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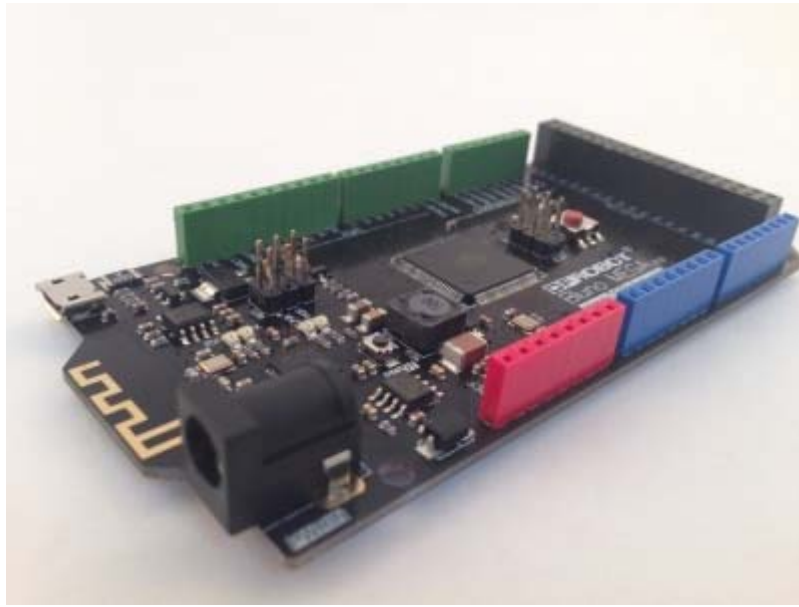
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## Bluno Mega 1280 (SKU:DFR0306)

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### Introduction

Arduino Mega Arduino is the high-end series of the Arduino controller. DFRduino Mega1280 is based on ATmega1280 control chip as the core, with 54 digital I/O (input/output) ports (of which 14 can be used as PWM output), 16 analog input ports and 4 UART (hardware serial ports), using a 16 MHz crystal oscillator.

Embedded bootloader enables the controller to download the program directly via USB without any other external burning device.

Multiple ways of power supply can be free to choose, including the USB power supply and universal power adapter and battery for external power supply.

Open-sourced software and hardware platform, large interacted community, easy development environment and strong control ability, all together making the Arduino become the most popular electronic product development tool currently.

## Specification

- Microcontroller : ATmega1280
- Clock frequency: 16MHZ
- Transmission distance: 70m in free space
- Support bluetooth remote update the Arduino program
- Support bluetooth HID
- Support iBeacons
- Support by the AT command to debug the BLE
- Support transparent transmission serial port
- Support the master-slave machine switch
- Support usb update BLE chip program
- Working voltage : +5V
- External input voltage (recommended) : 7V~12V DC
- External input voltage (range) : 6V~20V DC
- Digital I/O outputs: 54 (14 PWM outputs)
- Analog inputs: 16
- I/O current: 40mA
- Flash capacity: 128KB (4k for bootloader)
- Static storage capacity of SRAM: 8KB
- Memory capacity of EEPROM: 4KB
- Size: 108mmx54mm

## Pin Out

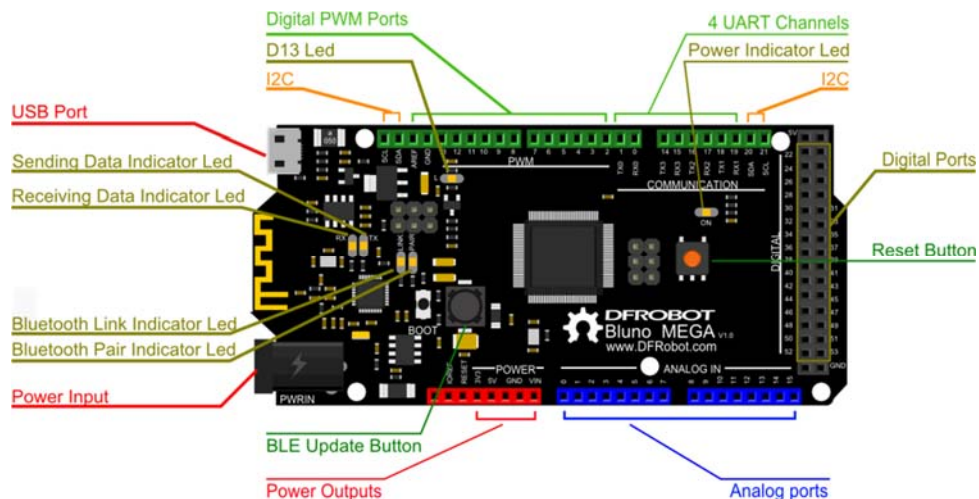


Fig1: Bluno Mega1280 Pin Out

The figure above shows Bluno Mega1280 controller with all the ports, which includes:

- Power: USB power supply or external DC2.1 power supply; automatically disconnect USB power supply when using an external power supply; external power supply transformed as stable 5V through an on-board DC-DC power conversion; current output capacity up to 2A, and USB power supply 5V when the maximum output current is 500mA.
- DC2.1 power input interface, voltage range: 5-23V
- USB interface, power supply and communication
- 2 I2Cs
- 4 UARTs (hardware serial ports)
- 54 digital input/output pins (of which 14 can be used as PWM outputs)
- 16 analog inputs
- 5V and 3.3V output
- A reset button
- A BLE chip firmware update button

## Supported Android Devices

Android 4.3 and above systems equipped with Bluetooth 4.0:

- Nexus 4+
- MI 2s
- Samsung Galaxy s4
- Samsung Galaxy note 3

Recommended Android version:

[BLE Android 4.3 ROMs \(Cyanogenmod Stable version\)](#)

## Supported Apple Devices

iOS 7.0+ Devices :

- iPhone 4S+
- iPad 3+
- iPad Mini
- iPod 5th Gen

## Special Driver

Bluno Mega1280 requires a special driver. Please download the [Special Driver](#), and install it in the Device Manager.

If you find it doesn't display Mega1280 in the Device manager, please uninstall the driver and reinstall the correct one again.

## Tutorial

### More advantages

Compared with the first Bluetooth 4.0 integrated Arduino board , Bluno, Bluno Mega1280 not only inherits the advantages of this Bluetooth 4.0 wireless communication function, but also enables more digital and analog ports allowing bigger code storage space. That is to say, you can use Bluno Mega1280 to make more functional DIY works. Also improvement has been done on power supply, with the power input range widened to 5-23V. The board output current capacity has also been greatly increased to 2A (using DC2.1 port to supply power), which is even more fortunate. It means Bluno Mega1280 is able to connect more external sensor modules concurrently. The shield interface is compatible with the Arduino shield interface, as it was previously. Yes, it will undoubtedly become a powerful core board for making creative DIY works.

### The serial port using

Bluno Mega1280 and Mega1280 have the same serial port configuration, with only adding a serial port for Bluetooth 4.0 wireless passthrough. Bluno Mega1280 has four serial ports, allowing concurrently connecting 4 communication modules.

Arduino language provides some functions that can be used for operating Bluno Mega1280 serial ports. Taking Serial port 0 as an example, the operation functions are [Serial.begin\(\)](#), [Serial.read\(\)](#), [Serial.print\(\)](#) and [Serial.println\(\)](#). The other three serial port usages are the same as Serial port 0, like that all the operations functions of Serial port 2 are [serial2.begin\(\)](#), [serial2.read\(\)](#), [serial2.print\(\)](#) and [serial2.println\(\)](#).

### Sample for Bluno Mega1280 connecting to smart phones

Please refer to [Sample for Bluno connecting to smart phones](#)

### Wireless programming via BLE

Please refer to [Wireless programming via BLE of Bluno](#)

### BLE firmware update of Bluno mega1280 ("AT + VERSION" to check the version)

Please refer to [BLE firmware update of Bluno](#)