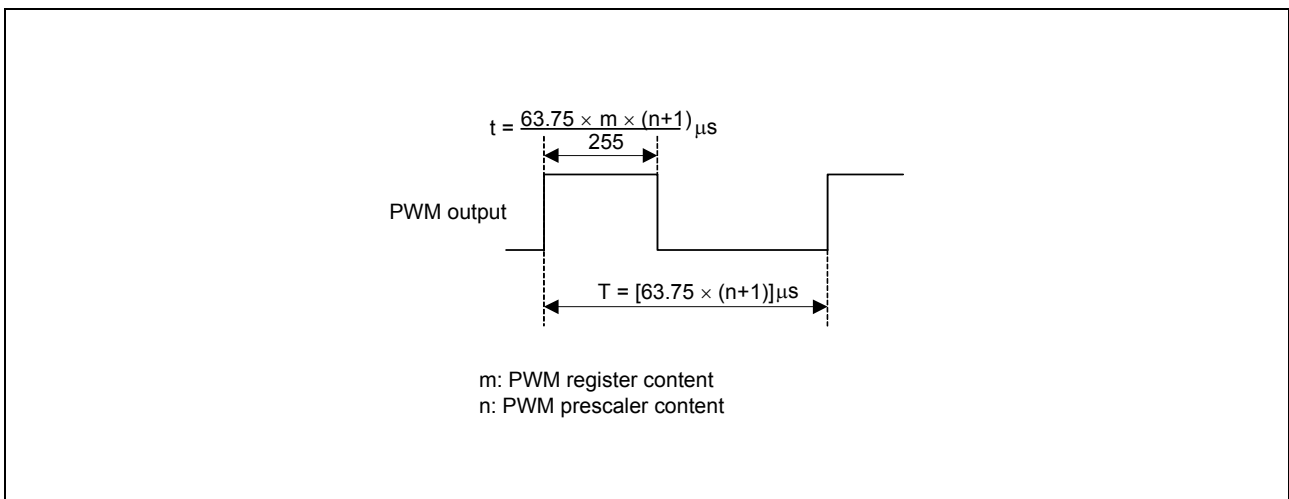


Figure 3.2 PWM Output Waveform

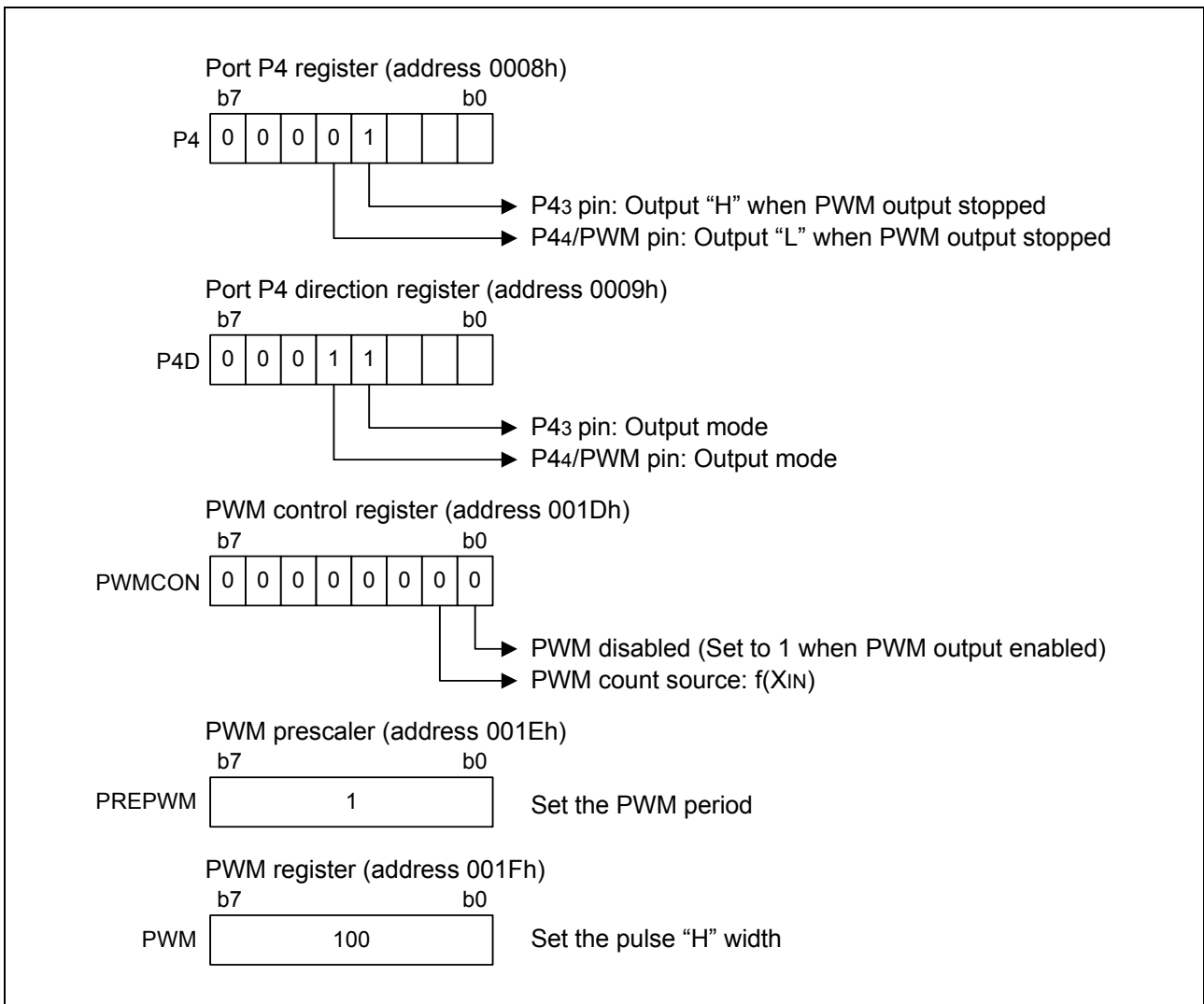


Figure 3.3 Relevant Register Settings

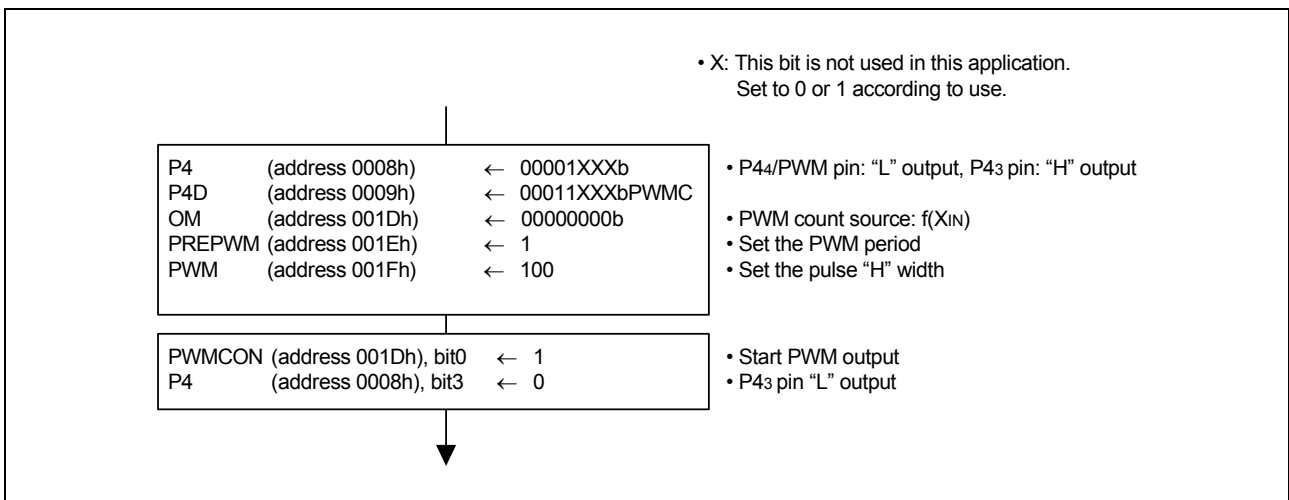


Figure 3.4 Control Procedure

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 PWM Function (Motor Control) Application Note
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Rev.	Date	Description	
		Page	Summary
1.00	Aug 10, 2006	-	First Edition issued

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