



## News Release

For Immediate Release

### **CyberOptics Semiconductor introduces WaferSense Auto Vibration System, designed to detect wafer-damaging equipment vibrations**

*WaferSense AVS enables faster identification of wafer contamination sources and maximizes motion parameters.*

**BEAVERTON, Ore. - November 12, 2007** -- CyberOptics Semiconductor, a producer of precision products used for measuring critical parameters in semiconductor processes and equipment, introduced its new WaferSense™ Auto Vibration System (AVS), designed to monitor three-axis accelerations and equipment vibration to maximize equipment motion and wafer throughput.

Equipment acceleration and vibration pose significant threats to wafer production because of their ability to compromise yield significantly. In the semiconductor environment, where moving stages are used to position silicon wafers, the force used to accelerate the stage can vibrate equipment and cause a shift in the payload and damage to the wafers. High precision and sensitive equipment used in the semiconductor industry have a particularly low tolerance to vibrations, and equipment that fails particle qualifications must be taken off line and recalibrated, slowing down the manufacturing process. In addition, automatic material handling equipment must be monitored to be sure it does not exceed maximum allowable vibration levels to permit optimum equipment performance and yield. Controlling a balance between maximum acceleration and minimum vibration is critical for fab yield.

The WaferSense AVS is a wireless, wafer-like accelerometer available in a 200 mm or 300 mm format, that was designed to move through semiconductor process equipment and automation material handling systems including cassettes, SMIFs and FOUPs to observe and monitor three-axis accelerations and vibrations. It reports x, y and z acceleration, has a range of  $\pm 2$  G, and can detect wafer slides, slips, bumps, scrapes and rough handling. This information is then sent to a computer via VibeView™, the application software bundled with the system. The GUI collects and displays this data similar to an oscilloscope so baseline performance can be recorded and periodically monitored for changes. Once the location or absence of contamination sources has been identified, equipment can be swiftly adjusted. Fab engineers can see the effect of adjustments in real time, speeding equipment alignment and setup, and motion parameters can be optimized. Vibration data can be compared not only to past readings but from one tool to another to reduce maintenance and cycle time.

Objective and reproducible vibration data helps lower maintenance expense. Users can get early warning for impending equipment failures and/or verify that normal operation continues. This knowledge helps optimize preventative maintenance plans. The WaferSense AVS is battery operated and runs for approximately four hours per charge. It is clean and vacuum compatible, so there is no need to open the tool and expose process areas to the environment when making adjustments.

"Vibration data is critical for today's fabs because excess acceleration can reduce wafer processing precision and unwanted vibrations can compromise device yield," said Craig Ramsey, General Manager of

CyberOptics Semiconductor. "The WaferSense AVS offers fab engineers the means to achieve maximum equipment acceleration *and* minimum vibration to optimize equipment productivity and significantly improve yield"

#### **WaferSense AVS Key Specifications**

- Form factor – SEMI 200 mm notch or flat or 300 mm.
- Thin and light: 6.3 mm tall
  - 200 mm: 150 gm
  - 300 mm: 240 gm
- Housing – Carbon fiber composite
- Range:  $\pm 2$  G.
- Resolution:  $\pm 0.01$  G.
- Operating pressure - 760 to less than  $10^{-6}$  Torr
- Operating temperature - 20°C - 70°C
- Battery operation – Operates for 4 hours between recharging.
- Bluetooth wireless communications – Uses the 2.4 GHz radio frequency band to communicate with WaferSense link that connects to host computer USB port.
- Operating systems - For use with Windows® 2000, XP and Vista.

The WaferSense AVS product kit is available now and includes a vibration sensing wafer, communications link module, VibeView™ application software, charging clean box, and carrying suitcase. The Auto Vibration System joins the expanding family of WaferSense™ products that include: the Auto Teaching System (ATS), the Auto Leveling System (ALS) and the Auto Gapping System (AGS).

#### **About CyberOptics Semiconductor:**

CyberOptics Semiconductor designs and delivers precision products that measure critical parameters in semiconductor processes and equipment. 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 more information, visit the web site at: [www.CyberopticsSemi.com](http://www.CyberopticsSemi.com), e-mail [CSsales@cyberoptics.com](mailto:CSsales@cyberoptics.com), or call 800-366-9131.

Note: all trademarks and registered trademarks are the property of their respective owners.

#### **Media Contact:**

Becky Leung  
YRG  
503-222-0626, ext. 716  
[bleung@yrgcommunications.com](mailto:bleung@yrgcommunications.com)

###