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Polymer Optics Target Complex Imaging Systems

Polymer optics, also known as plastic optics, are ideal for reducing the footprint and weight of optical systems and assemblies, further fueling the demand for polymer optics in end uses in which these characteristics are important, such as in autonomous imaging, wearables, head-mounted displays, multicamera arrays, and point-of-care medical devices, among many other applications.

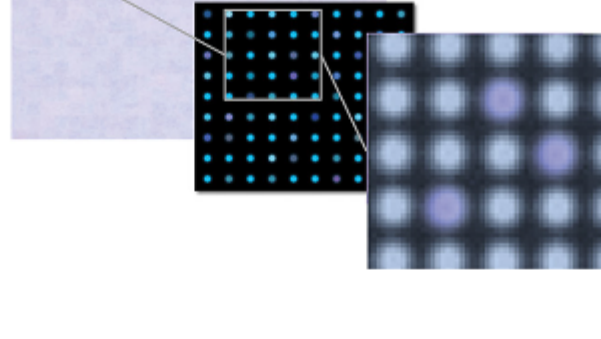
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Pixel Correction Advances Next-Generation Displays

In 2017, Clay Bavor, then vice president of Google's AR/VR division, spoke for all AR/VR device makers when he said, "We need pixels. Way, way more pixels." The display industry has more than risen to that challenge in the subsequent years, offering new products today — such as 4K, 8K, and ultra-HD screens — that offer many more pixels per inch (PPI). Pixel sizes have been shrinking along with pixel pitch (the distance between pixels) to deliver increasingly high-resolution displays.

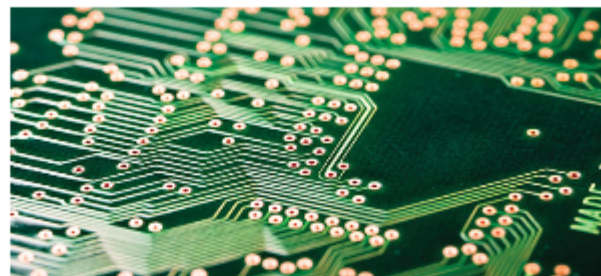
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Multifield Imaging Enhances Detectability at Speed

Multifield imaging is a new imaging technique that enables the simultaneous capture of multiple images under various lighting conditions. Coupled with time delay integration, this emerging imaging technique can overcome many of the limitations of traditional approaches.

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Featured Products & Services



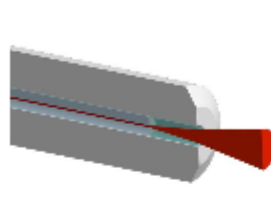
T130 Single-Channel Picosecond EOM

Highland Technology Inc.

The T130 is an externally-triggered single-channel pulse generator, suitable for driving 50Ω Mach-Zehnder LiNBO₃ electro-optical type devices.

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Fiber End-Caps for Longer Life

Coastal Connections

Coastal Connections has produced thousands of Fiber End-Caps over the past 15 years for laser pigtailed and free space laser communications. Fiber End-Caps in ferrules and connectors reduce power density where laser light enters or exits SM or PM fibers extending the cable's life. PER and NA are mostly maintained making incorporation into existing system easy.

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Fast Gantry Positioning Systems

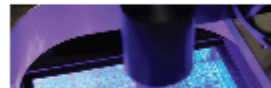
PI (Physik Instrumente)

LP, Motion Control, Air Bearings, Piezo Mechanics

PI's high performance XYZ gantry positioning systems provide overhead motion for industrial automation applications in assembly, pick-&-place, laser processing, alignment, inspection, and 3D printing. The gantries are manufactured in the USA by PI's air bearing and precision motion division.

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Precision-Imaged Components

Applied Image Inc.

Precision-imaged optical components, calibration standards, and photomasks for various industries and applications. Standard and custom products to test, calibrate, align, control, or measure the performance of imaging systems or as OEM components within imaging, inspection, or measurement systems.

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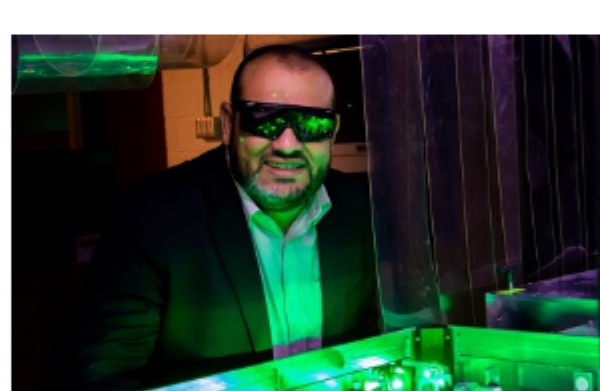


In Case You Missed It

Optical Switching Technique Sets Ultrafast Bar for Datacom

Researchers working as part of a multi-institution collaboration led by University of Arizona assistant professor Mohammed Hassan achieved what they said are previously unattainable data transfer speeds from an optical switching mechanism.

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NASA Proposes Use of Lasers to Clear and Nudge Orbital Debris

According to NASA, orbital debris is an increasingly serious issue that could impede access to space and complicate communication satellite operations, astronaut safety, and more, particularly with the advent of satellite constellation networks. These networks are affected by existing orbital debris — and can create or become orbital debris themselves.

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Ultrafast Beam-Steering Achieved for Incoherent Light

A research team at Sandia National Laboratories has demonstrated a technique that dynamically steers light pulses from conventional incoherent light sources. The ability to control incoherent light with a semiconductor device could allow low-power, low-cost sources such as LEDs or flashlight bulbs to replace laser beams in technologies such as holograms, remote sensing, self-driving cars, and high-speed communication.

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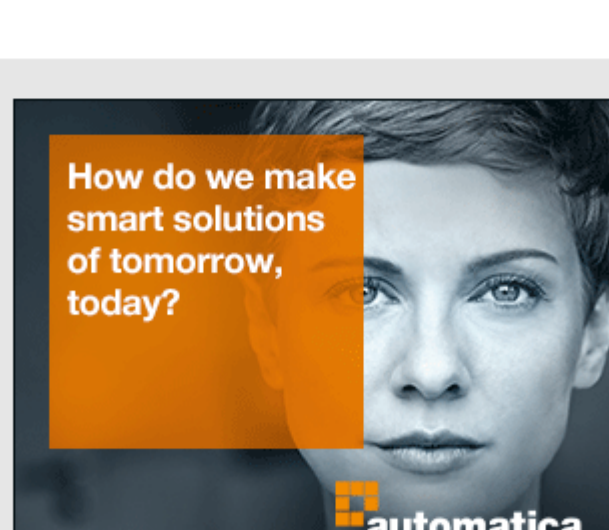
Upcoming Webinars

Photonic Crystal Fibers: Three Decades of Novel Science

Thu, Jun 1, 2023 10:00 AM - 11:00 AM EDT

Since they first appeared in the 1990s, photonic crystal fibers (PCFs), which are thin strands of glass with an intricate array of hollow channels running along their length, have ushered in a new era of linear and nonlinear fiber optics. As well as permitting unprecedented control over dispersion and birefringence, PCFs offer guidance in both solid glass and hollow cores. Curiosity-driven research into the light-matter interactions in PCF has inspired many potential applications. After a brief introduction, Philip Russell of the Max-Planck Institute for the Science of Light shares several recent developments in the field of PCFs.

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Features

Fiber Lasers, Lidar, Quantum Imaging, Chinese Laser Market, and more...

Photonics Media is currently seeking technical feature articles on a variety of topics for publication in our magazine *Photonics Spectra*. Please submit an informal 100-word abstract to Daniel McCarthy, Senior Editor, at Daniel.McCarthy@Photonics.com, or use our online submission form www.photonics.com/submitfeature.aspx.

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