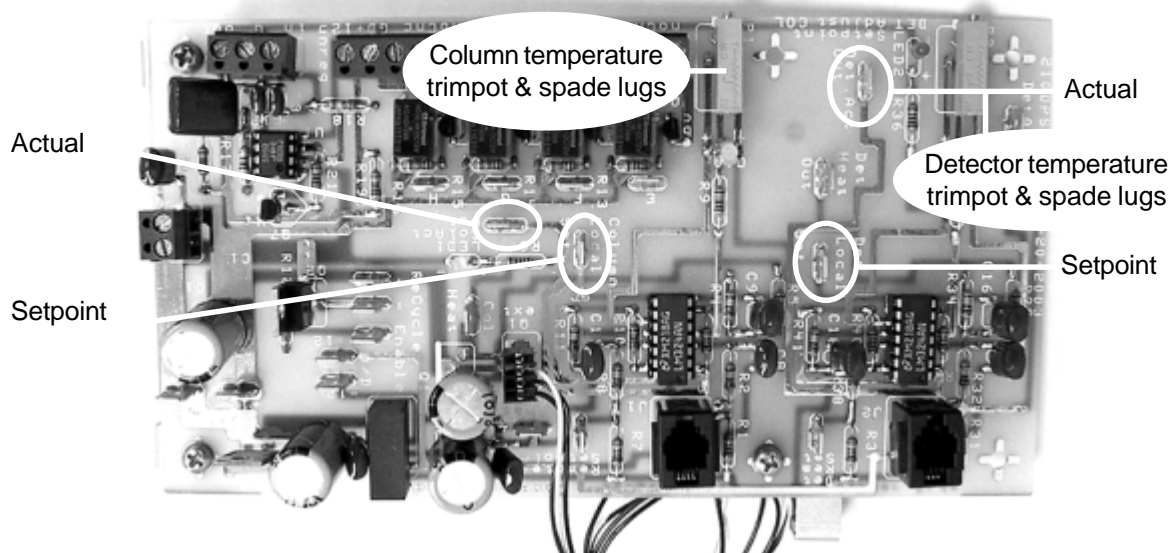


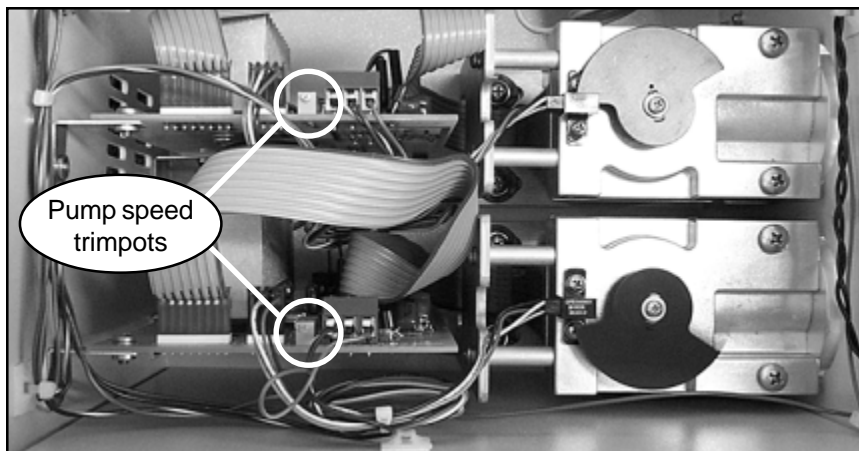
19. Continued

With the negative probe grounded, touch the positive voltmeter probe to the appropriate spade lug. The detector temperature setpoint spade lug is labeled “Det Local Set,” and the actual temperature spade lug is labeled “Det Act Out.” The column heater setpoint is labeled “Column Local Set,” and the actual is labeled “Col Act Out.” To adjust either temperature, turn the trimpot and check the setpoint spade lug voltage to ground with the voltmeter. To determine the actual temperature, measure that spade lug voltage to ground.



20. Adjusting the Pump Speeds

Pumps are located near the front of the 210D. Their speeds are adjusted by trimpots on the boards next to them. Different solvents have different flow rate characteristics. To determine the flow rate and pump speed, place the pump out line(s) in a volumetric cylinder and measure the amount pumped out per minute. Once you have determined the flow rate, you can adjust the pump speed up or down by turning the trimpot.



21. Injecting a Sample and Starting the Run

The Rheodyne injection valve comes with its own blunt-tipped flushing needle, and is shipped inserted into the valve under the protective red cap. Remove the protective cap and tape, then pull out the needle. Place the needle in the provided 3mL plastic injection syringe and fill the syringe with sample. Insert the syringe into the Rheodyne injection valve, pushing gently until the needle hits the stop. Depress the syringe plunger to fill the 20µL sample loop. Turn the Rheodyne injection valve knob to the INJECT position. This will automatically start the run.



HPLC

Model 210D

Expected Performance

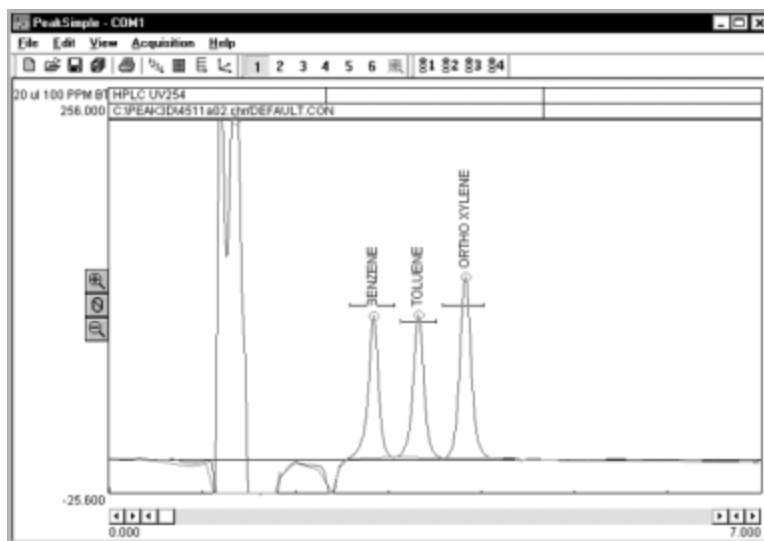
UV Detector

The first chromatogram shows the 210D UV detector response to a BTX sample (benzene, toluene, and ortho xylene). The second chromatogram shows the noise level of the detector: 1 millivolt or 0.001 absorbance units.

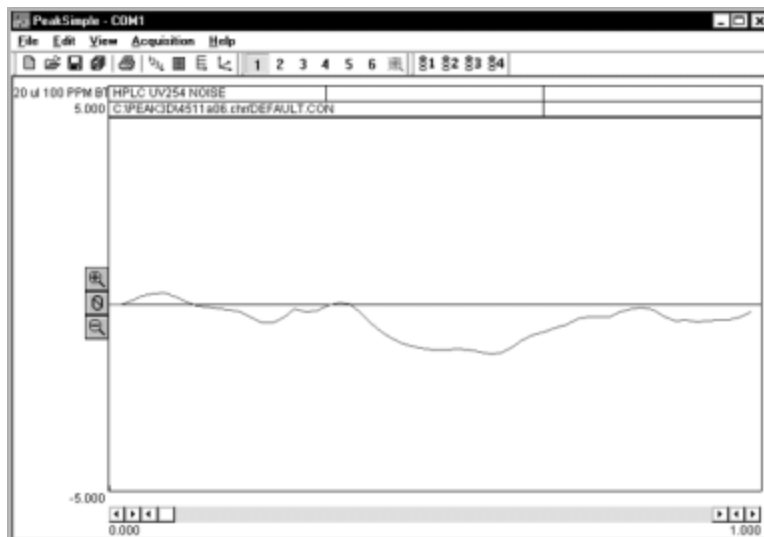
Description: UV 254
Sample: 20 μ L 100ppm BTX
Column: 15cm C18 5 μ
Mobile phase: 70% Isopropyl Alcohol, 30%
water at 1.0mL/minute
Detector cell temperature: 40°C
Column temperature: 40°C
Pressure: 1300psi

Results:

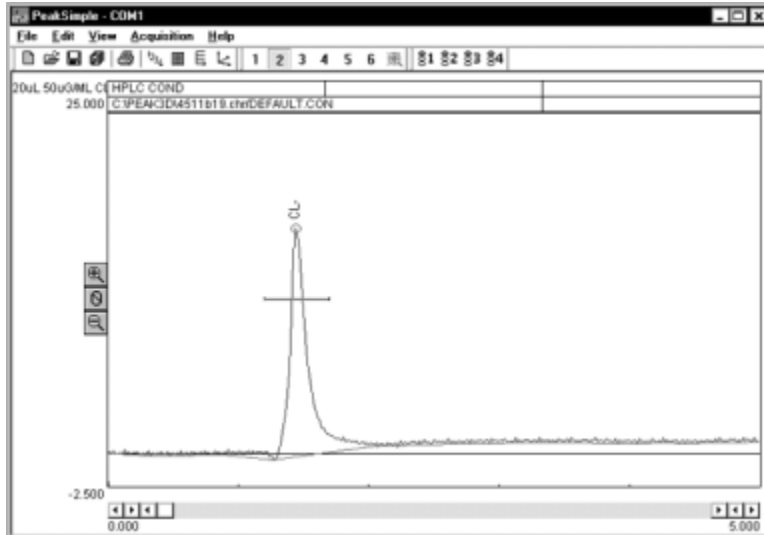
Component	Area	Retention
Benzene	2.833	851.1640
Toluene	3.316	912.9170
Ortho Xylene	3.816	1207.1795
Total	2971.2605	



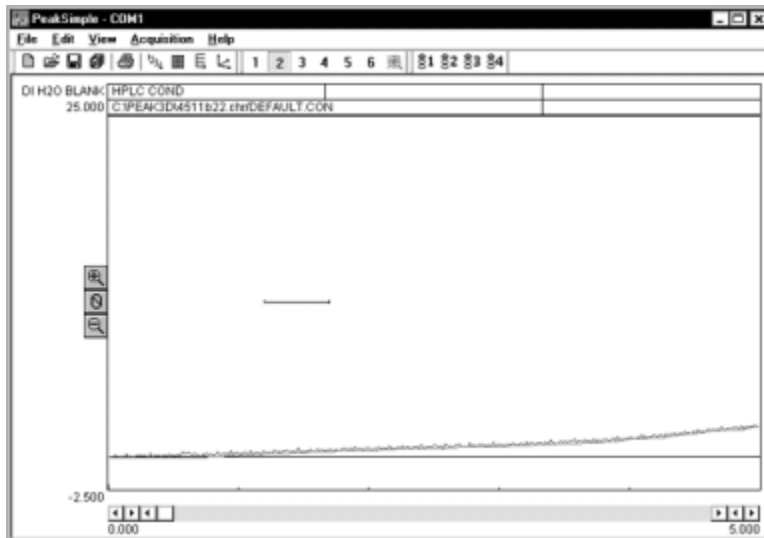
Description: UV 254 noise
Column: 15cm C18 5 μ
Mobile phase: 70% Isopropyl Alcohol, 30%
water at 1.0mL/minute
Detector cell temperature: 40°C
Column temperature: 40°C
Pressure: 1300psi



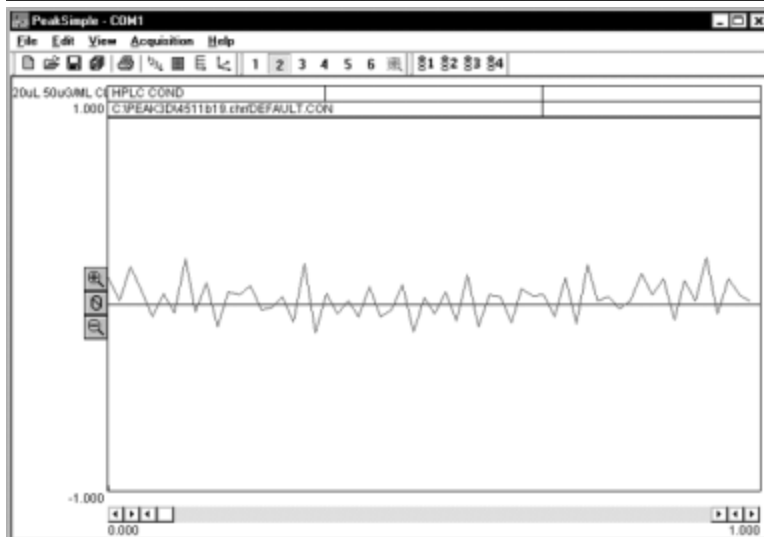
Expected Performance
Conductivity Detector



Description: Conductivity detector
Sample: 20µ of 50µg/mL NaCl dissolved in deionized water
Column: 15cm C18 5µ
Mobile phase: deionized water at 0.5mL/minute
Detector cell temperature: 40°C
Column temperature: 40°C
Pressure: 700psi



Description: Conductivity detector
Sample: deionized water blank
Column: 15cm C18 5µ
Mobile phase: deionized water at 0.5mL/minute
Detector cell temperature: 40°C
Column temperature: 40°C
Pressure: 700psi



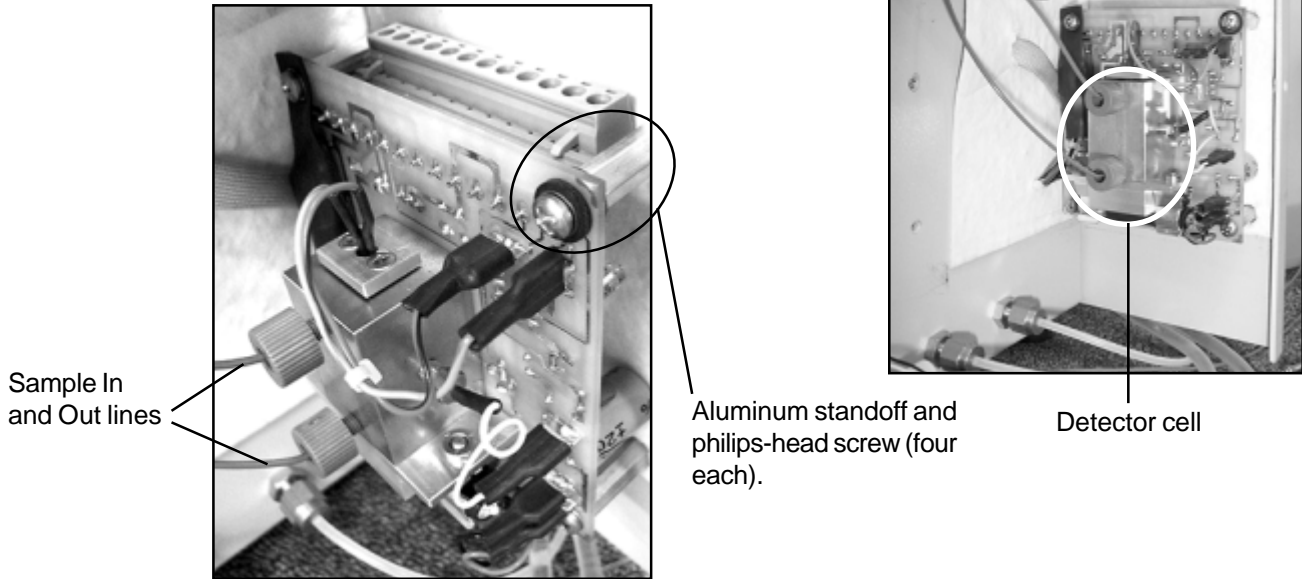
Description: Conductivity detector
Sample: deionized water blank
Column: 15cm C18 5µ
Mobile phase: deionized water at 0.5mL/minute
Detector cell temperature: 40°C
Column temperature: 40°C
Pressure: 700psi

HPLC Model 210D

Detector Disassembly for Maintenance

1D. Remove the detector assembly from the 210D

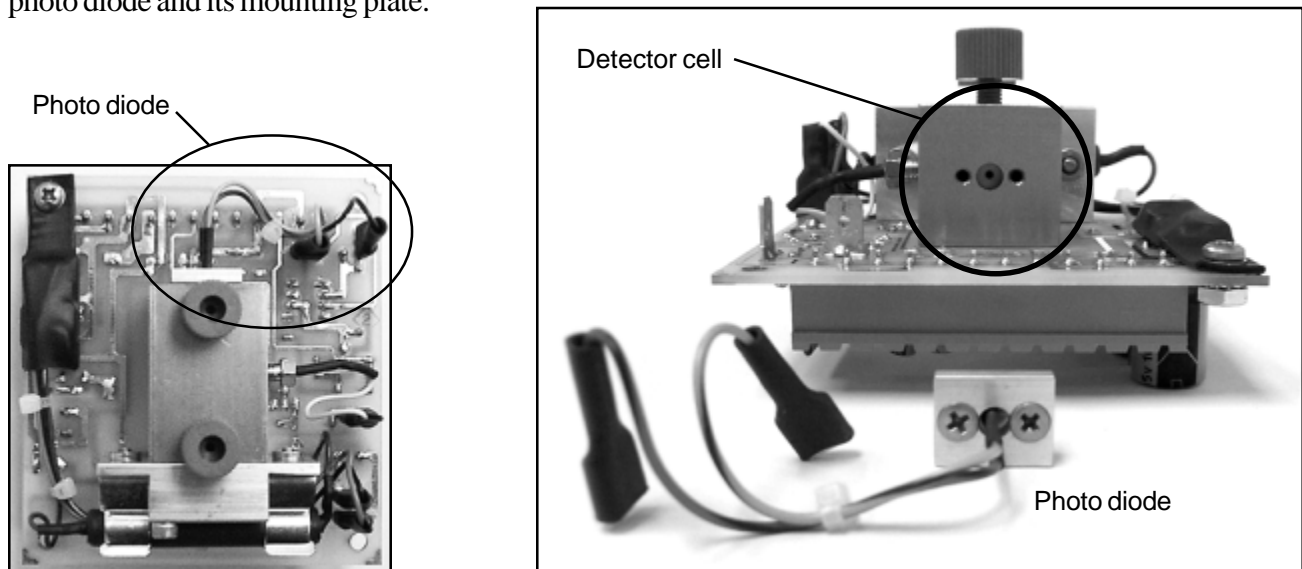
Remove the aluminum detector cover by loosening the single screw. Remove the Sample In and Out lines from the detector cell.



The detector board and cell assembly are fastened to the backside of the 210D with four screws and aluminum standoffs. Remove the detector assembly by unscrewing the hex-head screws on the outside of the LC.

2D. Remove the photo diode

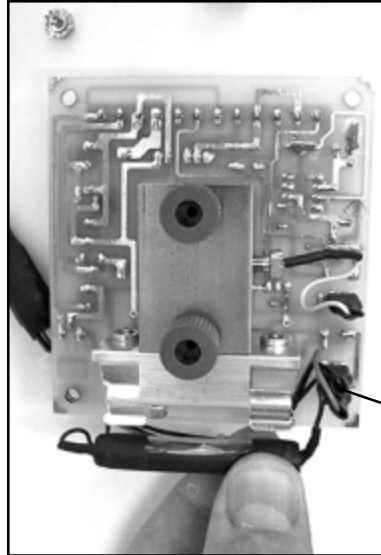
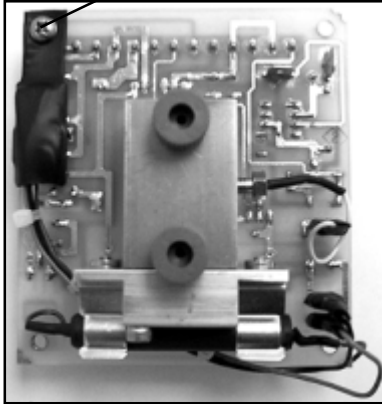
The photo diode is located on the top of the detector cell. Pull the photo diode wires from the spade lugs (you may have to work them off). Remove the two small screws from the top of the detector cell and pull out the photo diode and its mounting plate.



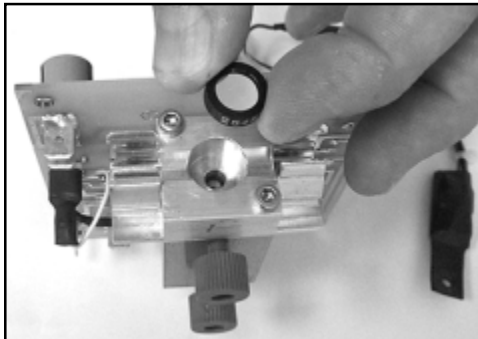
Detector Disassembly for Maintenance continued

3D. Remove the UV detector lamp and filter

First, remove the philips-head screw in the upper left corner of the detector board.

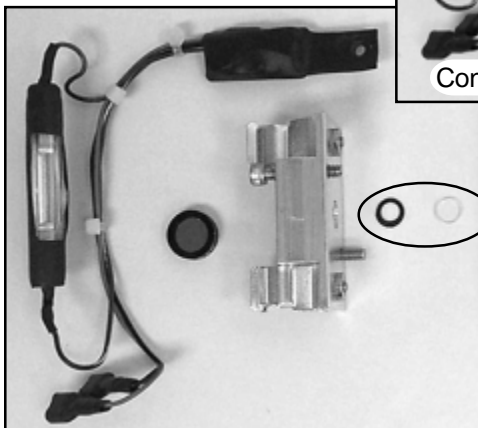
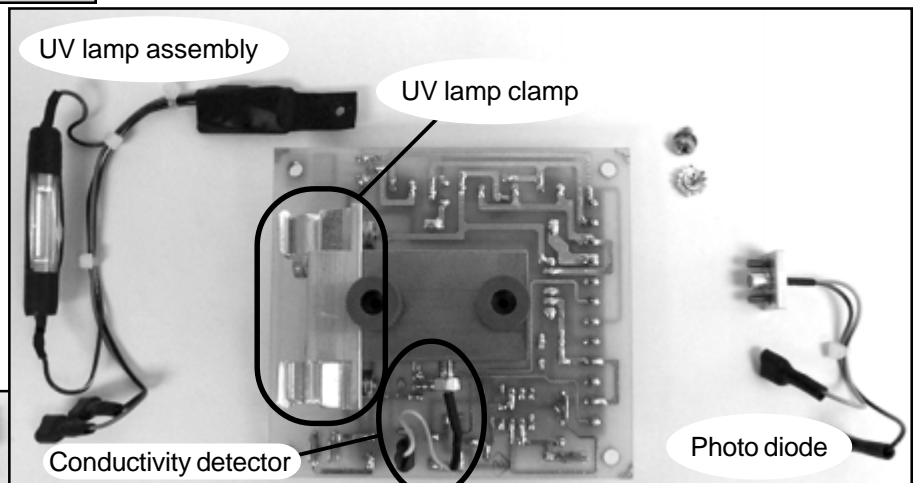


Next, gently work the UV lamp out of its clamps, and remove its wires from the spade lugs.



Remove the UV lamp filter for inspection and cleaning. The filter sits between the lamp and the detector cell, in the lamp clamp assembly.

Next, remove the UV lamp clamp by unscrewing the two allen screws that secure it to the detector cell. A small o-ring seal sits in the top opening of the detector cell, and a small quartz lens sits in the UV side (bottom) of the detector cell.



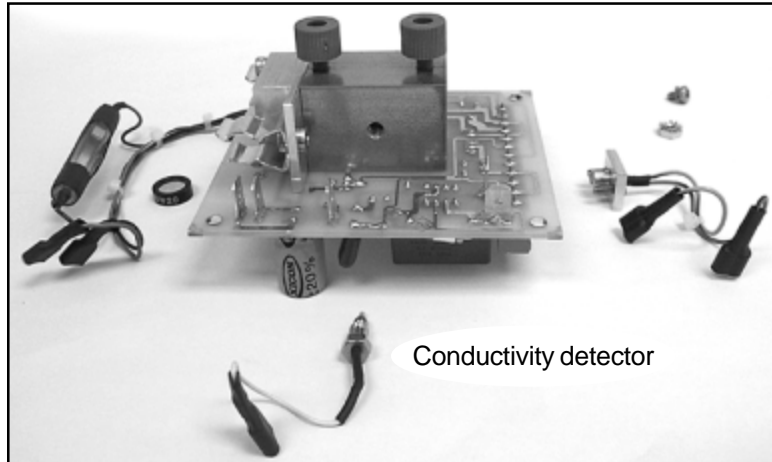
Quartz lens and black rubber seal

Remove the lens and seal, and set them aside so they are not misplaced.

HPLC Model 210D

4D. Remove the conductivity detector

The conductivity detector is mounted in the right-hand side of the detector cell. Remove the conductivity detector wires from the spade lugs. Remove the conductivity detector from the detector cell by unscrewing it.



5D. Remove the detector cell

The detector cell is secured onto the board by two philips head screws. Below left is a view of the backside, or terminal side of the detector board. Below right is an exploded view of a completely disassembled 210D detector.

Turn the board over and unscrew the two philips-head screws to remove the detector cell.

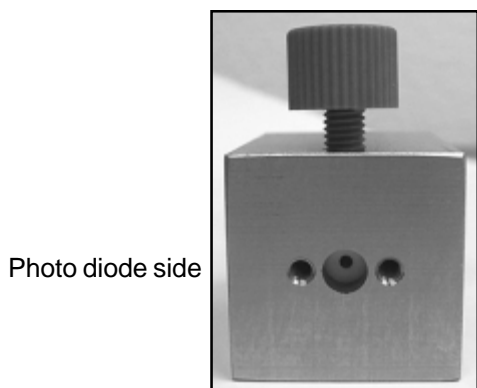
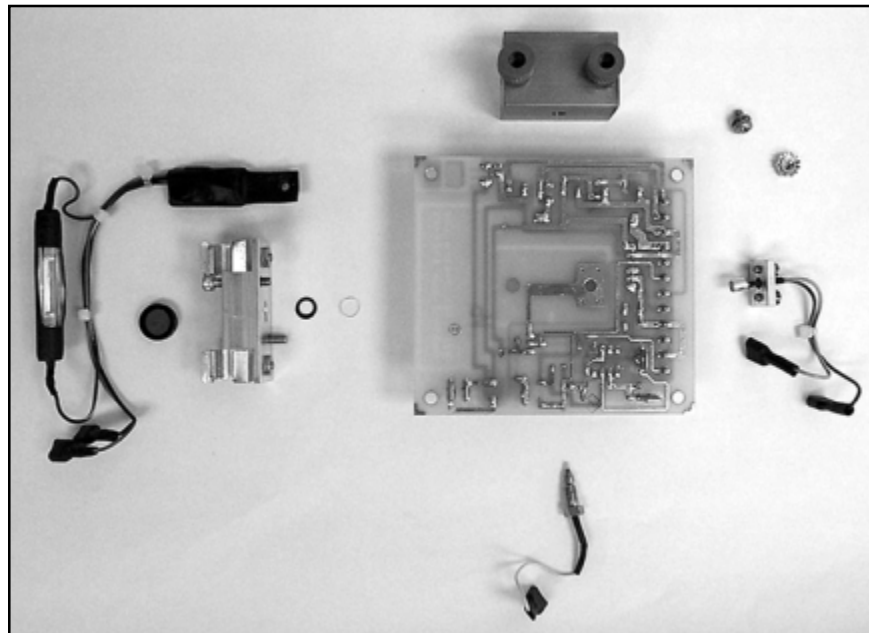
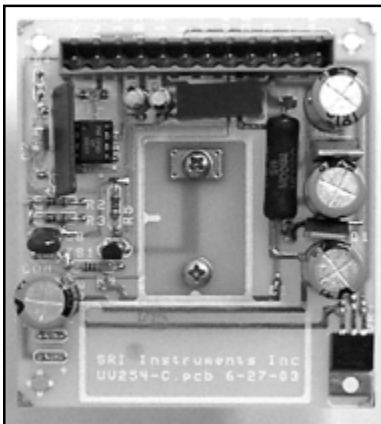
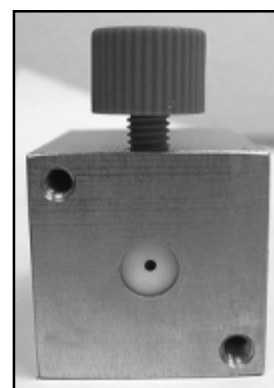


Photo diode side

There is a teflon seal at each end of the detector cell. On the UV side, the quartz lens sits in the depression, on top of the seal.



UV lamp side