# Press Release

***For Immediate Release***

## AEGIS ANNOUNCES WORLD'S FIRST MULTI-CAVITY TUNABLE THIN FILM FILTER CHIP
## $250 filter enables reconfigurable network nodes

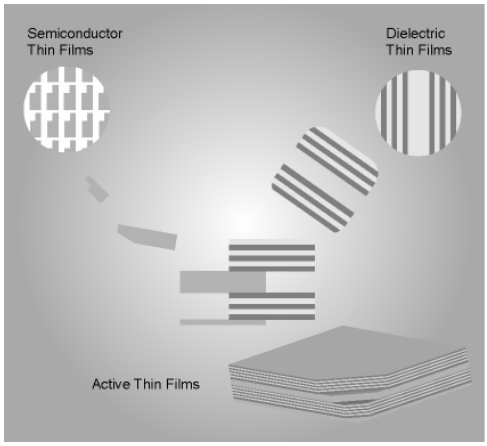
**Woburn, MA — August 19, 2003 —** Aegis Semiconductor, an emerging leader in dynamic optical components and subsystems, announced today the world's first multi-cavity tunable thin film filter chip. This breakthrough enables tunable filters with the performance necessary for today's reconfigurable networks, and, for the first time, the price points necessary for an economically viable solution.

Until now, users of optical filters have had two choices: either tunable with a complex and expensive design, or fixed with more desirable prices and flat-top passbands made possible with multi-cavity designs. Now, equipment vendors can use a filter that combines tunability and flat-top passbands at a low price point. The filter, tunable over the 35 nm of C-band, was built using the Active Thin Films™ technology platform developed by Aegis — a platform that enables the manufacturing of tunable components at the size, reliability, and price of passive components.

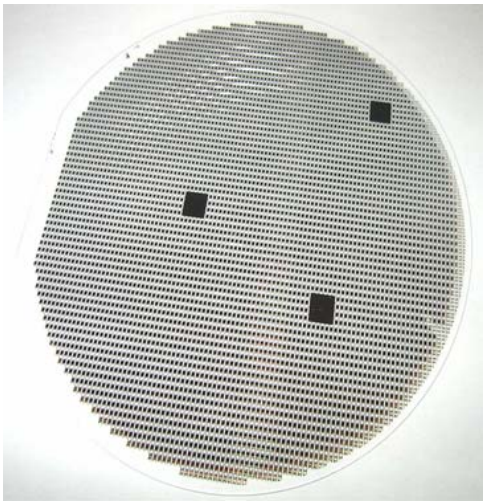
"With this multi-cavity filter, Aegis continues to deliver on its promise of selling tunable optics at the price points of traditional fixed optics," said Matthias Wagner, Founder and CEO, Aegis Semiconductor. "Carriers have been very clear – reconfigurable networks are needed to reduce operating expenses, however, they are not going to pay much of a price premium over the equipment they employ today." For example, optical components industry analyst RHK estimates that a fixed OADM currently costs $1,800 while a ROADM costs $27,700. Not surprisingly, RHK estimates that more 90% of the nodes installed in 2003 will use a fixed filter OADM architecture.

"The Active Thin Films concept is simple," said Eric Wesoff, President, SAGE Marketing Partners, a telecom consulting firm. "Semiconductor thin films integrated into dielectric optical coatings, which are already widely deployed in the fiber optic network, add a valuable dynamic dimension to conventionally static components, yet with little impact to cost. At a $250 price point for a tunable filter, equipment vendors can now build a ROADM at a price similar to that of a fixed OADM".

That Aegis was able to do this is a result of one of the most powerful means of rapid innovation – the transfer of a well known technology from one field to another, thus solving problems in the new arena using already mature methods. The idea for the Active Thin Films platform technology originates from the field of thin film semiconductors where the techniques of direct deposition of silicon-based materials has been developed over several decades for use in flat panel displays. Aegis' founders exploited this technology by combining it with thin film dielectric coatings, one of the most widely used optical device technologies in today's telecommunications networks. The simplest example of a dielectric thin film filter is a single cavity, Fabry-Perot device consisting of two thin film mirror stacks placed on opposite sides of a single cavity film. More complex structures, using multiple cavities, multiple internal mirror stacks, and up to several hundred layers, are produced for narrow flat-top passbands. Traditionally, such filters are fixed in wavelength. One of the most important criterion for designing these conventional, fixed filters has been very small thermo-optic coefficients so that filters are immune to wavelength changes associated with temperature changes. Aegis has reversed this logic and created structures with very wide tunability by maximizing this thermo-optic effect. This is done by replacing the traditional dielectric thin film cavity with a semiconductor thin film layer whose optical thickness and hence, transmission wavelength, is highly dependent on temperature. With the addition of a dynamic wavelength control layer to heat the device and to provide a wavelength reference, a tunable filter is produced. Because the Aegis tunable filter manufacturing process is quite similar to that for fixed filters, the cost structure also remains the same. Thus, Aegis is able to make tunable filters with the economics normally associated with fixed filters. Aegis has more than 20 patents pending on the Active Thin Films processes, devices, and products.




**Combination of semiconductor and dielectric thin films create Multi-Cavity Active Thin Film filters**



**Tunable filter wafer with more than 5000 individual filters**

Aegis announced its first product from the Active Thin Films platform — the 'mosquito' Optical Channel Monitor (OCM), the industry's smallest and lowest cost OCM — at the Optical Fiber Communications conference in March 2003. The mosquito OCM comes from application of a single cavity, Fabry-Perot, Active Thin Films filter stack. And now, with the breakthrough of the first multi-cavity Active Thin Films filter, Aegis is bringing tunable, flat-top, low price filters to manufacturers of ROADMs and other reconfigurable sub-systems.

Evaluation samples of the multi-cavity tunable filter will be available this fall for lead customers.

**About Aegis Semiconductor**
Aegis Semiconductor is a privately held company that builds solutions for monitoring and managing intelligent optical networks. Based on its tunable thin film technology, Aegis is the first company to deliver low-cost dynamic optical components that are reliable and easily manufactured using well-tested methods from the semiconductor industry. Aegis has secured more than $17 Million in funding from leading investors and venture capitalists including St. Paul Venture Capital, Alta Partners, YankeeTek Ventures, Technology Venture Partners, Stata Venture Partners, and Megunticook Management. The company is located in Woburn, Massachusetts, USA. More information can be viewed at www.aegis-semi.com.

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