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# **OPERATING MANUAL**

## **FOR**

### **LF-852DII**

#### **HOT-AIR**

#### **S.M.D. REWORK STATION**

Thank you for choosing XYTRONIC LF-852DII S.M.D. Rework Station. This tool is specially designed for soldering, desoldering Surface Mount Devices with temperature controlled hot air. When used in conjunction with our 628 Preheat system, the 852DII will achieve marked improvements in quality and efficiency of your rework tasks.

Please read the operating manual carefully to maximize the advantages of using your new LF-852DII Hot Air rework station and keep this manual readily accessible for future reference.

## INTRODUCTION

This appliance is not intended for use by children or other persons without assistance or supervision if their physical, sensory or mental capabilities prevent them from using it safely. Children should be supervised to ensure that they do not play with appliance. Failure to observe the safety regulation will result in a risk of life and limb. The manufacturer shall not be liable for damage resulting from misuse of the unit or unauthorized alterations.



**!【WARNING 】 and 【CAUTION】**



**!【ELECTRICAL SHOCK 】**

Warning and Caution are positioned at critical points in the manual to draw the user's attention to significant safety concerns. Be sure to comply with the following warnings and cautions for your safety.

1. Ensure the voltage rating of the unit and your power supply are identical prior to use.
2. Check carefully of any damage during transportation.
3. Put the product on a safe and stable working table. Table surface should be consisted of fire and heat resistant material due to the unit can reach very high temperature and potentially dangerous.
4. During the operation, the heater is extremely hot, and will cause serious burns if contacted exposed skin. Use gloves and/or any heat resistant tools to pick up the PCB assembly to eliminate the possibility of burns.
5. Do not use the product near combustible gases or flammable materials.
6. Turn the power switch OFF and allow the heater to cool before checking or replacing heater and other parts, or prior to storing the unit.
7. Keep the appliance clean. This may be used with a damp cloth using small amount of liquid detergent. Never submerge the unit in liquid or allow any liquid to enter the station. Never use any solvent to clean the case.
8. This unit is designed for SMD rework and should not be used for any other purpose without first consulting the manufacturer or its authorized agent.
9. Keep the unit out of the reach of children. Young children should be supervised to ensure that they do not play with the appliance.
10. Please unscrew the 4 screws under the bottom enclosure when the unit is used at the first time.(See the procedure on page6 )

**To prevent electrical shock, be sure to take the following precautions:**

1. Make sure the unit is grounded. Always connect power to a grounded receptacle.
2. Do not pressure the AC power cord. Be sure the work area is well ventilated.

3. Do not bump, hit, pour water/liquids or otherwise subject the heating surface to physical shock. This may damage the heater.
4. To isolate the equipment from the mains before commencing repairs or making any maintenance to avoid electric shock. This may result in Death or serious injury.
5. Do not expose the unit to moisture nor use the unit with wet hands.
6. Turn the power switch off and remove the AC power cord by pulling the plug (not the cable) when the unit will remain unused for a longer period of time.
7. Do not modify the unit.



### Warning

- **To last the life of the heating element, not recommend continuously using at low air flow and high temperature.** Let the heating element be cooler after using a maximum 20 minutes. Ensure that it is placed back on its cooling stand to cool down between rework operations. Also, do not switch the hand tool on while it is in the cooling stand. **Fail to comply with the instructions may result in damage to the hand tool.**
- **Do not aim the hot air at your eyes.** Do not allow the hot air from the hand tool to aim the eyes as serious eye damage may occur.
- **The hot air pencil can produce a lot of heat.** Do not allow the heater and the nozzle to contact exposed skin as burning may occur. To eliminate the possibility of burns, allow time for the equipment to cool before commencing maintenance.
- **Death or serious injury may result from electric shock.** It is therefore essential to isolate the equipment from the mains before commencing repairs.
- **Keep the hot air away from the body, clothes and flammable material when in operation.** The nozzle metal is in a high temperature status, do not touch the nozzle! Always replace the hand tool to its original holder when not being use. The nozzle and the heating element are still remaining hot after being switched off. Ensure that you do not touch them.
- **Do not block the air outlet in full area of the nozzle, or it may cause the heat reflection and damage the heating element.**
- **Do not leave when the machine is on operating:** Stare at the nozzle when the rework station is on operating, so as not to burn your body or other objects. Turn off the machine and unplug the power cord when you are leaving and put the hot air handle to the holder in one side of the machine. The nozzle is still remaining hot after being switch off on some time. Ensure that you do not touch the nozzle.
- **Do not use if damaged:** If the pump doesn't work or the rework station becomes

faulty, discontinue using immediately. To comply with safety standards, the pump or other part must only be replaced by authorized technicians as special purpose tools are required. Only the technician is permitted undertake repairs. Use the original replacement part only.

- **Remember unplug in the power cord:** The station must be switched off and the power cord must be unplug-in before replacing the fuse in AC socket in rear side of the machine.

### PRODUCT FEATURES

- ◆ With specially intelligent chip microcomputer control design, double LED display operate by pressing keys, make it convenient and comfortable operation.
- ◆ Temperature and air blow by digital display readout, easy to read. The temperature can be locked by “password” code that is convenient for production line management.
- ◆ With the high power heating element, heat up quickly, the momentary power can reach 1000W.
- ◆ Temperature adjustable, suits for removing QFP, SOP, PLCC or SOJ chips etc., especially the built in static free circuit design is safety for the sensitive elements like CMOS ICs.
- ◆ **SENSOR /PUMP FAILED DETECTION:** If sensor circuit failed that the display read “S--E” and cut off the heater power..
- ◆ Fahrenheit and Centigrade (Celsius) temperature selection : It’s convenient for different country user to use.
- ◆ Auto-cooling design: When the power switch off, the cooling system will begin to work automatically, the temperature falls down to 100℃ (212°F) to protect the heating element from burning .
- ◆ Heating element auto-protecting function: When heating element reaching a high temperature which can be protected automatically, to lasting the life of heating element.

## PRODUCT DESCRIPTION

The temperature controlled Hot-Air LF-852DII SMD rework station built in an intelligent microcomputer chip which is specially designed for the present lead free SMD chips such as SOIC, CHIP, QFP, PLCC, BGA etc reworks to meet RoHS requirement. This appliance equipped with a high power heating element and gets very fast heat up time. A high-quality sensor and heat transfer technology ensure precise temperature regulation is essential for making consistent, reliable. The aluminum housing has the advantages of strong structure, good heat sink and effectively resistant of electro-magnetic interference.

## SPECIFICATIONS

### BRIEF INTRODUCTION OF PANEL FUNCTIONS:

Model	LF-852DII REWORK STATION	
Power Voltage	100-120Vac 60Hz	220-240Vac 50Hz
Power Consumption (Max)	1000W	1000W
Pump	Diaphragm 115Vor120V	230V or 240V
Air Flow	1.5L/ Min -70L /Min	
Temperature range	100℃-480℃ / 212°F -896°F	100℃-480℃ / 212°F -896°F
Dimensions	283(W)*120(H)*190(D) mm	
Fuse (Fast type)	F12A/250V	F6.3A/250V

### Front panel



- ① Main power switch
- ② Hot air outlet
- ③ “▲”: Temperature increasing (UP)
- ④ “▼”: Temperature decreasing(Down)
- ⑤ Temp Display
- ⑥ “SET”: Function key
- ⑦ “▲”: Hot air blow (UP)
- ⑧ Air blow display
- ⑨ “▼”: Hot air blow(DOWN)
- ⑩ Hot air gun rack

## OPERATING PRECAUTIONS

1. Make sure both heater and nozzle are cool before attaching the nozzle.
2. **Caution High Temperature Operation**  
Do not use the LF- 852DII near ignitable gases, or other inflammable materials. Both nozzle and hot air are extremely hot and can cause burns. Never touch the nozzle and heater assembly or allow the hot air to blow against your skin. Initially, the iron may emit white smoke, but this will soon dissipate.
3. Be sure to cool the unit after using. While the power switch off, the unit will automatically blow cooling air through the pipe for a short period of time. Do not disconnect the plug during this cooling process.
4. Do not disassemble the pump.  
If the pump or other critical internal components become faulty, discontinue its use immediately. Please return to your vendor or its authorized repairers for proper servicing.
5. Disconnect the plug while the unit is not in use.  
When the power cord is connected into the power supply, the unit has a little flow of electricity; even the Power Switch is in off position. So when you don't use the unit for a longer period of time, disconnect the plug.

### Operation Setup

1. Select the Nozzle that matches the size of the IC. Attach the nozzle when both the heating element and the nozzle are cool and the unit is turned off and unplugged.
2. Loosen the screw on the nozzle. Attach nozzle.

**IMPORTANT:** Do not force the nozzle or pull on the edge of the nozzle with pliers. Also, do not tighten the set-screw too tightly.

**Suitable for desoldering of SMD components such as SOIC, CHIP, QFP, PLCC, BGA etc.**

## OPERATING INSTRUCTIONS

**NOTE:** In ord to protect the pump during transportation , the pump in the machine is tightened by the 4 screws under the bottom enclosure.Please unscrew the 4 screws when the machine is used at the first time .(See the FigA) .

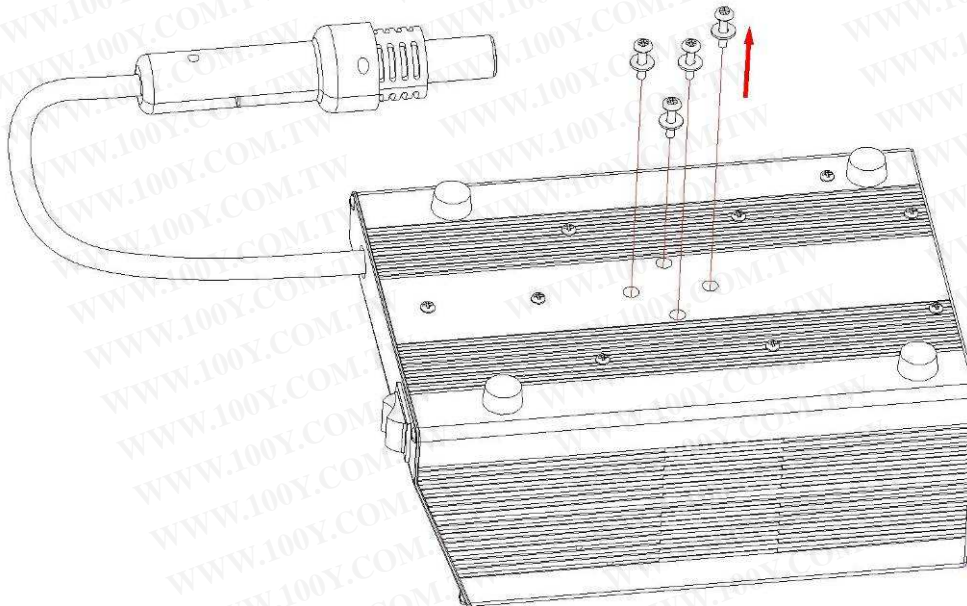


Fig A

**Caution:** Check carefully for any damage during transportation and ensure that the working voltage matches your power supply before plugging in the station.

1. Ensure that the base unit power switch is in the “OFF” position.
2. Plug in AC power cord and turn “Mains power switch” to “ON” position then the temperature LED and wind LED display will be ON and show the value.
3. Press “▲” or “▼” key on the left side of the front panel to choose the desired temperature. When the temperature reaches to the desired temperature that the heating indicator light will be flashed on and off to maintain the set temperature. The temperature will change 1 degree by pressing the keys “▲” or “▼” at a time.
4. Press “▲” or “▼” key to choose the desired air flow on the right side of the front panel. The speed will change 1 degrees by pressing the keys “▲” or “▼” at a time.
5. After adjusting the air flow and temperature and wait for the temperature to stabilize for a short period of time.

## FUNCTION INTRODUCTION

### PARAMETER SETTING:

1. Press “SET” key and hold for at least 3 seconds until display shows “— — —” sign then release the “SET” key. The sign “— — —” starts to flash and reminding the user to input the mode lock password “010” (fixed). If the user inputs the same number as “010”, the unit will enter the modes selection procedure, otherwise, the unit will be back from the current mode automatically.
2. After the unit enters the Modes selection, the LED will display “F-0” and flash. Press “▲” or “▼” key to select modes. If the user doesn’t press “▲” or “▼” key within 15 seconds or press “SET” key one time, then the unit will be immediately back from the Parameter Set status.

For example: F-0 → F-1 → F-2

↑                      ↓  
←              ←              ←

3. Password Setting:

When the LED displays “F-1” and flashes, press “SET” key one time and the unit enters the Password Set status. At this moment, the LED displays the pre-set value. Press “▲” or “▼” key to change password set value. If the user sets “000” that means the unit will be under the status of no password. If the user sets “100” then means the unit will be under the password status. Press “SET” key once to finish password setting and the unit will backup mode, the user can continue set other modes or back from the setting mode.

4. Fahrenheit and Centigrade (Celsius) temperature selection

When temperature display window shows "F-2" and blinking, press the "SET" button, at this time, the system enters the degrees Fahrenheit and Centigrade temperature selection function, indicating the temperature of the window shows the current status. Press "▲" or "▼" key to change the temperature selection status. It expressed as degrees Celsius temperature value if set to °C; it shows as degrees Fahrenheit temperature if set to °F.

### GRIP DETECTION FUNCTION

1. When the grip in "Hot air gun rack", the machine into standby mode:
  - A. Temperature Windows and wind speed Windows digital began to flicker
  - B. Wind speed value change to "30"
  - C. Keep constant temperature
2. Enter standby state:
  - A. If the grip take away from "Hot air gun rack" within 20 minutes, the machine will return to work condition immediately.
  - B. If the grip did not take away from "Hot air gun rack" within 20 minutes, the machine will cut off the heating element power supply first, waiting for the temperature go down to 100°C, then cut off PUMP power, two display window all display shown "---" starts to flash, Temperature units do not display that the machine into the sleep mode.
3. Standby state, each key can normal operation:
  - A. Pressing temperature button, temperature window shows the set value, and follow the change, and the actual temperature will also follow the change.
  - B. Pressing wind speed button, wind window shows the set value, and follow the change, and the actual wind speed always keep "30" wind speed constant.
  - C. Key operation after about 4 s, the machine to enter standby state.
4. Sleep mode, each key can normal operation:
  - A. key operation, the corresponding window shows "---" change to set value. Another window does not display

Key operation is completed, Windows recovery "---"scintillation state.

- B. key operation or after completion of the operation, the machine always stay sleep state
- C. take up grip, the machine be awakened immediately, into the working condition

### QFP De-soldering

1. **Melt the solder:** Hold the iron so that the nozzle is located directly over, but not touching the IC and allow the hot air to melt the solder. Be careful not to touch the leads of the IC with the nozzle.
2. **Remove the IC:** Once the solder has melted, remove the IC by lifting the pliers.
3. **Turn the power switch off:** After the power switch is off, an automatic blowing function begins sending cool air through the pipe in order to cool both the heating element and the handle. So do not disconnect the plug during this cooling process.
4. In case you don't use the unit for a long time, disconnect the plug.

**Note:** After the power switch off about one minute later, the temperature will fall down to 75°C (167°F) and power automatically shut off.

5. **Remove any remaining solder:** After removing the IC, cleaning the remaining solder chips with a wick or desoldering tool.

**Note:** For SOP, PLCC etc. would recommend by using tweezers iron to desolder.

### QFP Soldering

1. **Apply the solder paste:** Apply the proper quantity of solder paste and flux (preferably no-clean) and place install the SMD on the PCB.
2. **Preheat SMD.**
3. **Soldering:** Heat the lead frame evenly.
4. **Washing:** When soldering is completed, wash the area with a defluxer.

**Note:** While there are many advantages of hot air SMD rework, it is also possible to have defects for soldering BGA. Will recommend to inspect all soldering joints closely.

## REPLACE THE HEATING ELEMENT



**Caution :** The main switch must be “off” and allow the iron to cool before attempting the following procedure

1. Unscrew the 3 screws on handle then take out the handle cover. (See Fig.1)
2. Disconnect the wire terminals and Pull out heating element. (See Fig.2)
3. Pull the default heater off and replace a new one then re-assembly the heater according the backward procedure. (See Fig.3)



Fig1



Fig2



Fig3

## SPARE PART

**Part No. 79-410312 Heating element 120Vac,60Hz,1000W**

**Part No.79-510312 Heating element 230Vac,50Hz,1000W**

## ACCESSORY

					QFP	SOP	PLCC	SOJ	BGA(CSP)	mm (inch)
<b>A1125B</b> QFP 10 x 10 (0.39 x 0.39)	<b>A1126B</b> QFP 14 x 14 (0.55 x 0.55)	<b>A1127B</b> QFP 17.5 x 17.5 (0.68 x 0.68)	<b>A1128B</b> QFP 14 x 20 (0.55 x 0.78)	<b>A1129B</b> QFP 28 x 28 (1.1 x 1.1)						
 A:10.2 (0.4) B:10.2 (0.4)	 A:15.2 (0.6) B:15.2 (0.6)	 A:19.2 (0.76) B:19.2 (0.76)	 A:15.2 (0.6) B:21.2 (0.83)	 A:29.7 (1.17) B:29.7 (1.17)						
<b>A1135B</b> PLCC 17.5 x 17.5 (0.68 x 0.68) (44 針)	<b>A1136B</b> PLCC 20 x 20 (0.78 x 0.78) (52 針)	<b>A1137B</b> PLCC 25 x 25 (0.98 x 0.98) (68 針)	<b>A1138B</b> PLCC 30 x 30 (1.18 x 1.18) (84 針)	<b>A1139B</b> PLCC 12.5 x 7.3 (0.49 x 0.29) (18 針)	 A:18.5 (0.73) B:18.5 (0.73)	 A:21 (0.83) B:21 (0.83)	 A:26 (1.02) B:26 (1.02)	 A:31 (1.22) B:31 (1.22)	 A: 9 (0.35) B:14 (0.55)	
 A:13 (0.51) B:13 (0.51)	 A:15 (0.59) B:13 (0.51)	 A:24.2 (0.95) B:24.2 (0.95)	 A:20.2 (0.8) B:20.2 (0.8)	 A:12.2 (0.48) B:12.2 (0.48)						
<b>A1140B</b> PLCC 11.5 x 11.5 (0.45 x 0.45) (28 針)	<b>A1141B</b> PLCC 11.5 x 14 (0.45 x 0.55) (32 針)	<b>A1182B</b> BQFP 24 x 24 (0.94 x 0.94)	<b>A1187B</b> TSOL 18.5 x 8 (0.73 x 0.31)	<b>A1257B</b> SOP 11 x 21 (0.43 x 0.83)						
 A:8.2 (0.32) B:11.7 (0.46)	 A:13.5 (0.53) B:29 (1.14)	 A:8.7 (0.34) B:19 (0.75)	 A:20.2 (0.8) B:20.2 (0.8)	 A:12 (0.47) B:12 (0.47)						
<b>A1258B</b> SOP 7.6 x 12.7 (0.3 x 0.5)	<b>A1259B</b> SOP 13 x 28 (0.51 x 1.1)	<b>A1260B</b> SOP 8.6 x 18 (0.34 x 0.71)	<b>A1261B</b> QFP 20 x 20 (0.78 x 0.78)	<b>A1262B</b> QFP 12 x 12 (0.47 x 0.47)						
 A:27.7 (1.09) B:39.7 (1.56)	 A:40.2 (1.58) B:40.2 (1.58)	 A:32.2 (1.27) B:32.2 (1.27)								
<b>A1263B</b> QFP 28 x 40 (1.1 x 1.57)	<b>A1264B</b> QFP 40 x 40 (1.57 x 1.57)	<b>A1265B</b> QFP 32 x 32 (1.26 x 1.26)								
 Ø2.5 (I.D.) (0.09)	 Ø4.4 (I.D.) (0.17)	 A:4.8 (0.19) B:10 (0.39)	 A:5.7 (0.22) B:15 (0.59)	 A:7.2 (0.29) B:16 (0.63)						
<b>A1124B</b> 單管式 Ø2.5 (0.09)	<b>A1130</b> 單管式 Ø4.4 (0.17)	<b>A1131</b> SOP 4.4 x 10 (0.17 x 0.39)	<b>A1132</b> SOP 5.6 x 13 (0.22 x 0.51)	<b>A1133</b> SOP 7.5 x 15 (0.3 x 0.59)						
 A:7.2 (0.28) B:19 (0.75)	 A:1.5 (0.06) B:1.2 (0.05)	 Ø7 (I.D.)	 Ø10 (I.D.)							
<b>A1134</b> SOP 7.5 x 18 (0.3 x 0.7)	<b>A1142B</b> Bent Single 1.5 x 3 (0.06 x 0.12)	<b>A1170</b>	<b>A1110</b>							

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