



# High-Speed Video Applications

## Electronics

- **Equipment Design and Development**

By allowing engineers to record and measure events that the eye cannot see, high-speed video can significantly shorten the development cycle for new products. Design engineers can record a high-speed operation, make adjustments, re-record the event and immediately analyze the cause and effect relationships. The ability to analyze and correct problems as they occur means that you can get new equipment to market sooner, giving you a potential competitive edge.

- **Wire Bonding**

The complex components of wire bonder operations can be easily analyzed and characterized. For example, loop formation and trajectory, ball and puddle formation, probe bounce and dwell time and carriage indexing can all be studied in extreme slow motion to enable engineers to optimize the entire process.

- **Printed Circuit Board Manufacturing**

Automated PCB equipment is fast and expensive. Whether it's through-hole, surface-mount or chip-on-board machinery, it needs to be kept running at peak efficiency. High-speed video helps reduce costly downtime because maintenance engineers can more quickly and efficiently diagnose and correct equipment malfunctions. If they can see it, they can fix it!

- **Wafer Fabrication**

Typical areas for motion analysis in wafer fabrication include photoresist application and flow visualization, indexing operations, belt transfer analysis and packaging. Many companies schedule specific times for preventative maintenance on their fabrication lines. Effective use of high speed imaging can help extend the time between PM's by letting maintenance engineers see, analyze and fine-tune the line so that key mechanisms can be adjusted to last longer.

- **Product Testing**

High-speed video is widely used for product testing at both the component and assembly level. Impact, vibration, stress, penetration and air flow testing are just a few typical examples. Potentially costly design or manufacturing flaws can be corrected before the product gets to your customers, while thorough packaging testing can help keep shipping damage and warranty adjustments to a minimum.