

Bees shield

Bees shield will make interfacing multiple Bee-style (XBee, GPS Bee, Bluetooth Bee and etc) easier than ever before. Aside from dual Bee style 20p 2.0 pitch socket, it also has large proto area, customizable software serial port for easier prototyping.



Features

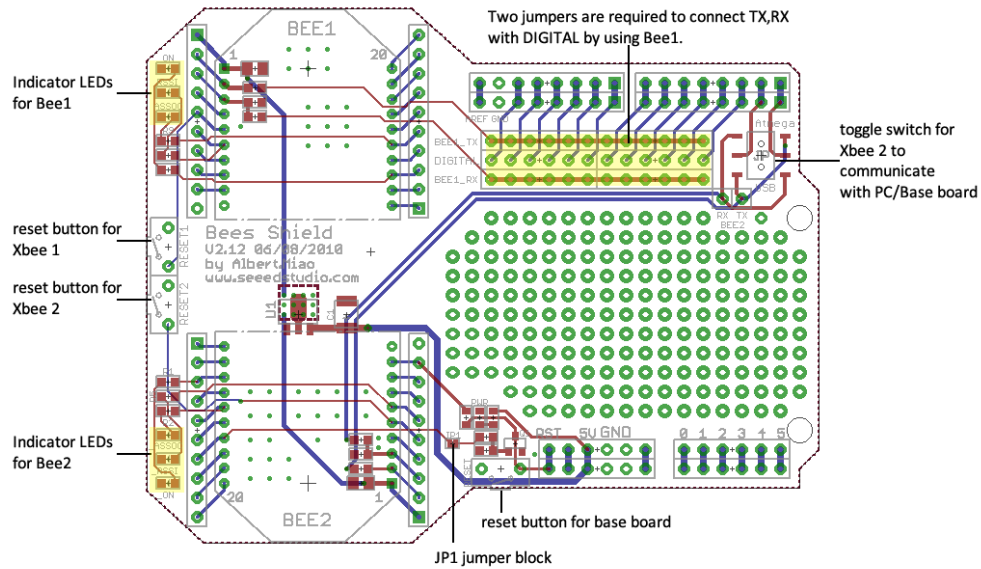
- Dual Bee type socket
- 3 indicator LED (ON/Sleep, RSSI, ASSOC) for each Xbee
- Full size with free drills
- Reset button for each Xbee
- Reset button for base board
- Provide maximal 500mA under 3.3V
- Full break out for each Bee
- Switchable of communication with FTDI-USB /Base board
- Ability to insert small shield

Receiver Signal Strength Indication (RSSI)

Association (ASSOC)

Two Xbee pros are not supportive because they need more than 500mA current.

Hardware and Installation



Two jumpers are required to connect Bee1_TX, Bee1_RX with Digital by using Bee1 like this:



Bee 1 uses a virtual serial port and we can set Digital 2~13 as virtual serial port signal.

How to use Bee 1:

- 1) Download [NewSoftSerial](#) library;
- 2) Put it in Arduino IDE Libraries folder(arduino-0018\libraries);

Uploading Sketch to RFbee:

Only Bee2 socket can upload software for Bees:

- 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):

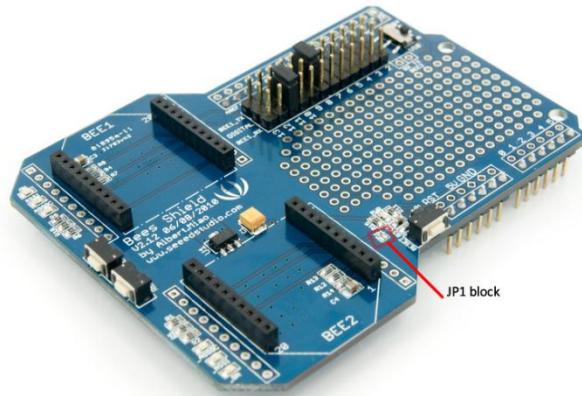
```
void setup()
{
  DDRD=0x00;
}
void loop()
{
}
```

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

Set toggle switch to Atmega side if we are not uploading sketch to Bee2.

Wireless Arduino program upload using Bee 2

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



- 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) After configuration plug the receive XBee into the Bee 2 socket.
- 4) Upload the program to transmitter Xbee and the wireless programming will begin.

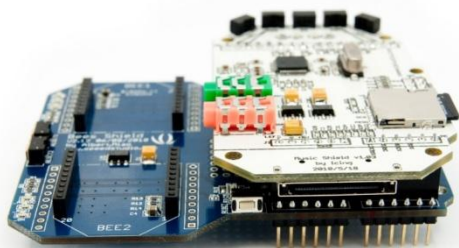
Only XBee 802.15.4 model can be used for wireless programming.

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.



Revision History

Rev.	Descriptions	Release date
1.0	Initial public release	01.07.2010