

Release Notes

# **ZEN 2.3 SP1**



We make it visible.

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<b>1</b>	<b>General Information</b>	<b>4</b>
<b>2</b>	<b>New Features</b>	<b>5</b>
2.1	Celldiscoverer 7	5
2.2	Devices	6

## 1 General Information

- The naming of the software will be numbered according to versions. The current software version is named ZEN 2.3 SP1.

## 2 New Features

### 2.1 Celldiscoverer 7

Celldiscoverer 7 - Your Automated Platform for Live Cell Imaging

The new Celldiscoverer 7 combines the ease of use and automation of a boxed microscope with the image quality and the flexibility of a classical research microscope. The system calibrates itself, detects and focuses the sample and uses adaptive, self-adjusting optics. The Celldiscoverer 7 is a reliable automated research platform that allows working with 2d or 3d cell culture, tissues sections and small model organisms using all kind of sample carriers.

#### Key Features of Celldiscoverer 7 System

- Boxed inverted microscope for automated research
- Up to 7 LED-based fluorescence channels offered
- Dedicated, optimized multiband filter sets
- New opto-mechanical concept
- High overall light efficiency especially at lower magnifications
- Long working distance, high numerical aperture objectives
- Adaptive autocorr objectives
- Bottom material thickness measurement
- Auto-Immersion functionality
- Sample mounting optimized for traveling ranges
- Adaptive lens guard
- Focus stabilization (Definite Focus.2)
- New, adaptive transmitted light-contrast (Phase Gradient Contrast)
- Integrated, yet flexible environmental control
- Heating & cooling
- Dispensing & perfusion
- Optional plate loader

#### Additional ZEN 2.3 SP1 (blue edition) Features for Celldiscoverer 7 System

- Sample tab for automatic carrier recognition and carrier calibration
- Built-in sample carrier bottom material thickness measurement

- Automation GUI (Graphical User Interface) with ScanProfiles
- Tile 'Snap' for fast and easy overview images
- Simplified GUI without Locate tab
- Navigation area for fast and efficient carrier-based navigation
- Efficient and fast keyboard-based navigation and focusing
- Visualization of allowed traveling ranges (Adaptive Lens Guard)
- Optimized for minimal bleaching to triggering of the LEDs at any time
- Powerful integration of Definite Focus.2 in Tiles & Position and Focus Strategies module
- Fast and precise hardware-based finding of surface and focus
- Automatic sample carrier calibration
- Automation graphical user interface and barcode reading
- Dedicated tool for dispensing workflows
- Starting experiments directly from the TFT touch panel

#### **Hardware**

- Support of AxioCam 506 mono as internal camera
- Support of AxioCam 512 mono, AxioCam 702 mono, Orca Flash 4.0 V2 and Roper Evolve 512 delta for external camera port
- Optional plate loader

## **2.2 Devices**

#### **Cameras**

- Support of AxioCam 512 mono.

#### **Microscope**

- New MicroToolbox MTB 2011 version 2.7.0.5 to control the microscope and its components.

#### **Other devices**

- Autoimmersion Module for Axio Observer.Z1 or 7
- Colibri 7 and associated filter sets
- Phosphorescence block filter for LED transmitted-light illumination
- Z-Piezo WSB 500 for Axio Imager

- XY-Piezo WSB CAN for Axio Imager

#### **Objectives autocorr**

- Objective C-Apochromat 40x/1.2 W autocorr M27
- Objective C-Apochromat 63x/1.2 W autocorr M27
- Objective LD LCI Plan-Apochromat 25x/0.8 Imm autocorr DIC M27
- Objective LD LCI Plan-Apochromat 40x/1.2 Imm autocorr DIC M27
- Objective LD LCI Plan-Apochromat 63x/1.2 Imm autocorr DIC M27

#### **Filter wheels for Axio Observer.Z1 or 7**

- Filter wheel excitation 8-pos. mot. for filters d=25
- Dual filter wheel mot. for beam splitting and emission

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