ACHI® 亚琪

ACHI®

www.easyBGA.com

IR12000

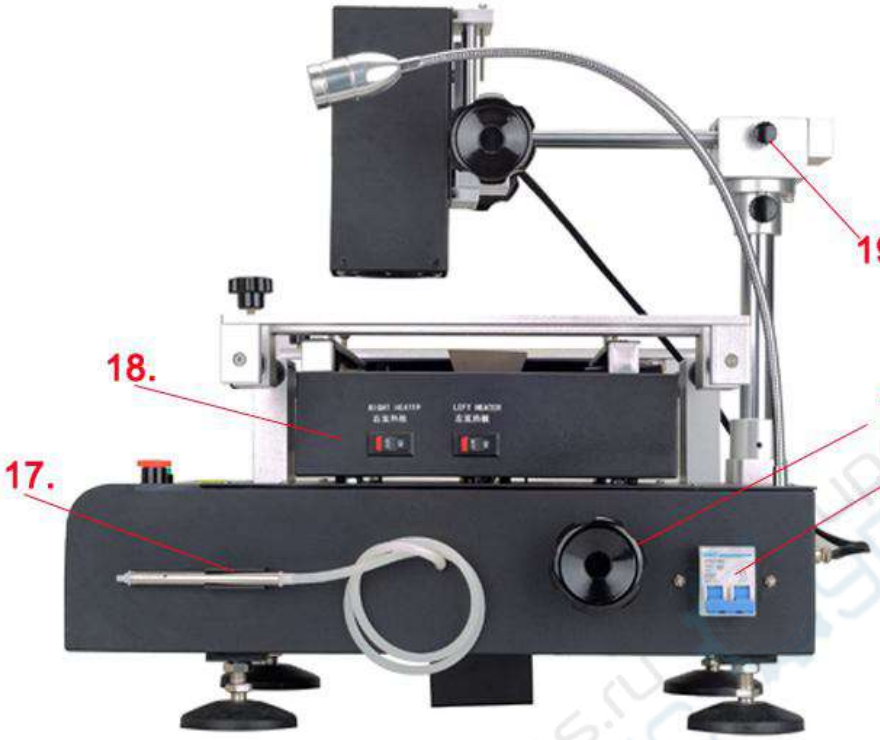
ACHI IR12000 BGA Rework Station power requirement:

Use a smaller power supply voltage fluctuation

Voltage fluctuations: 220V±10

ACHI IR 12000 specifications and structures

ACHI IR12000 TECHNICAL SPECIFICATIONS	
Price	US$ contact us please
Total Power	3650W
Heating Zone	3 zones,top,bottom and preheating
Upper heater Ceramic	ELSTEIN RFS/80 400 Ceramic(Made in Germany,CE Passed)
Upper heater consumption	IR 400 W
Upper heater size	80 mm × 80 mm
Bottom Preheater consumption	IR 2400W Hot air 800W,total 3200W
Bottom heater size	350 mm × 210 mm
Amount of Curves Storage	Unlimited curve storage
Curve display	On drawer design 7” high definition touch screen
Environmental Requirements	



Number	Name	Functions	Use ways
1.	Limit bar	limit the lowest position of the upper heating	Rotate to the right place
2.	Top heater cooling fan	Top heater cooling	
3.	Adjust the handle up and down	Adjust the upper zone of the position up and down	Rotating the handle
4.	LED Head light	Lighting equipment at work	Press the button
5.	Lower heating nozzle	To focus the hot air	Pull air from the BGA suitable location
6.	Emergency stop button	Emergency stop	Press the button
7.	light button	light switch	Press the button
8.	Touch screen	Data storage system platform	
9.	Temperature Interface	Connect an external galvanic , measure the actual temperature	Directly connect temperature line
10.	Infrared heating zone	BGA rework with warm-up	
11.	Cross flow fan	Cooling the PCB board after weilding	

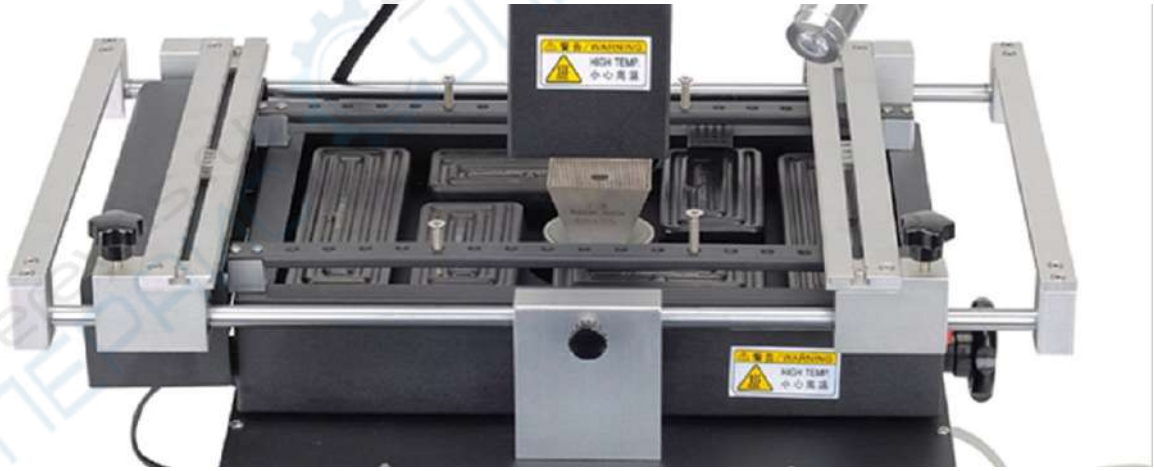
12.	PCB plywood	Move the right position , clamping the PCB	
13	Lower part of the supporting frame	Prevent the PCB board fall down	Move the right position to withstand
14.	Top heater	Infrared heating plate	
15.	Power switch		
16.	The lower temprature zone height adjustment handle	Adjust the lower nozzle distance from the PCB board	Rotating the handle
17.	Vacuum suction pen		
18.	Bottom IR Preheater select switch		
19.	Tension adjustment knob	lock the upper zone of before and after	Rotate the knob

ACHI IR12000 main features

1. ACHI IR12000 Top heater uses ELSTEIN RFS/80 400 Ceramic (Made in Germany,CE Passed) .The max temperature could up to 750°C.

2.Its high quality top heater and large top heater area(80*80mm) makes CPU block, Various shield cover and component slot get repaired much easier.

3. ACHI IR12000 was packaged with 6pcs rework support jig.There are 6pcs Screw holes in left and right sides,and 34pcs in the front and back sides,which could help to fix the mainboard in any position.



4. Embedded Industrial PC, Drawer design 7” high definition touch screen interface, PLC control, and instant profile analysis function. Real time settings and actual temperature profile display can be used to analyzed and correct parameters if necessary.

5. Three temperature areas(Top IR Heater,Bottom Hot air Heater and Preheating IR Plates) can independently heat and are multiple controllable and adjustable to ensure best integration of different temperature areas. Heating temperature, time, angle, cooling and vacuuming can all be set on the
interface.

6. There are 6-8 levels of variable and constant temperature controls. Massive storage of temperature curves which are Instant accessible according to different BGA.Curve analysis, setting and adjustment are all accessible via Touch Screen. Three heating areas adopts independent PID calculation to control heating process to enable more accurate and precise temperature control.

7. Uses advanced OMEGA K-type thermocouple and the temperature detection is much more accurate.

8. It uses High technology of closedloop Temperature control and automatic temperature adjustment system,with PLC and temperature module to enable precision temperature control of ±2 deg C.External temperature sensor enables temperature monitoring and accurate analysis of real time temperature profile.

9. Flexible and convenient removable fixture on the PCB board which protect sand prevent damage to PCB. It can also adapt to rework various BGA packages.

10. Various sizes of Bottom BGA nozzles, which can be adjusted 360 degree for easy installation and replacement.

11. It uses high powered blower to enable fast cooling of PCB board and prevent it from deformation. There are also internal vacuum pump and external vacuum pen to assist with fetching the BGA chip.

12. Including Voice "early warning" function. 5-10 seconds before the completion of uninstalling or welding,voice reminder / warning to get the workers prepared. Cooling system will start after vertical wind stopped heating. When the temperature drops to room temperature, the cooling process will stop,so that the machine will not age after heated up.

13. Equiped Emergency Switch and Automatic power-off protection device help avoid accident when emergency happens.

14. ACHI IR12000 can be connected to computer or notebook with USB interface to ungrade the Machine software.

Installation of ACHI IR12000 BGA rework station.

In order to the safety use, please make sure below:

1. Away from flammable and explosive materials.
2. Do not splash water or other liquids.
3. Well-ventilated, dry place.
4. Stable, flat areas less susceptible to vibration.
5. Clean with less dust room.
6. No placing heavy objects on top of the control box
7. Without the affect of air-conditioners, heaters and fans
8. Reserved for 30cm to move and rotate around the upper for the back of rework station

Cautions when using the rework station

1.Do not use fans or other devices directly to the BGA rework station when it works, otherwise it will lead to negative differential heating plate surface, burn the work piece.

2.When turned on, high-temperature heating zone cannot be any direct contact with the object , because it may cause fire or explosion ,and the PCB work piece should be placed on the PCB support shelves.

3. Do not shake BGA rework station, and move gently.

4. Do not touch the high fever area to avoid get burned.

5. When turned on, do not use the flammable spray, liquid or flammable gas near the repair station.

6. Do not try to modify BGA rework station when in power , otherwise it will cause fire or electric shock.

7. Electrical box has the high-voltage components, do not attempt to disassemble it.

8. If the metal objects or liquids fall into the repair station when it works , immediately disconnect the power , unplug the power cord until the machine to cool down , then completely remove litter , dirt ; if dirt left ,there is odor when reboot.

9. When abnormal heating or smoking immediately disconnect the power , and inform the technical service to repair. It needs to disconnect the wires between the electrical boxes and machine parts, and have to hold the plug, otherwise it leads to poor contact ,and does not work.

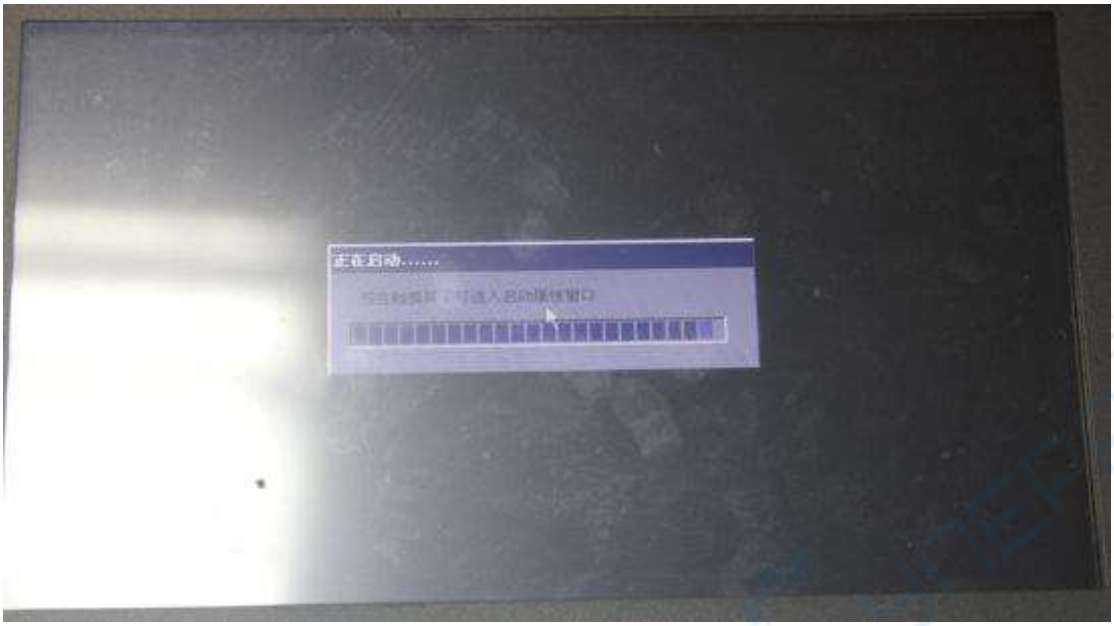
10. Note that the repair station not to press or run over other electrical equipment or power lines or communication cable , and it may cause device malfunction or cause fire or electric shock.

ACHI IR12000 touch screen use:

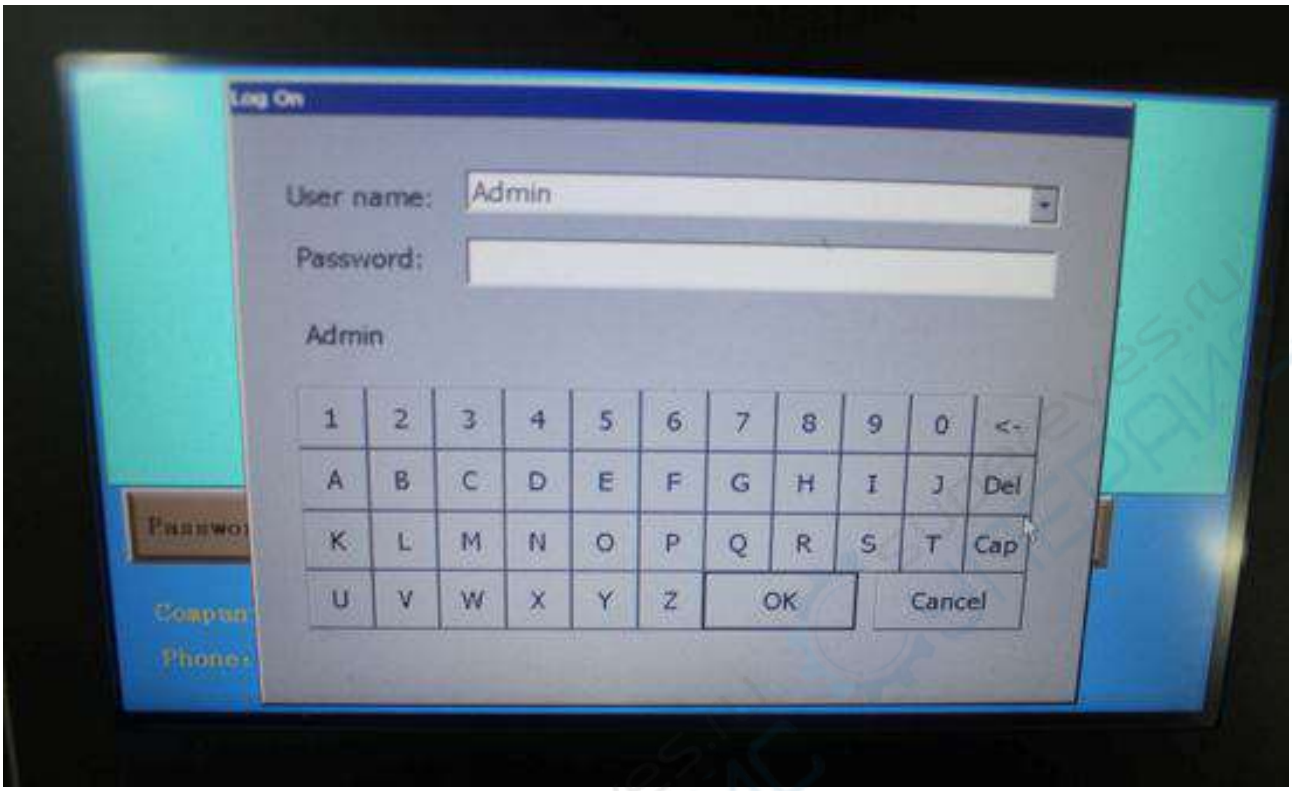
Operation steps:

1. Power on to turn on the ACHI IR12000 BGA rework station

2. The touch screen shows interface as below, you can select your target language .

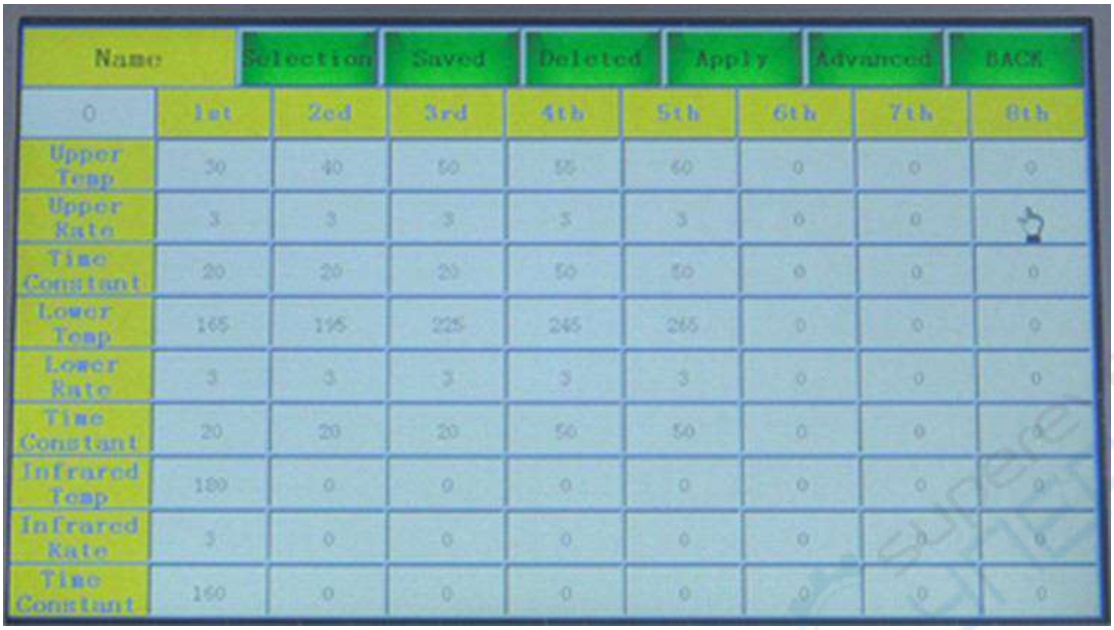


3. Choose English, turn up below interface:



4.After input password, below interface shows:

5. Click  it shows the target temperature, ramp up slope and time of the three independent temperature zones of current profile . The ramp up time is calculated by Seconds. Each three temperature zones can be set 8 ramp up temperature segments and 8 constant temperature segments.But for IR heating machine,3 ramp up and 3 constant temp segments are enough. You can certify the temperature parameters in the current interface, and it only can be run one time after you start the citified profile without being saved. If you want to save, you need to refer to how to save temperature profile. If the temperature profile is not the one you need, you can press BACK to go main interface.



6.Click 

and Click 

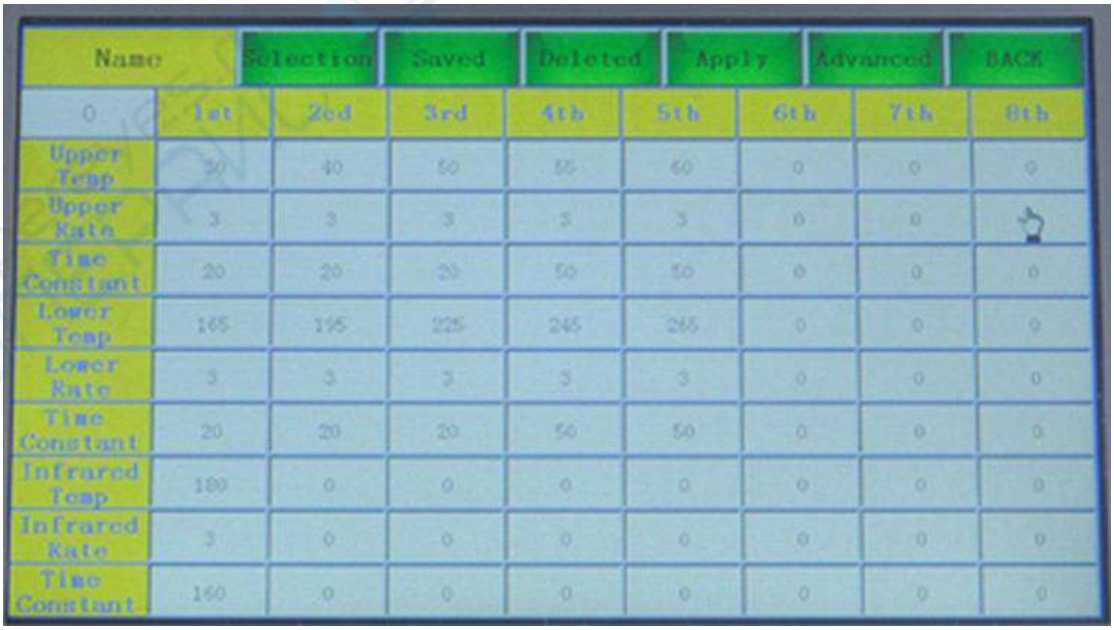
to run the current selected temperature profile.

7.Users can certify and save the parameters according to their own different needs .ACHI IR 12000 can store massive profiles and users can select any one to use at any time easily. Which saves much time.

How to select profile?

1.Click 

to enter into below interface:



2.Touch 

to enter below interface and select the temperature number then

to finish the selection, 

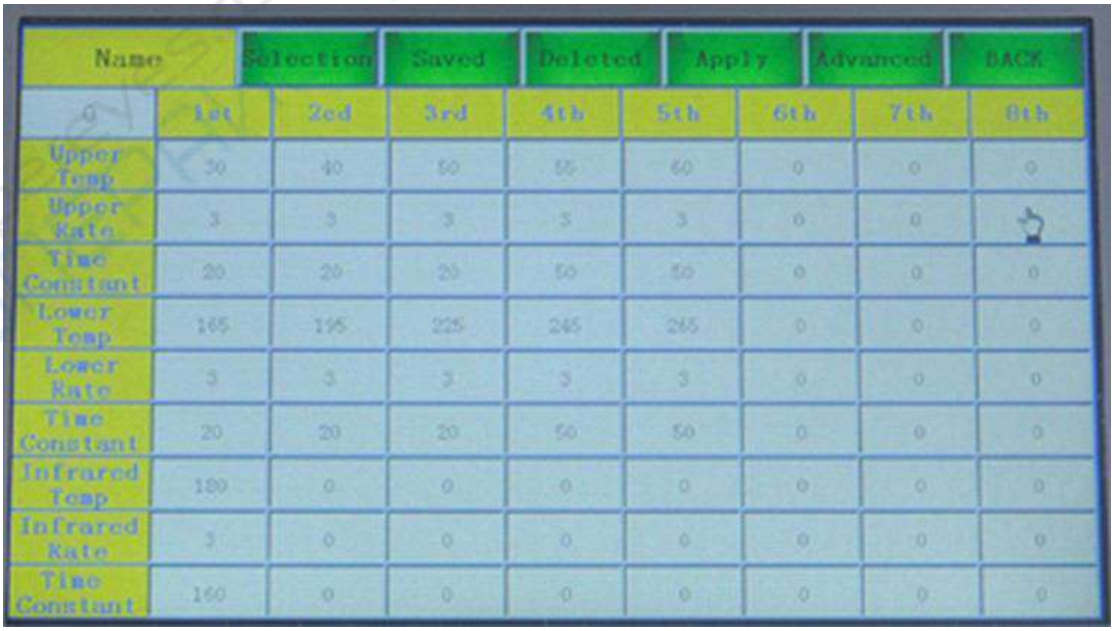
to main interface to 

and run the selected profile.

How to certify the parameters?

1.After click the 

to enter into the below interface:

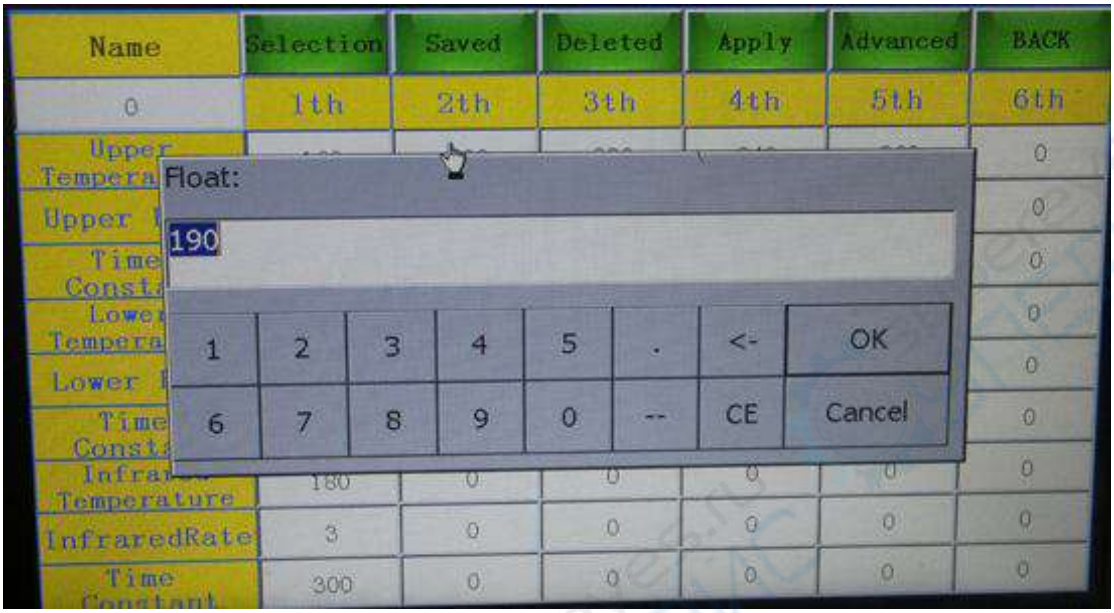


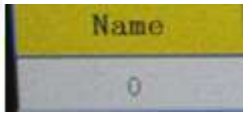
You can change the current parameters to your own setting as below. After certify the

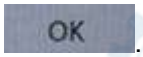
parameter, touch 

. After certifying all the parameters of the three temperature zones, then click 

to store the profile.

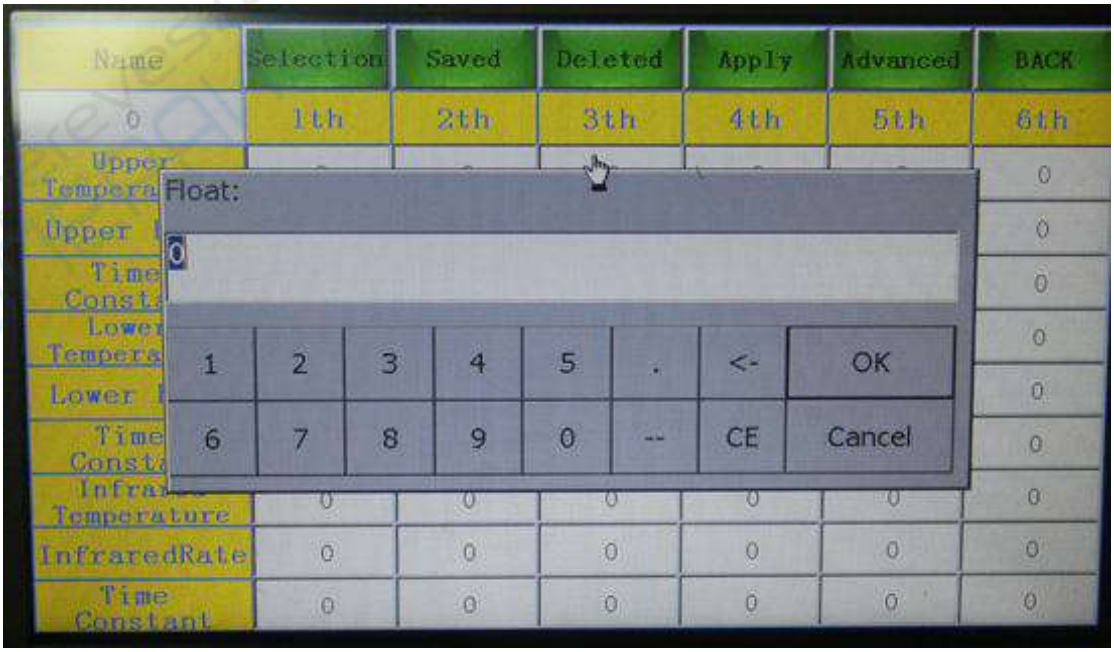


After save the profile, you can name the profile by touch 

and input the name then 

. Also you can save it by touching 

to save the current profile certified.



Back to touch Start, the BGA rework machine will run the certified temperature profile and meanwhile the previous profile will be deleted.

Generally speaking, the top target parameters are all ran or the top ramp up slope is 0, then the heating process is finished and the machine stop running and begin buzzle. If the cooling system and vacuum system already set, they will begin to work.

Once you touch 

during the heating process,the BGA rework station stop heating immediately.

Once you touch 

during the heating process, the button will flickering to let the machine run the current temperature constantly without any change. And touch 

again, the machine will proceed the normal heating process.

The parameters already set before the machine is shipped out from factory, users are no need to change.

ACHI IR12000 can monitor the whirling speed of the cooling fan for top infrared and bottom hot air heater. And the minimum whirling speed can be set. If the fan stop working or less than the minimum setting value, and the actual temperature of top and bottom heater is more than 300 degrees, the machine will stop heating immediately..

The rework system can automatically set the alarming time in advance. If set 10s, the machine will buzz 10s before the heating process finished. And the machine enters into cooling status, and the main interface will display the failure point to help operator resolve the problem soon.

Note: If the BGA rework station alarms caused by any failure, all function buttons will be locked until after the failure is resolved, then power off and power on, you can use it again.

Widely used temp profile parameters for reference

Leaded temperature profile setting for reference:

	1st	2nd	3rd
Upper Temp	150	180	220
Upper Rate	3	3	3
Time Constant	100	60	80
Lower Temp	150	180	210
Lower Rate	3	3	3
Time Constant	30	30	30
Infrared Temp	180	0	0
Infrared Rate	3	0	0
Time Constant	300	0	0

Lead free temperature profile setting for reference:

	1st	2nd	3rd
Upper Temp	180	220	240
Upper Rate	3	3	3
Time Constant	100	80	100
Lower Temp	150	180	210
Lower Rate	3	3	3
Time Constant	100	80	100
Infrared Temp	180	0	0
Infrared Rate	3	0	0
Time Constant	280	0	0

ACHI IR12000 Other cautions:

1.Power on the infrared BGA rework station to check whether bottom hot air nozzle are with cold blowing. If not, DO NOT touch START button to avoid burn the bottom heaters.

2.Different BGA reworking need different temperature profile.The maximum of each temperature segment cannot exceed 300℃.
If it is lead free soldering, users can set temperature profile according to the BGA solder ball soldering temperature.

3.When do desoldering, adjust cooling fan and vacuum button to automatic status. When the temperature is about to run out, the machine will buzz automatically, now use the vacuum suction pen to remove away the BGA chip quickly, then move the PCBA board from the fixture.

4.When do soldering, adjust the cooling fan to automatic status and turn off the vacuum suction system, and the temperature is about to running out, the machine will buzz to alarm, and the cooling fan begin to cool the BGA and PCB board, and the hot air nozzles blow cold wind now.Move the top heater up to make sure the infrared plate is 3-5cm away from the BGA surface and after getting cooling for 30 to 40 seconds, or the Start button indicator off, move the PCB board away from the fixture.

5.Before soldering the BGA, make sure the PCB pads and BGA solder balls are 100% ok. After place the BGA, we should do cosmetic examine. If they looks not ok, do not do soldering to avoid damaging the BGA and PCB boards.

6.The BGA rework station surface need to be cleaned often, especially the infrared area. Because residue on the area will affect the normal heating distribute and reduce the use life of heating.

Shenzhen Scotle Technology Comp.Ltd

ADD: Add: 038-068 2F Hand-maken Culture Street, phase III,
Shuiku Road, Bantian,Longgang, Shenzhen, China

Tel: (86) 755-83692414 **Fax**:(86) 755-89378931
Website: www.easyBGA.com www.achibgarework.com
E-mail: easybga@gmail.com