Automatic BGA Rework Station Pro-880+

Pro-880+ Automatic BGA Rework Station Description

PRO-880+ is equipped with 100x camera, 4 thermocouple for real time profiling, 12 bottom heater and Panasonic servo moving system, can positioning, dismantle, pick&place, soldering automaticlly. Patently designed with movable upper/bottom heater, can rework many BGA with one time positioning.

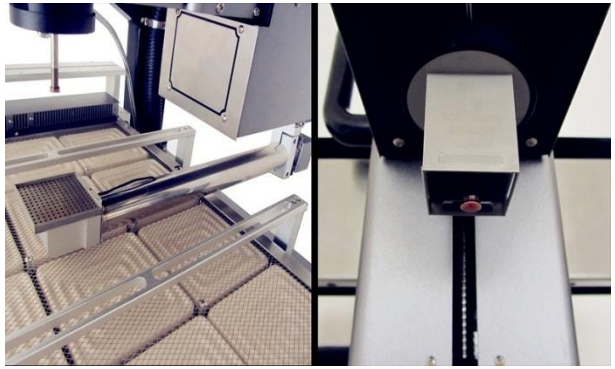
- High-definition optical alignment system(50X)
- Automated X- and Y-axis optics positioning
- Automated Z-axis for removal, placement, soldering
- Micrometer-adjust X-, Y-, and Ø-axis lead-to-pad alignment
- Four thermocouple inputs
- 540×420mm IR Bottom heater

Pro-880+ Specification	
PCB Specification	
PCB Size（Minimum）	8×8mm
PCB Size（Maximum Allowable）	615×480mm
PCB Size（Recommended Max.）	550×380mm
PCB Thickness	0.5mm-6mm
Component Specification	
Component Size	MAX 60*60mm MIN 2*2mm
Minimum BGA Ball pitch	0.3mm
Placement Precision	±0.01 mm
Heating System	
IR Bottom-heater	540×420mm（7200W）
Component heater（Top）	Hot Air 1200W
Component heater（Bottom）	Hot Air 1200W
Temperature Control	K-Type Thermocouple; Closed Loop PID
Machine Specification	
Main Power Source	Single phase AC380V 50/60Hz
Total Power Consumption	9700W
Machine Dimensions	L890×W940×H1000mm
Net Weight	140kg

Pro-880+ Automatic BGA Rework Station Deatails

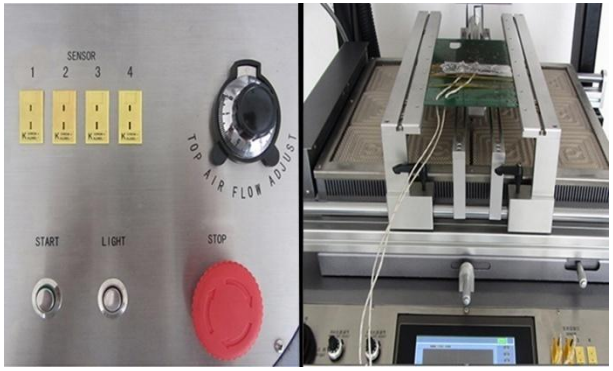
Independent three-zone temperature control system

Both upper and lower temperature zones are heated by hot air and the bottom zone is heated by infrared heater with a temperature accuracy of ±2℃. Both upper and lower heaters can heat components' top sides and PCBs' bottom sides simultaneously; bottom pre-heater can move along X and Y axis freely. Both upper and lower heaters can control 8 zones' temperatures simultaneously. IR pre-heating zones' heating area can be adjusted according to actual requirement so that PCBs are heated evenly.



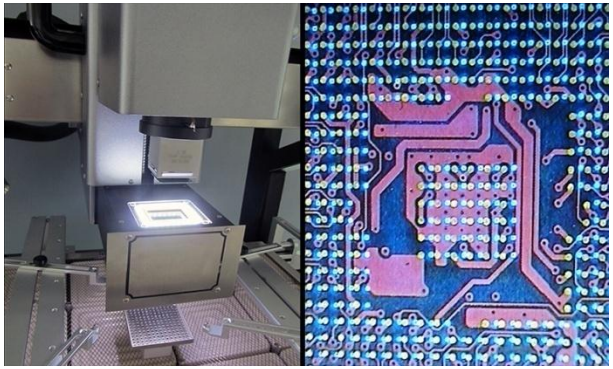
Large-area(12-Zone) Bottom IR heater

Both BGA chip and PCBs can be heated in a localized way simultaneously, at the same time, PCBs' bottom sides can be preheated by infrared heater in a large-area way complementarily, so PCB deformation during rework can be avoided completely.



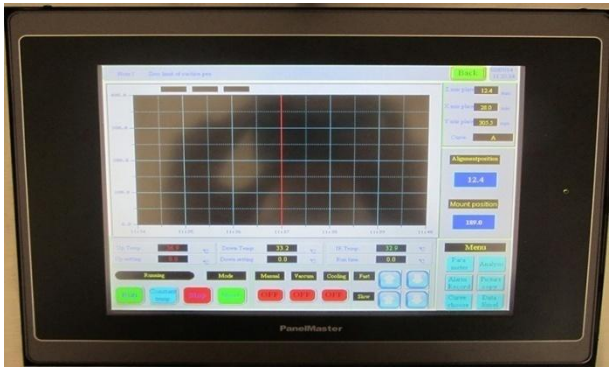
Real-Time Data Recording and Profile Analysis

High-precision K-type closed-loop thermocouple controllers and PID-parameter self-defining system are used. It can display seven temperature curves simultaneously and store numerous sets of user data. USB can be used to copy such data and real-time curve analysis is possible. The external temperature measuring interface enables precise temperature detection which can analyze and correct at any time the actually collected temperature data.



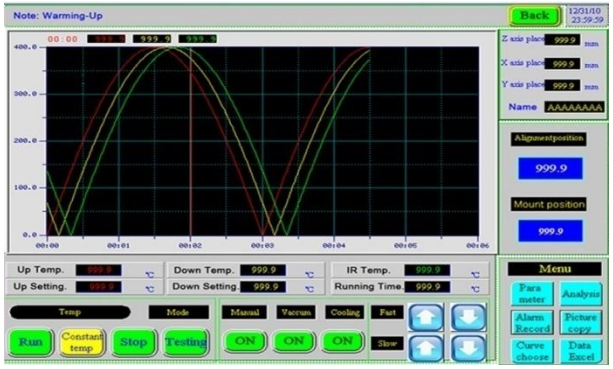
Accurate optical-alignment system

High-resolution adjustable color CCD optical visual alignment system is used for accurate optical alignment with spectral, amplification, de-amplification and fine-tuning functions and also equipped with automatic chromatism discrimination and brightness adjuster. Imaging resolution can be adjusted and displayed by 15” high-definition LCD to bring us a higher automation, thus avoiding human operating error completely, achieving the best rework for lead-free Socket775 and double-layer BGAs and other device.s So, it can adapt to lead-free rework totally.



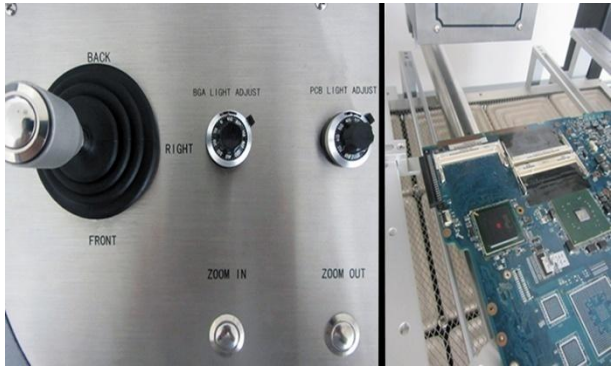
Multi-function humanized operating system

HD touch-screen man-machine interface is used where you can select “Debug interface” or Operating interface” to prevent any wrong setting. Upper heating device and mounting head are made in an integrated way. Screw transmission system is available. Z-axis movement is controlled by Panasonic servo control system which can control both positioning and heating points accurately and identify sucking and mounting heights automatically, thus bringing us the functions of automatic soldering and de-soldering. Temperature, time, slope, cooling status and alarm all are displayed on touch screen. It is also equipped with various titanium-alloy BGA hot-air nozzles which can rotate by 360° and are easy to install and replace.



Excellent Temperature curve management system

It can store groups of temperature settings and remember groups of various BGA chips’ heating points. You can analyze, set and correct temperature parameters with curves on touch screen at any time. Meanwhile, the machine does not need any external device (such as personal computer), but can download, print and save curve data by means of the built-in USB port.



Powerful locomotor system and Accurate Positioning device

The alignment system uses a joystick as controller which can control manually the movement of the optical system forwards, backwards, leftwards, and rightwards so that you can observe BGA chips' four corners and center how the alignment status is, thus putting an end to "Observation blind-angle". X axis, Y axis and R angle are fine-tuned by micrometer to bring us an accurate alignment with a precision of ±0.01mm. It is equipped with an infrared laser-positioning device so that locking is realized automatically after positioning is finished.

Easy Adjust PCB Clamping System

PCB positioning is realized by means of V slots for quick, easy and accurate positioning to lay out different PCBs and position PCBs with different sizes. Flexible, portable and movable universal fixture can protect PCBs and prevent PCB deformation and damage to components along PCB edges, thus ensuring the success rate of your reworks and adapting to the reworks of BGAs with various encapsulation sizes.

Superior safety and protection functions

This unit is CE certified. It is equipped with an emergency stop switch and automatic power-off protection device for any accident and titanium-alloy fence is additionally available to prevent hands from burning or objects from falling which may damage your infrared heating device. After soldering or de-soldering is finished, alarm will be triggered. If temperature gets out of control, the circuits can be cut off automatically. Dual over-heat protections are available and temperature parameters are protected by password. Superior safety and protection functions ensure that persons, equipment and work-pieces are always safe.

A complete set of vacuum suction nozzles

BGA rework station Pro880+ is equipped with 2 vacuum suction nozzles (1cm and 0.8cm) which can surface-mount max. 60*60mm and min. 10*10mm BGA chips (if proper sucking cup is available, min. 2*2mm BGA chips can also be mounted).

360°-rotation Top/Bottom air outlet

BGA rework station Pro880+ is equipped with 3 different titanium-alloy air outlets (35*35mm, 28*28mm, and 20*20mm). The air outlet can be rotated by 360° arbitrarily for easy installation and replacement. It is built in with magnets so replacement can be performed without any tools. It can rework almost all kinds of the BGA chips. Bottom air outlet's specifications: 50*50㎝, which satisfies the requirement of most reworks. Upper, lower and bottom air outlets of different size can also be made according to customer requirements.

Pro-880+ Automatic BGA Rework Station Include

1 pc.Pro-880+ Automatic BGA Rework station with：

High-definition optical alignment system(100X)
Auto Z-axis motion and dual-pressure sensor
Micrometer adjustment for X/Y-axis and R-angle(Calibrated)
12-Zone IR Bottom heater
4 Thermocouple inputs
Laser alignment device can help realize fast alignment
2 adjustable PCB bottom-side support beams
4 adjustable PCB bottom-side support Pins
Touch Screen + PLC+ High precision intelligent control module
LED Light
15“ LCD Display

1 pc.50*50mm Bottom heating outlet
1 pc.20*20mm Top heating outlet
1 pc.28*28mm Top heating outlet
1 pc.35*35mm Top heating outlet
1 pc.8mmVaccum Nozzle
1 pc.10mm Vaccum Nozzle
4 pc. silicone tips
3 pcs. K-type thermocouples with connectors
1pcs. Top heater
1pcs. Bottom IR heater

1 set. Toolkit
1-Year Parts Warranty

Pro-880+ Automatic BGA Rework Station Video

Youtube Link: http://youtu.be/9Gpb6nBV9as