

How to setup running a Pandora on a combination of BlickO and PanPS

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This description is valid for two situations:

Case A) Pandora X was running on PanOS version 1.5 or 1.6 and the instrument operation file (IOF) is given in Pan-format.

Case B) Pandora Y is running on BlickO and the IOF is given in Blick-format.

For both cases A and B we assume that an instrument calibration file (ICF) is given in Pan-format. The following steps describe how to run these instruments on BlickO for operation and use PanPS version 1.6 for data processing.

Install BlickO

If not already done, download the BlickO setup file from <http://pandonia.net/docs/software/> and install BlickO on the operating laptop (here we assume in directory <C:/Blick/>). Download the locations file <Blick_locations_vX.h5> from the same directory and copy it into <C:/Blick/lib/oslib/>. Open the locations file and check whether you find the location you want to use. If you cannot find it, write an email to Alexander requested to add the location. Note: here we assume the Pandora Software Suite was installed in directory <C:/Pandora/>.

Make IOF in Blick-format

In the case an IOF in Pan-format is given and none in Blick-format, then the IOF in Blick-format shall be made applying the following rules:

- Copy the existing operation file <PandoraX_of.txt> into directory <C:/Blick/data/operationfiles/>.
- Rename the file to <PandoraX_OF_v1dYYYYMMDD.txt>; you can use today's date for YYYYMMDD
- Replace all ':' with '->'
- Add the following additional lines at the beginning of the operation file. You can use any time (ISO8601) as file generation date and any name for the data originator.

```
File name -> PandoraX_OF_v1dYYYYMMDD.txt
File generation date -> YYYYMMDDTHHMMSSZ
Data description -> Instrument operation file
Data file version -> 1
Data originator name -> Alexander Cede
```

- For CCD-Pandoras do the following replacement
Replace

Number of pixels : 2048

with
Number of pixels -> 2052 4 for AvaSpec 2048x64 units and with
and with
Number of pixels -> 2056 8 for AvaSpec 2048x14 units.

- Replace the lines

FWHM of reference FOV [deg] : 1.55
Tolerances for FWHM and rms of reference FOV : 0.20 0.10
with

FWHM, tolerance of FWHM, and tolerance of fitting-rms for reference
sky FOV -> 1.55 0.20 0.10
FWHM, tolerance of FWHM, and tolerance of fitting-rms for reference
sun FOV -> 2.20 0.20 0.10

Note that the first new line ('sky FOV') has the value of "FWHM of reference FOV [deg]" followed by the values of "Tolerances for FWHM and rms of reference FOV", while the second new line has "2.20" followed by the values of "Tolerances for FWHM and rms of reference FOV".

Make IOF in Pan-format

In the case an IOF in Blick-format is given and none in Pan-format, then the IOF in Pan-format shall be made applying the following rules. Note that for a Pandora-2S you will obtain two separate IOFs in Pan-format. One for spectrometer 1 using the same instrument number and one for spectrometer 2 having an instrument number higher by 1000.

- Copy the existing operation file <PandoraX_OF_v1dYYYYMMDD.txt> into directory <C:/Pandora/pan_operationfiles/>.
- Rename the file to <PandoraX_OF.txt> for spectrometer 1 and <PandoraY_OF.txt> for spectrometer 2 with $Y=X+1000$.
- Remove the first 5 lines from the IOF (until "Data originator name")
- Replace all '->' with ':'
- For spectrometer 2 rename entry "Instrument number" from X to $Y=X+1000$.
- Remove all entries for the other spectrometer. If you create an IOF for spectrometer 1, then remove all "Spectrometer read out type 2", "Spectrometer unit ID 2", etc. Otherwise to create an IOF for spectrometer 2, remove all "Spectrometer read out type", "Spectrometer unit ID" etc and rename all "Spectrometer read out type 2", "Spectrometer unit ID 2" etc. to "Spectrometer read out type", "Spectrometer unit ID" etc.
- Remove entry "Filter position offsets".
- Subtract the second number in "Number of pixels" from the first one and only write out this number, e.g.:

Number of pixels -> 2052 4
becomes
Number of pixels : 2048

- Modify the filterwheel-positions (for both filterwheels) for spectrometer 2 using the BlickO entry “Filter position offsets”. E.g. if the offset is 3:

Filter position offsets -> 3

and the BlickO filterwheel 2 positions are:

```
Filterwheel 2, position 1 -> OPEN
Filterwheel 2, position 2 -> DIFF
Filterwheel 2, position 3 -> OPAQUE
Filterwheel 2, position 4 -> OPEN
Filterwheel 2, position 5 -> DIFF
Filterwheel 2, position 6 -> OPAQUE
Filterwheel 2, position 7 -> U340
Filterwheel 2, position 8 -> U340+DIFF
Filterwheel 2, position 9 -> BP300
```

then the PanOS setting should be “shifted down” by 3, i.e. the former position 4 becomes position 1, the former position 5 becomes position 2, etc.

```
Filterwheel 2, position 1: OPEN
Filterwheel 2, position 2: DIFF
Filterwheel 2, position 3: OPAQUE
Filterwheel 2, position 4: U340
Filterwheel 2, position 5: U340+DIFF
Filterwheel 2, position 6: BP300
Filterwheel 2, position 7: OPEN
Filterwheel 2, position 8: DIFF
Filterwheel 2, position 9: OPAQUE
```

- Remove the line

```
FWHM, tolerance of FWHM, and tolerance of fitting-rms for reference
sun FOV
```

- Replace the line

```
FWHM, tolerance of FWHM, and tolerance of fitting-rms for reference
sky FOV -> 1.55 0.20 0.10
```

with lines

```
FWHM of reference FOV [deg] : 1.55
Tolerances for FWHM and rms of reference FOV : 0.20 0.10
```

- Change the auxiliary sensor indices. For spectrometer 1 remove the entries in the 2-hundreds and reduce the entries in the 1-hundreds by 100. For spectrometer 2 do it the other way. E.g.

Auxiliary sensor indices : 112 212 13 14

becomes for spectrometer 1

Auxiliary sensor indices : 12 13 14

and for spectrometer 2 if also becomes

Auxiliary sensor indices : 12 13 14

Configure BlickO

- Start BlickO and select PandoraX.
- Connect every interface and see whether it works.
- Exit BlickO.
- Open file <c:/Blick/config/PandoraX_config.txt>.
- Set the value for parameter “Partial file update time [min]” to -1, which means one daily upload only, just as it was for PanOS. This is the default anyway.

Configure PanFS

This is only needed if the data are pushed to the server.

- Open file <c:/Pandora/Pan_fslib/pan_access.txt>.
- Change the local directory from

FS_LOCAL = ../Pan_level1data/
to

FS_LOCAL = C:/Blick/data/L0/

Run PanPS

PanPS version 1.6 should run without the need for any changes. Make sure the Blick L0 data are in the correct directory. PanPS will notice that they are in a different format, convert them into Pan Level 1 files, and then start the processing.