

# EHB Serial Bluetooth

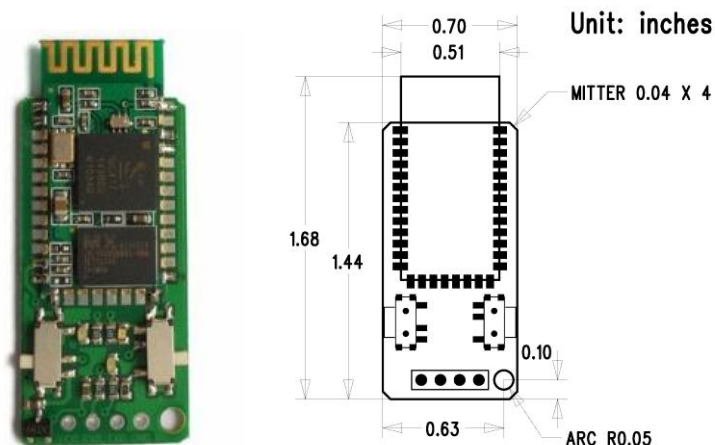
## —Bluetooth to UART TTL 3.3V & 5V

Abandoning the boring communication wire is a dream for most elec fans, this model—EHB Serial Bluetooth—is designed for this purpose. Using it, you can easily establish a wireless UART/RS232 communication between your devices, needing no comprehension of how it works.

The basic model in this serial bluetooth, is Bluetooth L6, you can download its manual in [www.elechouse.com](http://www.elechouse.com).

The same with L6, this serial bluetooth can be configured as master or slave by user themselves. For different power supply, this serial bluetooth is designed with a switch to choose 3.3V or 5V DC for power, compatible to most microcontroller system.

### Product & Outline



When shipping, the header is not soldered on the board, but is shipped together with the model, thus the user can determine the best arrangement of it themselves. Normally, three kinds of header are provided in the package, as in pictures below.



2.54mm Straight Header



Right Angle Header



The Serial Bluetooth board is shipped in **protective anti-static package**. The board must not be subject to high electrostatic potentials. General practice for working with static sensitive devices should be applied when working with this board.

### Product Specifications

- Rate: 2.1Mbps(Max)/160 kbps(Asynchronous);1Mbps(Max)(Synchronous)
- Support profiles: Bluetooth serial port (master & slave)
- Power Supply: +3.3V DC 50mA OR +5V DC 50mA
- Operating temperature: -20 ~ +55 degree Celsius.

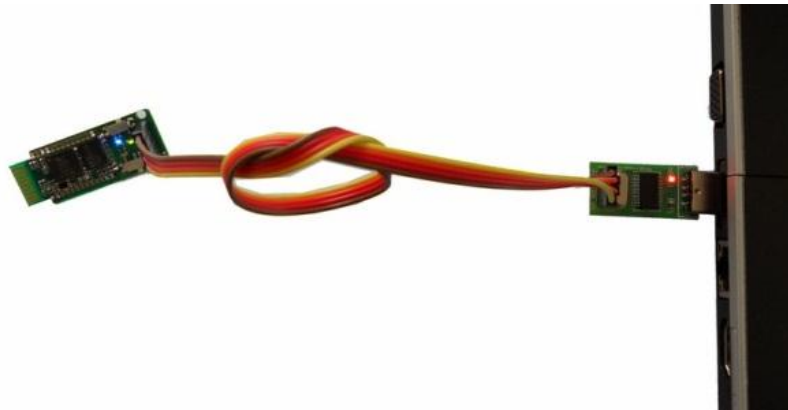
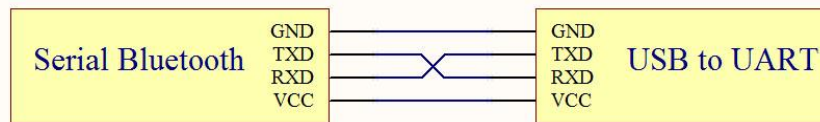
### Default Configuration

1. Serial Port: 9600, N, 8,1
2. Pairing code: 1234

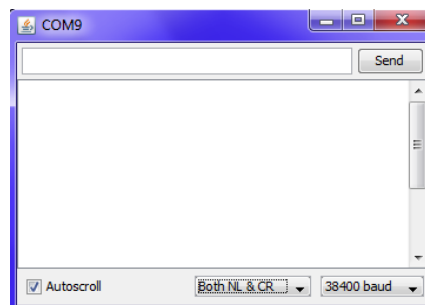
### Configure the Model

The Serial Bluetooth must be configured before normal usage. First, it must be connected to a computer through a USB to UART model. Of course, you can configure your device by your own microcontroller, such as 51 and AVR, etc. As a demo, we use a USB to UART model to configure this Serial Bluetooth.

Before connect the Serial Bluetooth to the USB to UART model, push the right switch to “AT” position, and left switch to “5V” position, which are labeled in the back of the board. Then, connect them as in the picture below, note that TXD of Serial Bluetooth is connected to RXD of USB to UART model. At last, plug the USB to UART model to your laptop.



Find out the virtual COM port of the USB to UART, and then open a serial monitor. As a demo, Arduino Serial Monitor is used for configuration. Do some setting of the serial monitor. [Set the baud rate 38400 bits/s; choose "Both NL & CR" in the check box (**NL: newline; CR: Carriage Return**). Others default setting by Arduino: 8 data bits, 1 stop bit, no parity bit, no Flow Control (you don't need to set them yourself, and you cannot see these configuration).]



Under the instruction of basic AT commands, you can easily configure the Serial Bluetooth yourself.

### Basic AT commands

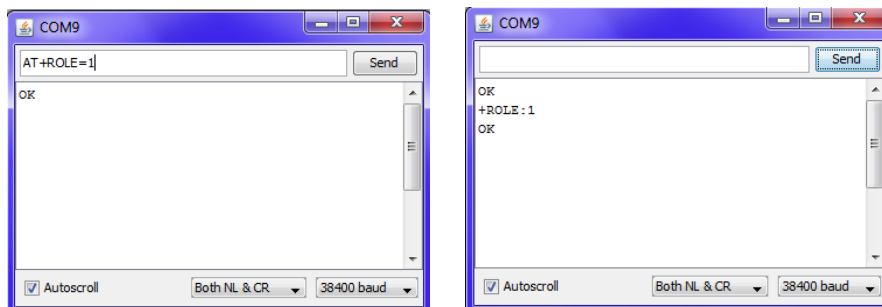
One characteristic of this Serial Bluetooth is that any model can be configured as master or slave, so you do not need to tag labels on them for distinguishing.

Typically, if you want to establish communication between two models, you have to configure one model as master and another slave, and then configure them both the same

baud rate, the same format, and the same match password. Here are some basic AT commands and configuration demo for user.

### Master or Slave set and query

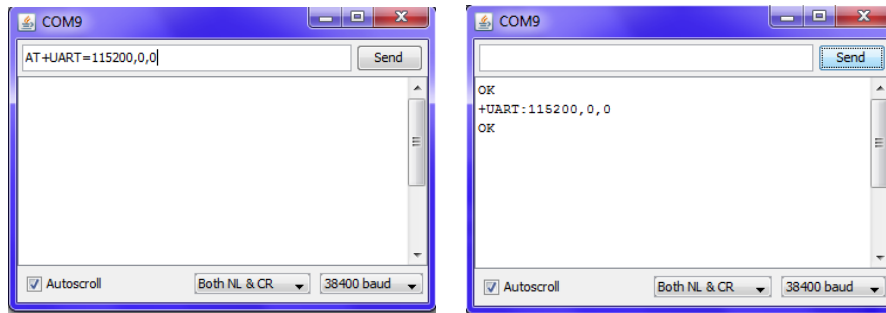
	Command	Parameters	Response
set	AT+ROLE=(num)	num: "0" for slave, "1" for master	OK
query	AT+ROLE?	NULL	+ROLE=num



Press the button "send", you will see the corresponding response. If not, please check your schematic.

### UART set and query

	Command	Parameters	Response
set	AT+UART=(rate),(num1),(num2)	rate: 4800, 9600, 19200, 38400, 57600, 115200, 230400, 460800, 921600, 1382400 (any one of these would be OK).  num1: Stop bits. "0" for 1 stop bit; and "1" for 2 stop bits.  num2: Parity. "0" for none; "1" for odd parity; "2" for even parity.	OK
query	AT+UART?	NULL	+UART=(rate),(num1),(num2)



### Name set and query

AT+NAME=(name)	AT+NAME?
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Name set and query have the same method to configure the model with above two AT commands.

### Matching password set and query

AT+PSWD=(password)	AT+PSWD?
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Matching password set and query have the same method to configure the model with above two AT commands. Two pieces of Serial Bluetooth must be set the same password if they are intended to communicate with each other.

**Other AT commands, please refer to related document.**

### Tips

When using your own microcontrollers or other serial monitor to configure the Serial Bluetooth, please **NOTE:** 1), the AT command is an ASCII format; 2), add a newline character and a carriage return character at the end of each AT command. Since these two characters always cannot be seen, this is a common mistake when using AT command.

### Match and communicate

Configure one Serial Bluetooth model as master, and another as slave. Make sure the UART format and the matching passwords are the same. Follow these steps to realize the amazing wireless transparent UART/RS232 communication!

1. Power off the two pieces of Serial bluetooth.
2. Push the right switch to the other side of "AT" position; push the left switch to choose the right power supply voltage.
3. Power on them and they will match with each other automatically.
4. Have fun with the transparent communication!

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**Disclaimer and Revisions**

The information in this document may change without notice.

*Revision History*

<b>Rev.</b>	<b>Date</b>	<b>Author</b>	<b>Description</b>
<i>A</i>	<i>Apr. 22<sup>nd</sup>, 2011</i>	<i>Leon John</i>	<i>Initial version</i>
<i>B</i>	<i>Oct. 25<sup>th</sup>, 2011</i>	<i>Wilson Shen</i>	<i>Default setting added</i>