

SparkFun Logomatic v2 - Serial SD Datalogger (FAT32)

WIG-12772 ROHS

★★★★☆ 9

DESCRIPTION

FEATURES

DOCUMENTS

The SparkFun Logomatic v2 takes everything we learned with logging analog or serial data from your projects over the years and boils it down to an easy to use device, that is now more adaptable than ever! Version 2 incorporates the LPC2148 with microUSB, battery charging, FAT32 formatting, and microSD support. This allows us to use the [SparkFun LPC2148 USB bootloader](#) for even easier and faster modification of the firmware. No programmer required!

The Logomatic v2 uses a USB mass storage stack to appear under any operating system as a flash drive. Logs are created in FAT32 format on the microSD media and can be downloaded quickly over a USB connection by dragging and dropping the text files from the device. The microSD card can also be removed and inserted into a card reader to download the logs.

This board comes with a JST connector to be powered from our line-up of LiPo batteries or other power sources up to 7.5VDC. If you choose to use LiPo batteries, the Logomatic v2 has a built-in charger to charge batteries off USB.

The Logomatic v2 ships with basic serial text and analog logging. Users can easily start with this firmware but are encouraged to modify the firmware for their specific requirements. It's a truly flexible logger.

[GET STARTED WITH THE SPARKFUN LOGOMATIC V2 GUIDE](#)

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[Previous Versions](#)

SparkFun Logomatic v2 - Serial SD Datalogger (FAT32) Product Help and Resources

TUTORIALS

SUPPORT TIPS



Logomatic Hookup Guide

MAY 29, 2014

Basic introduction and hook-up guide for the SparkFun Logomatic.

COMMENTS 37

REVIEWS ★★★★★ 9

Customer Reviews

★★★★☆ Good device for the money

last year by **TimTam** 

For the price, this is a decent device. It does have some weak points though. The microusb connection to the board is flimsy. Don't expect to be able to connect/disconnect more than a few times before it starts to come away. I have connected a short microusb extension cable so that the stress of repeat connects is transferred away from the board. Before that I lost a few boards when it broke away. There should be a breakout for the on-off switch so that it can be operated external to whatever housing you put the board in. Essentially you have to toggle the switch each time you connect to USB, so this needs to be made easier.

★★☆☆☆ not well documented and buggy code

about 11 months ago by **elmer_fud** 

I got this logger to use for a project I am working on. I started with using it to log analog values and modified the code from there. The information below is related the stock code that comes with the logger.

Pros:

1. Records to SD card
2. Can be run standalone

Cons:

1. buggy firmware (see below)
2. The schematics are poorly written. Several of the labels on the microcontroller pins do not match up with the labels on the connector pins.
3. The code does not have many comments so it takes a while to figure out what is going on before trying to modify the code.
4. The connector labels on the board do not correspond to sequence the analog channels are read in the code

The analog ports are read and recorded in the following sequence:

AD1.3

AD0.3

AD0.2

AD0.1

AD1.2

AD0.4

AD1.7

AD1.6

The board has the following connections

Analog 1 connects to AD0.3

Analog 2 connects to AD0.2

Analog 3 connects to AD0.1

Analog 4 connects to AD0.4

Analog 5 connects to AD1.7

Analog 6 connects to AD1.6

Analog 7 connects to AD1.2

Analog 8 connects to AD1.3

Software bugs and Fixes

.1. The code does not read the frequency from the config file on the SD card right. It will not read a frequency of less than 10 hz from the SD card and does not run at 1 to 9 hz. I changed the program to use a hard coded frequency to run at 1 hz. I changed this line:

```
"T0MR0 = 58982400 / freq;"
```

to this

```
" freq=1;
```

```
T0MR0 = 58982400 / freq;"
```

.2. The code does not configure the baud rate right at 115200 baud. I suspect some of the other baud rates are also not configured right but I have not checked them. The setting for modes zero and 1 on the logger are:

```
"U0DLM = 0x00;
```

U0DLL = 0x20;“

The settings above work out to 117187 baud.

I found this because I was having problems with getting garbage serial data when reading a long string. I changed the baud settings to the ones below and the serial data was read in correctly.

These settings work out to 115215 baud and work better:

“U0DLM = 0x00;

U0DLL = 0x0C;

U0FDR = 0x7C;”

If you see page 151 in section 10.3.5 of the LPC214X manual it has working settings for most of the common baud rates. I found a copy of the manual here: http://www.nxp.com/documents/user_manual/UM10139.pdf

Note that the table in the manual is for a 20mhz clock, and the logger is running at 60mhz so a 3x scale factor is needed

.3. If you are using the second SPI port (the one brought out to connectors, port 0 is used for the SD card) you need to change the program to use the “LPC214x.h” header and register map instead of the “LPC21xx.h” header and register map. In the 2148 processor the “spi” port that is brought out is actually a SSP port and the register map is different. The SSP port can be configured for “Motorola SPI, 4-wire TI SSI, and National Semiconductor Microwire buses”(from the datasheet I linked to above)

note: edited multiple times at first posting to get formatting right

👤 **Kansukee/f** replied on May 1, 2017:

Hello!

Sorry about the issues with it. We really appreciate the constructive feedback, and will keep it in mind for future revisions of the product.

★★★★☆ Great little monitor/logger

about a year ago by **Member #643220** ✓ verified purchaser

Cheap, open source code, nice layout with pads to allow a mezzanine signal conditioning board. love it

★★★★☆ Testing one more time

about 3 years ago by **Member #660416** ✓ verified purchaser

Gave the device a bad review but understand that it may have been the voltage from a 2S LiPo. Don't use a 2S LiPo on this board. Will review once again soon. Customer service has been excellent in assisting us with our troubles even though we may have caused the issue.

👤 **Toni_K** replied on April 30, 2015:

This is an exceptionally large failure rate. Please contact techsupport@sparkfun so they can help you troubleshoot what happened with your boards. If there was indeed a failure on the board hardware, we can get you set up with replacements.

★★★☆☆ Not easily compatible

about 3 years ago by **Member #414137** ✓ verified purchaser

The data logger was recommended to me by a Sparkfun tech. with the understanding that it would easily connect to a 9DOF sensor stick, however, it does not. The problem is that the sensor transmits with I2C but the logger does not and we could not easily find any open sourced programming to support the two components. We finally ended up buying an Adafruit 9 do that has better supporting programming And we now have no use for the components we purchased from Sparkfun. I'm sure they work fine but the combination for our use did not work.

Scott N

👤 **Single T** replied on June 26, 2015:

Hi, This logger is setup to log analog or serial data from your project. If you want to log information from an I2C device you would need something like an Arduino to interpret the I2C line, and transfer the data out over serial. Sorry these parts didn't fit your needs.



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In 2003, CU student Nate Seidle 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 sustainably 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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