## Overview



HC-05 module is an easy to use Bluetooth SPP (Serial Port Protocol) module, designed for transparent wireless serial connection setup

* VCC is used to power the module.  It needs to be connected to the Arduino 5v pin.
* GND is the ground pin. It needs to be connected to the Arduino Ground pin
* TXD is used to send data from the module to the Arduino. It needs to be connected to the serial receive pin (RX) of the Arduino, which is pin 0 in case of the Uno. If you are using a different Arduino board, check its schematics to make sure you have the right pin.
* RXD is used to receive data from the Arduino. It needs to be connected to the the Arduino serial transmit pin (TX) , which is pin 1 in the case of Arduino Uno.

Arduino  support something Called **Software Serial** , which allow You to change any arduino board pin to serial pin : [*http://arduino.cc/en/Reference/SoftwareSerial*](http://arduino.cc/en/Reference/SoftwareSerial)

Simple Codes Illustrating the working of Bluetooth Module:

/\*Code to switch ON the LED Pin 13 when 1 is transferred through Bluetooth Communication and switch it OFF when 0 is transferred. Also display the value transferred through Bluetooth Communication on Serial Monitor\*/

#include<SoftwareSerial.h>

SoftwareSerial bt(0,1);

int val=0;

const int led=13;

void setup()

{

Serial.begin(9600);

bt.begin(9600);

pinMode(led,OUTPUT);

}

void loop()

{

if(bt.available()>0){

val=bt.read();

Serial.println(val);

digitalWrite(led,val);

}

}

/\*For Communication Between 2 Bluetooth modules\*/

/\*Master Code\*/

const int button=8;

int val=0;

void setup()

{

Serial.begin(38400);

pinMode(button,INPUT);

}

void loop()

{

val=digitalRead(button);

Serial.write(char(val));

}

/\*Slave Code\*/

const int led=13;

int val=0;

void setup()

{

Serial.begin(38400);

pinMode(led,OUTPUT);

}

void loop()

{

if(Serial.available()>0){

val=Serial.read();

digitalWrite(led,val);

}

}

# Commands for Configuration Of Bluetooth Module:

1. AT Response: OK
2. To Reset the Module: AT+RESET Response: OK
3. To get the Firmware Version: AT+VERSION? Response: +VERSION: <Param> OK
4. To Restore the Default Configuration(i.e. Slave Mode, Password:1234,etc) : AT+ORGL Response: OK
5. To get the Module Address: AT+ADDR? Response: +ADDR: <Param> OK
6. Set Module Name: AT+NAME=<Param> OK means success
7. Check Mode Name: AT+NAME? Response: +NAME: <Param> OK
8. To check the mode of Bluetooth Module: AT+ROLE? Response: +ROLE: 0/1 (0 indicates Slave and 1 indicates Master)
9. AT+ROLE=1 OK means success(Bluetooth Module Set in Master Mode)
10. To check the Password of Bluetooth: AT+PSWD? Response: +PSWD : <Param>
11. To set the Password of Bluetooth: AT+PSWD=<Param> Response: OK
12. Check Connect Mode: AT+CMODE? Response: +CMODE : 0/1/2 (0: To connect with a fixed Address, 1: To connect with Bluetooth Device available in the Proximity, 2: Slave Loop) OK
13. Set Connect Mode: AT+CMODE=0/1/2 OK means success
14. Check Fixed Address: AT+BIND? Response: +BIND : <Param> OK
15. Set Fixed Address: AT+BIND=<Param> OK means success
16. There are Many other AT commands that can be studied by visiting the Following Link: <https://www.itead.cc/wiki/Serial_Port_Bluetooth_Module_(Master/Slave)_:_HC-05>