

Public Lab

Desktop Spectrometry Kit

Full assembly instructions can be found at:

PublicLab.org/wiki/dsk

Once you are ready to begin using your device, visit:

SpectralWorkbench.org

Parts list

This kit includes the following parts:

- 1 Type LB conduit box (1")
- 1 HD USB web cam
- 1 mini-USB cable
- 1 4"x6" black card
- 1 fragment of DVD-R
- double-sided foam tape squares

Support and Troubleshooting

Public Lab is an open community where we all help each other out; if you need support, please visit the PublicLab.org website and/or consider joining the "plots-spectrometry" mailing list when you register. You can also find help at the SpectralWorkbench.org website.

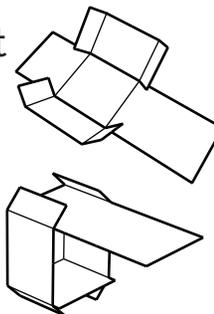
Assembly

Assembly should take 15-20 minutes. You will need:

- a screwdriver
- scissors

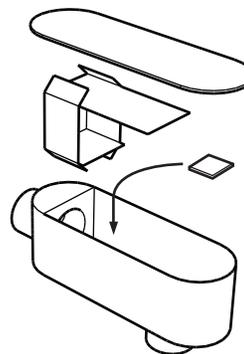
Step 1: cut out the insert

Cut out the insert printed on the card. Crease and fold as shown, keeping the tabs on the outside:



Step 2: place the insert

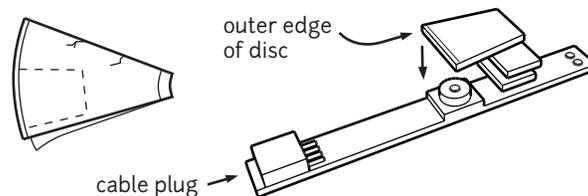
Open the conduit box. Keeping the longer tab on top, lower the insert into the box.



Fix it to the bottom with one of the foam tape squares. The slit allows a beam of light to enter.

Step 3: trim and attach the DVD

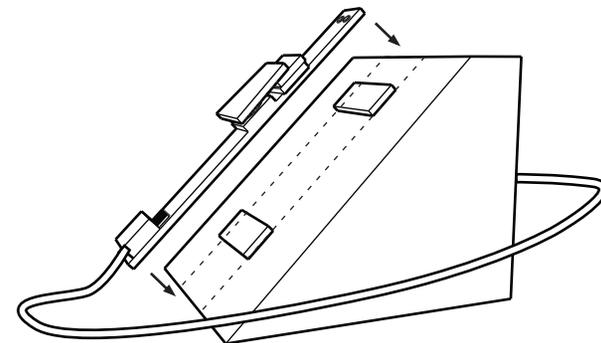
Close up the camera. We'll use a fragment of a DVD-R as a cheap and excellent diffraction grating. Peel apart the disc and discard the opaque layer.



Starting from the outer edge, cut a 1/2 inch square area with no scratches, cracks or fingerprints, and tape it in front of the lens with stacked strips of foam tape. Be sure to orient the outer edge of the disc as shown.

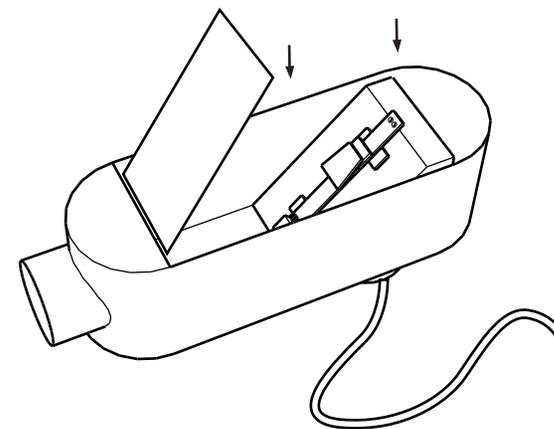
Step 4: attach the camera

Plug the cable into the webcam, and stick the camera to the angled block as shown with two more strips of foam tape.



Step 5: install the camera

Using more foam tape, insert the block into the conduit box as shown. Tape the cable to one side of the block and thread it out of the box through the hole. For stability, tape the block to the side wall too.



Now you're ready to calibrate and begin using your spectrometer. You'll need a compact fluorescent bulb to calibrate; instructions are online at:

<http://SpectralWorkbench.org>

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