



## **Semiconductor Process Engineers Level Equipment With Enhanced Vertical Accuracy, Increased Range of Latest Wireless Inclinometer From CyberOptics Semiconductor, Inc. – WaferSense ALS2 Vertical**

### **WaferSense ALS2 Vertical’s 300mm Light Version Directly Enters Chambers, New LevelReview Software Allows for Offline Review and Analysis**

BEAVERTON, Ore., July 31, 2008 – The R&D group at a developer of [wireless metrology devices for wafer processing equipment](#), CyberOptics Semiconductor, Inc. (CSI), has characterized a new MEMS sensor to improve by 10x and 3x the vertical accuracy and range of the company’s latest incarnation of its wafer-like auto-leveling inclinometer for fabs, the [WaferSense\(tm\) Auto Leveling System 2 \(ALS2\) Vertical](#), according to Dennis J. Bonciolini, the company’s CTO.

Apps engineers at the company, a subsidiary of CyberOptics Corp. (Nasdaq:CYBE), report that, market-wide, fab engineers continue to employ longstanding manual-alignment techniques to determine the vertical inclination of wafer processing equipment such as [ion implants and wet-station robots](#), according to Bonciolini.

The absence of more precise vertical inclination metrology data and station-to-station controls -- as tolerances continue to shrink -- effectively jeopardizes yield and device performance at ion implant and wet-station processes and causes engineers to take machines offline for prolonged re-calibration and troubleshooting maintenance, Bonciolini said.

“You really need insight into your equipment to rein in what have become significant margins of error in leveling vertical wafer alignments,” Bonciolini said. “The data is basically going to improve downtime -- and eliminate any surprises -- and establish a clear relationship between inclination and yield.”

Bonciolini added that the company’s latest wireless auto-leveling device and software, LevelView(tm) and LevelReview(tm), are largely intended to allow fab engineers to obtain real-time vertical and horizontal inclination measurements. Engineers use the measurements to characterize equipment, conduct statistical analysis via log file data and establish uniform metrology standards for process equipment and preventative maintenance schedules.

The R&D group at CyberOptics Semiconductor worked to improve its wafer-like leveling device to “extend our reach in the fab” and “further automate production” of 300mm and 200mm wafers, Bonciolini said.

The company’s WaferSense ALS2 Vertical improves the device’s vertical accuracy from +/-0.5 degrees to +/-0.05 degrees and vertical range from +/-15 degrees to +/-50 degrees. The company also reduced the form factor of the device’s carbon fiber composite housing to develop a light 300mm version. The light 300mm device weighs 200 grams, down from 240 grams, and is primarily designed to work on flat surfaces.

CyberOptics Semiconductor's WaferSense ALS2 Vertical is used as an alternative to the machinist levels, bubble levels and wired devices used by process engineers to calibrate equipment.

"When you start looking at the cost to shut down your process or damage wafers, eyeballing it just isn't effective," Bonciolini said.

The WaferSense ALS2 Vertical's key specifications and features include form factors of SEMI 200mm notch or flat and 300mm, horizontal accuracy of +/-0.03 degrees within +/-7 degrees, horizontal resolution of +/-0.002 degrees within +/-14 degrees, operating temperature of 20 to 70 degrees Celsius, height of 6.3mm, weight of 150gm at 200mm, 240gm at 300mm and 200gm at 300mm (CL version), wireless Bluetooth link, four hour run-time per battery charge and use with Windows 2000, XP and Vista.

The WaferSense ALS2 Vertical package includes the leveling wafer, USB-compatible link, LevelView(tm) and LevelReview(tm) graphical software CD, charging case and suitcase.

The WaferSense family of products includes the Auto Leveling System (ALS), Auto Teaching System (ATS), Auto Gapping System (AGS) and Auto Vibration System (AVS). Each device follows the processing life of a wafer.

#### **About CyberOptics Semiconductor, Inc.**

CyberOptics Semiconductor develops automated products that seamlessly measure critical parameters in semiconductor fabrication processes and equipment. The company's pioneering WaferSense(tm) line includes wireless metrology devices for vibration, leveling, gapping and teaching semiconductor process equipment. The company is the largest producer of [reflective wafer-mapping sensors](#) and a leading provider of [frame grabber machine vision boards](#) under its HAMA Sensors(tm) and Imagination(tm) brands. CyberOptics Semiconductor is a subsidiary of CyberOptics Corp. (Nasdaq:CYBE), one of the world's leading providers of process yield and throughput improvement solutions for electronic assembly and semiconductor capital equipment companies. For information, visit <http://www.cyberopticssemi.com/>, e-mail [CSsales@cyberoptics.com](mailto:CSsales@cyberoptics.com) or call 800-366-9131.

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