

# Contour Mapping™

## Precision Positioning

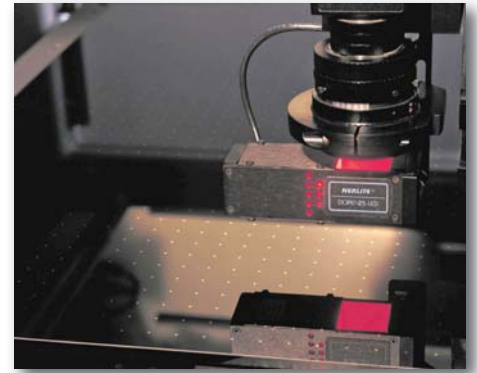
### OVERVIEW

Today's components and applications require material to be deposited at very accurate locations. To ensure that the highest standards in positioning are obtained, GPD Global® has developed the Contour Mapping™ process. Contour Mapping™ is a technique of mapping the gantry to a high accuracy NIST Traceable calibration plate. During program execution the system is continually calculating its position based on the corrected data that was obtained during the proprietary Contour Mapping™ process.



in camera pixels. These offsets are recorded to a database, then integrated into the servo driver for very accurate, interpolated positioning over the entire work area.

Once the mapping process is completed, the before and after data



may be plotted for a graphical representation of the improvements. A mapped system can exhibit placement accuracies up to  $\pm 0.0005$ " (0.013 mm). The MAX Series, due to its gantry and frame design, will have accuracies equal to or better than  $\pm 0.001$ " (0.025 mm), while the DS Series™ will have positioning better than  $\pm 0.0015$  (0.038 mm).

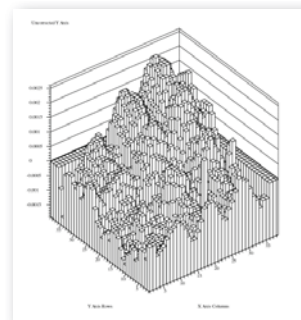
### PROCESS

The Contour Mapping™ process begins by placing the calibration plate into the work area of the MAX Series or DS Series™ dispense systems. The plate is positioned and fixed in X and Y with respect to the work table or conveyor system. Once positioned, the system, with operator assistance, will locate three corners of the plate to define the reference frame. The operator then defines the number of points to locate and the pitch of the points. The number of points is determined by the work area of the system while the pitch remains constant for all applications.

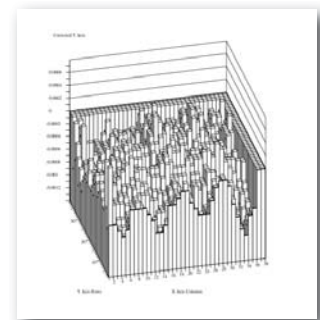
Automatically, the gantry will increment to each of the calibration points using only its encoder counts. At each point, the vision system will locate the calibration point and determine the local offset

The Contour Mapping™ process can also be performed on site. On site calibration is recommended for applications that require the utmost in accuracy.

The entire process takes approximately 45 minutes depending on work area size.



Un-Corrected Axis



Corrected Axis