



## UNO Extend Board





## Hardware Manual

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Compatible With Arduino Uno

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### **Attention:**

Due to technical requirements components, please do not hand directly connected

Touch. Core board and development system contains static-sensitive devices. Quiet Electrical charge easily accumulate in the human body and the device can not detect possible Damage to equipment, it is recommended to take anti-static measures, it is recommended not to hand. Touch, stored in anti-static effect devices.



### **Banana Pi Expand Module Serial:**

#### **Infinity cascade IO expand module:**

This module is designed specifically for the Banana Pi IO expansion modules. The module expand 32 IO, Multiple modules can cascade, infinity cascade, infinity GPIO.

#### **I2C GPIO expand module:**

This module is designed specifically for the Banana Pi IO expansion modules. The Module use I2C bus to connect to Banana Pi. The module expand 8 Bidirectional GPIO and wit isolation protection function which can effectively excessive external voltage. There are 8 I2C address, you can choose one of them through setup the jumper. Multiple modules can cascade and maximum cascade 8 modules!



### **Prototype development module:**

The Prototype development module is designed specifically for the Banana Pi. The module suitable enthusiasts and user can weld peripheral to the module; The module expand some amphenol connector and some SMT, so the user can finish prototype test easily.

### **Berryclip expand module:**

The BerryClip module is designed specifically for learning how to use the GPIO of Banana Pi. There are 6 multiple color LED, 1 button and 1 Buzzer on the module.

### **Berryclip(DIY) expand module:**

The module is not the end product, you need weld them by yourself. The function of the module is the same as BerryClip module.

### **UNO compatibility module:**

The module makes Banana Pi compatible with Arduino Uno and many Arduino Shields. The module's GPIO is the same as Arduino Uno and you can choose the voltage of GPIO between 5V or 3V through setup jumper.

### **T Electric level convert module:**

The module expand the GPIO of Banana Pi to breadboard. It convert 3.3V electric to 5V electric level, then the Banana Pi can connect many 5V electric level peripheral.



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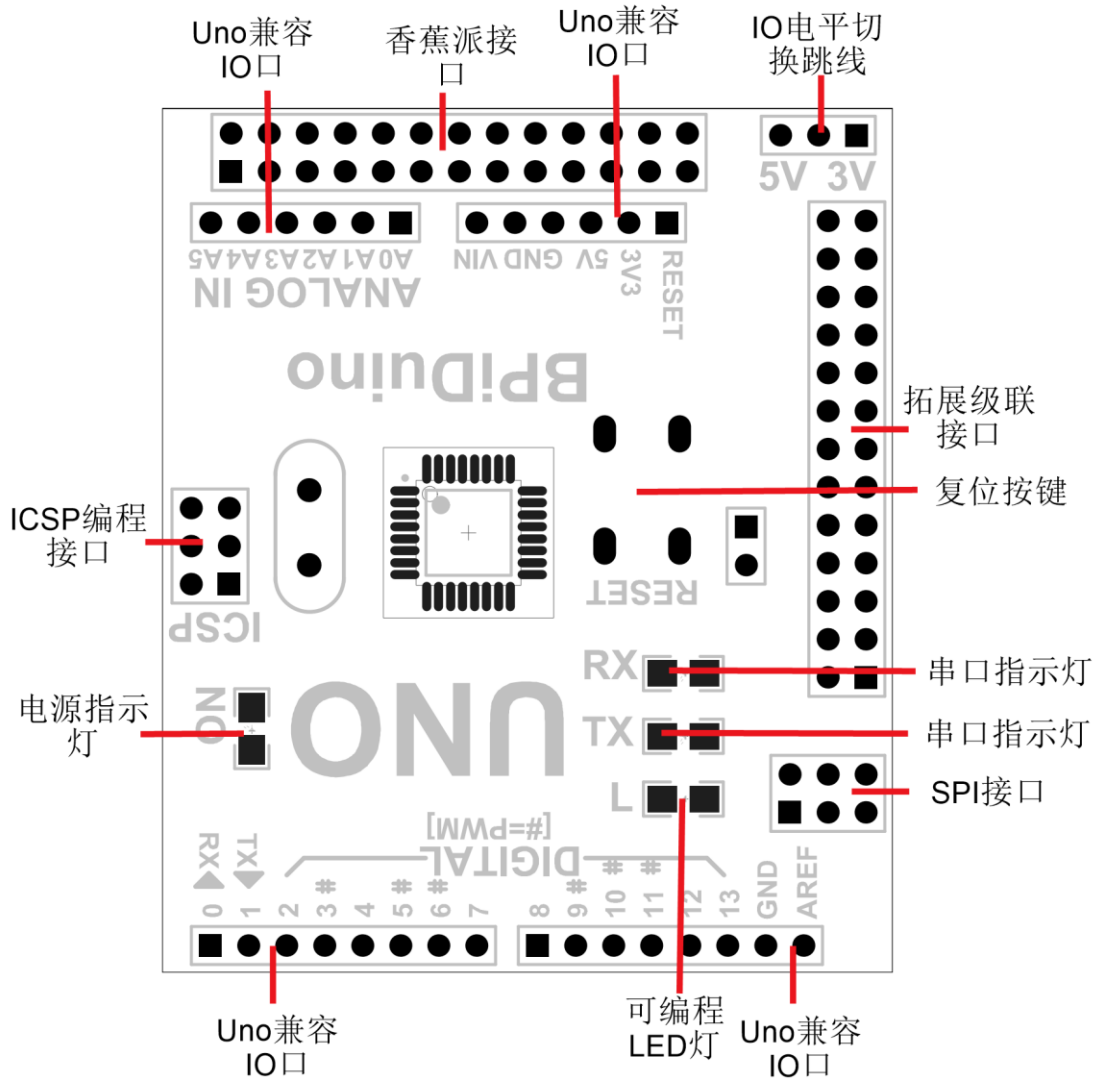
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### **IO extraction module:**

The module expand all of GPIO of Banana Pi to breadboard.



Product Specification:





### **Produce Overview:**

The module makes Banana Pi compatible with Arduino Uno and many Arduino Shields. There is an ATmega328 chip on the board so the module can compatible Arduino Uno code and peripheral. This board is a combination of high operation performance of the banana pie and Arduino flexible control performance, the combination of peripheral greatly expand the banana pie access ability and the abundance of accessories.

### **Produce Features:**

- ATmega328 chip on module
- Compatible with Arduino Uno
- Switch 5V or 3.3V GPIO
- Compatible with Processing code
- Expand SPI of Banana Pi

### **Port:**

- Banana Pi connection port



- Banana Pi cascade port
- Arduino Uno GPIO
- Electric level switch jumper
- SPI
- ICSP port

### Product Parameters:

- Working voltage: 3.3V-4.5V
- GPIO voltage: 3.3V 或 5.5
- 8 channel 10bit high resolution ADC
- Power-down Mode: 0.1 $\mu$ A
- 32K ROM
- 2K RAM
- -40°C to +85°C operation

### Typical Application:

- Automatic control
- Arduino learning
- Sensor control





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- 3D printer controller
- Laser cutter controller
- Robot controller
- Smart home

### How to use:

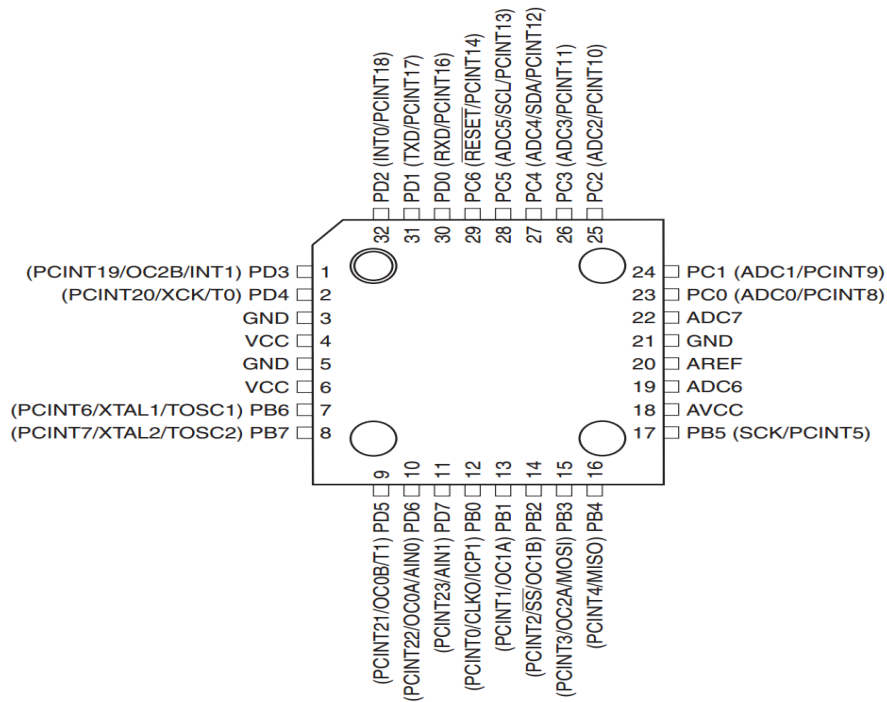
Just insert the module to Banana Pi, like the below picture:





**More information:**

**Pin Configuration:**

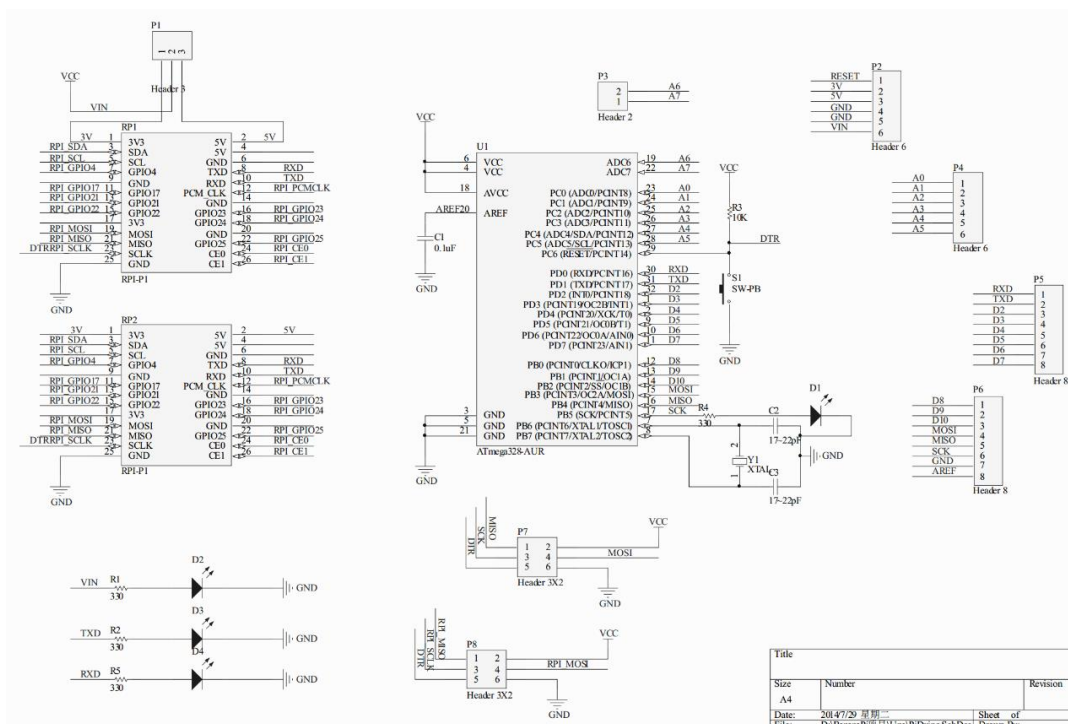




**Schematic diagram:**



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More information please check:

<http://www.atmel.com/zh/cn/devices/atmega328.aspx>

## Testbench:

- When power up the module , The “L” LED is blinking

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