



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China





# mBot Ranger - Transformable STEM Educational Robot Kit

SKU 110090102

What's mBot Ranger? mBot Ranger Robot Kit is a three-in-one STEM educational robot kit which supports 3 building forms: robot tank, three-wheel racing car, and a self-balance car.



## Description

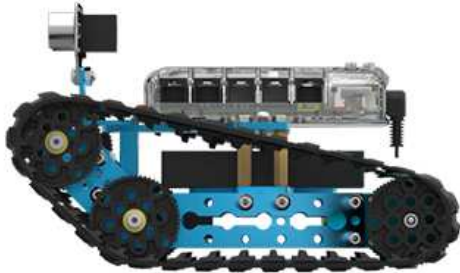
### What's mBot Ranger

mBot Ranger Robot Kit is a three-in-one STEM educational robot kit which supports 3 building forms: robot tank, three-wheel racing car, and a self-balance car. Program & Control mBot Ranger via iPad, tablets, or laptop to start your exploration!



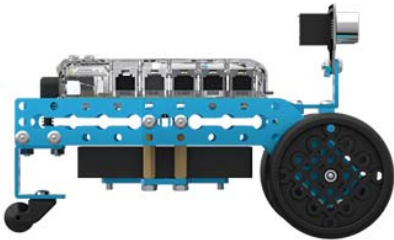
### **Off-Road Land Raider**

Being an off-road robot tank, Land Raider is designed to handle a wider variety of terrain than most other vehicles or robot cars.



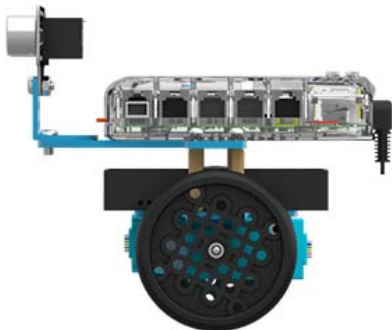
### **Dashing Raptor, the Predator**

Transform your Land Raider easily, turning it into Dashing Raptor, which is a three-wheel racing car that runs/spins fast like a raptor which eager to catch its game.



### **Self-Balance Nervous Bird**

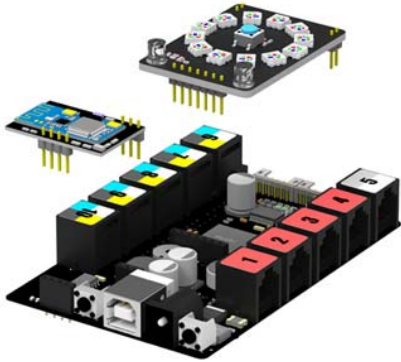
A smart self-balance car which remains level when driving straight or standing still and leans at an angle when making turns.





## Powerful Mainboard

Latest Me Auriga mainboard developed based on open-source Arduino Mega 2560. It provides not only 5 on-board sensors, but also 10 extension ports that enable you to add more functions per needed.



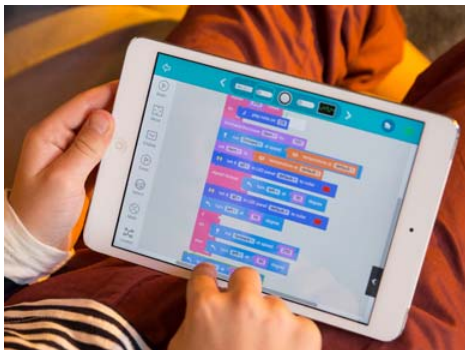
## Graphical Programming from PC

mBot Ranger is fully compatible with mBlock which is a graphical programming environment based on Scratch 2.0 Open Source Code. It makes programming projects and interactive applications easier through simply dragging and dropping function blocks.



## iPad/Tablet Programming

In addition to PC programming, mBot Ranger also supports being programmed from your iPad and tablets with an easy-to-use app – Makeblock HD. Explore with mBot Ranger using the existing projects, or develop your own.



## Wireless Control

Makeblock HD provides existing projects which enable you to interact with Ranger immediately. Push the button to control Ranger wirelessly and start having fun!



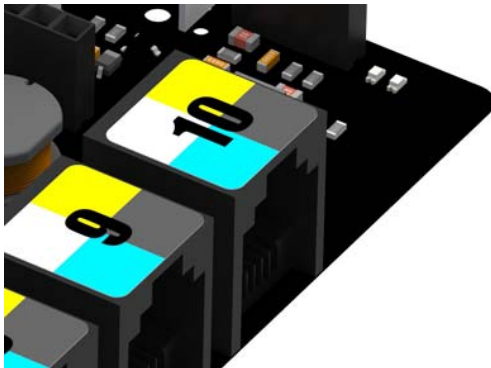
## Free Online Courses

Provide 16 chapters of courses on graphical programming with Ranger, helping kids to enjoy the fun of programming in various game scenes step by step.



## Easy Wiring

Modules in this kit all equipped with RJ25 ports for easy wiring. Just by connecting the modules together, robots can be built in a really quick way. All the wiring is simple and very clean.



## Infinite Extensibility

Fully compatible with Makeblock platform (about 400 parts totally), allowing you to develop more projects or ideas adding Makeblock parts on Ranger or to explore hundreds of free projects online for more fun.



## mBot Ranger VS. mBot




If you're trying to figure out the difference between mBot Ranger and mBot, check this comparison chart.

|                   | mBot Ranger   | mBot  |
|-------------------|---|---|
| Form(s)           | 3   | 1   |
| Main Control Chip | Arduino Mega 2560   | Arduino Uno   |
| Extension Ports   | 10 motor/sensor ports   | 4 sensor ports  |
| On-Board Sensor   | 6 x sensors, include:<br>Light sensor<br>Ultrasonic sensor<br>Line follower<br>Gyroscope<br>Temp sensor<br>Sound sensor | 3 x sensors, include:<br>Light sensor<br>Ultrasonic sensor<br>Line follower |
| LED Lamplets      | 12  | 2   |
| PC Programming    | mBlock  | mBlock  |
| iPad/Tablet       | Makeblock HD  | mBlockly  |
| Smartphone App    | Under development   | mBot app  |

|                |                |                |
|----------------|----------------|----------------|
| Arduino        | √              | √              |
| Communication  | Bluetooth/2.4G | Bluetooth/2.4G |
| Online Courses | √              | √              |

| Specifications           |   |
|--------------------------|---|
| Software and programming | PC-mBlock; iPad/Tablet - Makeblock<br>Arduino IDE   |
| Main Control Board       | Arduino Mega 2560, 256KB flash memory, 8KB SRAM, 4KB EEPROM   |
| Sensor                   | 2 x Light sensor<br>1 x Sound sensor<br>1 x Gyroscope<br>1 x Temperature sensor<br>1 x Ultrasonic sensor<br>1 x Line follower |
| Speaker                  | 1 x Buzzer  |
| Battery                  | 6 x AA battery (not included)   |
| Motor                    | 2 x 400 RPM Encoder Motor   |
| Wireless Communication   | Bluetooth/2.4G  |
| Dimensions               | 200 x 165 x 120mm (7.78 x 6.49 x 4.71inch) Max.   |
| Weight                   | 1600g (56.44oz)   |

## Part List

|                              |   |                           |  |                             |   |
|------------------------------|---|---------------------------|--|-----------------------------|---|
| 2 x Beam0824-112             |  | 2 x 90T Wheel             |  | 1 x USB Cable               |  |
| 1 x Beam0824-48              |  | 2 x 90T Tyre              |  | 2 x RJ25 Cable              |  |
| 2 x Plate 0324               |  | 2 x Track                 |  | 1 x Wrench                  |  |
| 2 x Plate 135°               |  | 4 x Plastic Spacer 4x7x10 |  | 1 x Hex & Cross Screwdriver |  |
| 1 x Plate for Battery Holder |  | 2 x 180 Encoder Motor     |  | 22 x Screw M4x8             |  |
| 1 x Plate T-type             |  | 8 x Copper Bush 4x8x4mm   |  | 4 x Screw M4x10             |  |
| 1 x Bracket 3x3              |  | 1 x Brass Stud M4*30+6    |  | 6 x Screw M4x14             |  |
| 1 x Bracket U1               |  | 1 x Battery Holder        |  | 4 x Screw M4x25             |  |
| 1 x Universal Wheel          |  | 1 x Me Auriga             |  | 2 x Screw M2.5x12           |  |
| 4 x 62T Wheel Without Step   |  | 1 x Ultrasonic Sensor     |  | 10 x Nut M4                 |  |
| 2 x 62T Wheel                |  | 1 x Line Follower Sensor  |  | 2 x Encoder Motor Wire      |  |