

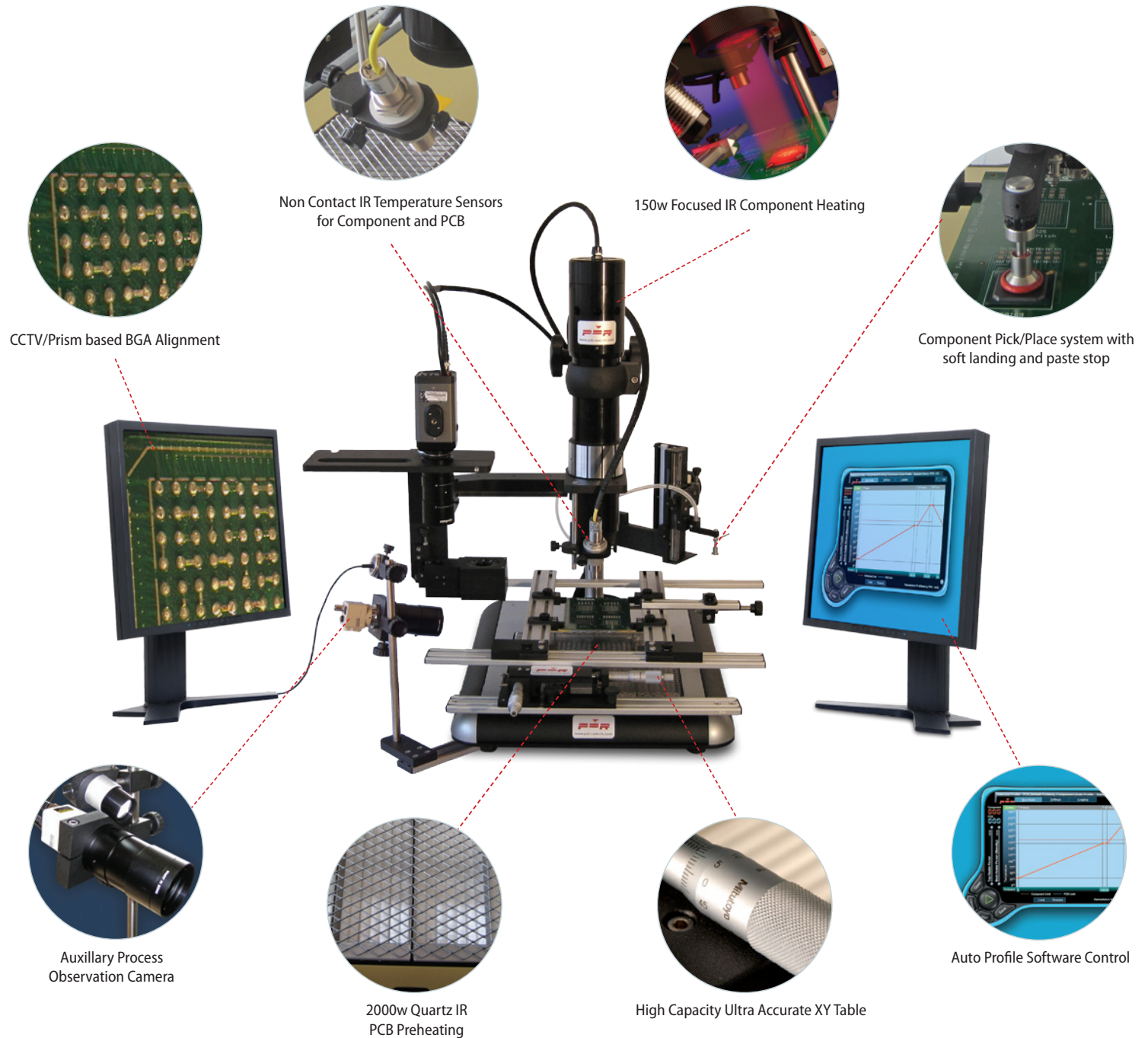
PDR's Focused IR SMT/BGA Rework Station  
for Professional Performance in BGA Rework



**PDR IR-D3 Discovery**  
BGA Rework Station

## Advanced features:

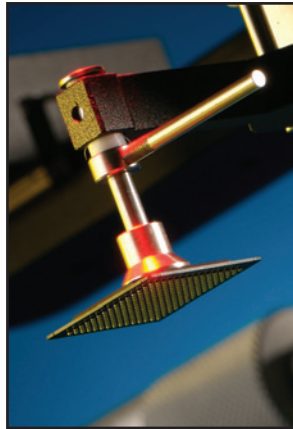
- **Advanced Focused IR component heating**  
150W, lens based Focused IR heating with adjustable image system
- **Quartz IR PCB preheating**  
2000W, two zone (240mm x 240mm heating area)
- **Precision Component Pick and Placement**  
Professional vacuum placement system
- **Component Nest/Flux Application Facility**  
Optional Jaw mounted nest with flux dip tray or component print frame
- **Precision PCB Handling**  
Professional PCB table with 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 (Optional)**  
Auxiliary process observation camera
- **Auxiliary Process Camera (Optional)**  
Auxiliary process observation camera



## BGA rework without the complications

The PDR IR-D3 Discovery rework station, using PDR's patented Focused IR technology, has been specifically designed to cope with the challenges of repairing today's 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-D3 Discovery is keenly priced and 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 3500 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-D3 Discovery 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.

## Align - Place - Reflow

With the aid of excellent mechanics, optics and control, operators can simply pick up the fluxed BGA from the nest plate, align it, place it onto the PCB's pads and then reflow with the station'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
- **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)
- **Professional Vacuum Placement System**  
With precise placement action, Z axis movement and rotation  
Soft component landing and Z-axis stop for paste placement  
Interchangeable pick-up heads for different application
- **Component Nest for Precision Pick-up and Flux Application (Optional)**  
With jaw mounted nest with 'component print frame', dip tray or mini stencil paste-head facility for flux and solder paste application
- **Handheld Component Nest and Flux Application Tool (Optional)**  
Handheld nest plate with 'component print frame' or dip tray for flux and solder paste application
- **Professional Micro X/Y PCB Table**  
Precision micrometer (micro) X/Y control  
+/- 20 microns (.0008") movement in X/Y directions  
Macro movement in X direction  
Up to 12" x 12" (300mm x 300mm) PCB capacity with lockable X/Y axis
- **Advanced Professional Macro-Micro X/Y PCB Table (Optional)**  
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
- **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

### Bench Top Requirements

Top heat power	150W IR
Back heater power	1600W or 2000W 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.

## **PDR**

PDR - Design and Manufacturing  
Crawley, West Sussex, RH10 9SE, England  
T: +44 (0)1293 614 000 E: sales@pdr.co.uk

## **PDR Europe**

83300 Draguignan, France  
T: +33 (0)9 77 19 56 36 E: sales-eu@pdr.co.uk

## **PDR America**

Shingle Springs, CA 95682, USA  
T: (530) 676 6262 E: sales@pdrxy.com

## **PDR India**

Chennai – 600 092. Tamilnadu, India.  
T: (+) 91 (0) 44 23762227 / 23762298 E: sales-in@pdr.co.uk

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)



[www.pdr-rework.com](http://www.pdr-rework.com)