

# BioZip II - *It's FAST!*

Fluorescence and brightfield benchtop optical scanning system with high speed, multi-dimensional image acquisition capabilities. User friendly operations in standard lighted laboratory environment, no darkroom required.

- Motorized XY Stage
- Z Focus uses stepper motor and/or Piezo objective/stage insert
- Sample formats: 1" x 3" or 2" x 3" slides, multi-well format plates, and petri dishes.
- PCI-based hardware controller allows for powerful imaging
- Solid state, fast-changing, high intensity epi-fluorescence lighting
- White light LED for diascopic illumination
- Integrated user-friendly software to orchestrate simple image acquisition through complex multi-dimensional experiments
- Sensitive, high resolution digital CCD cameras (Color or Monochrome)



## True Optical Magnification

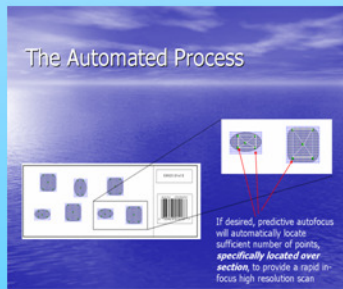
- 4x-10x-20x-40x-60x oil Objectives (no zoom or optical mag changer)

## Fast Scan Times

- **Scan Times:**  
Complete microscope slide, 25mm x 50mm (1250mm<sup>2</sup>), at 10x with predictive autofocus  
1 channel fluorescence - 9 minutes  
3 channel fluorescence - 27 minutes  
4 channel fluorescence - 36 minutes  
Custom area (20x20mm) - 2.5 minutes

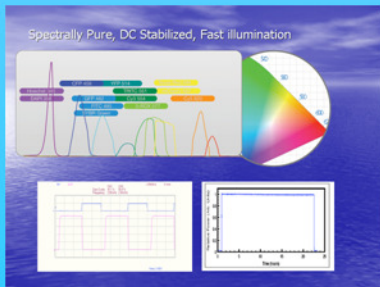
## Multi-sample Format

- 1" x 3" and 2" x 3" slides
- 96/384 Multiwell plates and Petri dishes

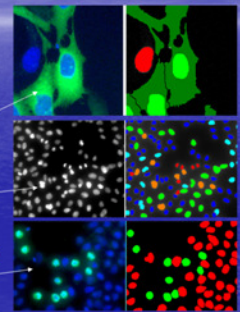
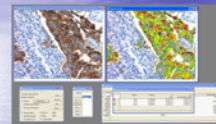


## Solid State Lighting

- 10,000 hours no bulbs to replace
- Switching speeds - rise/fall times <10 microseconds (up to 5KHz )



## Application Solutions



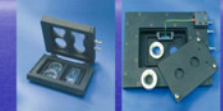
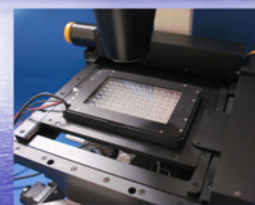
- Immunohistochemistry
- Cell Scoring Application
- Angiogenesis Tube Formation
- Cell Cycle
- Neurite Outgrowth
- Endothelial tube formation (Angiogenesis)
- Cell proliferation (Count Nuclei)
- Mitotic Index
- More ...

## Flexible

Acquiring high quality digital images has never been simpler while still *allowing flexibility* in the system to accommodate the various applications in today's laboratory.

- Choose YOUR Sample Format
- Choose YOUR Camera (12 /14 bit, color or monochrome)
- Choose YOUR Experimental acquisition conditions
- Choose manual sample loading or automated loader
- Auto exposure or manual camera exposure control
- Add thermal control/CO<sub>2</sub> for live cell experiments

## Thermal Environment Control for Live Cell Imaging



- Multiple Sample holders
- CO<sub>2</sub> & O<sub>2</sub> Pre-humidified
- Reduce evaporation

# BioZip II

| Item                    | Specifications  | Item  | Specifications  |  |
|-------------------------|---|---|---|--|
| Observation Modes       | Brightfield, Phase Contrast, Epi-Fluorescence   | <b>Computer/<br/>Hardware/<br/>Software</b> |   |  |
| Acquire Mode            | Single Image, Z-Acquire, Short/Long term Time Lapse, Multi-dimensional, Mosaic Tiling with edge stitching.  |   | Operating System  | Windows XP Pro, Windows Vista , Windows 7  |
| Specimen Holders        | Single 1" x 3" Slide, Quad 1" x 3" Slide, 2" x 3" Slides, 1" x 3" chambered Slides, Multi-well format Plates (96, 384 well), 35mm Petri Dish  |   | Software Options  | Objective Imaging - Surveyor<br>Molecular Devices - MetaMorph<br>Media Cybernetics - Image-Pro Plus                  |
| Speed                   | Example: 25mm x 50mm (1250mm <sup>2</sup> ), 10x, 4 channel with predictive auto focus ON <36min  |   | Computer  | Intel Core2 Duo, CPU 3.0/1333 E8400, 4GB *DDR2* 667MHZ RAM, GeForce 9600GT dual slot 1GB PCIE, dual 22" LCD Monitors |
| Automated Focusing      | User defined, Coarse, Coarse/Fine, Automated Predictive Autofocus   |   | Power   | AC 100-240, 50/60 Hz   |
| XY Tiling/Mosaic Modes  | TurboScan Cruise, TurboScan Stepped, Multi-Channel, Z- Stack, Single Channel  |   | Dimensions  | 24"W x 18"D x 24"H - Standard BioZip II<br>48"W x 24"D x 30"H - BioZip II with Slide Loader                          |
| Reliability             | Stable across thousands of slide scans with no maintenance or recalibration required.   |   | Firewire Interface  | 800 Mbit/sec, 1394b  |
| Camera (Mono)           | 8/14 bit-mono 6.45um square pixels 1392x1040, 65% QE max @500nm   |   |   |  |
| Camera Exposure Control | Auto Exposure or Manual Exposure; microseconds to minutes for a range of probes and experiments.  |   |   |  |
| XY Stage                | Motorized, stepper (Optional Linear Encoders), 4"x3" total coverage, 0.04um min step, submicron repeatability.  |   |   |  |
| Z Focus Drive           | Motorized, stepper (Optional Piezo-Objective or Stage), 0.1um resolution, Z limit switches included   | <b>Optional Equipment</b>                   |   |  |
| Motorized Controller    | High Performance PCI or PCIe Card . Multiple hardware configuration options available   | XY and Z Linear Encoder                     | 0.05 micron resolution  |  |
| Objectives              | Motorized 4 Position Optic Changer<br>Objectives available: 4x, 10x, 20x, 40x LD, 40x (oil), 60x (oil).   | Automated Slide Loader                      | 200 Capacity Automated Slide loader, 4 x 50 Slide cassettes. Will accommodate 1"x3" or 2"x3" slides. Approx 15-20 sec cycle time. |  |
| Illumination Source     | Solid State Technology (Wavelengths Configurable). High intensity, fast change rates, 10 micro sec (up to 5kHz), 10,000 HR Life (MTBF), Output Power monitoring (For retro/feedback). | Barcode Reader                              | 1D or 2D Reader   |  |
| Fluorescence Filters    | Pinkel Multi-Channel Standard, Sedat Multi-Channel. Optional with emission filter wheel. Additional filter sets available upon request.   | Thermal & CO <sub>2</sub> Regulation        | Electric Stage Incubator, CO <sub>2</sub> regulator, multiple sample holders  |  |
| Image Format            | Full Resolution .TIF, .BMP, Compressed .JPG, .JP2, .AVI   | Camera (Color)                              | 12 Bit Color 4.65um square pixels 1392x1040 Bayer Mask  |  |
| System Enclosure        | Easy access sample loading, Lighted room use, (Optional thermal /CO <sub>2</sub> regulation)  | Emission Filter Wheel                       | Used for Sedat Multi-Channel filter set or emission-based ratio acquisition.  |  |
| Warranty                | 1 Yr Parts and Labor  |   |   |  |

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