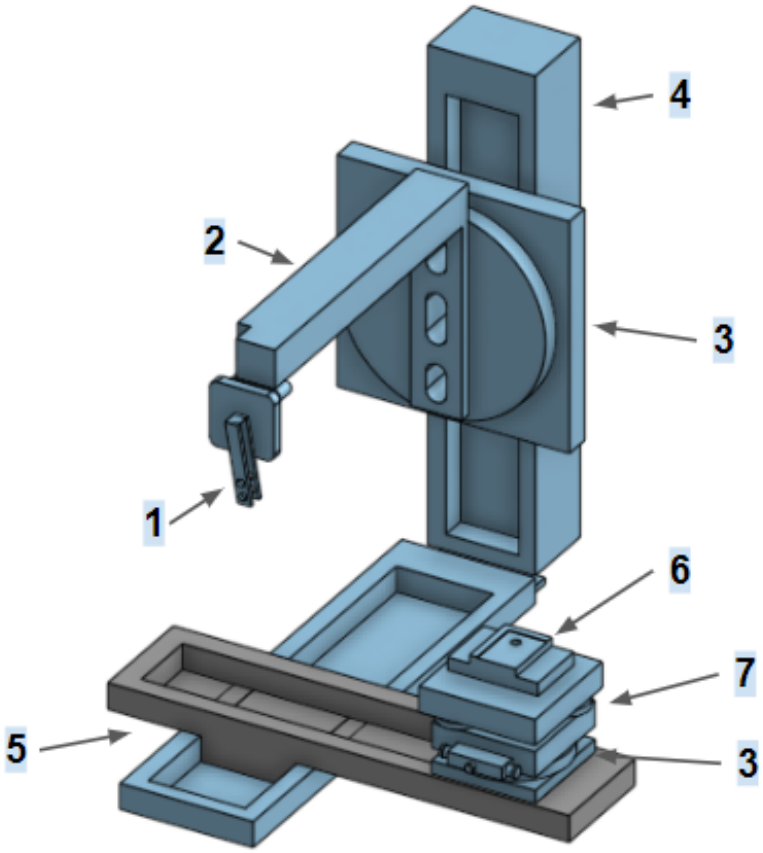
How to Assemble Optical Probe Station



	Part	Quantity	Options	Estimated Cost
1.	Fibre Array Holder	1	https://www.plcconnections.com/products/parts-tools	
2.	Fibre Array Arm	1	Custom Machined Part	
3.	Manual Rotational Micropositioner Stage	2	https://www.optosigma.com/us_en/manual-stages-actuators/rotations-stages/standard-rotation-stages/standard-rotation-stages-KSP.ht	

			ml	
4.	Motorised 1 Axis Linear Translation Stage	1	https://www.optosigma.com/us_en/manual-stages-actuators/motorized-motion-control/linear-motorized-stages/standard-linear-stages-1-2-and-3-axis/standard-serie-translation-motorized-stage-1-axis-x-y-OSMS-X.html	
5.	Motorised 2 Axis Linear Translation Stage	1	https://www.optosigma.com/us_en/motorized-two-axis-stage-enclosed-ball-screw-series-26-travel-100mm-inch-thread-OSMS26-100(XY)-INCH.html	
6.	Chip Holder with embedded Peltier Cooler and Thermistor and Hole for Vacuum	1	Custom Machined Part	
7.	2 Axis Goniometer Stage	1	https://www.optosigma.com/us_en/manual-stages-actuators/goniometer-stages/brass-1-2-axis-goniometers/2-axis-brass-goniometers-GOH-B.html	
8.	Fibre Array	1	https://www.rp-photonics.com/bg/buy_fiber_arrays.html?s=vbox	
9.	3 Axis Motor Controller	1	https://www.pi-usa.us/en/products/controllers-drivers-motion-control-software/precision-motion-controllers-and-drivers-for-positioning-systems/g-901-motion-controller-for-high-power-requirement-412418493	
10.	Thermo Electric Cooler	1	https://www.thorlabs.com/thorproduct.cfm?	

			partnumber=LDC500	
11.	Vacuum	1	https://www.tedpella.com/grids_html/Vacuum-Pick-Up-Systems.aspx	

Optical Probing Assembly Instructions:

1. Begin by mounting the Motorised 2-Axis Linear Translation Stage to your optical table.

2. Attach one of the Manual Rotational Micropositioner Stages to the Linear Translation Stage.

3. Attach the Chip Holder to the Goniometer Stage and then fasten the 2 Axis Goniometer Stage to the Rotational Stage.

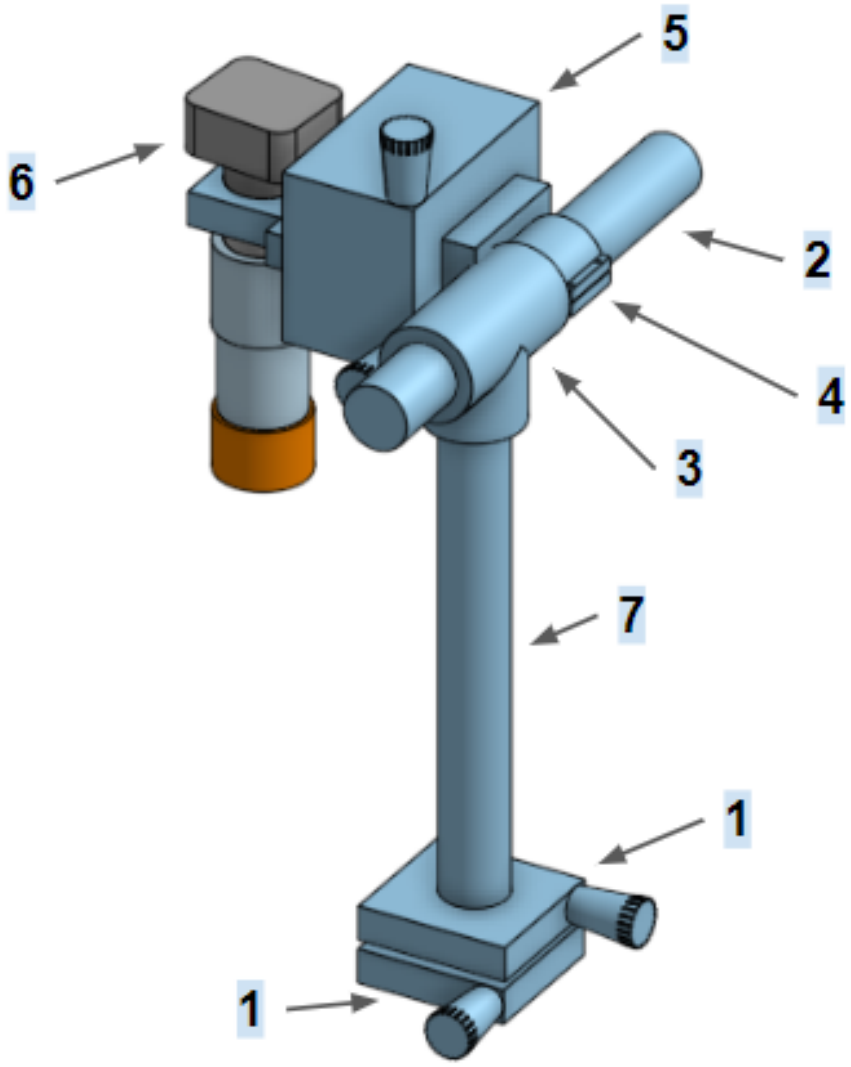
4. Attach the Fibre Array Holder to the Fibre Array Arm, then attach the arm to the other Manual Rotational Micropositioner Stage.

5. Fasten the second Rotational Stage to the 1 Axis Linear Translation stage and secure this stage vertically.

6. Place the Fibre Array into the Fibre Array Holder.

7. Connect the Motorised 2-Axis Linear Translation Stage and the Motorised 1 Axis Linear Translation Stage to the 3 Axis Motor Controller and connect this to your PC.

8. Connect the Peltier Module and Thermistor to the Thermo Electric Cooler and attach the Vacuum tube to the Chip Holder.



	Part	Quantity	Options	Estimated Cost
1.	1 Axis Manual Micropositioner Stage	2	https://www.thorlabs.com/newgrouppage9.cfm?objectgroup_id=1908	
2.	Optical Support Post with Base	1	https://www.newport.com/f/1.5-in.-optical-support-rods	
3.	Optical Post Joining Clamp	1	https://www.newport.com/f/optical-post-flexure-clamps	

4.	Post Mounting Clamp	1	https://www.thorlabs.com/newgrouppage9.cfm?objectgroup_id=5950	
5.	2 Axis Manual Micropositioner Stage	1	https://www.optosigma.com/us_en/manual-stages-actuators/linear-stages/xy-axis-stages/exctm-precision-bearing-steel-stages/side-drive-xy-standard-exc-tm-steel-stages-TSD-2-S.html	
6.	Overhead Camera	1	https://amscope.com/products/mu900	
7.	Optical Support Post	1	https://www.newport.com/f/1.5-in.-optical-support-rods	
8.	Side-View Camera	1	https://www.amazon.ca/Jiusion-Magnification-Endoscope-Microscope-Compatible/dp/B06WD843ZM/ref=sr_1_18?keywords=Microscope+Camera&qid=1668628040&qu=eyJxc2MiOiI1LjY3IiwicXNhIjoiNS4wMiIsInFzcCI6IjMuOTYifQ%3D%3D&sr=8-18	

Camera Mount Assembly Instructions:

1. Mount one of the 1 Axis Manual Micropositioner Stages on your optical table to the left of the optical probing set-up.

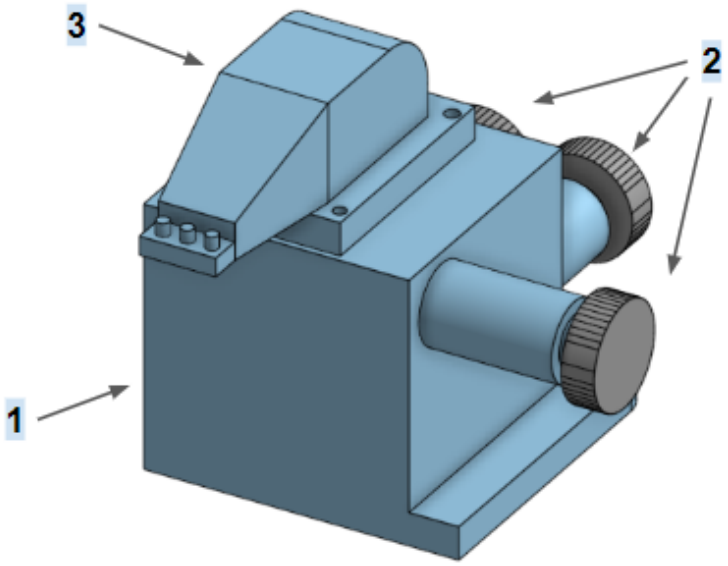
2. Attach the second 1 Axis Manual Micropositioner to the first and attach the Optical Post with a Base on top.

3. Using the Optical Post Joining Clamp, attach the second optical support post to the first.

4. Attach the 2 Axis Manual Micropositioner stage to the Post Mounting Clamp and clamp it on to the horizontal Optical Support Post.

5. Attach the Overhead Camera to the 2 Axis Manual Micropositioner Stage and adjust the height as necessary to view the chip stage.

6. Place the Side-View Camera as needed.



	Part	Quantity	Options	Estimated Cost
1.	3 Axis Motorised Stage	1	https://www.thorlabs.com/thorproduct.cfm?partnumber=MAX303#ad-image-0	
2.	Linear Actuator	3	https://www.thorlabs.com/thorproduct.cfm?partnumber=DRV208	
3.	Manual MicroProbe Positioner	1	https://signatone.com/manual-rf-microwave-micropositioner/	
4.	Multi-Contact Wedge Probe	1	https://ggb.com/home	

			/multi-contact-wedges/	
5.	3 Axis Motor Controller	1	https://www.thorlabs.com/thorproduct.cfm?partnumber=BSC203	

Electrical Probing Assembly Instructions:

1. Fasten the 3 Axis Motorised stage to your optical table and insert the three Linear Actuators into the stage.

2. Secure the Manual MicroProbe Positioner onto the stage and attach the Wedge Probe.

3. Connect the three Linear Actuators to the 3 Axis Motor Controller and attach the Motor Controller to your PC.