



Making the connected world possible™



PALOMAR 9000

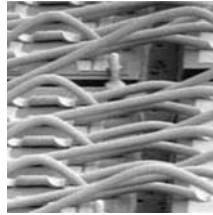
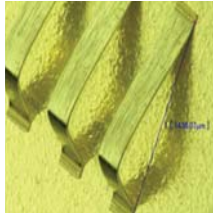
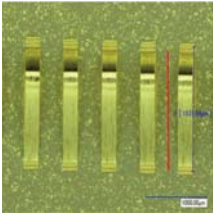
WEDGE BONDER

High-speed fine wire, wedge
and ribbon bonder

PALOMAR 9000

WEDGE BONDER

The 9000 Wedge Bonder is a high-speed fine wire wedge and ribbon bonder driven by voice coil technology in the bond head. This machine has interchangeable 45-60° and 90° deep access wedge clamps and operates across a single large 304 x 152 mm work area. As the entire bond head mechanism rides on theta, users realize excellent wire tension, a shorter wire feed path and inherent prevention of twisting of wire and ribbon, and better overall process control.



VISIONPILOT® WITH RADAR REFERENCING®

Utilizes advanced geometric pattern matching technology to reliably and accurately locate parts that are randomly oriented or have greyscale variations by using a set of boundary curves that are not tied to a traditional pixel-grid.

INTELLIGENT INTERACTIVE GRAPHICAL INTERFACE®

Supports advanced wire bond control through an intuitive interface that simplifies programming and provides real time graphical feedback to the user of bonding performance.

BOND DATA MINER™

A comprehensive and centralized data management and analysis system that provides machine and process trend monitoring for increased yields and predictive maintenance.

- **VisionPilot®**

VisionPilot with Radar Referencing pattern recognition software to maximize throughput

- **Bond Data Miner**

An all-inclusive and centralized data management and analysis system that is a powerful tool to improve yield and machine utilization

- **i2Gi® Software**

Designed to enable technicians to work smarter, faster and with more control

- **NEW Palomar Vision Standardization™**

Standardizes the vision system across bonding platforms, allowing for seamless transfer of programs between systems

- **Industry 4.0**

Engineered to enable Industry 4.0 communications

- **Process Control**

Assign control limits for deformation

- **No Touch Technology**

Palomar's no-touch technology does not require the bonder to touch sensitive components with the bare wedge tool to sense the bond pad

- **Service Contract**

Achieve maximum ROI by adding a service contract complete with preventative maintenance visits

- **Process Camera**

Real-time view of the state of the wire/wedge tool

- **Speed**

Up to 7 wires per second and up to 10 loops per second

- **Quality Control**

Real-time bond monitoring and process control software with a robust, low maintenance voicecoil bondhead

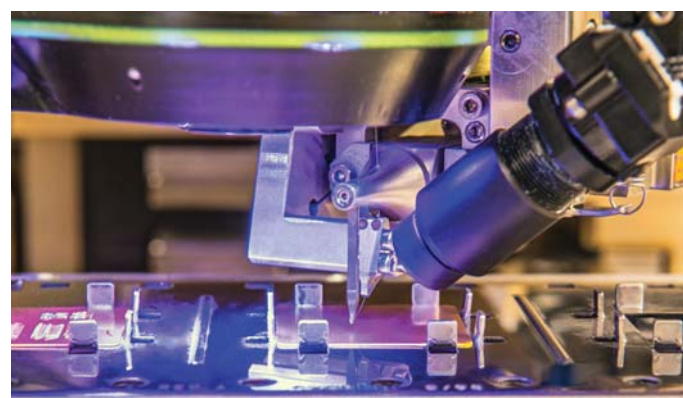
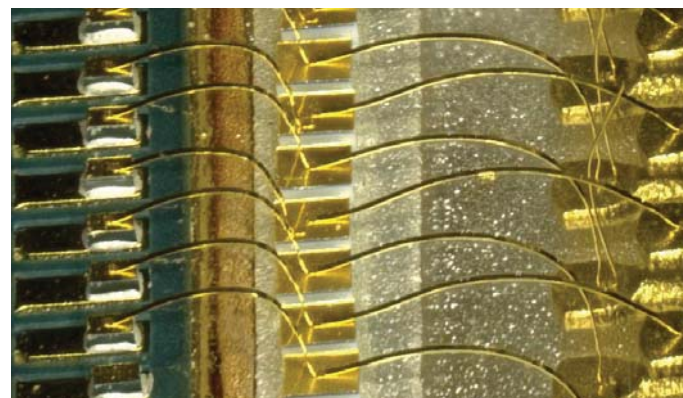
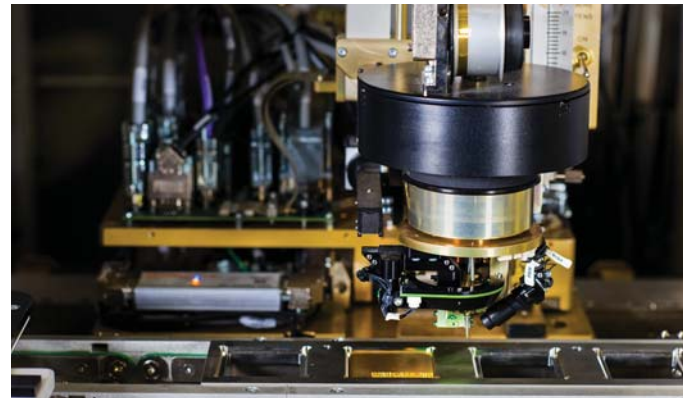


TYPICAL APPLICATIONS

- RF-SOE
- Large complex hybrids
- RF and microwave devices
- Fine pitch devices
- Low profile wire bonds
- MCM power connections
- Running stitch interconnects (die-to-die)
- High frequency passive and active components
- Disk drives
- COB
- Compact hybrids
- Fine pitch devices
- Ribbon bonding

STAGES & HANDLING	SOFTWARE	ACCESSORIES
• Heated Stages: - 6" x 4" (152.4 x 101.6 mm) - 6" x 6" (152.4 x 152.4 mm)* - 6" x 10" (152.4 x 254 mm) - 6" x 12" (152.4 x 304.8 mm) - 8" x 8" (203.2 x 203.2 mm)* - 8" x 12" (203.2 x 304.8 mm) • Heated Wafer Stage • Dual Heated Wafer Stage • Variable Wafer Stage • Custom Stages • Conveyors • Magazine Feeders • Wafer Stages	• Adaptive Bond Deformation • Part Mapping • Process • TAB Software • RAM Stats Software • Chain Bonding • Auto Focus • Auxiliary Wire • Auto Bond Set Layout • V-Bond • SECS/GEM	• Ultrasonic Monitor • Wire Bonder Spare Parts Kit
		LOOPING
		• 70µm to 20 mm • Various loops • Standard loops • Constant loop length • Constant loop height • High-speed, extreme long loops
		CHAIN BONDING
		• Stitch-loop-stitch-loop

*Wafer Stages



PERFORMANCE AND SPECIFICATIONS	
Cycle Times	0.125 sec/wire
Bond Type	Thermosonic, ultrasonic wire and ribbon bonding
Wire Pitch	50 µm (0.0019") using 20 µm (0.00078") wire
Repeatability	+/- 1 µm, 3σ
Bond Area	304.8 x 152.4 mm (12" x 6")
Wire Size	Spool Size: 50.8 mm (2") double flanged spool Wire (Au & Al): 17.5 to 75 µm (0.7 to 3 mil)
Ribbon Size	Ribbon (Au): 12.7 to 50.8 µm up to 25.4 µm (0.5 x 2 mil up to 1 x 10 mil)

MOTION SYSTEM	PATTERN RECOGNITION
Resolution: 0.10 µm X/Y axis	Vision System: Cognex® Series 8500
Control system: Linear motor/encoder (X/Y), voice coil/encoder (Z linear / Z rotary), Servo EFO/encoder	PR Theta: +/- 7° from taught angle VisionPilot: +/- 180° from taught angle Focus Range (Depth of Focus): Programmable focus across 15.24 mm (0.600") - focal lens floats on Z course axis
Z Axis Stroke: 20 mm (0.80")	Capture Range: 760-1300 µm (30-50 mils), magnification dependent

HARDWARE AND FACILITY REQUIREMENTS	
Power	230 VAC, 50/60 Hz, 15 A, single phase
Vacuum	-25 inHg (85 kPa)
Air at Bonder Inlet	CDA or N ₂ : 60 psig @ 15 CFM
Dimensions	Height: 1,778 mm (70") Footprint: 800 x 953 mm (31.5" x 37.5")
Weight	3,100 lbs. (1,400 kg)
Flooring	102 mm (4") Thick concrete continuous slab

Technical Specifications are subject to change.



Making the connected world possible™

Making the connected world possible by delivering a Total Process Solution™ for advanced photonic and microelectronic device assembly processes utilized in today's smart, connected devices. With a focus on flexibility, speed, and accuracy, Palomar's Total Process Solution includes die bonders, wire and wedge bonders, vacuum reflow systems, along with Innovation Centers for outsourced manufacturing and assembly, and Customer Support services, that together deliver improved production quality and yield, reduced assembly times, and rapid ROI.



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