Dear PROGRES GRYPHAX user,

PROGRES GRYPHAX cameras are intended for the use on a microscope. They can be adapted via c-mount to a microscope and USB 3.0 cable to a computer or laptop. Take care to use only the USB3.0 cables included with your camera or explicitly recommended by Jenoptik.

Power Supply
For PROGRES GRYPHAX cameras, power supply and data communication are carried out using the USB3.0 USB 3.1 Gen 1 interface. Additional power supply connections are not necessary.

Technical Drawings / Dimensions

Instructions for Use
Our separate user manual and the video tutorials contain all necessary information for the installation and operation of PROGRES GRYPHAX cameras. They help you capture and process your microscope images and acquisitions. You will find the manual and video tutorials at: https://www.jenoptik.com/en-progres-grypgahx-software as well as on the USB memory card included with your camera.

Contents
1. PROGRES GRYPHAX microscope camera
2. PROGRES GRYPHAX software - available: on USB memory card – item 6, to download at https://www.jenoptik.com/en-progres-grypgahx-download
3. by request by e-mail to support@jenoptik.com
3. USB 3.0 cable
4. USB 3.0 PCIe interface card for desktop PC (included at delivery beginning from 2018)
5. Safety and Operating Instructions & Quick Start Guide
6. USB memory card containing manuals, video tutorials & PROGRES GRYPHAX software

System Requirements

Operating System
For Windows PC: OS Microsoft Windows 7 SP1 / 8.1 / 10 - 64 bit For Apple Macintosh: OS X 10.11.5 (ElCapitan) & 10.12 (Sierra) For Linux: OS Ubuntu 16.04 LTS - 64 bit

Hardware
Minimum:
• USB 3.0 PCIe Express from V. 1.1.
• Serial port (comparable), 4 GB RAM
• Monitor resolution: 1280x720
• Graphic card equipped with on-board memory

Recommended PCI boards
For PC:
PCI Express Card, item # Jenoptik order number: 576563 PCI Express 2.0 (important: never use PCI Express 1.0)
PCI Express Card, item # Jenoptik order number: 567069
Technical requirement: PCI Express V2.0
Driver requirement for Windows 7: USB 3.0 host controller driver (Freeware - https://www.luxbo.de/download/usb3.htm)
For Windows 8: no drivers are needed; support is already built into the OS. Just plug in and reboot.

For Notebooks:
Express Card, item # Jenoptik order number: 576563

Trigger Operation
Some PROGRES GRYPHAX cameras support trigger operation (connection to an external trigger device), which delivers the signal (Trigger In) to the PROGRES GRYPHAX camera and which will react, e.g. by capturing an image. After making the connection, the camera delivers a signal to the device (Trigger Out) to signal the completion of the function. Trigger Out does not require any additional power supply; for Trigger In, power supply must be set up for the external device. Connect the cable shield of the casing with the external device. Only use shielded cables.

Conformity to CE / VEEI / ROHS / China RoHS
PROGRES GRYPHAX microscope cameras comply with:
• CE in accordance with EMC Directive 2014/30/EU & RoHS
• VEEI
• RoHS / China RoHS

Type Label
Note: Please observe the information on the type label when installing the camera. The following information is printed on the type label (e.g. PROGRES GRYPHAX SUBRA):

Service & Support
In the first instance, please have a look into our software manual or watch video tutorials to find a solution to your issue. For software updates, you can update your PROGRES GRYPHAX camera to a computer or a microscope, make sure that it is free of static charge. Ground yourself by touching the metallic housing or the reverse side of your computer or microscope, which both have to be grounded via a power socket.

Caution, risk of damaging your computer
If you are using the camera for the first time or if you have not used the camera for a long time, it is recommended to update your software to the latest version.

Caution, risk of damage by static charge
Static charge can damage the electronic components of your computer or microscope. Before connecting the camera to a computer or a microscope, make sure that it is free of static charge. Ground yourself by touching the metallic housing or the reverse side of your computer or microscope, which both have to be grounded via a power socket.

Caution, risk of malfunction by insufficient ventilation
Some PROGRES GRYPHAX cameras are equipped with fans on the rear side. Ensure that the cameras are sufficiently ventilated and that the fans are not covered.

Caution, risk of damage and malfunction by overheating
Avoid leaving your camera in direct sunlight and do not operate the camera rear heat sensitive area (e.g. radiators or stoves). Overheating can affect the image quality.

Advice for handling the IR Filter Glass:
Protect the integrated IR filter glass against mechanical impact such as scratching or shocks and against soiling. Avoid fingerprints on the glass and do not touch the C-mount cover of the camera.

Caution, risk of damage and Image errors by mechanical impact
Protect the camera against impact, especially during operation. Mechanical impact can affect image quality.

Operating temperature: +10 °C ... +35 °C
Relative humidity: 5 % ... 80 %, non-condensing
Storage and transportation temperature: -20 °C ... +70 °C

Advice for transportation and storage:
Protect the camera against impact. Store and transport the camera in a dry and cool place, e.g. in its case or the packaging in which it was delivered. Please use the supplied C-mount cover during transportation and storage.

Disposal
The camera must be disposed of in compliance with the environmental protection guidelines in force. Contact your expert dealer in case of any questions.

Manufacturer Information

Editorial Information

Important note:
This instruction manual or parts of this manual must not be reproduced in any form (either print, photocopy, microfilm, or otherwise) without prior written permission from Jenoptik, nor must its contents be used, reproduced, processed, or distributed electronically.

These safety & operating instructions were produced with due care. No liability will be accepted for damages resulting from non-compliance with the advice contained herein.

We reserve the right to make improvements and changes to the device and to this instruction manual at any time without prior notice.
**Getting Started**

Congratulations on purchasing your PROGRES GRYPHAX microscope camera! This Quick Start Guide will help you to quickly install your PROGRES GRYPHAX microscope camera and imaging software, and will give you overview over their main functions.

For more information and user training, please see our detailed software manual and use our video tutorials:

[www.jenoptik.com/progres-grlyphax-software](http://www.jenoptik.com/progres-grlyphax-software)

You can find these video tutorials and software manual on the USB memory card included with your camera.

For the safe operation of your PROGRES GRYPHAX microscope camera, please observe the safety and operating instructions as well as the safety precautions described in the safety manual.

**Easy Installation**

- Mount your PROGRES GRYPHAX camera to the microscope using the C-mount adapter
- Open Windows Explorer and run the installation application, by following the USB path (USB memory card included with your camera) and follow the wizard to install the PROGRES GRYPHAX software. (Administrator permission are necessary for successful installation)
- Connect the PROGRES GRYPHAX microscope camera to your computer using the USB 3.0 cable.
- Please is supplied via this cable, you do not need to connect to further equipment.
- Ensure that the illumination of your microscope is switched on and the light path is opened

**Starting the Software**

Click on the Jenoptik application icon on your desktop to launch the PROGRES GRYPHAX software. Immediately start working with the application software.

---

**Panorama / Image Stiching (in live mode)**

- captures multiple images and stitches these together automatically into a single high resolution image.
- Then press "REC" to start recording a panorama image. The image window shows a 40%-scaled down image version to help you to adjust your area.
- While you do the actual capture, the area that you are interested in, all single images will be automatically stitched together. If you are satisfied with the stitched result, just press "REC" to save the final stitched image, which will then appear in the Gallery.

For more details see our software manual.

**2-stacking / MultiFocus / EDF (in live mode)**

- records a series of single images automatically, each in a different depth of focus, and stitches these together to one final image that is closely focused in all areas.
- You can activate it by pressing the "REC" button.
- Then press "REC" to record a stacking image. During "REC" mode you can manually adjust the focus of your specimen in the axis of your microscope.
- The single images and the focus result preview are composed and viewed side by side. If you are satisfied with the result, just press "STOP" to save the compound image and the EDF image will appear in the Gallery.

For more details see our software manual.

**Time-lapse / Image Series (in live mode)**

- records an image series (a fixed number of images) during a specified time span or within a given time frame.
- You can activate it by pressing the "REC" button.
- Then press "REC" to start recording the time-lapse image series. Recording mode automatically stops after all images of the image series that were previously defined have been recorded. The image series will be automatically tared when a new image series (a fixed time) starts. If you want to record as long as possible, just press "REC" and "STOP".
- The image series will be automatically stopped after all single images have been recorded. The image series will be stored in a separate sub folder under the used image destination folder.

For more details see our software manual.

**Video (in live mode)**

- records a video sequence of images.
- You can activate it by pressing the "REC" button.
- Then press "REC" to start recording the video sequence.
- Clicking "STOP" will end the recording.
- (The video is saved to the user-defined storage location).
- Video playback, to observe the recorded videos, are possible from the User Profiles.

---

**Multifluorescence**

- captures single or multi-coloured fluorescent images (through capturing and automatic merging of non-fluorescent bright field images).
- You can activate it by pressing the "REC" button.
- The multifluorescence panel and the selected grey-scaled version of the live image will be opened and displayed within the image window.
- You can adjust the current settings for Multifluorescence illumination.
- You can add and modify your fluorescent filters, with predefined colours according to the list of emission wavelengths, just press "Add Filter". With the colour selection tool, the emission wavelengths can be changed. To delete a filter, just select it and click on the trash can in the fluorescence toolset.
- To apply the created filters to the image, click on a blank filter, surrounded by a blue border. Press "Set Filter" to apply the live image and the live images will be filtered with the selected colour. After pressing "REC" the captured image will be shown within the filter frame. Repeat the previous steps for all predefined filters. The composite preview image at the bottom of the filter frame will be updated on each filter capture. Please double click on the preview image to display it within the Image window. If you select the composite image, just press "REC" to save the final multifluorescence image to the Gallery.
- After the recording is finished, the final version is saved and you can start capture new filter images. The predefined filters are available for a new multifluorescence capture.

For more details see our software manual.

**Histogram**

- displays the colour and alpha value distribution within the currently viewed image, in real time.
- For more details see our software manual.

**Effects / filter (in live mode)**

- affect the live image in order to improve the final captured image.
- You can individually adjust sharpness as well as in dynamic and noise characteristics, just by moving the sliders from the left “soft”, over “soft” and “middle” to the right “strong”. For more details see our software manual.

**User Profiles**

- users can save your individually created calibrations and settings in order to make your microscopic imaging reproducible / trackable. To do this, just choose "User" in the menu bar and after you have created a profile select your profiles by password. For more details see our software manual.

**Preferences**

Your software settings preferences can be adjusted according to your individual needs. (all advanced settings here are described in our software manual or at the video tutorials):

- Language, Minumum gain during capture, Gain setting, Magnifier zoom factor
- Set 0: Black calibration shading, Active cooling
- Auto Save, Save image format, Image file name, Destination folder
- Image resolution, Color temperature, Calibrate measurement, Calibrate White shading
- Status bar: Scale bar unit
- Font, Style, Colour, Width, Grid colour

**Capturing a Microscope Image in just One Step (in single capture mode)**

You can easily take a single shot image capture by pressing "REC". The following image capture parameters are preset using the one-click image capture function.

**Auto exposure** activated by default. Exposure options can be individually adjusted using the Exposure tool.

- White balance preset / adjust for the live image (HAL-H102 Grey)
- Shading options can be created via "Preferences"
- Image resolution, the settings are in question, but can be adjusted under "Preferences", "Device Configuration"
- Target folder / Image name / Image format / Language. These settings are present but can be individually set under "Preferences"

Further image enhancements, settings and tools have to be applied before pressing "REC". To do this open the "Image / Tool bar" by clicking here:

**Gallery**

For more details see our software manual.

**Starting the Software**

- turn on the main power switch
- For the safe operation of your PROGRES GRYPHAX microscope camera, please observe the safety and operating instructions as well as the safety precautions described in the safety manual.

**E-mail / Print / Cloud (in offline mode, when the recorded Gallery image is selected)**

- You can select one or multiple images from the Gallery and then activate "Send via e-mail" or "Print "Save in the cloud" for all selected Gallery items by pressing these buttons.

**Text Labeling / Annotations (in live mode)**

- marks text labels into the live & captured image to highlight or to comment on points of interest. You can activate it by pressing "REC" (through capturing). You can also select the font size, font style and colour. For more details see our software manual.

**Image Analyzing in External Programs**

- (in offline mode, when the recorded Gallery image is selected).
- You can select one or multiple images from the Gallery and activate "Image Analyzing in external program" by pressing "Preferences", "Additional Services" to transfer and further process the selected Gallery items to an external image analysis program. Note: The pre-configured external software will launch with the files as pre-loaded.

**Grid Scaling and Crosshair (in live mode)**

- offers a overlay-frame / mask over the current view within the image window in order to correctly prepare the alignment of the specimen. It can also support your Koehler set up. You have a crosshair in the exact center of the image which can be activated by choosing the option under "View".
- The grid can be easily adjustable by scrolling in the mouse. A check mark after the item underlined in the menu indicates that this mode is activated. Pressing the "q" button switches back to the previous window layout. Alternatively, you can close this mode via menu. Grid colour can be changed under preferences. For more details see our software manual.

**Image Comparing / Side by Side mode**

- compares two images in a split-screen side-by-side view. During this mode all tools are disabled. This mode is not available when running multi-fluorescence procedure or during any other "REC" mode (single capture, video in-time lapse). You can either compare two images from the Gallery (just drag and drop one image over the other) or you can compare the live image with an image from the Gallery (drag and drop the gallery image over the live image). The related images are arranged side-by-side within the image window.
- You can be either active in the same or in "Offline" mode, depending on the selected image type. For more details see our software manual.

**Exposure (in live mode)**

- offers a choice of two modes: Automatic / Expert exposure.
- Automatic exposure is activated by default.
- You can adjust the auto exposure intensity, "Ocular View" value or set the grey balancing using the pipette. Use the "Ocular View" slider to get an idea of what you see in the microscope eyepieces.
- The expert settings "White point", "Grey balance", "Black point", "Exposure time", "Gain" and "Ocular view" are described in detail under our software manual.

---

**Monochome mode (in live mode)**

- enables you to view the current microscope live stream in grey scale images. If the tool is active all recorded media will be viewed in greyscale. Change the depth of level that the captured image is displayed by right clicking: "image / Deep level / Details / Auto / Manual". For more details see our software manual.

**KeyBoard Shortcuts**

- Open Help
- "Rec" start recording a Capture Mode (single image, time-lapse, video)
- Go Back to Live mode
- Live image Preview
- Switch between Full screen and standard mode
- Delete all selected images from gallery or the selected (marked) from the context menu "Measure/"
- "K" switch between "1:1" & "Fit to screen" view
- O / Q Open / Close Grid
- CMD or CTRL + A All from / to Gallery
- CMD or CTRL + C Copy
- CMD or CTRL + V Paste
- CMD or CTRL + X Cut
- CMD or CTRL + Z Undo / Redo
- D Select all (all images)
- CMD or CTRL + S Save
- CMD or CTRL + O Open
- CMD or CTRL + P Print
- CMD or CTRL + L List view
- CMD or CTRL + W Close
- CMD or CTRL + ( or ) Change View
- CMD or CTRL + "" Activate / Deactivate Magnifier
- CMD or CTRL + T Tool bar
- CMD or CTRL + Z Open / Close Grid
- CMD or CTRL + L List view
- CMD or CTRL + W Close

---

**Comments**

- This document was created by Jenoptik \(\text{\textcopyright} 2012\) and is for personal use only.
- Jenoptik GmbH, 02390 Jena, Germany
- Jenoptik Group
- Jenoptik AG, Jena, Germany
- Jenoptik AG, Jena, Germany