Bees Shield

From Wiki

Contents

Introduction

Bees_Shield will make interfacing multiple Bee-style (XBee, GPRS Bee, Bluetooth Bee and etc) easier than ever before. Aside from two Bee-style 20p 2.0 pitch sockets, it also has a large prototyping area, and a customizable software serial port for easier prototyping.
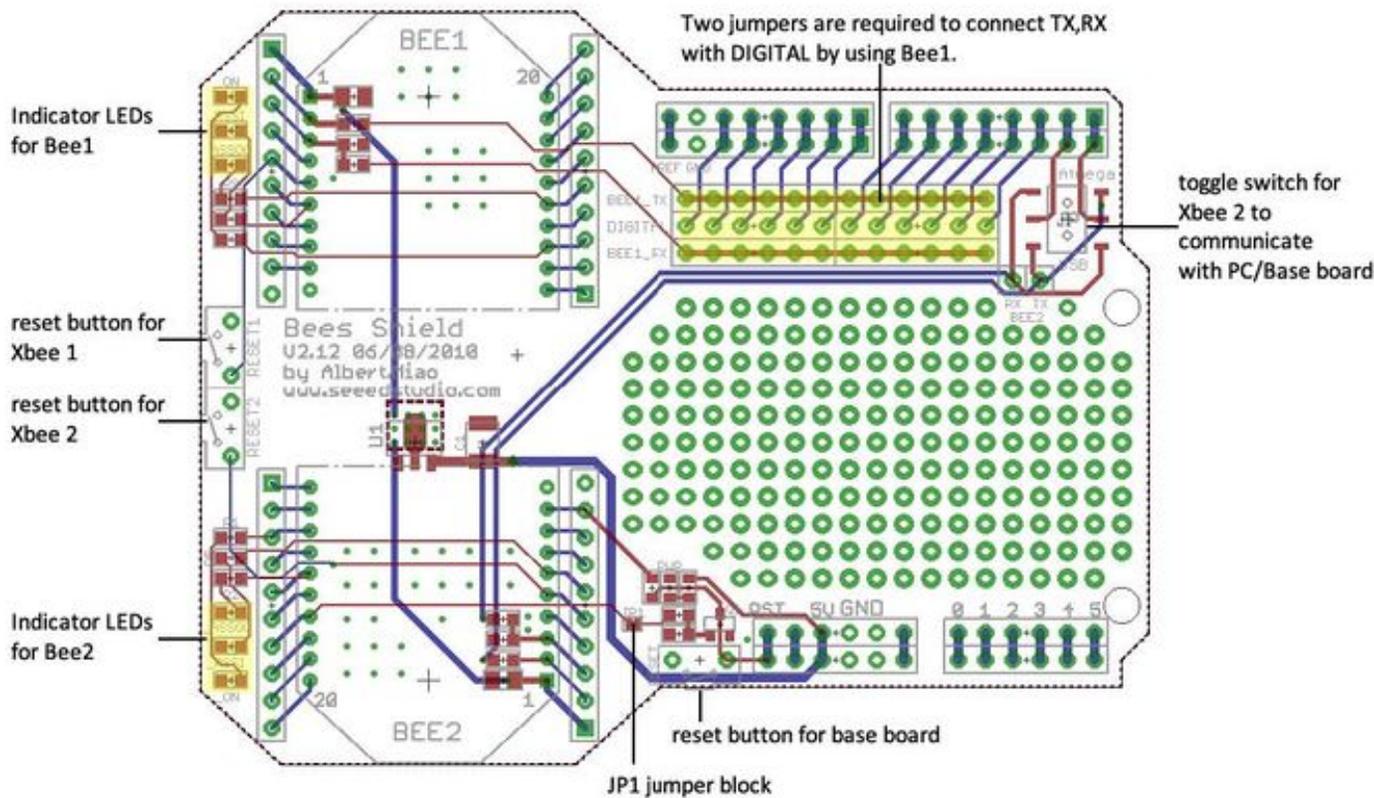
Compatible with Seeeduino, Arduino Uno and Duemilanove

Model:INT119B2P (http://www.seeedstudio.com/depot/bees-shield-p-672.html?cPath=109)

↑TOP

Features

- Dual Bee-type socket;
- 3 indicators LED（ON/Sleep, RSSI, ASSOC）for each Xbee;
- Full-size with free drills;
- Reset button for each Xbee;
- Reset button for the base board;
- Provide maximal 500mA under 3.3V;
- Full breakout for each Bee;
- Can switch communication between FTDI-USB /Base board;
- A small shield can be inserted.

Layout

Two jumpers are required to connect TX,RX with DIGITAL by using Bee1.

Indicator LEDs for Bee1

toggle switch for Xbee 2 to communicate with PC/Base board

reset button for Xbee 1

reset button for Xbee 2

Indicator LEDs for Bee2

reset button for base board

JP1 jumper block

Usage

Using SoftwareSerialExample with Xbee module

Plug the Xbee module into the Bee 1 socket, setting the jumpers as in the following picture.

Upload the following sketch to the Arduino via the Arduino IDE (version 1.0 or above). When it's done, open the serial monitor to communicate with another Xbee module.

```
#include <SoftwareSerial.h>
```

```
SoftwareSerial mySerial(7, 8);

void setup() {
  Serial.begin(9600);
  Serial.println("Goodnight moon!");

  // set the data rate for the SoftwareSerial port
  mySerial.begin(9600);
  mySerial.println("Hello, world?");
}

void loop() {
  // run over and over
  if (mySerial.available())
    Serial.write(mySerial.read());
  if (Serial.available())
    mySerial.write(Serial.read());
}
```

Uploading Sketch to RFbee

You can upload software for Bees only to the Bee2 socket.

1. Toggle switch to USB side;
2. make sure you upload this blank sketch to your host Arduino first:（make Uart0 port of Atmega IC disable）：
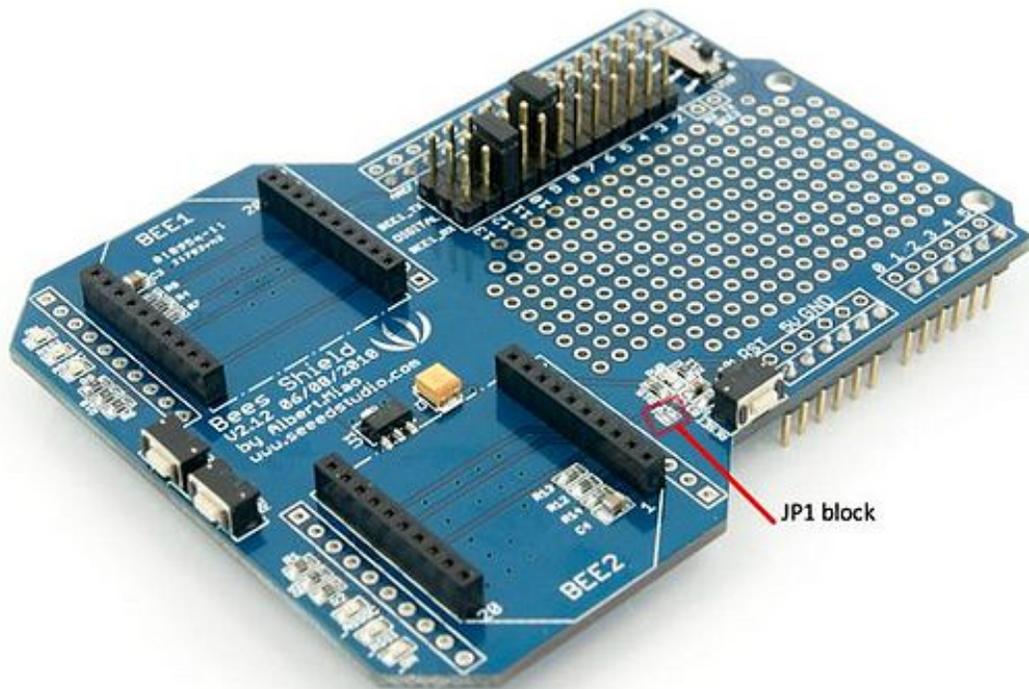
```
void setup() {
   DDRD=0x00;
}

void loop() {}
```

Software uploading does NOT work if the base board is using ATmega168 – we need at least ATmega328 to pass serial communication through.

Set the toggle switch to the Atmega's side if you are not uploading a sketch to the Bee2.

Wireless Arduino program upload using Bee 2

1) Solder the JP1 block on the board for wireless programming.

JP1 block

2) Configure the transmitter and the receiver as step 1 and step 2 of the ladyada website
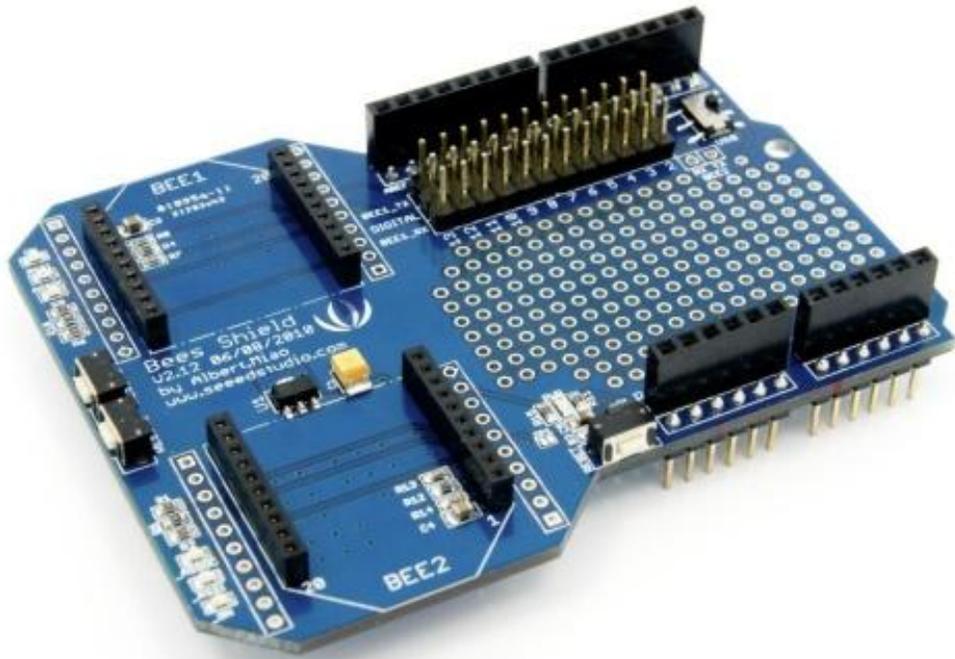http://ladyada.net/make/xbee/arduino.html
Note that step 3 setting is unnecessary.
Or direct downloading setting profile from our website to Xbee using X-CTU.
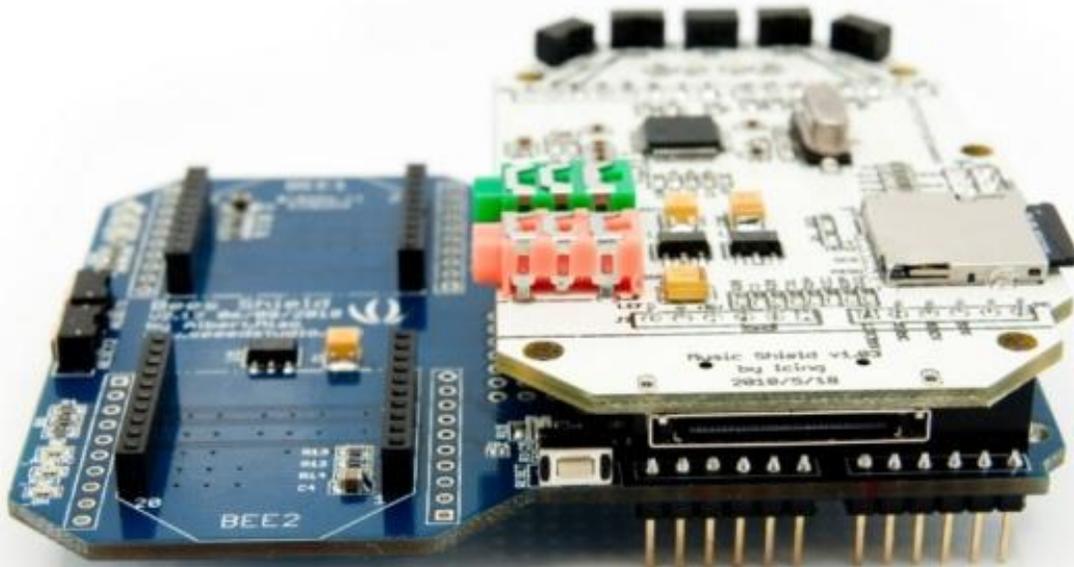3) Or direct downloading setting profile from our website to Xbee using X-CTU.
4) Upload the program to transmitter Xbee and the wireless programming will begin.

Expansion function

First we have to solder two 8-pin female headers and two 6-pin female headers on the Bees shield. After the expansion we can insert small shield like music shield on the Bees shield and wireless control it.

FAQ

Please list your question here:

Support

If you have questions or other better design ideas, you can go to our forum (http://www.seeedstudio.com/forum) or wish (http://wish.seeedstudio.com) to discuss.

Version Tracker

Revision	Descriptions	Release Date
Bees Shield v1.0	Initial public release	Jul 02, 2010

Bug Tracker

Bug Tracker is the place you can publish any bugs you think you might have found during use. Please write down what you have to say, your answers will help us improve our products.

Additional Idea

The Additional Idea is the place to write your project ideas about this product, or other usages you've found. Or you can write them on Projects page.

Resources

- Xbee setting profiles (http://www.seeedstudio.com/depot/datasheet/Xbee%20setting%20profiles.zip)
- Bees_Shield_V2.12_source.zip (http://garden.seeedstudio.com/images/7/71/Bees_Shield_V2.12_source.zip)

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