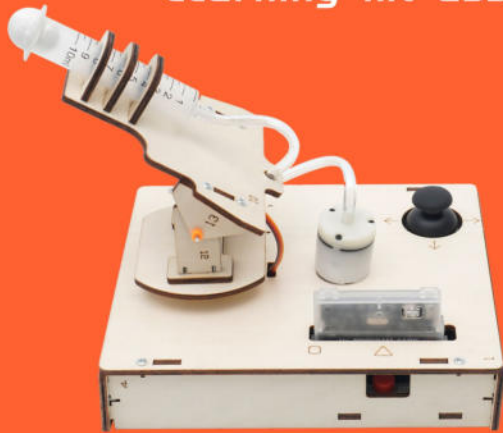


HS-A06 Intelligent anti-aircraft gun

Learning kit assembly instructions



This product must be used with U+ Program Card with U+ Program Card to support Arduino IDE, Mixly, ArduBlock, Scratch and other programming software



Warning: Persons under the age of 14 must be under the guidance of a professional teacher or knowledgeable adult! The assembly and debugging of the product require the use of relevant tools, please take safety precautions when assembling to avoid injury!

Product Introduction

Intelligent anti-aircraft gun is an intelligent kit composed of dual-shaft rocker module, motor drive module, servo, air pump and other accessories.

This kit allows the turret to move up and down 180 degrees and can fire foam ball shells.

You can also modify the sample program through programming software such as Arduino IDE, Mixly or write your own new program to control the flame sensor.

Preparation of tools and assembly considerations

Self-equipped assembly tools: 3mm diameter Phillips screwdriver, scissors.

Self-provided debugging tools: 1 computer with Windows 7, 8, 10, 11 operating system, 1 U+ program card, 1 data cable, 1 pair of 18650 lithium battery.

If you want to easily assemble the kit, you need to read the assembly manual carefully, assemble step by step, please contact customer service.

Security warnings

1. This product is a teaching and experimental product, please do not use its function as a daily necessities, there will be instability.
2. When you do not use this product, please turn off the power switch on the battery box and remove the battery, and keep the battery properly.



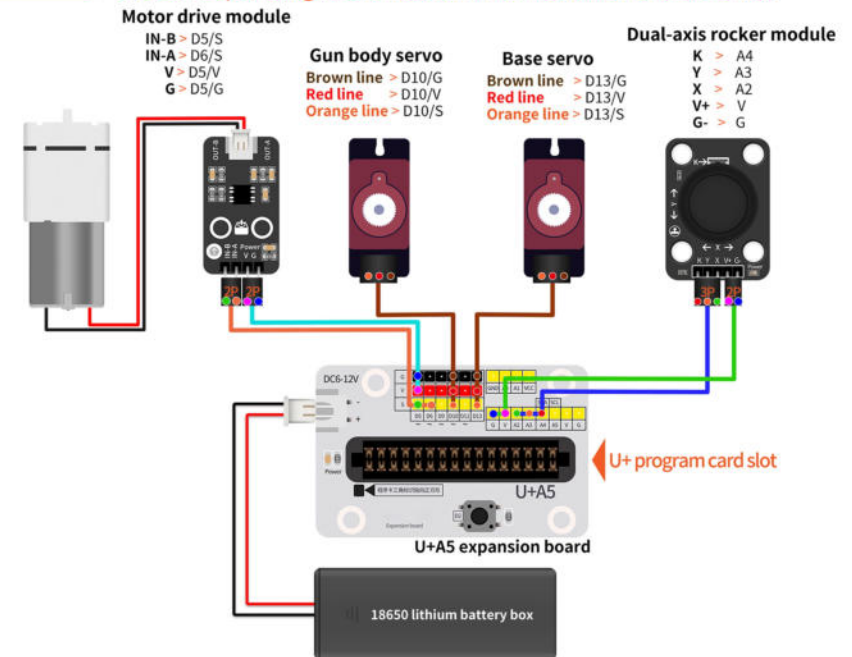
Bill of Materials

Self-provided materials are not the materials in this product kit, need to be equipped by yourself

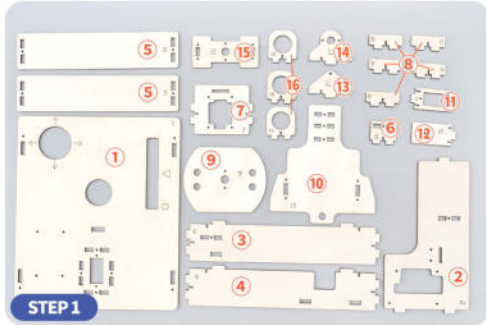
	name	Image	name	Image	name	Image
1	microusb (Owned)		2 U+ program card (Owned)		3 18650 lithium battery (Owned) + 18650 Lithium battery case	
4	orange Fixed ring + Heading (1.3cm)		5 Dual axis Joystick module		6 Key caps + U+A5 Expansion board	
7	Pump (15cm wire) + Motor Drive module		8 Servos + Servo disc + Servo screws		9 Foam balls (Diameter 20mm) + syringe + PVC hose (18cm)	
10	4mm screws + 7mm screws + 10mm screws		11 Body Structural plates		12 3P DuPont Line (15cm) + 2P DuPont line (15cm) + Cable ties	

Wiring diagram

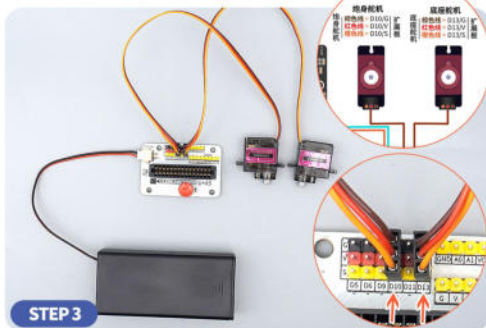
DuPont line color random distribution, line connection please refer to the corresponding identification information of the entrance!



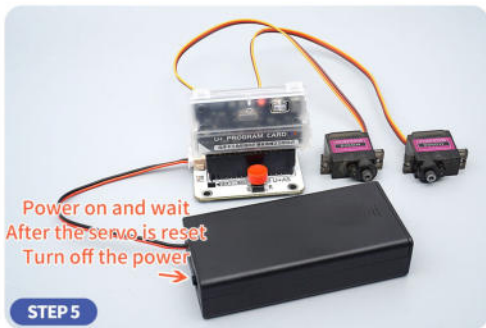
Start assembling



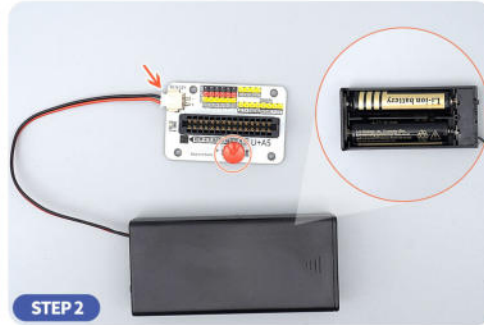
- Prepare all accessories and wood materials, and carefully check the number on the materials when assembling the wood materials. **(The board has a number on the front side and no number on the back.)**



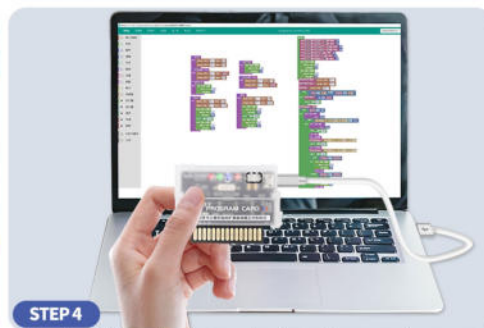
- Refer to [Circuit Wiring Diagram] to plug the two servo wire terminals into the D10 and D13 interfaces respectively.



- Insert the program card into the card slot of the expansion board, then turn on the power switch, wait for the servo to reset, and then turn off the power. **Note: The program card triangle designation points to the square identification of the expansion board.**



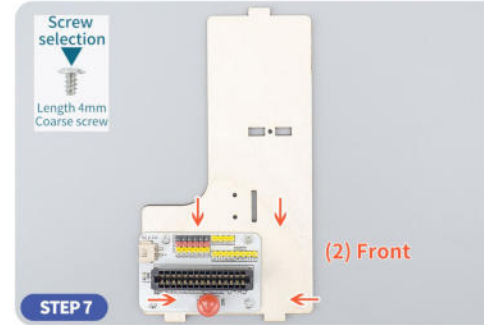
- First install the red button cap on the U+A5 expansion board, then put the battery into the battery compartment, then close the cover, and finally plug the battery box wire terminal into the power interface of the U+A5 expansion board.



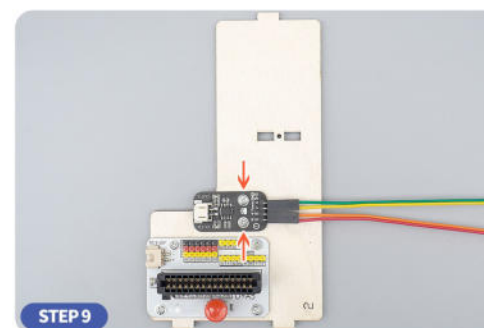
- Use the Mixly software to upload the first sample program of the kit to the U+ program card.



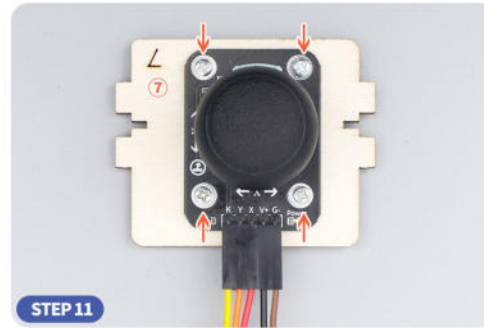
- Remove all accessories.



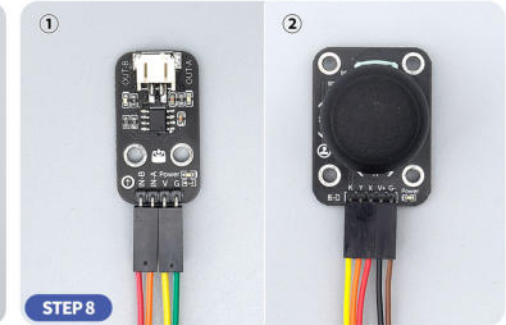
- Install the U+A5 expansion board on the front of board (2) with 4mm rough screws.



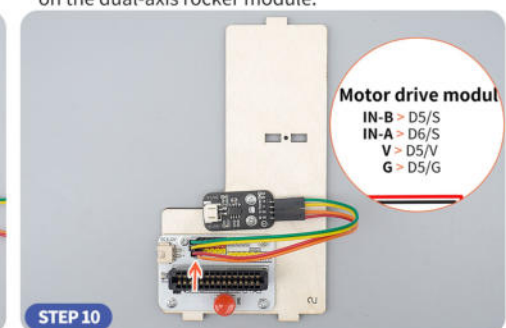
- Install the motor drive module on board (2) with 4mm coarse screws.



- Use 4mm rough screws to mount the dual-axis rocker module on board (7).



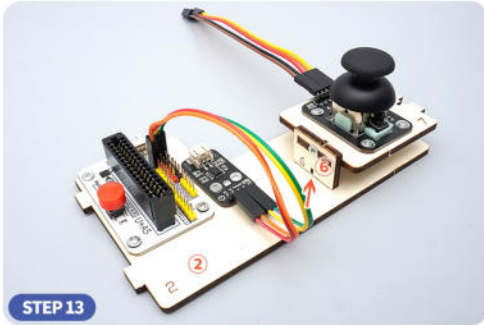
- (1): Plug two 2P DuPont wire terminals into the motor drive module. (2): Refer to [Circuit Wiring Diagram] Plug the terminals of a 3P DuPont line and a 2P DuPont wire into the dual-axis rocker module, and then install the rocker cap on the dual-axis rocker module.



- Refer to [Circuit Wiring Diagram] Plug the DuPont wire terminal of the motor drive module into the D5 and D6 interfaces on the expansion board. **Please check the port order before inserting it, as incorrect insertion may burn the board.**

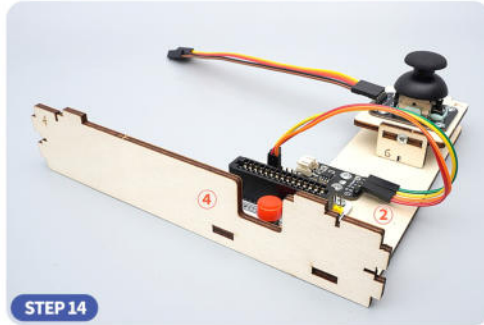


- Install plate (6) on board (7) with 7mm rough screws.



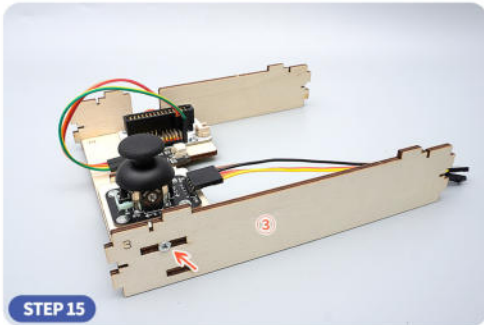
STEP 13

- Install plate (6) on board (2) with 7mm rough screws.



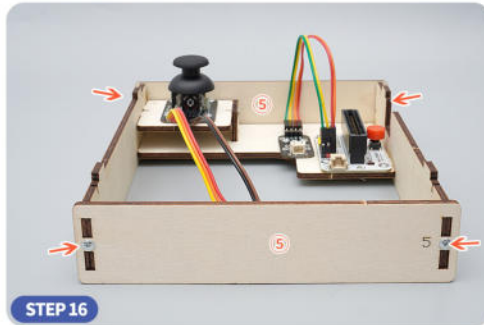
STEP 14

- Install board (4) on board (2).



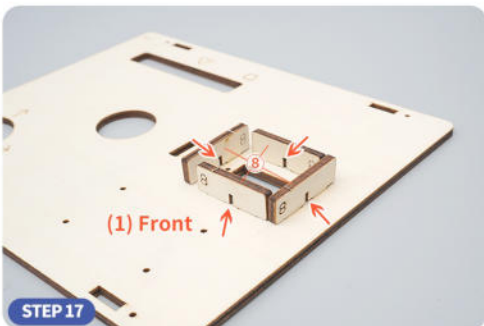
STEP 15

- Install plate (3) on the other side of board (2) with 7mm rough screws.



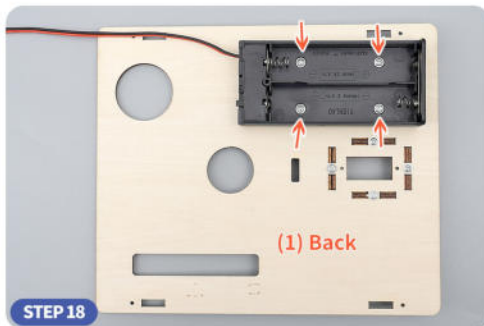
STEP 16

- Install two (5) plates at both ends of (2) and (3) plates with 7mm rough screws.



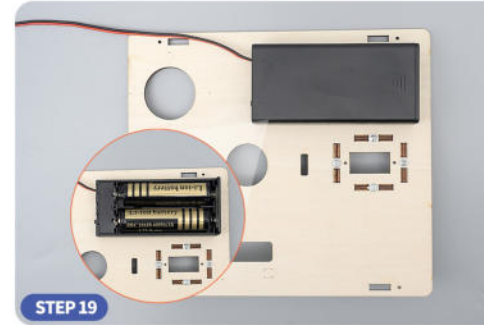
STEP 17

- Install plate (8) on the front of board (1) with 7mm rough screws.



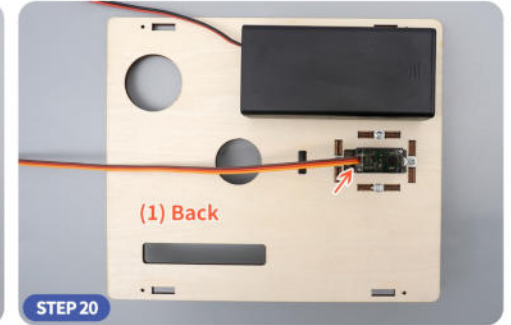
STEP 18

- Install the battery box on the back of plate (1) with 4mm rough screws.



STEP 19

- Load the battery in the battery compartment and close the lid.



STEP 20

- The servo is mounted on the back of board (1) with 7mm coarse screws, which is the base servo.



STEP 21

- Use 10mm rough screws to mount the servo disc on the back of board (9).



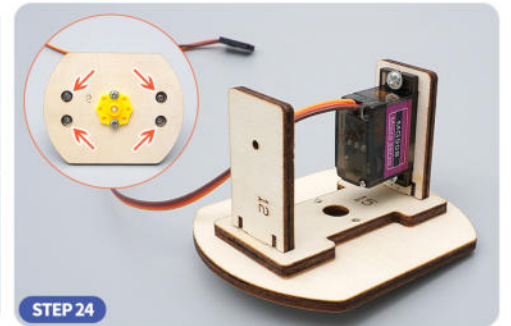
STEP 22

- Board (15) is mounted on board (9) with 10mm rough grain screws on the servo disc.



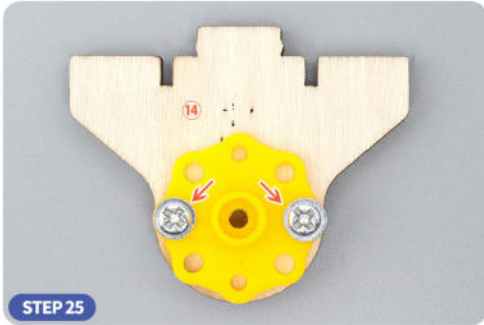
STEP 23

- The servo is mounted on board (11) with 7mm rough screws, which is the gun-body servo.



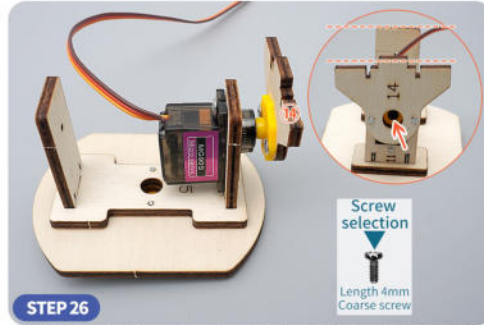
STEP 24

- Install the (11) and (12) plates on the (15) plate with 7mm rough screws from the bottom of the (9) plate.



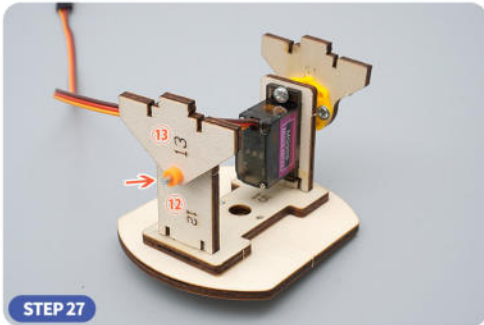
STEP 25

- Install the servo disc on the back of board (14) with 7mm rough screws.



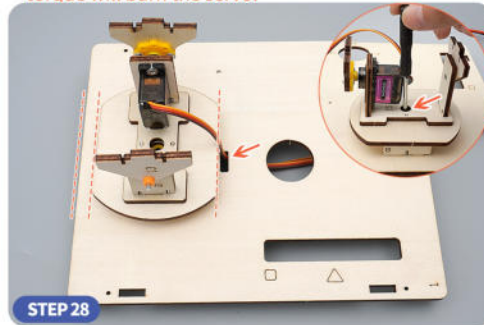
STEP 26

- The servo disc was mounted on the gun body servo with servo screws. **Note:** When screwing in the screw, fix the servo disc to avoid turning the servo, the servo screw and the servo are placed in the same packaging bag, and there should be no mechanical resistance when the servo is powered on (like screwing, breaking), the resistance is greater than the servo torque will burn the servo.



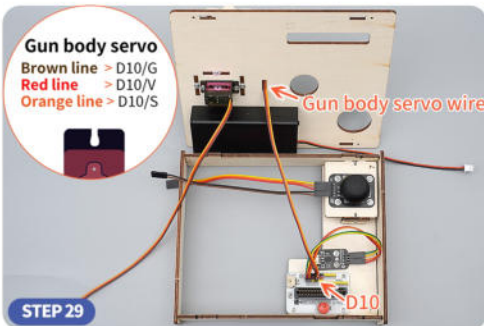
STEP 27

- First align the round hole of the (13) plate with the round hole of the (12) plate, then pass it through with a 1.3cm head axis, and finally fix it with an orange fixing ring.



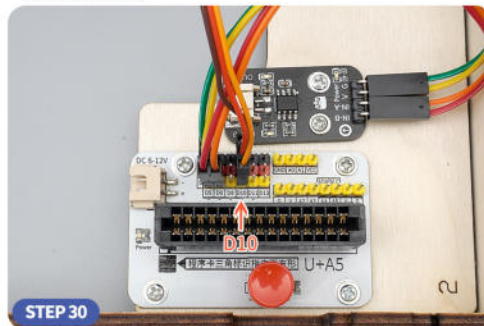
STEP 28

- Use the servo screws to mount the servo disc on board (9) on the base servo, and then pass the gun body servo wire through the wire hole of plate (1). **Note:** The installation position of (13) and (14), do not let the servo rotate when installing the servo disk, do not have mechanical resistance when the servo is powered on (like screwing, breaking), the resistance is greater than the servo torque will be hot and burn the servo.



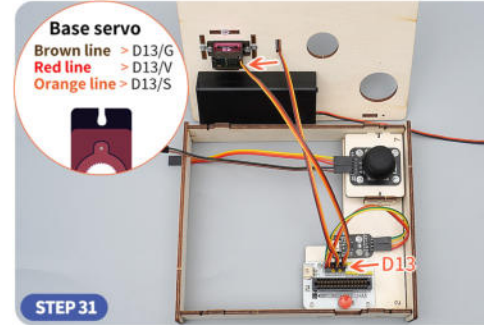
STEP 29

- Refer to [Circuit Wiring Diagram] and plug the gun body servo wire terminal into the D10 interface of the U+A5 expansion board. **Please check the port order before inserting it, as incorrect insertion may burn the board.**



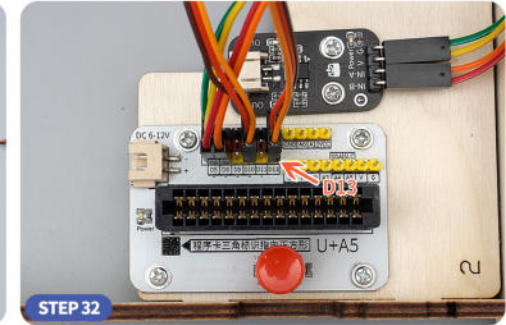
STEP 30

- Close-up drawing of the wire wiring of the gun body servo.



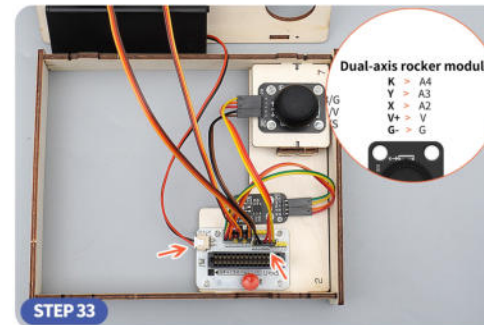
STEP 31

- Refer to [Circuit Wiring Diagram] and plug the base servo wire terminal into the D13 interface of the U+A5 expansion board. **Please check the port order before inserting it, as incorrect insertion may burn the board.**



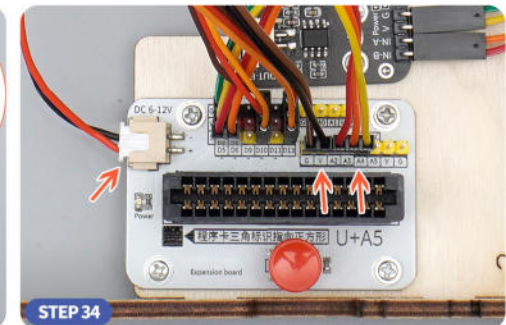
STEP 32

- Close-up drawing of base servo wire wiring.



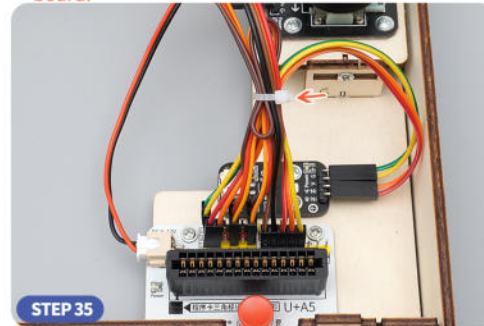
STEP 33

- Refer to [Circuit Wiring Diagram] Plug the DuPont wire terminal of the dual-axis rocker module into the G, V, A2, A3, A4 interface on the U+A5 expansion board, and then plug the battery box wire into the power interface. **Please check the port order before inserting it, as incorrect insertion may burn the board.**



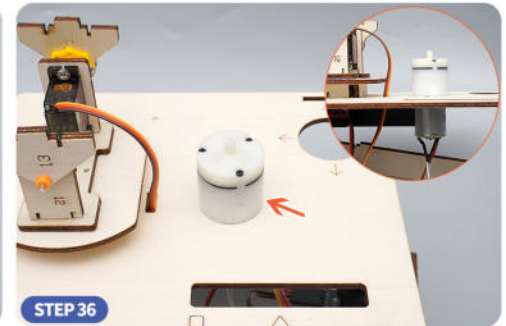
STEP 34

- Close-up drawing of dual-axis joystick module wiring.



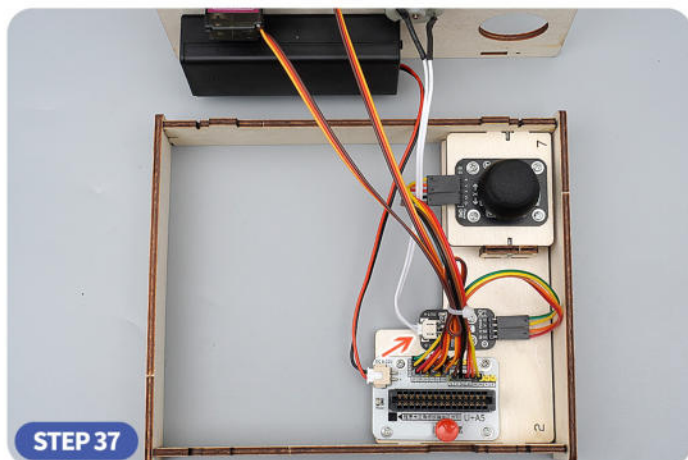
STEP 35

- Tie the wires with cable ties, and the battery box wires do not need to be tied, and then trim off the excess cable ties with scissors. **Note:** When using scissors, handle carefully to avoid injury.



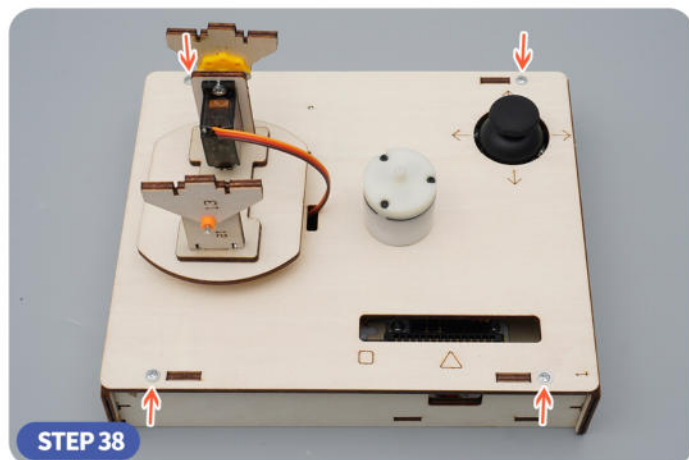
STEP 36

- First pass the air pump wire through the round hole of plate (1), and then insert the air pump into it. **Note:** The air pump leads are facing the back of plate (1).



STEP 37

- Refer to [Circuit Wiring Diagram] to plug the air pump wire terminal into the motor drive board.



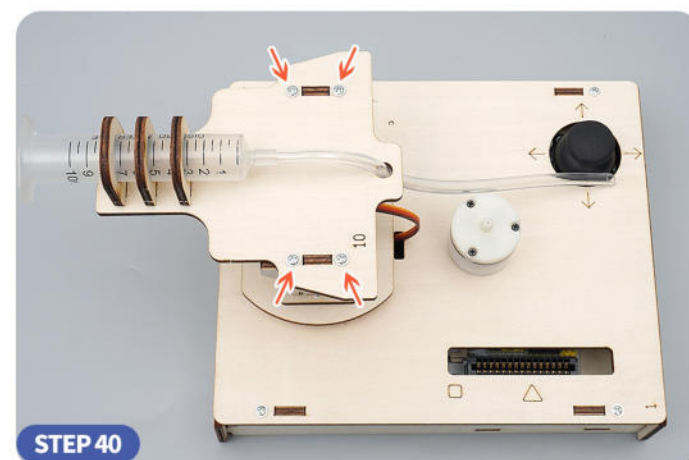
STEP 38

- Install plate (1) on board (3) and (4) with 7mm rough screws.



STEP 39

- Install the three (16) plates on the front of the (10) plate with 7mm rough screws, and then install the syringe inside the three (16) plates, and pull out the syringe push tube.



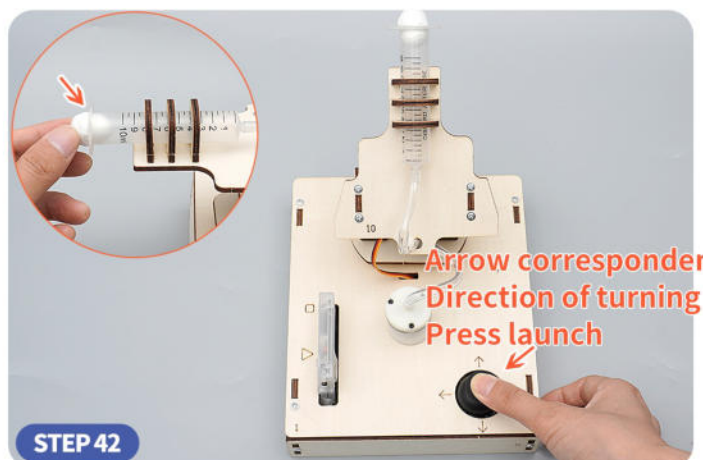
STEP 40

- Use 7mm rough screws to mount plate (10) on plate (13) and (14), then mount the PVC hose on the syringe and pass through the round hole of plate (10).



STEP 41

- Install the other end of the PVC hose to the air pump, and then insert the program card into the U+A5 expansion board.



STEP 42

- After the intelligent anti-aircraft gun is made, after turning on the power, press the foam ball into the syringe, and then operate the joystick to launch.

Arrow correspondence
Direction of turning
Press launch

After the assembly is completed, you also need to check whether the installation is correct to avoid danger during commissioning!



1. Carefully check whether the whole kit has the wrong accessories, if there are wrong accessories, it will cause the whole kit to not operate normally.
2. Carefully refer to the circuit wiring diagram to check whether the wire connection is correct, the wrong wire connection will lead to a short circuit in the circuit, burn electronic components, and seriously lead to fire, explosion and other dangerous situations.
3. Carefully check whether the pins at the bottom of the circuit board accessories are in contact with other metals, and if there is contact, please check whether the accessories are not installed, resulting in the circuit board and other metals are not isolated.
4. Please check the power supply type and battery model used in this kit, the wrong use of the power supply or battery will cause fire, explosion and other dangerous situations.
5. If you encounter problems that you do not understand, please contact the online customer service of the official service website or find relevant professionals for consultation during working hours from Monday to Saturday 9:00-18:00, do not operate blindly, otherwise there will be danger.

Refer to the following procedure to debug and experiment with the kit



You may encounter the following problems during debugging, refer to the tips below to see if you can troubleshoot!

The intelligent anti-aircraft gun does not work properly after the installation is completed



1. Check whether the wiring is loose and wrong, please refer to the circuit wiring diagram for details.
2. Check whether the battery has run out of power, it is recommended to replace the new battery.
3. Check whether the DuPont wire of the sensor and the expansion board is connected correctly, please refer to the circuit wiring diagram.
4. Check whether the U+ program card downloads the program.
5. Check whether the U+ program card is plugged inversely, if the program card indicator light is not lit or dim, please pull it out immediately, plugging in the reverse will cause a short circuit, please refer to the card insertion method of STEP 5 for inserting the card.