# VECTECH 974

## BGA REBALL REFLOW STATION

# OPERATION MANUAL

Thank you for purchasing the unit. Please carefully read this manual before operating the system. Store this manual in a safe, easily accessible place for future reference.

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# Ⅰ. Safety Instruction

**NOTE:**

- *For safety of system and operator, please read this manual carefully before operating the unit.*

**CAUTION:**

- *Top and bottom heater will be very hot during work, please don' touch the hot parts for protecting from hurting.*
- *Explosive and combustible object or gas and solvent is strictly prohibited in working areas.*

**CAUTION:**

*The unit with dangerous voltage! The inexperienced work is dangerous for operators. When the system in trouble and needs maintenance, it should be maintained by an experienced and authorized technicist or mavin, or contact with service agent and factory.*

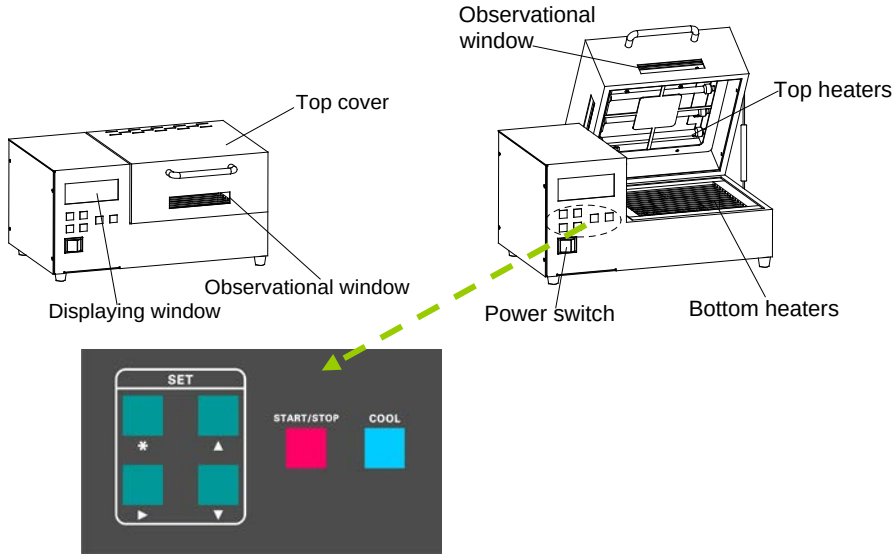
# Ⅱ. Summary

With closed-loop temperature control principle, the bottom heater and the top haters are middle wavelength infrared heaters and the top heaters are bright during the work. The temperature is stable and precise, and it can reduce the transverse difference in temperature of chip and protect the chip from damage because of uneven temperature. By the cooling fan, it can transmit the gas out from the soldering zone.

Besides, with transparent glass window, it can real-time look the melting state of the solder ball on the BGA pins. When finished the flow and open the top cover, the cooling fan will blow automatically.

5. Here, it can select calibration temperature window by clicking "▶" button.
   "1": Top Temperature Calibration.
   "2": Bottom Temperature Calibration.
6. In selected-temperature-calibration window, after the displaying temperature is stable, click "*" button and the digit flicks. Press the "▲" or "▼" button to select the data tested by the tip thermometer. After finishing the inputting, click "*" button to exit from the calibration.
7. If the temperature still has departure after calibration, you can repeat calibration in according with above steps.






## Ⅲ. Specification

| | |
|---|---|
| Input voltage: | 220V AC |
| Power of the top heater: | 1000W |
| Temperature range: | 50℃~350℃ |
| Temperature Stability: | ±3℃(Without air flow and no |
| Area of the heating: | load) 130mm×130mm |
| Work Channel: | 10 |
| Dimension: | 40 (W)×29(D)×20 (H) cm |
| Net weight: | 9kg |

# Ⅳ. Instruction about the Button and Socket

## 4.1 Basic Function of the Buttons

1. "**START/STOP**" Button

   Clicking this button can run or stop the heating process. After closing the top cover of the heater, click the START/STOP button to run the heating process, stop the heating process by clicking this button again.

2. **"COOL"** Button

   Clicking this button can run or close the cooling fan. Only stopping heating and the top cover has been opened, clicking the "COOL" button can run the cooling fan to blow cooling airflow. Click the "COOL" again, the cooling fan stop work.

3. "*****" Button

   Clicking this button can come into or exit from the parameter setting.

4. "▲ or ▼" button

   After into the parameter setting, click "▲ or ▼" button to select the parameter data.

5. "▶" button

   After into the parameter setting, click "▶" button into the next parameter, the selected parameter will flicker.

## 4.2 Combined Function of the Buttons

▲+▼+▶: In the work state and the LCD displays "", press the three buttons at the same time, it can open or close the sound.

* +▲+▼+▶: In the work state and the LCD don't display "", press the four buttons at the same time, the system will come into the temperature calibrating state.

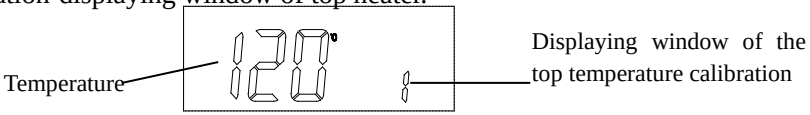


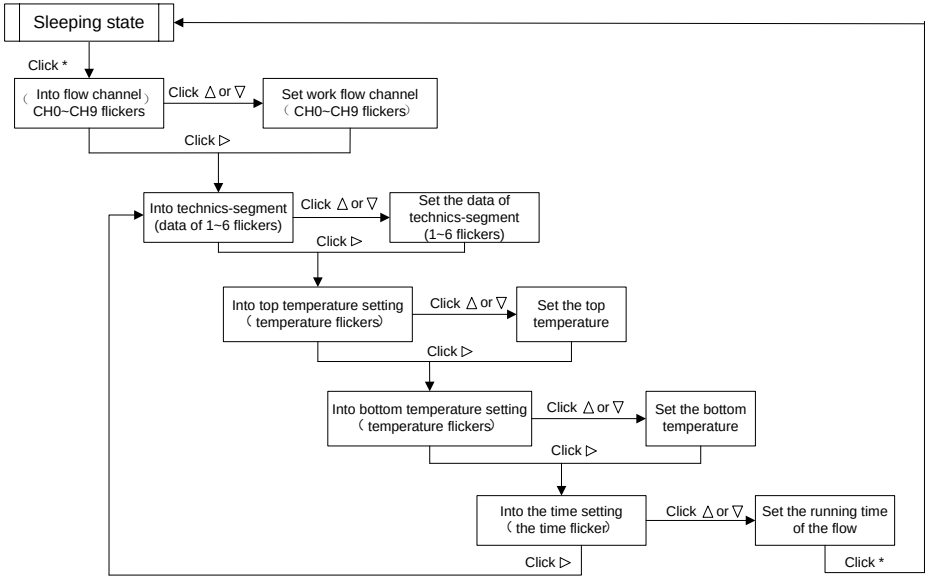
3. If the inputting password is right, it comes into the password change interface and the window displays "Password". If the inputting password is wrong, it will jump into the work interface.
4. After into the password change interface, press "*" button before setting new password. There are two times to input the password.
   - If the inputting passwords of two times are not same each other, the password setting is not successful. And it will jump into the work state and the parameters setting are locked.
   - If the inputting passwords of two times are identical, the password setting is successful. The new password will flicker three times and the system will sound "di-di-di" and then jump into the work state.

# Ⅷ. Temperature Calibration

After into the work state, it can come to calibration the temperature, including top heater, bottom heater. Suggest measure the temperature with the tip thermometer and the calibration steps are as followings:

1. Select the channel needing calibration, and then set the temperature of the first segment of the channel.
2. Close the top cover and then click "START/STOP" button, the heaters come to heat up.
3. When the displaying temperature is stable, test the temperature needing calibration, which may be the temperature of the top heater, bottom heater.
4. Press the "* ▲ ▼ ▶" buttons during work state. Once into the calibration state, the LCD displays "C" about 1second, which means it has come into the calibration state. And then it comes into the calibration-displaying window of top heater.






# Ⅶ. Password setting

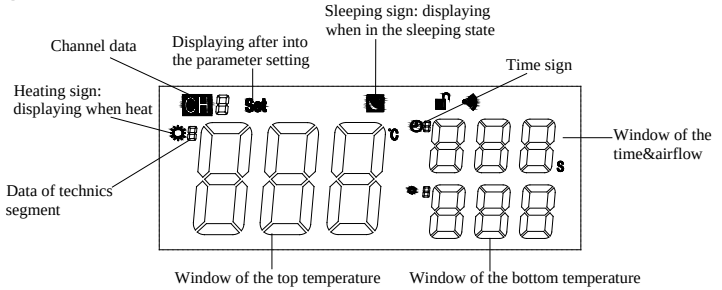
⚠ Caution:

- The initial password is 000.
- After set a new password, the parameters setting are locked and cannot do channel selecting. It only can select technic-segment (1~6).

1. Into the password inputting interface. Turn off the power switch. And then press the "▲" & "▼" buttons at the same time and not loosenly unit turn on the power switch, and the window displays "C" and "set". Press "*" button, it comes into the password inputting interface and the 100's digit will flicker.
2. Press the "▲" or "▼" button to input the password at the flickering digit. After that, press "▶" button to the next digit inputting.



## 4.3 Sign Instruction




Heating Display Window

| SIGN | FUNTION |
|---|---|
| CH | Channel sign. The displaying data is the current flow channel. |
| | Sleeping sign. When displaying, the system is in sleeping state. |
| | Sound sign. When displaying, the sound is open. |
| | Lock sign. When displaying, it only can work as the current flow channel and parameters. |
| | Lock open sign. When displaying, it can switch flow channels and parameters. |
| Password | Password-inputting sign. When displaying, it needs input password. |
| | Password change sign. When displaying, it can change the password. |
| Set | Parameter setting sign. When displaying, it is in parameter setting interface. |
| | Means the top cover and the cooling fan both are opened. |
| | Means the top cover is opened and the cooling fan is closed. |
| | Means the top cover and the cooling fan both are closed. |

# Ⅴ. Operation

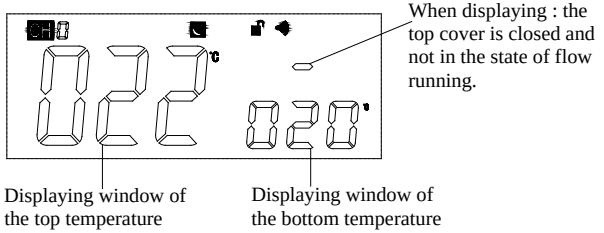
1. Take out the unit and then place it on the flat workbench.
2. Connect the power cord and turn on the power switch.
   ***Note: use the rated voltage.***
3. Close the top cover. After that，it can come to do the work by clicking the “START/STOP” button.
   ***Note: if the top cover is not closed, the top heater and bottom heater will not come to heat and the unit will not run the technics flow.***
4. After into the technics flow, first, bottom preheats. When the temperature of the bottom heats up to the setting temperature of the first segment of the flow, the top heaters come to heat up. Only when the temperature of the top heaters also heats up to the setting temperature of the first segment of the flow, it comes to run the technics flow.
5. At the last 15seconds of the last segment of the flow, the unit sounds each second, which means the technics flow will finish.
6. After finished the technics flow, the unit comes into the sleeping state and the LCD window displays “ ”.
7. Open the top cover and after about 10seconds, the cooling fan runs automatically and the LCD displays “ ”.
   - If don’t close the top cover and then click “*” button to turn off the cooling fan, the LCD displays “ ”.
   - If close the top cover and then click “*” button to turn off the cooling fan, the LCD displays “-”.
8. During the working, the flow can stop the work by clicking “START/STOP” button. After that, it can restart the flow until the temperature has less than the first segment.
9. During flow running, if open the top cover, the unit will stop heating and start alarming with sound “di-di” and LCD window flickering. After close the top cover, the alarm “sound & light” will stop and continue to heat.



***Note: when the time of the flow is set as 0, the unit will skip this segment and enter into the next segment.***

# Ⅵ. Parameter Setting

1. Turn on the power switch and the system is in the sleeping state, at the time, the LCD displays the real temperature of the top heater and bottom heater.




2. Firstly, into the parameter setting interface. At the sleeping state interface, click “*” button keeping about 1second not loosenly unitl the unit sound “di-” and LCD window displays “set” which means it comes into the parameter setting.
3. Secondly, select flow channel(CH0~9) or technics-segment(1~9). In the parameter setting interface, the channel data flickers. At the time, clicking “▲” or “▼” button can select the channel data (CH0~CH9), if not, clicking “▶” button can come into selecting the technics segment data (1~9).
4. Thirdly, set the parameter (temperature, air flow, time). The detailed operation can refter following picture.

***NOTE: There are ten channels and six technics segments. Only when the data flickers, it can come into the next channel or technics segment setting or parameters setting by clicking “▲”, “▼” or “▶” button.***