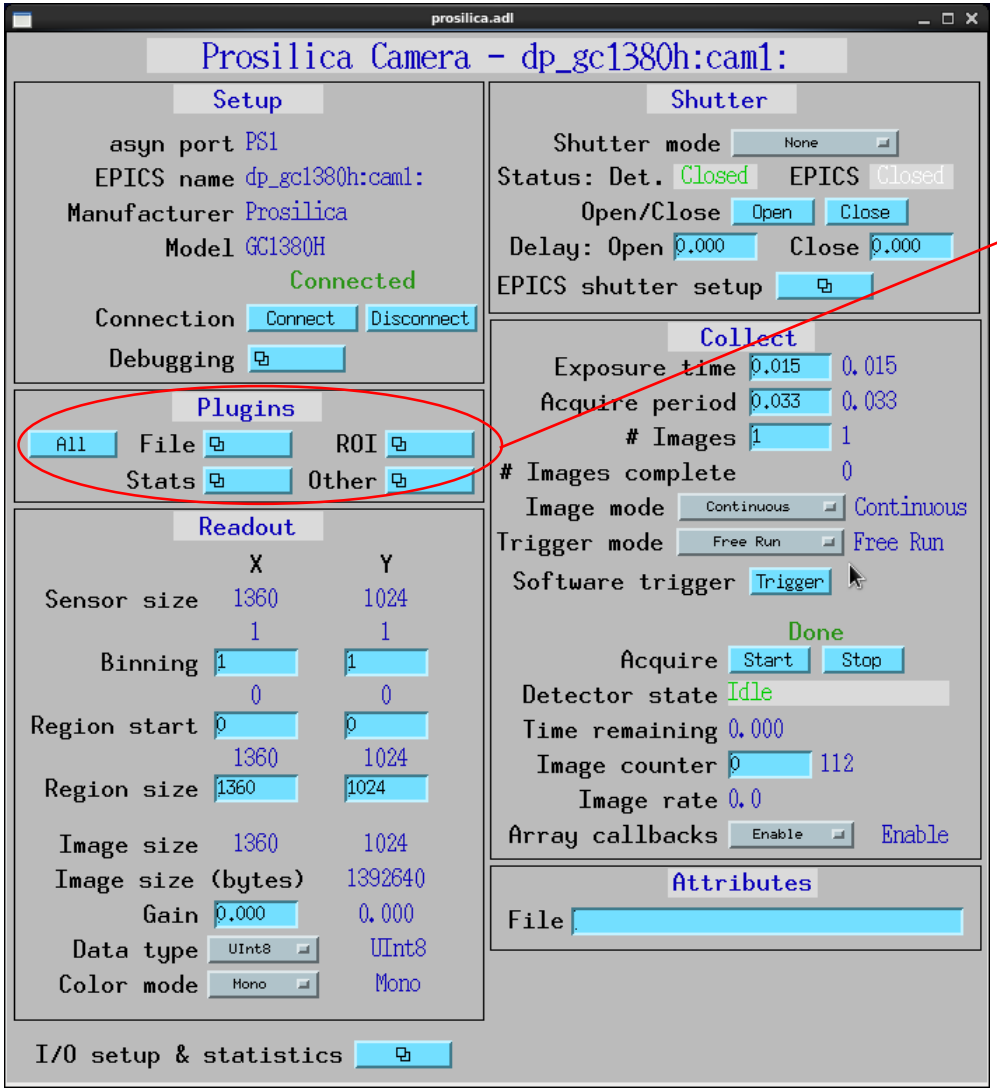
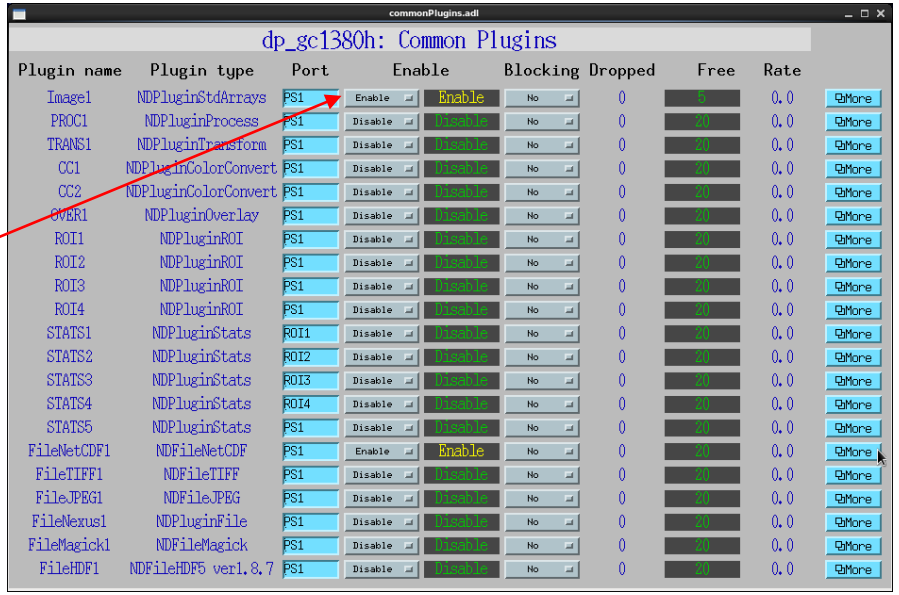
How to Operate Prosilica GC1380H & GC2450 CCD

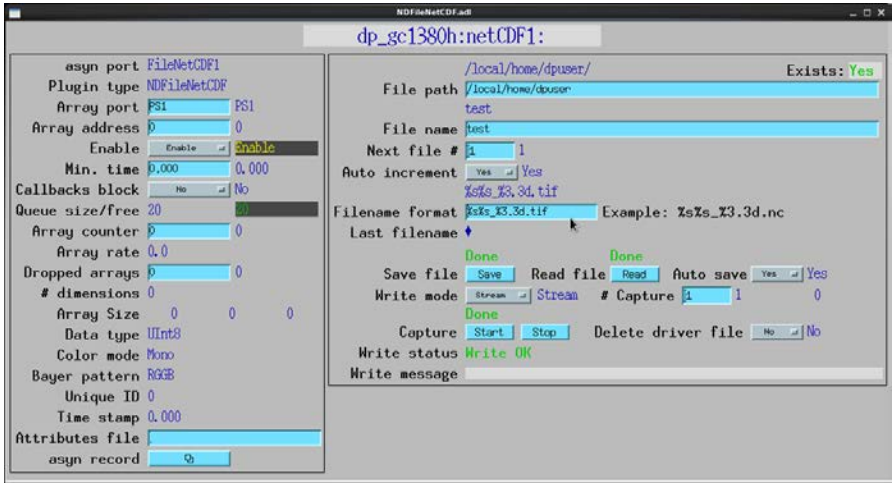
- Connect Prosilica to PC via Ethernet cable (Cat 5e or better); use the secondary Ethernet card labeled "detector only." Power up.
- Turn on the computer, and log in.
  - Username = dpuser
  - Contact DP staff for the password
  - Or, use the sector's LDAP account (see beamline personnel)
- The start-up screen (shown right) will appear.
  - Select "Prosilica" from the dropdown menu
  - Choose the correct model number
  - Select a bit depth (8 for faster frame rate, 16 for better contrast)
  - Click "Start" to start the IOC, medm, and ImageJ (if desired)

- EPICS areaDetector help:
  - http://cars9.uchicago.edu/software/epics/areaDetectorDoc.html

EPICS IOC and MEDM



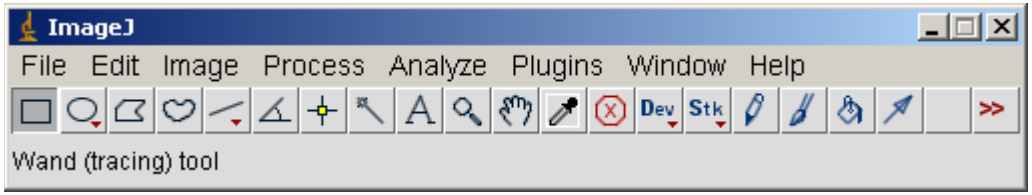


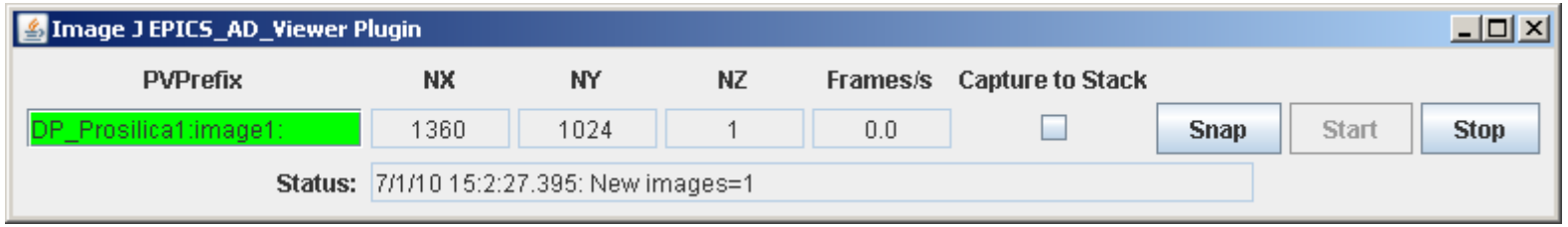


Use the "Plugins" section to enable desired plugins

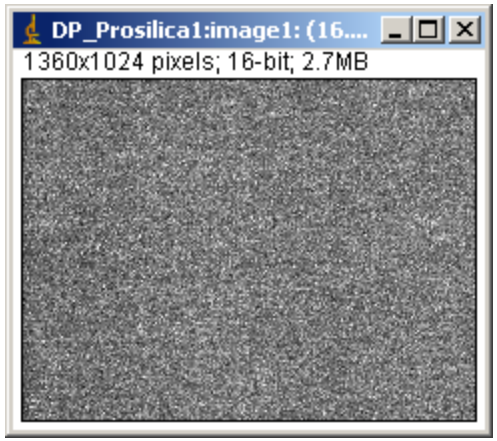
- **NDPluginStdArrays must be enabled to allow viewing in ImageJ**
- **Remember to enable *AutoSave* if you want to save images to disk**

ImageJ Viewer





- Remember to hit the "Start" Button
- EPICS PV: DP_Prosilica1:image1:
  - The is from the "Image Plugin"
  - Should be highlighted green
- If you have problems, close the plugin, take some images from the MEDM screen, and then restart the Viewer.
  - You can re-start from the main ImageJ widget
    - Plugins → EPICS_areaDetector → EPICS AD Viewer


DP_Prosilica1:image1: (16....
1360x1024 pixels; 16-bit; 2.7MB

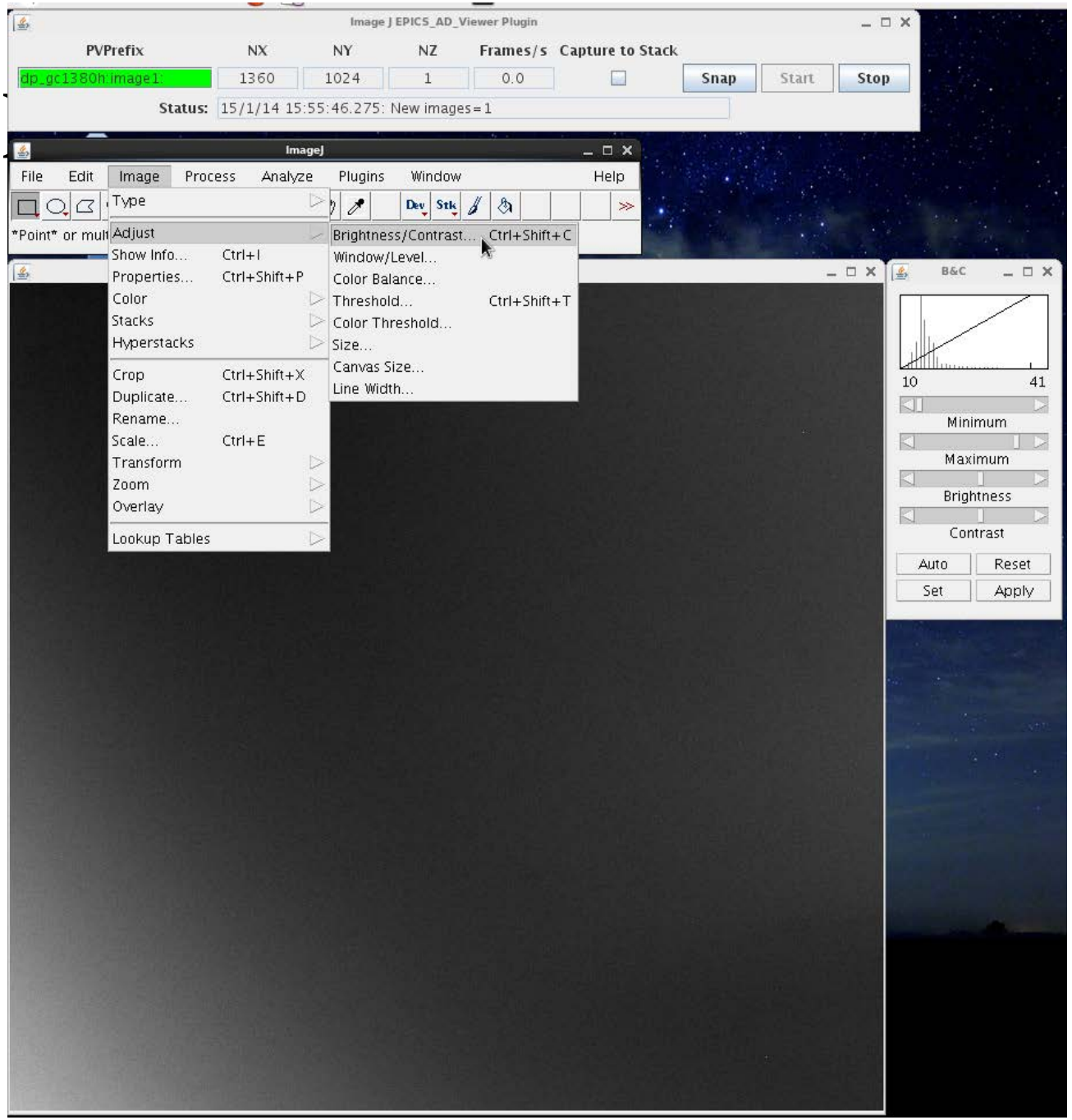


Image J EPICS_AD_Viewer Plugin
PVPrefix
NX
NY
NZ
Frames/s
Capture to Stack
dp_gc1380h:image1:
1360
1024
1
0.0
Snap
Start
Stop
Status:
15/1/14 15:55:46.275: New images=1
ImageJ
File
Edit
Image
Process
Analyze
Plugins
Window
Help
Type
Adjust
Show Info... Ctrl+I
Properties... Ctrl+Shift+P
Color
Stacks
Hyperstacks
Crop Ctrl+Shift+X
Duplicate... Ctrl+Shift+D
Rename...
Scale... Ctrl+E
Transform
Zoom
Overlay
Lookup Tables
Brightness/Contrast... Ctrl+Shift+C
Window/Level...
Color Balance...
Threshold... Ctrl+Shift+T
Color Threshold...
Size...
Canvas Size...
Line Width...
B&C
10
41
Minimum
Maximum
Brightness
Contrast
Auto
Reset
Set
Apply

PROSILICA

GC1380H / 1380CH

30 fps, High-Sensitivity CCD Camera

- High resolution - 1.4 megapixel (1360 x 1024)
- Fast frame rate - 30 frames per second at full resolution
- High sensitivity
- Exceptional image quality
- Sony ICX285 2/3" Progressive scan CCD
- Very small and light weight

Resolution	1360x1024
Sensor Type	2/3" CCD ExView HAD progressive scan Sony ICX285
Pixel Size (µm)	6.45 x 6.45
Maximum Frame Rate	30 fps at 1360x1024
Lens Mount	C-mount with adjustable back focus
Digital Interface*	GigE Vision 1.0
Interface Type	IEEE 802.3 1000baseT
Exposure Range	10µs to 60s
Region of Interest (ROI)	Independent x and y control; 1 pixel resolution
Binning	Independent H and V control
Imaging Modes	External Trigger, Fixed frame rate, Software trigger
External Trigger Modes	Rising edge, Falling edge, Any edge, Level high, Level low
External Sync Modes	Trigger ready, Trigger input, Exposing, Readout, Imaging, Strobe, GPO
External Trigger/ Sync Connection	12-pin Hirose
Monochrome Modes	Mono8, Mono16**
Color Modes	Bayer8, Bayer16, RGB24, YUV411, YUV422, YUV444, BGR24, RGBA24, BGRA24
GPIO	1 isolated TTL input, 1 isolated TTL output, 1 non-isolated TTL input, 1 non-isolated TTL output, RS232 I/O
Power Consumption	less than 3.5 W (12V)
Housing Size	33x46x43 mm
Weight	111 g
Conformity	CE, FCC, RoHS
SDK	Free - includes sample code and driver

*GigE Vision™ is a trademark of the Automated Imaging Association
**Mono16 is available on monochrome models only.
Specifications are subject to change without notice

Please refer to the Prosilica web site for a full list of specifications

About the GC1380H / 1380CH

The ultra-compact GC1380H is a very sensitive, high-resolution CCD camera with Gigabit Ethernet interface that runs 30 fps at full-resolution. The GC1380H is the highest performance GigE Vision-based camera on the market. It incorporates the incomparable Sony ICX285 CCD sensor that uses ExView technology to provide high-sensitivity, excellent antiblooming, and superb image quality.

Applications for the GC1380H include:

- industrial inspection
- machine vision
- microscopy
- ophthalmology
- fluorescence
- aeronautical and aerospace
- public security
- surveillance
- traffic imaging

The Prosilica Advantage

- Image quality
- High reliability
- High performance
- Ultra-Compact
- Ease of use and integration
- Rich set of camera features