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> Makerzoid Superbot STEM Coding Robot Kit - Instruction Manual

makerzoid MKZ-ID-SPB

Makerzoid Superbot STEM Coding Robot Kit

INSTRUCTION MANUAL - MODEL: MKZ-ID-SPB

Unleash Creativity Through Robotics and Coding

1. Introduction

The Makerzoid Superbot STEM Coding Robot Kit is an innovative educational toy designed to introduce children aged 6 and up to the principles of Science, Technology, Engineering, Arts, and Mathematics (STEAM) through hands-on building and programming. With over 400 pieces, this versatile kit allows for the construction of more than 26 different robot models, fostering creativity, logical thinking, and problem-solving skills.

This manual provides essential information for setting up, operating, and maintaining your Superbot kit. For detailed 3D building instructions and tutorials, please refer to the Makerzoid App.

2. What's Included

Your Makerzoid Superbot kit comes with the following components:

Component	Quantity	Description
Host Controller	x1	The main control unit (brain) for the robots.
Sensor	x2	Infrared sensors for obstacle avoidance and line following.
Blocks	400+ pcs	Various building blocks for constructing different models.
Manual	x1	Printed instruction manual (this document).
4x13 Brick	x6	Specialized bricks for structural integrity.
Tyre and Hub	x4	Wheels and hubs for mobility.
Rubber Band	x5	For elastic mechanisms in certain models.



Figure 2.1: Overview of the Makerzoid Superbot kit components and an assembled robot car.

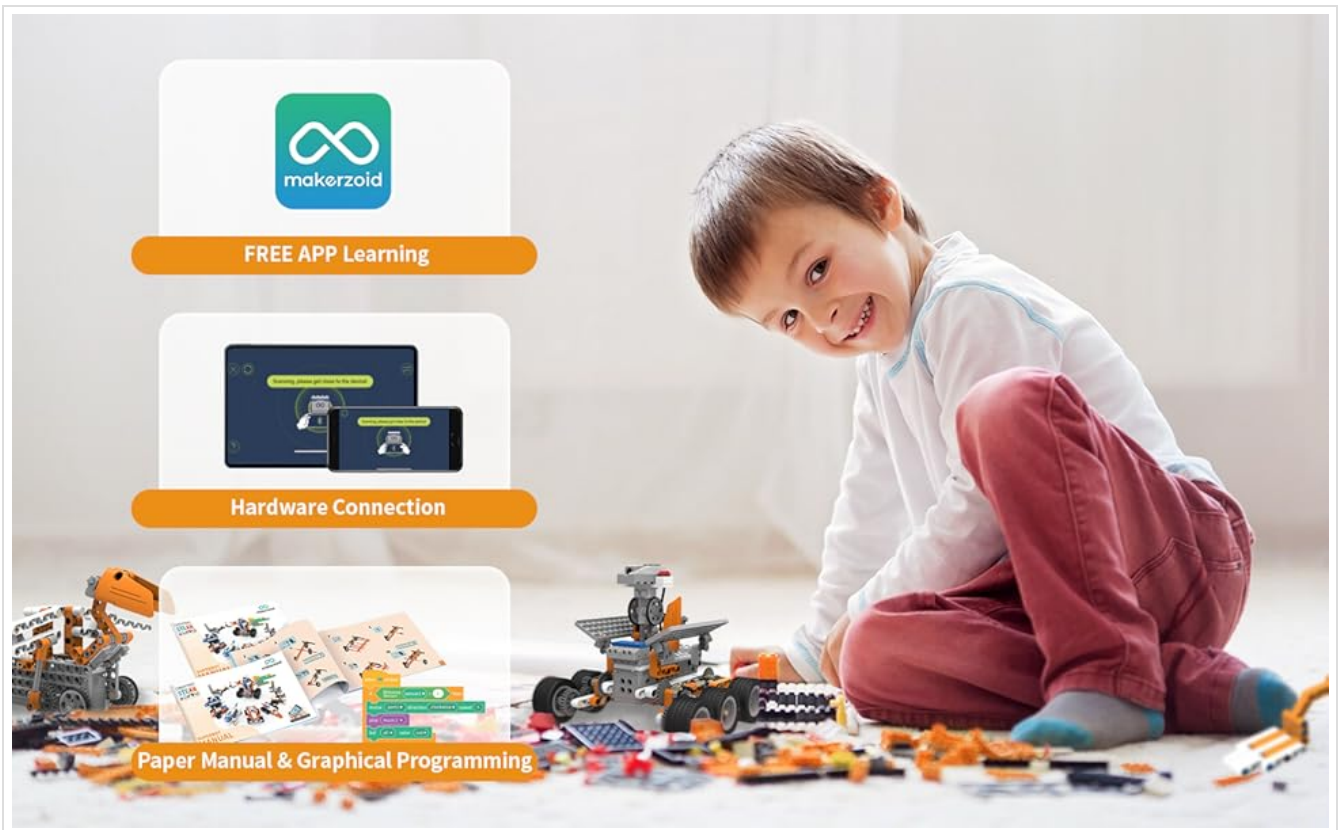


Figure 2.2: The Superbot kit box highlighting the 26-in-1 building capability and key features.

3. Setup & Assembly

Before beginning assembly, ensure all components listed in Section 2 are present. The Superbot kit offers a wide range of building possibilities, from powerful robot cars to drawing machines.

3.1 Battery Installation

The Host Controller requires 3 AA batteries (not included). Carefully open the battery compartment, insert the batteries according to the polarity markings, and close the compartment securely.

3.2 Building Your Robot

The kit includes a printed manual for basic assembly. For a more interactive and detailed experience, download the official Makerzoid App from your device's app store. The app provides 3D instruction and tutorials, guiding you step-by-step through the construction of various robot models.

26 in 1 Stem Building Set

Blocks 400+ Ages 6+



Figure 3.1: A selection of the 26+ robot models that can be assembled from the kit.

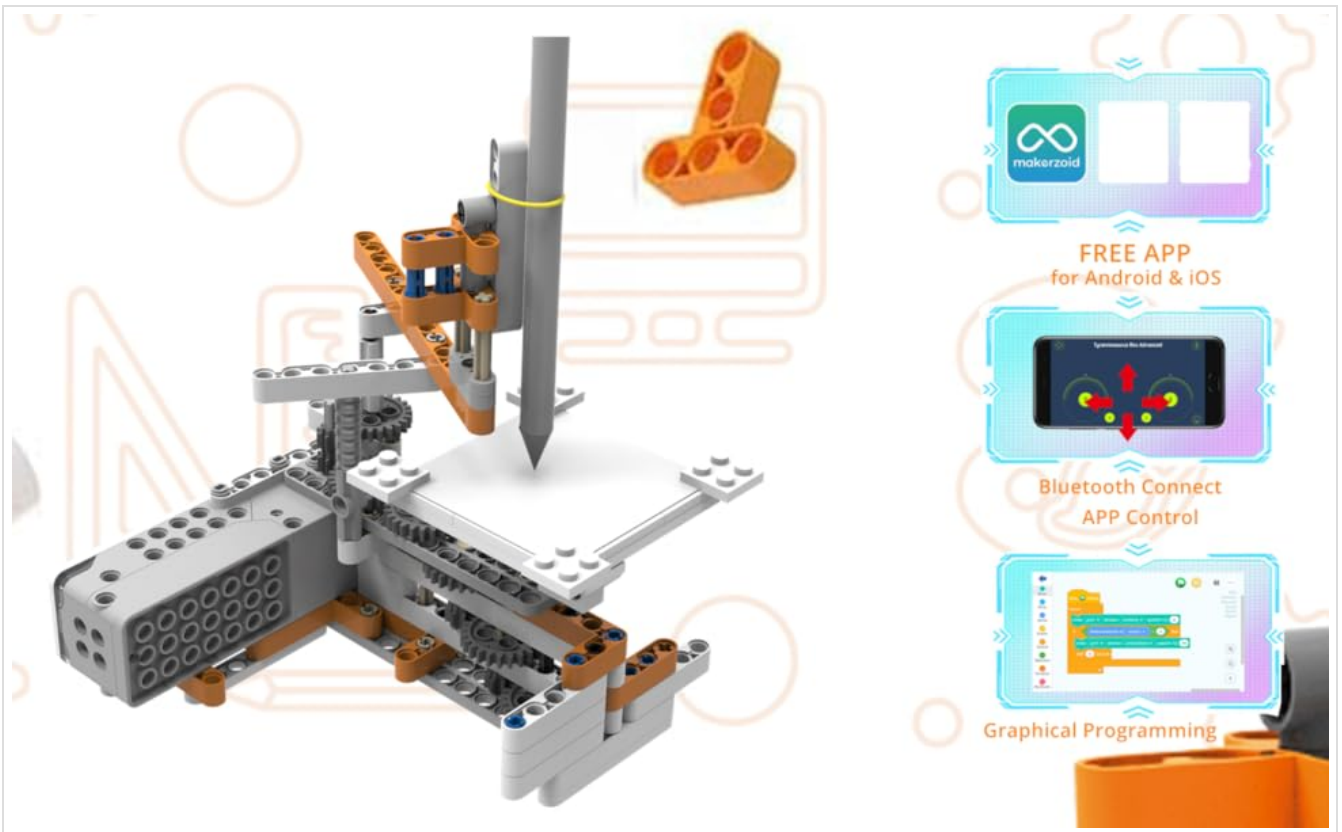


Figure 3.2: Detailed view of the Host Controller and Sensor, highlighting their functions and connectivity.

4. Operating Instructions

Once your robot is assembled and powered on, you can control and program it using the Makerzoid App.

4.1 App Connectivity

Download the Makerzoid App from the App Store (iOS) or Google Play (Android). Ensure your device's Bluetooth is enabled. The app will guide you through the pairing process with the Host Controller. The Host Controller's LED light will indicate successful pairing (e.g., flashing blue or green).

4.2 Remote Control Modes

The app provides various control modes:

- **Remote Control Mode:** Use on-screen joysticks to control forward, backward, left, and right movements.
- **Path Mode:** Draw a path on your device screen, and the robot will follow it.
- **IR Sensor Mode:** Utilize the built-in IR sensors for obstacle avoidance and line following.

APP Remote Control & Programming



Blocks 400+



Ages 6+



App Control



Programming

Figure 4.1: The Makerzoid App interface for remote control and programming.

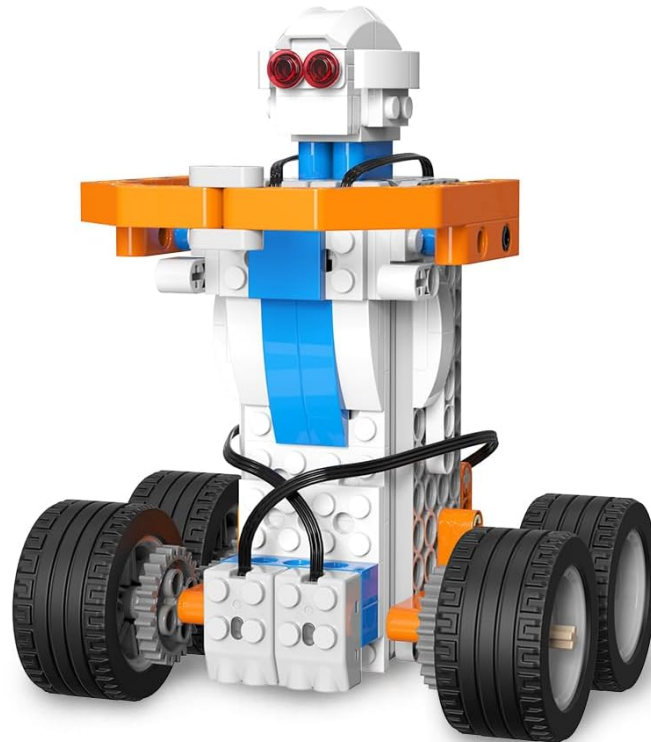
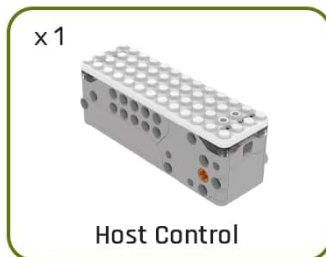
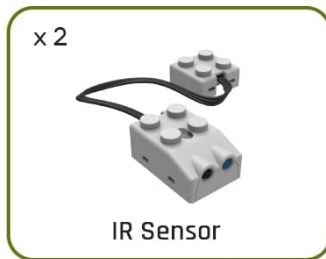
4.3 Graphical Programming (Scratch-based)

The Makerzoid App features a drag-and-drop coding interface, similar to Scratch, making it easy for kids to learn programming. You can program your robot to:

- Follow lines
- Avoid obstacles
- Detect distance
- Control LED lights (7 colors)
- Play music

Scratch Programming

-Easy to learn



Multi-platform Applications

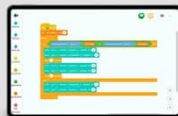


Figure 4.2: Example of Scratch-based programming blocks within the Makerzoid App.

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Video 4.1: Demonstration of the Superbot's movement and light features controlled via the app.

5. Maintenance

To ensure the longevity and optimal performance of your Makerzoid Superbot kit, follow these maintenance guidelines:

- **Cleaning:** Use a soft, dry cloth to wipe down the blocks and electronic components. Avoid using water or harsh cleaning agents.
- **Storage:** Store all pieces in the provided clear storage case to prevent loss and damage. Keep the kit in a cool, dry place away from direct sunlight.
- **Battery Care:** Remove batteries from the Host Controller if the kit will not be used for an extended period to prevent leakage.



Figure 5.1: Proper storage of the Superbot kit components in its durable case.

6. Troubleshooting

If you encounter any issues with your Superbot kit, please refer to the following common solutions:

Problem	Possible Cause	Solution
Robot does not power on	Low or incorrectly installed batteries	Check battery polarity and replace with fresh AA batteries.
App not connecting to Host Controller	Bluetooth is off or controller is out of range	Ensure Bluetooth is enabled on your device and the controller is within 1.5 meters. Restart the app and controller.
Robot not moving as programmed	Incorrect programming logic or sensor obstruction	Review your Scratch programming blocks in the app. Ensure sensors are not blocked and are clean.
Robot moves slowly or erratically	Low battery power or mechanical obstruction	Replace batteries. Check for any blocks or debris obstructing the gears or wheels.

7. Specifications

Attribute	Detail
Product Dimensions	12.48 x 8.43 x 2.44 inches
Item Weight	1.88 pounds
Item Model Number	MKZ-ID-SPB
Manufacturer Recommended Age	6 years and up
Batteries Required	3 AA batteries
Manufacturer	Makerzoid

8. Warranty & Support

The Makerzoid Superbot STEM Coding Robot Kit is manufactured by Makerzoid. For any product-related inquiries, technical support, or warranty information, please visit the official Makerzoid website or contact their customer service directly.

www.makerzoid.com