Connecting 2 Arduinos by Bluetooth using a HC-05 and a HC-06: Easy Method Using CMODE

Posted on **November 19, 2014**

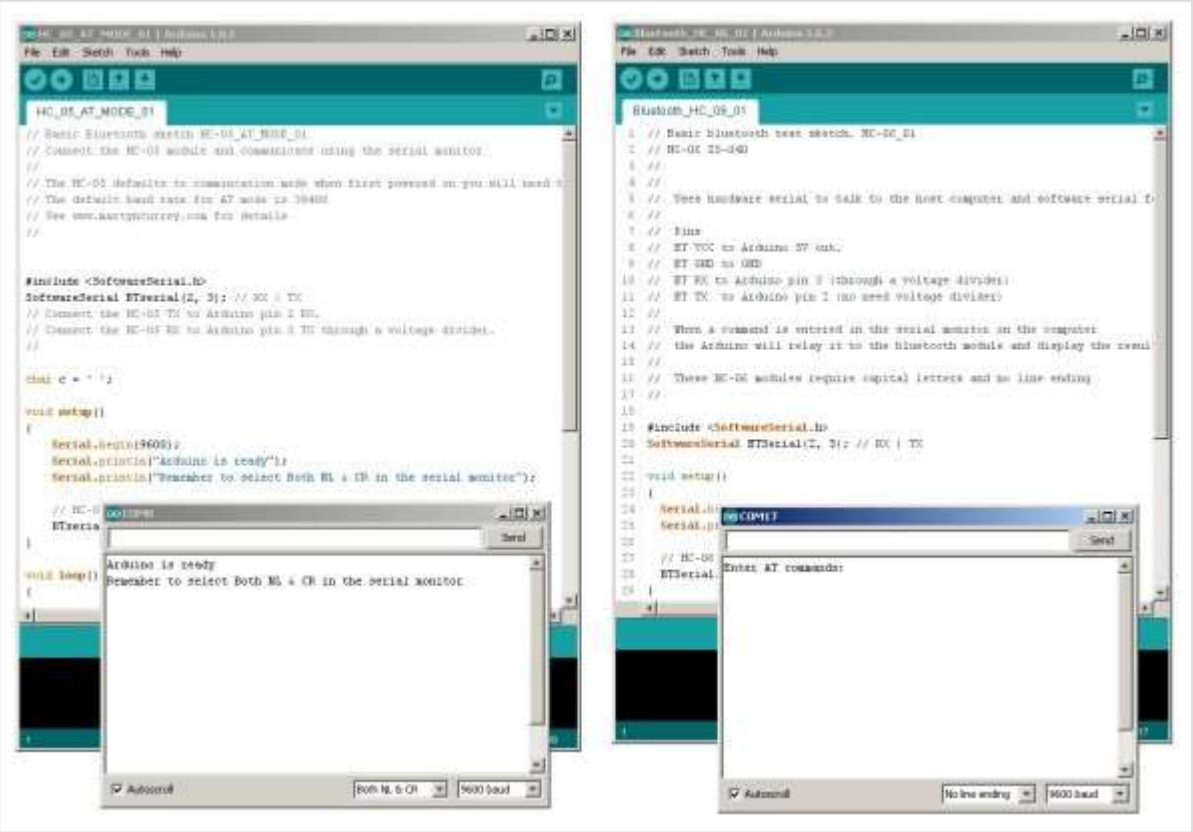
Making a connection Between a HC-05 and a HC-06: Method 1

Using the CMODE command we have an easy way to connect the HC-05 and the HC-06 (or 2 HC05s). When the HC-O5 is configured to pair with any address (AT+CMODE=1) it should connect to a Slave module automatically. No binding etc is required.

I am using the zs-040 modules with firmware 2.0-20100601 and other modules with the same firmware will be the same. If you have issues check the data sheet for your module.

The Set Up

I am using 2 different Arduino IDEs; version 1.0.5 and version 1.6.3. This gives me 2 separate serial monitors. The Arduino connected to the HC-05 is on COM8 and the Arduino using the HC-06 is on COM17



On the HC-05, I have changed the baud rate used in the communication mode to 38400. This means I do not need to change anything when switching between AT mode and Communication mode.

I am using the HC-05_AT_MODE_01 sketch on the Arduino connected to the HC-05 and the HC-06_01 sketch on the Arduino connected to the HC-06

HC-05_AT_MODE_01

```
// Basic Bluetooth sketch HC-05_AT_MODE_01
// Connect the HC-05 module and communicate using the serial monitor
//
// The HC-05 defaults to commincation mode when first powered on you will need to manuall
// The default baud rate for AT mode is 38400
// See www.martyncurrey.com for details
//


#include <SoftwareSerial.h>
SoftwareSerial BTserial(2, 3); // RX | TX
// Connect the HC-05 TX to Arduino pin 2 RX.
// Connect the HC-05 RX to Arduino pin 3 TX through a voltage divider.
//

char c = ' ';

void setup()
{
    Serial.begin(9600);
    Serial.println("Arduino is ready");
    Serial.println("Remember to select Both NL & CR in the serial monitor");
```

```
    // HC-05 default serial speed for AT mode is 38400
    BTserial.begin(38400);
}

void loop()
{

    // Keep reading from HC-05 and send to Arduino Serial Monitor
    if (BTserial.available())
    {
        c = BTserial.read();
        Serial.write(c);
    }

    // Keep reading from Arduino Serial Monitor and send to HC-05
    if (Serial.available())
    {
        c =  Serial.read();
        BTserial.write(c);
    }

}
```

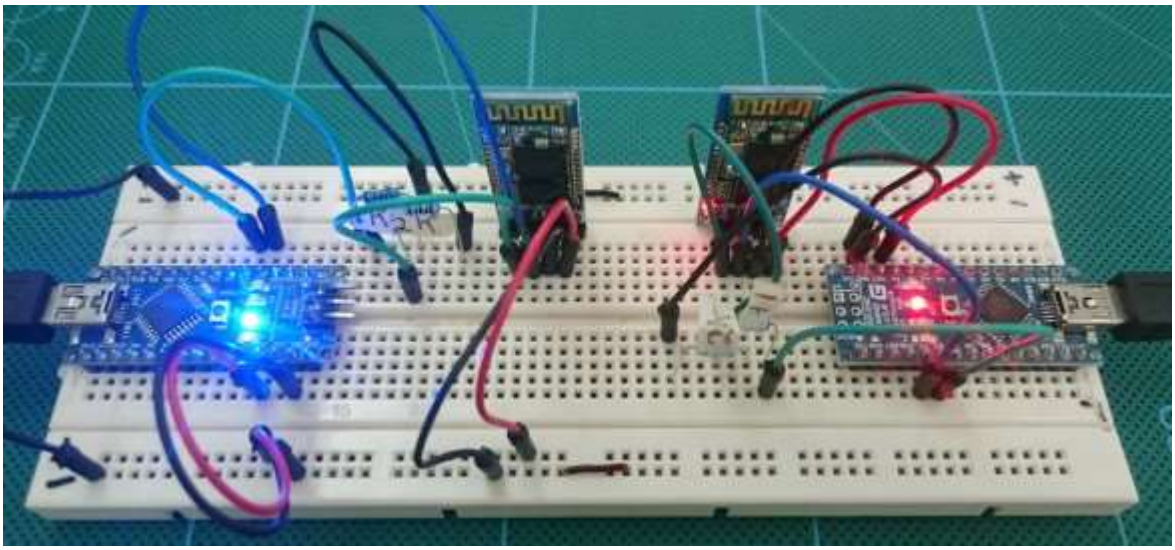
HC-06_01

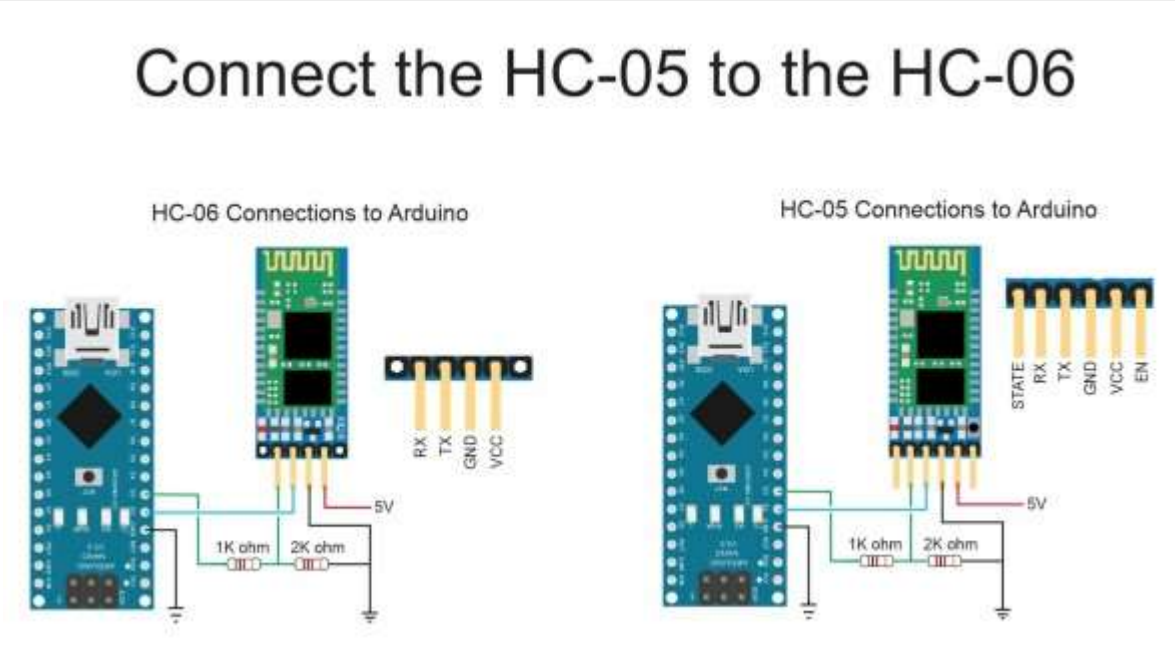
```
// Basic bluetooth test sketch. HC-06_01
// HC-06 ZS-040
//
//
//  Uses hardware serial to talk to the host computer and software serial for communicati
//
//  Pins
//  BT VCC to Arduino 5V out.
//  BT GND to GND
//  BT RX to Arduino pin 3 (through a voltage divider)
//  BT TX  to Arduino pin 2 (no need voltage divider)
//
//  When a command is entered in the serial monitor on the computer
//  the Arduino will relay it to the bluetooth module and display the result.
//
//  These HC-06 modules require capital letters and no line ending
//

#include <SoftwareSerial.h>
SoftwareSerial BTSerial(2, 3); // RX | TX

void setup()
{
  Serial.begin(9600);
  Serial.println("Enter AT commands:");

  // HC-06 default baud rate is 9600
  BTSerial.begin(9600);
}

void loop()
{
```

```
  // Keep reading from HC-06 and send to Arduino Serial Monitor
  if (BTSerial.available())
    Serial.write(BTSerial.read());

  // Keep reading from Arduino Serial Monitor and send to HC-06
  if (Serial.available())
  BTSerial.write(Serial.read());
}
```

Connections

Both Bluetooth modules are connected in the same way



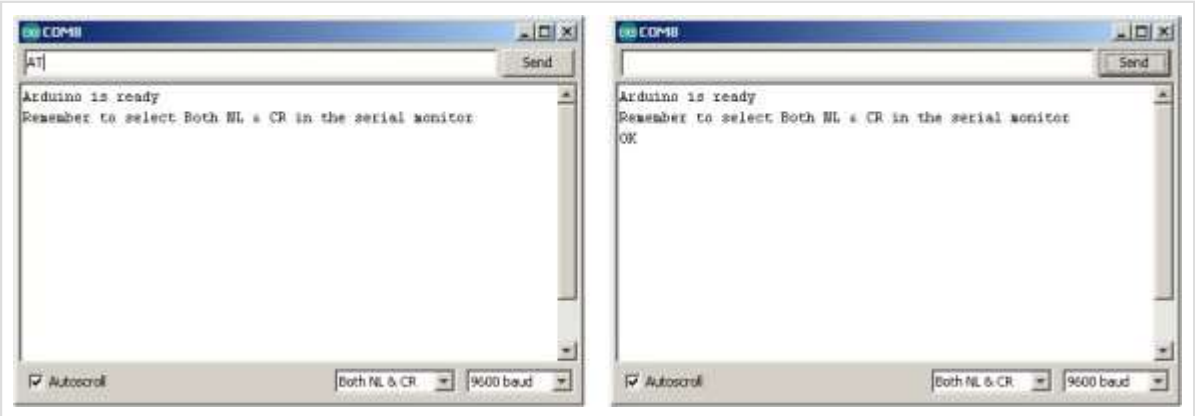


Make the 2 circuits and power on. The LEDs on both the HC-05 and the HC-06 should be blinking quickly.

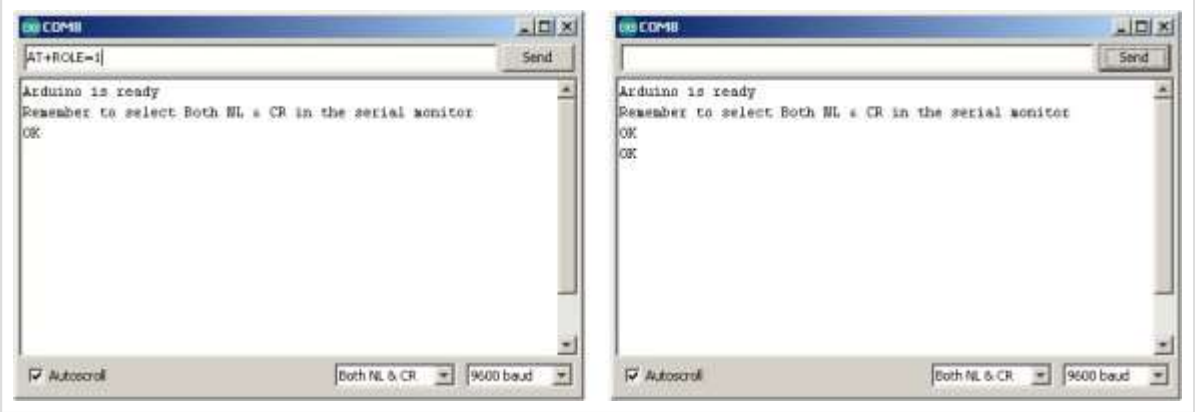
To get the HC-05 to connect to the HC-05 we need to
– set the HC-05 as a master device
– configure to pair with any address
– cycle the power to the module

Put the HC-05 in to AT mode (hold the button switch closed while powering on). If you are not sure how to do this see Arduino with HC-05 (ZS-040) Bluetooth module – AT MODE. When in AT mode the LED on the HC-05 should blink on/off every second.

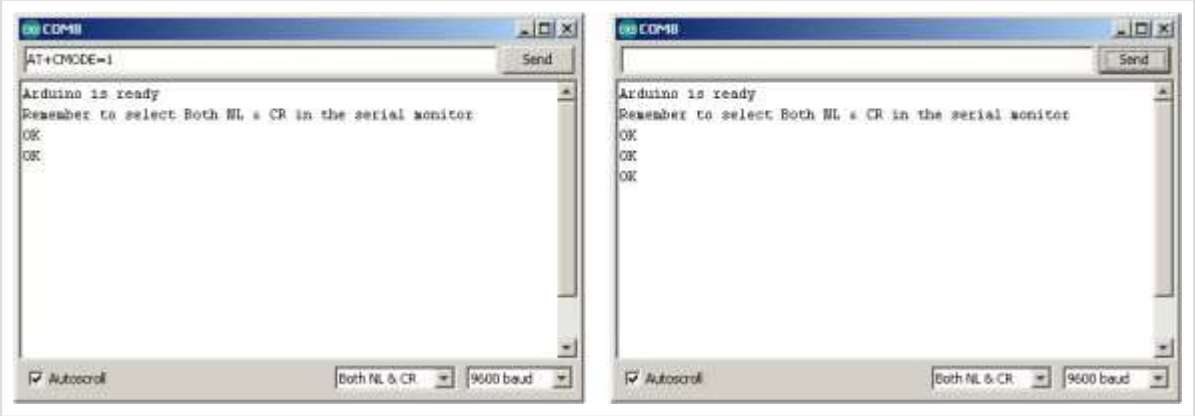
First, check that we are in AT mode. Enter AT and hit Send. You should get “OK”



Set the HC-05 as a master device with the AT+ROLE command: AT+ROLE=1. You should get another “OK”

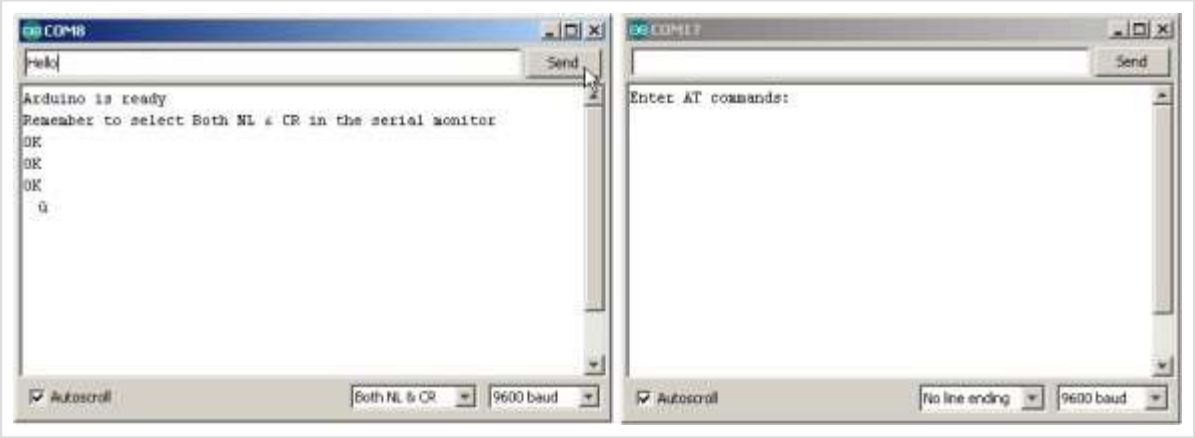


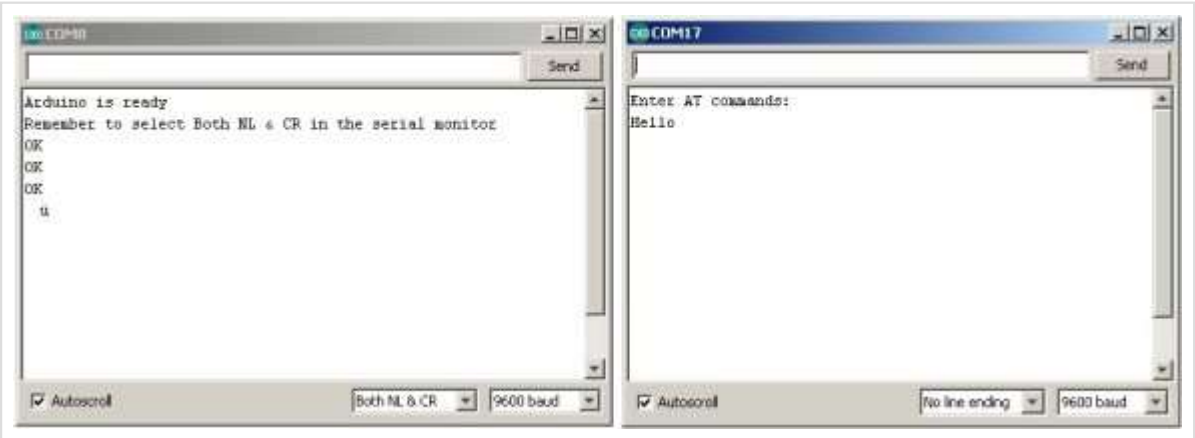
Configure the HC-05 to pair with any address: AT+CMODE=1. You should get yet another “OK”



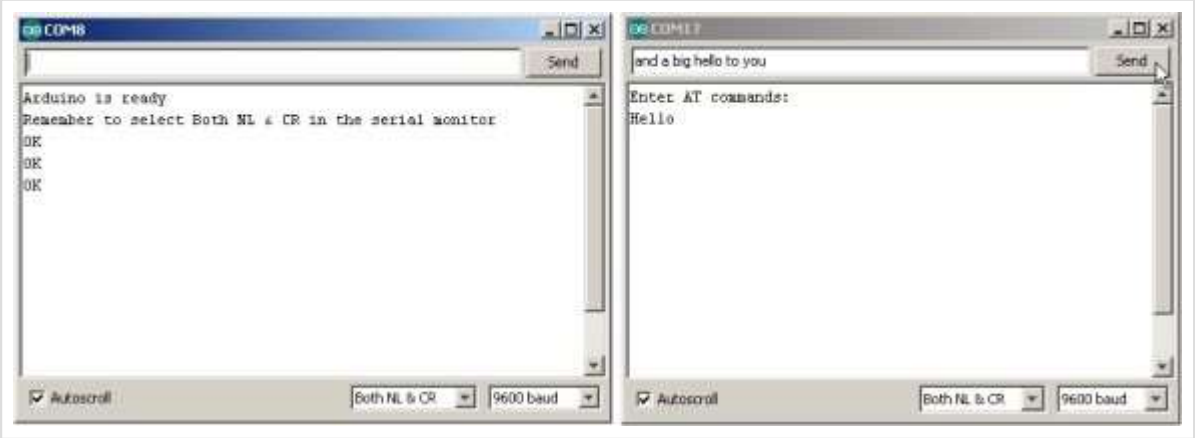
Cycle the power to the HC-05. The LED on the HC-05 will blink twice a second as it searches and once it has connected with the HC-06 the LED will quickly blink twice every 2 seconds or so. The LED on the HC-06 should be constant on.

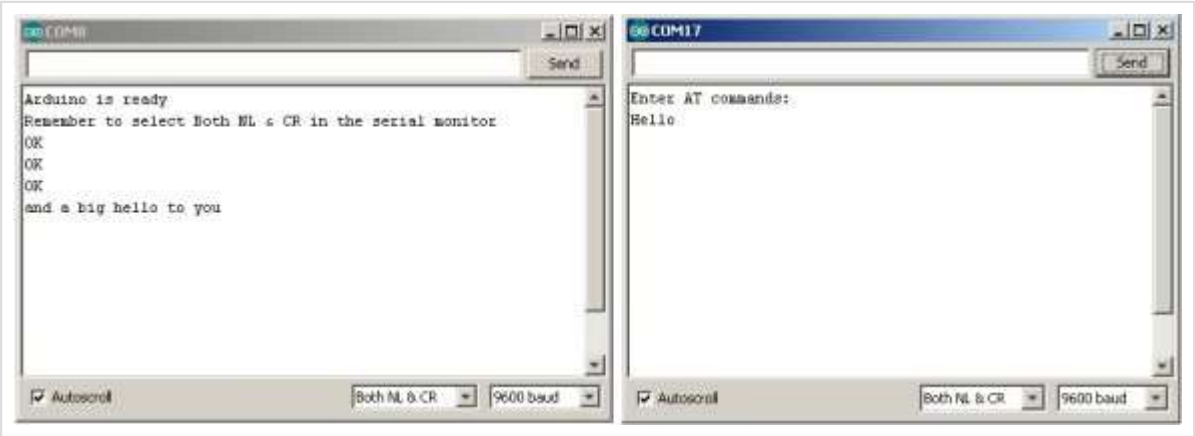
Now, what every you enter in one of the serial monitors will be sent by Bluetooth to the other Arduino and then displayed in the opposite serial monitor.





Hello sent from the HC-06 to the HC-05





Next

The next step is to link 2 modules by specifying which one you want to link to. You do this using the mac address. Connecting 2 Arduinos by Bluetooth using a HC-05 and a HC-06: Pair, Bind, and Link

This entry was posted in **Arduino**, **Bluetooth** and tagged **HC-05**, **HC-06** by **Martyn**. Bookmark the **permalink [http://www.martyncurrey.com/connecting-2-arduinos-by-bluetooth-using-a-hc-05-and-a-hc-06-easy-method-using-cmode/]** .

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74 THOUGHTS ON “CONNECTING 2 ARDUINOS BY BLUETOOTH USING A HC-05 AND A HC-06: EASY METHOD USING CMODE”

Brian
on **July 25, 2015 at 5:27 pm** said:

Hi Martyn,

I am really enjoying your flurry of BT blogs. I am setting up a bluetooth connection and have received a lot of help through your efforts. Thank You.

Did you ever notice you can run several instances of the same version of the Arduino IDE simply by starting the application a second or third plus times? This has worked since before 1.0. I remember??? It works are the current versions too. I've been doing this without thinking about it for quite a few years.

> **Martyn**
> on **July 26, 2015 at 4:01 am** said:
>
> Good to hear the blog is useful and thanks for your comment.
>
> I started using 2 separate IDEs a while ago due to issues I had having 2 serial monitors open at the same. This became a habit and ever since I never thought to try running multiple instances of the newer IDEs. Thanks for the tip.

Pingback: Connecting 2 Arduinos by Bluetooth using a HC-05 and a HC-06: Pair, Bind, and Link | Martyn Currey

Frank Lee
on **December 9, 2015 at 11:38 pm** said:

Hi Martyn,

Thanks for this post. It is great. I am new to this bluetooth thing and I have some questions.

I was able to connect the HC 05 (master, cmode=1) to android (slave) using AT+PAIR command. Before they were paired, the android pops up a screen to ask

for the password (1234). I typed it and they were paired.

Looked your post, I don't see anything about providing password when connecting hc-05 to hc-06.

Can you provide me more info ?

Many thanks

Frank

Martyn
on **December 10, 2015 at 4:33 am** said:

CMODE=1 allows the HC-05 to pair with any device. I can't remember if the passwords have to be the same though (I suspect they need to be) and I am traveling at the moment so can't confirm. Try a test. Set the the HC-05 and the HC-06 to have different passwords and see if they still connect. Report back what you find.

Bhoomika Sheth
on **December 31, 2015 at 9:44 am** said:

Hi Martyn!

I really enjoyed working on your setup. Its an awesome tutorial for starters like me. Thanks for the post. I was just wondering can I connect 2 master HC05s or 2 slave hc05s only? I mean can I configure both as either master or slave and still initiate communication between both of them?

Martyn
on **January 8, 2016 at 2:03 am** said:

Bluetooth connections always require a Master/Slave combination with the Master device initiating the connection.

> The HC-05 can be used as a Master or a Slave device and so 2 HC-05s can be used (one must be set as a Slave though). The HC-06 is a Slave only device and can only accept connection requests, it cannot make them and so will always need a Master device to connect with.

Bhoomika Sheth
on **January 10, 2016 at 11:41 pm** said:

Hi Martyn!
I shorted pin 34 with EN pin. But now I cannot see my LED on BT module blinking 5 times a second by providing digital LOW to EN pin. Anyhow, if I provide digital HIGH to EN pin it blinks on/of f every second. What am I doing wrong here? How can I control configuring BT module either in Command mode or in Data mode as per my wish through my Arduino Code. Kindly help!

Martyn
on **January 16, 2016 at 6:21 am** said:

The EN pin, when HIGH, disables the module. It is not used for entering AT mode.

To enter AT mode, either press the little button switch or use 3.3V to bring pin 34 HIGH. For more details see http://www.martyncurrey.com/arduino-with-hc-05-bluetooth-module-at-mode/

Bhoomika Sheth
on **January 18, 2016 at 11:43 am** said:

Is there no way to bring HC05 to Command (AT) mode or Data mode without any human intervention

Martyn
on **January 18, 2016 at 12:55 pm** said:

You need to connect pin 34 to +3.3V not the EN pin.
You can connect pin 34 to one of the Arduino pins as long as you use a voltage divider. See

http://www.martyncurrey.com/arduino-with-hc-05-bluetooth-module-at-mode/ method 2. You can then use the Arduino to control AT mode

bhuvaneshnick
on **February 13, 2016 at 6:35 am** said:

thank you so much .

pawanvir
on **March 16, 2016 at 7:57 am** said:

AT+CMODE=0 means connect to one slave module, AT+CMODE=1 means what ,

can we connect more than two slave at the time with master . ?

Martyn
on **March 16, 2016 at 2:02 pm** said:

AT+CMODE=0 mean connect to a specified address (specific BT module) only
AT+CMODE=1 means the module can connect with any BT device.

You can only make one connection at a time. If you want to connect to several BT modules you need connect one at a time.

rick
on **March 18, 2016 at 9:51 pm** said:

hi, I've managed to get two hc05's paired, one on a Leonardo as a master and one on an Uno set as slave. they seem paired ok.
what I was wanting to do is send variable values that have been calculated on the Leonardo across to the slave (Uno) to control a motor.
have been looking for some sketches to get an idea of the send / receive commands between the two but no luck. I'm new to arduino and have only been learning for a few weeks, any idea where I can learn specifically on this? every search I do comes up with how to pair modules and not how to use them once paired….

Martyn
on **March 19, 2016 at 2:17 am** said:

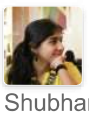
It would be better to sort out the communication side using a wired connection first. Once you have this working add the BT connection.

Think about how you want to format the data,not just for sending but also how to make it easier for receiving. For example I generally use ascii formatted data as this makes the code on the receiving end a little easier. It is not the fastest way to send numeric data though.

Start with Arduino Serial Basics at http://forum.arduino.cc/index.php?topic=288234.0
This thread is very useful and Robin's recvWithEndMarker() function forms the starting point for all my projects that use serial communication.

rick
on **March 19, 2016 at 1:35 pm** said:

thanks for the speedy reply. will look into it :)



Shubhangi Gupta
on **April 6, 2016 at 7:54 pm** said:

Hello. Your blog has been really helpful in my project. I am working on connecting two micro-controllers using bluetooth. For that I want to light a LED connected to one arduino by giving command to the other one. Is that possible?

Martyn
on **April 7, 2016 at 8:07 am** said:

Hi,
this is very possible but I do not have an example to show at the moment.

If you are Ok with using the serial monitor and software serial start with the serial basics post on the Arduino forum http://forum.arduino.cc/index.php?topic=288234.0

If you are not too familiar with serial communication start with some introduction guides such as
http://www.ladyada.net/learn/arduino/lesson4.html

Shubhangi Gupta
on **April 22, 2016 at 7:38 am** said:

Thanks for the help. I have successfully been able to light an LED by connecting a button to one arduino and the LED to another. But Can you suggest some real life application of such connection between two arduinos?
Thank you

Jennifer CNB Gustin
on **December 2, 2017 at 11:08 pm** said:

You could use two microcontrollers to create an app in which one microcontroller collects certain data and sends it to your phone. The other microcontroller could collect another variable of information and send it to your phone. Thus making it possible to create an app in which you could connect the microcontrollers and send all information to you at once, or each device relays at its own pace. By the way could you commet/post your sample code to connect two microcontrollers? Thanks!

Akshay Mago
on **April 25, 2016 at 11:34 am** said:

Actually , i want to pair the two HC-05 bluetooth Modules but according to your site , USB to TTL convertor has been used . How can we pair the 2 bluetooth modules withou using USB to TTL Convertor? Can pairing of bluetooth be done with help of AT commands ?

Martyn
on **April 25, 2016 at 1:19 pm** said:

To use AT mode you need to communicate with the BT modules by serial. This means using a USB to serial converter. This can either a dedicated device or an Arduino with a basic sketch.

You do not need to have both BT modules connected by serial at the same time.
Connect device 1, set as a slave, set up the password and baud rate etc, then connect device 2 and set up as a Master.

Shubhangi Gupta
on **April 27, 2016 at 7:38 am** said:

Thanks for the help. I have successfully been able to light an LED by connecting a button to one arduino and the LED to another. But Can you suggest some real life application of such connection between two arduinos?
Thank you

Martyn
on **April 27, 2016 at 9:37 am** said:

It’s hard to suggest an application and most of my projects are things I do simply to learn how to do them.

I do have a a turtle lamp that is controlled by an Arduino. This normally works on a timer but has a Bluetooth controller for manual over-ride.
I also have a Bluetooth LCD. This is simply an Arduino connected to a 4×20 LCD and a Bluetooth module. I then display things on the LCD from remote Arduinos. No real application and I usually use it for debugging.

Angus
on **May 7, 2016 at 9:07 pm** said:

Hey Martyn,
This post is really useful. I am trying to use Bluetooth to transmit a potentiometer value between two arduino nanos. I followed this guide to setting up the modules however when I type “Hello”, for example, it gives “zú”. On the HC-06 my serial settings are No Line Ending and 9600 baud. The HC-05 Both NL CR and 38400.
Many Thanks

Martyn
on **May 8, 2016 at 2:23 am** said:

Have a look at http://www.martyncurrey.com/arduino-to-arduino-by-bluetooth/

This is an example of turning a LED on and off but the principle is the same. Instead of sending the on/off command send the potentiometer value.

xavier
on **May 10, 2016 at 10:20 am** said:

Bonjour à tous,

J’essaye de connecter 2 arduino uno entre eux par le biais de 2 modules bluetooth HC05 et HC06.
En essayant avec le tuto ci dessus ça ne fonctionne toujours pas.

Peut etre ne suis je pas le premier …
Quelqu'un pourrai m'aider svp?

Glove81
on **July 3, 2016 at 6:39 pm** said:

Thanks for this, been a great help. Do you know why the receiving unit is showing symbols instead of the text that has been inputed by the transmitting unit?

ie typing TEST comes out as øøx€x€xøxø

erez
on **August 15, 2016 at 11:33 am** said:

i have the same problem. did you find a solution?

Mike
on **October 7, 2016 at 6:53 am** said:

Hi,if the default baud rate of hc-06 is 9600 as the previous article you post,then I cant send right data to each other BT,I also check MY default baud rate ,is also 9600.
So I change the BTserial.being() to 9600 ,so it works.
I still want to make a sure,do you use 38400 or you change the baud rate already?

Mike
on **October 7, 2016 at 6:56 am** said:

*do you use BTserial.begin(38400) but default 9600 or you change the default to 38400 already

Mike

on **October 7, 2016 at 6:57 am** said:

I am blind .Sorry…

Marieta Becerro
on **November 29, 2016 at 5:59 pm** said:

Hi,
We are trying to connect to 2 arduinos with their respectives bluetooths. We already pair the bluetooths but we can't send information from one arduino to the other one. We have an arduino uno with one bluetooth and an arduino mini with another bluetooth, and we want to send information from one arduino to the other one so it writes the values into an lcd screen. We´ve been trying to do it for weeks but we can't find a solution and i was wondering if you could help us. Bc we tried with your code but it doesn't work and off all the possible examples we looked for yours is the better.
Thank you very much we´ll really appreciate it

Martyn
on **November 30, 2016 at 5:52 am** said:

what Bluetooth modules do you have?

Are you able to use AT commands and get replies?

Ken
on **December 26, 2016 at 10:31 pm** said:

12/26/16

Martin:
I have been working with an HC-05 now for two days and have not been able to get

to the bottom of my problem.

First, I can talk to the HC-05.
The firmware version is 2.01-20100601. I see that you have dealt with that before maybe you can help.

I can get the HC-05 to talk both directions if it is in the Slave mode.

When I put it in the master mode, it will only receive but will not transmit.

In looking at all of the documentation I can find, I see that some of the documentation lists a “AT+MODE” function. The documentation states that if the Parm= 0 it equates to receive only, if the Parm= 1 it will to transmit only and if Parm= 2 the devise will communicate in both directions . Sounds simple, put the HC-05 in Mode 2 and go. My problem!! The HC -05 will not respond to the AT+MODE command. It comes up with an ERROR =0. I have found there are several of the listed commands that the HC-05 won’t answer to one of them being the AT+HELP command.

What are you thoughts on the situation??

Many thanks for your input in advance

Ken

I can

> **Martyn**
> on **January 5, 2017 at 10:50 am** said:
>
> Different boards have very different firmwares. I have zs-040 modules with the 2.0-20100601 firmware. Not sure how this is different to yours but the examples for the zs-040 boards should help.
>
> http://www.martyncurrey.com/arduino-with-hc-05-bluetooth-module-in-slave-mode/
> http://www.martyncurrey.com/arduino-with-hc-05-bluetooth-module-at-mode/
>
> Almost every time two-way commination does not work it is due to a problem with the circuit. Check the connections, check the resistors on the voltage divider (very common to have problems here). Check the voltage coming out of the voltage divider.

> Have you had two-way communication working in slave mode?. If not you should start here.

Marco Pizarro-Silva
on **March 12, 2017 at 3:31 am** said:

If I am trying to use two HC-05s, one as the slave and one as the master, should I just use the above HC-05_AT_MODE_01 code for both arduinos? Thanks in advance for your help!

Martyn
on **March 14, 2017 at 6:16 am** said:

> Please give it a try and see what happens.

Marco Pizarro-Silva
on **March 18, 2017 at 5:48 pm** said:

> IT WORKS!

Vidhi
on **March 16, 2017 at 7:26 pm** said:

Hey Martyn
I have been trying to pair two HM10. I am using Arduino Uno both sides. I tried bit there has been no success.
Thank you

Roman
on **April 27, 2017 at 10:29 am** said:

I have a Master (Arduino + Bluetooth module HC-05) and several Slaves (Arduino + Bluetooth module HC-05). I know the MAC address of all Bluetooth devices. How do I programmatically assign the MAC address of the device to which I want to connect. AT-command AT-BIND is not suitable, because I want to choose which device I want to connect to at the moment.

Martyn
on **April 27, 2017 at 11:50 am** said:

Have a look at the next tutorial – http://www.martyncurrey.com/connecting-2-arduinos-by-bluetooth-using-a-hc-05-and-a-hc-06-pair-bind-and-link/

Roman
on **April 27, 2017 at 12:58 pm** said:

Thanks for the example. I'll try to figure out how to do it all in Arduino itself, without using the PC.

Martyn
on **April 27, 2017 at 1:47 pm** said:

You cannot connect to more than 1 slave at a time so you have to connect to each slave in turn.

Pair all the devices (you can pair up to 7 at any one time) then use the Arduino to connect, disconnect to each slave in turn.

Marco S Pizarro
on **June 12, 2017 at 2:17 am** said:

Hello Arduino Community, I am connecting two bluetooth modules, and i can see that they are pairing because of the LED lights. When I try sending any data, it returns an “unknown character” sign(the question in the black box).
I am using this code on both arduinos:

```
// Basic Bluetooth sketch HC-05_AT_MODE_01
// Connect the HC-05 module and communicate using the serial monitor
//
// The HC-05 defaults to commincation mode when first powered on you will need to manually enter AT mode
// The default baud rate for AT mode is 38400
// See http://www.martyncurrey.com for details
//

#include
SoftwareSerial BTserial(10, 11); // RX | TX
// Connect the HC-05 TX to Arduino pin 2 RX.
// Connect the HC-05 RX to Arduino pin 3 TX through a voltage divider

char c = ' ';

void setup()
{
Serial.begin(9600);
Serial.println(“Arduino is ready”);
Serial.println(“Remember to select Both NL & CR in the serial monitor”);

// HC-05 default serial speed for AT mode is 38400
BTserial.begin(38400);
}

void loop()
{

// Keep reading from HC-05 and send to Arduino Serial Monitor
if (BTserial.available())
{
c = BTserial.read();
Serial.write(c);
}

// Keep reading from Arduino Serial Monitor and send to HC-05
if (Serial.available())
{
c = Serial.read();
```

BTserial.write(c);
}

}

Thanks in advance for your help

> **Marco S Pizarro**
> on **June 12, 2017 at 2:19 am** said:
>
>
>
> > **Martyn**
> > on **June 12, 2017 at 11:52 am** said:
> >
> > Garbage/random characters is almost always due to a wrong baud rate. Since you are using 9600 in the sketches, double check that the BT modules are set for 9600.
> >
> > > **Marco S Pizarro**
> > > on **June 12, 2017 at 4:35 pm** said:
> > >
> > > Got it, thanks!

Johann
on **July 14, 2017 at 9:25 am** said:

Hi, this is great; however, I have done everything, but when I send a message from -05 to -06, the serial monitor of the -06 reads ?????. Same amount of ? as letters sent. Also, the -06 wont send a message to the -05 and the LED on the -06 blinks around every 4 seconds.

> Johann
> on **July 14, 2017 at 9:29 am** said:

BAUD rate was wrong, but I still cannot send message to -05 from -06.

Thanks!

Pingback: Arduino with HC-05 (ZS-040) Bluetooth module – AT MODE | Martyn Currey

Pingback: HC-05 (ZG-B23090W) Bluetooth 2.0 EDR modules | Martyn Currey

Pingback: HC-05 with firmware 2.0-20100601 | Martyn Currey

arduino_noob
on **August 20, 2017 at 8:21 am** said:

Hey Martyn,
I have followed this tutorial and have successfully connected them. I want to be able to press a button on one arduino and in turn turning off a doorstrike on the other. How would i do that? as i really have no clue how to code using the arduino. I wouls also like to implement a timer to allow the person pressing the buttono time to enter the door.

Any help is appreciated.

Martyn
on **August 20, 2017 at 8:52 am** said:

see http://www.martyncurrey.com/arduino-to-arduino-by-bluetooth/

arduino_noob
on **August 20, 2017 at 9:01 am** said:

I'm assuming I am using the first example. What code would limplement to make a button turn OFF the led instead of on? as there is no button on the example and the LED is turned on instead off.
I know this might be really tedious for you and I appreciate the time you are taking out to help.

Martyn
on **August 20, 2017 at 9:10 am** said:

Have a look at the LED example in the HM-10 post. This is a simply LED on LED of example.

Although this is for the HM-10 the process for switching things is the same regardless of the type of Bluetooth module.

http://www.martyncurrey.com/hm-10-bluetooth-4ble-modules/#HM-10%20-%20Turning-an-LED-on-and-off

You will need to adapt the sketch slightly to meet your needs.

arduino_noob
on **August 20, 2017 at 10:23 am** said:

Is the the correct piece of code i need to be looking at and thwart would i need to change? Thank you for your patience.

```
void loop()
{
// Very simple debouce.
boolean state1 = digitalRead(switchPin); delay(1);
boolean state2 = digitalRead(switchPin); delay(1);
boolean state3 = digitalRead(switchPin); delay(1);
if ((state1 == state2) && (state1==state3))
{
switch_State = state1;

if (switch_State != oldswitch_State)
{
if ( switch_State == HIGH) { BTserial.print("1" );
Serial.println("1"); }
else { BTserial.print("0" ); Serial.println("0"); }

oldswitch_State = switch_State;
}
}
}
```

Martyn

on **August 20, 2017 at 10:36 am** said:

Yes, that's the bit.

arduino_noob
on **August 21, 2017 at 8:11 am** said:

within this example the button is connec to slot 2 if that is already occupied can i put into any other slot?

Carlo
on **August 21, 2017 at 3:02 am** said:

is it possible for HC-05 to have multiple slaves?

Martyn
on **August 21, 2017 at 5:13 am** said:

yes but only one slave can be connected at one time. This means, to create a network you need to connect, get data, disconnect to each node in turn.

arduino_noob
on **August 22, 2017 at 2:35 am** said:

Hey I'm back,
As said in my previous post above I am using a 12v door strike. Would the use of a relay for the doorstrike affect the code? If so, what do I need to add.

> **Martyn**
> on **August 22, 2017 at 7:18 am** said:
>
> No, the code is the same, all you should need to do it turn a pin on/off.
> It may effect how you connect it to the Arduino though.
>
> > arduino_noob
> > on **August 22, 2017 at 10:12 am** said:
> >
> > Hey, Whenever i send something between the two module it just gives me question marks, does that mean it does not understand what I'm sending??
> >
> > > arduino_noob
> > > on **August 22, 2017 at 10:21 am** said:
> > >
> > > Scratch the above comment. My arduino is noe recieiving the ones and zeros but the doorstrike is not turning off

arduino_noob
on **August 22, 2017 at 11:08 am** said:

Here is my code for the HC-06 you may compare the code from the HM-10 tutorial as i pulled code form there:
#include

```
char c=' ';
byte LEDpin = 4;

void setup()
{
```

```
Serial.begin(9600);
Serial.println("Enter AT commands:");

// HC-06 default baud rate is 9600
BTSerial.begin(9600);

pinMode(LEDpin, OUTPUT);
digitalWrite(LEDpin,LOW);
}

void loop()
{
if (BTSerial.available())
{
c = BTSerial.read();

// 49 is the ascii code for "1"
// 48 is the ascii code for "0"
if (c==49) { digitalWrite(LEDpin,LOW); }
if (c==48) { digitalWrite(LEDpin,HIGH); }
Serial.println(c);
}
{

if (BTSerial.available())
Serial.write(BTSerial.read());

if (Serial.available())
BTSerial.write(Serial.read());
}
}
```

arduino_noob
on **August 22, 2017 at 11:09 am** said:

****EDIT****

```
#include

char c=' ';
byte LEDpin = 4;

void setup()
{
```

```
Serial.begin(9600);
Serial.println("Enter AT commands:");

// HC-06 default baud rate is 9600
BTSerial.begin(9600);

pinMode(LEDpin, OUTPUT);
digitalWrite(LEDpin,LOW);
}

void loop()
{
if (BTSerial.available())
{
c = BTSerial.read();

// 49 is the ascii code for "1"
// 48 is the ascii code for "0"
if (c==49) { digitalWrite(LEDpin,LOW); }
if (c==48) { digitalWrite(LEDpin,HIGH); }
Serial.println(c);
}
{

if (BTSerial.available())
Serial.write(BTSerial.read());

if (Serial.available())
BTSerial.write(Serial.read());
}
}
```

arduino_noob
on **August 22, 2017 at 11:10 am** said:

Don't know why it wont show this next to include but here it is:

Martyn
on **August 23, 2017 at 1:06 pm** said:

The comments section strips out things it thinks are HTML tags. This means to show > and < characters you need to use the HTML codes & g t ; and & l t ; (no spaces)

I have just a guide on switching thins on and off that may be helpful to you. See http://www.martyncurrey.com/switching-things-on-and-off-with-an-arduino/

Martyn
on **August 26, 2017 at 5:12 am** said:

Now with a guide on turning a blinking LED on and off.

Md.Ismail Husain
on **September 18, 2017 at 5:22 am** said:

Hi,can i control using one master to multiple slave, i use several button in master ,when click one button ,then corresponding slave active and give response,can it possible,please help me.

Martyn
on **September 18, 2017 at 6:04 am** said:

This is kind of possible using BT 2 but it is not ideal.

With BT 2; the master can only connect to one slave at a time. This means to use more than one slave you need to disconnect the current connection, then connect to the new slave.