Digital Pathology Solutions from 3DHISTECH
Pannoramic 250 FLASH II – Scanner of the year 2012

We proudly present the all-in-one solution for digital pathology. High throughput brightfield and fluorescent scanning – without sacrificing image quality.

Features

- **Capacity**: 250 slides without human intervention or continuous scanning
- **Brightfield scanning**: 1 slide/2 minutes at 40x
- **Fluorescent & FISH scanning**: Extra fast, high quality scanning in up to 9 channels, with perfect co-localization

CaseCenter – Get full control on your digital slides!

CaseCenter is a full featured digital slide management software. Its flexible structure can be adapted to various fields, including clinical pathology, research applications, teleconsultation and education. Integration with existing medical information systems is also possible.

Digital slide management

- Flexible folder and case structure
- Use barcodes to organize your digital slides, macro images and project files easily
- Multiple user levels for different access to information
- Storage can grow with your needs without limitation on the number of slides stored
- Free API for custom solutions

CaseViewer

CaseViewer is designed for effective work with cases of digital slides and is available on multiple platforms. Easy to use, intuitive interface and high performance – the right solution for clinical pathology!

Features

- Powerful slide viewer and browser for CaseCenter access in one
- Parallel view of slides for comparison on one screen
- Easy navigation through the slides of the case
- Predefined, fix sized annotations for 20x, 40x fields of views
- Arbitrary slide rotation
- Supports SlideDriver for microscope-like navigation on digital slides
- Supports high resolution monitors
- Available for Windows, Mac OS X, iOS (Android version coming soon)
Digital Pathology Cockpit

Combines the comfort of microscope navigation with the highest quality digital slides to allow you to fully utilize the advantages of digital slides in the clinical environment.

Frozen Section

Use the MacroStation with the Pannoramic DESK and you will get an easy-to-use yet powerful Frozen Section System!

1. Create a frozen section slide with the MacroStation while saving the macro images to CaseCenter!
2. Scan the frozen section directly into CaseCenter with the Pannoramic DESK!
3. In a few minutes your digital slide and the macro images will be accessible via CaseCenter for anybody anywhere!

Digital IHC: QuantCenter

Multi-layer IHC image analysis based on tissue recognition

We introduce a software tool for high throughput IHC analysis. By segmenting the sample on the tissue level, the cell-based algorithms run faster and provide more reliable results. QuantCenter is designed for predictive and prognostic marker quantification and can be adapted to your lab’s IHC protocols.

Features

- Dedicated IHC quantification software for breast cancer diagnosis
- Multi-step processing with linkable algorithms
- PatternQuant: trainable tissue segmentation (cancer, connective tissue recognition)
- Cell based image analysis: nuclear and membrane detection
- Color deconvolution: the software can be calibrated to your lab protocols
- Typical application: HER2, EGFR, Ki67, p53, ER, PR
## Solutions for research pathology

### Pannoramic Digital Slide Scanners

#### Pannoramic DESK
- Single slide capacity
- Brightfield only
- 4x brightfield magnification by default
- Small footprint
- Manual slide loading, automatic previewing, barcode reading and scanning
- **Perfect for teleconsultation, remote frozen section scanning, etc.**
- **Winner of the 'Image quality 40x' and ‘Green IT’ (Power consumption, Noise) categories at the 2012 International Scanner Contest**

#### Pannoramic MIDI
- 12-slide capacity
- Brightfield and up to 9-channel fluorescent in the same machine
- New fluorescent scanning features for higher speed and quality
- 4x brightfield and 3x fluorescent magnification by default
- Manual camera changer and motorized objective changer
- Automatic slide loading, previewing, barcode reading and scanning
- **All-round system for low volume slide scanning**

#### Pannoramic SCAN
- 150-slide capacity & continuous loading
- Brightfield and up to 9-channel fluorescent in the same machine
- New fluorescent scanning features for higher speed and quality
- 4x brightfield and 3x fluorescent magnification by default
- Manual camera changer and motorized objective changer
- Automatic slide loading, previewing, barcode reading and scanning
- Brightfield and fluorescent scanning solution for larger labs

#### Pannoramic 250 Flash II
- 250-slide capacity & continuous loading
- Brightfield and up to 9-channel fluorescent in the same machine
- New brightfield scanning technology for higher speed without compromise in image quality
- Darkfield preview for easy localization of fluorescent samples
- New fluorescent scanning features for higher speed and quality
- 4x brightfield and 3x fluorescent magnification by default
- Motorized objective and camera changer
- Darkfield preview
- Automatic slide loading, previewing, barcode reading and scanning
- **High speed and high quality slide scanning for routine environment**
- **Winner of the ‘Scanning speed 20x and 40x’ and ‘Image quality 40x’ categories at the 2012 International Scanner Contest**

### Main specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Pannoramic DESK</th>
<th>Pannoramic MIDI</th>
<th>Pannoramic SCAN</th>
<th>Pannoramic 250 Flash II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slide capacity</td>
<td>1 or continuous loading</td>
<td>12</td>
<td>150 or continuous loading</td>
<td>250 or continuous loading</td>
</tr>
<tr>
<td>Brightfield / fluorescent</td>
<td>Y / N/A</td>
<td>Y / 9-channel</td>
<td>Y / 9-channel</td>
<td>Y / 9-channel</td>
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<tr>
<td>Acceptable slide formats</td>
<td>25 x 75 mm, 1 mm thickness</td>
<td>25 x 75 mm, 1-1.2 mm thickness</td>
<td>25 x 75 mm, 1-1.2 mm thickness</td>
<td></td>
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<tr>
<td>Available brightfield magnification</td>
<td>26x - 90x</td>
<td></td>
<td></td>
<td>26x - 52x</td>
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<tr>
<td>Objective changer</td>
<td>N/A</td>
<td></td>
<td>Yes, for 2 objectives</td>
<td></td>
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<tr>
<td>Available fluorescent magnification</td>
<td>N/A</td>
<td></td>
<td>20x, 32x, 64x</td>
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<tr>
<td>Barcode reading</td>
<td>1D and 2D</td>
<td></td>
<td></td>
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<tr>
<td>Brightfield illumination</td>
<td>HAL</td>
<td></td>
<td>Strobe light</td>
<td></td>
</tr>
<tr>
<td>Fluorescent illumination</td>
<td>N/A</td>
<td>Metal halide 120W or solid state light engine</td>
<td>Solid state light engine</td>
<td></td>
</tr>
<tr>
<td>Brightfield scanning speed, 15 x 15 mm</td>
<td>1.5 min at 26x</td>
<td></td>
<td>0.6 min at 26x</td>
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<tr>
<td>Digital slide format</td>
<td>Proprietary digital slide format (MRXS) with JPG, JPG2000 encoding</td>
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<tr>
<td>Certificates</td>
<td>CE, IVD</td>
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<tr>
<td>W x D x H (cm)</td>
<td>27 x 25 x 30</td>
<td>70 x 50 x 50</td>
<td>74 x 45 x 53</td>
<td>68 x 70 x 55</td>
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<tr>
<td>Weight (kg)</td>
<td>10</td>
<td>20</td>
<td>25</td>
<td>46</td>
</tr>
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</table>
Digital TMA

With its high capacity, high speed and new features it is finally possible for the TMA technique to enter the clinical pathology workflow.

The tissue microarray (TMA) technique can be used as a valuable, high-throughput diagnostic method. By being able to place up to several hundred different samples into one paraffin block, TMA brings major economies in time, quality and costs of tissue preparation, staining and slide preparation. The real advantages of tissue microarrays cannot be achieved when done manually, though.

**Tissue preparation  – Tissue microarray hardware**

- **TMA Master**
  - 5 block capacity
  - Small footprint

- **TMA Grand Master**
  - 72 block capacity
  - Simultaneous loading, imaging, punching and drilling

- **PCR extraction**

**TMA evaluation software**

**TMA**

- For high throughput tissue microarray analysis
- Project based: multi-user, multi-slide
- Flexible gallery
- Uses measurement data from the image quantification applications (HistoQuant, NuclearQuant, MembraneQuant, DensitoQuant, FISHQuant)
- Works with Excel database created by the TMA Master or the TMA Grand Master

**Measurement Report**

- Histogram, scatter plot, gallery visualization of measurement data
- Classification gallery for NuclearQuant, MembraneQuant, FISHQuant: relocalization and rescoring ability
- CSV export

**Automatic block and virtual slide matching**
- Automatic slide localization on CaseCenter
- Section number prediction based on core volume measurement
- 4 core sizes: 0.6, 1, 1.5 and 2 mm
- More than 500 samples in one block
- Core extraction for molecular analysis
Digital Fluorescence

High quality fluorescent scanning
3DHISTECH was the first company to introduce fluorescent whole slide imaging and continues to provide the best quality fluorescent digital slides. The fluorescent scanning technology used in all FL-capable Pannoramic digital slide scanners is continuously improved and remains unsurpassed. With up to 16-bit image depth, extended focus and Z-stack, it is not surprising the Pannoramic is the No. 1 choice for quality-conscious customers.

Flexibility
Fluorescent whole slide imaging requires a greater degree of flexibility than brightfield scanning. Only area scanning used in Pannoramic digital slide scanners is able to fulfill these requirements. For instance, you can always have a live view to make sure the scanned image is good quality. The digital slide scanners from 3DHISTECH offer the largest number of setup options and feature set on the market thus ensuring you can adapt to every sample.

FISHQuant

Fluorescent in situ hybridization is one of the most widely used genotyping technique and is becoming more and more important in diagnosis. The completely redesigned FISHQuant has been developed to fully utilize the award-winning Pannoramic digital slide quality and to elevate FISH analysis to a new level.

Features
- Suspension and tissue FISH analysis
- Intuitive probe definition: structural aberration (translocation, break apart), numerical deviation, locus specific types
- Robust and fast algorithm: 5000 cell nuclei per minute
- Built-in pie and bar charts, histoplot, XLS export

CISHQuant

Chromogenic in situ hybridization (CISH) has become an attractive alternative to fluorescence in situ hybridization (FISH) due to its permanent stain and because it can be viewed using light microscopy, enabling to view the CISH signal and tissue morphology simultaneously. 3DHISTECH introduces CISHQuant, a powerful and robust tool for CISH stained sample analysis.

Features
- Intuitive probe definition: structural aberration (translocation, break apart), numerical deviation, locus specific types
- Robust and fast algorithm: 5000 cell nuclei per minute
- Automatic and user defined nuclei segmentation and spot thresholding
**Other products**

Combines the comfort of microscope navigation with the highest quality digital slides to allow you to fully utilize the advantages of digital slides in the clinical environment.

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**Digital LMD**

With the help of the 3DHISTECH digital slide scanner and image processing mechanism, and MMI’s laser microdissection device, the cell dissection becomes more efficient!

Digital LMD is the complete solution from digital slide scanning to remote selection of cells of interest. The MMI laser microdissection system facilitates cell isolation and collection controlled via network connection by 3DHISTECH digital slide technology. The resulted pure cell populations are used for gene expression analysis, allowing for highly specific molecular characterization, without the interference of extraneous cells.

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**Pannoramic Confocal**

3DHISTECH presents its latest addition to research pathology. By combining confocal imaging with award-winning whole slide scanning technology, your immuno-fluorescent samples will appear on your screen in unprecedented quality!

**Features**

- **Slide capacity:** 12 slides
- **Brightfield/confocal fluorescent:** Yes
- **Available magnification:** 31x, 62x

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**3DView**

With 3DView, the digital 3D reconstruction of the fluorescent images gives an amazing insight view of the whole specimen.

Microscope slides allow you to see one section of reality. Even with Z-stack or Extended focus, you are still constrained to that one section only. 3DHISTECH offers you a tool that can reconstruct the original tissue from its serial sections. Unlike MRI, the 3DView software lets you look into microscopic details while also showing you the tissue in its original form.
Solution resides in the details

3DHISTECH’s system and software line up supports faster diagnosis that could lead to easier healing process by defining the future of pathology diagnostics. Being one of the pioneers in this field, 3DHISTECH develops and manufactures high speed digital slide scanners that create high quality brightfield and fluorescent digital slides, digital histology software and tissue microarray machinery. 3DHISTECH’s broader aim is to fully digitalize the traditional pathology workflow so that it can adapt to the ever growing demands of healthcare today. Furthermore, educational programs are also organized to help pathologists learn and master these new technologies easier.

3DHISTECH and its dedicated researchers and development team have published extensively on the use of digital pathology for different research applications, including fluorescence in-situ hybridisation (FISH), immuno-histochemistry (IHC) and immuno-cytochemistry (ICC). They have also demonstrated its use for the analysis of breast cancer and showed that 3D reconstructions for the analysis of colon biopsies can circumvent the need for re-analysis. In 2011, the founder Dr. Béla Molnár was nominated for the prestigious European Inventor Award for his invention of the digital slide scanner and the company has won five out of nine awards at the 2nd International Scanner Contest (ISC) in 2012, in Berlin. Recently, its Pannoramic Digital Slide Scanner Family and the Pannoramic Viewer Software have been licensed as a Class II Medical Device by Health Canada. All scanners are available with CE & IVD.