Name: 4WD Bluetooth Installation Tutorial

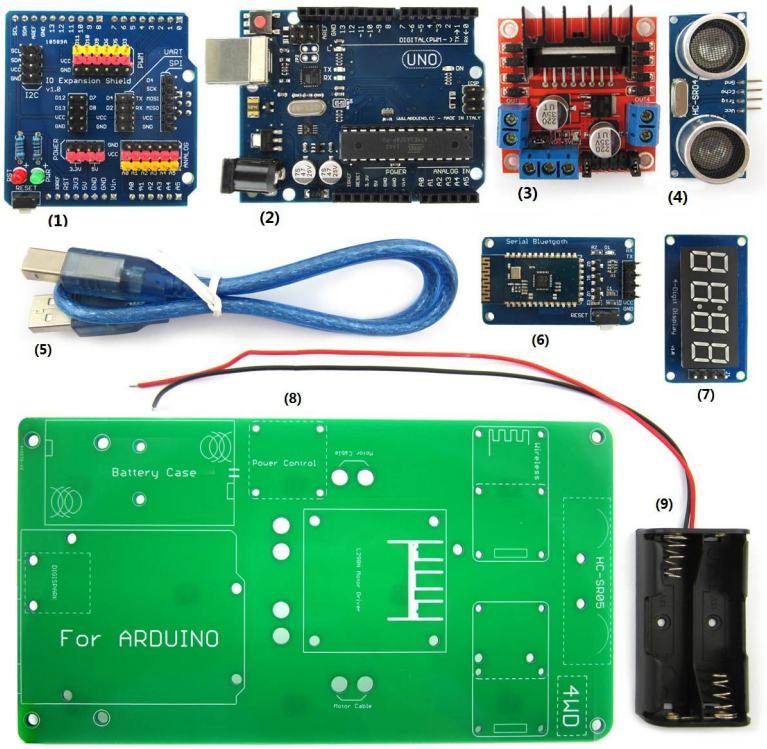
Version: v1.0

Date: Jul 27, 2015

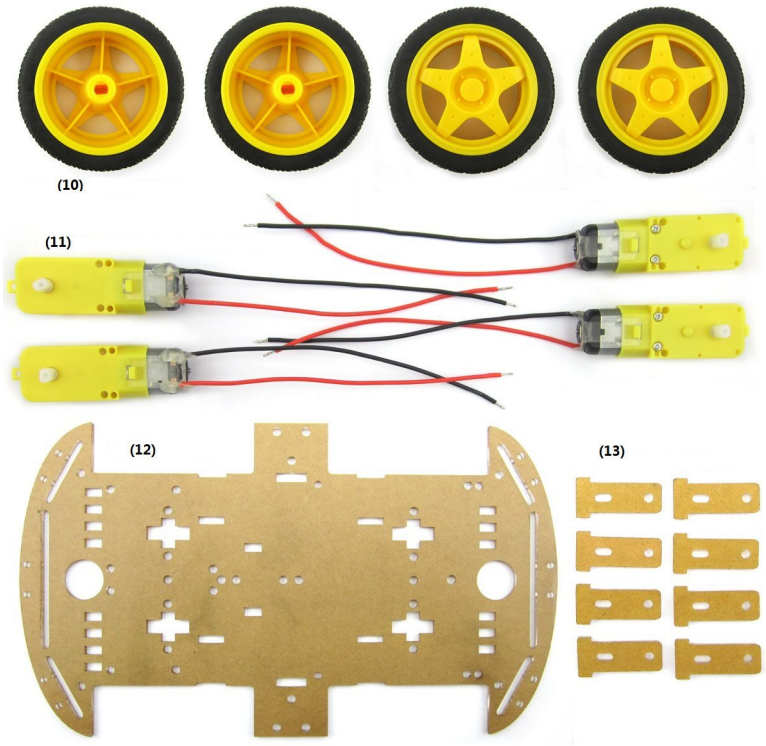
0 Read first please!!!

(1) **NOTE:** The kit contains small parts, such as screws, nuts and Nylon Rivet, so please keep it far away from the children that are under 6 years of age.
(2) As the kit does not contain the battery, you need to buy two 3.7V / 14500 Li-ion batteries(Recommend capacity: greater than 1000mAH) at the local.
(3) You should use the Android mobile phone with Bluetooth to control the Bluetooth Smart Car.

1 Description of the parts



(1) IO Expansion Shield
(2) UNO R3 Development Board
(3) L298N Motor Driver module
(4) Ultrasonic Sensor module
(5) 50cm USB Cable
(6) Serial Bluetooth module
(7) 4-Digit Display module
(8) Green PCB(185X100X1.6MM)
(9) 14500 Battery Holder

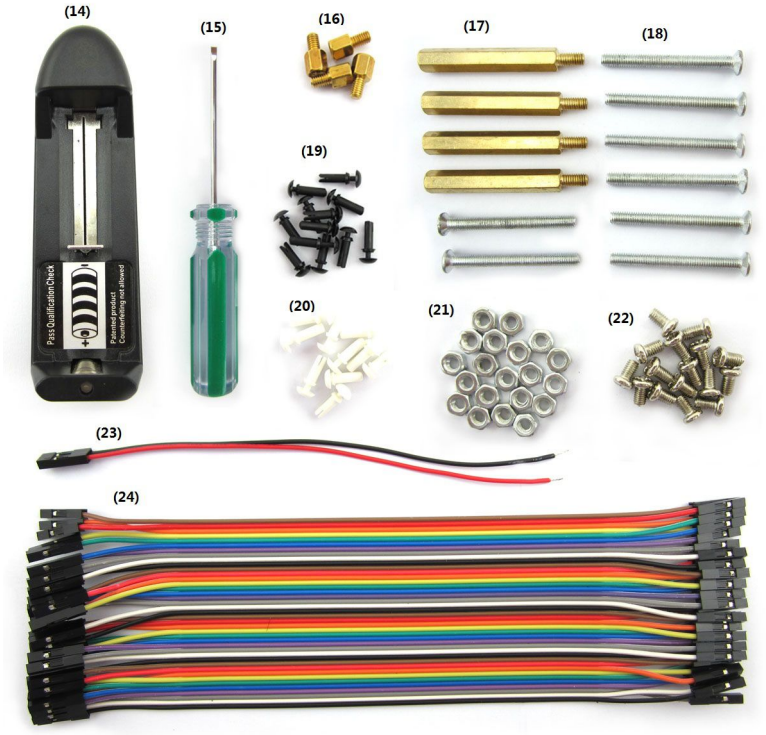


(10) Wheels

(11) Gear Motor with Connection Wires(15cm)

(12) 3mm Acrylic Car Chassis, **you can tear up its protective paper**.

(13) Acrylic Motor Fixing, **you can tear up its protective paper.**



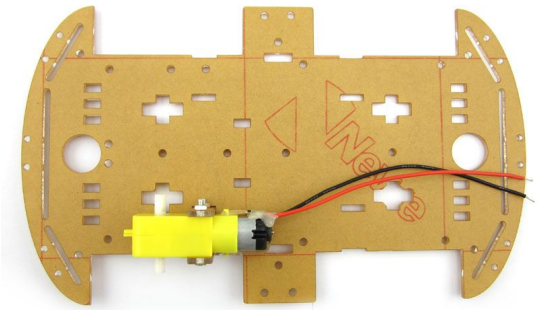
(14) 14500 Battery Charger

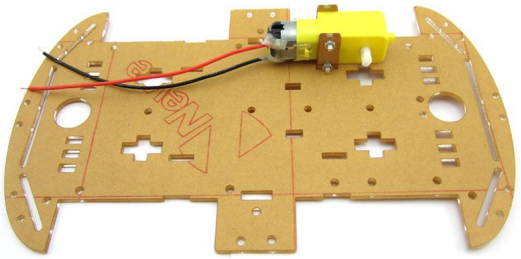
(15) 2x50mm slotted screwdriver

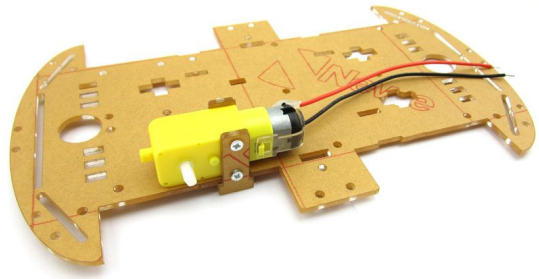
(16) Copper Pillars (M3x6+6mm)
(17) Copper Pillars (M3x30+6mm)
(18) Steel Screws (M3x30)
(19) Black Nylon Rivet (R2064)
(20) White Nylon Rivet (R2672)
(21) Steel Hex nuts (M3 x 2.5)
(22) Steel Screws (M3x5)
(23) 2P single head Dupont line (15 cm)
(24) 40P Female to Female Header Dupont Wire(20cm)

2 STEP1: Mount the motors

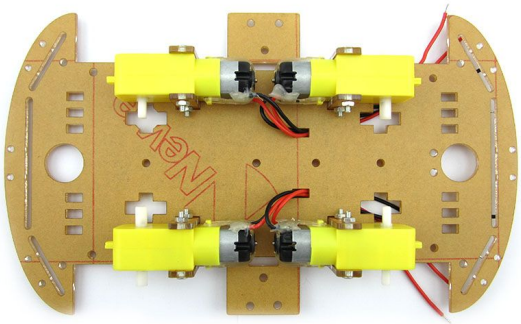
2.1 Mount one motor first

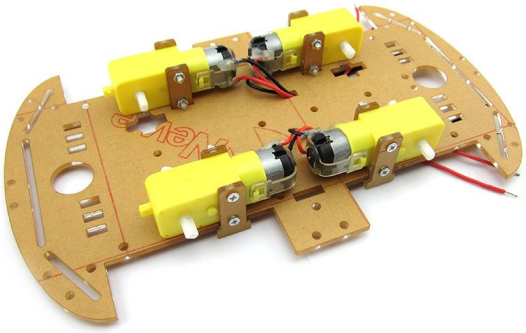


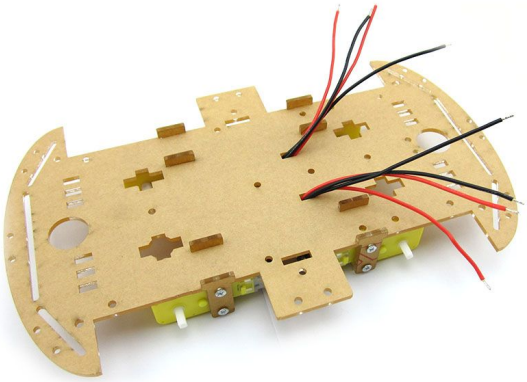




2.2 Mount the other motors

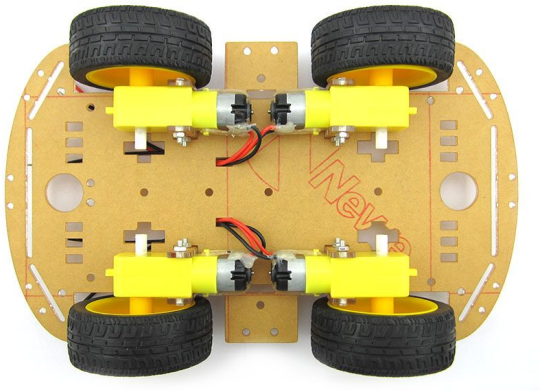




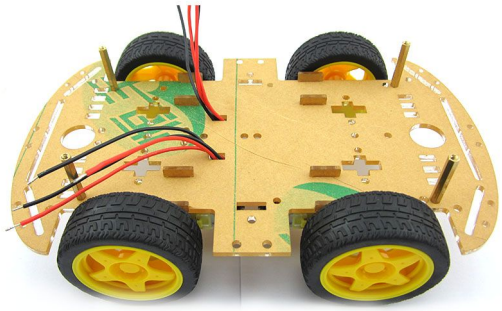


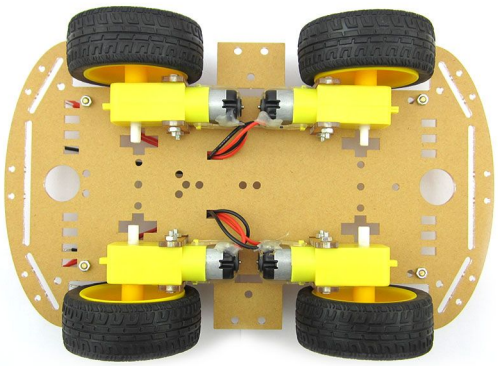
3 STEP2: Install the wheels

3.1 Install the wheels

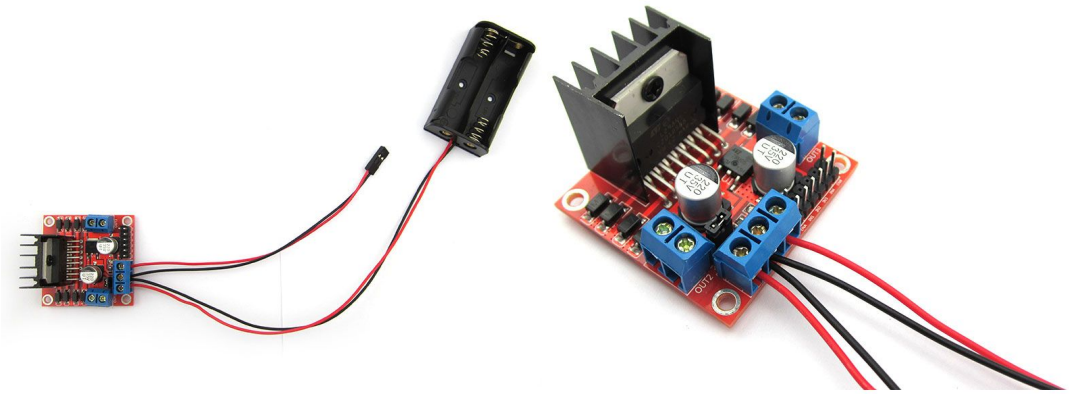


3.2 Mount the long copper pillars





4 STEP3: Install the power cable

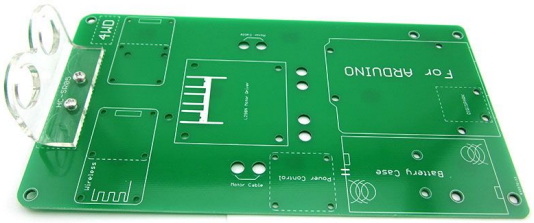


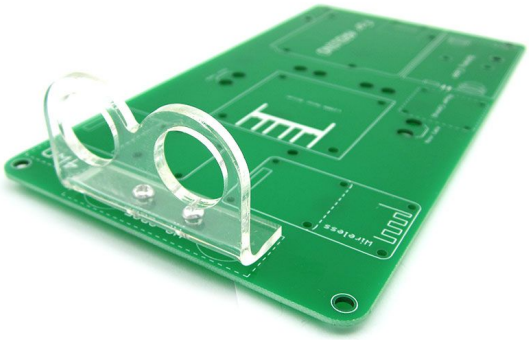
L298N Motor Driver	Battery Socket
+12V	Red wire
GND	Black wire

L298N Motor Driver	2P Dupont Cable
+5V	Red wire
GND	Black wire

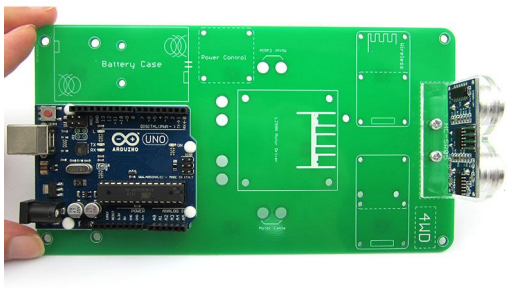
5 STEP4: Install the modules

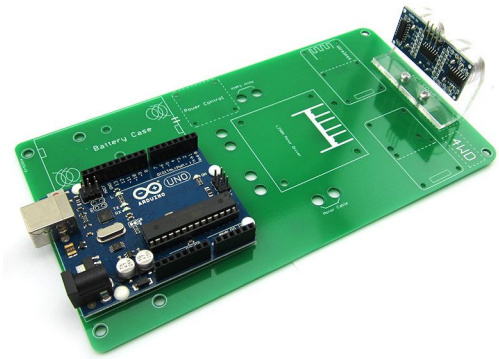
5.1 Mount the Ultrasonic Sensor Acrylic stand



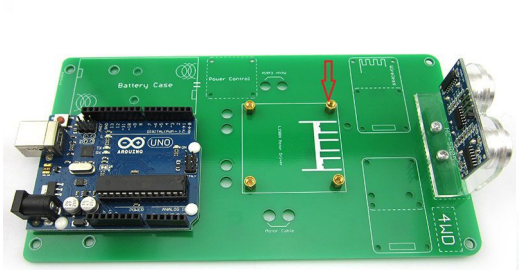


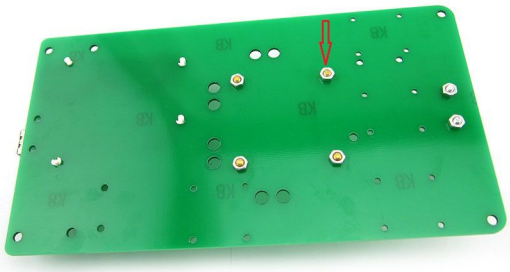
5.2 Plug Ultrasonic Sensor and mount UNO R3 board



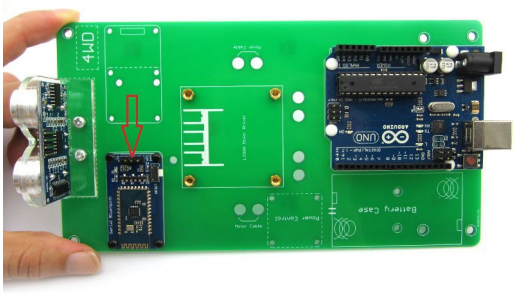


5.3 Mount the short copper pillars

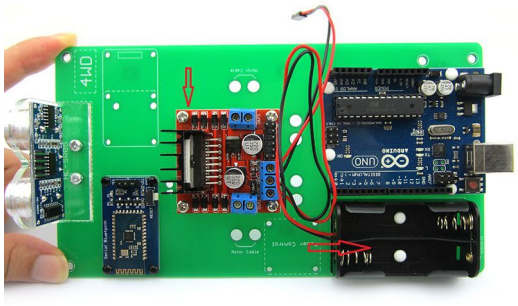




5.4 Mount the Serial Bluetooth module

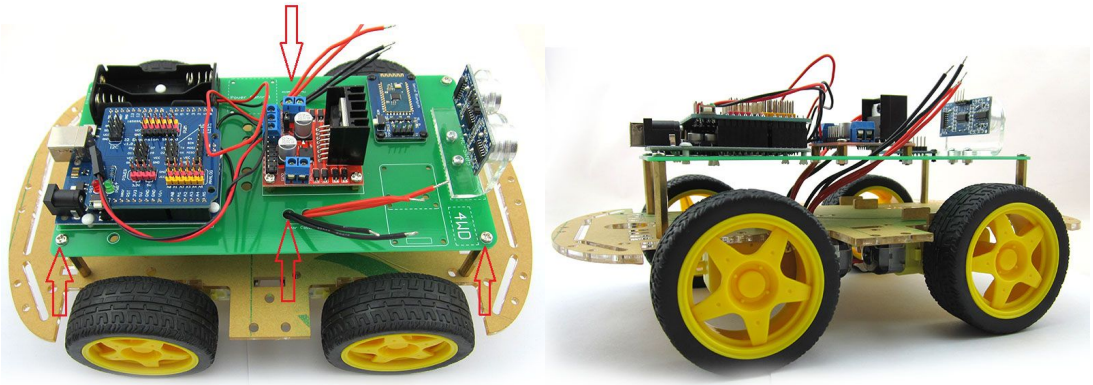


5.5 Mount Motor Driver and Battery Socket

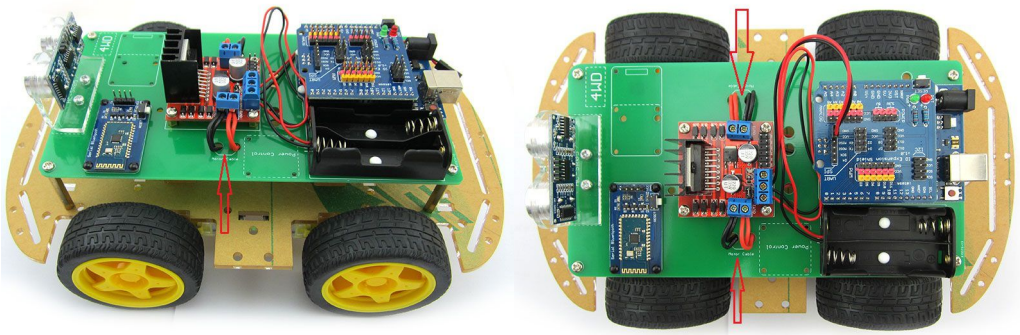


6 STEP5: Link up the two chassis

6.1 Link up the two chassis



6.2 Install the motor cables

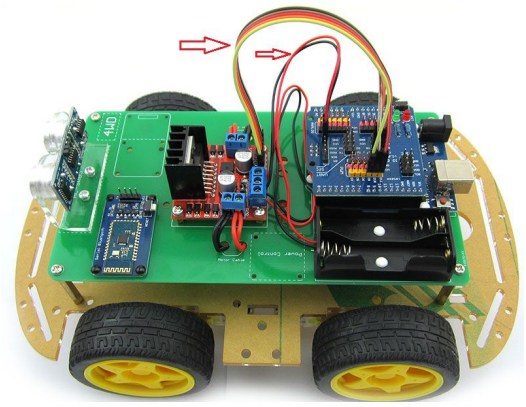


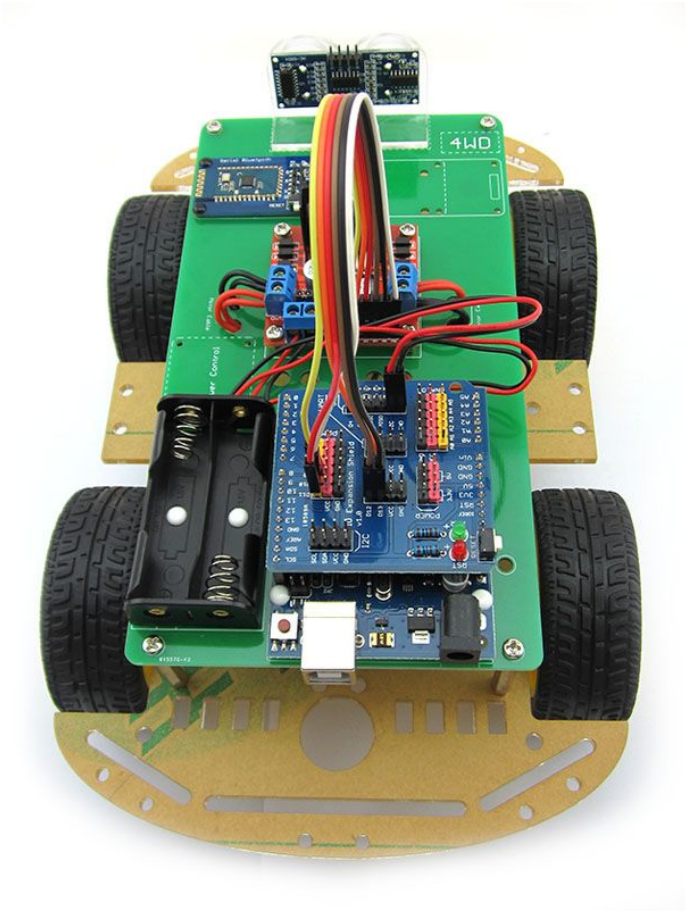
7 STEP6: Connect the modules to Arduino

7.1 Connect the 2P Dupont Cable and Motor Driver module

2P Dupont Cable	IO Expansion Shield
Red wire	VCC
Black wire	GND

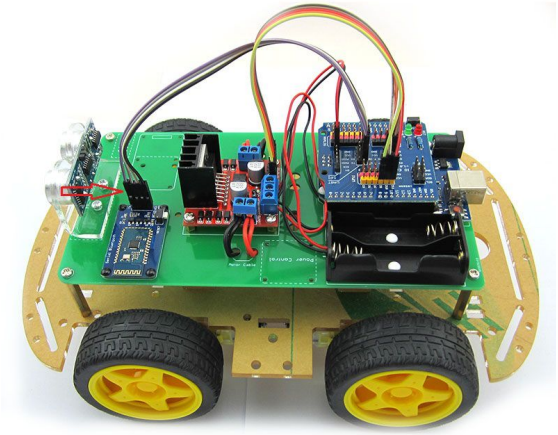
L298N Motor Driver	IO Expansion Shield
ENA	D9
IN1	D8
IN2	D11
IN3	D12
IN4	D13
ENB	D10

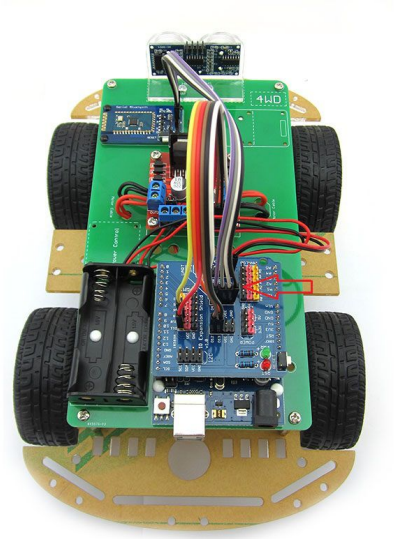



4WD

7.2 Connect the Serial Bluetooth

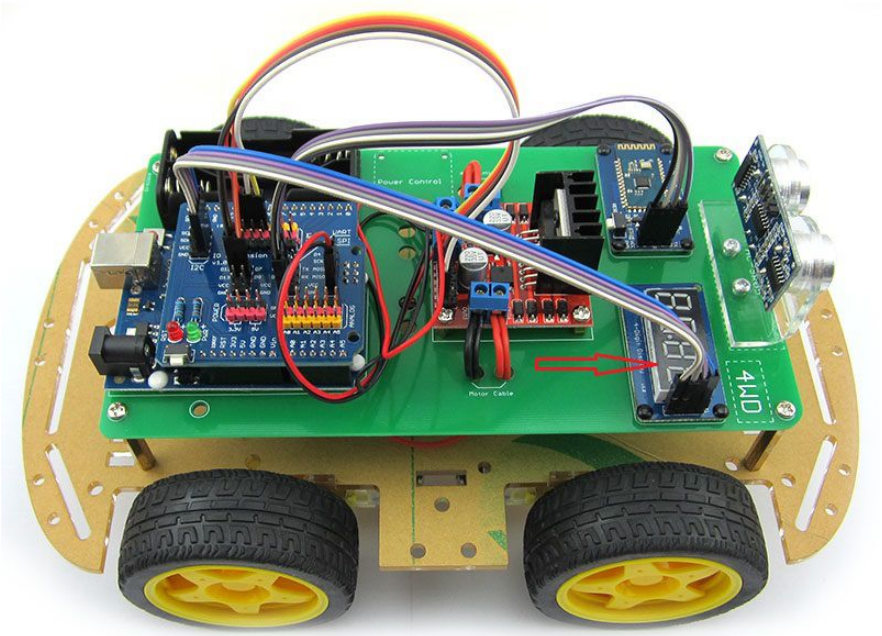
Serial Bluetooth	IO Expansion Shield
RX	D4
TX	D2
VCC	VCC
GND	GND





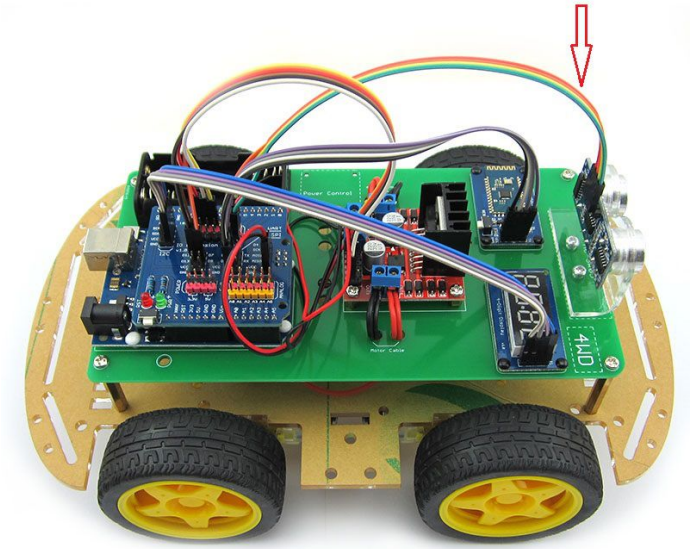
7.3 Mount 4-Digit Display

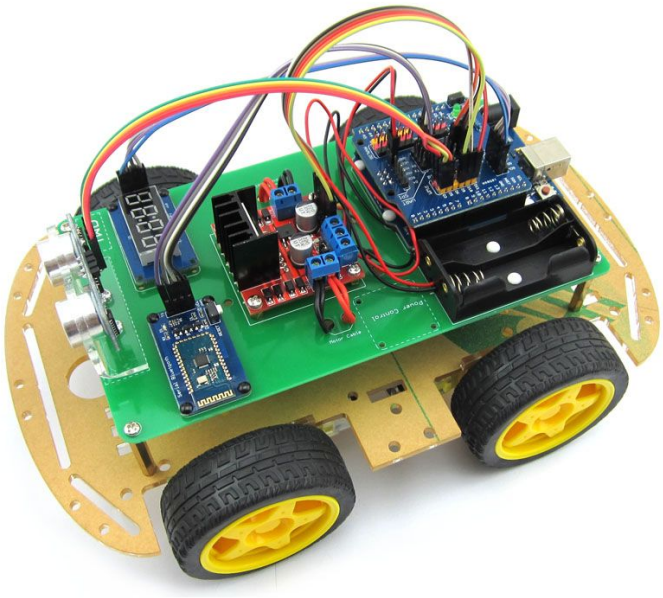
4-Digit Display	IO Expansion Shield
CLK	A5/SCL
DIO	A4/SDA
VCC	VCC
GND	GND



7.4 Connect the Ultrasonic Sensor

Ultrasonic Sensor	IO Expansion Shield
VCC	VCC
Trig	D5
Echo	D3
GND	GND





8 In the end

At last, as the kit does not contain the battery, you need to buy two 3.7V / 14500 Li-ion batteries(Recommend capacity: greater than 1000mAH) at the local. Then plug the them into the battery socket.

The two batteries is connected in series and the output voltage is 7.4V which supply power for the motor driver and motors. There is 5V LDO regulator on the motor driver module and it provides power for Arduino Board. So the smart car can work alone with the batteries.

Enjoy yourself!

Any questions about the using this product, please contact us (catalex_inc@163.com).

We will update more interesting projects with this car and the Arduino code in our net disk.