

Introducing Single Crystal Fibre Laser Systems - New products from Fibercryst

Elliot Scientific is pleased to introduce **Fibercryst**, the only manufacturer of short pulse lasers and amplifiers utilising the innovative Single Crystal Fibre technology (SCF).

Originally developed from a series of University research programs, the SCF technology has been refined and commercialised by Fibercryst and patented jointly with the Institut d'Optique, and offers significant performance advantages over existing technologies.

The products range from a full featured femtosecond micromachining laser, through a stand-alone commercial amplifier, to individual amplifier modules:

FEMTO

Fibercryst's laser system for the end user or laser micromachining product developer

A powerful industrial femtosecond pulse width laser offering output powers up to 25 W for high throughput, high quality micromachining. Delivering pulse energies in excess of 80 μJ (@ 100 kHz) in pulse widths of less than 900 fs, and with repetition rates selectable between 100 kHz and 2 MHz, FEMTO is ideal for:

- Cutting and drilling of hard materials
- Cold machining of polymers and composites
- Micromachining and structuring of surfaces, for example medical devices and semiconductors

fibercryst



Taranis Amplifier Systems

A stand-alone add-on Amplifier for the developer looking to increase the power and energy output of an existing installation

Taranis technology is incorporated into Fibercryst's standalone amplifier. Designed for a wide range of seed lasers providing either fibre coupled or free propagation mode inputs, the Taranis amplifier boosts a laser's high average power, high peak power (up to 30 MW) and high pulse energy to free space.

Taranis Laser Gain Module

For the researcher, a revolutionary gain module to develop or configure an individual amplifier design, from femtoseconds to CW

Taranis is the name for a unique solution to provide high peak power and high energy amplification using a simple and compact design. By using a single-crystal with a long length and a small diameter, short pulse amplification delivering a high intensity, linearly polarised laser light with superb beam quality and adjustable repetition rate can be achieved. Taranis SCF amplifier modules offer:

- Preservation of seed laser signal quality, M^2 and polarisation
- fs to ns pulse widths
- Yb:YAG fibre for 1030 nm, Nd:YAG for 1064 nm
- Peak power: **30 MW** | Average power: **250 W** | Energy: **5 mJ**



Taranis laser gain modules are water-cooled and can be used with one or two pump diodes, and in single or double-pass geometries. The inherent pump light guiding property of Taranis also makes it ideal for end-pumping configurations.

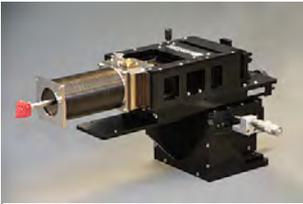


Sub-nanosecond mJ laser

Fibercryst also offers an affordable, unique 1064 nm sub-ns laser system delivering more than 3 MW of peak power for use in research and test labs. Designed using MOPA architecture as a standalone unit combining a commercial 500 ps seed laser with the Fibercryst Taranis amplifier, it takes full advantage of the technology to provide a polarised beam, TEM₀₀ output and 2 mJ of pulse energy for applications in LIBS, LIDAR & nonlinear optics; Supercontinuum, OPO, THz generation; and the biosciences.

Register your interest in these products now.

New THz Arm for Lake Shore Cryogenic Probe Stations



Lake Shore
ADVANCING SCIENCE™

Lake Shore Cryotronics is now taking advanced orders for their unique terahertz-frequency probe arm option compatible with the CPX, CPX-VF, CRX-4K, and CRX-VF **cryogenic probe stations**. The arm enables precise probing and measurement of millimetre-wave devices at 75 to 110 GHz or 140 to 220 GHz within a tightly controlled cryogenic test environment.

When used with compatible probes, frequency extenders, and signal analysers, the probe arm allows for calibrated S-parameter and other high-frequency measurements as a function of low temperature and high magnetic field. This THz probe arm solution offers particular value to researchers developing next-generation electronics such as new MMIC, MEMS, LNA, and THz detector devices, and components for radio astronomy and 5G wireless applications. Please **contact us** for more details.

Seebeck measurements using CryoLab: Demo video from Kryoz



The Seebeck effect is the direct conversion of temperature differences to electric voltage and vice versa. A thermoelectric device creates voltage when there is a different temperature on each side. Conversely, when a voltage is applied to it, it creates a temperature difference.

By using the **CryoLab from Kryoz**, it is possible to measure the Seebeck coefficient of a material sample, wire or thin film from 373 Kelvin down to cryogenic temperatures. In this informative **video**, Kryoz demonstrate how such measurements are made using their equipment. For more information, please **contact us**.

Elliot Scientific Optics: Superior quality laser mirrors and waveplates from stock



Elliot Scientific
OPTICAL OPTICS

Elliot Scientific Optics are a select range of superior quality laser optics in standard sizes that we offer from stock for next working-day delivery in the UK, along with made to order low-cost high-quality dyed glass, ND and dichroic filters.

The Elliot Scientific range of **high power, high performance Nd:YAG mirrors** are intended for laser beam steering applications. Hard e-beam deposited dielectrics on BK7 ensures excellent power handling; abrasion, moisture and laboratory solvent resistance.

Our range of **high power zero order waveplates** have the damage threshold of an optically contacted interface, the mechanical strength of a solid component, and the price tag of multiple-order waveplates thanks to cement-free Molecular Fusion™ manufacturing.

Elliot Scientific's **filter catalogue** is available in ½" or 1" diameters, or as 2" squares of genuine Schott® glass. Our dichroic and ND filter ranges are also offered in the same formats, but do **contact us** about custom sizes and other **specialist optics** we supply.

Elliot Scientific will be exhibiting next month at...



Photonex 16
12th to 13th October 2016
Coventry

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