

## Sydor DynaCal Module

What is Dynacal? Sydor's DynaCal is a calibration tool that resides within the streak camera unit. On command, the system can run through a calibration routine.

Traditional calibration is typically done off-line with the system or artifacts removed from the experiment. This creates downtime, and errors resulting from improper alignment. If the camera is subsequently relocated, you bear the added risk of calibration shift.

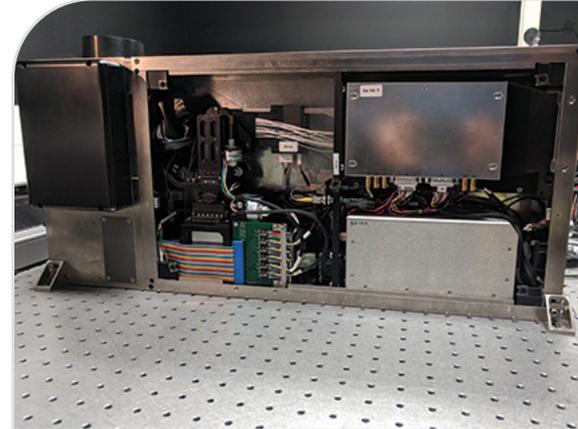
By employing a remotely controlled calibration tool, the streak camera is fully verified within the existing experimental infrastructure.

Sydor's DynaCal is a one-time investment that can be frequently exercised to accommodate changing environmental fluctuations. This tool allows researchers to operate with confidence that their data is from a properly calibrated system.

DynaCal incorporates:

- Integrated imaging optics based on an Offner relay configuration with automated secondary mirror allowing the user to quickly switch between calibration and data acquisition mode.
- Internal optical comb generator featuring two different speeds to match the user selected sweep speeds, imaged via periscope onto the photocathode.
- Static Spatial Calibration via four user selectable resolution targets
- Slow Sweep Geometric Correction via continuously variable temporal grids and 2 user selectable spatial grids
- Dynamic Geometric and Temporal Calibration via 11 channels modulated up to 2GHz.
- Simultaneously calibrates for geometric and temporal distortions in a single acquisition, providing a unique dynamic geometric and temporal correction for each sweep speed.
- Flatfield correction with patented slow ramp acquisition technique for four different wavelengths: Red (630 nm), Green (517nm), Blue (472 nm) and choice of IR (1050 nm) or UV (365 nm). The desired color for a flatfield correction can be applied in ROSS\_App.
- An optional fiber coupled input can add 20 channels of graded index fiber input: 10 Vis/IR or 10UV.

If DynaCal is not purchased, the user has the option of purchasing calibration components from Sydor Technologies that will allow the user to perform their own offline static base calibration with timing references from within our ROSS\_App Software.



### Features:

- ⊕ In-situ, remote, and on-demand calibration and verification
- ⊕ Provides 8 sequential functions/measurements via automation
- ⊕ Includes integrated Offner input optics to acquire aberration free input
- ⊕ Ensures spatial and temporal measurement accuracy with each swept image

### Applications:

- ⊕ Streak camera calibration of all major variables
- ⊕ Critical for accurate & reproducible VISAR over the full field of view
- ⊕ Valuable in Shock and MEC applications where the environment can impact calibration

