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## CYOEST speaker2.0

# CYOEST Dual Speakers STEM Project Kit

INSTRUCTION MANUAL

Model: speaker2.0

## INTRODUCTION

This manual provides detailed instructions for the assembly, operation, maintenance, and troubleshooting of your CYOEST Dual Speakers STEM Project Kit. Please read this manual thoroughly before beginning assembly to ensure proper function and safety.

## SAFETY INFORMATION

### **CHOKING HAZARD -- Small parts. Not for children under 3 years.**

Always supervise children during assembly and operation. Ensure all connections are secure before powering on the device. Do not attempt to modify the electrical components beyond the intended assembly instructions.

## PACKAGE CONTENTS

Verify that all components listed below are present in your kit:

- Wooden speaker enclosure panels
- 2 x Speakers (4Ω 3W)
- Bluetooth amplifier board
- Battery holder (for 4 AA batteries)
- Power switch
- Connecting wires (various lengths and connectors)
- Screws and fasteners
- Instruction manual



Figure 1: Exploded view of all components included in the kit.

## SETUP & ASSEMBLY INSTRUCTIONS

Follow these steps carefully to assemble your Bluetooth speaker. No soldering is required.

1. **Understand Speaker Function:** Familiarize yourself with how a speaker converts electrical signals into sound waves using magnets. This kit provides a practical demonstration of this principle.



Figure 2: Basic principle of speaker operation involving magnets.

- 2. Prepare Wooden Panels:** Carefully detach all wooden panels from their frames. Identify the front panel (with two large speaker holes), side panels, top panel (with switch hole), bottom panel, and back panel (with battery holder cutout).
- 3. Install Speakers:** Secure the two speakers to the front wooden panel using the provided screws. Ensure the speaker wires are facing inwards.



Figure 3: Attaching speakers to the front panel of the wooden enclosure.

- 4. Connect Speaker Wires to Amplifier Board:** Connect the wires from each speaker to the designated terminals on the Bluetooth amplifier board. The kit uses simple plug-and-play connectors. Refer to the wiring diagram for correct polarity (red to positive, black to negative).

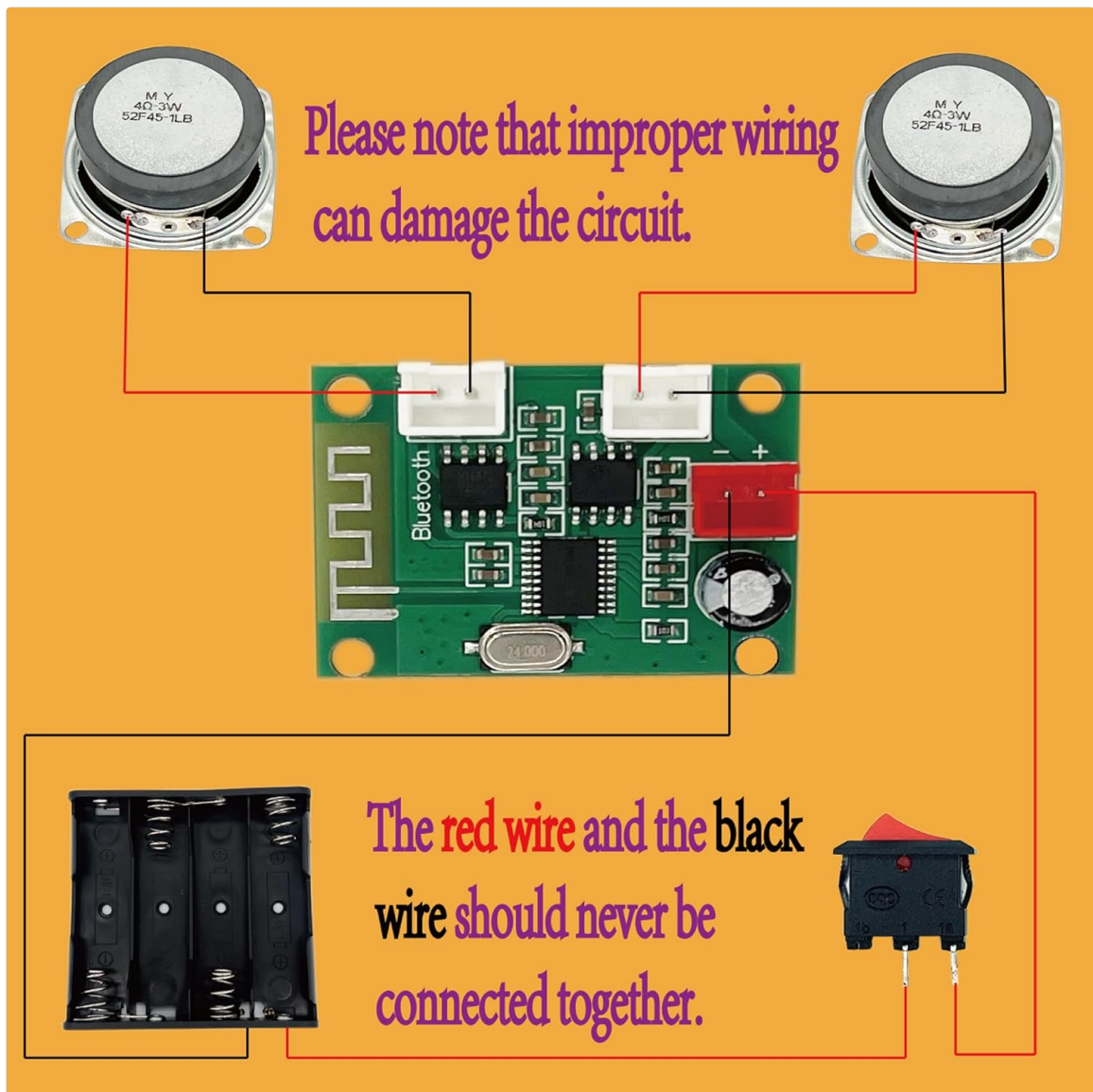


Figure 4: Wiring diagram for connecting speakers, amplifier, battery, and switch.

5. **Install Power Switch:** Insert the power switch into the designated slot on the top wooden panel. Connect the switch wires to the amplifier board as shown in the wiring diagram.
6. **Connect Battery Holder:** Connect the battery holder wires to the power input terminals on the amplifier board. Ensure correct polarity. The red wire connects to the positive terminal, and the black wire connects to the negative terminal.
7. **Assemble Enclosure:** Carefully fit the wooden panels together. The panels are designed to interlock. Secure the battery holder in its designated slot on the back panel.
8. **Insert Batteries:** Insert 4 AA batteries (not included) into the battery holder. Ensure correct orientation (+/-).



Figure 5: Battery holder and internal wiring connections.

## OPERATING INSTRUCTIONS

1. **Power On:** Flip the power switch to the 'ON' position. You should hear an audible confirmation tone indicating the speaker is powered on and ready for pairing.
2. **Bluetooth Pairing:**
  - On your mobile device (smartphone, tablet, etc.), navigate to the Bluetooth settings.
  - Ensure Bluetooth is enabled.
  - Scan for available devices. The speaker will appear as a device named 'LY999' or similar.
  - Select the speaker to pair. A confirmation tone will sound upon successful pairing.

# Wireless connections

After turning on the speaker,  
the device can be connected and the operation  
is simple and easy to understand.



Figure 6: Bluetooth pairing process with a mobile device.

3. **Play Audio:** Once paired, you can play audio from your device. The speaker will output the sound.
4. **Volume Control:** Volume is controlled directly from your connected Bluetooth device. There are no physical volume controls on the speaker unit itself.
5. **Power Off:** Flip the power switch to the 'OFF' position to turn off the speaker.

## MAINTENANCE

- **Cleaning:** Use a soft, dry cloth to clean the exterior of the speaker. Do not use liquid cleaners or abrasive materials.
- **Battery Replacement:** When sound quality degrades or the speaker fails to power on, replace the 4 AA batteries. Ensure the speaker is powered off before replacing batteries.
- **Storage:** Store the speaker in a cool, dry place away from direct sunlight and extreme temperatures.

## TROUBLESHOOTING

- **No Sound:**
  - Ensure the speaker is powered on.
  - Check battery levels and replace if necessary.

- Verify that the speaker is successfully paired with your device.
- Increase the volume on your connected device.
- Check all internal wiring connections for looseness or incorrect polarity.

- **Bluetooth Connection Issues:**

- Ensure the speaker is within range of your device (typically up to 10 meters).
- Turn off and on the speaker and your device's Bluetooth.
- Forget the device on your phone's Bluetooth settings and re-pair.

- **Distorted Sound:**

- Reduce the volume on your connected device.
- Ensure speaker wires are securely connected and not touching other components.

## SPECIFICATIONS

Feature	Detail
Product Dimensions	5.1 x 2.4 x 2.8 inches
Item Weight	9.1 ounces
Item Model Number	speaker2.0
Manufacturer Recommended Age	10 years and up
Batteries Required	4 AA batteries (not included)
Speaker Power	3W per channel
Connectivity	Bluetooth

## WARRANTY & SUPPORT

This product is covered by the manufacturer's standard warranty. For specific warranty details or technical support, please refer to the product packaging or contact the manufacturer directly through their official channels. Keep your purchase receipt as proof of purchase.