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Easy Serial on the ATtiny

Made by Daniel Porrey ([/porrey](#)) - Published in Adafruit ([/adafruit](#)), Microchip ([/microchip](#)), and SparkFun ([/sparkfun](#))



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PROJECT INFO

Type	Protip
Difficulty	Easy (/projects?difficulty=beginner)
Estimated time	1 hour
Published	May 16, 2016
License	GPL3+ (http://opensource.org/licenses/GPL-3.0)

10,472

4



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THINGS USED IN THIS PROJECT

Hardware components:



Atmel ATTiny85
(/atmel/products/attiny85)




× 1

(/products/buy/20519?s=BAhJIh')



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	Adafruit Maxim DS18B20 Digital Temperature Sensor	× 1	(/products/buy/10259?s=BAhJIh
	SparkFun Pushbutton switch 12mm (/sparkfun/products/pushbutton-switch-12mm)	× 1	(/products/buy/390?s=BAhJIh
	Adafruit 4.7K Ω Resistor	× 1	(/products/buy/10260?s=BAhJIh
	Adafruit 10K Ω Resistor	× 1	(/products/buy/10261?s=BAhJIh
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Software apps and online services:



Arduino IDE
(/arduino/products/arduino-ide)

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The Atmel tinyAVR MCU's

(<http://www.atmel.com/products/microcontrollers/avr/tinyavr.aspx>) are great little chips for projects but can prove difficult to debug. Some ATtiny chips do not have direct support for hardware based serial and therefore the **Serial** object is unavailable in your code, however, it is easy to add a **SoftwareSerial** object and view output in the Arduino IDE.

The code in this article uses an ATtiny85

(<http://www.atmel.com/devices/ATTINY85.aspx>) with an FTDI Serial TTL-232 USB Cable (<https://www.adafruit.com/products/70>) to send or receive

code. The code is available in the Arduino IDE as a library under the name "SoftwareSerial".

SCHEMATICS

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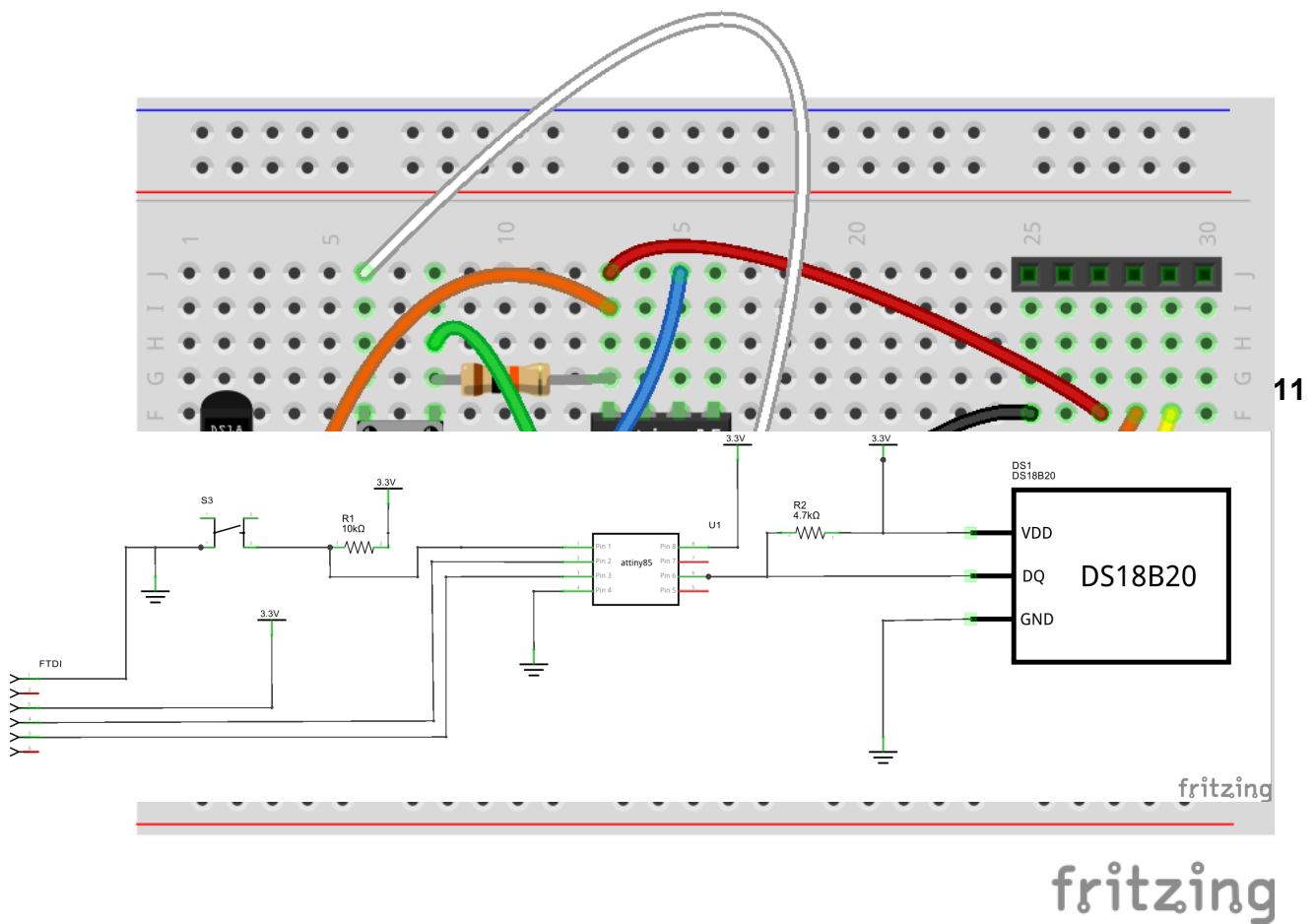
ATtiny_Serial.fzz

Breadboard Diagram Download (https://halckemy.s3.amazonaws.com/uploads/image_file/file/151116/)



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CODE

Arduino Code

porrey (<https://github.com/porrey/TinySerial>) 0 (<https://github.com/porrey/TinySerial/forks>)

<https://github.com/porrey/TinySerial>

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Use the SparkFun library in the Arduino IDE with your ATtiny. — Read More

(<https://github.com/porrey/TinySerial#readme>)

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(<http://>)

Latest commit to the **master** branch on May 20, 2017

Download as zip (<https://github.com/porrey/TinySerial/archive/master.zip>)

CREDITS



Daniel Porrey (/porrey)

I lead a software development team for a large Chicago based organization (/porrey) personally.

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Thanks to **mwwalk** (<https://thewanderingengineer.com/2013/05/05/software-serial-on-the-attiny85/>).

REPLICATIONS

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Monica Houston ([/monica](#)) and Taylor Stein ([/tastein](#))



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Shahariar (/PSoC_Rocks)



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Rotary Encoder as a Multimedia Controller (/Sourcery/rotary-encode...

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16 1

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