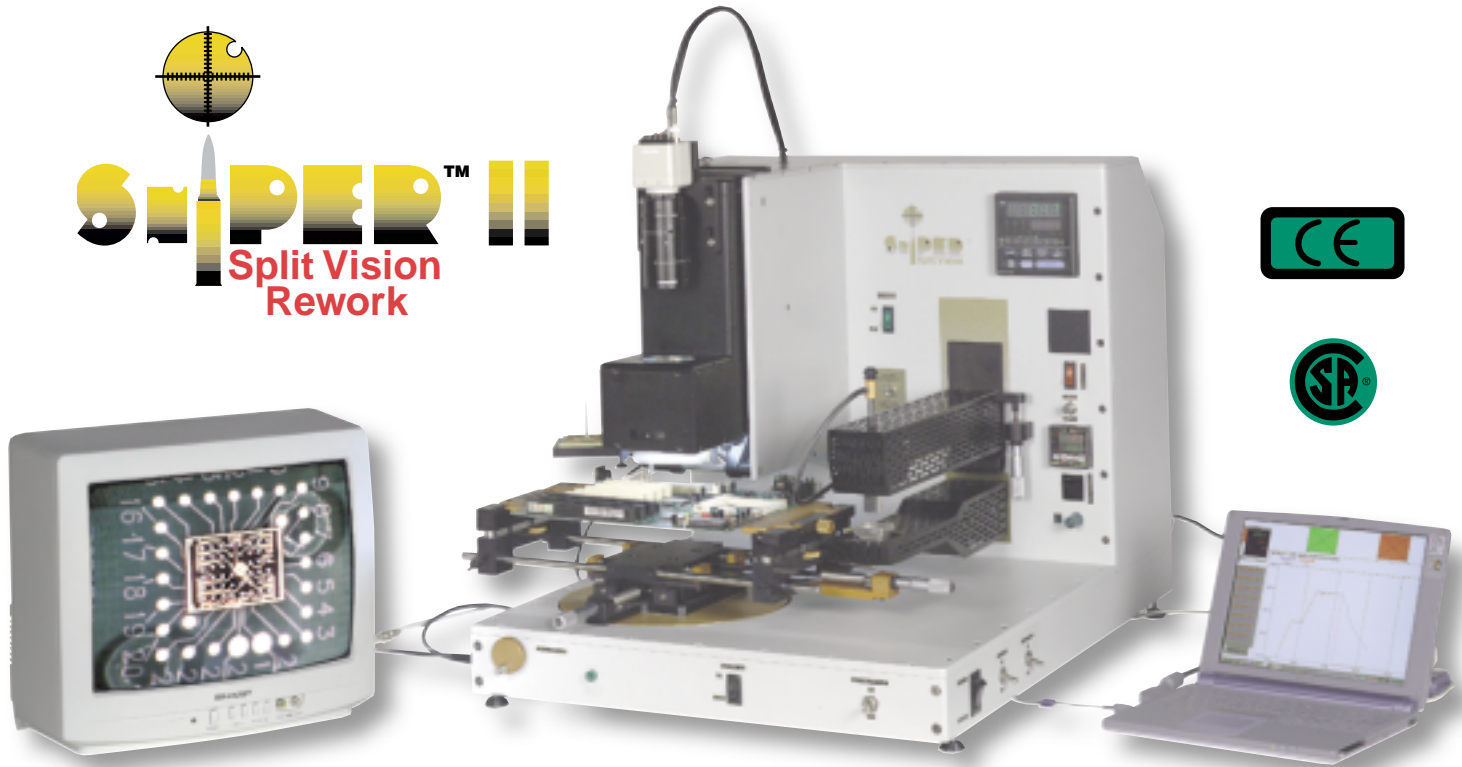


Sniper & Sniper II Split Vision Rework Systems SMD-7000

Overview

The Sniper & Sniper II are BGA and Micro BGA Rework systems. One side of the Sniper removes the device, the other side selects a replacement component; a monitor reflects the image of the bottom of the chip and the footprint on the board. These are then adjusted to exactly overlay each other and the component placed automatically. The part is then reflowed.



Energy Reflow

The Sniper & Sniper II SMD-7000 Rework systems combine the unique Energy Reflow operation of the Flo-Master with the very latest technology in optic engineering and alignment design. They provide absolute control in positioning all ultrafine pitch, Micro BGA, QFP, and CSPs (Chip Scale Packages), together with large ceramic or plastic BGA devices.



Vacuum Pick-Up

A Venturi Vacuum Pick-Up system supports the component during alignment and automatically snap releases the component during placement.

DABIS Prism

A Dichroic Alignment Beam Image Splitter (DABIS) is a contemporary innovative refinement in imaging dual fields using a split prism to enhance and clarify the image.

Free & Clear

Once aligned, the component is automatically positioned by pneumatic control, lifting the camera system clear of the placement vector. A Vertical Placement Drive (VPD) accurately orients the component to the contact land pattern.

Sniper & Sniper II Specifications:

Power	110-220V 1800 Watts
Current	25 Amps @ 110V, 15 Amps @ 220V
Dimension	21.75" x 29.12" (552 x 740 mm)
Board Holder Standard	12" x 16" (305 x 406 mm)
Reflow Nozzles included	See Flo-Master, page 13
Preheat Nozzles included	See Flo-Master, page 13
Temperature	Select Celsius or Fahrenheit
Reflow Air Velocity	Internal Motor <12.7 CFM
Component Pick Up	Venturi Generator Reflow & Imaging
Factory Air	60-80 psi for Placement System
Controller Both Heaters	Fuzzy Logic PID Profile Storage
Board Alignment	Micrometer Controls
Reflow Operation	Pulsed or Continuous
Maximum Board Size	16" x 18" (406 x 457 mm)
Air Flow	Up to 1 SCFM
Weight	165 lb (75 kg)
Communication	RS232 Sniper II Only
Operational Software	Specview GDW Sniper II Only

Sniper & Sniper II Split Vision Rework Systems SMD-7000

Look Up Look Down

The DABIS Prism permits the contact array of the component to be viewed from the underside and superimposed over an image of the contact land pattern on the PCB.

Component Alignment

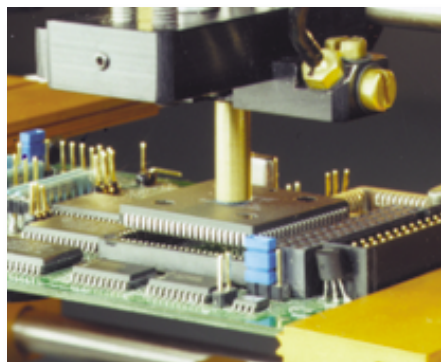
Precision Micrometers align the two lead patterns; the camera's zoom and focus are adjusted to comfortably align and view the PCB and component on the monitor.

Focus and Split

Using a prism simplifies the alignment procedure and ensures repeatability during continuous operation. It is also possible to view many different types of components without additional setup. To view the diagonal corners of very large components, an optional Diagonal Image Scope can be dropped into place when needed.

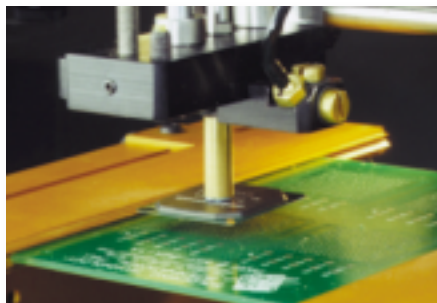
Repeatable Alignment

The selected component is first supported in a Template Nest, which is seated within a Reflex Register. The Register is then moved to position under the Vacuum Pick-Up on the Vertical Placement Drive (VPD), thus providing repeatable selection from the same registration, every time.



Final Positioning

The Vacuum Pick-Up has been designed to ensure adequate clearance of adjacent components and obstacles around the positioning arena, consequently the length of the Vacuum Pick-Up Barb is 0.90" (22.86 mm), which should provide sufficient depth of penetration.



Vertical Placement Drive (VPD)

When placing delicate components to fine tolerances, emphasis on stability of engineering is a priority, the reinforced VPD provides a stable final positioning operation, and is adjustable in the Z-axis for pressure sensing.

Rotary/Staged Vacuum Board Holder

The SMD-7007 includes a standard 12" x 16" (305 x 406 mm) vacuum actuated Board Holder, which quickly glides to position. Precision micrometers adjust in X- and Y-axis and the "Rotary/Staged" feature of the table provides "Theta." Optional Board Holder Extender Kits are available for smaller and larger board types.

Features:

- Registration without mirror adjustment for components 0.040"–2.50" sq. (1.02–63.5 mm²)
- Automatic placement
- Component Templates for fast registration
- Vacuum pick-up of component
- Vacuum actuated Rotary Board Holder
- X, Y, Z and Theta Micrometer adjustments
- High Resolution Camera and 14" Monitor for 10-80X viewing
- Widest range of component types accommodated from Micro BGAs to high pin count Ceramic CBGA
- Board sizes up to 16" X 18" (406 x 457 mm)
- Proven integrated High Power, Low Temperature Flo-Master Technology
- Inspection option for ghosted images of board and component leads/balls

Sniper vs. Sniper II

The vision operation of both machines is identical, only the reflow programming and storage capabilities differ.

Sniper

The Sniper is an ideal choice where simple programming is required. Four (4) profiles are provided in the reflow controller. The Bottom Heater is independently controlled and the system is operated by a foot pedal (panel switch optional). The Sniper does not include Data Logging capabilities. See page 18 for order information.

Sniper II

The Sniper II stores up to sixteen (16) multi segment (Ramp & Soak) profiles on the machine or any number of profiles by using Windows-based software. Programs can be created and entered directly on the Reflow Controller keypad or created using Graphical Display software (included). Data Logging events is provided in PDF format. The rework cycle is automatically controlled and shut off after completion. See details and order information on page 18.

Stencil Attachment

An optional Screen Stencil Foot mounts to the Vacuum Pick-Up Barb of the vision system, so that the stencil pattern is overlaid to the PCB component pattern, when viewed on the monitor. The stencil can then be automatically lowered to position and solder paste applied by the squeegee, which is included in the Kit.

