



Photochemical Research Associates Inc.

Photochemical Research Associates Inc. (PRA) has recently celebrated its first decade of operations. PRA is rapidly becoming a recognized leader in electro-optical instrumentation; more specifically in light generation, detection, and analysis.

PRA operates research and development laboratories and manufacturing facilities in a new 20,000 sq. ft. plant located in London, Ontario. International sales are supported by two regional sales offices in the United States, and a rapidly expanding dealer network in Europe and the Far East.

PRA's present product lines consist of: Fluorescence Lifetime Instruments; Pulsed Light Sources with pulse widths from picoseconds to seconds - including the revolutionary Nitromite® nitrogen and dye lasers; CW Light Sources including a new line of long life Helium Neon lasers; and Photon Counting Systems for low light level detection.

FLUORESCENCE LIFETIME INSTRUMENTS

PRA Fluorescence Lifetime Instruments are specifically designed for the measurement of fast fluorescence decay times in either liquid or solid samples. Such information is vital in areas of study like kinetic photochemistry, time resolved spectroscopy, photo-induced electron transfer, fluorescence quenching and rotational anisotropy.

PRA instruments use the method of 'Time Correlated Pulsed Single Photon Counting', which is internationally recognized as the most effective way to measure luminescence behaviour - superior to any alternative analog technique. Experimental determinations of decay times are simple, accurate, and fast - even in the case of multi-exponential behaviour.

PRA lifetime instruments are designed around a modular format and consist of three basic subsystems: optical, electronic, and data reduction.

The optical subsystem including flash source, sample chamber, sample holders, monochromators and detection photomultipliers affords maximum flexibility to the user. Because of the modular design a basic unit

can be upgraded to the most sophisticated configuration at any later date.

The electronic subsystem consists of timing electronics. All modules are carefully tested in a functioning system prior to delivery. As with the optical subsystem, levels of convenience and sophistication can be implemented when the user desires.

The main component of the data reduction subsystem is the PDP 11 mini computer - a widely used, valuable lab tool in its own right. Flexible, easy to use software for luminescence decay studies has been developed by PRA.

A customer purchasing a PRA Fluorescence Lifetime Instrument buys more than versatile hardware. PRA has a competent staff of scientists with years of experience in fluorescence studies. Buying a complete PRA system carries with it the promise of system installation and user training by a PRA engineer.

NITROMITE® DYE LASER SYSTEMS

Unlike competitive nitrogen dye laser systems; the PRA Nitromite® system is low cost, simple to use and reliable. The operating specifications are also impressive: continuously variable repetition rates to 100 Hz; sub-nanosecond pulsewidths; 200 kW output power; and less than 2 nsec command jitter.

The complete system is very compact. The nitrogen laser, dye laser and accessories can be easily carried together by one person and set up in less than five minutes. No complicated adjustments, no cumbersome vacuum pumps, no inconvenient dye circulators are required.

The modular construction of the electronic and mechanical components permit quick and easy servicing in the field. Routine servicing consists of merely dismantling and cleaning of the laser head - a simple operation requiring only a screw driver and emery paper plus a few minutes of time.

The combination of high power, narrow pulse width and spectral tunability not only suit conventional applications such as laser induced fluorescence and time resolved spectroscopy but calibration of fast photo-detector units and arrays as well. The nitrogen laser itself is suitable for such diverse uses as particle simulation in spark and bubble chambers, as well as material etching. These are a few of the possibilities for a Nitromite® laser system. For the first time, a nitrogen dye laser system can be used as a general laboratory tool.

CONTINUOUS LIGHT SOURCES

PRA Continuous Light Sources are stable, reliable and intense sources of broadband (ultraviolet to infrared) light useful in a variety of applications such as spectrophotometry, as monitoring sources in flash photolysis studies, in photo-preparation, and atomic absorption studies.

Accurate measurements are possible due to reduced

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