

Discover highest image quality

IMT Scan cooled (12.5MP) / IMT 7 / IMT 5 cooled / IMT 3 cooled

Made in Germany, by Jenoptik Optical systems GmbH

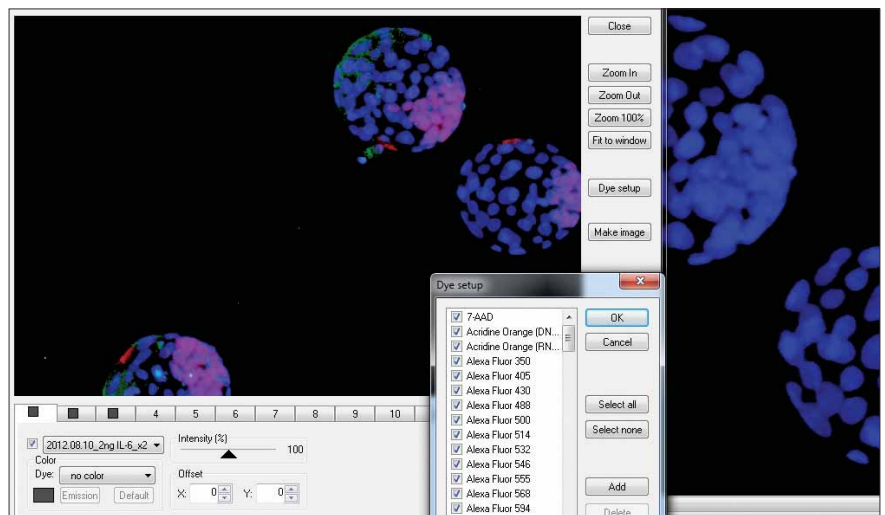
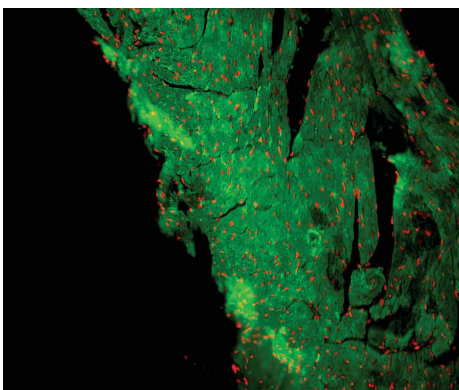
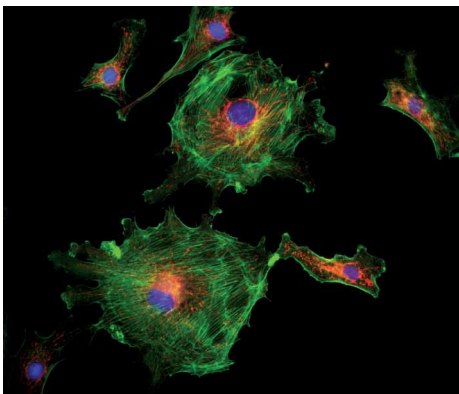
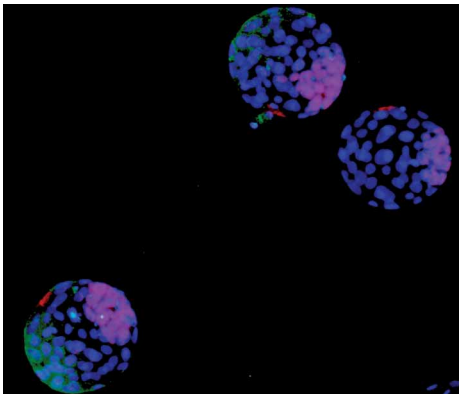
Superior image quality and highest sensitivity

The color IMT CCD Research cameras meet challenging requirements in scientific applications, not only in fluorescence microscopy.

The high sensitivity warrants brilliant images at high resolutions, especially when working with low-light specimens.

The active peltier cooling consists of a nitrogen flushed sensor capsule, a peltier element and a fan.

For exact image analysis of finest details and informative image documentation, the Microscanning technology provided in the scanning IMT Scan cooled CCD Research cameras allows for capturing images of first-class quality with a resolution of up to 12.5 megapixel.



Specifications	IMT Scan cooled (12.5MP)	IMT 3 cooled	IMT Scan 5 cooled	IMT Scan 7
Image sensor	2/3" CCD	1/1.8" CCD	2/3" CCD	1/2.5" CCD
Color / Monochrome	Color	Color	Color	Color
Sensor resolution (max)	1360 × 1024 pixel (1.4-12.5 Mpix)	2080 × 1542 pixel (3.2 Mpix)	2580 × 1944 pixel (5.0 Mpix)	3072 × 2300 pixel (7.1 Mpix)
Active sensor size (H × V)	8.8 mm × 6.6 mm	7.58 mm × 6.54 mm	9.04 mm × 7.86 mm	5.71 mm × 4.29 mm
Pixel size (W × H)	6.45 µm × 6.45 µm	3.45 µm × 3.45 µm	3.4 µm × 3.4 µm	1.86 µm × 1.86 µm
A / D conversion	14bit	12 bit	12 bit	12 bit
Dynamic range	67 dB 69 dB	61 dB	61 dB 60 dB	60 dB
Exposure times	94 µs... 300 s 600 s	270 µs... 180 s	90 µs... 180 s	170 µs... 5 s
Analog gain	1x ... 8x	1x ... 12x (SDK)	1x ... 16x (SDK)	1x ... 16x (SDK)
Max. frame rate (image size in pixel)	13 fps (1360 × 1024) 51 fps (680 × 512)	6 fps (2080 × 1542) 12 fps (1040 × 770)	6 fps (2580 × 1944) 21 fps (646 × 488)	18 fps (1228 × 920)
Cooling	yes	yes	yes	no
Digital interface	FireWire a	FireWire a	FireWire a	FireWire a
Optical connection	C-Mount (0.63 TV pref)	C-Mount (0.5 × or 0.63 × TV pref., depends from the type of microscope)	C-Mount (0.63 × TV pref.)	C-Mount (0.5 × TV pref.)
Trigger In / Out	no	no	no	yes
Voltage supply	FireWire powered	FireWire powered	FireWire powered	FireWire powered
Power consumption	approx. 8 W	approx. 6 W	approx. 6 W	approx. 6 W
Microscan	4080 × 3072 2770 × 2048	no	no	no
Ambient conditions	Temperature: 0 °C ... +35 °C / Humidity: 5 % ... 80 %, non condensing			
Storage conditions	Temperature: -20 °C ... +70 °C			
Dimensions (L × W × H)	110 mm × 102 mm × 98 mm			
Weight	approx. 700 g			
Application software	IMT iCamera			
External camera driver	www.IMT-Solution.com			
Requirements	Microsoft Windows XP / Vista / Windows 7 (32 & 64 bit for FireWire- and USB cameras) CPU: 3 GHz or 2 GHz multicore RAM: min. 1 GB graphics: min. 256 MB interface: IEEE1394 Firewire a (OHCI Standard), USB 2.0 or USB 3.0			

iSolution Auto plus

Features of included application software as standard

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Fields of Application

Image analysis, documentation and archiving in micro- and macroscopy in the fields of:

- Fluorescence microscopy
- Macroscopy
- Life science, diagnostics
- Pathology & cell biology
- Phase contrast microscopy
- Material science, geology & mineralogy
- Quality control
- Forensics

- ▶ 51개 자동측정 항목
- ▶ 측정 결과의 통계, 분류, 차트
- ▶ 면적 분할 자동측정
- ▶ 자동 / 수동 스레슬드
- ▶ 25개 수동측정 항목
- ▶ 최대 14개 형광 채널 합성
- ▶ 142개 형광 칼라 지원

Input Device

- 1) Direct Driver
- 2) DirectShow
- 3) Twain
- 4) Many cameras supported by SDK

Image Capture

- 1) Time Lapse Capture
- 2) Movie Recordings by AVI, MPG, MPEG, MOV
- 3) Crosshair Generation on Live Preview Window
- 4) Grid Mask on the live preview window based on calibrated scale
- 5) Measurement on live preview window

Image File Format

jpg, jpeg, jpe, tiff, bmp, gif, pcx, tga, mpg, mpeg, avi, mov, img, rpt, txt, scr. clr and etc.

Overlay

- 1) Crosshair
- 2) Grid mask
- 3) Image
- 4) Marker
- 5) Time Stamp
- 6) Measure

Save

- 1) Saving Data by TXT File Format
- 2) Saving image and the measurement data together by img File Format

Image

Mode Change, Clone, Crop, ROI, Resize, Rotate, Split, Combine Color Plane

Image Mode Change

Grayscale, RGB, HSB, YUV, 8bit and 16bit per Channel ROI Control

- 1) Rectangle, Arbitrary Rectangle, Ellipse, Arbitrary Ellipse, Polygon, Spline Shape, Magic Wand
- 2) Copy, Paste, Crop ROI

Combine

- 1) Split Color Plane RGB, HSB, YUV
- 2) Combine Color Plane RGB, HSB, YUV
- 3) Combine Color Images directly by Mean, RGB, Fluorescence Mask and Add

Sequence Control

- 1) Play Forward and Backward
- 2) Making Movie File(mpg, avi, mov) by captured Images
- 3) Split Images from a Sequence Movie FileMode

View

Zoom Tools

- 1) Zoom In, Out, and 100%
- 2) Zoom In Window for More Accurate Edge Detection
- 3) Zoom 10% to 1600% Fit to Window Context Window to Manipulate Several Images

Edit

Undo, Redo, Copy, Paste, Paste New, Delete

Delete All, Annotate, Image Information

Annotate

Line, Polyline, Spline, Rectangle, Ellipse, Text label

Process

Filter, BCG Control, Pseudo Color

Filter

- 1) Edge : Gradient, Kirsch, Laplas, Sobel, Variance
- 2) Enhance : Auto Brightness and Contrast, Average, Background Correction, Equalize, Median, Sharping, Smooth
- 3) Morphology: Clean, Close, Dilate, Erode Fill Holes, Open, Split
- 4) Special : Emboss, Negative

Focus Enhancement (Extended depth of focus)

- 1) Combine Individual Partly Focused Images into a Single In-Focus Composite Image
- 2) Combine without Trace
- 3) Auto Compensating Displaced Images from Stereo Microscope
- 4) Live focus enhancement
- 5) Sub-pixel focus enhancement
- 6) Fast focus enhancement
- 7) Stereo microscope focus enhancement

Image Stitching

- 1) Perfect Auto Montage.
- 2) Auto and Manual Image Stitching
- 3) Stitching without Trace and Correcting any Irregularities in Brightness

Live Image Stitching

Calibration

- 1) Full Auto Calibration
- 2) Semi-Auto Calibration
- 3) Special Calibration X and Y
- 4) Insert Calibration Marker
- 5) Split Calibration Marker 4 and 16
- 6) Save and Open Calibration
- 7) Protection by Password
- 8) Adjust by image size

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Manual Measurement

25 measurement parameters Point, Straight Line, Horizontal line, Vertical line, Width and Height, Circle by radius, Circle by N points, Circle by diameter, Best Fit Circle, Circle by 3 Points, Arc by 3 points, Rectangle, Polygon, Spline, Polyline, Angle, Angle between 2 Lines, Distance, Parallel line, Lines from common points, Irregular diameter, Auto trace, Perpendicular width measurement, perpendicular from common line, Perpendicular distance

Measurement objects

Rectangle, Arbitrary Rectangle, Circle, Ellipse, Arbitrary Ellipse, Polygon, Spline Shape, Magic Wand, Invert objects, Separate objects, Connect objects, Disconnect objects

Auto Count and measurement

Auto Count Objects

- 1) Auto Object Detection
- 2) Edit the Counted Objects by Add, Subtract, Cut, Split, and Morphological Filters
- 3) Set the Measurement Range

Threshold

- 1) Manual threshold (Red, Green, Blue, and Gray)
- 2) Manual threshold (Hue, Saturation, Brightness)
- 3) Manual threshold(Y, U, V)

Automatic threshold

Peaks, Entropy, Fuzzy sets, Iteration, Minimum error, Dark/Bright objects

Auto Measurement Parameters

51 Auto measurement parameters Area, Hole area, Perimeter, Hole perimeter, Max length, Max width, Average dimension, Average chord free, Size by X, Size by Y, Average chord X, Min chord X, Max chord X, Std Dev chord X Average chord Y, Min chord Y, Max chord Y, Std Dev chord Y Min Feret Diameter, Max Feret Diameter, Average Feret Diameter, Min/Max Feret Diameter, Equal Circle Diameter, Major Ellipse Diameter, Minor Ellipse Diameter, Line Length, Line Width, Ribbon Length, Ribbon Width, Circle SF, Ellipse SF, Roundness, Roundness-ALT, Elongation, Center X, Center Y, Angle, Red Color, Green Color, Blue Color, Hue, Intensity(Min), Intensity(Max), Intensity(Mean), Intensity(Integral), Intensity(Standard Deviation), Intensity(Mode), Intensity(Median), %Area, %Hole, Convex hull

Measurement Data

- 1) Measurement Data
- 2) Statistics Data from all Parameters
- 3) Classification and Statistics for all Parameters
- 4) Export to Excel Original Image, Overlay image Measurement Data, Statistics, Classification, and Chart.
- 5) Export to customized Excel template

Advanced Fluorescence

- 1) Max 14 color channel merge ability
- 2) 142 predefined Dye color
- 3) Custom color define ability
- 4) Intensity adjustment and Offset for each color channel
- 5) Zoom In and Out preview window
- 6) Live and Still mode

Export to Excel

- 1) Export to Excel Gray Image Data
- 2) Export to Excel Overlay and Original Image Measurement Data, Statistics, Chart
- 3) Export to Excel by template

Report

Report Generator

- 1) Create Report
- 2) Insert Image and Data
- 3) Insert other OLE Objects

Window

Split Horizontal, Split Vertical, Cascade Tile Horizontal, Tile Vertical, Arrange icons

Dynamic User Interface (UI)

- 1) Classic
- 2) Modern

Development

Customized Modules and Application

