

## **Workstation**

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

- Tower Configuration Computer, 19"LCD Color Monitor,
- 1 GB DDR 533MHz SDRAM, 250GB Hard Drive,
- DVD±/R±RW/CD-R/RW Recorder,
- 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,
- Loats Associates In Vivo Micronucleus Assay Analysis System Software,
- Software security block
- User manual.

## **Camera**

For Image Capture the system uses a **QImaging MicroPublisher 5.0 RTV Color Digital Camera** which features:

- a zero-defect 2/3" 2560 X 1920 pixel progressive scan CCD with five million (3.4 X 3.4µm) imaging cells and overlaid Bare-Pattern RGB Color Filter Array,
- The CCD and associated electronics are housed in a lightweight (710g) camera body
- the camera is linked directly to the host computer through an IEEE 1394 (FireWire) cable for power and programmatic control of camera functions;
- the camera provides 10 bit digital output per channel (30bit RGB Color),
- programmable gain, offset, binning and exposure control, and
- real time transfer of image data to display RAM.
- Camera includes 1 year limited warranty.

The QImaging MicroPublisher 5.0 RTV combines an ultra-high resolution sensor format with real-time viewing at frame rates up to 30 frames per second to provide detailed high-quality color images.

## **Microscope**

The camera is mounted on an **Olympus BX41 Infinity Corrected Microscope**, specifically configured for Automated Micronucleus Analysis. The microscope features:

- Rigid Ergonomically designed Y-shaped Microscope Frame, with Transmitted Light Arm
- Five Position Rotatable Nosepiece,
- Halogen Lamphouse and bulb for bright field illumination,
- Trinocular Observation Tube,
- two 10x Eyepieces,
- Abbe Condenser with a 1.1 numeric aperture providing coverage over the 4X to 100x objective range,
- 10x, 20x and 40x Plan Achromat Objectives,
- C-Mount Camera Mounting Adapter,
- User manuals.
- Microscope components include 1 year limited warranty.

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 computer control of stage motions and positioning.

## **Optional: Robotic Slide Delivery System**

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 providing 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 three source and three return bins which can hold up to 50 standard 1"x3" microscope slides with #1 coverslips for a total capacity of 150 slides.
- Other slide configurations and capacities are possible and may be accommodated on a custom basis at additional cost.