



SOLDERING STATION

LED DISPLAY

(Ceramic Heater)

ASE-1107

Instruction Manual

Packing List

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

Soldering Station.....
Card.....
Soldering Iron (900(s), 907/908).....
Iron Holder (with Cleaning Sponge).....
Instruction Manual.....

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 comply with these precautions.

CAUTION

When the power is on, the tip temperature is between 200°C ~ 480°C.


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 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.

Setting up & Operating the soldering 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

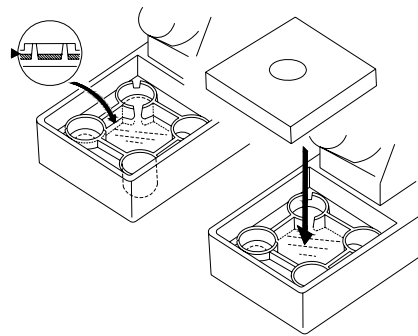
Dampen the small cleaning sponge with water and then squeeze it dry.


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).

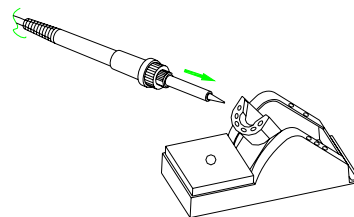
3. Dampen the large cleaning sponge and place it on the iron holder base.



 **CAUTION:** Be sure to turn off the power switch before connecting or disconnecting the soldering iron. Failure to do so may result in damage to the station.

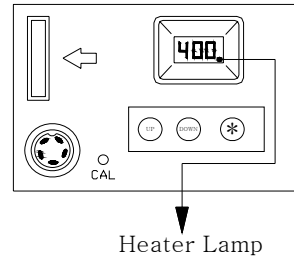
B. Connections

1. Connect the cord assembly to 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 400°C at the Factory.
The heater lamp flickers when the tempe-




perature has stabilized.

- Press the * button to display the preset temperature. It will be displayed for two seconds.

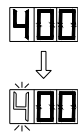


C. Setting the Temperature

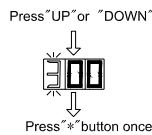
 **CAUTION:** Be sure to insert the correct end of the card into the card slot. While setting the temperature the heating element is off.

Example: 400°C to 350°C

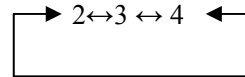
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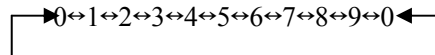


1. Insert the card into the card slot in the station. The left-most digit (the 100's digit) in the display will flash. This indicates that the station is in temperature setting mode and that the 100's digit can be adjusted.
2. Select the desired value for 100's digit. Using the "up" or "down" button will change displayed value as follows.



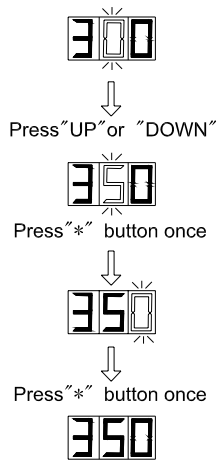
Press the "*" button when the desired value is displayed. This will cause the middle digit (the 10's digit) in the display begin flashing.

3. Select the desired value for the 10's digit. Using the "up" or "down" buttons will change the displayed value as shown below.



Press the "*" button. The right (the 1's digit) will then begin fla-

3.



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

The card

shing to indicate that the 1's digit can be set.

4. Select the desired value for the 1's digit. Using the "up" or "down" buttons will change the displayed value as shown above for the 10's place selection. Press the "*" button.

Here, pressing the "*" button...

- a. enters the temperature setting into the internal memory.
- b. displays the temperature setting.
- c. starts heater control.

Note: If you turn off the power switch during the temperature setting, setting value will not store in the memory.

1. Push the * button and hold it down for at least one second. First the present temperature setting 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 the flashing begins, proceed with the setting temperature.
 2. If the * button is pressed for less than one second, the present temperature setting will be show for two seconds 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 the temperature each time.

Stacking Stations

- 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 will operate normally.
If the power is turned off while the card is inserted, the soldering iron will heat to the previously set temperature.

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

Parameters

The station has the following parameters. Parameter settings can be adjusted.

1. °C or °F temperature display selection (Fahrenheit is intermitted)
2. Heater—error temperature—tolerance.

Once parameter—input mode has been entered, set the parameters in the order shown below.

After all the parameters have been set, normal operation will be resumed.

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 C (for Centigrade) or F (for Fahrenheit).
3. When the display shows C or F, the station is in parameter—input mode.

1. Centigrade or Fahrenheit temperature Display

Enter parameter—input mode. Pressing the “up” or “down” buttons will cause C and F to be displayed alternately. Press * to select either C or F.
After selecting C or F for the temperature display, the heater error temperature will be displayed with the 100’s digit flashing.

2. Heater-error Temperature-Tolerance

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

Range of allowable heater—error temperatures.

For °C: 30—150°C

If a temperature value outside of this range is selected, the display will return to flashing the 100’s place. If this happens, reenter a correct temperature value.

* Fahrenheit is intermitted.

Calibration of Iron Temperature

Soldering iron should be recalibrated after changing the iron, replacing the heating element and the tip.

The methods for recalibrating the iron temperature:

Calibrating with a tip thermometer.

This method is greater accuracy.

Calibrating with a Tip Thermometer.

1. Set the temperature at 400°C.
2. Wait till the temperature stabilizes and remove the CAL pot plug.
3. When the temperature stabilizes, use a regular or small cross point screwdriver to adjust the screw (marked CAL at the station) until the tip thermometer indicates a temperature of 400°C. Turn the screw clockwise to increase the temperature and counterclockwise to reduce the temperature.

Attach the CAL pot plug.

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

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 the tip with fresh solder. This helps prevent tip oxidation.

Maintenance

- Inspect and Clean the Tip**

1. Set the temperature to 250°C
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

⚠ CAUTION: Never file the tip to remove oxide.

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.

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 method of adjustment uses a tip thermometer. (See “Calibration of iron Temperature”).

Error Messages

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

— — — **System Error**

S—E **Sensor Error**

Flash of the Temperature Display

Heater 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.

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.

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.


For example, assume the temperature setting is 400°C and the heater—error temperature—tolerance is 50 °C. If, even though the heater is receiving power, the temperature of the soldering iron goes below 350°C, the display will begin to flash indicating a possible

heater malfunction.

Example: 400-50=350 → The display will begin to flash.

Note: (If the temperature begins to rise again, the display will stop flashing-even if the displayed temperature is below 350°C).

Before Servicing.....

 **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 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 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

<p>Problem 4. Solder will not wet the tip.</p>	<p>Check6. Is the tip temperature too high?</p> <ul style="list-style-type: none"> • Set an appropriate temperature. <p>Check7. Is the tip cleaned?</p> <ul style="list-style-type: none"> • See “Tip Care and Use”.
<p>Problem 5. The tip temperature is too low.</p>	<p>Check8. Is the tip coated with oxide?</p> <ul style="list-style-type: none"> • See “Inspect and clean the tip”. <p>Check9. Is the iron calibrated correctly?</p> <ul style="list-style-type: none"> • Please calibrate.
<p>Problem 6.</p>	<p>Check10.</p> <ul style="list-style-type: none"> • Please contact your nearest representative.
<p>Problem 7. Heater errors are displayed frequently</p>	<p>Check11. Is the tip too small compared to the items to be soldered?</p> <ul style="list-style-type: none"> • Use a heavier tips. <p>Is the setting of heater-error temperature-Tolerance too low?</p> <ul style="list-style-type: none"> • Increase the value of the setting.

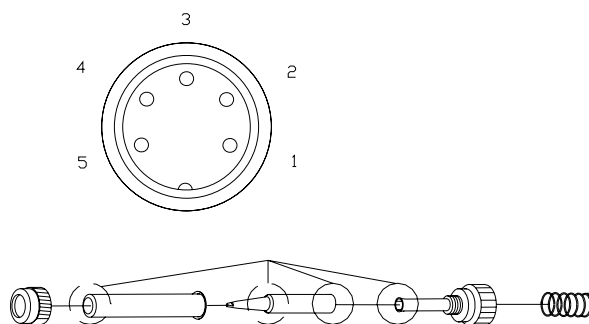
Checking for Breakage of the Heating Element and Cord Assembly

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.

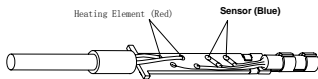
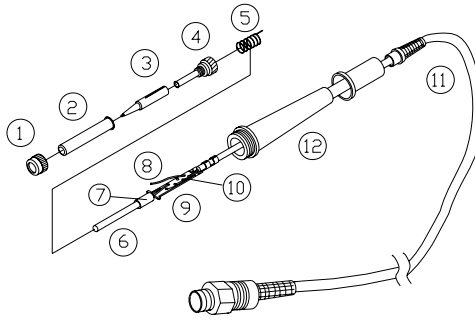
Refer to procedures 1 and 2. If the value of ‘c’ is over the above value, remove the oxidization film by lightly rubbing with sandpaper or steel wool the points as shown.

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



Disassembling the 907/908

1. Broken Heating Element



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)
2.5-4.0 Ω .
 2. Resistance value of sensor (BLUE) 43-58 Ω .
- If the resistance value is not normal, replace the heating element (Refer to the instructions included with the replacement part.)

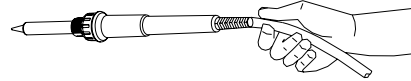
After replacing the heating element.


1. 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 and touching. This will damage the P.C.B.
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.

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 480°C. 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 480°C.

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

3. Replacing the Fuse

Refer to the drawing on the parts list. Desolder the Blown fuse and remove it. Solder the new one.

Specifications

Name	
Power Consumption	60W

Station

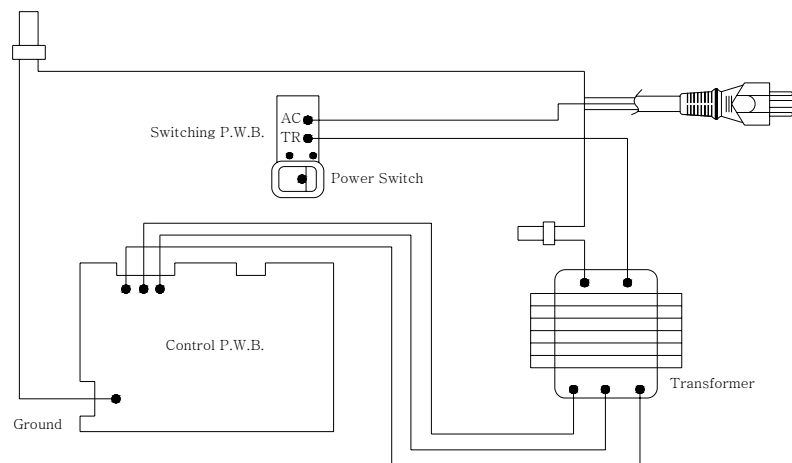
	Station / station ESD
Output Voltage	24V AC—50W
Temperature Range	200°C—480°C
Temperature Stability	±10°C of the set temperature ±1°C of tolerance at idling time
Dimensions	120 (W)×93 (H)×140 (D) mm / 4.7×3.7×5.5 in
Weight (Without Cord)	1,300g (2.9lbs)

Soldering Iron

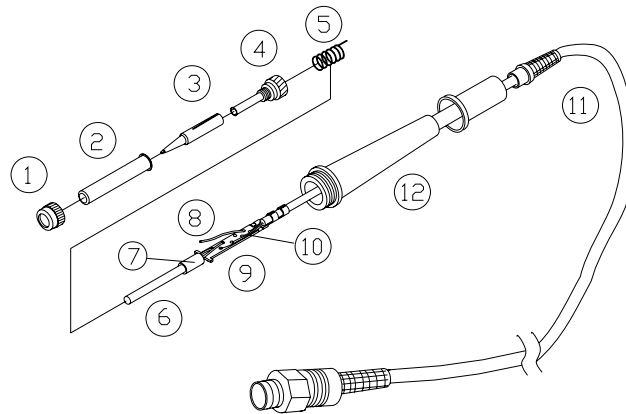
	907—ESD
Power Consumption	24V AC—50W
Tip to Ground Resistance	Under 2 Ω
Tip to Ground Potential	Under 2mV (TYP.; 0.6 mV)
Heating Element	Ceramic heater
Cord Assembly	1.2m (4ft)
Total Length (Without cord)	190mm (7.5in.)
Weight (Without cord)	44g (0.08 lbs.)

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

Wiring Diagram



907



Item No.	Part Name	Description	For use With
1	Nut		907
2	Tip Enclosure		907
3	Soldering Tip	See Page 8	907
4	Nipple		907
5	Grounding Spring		907
6	Heating Element		907
7	Terminal board		907
8	Handle	W/Handle Cover, E.S.D.	907
9	Handle Cover		907
10	Cord Bushing		907
11	Cord Asse'y	E.S.D.	907

Tips

907

<p>T-0. 8D 0°C</p>	<p>T-LB -10° C - 18° F</p>	<p>CSS960-T-K -30° C - 44° F</p>
<p>T-1. 2D 0°C</p>	<p>T-0. 5C 0°C</p>	<p>CSS960-T-R 0°C</p>
<p>T-1. 6D 0°C</p>	<p>T-0. 8C -10° C - 18° F</p>	<p>CSS960-T-RT 0°C</p>
<p>T-2. 4D 0°C</p>	<p>T-1C T-1C 0°C</p>	<p>CSS960-T-S 0°C</p>
<p>T-3. 2D 0°C</p>	<p>T-1. 5C T-1. 5C 0°C</p>	<p>CSS960-T-I -10° C - 18° F</p>
<p>T-1. 2LJ -10° C - 18° F</p>	<p>T-2C T-2C 0°C</p>	<p>CSS960-T-H -20° C - 36° F</p>
<p>T-SB 0°C</p>	<p>T-3C T-3C 0°C</p>	<p>CSS960-T-L. SH -10° C - 18° F</p>
<p>T-B 0°C</p>	<p>T-4C T-4C 0°C</p>	<p>CSS960-T-S4 0°C</p>

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