

# Jetbot Manual



- ① Please read this manual carefully before use
- ② Our company reserves the right of interpretation for this manual
- ③ Product appearance, please prevail in kind
- ④ Please keep the manual properly after reading



Android users scan the following QR code by browser or search "YahboomRobot" in Play Store to download APP.  
iOS users scan the following QR code by camera or search "YahboomRobot" in App Store to download APP.

Tutorial: [www.yahboom.net/study/JETBOT](http://www.yahboom.net/study/JETBOT)

Package list		
	Expansion board	
	Charger (5.0V) *1	
	Car chassis *1	
	Camera holder *1	
	Light (UV2) Cable *2	
	Track *2	
	Battery *1	
	Copper column screw package	
	Screwdriver *1	
[Standard version]		
	Camera *1	
[Advanced version]		
	Camera *1	

Note: Please prepare Jetbot Nano board before using Jetbot robot. Robot cannot work without Jetbot Nano board.

### Installation of Network card

(Note: Please keep the removed screws properly)

**Step 1: Remove the core board screws**

**Step 2: Remove the core board**

(Note: When installing the core board, be careful that the clips on both sides are easily broken, please insert the core board at an angle)

**Step 3: Remove the wireless network card fixing screw**

(Note: Please keep the removed screws properly)

**Step 4: Installation of the wireless network card**

**Step 5: Install the core board**

(Note: When installing the core board, be careful that the clips on both sides are easily broken, please insert the core board at an angle)

### Installation Step (Advanced)

(Fast numbers correspond to screw pack number)

**1. Installation of the lifting motor**

**2. Installation of linear bearings**

**3. Installation of optical axis fixing ring**

**4. Installation of slider**

(Rotate the slider to the lower part of the screw for easy installation)

**5. Installation of limit switch**

(Install the blue block with left motor limit switch, the sharp end is upward. Install the red block with right motor limit switch, the sharp end is down.)

**6. Installation of lifting case**

**7. Installation of optical axis**

**8. Installation of servo A**

(Do not turn the servo during the installation process. If it is turned accidentally, it may cause the servo to jam during control. For details, please refer to the official website (FAQ)-07. Precautions for installing servo.)

**9. Installation of A steering wheel**

**10. Installation of camera pan/tilt**

**11. Installation of servo B**

(Do not turn the servo during the installation process. If it is turned accidentally, it may cause the servo to jam during control. For details, please refer to the official website (FAQ)-07. Precautions for installing servo.)

**12. Installation of B steering wheel**

**13. Installation of camera holder**

**14. Installation of camera**

**15. Installation of lifting column**

**16. Holder bearing fixed**

**17. Installation of holder bearing**

(Note: The screw cannot not be tightened, which will affect the steering wheel rotation.)

**18. Installation of copper column**

**19. Installation of L type motor**

**20. Installation of coupling**

**21. Installation of light strip**

**22. Drive wheel copper column fixing**

**23. Installation of drive wheel**

**24. Installation of driven wheel**

**25. Drive wheel bearing fixing**

**26. Installation of driven wheel**

**27. Installation of driven wheel**

(Due to the use of anti-slip screws, the metal rivet parts need to be fixed with pliers and need to be installed with caution.)

**28. Installation of left track**

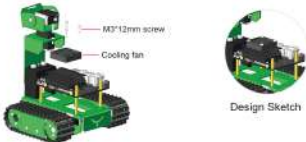
**29. Installation of right track**

**30. Side plate and copper column fixing**

**31. Installation of side plate**

**32. Installation of Jetson Nano board**

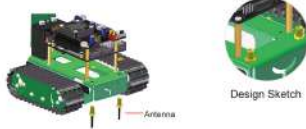
33: Installation of cooling fan



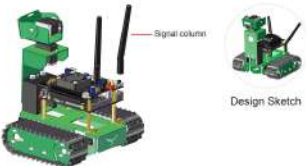
34: Installation of expansion board



35: Installation of antenna



36: Installation of signal column



Installation step (Standard)

1: Installation of A servo



2: Installation of A steering wheel



3: Installation of servo holder



4: Installation of B servo



5: Installation of B steering wheel



6: Installation of camera holder



7: Installation of holder bearing



8: Installation of camera



9: Installation of column



10: For the next steps, please refer to [Jetbot-Advanced] Steps 18-36 complete the installation.

11: Finished

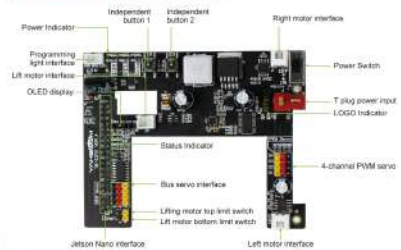


Functional distribution

Jetson Nano



Jetbot robot expansion board



First trial

- If you want to try Jetbot quickly, there are two ways:
  - You can choose a mobile phone to configure the hotspot name as `hotspot_jetbot`, password: 12345678 or modify your router to the above name and password. The robot will automatically connect to the WiFi when it searches for it.
  - Or connect the mouse, keyboard, and display to the Jetson Nano board, and turn on the power switch of the car. After the system starts, the current system interface will appear on the display. Click the upper-right corner of the interface to connect to your wifi (if you do not have a display). Please refer to the tutorial [2 Development Environment Construction] — [2.3 Software Setting] — [1. Connecting to Jetbot by headless mode].
- After the wifi is successfully connected, at this time we can see that the OLED will display the current IP address.
- Restart the robot. When the buzzer beeps three times and the RGB light bar on the side lights up, the large program has been successfully started.
- Connect your phone to the same wifi, open the Yahoobot APP, and enter the IP address displayed on the OLED in the APP wifi configuration interface to start Jetbot. When the camera screen appears on the main control interface, you can start controlling Jetbot. (Note: When the car is controlled to go straight, a situation where it cannot go straight is normal. The reason is the parameter error of the geared motor itself. You can fine-tune the left and right motor speeds by configuring the `config.txt` configuration file. Please ensure that the range of motor speed input value is 0.00-1.00.)

APP control

Download and connect

Android users scan the front QR code by browser or search "Yahoobot" in Play Store to download APP.  
IOS users scan the front QR code by camera or search "Yahoobot" in App Store to download APP.



APP download QR code

APP connect

After the robot starts, you can hear three whistles, and the side RGB lights can be turned on after waiting for a while. Open the mobile app, click the WiFi icon in the upper right corner to enter the configuration interface, select the IP address configuration for the first trial. The configuration is completed and the connection is selected. If the connection is successful, the function selector interface will be automatically jumped.  
(Note: port number port and port number video default to 8000, 8001, generally do not modify)



[Network]



[Function]

1.Remote control

Click "Function" to enter the face recognition tracking interface, click "Clear" to exit the face recognition function.



Robot motion control joystick

Servo gear control

2.Color tracking

Click on the different colors to automatically enter the corresponding color tracking, select the last button with "X" to exit the color tracking mode.



3.Colorful lights

In the middle is the car light selection mode, click the left and right "+" button to pop up the corresponding number of lights, click the light will pop up the color selection box, click "ok" after the modification, close "close".



4. Automatic obstacle avoidance

Note: Click "Start Obstacle Avoidance", the video screen will pause refreshing. At this time, the system will load this model, and the loading will complete the obstacle avoidance mode. The first time will be longer, and after the loading is completed, the next switch will be very fast. Below is the threshold size for obstacle detection.



5. Automatic follow

Select the following object first, then click "Start to follow", the robot will automatically follow the target object. The screen will also display the recognized object. Note that the object cannot move too fast. When the video screen is exceeded, the robot will stop following.

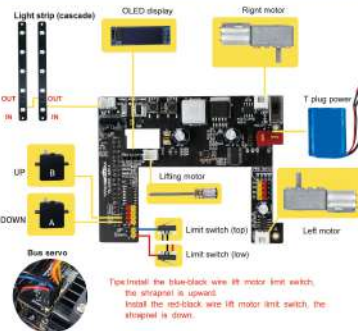


Precautions, FAQ, and Solutions

- Because it involves loading the AI model, the boot time may be within 2-3 minutes. Please wait patiently for the boot start signal. If you have not successfully started after waiting for a long time, please try to restart Jetbot.
- When you open the Jetbot and enter the function interface with the camera real-time screen for the first time, the camera will be initialized and the camera driver will be started. After waiting for a short time, the image will be displayed. Before this, the image display frame is displayed as white without image. The status is normal.
- When you first enter the automatic obstacle avoidance function interface after opening Jetbot, the first time you run the obstacle avoidance model to the memory, you need to wait for a short period of time. During this period, it may not respond to the user's operation. It is normal. Please be patient until the model is loaded.

- When you first enter the automatic follow function interface after opening Jetbot, it takes a short time to run the object model to the memory for the first time. During this period, it may not respond to the user's operation. It is normal. Please wait patiently until the model is loaded.
- Color tracking may be affected by the brightness of the surrounding environment. In the dark environment, the color may be deviated. It is not a hardware or software problem of Jetbot. For better performance, use it in a well-lit indoor environment.
- Do not arbitrarily change the format of the configuration file `config.txt` file. You must modify the parameters according to the original file format to ensure that the configuration in the file is correctly read.

Wire Connection



Tip: Install the blue-black wire lift motor limit switch, the orange is upward. Install the red-black wire lift motor limit switch, the blue is down.

Lithium-ion battery safety specification

- When charging the battery, you need to remove the battery pack from the car and plug the charger into the DC socket of the battery pack to charge.
- Do not use the battery while charging to prevent the charger or battery from exploding.
- Please charge the battery when the voltage is about 11.1V. The battery voltage is about 12.8V after fully charged.
- Unplug the battery when the device is not used for a long time and keep the battery voltage between 11.1V-11.7V. When storing the battery, do not mix it with metal objects. Do not remove the insulation film on the outside of the battery.

- When charging the battery, you need to remove the battery pack from the car and plug the charger into the DC socket of the battery pack to charge. After charging is completed, the charger and power supply should be unplugged in time to avoid overcharging and damaging the battery. Someone needs to be present when charging.
- Before charging, we need to remove the battery pack from the kit and make sure the battery pack output connector is powered off.
- Don't insert the charger into the battery holder of the expansion board. Don't directly supply the robot car with the battery charger.
- Please use the official battery, power adapter and battery box provided by Yahoobot.
- Keep away from heat, fire, any liquid. Don't use it in wet or rain. Humid environment may cause the battery to ignite or even explode.
- Don't use the battery when it is leaking, damaged, heated, deformed, discolored, smelly or any other abnormal phenomenon, and contact Yahoobot or other agents in time.
- Please use the battery at 0°C - 35°C environment. The battery will be damaged or the discharge performance will be extremely reduced at other temperatures.
- Intentional puncture, short circuit, reverse connection, unauthorized welding, impact, crushing, and throwing of batteries are strictly prohibited. Do not use the battery in a strong static and magnetic field environment, otherwise the battery may leak fluid, catch fire or even explode.
- It is strictly forbidden to modify the hardware circuit board without permission.
- Do not allow children to replace batteries without adult supervision. Keep batteries out of the reach of children.
- Do not mix new and old batteries or different types of batteries, especially dry batteries and rechargeable batteries.
- If the charger smokes, the battery hot (the outer packaging will crack in severe cases) or the battery leaks, please disconnect the power strip or the main gate, then quickly pull out the charger, remove the battery and put it in an open area.

Solemnly declare: Users must read this specification carefully, especially the parameter indicators, precautions, etc., understand the use method and application range of the product. Any economic loss and safety accident caused by failure to comply with the above-mentioned lithium-ion battery use specifications or operating errors shall be borne by the user.

Tutorial link

[www.yahoobot.net/study/JETBOT](http://www.yahoobot.net/study/JETBOT)

Technical Support

WhatsApp: +86 15818515042 / +86 18882378128  
Email: [market@yahoobot.com](mailto:market@yahoobot.com) / [support@yahoobot.com](mailto:support@yahoobot.com)

Shenzhen Yahoobot Technology Co., Ltd.

Website: [www.yahoobot.net](http://www.yahoobot.net)  
Address: No.305, Block C, Guanlong Bldg., Guanlong Rd., Xili St., Nanshan Dist., Shenzhen, China