PDR Product Datasheet

PDR IR-X400-B

BOSCH

Focused IR
BGA Rework System
The PDR IR-X400-B 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 IR-X400-B fulfils all Bosch requirements for a professional rework system and is recommended by Bosch for the worldwide use for high-quality rework-activities in the Bosch organisation.

Hands free use, semi-automatic, 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, uBGAs, CSPs, and Flipchips.

The IR-X400-B comes with a good range of standard features 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 introduced in 1987 and used worldwide by over 3000 customers.

**Standard Features**

- PDR’s patented ‘Focused IR’ Component Heating System
- Dual Zone 2 x 600W IR PCB Preheat
- PC Control Package. Independant Component and PCB Closed Loop Temperature Control with PDR’s *ThermoActive V3* Software suite
- Non-contact, IR Sensor for measuring component temperature
- CCTV/Split-beam Prism based BGA/micro-BGA Alignment System
- Precision component pick-up with macro-micro z-axis and rotation
- Precision X/Y table with accurate macro/micro movement and extra jaw support
Simple BGA Rework Procedure

Since the launch of the IR-X Series of BGA rework equipment, we have seen increasing orders for the products. It has been specified by three of the world’s leading mobile phone manufacturers for reworking micro-BGA components on their applications and is used widely throughout Telecoms, Computer, Avionics, Automotive and Contract Manufacturing industries.

The customer is able to simply and safely implement good process control for BGA/SMT rework without the complexities and frustrations normally associated with ‘high end’ rework systems.

With the aid of excellent mechanics, optics and control...simply Align the BGA, Place it onto fluxed pads then Reflow with accurate PC based, Closed Loop Component and PCB temperature control.

The PDR IR-X400-B is completely modular and upgradeable. Available with excellent standard and optional features, the system provides customers with the flexibility of scaling the equipment to their current requirements, adding further options later as requirements and budgets dictate.

In standard form the PDR IR-X400-B, with PC Control Package and PDR ThermoActive Software suite, is able to perform precise, repeatable process controlled SMT/BGA rework.

Add to it the optional CCTV/Split-beam Prism based BGA alignment package, and complete range of Lens Attachments, now you have one of the best ‘high end’ BGA rework systems available anywhere worldwide.
PDR's ThermoActive V3 Software

PDR has developed the new *ThermoActive V3* software suite, with its new and refreshing appearance, to be very user friendly. The profiles are created easily by a ‘drag and drop’ feature using excellent graphics and simple routines.

Simply set the temperature target and the system will just follow it, logging the result (below right). **Accurate process control, easy to use.**

The **IR-X400-B** controls are logical and ergonomically designed. A new ‘Skin’ feature allows the look to be changed to suit the operator. *Engineering with Art.*

**IR-X400-B Advantages**

- **Tool Free, Variable Focused IR Spot**
  - isolates component without tools or shields
  - deep and tight access no problem
  - safe on/near plastics

- **Closed Loop Temperature Control**
  - real-time control
  - instantly and precisely controllable
  - instant process adjustments possible
  - vital for good rework

- **Non-contact IR Temperature Sensing**
  - active during soldering and desoldering
  - accurate measurement to +/- 1°C
  - realtime closed-loop control

- **Large Working Distance**
  - excellent observation and ergonomics
  - allows easy operation of the equipment

- **Safe And Effective**
  - proven world-wide since 1987 by 3000+ customers
  - excellent on BGA/uBGA/CSP/Flipchip/future SMDs
  - easy to understand, set and operate
Detailed Features and Specifications

Advanced Focused IR Component Heating
- Lens Based Focused IR heating with adjustable image system
- PDR lens attachments with IR image from 4 to 70mm diameter

Larger Area Back Heater System
- medium wave IR PCB preheating
- 1200W (2 x 600W switchable)
- 2 zones (inner - 120mm x 300mm area) and (inner+outer - 240mm x 300mm area)

PDR Lens Attachments
- F150 (4 - 18mm spotsize) optional
- F200 (10 - 28mm  "  ) optional
- F400 (12 -35mm  "  ) optional
- F700 (25 -70mm  "  ) standard

Precision Pick-up System
- Vacuum operated pick and place with precise macro-micro Z axis movement
- Micrometer control for soft component landing
- 360º component rotation

Macro-Micro X/Y PCB Table
- Precision micrometer (Micro) control
- +/- 10 microns (.0004") movement in X/Y directions
- Macro override facility in all directions
- Up to 17” X 20” (420mm X 500mm) capacity with lockable XY axis and extra jaw support

Non-contact, IR Sensor for measuring component temperature
- Manually adjustable, K-type non-contact IR sensor
- Realtime monitoring of component temperature throughout process

K-Type, contact probe for measuring PCB temperature
- Manually attached, K-type thermocouple contact probe
- Realtime monitoring of PCB temperature throughout process

PC Control Package with PDR ThermoActive V3 Software Suite
- Type 5, Digital controller with multi functional features
- Multi K-type thermocouple (x4) capacity for temp/time testing
- Advanced, Windows 98/me/XP/NT ThermoActive V3 software suite
- Realtime, closed loop component/PCB temperature control
- Drag and drop profile setting
- Temperature profiling and data logging

Optional - CCTV/Split-beam prism based BGA/micro-BGA alignment system
- Split beam prism system for simultaneous PCB/component viewing
- BGA, CSP and leadless component alignment
- Integral lighting system with illumination level control
- Full colour 1/2” CCTV camera and colour video monitor system
- Computar zoom lens with up to X50 magnification
- Precise X/Y axis mounting system with quick release handle

Benchtop Technical Specifications
- Topheat power - 150 watts IR
- Backheater power - 600W or 1200 watts IR
- Voltage/frequency - 110/240 volts 50/60Hz
- Typical components - CSPs, BGAs, micro-BGAs, QFPs, PLCCs, SOICs, small SMDs
- Bench area required - 1400mm x 600mm
- Weight - 65 Kg

PDR reserves the right to improve or change specifications without giving notice.

For further information please contact:

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