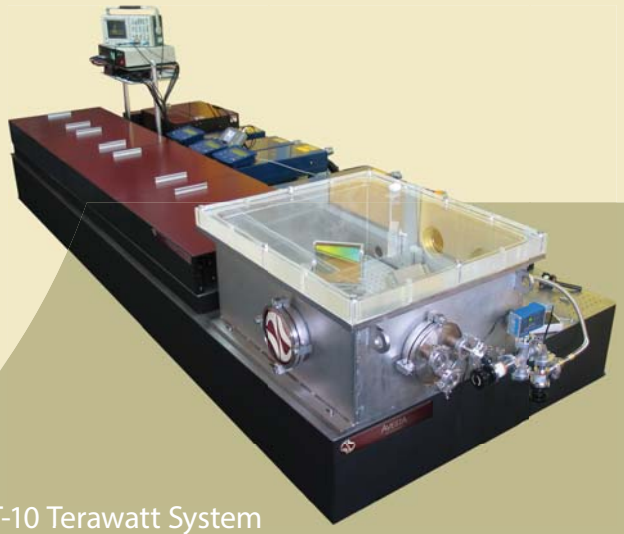
Amplifiers

AVET Ti:Sapphire TW Femtosecond System

- Single-table design
- 10 TW commercial system
- <45 fs pulse duration
- High beam quality
- Excellent beam pointing and power stability



AVET-10 Terawatt System

Product overview

Our company is proud to offer the pinnacle of our technology, the AVET terawatt-level femtosecond laser system. The system comprises rugged Ti:S seed oscillator, pulse stretcher, CPA-based amplifier stages with Nd:YAG pump lasers, vacuum compressor chamber with turbomolecular and vaccum pumps outlets (for 10 TW system), synchronization and control electronics with computer interface. All components are integrated onto a single optical table ensuring stable operation. The additional Pockels cell pulse slicer offers enhanced nanosecond contrast ratio. Moreover, the AVET system may be equipped with a SH and TH generation units. As we also produce full line of diagnostic equipment including SPIDER, cross-correlator, single-shot and real-time autocorrelators and spectrometers, they may be also added to the system for a single-source supply, being fully compatible and tuned for operation.

Applications of the system feature such fundamental areas as particle accelaration for general physics research and cancer treatment, research of relativistic conditions for fusion and plasma studies, generation of X-ray and attosecond pulses, seeding PW-class amplifier systems, as well as remote measurement of air pollution and lightning control via filament studies.

	AVET-2	AVET-10
Peak power	>2 TW	>10 TW
Output pulse energy	>100 mJ	>500 mJ
Pulse duration	<40 fs	<45 fs
Beam diameter (1/e^2)	30 mm	45 mm
M^2	<1.3	<1.7
Central wavelength (fixed)	800±15 nm	
Pulse repetition rate	10.0±0.5 Hz	
Energy stability (rms over 500 acquisitions)	<2.5%	
ns prepulse contrast ratio	>10^4:1	
ps prepulse contrast ratio	>10^3:1 @ 1 ps >10^5:1 @ 5 ps >10^5:1 @ 10-20 ps >10^6:1 @ ASE (>20 ps)	
Output polarization	linear, horizontal, >100:1	
Dimensions	3200x1200x220 mm	4000x1200x220 mm

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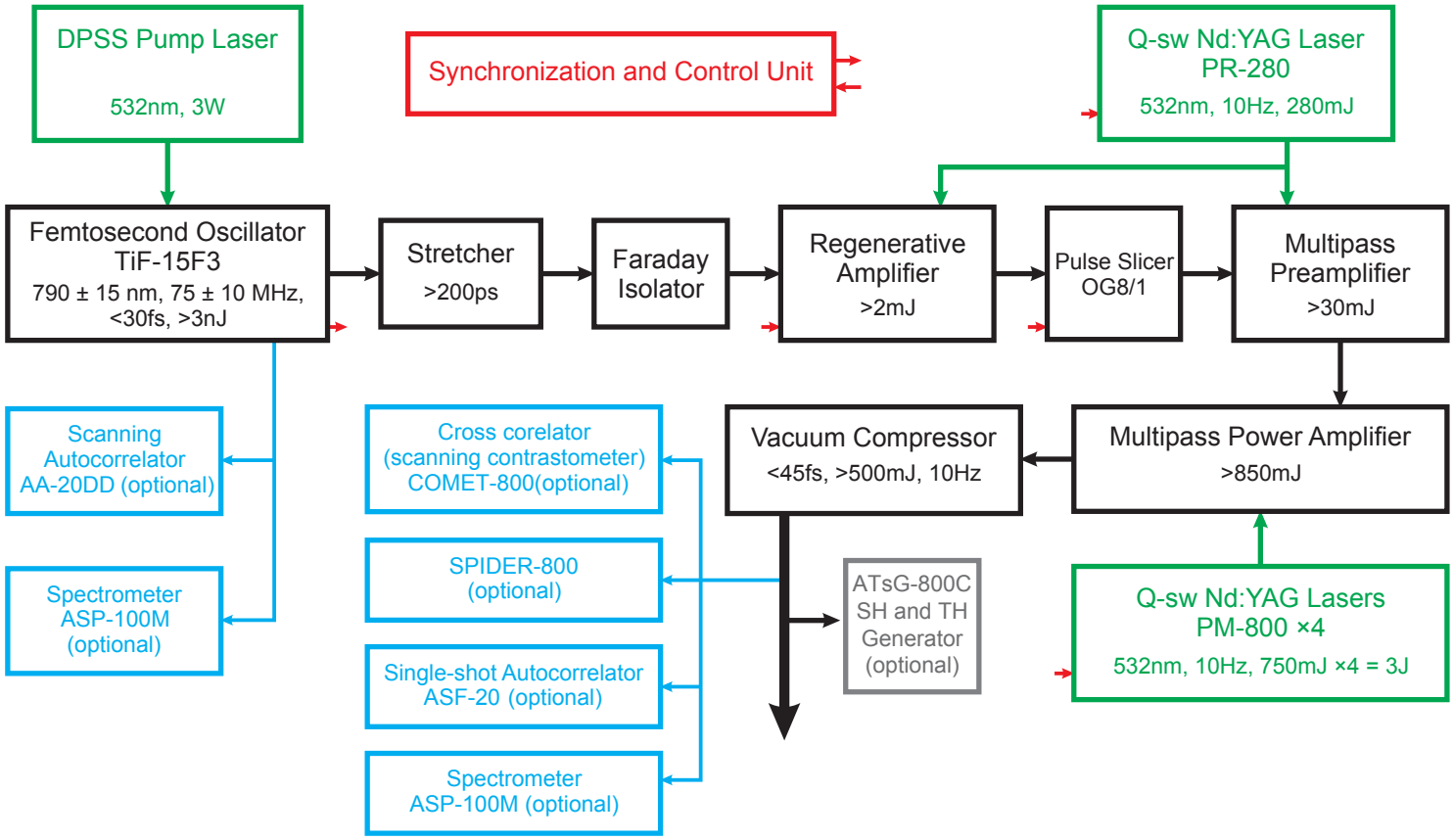
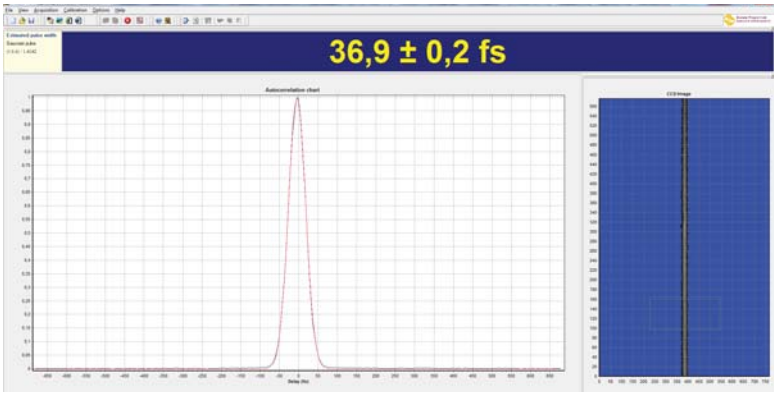
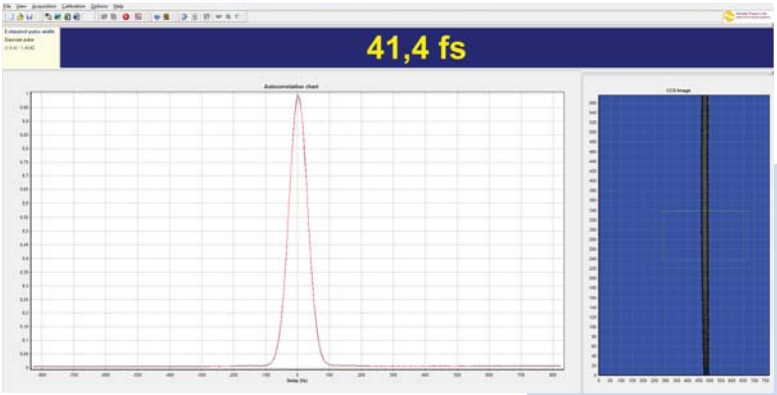


AVET-10 System Layout



AVET-2 pulse duration measured by the ASF single-shot autocorrelator



AVET-10 pulse duration measured by the ASF single-shot autocorrelator

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