

# Ultrasonic Systems, Inc.

## Galil Dispatches USI's New Ultrasonic Coating System

With a Galil controller acting as the "command dispatcher," a new ultrasonic spray technology by USI refines the ability to spray the thin, uniform coatings so necessary for coating circuit boards.

A product of Ultrasonic Systems, Inc., the new system is said to be more precise and controllable than other spray technologies. It also uses less material than other methods because it puts down a thinner coat.

USI's sprayer system uses two Galil DMC-3425 two-axis controllers and an IOC-7007 I/O controller. All are linked together in an Ethernet distributed system. The host talks to just one DMC-3425, which sends commands to the other DMC-3425 and to the IOC-7007.

Galil's ability to direct either stepper or servo motors

*Galil's ability to direct either stepper  
or servo motors along a single  
conveyor is especially important to USI.*

along a single conveyor is especially important to USI. The entire system requires four axes of control. Two of them direct servo motors to move the ultrasonic spray head precisely along the x and y axes. Two additional axes direct stepper motors along the z axis and the conveyor.

The Galil IOC-7007 uses plug-in I/O modules for the system's digital and analog requirements. Two analog outputs set the air pressure on two pressure transducers. Extra digital I/O is used for conveyor control and for a toggle head on the machine that allows either two spray heads or a spray head and syringe assembly.

The Galil master controller contains both the application and I/O programs for the system, freeing the host computer for other tasks. Because the IOC is from Galil, it uses the same command language, making integration easy and seamless.

Called Prism Ultra-Coat, the ultrasonic coating system also provides precision, selective coating in other industries, including PCB assembly and semiconductor processing. The system can configure whatever pattern a particular technology requires. It can also spray virtually any liquid—from thinner fluxes and solvents to thick conformal coatings and adhesives.

Other machines use spray nozzles that control the coating material with air pressure. The USI spray head oscillates, using ultrasonic energy to atomize the coating material. This allows a more uniform, thinner coating. ■



*The Prism-Ultra-Coat ultrasonic sprayer provides precision coating.*

**Ultrasonic Systems, Inc. (USI)**  
Haverhill, MA  
[www.ultraspray.com](http://www.ultraspray.com)