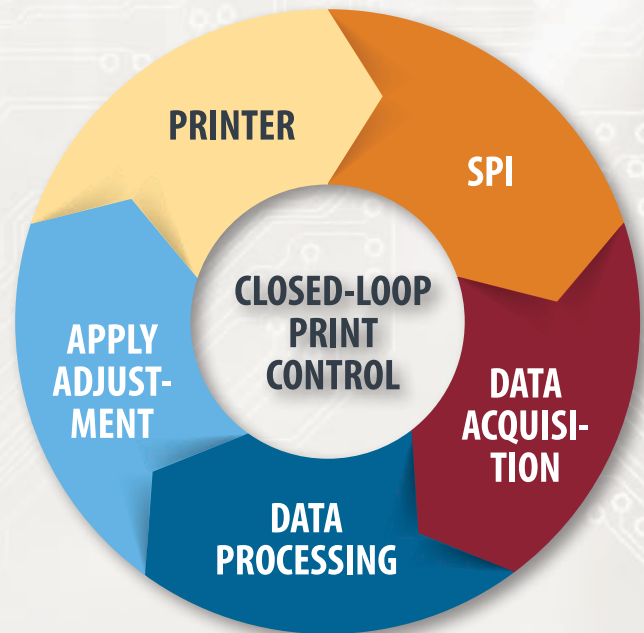


# SPI Print Optimizer

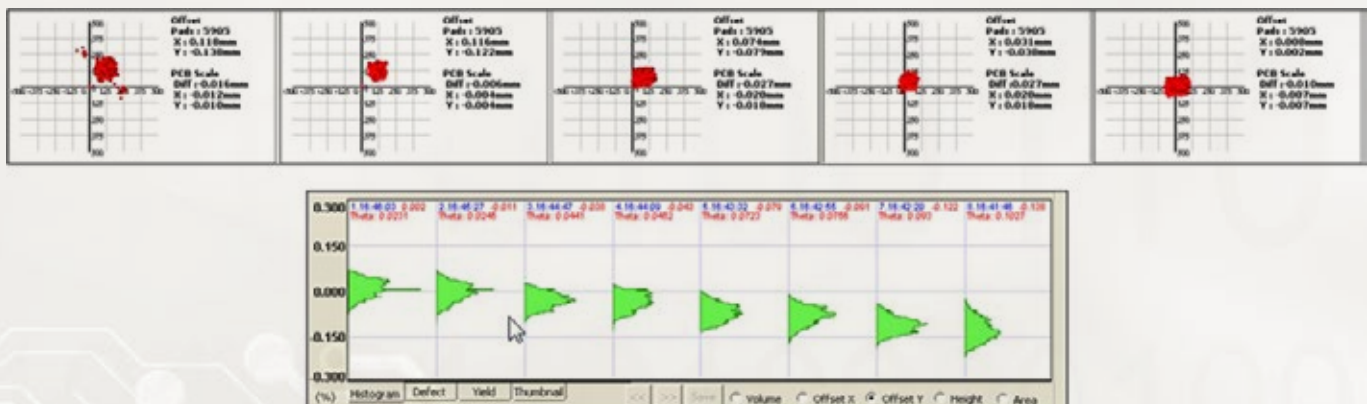
Building on our state-of-the-art print platforms, MPM has developed a common interface which is capable of communicating with external Solder Paste Inspection (SPI) systems to continuously monitor and adjust X, Y and Theta registration to stay on target.



Positional or registration accuracy is considered to be the most important aspect of a printing process. Traditionally, maintaining this accuracy has been left up to the operator's ability to make small adjustments as necessary during the production run. SPI Print Optimizer eliminates this need for manual and uncontrolled process tweaking.

MPM's SPI Print Optimizer Interface makes process set-up as simple as pushing a button and it maintains itself over the entire production run.

The SPI Print Optimizer allows the system to automatically eliminate variations that usually go unseen during steady state production. These variations can be caused by numerous sources, such as variation between stencils, stencil stretch or dimensional variations in boards; within lots, between lots or due to changes after the first side reflow pass.



The above chart shows the actual print offsets that were corrected automatically by the SPI Print Optimizer system.

# SPI Print Optimizer

## FAQs

**Q: What is being controlled through closed-loop?**

A: X, Y, and Theta offsets on the printer.

**Q: How are the print offsets controlled?**

A: By applying a percentage of the offsets detected by the SPI machine to the next board printed by the printer. User choice of High (50%), Medium (35%), Low (20%) available. Offsets are corrected incrementally as each PCB passes through the printer; not all at once.

**Q: Where do these offsets originate?**

A: PCBs can have variances that affect the accuracy of the printing process. Stencils may experience stretch or have inaccuracies.

**Q: Can the SPI Print Optimizer fix or prevent all print defects automatically?**

A: No; based on communication from the SPI, the program alerts and operator when intervention is required.

**Q: Which MPM printer models is this feature available on?**

A: Momentum II series and Edision

**Q: What SPI systems currently communicate with our system?**

A: Koh Young, CyberOptics, Parmi, Pemtron, Mirtec, Viscom and TRI presently have machines that interface with this option. Your local SPI Sales representative should know what models support this option, as well as what software level is required. Speedline partnered with leading SPI vendors to jointly develop an open standard RPC inspection communication interface.

**Q: Can all inline SPI machine manufacturers communicate with our printers?**

A: Not by default. They need to design their software to communicate appropriately with our machines. We can provide the necessary documentation to accomplish this.

**Q: Can this option be upgraded in the field by a customer, or does it require an ITW EAE Authorized Service Engineer?**

A: Customers can install the SPI Optimizer option themselves. If desired, ITW EAE can provide this via a service call.

**Q: What is involved in the installation?**

A: Enabling the option license, networking the MPM printer to the SPI machine either directly or over the net-work, and configuring the system.