

Workstation

Automated System operations are controlled through a computer with the following typical configuration:

- COMET Computer Workstation and Software with Extended Dynamic Range Imaging Capability
- Tower Configuration Computer with 19"LCD Color Monitor, 1 GB RAM, 250GB Hard Drive, DVD/CD/RW Recorder, Optical Mouse
- Computer comes with 3 Year Parts & Labor Limited Warranty, (Computer must be returned to Loats Associates, Inc. for warranty service),
- Microsoft Windows XP Professional operating system software
- Microsoft Office 2003 Small Business version applications software
- Comet Assay Analysis System Software with Extended Dynamic Range Image Acquisition Control and Processing Capability, Software security block and user manual

Camera

For Image Capture the system uses an Enhanced Quantum Efficiency Cooled Scientific/Instrument Grade digital Camera which features:

- a zero-defect 2/3" 1392 X 1040 pixel progressive scan CCD
- with (6.45 X 6.45 μ m) microlensed imaging cells for enhanced image light collection and dynamic range,
- housed in a lightweight 920g) camera body
- the camera body has an integral Peltier thermo-electric cooler providing -25° C cooling from ambient for reduction of thermal dark current noise generation during extended exposures (0.15e⁻/pix/s);
- the camera is linked directly to the host computer through an IEEE 1394 (FireWire) cable for power and programmatic control of on-chip integration and other camera functions;
- the camera provides 12bit digital output,
- programmable gain and offset control, and
- real time transfer of image data to display RAM.
- Camera includes 1 year limited warranty.
- When operated in conjunction with the LAI Extended Dynamic Range Image Acquisition software, the camera enables collection of wide dynamic range images in a 16 bit per pixel monochrome format

Microscope

The camera is mounted on an **Olympus IX70 Inverted Epifluorescent Microscope**, specifically configured for automated Comet Analysis. The microscope features:

- CKX41 Inverted Microscope Frame,
- 4 Position Nosepiece,
- Illumination Pillar,
- 30W Halogen Lamphouse
- Trinocular Tube, 50/50 Light Split
- 2 10x Eyepieces
- 10x Achromat Objective
- 20x Achromat Objective
- 40x Achromat Objective
- Fluorescent Illuminator
- Blue and Green Excitation and Narrow UV Filter Set
- 100W Mercury Lamphouse w/ Collector, Mirror
- C-Mount Camera Mounting Adapter,
- User manuals.

The Microscope is fitted with the LAI Servo Motor Driven Focus and XY Stage with zero lag piezo-electric linear servo motors equipped with encoder feedback for precise control of stage motions and positioning.

Optional: Robotic Slide Delivery System

The Microscope Slides may be batch processed by the system via a **Robotic Slide Delivery System** which features:

- Servo Motor Driven, two axis pick and place unit
- Vacuum Slide Handling for automated pickup of slides stacked in bins and delivery of individual slides to the automated stage of the microscope for analysis. Following analysis the unit retrieves the completed slide and delivers it to the return bin, before proceeding to the next slide.
- The unit typically features one source and one return bins which can hold up to 25, 3"x4.75", glass, 96-well microscope slides