

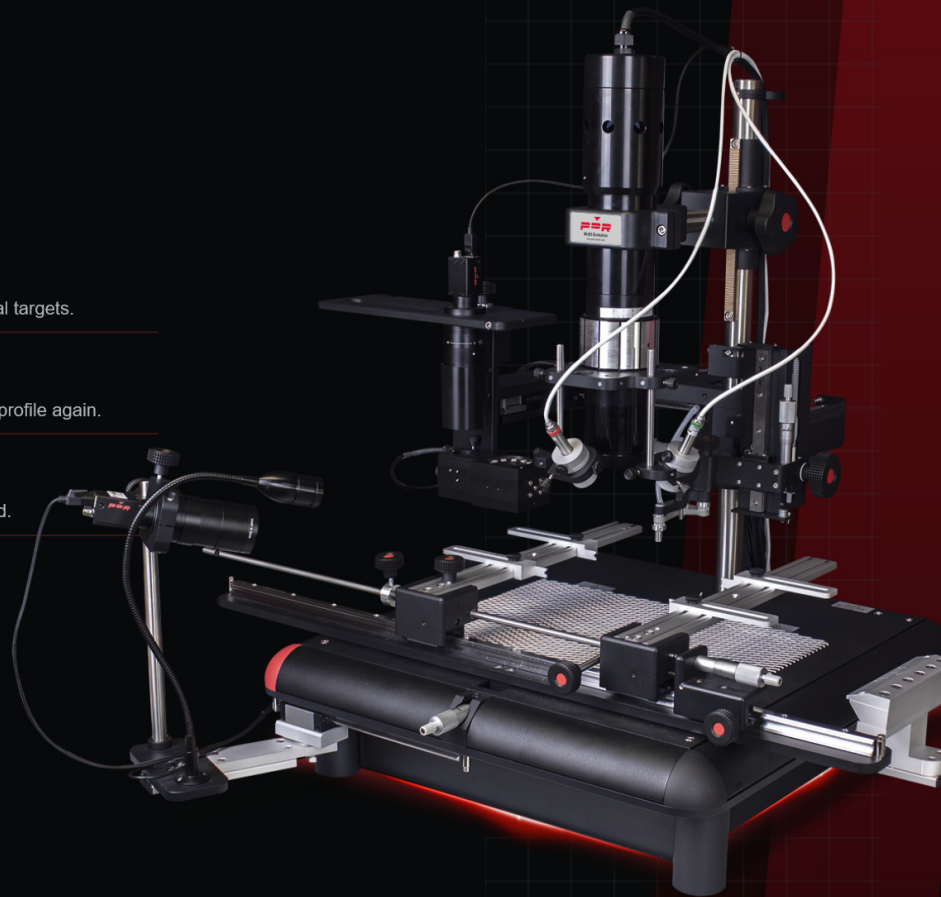
WHY PDR FORENSICS?

CHIP-OFF. WITHOUT THE GUESSWORK.

CONTROLLED HEAT. REPEATABLE RESULTS.

Temperature-controlled Focused IR for forensic component recovery.

- 01 CONTROL THE HEAT**
Manage the component and PCB as separate thermal targets.
- 02 REPEAT THE PROFILE**
Store a proven process and run the same controlled profile again.
- 03 RECOVER THE COMPONENT**
Remove the device once full solder reflow is achieved.



THREE SYSTEMS. ONE CONTROLLED PROCESS.

Choose the sensing, placement and automation capability that matches your laboratory.

THE THERMAL PROCESS

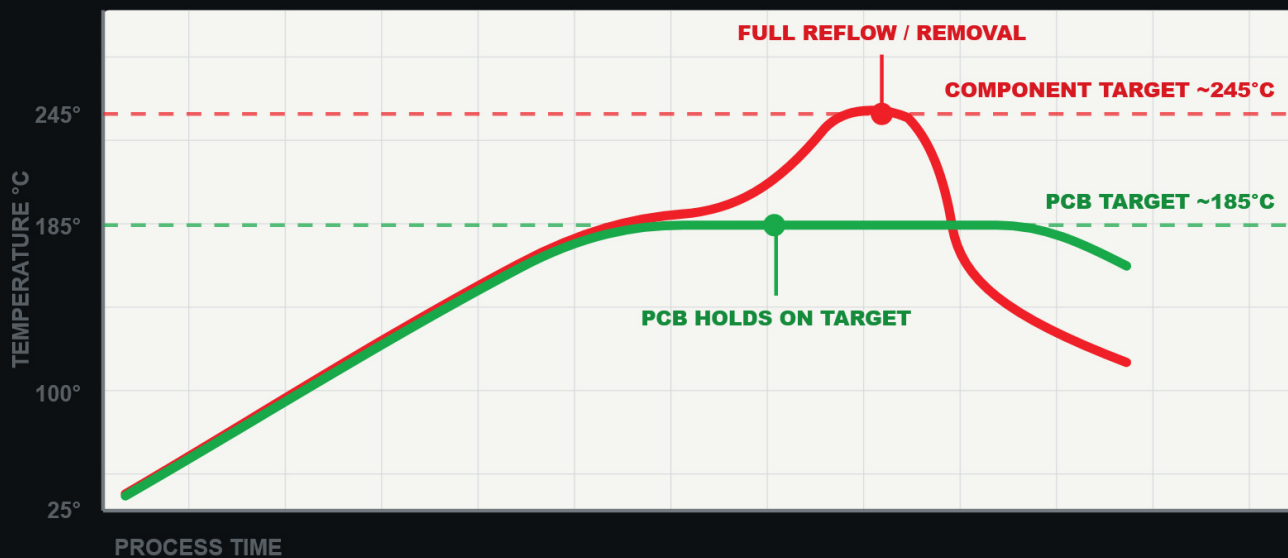
CONTROL THE HEAT.

TWO TEMPERATURES. ONE CONTROLLED PROCESS.

The PCB follows its controlled temperature profile while the target component follows the programmed removal profile. Once full solder reflow is achieved, the component can be lifted from the PCB.

RED = COMPONENT

GREEN = PCB



PCB TEMPERATURE

~185°C

Board follows the controlled PCB temperature profile.

COMPONENT TEMPERATURE

~245°C

Component follows the programmed removal profile.

SOLDER JOINT REFLOW

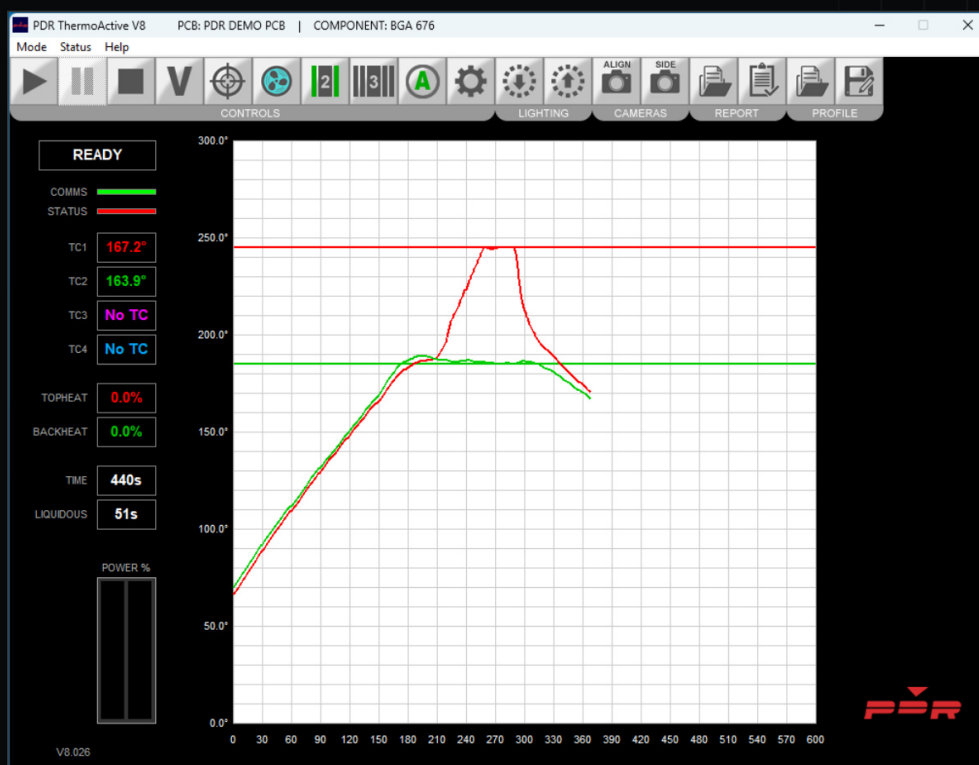
LIFT-OFF

Once full solder reflow is achieved, the component can be lifted from the PCB.

THERMOACTIVE PROCESS CONTROL

SEE THE PROCESS. REPEAT THE PROFILE.

ThermoActive makes the thermal process visible, repeatable and recordable - so the examiner can see what happened and reuse a proven process.



FULL THERMOACTIVE INTERFACE

RED = COMPONENT · GREEN = PCB

LIVE PROFILE CURVES

See component and PCB temperature throughout the procedure.

STORE + REUSE PROFILES

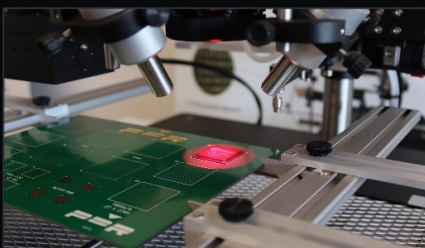
Save proven settings and repeat the same controlled thermal profile on future jobs.

DATE/TIME EVIDENCE

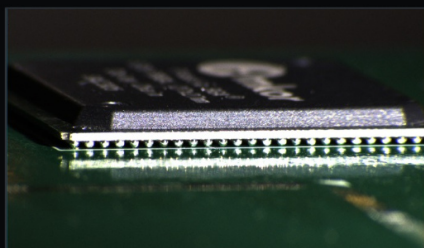
Capture side-view images with date and time stamp for the case record.

REPORTING

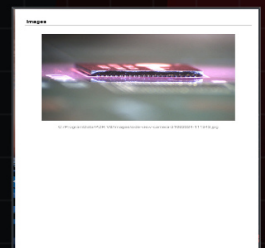
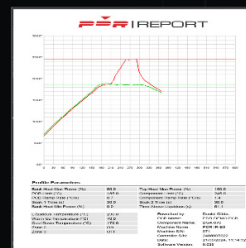
Generate a documented record containing profile data and captured evidence images.



FOCUSED INFRARED | TARGETED COMPONENT HEATING



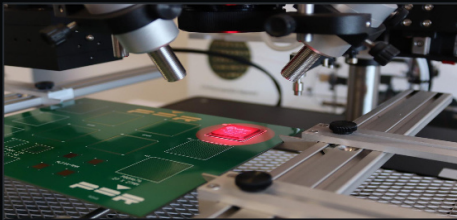
PROCESS EVIDENCE + REPORTING



CONTROLLED COMPONENT PICKUP

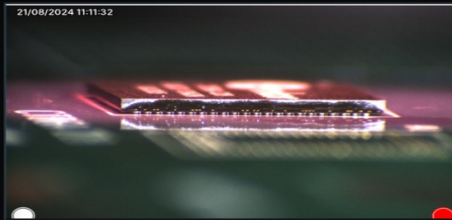
HEAT. REFLOW. CONTROLLED PICKUP.

The programmed thermal profile controls the PCB and target component separately. Once full solder reflow is achieved, the device can be removed using the appropriate method for the component and system.



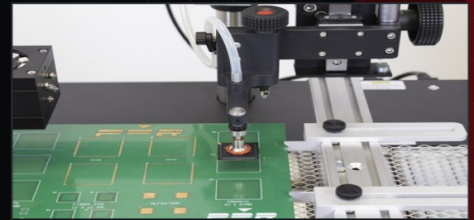
01 FOCUSED IR

Controlled energy is concentrated on the target component.



02 FULL SOLDER REFLOW

The solder joints are in the liquid phase before component lift-off.



03 VACUUM PICK-UP

Lift the component from the PCB once full solder reflow is achieved.

FOCUSED INFRARED | TARGETED COMPONENT HEATING

WHY IT MATTERS

LESS MECHANICAL FORCE

Full solder reflow before lift-off reduces the need to mechanically lever the component from the PCB.

REPEATABLE THERMAL PROCESS

Store and reuse a proven thermal profile rather than rebuilding the process from operator judgement.

CONTROL TO MATCH THE WORKFLOW

Manual removal with Chipmate. Controlled pickup / placement with Chipmate Pro. Automated removal / placement with Chipmate Auto.

HARD UNDERFILL / ADHESIVE

Some components are mechanically secured with hard underfill or adhesive and may require an appropriate manual separation method. PDR can still provide a controlled, monitored and repeatable thermal profile before removal.

THE RANGE

THREE SYSTEMS. ONE CONTROLLED PROCESS.

Choose the sensing, placement and automation capability that matches your laboratory.

ESSENTIAL

CHIPMATE

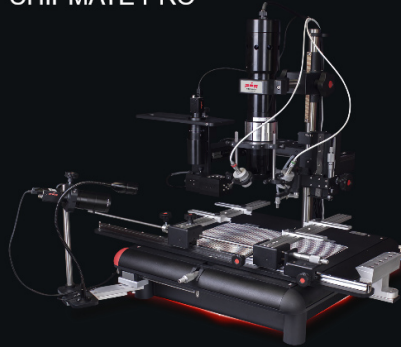


Controlled manual entry to the PDR process.

MANUAL • K-TYPE PCB SENSING

LABORATORY STANDARD

CHIPMATE PRO

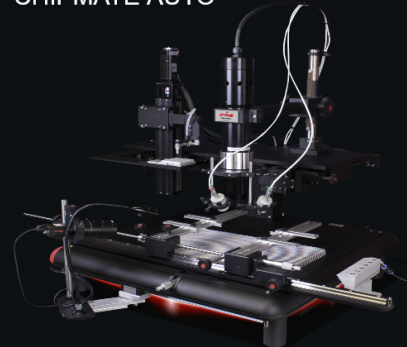


Non-contact sensing, evidence capture and precision placement.

DUAL SENSING • ALIGNMENT • EVIDENCE

AUTOMATIC

CHIPMATE AUTO



Automated removal and placement for reduced operator variation.

AUTOMATED REMOVAL • PLACEMENT

A RANGE BUILT AROUND YOUR LAB.

Choose the sensing, placement and automation capability that matches your laboratory.

CHIPMATE

MANUAL CONTROL

CHIPMATE PRO

SENSE + ALIGN + DOCUMENT

CHIPMATE AUTO

AUTOMATE REMOVAL + PLACEMENT

THE RANGE | ESSENTIAL

CHIPMATE. CONTROLLED CHIP-OFF.

Controlled Focused IR chip-off with stored thermal profiles - in a manual system.

- 01

FOCUSED IR HEATING

Apply energy to the target component rather than heating the entire assembly indiscriminately.
- 02

INDEPENDENT PROCESS CONTROL

Component heating is controlled while PCB temperature is monitored separately.
- 03

THERMOACTIVE SOFTWARE

Build, save and repeat a proven thermal profile instead of rebuilding the process each time.
- 04

MANUAL VACUUM REMOVAL

Lift the component with the hand-held vacuum tool once full solder reflow is achieved.



FOCUSED INFRARED | TARGETED COMPONENT HEATING

CORE SPECIFICATION

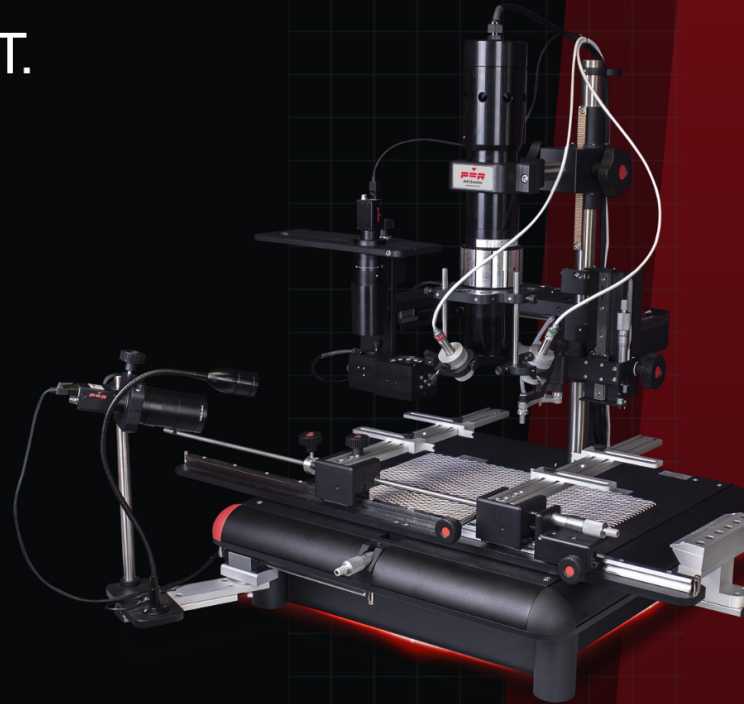
MAX PCB	300 x 450 mm
MAX COMPONENT	55 x 55 mm
MIN COMPONENT	01005 package
TOP HEATER	150W focused IR, Ø70 mm
PCB PREHEATER	2800W, 3 zones
COMPONENT SENSING	Non-contact IR sensor

THE LABORATORY STANDARD

CHIPMATE PRO. CONTROL. ALIGN. DOCUMENT.

Forensic laboratory system with non-contact sensing, evidence capture and precision placement.

- 01 **FULLY NON-CONTACT SENSING**
Track component and PCB temperatures independently without attaching a thermocouple to the work.
- 02 **SIDE-VIEW EVIDENCE**
Capture the component during reflow and lift-off with a date/time stamp for the case record.
- 03 **SPLIT-BEAM ALIGNMENT + PICKUP**
Align a recovered component and donor PCB, then recover and position components with controlled pickup and placement.



**DUAL NON-CONTACT
SENSING**

**DATE/TIME
EVIDENCE**

**UP TO 10 μ m
PLACEMENT**



FOCUSED INFRARED | TARGETED COMPONENT HEATING



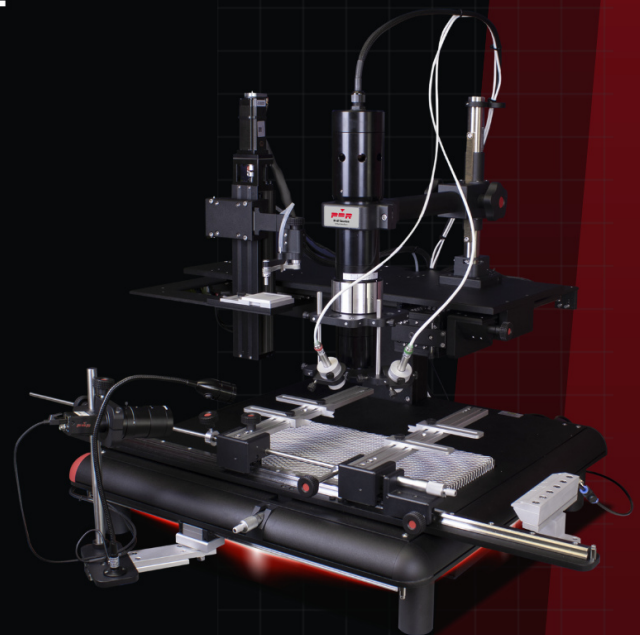
CONTROLLED PICKUP + PLACEMENT

THE RANGE | AUTOMATIC

CHIPMATE AUTO. REDUCE OPERATOR VARIATION.

For laboratories that want the controlled PDR thermal process with automated removal and placement movement.

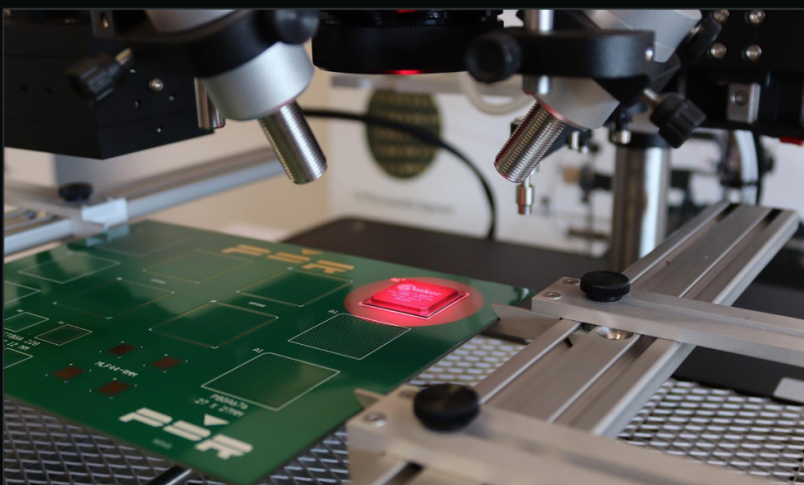
- 01 **AUTOMATIC REMOVAL**
Once full solder reflow is achieved, the system performs the programmed removal movement.
- 02 **AUTOMATIC PLACEMENT**
Automated pickup and placement improve consistency when the same process must be repeated.
- 03 **NON-CONTACT SENSING**
Component and PCB temperatures are tracked independently throughout the procedure.
- 04 **STORED PROFILES**
Repeat proven thermal settings and reduce the operator judgement required from job to job.



WHY AUTOMATE?

STANDARDISE THE MOVEMENT AFTER FULL SOLDER REFLOW.

The thermal profile is controlled first. Once full solder reflow is achieved, Chipmate Auto performs the programmed removal or placement movement - reducing operator variation.



FOCUSED INFRARED | TARGETED COMPONENT HEATING

CORE SPECIFICATION

MAX PCB	300 x 450 mm
MAX COMPONENT	55 x 55 mm
MIN COMPONENT	1 x 1 mm
TOP HEATER	150W focused IR, Ø70 mm
SENSING	Non-contact IR, component + PCB

COMPONENT CAPABILITY

BUILT FOR CRITICAL COMPONENT RECOVERY.

Controlled Focused IR supports repeatable removal across the component types commonly encountered in forensic laboratory workflows.

COMPONENTS WE SAFELY REMOVE



eMMC / eMCP
EMBEDDED MEMORY



NAND FLASH
RAW FLASH MEMORY



UFS
HIGH-SPEED STORAGE



CPU / SoC
PROCESSING DEVICES



POWER IC
POWER DEVICES



PMIC
POWER MANAGEMENT

TRUSTED BY



POLICE FORCES



**FORENSIC
LABORATORIES**



**GOVERNMENT
AGENCIES**



**DATA RECOVERY
SPECIALISTS**



**AIR ACCIDENT
INVESTIGATION**

ARRANGE A DEMONSTRATION | SALES@PDR-FORENSICS.COM

BEYOND CHIP-OFF

PREPARE THE HARDWARE.

One platform. Three supported hardware-preparation procedures.

01 CHIP-OFF

Physical removal of semiconductor / memory devices from the PCB for subsequent examination using the laboratory's validated tools.

RECOVER

02 CHIP-TRANSFER

Transfer and placement of a recovered component onto a donor PCB.

TRANSFER

03 CHIP-REPLACEMENT

Removal and replacement of damaged surface-mount components to restore the PCB to a condition suitable for the laboratory's normal examination workflow.

RESTORE

PDR PREPARES THE HARDWARE. YOUR TOOLS EXTRACT THE DATA. YOUR EXAMINERS ANALYSE IT.

01 PREPARE

PDR prepares the hardware.

02 EXTRACT

Your tools extract the data.

03 ANALYSE

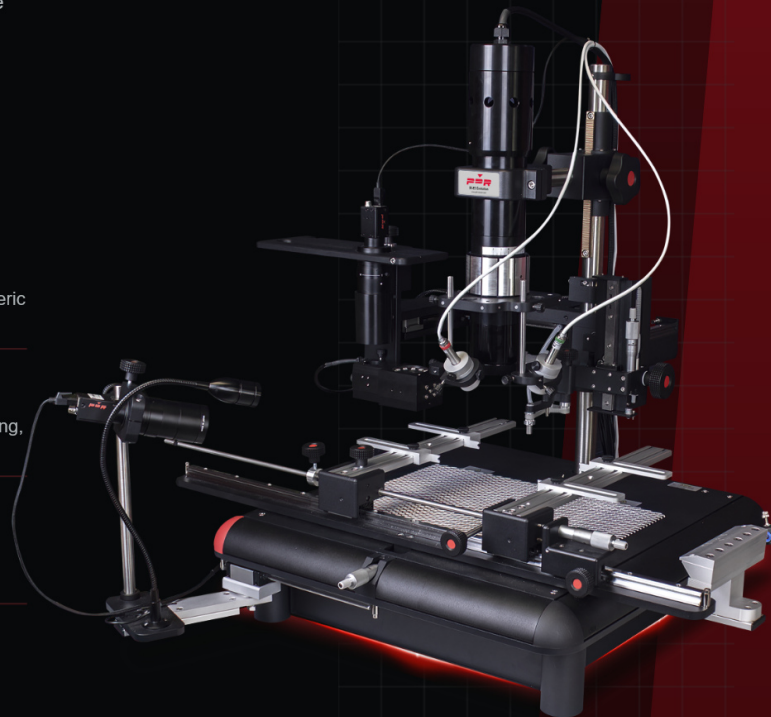
Your examiners analyse it.

SEE IT ON YOUR CASEWORK

ARRANGE A DEMONSTRATION.

See controlled chip-off on the devices and boards your laboratory actually works with. We can help match the right system to your current casework and future laboratory requirements.

- 01 SEE IT ON REPRESENTATIVE CASEWORK**
A demonstration on representative devices and boards rather than generic samples.
- 02 MATCH CAPABILITY TO THE LAB**
Choose Chipmate, Chipmate Pro or Chipmate Auto based on the sensing, placement and automation you actually need.
- 03 SUPPORTED FROM THE FACTORY**
Training, process support and service are provided by the team that designs and builds the systems.



1985

FOUNDED

1987

FIRST IR SYSTEM

5,000+

SYSTEMS SUPPLIED

UK

DESIGNED + MANUFACTURED

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