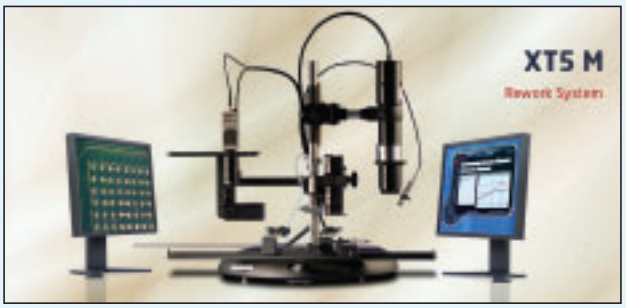
IR-XT5 M

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



Advanced features available

- Focused IR component heating
  PDR's patented tool-free IR technology
- Quartz IR PCB preheater
  Confined area (120mm x 120mm) 750W 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
  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
  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-XT5M Mobile Phone rework system, using PDR's patented Focused IR technology, has been specifically designed to cope with the challenges of repairing today's mobile phone and PDA 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 used extensively on lead-free applications.

The IR-XT5M is already well specified for compact applications 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-XT5M 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 including 0201s + lead free applications

- ## Quartz IR PCB preheating
  High power, medium wave quartz IR
  Confined area, 750W single zone
  (120mm x 240mm area)

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

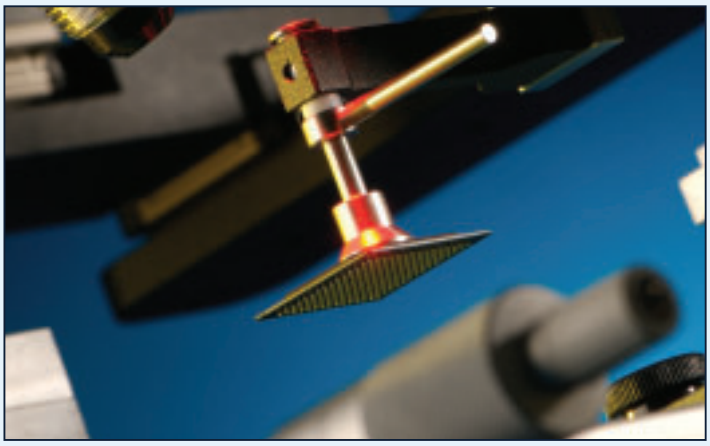
- ## Advanced Professional vacuum placement system
  With precise 'pick and place' action,Y/Z axis movement and rotation soft component landing and Z-axis stop for placement in paste
  Interchangeable pick-up heads for different applications

- ## Component nest for precision component pick up and Flux application
  With 'component print frame', dip tray, or mini stencil paste-head facility for flux and solder paste application

- ## Precision macro-micro X/Y/Theta 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 12" X 18" (300mm X 450mm) capacity with lockable X/Y axis

- ## Component temperature sensing
  Non-contact, IR sensor
  Manually adjustable, K-type non-contact IR sensor
  Optional Ø2.5 - 4mm measuring spotsize for CSPs/uBGAs
  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
  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

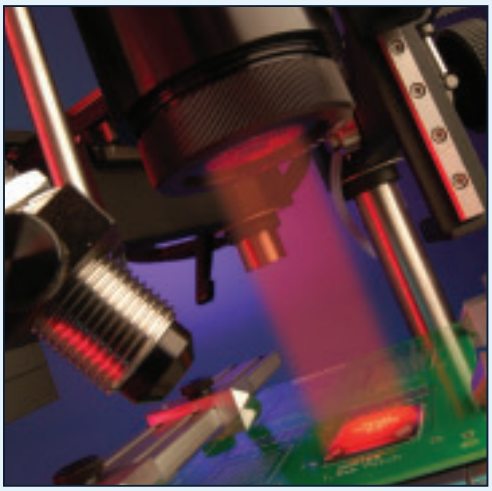
- ## Auxiliary Process Observation Camera
  Integral LED lighting system with illumination level control
  Full colour 1/2" CCTV camera and 17" TFT/LCD Flat screen colour monitor
  High quality zoom lens with up to X40 magnification

Bench Top Requirements

Top heat power	150W IR
Back heater power	750W IR
Voltage/frequency	110/240 volts 50/60Hz, up to 1KW
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 – Pioneers of Focused IR technology



In 1986, PDR pioneered the use of Focused Infra-Red technology for rework applications. Today, over 3,500 systems have been installed around the world at OEMs and EMS providers active in the defence, aerospace, automotive, avionics, telecoms and computer industries. Companies such as NASA, Boeing, Nokia, Alcatel, Sony, Motorola, Philips, Dell, IBM and EADS, to name but a few, rely every day on PDR's Focused IR technology to deliver simple, safe and repeatable rework.

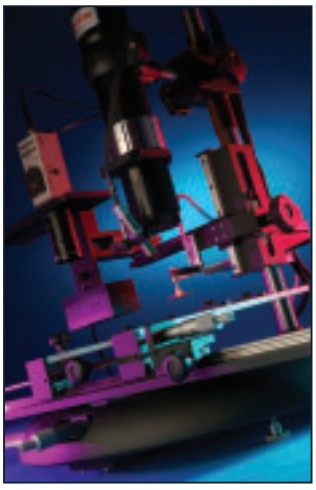
With the evolution of increasingly complex boards, the ongoing miniaturisation of components and lead-free solders, PDR's Focused IR technology is rapidly superseding hot gas as the platform of choice for OEMs and EMS providers. High levels of profiling and process control make Focused IR the perfect choice to handle the narrower process window of lead-free and deliver the 100% yield manufacturers demand.

PDR's Focused IR delivers 100% yield BGA rework

PDR's Focused IR rework systems provide high quality results on both standard and fine-pitch components, array packages and all lead-free devices. Focused IR is able to pinpoint the smallest component in a high-density environment and provide the operator with a clear view of both the PCB and the component throughout the process, making this the best choice for all rework applications.

PDR's process involves pre-heating the PCB from below with a back heater and then heating the component from above. This reduces the time and energy required for topside heating, thereby minimising the potential for damage to the component, the PCB or adjacent devices. PDR's closedloop temperature monitoring system, with a non-contact IR sensor, makes the process highly controllable and repeatable, producing high quality solder joints every time.

PDR systems - flexible, modular and upgradeable

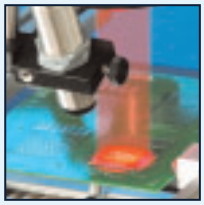


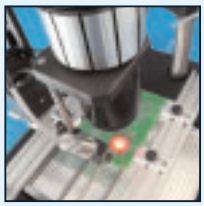
PDR's versatile systems range from a Focused IR hand tool right through to semi-automated, advanced rework stations. They also include systems designed specifically for small to large applications. Each Focused IR system offers an excellent level of standard features, plus options to suit every budget. PDR's systems are modular and easily upgraded, allowing you to add the extra functionality you need as your requirements change.

The advantages of Focused IR

Focused IR component heating

Precise component heating eliminates the risk of damage to the PCB/adjacents



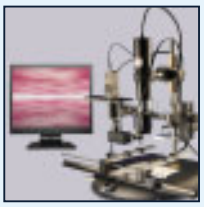


No nozzles, focus hoods or shields

A simple turn of the lens allows for easy rework of any size/shape component

Low cost of ownership

Competitive system pricing and nearly zero follow-on costs

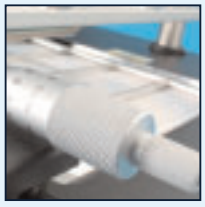


Modular and upgradeable systems

Easily configured to meet any requirements as your demands expand

Excellent control software

Non-contact, component temperature sensing and automatic thermal profiling



Easy to set-up and use

Clean, simple and safe.
Ease of use delivers 100% yield

The best BGA rework systems in the world

For over twenty years we have continually pushed the boundaries of refined rework systems. Our clean and intuitive heating technology combines with its unmatched control and soldering ability, to become one of the most effective innovations in our industry.

Another development from PDR is our high resolution CCTV/split beam prism-based BGA alignment option, which allows the operator to view the PCB and component simultaneously with a colour video monitor and zoom lens.

Add to this PDR's superb precision mechanics, which provide operators with vacuum-operated pick up, macro-micro Z axis, 360° component rotation and micrometer control for soft component landing, and you have unbeatable rework systems that provide 100% yield on all SMT/BGA rework applications.

Leading-edge control software

A major advantage in choosing PDR's Focused IR rework systems is the ThermoActive V4+ auto profiling software suite. It has been designed to be as user-friendly as possible, with excellent graphics and simple, logical controls.

The operator sets the temperature target and the ThermoActive V4+ software manages the heating process, ensuring that the heat applied to the PCB and component is precise. Particularly beneficial for the demands of lead-free, thermal profiles for different assemblies can be automatically created within minutes and stored for future use.