NEWSLETTER

Raymax LASERS

AUGUST 2015

Distributed by Raymax Lasers ® - Keeping our customers in the light!

In this edition: ***LUMENTUN:*** *ERGO lasers in universities;* ***OPTEC:*** *Building for OEM;* ***RAYMAX:*** *Research;* ***JDSU:*** *News;* ***KLOE:*** *New UV-KUB 3;* ***WHAT'S IN MY INBOX****: FOBA and chocolates!*

LUMENTUM

The ERGO pulse-generating laser consists of a diode-pumped, solidstate erbium-glass, passively mode-locked laser built with SESAM technology to deliver exceptionally stable, clean picosecond pulses. The ERGO laser system is a customized turnkey solution with a microprocessor-controlled power supply for easier use.

The ERGO laser system delivers high-repetition rate mode-locked picosecond pulses in a compact, robust & competitively priced package. Fundamental mode-locking (that is, the laser cavity has only one pulse in it) results in excellent amplitude as well as optical and microwave phase stability. The sealed laser head is a turnkey system that reaches its specified performance in less than one minute. The modular ERGO laser system delivers a 10.0, 12.5, or 25.0 GHz repetition rate. The modular laser head can be integrated easily into instrument-based test and measurement platforms.

RMIT University in Melbourne are to install an ERGO laser system by the end of 2015. This is the third ERGO Raymax has installed for research into orthogonal frequency-division multiplexing (OFDM), a method of encoding digital data on multiple carrier frequencies used in wideband digital communications. Already 2 other members of CUDOS, Monash University and the University of Sydney have ERGO lasers for investigation into OFDM.

For more information on this project two recent research papers written by members of CUDOS can be found in the *Journal of Lightwave Technology* (2014) Vol 32 (4) 752-759 'All-Optical OFDM with cyclic prefix insertion using flexible wavelength selective switch optical processing.' And *Optic Express* Vol 22(1) 1045-1057 'Flexible all-optical frequency allocation of OFDM subcarriers'.

OPTEC

Belgium-based laser micromachining specialist Optec s.a. developed an automatic, multi-wavelength laser delivery solution based around Aerotech's micropositioning systems. The high-repetition, multi-wavelength femto/picosecond micromachining project was designed and built for the prestigious Karlsruhe Institute of Technology. Optec developed a novel Turret Optics (TO) design to deploy and index the system's three galvo heads with near-perfect sub-micron repeatability using a combination of Aerotech ALR series rotary and PRO series linear vertical stages.

http://blog.aerotechmotioncontrol.com/2013/03/12/micromachining-novel-turret-optics/

RESEARCH

At Raymax we are focused on providing the most appropriate laser solution for your needs. Hence we frequently conduct research into a range of laser based applications. We have also participated in research with several universities through ARC Linkage Grants. In 2008-2011 we undertook investigations with the laser into welding PEEK for hermetic enclosures. From 2011 to 2014 we collaborated with Sydney University and Cochlear as part of a research project on *Feed through technologies for polymetric encapsulated active implants*. Our contribution involved writing conductive track on polymer and laser welding polymer hermetic enclosures with feed-through. This 3 years project has just been completed. Raymax now has expertise and capability to laser weld PEEK Enclosures and transfer data outside of the enclosure via feed-through.

Raymax has a research laboratory equipped with a substantial number of different laser sources, motion systems and associated detection hardware. Our workshop facilities can make and trial pieces, for example, part handling and clamping. We can also carry out sample assessment and detailed thermal modeling. These facilities are available to customers for testing or trialing. Where we do not have the required equipment arrangements can be made with our partners to undertake testing at their factories in Europe and the UK.

Should you have any questions or queries please contact us to arrange a discussion for your solution needs: info@raymax.com.au

NEWS !!

JDSU has split their business operations into two companies, Viavi and Lumentum. All laser systems will now be branded **LUMENTUM**.

Lumentum offers customers the widest variety of laser modules, engines, and components. These diverse lasers deliver a full range of performance with diverse features such as extreme operational performance, proprietary SESAM technology, direct-process fiber connect processes, high pulse-to-pulse stability, the highest stability and reliability, and low noise with excellent beam quality. Our lasers consistently set industry standards for reliability and longevity.

Raymax will continue to distribute the range of LUMENTUM products in Australia.

Releases UV-KUB 3

UV-KUB 3 is a UV-LED based on mask aligner system with available light sources at 365nm. This is a very compact tabletop system compatible with 4 inches wafers and 100x100 mm2 working surface. The minimum achievable feature size is 2 µm thanks to a specific optical arrangement offering a collimated light beam with a maximum divergence angle less than 2°. UV-KUB 3 system is compatible with both hard (physical) or soft (proximity) masking contact modes, and offers access to alignment resolutions down to 3 µm. This mask aligner system supports all standard photoresists such as AZ, Shipley, SU-8 and K-CL.

Should you require more information or data sheets ring 02 9979 7646 or email at info@raymax.com.au

What's in MY INBOX!

Medical Device Network, an international web site, this week carries a FOBA presentation on the challenges of stainless steel marking. We can forward a copy to you – *info@raymax.com.au*

The **packaging world** is constantly innovating in a bid to catch the consumers eye. If you are a fan of Roses Chocolates – you'll now need to search for their new Blue look!