



## **PDR IR-E6 Evolution 3000 Rework Station**

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





## Advanced Features

- **Focused IR component heating**  
PDR's patented tool-free IR technology
- **Quartz IR PCB preheater**  
Large area (520mm x 320mm) 3000w system
- **Advanced Precision component pick and placement**  
Lift from component nest plus low force landing and rotation
- **Component nest/flux application facility**  
Using flux dip tray or component print frame
- **Precision X/Y/Theta PCB table**  
Extendable with macro-micro movement and micrometer adjustment
- **Auto-profile process control package**  
With PDR's ThermoActive V4+ software suite
- **BGA/BGA alignment**  
High magnification, CCTV/prism based system
- **Auxiliary Process Camera (Optional)**  
High magnification, CCTV/prism based system
- **Non-contact component temperature sensing**  
Real time measurement of component temperatures
- **Precision PCB temperature sensing**  
Contact or non-contact temperature sensors

## BGA rework without the complications

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

The system 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 3500 customers.

## Simple BGA rework procedure

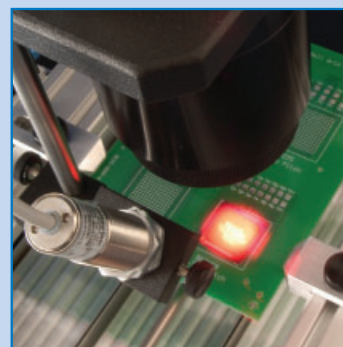
BGA rework poses the problem of accessing hidden interconnects in a high density environment. Consequently, it requires a system that is able to access the hidden joints without affecting neighbouring components. A system that is safe, gentle, adaptable and, above all, simple to operate. The IR-E6 is such a system. 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 systems.

## 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 system's accurate PC based, closedloop component and PCB temperature control.

## Detailed features and specifications

- 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 including 0201s + lead free applications
- Quartz IR PCB preheating**  
 High power, medium wave quartz IR  
 Large area, 3000w, two zone, 520 x 320 mm maximum heating area  
 Zone 1 = 5 x 300w = 1500w  
 Zone 2 = 10 x 150w = 1500w
- 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
- Precision component pick and placement systems**  
 Advanced professional vacuum placement system  
 With precise 'pick and place' action, Y/Z axis movement and rotation soft component landing and Z-axis stop for placement in paste  
 Interchangeable pick-up heads for different applications
- Component nest for precision component pick up**  
 With 'component print frame', dip tray, or mini stencil paste-head facility for flux and solder paste application
- Precision macro-micro X/Y PCB table**  
 Precision micrometer (micro) X/Y and micro rotation control  
 +/- 10 microns (.0004") movement in X/Y directions  
 Macro override facility in X/Y directions  
 Up to 18" X 24" (460mm X 620mm) capacity with lockable X/Y axis  
 XY 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  
 Real time monitoring of component temperature throughout process
- PCB temperature sensing - contact or non-contact sensors**  
 Manually attached, K-type thermocouple contact probe, or manually adjustable, K-type non-contact IR sensor (optional)  
 Real time monitoring of PCB temperature throughout process
- Auto profile process control with PDR ThermoActive software suite**  
 Type 5, digital controller with multi functional features  
 Advanced, Windows XP/Vista/NT ThermoActive V4+ software suite  
 Two channel, real time, closed loop component and PCB temperature control  
 'Auto-profile' temperature profiling and data logging  
 Multi K-type thermocouple (x4) capacity for temp/time testing



- CCTV/prism based BGA/uBGA alignment system**  
 Split beam prism system for simultaneous PCB/component viewing  
 BGA, CSP and leadless component alignment  
 Integral LED lighting system with illumination level control  
 Full colour 1/2" CCTV camera and 17" TFT/LCD Flat screen colour monitor  
 High quality zoom lens with up to X50 magnification  
 Precise X/Y axis mounting system

### Bench Top Requirements

Top heat power	150W IR
Back heater power	3000W IR
Voltage/frequency	230 volts 50Hz
Supply	15A
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.

## **PDR**

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

For contact, product and company details please visit [www.pdr-rework.com](http://www.pdr-rework.com)



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