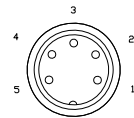
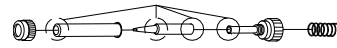


- If the values of 'c' is over the above value, remove the oxidization film by lightly rubbing with sand - paper or steel wool the points as shown.

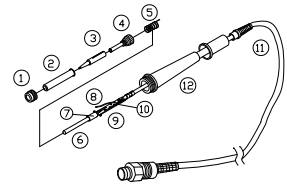


		Heater Strip	Ceramic Heater
a.	Between pins 4 & 5	12~14Ω (Normal)	3~4Ω (Normal)
b.	Between pins 1 & 2	Under 10Ω (Normal)	43~58Ω (Normal)
c.	Between pins 3 & Tip	Under 2Ω	Under 2Ω



7.1 Broken Heating Element

Disassembling the Assembly Handle

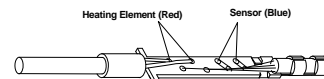


- Turn the nut (1) counterclockwise and remove the tip enclosure (2), the tip (3).
- Turn the nipple (4) counterclockwise and remove it.
- Pull both the heating element (6) and the cord assembly (11) out of the handle (12). (Toward the tip of the iron).
- Pull out the grounding spring from the "D"-type.

Measure when the heating element is at room temperature

- Resistance value of heating element (Red) about 12~14Ω (Heater strip) or 3~4Ω(Ceramic heater).
- Resistance value of sensor (Blue) under 10Ω(Heater strip) or 43~58Ω(Ceramic Heater).

If the resistance value is not normal, replace the heating element (Refer to the instructions included with the replacement part.)



After replacing the heating element.

- Measure the resistance value between 1) pins 4 & 1 or 2, 2) pins 5 & 1 or 2. If it is not ∞, the heating element and sensor are touching. This will damage the PCB.
- Measure the resistance value 'a', 'b', and 'c' to confirm that the leads are not twisted and that the grounding wire is properly connected.

7.2 Broken Soldering Iron Cord

There are two methods to test the soldering iron cord.

- Turn the unit ON and set the temperature control knob to 480°C. Then wiggle and kink the iron cord at various locations along its length, including the strain relief area. If the LED heater lamp

flickers, the cord needs to be replaced.



- Check the resistance between the pin of the plug and the wire on the terminal.

Type	Pin 1	Pin 2	Pin3	Pin 4	Pin 5
Heater Strip	Orange	Yellow	Green	Blown	Blue
Ceramic Heater	Blue	Red	Green	Blown	White

The value should be 0Ω. If it is greater than 0Ω or is ∞, the cord should be replaced.

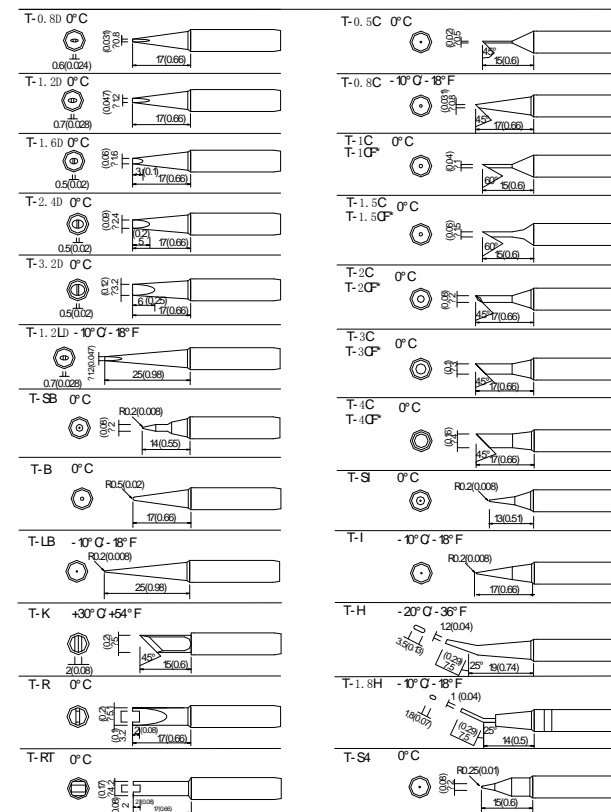
7.3 Replacing the Fuse

De-solder the blown fuse and remove it. Solder on a new one.

8. Specifications

Power consumption	60W (MAX)
Temperature range	200°C~480°C
Idle temperature Stability	±2°C Still air
Ambient Operating Temp.	0 ~ 40°C
Tip-to-Ground Potential	<2 mV
Tip-to-Ground Resistance	<2Ω
Weight (handle)	105 g
Handle Cord Assembly	1.2m
Dimensions	170×120×90mm
Weight (total unit)	1.6Kg

Tips



SOLDERING STATION

Instruction Manual

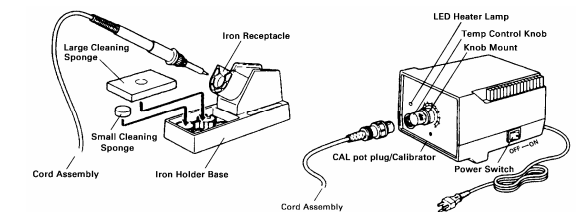
Thank you for purchasing our Soldering Station.
Please read this manual before operating the station.

! Safety instruction

When the power is on, the tip temperature is very high. Since mishandling may lead to burn or fire, and to prevent damage to the unit and ensure a safe working environment, be sure to comply with the following precautions:

- Please avoid abuse of the equipment, and use the appliance only in the described manner.
- Do not touch the metallic parts near the tip.
- Do not use the product near flammable items.
- Advise other people in the work area that the unit can reach a very high temperature and should be considered potentially dangerous.
- While replace parts or install tips, turn the power off and allow the unit to cool to room temperature.
- Appliance shall only be used with rated voltage and frequency. (Refer to the trademark back of equipment.)
- Don't use the appliance if it is damaged, especially the supply cord.
- This machine is equipped with a 3-wires grounding plug and must be plugged into a 3-terminal grounded socket. Do not modify plug or use an ungrounded power socket. If an extension cord is necessary, use only a 3-wire extension cord that provides grounding.
- Do not use the unit for other applications except soldering.
- Do not rap soldering iron against the workbench to shake off residual solder, otherwise the iron will be damaged by shocks.
- Use only genuine replacement parts.
- Do not wet the unit. When your hands are wet, don't use and disconnect the unit, or to pull the supply cord.
- The soldering process will produce smoke, so make sure the area is well ventilated.
- While using the unit, don't do anything which may cause bodily harm or physical damage.
- Children don't recognize the danger of electrical appliances. Therefore use or keep the appliance only under supervision of adults and out of the reach from children.

1. Names of Parts

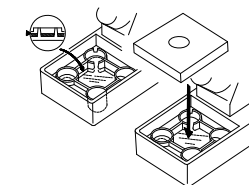


2. Setting and Operation

⚠ CAUTION: The sponge is compressed. It will swell when moistened with water. Before using the unit, dampen the sponge with the water and squeeze it dry. Failure to do so may result in damage to the soldering tip.

1.1 Iron Holder and Clean Sponge

- Small Cleaning Sponge: Take out the small clean sponge from the clean sponge. Dampen the small cleaning sponge with water and then squeeze it dry. Place it in one of the 4 openings of the iron holder base.
- Add water to approximately the level as shown. The small sponge will absorb water to keep the larger sponge above it wet at all times. The large sponge may be used alone (without small sponge & water).
- Dampen the large cleaning sponge and place it on the iron holder base.



⚠ CAUTION: Be sure to turn off the power switch before connecting or disconnecting the soldering iron. Failure to do so may damage the PCB.

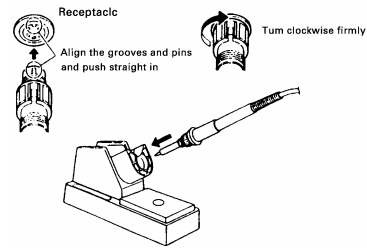
1.2 Connections

- Connect the cord assembly go the receptacle.
- Place the soldering iron in the iron holder.

- Plug the power cord into a power supply. Be sure to ground the unit.

1.3 Set the Temperature

Set the temperature control knob to the desired temperature.



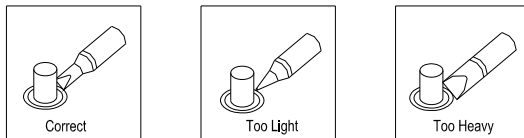
1.4 Turn on the Power Switch

The heater lamp blinks when the tip temperature reaches the set temperature. The unit is ready to perform soldering work. For greater convenience, and soldering efficiency, two stations can be securely stacked. One is on the top of the other.

CAUTION: The soldering iron must be placed in the iron holder when not in use.

2. To Select a Correct Tip

- Pick a tip that maximizes contact area between the tip and solder joint. Maximizing contact area gives the most efficient heat transfer, allowing operators to produce high quality solder joints quickly.
- Pick a tip that allows good access to the solder joint. Shorter tip lengths allow more precise control. Longer or angled or angled tips may be needed for soldering densely populated boards.



3. Care and Use of the Tip

Tip Temperature

High soldering temperature can degrade the capability of tip. Use the lowest possible soldering temperature. The excellent thermal recovery characteristics ensure efficient and effective soldering even at low temperatures. This also protects the soldered items from thermal damage.

Cleaning

Cleaning the tip regularly by the small hole on the cleaning sponge, as oxides and carbides from the solder and flux can form impurities on the tip. These impurities can result in defective joints or reduce the tip's heat conductivity.

When using the soldering iron continuously, be sure to loosen the tip and remove all oxides at least once a week. This helps prevent seizure and reduction of the tip temperature.

When Not in Use

Never leave the soldering iron sitting at high temperature for long periods of time, as the tip's solder plating will become covered with oxide, which can greatly reduce the tip's heat conductivity.

After Use

Wipe the tip clean and coat the tip with fresh solder. This helps prevent tip oxidation.

Other

When making a solder connection, apply fresh solder to the members being joined, not to the hot soldering tip,

NOTE: Excessive pressure on the tip or rubbing the tip on a connection does not improve heat transfer. It will, however, shorten the life of the soldering tip.

4. Maintenance

4.1 Inspect and Clean the Tip

CAUTION: Never file the tip to remove the oxide on the tip.

- Set the temperature to 250°C/280°C.
- When the temperature stabilizes, clean the tip with the cleaning sponge and check the condition of the tip.
- If there is black oxide on the solder-plated portion of the tip, apply new solder (containing flux) and wipe the tip on the cleaning sponge. Repeat until the oxide is completely removed. Coat with new solder. The solder protects the tip from oxidation and prolongs the life of the tip.
- If the tip is deformed or heavily eroded, replace it with a new one.

4.2 De-tinned Tips

1. Why a "de-tinned" tip fails to work?

A de-tinned tip is one not wetted with solder. This exposes the plating to oxidation and degrades the heat transfer efficiency of the tip.

2. De-tinning is caused by:

- Failure to keep the tip covered with fresh solder during idling periods.
- High tip temperatures.
- Lack of sufficient flux in soldering operations.
- Wiping the tip on dirty or dry sponges and rags. (Always use a clean, wet, industrial grade, sulfur-free sponge.)
- Impurities in the solder, iron plating, or on the surfaces to be soldered.

4.3 To Restore a De-tinned Tip

- Remove the tip cartridge from the solder handle and allow the tip to cool down.
- Remove scale and oxides from the tinned area of the tip with 80-grit abrasive polyurethane foam stock or a 100-grit emery cloth.
- Wrap rosin core solder ("0.031" diameter or larger) around the newly exposed iron surface, insert the tip cartridge into the

handle, and turn on the system.

NOTE: De-tinned tips are preventable with proper daily care!

4.4 Extending the Life of Tip

- Tin the tip before and after each use. This protects the tip from oxidizing, prolonging tip life.
- At the lowest temperature that will do the job. Lower temperature decrease tip oxidation and are easier on the components being joined.
- Use fine point tips only when necessary. The plating on fine precision tips is less durable than the plating on blunter tips.
- Do not use the tip as a prying tool. Bending the tip can cause the plating to crack, shortening tip life.
- Use the minimum activation flux necessary to do the job. Higher activation flux is more corrosive to the tip plating.
- Extend tip life by switching the system off when not in use. A standard tip reaches solder melt temperature in roughly 30 seconds
- Don't apply pressure to the tip. More pressure does not equal more heat. To improve heat transfer, use solder to form a thermal bridge between the tip and the solder joint.

5. Calibrating the Temperature

The soldering iron should be recalibrated after changing the iron, or replacing the heating element or tip.

- Connect the cord assembly plug to the receptacle on the station.
- Set the temperature control knob to 350°C.
- Turn the power switch to 'ON' and wait until the temperature stabilizes. Remove the CAL pot plug.
- When the temperature stabilizes, use a small minus (-) or plus (+) screwdriver to adjust the screw (marked CAL at the station) until the tip thermometer indicates a temperature of 350°C. Turn the screw clockwise to increase the temperature and counterclockwise to reduce the temperature. Replace the CAL pot plug.

※ We recommend use the 191/192 thermometer for measuring the tip temperature.

Tips

The tip temperature will vary according to the shape of the tip. The preferred method of adjustment uses a tip thermometer. (See "Calibration the Temperature")

A less accurate method involves adjusting the temperature control knob according to the adjusting the temperature control knob according to the adjustment value for each tip. Refer to the chart "tip" for the correct adjustment values.

Example: When using a T-H tip at 350°C, the difference between the tip and T-B tip is -20°C. Set the temperature to 370°C.

6. Troubleshooting Guide

WARNING:

- ※ Disconnect the power plug before servicing. Failure to do so may result in electric shock.

※ If the power cord is damaged, it must be replaced by the manufacturer, its service agent or similarity qualified person in order to avoid personal injury or damage to the unit.

Problem1: The heater lamp does not light up.

Check1: Is the fuse blown?

Determine why the fuse blew and eliminate the cause, then replace the fuse.

- Is the inside of the iron short-circuited?
- Is the grounding spring touching the heating element?
- Is the heating element lead twisted and short-circuited?

Check2: Is the power cord and /or connecting plug disconnected?

Connect it.

Check3: Is the sensor of the iron open-circuited?

Problem2: The heater lamp lights up but the tip does not heat up.

Check4: Is the soldering iron cord broken?

Refer to "Checking for breakage in the cord assembly".

Check5: Is the heating element broken?

Refer to "Checking for breakage in the heating element".

Check6: Has the tip been assembled into the handle?

Problem3: The tip heats up intermittently

Please refer to "check 4".

Problem 4: The tip is not wet.

Check7: Is the tip temperature too high?

Set an appropriate temperature.

Check8: Is the tip clean?

Refer to "Care and Use of the tip".

Problem 5: The tip temperature is too low.

Check9: Is the tip coated with oxide?

Refer to "Inspect and clean the tip".

Check10: Is the iron calibrated correctly?

Recalibrate

Problem 6: The tip cannot be pulled off.

Check11: Is the tip seized? Is the tip swollen because of deterioration?

Replace the tip and the heating element.

Problem7: The tip doesn't hold the desired temperature.

Please refer to "check 10".

7. Checking the Heating Element and Cord Assembly

Disconnect the plug and measure the resistance value between the connecting plug pins as follows.

- If the values of 'a' and 'b' are outside the above value, replace the heating element (sensor) and /or cord assembly. Refer to procedures 1 and 2.