

DOCUMENT TITLE: **FLR OPTICS BENCH ALIGNMENT**

SYSTEM/ASSEMBLY NAME: **ACQUITY, ALTUS FLR**

PART NUMBER AFFECTED **279001335,279003293**

TEST EQUIPMENT NAME: **FLR OPTICS BENCH ALIGNMENT SYSTEM**

TEST EQUIPMENT NUMBER: **TE83032**

TEST SOFTWARE:



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REVISED BY: **ERIC TURNER**

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EQUIPMENT REQUIRED

Quantity	Part Number	Description
1	TE83032	FLR Optics Alignment System
1	WAT207000	515 Solvent Delivery System
1	999029699-2	Flow Cell tool with reference photodiode
1	999029699-3	Acquity FLR nominal flow cell

DISPOSABLES REQUIRED

Quantity	Part Number	Description
A/R	n/a	MilliQ H2O

TEST SPECIFICATIONS

Normalization wavelength must be 416 +/-1nM

Sample Energy must be >7

Ram-Ray Ratio must be >.15%

Val-Raman Ratio must be < 30%

1.0 Setup

- 1.1 Connect test fixture to computer (9 pin connector, labeled **RS-232**)
- 1.2 Connect Power cord from test fixture to switched 110VAC power strip.
- 1.3 Make sure 515 pump is powered up and overpressure (HPL) is set to 200, and flow rate is set to 1ml/min.

2.0 Procedure

- 2.1 If Tester PC is not powered up, turn on CPU and monitor.
- 2.2 Login as tester. Password tester. Program will launch automatically.
- 2.3 If Program is not running and Windows desktop is visible, double-click on **Acq Flr Optics Alignment**.
- 2.4 Optics bench connections are as follows:
 - 1 – Emission grating motor
 - 2 – Emission home sensor
 - 3 – PMT
 - 4 – Excitation home sensor
 - 5 – Excitation grating motor
 - 6 – Filter gear motor
 - 7 – Pre-Amp
 - 8 – Lamp cathode
- 2.5 Follow instructions on screen. In the event of a tester “hang”, the optics bench may be defective. Remove bench and use open fixture to troubleshoot, referring to troubleshooting guides available.
- 2.6 When complete, disconnect cables and remove bench from test fixture.

3.0 Diagnostics

- 3.1 To enter the diagnostics page, click on **Diagnostics**.
- 3.2 The test system will remove power from the test system. Before turning the “switch” on the screen on, set the slide switches to appropriate settings as follows:

HyperTerminal enable - put this switch in the enable position to cause the test system to power up and launch HyperTerminal. You will now be able to use HyperTerminal as normal. **Lamp Warmup Mode** – put this switch in the enable position if you wish to bypass lamp warmup. If you need to warm up lamp further, simply wait the desired time. To change gain, use HyperTerminal and type setGain x <enter> where x is the gain amount. You may also type *ETA* <enter> to get enhanced serial output from the Acq. FLR.

- 3.3 Commands available:
 - Calibrate PMT – **calPMT 4<enter>**
 - Normalize – **NormUnit <enter>**
 - Quick Calibrate – **calgratings<enter>**
 - Check ratios – **repeat align<enter>** (use CTRL-C to stop)
 - Lamp Control – **Lamp ON|Off<enter>**

- 3.4 When you have finished troubleshooting the optics bench via HyperTerminal, be sure to close HyperTerminal (File|close or click on x in top right corner). This is the only way the test program can continue.

4.0 Data File

Optics bench information will be stored in *C:\Acq FLR Optics\testdata\opticsTestdata.dat* and stored in the SigmaQuest database at <http://sigmaserver2:8888/sq/>.