HRS55PG

PROGRAMMABLE SMD REWORK STAION

Instruction Manual

Thank you for purchasing our SMD Rework station. The unit is exclusively designed for

reworking and soldering SMD component. Please carefully read this manual before operating the unit. Store this manual in a safe, easily accessible place for future reference.

TABLE

⚠ NOTE

To prevent accidents, be sure to observe the following precautions:

1. **Use the unit only in the described manner as the manual.**
2. **The air outlet and its surrounding area maybe very hot. Please take great care and not to be burned.**
3. **After work, the handle must be placed on the holder and never place the handle on the workbench or other places. The unit can be turned off only after it cools below 100℃(sleeping mode) automatically.**
4. **Please keep the air outlet clear and not be blocked.**
5. **Do not place the sharp object besides or on the tube.**
6. **Keep the air outlet at least 2mm from the object.**
7. **Select the appropriate nozzle according to demands. Differences in temperature may exist when different nozzle is used.**
8. **Turn off the power switch if not using in a period of time. Disconnect the power cord when not in use for a long time.**
9. **Handle with care not to shock the unit sharply.**
10. **A periodically maintenance of the unit is necessary.**
11. **Don't operate the unit with wet hand or when the power cord is damp to avoid short circuit or electric shock.**
12. **Never use this unit in flammable gases or near other flammable materials. After using, don't put it near the flammable gases or materials.**
13. **Some areas such as behind walls, ceilings, floors, and other panels may contain flammable materials which may not be found. The ignition of these materials could result in property damage and injury to persons. When working in these locations, move the handle back and forth and not pause at one point for protecting the flammable materials from ignition and other things from damage.**
14. **Children can't recognize the danger of the electrical appliance and keep the unit out of reach from children.**

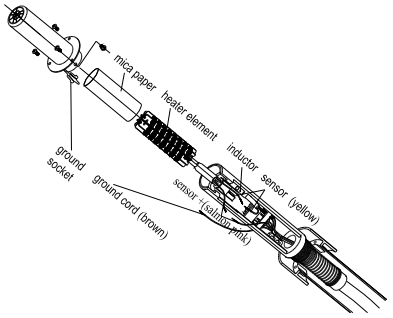
⚠**Note: *Please don't replace the nozzle until it has cooled down.**

***The nozzle can be customized according to the customer's demands.**

12.2 Replacing Heating Element

1. Replace the heating element after the handle has cooled down.
2. Screw down the fixation screws in handle and then take off the handle house.
3. As shown in the diagram, move back the trigger in the handle module and take out the steel tube.
4. Cut off the strap, disconnect the sensor cord and the connector, ground cord and ground socket. And then take out the steel tube and the broke heater element.
5. Wrap the mica on the new heater element and insert into the steel tube. It is better to right insert into the steel tube and cut off the unwanted mica.

   ⚠**Note: The sensor cords of heater element putting on the red and yellow hot shrinking tubes are on the opposite part of the grounding cord.**
6. Reassemble the handle according to the opposite order of disassembling. The heater part of the heater element must be insert into the end. The sensor cord has polarity and it must connect with the same color.



⚠**Note: Avoid invalidate the ground cord when replacing the heater**

element.

11. ERROR MESSAGES

The unit will give error information when there is something wrong with it and alarms continually before cutting off the power supply. If the “LCD” display error marks as following, please solve them as the troubleshooting.

S - E	**Sensor error:** If there is some malfunction in the sensor or in the sensor circuit, the temperature parameter of LCD will display **“S-E”** and the power supply to the handle will be cut off.
H - E	**Heater error:** If there is some thing wrong with the heating element, the temperature parameter of LCD will display **“H-E”** and the power supply to the handle will be cut off.
ERROR	**Motor error:** If there is some malfunction in the motor or in the motor circuit, the airflow parameter of LCD will display **“ERROR”** and the power supply to the motor will be cut off.

12. PARTS ASSEMBLE AND DISASSEMBLE

12.1 Nozzle Assemble and Disassemble

1. Not using the connection for nozzle: select one nozzle and screw it on the outlet’s steel pipe.
2. When using the other type nozzle without the screw, it must use the special connection for nozzle. Firstly, screw the special connection on the outlet’s steel pipe. And then fix the special nozzle on the connection.


Nozzle’s assembling


Nozzle’s disassembling

1. CHARACTERISTIC

1. There are ten programmable channels, “CH0”~“CH9”, and each channel has six zones.
2. In the six zones of each channel, it can view or set the parameter values including temperature, time and airflow according with the IC’s capability.
3. It can set password to protect the menu from non-authorization setting.
4. The handle with magnetic switch can work in with the pedal switch (option), and it is easy to operate.
5. It is automatically sleeping and digital calibration.
6. Closed loop sensor, temperature can be controlled by zero voltage triggering mode. Large power designs and the heating speed are rapid. The temperature can be conveniently adjusted and the temperature is accurate and stable and not affected by airflow.
7. It is with a brushless whirlpool motor and the airflow is adjustable with a wide range but no level. Besides, with vacuum suction pen, it is a multipurpose unit.
8. Automatic cooling unit can prolong the heating element’s life and protect the handle.

2. USAGE

1. It is suitable to the desoldering of the SMD components, such as SOIC, CHIP, QFP, PLCC, BGA and so on.
2. It is suitable to hot shrink, drying, remove lacquer and mucosity, thaw, preheating, disinfect and so on.
3. It is suitable to the situation with different grade airflow.
4. It is suitable to the hot air lead free desoldering.

3. SPECIFICATIONS

Power	1300W	
Voltage Range	200V~240V	50HZ/60HZ

Temperature range	100℃~500℃
	000~999seconds
Work time	"---" means the unit will work continually.
Airflow range	6~200
Maximal airflow	200l/min
Size (L*W*H)	250*230*150mm
Weight	4.45kg

4. PARTS

Please check the following parts before connecting the unit.

NO.	NAME		QUANTITY
1	HRS55PG unit (with handle)		1
2	Handle's holder		1
3	Vacuum suction pen		1
4	Pedal switch (option)		1
5	Power cord		1
6	Grounding cord		1
7	Connector	47642	1
8	A1130 nozzle	Ø4.4mm	1
	A1300 nozzle	Ø8.4mm	1
	A1011 nozzle	Ø12.7mm	1
9	Instruction Manual		1

⚠**Note: If you don't purchase the optional part, it will not be in the package. If any part stated above is missed out, please contact with our company or agents immediately.**

A. When in the password setting mode, the LCD will display "Password" and "----", the left hundred will flash.

B. Press DATA "▲"or "▼" key to change the hundred digital and then press "BACK" key to ten digital set. Ten digital and one digital setting method is the same as the hundred digital setting. The setting method refers to "6.2.2 temperature setting". After inputting the password first time, press "BACK" key to the secondary inputting.

C. If the secondary inputting password is not same with the first inputting password, the password setting is not successful and it will exit the password setting and return to the menu setting.

D. If the secondary inputting password is same with the first inputting password, the password setting is successful. The new password will flash three times and the unit will sound "di-di-di" and then return to the menu setting.

7. After finishing menu setting, press "BACK" key to the work state.

10. CALIBRATION

Methods of calibrating the temperature are as followings.

1. In the work mode, set the calibration temperature as 300℃.
2. Test the outlet temperature of the handle with thermometer and write down it.
3. Into the calibration mode: Press CH "▲", "▼", "SET" 和 "BACK" four keys at the same time, the system will enter into the temperature-calibrating mode and the LCD will display "---".
4. Press **DATA**"▲" or "▼" key to input the temperature value testing by the

thermometer. Inputting method refers to “7.2.2 temperature setting”.

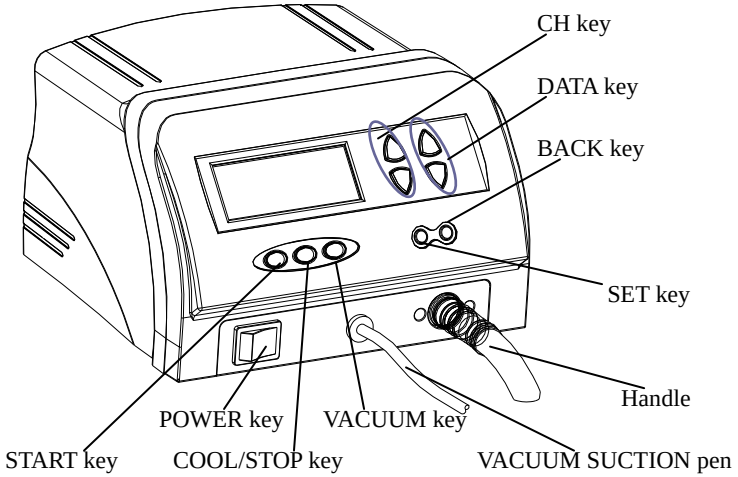
5. In the work mode, when the temperature is stable (300℃)and then test the outlet temperature of the handle with thermometer and write down the value.
6. If the temperature still has some departure, you can repeat calibration in according with the above steps.

Note: * Suggest using 191 or 192 thermometer to measure the temperature.

9. MENU SETTING

1. The unit has menu setting function. For into the menu-setting mode, it must input the right password. The initial password is “000”.
2. In the menu setting mode, the handle does not work. And it can set channel, locking or unlocking, with key tone or not and so on.
3. The operation steps of menu setting are as followings:
   A. **Into the menu setting mode:** Turn off the power switch. Press “SET” key and “BACK” key at the same time not loosely, and then press “POWER” key to turn on the power supply to the unit.
   B. Press any keys except POWER key in five seconds when the LCD displaying , and then the LCD will display Password and , or else, the unit will turn back to work state. The hundred of will flash, what means in the password-inputting mode and it must input the right password. The initial password of unit is 000.
   C. **Password inputting method:** Press “▲”or “▼” key to change the hundred digital and then press “SAVE” key to ten digital setting. Ten digital and one digital setting method is the same as the hundred digital setting. The setting method refers to “6.2.2 temperature setting”. There are three times to input the password, only when the inputting password is right, the unit runs into the menu setting process. Or else, if the inputting passwords are all error in the three times, the unit will exit the password setting mode and come into the work state.
   D. When the unit runs into the menu setting, the LCD will display “Set”.
4. **Press “SET” and “START” keys simultaneously to set the sound.**
5. **Press “SET” and “COOL/STOP” keys simultaneously, which can set the unit with the pedal switch’s function.**
6. **Press “SET” and “VACUUM” keys simultaneously to set the unit in lock mode or unlock mode.**
6. Change the password: in the menu setting mode, press “START” key and “COOL/STOP” key simultaneously, the unit will run into the password setting mode. The method of the password setting is as following:

5. KEYS AND LCD ILLUMINATE



5.1 Keys Illuminate

POWER key:	Power supply switch
START key:	Click to the work mode
COOL/STOP key:	Click to the sixth zone and double click to the sleeping state
Vacuum key:	Click to start up the vacuum suck pen and click

again to stop it work

CH ▲/▼ key:	Click to switch the channel or parameter
DATA ▲/▼ key:	Click to switch the work zone and double click to sleeping state
SET key:	Click to the parameter values setting when in sleeping state
BACK key:	Click to exit the current setting and return upper menu

5.2 LCD Illuminates

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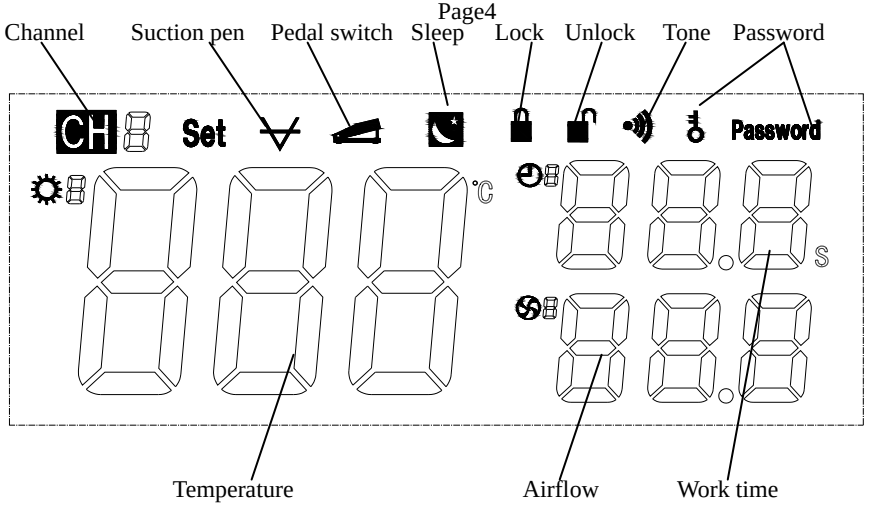

CH : The current work channel (CH0~CH9).

Set : When the LCD displays “set”, it means the unit is in the menu setting state and the handle and suction pen cannot work at the state.

: When LCD displays this mark, it means the suction pen can come to work.

: When LCD displays this mark, it means the pedal switch can control the unit in work state or sleeping state after taking down the handle from the holder.

: It means the unit is in the sleeping state.

: Lock the parameter values setting and only can work in the current channel and parameters.

: Switch the work channels and setting parameter values.

: When LCD displays this mark, it will give sound when pressing keys.

Password : When LCD displays this mark, it means the unit is in the password inputting state.

Password: When LCD displays this mark, it means the unit is in the password changing state.

7.2.3 Work time Setting

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When the time value twinkling, it can prolong or shorten the value of the work time by pressing DATA ▲ or ▼ key. The setting methods refer to “7.2.2 temperature setting”.

The time can set circularly, such as: **0 ◄►1 ◄►… ◄► 999 ◄► ---0.**

7.2.4 Airflow Setting

When the airflow value twinkling, it can prolong or shorten the value of the airflow by pressing DATA ▲ or ▼ key. The setting methods refer to “7.2.2 temperature setting”.

2) Base on the setting parameter values can fulfill the soldering or desoldering, using as low temperature as possible and as big airflow as possible for prolonging the heater's life and protecting the element.
3) It must switch off the power supply when not using in a period of time.

7.2.2 Temperature Setting

Raise temperature: When the temperature value twinkling, click **"DATA ▲"** key and then the temperature will rise 1℃, and the LCD displays the current setting temperature. If pressing "**DATA ▲**"not loosely at least one second, the setting temperature will rise rapidly. Loose the "**DATA ▲**" key until the needed temperature.

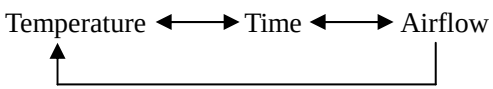
***Reduce temperature*:** When the temperature value twinkling, click **"DATA ▼"** key and then the temperature will drop 1℃, and the LCD displays the current setting temperature. If pressing "**DATA ▼**" key not loosely at least one second, the setting temperature will drop rapidly. Loose the "**DATA ▼**" key until the needed temperature.

6. OPERATION INSTRUCTION

8. SLEEPING

1. During in the work mode, the unit has three methods to the sleeping state:
    1) Put the handle on the handle holder, the unit will come automatically to the sleeping state.
    2) When the process from first zone to the sixth zone has finished, the unit will come automatically to the sleeping state.
    3) Double click the "COOL/STOP" key or pedal switch to make the unit to the sleeping state.
2. During the unit from work state to sleeping state, the time parameter window will display "OFF", and then the system will run into sleeping state when the temperature cooling down to 100℃. When in the sleeping state, the LCD will display "[redacted]" and "---".
3. Without displaying "[redacted]" in the work state and there are two methods resuming the unit to the work state:
    1) Only control by the magnetism switch: Take the handle down from the holder, the unit will come to work at once.
    2) Control by the pedal switch: Take the handle down from the holder and then click "START" key or trigger the pedal switch.

setting and then the next parameter icon twinkling. The parameter setting order is as following:



8. When setting successfully, click "BACK" to the superior menu and click again to exit the menu setting. After that, if do not press "SET" key or "START" key in five seconds, the system will come into sleeping state.

⚠**Note:**

1) When the time parameter value of one zone is 000, the unit will jump the zone and run the next zone. And when the time parameter value of one zone is "---", the unit will work at the zone all the time.

6.1 Work with the Handle

1. Firstly, place the SMD rework unit on the workbench. And then connect well the power cord, grounding cord and other connection lines. Place the handle on the handle holder before switching on the power supply.
2. Switch on the power supply.
3. The unit is in the sleeping state when the handle putting on the holder. Take down the handle from the holder, if it is controlled by the magnetism switch, the system can work at once. If the pedal switch controls it, click the “START” key or trigger the pedal switch (option). The unit will run the process from first zone to the sixth zone as the setting parameters of the channel. The setting methods of parameters may refer to “7 parameters view and set”. If do not run the other operations after ending the process, the unit will come to sleeping.
4. During the process of 1~6 zones, if need to end the process, click or double click the “COOL/STOP” key. When clicking the “COOL/STOP” key, the unit will run directly the sixth zone (cooling zone) and blow the cooling airflow. When double clicking the “COOL/STOP” key, the unit will directly exit the process zone and come into the sleeping state.
5. **The function of the pedal switch** is the same with the “START” key and “COOL/STOP” key. During the sleeping state, trigger the pedal switch one time can make the unit to the work state. During the work state, triggering the pedal switch one time can make the unit to the sixth zone and triggering it again can make the unit to the sleeping state. Before putting into the service, the pedal switch must be set in the “menu setting” and the LCD displays “”.
6. When working in the lock state, the LCD displays “”, the functions of “SET” and “BACK” keys are locked. At the moment, the unit can switch the channel and but cannot change parameter values. And only can work in the current parameter values of corresponding channel.
7. When working in the unlock state, the LCD displays “”. At the moment, in the sleeping state, the unit can switch channel and change parameter values.
8. When the LCD displays “”, which can set in the menu setting, the unit will have sound when pressing the keys or going into the sleeping state.

9. This programmable SMD rework unit can work with the 500T AUTO HOT PLATE after setting the pedal switch control. And the operating instruction is as the 500T instruction manual.

Note: the pedal switch also can cooperate with the keys “START” and “COOL/STOP”. For example: firstly, click “START” key and the unit will come to work. Then trigger the pedal switch during the working, the unit will directly run to the sixth zone and blow cooling airflow. During the cooling zone, click “COOL/STOP”, the unit will run to the sleeping.

6.2 Work with the Vacuum Suction Pen

1. The vacuum suction pen is controlled by the “VACUUM” key. It can work whatever the unit is in the work state or sleeping state.
2. **Start up the vacuum suction pen:** click the “VACUUM” key and the LCD will display “”. And then the vacuum suction pen will work until starting up five minutes.
3. After starting up the vacuum suction pen, stop up the hole on the pen and then it can suck the components. And when putting down the components well, do not stop up the hole.
4. During the work time (in five minutes) of the vacuum suction pen, click the “VACUUM” key again and the vacuum suction pen will stop work at once.

7. PARAMETERS VIEW AND SET

7.1 View the Parameters of the Channel

1. When the system in the sleeping state, whatever is in the lock mode “” or unlock mode “”, it can view the parameter values.
2. When in the sleeping state and the LCD of the parameter value displays “---”, press any key (except power key) and let the LCD displays the current parameter values.

3. At the moment, in five seconds, press CH "▲" or "▼" key to view the parameters or switch the channel from 0~9.
4. Press DATA "▲" or "▼" key to view the parameter values or switch the work zone from 1~6. Each work zone has three parameters: temperature, time and airflow. The sixth zone is the cooling zone and the temperature value will display "---".

7.2 Setting Parameter in the Sleeping State

7.2.1 Parameter Setting

1. In work state, the functions of keys are locked. *And do set the parameters in sleeping state.*
2. In locking mode, the functions of parameter values setting are locked.
3. In unlocking mode *of sleeping state*, press CH "▲" or "▼" key to switch the channel from 0~9 and select one channel to set. Press any key to parameter viewing interface and then press "SET" key to setting interface of the parameter values.
4. In the setting state, the LCD displays "SET" and the icon  or  or  will twinkle. At the time, press DATA "▲" or "▼" to select the work zone which needing set. There are six zone to select and the change order is as followings:
   1 ⟷ 2 ⟷ 3 ⟷ 4 ⟷ 5 ⟷ 6
5. Each zone has three parameters: temperature, time and airflow. Because the sixth zone is cooling zone and blowing cooling airflow, only time and airflow can be set and the temperature cannot be set.
6. Press "SET" key at the twinkling icon into the corresponding parameters setting and then the parameter value twinkling. At the time, press DATA "▲" or "▼" key to change the value. The setting methods refer to "temperature setting".
7. Press CH "▲" or "▼" key at the twinkling icon into the next parameters