

XENON™ S-2200

High-Energy Sintering System

Flexible, Advanced Energy Control

The XENON S-2200 Pulsed Light system provides state-of-the-art thermal management for researchers working with new nano materials on heat sensitive substrates requiring rapid sintering, curing or annealing. High energy pulsed light systems are designed to help develop effective process protocols for a wide range of industrial applications, such as printed electronics, displays, biosensors, semiconductor thin films, and even emerging 3D printing systems.

Part of XENON's S-2000 series of rack-mounted sintering systems, the S-2200 is designed to support researchers and manufacturers who require the ability to develop protocols over a wide process window delivering high energy pulses at high-frequencies. To achieve an optimum energy exposure, the S-2200 offers the user flexibility to adjust pulse count, intensity and width as required for multiple number of applications. This user flexibility is provided with a touch screen interface allowing engineers to quickly program a pulse sequence of up to 40 pulses, each one with a unique profile for energy and duration. The S-2200 provides a user friendly system that is capable of developing process protocols for a broad range of materials used in applications for research and pilot production.

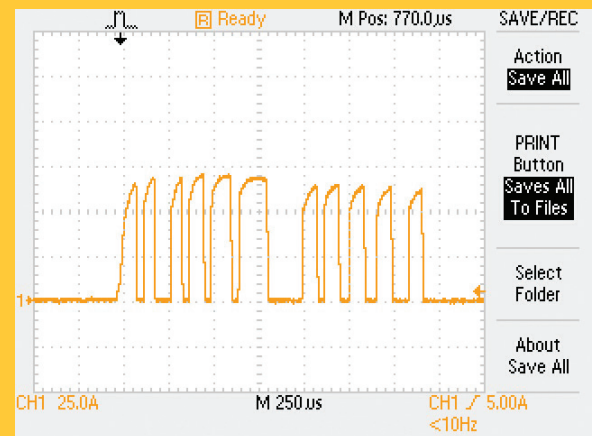


SYSTEM HIGHLIGHTS

- High energy pulsed light for materials research of a wide range of applications
- Unique thermal pulse management with individually-configurable high frequency pulsing
- High peak radiant power: 4kW/cm²
- Graphical interface for operator control of energy and exposure settings
- Process protocols stored and easily recalled and edited
- Range of options available to customize exposure conditions

Waveform Analysis in Real Time Optimizes Research & Production

The XENON S-2200 is a user-friendly, high-energy, research sintering tool, with performance and operating features designed to provide complete system controls and user interface displays insuring successful nano material research. Demonstrating the availability of ease-of-use controls, the S-2200 touch screen display aids the operator with visual confirmation of actual real-time pulse profiles. Updates to the pulse display occur each time a RUN command is initiated. To insure no loss of programmed data should a mains power failure occur while a new profile is being written, the touch screen controller has an uninterruptable power supply (UPS). Research engineers are always in control.



Real-time display shows waveform pulses, peaks, widths, and amplitudes. Research engineers while they are working can see the execution of the waveform, measure the results on the material, track changes, and program adjustments in pulse width, energy, and timing to get to the desired operation. The system can be used in a pilot production to confirm the program. When full manufacturing is required, contact the XENON Applications Engineering team to assist you in moving your program into a Roll-to-Roll (R2R) application.

*The above screen shot was captured from a Tektronix TDS 2024C 200MHz oscilloscope (ESSCO calibrated 8/21/15)

Pulse Sequencing

Creating individualized pulse profiles is only one of the ways in which the S-2200 enables researchers to set up unique exposures of high energy pulsed light. A sequence of pulses can be programmed at frequencies of up to 1 kHz. Delay between each pulse in the sequence is also programmable. Once programmed, the researcher can expose the target to any number of sequences.

Software Configurable Pulse Control

With each protocol developed, engineers can create unique profiles delivering the level of energy desired over the specified processing time. By adjusting the pulse profiles, researchers can create a high frequency sequence capable of maintaining a constant thermal profile. With higher peak power compared with the S-2100, the S-2200 can process a wide range of new materials and new applications with higher efficiency and control. Real-time display of pulse waveforms - including peaks, width, and amplitude - enables engineers to observe and track pulse effects immediately and make adjustments to arrive at the optimum profile.

Configure a system for your research needs

XENON offers a range of lamps, housings, and other system accessories that can be configured easily to your specific requirements. In selecting from a family of robust lamp housings, researchers can best match the curing area requirements for their target. Options also include a conveyor system and a linear stage process chamber. All options are designed to support researchers in implementing a wide range of materials studies under selected exposure conditions.

Lamp Spectra

The S-2200 is ordered with a XENON high-energy pulse light lamp mounted in an enclosed housing, providing a broadband spectrum from 190 to 1100 nanometers. Lamps are available with three different spectral cutoffs, 190 nm, 240 nm, and 370 nm. Lamps are interchangeable among systems, so research profiles can be transferred easily for use in full-scale production.



With the flexibility to work with a range of materials and printing media, the S-2200 can assist researchers to optimize their unique process protocols for pilot production applications.



**Learn more about XENON's S-2200
High-Energy Sintering System at
www.xenoncorp.com**

The S-2200 is Part of the XENON family of Pulsed Light solutions

XENON has pioneered Pulsed Light technology for more than 50 years, and is a leading provider of innovative, high-performance systems for industrial, medical, and research applications. XENON sintering solutions rapidly sinter conductive inks at room temperature, making it possible to print on heat-sensitive flexible substrates such as PET and paper, flexible materials such as cloth and plastic, and heat-sensitive substrates using metallic inks based on nanomaterials derived from silver, gold and lower-cost copper.

XENON has been developing innovative applications for Pulsed Light since the company was founded, including benchtop R&D sintering systems and R2R production-line sintering systems with speeds up to 70 feet per minute. XENON also produces high-performance Pulsed Light systems for sanitization, UV curing, and food enhancement. With thousands of systems operating on industrial production lines worldwide, XENON has been established as the Pulsed Light solution center for innovative companies needing answers to their complex process development and production challenges.



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