

# 2.3 Software Solutions

## 2.3.1 StarLab

### StarLab turns your PC into a laser power/energy multi-channel station

#### Extensive Graphic Display of Data

- Line Plot, Histogram, Bar chart, Simulated Analog Needle
- Multiple data sets on one graph or separate graphs on the same screen

#### Advanced Measurement Processing

- Power/Energy Density, Scale Factor, Normalize against a reference
- Multi-channel comparisons
- User defined mathematical equations: channels A/B, (A-B)/C etc.
- Position & size measurement with BeamTrack sensors

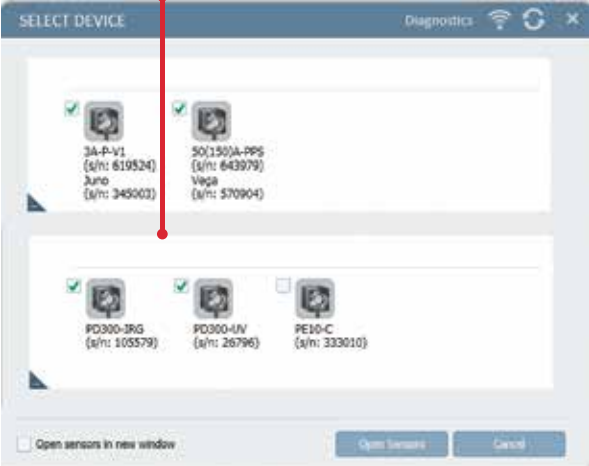
#### Data Logging for Future Review

- Can be displayed graphically or saved in text format
- Easily exported to an Excel spreadsheet

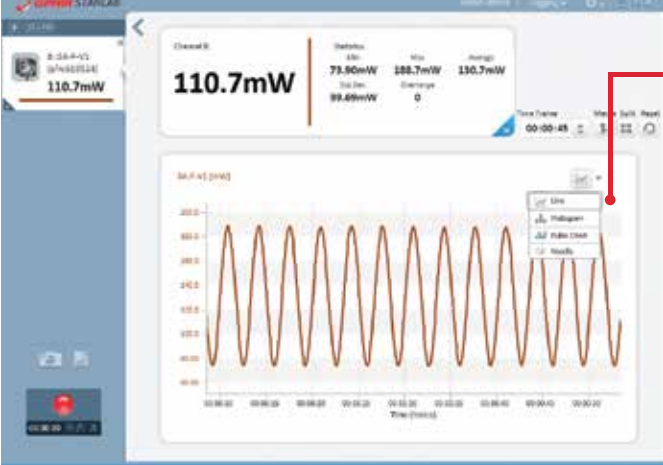
Fully supports Ariel, Centauri, StarBright, StarLite, Vega, Nova II, Pulsar, Juno, Juno+, Quasar, EA-1 and USBI devices with all standard Ophir sensors

**Flexible Display Options with StarLab**

Choose which channels to display




Setup screen



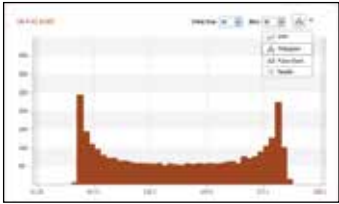
One of the above screens is maximized

**You may choose to display them separately**


Maximize one of the sources




Choose line graph



or histogram



or needle display



## Multiple Sensors displayed together

Click on one of the channels

The numerical values are from the channel chosen



Here multi line graph display has been chosen

Settings and functions may be opened to adjust then minimized as needed

Additional functions are available from the "Functions" tab



Here multi line histogram display has been chosen

# Functions and Logging

## Functions

Click on f(x) to open another trace combining measured values



Define function combining measured values

New trace is now added per defined function

## Logging

Files are stored here. They may be viewed graphically OR numerically

Click on log button and logging of values starts



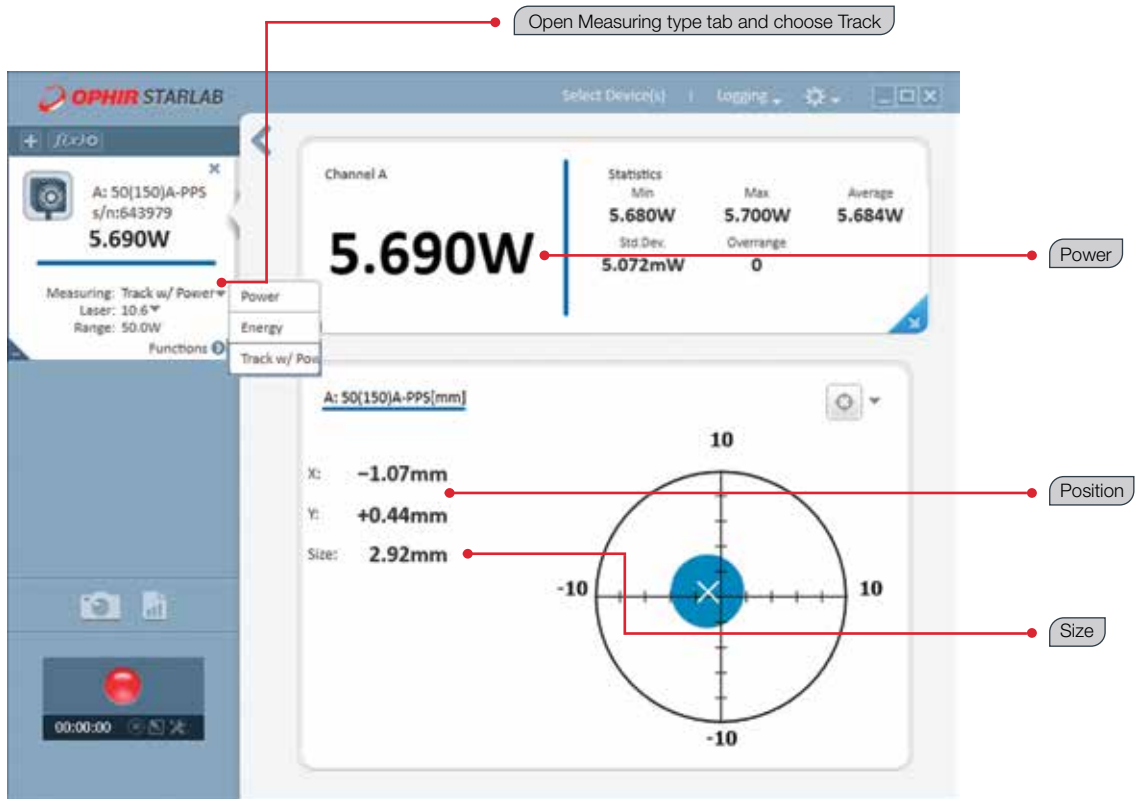
```

:PC software:starLab version 3.00 build 19
:Logged:25/05/2014 at 09:33:22
:Channel 8:Vega Thermopile 3A-P-V1 (s/n:999999) VQ2.31 (s/n:657028)
:Channel A:Juno Photodiode P0300 (s/n:694646) JNL.24 (s/n:606180)
:Math M:(A-B)*2
:Channel 8:statistics
:Min:3.440mw
:Max:12.22mw
:Average:7.882mw
:Std.Dev.:3.078mw
:Overrange:0
:First Pulse Arrived : 25/05/2014 at 09:33:22.562000

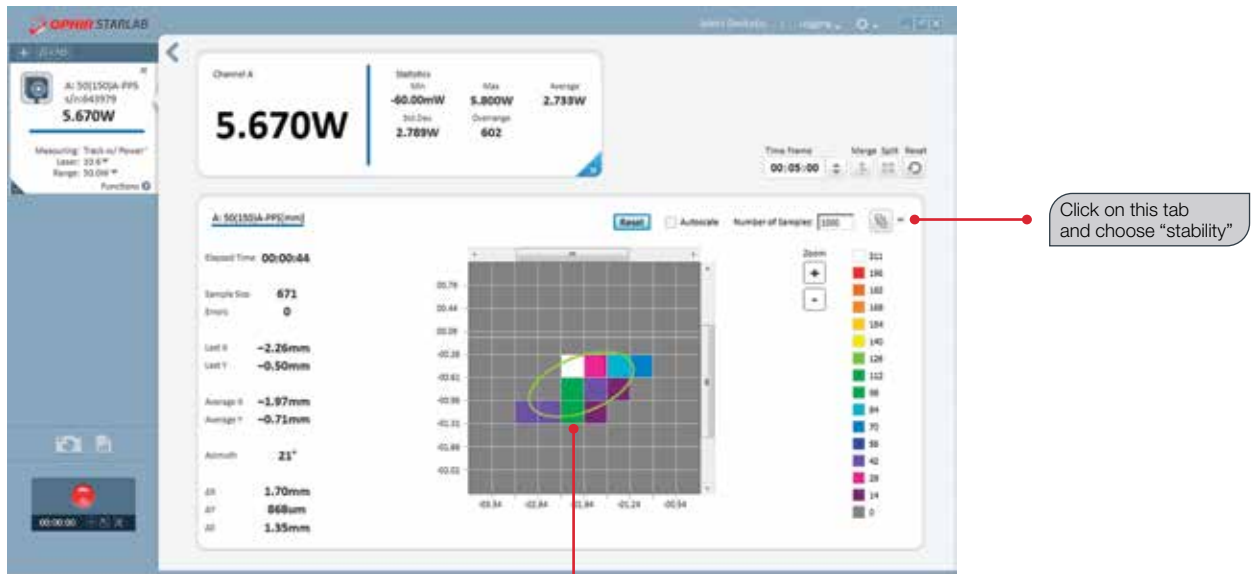
```

Timestamp	Channel 8	F(B)	Channel A	Math M
0.000	1.762e-002	6.620e-003		
0.064	1.836e-002	7.360e-003		
0.128	1.911e-002	8.110e-003		
0.193	1.986e-002	8.860e-003	1.067e-002	6.554e-006
0.203			8.480e-003	1.444e-007
0.256	2.057e-002	9.570e-003		
0.269			6.540e-003	9.181e-006
0.321	2.123e-002	1.023e-002		
0.354			4.900e-003	2.841e-005
0.384	2.182e-002	1.082e-002		
0.406			3.550e-003	5.285e-005
0.449	2.232e-002	1.132e-002		
0.465			1.191e-002	
0.470			3.400e-004	1.339e-004
0.492	2.258e-002	1.158e-002		
0.496			3.600e-004	1.259e-004
0.499	2.216e-002	1.116e-002		
1.003			4.800e-004	1.141e-004
1.056	2.164e-002	1.064e-002		
1.070			7.600e-004	9.761e-005
1.120	2.104e-002	1.004e-002		
1.136			1.340e-003	7.569e-005
1.184	2.038e-002	9.380e-003		
1.203			2.370e-003	4.914e-005
1.664	1.558e-002	4.580e-003		

## BeamTrack Power/Position/Size Screens



Power / Position / Size screen



Position stability screen

Displays beam center wander weighted for dwell time at each position