



Product comparison:

JENOPTIK GRYPHAX® ALTAIR vs. ProgRes® CT5

GRYPHAX®

Explore your micro universe cost-efficient with 3 & 12 Mega-Pixel.



The [superior solution](#) for education applications

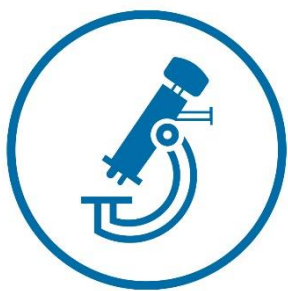
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JENOPTIK GRYPHAX® - comparison

All camera comparisons are based on results of our JENOPTIK digital image laboratory. The quality of our cameras is proven by spectral measurement at our laboratory and is based on guidelines of EMVA 1288 standard.

Comparison of JENOPTIK GRYPHAX® ALTAIR



Refine every microscope workstation.

JENOPTIK GRYPHAX® ALTAIR

Supersedes all 5 Mega Pixel microscope cameras!

JENOPTIK GRYPHAX® ALTAIR is made as a **superior solution** for education microscope applications.

This camera provides fast live images with brilliant color reproduction, using a **1/1.75" SONY** CMOS sensor with **Exmor R® - back illuminating** technology, at very high resolution.

Within this comparison we take a look at the ProgRes® CT5 compared to JENOPTIK GRYPHAX® ALTAIR, the successor of ProgRes® CT5.

Sensor/Camera	ProgRes® CT5 with IR cut filter	JENOPTIK GRYPHAX® ALTAIR with IR cut filter
Utilized sensor diagonal	7,13 mm	9,3 mm
Frame Rate @ FPS	17 at 1.2 MPix (1296 x 972)	20 at 3.0 MPix (2000 x 1500)
Camera Resolution @ px	2592 x 1944 (5 Mpix)	4000 x 3000 (12.0 MPix)
Pixel Pitch [μm^2]	2.2 x 2.2	1.85 x 1.85
Quantum Efficiency [N(e-)/N(p)] @ 532nm (green)	0.47 QE(λ) see spectral data	0.57 QE(λ) see spectral data
Dark Noise [DN/e-]	4.3 DN; 4.8e-	0.5 DN (at 10 bit); 4e-
Dynamic Range (DR)	58 dB	65 dB

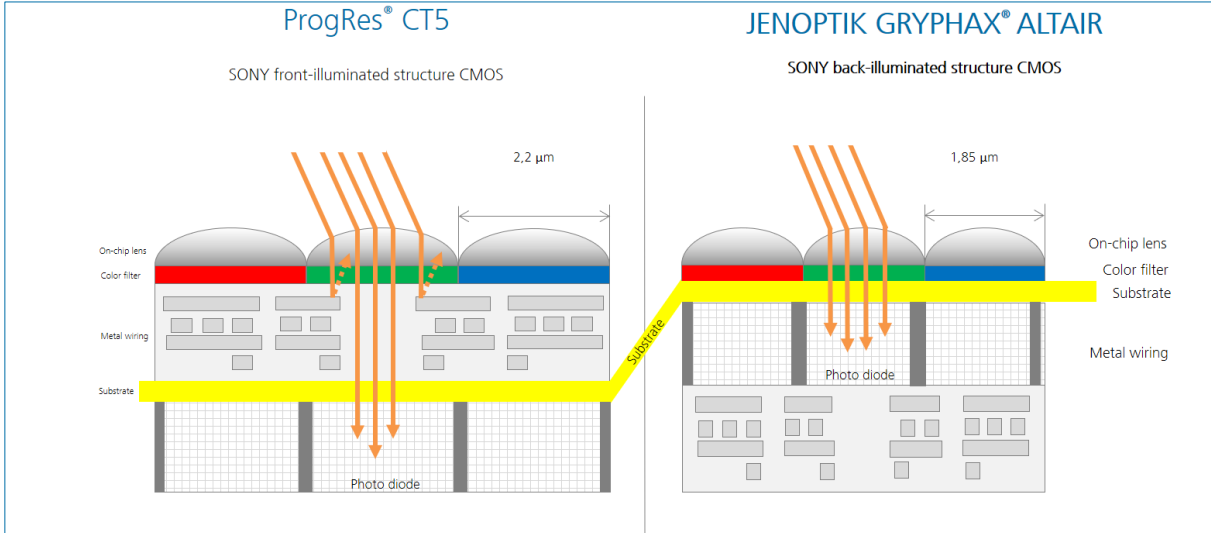
By reason on our measurements, done within our laboratory and based on guidelines of EMVA 1288.

Sensor Technology



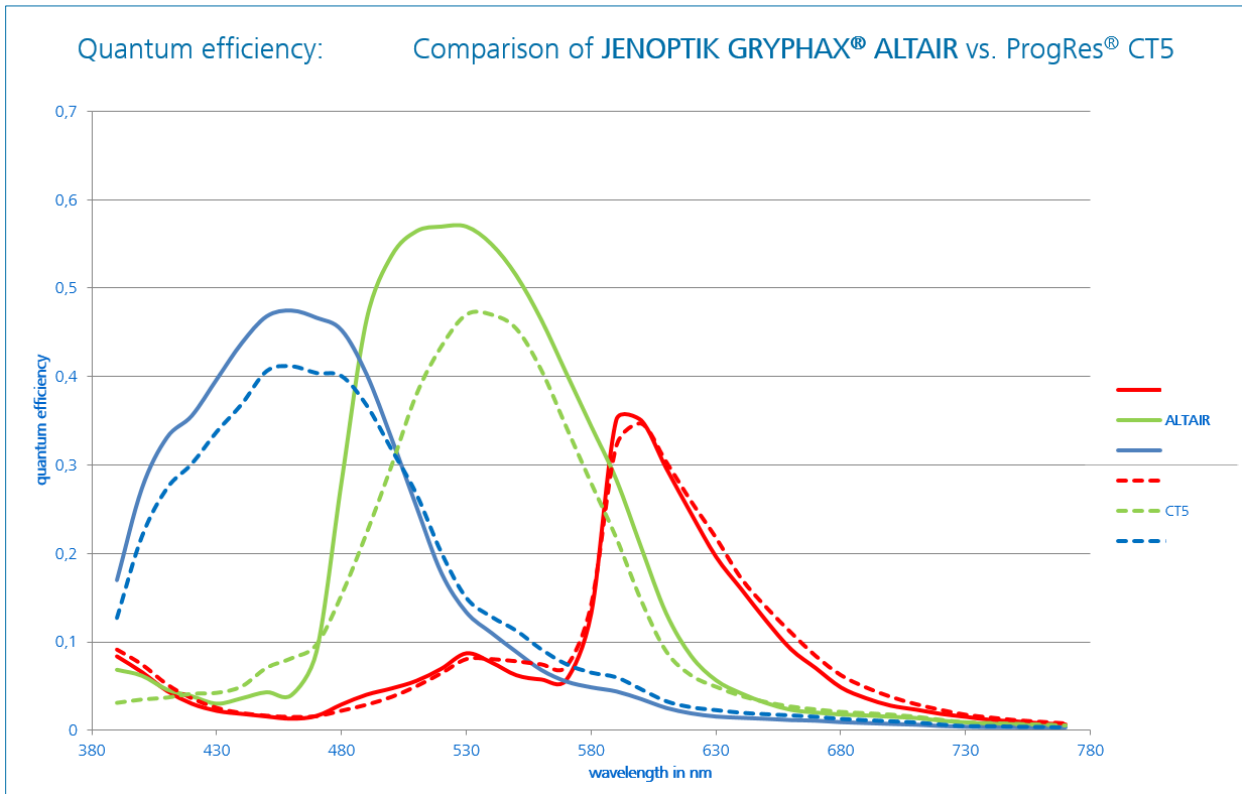
JENOPTIK GRYPHAX® ALTAIR is equipped with back-illuminated CMOS sensor.

Which has about **50 percent more efficient pixels** due to **SONY Exmor R®** - back illumination technology! (higher QE in spite of smaller pixel size)



Source: Graphic done by Jenoptik based on information from www.sony.net

Quantum efficiency with IR-cut filter (C500s):





JENOPTIK GRYPHAX® ALTAIR's quantum efficiency **is 20 percent higher** (at 532 nm) than ProgRes® CT5!

JENOPTIK GRYPHAX® ALTAIR advantages:

- ☆ **High effective** photon to electron transformation
- ☆ Extraordinary **high image resolution**
- ☆ Less illumination
- ☆ Small and very **efficient pixels**
- ☆ Benefits from **SONY Exmor R®** - back illumination technology
- ☆ **Long exposure** times up to 15 seconds
- ☆ **High gain** optionally up to Gain 15
- ☆ **Secure investment:** long-lasting & reliable hardware

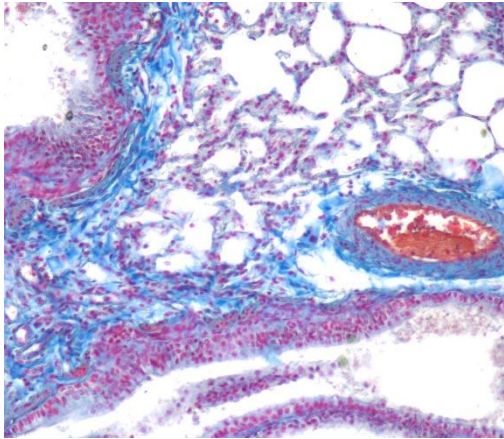
Sensor resolution comparison

Magnify the level of detail and field of view! Comparison of similar specimen and different cameras.

JENOPTIK GRYPHAX® ALTAIR has more than **68 percent bigger field of view** than ProgRes® CT5!

ProgRes® CT5

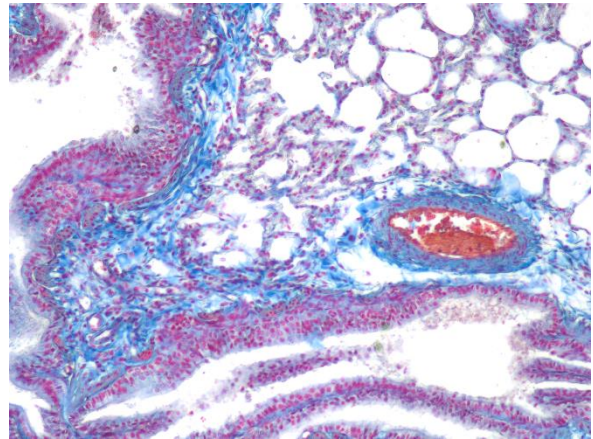
Small field of view & less details



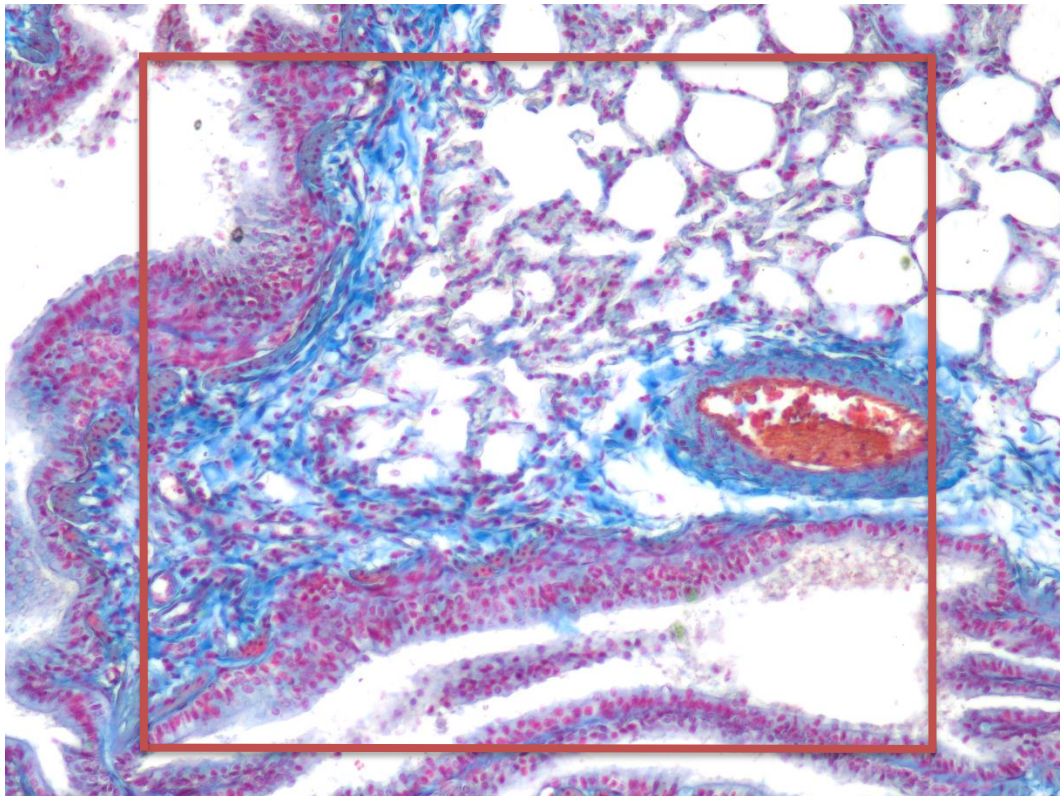
TV-Adaption Zeiss 0.63x (60N")

JENOPTIK GRYPHAX® ALTAIR

2.4 times higher resolution due to smaller pixels & higher sensor size



TV-Adaption Zeiss 0.63x (60N)



Equipment:

Microscope Zeiss AxioScope.A1

Lens Zeiss 10x EC-Epiplan-NEOFLUAR

Sample:

Lung of cat Transverse Cross Section (Lieder)



JENOPTIK GRYPHAX® ALTAIR

has a more than **2.4 times higher** sensor resolution than ProgRes® CT5!

JENOPTIK GRYPHAX® ALTAIR advantages:

- ☆ Microscopy-optimized image resolution (12 Mpix) for education application
- ☆ Microscopy-enhanced **field of view**
- ☆ **Highest level of detail** due to small pixel size and efficient sensor technology
- ☆ **Brilliant image colors** by proven JENOPTIK color reproduction

Live image



JENOPTIK GRYPHAX® ALTAIR is equipped with a high resolution and high sensitive SONY CMOS Exmor R® sensor with back-illuminated structure.

It provides **fast live image speed**, perfect for video recording. Which is **20% faster by 2.5 times higher resolution** compared to ProgRes CT5!

Main features of JENOPTIK GRYPHAX software take advantage of the modern camera characteristics.

Video

JENOPTIK GRYPHAX® ALTAIR **advantages:**

- ☆ Video speed at live image: **“You get what you see”**
- ☆ Video recording of living specimen or specimen to be moved at **brilliant image quality**.

EDF/ Z-stacking

JENOPTIK GRYPHAX® ALTAIR **advantage:**

- ☆ **Real-time appearance** of EDF/ Z-stacking images (high frame rate, higher sensitivity, low noise sensor) saves time.

Panorama

JENOPTIK GRYPHAX® ALTAIR **advantage:**

- ☆ **Real-time appearance** of Panorama image (high frame rate, higher sensitivity, low noise sensor) saves time.

Remote control

JENOPTIK GRYPHAX® ALTAIR **advantage:**

- ☆ **Real-time appearance** of remote controlled cameras via network connection.

Software



JENOPTIK GRYPHAX software is workflow optimized capture software. It is created to help users intuitive getting the perfect live and captured image and saving time.

JENOPTIK GRYPHAX® Software **advantage:**

- ☆ Cross-platform compatible **WIN, MAC and LINUX**
- ☆ **Identical GUI** across WIN, MAC and LINUX platform
- ☆ **Versatility:** Free SDK, wide range of 3rd party software support
- ☆ **Drivers for:** µManager, Twain, MetaMorph and DirectX support included
- ☆ **Stability:** Made in Germany, software updates free of charge

Weight and dimension

ProgRes® CT5	JENOPTIK GRYPHAX® ALTAIR
Weight: ~ 600 gr	Weight: ~ 400 gr
Dimension:: L x W x H in mm 89 x 84 x 93	Dimension: L x W x H in mm 85 x 75 x 50

JENOPTIK GRYPHAX® Packaging advantage:

- ☆ Lower transport costs due to less weight and dimension of housing and camera packaging.

Applications and contrast techniques

JENOPTIK GRYPHAX® ALTAIR recommended Applications

- Life & Medical Science
- **Education Life & Medical Science**
- Material & Manufacturing
- **Education Material & Manufacturing**
- Fluorescence
- Education Fluorescence

JENOPTIK GRYPHAX® ALTAIR recommended contrast techniques

- **BF – Bright-Field**
- DF – Dark-Field
- DIC – Differential-Interference-Contrast
- Ph – Phase contrast
- Pol - Polarization

JENOPTIK GRYPHAX® ALTAIR is the [superior solution](#) for education applications at Bright Field.

Summary

JENOPTIK GRYPHAX® ALTAIR advantages at a glance:

- ☆ **Effective** photon to electron transformation
- ☆ **Less** illumination
- ☆ **Very short** exposure times
- ☆ **Secure** investment: long-lasting & reliable hardware
- ☆ Microscopy-**optimized** image resolution (**12 Mpix**) for superior education application
- ☆ **Highest** level of detail due to small pixel size and efficient sensor technology
- ☆ Benefits from **SONY Exmor R®** - back illumination technology
- ☆ Brilliant image colors by proven JENOPTIK color reproduction
- ☆ **Video speed** at live image: “You get what you see”
- ☆ Real-time appearance of **EDF/ Z-stacking** and **Panorama** images saves time.
- ☆ Cross-platform compatible **WIN, MAC** and **LINUX**
- ☆ Identical GUI across WIN, MAC and LINUX platform
- ☆ **Versatility:** Free microscopy software, free SDK, wide range of 3rd party software support
- ☆ **Drivers for:** µManager, Twain, MetaMorph and DirectX support included
- ☆ **Stability:** Made in Germany, software updates free of charge
- ☆ Lower transport costs.



Refine every microscope workstation with
JENOPTIK GRYPHAX® ALTAIR.

The **superior solution** for education applications

Also take a look on our [new product portfolio JENOPTIK GRYPHAX®!](#)

GRYPHAX®

Explore your micro universe cost-efficient with
3 & 12 Mega-Pixel

