

if it's optical technology . . . Clear Align is your partner

Clear Align designs, prototypes and manufactures custom imaging, sensing and fiber-optic systems for defense, aerospace and commercial customers. Clear Align's imaging expertise spans the UV, visible, NIR, SWIR, MWIR, and LWIR portions of the spectrum. Imaging solutions include fixed and zoom systems with both narrow and wide fields of view. Our fiber-optic and sensing expertise includes optical integration for communications, remote sensing, and targeting, as well as medical fiber optics.

CLEAR ALIGN
imaging sensing fiber optics

www.clearalign.com
p 484 956 0510
f 484 956 0511
2550 Boulevard of the Generals
Suite 280
Eagleville, PA 19403

The Clear Align team's engineering experience dates back to 1980. Since then, our team has demonstrated the ability to design and deliver reliable systems from proof of concept through prototypes and into ruggedized systems delivered to the field. Our design team has been working together for over a decade delivering innovative solutions to the military, aerospace and communications markets. Clear Align's team members' expertise spans the entire product lifecycle including:

- Basic research and development
- Product design
- Prototype builds
- Product qualification
- Manufacturing



At Clear Align, we couple our technology expertise with a disciplined project management approach applied to all client projects. This insures that results are delivered on time and within budget. Clear Align offers a unique combination of rapid time to market and quality.

Imaging

Visible imaging
SWIR, MWIR, LWIR
Helmet-mounted displays
Illuminators
Collimators

Sensing

Laser rangefinding
LIDAR

Fiber Optics

Passive and active component integration
Space qualified fiber optics

Certified SB, 8(a) SDB & WOSB



imaging solutions

design, integrate and test

Clear Align offers a highly qualified optical engineering team that can design and develop workable electro-optic system and subsystem solutions quickly.

Clear Align builds and tests systems to print or takes system-level specifications and designs the required optics and mechanics, integrates the fabricated components and required electronics, and tests the final system. Our customers receive certified, high-quality, opto-electro-mechanical systems.

Our design, prototype, and manufacturing expertise includes:

- *Visible, SWIR, MWIR and LWIR imaging systems*
- *Fixed and zoom systems*
- *Wide- and narrow-field-of-view systems*

Our broad expertise allows us to balance the optical, mechanical, thermal and electrical aspects of your electro-optic challenge to ensure manufacturability, reliability and cost-control. Our focus on Design for Manufacture ensures that customers' products can be smoothly ramped to volume. Examples of systems engineered include:

- *Wide-field-of-view (WFOV) visible and thermal imaging systems*
- *WFOV helmet-mounted displays (HMD)*
- *Night-vision scopes*
- *Illuminators*
- *Rangefinder optics*
- *Medical fiber-optic imaging*



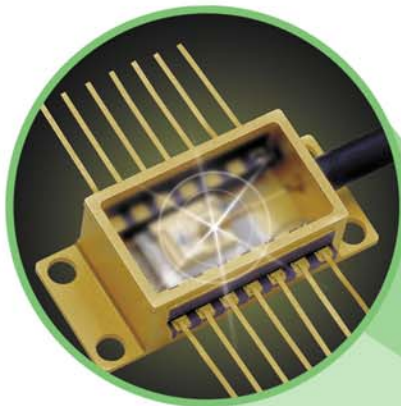
CLEAR ALIGN
imaging sensing fiber optics

www.clearalign.com
p 484 956 0510
f 484 956 0511
2550 Boulevard of the Generals
Suite 280
Eagleville, PA 19403

From initial concept, to prototype, to full-scale manufacturing, let Clear Align deliver for you.

Integration and assembly

From simple fiber coupling to complex board mounted subsystems, Clear Align has in-house capabilities to address your fiber-optic integration needs. Clear Align engineers are highly skilled in the design and assembly of fiber systems and fiber-optic components.



In-depth knowledge of fiber-optic and optoelectronic components such as lasers, receivers and detectors, erbium and ytterbium fiber amplifiers, isolators, circulators, spectral-amplitude filters, phase filters, couplers, and light sources is our strength. These skills enable us to build efficient and functional systems that meet or exceed customer specifications.

Our knowledge of system requirements pertaining to single-mode and multimode fibers along with fusion splicing of multiple types of fibers, including polarization-maintaining and double-clad fibers, assures that your network will be assembled with minimal losses and maximum confidence. Then, we rigorously test our components and systems with optical test equipment including power meters, spectrum analyzers, wavemeters, and autocorrelators to assure successful integration.

Precision system integration and component assembly processes include fusion splicing, soldering, diebonding, wirebonding, fiber coupling, and optoelectronic testing and are performed in an ESD-safe, cleanroom environment.

Systems and subsystems are qualified to the following standards:

- *Military specifications*
- *Space and airborne specifications*
- *Communications specifications*

Examples of systems engineered include:

- *Optical switching matrix for communications*
- *Fiber multiplexing system for space applications*
- *Pulsed laser system development for laser rangefinders*
- *Laser module assemblies for sensor systems*

Fiber-Optic Lasers

Clear Align's engineering staff is expert in a wide variety of lasers, including solid-state and fiber-optic lasers with high output powers and short pulse lengths. Our innovative designs take advantage of COTS (commercial off-the-shelf) parts and also harness laser physics in a creative manner to produce cost-effective systems. Some of our laser systems are designed to produce short, high-power pulses for demanding military and surveillance applications such as laser rangefinding, active imaging (ladar), target designation, and laser altimetry. Coupling the lasers with various spectral and polarization techniques allows us to develop systems with agile imaging capabilities. Most of our laser systems are designed for operation at a wavelength of 1550 nm to insure eye-safe systems.

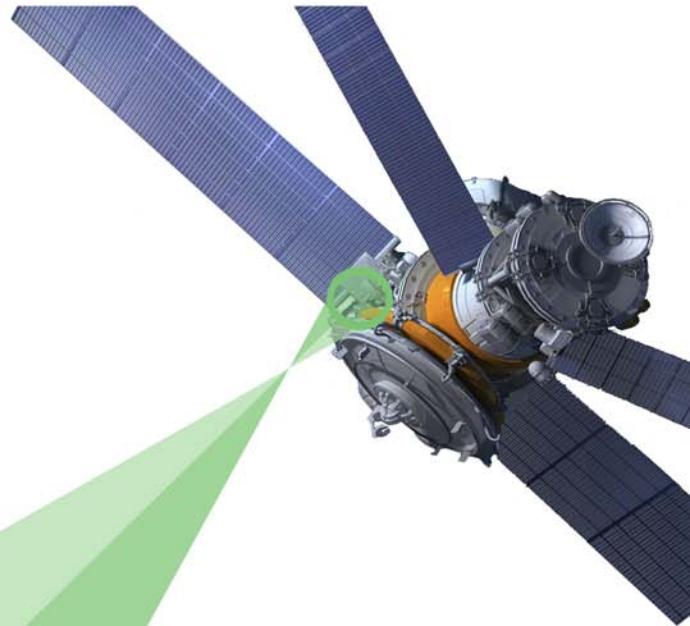
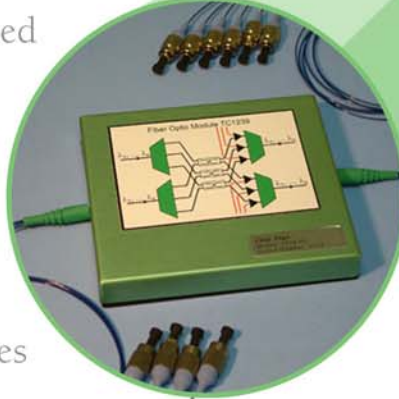
CLEAR ALIGN
imaging sensing fiber optics

www.clearalign.com
p 484 956 0510
f 484 956 0511
2550 Boulevard of the Generals
Suite 280
Eagleville, PA 19403



**high-quality
cost-effective
solutions delivered
on time every time**

Whether it is building a system from a customer print or designing and building a system based upon system-level specifications, at Clear Align we are dedicated to pushing the technical envelope and developing increasingly sophisticated and effective methodologies and integration strategies. With established quality-control practices, we manufacture products consistently and reliably.



CLEAR ALIGN
imaging sensing fiber optics

www.clearalign.com
p 484 956 0510
f 484 956 0511
2550 Boulevard of the Generals
Suite 280
Eagleville, PA 19403

Customers

Specializing in the defense and aerospace markets, Clear Align serves a diverse customer base with an optical design and development portfolio that encompasses a comprehensive range of optical, mechanical, and electronics systems. Clear Align worldwide customers include Honeywell, L3 Communications, Lockheed Martin, Northrop Grumman, and Raytheon.

Environmental Controls

At Clear Align, we deliver high-quality, precision optical assemblies by combining key factors, one of the most vital of which is cleanliness. We provide clean manufacturing operations ranging from Class 100,000 to Class 100. Our facility is equipped with ESD-safe assembly and testing stations to ensure safe delivery of your ESD-sensitive systems.

Quality Controls

Quality control isn't just about parts inspection at Clear Align; our quality control system starts before design engineers boot up their computers. Clear Align is committed to quality from the design phase through manufacturing and has a comprehensive quality-control system in place that is regularly reviewed. Whether it is building MIL-qualified or space-qualified components and systems, Clear Align's QC system enables us to meet every delivery commitment.

ITAR Compliance

Clear Align is compliant with International Traffic in Arms Regulations (ITAR) and has implemented measures to insure secure program implementation for defense-related programs. All Clear Align staff members are US Citizens.

Security Clearance

Cleared staff are available for secure programs.

DCAA Compliance

All project costs are monitored per Defense Contract Audit Agency (DCAA) requirements as defined by Federal Acquisition Regulations (FAR). Examples of controls include detailed timecards for each project and tracking of all allowable direct expenses on government programs.