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SPARKFUN REAL TIME CLOCK MODULE

SparkFun Real Time Clock Module


BOB-12708

★★★★★ 10

DESCRIPTION

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This is the SparkFun Real Time Clock (RTC) Module, this little breakout that uses the DS1307 to keep track of the current year, month, day as well as the current time. The module comes fully assembled and includes a small CR1225 Lithium coin cell battery that will run the RTC for a minimum of 3 years (17 years typical) without an external 5V power supply.

The DS1307 RTC is accessed via the I<sup>2</sup>C protocol. We've written a test-bed to program the module, this code should give you some insight on how to interface the module to any microcontroller using our example software PC and RCO routines.

This rev of the Real Time Clock module finally adds I<sup>2</sup>C resistors and a larger battery pad to fix the problems with the battery shorting to the board.

GET STARTED WITH THE RTC MODULE HOOKUP GUIDE

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Real Time Clock Module Hookup Guide

OCTOBER 4, 2016

A quick introduction to the DS1307 RTC module and a hookup guide for the SparkFun Breakout.

COMMENTS 45

REVIEWS ★★★★★ 15

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5

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5

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★★★★★ Awesome Product, but Lacking the Awesome SparkFun HookUp Guide

about 2 years ago by [webster](#) [\[verified purchase\]](#)

Preferred this over the "Read On RTC", as the I<sup>2</sup>C is easier to connect than the SPI on the ICSP for the boards I use. The product worked as intended out of the box. The clock may have been programmed, but I didn't check. Piece of cake!

Being a thick-headed lad, the (typical awesome) SparkFun hookup guide would have been helpful to me. SML I muddled through. I did use the AdaFruit branch of the JeeLabs library. (So I owe those folks.)

1 of 1 found this helpful

★★★★★ Good clock!

about 3 years ago by [Joe Nagrows](#) [\[verified purchase\]](#)

Easy to use, I needed to set the clock too but it is easily accomplished with one line from RTClib (google it)

2 of 2 found this helpful

★★★★★ something you need

about 3 years ago by [Member #344301](#) [\[verified purchase\]](#)

NORBOY told me you had to SET THE CLOCK !!! There was a lot about it was set at the factory and would go for 17 years, but nothing about that I had to set the clock. I found it in an obscure tutorial on the use of PIC16C and the I<sup>2</sup>C serial communication protocol. Please note on your SPARKFUN data spec that the breakout board has to have the data SET with a HICOUT instruction !

★★★★★ Great timesaver for one-off project

about a year ago by [Member #25985](#) [\[verified purchase\]](#)

This module was exceptionally easy to hook up with an Arduino. Breakout board made it easy to test on a breadboard and then solder directly into the completed project. A minor improvement would be to add a non-connected hole and pad opposite the primary header holes to allow and additional header pin to be installed and make permanent installation onto another PCB a dundee.

★★★★★ Easy to use RTC Module

about a year ago by [Member #55330](#) [\[verified purchase\]](#)

I recently got an email from SparkFun with a clock project using a DS1307 and 3 5V volt meters. It looked interesting so I built one. This DS1307 module is easy to use -- you just have to watch out for the 24 hr bug in the SparkFun DS1307 library, which I read in my GitHub fork. It would also be nice if the library provided access to the DS1307's 56 bytes of battery backed ram, which I plan to add to my fork (because I want to use it).

But the DS1307 module itself a great.

★★★★★ Good and simple solution

about a year ago by [Member #12109](#) [\[verified purchase\]](#)

This is a good solution for take time into account.

In my case, the only problem was battery, it run fewer than expected.

★★★★★ Works great

about a year ago by [Member #27104](#) [\[verified purchase\]](#)

Using it to do the timing for an automatic fish feeder as part of a high school programming, hardware, 3D printing project. The hardware being an Arduino Uno.

★★★★★ Really nice time keeping chip but requires some understanding from other websites.

about 7 months ago by [Member #12035](#) [\[verified purchase\]](#)

I have used this chip twice with an Arduino Uno: (1) To adjust the elevation angle of a pole mounted Solar array, and (2) To inject a specified amount of EMF signal control solution into a grey water tank. Both projects required knowledge of real time (Month, Day, and Time). The chip itself is easy to use but requires some understanding of its internal programming and its I<sup>2</sup>C register assignments. The best source of understanding that I have found is an archived article from HobbyRobotics titled "I<sup>2</sup>C Bus Example Using the DS1307 Real-Time Clock". This article, and its large number of following questions/answers, can be found at <http://www.glacialwanderer.com/hobbyrobotics>. This article, written by Maurice Rozelle, provided all I needed to know about programming the chip and reading it's registers. Two words of advice to other novice users: (1) Don't use the square wave (SQW) output capability unless you actually need it. The chip's on-board battery lifetime is significantly reduced if you enable this function. (2) The chip's internal programming regularly outputs to 7 register locations that include second, minute, hour, dayOfWeek, dayOfMonth, month, and year (in that order). You can not change (or delete) the information loaded into each of these register locations. If you do not need all of that stored information for your intended purpose, simply modify your "get" program and request only what you need by name. For instance, you may not need dayOfWeek, but you must at least initialize this register when you are setting the starting time. (Be sure to comment out the initialization statement in your program after you have properly set time within the chip. Otherwise, when Arduino reboots (perhaps due to a power outage), the chip will be reinitialized to an incorrect starting time/date.)

★★★★★ Great RTC breakout

about 3 years ago by [Member #107084](#) [\[verified purchase\]](#)

Worked right out of the box! All I had to do is solder on a header and unsolder the solder jumpers that pulled up the SDA and SCL to +5V since the Raspberry Pi I was connecting to already has pullups to +3.3V on-board. A bit of code, 4 wires to connect, and I could read and write the time registers to set and read the time.

★★★★★ Very small RTC, which is great.

about 2 years ago by [Member #240011](#) [\[verified purchase\]](#)

Among the smallest I've found. However, I'm designing a board that could use any available RTC. Adafruit, Easy Etc, etc. They mostly have similar pin configurations, except for this one. It has to include two header options, because the small size outweighs the inconvenience.

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In 2003, CU student Nate Sedle blew a power supply in his dorm room and, in lieu of a way to order easy replacements, decided to start his own company. Since then, SparkFun has been committed to sustainability helping our world achieve electronics literacy from our headquarters in Boulder, Colorado.

No matter your vision, SparkFun's products and resources are designed to make the world of electronics more accessible. In addition to over 2,000 open source components and widgets, SparkFun offers curriculum, training and online tutorials designed to help demystify the wonderful world of embedded electronics. We're here to help you start something.

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