ImageStream^{X}™
Spatial Offset Procedure

May, 2009

SPATIAL OFFSET PROCEDURE

Amnis Corporation

Part Number: 782-02330-01
Current Revision: X3

Revision History:

Rev	Revision Description	Author	Date	ECO	Initials
X1	Initial Release	M. Thullbery	5/27/09		
X2	Reformatted	D.Meissner	01/11/09		
X3	Filter stack screw locations corrected	J. Clynes	07/2011		
X4	Added Illumination Selection for Channel 3 and 7	T. Lam	11/17/11		

Initial Release Approval Signatures:

Engineer _____

VP R&D _____

COO _____

1. Purpose

This document defines a method of adjustment for Spatial Offset Calibration in ASSIST page. This procedure is to be used in the event the spatial offset calibration fails. This procedure is for the ImageStreamX™ instruments and is developed for internal use by Amnis engineers and technicians to ensure optimum performance of the ImageStreamX™ instruments.

2. Overview

The Spatial Offset Procedure will involve the following steps:

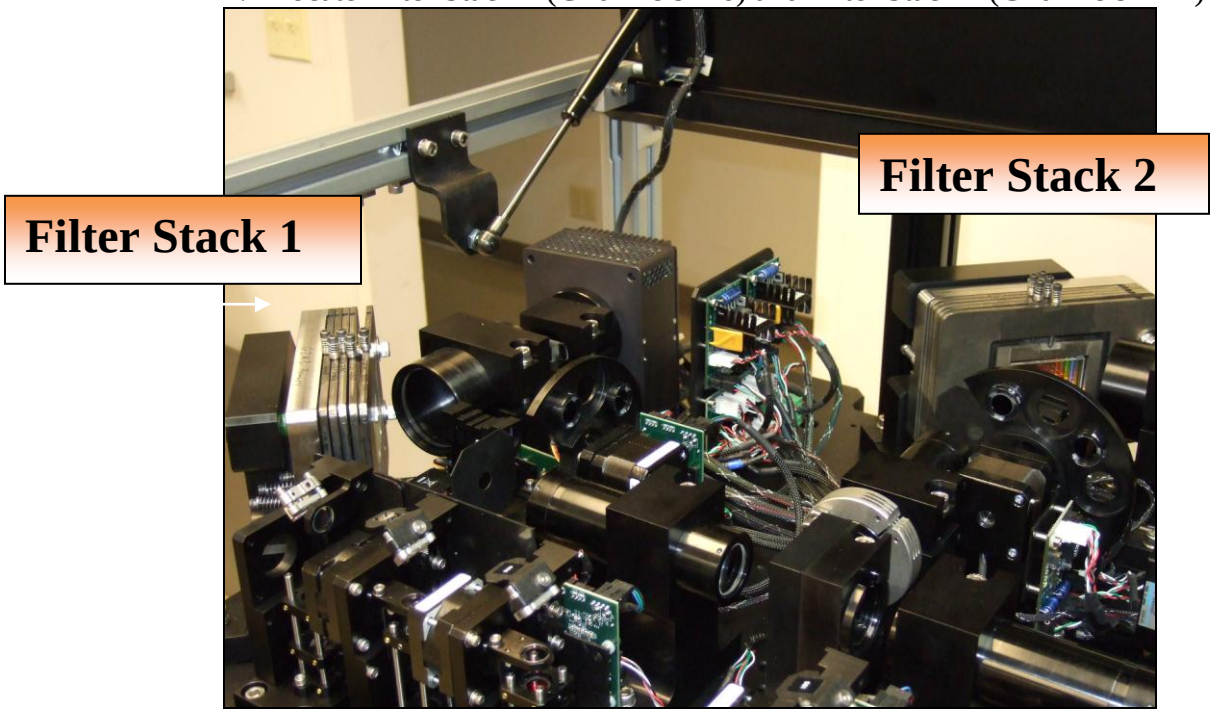
A. Locate X and Y offset alignment screws on Filter Stack 1 (Channels 1-6) and Filter Stack 2 (Channels 7-12) (If Installed)

B. Run Spatial Offset Calibration from ASSIST tab in INSPIRE

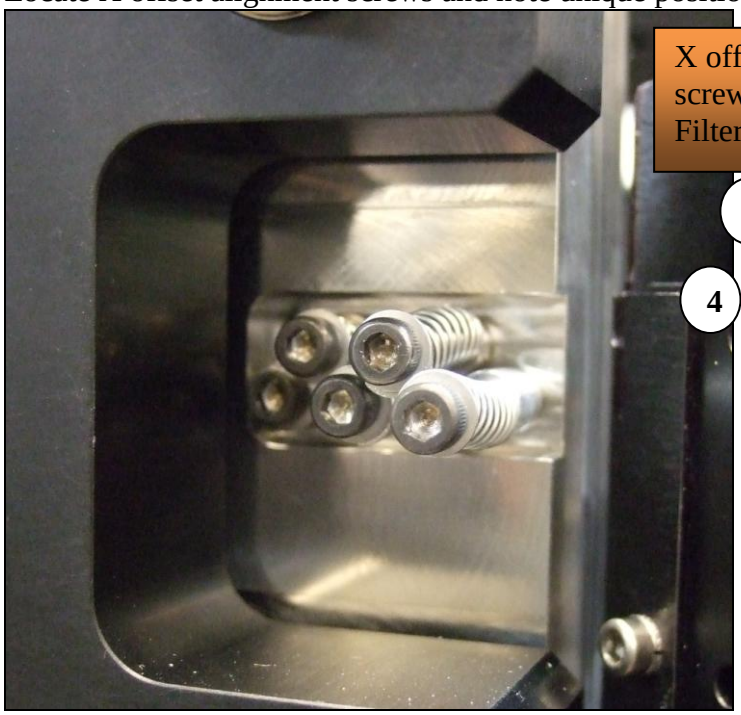
C. Adjust offset alignment screws.

A. Locate X and Y offset alignment screws on Filter Stack 1 and Filter Stack 2 (if installed)

1. Locate Filter Stack 1 (**Channels 1-6**) and Filter Stack 2 (**Channels 7-12**)



Locate X offset alignment screws and note unique position of 6 & 12



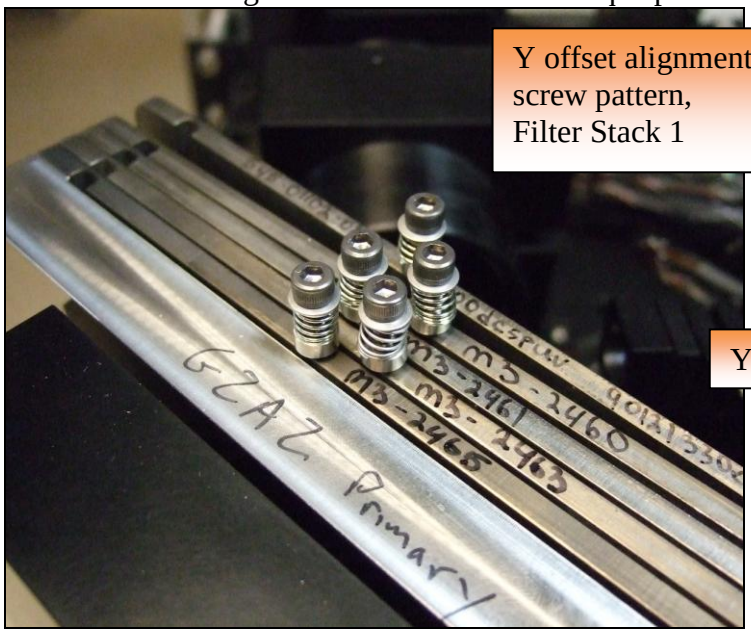
X offset alignment screw pattern, Filter Stack 1

3 1
4 2 6

X offset alignment screw pattern, Filter Stack 2

9 7
10 8 12

Locate Y offset alignment screws and note unique positions of 6 & 12



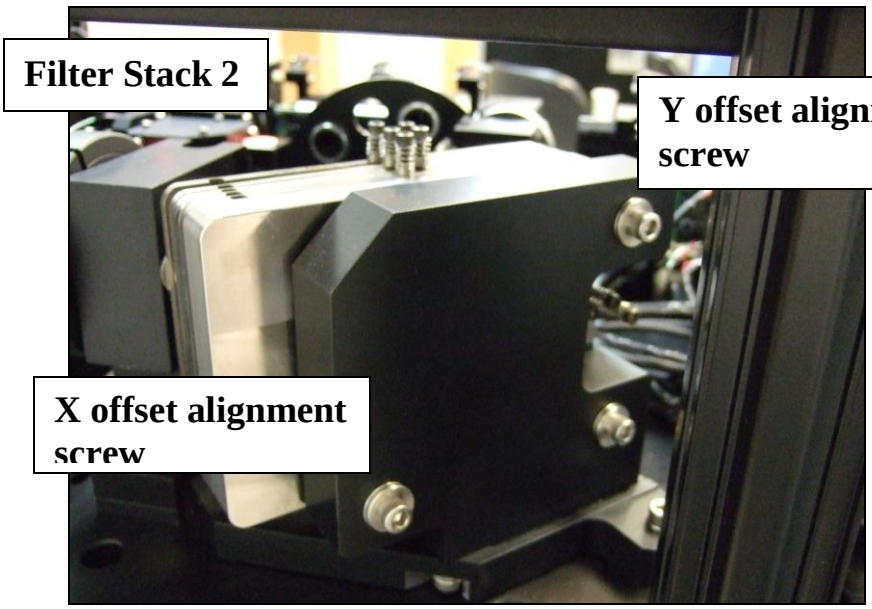
Y offset alignment screw pattern, Filter Stack 1

6
2 1
4 3

Y, Filter Stack 2

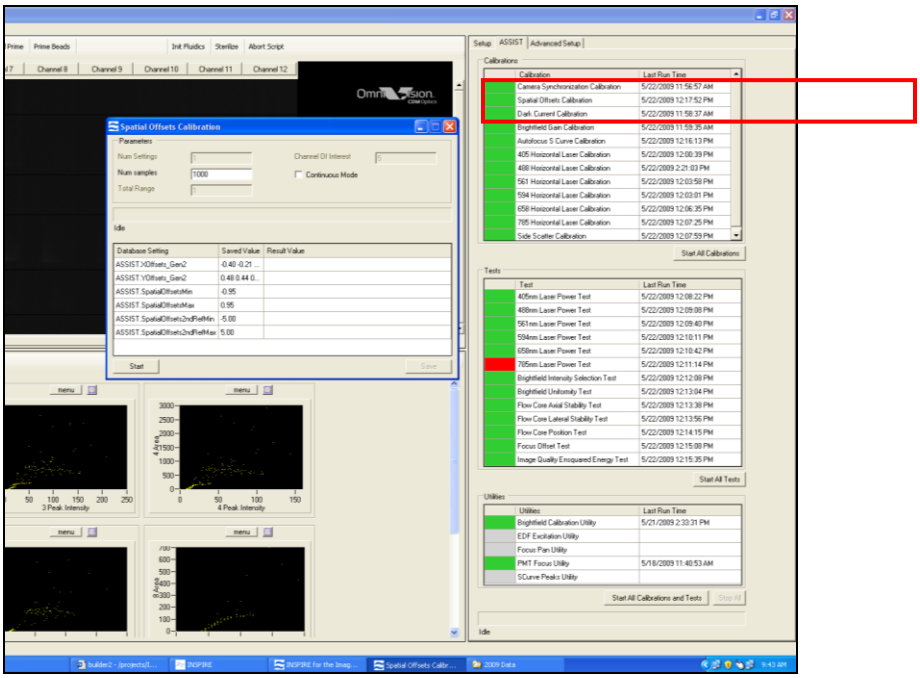
12
8 7
10 9

Locate the X & Y offset alignment screws for **channel 11** on Filter Stack 2 (**note: channel 5 is fixed**).

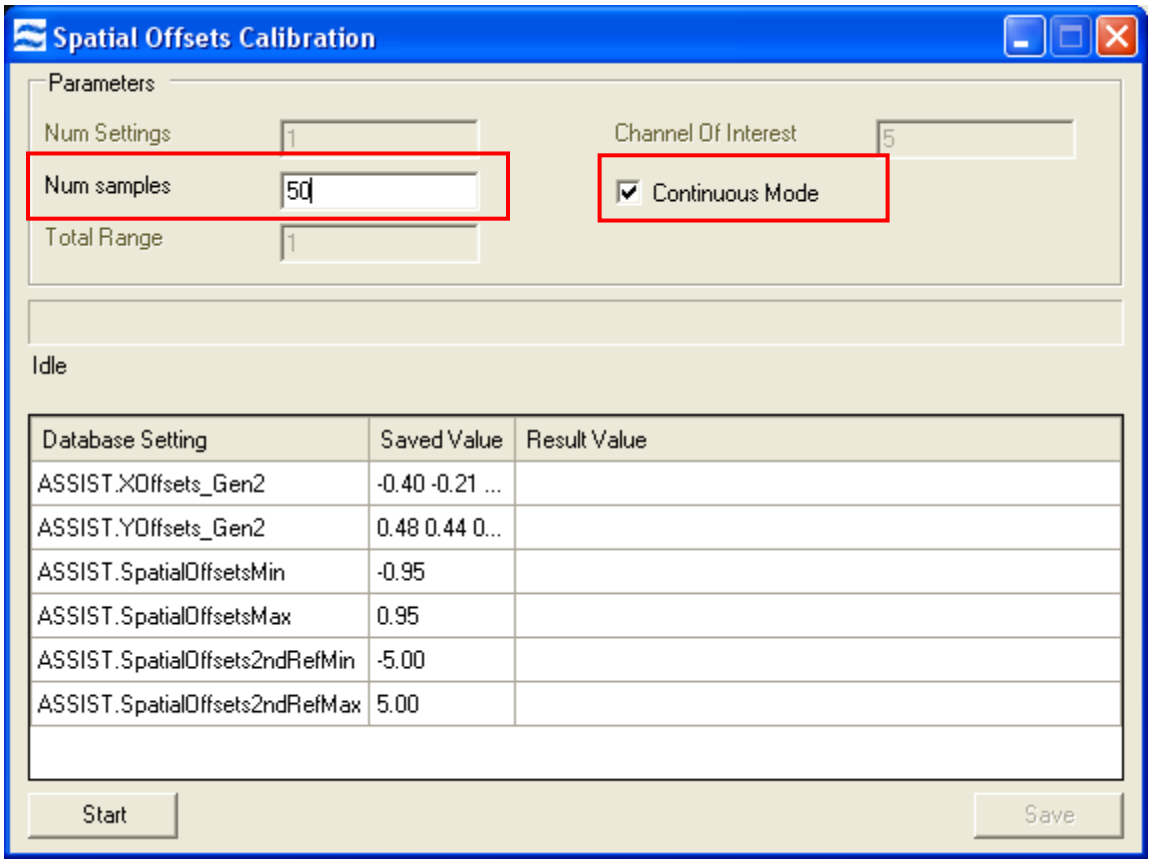


B. Run Spatial Offset Calibration from ASSIST tab in INSPIRE

From ASSIST tab within INSPIRE, click the Spatial Offsets Calibratiom

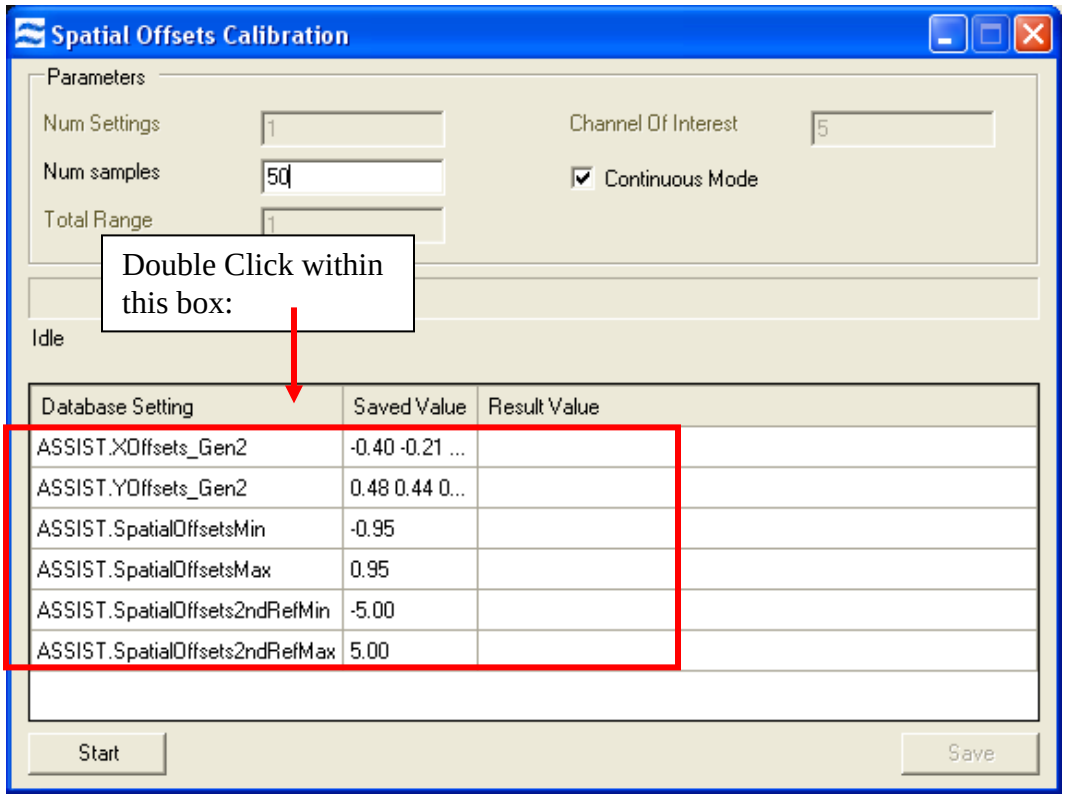


Make sure settings in Spatial Offsets Calibration are as follows: “Continuous Mode” box checked, and “Num samples” set to 50.

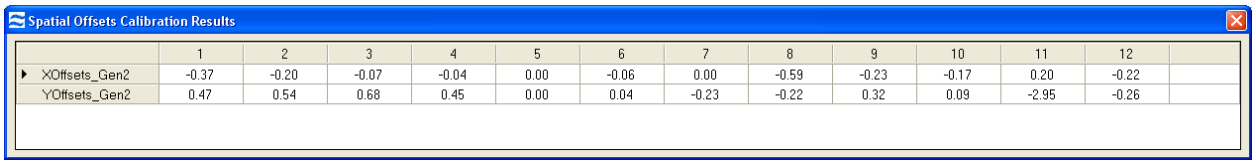


Click “Start”

1. Double click on any of the Database Settings in the Spatial Offsets Calibration window to open the **Spatial Offsets Calibration Results** window.



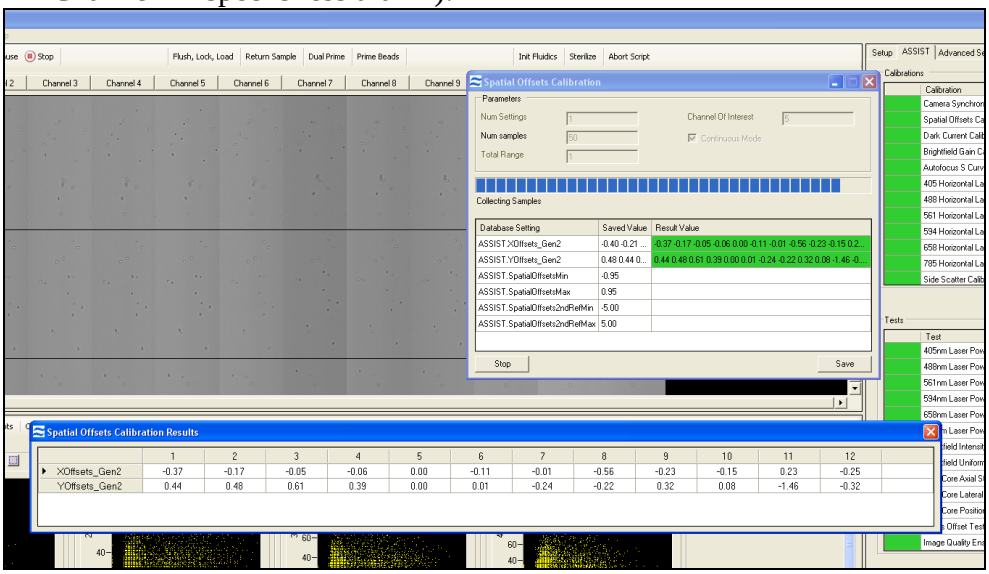
To open this Window:



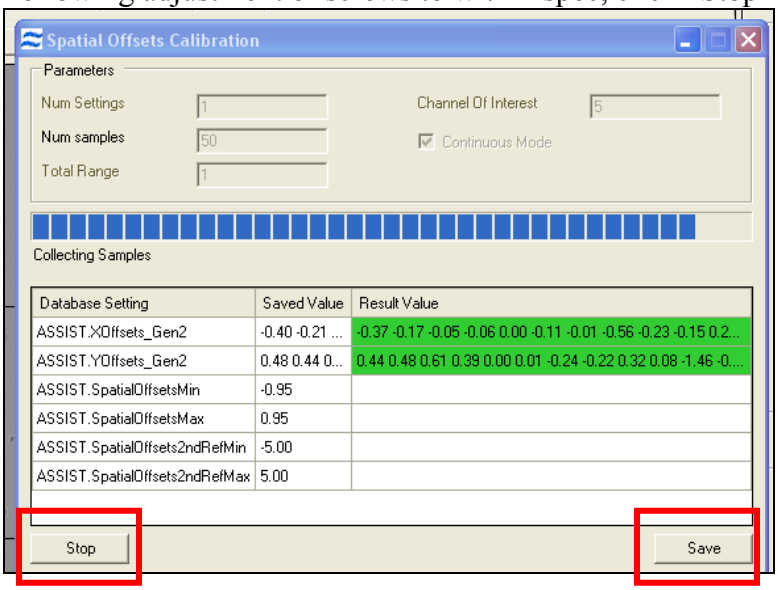
The Spatial Calibration Results window should now be updating with values in each channel and X and Y position

C. *Adjust offset alignment screws*

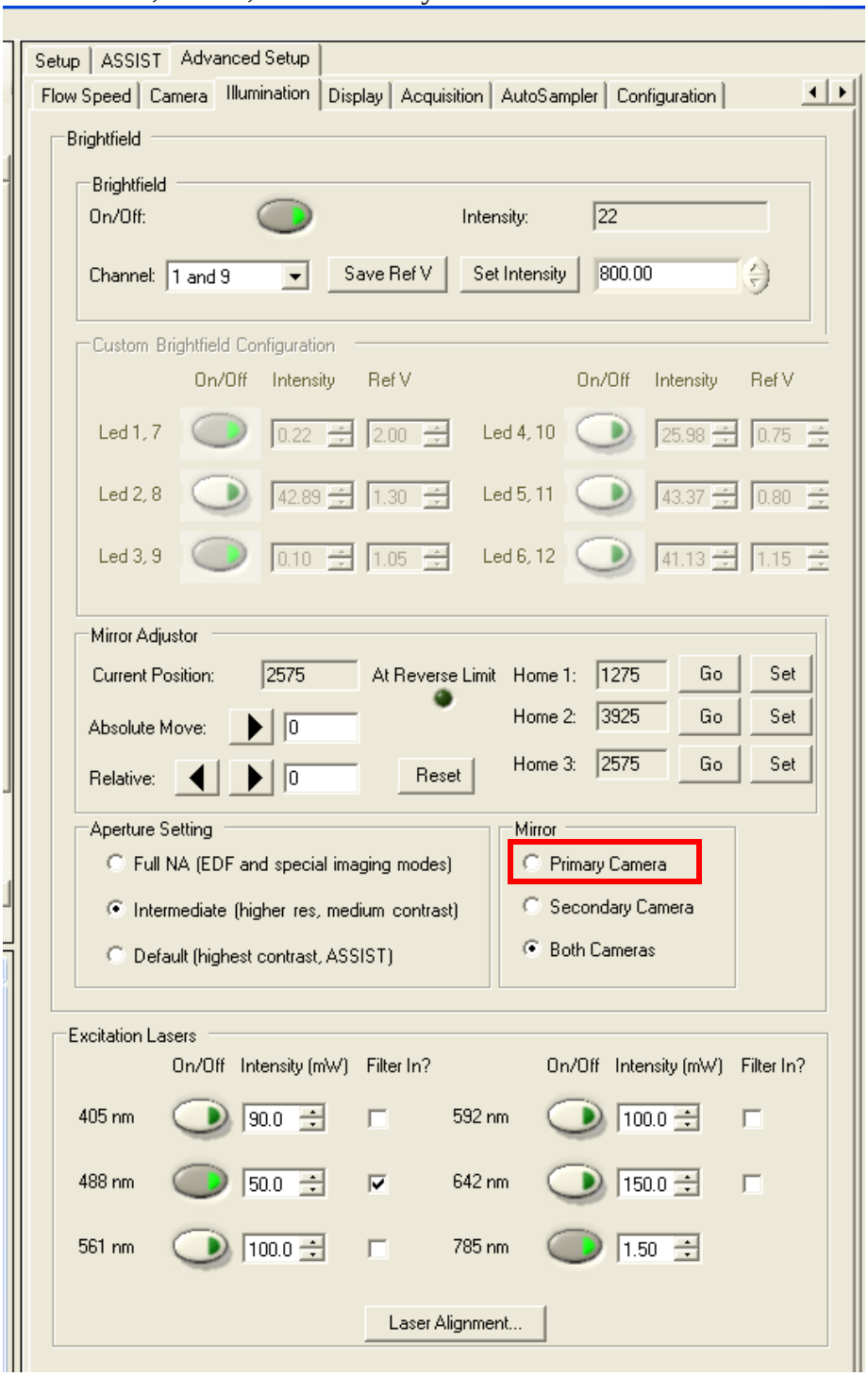
1. While monitoring window adjust X and Y spatial offset screws located in steps above (numbers on screw positions correspond with channels) to achieve values of less than 0.2. The adjustment is very sensitive so small adjustments are needed. The spec is a value of less than 0.5 (note: Channel 11 spec is less than 2).



Following adjustment of screws to within spec, click “Stop” and then “Save”.



2. With 12-channel systems, to align channel 3, go to Advanced Setup, Illumination, Mirror, select Primary Camera.



3. With 12-channel systems, to align channel 7, go to Advanced Setup, Illumination, Mirror, select Secondary Camera.