



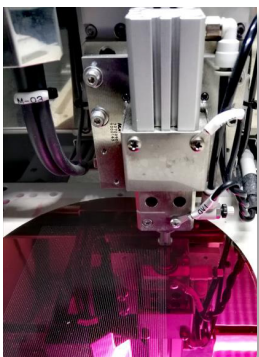
Custom Filters from Prototype to Production

## Overview

Omega Optical, Inc. is an innovator in the field of photonics, located in Brattleboro, Vermont. Founded in 1969 by Robert Johnson D.Sc., Omega produces filters for Vision systems which can be applied to robotics, inspection stations or manufacturing process lines for everything from potato sorting to automated pick and place.












## Why choose an Omega Filter?

- Use Omega to design and manufacture **custom filters** that will differentiate your product
- 50 years of engineering services to optimize your filter needs
- Experience with unusual materials to provide superior Angle of Incidence (AOI) performance
- Extensive inventory for rapid prototyping and development
- High-volume production
- In house optic shop for custom sizes, shapes and substrates
- USA made, ITAR and ISO registered



**Omega Optical provides filters to the #1 LiDAR manufacturer! Contact us to discuss your filter needs!**

## Vision System Applications

- |   |  |
|---|--|
|  Motion Sensing        |  Environmental Sensing  |
|  LiDAR                 |  Thermal Imaging        |
|  Counterfeit Detection |  Navigation and Mapping |
|  Remote Sensing        |  Product Identification |
|  Night Vision          |  Robotics               |
|  Cameras               |  |



## Filters For LiDAR

An optical thin film filter, tuned to the system's laser wavelength and designed to reject the complete range of the system's detector sensitivity, will suppress this unwanted background, improving the system's signal to noise ratio.

Optimal filter goals

- Pass only the laser wavelength, block others
- Increase signal to noise

Since all interference filters shift to shorter wavelengths as the incident light moves away from perpendicular, the range of angles that will be incident on the detector must be taken into account when determining the optimum filter bandwidth.

Typical Filter concerns:

- Bandpass too narrow loss of signal off angle
- Bandpass too wide signal to noise is limited shifting of center wavelengths with increased angle

Knowledge of the field of view and an understanding of the effect of incident angle on filter wavelength shift are required to establish the bandwidth of optimum system performance.

ISO 9001:2015 CERTIFIED • SBA REGISTERED SMALL BUSINESS • ITAR REGISTERED • MADE IN THE USA

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