

title: Defective Pixel Utility Guide

type:	Guild describing the Pixelfly_Defpix.exe
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author:	VTI, THA
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content / history:	<p>Rel 1.00: 2014-07-02:</p> <p>First version of this guide.</p> <p>Rel 1.01: 2014-07-03:</p> <ul style="list-style-type: none">• Open camera fastened.• Only cameras containing no defective pixel list can be operated with the "Auto-Create List" feature.• More status information for a better user handling. <p>Rel 1.02 2014-07-04:</p> <p>List can be sorted according to pixel counts.</p> <p>Rel 1.03 2014-07-10:</p> <p>Count value shifted by 2.</p>

Defective Pixel Utility Guide

! THIS TOOL CAN ONLY BE USED FOR A PCO.PIXELFLY CAMERA !

Please unzip the file locally and run the Pixelfly_DEFPIX.exe. Make sure that PCO's USB 2.0 driver is installed previously (www.pco.de)

Please load the current firmware packet file (at least V1.0.28) from our website (www.pco.de)

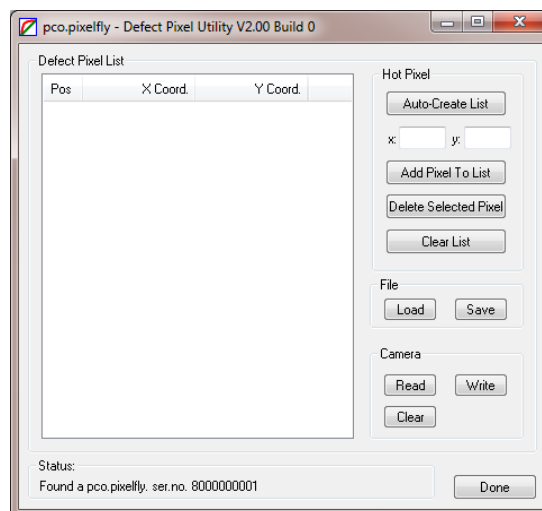
The program Pixelfly_DEFPIX.exe can be used to **create or edit** the **hot pixel / defective pixel list** of a pco.pixelfly with hot pixel / defective pixel option enabled. From time to time it makes sense to check the camera for new hot pixels, because after long operating times especially if you use long exposure times over 5s, due to physical reasons, further hot/defective pixel may occur.

There are two choices. Auto-create a new list of defective pixels or edit an existing one (see chapter 0).

If the firmware version of the pco.pixelfly is not at least packet V1.0.28, the tool comes up with the following Message Box (in this case the firmware packet V1.0.27 is installed).




Please load the current firmware packet file (at least V1.0.28) from our web: www.pco.de. If the pco.pixelfly's firmware is at least V1.0.28, you'll see after start-up of the program the following dialog (this could take a few seconds):




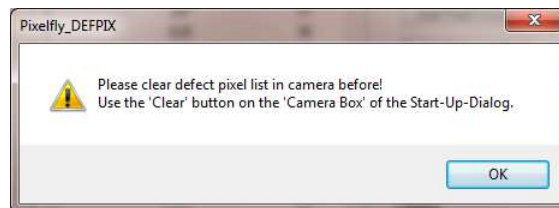
The Defective Pixel Utility tries to initialize a connected camera. In case a camera is connected the 'Read', 'Write' and 'Clear' button inside the camera group will be enabled. Additionally the 'Status' will show the camera type and the serial number.

Auto-Create defective pixel list

In order to simplify the creation of a new list the user should use the  button. Firstly the current list is read from the camera



Only if the list is empty the Auto-Create-List process can continue. If the camera contains a list of defective pixel the program will return to the start-up dialog. In this case please use the  button of the **Camera Box** to delete the current list of defective pixels from the camera.

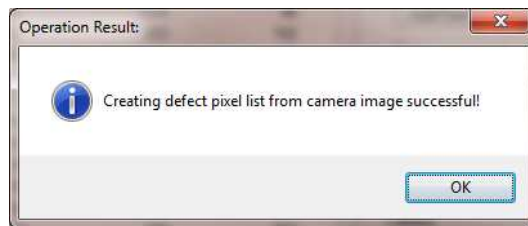


If the camera doesn't contain a list of defective pixel the program will return to the Start-Up dialog.



Please cover the sensor e.g. remove the lens and use the c-mount "transport" lid to cover the sensor of the camera!!! It's not enough just to set up lens cap!

Press OK to continue. An image with an exposure time of four seconds will be recorded. Please wait for about four seconds till the image is recorded successfully. After that a list of defective pixels is created using the recorded image. The process ends with the message box:



The list is sorted according to ascending “Hot Pixel counts” order automatically. Duplicate pixels are removed. The defective pixel list is flashed to the camera automatically.

X Coord.	Y Coord.	: Press the x-column bar or the y-column bar to sort the list according to ascending y-coordinate order.
counts		
		Press the counts-column bar to sort the list according to ascending counts order.

Note: The list of defective pixels always has 220 entries. This **doesn't** mean that your camera has 220 hot or defective pixels!

Edit existing defective pixel list

Camera Box:

After reading the list from the camera using the **Read** button of the “Camera Box” the user can edit the list and write the list back to the camera using the **Write** button of the “Camera Box”.

A Message Box will appear warning you that an already existing defective pixel list is going to be overwritten inside the camera.



Select ‘Yes’ to write the new list into the camera flash. The new list will be activated after the next issued power up. Use the **Clear** button to delete a defective pixel list flashed to the camera.

File Box:

Additionally there is a possibility to save and load files in the DPX format using the **Save** and **Load** buttons. DPX is a proprietary file format of pco. The files created can be edited with every text editor, since the content is plain ASCII.

The content of the DPX file is as follows, e.g.:

pco.camera defective pixel list V01.00

200;200

220;208

300;409

<header><CRLF>

[x1;y1<CRLF>

...

xn;yn]...

The header is mandatory in order to recognize a DPX file. Each line after the header will be treated as a x/y coordinate pair, starting with x followed by y. Each new line has to be separated by a <CRLF>.

Hot Pixel Box:

The user can manually **add defective pixels** by setting the x- and y-coordinate of a defective pixel **x:** **y:** and pressing the button of the "Hot Pixel Box". Please keep in mind that the index of the **x- and y-coordinate starts at zero**. Hence the last pixel in a line with x-resolution of 1392 is 1391 and the last pixel in a column with y-resolution of 1040 is 1039.

In order to **remove** a pixel from the list, select the pixel in the list and press the button.

In case the user likes to **create a new** list select .

Note: If you want to add a new hot pixel to the list, you should recreate the whole list. In case the intended hot pixel is not listed, delete one of those 220 hot pixels from the list, which is not critical for you. Then you can add the critical one. If there is no space for a new hot pixel, the pixel with the highest y-coordinate will be overwritten automatically.

THA,VTI/10.07.2014