YIHUA 947-V

YIHUA 947-V Soldering Iron and X-4 Holder User Manual

Model: 947-V Soldering Iron, X-4 Soldering Iron Holder

1. Safety Information

Read and understand all safety instructions before using the YIHUA 947-V Soldering Iron and X-4 Holder. Failure to follow these instructions may result in electric shock, fire, or serious injury.

- **High Temperatures:** The soldering iron tip reaches temperatures between 392°F (200°C) and 842°F (450°C). Avoid direct contact with the tip and allow the iron to cool completely before handling or storing.
- **Ventilation:** Use the soldering iron in a well-ventilated area to avoid inhaling fumes produced during soldering.
- **Eye Protection:** Always wear safety glasses or goggles to protect your eyes from solder splatter or fumes.
- **Fire Hazard:** Keep flammable materials away from the soldering area. Always place the hot iron in the designated X-4 soldering iron holder when not in use.
- **Electrical Safety:** Ensure the power cord is in good condition and connected to a grounded outlet. Do not operate the soldering iron with wet hands or in damp conditions. This model is designed for 110-127V US-standard power outlets.
- **Children and Pets:** Keep the soldering iron and all accessories out of reach of children and pets.
- **Lead-Free Solder:** While the included solder is lead-free, always wash hands thoroughly after handling solder.

2. Package Contents

Verify that all items listed below are present in your package:

- 1 x YIHUA 947-V Hand Soldering Iron Kit
- 1 x X-4 Premium Soldering Iron Holder
- 1 x Cleaning sponge
- 1 x Basic iron holder (for the 947-V kit)
- 1 x Cleaning kit (brass ball + rosin)
- 1 x Solder sucker

- 1 x Pair of ESD-safe tweezers
- 1 x Tube of 15g LEAD-FREE solder
- 1 x Storage case
- 5 x Soldering iron tips

Image 2.1: Overview of the YIHUA 947-V Soldering Iron bundle, showcasing the soldering iron, X-4 holder, desolder pump, tweezers, solder, cleaning sponge, brass ball cleaner, and various tips, all contained within a portable case.

Image 2.2: A detailed view of the YIHUA 947-V kit components, including the soldering iron, desolder pump, premium silicone mat, solder wire, cleaning sponge, YH-08B tip cleaner, premium solder tips, anti-static tweezers, ingenious solder iron holder, and portable case, each labeled for identification.

3. Product Overview

3.1 YIHUA 947-V Hand Soldering Iron

The 947-V soldering iron features adjustable temperature control, fast heating, and temperature stabilization for consistent performance. It includes integrated LED lights for improved visibility during soldering tasks.

Image 3.1: An exploded view of the YIHUA 947-V soldering iron, highlighting its key components such as the SGS Certified Lead-Free Soldering Iron Tip, Stainless Steel Element Cover, High-Temp. Resistant Bakelite Thread Insert, 3 LEDs light, High-Temperature and Slip Resistant Silicone Grip, Operation Indicator Light, Adjustable Temp. Knob (392-842°F), Three-shift Switch, and Anti-Flex Cable Cover.

3.2 X-4 Premium Soldering Iron Holder

The X-4 holder provides a stable and heat-resistant resting place for your soldering iron. It integrates a metal holster spring, tip storage slots, and a cleaning sponge tray for convenience.

Image 3.2: A detailed view of the X-4 Soldering Iron Holder, showing its versatile design, the tip cleaner kit with brass wool, and the cleaning sponge (to be wet with de-ionized water before use). Note that the solder tips shown are for demonstration and not included in this specific view.

4. Setup

1. **Unpack Components:** Carefully remove all items from the storage case.
2. **Prepare X-4 Holder:** Place the X-4 Premium Soldering Iron Holder on a stable, heat-resistant workbench. The holder has an adhesive bottom; peel off the clear plastic sheet to secure it firmly to your work surface if desired.

Image 4.1: Visual guide demonstrating how to peel off the clear plastic sheet from the adhesive bottom of the X-4 iron holder to secure it firmly to a worktop surface.

3. **Prepare Cleaning Sponge:** Lightly dampen the cleaning sponge with de-ionized water. Place it in the designated tray on the X-4 holder.
4. **Insert Soldering Iron:** Place the YIHUA 947-V Soldering Iron into the metal spring holster of the X-4 holder.
5. **Connect Power:** Plug the soldering iron's power cord into a standard 110-127V AC grounded electrical outlet.

5. Operating Instructions

5.1 Powering On and Temperature Adjustment

1. **Power On:** Locate the three-shift switch on the soldering iron handle. Slide it to the 'ON' position. The operation indicator light will illuminate.
2. **Activate LED Lights:** If additional illumination is needed, slide the three-shift switch to the position that activates the 3 super-bright LED lights.
3. **Set Temperature:** Rotate the adjustable temperature knob to select your desired temperature between 392°F (200°C) and 842°F (450°C). The iron will rapidly heat up and stabilize at the set temperature.

Image 5.1: This image illustrates the YIHUA 947-V soldering iron's features, including its 60W high power, fast heating to 572°F in approximately 30 seconds, adjustable temperature knob (392-842°F), ON/OFF master switch with LED lights switch, operation indicator, and super-bright 3 LED lights for enhanced visibility.

5.2 Recommended Soldering Temperatures

For optimal soldering results and tip longevity, consider the following guidelines:

- The set temperature for a soldering iron should be approximately 50°C / 90°F above the solder's melting point to ensure a better solder connection.
- An additional 100°C / 180°F higher temperature provides a heat reserve for quick thermal recovery of the tip

after the solder connection is made.

- For lead-free solder (e.g., Sn-Ag-Cu) with a melting point of 220°C, a recommended operating temperature would be approximately 370°C (220°C + 50°C + 100°C).

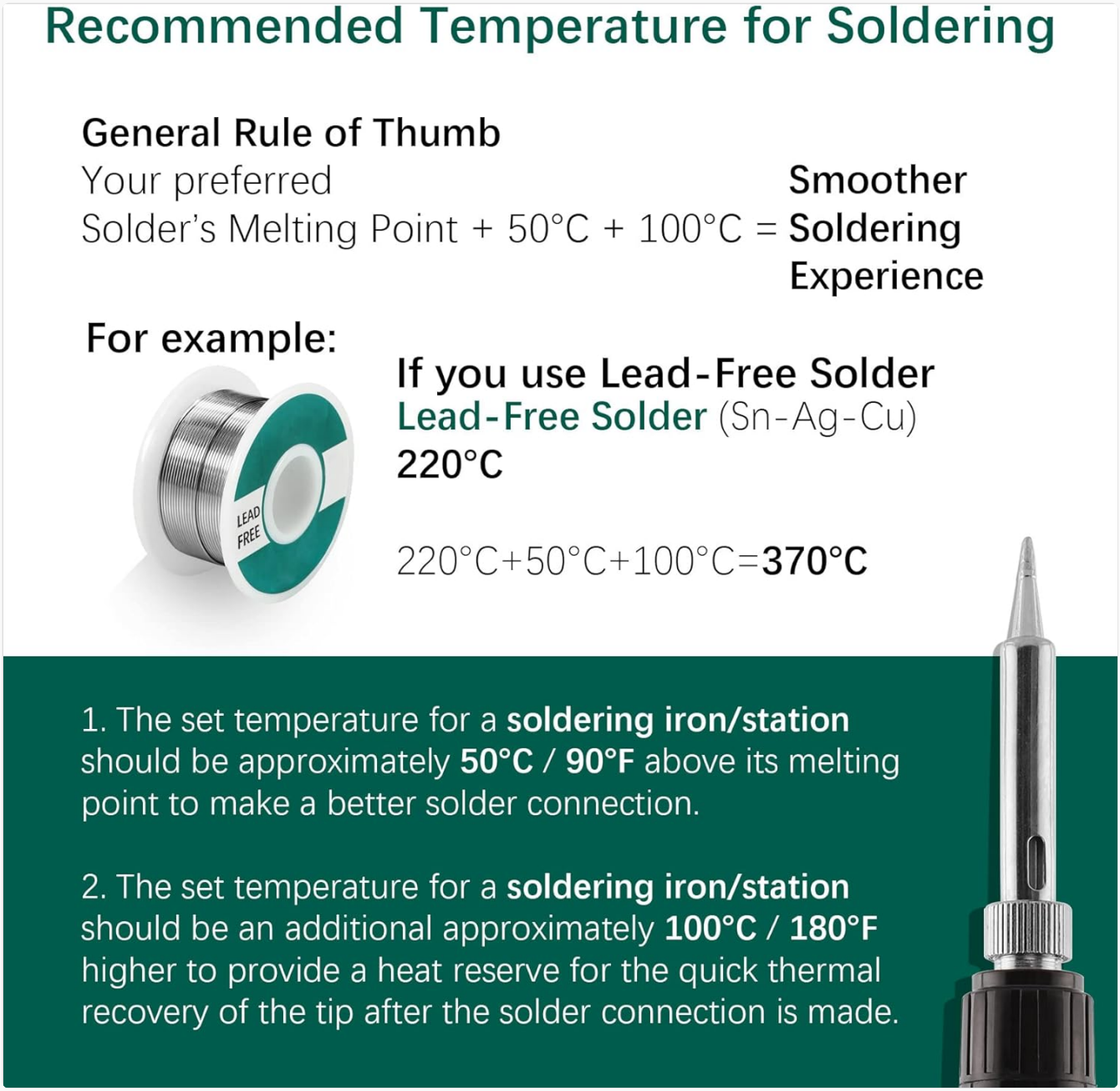

Image 5.2: A guide to recommended soldering temperatures, illustrating the calculation for lead-free solder (Sn-Ag-Cu) with a melting point of 220°C, suggesting a set temperature of 370°C for a smoother soldering experience, accounting for a 50°C buffer above melting point and a 100°C heat reserve.

5.3 Soldering Process

1. **Tin the Tip:** Before first use and periodically during operation, melt a small amount of solder onto the tip. This helps prevent oxidation and improves heat transfer.
2. **Heat Joint:** Touch the soldering iron tip to both the component lead and the PCB pad simultaneously. Allow a few seconds for the joint to heat up.
3. **Apply Solder:** Apply solder to the heated joint, not directly to the iron tip. The solder should flow smoothly and create a shiny, cone-shaped joint.
4. **Remove Solder and Iron:** Remove the solder wire first, then quickly remove the soldering iron. Allow the joint to cool naturally without disturbance.
5. **Clean Tip:** After each use, wipe the tip on the damp sponge or brass ball cleaner to remove excess solder and

flux residue.

5.4 Desoldering with Solder Sucker

1. **Prepare Sucker:** Push the plunger of the solder sucker down until it locks.
2. **Heat Solder:** Heat the solder joint to be desoldered with the soldering iron until the solder melts.
3. **Remove Solder:** Quickly remove the soldering iron, place the nozzle of the solder sucker over the molten solder, and press the release button. The vacuum will suck up the molten solder.
4. **Repeat if Necessary:** Repeat the process if all solder is not removed on the first attempt.

Image 5.3: This image demonstrates the use of the YIHUA 947-V soldering iron and the desolder pump. It shows the soldering iron being used on a circuit board, the desolder pump in action, and the soldering iron's integrated LED lights illuminating the work area.

6. Maintenance

6.1 Soldering Tip Care

- **Cleaning:** Regularly clean the soldering tip using the damp sponge or the brass ball cleaner. This removes oxidized solder and flux residue, which can degrade performance.
- **Tinning:** Always tin the tip with a fresh coat of solder before storing the iron and after cleaning. This protects the tip from oxidation.
- **Tip Replacement:** If a tip becomes heavily oxidized, pitted, or no longer accepts solder, replace it with a new one from the included set. Ensure the iron is cool before changing tips.

6.2 Desolder Pump Maintenance

- Periodically unscrew the nozzle and clean out any accumulated solder from the inside of the pump.

6.3 General Cleaning and Storage

- Ensure the soldering iron is unplugged and completely cool before cleaning or storing.
- Wipe down the handle and cord with a dry cloth.
- Store all components in the provided storage case to protect them from dust and damage.

7. Troubleshooting

- **Iron Not Heating:**
  - Check if the power cord is securely plugged into a live outlet.
  - Ensure the ON/OFF switch is in the 'ON' position.
  - Verify the temperature knob is set to a desired temperature.
- **Poor Solder Joints / Solder Not Flowing:**
  - Ensure the soldering tip is clean and properly tinned.
  - Increase the set temperature if the solder's melting point is higher or if working with larger components/pads.
  - Ensure the tip is making good contact with both the component lead and the PCB pad.
  - Check if the solder wire is fresh and suitable for the application.
- **Tip Oxidation:**
  - Clean the tip frequently with the brass ball or damp sponge.
  - Always tin the tip before and after use.
  - Avoid leaving the iron at high temperatures for extended periods when not in use.

8. Specifications

Feature	Specification
Brand	YIHUA
Model	947-V (Soldering Iron), X-4 (Holder)
Power Source	Corded Electric

Feature	Specification
Operating Voltage	110-127V (US-standard power plug)
Temperature Range	392°F - 842°F (200°C - 450°C)
Heating Element Type	Ceramic
Special Features	Portable, Temperature Stabilization, 3 LED Lights
Handle Material	Silicone Grip, Brass (internal)
X-4 Holder Dimensions	Approx. 6.25" L x 2.36" W x 4.72" H

Image 8.1: Detailed measurements of the X-4 Premium Soldering Iron Holder, indicating its length, width, and height, along with specific dimensions for the iron's entry point.

9. Warranty and Support

YIHUA provides the following support for this product:

- **Manufacturer Technical Coverage:** Enjoy 12-month US-exclusive manufacturer technical coverage.
- **Professional Assistance:** Access 24/7 professional assistance through Amazon for any product-related inquiries or support needs.

Related Documents - 947-V

	982D III 2-in-1 Micro Soldering Rework Station Operation Manual Operation instructions and safety guidelines for the Yihua 982D III 2-in-1 Micro Soldering Rework Station, covering specifications, applications, operation, maintenance, and troubleshooting.
	YIHUA 948D-V 5-in-1 Multi-functional Precision Soldering Station - Operation Manual Comprehensive operation instruction manual for the YIHUA 948D-V 5-in-1 multi-functional precision soldering station. Covers specifications, safety guidelines, applications, operation, maintenance, and troubleshooting for hot air rework, hot tweezer, precision soldering, and desoldering functions.
	YIHUA-8786D Thermo-air Soldering Station and Soldering Iron User Manual Comprehensive user manual for the YIHUA-8786D thermo-air soldering station and soldering iron, covering operation, technical specifications, usage tips, advantages, and maintenance procedures.
	YIHUA-8786D Hot Air Soldering Station with Soldering Iron - User Manual Comprehensive user manual for the YIHUA-8786D hot air soldering station and soldering iron, covering operation, technical specifications, advantages, troubleshooting, and parts replacement. Includes instructions for both standard and enhanced configurations.
	YIHUA 948 II: Operation Manual for Multi-Function Desoldering, Soldering & Rework Station Official operation manual for the YIHUA 948 II, a 4-in-1 ESD-safe station featuring desoldering, soldering, and hot air rework functions. Includes detailed instructions, maintenance, and troubleshooting for electronics repair and assembly.
	YIHUA Anti-Static Soldering Station 936/937/939/942 Series Instruction Manual Instruction manual for YIHUA Anti-Static Soldering Station Series, models 936, 937, 939, and 942. Covers safety rules, tip maintenance, specifications, wiring diagram, and parts replacement.