

CAMERA ACQUISITION & DISPLAY SOFTWARE

The Space Dynamics Laboratory designed the Camera Acquisition and Display Software to support the collection of imagery for many of its laboratory experiments, ground-based measurements, airborne campaigns, and instrument calibrations.

This software captures and displays images in real time and saves them to disk upon request. The software can perform these functions simultaneously, without frame loss. It provides a set of plots and tools that can be used to quickly evaluate the integrity of the images and the quality of the scene being observed.

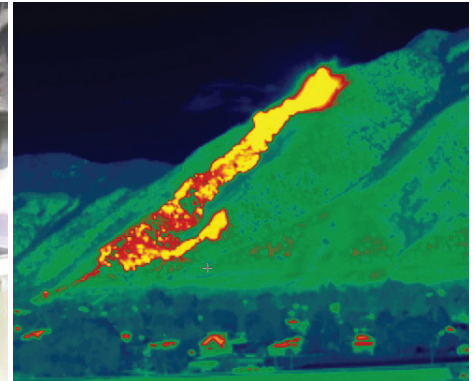
The software can be configured at the source code level to support different types of hardware interfaces, control protocols, and input/output formats. It can also be tailored to create and embed frame headers during image storage, or decode and display metadata that is already embedded in the data stream.

SPECIFICATIONS

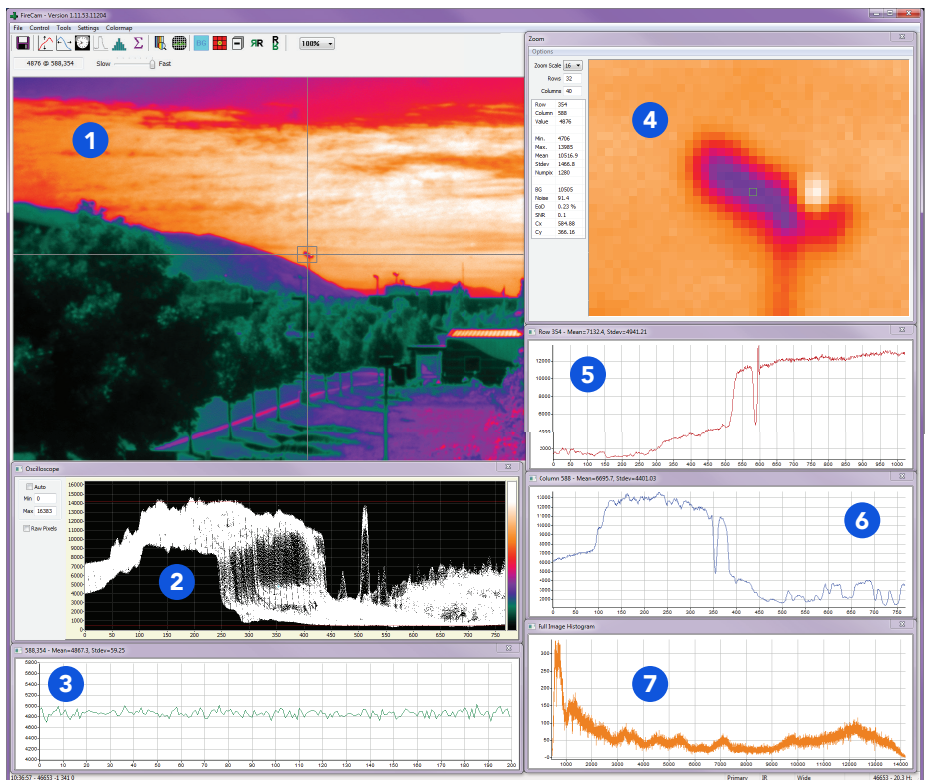
- Support for Camera Link, FireWire & GigE infrared or visible cameras
- Real-time capture of up to 16-bit images
- False-color display of captured images
- Storage of raw images upon request
- Control of camera settings
- Remote control using TCP sockets
- First-order image corrections
- Image histogram & statistics
- Zoom & pan
- Multiple color maps
- Image overlays
- Bad pixel identification & replacement
- Row & column line profile plots
- Time plot & statistics of individual pixels
- Spatial distribution of pixels
- Frequency spectrum of selected pixel
- Display of image metadata, if present



Two Santa Barbara Focalplane infrared cameras were used to collect high-speed imagery (>2,000 fps) of a rocket launch at Kennedy Space Center.



Forest fire is observed with a short-wave infrared camera from SDL's North Logan, Utah, facilities.



Screen capture of the software highlights some of the main features. (1) Real-time image display. (2) Pixel distribution. (3) Pixel time plot. (4) Zoom and pan. (5) Row profile. (6) Column profile. (7) Histogram.