

[Manuals.plus](#) /

› [Makeblock](#) /

› Makeblock Cyberpi Coding Kit Instruction Manual

Makeblock Cyberpi Coding Kit

Makeblock Cyberpi Coding Kit Instruction Manual

MODEL: CYBERPI CODING KIT

1. Introduction

The Makeblock Cyberpi Coding Kit is an all-in-one programmable microcomputer designed for STEM education, supporting visual Scratch coding and advanced Python programming. It integrates various sensors and smart functions, making it ideal for exploring data science, networks, IoT, and AI through engaging, hands-on projects.

This kit is equipped with built-in WiFi & Bluetooth, light sensors, a microphone, speaker, full-color LED display, 3-axis accelerometer, and gyroscope. It also includes an expansion board with an 800mAh rechargeable lithium-ion battery, 2 DC motor ports, and 2 servo ports, allowing for extensive creativity and project building.



Figure 1.1: The Makeblock Cyberpi Coding Kit, showcasing its compact design and integrated display.

2. Safety Information

Warning: Keep away from flame. Always supervise children during use. Ensure proper handling of components to prevent damage or injury.

3. Product Overview

The Cyberpi is a networkable microcontroller with a transparent casing, revealing its internal components. It features a joystick, buttons, a full-color display, and various sensors.

All-in-one Single Board Computer

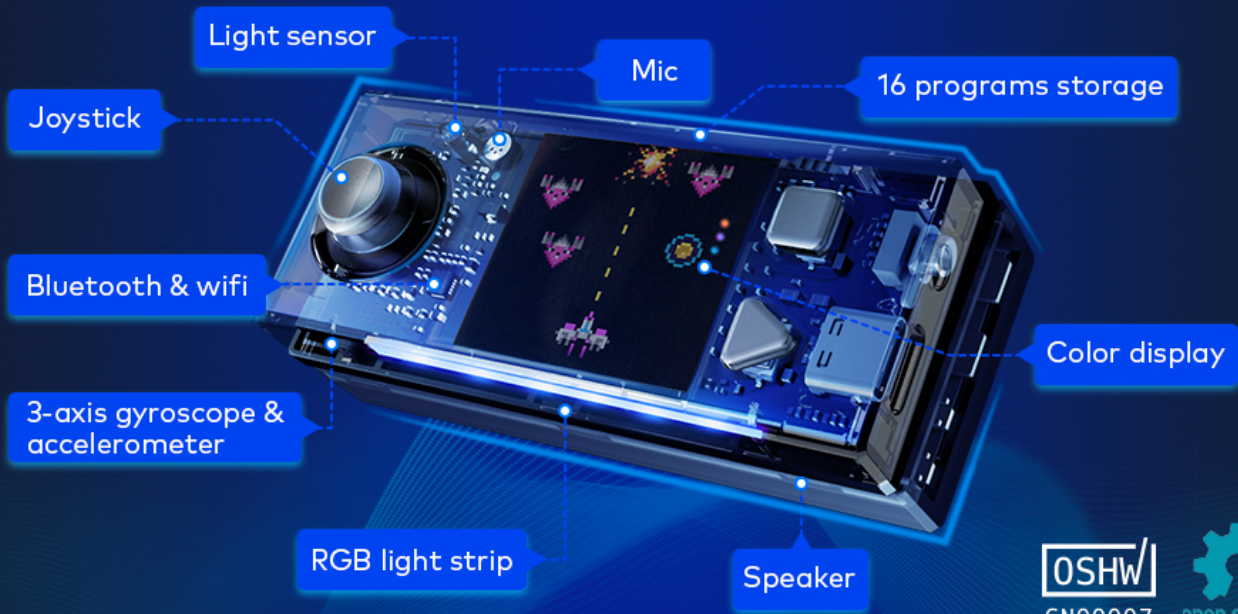


Figure 3.1: Detailed view of Cyberpi's built-in modules and features.

The kit also includes a Pocket Shield, which expands the Cyberpi's capabilities by providing additional ports and a rechargeable battery.

Basic I/O Expansion Shield for Input and Output



Figure 3.2: The Basic I/O Expansion Shield (Pocket Shield) for enhanced functionality.

4. Getting Started (Setup)

4.1 Connecting to Power and Computer

To begin, connect your Cyberpi to a power source, such as a power bank or computer, using the provided USB-C cable. This will power the device and allow communication with your computer for programming.

Your browser does not support the video tag.

Video 4.1: Quick Start Introduction to Cyberpi, demonstrating initial power connection and basic navigation.

4.2 Software Installation (mBlock)

The Cyberpi uses mBlock software for programming. For web-based programming, ensure you have the Chrome browser and install the mLink2 extension. Your computer must also be connected to the internet.

4.3 Adding Cyberpi Hardware in mBlock

Within the mBlock software, navigate to the device library and add the Cyberpi hardware. This step establishes the connection between the software and your physical device, enabling you to upload and run programs.

5. Operating Your Cyberpi

5.1 Navigating CyberOS

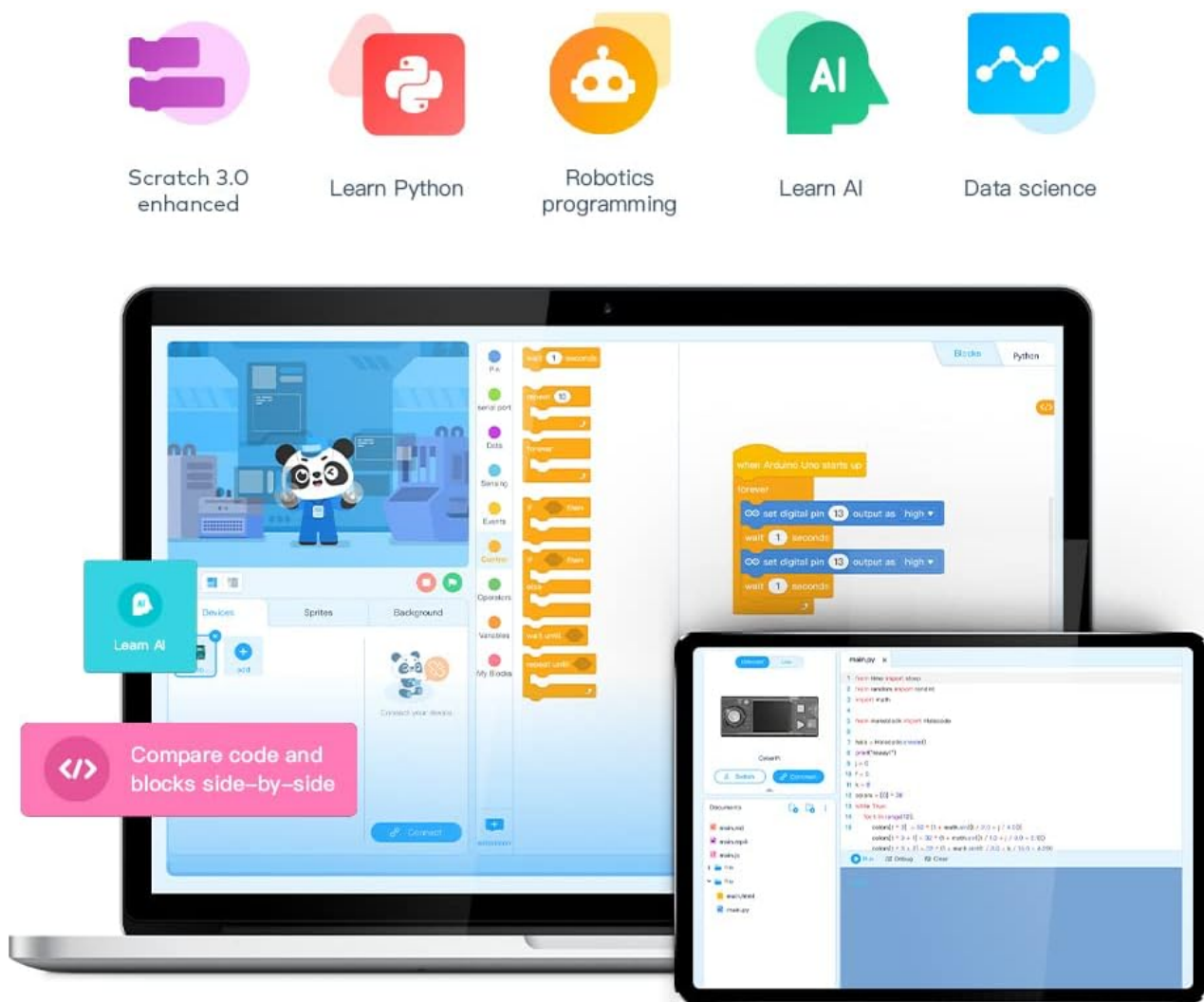
After powering on, you can access the CyberOS, the operating system developed specifically for Cyberpi. Use the joystick to navigate through menus and select options. Press the 'B' (triangle) button to confirm selections.

5.2 Switching Programs

Cyberpi can store multiple pre-loaded programs. To switch between them, navigate to the 'Switch Program' option in CyberOS and select your desired program using the joystick and 'B' button.

5.3 Block-Based Programming (Scratch)

The Cyberpi supports visual block-based programming using mBlock software, making it accessible for beginners. Drag and drop code blocks to create programs that interact with Cyberpi's sensors and modules.



Support Scratch and Python

Figure 5.1: Cyberpi supports both Scratch and Python programming environments.

5.4 Python Programming

For advanced users, Cyberpi can be programmed with Python. The mBlock software includes a Python editor that supports both upload mode (to store programs on Cyberpi) and live mode (for interactive coding and debugging).

5.5 Using Sensors and Modules

Cyberpi's built-in sensors (light, microphone, accelerometer, gyroscope) and external modules (connected via the Pocket Shield) can be integrated into your programs. This allows for diverse projects, from data collection to motion-controlled games.

Your browser does not support the video tag.

Video 5.2: Demonstrating a Dinosaur Exploration game using Python with Cyberpi, showcasing motion control.

Your browser does not support the video tag.

Video 5.3: An example of an Airplane Battle project with Cyberpi, demonstrating interactive gameplay.

6. Building Projects

The Cyberpi kit encourages project-based learning. You can build various creations, from simple games to complex IoT systems, by combining Cyberpi with its expansion board and other electronic modules.

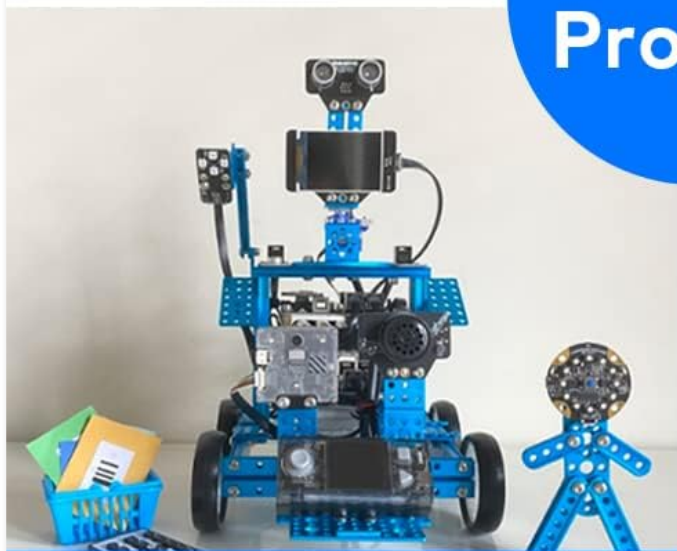
Video Games



WeatherChecker



Sample Project



House Assistant Robot



Smart Home

Figure 6.1: Sample projects demonstrating the versatility of the Cyberpi Coding Kit.

Your browser does not support the video tag.

Video 6.2: A building guide for an airplane battle project, showing assembly steps.

7. Maintenance

To ensure the longevity of your Cyberpi Coding Kit, follow these maintenance guidelines:

- Keep the device clean and free from dust and debris.
- Avoid exposing the device to extreme temperatures or moisture.
- Handle the charging port with care. Applying excessive force or bending the USB cable while connected can damage the port.

- Store the kit in a safe place when not in use to prevent accidental damage.

8. Troubleshooting

If you encounter issues with your Cyberpi, consider the following:

- **Connectivity Issues:** Ensure the USB-C cable is securely connected to both the Cyberpi and your computer. Verify that the mLink2 extension is properly installed and your computer has an active internet connection.
- **Blank Screen/Program Not Running:** After uploading a program, if the screen remains blank or the program does not execute, try restarting the Cyberpi. Ensure the firmware is up to date. Check your code for errors in the mBlock editor.
- **Wi-Fi Connection Failure:** If Cyberpi fails to connect to Wi-Fi, double-check the network name (SSID) and password in your code. Ensure the Wi-Fi module is functioning correctly.

9. Specifications

Feature	Detail
Product Dimensions	3.54 x 2.56 x 1.57 inches
Item Weight	4.6 ounces
Manufacturer Recommended Age	10 years and up
Batteries	1 Lithium Ion batteries required (800mAh rechargeable lithium-ion battery included in Pocket Shield)
Connectivity	Built-in WiFi & Bluetooth
Programming Languages	Scratch, Python
Built-in Sensors	Light sensor, Microphone, 3-axis accelerometer, Gyroscope
Display	Full-color LED display

10. Warranty and Support

For warranty information, please refer to the official Makeblock website or the product packaging. For further assistance, including technical support and additional resources, visit the Makeblock website or contact their customer support team directly.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page’s manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question