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> [ICSTATION Heart Shaped LED Light Soldering Project Kit Instruction Manual](#)

ICSTATION GY21248-2

ICSTATION Heart Shaped LED Light Soldering Project Kit Instruction Manual

Model: GY21248-2 | Brand: ICSTATION

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1. INTRODUCTION

This manual provides detailed instructions for assembling and operating your ICSTATION Heart Shaped LED Light Soldering Project Kit. Designed for beginners and electronics enthusiasts, this kit offers a practical way to enhance soldering skills while creating a decorative LED light display. Please read all instructions carefully before beginning assembly.

2. WHAT'S IN THE BOX

Verify that all components listed below are present in your kit before starting assembly.

What's In The Package

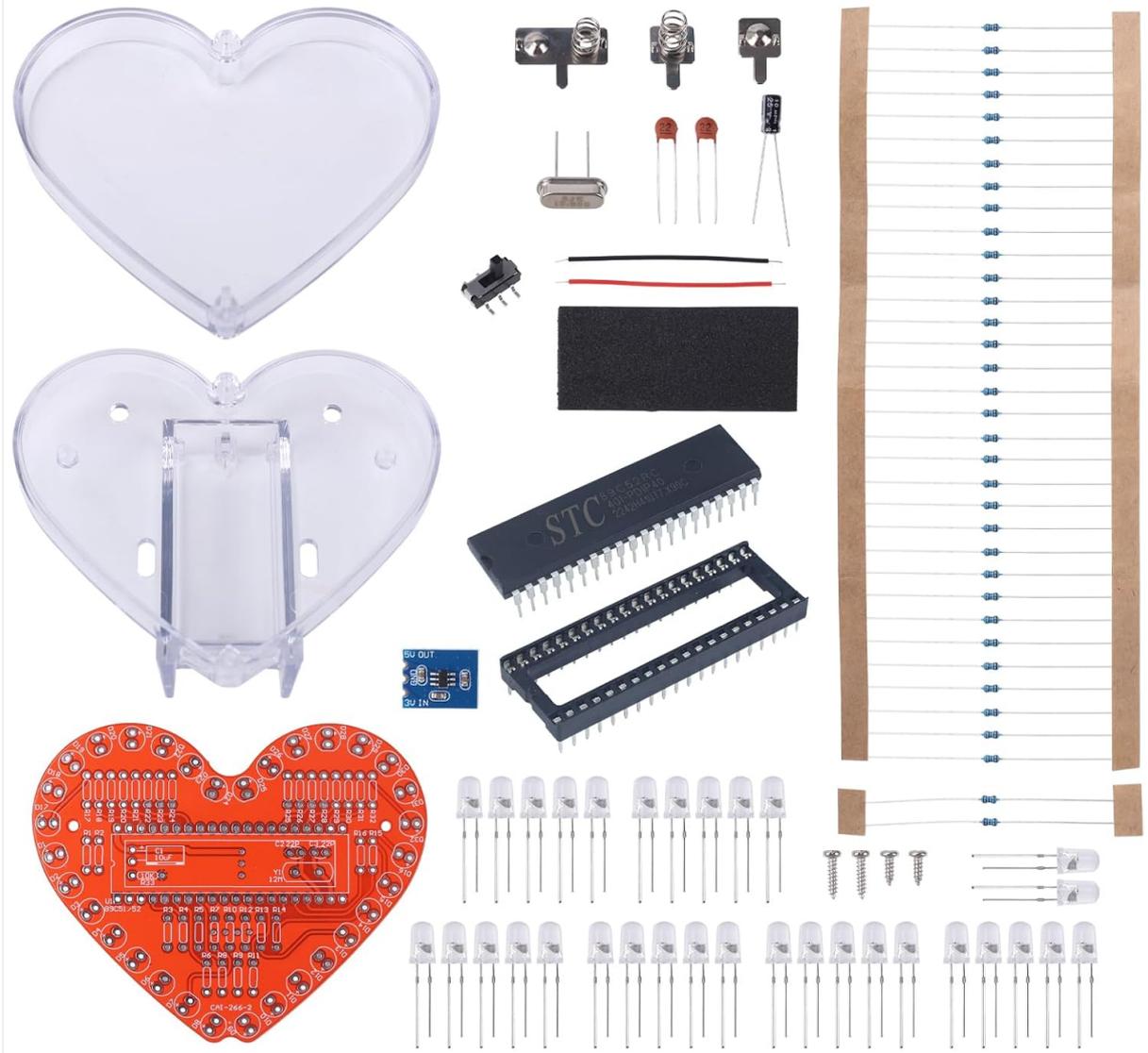


Image: All components included in the Heart Shaped LED Light Soldering Project Kit, laid out for inspection.

- Heart-shaped PCB (Printed Circuit Board)
- 32 RGB LEDs
- STC89C58RD Microcontroller
- DIP40 IC Socket
- Resistors (various values)
- Capacitors (various values)
- Crystal Oscillator
- Power Switch
- Battery Holder (for 2x AAA batteries)
- Acrylic Case components (front, back, stand)
- Screws
- Connecting wires

3. SAFETY INFORMATION

Warning: This kit involves soldering, which uses high temperatures and can produce fumes. Always follow

these safety guidelines:

- Work in a well-ventilated area to avoid inhaling solder fumes.
- Wear safety glasses to protect your eyes from splashes or flying debris.
- Use a soldering iron stand to prevent accidental burns.
- Ensure the soldering iron is unplugged and cooled down when not in use.
- Keep flammable materials away from your work area.
- Wash hands thoroughly after handling solder.
- Keep out of reach of children unless under direct adult supervision.

4. SETUP & ASSEMBLY

This section guides you through the assembly process. A soldering iron, solder, and basic tools like wire cutters and needle-nose pliers are required (not included in this kit).

4.1. Preparation

1. Unpack all components and verify against the "What's in the Box" list.
2. Prepare your soldering workstation with adequate ventilation and lighting.
3. Familiarize yourself with the PCB layout and component placement.

4.2. Soldering Components

Solder components in order from smallest to largest to ensure easier access. Start with resistors, then capacitors, crystal, and finally the IC socket and LEDs.

1. **Resistors:** Identify the resistors by their color codes or markings. Insert them into their designated positions (R1-R32) on the PCB. Bend the leads on the underside to hold them in place, then solder and trim excess leads.



Image: Close-up of the heart-shaped PCB with resistors correctly soldered into place.

- Capacitors and Crystal:** Solder the small ceramic capacitors and the crystal oscillator into their respective positions. Ensure the crystal is securely seated.
- Microcontroller Socket:** Place the DIP40 IC socket onto the PCB, aligning the notch on the socket with the notch on the PCB silkscreen. Solder all pins. This socket allows for easy insertion/removal of the microcontroller.
- LEDs:** Carefully insert each of the 32 RGB LEDs into their designated holes. LEDs are polarized; ensure the longer lead (anode) goes into the hole marked with a '+' or the square pad, and the shorter lead (cathode) goes into the round pad. Solder each LED and trim the leads.
- Power Switch:** Solder the power switch into its position.
- Battery Holder Wires:** Connect the red wire from the battery holder to the '+' pad and the black wire to the '-' pad on the PCB.

4.3. Microcontroller Installation

Gently insert the STC89C58RD microcontroller into the soldered IC socket. Ensure the notch on the microcontroller aligns with the notch on the socket and PCB. Apply even pressure to avoid bending pins.

4.4. Acrylic Case Assembly

- Remove the protective film from all acrylic pieces.
- Attach the stand piece to the bottom of one heart-shaped acrylic cover using the provided screws.
- Carefully place the assembled PCB into the acrylic cover with the stand.

- Align the second acrylic cover on top and secure it with the remaining screws. Ensure the power switch is accessible.



Image: The finished heart-shaped LED light enclosed in its standable acrylic case.

4.5. Battery Installation

Insert two AAA batteries (not included) into the battery holder, observing correct polarity (+/-). The device is now ready for operation.

Best Gift For Your Date

Express your love with the Heart-shaped LED light



Image: Close-up of the battery compartment, showing where to insert two AAA batteries.

4.6. Assembly Video Guide

For a visual guide on the assembly process, please refer to the official product video below:



Video: Official product video demonstrating the assembly and features of the Heart Shaped LED Light Soldering Project Kit.

5. OPERATING INSTRUCTIONS

Once assembled and batteries are installed, operating the Heart Shaped LED Light is straightforward.

1. **Power On:** Locate the power switch on the side or bottom of the acrylic case. Slide the switch to the "ON" position.
2. **Light Display:** The 32 RGB LEDs will immediately begin to display a variety of colorful patterns and effects. The microcontroller is pre-programmed with multiple light show sequences.



Image: The assembled heart-shaped LED light showcasing its dynamic rainbow LED light show.

3. **Power Off:** To turn off the device, slide the power switch to the "OFF" position.

6. MAINTENANCE

- **Cleaning:** Use a soft, dry cloth to gently wipe the acrylic case. Avoid abrasive cleaners or solvents.
- **Battery Replacement:** If the LED light show becomes dim or stops working, replace the two AAA batteries. Ensure correct polarity.
- **Storage:** Store the kit in a cool, dry place away from direct sunlight and extreme temperatures. If storing for extended periods, remove the batteries to prevent leakage.
- **Component Inspection:** Periodically check soldered joints for any signs of corrosion or loose connections. Re-solder if necessary.

7. TROUBLESHOOTING

Problem	Possible Cause	Solution
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Problem	Possible Cause	Solution
LEDs do not light up.	<ul style="list-style-type: none"> Power switch is OFF. Batteries are dead or incorrectly inserted. Poor solder joint(s). LEDs inserted with incorrect polarity. Microcontroller not seated correctly. 	<ul style="list-style-type: none"> Ensure switch is ON. Replace batteries or check polarity. Inspect all solder joints and re-solder any cold or bridged connections. Verify LED polarity; re-solder if necessary. Re-seat the microcontroller in its socket.
Some LEDs are not lighting up.	<ul style="list-style-type: none"> Faulty LED. Poor solder joint for specific LED. Incorrect LED polarity. 	<ul style="list-style-type: none"> Test the LED if possible; replace if faulty. Check and re-solder the connections for the affected LED. Verify polarity of the specific LED.
Light patterns are erratic or incorrect.	<ul style="list-style-type: none"> Loose microcontroller. Bridged solder joints on IC socket or microcontroller pins. Faulty crystal oscillator. 	<ul style="list-style-type: none"> Re-seat the microcontroller. Carefully inspect for solder bridges and remove them. Contact support if crystal is suspected to be faulty.

8. SPECIFICATIONS

Feature	Detail
Model Number	GY21248-2
Dimensions (L x W x H)	1.18 x 3.07 x 1.18 inches
Item Weight	1.76 ounces
LED Type	RGB LEDs (32 count)
Power Source	2 x AAA Batteries (not included)
Microcontroller	STC89C58RD

Size Information

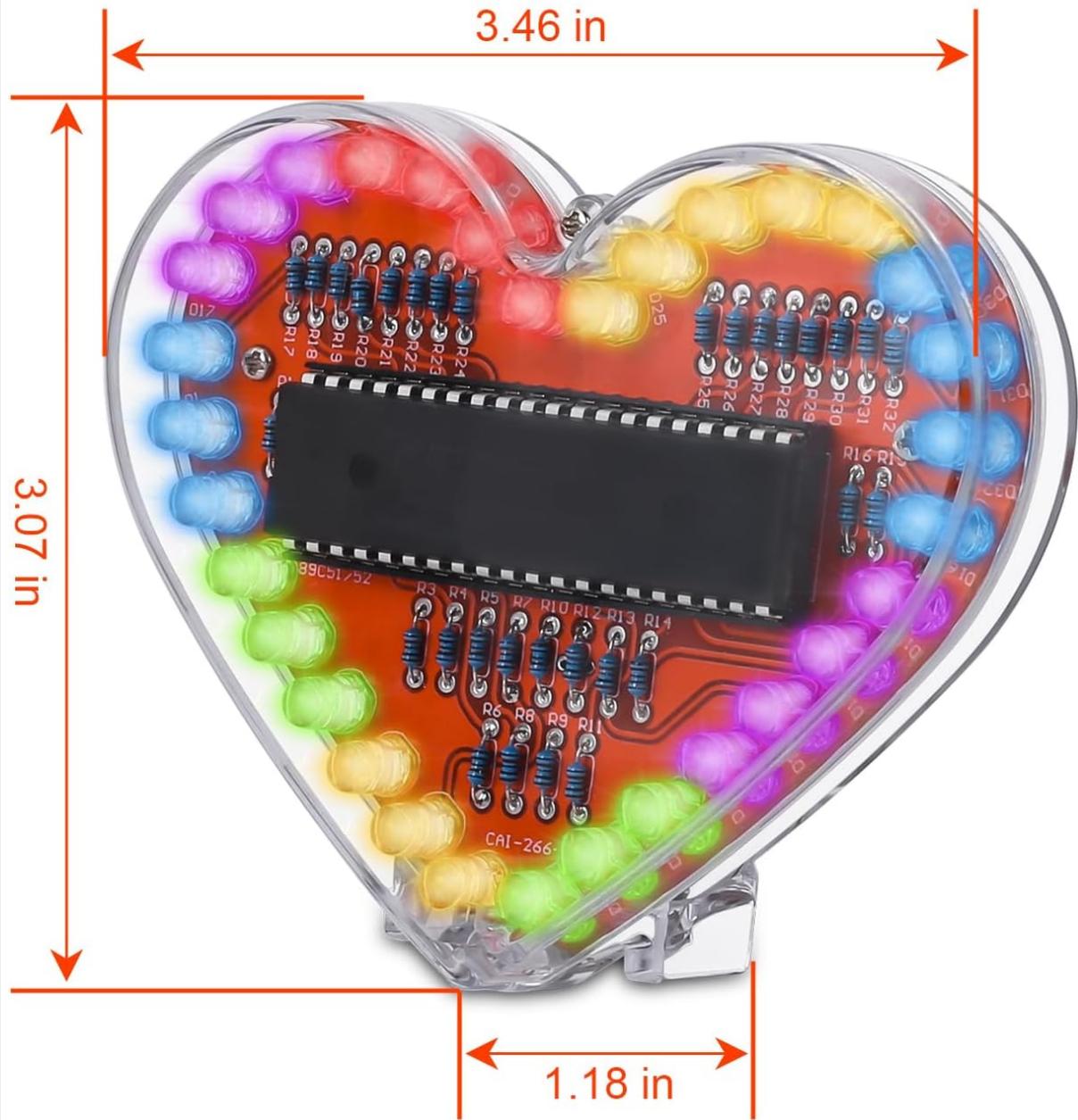


Image: Diagram showing the dimensions of the assembled Heart Shaped LED Light.

9. WARRANTY AND SUPPORT

Specific warranty information for this product is not provided in the available data. For any technical support, missing parts, or inquiries regarding your ICSTATION Heart Shaped LED Light Soldering Project Kit, please contact the manufacturer or seller directly through the platform where the product was purchased.

Manufacturer: ICSTATION

