CrowPi 3

— An Open-source AI Education and Development Station

User Manual

*Pictures are for display only

Catalog

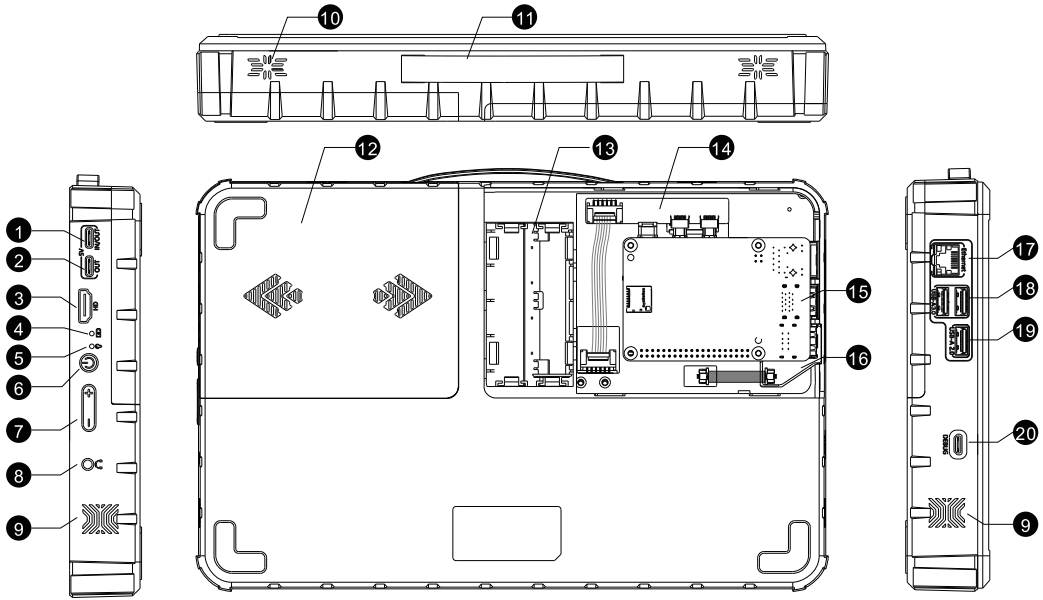
Product info

CrowPi 3 is constructed around the newly released Raspberry Pi 5 development board by the Raspberry Pi Foundation. It serves as a powerful tool that integrates learning, design, and programming, offering a new learning platform for coding enthusiasts and developers. CrowPi 3 is compatible with various development boards including Pi 5, Arduino Nano, micro:bit, and Pico series. It integrates a variety of sensors and is equipped with a display, camera, and microphone, facilitating the construction of an AI smart hardware platform. Additionally, it offers abundant course resources, making CrowPi 3 an ideal choice for learning programming.

Main features

- Multi-platform compatibility
- Integration of AI technology
- Rich learning resources
- Portable design solutions
- Dynamic Programmable Ambient Lighting

Structure

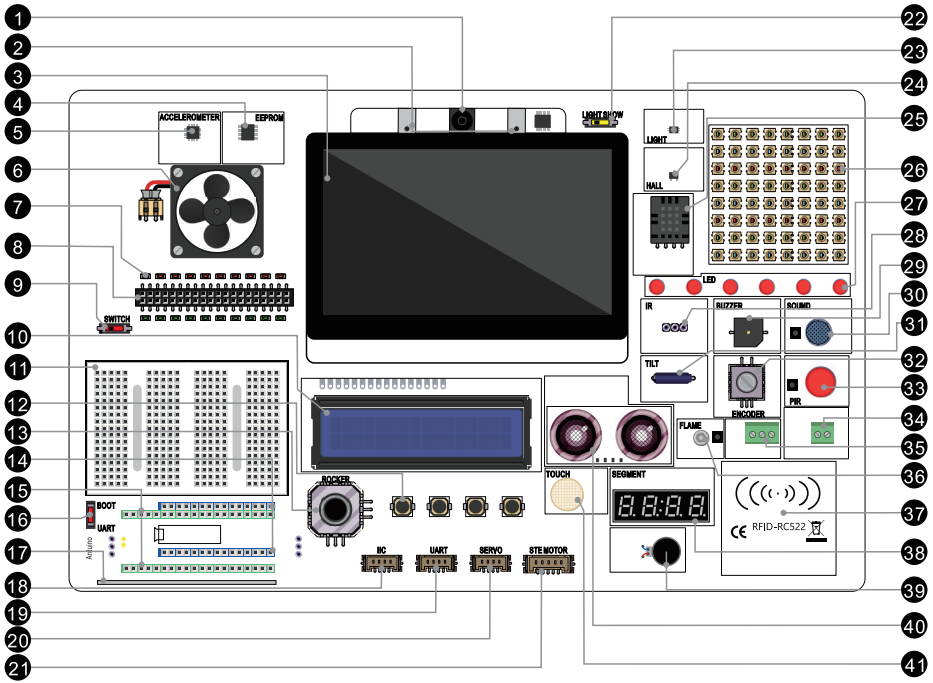


1.Type-C port: PD5V/5A Input/Output
2.Type-C port: 5V/2A Output
3.HDMI port
4.Battery Status LED
5.Power-On Status LED
6.Power Button
7.Volume and brightness +/-
8.3.5mm headphone jack
9.Speakers
10.Cooling hole
11.Handle
12.Storage groove
13.18650 battery holder
14.Function adapter board
15.Raspberry Pi fixed position
16.Camera signal adapter board
17.Raspberry Pi network port
18.Raspberry Pi USB3.0 port
19.Raspberry Pi USB2.0 port
20.Debug port

Battery Status LED: Red flashing at low voltage, solid red while charging, solid green after fully charged.
Power-On Status LED: The device remains red after powering on
Power Button: Short press to power on, long press to power off(release upon completion)
Debug portUsed for debugging microcontroller modules such as Arduino Nano and Pico series.

Development board

1.Camera
2.2*Microphone
3.4.3-inch LCD Screen
4.EEPROM Chip
5.Gyroscope/Accelerometer Sensor
6.Cooling fan
7. LED Ambient Light
8.GPIO Interface
9.Controller Board Selection Switch
10.LCD1602
11.Breadboard
12.4* Buttons
13.Joystick
14.Arduino Nano Interface
15.Pico Interface
16.Debug/UART Selection Switch for Arduino
17.Micro: bit Interface
18.I2C Interface
19.UART Interface
20.Servo Interface
21.Stepper Motor Interface
22.LED Ambient Light Switch
23.Light Sensor
24.Hall Sensor
25.Temperature and Humidity Sensor
26.8*8 RGB Matrix LED
27.6*LEDs
28.IR Sensor Interface

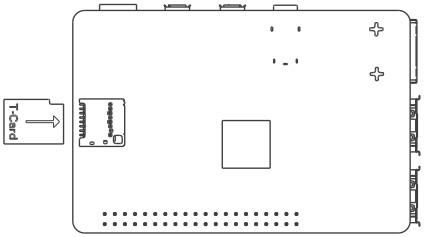


29.Buzzer
30.Sound Sensor
31.Tilt Sensor
32.Encoder
33.PIR Sensor
34.Analog Voltage Sampling Terminal
35.Relay Terminal

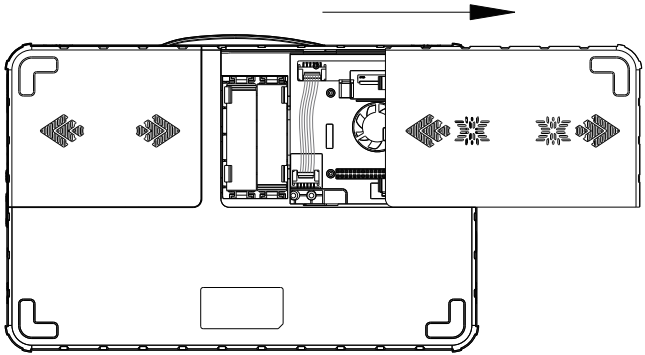
35.Relay Terminal
36.Flame Sensor
37.RC522 RFID Module
38.7-Segment Digital Display Module
39.Vibration Motor
40.Ultrasonic Sensor
41.Touch Sensor

Install Raspberry Pi

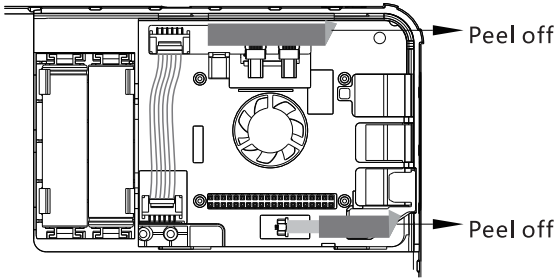
1.Insert the SD card (with built-in system) into the Raspberry Pi's SD card slot.



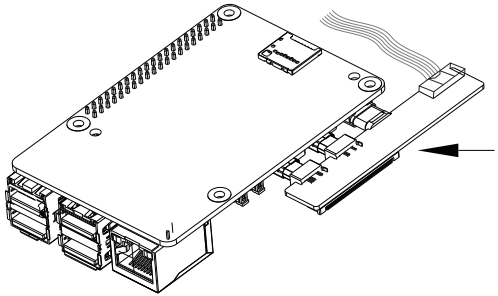
2.Slide to the right to open the back cover of the CrowPi 3 Raspberry Pi enclosure.



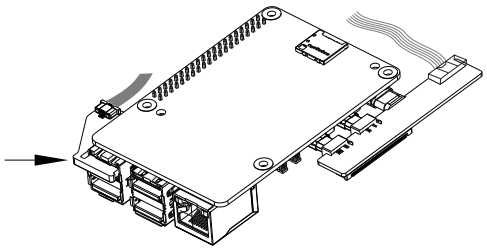
3.Peel off the masking tape on the function adapter board and the camera signal adapter board.



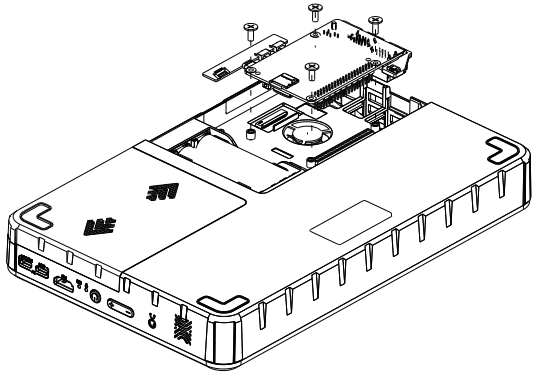
4.Insert the function adapter board into the Raspberry Pi's Micro HDMI port and Type-C port.



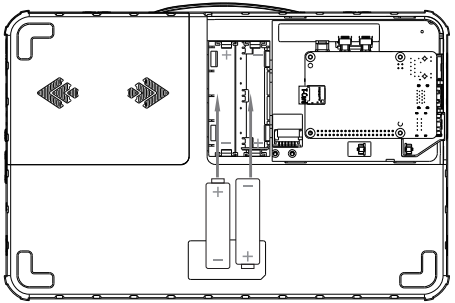
5.Insert the camera signal adapter board into the outermost USB 2.0 port of the Raspberry Pi 5.



6.Vertically install the Raspberry Pi 5 with the inserted TF card into the Raspberry Pi enclosure.

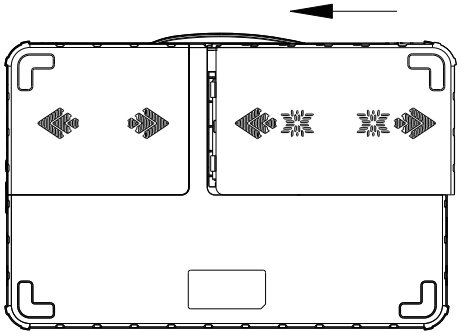


7.Place two 18650 batteries in the correct positive and negative direction.



Note: 1. The battery is not included in the Basic Kit. If you need it, please purchase it separately or opt for the Advanced Kit.
2. Users who do not need built-in batteries can skip this step.

8.Close the cover.



The main parameters

Dimensions	285(L)*185(W)*38(H)mm
Weight	1.1kg
Screen	4.3-inch 800*480 IPS screen
Camera	2.0MP camera with microphone
Power supply	PD5V/5A
Type-C port	5V/2A
Audio output	Stereo speaker
Volume adjustment	Support
Screen brightness adjustment	Support
Audio port	3.5mm headphone jack
Compatibility	Compatible with Raspberry Pi5,Arduino Nano,micro:bit, Pico Series
Other function	storage box
Supporting operation system	Raspbian, Ubuntu, CentOS, Windows IOT, KALI, Pidora, ArchLinux, FreeBSD, Kodi, OpenWrt, RISC OS, RetroPie, LAKKA, Recalbox, LibreELEC, OSMC

Conventional accessories

Basic Kit

Power Supply x1

Screwdriver x1

Stepper Motor x1

Infrared Receiver Head x1

User Manual x1

RFID Card + Tag x1

IR Remote Control x1

Motor + Fan Blade x1

USB A to Micro B Cable x1

Type-C to Type-C Cable x1

Magnet x1

TF Card Reader x1

Crowtail- 9G Servo x1

Components Pack x1

128G TF Card with Customized System x1

Advanced Kit

NFC Tag x10

Raspberry Pi 5 8GB x1

32GTF Card with Customized System x1

Minecraft Paper x5

Crowtail-12C HUB x1

18650 Lithium Battery x2

Game Controller x2

Laptop Tote x1

2.4G Wireless Keyboard+ Mouse x1

Deluxe Kit

NFC Tag x10

Raspberry Pi5 8GB x1

32GTF Card with Customized System x1

Minecraft Paper x5

Crowtail-12C HUB x1

18650 Lithium Battery x2

Game Controller x2

15.6"Laptop Bag x1

CrowView Note x1

Note: Both Advanced Kit and Deluxe Kit include the accessories of Basic Kit.

1. Unable to boot

Make sure you are using the correct charger and that the SD card is inserted into the Raspberry Pi.

2. The module or sensor on the PCBA board cannot be used

Please set the controller board selection switch to the correct position. If connecting to Raspberry Pi 5, set it to position 1. If connecting to Arduino Nano and Pico, set it to position 2.

3. After setting up the circuit on the breadboard and not getting the expected output

Please confirm whether the controller board selection switch has been switched to position 2.

4. The screen goes black and crashes

Please check whether the high-current peripheral is mounted to cause the insufficient power supply.

5. camera and microphone do not work

Please confirm if the camera signal adapter board is fully connected .

6. Unable to connect to the network

Please turn on the wireless network or connect to the Raspberry Pi Ethernet network port.

Software

This is a software specifically designed for CrowPi 3 users, featuring over 150 meticulously planned learning courses that offer a convenient, ready-to-use experience. The provided electronic components, circuits, and courses cover a wide range of knowledge points, ensuring that users can quickly grasp the basic principles of electronics and programming through practical operations. For the most popular artificial intelligence applications, such as facial and speech recognition, as well as AI interaction, we have also provided some AI courses and built-in model libraries.

Parts

Part name		Function
Learning	Python lessons	Let users quickly master the knowledge of python programming and software and hardware interaction
	Scratch lessons	Let users quickly master the knowledge of scratch programming and software and hardware interaction
Projects		20 small applications designed for quick familiarity with CrowPi 3 hardware features
Minecraft		Use game Minecraft to open the door to python programming world for children, teaching in fun
AI		Get the most popular knowledge of AI- face recognition and speech recognition,as well as AI courses and built-in model libraries.
Python		Built-in python programming client
Game		Experience the fun of simple Mini Game written by python and develop your child's brain
Micro:bit		Makecode entry which is designed for Micro:bit programming
Scratch		Built-in Scratch Visual Programming Client
Arduino		Built-in Arduino programming IDE

1. README Manual:

A brief overview of the main interface and the functions of each section.

2. Ai Chat:

AI Voice Agent, It can help you access a wide range of information, control various hardware devices, and even chat with you for companionship. Its name is "Crow," and you can wake it up by saying "Hello Crow."

3. Return to the Raspberry Pi desktop.

4. Shutdown Button:

Choose to either shut down or restart the Raspberry Pi.

5. Learning Courses:

All the courses on the CrowPi3 include AI, Python, Node-RED, Micro:bit, Pico, Arduino, and Minecraft.

6. Applications:

All the applications on the CrowPi 3 include Projects, AI Computer Vision, AI Generated Content, AI Voice Cloning, Python IDE, Arduino IDE, Micro:bit, Game and Scratch.

More content is being updated continuously. If you have any questions, customer support is always stand by.

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