

ORCA CMOS Camera

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Camera Hardware

FACET-II has 6 ORCA-Flash4.0 V3 Digital CMOS cameras (C13440-20CU):

[Product Page](#)

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The camera connects to the server via a USB-to-fiber link:

[Product Page](#)

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Server Hardware

We have two Dell R750 servers in B244 rack. They each serve two ORCA cameras.

[Product Page](#)

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Server OS

The server runs "CentOS7 Lite"

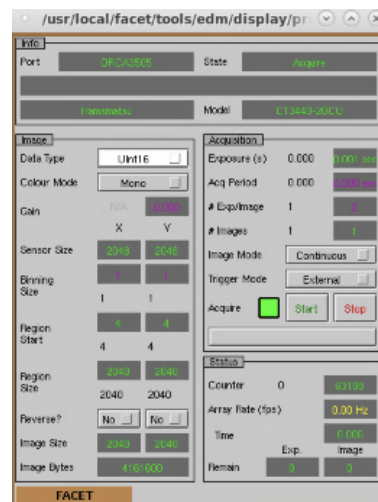
```
[flaci@cpu-li20-pm05]$ uname -r
3.10.0-1160.76.1.el7.x86_64
```

Camera Software

We run 'orcaUsbApp' in 'ProfileMonitorApp'.

Current Issues

- Camera software is not properly integrated into ProfileMonitorApp framework. This issue might explain some of the issues listed below.
- Save/restore does not work. It appears that the IOC does not know the path to the data. **This might be fixed?**
 - **Ask Jeremy**
- Some PVs readback value does not match the set value, and this can cause issues with Matlab HLAs.
 - CMOS:LI20:3505:BinX(Y)_RBV
 - CMOS:LI20:3505:DataType
 - **This might be fixed? Ask Jeremy**
 - ROI doesn't work with profmon_gui or DAQ
 - Need intergration into watchdog and emit IOC for new channel 3516



Bin X/Y RBVs are purple because they have been manually overwritten.

Less Urgent Issues and Feature requests

- The camera serial number is hardcoded in the IOC st.cmd.
This means that if you replace the camera, you have to edit the IOC at the line "epicsEnvSet("SER","305053")

```
sgess@rhel6-64p ProfileMonitorAD-git $ cat iocBoot
/sioc-li20-pm05/cam_config.cmd

# Camera details
#
-----
---
epicsEnvSet("PREFIX", "CMOS:LI20")
epicsEnvSet("ID", "3505")
epicsEnvSet("AREA", "LI20")
epicsEnvSet("EVENT", "223")

epicsEnvSet("TYPE", "Int16")
epicsEnvSet("FTVL", "SHORT")
epicsEnvSet("XSIZE", "2040")
epicsEnvSet("YSIZE", "2040")
epicsEnvSet("NELEMENTS", "4198400")
epicsEnvSet("CAM", "ORCA")

epicsEnvSet("QSIZE", "10")
epicsEnvSet("BLOCKING", "1")
epicsEnvSet("NCHANS", "2040")

epicsEnvSet("X_OFF", "-3247")
epicsEnvSet("Y_OFF", "-2435")
epicsEnvSet("RESOLUTION", "9.9")
epicsEnvSet("EGU", "um")

epicsEnvSet("SER", "305053")

# End of file
```

- If the camera fails or becomes disconnected from the IOC, this is not reflected by the "ASYN.CNCT" PV, but it works for the GigE cameras.
- Event2 integration.