Quickstart
AcquireControl for
GigE Cameras

Version 1.2.0

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ALLIED Vision Technologies formerly VDS Vosskühler

Weiße Breite 7 · D-49084 Osnabrück
Phone +49 (0) 541 / 80084-0 · Telefax +49 (0) 541 / 80084-10
http://www.vdsvossk.de · email: vds@vdsvossk.de

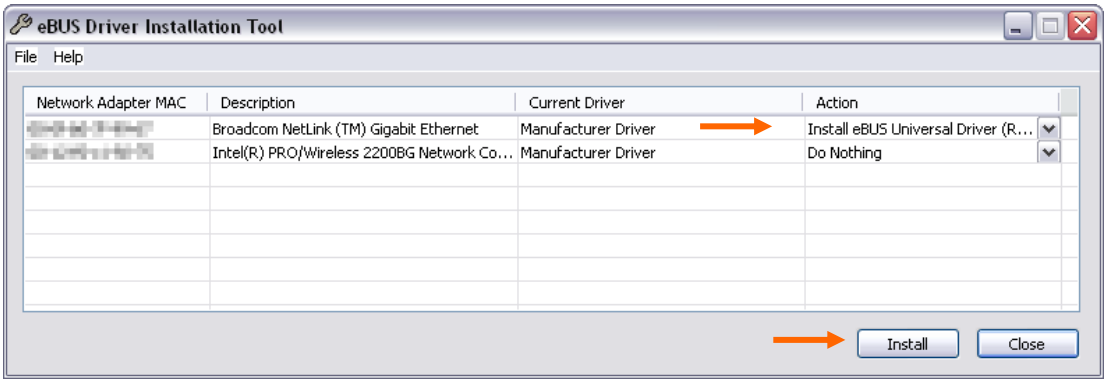
0 Contents

1 Preparations

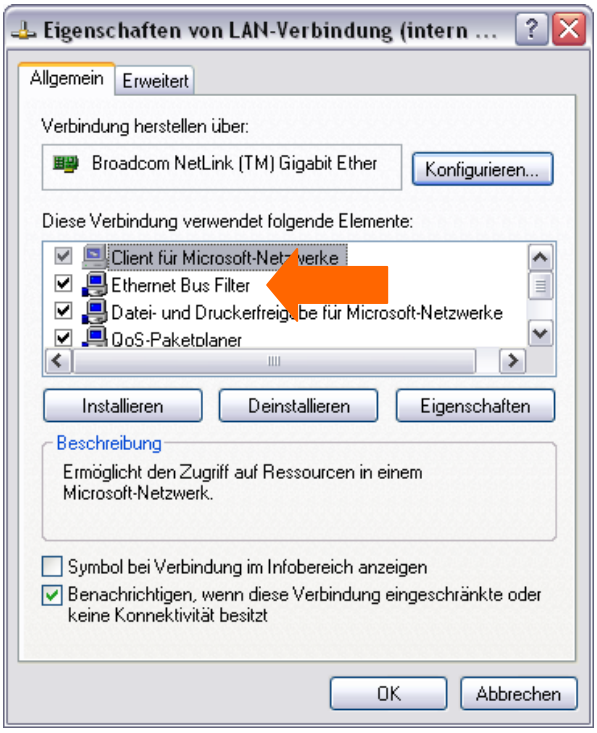
- Connect the camera to the power supply.
- The NIC (Network Interface Card) of the PC should be **Gigabit Ethernet** (1000Base-T) compatible. Use a CAT5e (or better) network cable to connect the camera to the PC.
- If Windows XP is used as operating system, make sure that the Microsoft Hotfix **KB926255** is installed.
- Verify that the network communication with the camera is not blocked. Disable any firewalls (Windows Firewall & Personal Firewall). Some antivirus solutions may also disturb network traffic. Please disable these applications also.

2 Driver Installation

- Please note that the setup needs Microsoft .NET 2.0 to be installed.
- Start the SDK-Setup `eBUS-Vision_Package_3.1.1.1413.exe` to install the driver for the Gigabit-Ethernet communication. During the installation process the driver installation tool pops up. Here you can select for which network adaptor the filter driver should be installed.



- Restart the computer.
- To verify if the filter driver has been installed properly, go to the properties dialog of the network connection. The entry "**Ethernet Bus Filter**" must exist and been enabled. On some systems additional filter drivers were already installed (e.g. for special VPN connections). Such additional drivers may interfere with the Pleora driver. Please contact your system administrator for further assistance.



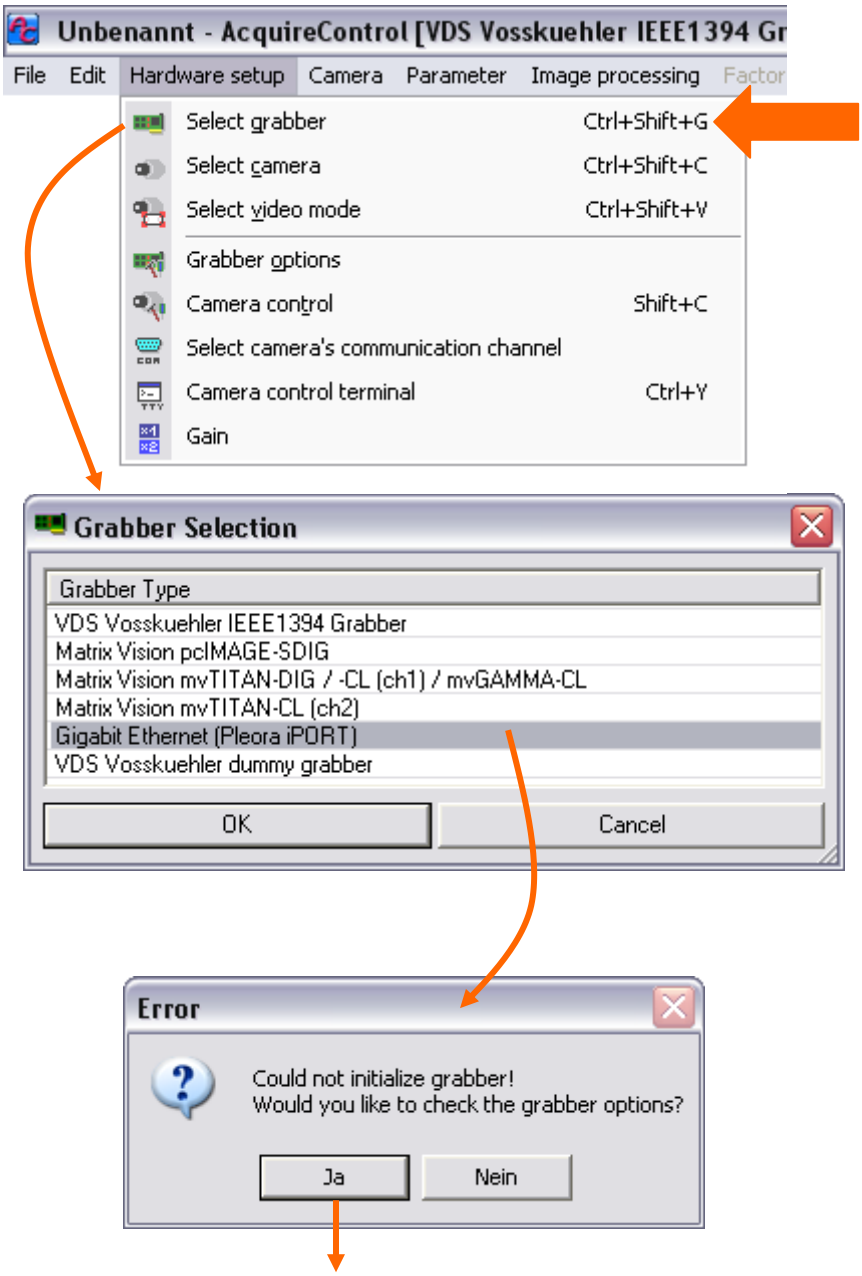
3 AcquireControl Installation

Please start the “setup.exe” on the CD to install the AcquireControl software.

4 Display Camera Live Images with AcquireControl

Most of the following settings are stored by the application, so these configuration steps are necessary only once.

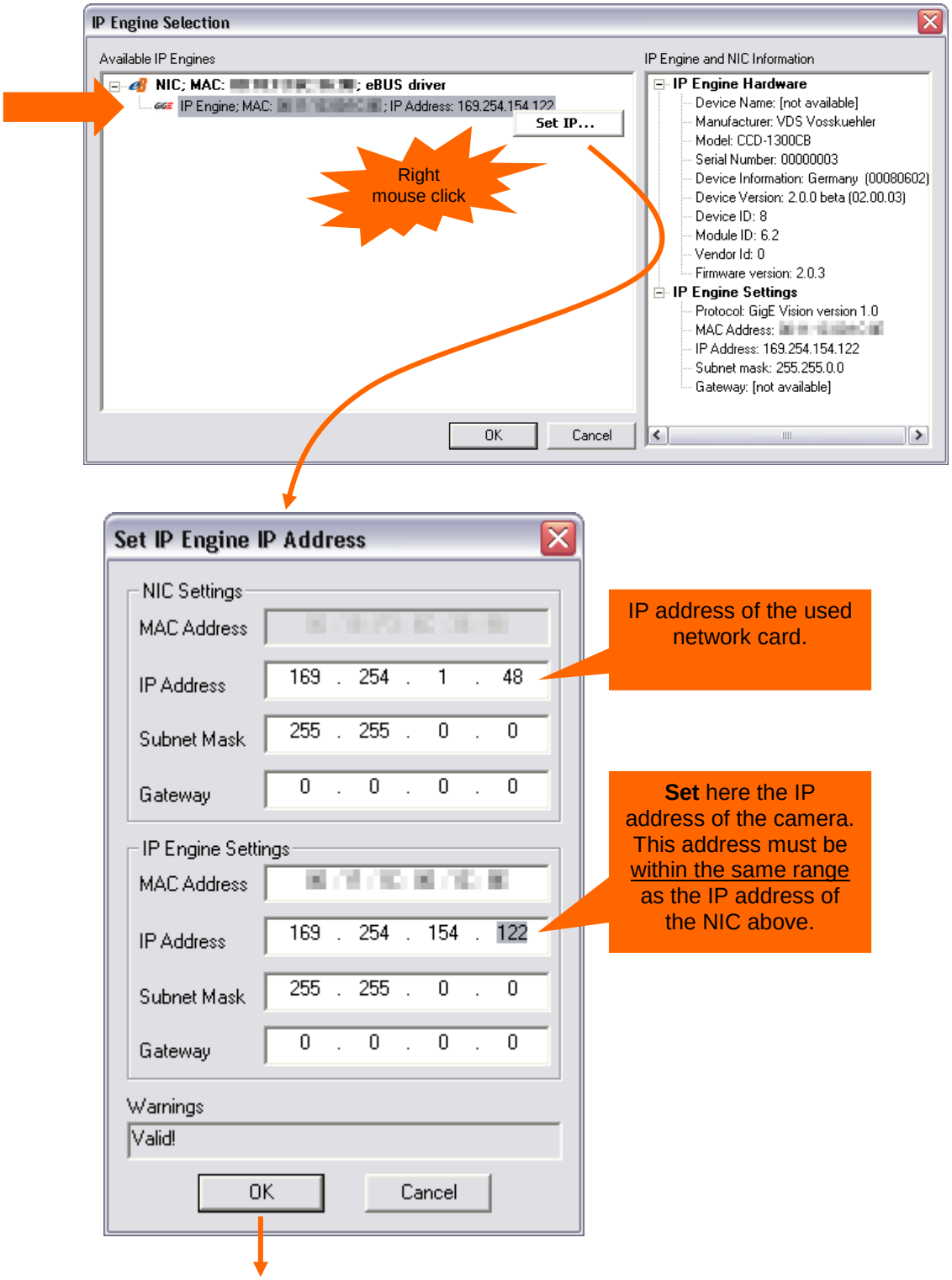
4.1 Select the grabber



Now the “IP Engine Selection” dialog pops up.

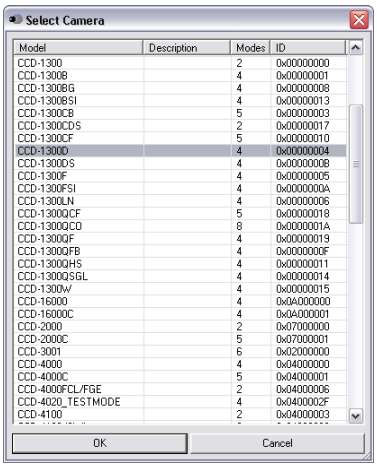
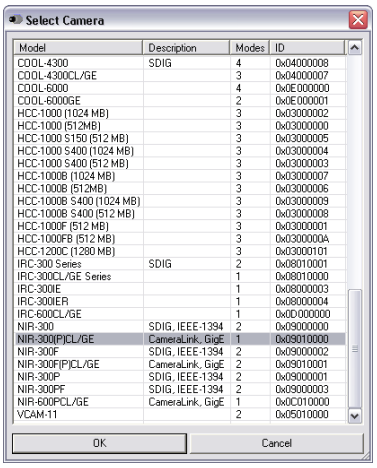
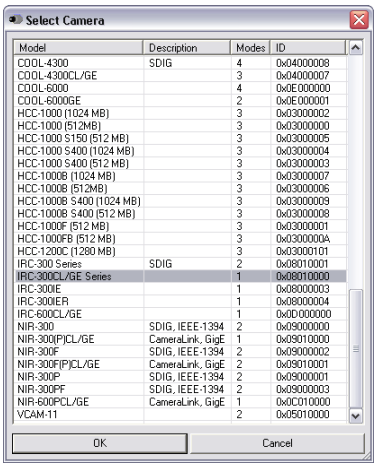
4.2 Select the IP address

In dependence of the driver version you use, the appearance of this dialog may differ.

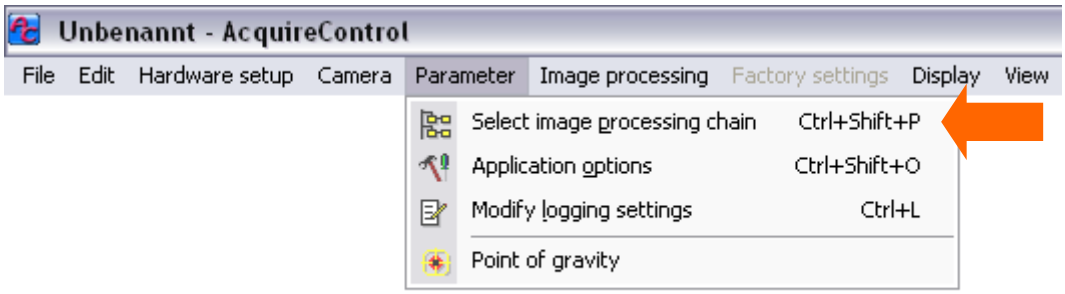


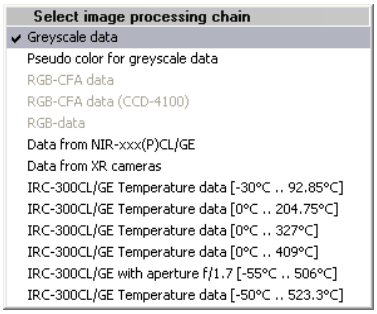
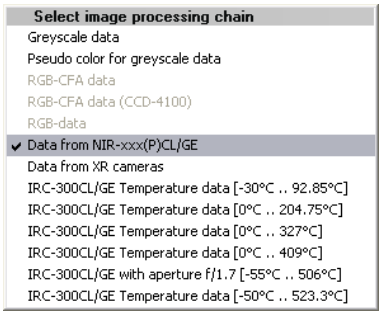
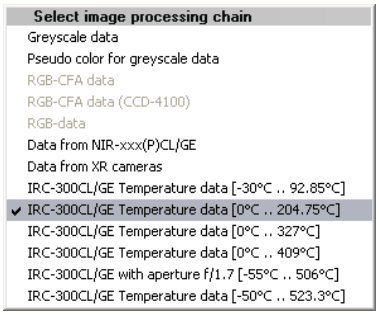
After closing the “Set IP Engine IP Address” dialog you now can select the eBUS Filter driver entry.

4.3 Select the camera

Standard cameras	NIR Cameras	IRC cameras
		
Select the camera model you want to use.	Select `NIR-300(P)CL/GE`, `NIR-300F(P)CL/GE` or `NIR-600PCL/GE`.	Select the `IRC-300CL/GE` entry.

4.4 Select the Image Processing Chain



Standard cameras	NIR Cameras	IRC cameras
		
Select `Greyscale data` for monochrome cameras or `RGB-CFA data` for a color camera.	Select `Data from NIR-xxx(F)CL/GE`.	Select one of the IRC-300 chains, regarding to the temperature range of your camera.

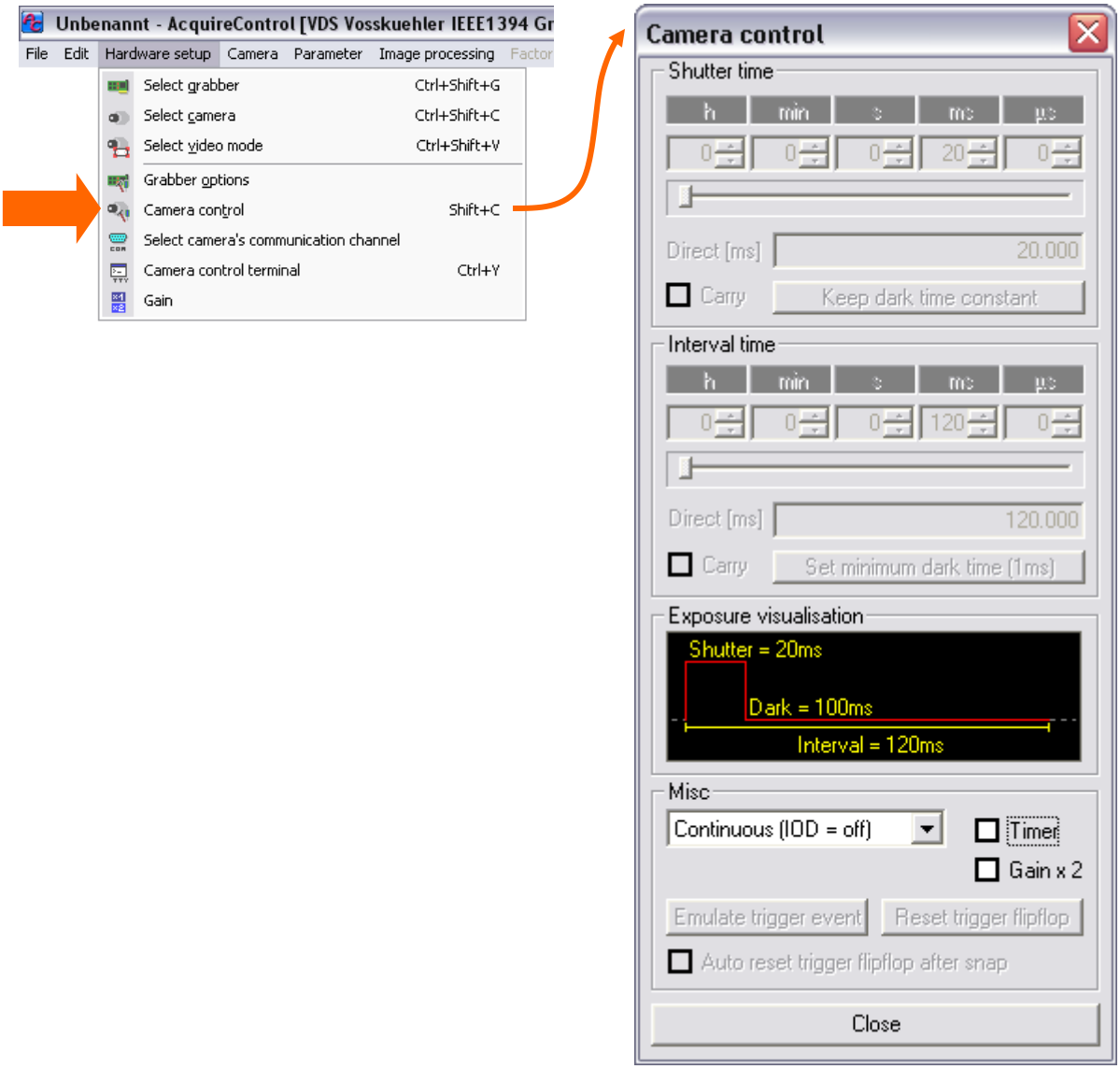
4.5 Start the Continuous Snap

Now you will get live images from the camera with the default exposure time and default camera settings. You can stop the live image by “Stop snap” at every time.

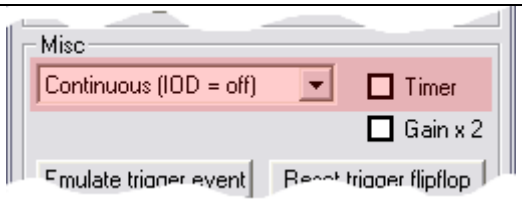
5 Advanced Operations

The AcquireControl software was developed for many different cameras, so we will try to introduce you in the basic commands for controlling your camera.

5.1 Exposure Control



5.1.1 CCD- & CMOS-Cameras

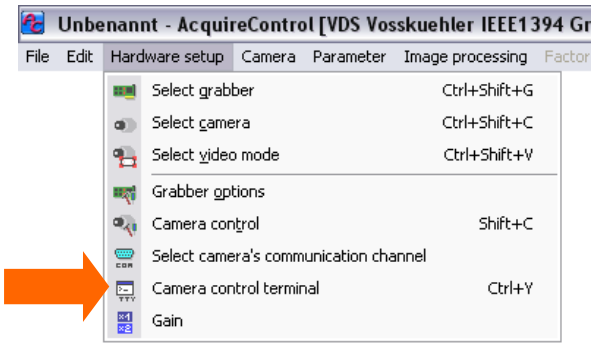
Continuous Mode. The camera will use it's build in exposure signal, which is always constant.	
IOD Timer Mode. The exposure signal is generated by a timer, which can be adjusted with the dialog.	
IOD Trigger Mode. The camera will wait for an external exposure signal.	

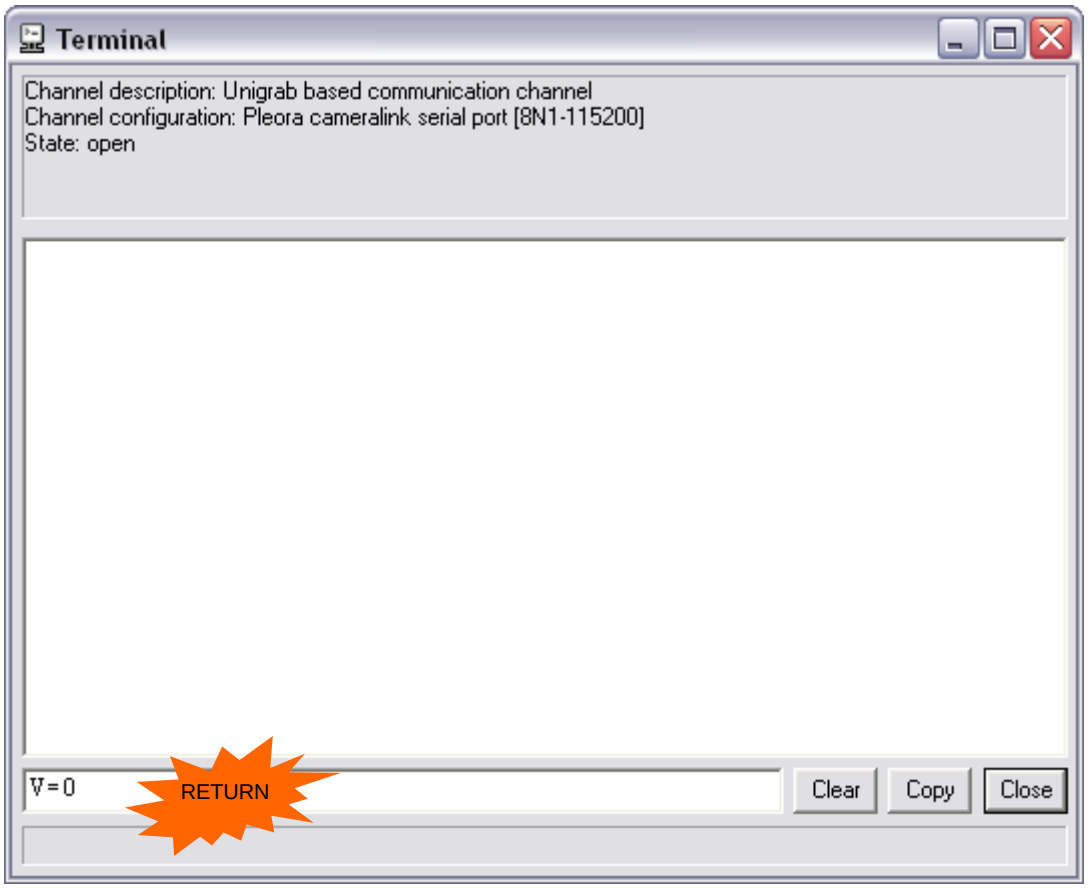
5.1.2 NIR-Cameras

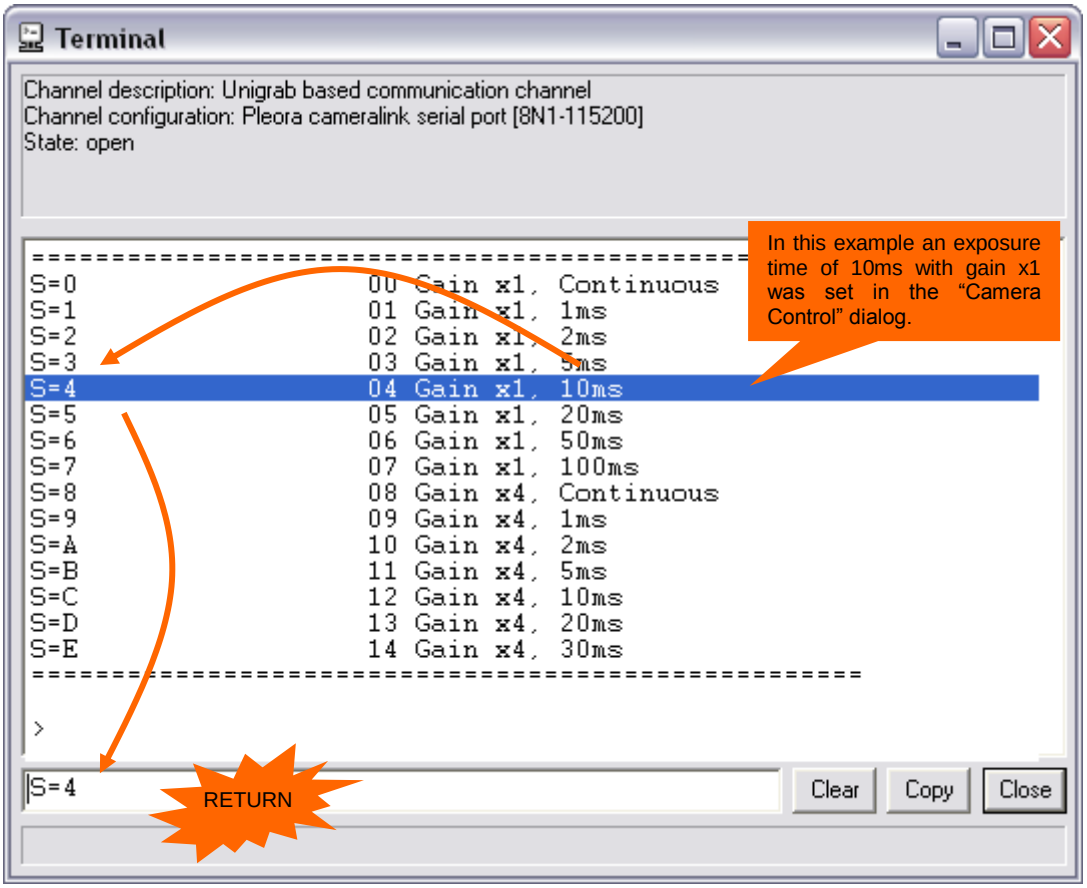
NIR cameras have an internal non-uniformity-correction and bad-pixel-correction. The non-uniformity depends of the exposure time and the gain, so you have to change the correction in case of changing the exposure-time or gain.
To get a good image quality, we have made different correction sets inside the camera. So it is very easy to change the correction when changing the exposure time or gain.

So to adjust the exposure time, you always have to process two steps:

- **Adjust the Exposure time or Continuous mode and Gain setting like described in chapter 5.1.1**
- **Select the corresponding correction data set as follows:**



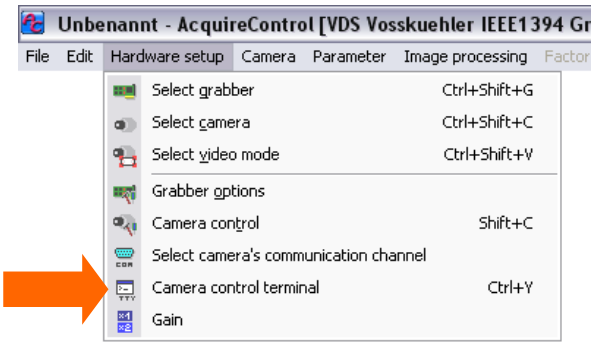


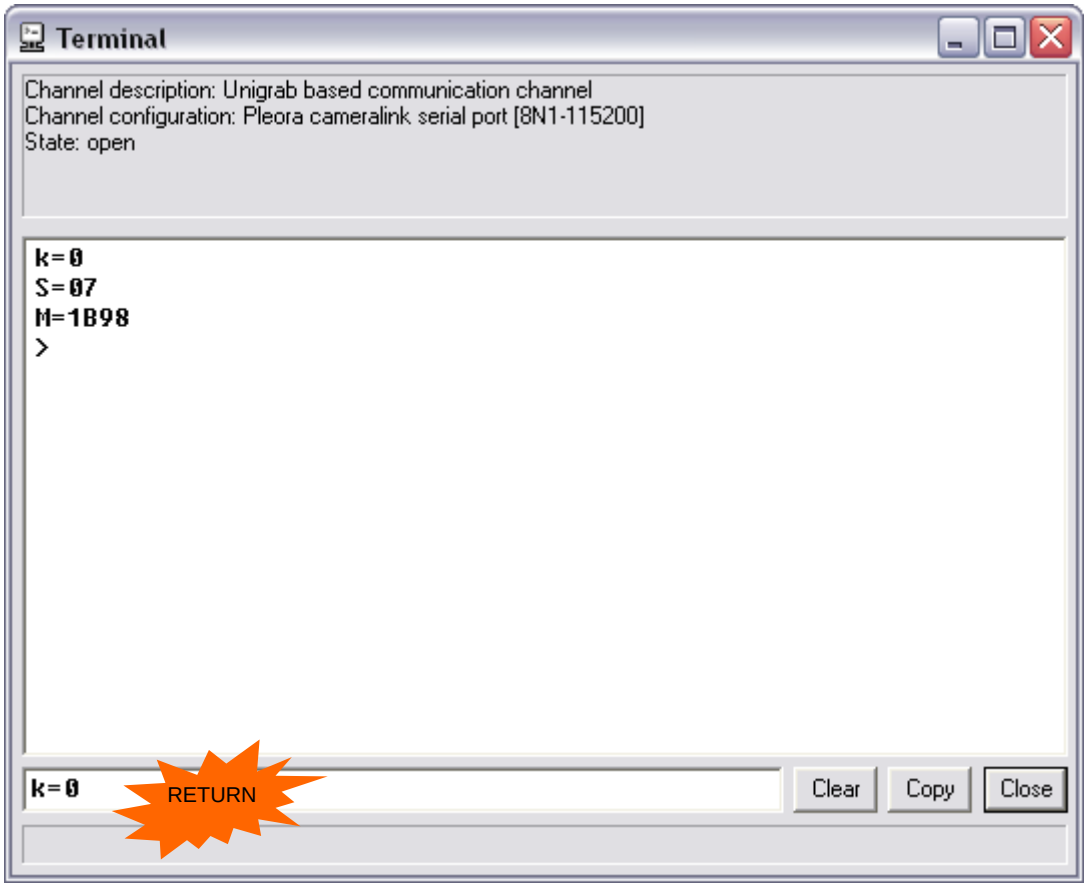


Note: Please note that "V" and "S" are upper case letters!

5.1.3 IRC-Cameras

For IRC cameras it is not possible the change the exposure time. IRC cameras work always in the Continuous mode.
The internal image-correction in the camera should be calibrated from time to time and after some minutes the camera has switched on.



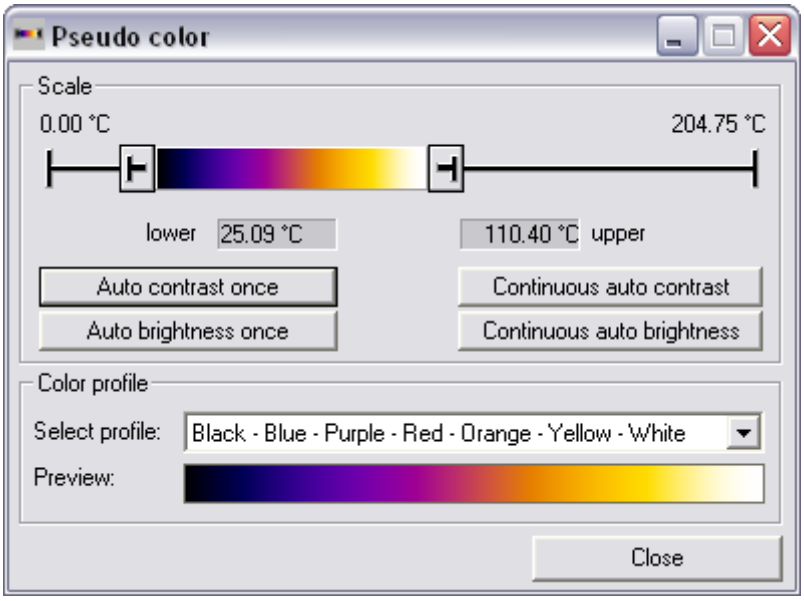


The calibration can be started by the command “k=0”. After some seconds the camera is calibrated.

Note: Please note that “k” is a lower case letter!

5.2 Pseudo Color & Contrast Enhancement

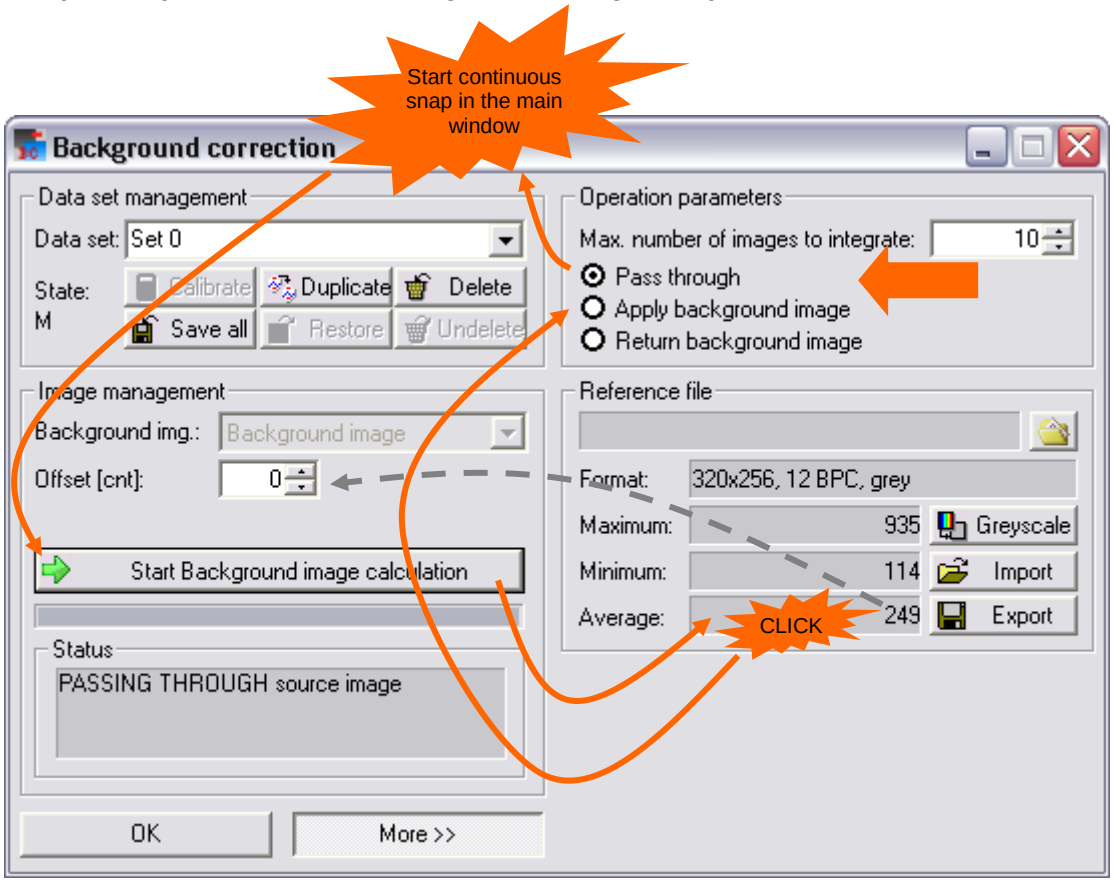
With the help of the “Pseudo color” dialog you can change the display of an image. Also you have the possibility to change the contrast of the displayed image to see more details of the 12 bit values.
Please don’t scramble this with the camera parameters. The contrast slider only changes the displayed values of the 12 bit camera image and not the camera data itself!



Note: Please note that the availability of this dialog depends on the chosen image process chain (see *chapter 4.4 Select the Image Processing Chain*).

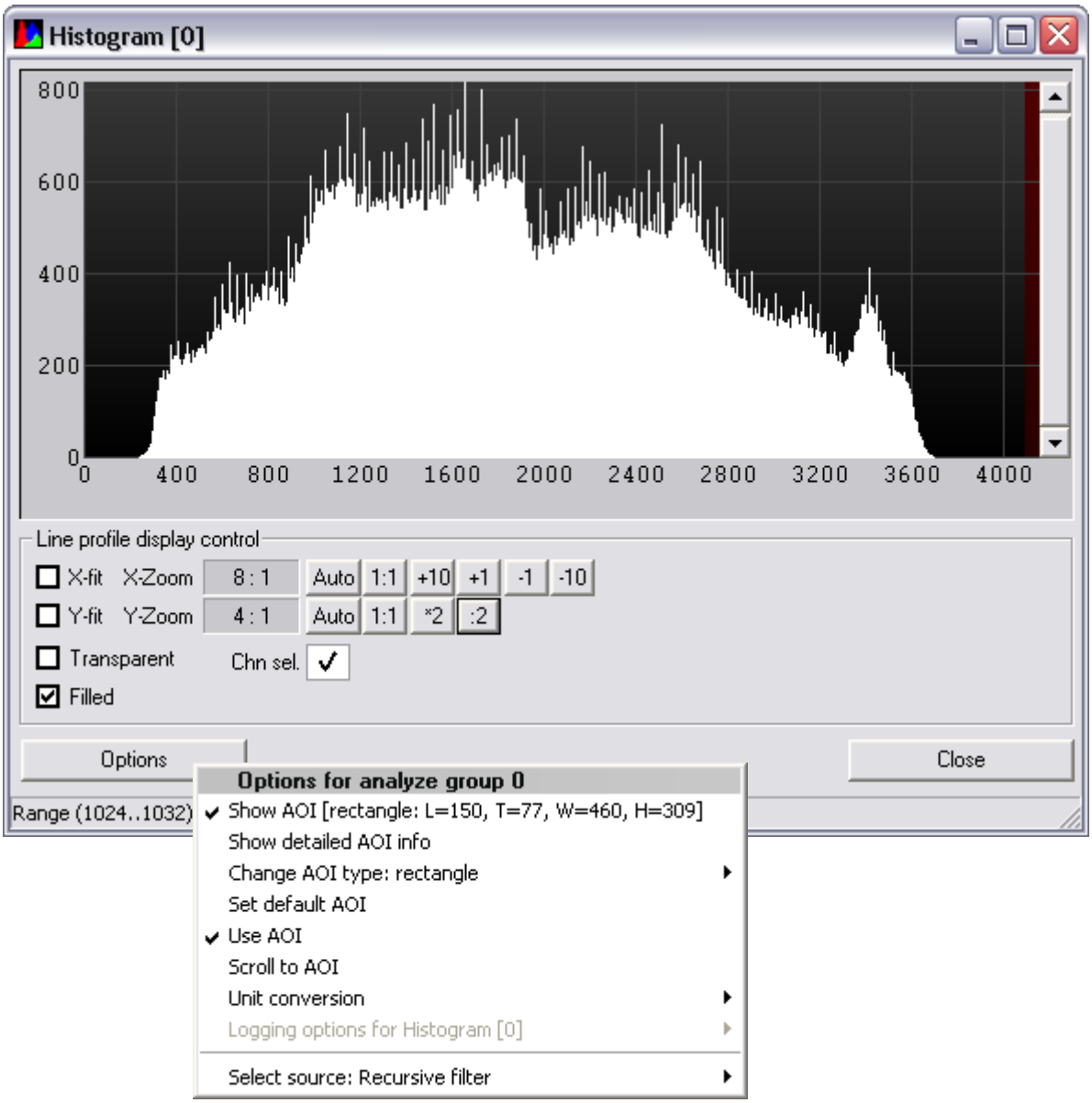
5.3 Background Correction

You can add an additional background correction (see “Image processing” menu) in the AcquireControl to get a better image quality. Therefore you have first record a homogeneous image and than set the average value and switch on this correction.
Note: Please note that the availability of this dialog depends on the chosen image process chain (see *chapter 4.4 Select the Image Processing Chain*).



5.4 Statistics & Histogram

It can be very useful to take a look to the statistic / histogram values to be sure that the light conditions are OK (see “Image processing” menu).
For a good light condition of the scene, the histogram of the image is balanced to the middle of the 12 bit (2048) like the following screenshot.



By clicking on the Options button you can decide to calculate the histogram for the whole image or only for an AOI.

6 Appendix

There are considerably more functions implemented in AcquireControl. Please take also a look into the following detailed documentation:

- Camera manual
- AcquireControl manual
- “How to install a VDS Vosskühler GigE Camera” manual