

Tip Replacement and Care of Tips:

CAUTION: The soldering iron can be very hot. Be sure to turn the unit off prior to carrying out any maintenance or trouble shooting steps listed below. Tip replacement or cleaning should be done only when the iron is at or below room temperature. The station must be switched off during this operation as damage may occur if the system is left on without the tip inserted.

IMPORTANT: Remove and clean the tip daily. Tips can be changed or replaced simply by unscrewing the knurled nut barrel assembly. The station must be switched off and allowed to cool before this operation as damage may result if the system is left on without the tip inserted.

If a new tip is installed, or to maintain the current tip, remove any loose build up in the barrel assembly, otherwise the tip may fuse to the heating element or retaining barrel. After removing the tip, blow out any oxide dust that may have formed in the tip retaining area of the barrel. Be careful to avoid getting dust in your eyes.

Replace the tip and screw back the knurled nut barrel assembly using only firm hand pressure to tighten. Pliers should only be used to tighten the nut to avoid burning your fingers and care should be taken not to overtighten as this would damage the element.

Remember to tin all new tips before use.

- 1. Always keep tips tinned before returning to the holder, switching off or storing for any period of time. Wipe only before using.
- 2. Don't keep iron set at a high temperature for long periods as this will break down the surfaces of the tip.
- 3. Don't put excessive pressure on a tip or rub a tip on a joint. It does not improve the heat transfer.
- 4. Never clean the tip with abrasive materials or a file.
- 5. Don't use a flux containing chloride or acid. Use only rosin or activated resin fluxes.
- 6. If any oxide does form, it can be cleaned by lightly rubbing with a 600-800 grit emery cloth, or cleaning with isopropyl alcohol or equivalent. After cleaning, wet the tip and wrap rosin-core solder completely around the newly exposed surfaces.

GENERAL CLEANING

The outer case of the iron or station may be cleaned with a damp cloth using small amounts of liquid detergent. Never submerse the unit in liquid or allow any liquid to enter the case of the station. Never use solvent to clean the case. Never dunk the iron – hot or cold – in water.

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Phone: 1300 780 999 Fax: 1300 790 999  
Internet: [www.altronics.com.au](http://www.altronics.com.au)



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OPERATING INSTRUCTIONS

Features:

- Temperature adjustable using simple knob control.
- PVC Soldering iron lead.
- Replaceable soldering iron tips.
- Detachable iron holder with tip sponge tray.
- Australian RCM approval 240V a.c.



NOTE: On first use the soldering iron may produce smoke. This is just the burning off of grease used in manufacturing. It is not harmful to the product or user.

Overview

Thank you for purchasing the T 2090 Temperature controlled 40W soldering station – a great solution for your soldering equipment needs! We believe that you will be more than satisfied with the many features and the versatility of your new soldering station. Please carefully read the instruction manual prior to operation to maximize the advantages. This station is most suited to applications in advanced hobby electronics.

The unit has a slender soldering iron pencil design with a comfortable rubber grip that prevents operator fatigue. The soldering iron is attached to the base unit using an approved burn-proof PVC Power cord. The electronic circuitry enables the user to adjust the temperature using the control knob from 150°C(302°F)-450°C(842°F) without changing the tip.

**In The Box: Solder station with integrated soldering iron and power cord, Iron holder, manual, sponge.**

WARNING: This appliance is not intended for use by children or infirm persons without assistance or supervision if their physical, sensory or mental capabilities prevent them from using it safely. Children should be supervised to ensure that they do not play with the appliance. Failure to observe this safety regulation could result in a risk to life and limb. The manufacturer or supplier shall not be liable for damage resulting from misuse of the unit or unauthorised alterations.

CAUTION:

DO NOT WORK ON LIVE CIRCUITS!

- Before working on any mains powered equipment, make sure that it is turned off, and the mains plug is removed from the power point. You must not undertake work on live parts.

DO NOT USE IF DAMAGED!

- If the power lead becomes damaged or the soldering station becomes faulty, discontinue use immediately and secure it against being operated unintentionally.

**Soldering irons operate at high temperatures and can easily burn the skin and/or objects. Do not touch the tip and heater at any time and keep it a safe distance from flammable materials while the unit is on, or while cooling after switching off. Please allow a sufficient time for it to cool before changing tips.**

Safety Instructions:

- The construction of the soldering station meets Protection Level 1. Ensure the earth conductor is not disconnected and the product is only connected to earthed sockets.
- Never use the product immediately after it has been brought in from the cold into a warm room. Condensation might damage your device; Wait until the product is at room temperature.
- Never touch the appliance with damp or wet hands. There is the risk of a electrical shock.
- Make sure to have sufficient ventilation while soldering solder or solder flux can be harmful.
- Wash your hands thoroughly after working with solder containing lead do not let solder containing lead cross your lips; do not eat during the work.
- The power cables (power cable and cable to soldering iron) have to be protected against excessive heat and sharp edges which could damage the cable jacket.
- Wear appropriate protective clothing and safety goggles while soldering.
- Soldering must be done on non-combustible surfaces. Make sure any material in the vicinity cannot be ignited by the heat.

Operation:

- 1. Unpack the soldering station and check all parts. Damaged parts may not be put in to operation.
- 2. Put the holding rack for the soldering iron sideways in the soldering station.
- 3. Wet the tip cleaning sponge in the sponge rack with a little water.
- 4. Put the soldering iron tin in the holding rack.
- 5. Place the soldering station on a solid and dry surface.
- 6. Connect the mains plug to a socket and turn on the soldering station by using the power switch. (I=ON/0=OFF)  
When turned on, the power switch is lit.

NOTE: Always put the soldering iron on the holding rack when it is heating up or during breaks from soldering.

Soldering Technique:

- 1. Regulate the desired temperature of the soldering iron with the adjusting knob.
- 2. For larger soldering tip adjust the temperature upwards to perform the soldering as fast as possible and as long as necessary.
- 3. Wait about 2-3 minutes until the soldering tip reaches the adjusted temperature, test the temperature by touching the soldering tip with solder. If the solder melts away easily you can start soldering.
- 4. Tin the hot soldering tip with solder; wipe off excessive solder on the wet cleaning sponge.
- 5. Heat up the soldering location with the soldering tip and add solder.

- 6. Let the soldering point cool down.
- 7. Clean the soldering tip on the wet sponge after each soldering task.
- 8. Lower the temperature during breaks as this saves energy and extends the durability of the soldering tip.
- 9. After finishing the soldering, put back the soldering iron in the rack and turn off the soldering station at the main switch.

For tip first time use, the tip should be tinned immediately after switching on and warm up of the tip. The optimum temperature for tip tinning is 250°C (482°F). Once operating temperature has been reached, tin the surface of the tip by applying a new covering of solder to the tip. Tip tinning is necessary to protect the life of the tip.

Recommended Soldering Working Temperatures:

A low iron temperature will slow the flow of solder. A high temperature will burn the flux in the solder, which in turn will emit a heavy white smoke, resulting in a dry joint or damage to the PCB. When the tip working temperature is within the correct parameters suited to the particular solder being used, a good joint is assured. The most common solder alloy used in the electronics industry is 60% tin, 40% lead (60/40). The tip working temperature of solder is detailed below and can vary slightly from manufacturer to manufacturer.

Melting point .....	215°C (419°F)
Normal operation .....	320°C (608°F)
Production line operation .....	380°C (716°F)
De-soldering operation for small joint .....	320°C (608°F)
De-soldering operation for larger joint .....	400°C (752°F)

NOTE: To meet RoHS (European requirement for lead free solder), the 60/40 solder alloys are not allowed in the production process. The RoHS lead free solder alloys require a working temperature of about 30°C (54°F) higher than typical 60/40 lead/tin soldering.

The lead free solder working temperature is detailed below and can vary from manufacturer to manufacturer.

Melting point .....	220°C (428°F)
Normal operation.....	300-360°C (572-680°F)
Production line operation.....	360-410°C (680-770°F)

IMPORTANT: The temperature above 410°C (770°F) is not recommended for normal soldering functions, but can be used for short periods of time when high temperatures are required. Please note that the lead free solder alloys require a higher soldering temperature which shortens tip life.

COMMON CAUSES OF TIP UNWETTING: (solder not taking)

- 1. Tip temperature higher than 410°C (770°F).
- 2. The tip working surfaces are not well tinned while the iron is idling.
- 3. Lack of flux in soldering, wicking, repairing, and touch-up, etc. operation.
- 4. Wiping tip on a high Sulphur content sponge, dirty or dry sponge, and/or rag.
- 5. Contact with organic materials such as plastic resins, silicone grease and other chemicals.
- 6. Impurities in solder and low tin content.