

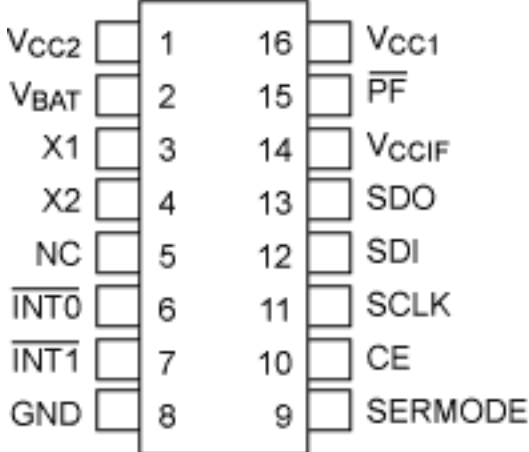


APPLICATION NOTE 3510

## Interfacing a DS1305 RTC with an 8051-Type Microcontroller

*Abstract: This application note describes how to interface a DS1305 real-time clock with the DS2250, an 8051-type microcontroller. Example code, written in C, shows basic interface routines.*

### DS1305 Pin Assignment



## Description

This application note demonstrates how to interface a DS1305 Serial Alarm Real-Time Clock (RTC) to an 8051-type microcontroller. Example code shows basic interface routines. The microcontroller used in this example is the DS2250 Soft Microcontroller Module, and the software is written in C. The program demonstrates setting and reading the time and date, writing and reading the RAM, and setting and reading an alarm.

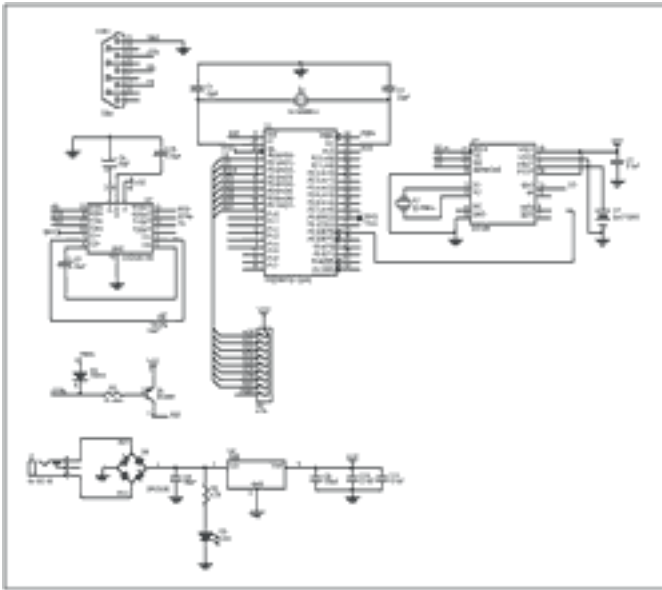
## Operation

The interface program uses three general-purpose port pins (GPIOs) on the microcontroller and the 3-wire interface to communicate with the DS1305 real-time clock. An additional port pin is used to monitor the INTO interrupt output on the DS1305.

The software is shown in **Figure 1**. A schematic of the circuit is shown in **Figure 2**.

[Download zip file](#)

*Figure 1. Interface Program Listing*



[For Larger Image](#)

Figure 2. Schematic of DS1305.

---

Application Note 3510: [www.maxim-ic.com/an3510](http://www.maxim-ic.com/an3510)

#### More Information

For technical support: [www.maxim-ic.com/support](http://www.maxim-ic.com/support)

For samples: [www.maxim-ic.com/samples](http://www.maxim-ic.com/samples)

Other questions and comments: [www.maxim-ic.com/contact](http://www.maxim-ic.com/contact)

---

#### Automatic Updates

Would you like to be automatically notified when new application notes are published in your areas of interest?

[Sign up for EE-Mail™.](#)

---

#### Related Parts

DS1305: [QuickView](#) -- [Full \(PDF\) Data Sheet](#) -- [Free Samples](#)

DS1306: [QuickView](#) -- [Full \(PDF\) Data Sheet](#) -- [Free Samples](#)

DS1392: [QuickView](#) -- [Full \(PDF\) Data Sheet](#) -- [Free Samples](#)

DS1393: [QuickView](#) -- [Full \(PDF\) Data Sheet](#) -- [Free Samples](#)

DS2250: [QuickView](#) -- [Full \(PDF\) Data Sheet](#)

AN3510, AN 3510, APP3510, Appnote3510, Appnote 3510

Copyright © by Maxim Integrated Products

Additional legal notices: [www.maxim-ic.com/legal](http://www.maxim-ic.com/legal)