PDR IR-C3 CHIPMATE SERIES

PDR's Entry-Level SMT/BGA Rework Station

Trusted by Experts

PDR

Non Contact IR Temperature Sensors
for Component and PCB

150w Focused IR Component Heating
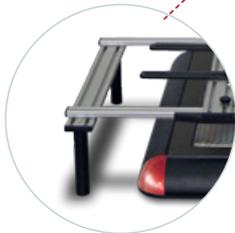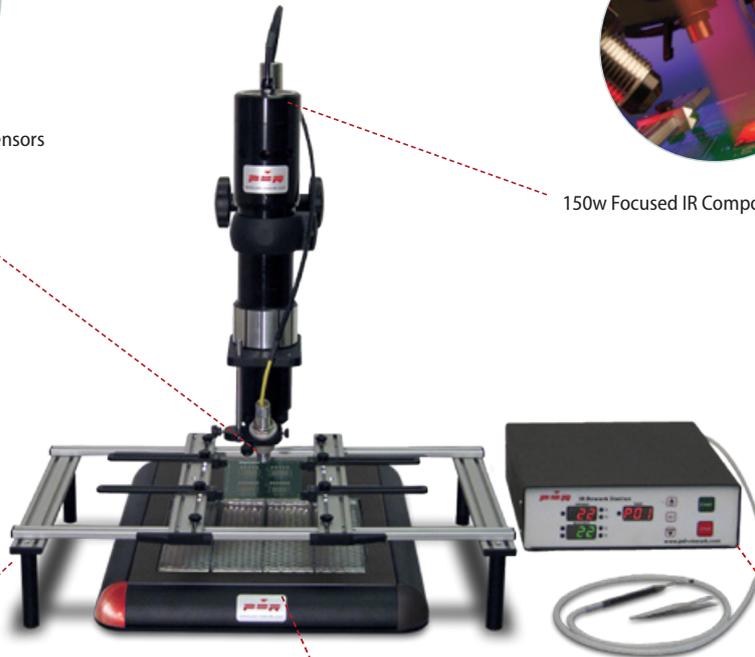
Portable Benchtop PCB workholder
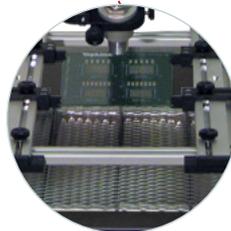
2000W, single zone
(240mm x 240mm heating area)

Digital auto profile thermal control

Advanced Features

- **Advanced Focused IR component heating**
  150W, lens based Focused IR heating with adjustable image system

- **Quartz IR PCB preheating**
  2000W, single zone (240mm x 240mm heating area)

- **Precision Component Pick and Placement**
  Handheld vacuum placement system

- **Precision PCB Handling**
  Portable Benchtop PCB workholder

- **Component Temperature Sensing**
  Standard non-contact IR temperature sensor

- **PCB Temperature Sensing**
  K-type wire thermocouple

- **Advanced Thermal Process Control**
  Digital auto profile thermal control (C3S)
  Software based thermal control (C3i)

Entry-Level SMD/BGA Rework Station

Click above for video link

Low Cost, Upgradeable BGA Rework Station

Today there is a need for lower cost and upgradeable equipment without a loss in soldering quality. The PDR IR-C3 Chipmate SMT/BGA rework stations, using PDR's patented Focused IR technology, have been specifically engineered to meet this challenge.

The IR-C3 Chipmate comes with a good range of standard features allowing the operator to quickly, safely rework all types of components.

The station is tool free, gas free, instantly/precisely controllable, clean, modular and produces 100% yield BGA rework without any complications. The IR-C3 uses all the proven attributes of PDR's Focused IR technology, first introduced in 1987 and now used worldwide by over 4500 customers.
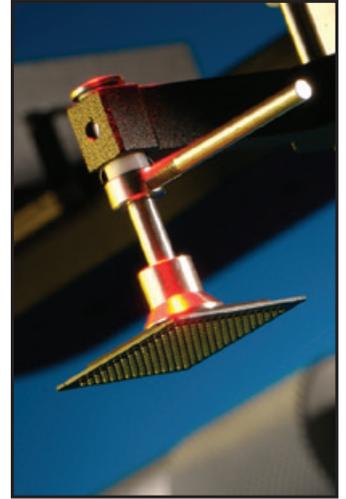
Simple BGA rework procedure

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-C3 Chipmate 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.

The IR-C3's standard features, with the use of simple aids, operators can simply pick up the BGA, align it, place it into fluxed pads and reflow with the station's accurate closed-loop component 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 SMDs/ BGAs/QFNs/CSPs + 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
  2000W, single zone (240mm x 240mm heating area)
  Optional 750W, single zone (120mm x 120mm heating area)

- ## Handheld Vacuum Placement System
  Vacuum operated pick up tool, hand held with silicon cups

- ## Standard Vacuum Placement System (Optional)
  With precise placement action, Z axis movement and rotation
  Interchangeable pick-up heads for different 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

- ## Portable Benchtop PCB Workholder
  650mm, up to 12" x 10" (300mm x 250mm) PCB capacity

- ## 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

- ## Digital, Closed-loop Electronic Control (C3S)
  Digital programmable controller (20 internal profile storage)
  Simple key pad setting power/time/temperature controls
  2 Channel component and PCB temperature control

- ## Auto Profile Process Control Software (C3i)
  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

Bench Top Requirements

Top heat power	150W IR
Back heater power	2000W IR
Voltage/frequency	110-240 volts 50/60Hz
Typical components	CSPs, BGAs, uBGAs, QFNs, QFPs, PLCCs, SOICs, small SMDs
Bench area	1200mm (w) x 600mm (d)
Weight	45 Kg

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

North American specifications may differ

PDR System	IR-C3 Series		IR-D3 Series		IR-E3 Series			IR-E6	
• = Standard Feature ○ = Optional Feature									
Advanced Focused IR Component Heating	IR-C3S	IR-C3i	IR-D3i	IR-D3S	IR-E3S	IR-E3M	IR-E3G	IR-E6S	IR-E6XL
Focused IR Lens System	•	•	•	•	•	•	•	•	•
F150 - Ø 6-18mm - Lens Attachment	○	○	○	○	○	•	○	○	○
F200 - Ø10-28mm - Lens Attachment	○	○	○	○	○	•	•	•	•
F400 - Ø12-35mm - Lens Attachment	○	○	○	○	○	•	○	○	○
F700 - Ø20-70mm - Lens Attachment	•	•	•	•	•	○	•	•	•
Quartz IR PCB Preheating	IR-C3S	IR-C3i	IR-D3i	IR-D3S	IR-E3S	IR-E3M	IR-E3G	IR-E6S	IR-E6XL
750W, single zone (120mm x 120mm heating area)	○	○	○	○	○	○	○		
2000W, single zone (240mm x 240mm heating area)	•	•							
2250W, two zone with 750W Micro PCB Booster (240mm x 240mm heating area)			•	•	•				
2800W, three zone (240mm x 360mm heating area)									
3000W, 3 zone (240mm x 360mm heating area)								•	
3050W, three zone with 750W Micro PCB Booster (240mm x 360mm heating area)					○	•	•		
3200W, three zone (500mm x 270mm heating area)									•
Component Pick and Placement	IR-C3S	IR-C3i	IR-D3i	IR-D3S	IR-E3S	IR-E3M	IR-E3G	IR-E6S	IR-E6XL
Venturi Based High Power Vacuum Upgrade	○	○	○	○	○	•	○	○	○
Handheld vacuum placement system	•	•							
Standard vacuum placement system (Z-axis and Rotation)	○	○							
Professional vacuum placement system (Z-axis, Rotation and Soft Landing)			•	•					
Advanced Professional vacuum placement system (Y/Z-axis, Rotation and Soft Landing)					•	•	•	•	•
Component Nest/Flux Application Facility	IR-C3S	IR-C3i	IR-D3i	IR-D3S	IR-E3S	IR-E3M	IR-E3G	IR-E6S	IR-E6XL
Handheld flux dip tray or component print frame	○	○							
Jaw mounted nest with flux dip tray or component print frame			•	•		•			
Integrated nest with flux dip tray or component print frame					•		•	•	•
PCB Handling (PCB Capacity)	IR-C3S	IR-C3i	IR-D3i	IR-D3S	IR-E3S	IR-E3M	IR-E3G	IR-E6S	IR-E6XL
Portable Benchtop PCB workholder (12" x 10"/300mm x 250mm)	•	•							
Professional PCB table with micro X/Y (12" x 12"/300mm x 300mm)			•	•					
Advanced Professional PCB table with macro-micro X/Y (18" x 12"/450mm x 300mm)					•	•	•		
Advanced Professional PCB table with gantry/macro-micro X/Y (18" x 12"/450mm x 300mm)								•	
2Advanced Professional PCB table with gantry/macro-micro X/Y (24" x 18"/620mm x 460mm)									•
Component Temperature Sensing	IR-C3S	IR-C3i	IR-D3i	IR-D3S	IR-E3S	IR-E3M	IR-E3G	IR-E6S	IR-E6XL
Standard non-contact IR temperature sensor (Pyrometer) - Ø7mm+ Spot	•	•	•	•	•	•	•	•	•
PCB Temperature Sensing	IR-C3S	IR-C3i	IR-D3i	IR-D3S	IR-E3S	IR-E3M	IR-E3G	IR-E6S	IR-E6XL
K-type wire thermocouple	•	•	•	•	•	•	•	•	•
Standard non-contact IR temperature sensor (Pyrometer) - Ø7mm+ Spot	○	○	○	○	○	•	○	○	○
Advanced Thermal Process Control	IR-C3S	IR-C3i	IR-D3i	IR-D3S	IR-E3S	IR-E3M	IR-E3G	IR-E6S	IR-E6XL
Digital controller based thermal control	•								
Software based auto profile thermal control		•	•	•	•	•	•	•	•
Barcode scanner (profile selection)		○	○	○	○	○	○	○	○
Camera Based Vision Systems	IR-C3S	IR-C3i	IR-D3i	IR-D3S	IR-E3S	IR-E3M	IR-E3G	IR-E6S	IR-E6XL
Camera/Prism Based BGA/CSP/QFN Alignment System			○	•	○	○	○	○	○
Auxillary Process Observation Camera			○	○	○	○	○	○	○
Camera/Prism Based BGA/CSP/QFN Alignment System USB Interface			○	○	•	•	•	•	•
Auxillary Process Observation Camera USB Interface			○	○	•	•	•	○	○
Forced Air PCB Cooling	IR-C3S	IR-C3i	IR-D3i	IR-D3S	IR-E3S	IR-E3M	IR-E3G	IR-E6S	IR-E6XL
Highly effective, integral PCB cooling with air knife system					○	○	○	○	○

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