

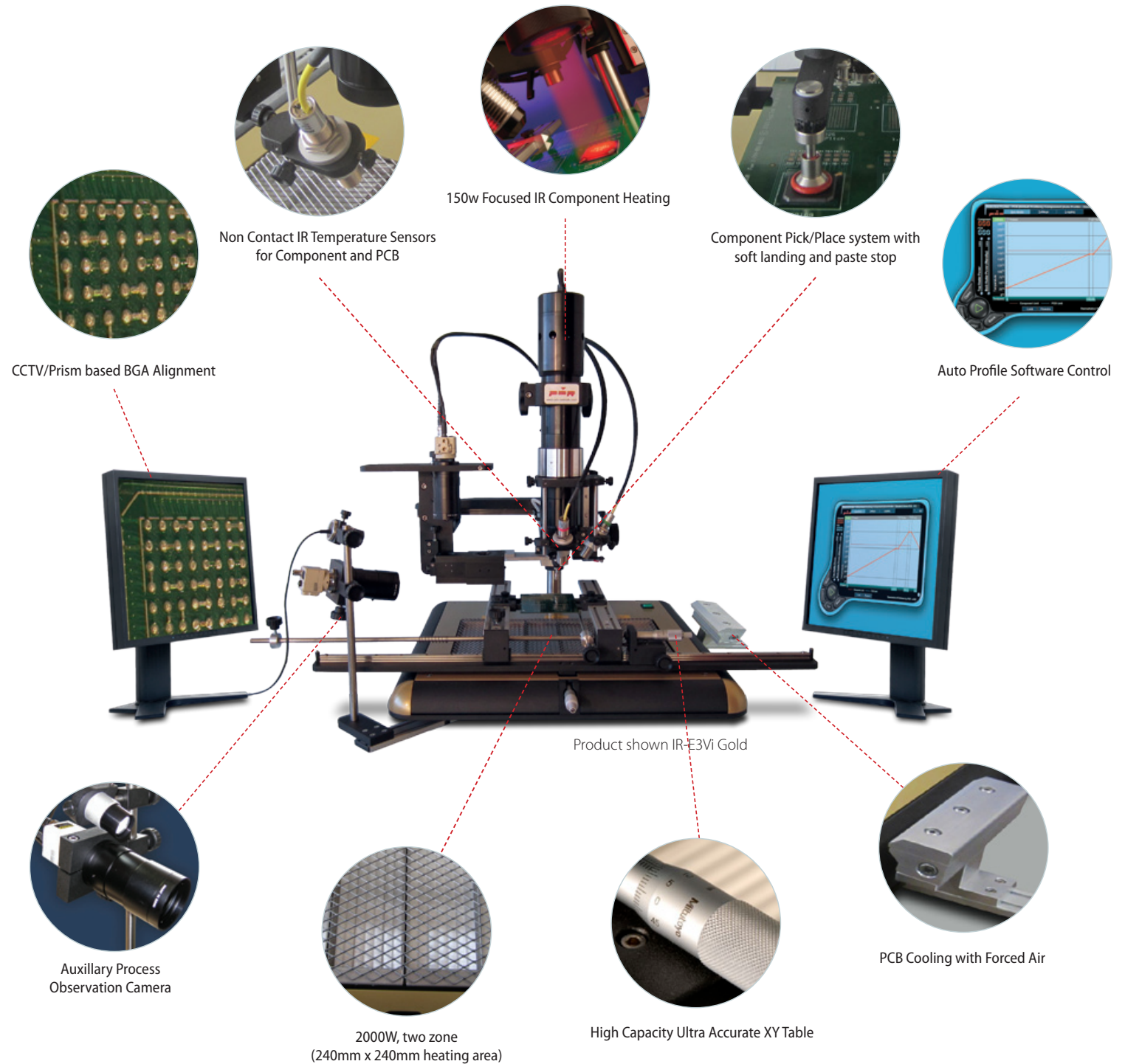
PDR's Focused IR SMT/BGA Rework System
for Ultimate Performance in BGA Rework



PDR IR-E3 Evolution
BGA Rework System

Advanced features:

- **Advanced Focused IR component heating**
150W, lens based Focused IR heating with adjustable image system
- **Quartz IR PCB preheating**
2000W, two zone (240mm x 240mm heating area)
Optional 2800W, 3 zone (240mm x 360mm 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**
Advanced Professional PCB table with macro-micro X/Y
- **Component Temperature Sensing**
Standard non-contact IR temperature sensor
- **PCB Temperature Sensing**
K-type wire thermocouple
Optional 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



BGA rework without the complications

The PDR IR-E3 SMT/BGA rework system, using PDR's patented Focused IR technology, has been specifically designed to cope with the challenges of repairing today's 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-E3 can be easily configured to your 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 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-E3 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, closed loop 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
- PCB Temperature Sensing - Non-contact, IR Sensor (Optional)**
 Manually adjustable, K-type non-contact IR sensor, Ø7-10mm spotsize
 Real time monitoring of component temperature throughout process
- 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
- Quartz IR PCB preheating**
 High power, medium wave quartz IR
 Large area IR PCB preheater system
 Standard 2000W, 2 x 1000W zones (240mm x 240mm heating area)
 Optional 750W, single zone (120mm x 120mm heating area)
 Optional 2800W, 3 zones, 1000w + 1000W + 800W
 (240mm x 360mm heating area)
- 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 12" x 18" (300mm x 450mm) PCB capacity with lockable X/Y axis
- 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**
 Manually attached K-type wire thermocouple
 Optional non-contact IR sensor with real time temperature sensing
- 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	750W, 1600W, 2000W or 2800W IR
Voltage/frequency	208-240 volts 50/60Hz, up to 3KW
Typical components	CSPs, BGAs, uBGAs, QFNs, QFPs, PLCCs, SOICs, small SMDs
Bench area	1400mm (w) x 600mm (d)
Weight	65 Kg

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