XYTRONIC®

PRE-HEATER IR610

SMD/BGA Rework System

Operating Manual

Thank you for choosing XYTRONIC Infra Red Pre-heater IR610. This appliance is specially designed for S.M.D. rework and also very convenient for re-balling BGA components. When used in conjunction with our IR810 Infra-Red rework station, the IR610 Infra Red Pre-heater will achieve remarkable improvements in quality and efficiency of SMD/BGA rework operations.

Please read the operating manual carefully to maximize the advantages of using your new IR610 Pre-heater and keep this manual readily accessible for reference.

INTRODUCTION

⚠ : 【WARNING】 and 【CAUTION】 ⚡ : 【ELECTRICAL SHCOK】

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 products 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 especially the quartz heater. This may be used with a damp cloth using small amount of liquid detergent. Never submerse the unit in liquid or allow any liquid to enter the station. Never use any solvent to clean the case.
8. Quartz heater is fragile, be slightly moving the station if necessary.
9. This unit is designed for SMD rework, BGA re-balling and pre-heating PCB assembly and should not be used for any other purpose without first consulting the manufacturer or its authorized agent.
10. Keep the unit out of the reach of children. Young Children should be supervised to ensure that they do not play with the appliance.

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 quartz 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.

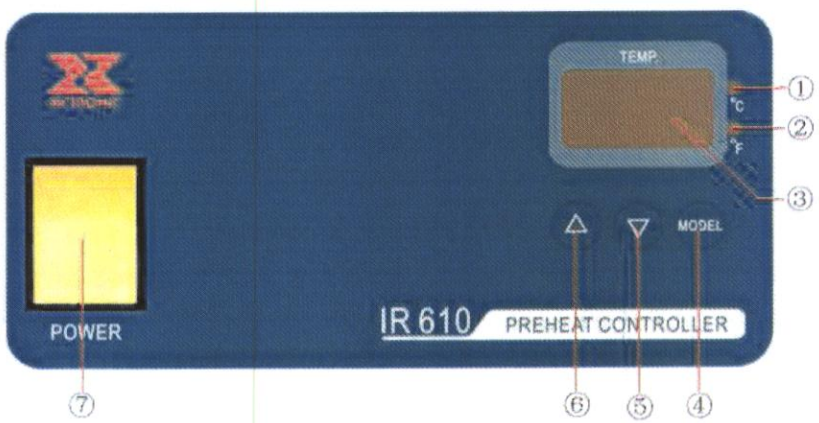
IR610 INFRA RED PRE-HEATER

Specifications

	IR610
Rating	230Vac or 115Vac
Fuse (Delay type)	230V: T5A ; 115V: T10A
Output	800W
Temperature range	100℃-350℃（212℉-662℉）
Controller Dimensions	170x100x200mm(W x H x D)
Weight (w/o AC power cord)	1.4Kg
Pre-heater Dimensions	280x90x257mm(W x H x D)
Weight (w/o AC power cord)	2.8Kg

FEATURES

IR 610 Controller Front Panel

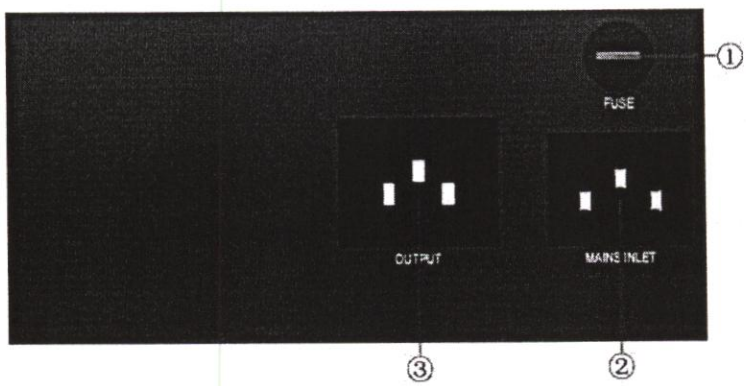


① **Celsius (℃) temperature**

② **Fahrenheit (℉) temperature**

③ **Temperature setting display (3 segment)**
④ **MODEL: Temperature offset pad**
⑤ **Temperature down pad (decrease numerals)**
⑥ **Temperature up pad (increase numerals)**
⑦ **Power switch (illuminated)**

IR 610 Controller Back Panel



1. **Fuse holder**
2. **Main power inlet**
3. **Output to quartz heater**

IR610 Infra red pre-heater back panel

① **Inlet (connect with controller output)**

1. Quartz heater gets faster heat-up time.
2. The efficient pre-heat height is 45mm from quartz surface to the bottom

of the PCB assembly.

3. The temperature of back heater setting at 220℃ can get apparent preheating (75% energy is provided by the back heater and 25% of the energy provided by the top heater) get efficient preheating performance and prevent the bent of bigger PCB and/or damage the components just heating from the top heater.

PREPARATION AND INSTALLATION

The equipment must be sited on a firm surface at least 1.2M x 0.75M and at a height to suit the operator. The location should be chosen to suit the flow of work. Place the controller on the left of the quartz heater for convenient operation. The immediate areas must be free from draughts that may reduce the heating efficiency. A mains electricity supply, free from R.F. interference, other noise, glitter etc. must be readily available.

ASSEMBLY AND ELECTRICAL CONNECTION

Accessories: AC power cord with plug, Connecter/Receptacle cord, P.C.B holder, Grill plate, Instruction.

OPERATION

1. Flip the "POWER" switch to " OFF " position.
2. Insert the female plug into the AC power receptacle (Mains inlet) on the back of the unit.
3. Insert the connector/receptacle cord from the back output of controller to back of pre-heater inlet.
4. Plug the AC power cord and flip the mains illuminated switch to the " ON " position.
5. The IR610 is ready to use.

Temperature parameter value setting

Temperature setting range: 100℃~350℃ (212℉~662℉)

Temperature compensation range: +99℃~ -99℃ (+99℉ ~ -99℉)

Preset temperature: 100℃ (212℉)

Temperature adjustent: "00" or "-00"

✱ Pre-heater temperature setting: By pressing "▲" or "▼" pad to increase or decrease the temperature. Would suggest set temperature at "220℃ (430℉approx.) for better performance.

Temperature forward counting: If pressing "▲" pad one time, the digital will be increased "1" numeral. If continuous pressing "▲" pad then the digital numerals will be forwarded till the temperature you would set or adjust and then depressing the "▲" pad off.

Temperature backward counting: If pressing "▼" pad one time the digital will be decreased

"1" numeral. If continuous pressing "▼" pad then the digital numerals will be backward till the temperature you would set or adjust and then depressing the "▼" pad off.

1. Check actual temperature compensation value:
   Press "MODEL" pad until digital display show "- - -", then release the "MODEL" pad, the display will show the actual temperature compensation value automatically after 4 seconds. After 2 seconds the display will be back to preset temperature.

2. Actual temperature adjustment:
   Press "MODEL" pad until digital display show "- - -" ,then press the "MODEL" pad again within 4 seconds, the display will show the actual temperature compensation value automatically and twinkling. Now it is ready to adjust by using "▲"and "▼" pads. Press "▲" pad the temperature will be up and press "▼" pad the temperature will be down.
   If there is no need to adjust the temperature, after 2 sec. the display will become normal situation.

   For example: Assume the temperature set at 200℃ and actual temperature being measured 190℃, then the temperature to be needed to adjust +10℃ and the parameter value shows "00 or -00" then temperature compensation value is "10" [00 + 10=(increase 10℃)]. If the parameter value shows -20 then temperature compensation value is 10 (-20+10=10℃). If the parameter value shows 20 then the compensation value is 30 [20 (20)+10 (10)=30 (30℃)].

⚠ **CAUTION** : To avoid burning your skin, do not touch the heater or PCB directly, please use clips or tweezers for pick up.

⚠ **CAUTION** : Do not allow water/liquids/solvents to touch the heater surface to avoid temperature drop cracks while the unit is still hot. Such cracks can lead to electrical shorts or failure of the heater.

⚠ **CAUTION** : Do not touch the PCB holder to avoid burning your skin during preheat!

TROUBLE SHOOTING

⚠ **WARNING** :

1. Unless otherwise stipulated, carry out these procedures with the power switch OFF and the power UNPLUGGED before the trouble is cleared.
2. If the unit is damaged, it should be repaired by the manufacturer or its authorized repairing centers to preclude damage to either the unit or injury to personnel.
3. Be sure the unit has been cooled to room temperature before beginning work.

Item	Problem	Remedy
1. No Power when Power switch "ON"	a. Check the AC power cord and receptacle.	1. Re-insert the plug.
	b. Mains switch no good.	2. Replace the switch.
	c. Fuse blown out.	3. Investigate why the fuse blew then replace a new fuse. (If the cause can not be determined, just replace the fuse. If the fuse blows again, send the unit to repair.)
2. Heater no temperature	a. Quartz heater open.	1. Replace the quartz heater assembly.
	b. Check connector/receptacle cord connecting in good condition or not	2. Re-insert the cord.
	c. Check the controller PCB assembly failed or not	3. Replace a new PCB assembly
	d. Check the display PCB assembly	4. Replace a new display PCB assembly
3. When mains switch is in "ON" position but display not shown	a. Check the AC power cord inlet.	1. Reconnect.
	b. Check the AC power transformer output is AC9V	2. Replace a new transformer if burnt.
	c. Check the controller PCB has DC5V output	3. Replace the PCB assembly if failed.
	d. Display burnt	4. Replace the display PCB assembly.