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High Q Laser in Hohenems / Bregenz, Austria, has pushed the power of their picosecond all-in-one amplifiers up to 30 W at a repetition rate of 500 kHz with the new model "picoREGEN[™] UC-INDUSTRIAL". The picosecond laser pulses can be triggered via TTL signals from single pulses to the maximum repetition rate of 500 kHz providing constant energy from the first pulse on (no first pulse excess energy). The new "picoREGEN[™] UC-INDUSTRIAL" with a footprint of just 78 cm x 34 cm is the most compact all-in-one picosecond amplifier in the market. It is designed for a maintenance interval of 12 months and tested to meet industrial demands. It presents high robustness and reliability and can be customized to an OEM integrators needs.

Combining high power and high repetition rates High Q Laser's picosecond all-in-one Regenerative Amplifier is a perfect tool for a wide range of applications in nano- and microprocessing such as solar cell structuring and scribing, thin film ablation as well as hole drilling or precision cutting.

Hohenems / Bregenz, Austria. April, 2008



picoREGEN[™] UC-INDUSTRIAL

UC-1064-30000

30 W
Single pulse to 500 kHz TTL Trig.
1064 nm
12 ps

The "picoREGEN[™] UC-INDUSTRIAL" integrates all pump laser diode modules, the seed oscillator and the amplifier into a single all-in-one ultra compact housing. With a footprint of just 78 cm x 34 cm it is the most compact all-in-one picosecond amplifier in the market. The seed oscillator is designed as a High Q Laser ultra compact (UC) module itself for high stability and compactness. The UC seed oscillator is operating with "de-rated" nominal pump current for longest MTBF and is based on High Q Laser's patented resonator folding technique withstanding a 50 g shock test for most robust performance. The semiconductor saturable absorber mirror (SESAM) assures passive and self-starting mode locking for high temporal stability.

The "picoREGEN[™] UC-INDUSTRIAL" delivers an average power up to 30 W at a repetition rate of 500 kHz. It comprises the resonator of the regenerative amplifier and the Pockels cell in one monolithic module, the proven High Q Laser IC (Industrial Compatible) module. The Pockels cell and its electric driver modules can both be independently replaced for an easy service in the field. The picosecond laser pulses can be triggered via TTL signals from single pulses to the maximum repetition rate of 500 kHz providing constant energy from the first pulse on (no first pulse excess energy).

The "picoREGEN[™] UC-INDUSTRIAL" has a single 19" „all-in-one" control unit (240VAC or 110VAC) hosting all supply and control functions for easy and true "turn-key" operation and facilitates system integration for OEM customers with a CAN bus and 24V power supply. The control unit also integrates the 19" liquid to air chiller.

The "picoREGEN[™] UC-INDUSTRIAL" is optionally available with frequency doubling, tripling or quadrupling for enhanced precision.

The "picoREGEN[™] UC-INDUSTRIAL" is designed for a 12 months maintenance interval. Customers benefit from the ongoing OEM production in quality, performance and investment cost. The high modularity ensures high temporal and spatial stability as well as easy service and maintenance resulting in low operation cost and high MTBF. It presents high robustness and reliability and can be customized to an OEM integrators needs.

Combining high power and high repetition rates – controlled by an external TTL trigger – High Q Laser's picosecond all-in-one Regenerative Amplifier is a perfect tool for a wide range of applications:

Micro / Nano Processing: solar cell structuring and scribing, thin film ablation as well as hole drilling or precision cutting. Precise laser ablation in metals, ceramics, semiconductors and dielectrics.

Semiconductor: Wafer scribing, dicing or cutting; thin film ablation, memory repair

Medical/Life Sciences: "Cold Ablation" of biological tissue in neurology and dentistry, ceramics machining

Research: Ultrafast spectroscopy together with our High Q Laser ps-OPA and wavelength conversion systems (harmonics generation), non linear optics

For more information on HIGH Q LASER call +43 (5576) 43040 17 or e-mail Sandra.Zoppel@highqlaser.at
High Q Laser's headquarter is located at Kaiser-Franz-Josef-Str. 61, Hohenems / Bregenz, Austria.

For more than 9 years HIGH Q LASER has been a leading supplier of diode pumped pico- and femtosecond all-solid-state oscillators and amplifiers based on Direct Diode Pumping and Semiconductor Saturable Absorber Mode Locking.

For additional photo formats, b/w prints or electronic files of the attached image(s) please call Sandra Zoppel at HIGH Q LASER, Marketing Communications, phone +43 (5576) – 430 40- 17 or e-mail: Sandra.Zoppel@highqlaser.at

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