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Experiment with Bluetooth keyboard module

Previously, we introduced two methods of simulating keyboards with Arduino. One is to use a normal Uno with components such as resistors; the other is to use an Arduino with built-in USB function, such as Leonardo, which has an internal USB Slave controller. Here we will introduce the Bluetooth solution.

The most common one is the Bluetooth transparent transmission module. After searching and installing it with Bluetooth, a serial port can be simulated in the system, and the host computer can communicate directly in the serial port mode. This time, we will introduce a Bluetooth keyboard module (actually a keyboard and mouse module).

The appearance is the same as that of ordinary Bluetooth transparent transmission modules (the internal firmware of the Bluetooth chip is really useful)

The usage is very similar. After searching and connecting in Bluetooth, the keyboard device will appear in the system.

Then the data is sent from the serial port to the Bluetooth device. According to the instructions, I wrote a simple test program using Arduino to send a "1" character every 5

seconds.

Input 1:

Press data 1 Data packet is: 0C 00 A1 01 00 00 1E 00 00 00 00

00Key pops up: 0C 00 A1 01 00 00 00 00 00 00 00

The procedure is as follows:

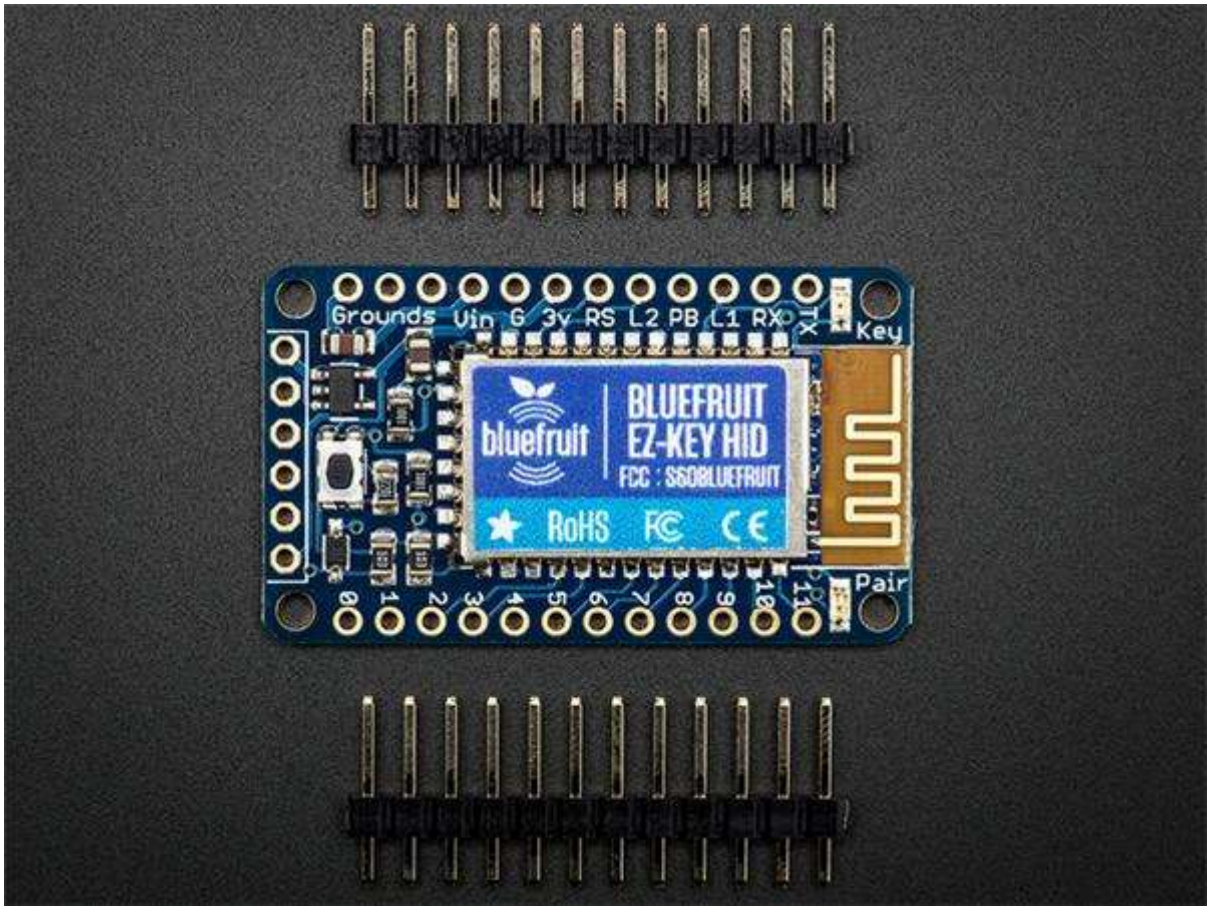
```
char KeyPress[]=
{0x0C,0x00,0xA1,0x01,0x00,0x00,0x1E,0x00,0x00,0x00,0x00,0x00};
char KeyRelease[]=
{0x0C,0x00,0xA1,0x01,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00};
void setup() {
  // put your setup code here, to run once:
    Serial1.begin(9600); //Set the serial port baud rate
}

void loop() {
   for (byte i=0;i<sizeof(KeyPress);i++)
    {
     Serial1.write(KeyPress[i]);
    }
   for (byte i=0;i<sizeof(KeyRelease);i++)
    {
     Serial1.write(KeyRelease[i]);
    }
  delay(5000);
}
```

The test results show that my computer can receive an input of 1 every 5 seconds.

More fun is still under research. Friends who need to simulate a keyboard may consider such a Bluetooth module. By the way, this module is about 35 yuan, which is much more expensive than the ordinary transparent transmission module (usually about 20 yuan). Of course, you

can look at similar products abroad. The "EZ-Key BT HID Keyboard Controller Paper Module" produced by Adafruit costs 180 yuan, which doesn't seem that expensive...



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Updated on March 13, 2016

I always thought I had put a purchase link in the article, but a friend asked me yesterday and I checked and found that I had forgotten it.~~The purchase link for this module is https://item.taobao.com/item.htm?spm=a1z09.2.0.0.V7mzul&id=521222818182&_u=dkf8s9fbec~~

The seller's name is "Chongqing Xiangma Electronic Factory Store". When buying, you might as well ask the seller that you want to make a Bluetooth HID device, which is different from the commonly used Bluetooth serial port transparent transmission module.

Here is the manual of this module: BTHID

Special note: I always thought that the Bluetooth keyboard module and the Bluetooth scanner module were the same thing, but a friend bought a "Bluetooth scanner module" and it didn't

work. The difference between them is that the keyboard module can send shift/alt/ctrl, etc. The Bluetooth scanner module can only send visible ascii.
So be sure to ask clearly (I guess I told the seller at the time, and although I bought a Bluetooth scanner module, I was given a Bluetooth keyboard module).

ziv2013 / September 13, 2015 / Funny

10 thoughts on “Experiment with Bluetooth keyboard module”

Return to B and no longer spend V

April 7, 2016 at 4:24 pm

Not only should you ask the seller, but you should also make it clear that it is a keyboard module. Otherwise, the blogger's link will default to a scanner module. The two should be different, and the manuals are also different.

ziv2013

April 7, 2016 at 9:05 PM

Sorry, I made a mistake. I should have bought the "Bluetooth Keyboard Module" instead of the "Bluetooth Scanner Module". So I deleted the Taobao link.

Pingback: Building a Hacker Keyboard Extender (Automated and Wireless) – Foreword | Kevins Bobo

Return to B and no longer spend V

April 14, 2016 at 12:04 PM

The module with baseboard is in data mode by default and cannot use AT commands. To enter AT mode, you can use a jumper to temporarily connect VCC and PIO3. There are instructions in the data sheet. After changing the baud rate, the baud rate of AT mode is constant at 9600, and the baud rate of data mode changes.

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z

March 31, 2017 at 1:05 pm

This module requires a host computer.

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ziv2013

April 4, 2017 at 5:04 pm

No, the Bluetooth profile of this module is just a Bluetooth keyboard from the host side.

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ageer

January 14, 2019 at 10:46 AM

Look at the pinout of the Bluetooth module manual: pin 15 and pin 20. It seems that this module can be directly connected to a USB keyboard without the involvement of an Arduino.

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ziv2013

January 14, 2019 at 8:24 pm

The USB signal on this module means it can be used as a USB Bluetooth device, but I have never seen one with its own USB host.

Eric

July 28, 2020 at 5:12 pm

So theoretically, this can also be changed into a Bluetooth controller, which is compatible with devices such as PC, iOS, and Android.

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ziv2013

July 29, 2020 at 9:49 AM

If you can write a code to convert the serial port to the Bluetooth handle, then there is no problem