

# X-TRONIC USA

Soldering Technology  
Professionals Can Trust



# 3020-PRO

## Instructions



# PRODUCT SPECIFICATIONS

Model	XTR-3020-PRO
Dimensions (assembled)	7.5" L x 5.5" W x 10" H
Weight	1.5 lbs
Working Environment	32°F ~ 104°F / 0°C ~ 40°C
Storing Environment	-4°F ~ 176°F / -20°C ~ 80°C
Storage Humidity	35% - 45%
Temperature Range	392°F ~ 896°F / 200°C ~ 480°C
Temperature Stability	± 3.6°F / 2.0°C (Static)
Grounded Tip Voltage	< 1 mV
Tip Impedance	< 1Ω
Cord Length	≥ 40 in

## PACKAGE CONTENTS

- Main Power Unit with LED Display
- 75 Watt Soldering Iron with Ergonomic Grip
- Attachable Helping Hands (set of two)
- Small Wrench (to Tighten Helping Hands)
- Spring Steel Soldering Iron Holder
- Solder Roll Holder (attaches to side of main unit)
- Brass Sponge Soldering Tip Cleaner with Cleaning Flux
- Wet Sponge Soldering Tip Cleaner

# **SAFETY PRECAUTIONS**

1. When not in use always turn the power off and unplug the unit from the electrical outlet.
2. Never use the soldering iron near any flammable substance, material, or gas.
3. Never touch the metallic components of the soldering iron while they are in use. The items are extremely hot and will cause serious burns instantly. Allow the unit to properly cool to room temperature before attempting to touch them.
4. Do not use the unit for any application other than soldering.
5. Do not tap the soldering tip against the work surface to remove residual solder - this can damage the soldering tip and/or heating element.
6. Do NOT modify the unit in any way.
7. When replacing consumable parts, only use approved manufacturer parts.
8. Do not get the unit wet or use when your hands are wet.
9. The soldering process can produce smoke - ensure the area is well ventilated.

# UNIT PARTS



1. Power Switch
2. Solder Roll Holder
3. Digital LED Temperature Readout
4. Temperature Adjustment Buttons
5. Temperature Readout Toggle
6. Wet Sponge Tip Cleaner
7. Brass Sponge with Rosin Flux Tip Cleaner
8. Soldering Iron Holder
9. Helping Hands

# SET-UP

1. Open the package and check that all parts are present and are not damaged. If anything is missing or damaged, please contact X-Tronic immediately for assistance (see back cover for contact information).
2. Attach the solder roll holder to the left side of the unit with the screws provided.
3. Firmly press the steel spring solder iron holder into place on the right side of the base, ensure it fully seated before placing the soldering iron in it.
4. Plug the 3-Prong AC cord into a grounded outlet to prevent electric shock or injury.
5. Turn the power on using the power switch on the top of the control module.
6. Once the power is on the Blue LED Screen located on the front of the control module will light up.
7. Set the desired working temperature by pressing the temperature adjustment buttons on the front of the control module. The temperature of the soldering iron can be set anywhere from 194°F ~ 896°F/90°C ~ 480°C.
8. Moisten the sponge and place it in the sponge holding space in the iron cradle.
9. **IMPORTANT:** Remove the iron from the cradle and flood the tip with a good quality rosin core solder-preferably 63/37 or 60/40 grade solder (See page 4).
10. Wipe the tip across the moist sponge or dip the tip into the brass sponge to remove excess solder. The tip should then be bright and shiny if it is tinned properly.
11. The soldering iron is now ready to solder. Proceed according to your standard working practice.

*WARNING: Do NOT leave the unit on full power for any long period of time. This will greatly reduce the life of the soldering iron, soldering tip, and heating element.*

# FEATURES

## TEMPERATURE CONVERSION

This unit can readout temperatures in either Fahrenheit or Celsius. Ensure the unit is off.

1. Press and hold the + temperature adjustment button while turning the unit on.
2. The display will show a flashing “C”, press either the - or + temperature adjustment button to change from “C” to “F”.
3. Once the desired mode is shown, wait approximately 3 seconds, the screen will show the soldering iron set temperature in the chosen mode and the setting will automatically be saved.

## SOLDERING IRON SLEEP FUNCTION

When the soldering iron is placed in the holder, the iron will go into sleep mode after a selected number of minutes (the default is set at 10 minutes). The display will show “SLP” to signify the unit is in Sleep Mode and the temperature of the soldering iron will ramp down to 194°F/90°C or 392°F / 200°C depending on which temperature range has been selected (see page 6 - Low/High Temperature Range Control). When the soldering iron is removed from the holder to use again, the temperature of the soldering iron will ramp back up to the temperature it was previously being used at within 5-10 seconds.

## SETTING THE SOLDERING IRON SLEEP TIMER

1. Press and hold the - temperature adjustment button while turning the unit on.
2. The display will show a “L” and a flashing number. Press either the - or + temperature adjustment button to change from 00-99 minutes.

*Note: Setting the sleep timer at “00” will turn the sleep function off and the unit will NOT go to sleep regardless of how long the unit sits idle in the soldering station holder. It is not recommended to turn the sleep timer off for normal use. The use of the sleep timer will help extend the life of the heating element and tip if the unit is left on for long periods of time.*

3. Once the desired number of minutes is shown, wait approximately 3 seconds, the screen will show the soldering iron set temperature and the setting will automatically be saved.

## LOW / HIGH TEMPERATURE RANGE CONTROL

This unit provide the user control of the temperature ranges to be used. It can be set to Low Range (“L”) 90°-300°C/194°-572°F or High Range (“H”) 200°-480°C/392°-896°F. The toggle switch on the front of the unit allows for easy conversion between the two.

## CALIBRATION FUNCTION

### When is it time to Calibrate your Soldering Station?

This unit has a high quality ceramic heating element in the soldering iron that is calibrated to within  $\pm 3.6^{\circ}\text{F}/2.0^{\circ}\text{C}$  of the temperature that is shown on the LED Display. While calibrating to the exact temperature is the ultimate goal, this heating element and tip design is as close as can be achieved with this technology.

The age of the heating element, the hours of use, and the temperature at which the soldering iron is regularly used will affect the life of the heating element and can cause fatigue. When a heating element begins to fatigue, the heat that is transferred to the soldering tip from the heating element will begin to drop. If the typical temperature used to solder is not working as well as when it was new, then it might be time to calibrate the unit.

*Note: Heating elements are consumable parts for soldering stations.*

*There will come a time when the heating element stops working due to age and/or too much deterioration. At this point, it will need to be replaced and cannot be calibrated. Heating elements for this unit can be found on our website ([XTronicUSA.com](http://XTronicUSA.com)).*

### Calibration Instructions

Once the desired temperature has been set and the temperature of the unit stabilizes, measure the heat at the soldering tip using **a high quality and well calibrated soldering tip tester**. If the temperature shown on the unit’s display does not reflect the temperature shown on the tester, the unit can be calibrated.

1. Press and hold both the - and + temperature adjustment buttons at the same time for approximately 2 seconds.
2. The temperature display will change to show dots between each of the numbers (i.e. 5.5.3.), this indicates it is in calibration mode. Using the - and + adjustment buttons change the temperature to what the tester indicates is the accurate temperature. This can be adjusted  $\pm 100^{\circ}\text{C}/212^{\circ}\text{F}$ .
3. Once the desired offset has been chosen, wait approximately 5 seconds, the screen will return to the set temperature and the setting is automatically saved.



*Note: This unit can be calibrated VERY EASILY, if this feature is used please be aware that without proper testing equipment and methods, the outcome could be less than desirable.*

**IMPORTANT - PLEASE READ**

*Infrared (IR) Thermometers should NOT be used to measure the temperature of the soldering tip as they often provide inaccurate readings. All IR Thermometers are different and the capability depends on the Distance to Spot (D:S) ratio of the model being used. Many IR thermometers have a D:S ratio of 8:1 or 12:1 which means that the thermometer needs to be a distance of 8" or 12" in order to read a 1" spot size. The tip of a soldering iron is approximately 2 to 3 mm (.07-.11"), requiring the thermometer to be 0.8" or 1.2" away from the tip. However, the IR thermometer also has a minimum distance it needs to be away from the object. Most IR thermometers will not be capable of measuring such a small spot size and will provide disappointing calibration results.*

# TROUBLESHOOTING

ISSUE	POSSIBLE SOLUTIONS
Unit does not have power	<ul style="list-style-type: none"> <li>• Ensure the power cord is not damaged and in good working condition. If the cord is damaged, immediately unplug the unit and do NOT use.</li> <li>• Ensure that the outlet is functional.</li> <li>• Contact X-Tronic for additional help. Contact information on the back page of the manual.</li> </ul>
Soldering Iron "Rattles"	<ul style="list-style-type: none"> <li>• This is expected behavior. The "rattle" is a small ball that allows the unit to determine when the soldering iron is not in use and it should go into Sleep Mode.</li> </ul>
S-E Error	<ul style="list-style-type: none"> <li>• The unit is no longer sensing the element - the heating element may be cracked or worn out and needs to be replaced. Replacements can be purchased on our website: <a href="http://www.XTronicUSA.com">www.XTronicUSA.com</a>.</li> </ul>
Tip is not heating up as expected	<ul style="list-style-type: none"> <li>• Ensure the soldering iron is not damaged and in good working condition.</li> <li>• The soldering tip could be oxidized, it is important to always tin the tip and keep it clean. See Soldering Tip Preparation on page 5.</li> <li>• The heating element may need to be replaced. Replacements can be purchased on our website: <a href="http://www.XTronicUSA.com">www.XTronicUSA.com</a>.</li> </ul>

*Note: Running the soldering iron in the 600°F ~ 650°F / 315°C ~ 343°C range, which is the normal temperature range for most soldering applications, the heating element should last for 6 to 12 months depending on hours of use.*

# SOLDERING TIP PREPARATION

- Keep the soldering tip properly tinned. Always use solder with sufficient rosin flux or the tip will de-wet. A well tinned tip will be bright all over when hot, with no dull or discolored spots.
- To tin the soldering iron tip:
  1. Plug in the iron and allow it to reach solder melt temperature.
  2. Flood the tip with solder and let it stand for one minute.
  3. Apply more solder to the tip, allow it to idle for one or two more minutes, wipe it lightly on the sponge. Do not remove all of the solder, but use the sponge to remove excess solder and wipe solder onto non-tinned areas.
- Do not file or attempt to reshape the tip. This will destroy the plating and shorten tip life. Do not use chloride and acid fluxes; they will also shorten tip and heater life.
- For maximum tip life, always apply solder to the heated connections or joints. Repeated application of solder directly to the tip will shorten the tip life.

***WARNING: Do NOT use anti-seize or any other lubricant on the tip retainer or heater of the soldering iron.***

## MAINTENANCE

### UNIT

1. Keep the unit plugged into a GROUNDED outlet at all times during operation.
2. Keep the unit and all components free from dirt, debris, and liquid at all times.
3. Make sure the power cord is plugged in correctly and safely off the floor to prevent accidents.
4. Keep all cords in the immediate workspace and avoid letting them hang off the side of a table or bench top.
5. Wipe the unit down, when needed, with a dry, static-free cloth.



## WARNING



### DISCONNECT POWER CORD BEFORE REPLACING A SOLDERING TIP AND/OR A HEATING ELEMENT

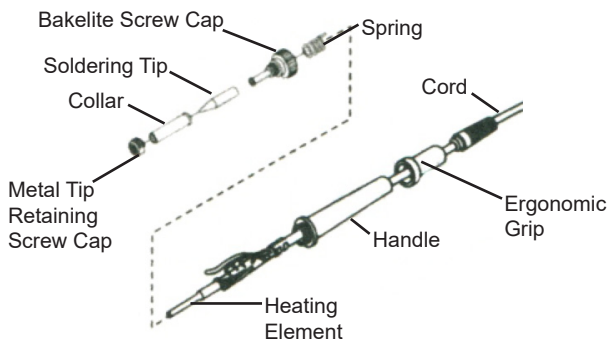
#### REPLACING THE SOLDERING TIP

1. Turn off the soldering station, unplug the power cord from the power source and allow the soldering iron to cool down to room temperature. Never attempt to remove the tip while the iron is hot.
2. Unscrew the small metal tip retaining screw cap at the bottom of the soldering irons metal shaft. Slide off or remove the soldering tip retaining collar. Now, remove the tip by sliding it forward.  
*(There is NO need to remove the black Bakelite screw cap to change the tip.)*
3. Slide a new tip over the exposed ceramic heating element, slide the metal retaining collar over the new soldering tip back onto the soldering iron.
4. Tighten the metal tip retaining screw cap to secure the tip into place. Do not over tighten the metal tip retaining screw cap.
5. Plug the soldering iron AC cord into a grounded outlet to resume soldering.

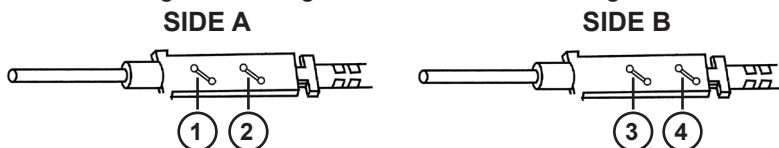
#### BLACK BAKELITE SCREW CAP TIPS

- Bakelite is a strong and stable material when handled correctly. This part cannot be made of metal for heat transfer safety reasons.
- The black Bakelite screw cap does NOT need to be removed to replace the tip. This is only removed to access the heating element.
- The Bakelite screw cap should never be tightened or re-tightened when the iron is hot. If the iron is not at room temperature when the Bakelite screw cap is removed it can cause it to crack.
- When tightening the Bakelite screw cap, at room temperature, it only needs to be snug - DO NOT OVER-TIGHTEN.

## REPLACING THE SOLDERING IRON HEATING ELEMENT



1. Turn off the unit and unplug it from the outlet. Allow the soldering iron to cool down to room temperature.  
**Never attempt to handle the tip while the iron is hot.**
2. Unscrew the Black Bakelite Screw Cap and slide off the full tip assembly.
3. Push the Cord through the bottom of the soldering iron while simultaneously pulling gently on the heating element to expose the heating element circuit board.
4. De-solder the 2 Thin (red or white) wires and the 2 Thick (blue) wires that have heat shielding on them from the circuit board and pull the heating element away from the board. Please take note of the location of the wire thickness/color for installation of new heating element (see diagram below).
5. On one side of the circuit board solder a thin wire to ① and a thick wire to ② (see diagram below).
6. Flip the circuit board over and solder a thin wire to ③ and a thick wire to ④ (see diagram below).
7. Pull the cord back gently and align the circuit board to the slots on the iron so the cord can be pulled back to its original position.
8. Replace black Bakelite Screw Cap and screw back on and hand tighten - **Do NOT over-tighten.**
9. Install the soldering tip, slide the metal soldering tip retaining collar and hand tighten it. Plug the AC cord back into a grounded outlet.



**NOTE:** The wires on the heating element can be soldered onto either side of the circuit board, as there is no polarity for the element.

**X-Tronic  
International Inc.**

# **3-YEAR LIMITED WARRANTY**

**THIS LIMITED WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS. YOU MAY ALSO HAVE OTHER RIGHTS, AS THEY VARY FROM STATE TO STATE.**

**THIS LIMITED WARRANTY CAN ALSO BE FOUND ON OUR WEBSITE AT [WWW.XTRONICUSA.COM/SUPPORT/WARRANTY](http://WWW.XTRONICUSA.COM/SUPPORT/WARRANTY).**

**WE WARRANT THAT DURING THE WARRANTY PERIOD, THE PRODUCT WILL BE FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP.**

**WE LIMIT THE DURATION AND REMEDIES OF ALL IMPLIED WARRANTIES, INCLUDING WITHOUT LIMITATION THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE TO THE DURATION OF THIS EXPRESS LIMITED WARRANTY.**

**SOME STATES HAVE DIFFERENT LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.**

**OUR RESPONSIBILITY FOR DEFECTIVE GOODS IS LIMITED TO REPAIR, REPLACEMENT OR REFUND AS DESCRIBED BELOW IN THIS WARRANTY STATEMENT.**

## **WHO MAY USE THIS WARRANTY?**

X-Tronic International Inc. located at 2159 Magnum Circle, Lincoln, Nebraska 68522 (“we”) extend this limited warranty only to the consumer who originally purchased the product in the United States, the District of Columbia or Canada (“you”). It does not extend to (a) any subsequent owner or other transferee of the product, (b) any product shipped outside of the United States, the District of Columbia or Canada, or (c) anyone who may have purchased it from someone other than X-Tronic International Inc.. Proof of purchase is required for in-warranty service. We recommend you promptly register this product on our website ([www.XTronicUSA.com](http://www.XTronicUSA.com)) to facilitate verification of the date of the original purchase. Keep the product manual and your sales receipt together for future reference.

## **WHAT DOES THIS WARRANTY COVER?**

This limited warranty covers defects in materials and workmanship of the product for the Warranty Period as defined below. In addition, during the Initial Warranty Period, this limited warranty also covers defects occurring in the initial shipment of the product to you.

## **WHAT DOES THIS WARRANTY NOT COVER?**

This limited warranty during the Warranty Period does not cover any damage due to: (a) improper use; (b) failure to follow the product instructions or to perform any preventive maintenance; (c) modifications; (d) unauthorized repair; (e) normal wear and tear that comes with household use; or (f) external causes such as accidents, abuse, or other actions or events beyond our reasonable control. It also does not cover consumable parts.

## **WHAT IS THE PERIOD OF COVERAGE?**

This limited warranty starts on the date of your purchase and lasts for 3 years ("The Warranty Period"), which shall be divided into two periods: (1) the first 30 days from the date of your purchase ("Initial Warranty Period"); and (2) the remainder of the 3 year period after the Initial Warranty Period has expired (the "Remainder Warranty Period"). The Warranty Period is not extended if we repair or replace the product. We may change the availability of this limited warranty at our discretion, but any changes will not be retroactive.

## **WHAT ARE YOUR REMEDIES UNDER THIS WARRANTY?**

With respect to any defective product during the Initial Warranty Period, we will, in our sole discretion either (a) replace such product (or the defective part) free of charge, or (b) refund the purchase price of such product.

With respect to any defective product during the Remaining Warranty Period, we will repair such product free of charge and provide a full-service inspection of your product. You will be responsible for all shipping and handling fees to and from our facility.

## **HOW DO YOU OBTAIN WARRANTY SERVICE?**

To obtain warranty service, you must call 844-861-4762 or email us at [Info@XTronicUSA.com](mailto:Info@XTronicUSA.com) during the Warranty Period to open a service request. Proof of purchase will be required to open a service request.

## **LIMITATION OF LIABILITY**

THE REMEDIES DESCRIBED ABOVE ARE YOUR SOLE AND EXCLUSIVE REMEDIES AND OUR ENTIRE LIABILITY FOR ANY BREACH OF THIS LIMITED WARRANTY. OUR LIABILITY SHALL UNDER NO CIRCUMSTANCES EXCEED THE ACTUAL AMOUNT PAID BY YOU FOR THE DEFECTIVE PRODUCT, NOR SHALL WE UNDER ANY CIRCUMSTANCES BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL OR PUNITIVE DAMAGES OR LOSSES, WHETHER DIRECT OR INDIRECT.

SOME STATES HAVE DIFFERENT LIMITATIONS OF LIABILITY AND EXCLUSIONS, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

# QUESTIONS, PROBLEMS OR COMPLIMENTS?

*Thank You for purchasing this  
X-Tronic International Product!  
We are grateful for your business!*

All of our X-Tronic International Products are inspected then sealed with our NEW Product Seal prior to shipment. Our goal is to ensure Quality, Completeness, and Satisfaction for your order.

**For Any Questions, Problems, or  
Compliments please call or email us.**



**Toll Free: 844-861-4762**



**Info@XTronicUSA.com**

Our Business Hours are:  
Monday - Thursday: 8am - 4pm CST  
Friday: 8am - Noon CST

If you would like to shop for other X-Tronic International Products  
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