

# SparkFun Bluetooth Mate Silver

WRL-12576 ROHS**✓ □** 

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**Description:** The Bluetooth Mate is very similar to our BlueSMiRF modem, but it is designed specifically to be used with our Arduino Pros and LilyPad Arduinos. These modems work as a serial (RX/TX) pipe, and are a great wireless replacement for serial cables. Any serial stream from 2400 to 115200bps can be passed seamlessly from your computer to your target.

Bluetooth Mate has the same pin out as the FTDI Basic, and is meant to plug directly into an Arduino Pro, Pro Mini, or LilyPad Mainboard. Because we've arranged the pins to do this, you cannot directly plug the Bluetooth Mate to an FTDI Basic board (you'll have to swap TX and RX).

The RN-42 is perfect for short range, battery powered applications. The RN-42 uses only 26uA in sleep mode while still being discoverable and connectable. Multiple user configurable power modes allow the user to dial in the lowest power profile for a given application. If you need longer range, check out the Bluetooth Mate Gold.

The Bluetooth Mate has on-board voltage regulators, so it can be powered from any 3.3 to 6VDC power supply. We've got level shifting all set up so the RX and TX pins on the remote unit are 3-6VDC tolerant. **Do not** attach this device directly to a serial port. You will need an RS232 to TTL converter circuit if you need to attach this to a computer.

Unit comes without a connector; if you want to connect it to an Arduino Pro, we'd suggest the 6-pin right-angle female header.

Note: If you are looking for the ability to use the FTDI directly with your Bluetooth Mate check out our Crossover Breakout for FTDI!

**Note:** The hardware reset pin of the RN-42 module is broken out on the bottom side of the board. This pin is mislabeled as 'PIO6', it is actually PIO4. Should you need to reset the Mate, pull this pin high upon power-up, and then toggle it 3 times.

### Features:

- v6.15 Firmware
- Designed to work directly with Arduino Pro's and LilyPad main boards
- FCC Approved Class 2 Bluetooth® Radio Modem!
- Low power consumption : 25mA avg
- Hardy frequency hopping scheme operates in harsh RF environments like WiFi, 802.11g, and Zigbee
- Encrypted connection
- Frequency: 2.402~2.480 GHz
- Operating Voltage: 3.3V-6V
- Serial communications: 2400-115200bps
- Operating Temperature: -40 ~ +70C
- Built-in antenna

#### Dimensions:

• Board: 1.75x0.65"

#### **Documents:**

- Schematic
- Eagle Files
- RN-42 AT Command Set v6.15
- RN-42 Datasheet
- Hookup Guide
- Basic Windows Remote Arduino
- Bluetooth Primer
- GitHub

## **Recommended Products**



SPARKFUN RECOMMENDED Arduino Pro Mini 328 - 5V/16MHz

● DEV-11113 **\$9.95** 

★★★★☆102



SPARKFUN RECOMMENDED Arduino Uno - R3
DEV-11021
\$24.95

. ★★★★☆ \$ 85



▶ SPARKFUN RECOMMENDED Arduino Mega 2560 R3 ● DEV-11061

\$45.95

★★★★☆37



▶ SPARKFUN RECOMMENDED RedBearLab BLE Nano - nRF51822 ● WRL-13729

\$17.95

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COMMENTS 39

REVIEWS ★ ★ ★ ★ \$ 8

# **Customer Reviews**

## ★ ★ ★ ★ 4.8 out of 5

Based on 8 ratings:

 5 star
 6

 4 star
 2

 3 star
 0

 2 star
 0

 1 star
 0



about 5 months ago by Member #823661 **✓** verified purchaser

It works perfectly with my Arduino board.

# ★ ★ ★ ★ Simple and easy to setup

about 10 months ago by Member #708195 ✓ verified purchaser

Connects to the microcontroller with AT commands pretty easily. Bluetooth connection is stable. Cheap way to get bluetooth on your controller.

★★★☆ FUnctions as advertised

PAGE 1 OF 6

about 8 months ago by brianb000 ✓ verified purchaser

I use this with a Samsung phone to control/steer an autopilot on a sailing vessel. An ASCII command sentence is passed via the bluetooth mate to the autopilot and the boat takes the appropriate action. Range is at least 30 ft. Data seems not to be corrupted in our testing to date.

#### ★ ★ ★ ☆ Versitile device

about 9 months ago by Member #50032 ✓ verified purchaser

When combined with a RS-232 to TTL/Cmos Converter it is even more useful for building interfacing between Serial ports with differing Logic levels. So I am happy to have one of these available in the tool box. Combining these two functions on one breakout board and adding a small modular case and DB9 connector would be great.

### ★★★★ nifty!

about 2 years ago by Member #517287 ✓ verified purchaser

Really easy to hook up once you read through the user manual.

★ ★ ★ ★ Simple, easy to use, and it works.....

about 2 years ago by Member #389441 ✓ verified purchaser

It took about 4 minutes to solder in a header, apply power, pair the device with my Galaxy S4, send data, and confirm using oscilloscope. It just simply works..... Could not ask for anything more.

If you wanna mess around with bluetooth, this board is great for it. I like the fact that it runs on 3.3v for those processors that are not 5v tolerant. I didn't dig into the datasheet for this, but it was easy to find. Improvements: Not sure, but tx and rx leds would be a nice addition.

## ★ ★ ★ ★ SparkFun Bluetooth Mate Silver... Works beautifully!

about a year ago by Member #645615 ✓ verified purchaser

I have been painfully frustrated trying many Bluettoth modules with my Arduino Uno, but so far this little Mate is the easiest to configure and use... I definitely recommend it... Can't wait to try the Mate Gold!

### ★★★★ Works great - but...

last year by Member #85027 ✓ verified purchaser

My only complaint would be that it would be immensely useful to have the GPIO pins individually terminated to ground with pull-down resistors and provide solder-bridge pads to strap them to a logic high. This would allow using the hardware control modes, which would greatly simplify reconfiguration once installed in a device. It is vitally important to have independent access to GPIO4 in order to be able to perform a factory reset of the device.

Otherwise, this device is nothing but GREAT!