



# T 2442 Soldering Station

## Operating Instructions

### Care & Maintenance Notice

- Before use, always check the barrel locking nut is hand-tightened to ensure the tip is firmly held in position.
- Regularly remove the barrel and tip to keep it clean and clear of debris. This should be done at least once a week.
- The element is of ceramic composition which is sensitive to sharp or strong impact. **Do not** drop it, or 'tap' the soldering iron in an effort to clean it. Cleaning should always be performed with a damp sponge while the tip is hot.

**Failure to Comply Will Void Warranty**

### Specifications

	T 2390	T 2442
Voltage input	240V AC	240V AC
Insul. resistance	> 100MΩ	> 100MΩ
Heater voltage	24V AC	24V AC
Heater element	Ceramic	Ceramic
Power	60 watts	60 watts
Stability at idle	± 3°C	± 3°C
Temp. range	250°C to 400°C	250°C to 450°C
Leakage voltage	< 0.4mV	< 0.4mV
Weight	1.6kg	1.6kg
Protection	3.15A fuse	3.15A fuse



- Continuously variable temperature control
- Zero switching circuitry for spike suppression
  - High idle stability • Fast heat recovery

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## Product Description

The Micron electronic temperature controlled soldering station has been developed to meet the present and future needs of the electronic production industry.

It incorporates electronic circuitry which enables the user to change the tip temperature without changing the tip or heating element. The T 2442 is adjustable from 250°C through 480°C. While the T 2390 is adjustable from 250°C through 400°C. Temperature is maintained within  $\pm 3^\circ\text{C}$  of its idling temperature through the use of a PTC sensing unit which is embedded in the ceramic heating element so that the tip actually rests against the sensor. This method allows the closest possible monitoring of the extremely small temperature variations at the tip, resulting in both rapid heat-up and heat recovery.

The electronic opto isolated "zero voltage" switching used protects voltage and current sensitive components, such as CMOS devices, against transient voltage spikes, which can be caused by switching the power or heater on/off, or other environmental conditions.

The ceramic heating element is designed specially to bring the temperature up to approximately 480°C (at element) at full setting in under one minute. The higher temperature allows for reserve heat to ensure ultra fast recovery at lower temperature settings.

The high insulation of the ceramic heating element is over 100M ohm and the tip is grounded to ensure leakage is less than 0.4 millivolts. In addition, the power unit is isolated from the AC line by a transformer and only 24VDC isolated voltage is used to drive the heating element.

All housings are moulded of high impact and heat resistant polycarbonate. The soldering iron is attached to the base using a burn-resistant silicone rubber cord.

## Safety Warning

This appliance is not intended for use by young children or infirm persons. Young children should be supervised to ensure they do not play with the appliance. If the supply cord becomes damaged it must be repaired by an authorised service centre.

## Operating instructions

- 1 The T 2442 station is supplied with an iron holder. This slots into the top of the housing. The T 2390 SMD station is supplied with a separate stand alone holder.
- 2 Plug in the power cable and switch ON, the LED lamp will illuminate.
- 3 Set temperature by rotating temperature control knob on the front panel to the temperature desired. When the tip reaches the desired temperature setting the heater LED will extinguish. This LED will only illuminate when the heater is ON.
- 4 Always keep the sponge wet.
- 5 Set the temperature control knob to the minimum when temporarily not using the soldering station, thereby extending the life of heater and tip.

## Working Temperature

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
Normal Operation.....	320°C
Production Line Operation .....	380°C
Desoldering Operation for Small Joint.....	320°C
Desoldering Operation for Larger Joint.....	400°C

*Caution: Temperatures above 400°C should not be used for normal soldering purposes; however*

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*Caution: Temperatures above 400°C should not be used for normal soldering purposes; however temperatures above 400°C may be used for short periods when required.*

*Important: The soldering iron handle should be placed in the stand when not in use.*

## Possible causes of tip not tinning

- 1 Tip temperature higher than 400°C
- 2 Working surface is not well tinned during idling periods
- 3 Lack of flux in soldering, wicking, repairing and touch-up etc. operations.
- 4 Wiping tip on high sulphur content sponge, dirty or dry sponge and/or rags.
- 5 Contact with organics, plastic resins, silicone grease, and other chemicals.
- 6 Impurities in solder and/or low tin content.

## Care of Tips

*Important: Remove the tip and clean after every use or at least once a week, remove any loose build up in the barrel or tip to prevent tip seizing.*

The tips supplied are iron plated copper and if used properly will last a long time.

- 1 Always keep tip tinned before returning the iron to the holder prior to switching off or storing for any period of time, wipe only before using.
- 2 Don't keep iron set at high temperatures for long period as this will break down the surface plating of the tip.
- 3 Don't use excessive pressure on a tip or rub a tip on a joint during the making of a joint as it does not improve heat transfer and damages the tip.
- 4 Never clean tip with abrasive materials or files.
- 5 Don't use fluxes containing chloride or acid. Use only rosin or activated rosin fluxes.
- 6 If any oxide film does form, this can be cleaned by carefully rubbing with a "600-800 grit" emery cloth, or isopropyl alcohol and re-heat. Re-tin the tip using rosin core solder.

## New tip

Care for the new tip according to the following procedures for longer tip life.

- 1 Set temperature at 250°C, then turn main power switch "on".
- 2 Flood the tinned surfaces with rosin core solder after reaching 250°C.
- 3 Set to desired temperature after warming at 250°C for three minutes.
- 4 The iron is ready for use after reaching the pre-set desired temperature.

## Maintenance

Tip Replacement and Dressing

- 1 Turn off the iron and disconnect the mains plug from the mains supply.
- 2 Allow the iron to cool completely before attempting disassembly.
- 3 Unscrew the knurled nut, and remove the barrel assembly.

*Note: the ceramic heating element may be broken by careless handling.*

- 4 Remove the tip, and blow out any accumulated dust. Avoid getting dust in your eyes.
- 5 Replace the tip and screw back the retaining knurled nut and barrel assembly using only firm hand pressure to tighten. *Do not use pliers.*

## General Cleaning

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

*See over for important Care & Maintenance Notice.*