

OUR COMPANY

Founded in 1987

EOT collaborates with customers to provide innovative, enabling laser components that represent the best value in terms of performance, reliability, and delivery.

WORLD-CLASS FACILITIES



Traverse City, Michigan – Component Manufacturing & Design

- 15,000 square foot cleanroom; certified ISO 5 & 6

- 5,000 square foot machine shop

Traverse City, Michigan – Optical Coating & Fabrication

- Ion Beam Sputtering (IBS) Coating Machine

- Polishing Capabilities

Idar-Oberstein, Germany – Laser Crystals

- Crystal Growth, Fabrication, & Optical Bonding

- Yb:YAG, CALGO, Nd:YAG, CTH:YAG

COMMITMENT TO QUALITY



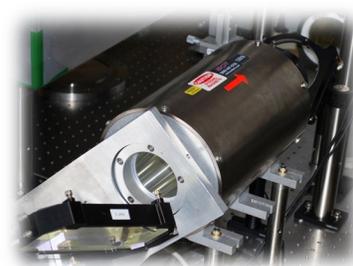
Certified ISO 9001:2015

Rigorous incoming inspection

State-of-the-art metrology equipment

Individual serialization with full component traceability

COMMITMENT TO INNOVATION



Rapid Prototyping (Machining, Optical Fabrication & Coating, Crystal Growth)

Dedicated Custom Solutions team

High power lasers, damage testing, absorption testing, beam diagnostics, & modeling software

ROTATORS & ISOLATORS



| MODEL | WAVELENGTH | APPLICATIONS |
|-------------------------|--------------------|----------------------------|
| PAVOS | 1010 nm to 1080 nm | Near-IR Solid State Lasers |
| PAVOS Ultra | 1010 nm to 1080 nm | |
| PAVOS+ | 1010 nm to 1080 nm | |
| PAVOS+ Ultra | 1010 nm to 1080 nm | |
| EURYS | 720 nm to 950 nm | Visible to Near-IR Lasers |
| MAKROS | 1900 nm to 2100 nm | |
| TORNOS | 500 nm to 1010 nm | Semiconductor Lasers |
| TORNOS Compact | 633 nm to 1064 nm | |
| TORNOS Broadband | 520 nm to 885 nm | |
| MESOS | 4400 nm to 4600 nm | Fiber Lasers |
| Dual-stage Isolator | 1040 nm to 1120 nm | |
| Fiber-to-Fiber Isolator | 1030 nm to 1080 nm | |

PHOTODETECTORS



| MODEL | WAVELENGTH | TYPE |
|----------------|-------------------|-----------------|
| ET-2000 Series | 200 nm to 1100 nm | Silicon |
| ET-3000 Series | 800 nm to 1750 nm | InGaAs |
| ET-5000 Series | 830 nm to 2150 nm | Extended InGaAs |
| ET-4000 Series | 500 nm to 890 nm | GaAs |

Amplified versions available

LASER CRYSTALS



| FAMILY | CATALOG LASER MATERIALS | APPLICATION |
|-------------------------------|--|--|
| Yttrium Aluminum Garnet (YAG) | Neodymium-doped YAG (Nd:YAG) | Medical, Industrial, Scientific, Military |
| | Undoped YAG (YAG) | Mirror substrate, Bonding endcaps |
| | Erbium-doped YAG (Er:YAG) | Medical, Military, Commercial |
| | Thulium-doped YAG (Tm:YAG) | Medical, Commercial |
| | Holmium-doped YAG (Ho:YAG) | Medical, Commercial, Sensing, Industrial |
| | Chromium Thulium Holmium-doped YAG (CTH:YAG) | Medical, Commercial |
| | Cerium-doped YAG (Ce:YAG) | Scintillation, Fluorescence standards |
| | Chromium-doped YAG (Cr ⁴⁺ :YAG) | Medical, Military, Industrial |
| Magneto-Optic | Terbium Gallium Garnet (TGG) | Faraday Isolators |
| Ytterbium (Yb)-doped Crystals | Calcium Aluminum Gadolinium Oxide (Yb:CALGO) | Femtosecond lasers & applications |
| | Potassium Gadolinium Tungstate (Yb:KGW) | Femtosecond lasers & applications |
| | Potassium Yttrium Tungstate (Yb:KYW) | Femtosecond lasers & applications |
| | Yttrium Aluminum Garnet (Yb:YAG) | Industrial & Scientific applications |
| | Lutetium Aluminum Garnet (Yb:LuAG) | Industrial & Materials Processing applications |

CAPABILITIES

EOT has invested extensively in our optical fabrication capabilities with the addition of two new facilities. Our acquisition of EOT GmbH (Germany) has added crystal growth and fabrication to our capabilities. We have also dedicated a second facility in Traverse City that is responsible for the manufacture of key optical components. Through these vertical integration efforts, EOT is excited to present new, world-class capability and technology for our customers' benefit. We have built a strong supply of components with shorter lead times, improved cost structure, and superior, predictable quality. We work closely with laser manufacturers from product development through OEM production. Below are some of the capabilities EOT has to offer:

CRYSTAL CAPABILITIES

EOT's high quality standards in manufacturing laser and nonlinear crystals are the result of intensive research and development activities in order to improve crystal growth processes and to develop new materials. EOT offers custom manufacturing of laser rods, slabs, discs, and YAG optics for low-volume development efforts or high-volume production needs. EOT's expertise includes:

- Czochralski Oxide growth and Top-seeded Solution growth
- Flat interface Czochralski Oxide growth
- Crystal Engineering
- Optical Contacting and Diffusion Bonding
- High-precision fabrication and polishing of laser rods, slabs, and discs
- Advanced Optical Metrology
 - Interferometer
 - Refractometer
 - Spectrophotometer
 - Polarization Microscope
 - X-ray Diffractometer
- Mechanical Probing of Surface Roughness and Cylindricity
- Profile Projector
- Extinction Ratio



CUSTOM SOLUTIONS

EOT has years of experience designing and manufacturing high quality laser solutions for demanding applications not addressed by our standard product offerings. Below is a listing of some of EOT's experience with custom devices:



- Large aperture, free space Faraday rotators
- High aspect ratio Faraday rotators for slab lasers or high average power lasers
- Work with custom fibers
- Non-standard wavelengths
- Vacuum-compatible or Space-qualified
- Faraday rotators and isolators
- Customized mechanical design
- PCBs, C-mounts, fiber input, and other customization of detectors

APPLICATIONS

Solid State & Ultrafast Lasers

Materials Processing, Defense/Military, LASIK, Medical, and R&D applications

Prevent parasitic oscillations in amplified laser systems due to ASE



VIS to Mid-IR Semiconductor Lasers

Biophotonics, LIDAR, Medical, Spectroscopy, and R&D applications

Eliminate frequency instability in diode lasers and QCLs due to optical feedback



Fiber Lasers

Laser Marking, Micromachining, Laser Engraving, and Selective Material Removal applications

High energy laser systems used in Directed Energy applications



Photodetectors

Monitoring output of Q-switched, mode-locked, and externally-modulated CW lasers

Measure time domain and frequency response of pulsed laser systems



Crystals for Diode-pumped, Solid State Lasers

Yb:CALGO Yb:KGW Yb:KYW



Medical, Industrial, & Scientific End-use Applications

Nd:YAG Yb:YAG Er:YAG
Tm:YAG Ho:YAG Ce:YAG
CTH:YAG Yb:LuAG



Materials for Bonding

Nd:YAG CTH:YAG Er:YAG
Yb:YAG Cr4+:YAG

