

# JTS-150

*Pump/Probe Spectrometer  
for Photosynthesis Applications*



- **Absorbance/fluorescence kinetics spectrometer**
- **Up to 8 detection wavelengths per experiment**
- **Data collection at 100ns rate**
- **Use leaf or liquid samples**
- **Collection sequences from milliseconds to hours long**
- **Photosynthesis applications built-in**

 SpectroLogiX

## Smart-Lamp and Multi-LED

JTS-150 programmable light sources open the door to kinetics research never before possible. The Smart-Lamp and Multi-LED light let you explore absorbance and fluorescence characteristics of multiple fast reactions with a single experiment setup. Both modules allow switching wavelengths on a microsecond basis. Data from multiple reaction processes can be collected in real time from the same sample. Data is time **and** sample condition correlated as collected. Therefore, independent and dependent reaction characteristics can be examined easily.

### Smart-Lamp

8 Wavelengths

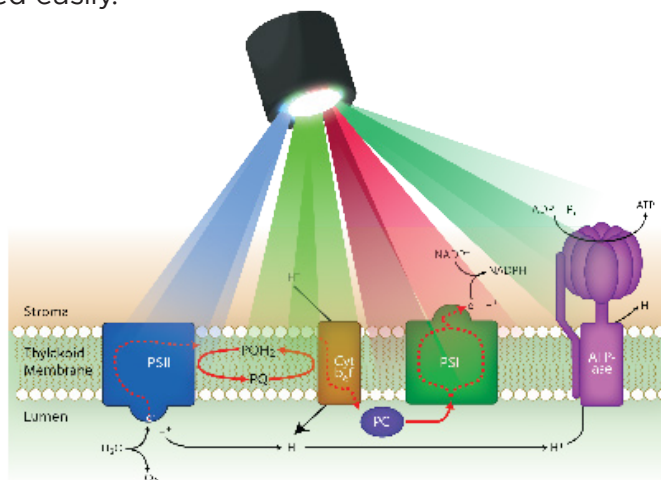
450nm, 520nm, 546nm, 554nm,  
563nm, 574nm, 705nm, 740nm

*For Fluorescence (NPQ, OJIP, Fv/  
Fm), ECS, Cyt  $b_6/f$ , Plastocyanin,  
P700 applications*

### Multi-LED

1-4 Wavelengths

Application Specific  
*Customizable Wavelengths*



### JTS-150 Controller

The JTS-150 controller houses the Photokine application and hardware controls. From a Windows, Mac, or Linux browser the user sets collection parameters, views results, and manages data export. A LAN connection is not required for operation, but the system can be connected to the LAN for group or remote viewing if desired.

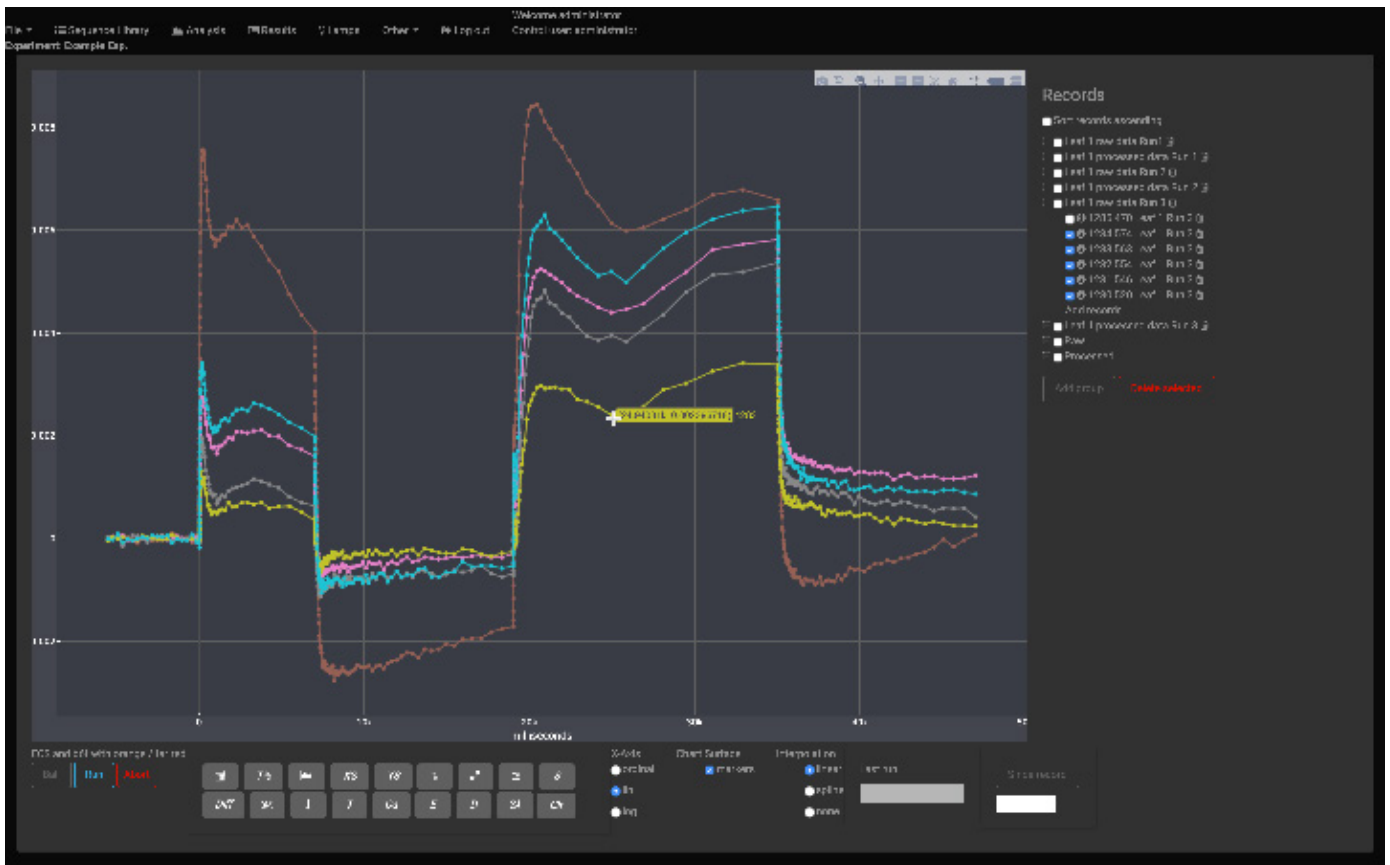


### Optical Bench

The optical bench dual beam design delivers stable and low noise data for excellent data quality. The optics accommodate wide ranging sample densities for the best results with live leaf samples. The Smart-Lamp and Multi-LED modules have built in filters to make experiment setup faster, easier, and error free.



# Photokine Software



Collected data is displayed on an interactive screen. Scaling functions are click and drag. Data sets can be grouped for easier selection. Moving the cursor over a trace shows point by point detail.

- Photokine is built into controller
  - Viewable in your web browser
  - Designed for dark room use
  - Windows, Mac, & Linux compatible
- Easy sequence design
  - Choose wavelengths
  - Set time parameters
  - Set Intensity parameters
- Interactive data display
  - Scroll across data to see point details
  - Click and drag to select and expand
  - View any mix of saved data
- Simple data export
  - Select data sets
  - Select header data
  - Select column data
  - Export to CSV or Excel
- Arbitrary experiment grouping
  - Curve fitting included
  - Data math tools included
  - Save original and modified data



## Applications

- Photosynthetic electron transfer
- NPQ
- P700 at 705nm and 810nm
- Plastocyanin
- Cytochrome  $b_6/f$
- OJIP
- Electrochromic shift
- Absorbance/Fluorescence kinetics

### Specifications

- Actinic LED Dual ring 630/720nm LED
- Light intensity range : 0 - >5000 micro-E
- Large area high speed photo-diode detectors
- 18-bit ADC resolution
- 100ns data collection rate
- Ethernet control interface
- Footprint: 48 x 38 x 12cm for optical bench & controller
- Two BNC connections for synchronization
- Two microsecond LED pulse
- 12V, 0-5A DC brick power supply

### Features

- Web cast user interface to browser
- Windows, Mac, and Linux compatible
- ***Does not require LAN or Internet connection for operation***
- May be connected to LAN if desired
- Data exportable in CSV with multiple format options

*Requires Windows, Mac, or Linux PC with Ethernet port and browser.*

## Upgrading the JTS-10 and JTS-100

### JTS-10 to JTS-150

The existing JTS-10 controller, actinic ring in the optical bench, lamp modules, and detectors are not compatible with a JTS-150 controller. The upgrade will include a new JTS-150 controller, two new detector modules, modification of the ring source, and Smart-Lamp or Multi-LED. Contact factory for details.

### JTS-100 to JTS-150

The existing JTS-100 optical bench is compatible with a JTS-150 controller with modification to the built in ring source. The JTS-100 controller and optical bench must be returned for conversion to the JTS-150. The conversion includes a new JTS-150 chassis. The upgrade will include ring source and suitable lamp module modification, the upgraded controller, and Smart-Lamp or Multi-LED. Contact factory for details.

