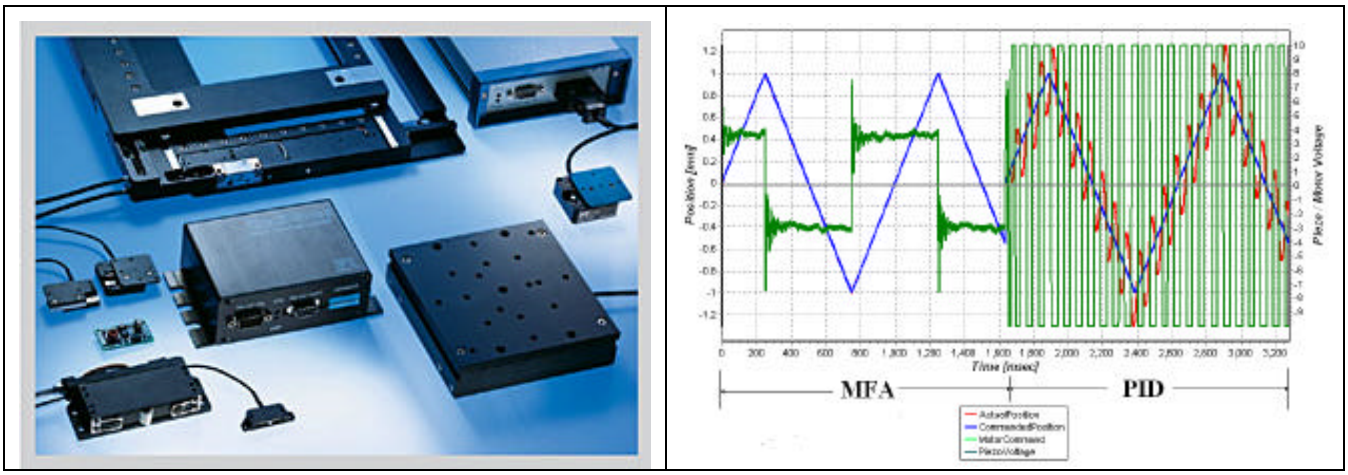
Model-Free Adaptive Control for Piezomotors by Physik Instrumente

Use of MFA Tiger ™ Controller	*Benefits*
Tightly controls PI's ultrasonic piezomotors with consistent performance under varying loads.	Enables flexible production and more efficient use of equipment. Improves "cost of ownership" significantly.
Stable, smooth, fast, and precise control performance from start-up and under all operating conditions.	Enabling technology for equipment and tool builders by replacing DC and stepper motors with piezomotors.
Easy to setup, use, and maintain. No more intensive servo setup or manual tuning.	Sharply reduces tech support cost and rework. Faster to market for R&D projects.



CyboSoft and PI Unveil Breakthrough in Piezomotor Control at SEMICON West

What's New: In a close collaboration between CyboSoft and PI, a special implementation of MFA control technology has been engineered to bring plug-and-play closed-loop operation to ultrasonic piezomotors with no servo tuning and with automatic, real-time adaptation to changing loads and motor dynamics. System is optimized and safe in all conditions. Oscillation and runaway from mistuning are eliminated. Performance is quiet, smooth and precise even with load changes.

The Challenges: Piezomotors have distinct advantages. Their compact size, high speed, responsiveness, non-magnetic nature, vacuum compatibility, sub-micron resolution, in-position stability and energy efficiency hold great promise for many demanding applications. They allow eliminating costly and bulky leadscrew and motor-coupling assemblies. But, due to their varying dynamics and deadzones, they are difficult to control resulting in slow adoption in broad application areas.

What's the Big Deal: The CyboSoft and PI collaboration has yielded a breakthrough in piezomotor control by eliminating the need for intensive servo setup as well as sensitivity to load. The custom MFA Tiger™ controller developed for PI piezomotors provides stable, smooth, fast and precise performance from start-up and under all operating conditions. Live demo featuring PI's piezomotor stages running stably with significant load changes, will be featured in CyboSoft Booth #8351 and PI Booth #6149 throughout the SEMICON West 2007 Exhibition.