

Technical Product Bulletin

μ -LIGN™ manual vision alignment systems for precision printing applications

AMI manual vision alignment systems eliminate registration problems associated with using board edges or tooling holes for alignment. Two different systems are available: Model μ -LIGN™ IV is a PC-based system with multiple alignment strategies, and the Model μ -LIGN II™ incor-

porates dual crosshair generation. Both systems use high resolution CCD cameras, are self-contained, and may be retrofitted to any of our semi-automatic screen printers as well as other manufacturers' models.

μ -LIGN IV™ PC-based manual vision alignment system

AMI's μ -LIGN IV manually adjusted vision alignment system permits use of part of the actual board pattern, eliminating part-to-part deviations that prevent accurate print deposition on precision applications such as fine pitch and fine line printing.

The system incorporates four different alignment methods as follows:

Image Overlay

This method stores a portion of the board pattern and overlays on the live image during production. The operator simply adjusts the live image under the stored image for a perfectly aligned point.

Boundary Tracking

For applications where a simple or "normal" type pattern is not available, "boundary tracking" locates and outlines the shape and size of any portion of the board pattern.

Circles

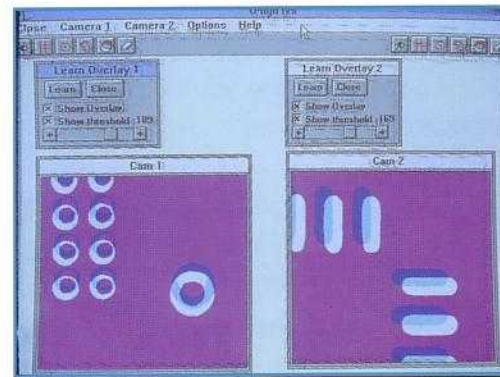
Specifically for round fiducials or board marks, this method creates a circle that is adjustable to the same size as the pattern selected on the board.

μ -LIGN II™ vision alignment system

The μ -LIGN II is a practical and economical manual vision alignment system that permits registration to an existing board pattern with accuracy far greater than possible by mechanical features or fixturing of the board.

Consider these outstanding advantages:

- Two high resolution CCD cameras for highest possible accuracy
- Single or dual crosshair line generation that adjusts black or white, dotted or solid, singly or in pairs provides high contrast for operator convenience and alignment accuracy
- Multiple lighting options include fluorescent and LED to minimize eye strain, add viewing ease
- Independent camera positioning, adjustable over the entire board range for maximum operating flexibility



THE μ -LIGN IV™ PC-BASED MANUAL VISION ALIGNMENT SYSTEM is self-contained, and field installable on most AMI printers and many others as well.

Dual Crosshairs

This line generation technique is used to "box" in a portion of the board pattern. With each subsequent board the operator adjusts the chosen image until it is within the created "box".

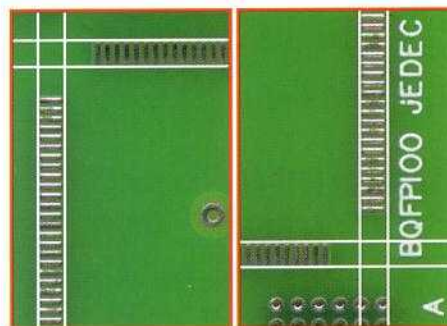
Other features include:

Automatic Cycle Lockout

This unique capability eliminates operator alignment errors by preventing the printer from cycling when preset tolerances are not achieved in any of the alignment methods.

Digital Feature Measurement

The distance between any two board pattern features can be measured in operator selectable units such as microns or mils.



THE μ -LIGN II™ VISION ALIGNMENT SYSTEM permits registration to an existing board pattern with a high degree of speed, accuracy, and convenience. Single or dual crosshair line generation with operator selectable modes, speeds production, enhances yields.

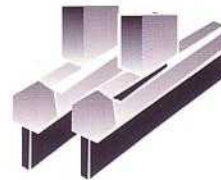
40 years—

**and the best is yet to come...
This is where you belong!**



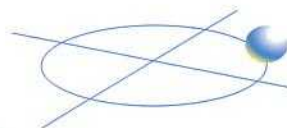
If you're in this business to stay, you've come to the right place. Our vision alignment systems stand out for long term value, performance, and productivity. As a world class manufacturer of precision screen printing equipment, with over 40 years' experience and more than 25,000 printers built, you can count on us for quality, reliability, and service.

At AMI, we're dedicated to your success. Our vision alignment systems, printers, and accessories are provided with complete documentation, including easy-reference operating manuals and preventive maintenance schedules; we also offer CAD drawings and schematics for mechanical sub-assemblies and pneumatic and electrical systems. Our goal is to make your job easier and more productive. As part of the AMI family, we offer complete operator and maintenance training, telephone, modem, and on-site technical support, preventive maintenance services, retrofits, and upgrades. We also maintain a multi-million dollar inventory to support our equipment throughout the world.



In addition to our vision alignment systems for SMT stencil printers, AMI offers related products and other accessories including:

- **Stand-alone and in-line stencil printers and systems for automatic (unattended) or semi-automatic operation**
- **Precision printers for hybrid microelectronics applications**
- **Substrate handling and automation systems**
- **Screen printing supplies**
- **Automatic conveyors/dryers**



How to get more information...

If you're ready for *extreme value, performance, and service* for your SMT stencil printers, our vision alignment systems will increase their usefulness and enhance productivity. Tell us about your application. Request full details, applications advice, or a demonstration. Let us hear from you today.



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