



**MORE LIGHT**

JENOPTIK GRYPHAX® - real measured color

Explore your micro universe with  
JENOPTIK GRYPHAX® microscope cameras.

## Why JENOPTIK GRYPHAX®?

JENOPTIK GRYPHAX® refines every microscope workstation to a digital microscope workstation!  
Stay completely flexible and continue using your existing image analysis software with JENOPTIK GRYPHAX®!  
Document your daily work with real measured color and participate JENOPTIK GRYPHAX® value propositions.



**High image quality**  
Giving you the details to make the right decisions.

- Professional Jenoptik image quality based on real measured colors by use of color-co-site sampling & microscanning
- Perfect color reproduction by use of spectrally measured sensors



**Ease of use**  
Giving your work an effortless feel.

- User-friendly and intuitive microscope camera software
- Optimized workflows
- Live-image optimized, all features in real time, all the time
- Time-saving and easy installation



**Versatility**  
Giving you the freedom to work with your favorite equipment.

- Cross-platform compatible for WIN, MAC & Linux
- Identical GUI across WIN, MAC & Linux platform
- Suitable for all microscope brands
- Free SDK available
- Twain, Direct Show and 3<sup>rd</sup> party software support



**Stability**  
Giving you a reliable research tool you can count on.

- USB 3.0 camera interface
- Secure investment: long-lasting & reliable hardware
- Secure investment: long-term software support & operating system compatibility

## JENOPTIK GRYPHAX® camera overview

Explore your micro universe: life and medical science<sup>(1)</sup> | material and manufacturing<sup>(2)</sup> | education<sup>(3)</sup>

JENOPTIK GRYPHAX®	AVIOR <sup>(3)</sup>	ALTAIR <sup>(3)</sup>	ARKTUR <sup>(1,2)</sup>
Explore your micro universe ...	... cost-efficient with 2 & 8 MPix   4K.	... cost-efficient with 3 & 12 MPix.	... with revolutionary 3 & 8 MPix   4K LIVE.
<b>IMAGE SENSOR</b>			
Type Square utilised sensor diagonal	SONY back-illuminated CMOS 1/2" 8.2 mm	SONY back-illuminated CMOS 1/1.75" 9.3 mm	SONY back-illuminated CMOS 2/3" 10.6 mm
Pixel dimensions	1.85 x 1.85 µm	1.85 x 1.85 µm	2.4 x 2.4 µm
Color or monochrome	Color	Color	Color
Transfer method   shutter mode	All pixel scan   rolling shutter	All pixel scan   rolling shutter	All pixel scan   rolling shutter
<b>CAMERA</b>			
Camera resolution & speed in LIVE mode	1920 x 1080 pixel   30 fps	1000 x 750 pixel   20 fps 2000 x 1500 pixel   20 fps	1920 x 1080 pixel   50 fps 2560 x 1440 pixel   30 fps 3840 x 2160 pixel   30 fps
Camera resolution in RECORD mode	1920 x 1080 pixel   2.7 MPix 3840 x 2160 pixel   8.3 MPix	1000 x 750 pixel   0.75 MPix 2000 x 1500 pixel   3 MPix 4000 x 3000 pixel   12 MPix	1920 x 1080 pixel   2.7 MPix 2560 x 1440 pixel   3.7 MPix 3840 x 2160 pixel   8 MPix
Camera resolution & speed in VIDEO mode	FULL HD - 1920 x 1080 pixel up to 25 fps	2000 x 1500 pixel up to 20 fps	FULL HD - 1920 x 1080 pixel up to 25 fps
Exposure time LIVE min. - max.	52 µs - 1 s	52 µs - 1 s	51 µs - 1 s
Exposure time RECORD min. - max.	52 µs - 15 s	52 µs - 15 s	51 µs - 30 s
Gain	Max. 15	Max. 15	Max. 30
Cooling	NO	NO	NO
A/D conversion   digital output	10 bit (1024 grey values)   16 bit	10 bit (1024 grey values)   16 bit	10 bit (1024 grey values)   16 bit
Absolute sensitivity threshold*	5.7 e-	5.7 e-	7.8 e-
Quantum efficiency @ 532 nm (green)*	0.57 QE (λ)	0.57 QE (λ)	0.65 QE (λ)
Dark noise [DN / e-]*	0.5 DN / 4 e-	0.5 DN / 4 e-	0.5 DN / 6 e-
Saturation capacity*	10.000 e-	10.000 e-	14.700 e-
Dynamic range*	65 dB	65 dB	66 dB
Filter	IR cut   optional clear-glass	IR cut   optional clear-glass	IR cut   optional clear-glass
Power consumption	Appr. 4.5 W	Appr. 4.5 W	Appr. 3 W
Hardware trigger	NO	NO	OUT
Weight	Appr. 400 g	Appr. 400 g	Appr. 400 g
Power switch		Yes	
Optical interface		C-mount	
Dimensions		85 mm x 75 mm x 50 mm	
Storage options		-20°C up to 70°C	
Operating temperature		+10°C up to +35°C non condensing	
Warranty		24 months	
Conformity to CE / WEEE / RoHS / China RoHS		Yes	

\* based on EMVA 1288 standard compliance guidelines

\*\* 7.2 x 7.2 µm @ 1200 x 1200 pixel

\*\*\* unique vibration-free software cooling developed by Jenoptik (further information gryphax@jenoptik.com)

NAOS <sup>(2)</sup>	PROKYON <sup>(1,2)</sup>	KAPELLA <sup>(1,2)</sup>	SUBRA <sup>(2)</sup>
... with revolutionary 5 & 20 MPix.	... with the flagship and real measured color.	... colored in low light & bright field.	... in full HD.
SONY back-illuminated CMOS 1" 15.6 mm	SONY back-illuminated CMOS 1/1.2" 13.3 mm	SONY back-illuminated CMOS 1/1.2" 13.3 mm	SONY back-illuminated CMOS 1/1.2" 13.3 mm
2.4 x 2.4 µm	5.86 x 5.86 µm	5.86 x 5.86 µm	5.86 x 5.86 µm
Color	Color (measured)	Color	Color
All pixel scan   rolling shutter	All pixel scan   global shutter	All pixel scan   global shutter	All pixel scan   global shutter
1800 x 1200 pixel   50 fps 2700 x 1800 pixel   30 fps	960 x 600 pixel   60 fps 1920 x 1200 pixel   60 fps	960 x 600 pixel   60 fps 1920 x 1200 pixel   60 fps	1920 x 1200 pixel   30 fps
1800 x 1200 pixel   2.2 MPix 2700 x 1800 pixel   4.8 MPix 5400 x 3600 pixel   19.4 Mpix	960 x 600 pixel   0.8 MPix 1920 x 1200 pixel   2.3 MPix 1920 x 1200 pixel (scan)   2.3 MPix 3840 x 2400 pixel (scan)   9.2 MPix 5760 x 3600 pixel (scan)   20.7 Mpix	960 x 600 pixel   0.8 MPix 1920 x 1200 pixel   2.3 MPix	1920 x 1200 pixel   2.7 Mpix
1800 x 1200 pixel up to 25 fps	FULL HD - 1920 x 1200 pixel up to 25 fps	FULL HD - 1920 x 1200 pixel up to 25 fps	FULL HD - 1920 x 1200 pixel up to 25 fps
51 µs - 1 s	26 µs - 1 s	26 µs - 1 s	26 µs - 1 s
51 µs - 30 s	26 µs - 60 s	26 µs - 60 s	26 µs - 30 s
Max. 30	Max. 60	Max. 60	Max. 30
NO	YES***	YES***	NO
12 bit (4096 grey values)   16 bit	12 bit (4096 grey values)   16 bit	12 bit (4096 grey values)   16 bit	12 bit (4096 grey values)   16 bit
3.8 e-	7.0 e-	7.0 e-	5.5 e-
0.66 QE (λ)	0.6 QE (λ)	0.6 QE (λ)	0.57 QE (λ)
0.9 DN / 3 e-	0.8 DN / 6 e-	0.8 DN / 6 e-	1.6 DN / 5 e-
15.000 e-	33.000 e-	32.000 e-	12.500 e-
72 dB	73.3 dB	73 dB	67 dB
IR cut   optional clear-glass	IR cut   optional clear-glass	IR cut   optional clear-glass	IR cut   optional clear-glass
Appr. 3 W	Appr. 4.5 W	Appr. 4.5 W	Appr. 4.5 W
OUT	OUT	OUT	OUT
Appr. 400 g	Appr. 420 g	Appr. 400 g	Appr. 400 g
Yes			
C-mount			
85 mm x 75 mm x 50 mm			
-20°C up to 70°C			
+10°C up to +35°C non condensing			
24 months			
Yes			

<b>POLARIS<sup>(1)</sup></b>	<b>RIGEL<sup>(1)</sup></b>	<b>WEGA<sup>(1)</sup></b>	<b>BETRIA<sup>(3)</sup></b>
... with the monochrome flagship.	... monochrome in low light.	... monochrome in full HD.	... cost efficient monochrome.
SONY back-illuminated CMOS 1/1.2" 12.2 mm	SONY back-illuminated CMOS 1/1.2" 13.3 mm	SONY back-illuminated CMOS 1/1.2" 13.3 mm	SONY back-illuminated CMOS 1/1.75" 9,3 mm
7.2 x 7.2 µm**	5.86 x 5.86 µm	5.86 x 5.86 µm	3.7 x 3.7 µm
Monochrome	Monochrome	Monochrome	Monochrome
All pixel scan   rolling shutter	All pixel scan   global shutter	All pixel scan   global shutter	All pixel scan   rolling shutter
900 x 900 pixel   22 fps 1200 x 1200 pixel   22 fps 1800 x 1800 pixel   22 fps	960 x 600 pixel   60 fps 1920 x 1200 pixel   60 fps	1920 x 1200 pixel   30 fps	1000 x 750 pixel   20 fps 2000 x 1500 pixel   20 fps
900 x 900 pixel   0.81 MPix 1200 x 1200 pixel   1.44 MPix 1800 x 1800 pixel   3.24 MPix	960 x 600 pixel   0.8 MPix 1920 x 1200 pixel   2.3 MPix	1920 x 1200 pixel   2.3 MPix	1000 x 750 pixel   0.75 MPix 2000 x 1500 pixel   3 MPix
1200 x 1200 pixel up to 22 fps	FULL HD - 1920 x 1200 pixel up to 25 fps	FULL HD - 1920 x 1200 pixel up to 25 fps	1000 x 750 pixel up to 20 fps
51 µs - 1 s	26 µs - 2 s	26 µs - 1 s	52 µs - 1 s
51µs - 60 s	26 µs - 120 s	26 µs - 30 s	52 µs - 15 s
Max. 60	Max. 60	Max. 30	Max. 15
NO	YES***	NO	NO
13 bit (8192 grey values)   16 bit	12 bit (4096 grey values)   16 bit	12 bit (4096 grey values)   16 bit	10 bit (1024 grey values)   16 bit
17.0 e-	7.0 e-	6.0 e-	ca. 5.7 e-
0.73 QE (λ)	0.66 QE (λ)	0.65 QE (λ)	ca. 0.68 QE (λ)
1.0 DN / 16 e-	0.8 DN / 6 e-	1.3 DN / 5 e-	ca. 0.5 DN / 4 e-
123.600 e-	32.300 e-	15.900 e-	ca. 10.200 e-
77 dB	73 dB	69 dB	ca. 65 dB
Clear-glass   optional IR cut	Clear-glass   optional IR cut	Clear-glass   optional IR cut	Clear-glass   optional IR cut
Appr. 3 W	Appr. 4.5 W	Appr. 4.5 W	Appr. 4.5 W
OUT	OUT	OUT	NO
Appr. 400 g	Appr. 400 g	Appr. 400 g	Appr. 400 g
Yes			
C-mount			
85 mm x 75 mm x 50 mm			
-20°C up to 70°C			
+10°C up to +35°C non condensing			
24 months			
Yes			

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