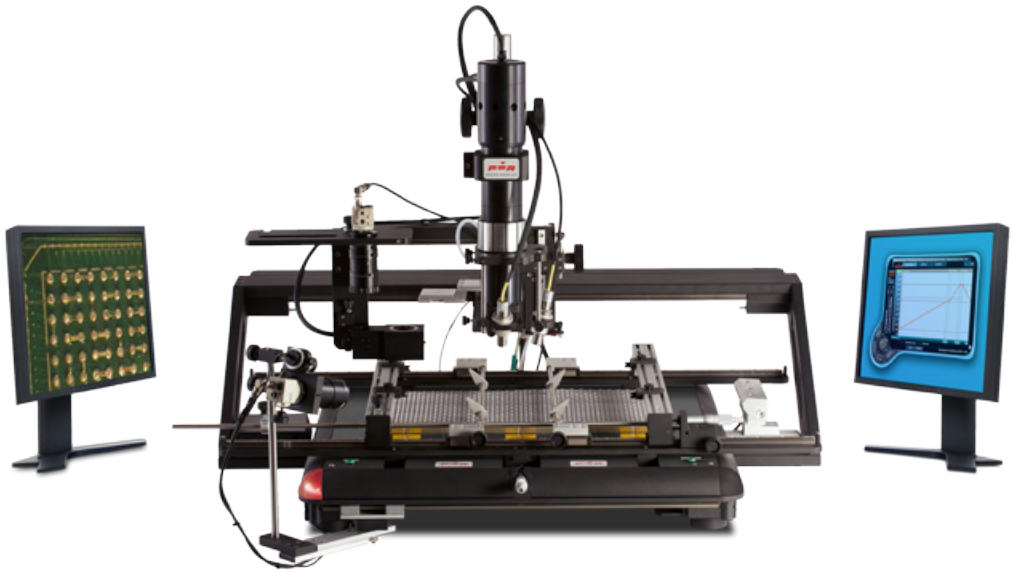
Focused IR SMT/BGA Rework Systems

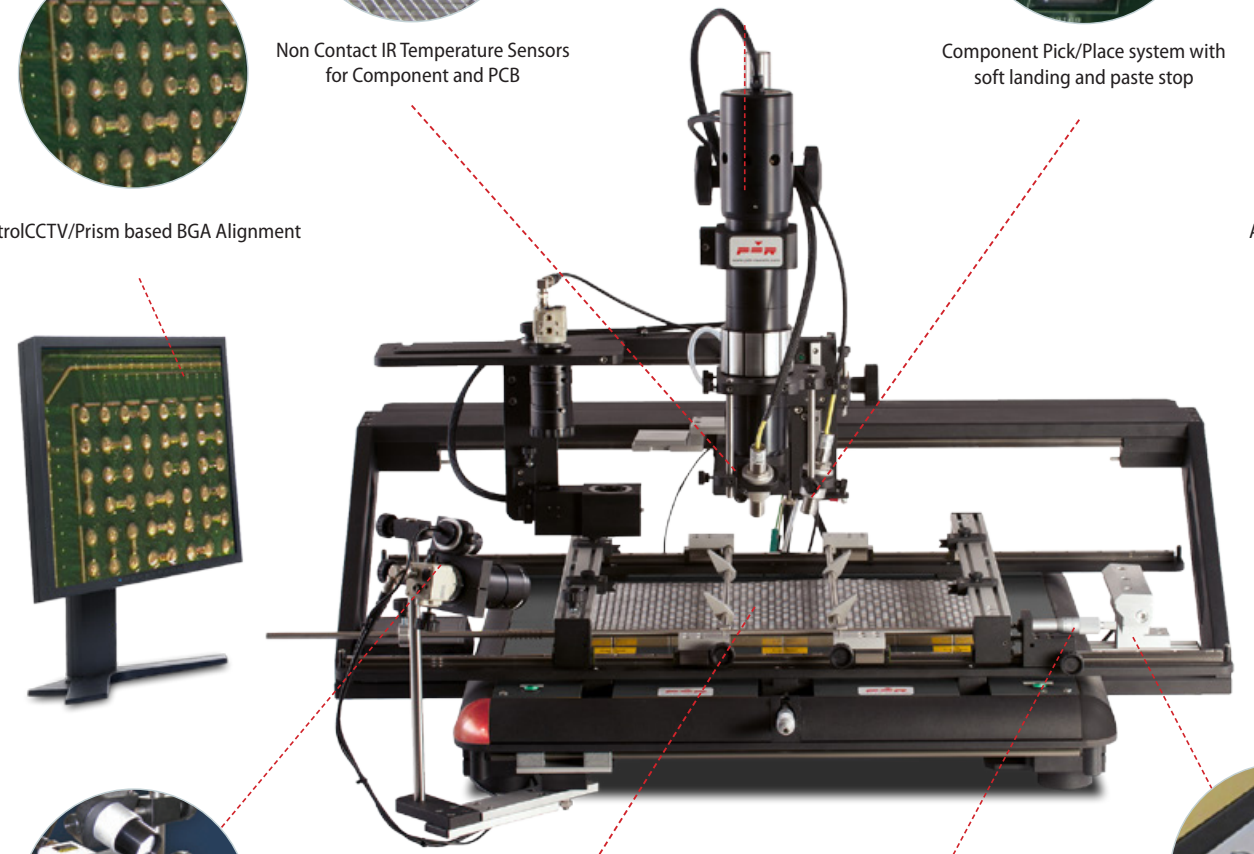


PDR's Focused IR SMT/BGA Rework Station
For Large PCB, BGA Rework

PDR IR-E6 Evolution XL BGA Rework Station

Advanced features:

- **Advanced Focused IR component heating**
  150W, lens based Focused IR heating with adjustable image system
- **Quartz IR PCB preheating**
  3200W, two zone (500mm x 270mm heating area)
- **Precision Component Pick and Placement**
  Advanced Professional vacuum placement system
- **Component Nest/Flux Application Facility**
  Integrated nest with flux dip tray or component print frame
- **Precision PCB Handling**
  Table de déplacement Macro-Micrométrique X/Y avec doigt support anti-flambage
- **Component Temperature Sensing**
  Standard non-contact IR temperature sensor
- **PCB Temperature Sensing**
  Standard non-contact IR temperature sensor
- **Advanced Thermal Process Control**
  Software based auto profile thermal control
- **Camera/Prism Based BGA/CSP/QFN Alignment System**
  Split beam prism system for simultaneous PCB/component viewing
- **Auxiliary Process Camera (Optional)**
  Auxiliary process observation camera
- **Forced Air PCB Cooling (Optional)**
  Highly effective, integral PCB cooling with air knife system

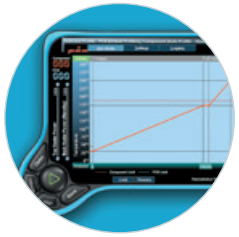


ControlCCTV/Prism based BGA Alignment

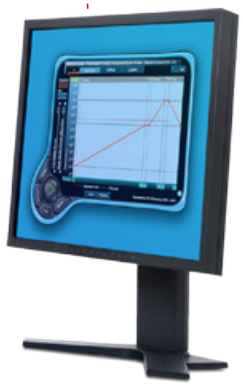
Non Contact IR Temperature Sensors for Component and PCB

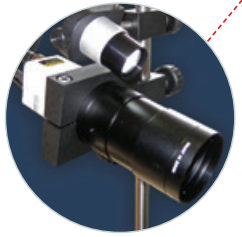
150w Focused IR Component Heating

Component Pick/Place system with soft landing and paste stop

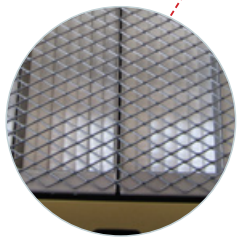


Auto Profile Software Control





Auxillary Process Observation Camera



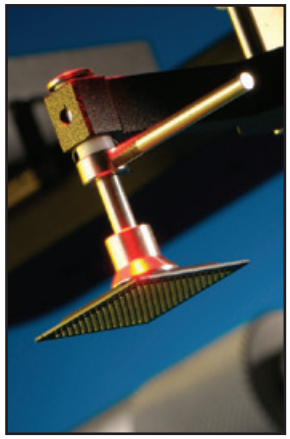
3200w (2 Zones) Quartz IR PCB Preheating

High Capacity Ultra Accurate XY Table

PCB Cooling with Forced Air (Optional)

PDR IR-E6 Evolution
BGA Rework Station

BGA rework without the complications



The PDR IR-E6 SMT/BGA rework station, using PDR's patented Focused IR technology, has been specifically designed to cope with the challenges of repairing today's Large PCB assemblies.

The station is tool free, gas free, instantly/precisely controllable, clean, modular, upgradeable and produces 100% yield BGA rework without any complications. It provides the extremely high levels of profiling and process control necessary for the effective rework of even the most advanced packages, including SMDs, BGAs, CSPs, QFNs, Flipchips and is ready for 0201 and lead-free applications. The IR-E6 is well specified yet can be easily configured to your exact requirements, with a good range of advanced features to choose from, allowing the operator to quickly and safely rework all types of components without overheating the component, adjacents or the PCB. It uses all the proven attributes of PDR's Focused IR technology, first introduced in 1987 and now used worldwide by over 4000 customers.

Simple BGA rework procedure

BGA rework poses the problem of accessing hidden interconnects in a high density environment. Consequently, it requires a station that is able to access the hidden joints without affecting neighbouring components. A station that is safe, gentle, adaptable and, above all, simple to operate. The IR-E6 is such a station. It is so easy to operate that technicians are able to instantly achieve excellent process control for BGA/SMT rework without the complexities and frustrations normally associated with 'high-end' rework stations.

Paste - Place - Reflow

With the aid of excellent mechanics, optics and control, operators can simply pick up the fluxed BGA from the nest, align it, place it onto the PCB's pads and then reflow with the station's accurate PC based, closedloop component and PCB temperature control.

Details and specifications of advanced features available

- **Advanced Focused IR component heating**
  150W, lens based Focused IR heating with adjustable image system
  PDR lens attachments with IR image from 4 to 70mm diameter
  Reworks all SMDs/ BGAs/QFNs/CSPs including 0201s + lead free applications

- **Quartz IR PCB preheating**
  High power, medium wave quartz IR
  Large area IR PCB preheater system
  3200W, two zone, 2 x 1600W, (500mm x 270mm heating area)

- **PDR lens attachments**
  F150 (Ø4 - 18mm spot size) optional
  F200 (Ø10 - 28mm spot size) optional
  F400 (Ø12 - 35mm spot size) optional
  F700 (Ø25 - 70mm spot size) standard

- **Advanced Professional Vacuum Placement System**
  With precise 'pick and place' action, Y/Z axis movement and rotation
  Soft component landing, Z-axis stop, LED guidance for paste placement
  Interchangeable pick-up heads for different applications

- **Component Nest for Precision Pick-up and Flux Application**
  With integrated nest with 'component print frame', dip tray or mini stencil paste-head facility for flux and solder paste application.

- **Advanced Professional Macro-Micro X/Y PCB Table**
  Precision micrometer (micro) X/Y and micro rotation control
  +/- 10 microns (.0004") movement in X/Y directions
  Macro movement in X/Y directions
  Up to 18" x 24" (460mm x 620mm) PCB capacity with lockable X/Y axis
  X/Y Table has 1" x 1" micro- movement plus macro adjustment
  System has a gantry feature. Topside of machine moves in X and Y direction

- **Component Temperature Sensing - Non-contact, IR Sensor**
  Manually adjustable, K-type non-contact IR sensor, Ø7-10mm spotsize
  Real time monitoring of component temperature throughout process

- **PCB Temperature Sensing - Non-contact, IR Sensor**
  Manually adjustable, K-type non-contact IR sensor, Ø7-10mm spotsize
  Real time monitoring of component temperature throughout process

- **Auto Profile Process Control Software**
  PDR ThermoActive software suite
  Digital controller with multi-functional features
  Advanced, Windows 7+ ThermoActive software suite
  Two channel, real time, closed loop component and PCB temperature control
  'Auto-profile' temperature profiling, data logging and reporting
  Multi K-type thermocouple (x4) capacity for temp/time testing

- **Camera/Prism Based BGA/CSP/QFN Alignment System**
  Split beam prism system for simultaneous PCB/component viewing
  Integral LED lighting system with illumination level control
  Full colour compact camera and flat screen colour monitor
  High quality zoom lens with up to x50 magnification
  Precise X/Y axis mounting system

- **Auxiliary Process Camera (Optional)**
  Auxiliary process observation camera
  Integral LED lighting system with illumination level control
  Full colour compact camera with rotation movement
  High quality zoom lens with up to x50 magnification

- **Forced Air PCB Cooling (Optional)**
  Highly effective, integral PCB cooling with air knife system
  Switched compressed air flow, directed under the PCB

Bench Top Requirements

Top heat power	150W IR
Back heater power	3200W, 2 Zone, 2 x 16700W
Voltage/frequency	208-240 volts 50/60Hz, up to 3KW
Typical components	CSPs, BGAs, uBGAs, QFNs, QFPs, PLCCs, SOICs, small SMDs
Bench area	2000mm (w) x 1000mm (d)
Weight	100 Kg

The above features are mostly optional and also, PDR reserves the right to improve or change specifications without giving notice.

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PDR's products are available worldwide via our international distributors, all offering professional sales and support.

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