

Xuulan T12 Series (T12-ILS, T12-BC1, T12-D24, T12-K, T12-BL)

Xuulan T12 Series Soldering Iron Tips User Manual

Models: T12-ILS, T12-BC1, T12-D24, T12-K, T12-BL

1. INTRODUCTION

This manual provides essential information for the safe and effective use of Xuulan T12 Series Soldering Iron Tips. These tips are designed for compatibility with FX-951 and FX-952 soldering rework stations. Please read this manual thoroughly before use to ensure proper operation and to maximize the lifespan of your soldering tips.

2. SAFETY INFORMATION

Soldering involves high temperatures and can produce fumes. Always observe the following safety precautions:

- **Ventilation:** Use soldering equipment in a well-ventilated area or with a fume extractor to avoid inhaling solder fumes.
- **Eye Protection:** Always wear safety glasses to protect your eyes from splashes of molten solder or flux.
- **Burn Hazard:** Soldering iron tips reach very high temperatures. Avoid direct contact with skin. Use appropriate heat-resistant tools and stands.
- **Power Off:** Always turn off and unplug the soldering station when changing tips or when not in use. Allow tips to cool completely before handling.
- **Proper Tools:** Use only compatible soldering stations (e.g., FX-951/FX-952) with these T12 series tips.
- **Storage:** Store tips in a dry, safe place away from children and flammable materials.

3. PRODUCT OVERVIEW

The Xuulan T12 Series Soldering Iron Tips are high-quality, lead-free, and environment-friendly components designed for precision soldering tasks. They feature excellent thermal conductivity and anti-oxidation properties for consistent performance.

3.1 Key Features

- **Material:** Constructed from imported raw material-copper oxide for precise tip sizing.

- **Durability:** Lead-free alloy iron electric plating ensures a long lifespan, approximately 3-4 times that of standard tips.
- **Performance:** Excellent tin-on and tin melting capabilities, resulting in uniform and fluent solder joints.
- **Anti-Oxidation:** Special surface treatment and tip end coating prevent blackening under high temperatures.
- **Compatibility:** Specifically designed for FX-951 / FX-952 soldering rework stations.

3.2 Included Tip Types (5pcs Set)

- **T12-ILS:** Conical tip, very fine point for precision work.
- **T12-BC1:** Bevel tip, small chisel for general soldering.
- **T12-D24:** Chisel tip, 2.4mm wide for general purpose and drag soldering.
- **T12-K:** Knife tip, for drag soldering, bridge cutting, and large pad work.
- **T12-BL:** Bevel tip, larger chisel for higher heat capacity and larger components.



Figure 1: Assortment of T12 Series Soldering Iron Tips. This image displays five distinct soldering tips, including conical, chisel, and knife shapes, held in a hand, highlighting their varied designs for different soldering applications.



Figure 2: Full view of T12 Series Soldering Iron Tips. This image shows four soldering tips arranged in an 'X' pattern, revealing their complete length and the white ceramic heating elements at the base of each tip.

4. SETUP

Follow these steps to properly install a T12 series soldering iron tip into your compatible soldering station (e.g., FX-951/FX-952):

1. **Ensure Power Off:** Always ensure your soldering station is turned off and unplugged from the power source before handling tips.
2. **Allow Cooling:** If replacing a used tip, allow it to cool completely to room temperature to prevent burns.
3. **Remove Old Tip:** Carefully pull the old tip straight out from the soldering iron handle. Avoid twisting if possible.
4. **Insert New Tip:** Select the desired T12 tip. Gently push the new tip straight into the soldering iron handle until it is fully seated. Ensure a snug fit.
5. **Verify Connection:** Double-check that the tip is securely in place.
6. **Power On:** You may now plug in and power on your soldering station.

Note: T12 tips integrate the heating element and sensor, making them easy to replace. Handle with care to avoid damaging the internal components.

5. OPERATING INSTRUCTIONS

Using your Xuulan T12 Series Soldering Iron Tips effectively requires understanding proper soldering techniques and temperature management.

- Pre-Tinning:** Before first use, or after cleaning, pre-tin the tip by applying a small amount of solder to the working surface. This protects the tip and improves heat transfer.
- Temperature Setting:** Set your soldering station to the appropriate temperature for your solder type and components. For lead-free solder, temperatures typically range from 350°C to 400°C (662°F to 752°F). For leaded solder, 300°C to 350°C (572°F to 662°F) is common. Avoid excessively high temperatures, as this can shorten tip life.
- Applying Solder:** Bring the tip into contact with both the component lead and the PCB pad simultaneously. Feed solder onto the joint, not directly onto the tip. Allow the solder to flow evenly around the joint.
- Dwell Time:** Apply heat for the shortest duration necessary to achieve a good solder joint. Prolonged heating can damage components or the PCB.
- Cleaning During Use:** Regularly wipe the tip on a damp sponge or brass wool cleaner to remove excess solder and flux residue. This maintains tip cleanliness and efficiency.

6. MAINTENANCE

Proper maintenance extends the life and performance of your soldering iron tips.

- Regular Cleaning:** During soldering, wipe the tip frequently with a damp cellulose sponge or brass wool. This removes oxidized solder and flux residue.
- Re-Tinning:** Always re-tin the tip with a fresh coat of solder before placing it back in the stand or turning off the soldering station. This prevents oxidation and corrosion.
- Avoid Scraping:** Do not scrape the tip with abrasive materials or files, as this can damage the plating and shorten its lifespan.
- Storage:** Store clean, tinned tips in a dry, non-corrosive environment.
- Temperature Management:** Operate at the lowest effective temperature. High temperatures accelerate tip oxidation.

7. TROUBLESHOOTING

Here are some common issues and their solutions:

Problem	Possible Cause	Solution
Solder does not wet the tip (tip appears black/oxidized).	Tip oxidation due to high temperature, lack of tinning, or old flux.	Clean the tip thoroughly with brass wool or a tip tinner/activator. Re-tin immediately. Lower soldering temperature if consistently oxidizing.
Poor heat transfer to the joint.	Insufficient tip contact, oxidized tip, or incorrect temperature setting.	Ensure full contact with both component and pad. Clean and re-tin tip. Increase temperature slightly if necessary, but avoid excessive heat.

Problem	Possible Cause	Solution
Tip wears out quickly.	Excessively high soldering temperature, abrasive cleaning, or prolonged contact with corrosive flux.	Reduce soldering temperature. Use brass wool or damp sponge for cleaning, not abrasive materials. Use appropriate flux.
Tip does not heat up.	Tip not properly seated, faulty tip, or issue with the soldering station.	Ensure tip is fully inserted. Try a different tip. If problem persists, consult your soldering station's manual or contact its manufacturer.

8. SPECIFICATIONS

- **Type:** T12 Series Soldering Iron Tips
- **Models Included (5pcs set):** T12-ILS, T12-BC1, T12-D24, T12-K, T12-BL
- **Material:** Imported raw material-copper oxide, lead-free alloy iron electric plating
- **Color:** Silver+White
- **Length:** Approximately 15cm (5.9 inches)
- **Recommended Operating Temperature:** Under 400°C (±20°C) for optimal lifespan.
- **Compatibility:** FX-951 / FX-952 Soldering Rework Stations
- **Estimated Lifespan:** Up to 50,000 solder joints under recommended conditions.
- **Item Weight:** 1.1 pounds (for the package, not individual tips)

9. WARRANTY AND SUPPORT

For information regarding warranty coverage, technical support, or replacement parts, please refer to the documentation provided with your original purchase or contact the manufacturer directly. Keep your purchase receipt as proof of purchase.

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