



Model XL Production Level Automated Flatness Inspection System

The LineMoiré XL provides production level inspection for mass lamination, PCB fabrication, assembly and packaging. Shadow moiré technique is combined with phase stepping analysis to provide automated, high-sensitivity characterization of substrate topography.

The LineMoiré XL is the newest LineMoiré model that enables single pass measurement of larger sized substrates. Both global (whole board) and local area (component site) analyses can be performed simultaneously. The XL was introduced in 2007 and incorporates many new features and capabilities based on customer input and technological advances:

- Megapixel digital camera with Firewire for increased x-y resolution and reduced noise
- Single computer design for simplicity and increased reliability
- Usage of servo motor drive system instead of stepper motors for better reliability
- Vibration-resistant hard drive for prevention of hard drive failure
- Fully adjustable 3-belt conveyor to eliminate gravity induced sag



Software features include:

- Easy to use Operator Interface
- Entirely new "engine" taken from the highly successful and reliable LineMoire J5000
- Windows XP Operating System
- Live Imagery capability eases recipe setup and camera pointing
- New standard and customized gauges available

Creation/implementation of new gauges is dramatically simplified

The LineMoiré family of systems is a flexible tool that can be used for a variety of applications and a variety of parts in a production environment. With the ability to check a part in under three seconds, this system is designed to be operated either in-line or as a stand-alone unit. With full-field analysis capabilities, a determination on global bow and twist as well as local area warpage in key component footprint areas can be achieved in seconds. Our specialized software has the ability to condense large amounts of data into a form that allows engineers to make fast, quantitative assessments.

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The LineMoiré can be used for a wide range of applications including:

- IPC Bow and Twist inspection compliance
- BGA substrate characterization
- Post-process warpage inspection (pre/post cure, back-end inspection for specification requirements)
- Assembly (incoming inspection, between multiple reflows)

The LineMoiré is:

- Fast
- Optical, non-contact
- Large area (up to 600mm x 600mm), high resolution (2.5 micron)
- Full-field: provides local and global measurements
- Scaleable