Cymer Develops Laser Monitoring Tool

Jeff Chappell - April 16, 2001

Lithography light source manufacturer Cymer Inc. today publicly launched a Web-based diagnostic and near real-time monitoring tool for their lasers in customer fabs.

CymerOnline, which is currently in beta testing at a Cymer customer fab in the U.S. and supports Cymer 5000 series models and higher, offers near-real time monitoring of its lasers, the San Diego based Cymer (nasdaq: CYMI) said. The diagnostic and service data are then available over the fab's local network and can be accessed remotely via the Internet.

Rather than retrieving data manually from each laser within a fab, CymerOnline uses a Cymer-supplied protocol converter that connects lasers via an RS232 serial port to a TCP/IP-based Ethernet network via a customer server. The company's 5000-series lasers' have serial ports configured to 9600 Baud data rates, while its 6000-series lasers have ports configured for up to 115K Baud.

CymerOnline's software can be enabled to sample laser data at rates up to every five minutes, and anyone with access to the fab's network can review the data. The software can also generate e-mail alerts given parameters set up by fab technicians and process engineers.

"Basically (CymerOnline) can monitor all their lasers at the same time," explained Sharnaz Motakef, Cymer product marketing manager, "If they see their laser is going out of spec, they can bring it back to spec. They are also much better equipped when they have to call a (Cymer) customer service rep."

According to Cymer, its diagnostic product can produce maintenance reports and charts up to six months in the future for the laser chamber, line narrowing module, wavelength stabilization module, output coupler and the F2 trap. It can also produce reports and charts based on laser type measuring performance, productivity and maintenance schedule, as well as the predicted lifetime of the module.

An advanced feature of CymerOnline the company will offer is data mining, which will be offered as an extra option to the basic product package. While the basic CymerOnline will measure 220 diagnostic and 480 configurable parameters and save the data once a day, the data-mining option will save that save data every five minutes, according to Cymer. That data can then be analyzed to derive quantitative information, discover patterns and predict future process results, Cymer said.

The price for CymerOnline will depend on how many lasers from which it will collect data, and how frequently the customer wants that data saved. The data mining option, a separate module, is considerably higher in price than the basic CymerOnline offering, said Brian Klene, Cymer senior vice president of marketing and business development.

Klene said initial beta testing should be completed within two to four weeks. So far, customer

feedback has been positive, and the company is negotiating with a U.S.-based customer for a final beta test. Following the final beta test, Cymer will be ready to entertain production installations of CymerOnline, Klene said.