HC 06 TTL Bluetooth Module

The Bluetooth Transceiver HC-06 TTL Module with enable/disable button Breakout is the latest Bluetooth wireless serial cable. This version of the popular Bluetooth uses the HC-05/HC-06 module. These modems work as a serial (RX/TX) pipe. Any serial stream from 9600 to 115200bps can be passed seamlessly from your computer to your target.

The remote unit can be powered from 3.3V up to 6V for easy battery attachment. All signal pins on the remote unit are 3V-6V tolerant. No level shifting is required.

Do not attach this device directly to a serial port. You will need an RS232 to TTL converter circuit or Arduino XBee USB Adapter if you need to attach this to a computer. You can either solder a 6-pin header or individual wires. The unit comes without a connector

FEATURES:

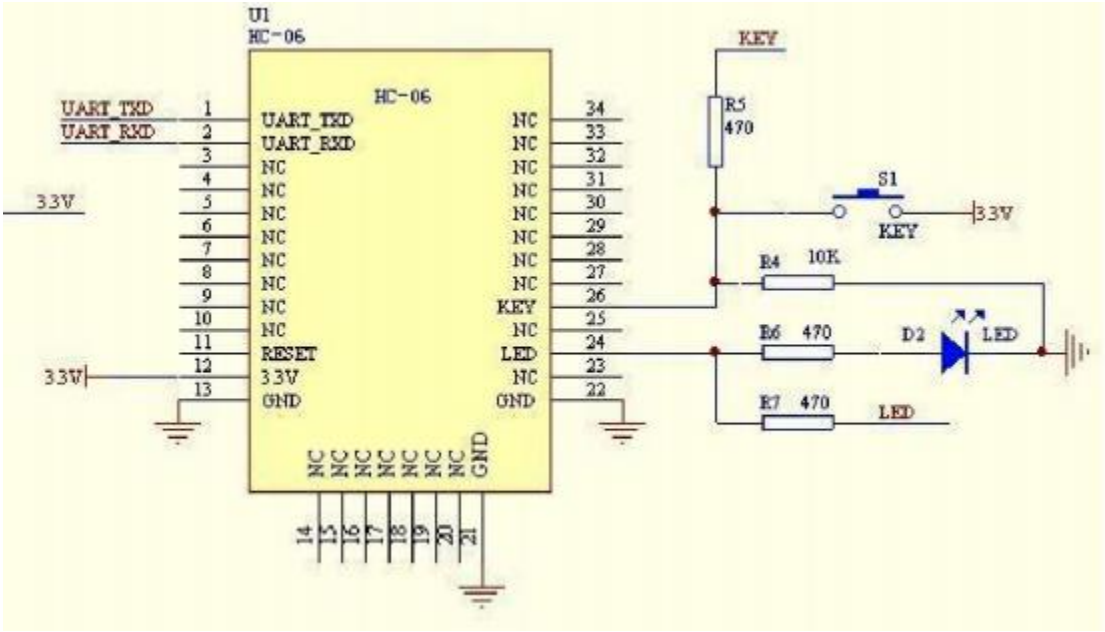
- Standard 3.3 to 5V compatible device
- Up to +4dBm RF transmit power
- Security: Authentication and encryption
- Profiles: Bluetooth serial port
- UART interface with programmable baud rate
- Push switch for issuing AT command
- 2 No LED for Communication and Status
- With integrated antenna
- With edge connector

- Has output status indication led, when output high TTL LED off, and vice verse
- Dimension: 26.9mm*13*2.2mm
- VCC GND OUT use 2.54mm standard pins to ease the connection
- 3 mm screw drive hole, easy to mount it on somewhere

SPECIFICATIONS:

- Bluetooth protocol: Bluetooth specification v2.0+EDR
- Power supply: +3.3V-5V DC 50 mA
- Profiles: Bluetooth serial port TTL out
- Frequency: 2.4 GHz ISM band
- Modulation: GFSK**(**Modulation mode: Gaussian frequency Shift Keying:
- Safety feature: Authentication and encryption
- Sensitivity: ≤-84dBm at 0.1% BER
- Operating temperature range: -20ºC to +75ºC

SCHEMATIC DIAGRAM:



- In principle, HC-06 can work when UART_TXD, UART_RXD, VCC and GND are connected. However, for better testing results, connecting LED and KEY are recommended (when testing the master).
- Where, the 3.3V TXD of MCU connects to HC-06's UART_RXD, the 3.3V RXD of MCU connects to HC-06's UART_TXD, and 3.3V power and GND should be connected.
- Then the minimum system is finished. Note that, the PIN2:UART_RXD of Bluetooth module has no pull-up resistor. If the MCU TXD doesn't have pull-up function, then user should add a pull-up resistor to the UART_RXD. It may be easy to be ignored. If there are two MCU which connect to master and slave device respectively, then before paired(LED will flicker) user can send AT commands by serial port when the system is power on. For example, consider the call command, sending out AT is already enough, need not add the CRLF (carriage return line feed). If the LED is constant lighting, it indicates the pairing is finished. The two MCUs can communicate with each other by serial port. User can think there is a serial port line between two MCUs.
- The Bluetooth serial module named even number is compatible with each other; The salve module is also compatible with each other. HC-06 are former version that user can't reset the work mode (master or slave). And only a few AT commands and functions can be used, like reset the name of Bluetooth (only the slaver), reset the password, reset the baud rate and check the version number.

PIN FUNCTION:

Pin	Name	Details
1	VCC	5V
2	GND	GND
3	TX	Transmit TTL
4	RX	Receive TTL
5	STATE	NC
6	KEY	VV for AT mode

COMMAND MODE:

- You can communicate with HC-06 chip by the serial port. The serial port uses two signal lines, Tx and Rx, and supports 1200, 2400, 4800, 9600, 14400, 19200, 38400, 57600, 115200, 230400, 460800 and 921600bps baud rate. The default is 9600bps.

- The HC-06 Bluetooth serial port module instruction is Command instruction set.(Note: AT command should be capitalized. AT instruction is only effective when the Bluetooth module is not connected. Once you connect the Bluetooth module and device, the Bluetooth module will enter into data pass through mode.)

Command 1: Test the connection command

Downlink command	**Response**	**Parameter**
AT	Ok	None

Command 2: Setting - name

Downlink command	**Response**	**Parameter**
AT+NAME< Para1>	OKsetname - succeed	<Para1>: device name Default: BOLUTEK

Command 3: Settings - pairing code

Downlink command	**Response**	**Parameter**
AT+PIN< Para1>	OKsetPIN - succeed	<Para1>:pairing code Default: 1234

Example: send AT+PIN8888

Return OKsetPIN Then the paring code changes to 8888. The default paring code is 1234.

Command 4: View the version

Downlink command	**Response**	**Parameter**
AT+VISION	OKlinvorV1.8 - succeed	None

Command 5: Setting – baud rate

Downlink command	Response	Parameter
AT+BAUD< Para1>	OK< Para1> - succeed	<Para1>: baud rate 1---1200 2---2400 3---4800 4---9600 5---19200 6---38400 7---57600 8---115200 9---230400 A---460800 B---921600 C---1382400 Default: 4---9600

Example: send: AT+BAUD8

Return: OK115200

Note: After you change the baud rate, if it is not the default 9600, you need to use the setting baud rate in future parameter setting or data communication. It is recommended that you do not use the baud rate greater than 115200. The interference of signals will make the system unstable. You cannot use your computer if you set a baud rate higher than 115200. You should program with SCM to make the baud rate higher than 115200 so as to use this baud rate and resent AT command to set a low rate.

APPLICATIONS:

- Hobby projects
- Engineering applications
- Robotics
- Mobile Phone Accessories
- Servers
- Computer Peripherals
- Sports and Leisure Equipment
- USB Dongles