AKTAKOM

ASE-1107
SOLDERING STATION
LED DISPLAY
(Ceramic Heater)
Instruction Manual

Thank you for purchasing our soldering station.

Please read this manual before operating the soldering station.

Store the manual in a safe, easily accessible place for future reference.

Table of Contents

www.tmatlantic.com

Packing List

Please check the contents of the station package and confirm that all the items listed below are included.

Soldering Station 1

Card 1

Soldering Iron Handle 1

Iron Holder (With Cleaning Sponge) 1
Instruction Manual... 1

Precautions

WARNING!

In this instruction manual, "warning" and "caution" are defined as follows.

!WARNING: Misuse may potentially cause death of, or serious injury to, the user.

!CAUTION: Misuse may potentially cause injury to the user or physical damage to the Objects involved.

For your own safety, be sure to comply with these precautions.

CAUTION!

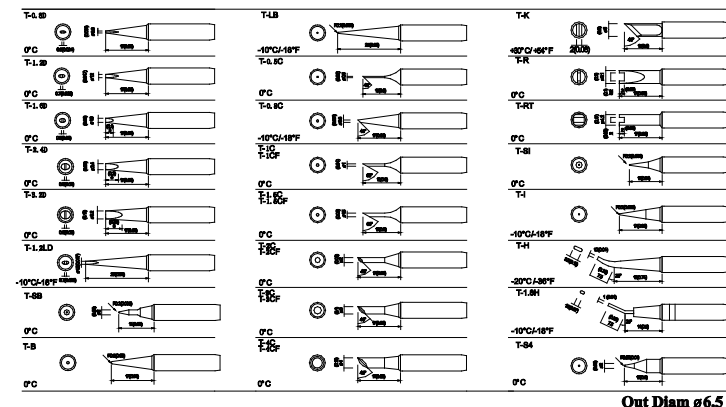**When the power is on, the tip temperature is between 400°F and 899°F.**
Since mishandling may lead to burns or fire, be sure to comply with the following precautions.

* 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.
* Turn the power off while taking breaks and when you are finished using the unit.
* Before replacing parts or storing the unit, turn the power off and allow the unit to cool to room temperature.

To prevent damage to the unit and ensure a safe working environment, be sure to comply with the following precautions.
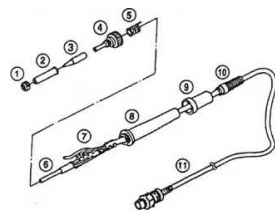
* Do not use the unit for applications other than soldering.
* Do not rap the soldering iron against the work bench to shake off residual solder, or otherwise subject the iron to severe shocks.
* Do not modify the unit.
* Use only genuine replacement parts.
* Do not wet the unit or use the unit when your hands are wet.
* 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.

Tips

Out Diam ⌀6.5

Quick Celsius(°C) / Fahrenheit(°F) Conversion:

D.E.V.I.C.E. (Wiki)
Please see our online services for measuring and calculations help

100°C = 212°F
150°C = 302°F
185°C = 365°F
60(tin)/40(lead) blend
200°C = 392°F
70(tin)/30(lead) blend
250°C = 482°F
50(tin)/50(lead) blend
300°C = 572°F
350°C = 662°F
400°C = 752°F
450°C = 842°F

D.E.V.I.C.E. (Wiki)
Common electronic components repairs and hand soldering techniques

www.tmatlantic.com

Watch video on YouTube

Parts List

Soldering Iron (Handle)

Item No.	Part Name	Description
1	Nut	
2	Tip Enclosure	
3	Soldering Tip	See page 14
4	Nipple	
5	Grounding Spring	
6	Heating Element	
7	Terminal board	Double side
8	Handle	E.S.D.
9	Handle Cover	
10	Cord Bushing	
11	Cord Assembly	E.S.D.

Iron Holder
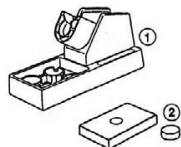
Item No.	Part Name
1	Iron holder
2	Cleaning sponge B6565

Name of Parts
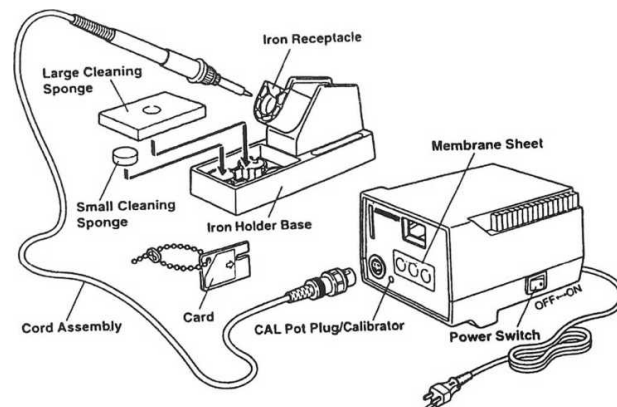
Setting up & Operating the station

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.

A. Iron Holder

1. Small Cleaning 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.
2. 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.
   Note: The large sponge may be used alone without small sponge & water).
3. Dampen the large cleaning sponge and place it at the iron holder base.
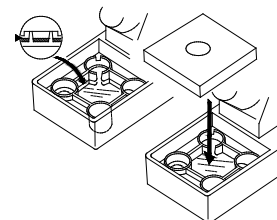
CAUTION!
Be sure to turn off the power switch before connecting or disconnecting the soldering iron. Failure to do so may result in damage to the station.

B. Connections

1. Connect the cord assembly into the receptacle.
2. Place the soldering iron in the iron holder.
3. Plug the power cord into a power supply. Be sure to ground the unit.
4. Turn the power switch to on.
   The temperature is preset at 750°F at the factory.
   The heater lamp flickers when the temperature has stabilized.
5. Press the * button to display the preset temperature. It will be display for two seconds.

Heater Lamp
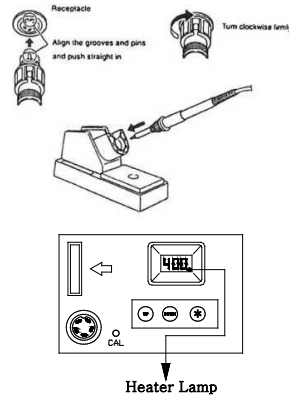
C. Set the Temperature

CAUTION! Be sure to insert the correct end of the card into the card slot. While setting the temperature, the power supply to heating element is off.

Example: 750°F to 660°F

1.

7 5 0

↓ Insert the card

7 5 0

2.

Press " UP " or " DOWN "

↓

6 5 0

↓

Press ✱ button once
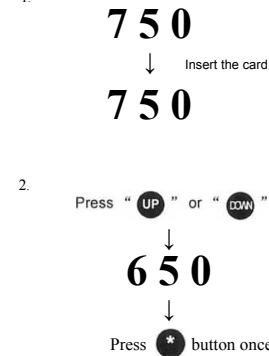
1. Insert the card into the card slot in the station. The left-most digit (the 100's digit) in the display will flash. This indicates that the station is in temperature setting mode and that the 100's digit can be adjusted.

2. Select the desired value for 100's digit. Using the "up" or "down" button will change displayed value as follows.

   Press the "*" button when the desired value is displayed.
   This will cause the middle digit (the 10's digit) in the display begin flashing.

Parts List

Station

Item No.	Part Name	Description
(1)	Upper Case	E.S.D.
(2)	P.W.B. for Temp. Control	
(3)	Panel	
(4)	Receptacle	
(5)	Card	
(6)	CAL Pot Plug	
(7)	Membrane Sheet	
(8)	Transformer	100-24V
	Transformer	110-24V
	Transformer	120-24V
	Transformer	220,230,240-24V
(9)	Lower Case	E.S.D.
(10)	Cord Stopper	
(11)	Power Switch	
(12)	Fuse	125V-2A
	Fuse	250V-1A
(13)	Rubber Stopper	Set of 2
(14)	Power Cord	3wired Cord But No Plug
	Power Cord	3wired Cord & Plug
(15)	Wring Board for Switch	
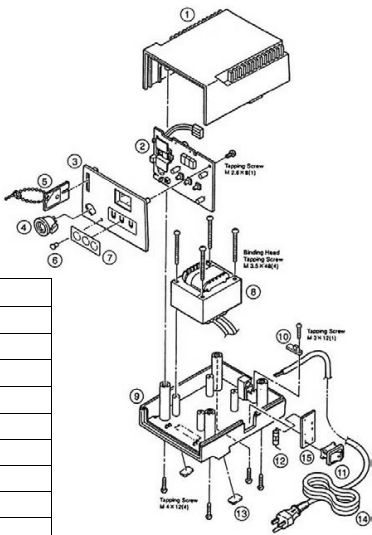
Specifications

Power Consumption	60W

Station

Output Voltage	24V AC-50W
Temperature Range	400°F-899°F
Temperature Stability	±18°F of the set temperature ±1.8°F of the tolerance at idling time
Dimensions	120(W)x93(H)x 140(D)mm/4.7 x3 .7x 5.5in
Weight (Without Cord)	1300g (2.9 lbs)

Soldering Iron

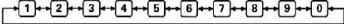|	
Power Consumption	24V AC - 50W
Tip to Ground Resistance	Under 2Ω
Tip to Ground Potential	Under 2mV
Heating Element	Ceramic heater
Cord Assembly	1.2m (4ft)
Total Length (Without cord)	190mm (7.5in.)
Weight (Without cord)	44g (0.08 lbs.)

- The tip temperature was measured using 191 thermometer.
- Specifications and design are subject to change without notice.

650

↓

Press "UP" or "DOWN"

660

Press "*" button once.

↓

660

↓

Press "*" button once.

660

To change the setting temperature when the card is left in the station, refer to the followings.

The card

Stacking Stations

3. Select the desired value of the 10's digit.
   Press the "up" or "down" button to change the displayed value as shown below.

   $1 \leftrightarrow 2 \leftrightarrow 3 \leftrightarrow 4 \leftrightarrow 5 \leftrightarrow 6 \leftrightarrow 7 \leftrightarrow 8 \leftrightarrow 9 \leftrightarrow 0$

   After selecting, press the "*" button.
   After that, the l's digit will flash to indicate that the l's digit can be set.

4. Select the desired value of the 1's digit.
   Press the "up" or "down" button to change the displayed value as shown above.
   After selecting, press the "*" button.
   Here, pressing the "*" button...
   a) Save the setting temperature.
   b) Displaying the setting temperature.
   c) Starts heater control.
   Note: If you turn off the power switch during the temperature setting, setting value will not be stored into the memory.

1. Push the * button and hold it down for at least Is. First the present setting temperature will be displayed, and then the 100's place digit will begin to flash. This flashing indicates that the temperature-setting mode has been entered. After begins flashing, proceed with the setting temperature.

2. If the * button is pressed for less than Is, the present setting temperature will be show for 2s and then the display will return to showing the tip temperature.

1. After setting temperature, remove the card. The preset temperature cannot be changed until the card is reinserted, even, even if the power switch is turned off. This allows you
   a) To turn the power off and on without having to reset thetemperature each time.
   b) Accurate and safe temperature control.
2. Any card can be used with any station.
3. Even if the card is left in the station, the soldering station can be operated normally. If the power is turned off while the card is inserted, the soldering iron will heat up to the preciously setting temperature.

For greater convenience and soldering efficiency, two stations can be securely stacked.

Parameters

Once entering in to the parameter—input mode, set the parameters as the order shown below.

After finishing set all the parameters, it can come into the normal operation.

Parameter input Mode	1. Turn off the power switch. Press and hold the "up" and "down" buttons simultaneously, then turn on the power switch.
	2. Continue holding down the "up" and "down" buttons until the display shows F (Fahrenheit).
	3. When the window displays F, the station is in parameter—input mode.
Fahrenheit Temperature Display	After selecting F temperature display, the heater error temperature will be displayed and flashing at the 100's digit.
	See Heater Error. Set the heater — error temperature-tolerance in the same manner as described in "setting the temperature" (steps 2—4). Be sure to use a value in the allowable range.

Calibration of Iron Temperature

Temperature should be recalibrated after changing the iron, replacing the heating element and the iron tip. The methods of recalibrating iron temperature as followings with a tip thermometer. This method is greater accuracy.

Calibration with a Tip Thermometer.	1. Set the temperature at 750°F.
	2. Wait till the temperature stabilizes and remove out the CAL pot plug.
	3. When the temperature stabilizes, use a (-)-type or (+)-type screwdriver to adjust the screw (marked CAL at the station) until the tip thermometer indicates a temperature of 750°F. Turn the screw clockwise to increase the temperature and counterclockwise to reduce the temperature.
	After calibration, insert the CAL pot plug again.
	* We recommend the 191/192 thermometer for measuring the tip temperature.

2. Broken Soldering Iron Cord

There are two methods of testing the soldering iron cord.

1. Turn the unit ON and set the temperature control knob to 899°F.

Then wiggle and kink the iron cord at various locations along its length, including in the strain relief area. If the LED heater lamp flickers, then the cord needs to be replaced.

CAUTION! The LED heater lamp will flicker even with a normal Iron cord if the temperature reaches 899°F.

3. Replacing the Fuse

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

Pin1: Black Pin2: Yellow Pin3: Green

Pin4: White Pin5: Red pin the value should be 0Ω. If it is greater than 0Ω or is ∞, the cord should be replaced.

Refer to the drawing on the parts list. Desolder the Blown fuse and remove it. Solder the new one.
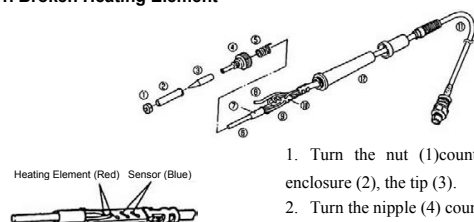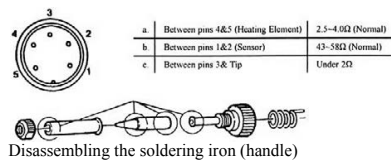
Checking for Breakage of the Heating Element and Cord Assembly

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

a	Between pins 4&5 (Heating Element)	2.5~4.0Ω (Normal)
b	Between pins 1&2 (Sensor)	43~58Ω (Normal)
c	Between pins 3 & Tip	Under 2Ω

Disassembling the soldering iron (handle)

1. Broken Heating Element

Heating Element (Red)   Sensor (Blue)

1. Turn the nut (1) counterclockwise and remove the tip enclosure (2), the tip (3).
2. Turn the nipple (4) counterclockwise and remove it from the iron.
3. Pull both the heating element (6) and the cord assembly (11) out of the handle (12). (Toward the tip of the iron).
4. Pull the grounding spring (5) out of the D-sleeve

Measure when the heating element is at room temperature.
1. Resistance value of heating element (Red) 2.5-4.0Ω.
2. Resistance value of sensor (Blue) 43-58Ω
If the resistance value is not normal, replace the heatingelement (Refer to the instructions included with thereplacement part.)
After replacing the heating element,
1. Measure the resistance value between 1) pins 4 & lor 2 2) pins 5 & 1 or 2. If it is not ∞, the heating element and sensor are touching. This will damage the PCB.
2. Measure the resistance value 'a', 'b', and 'c' to confirm that the leads are not twisted and that the grounding spring is properly connected.

Tip Care and Use

• Tip Temperature —	High soldering temperature can degrade the 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 —	Clean the tip regularly with a 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 fresh solder at the tip. This helps prevent tip oxidation.

Maintenance

| Inspect and Clean the Tip | 1. Set the temperature to 482°F. |
	2. When the temperature stabilizes, clean the tip with the cleaning sponge and check the condition of the tip.
	3. 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.
Caution! Never file the tip to remove oxide.	4. If the tip is deformed or heavily eroded, replace it with a new one.

Tips

The tip temperature will vary according to the shape of the tip. The preferred calibration method is using a tip thermometer. (See "Calibration of Iron Temperature" on page 5.)

Error Messages

Various error messages will be displayed when there is a problem with the soldering station. If the following message is displayed, see the trouble shooting guide.

$---$ System Error	After the power has been turned on, the system checks the memory and the programs. If an abnormality is found, $---$ will be displayed, and all operations will be completely stopped.
$S-E$ Sensor Error	If there is a possibility of a failure in the sensor or anywhere in the sensor circuit $S-E$ will be displayed and power to the soldering iron will be cut off.
Flash of the Temperature Display Heater Error	If power is being sent to soldering iron and the tip temperature goes below the heater—error temperature—tolerance setting, the temperature display will flash. This indicates the possibility of a heater malfunction.

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 or its service agent or similarity qualified person in order to avoid hazard.

Trouble Shooting Guide

Problem	Check
Problem 1. The unit does not operate.	Check1. Is the fuse blown? • Determine why the fuse blew and eliminate the cause, then replace the fuse. a. Is the inside of the iron short-circuited? b. Is the grounding spring touching the heating element? c. Is the heating element lead twisted and short-circuited? Check2. Is the power cord broken? • Replace with a new one.
Problem 2. The tip does not heat up. Sensor or Heater Error is displayed.	Check3. Is the power cord and/or connecting plug disconnected? • Connect it. Check4. Is the soldering iron cord broken? • See how to check the breakage of cord assembly. Check5. Is the heating element broken? • See how to check the breakage of heating element.
Problem 3. The tip heats up intermittently.	Check4
Problem 4. Solder will not wet the tip.	Check6. Is the tip temperature too high? • Set an appropriate temperature. Check7. Is the tip cleaned? • See "Tip Care and Use".
Problem 5. The tip temperature is too low.	Check8. Is the tip coated with oxide? • See "Inspect and clean the tip". Check9. Is the iron calibrated correctly? • Please calibrate.
Problem 6. A system error is displayed.	Check10. • Please contact your nearest representative.
Problem 7. Heater errors are displayed frequently.	Check11. Is the tip too small compared to the items to be soldered? • Use a heavier tips. Is the setting of heater—error temperature—Tolerance too low? • Increase the value of the setting.