

Clyde + Seeed Studio Bluetooth Shield

Friday, September 26, 2014

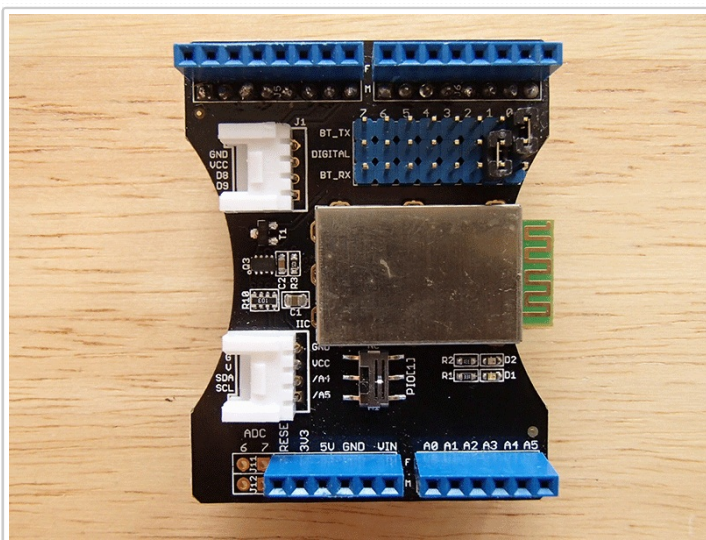
This article is the fifth in an ongoing series about connecting Clyde to other devices. We will cover several WiFi, Bluetooth and ZigBee shields.

Overview

Seeed Studio Bluetooth Shield

\$22.90 USD, <http://www.seeedstudio.com/depot/Bluetooth-Shield-p-866.html>

Seeed Studio's Bluetooth Shield is an affordable way to add wireless serial communication to Clyde. The shield also has 2 Grove connectors that allow you to install 1 digital and 1 analog Grove modules. Follow along with this guide to connect Clyde to your smartphone over Bluetooth.



Clyde is currently sold out, but the next improved litter is on the way!

PRE-ORDER CLYDE V2 FROM \$135

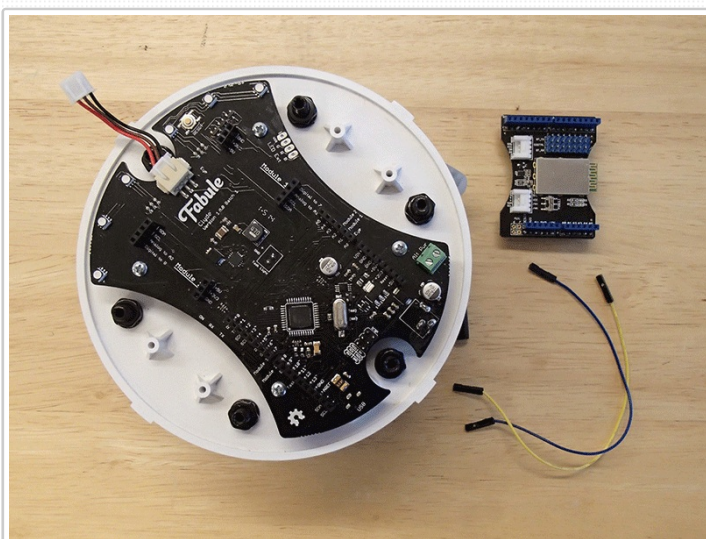
[Learn more about Clyde](#)

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Hardware



What you'll need

Clyde
Seeed Studio Bluetooth Shield,
<http://www.seeedstudio.com/depot/Bluetooth-Shield-p-866.html>
2 female-to-female jumper cables, like this:

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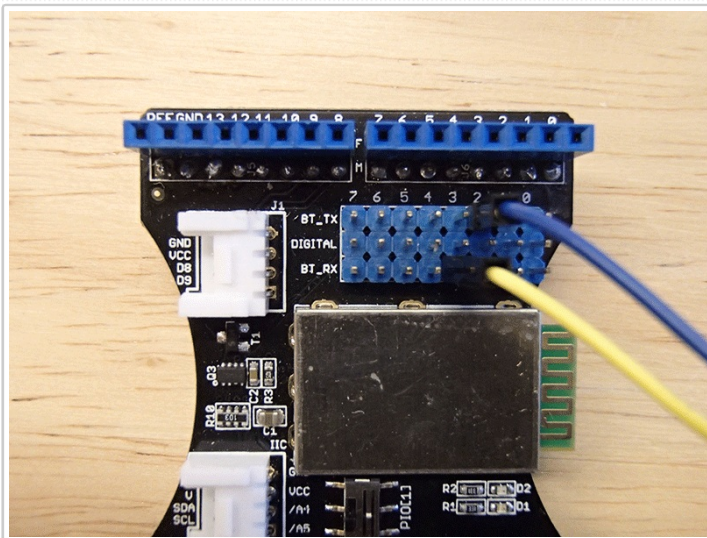


Connect Clyde to Bluetooth Shield

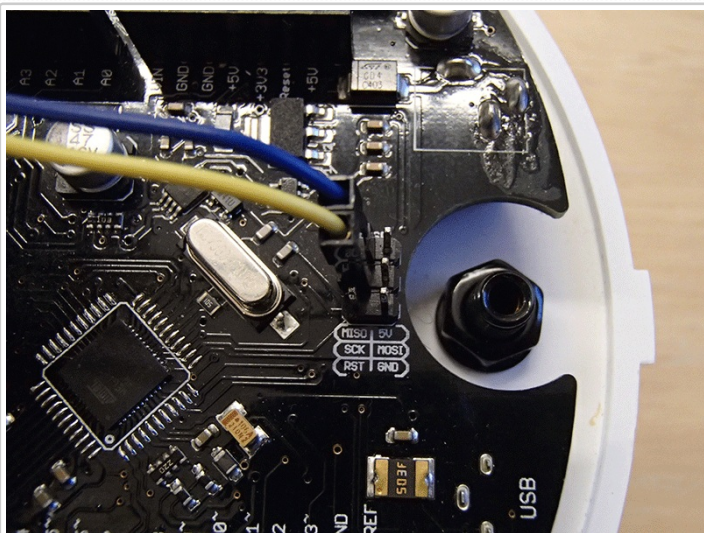
Connecting the Bluetooth Shield is very straightforward. In this example you'll use SoftwareSerial for serial communication. SoftwareSerial only works on pins that support change interrupts. On Clyde the only pins that do are 8, 9, 10, 11, 14 (MISO), 15 (SCK), 16 (MOSI). Many of those pins are used for Clyde's lights and modules, so you'll use the ICSP header pins.

Pin Mapping	
Clyde	Bluetooth Shield
14 (MISO)	BT_TX
15 (SCK)	BT_RX

Connect the female-to-female jumper wires to the shield's BT_TX and BT_RX. There is one row of pins marked BT_TX and one marked BT_RX. Any of the pins in the row will work. Make sure to remove the small pin connectors that came with the shield.

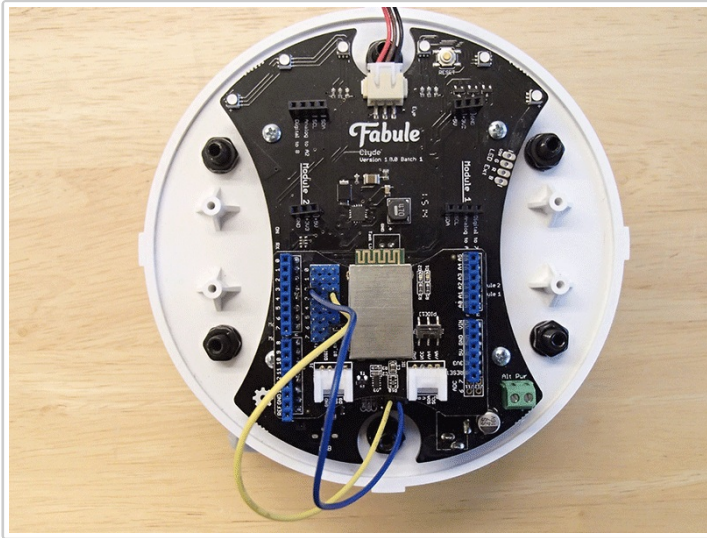


Connect the female-to-female jumper wires to Clyde's digital pins 14 and 15. These pins are available through the ICSP pin headers. On Clyde's board the ICSP pin headers are marked. Digital pin 14 is MISO and digital pin 15 is SCK.



Now you are ready to plug the shield into Clyde. That completes the

hardware setup.



Software

Download Demo Code

Seeed Studio provides demo code for the Bluetooth shield on [GitHub](#). Go ahead and [download it](#). This zip file contains multiple sketches, but you'll only need one for this tutorial, `Slave_led`. You will use this sketch to turn Clyde's task light on and off using a smart phone.

Unzip `Bluetooth_Shield_Demo_Code-master.zip`. The folder name will be `Bluetooth_Shield_Demo_Code-master`. Navigate to `Bluetooth_Shield_Demo_Code-master/examples`, you'll see a folder called `'Slave_led'`. Move the `Slave_led` folder into your Arduino sketchbook's folder.

To open the sketch, in Arduino IDE go to: `File > Sketchbook > Slave_led`

Configure for Clyde

Time to set the pins in the sketch. `RxD` is pin 14, and `TxD` is pin 15. Clyde's task light is controlled by digital pin 11. Change `PINLED` to 11 to control Clyde's task light. You could also try pin 5, 6 or 9 and see what that does.

```
#define RxD      14
#define TxD      15

#define PINLED    11
```

Download a SSP App

Now for the smart phone side of the equation. You'll need to download an SSP App for your smart phone. I've got an android phone, so I searched on Google Play to find a free SSP App. If you've got one of those other phones, I am sure you can find a free SSP through your app store. Search for Bluetooth SSP, and you should find several to choose from.

Once the SSP App is installed connect to SeeedBTSlave, the pin code is: `"0000"`. On the Bluetooth SSP app that I've used I needed to specify an operation mode, I chose `"Command Line"` and a `"cmd last char"`, I chose `"\n"`.

Ta-da!

Now for the magic. Type `'0'` in the Bluetooth SSP app's text field and press enter. That should turn on Clyde's task light. Type in `'1'` to turn it off again. Turning on a light has never been this fun!

Links

Purchase: <http://www.seeedstudio.com/depot/Bluetooth-Shield-p-866.html>

Wiki: http://www.seeedstudio.com/wiki/index.php?title=Bluetooth_Shield

Demo code on GitHub: [https://github.com/Seeed-](https://github.com/Seeed-Studio/Bluetooth_Shield_Demo_Code)

[Studio/Bluetooth_Shield_Demo_Code](https://github.com/Seeed-Studio/Bluetooth_Shield_Demo_Code)

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