

Double, triple, even quadruple the data from every scan ...



Shown is the OLIS TWIN RSM 1000 #1, delivered to Abbott Labs on September 3, 2008.

It supports absorbance, fluorescence, and scatter.

... and millisecond scanning, too!

Two, three, and more measurements simultaneously and rapidly

Once we embraced the vision of creating a spectrofluorimeter with two DeSa “subtractive double grating monochromators with moving intermediate slit” (US Patent 5,285,254), **a wealth of new instrument systems has poured forth.**

Each double grating monochromator can be used to collect 1000 scans per second.

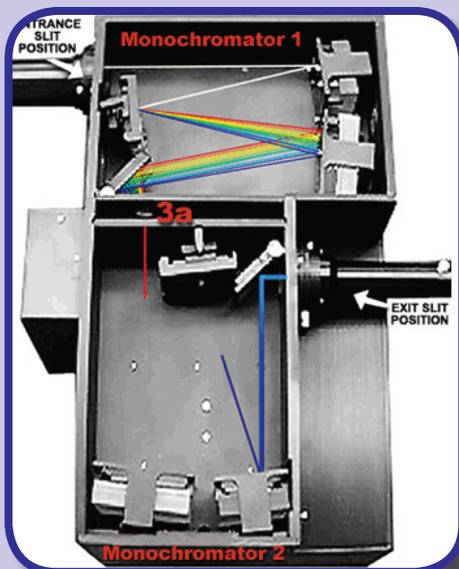
With an economical change that takes moments to implement, each double monochromator can be used as a single monochromator, the sample compartment can be exchanged from stopped-flow to a multiple position cell holder, scatter can be pulled from emission data, circular dichroism and fluorescence can be acquired utterly simultaneously, and absorbance readings of 8 AU can be made.

This is no ordinary spectrophotometer.

The OLIS TWIN RSM 1000 systems are built to order.

You might find exactly the optimal configuration from the twelve shown in this document. Or, you might want the capabilities in different combination, and we can make this happen, too.

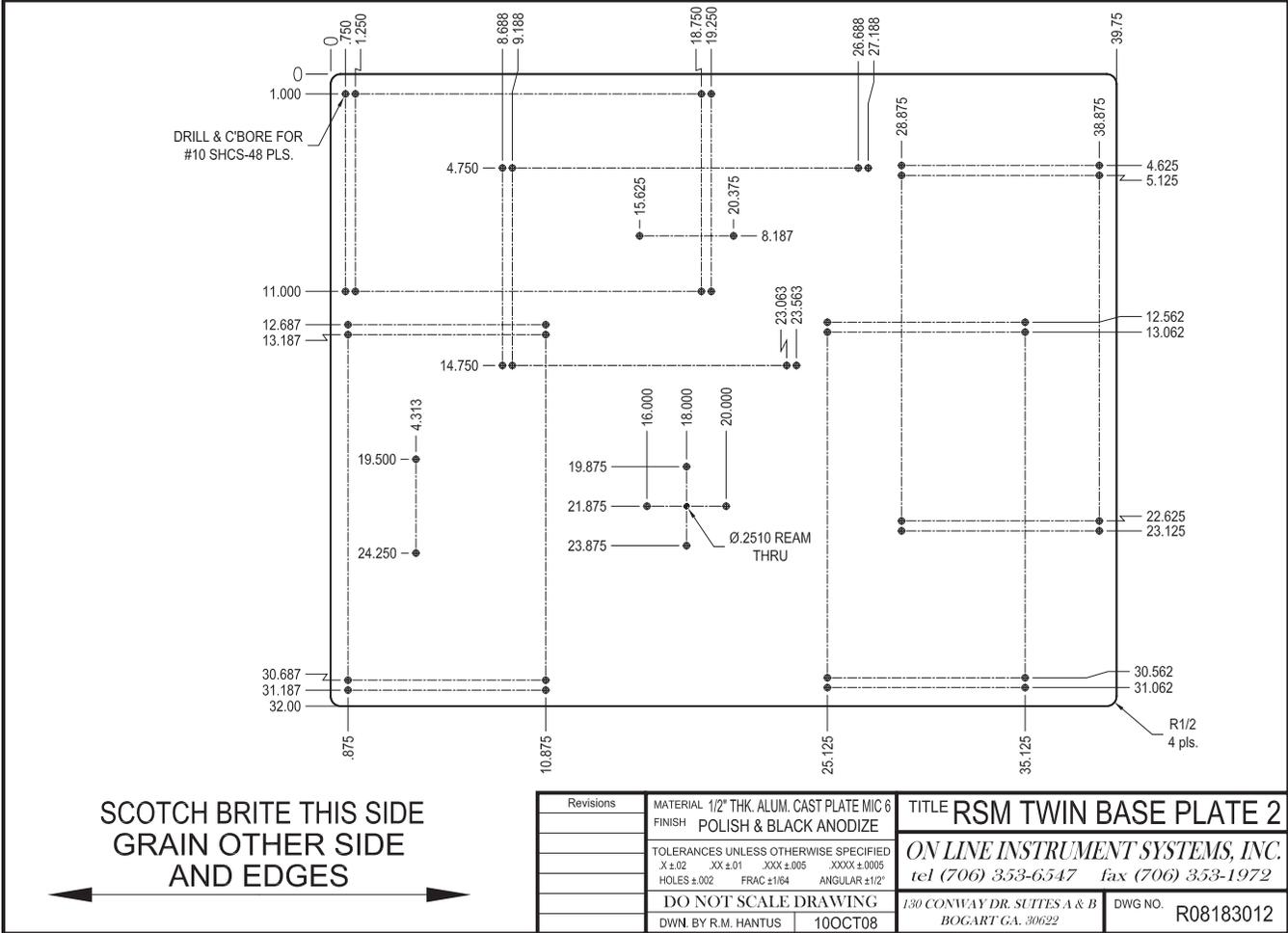
Clearly, for a highly competitive research group which does serious optical spectroscopy work, the OLIS TWIN will not only open up entirely new measurements (rapid-scanning circularly polarized luminescence, anyone?), but it could cut data acquisition time 2, 10, 1000, 10,000 fold over your current best spectrophotometer’s performance.



Light path through a DeSa subtractive double grating monochromator, two of which are used in each TWIN. See <http://olisweb.com/products/rsm/simulation.php> for full details.

A Dozen CAD drawings illustrating the extreme modularity and variety of the OLIS TWIN RSM 1000 line.

- 1A: (page 4) Absorbance, fluorescence, CPL. Detectors shown in both double and single monochromator positions
- 2A: (page 5) Similar to 1A, with reversal of positions of lamp, detectors, and hence light direction and CPL module orientation;
- 3A: (page 6) Identical to 2A, plus stopped-flow mixing
- 4A: (page 7) Substitution of CD sample compartment, shown with 6 position turret cell holder, for simultaneous collection of CD and fluorescence scan data
- 1B: (page 8) Identical to 2A, but emission monochromator rotated 180 degrees, allowing for use of end-on photomultiplier tube in the single monochromator position rather than side-window detector
- 2B: (page 9) Identical to 1B, with addition of CPL detection
- 3B: (page 10) Identical to 2B, with addition of stopped-flow mixing apparatus
- 4B: (page 11) Substitution of CD sample compartment, shown with 6 position turret cell holder, for simultaneous collection of CD and fluorescence scan data
- 1C: (page 12) High Absorbance Model Configuration with detector in single or double monochromator position
- 2C: (page 13) High Absorbance Model Configuration, plus stopped-flow
- 1D: (page 14) High Absorbance Model with second monochromator used as single, plus reference detection
- 2D: (page 15) 1D, plus stopped-flow



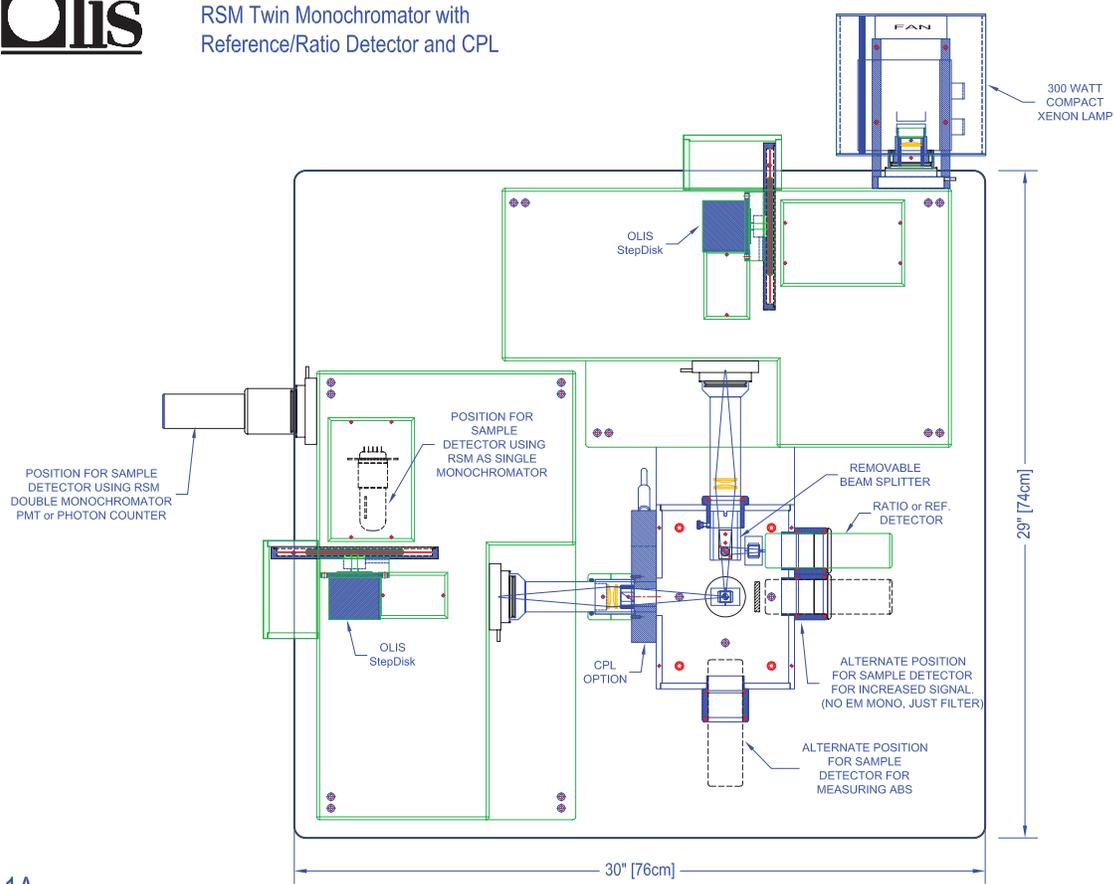
SCOTCH BRITE THIS SIDE
GRAIN OTHER SIDE
AND EDGES

Revisions	MATERIAL 1/2" THK. ALUM. CAST PLATE MIC 6 FINISH POLISH & BLACK ANODIZE	TITLE RSM TWIN BASE PLATE 2
	TOLERANCES UNLESS OTHERWISE SPECIFIED .X ±.02 .XX ±.01 .XXX ±.005 .XXXX ±.0005 HOLES ±.002 FRAC ±1/64 ANGULAR ±1/2"	ON LINE INSTRUMENT SYSTEMS, INC. tel (706) 353-6547 fax (706) 353-1972
	DO NOT SCALE DRAWING	130 CONWAY DR. SUITES A & B BOGART GA. 30622
	DWN. BY R.M. HANTUS 10OCT08	DWG NO. R08183012

Plate on which all hardware is mounted. Hole positions allow for a host of component positions ... See twelve possibilities, next pages.



RSM Twin Monochromator with
Reference/Ratio Detector and CPL



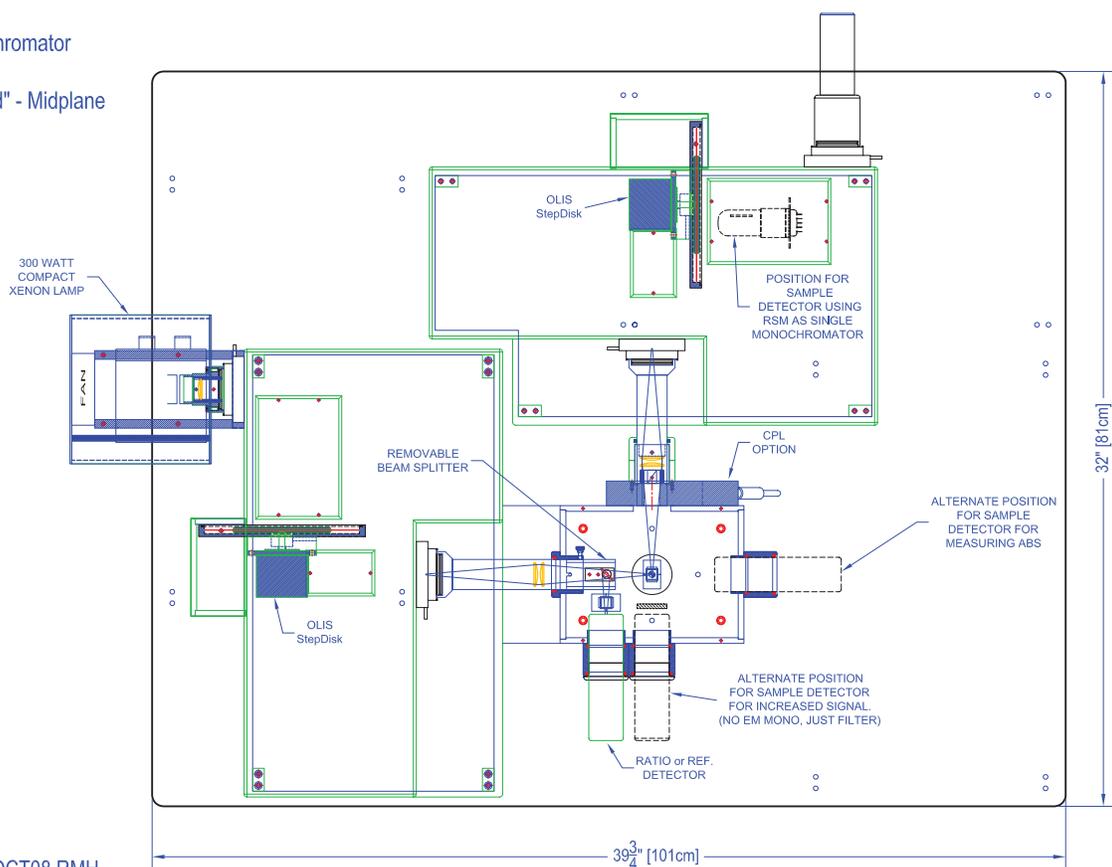
1A

03SEP08 RMH

**Absorbance, fluorescence, CPL.
Detectors shown in both double and
single monochromator positions**



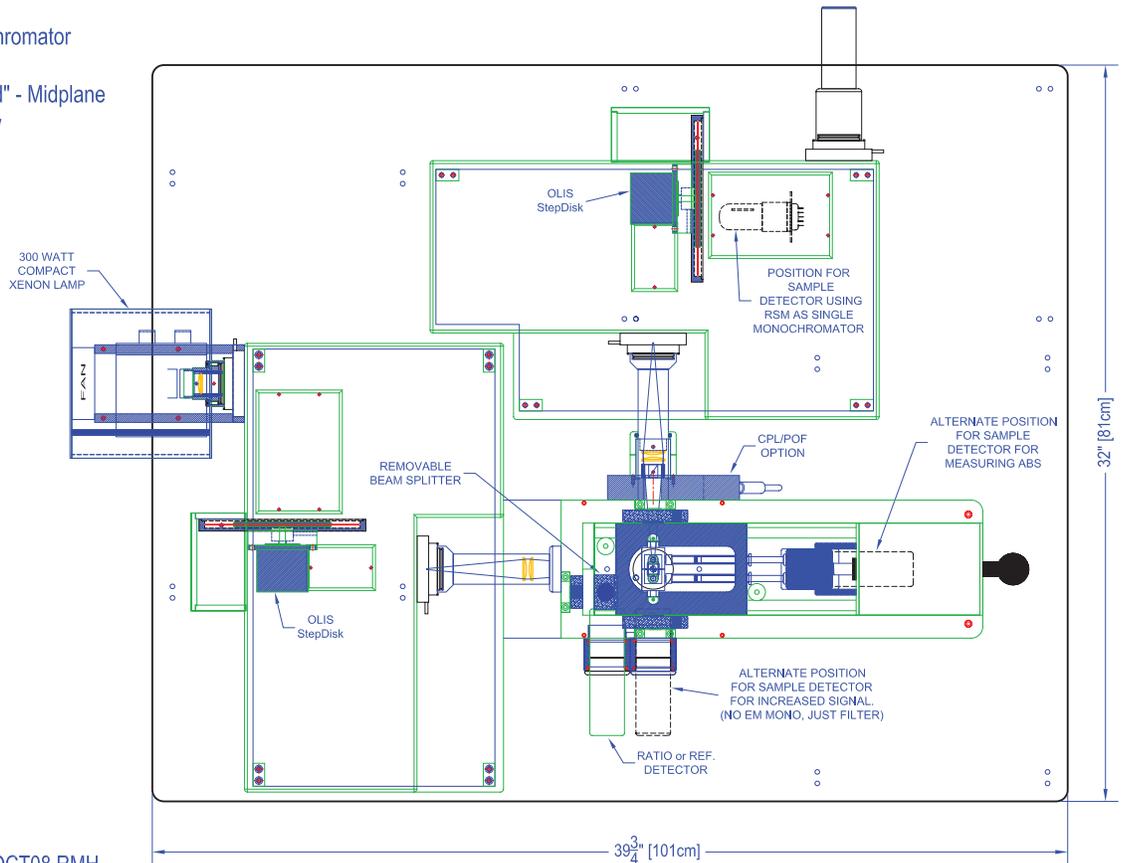
RSM Twin Monochromator
Fluorometer
Compact "Notched" - Midplane



Similar to 1A, with reversal of positions of lamp, detectors, and hence light direction and CPL module orientation



RSM Twin Monochromator
Fluorometer
Compact "Notched" - Midplane
with Stopped-Flow



3A

09OCT08 RMH

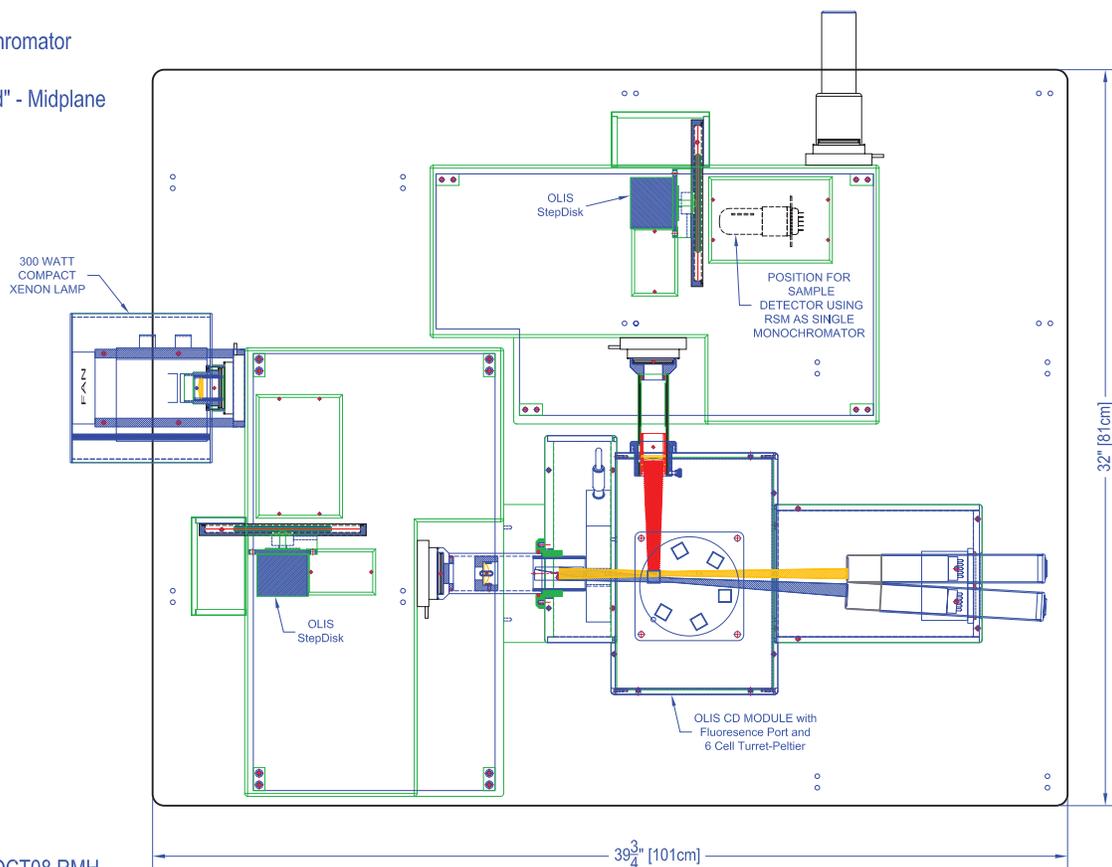
39 ³/₄" [101cm]

32" [81cm]

**Identical to 2A, plus stopped-flow
mixing**



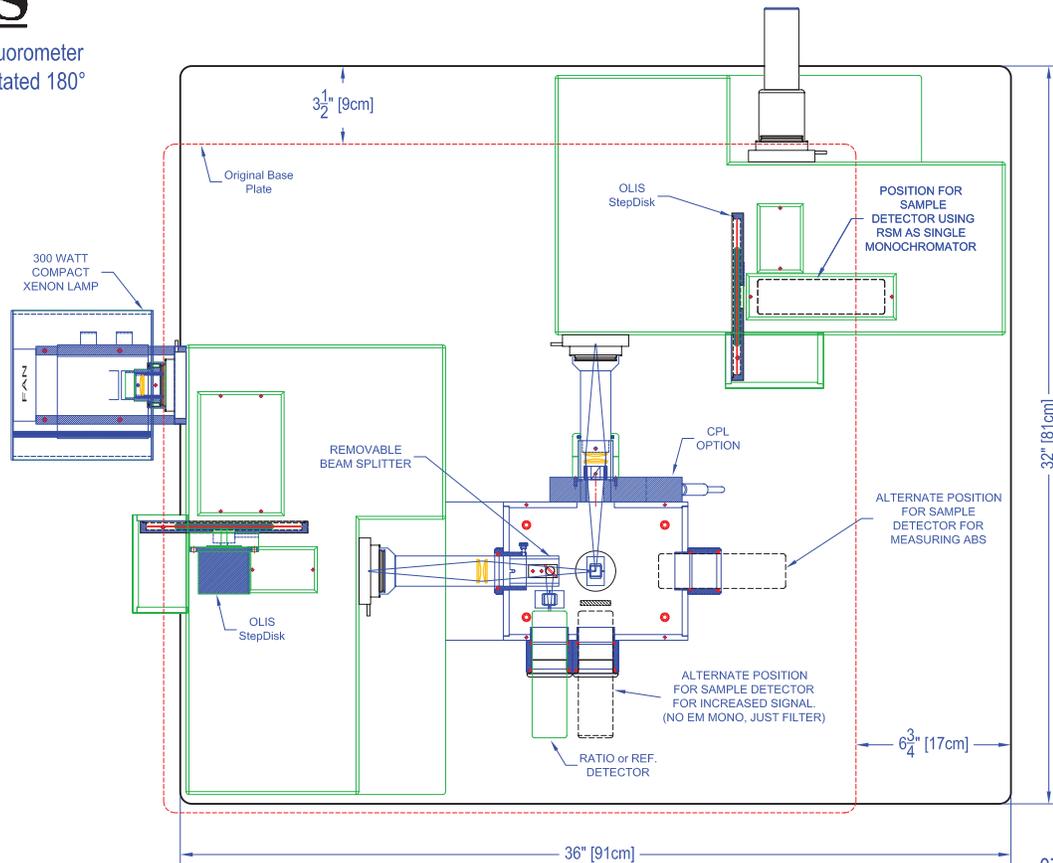
RSM Twin Monochromator
Fluorometer
Compact "Notched" - Midplane
with CD



Substitution of CD sample compartment, shown with 6 position turret cell holder, for simultaneous collection of CD and fluorescence scan data



RSM Twin Fluorometer
EM Mono Rotated 180°



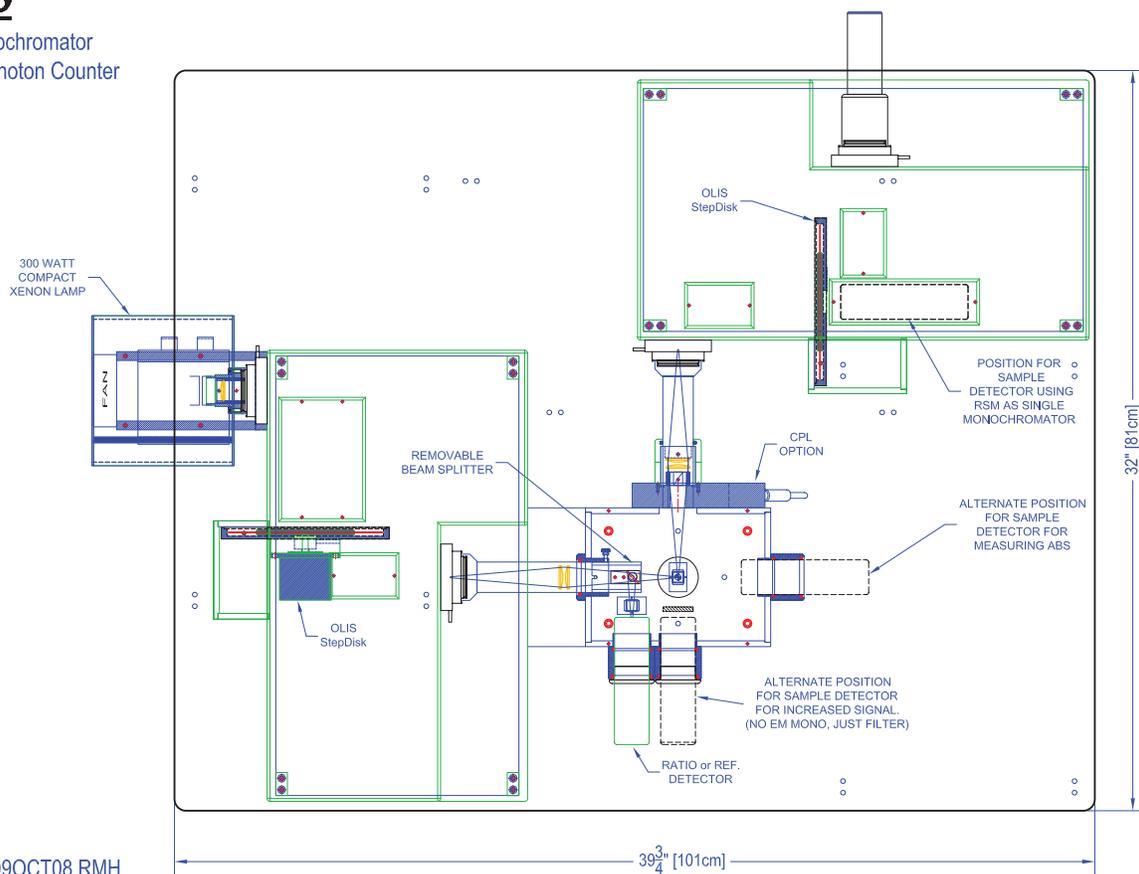
1B

07OCT08 RMH

Identical to 2A, but emission monochromator rotated 180 degrees, allowing for use of end-on photomultiplier tube in the single monochromator position rather than side-window detector



RSM Twin Monochromator
Fluorometer - Photon Counter



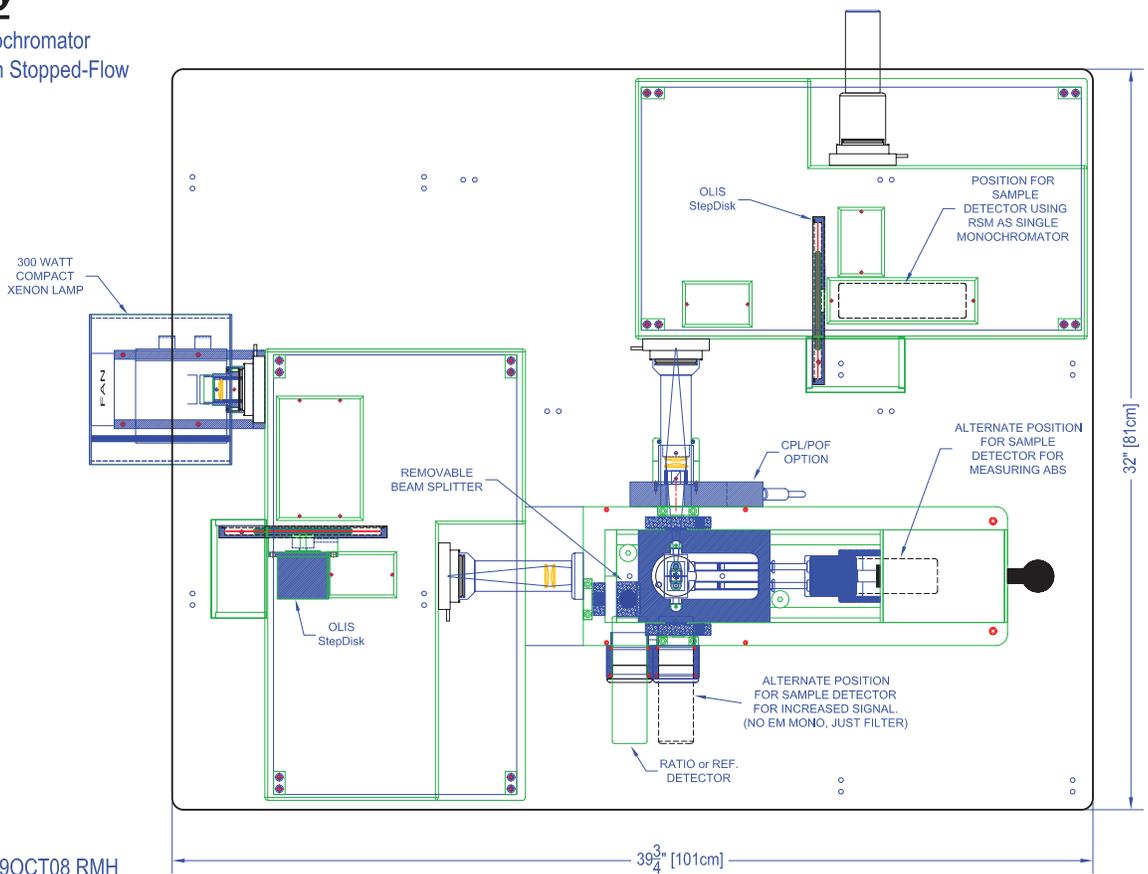
2B

09OCT08 RMH

Identical to 1B, with addition of CPL
detection



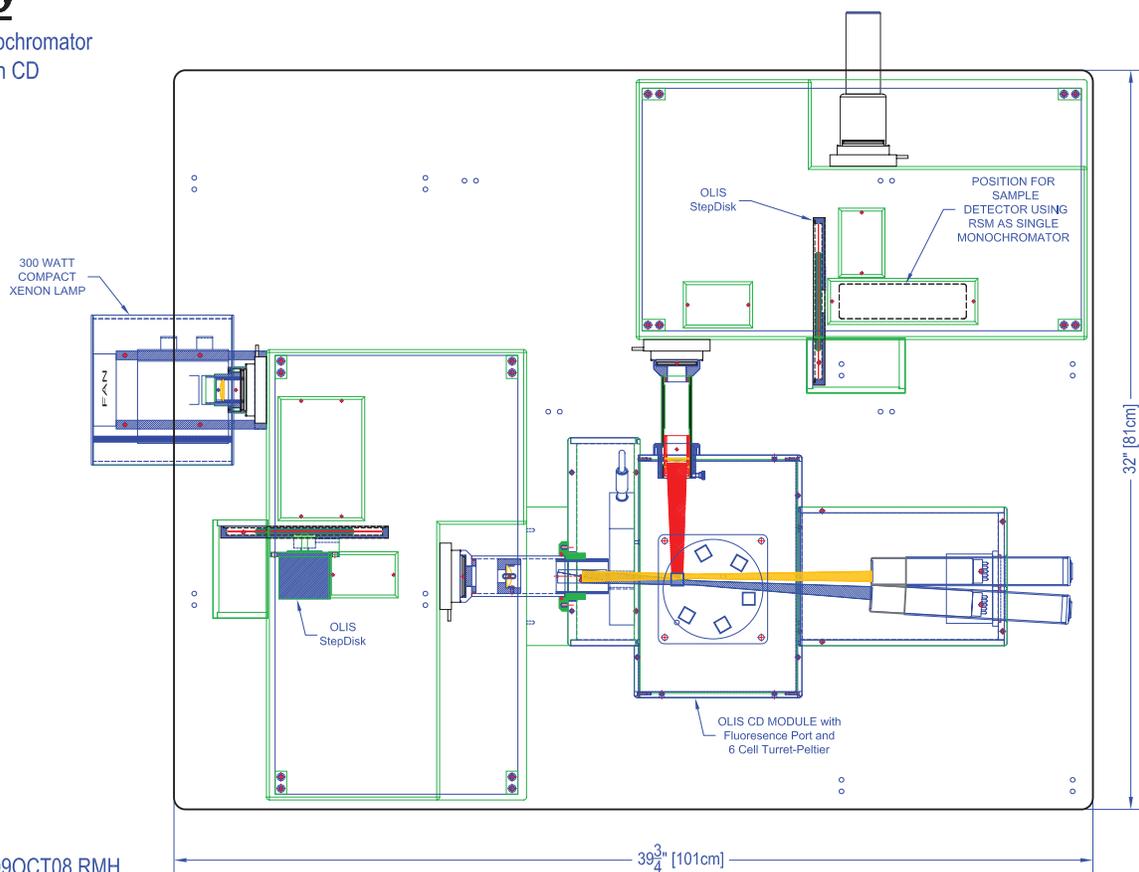
RSM Twin Monochromator
Fluorometer with Stopped-Flow



**Identical to 2B, with addition of
stopped-flow mixing apparatus**



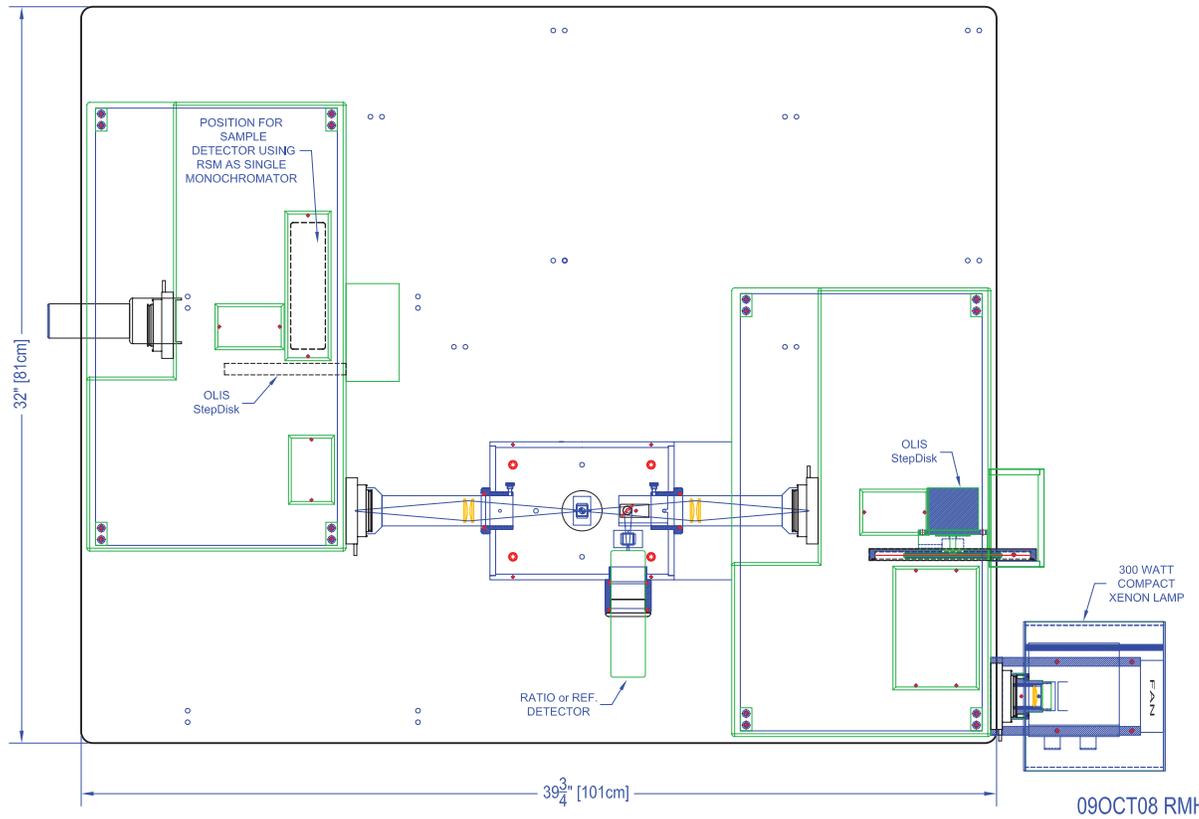
RSM Twin Monochromator
Fluorometer with CD



**Substitution of CD sample compartment,
shown with 6 position turret cell holder,
for simultaneous collection of CD and
fluorescence scan data**



RSM Twin Monochromator
Abs Setup - Photon Counter



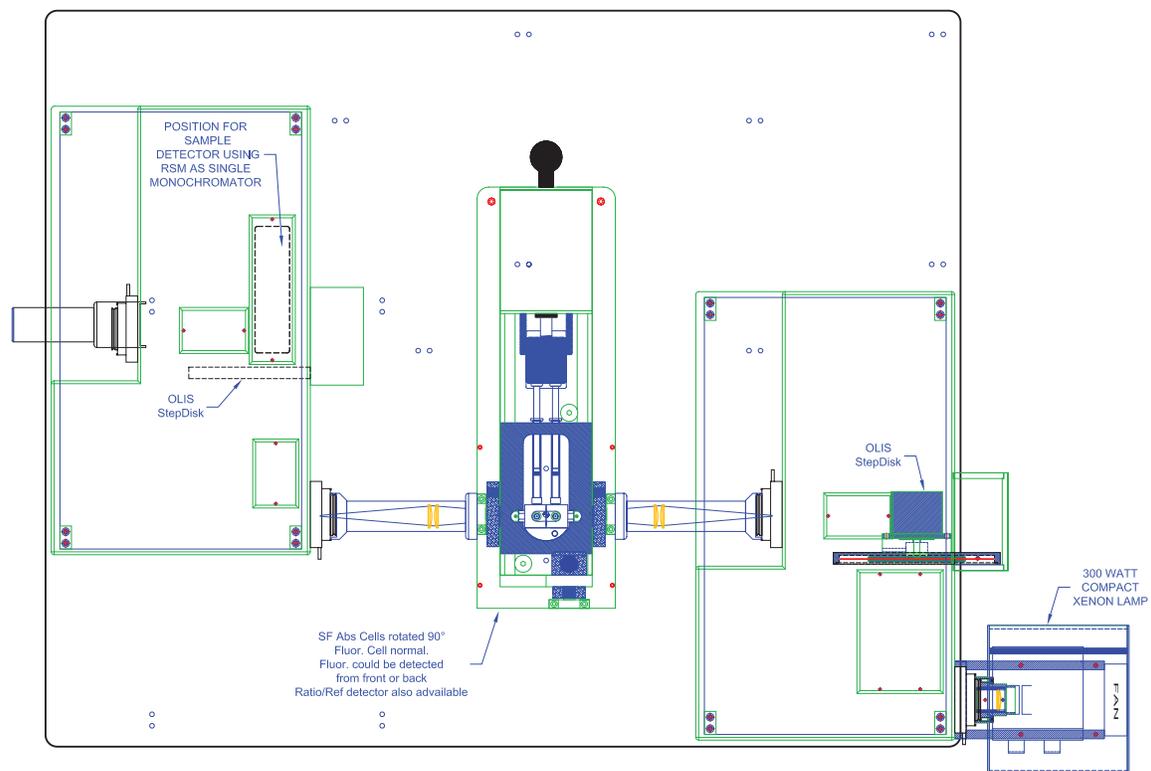
1C

09OCT08 RMH

**High Absorbance Model
Configuration with detector in single
or double monochromator position**



RSM Twin Monochromator
Abs Setup with Stopped-Flow



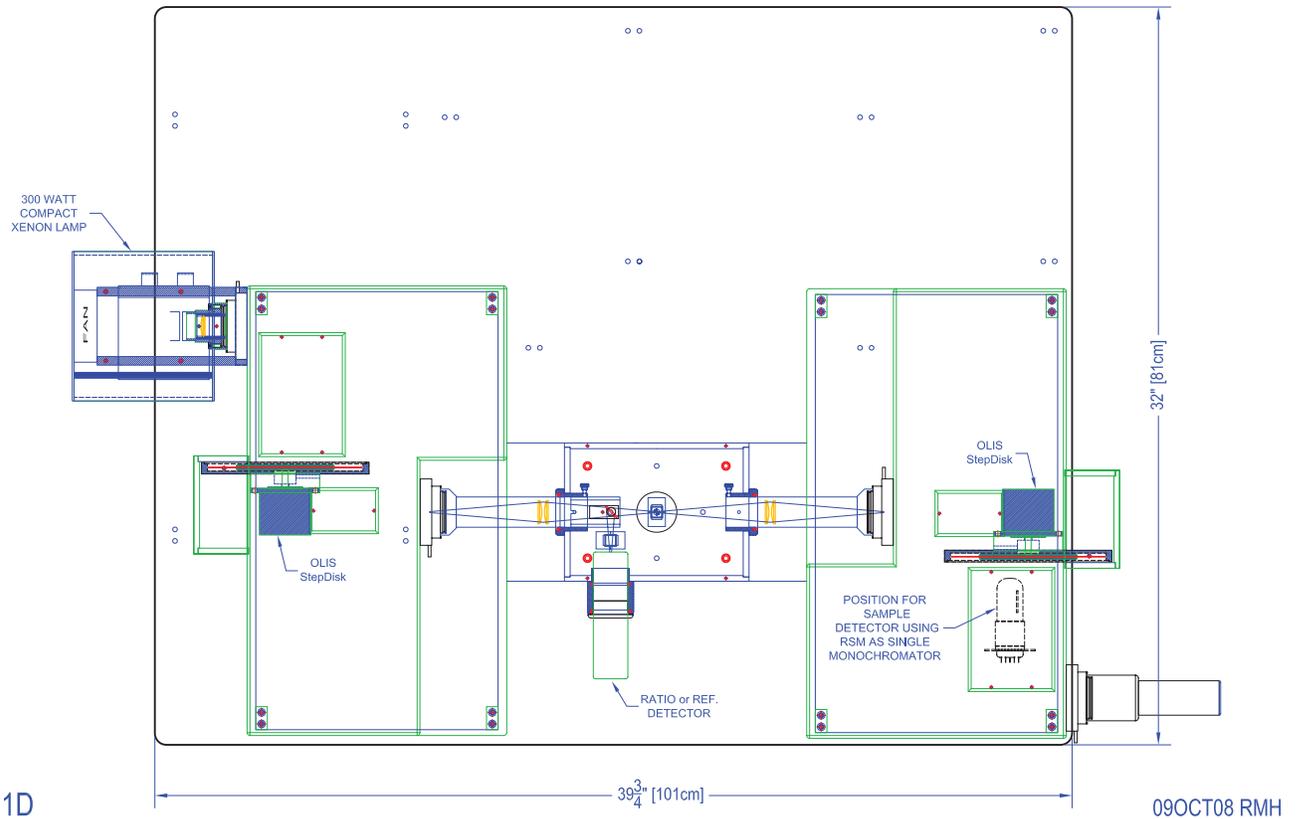
2C

09OCT08 RMH

**High Absorbance Model
Configuration, plus stopped-flow**



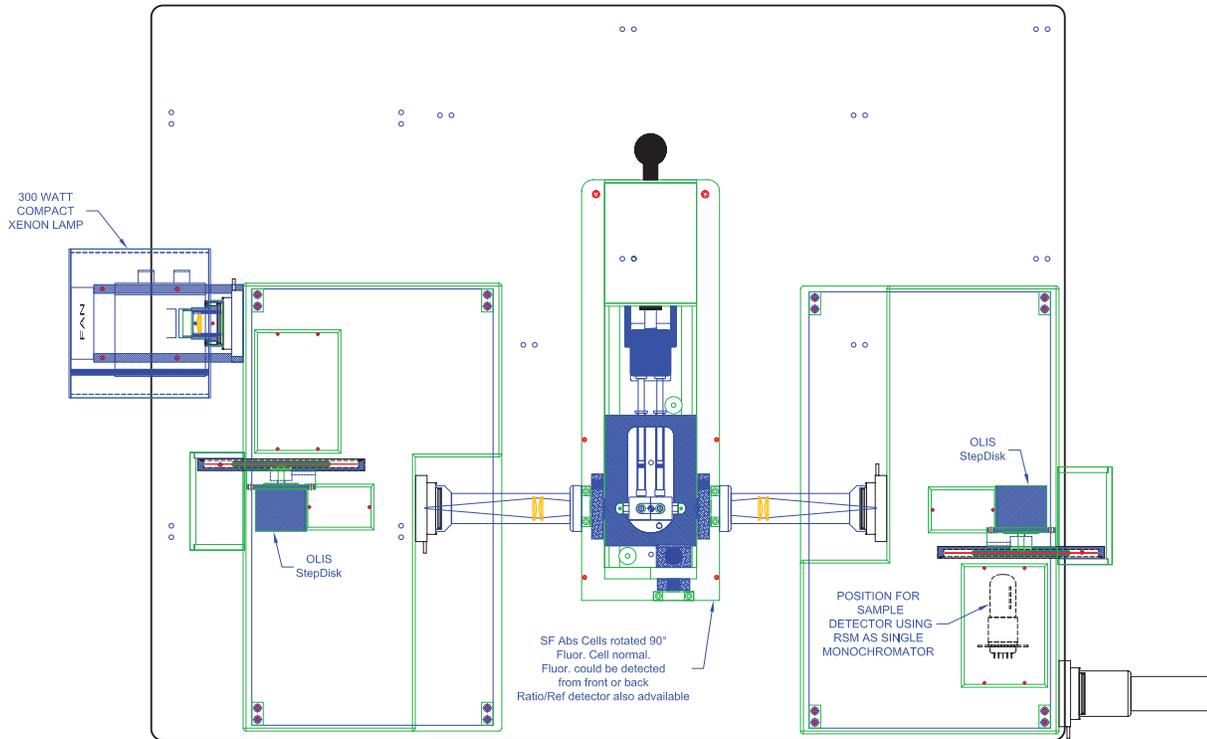
RSM Twin Monochromator
Abs Setup - Midplane



High Absorbance Model with second monochromator used as single, plus reference detection



RSM Twin Monochromator
Abs Setup - Opt. Midplane
with Stopped-Flow



2D

09OCT08 RMH

1D, plus stopped-flow



Dr. Richard J. DeSa, shown with the Abbott Lab's instrument, August 4, 2008. Speak with him about what form your TWIN should take ... one of the dozen configurations shown within or yet another variation, perfect for advancing your research in unmatched ways.



For more information on this and other Olis products:

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