

3DHISTECH

THE DIGITAL PATHOLOGY COMPANY

PANNORAMIC 250 FLASH III

EXCEPTIONAL SPEED AND IMAGE QUALITY WITH
PANNORAMIC P250 FLASH III



PANNORAMIC 250 FLASH III FROM 3DHISTECH, THE ALL-IN-ONE SOLUTION FOR BRIGHTFIELD AND FLUORESCENT WHOLE SLIDE IMAGING. EXPERIENCE 1 MINUTE SLIDE SCANNING AT 40X RESOLUTION IN BRIGHTFIELD MODE.

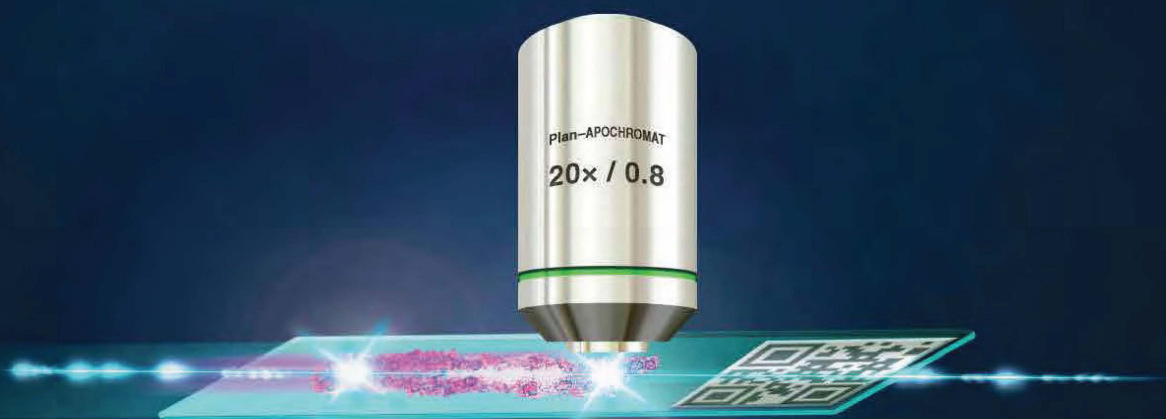


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Pannoramic 250 FLASH III is the new generation of the FLASH family and the successor of the FLASH II the Winner of the 2012 International Scanner Contest for 'Scanning speed 20x and 40x'

Features:

- All-round system for high volume slide scanning: 250-slide capacity & continuous loading.
- Award-winning, exceptional image quality in brightfield scanning.
- Up to 9-channel fluorescent scanning completed with advanced FISH scanning technique.
- Up to 80x brightfield and 60x fluorescent magnification by default.
- Scanning 54 slides per hour at 40x resolution!
- Calibrated color correction in brightfield scanning.
- Darkfield preview for easy localization of fluorescent samples.

Absolute minimum bleaching

In fluorescent microscopy one of the biggest problems is sample bleaching. During the scanning process the sample has to be illuminated only for the time of image acquisition. The pure acquisition time is only a fraction of the scanning time as stage movement and image processing also takes time during scanning.

Using a traditional arc lamp the illumination is always on and the sample is bleached continuously. Mechanical shutters cannot be used as their speed and lifetime is limited.

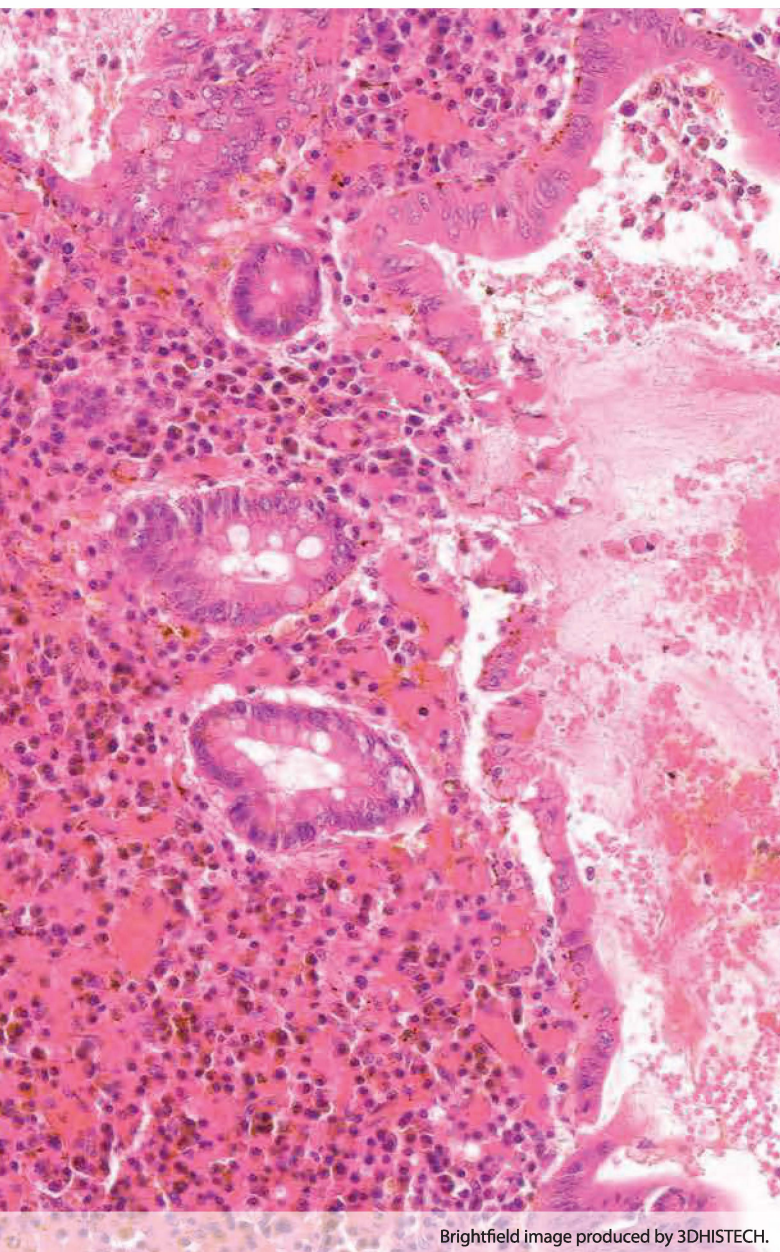
In the Pannoramic 250 the camera controls directly the solid state light engine. The light engine has sub millisecond switching time and the sample is illuminated with sub millisecond precision only for the time of exposure. This technique results in the theoretically least possible bleaching.

Patent pending, unique software based flat field correction to eliminate tiling effects

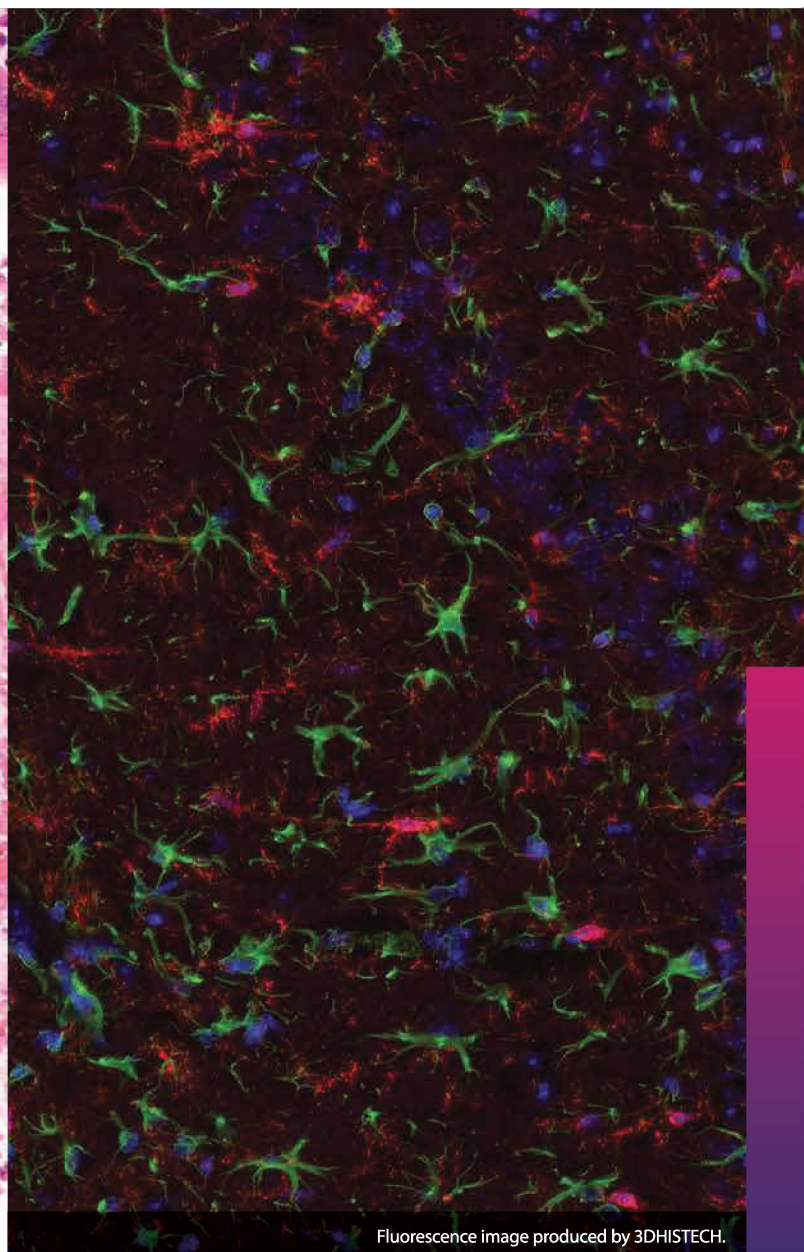
No illumination light path is perfect and in whole slide imaging flat field correction is used to eliminate tiling effects. In brightfield imaging empty field of views provide all the information necessary for flat field correction.

In fluorescence this is not possible as the background is black. Typically calibration slides are used for flat field correction. They don't provide optimal results as the sample and slide itself also influences illumination and there is a difference from slide to slide.

The technique used in the Pannoramic scanners analysis every field of view of every slide individually to calculate statistically the best overall flat field correction coefficients.



Brightfield image produced by 3DHISTECH.



Fluorescence image produced by 3DHISTECH.

Technical specifications

Slide loading capacity	250 or continuous loading
Brightfield / fluorescent scanning	Yes / 9-channel
Acceptable slides	25 x 75 mm, 0.9 – 1.2 mm thickness
Brightfield magnifications	40x (0.24 $\mu\text{m}/\text{pixel}$), NA 0.8 80x (0.12 $\mu\text{m}/\text{pixel}$), NA 0.95
Brightfield illumination	Xenon FLASH
Brightfield scanning speed, 15 mm x 15 mm	54 slides / hour @ 40x 36 slide / hour @ 80x
Brightfield camera	12 Megapixel 1 CMOS sensor
Fluorescent magnifications	30x (0.32 $\mu\text{m}/\text{pixel}$), NA 0.8 and 60x (0.16 $\mu\text{m}/\text{pixel}$), NA 0.95
Fluorescent illumination	Lumencor SPECTRA solid state light engine
Fluorescent scanning bit depth	Up to 16 bit
FISH scanning ability	Yes
Darkfield preview	Yes
Fluorescent scanning speed*: 15 mm x 15 mm, DAPI 50 ms, FITC 100 ms, TRITC 100 ms exposure, single layer, 25 focus points, flat field correction. *Actual scanning time varies with exposure times, number of layers and channels and other settings.	12 minutes @ 30x 40 minutes @ 60x
Fluorescent camera	4.2 megapixel scientific CMOS
Multi-layer scanning for BF, FL	Z-Stack up to 30 layers and Extended Focus
Motorized objective changer	2 objectives
Barcode reading	1D and 2D
Digital slide format	.MRXS with JPG/JPEGXR/JPG2000 compression
Certificates	CE, IVD, Canadian Medical Device License Class II
Dimensions (W x D x H) (cm)	68 x 72 x 55
Weight (kg)	50
Typical power consumption (with control PC and monitor)	350 W