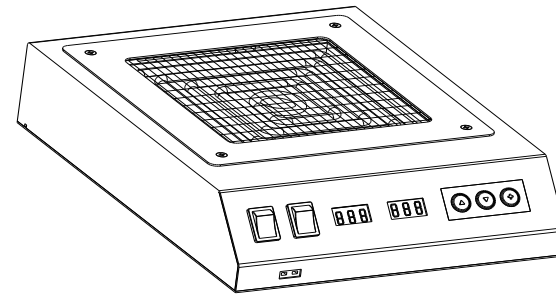


*VECTECH* 973  
INFRARED PREHEATER

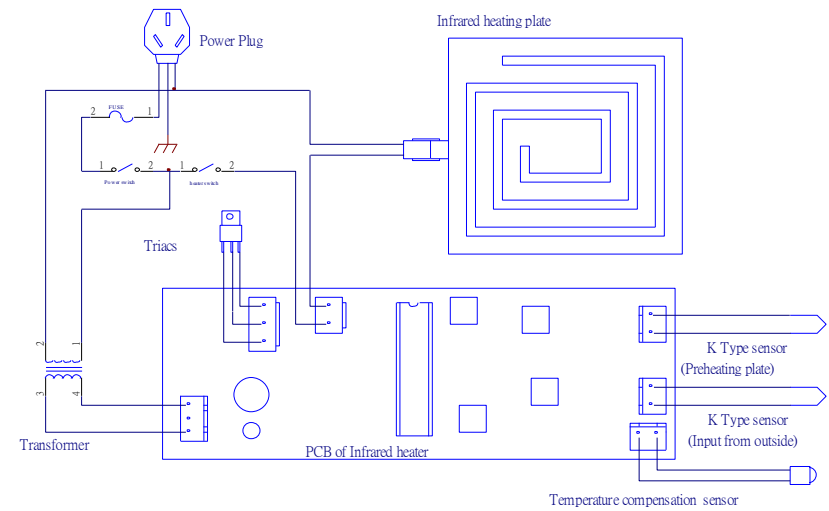
## MANUAL INSTRUCTION



Thanks for purchasing our products.

In order to keep our products in good statement, please read this manual before operation.

After reading, keep it in a safe place easy for reference in the future.



## VIII. Replaceable parts list:

Item No.	Part No.	Part Name
1	25124	Infrared ceramic heater 600W/230V
2	251259	Infrared ceramic heater 600W/110V
3	25087	Fuse 5A/230V
4	25115	Fuse 10A/110V
5	47344	Controlling PCB
6	53005	Triacs BTA16/600B
7	45030	Rubber pad
8	25102	K type sensor TP-01
9	46235	Small size PCB fixture (Picture 3)
10	46233	Big size PCB fixture (Picture 2)

press the ‘▲’knob and not loose at least 1 second, the setting temperature will raise rapidly. Till the needed temperature reaches, then loose the ‘▲’knob.

Temperature dropping:

Don’t press ‘\*’knob and press ‘▼’knob directly. If so, the setting temperature will drop 1℃ and the display window will display the set temperature. When loose the ‘▼’knob, the display window will relay the set temperature about 2 seconds. If 2 seconds later, press the ‘▼’knob again, the setting temperature will drop 1℃ again. If press the ‘▼’knob and not loose at least 1 second, the setting temperature will drop rapidly. Till the needed temperature reaches, then loose the ‘▼’knob.

## VI. Symbol explanation

1. Temperature display window shows “---”, means: a) Sensor of thermometer is not connected. b) The sensor is disconnected. c) The temperature tested is over 600℃
2. The temperature display window shows “S - E”, means: There is something wrong with the sensor of preheater, and need to check and replace the sensor of heater.
3. When operating, the temperature shows 50℃ without increasing, means: There is something wrong with the heater of preheater, and need to check or replace the sensor of heater.
4. Last radix point of temperature display window indicates the heating condition: Light of the point means not reaching the set temperature, if not means exceeding the set temperature, if flashing, means reaching the set temperature.

## VII. Internal connection picture:



: Means Caution or Warning



: Means Electronic



**Caution**

1. Before operation, make sure that input voltage of product is accord to the power supply.
2. Put the product on a safe working-desk, with a fireproof and heat resistant rubber pad.
3. When use the product, keep it away from the flammable substance, such as alcohol, plastic, paper, wood.
4. The product is operated with high temperature, so keep it safe and away from the children.
5. Operate with care, avoid scald, wear gloves and use heat resistant equipment to deal with PCB.
6. Replace the heat element assembly, examine and repair the unit the after the heat element assembly is completely cool down.
7. Suitable for unsoldering IC/BGA: Used when preheating is needed to unsolder the parts of PCB, select a temperature according to the character of things, test and write down the record, an then can be applied to practice.[Only can be used for preheating of PCB]
8. Never operate the product when not familiar with this machine, avoid danger to the operator and damage to the unit.
9. When not in use for long time, please remove the power plug from the unit.



### Care about electronic shock

- 1..Make sure that the power supply is well grounded, avoid danger of creepage.
- 2.Make sure that the power line is not covered with anything, avoid breakage of line and getting an electric shock.
- 3.Make sure the heater not impact with each other and avoid inleakage of liquid (such as water, alcohol).
- 4.When checking or repairing, please turn off the power and remove the power plug of the unit.

## I .Specification:

Heating Power: 600W

Plate Area: 130mmx1300mm

Plate Material: CERAMIC

Temperature Sensor: K Type Thermocouple

Range of Adjustable Temperature: 50℃ ~350℃

Temperature Stability:  $\pm 1^{\circ}\text{C}$

Temperature Range: Room Temperature ~600℃

Precision:  $\pm 8^{\circ}\text{C}$

Ambient Temperature: 0~40℃

Outer Dimension: 255(W) x200 (L) x63 (H) mm

Weight: 2.5kg

## II . Feature:

- a) Infrared ceramic heater, rapid heating, high efficiency, with a long service life.
- b) K type thermocouple temperature control, closed loop with zero Voltage heater switching, digital display, easy to operate.

The right digital position(digital position of 1)begins to flash. It indicates the digital position of 1 may be set.

- 4) Choose the needed digital to replace the digital position of 1. Use ‘▲’ or ‘▼’ knob to change the display digital. Use the method shown above to choose the digital position of 10. Press the knob of ‘\*’.

Here, press the knob of ‘\*’ .....

- a) Input the set temperature into inner memory;
- b) Display the set temperature.
- c) Begin to control heating elements.

**Notes: if power supply is cut off when setting temperature, the set temperature will not be memorized.**

- If the pressed time of knob is less than 1 second, the present set temperature will display 2 seconds. Then display the temperature of Pre-heat plate. When press the knob of ‘\*’, the power supply of heating elements will be out off.
- When the temperature is over the scope, the digital position of 100 will flash again. If the condition takes place, please input correct temperature value once again.

## 2. Set temperature on - line

In the work, if it is necessary to set temperature quickly and the electricity can not be cut off, this way may be selected.

Temperature rising:

Don't press ‘\*’ knob and press ‘▲’ knob directly. If so, the setting temperature will raise 1℃ and the display window will display the set temperature. When loose the ‘▲’ knob, the display window will relay the set temperature about 2 seconds. If within 2 seconds If

5	250℃	200℃	145℃
6	300℃	250℃	195℃
7	350℃	298℃	240℃

Note: Tested at 20℃, only for reference. When apply for practice, please test it yourself.

## V. Modes of temperature adjustment:

Two modes for setting temperature:

### 1.Regular setting:

The heating element is powered off when setting regularly.

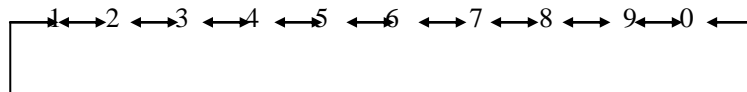
Press '\*' 1 second at least.

- 1) First, display the presetting temperature, then the digital position of 100 will flash. It indicates that it has entered into the setting mode of temperature. The digital position of 100 may be adjusted.
- 2) Choose the needed digital to replace the digital position of 100. Use '▲' or '▼' knob to change the display digital. It is shown below.



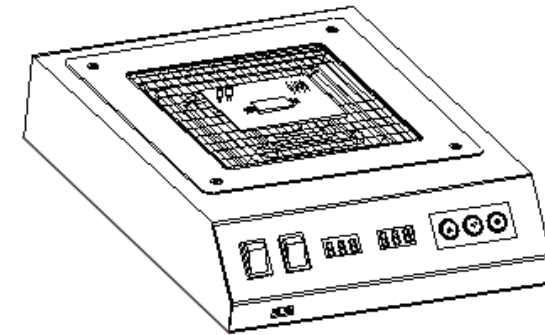
When the needed digital displays, press the knob of '\*' at once. The middle digital (digital position of 10) begins to flash, it indicates that the digital position of 10 may be set.

- 3) Choose the needed digital to replace the digital position of 10. Use '▲' or '▼' knob to change the display digital. It is shown below.

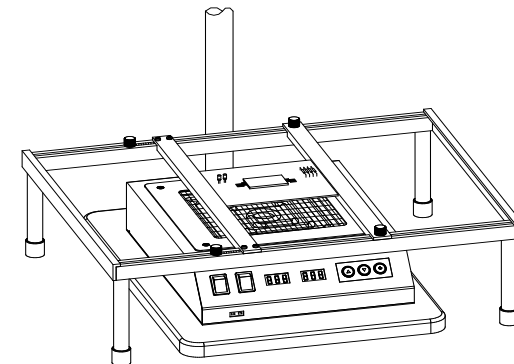


Press the knob of '\*'.

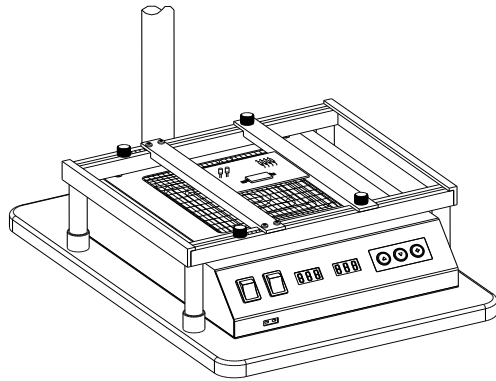
- c) Two switches control power and heating separately. Also read the preheat plate temperature easily under the condition of un-heating.
- d) Internal thermometer, convenient to test the temperature of PCB.
- e) Put the parts to be preheated on the stainless steel net or fixture of heating window (arranged in addition).



Picture 1



Picture 2



Picture 3

### III. Operation:

1. Place the preheater and PCB fixture as require.
2. Insert the plug into the socket which aligns with standard.
3. Turn on the power switch.
4. The unit (TEMP) will display the temperature of Pre-heat plate after displaying the set temperature for the 2 seconds.
5. Adjust the button panel if need to change the setting temperature (Ref temperature Adjustment).
6. Turn on the heating switch (WARM Position), the unit begins to heat. It will reach the setting temperature several minutes later.
7. When the temperature is stable, lay the PCB to be heated above the heating window (stainless steel net or fixture).
8. Turn off heating switch once finishing working (COOL Position).
9. Turn off power switch when finishing working, and remove the power plug if the unit is unused for a long time.

10. If use internal thermometer to test temperature (Such as temperature of PCB), connect preheater with K type thermocouple 15 minutes before testing.

#### Caution:

1. K type thermocouple has the +&- polarity, be careful not to connect oppositely. When testing, if the display figure doesn't increase, please check whether they are connected oppositely.
2. Insert the K type thermocouple till the end, connect firmly.

#### Warning:

1. Be aware of the high temperature on the plate and surrounding position at work.
2. When operating, avoid minisize article fall into the unit. If so, turn off the power and take it out.

#### Care about electronic shock:

Avoid inleakage of liquid (such as water, alcohol) into the surface of heater, that may lead to damage, electronic shock or a fire.

### IV .Comparison of setting temperature and preheating temperature of PCB

NO.	Temperature of Display Window	Test-Temperature of PCB placed on the steel net (10mm away from the heater)	Test-Temperature of PCB placed on the fixture (25mm away from the heater)
1	50℃	43℃	28℃
2	100℃	73℃	55℃
3	150℃	113℃	80℃
4	200℃	158℃	108℃