



# AJA Orion-8 Dielectrics Sputtering system



These instructions are intended for reference only, and will *not* replace the thorough training required for proper system operation. Contact a clean room staff member with questions or to report a system problem.

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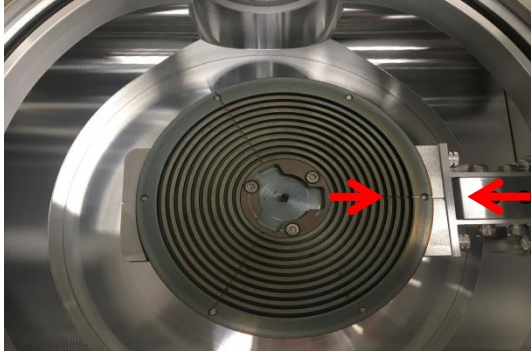
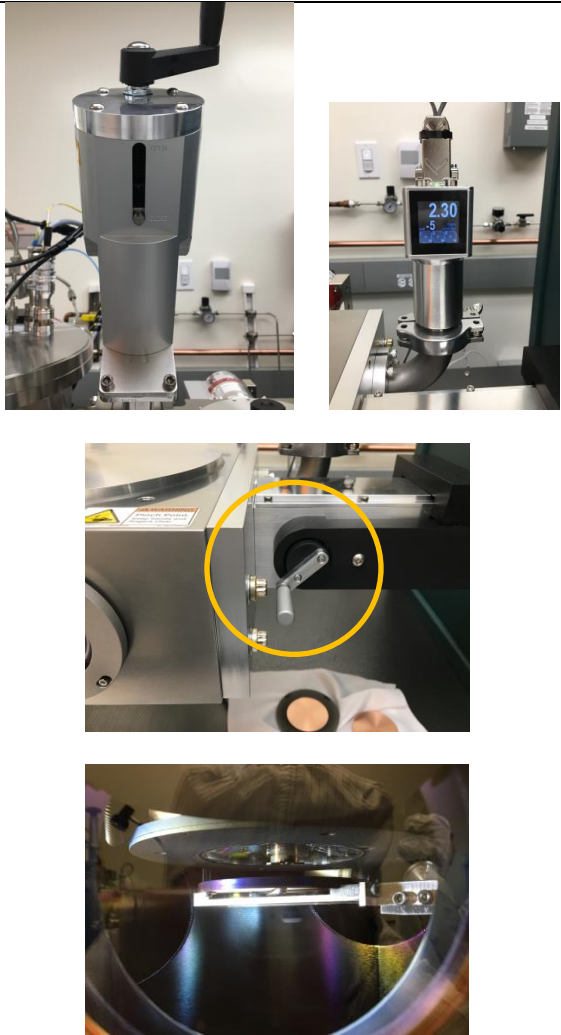




<p><b>1. BADGER:</b> Enable the tool in badger.</p>	
<p><b>2. VERIFY SYSTEM STATUS:</b></p> <ul style="list-style-type: none"> <li>• Ensure that the gate valve is in the closed position.</li> <li>• Both chambers are pumped down (&lt;math&gt;3E-5&lt;/math&gt;).</li> <li>• All power supplies are off.</li> <li>• No gas is flowing into the chamber.</li> </ul>	
<p><b>3. LOAD SAMPLE:</b> Vent the load lock by flipping the black lever labeled load lock at the top of the column to OFF.</p> <p>When the load lock pressure has reached about <math>7.5E2</math>, remove the top of the load lock and pull out the sample holder.</p> <p>Attach your sample to the sample holder using the clips. Loosen and tighten the clips with the green star screwdriver.</p>	



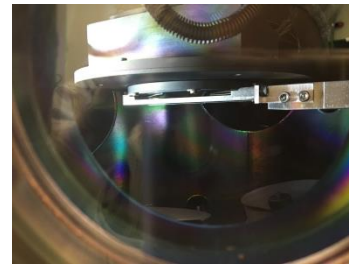
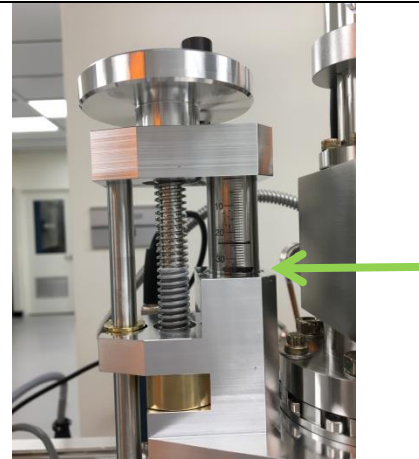


<p>Place the sample holder upside down on the arm. <u>Make sure it is secure and align one line on the sample holder with the line on the arm.</u></p> <p>Replace the top of the loadlock and turn on the vacuum for the loadlock again.</p>	
<p><b>4. LOADING SAMPLE HOLDER INTO MAIN CHAMBER:</b></p> <p>Once the pressure of the loadlock is below 3E-5, open the gate valve by turning the lever.</p> <p>Rotate the rotation column until the full black circle is visible.</p> <p>Move the arm into the main chamber by rotating the wheel by the loadlock until it stops.</p>	

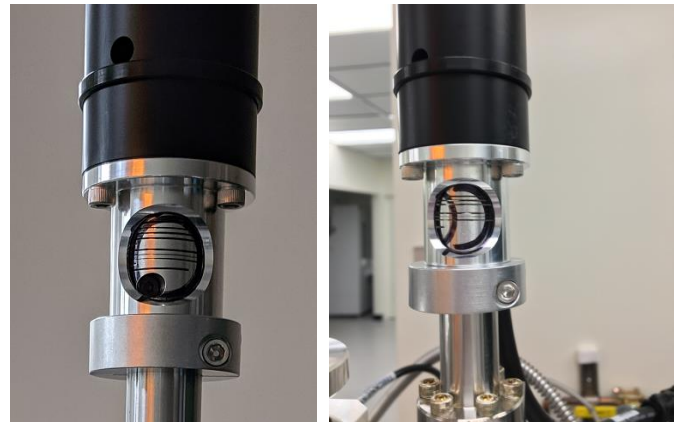




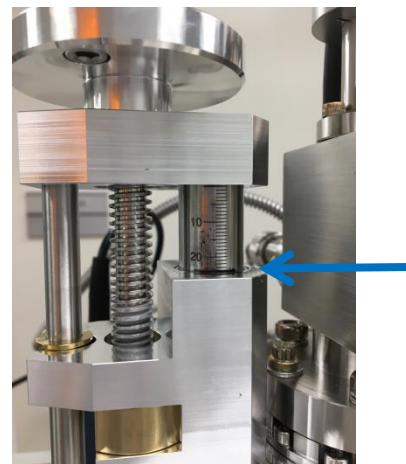
Lower the stage using the rotating wheel to the load position (the bottom black mark on the ruler, around 30). Make sure the sample holder and the stage fit together snugly.



Rotate the rotation column toward the half circle to lock the sample holder onto the stage.



Raise the stage using the rotating wheel to the deposition position (top black line, around 22.5). Before removing the arm, rotate the rotation column to make sure the sample holder is secure on the stage.







	<p>Pull the arm back into the load lock.</p> <p>Close the gate valve and ensure that the shutters are closed before starting a process.</p>	
<p><b>5.</b></p>	<p><b>RF SWITCH:</b> Choose the RF SWITCH to the source you want to deposit.</p> <p>Go to “SYSTEM CONFIG” and check the shutter valve is selected correctly according to the source number. Source 1 = Valve 1 Source 2 = Valve 2 Click “CONFIG SAVE/CLOSE”.</p> <p>The most updated materials information is available on the Badger comment. You can also view the source information on the software.</p>	



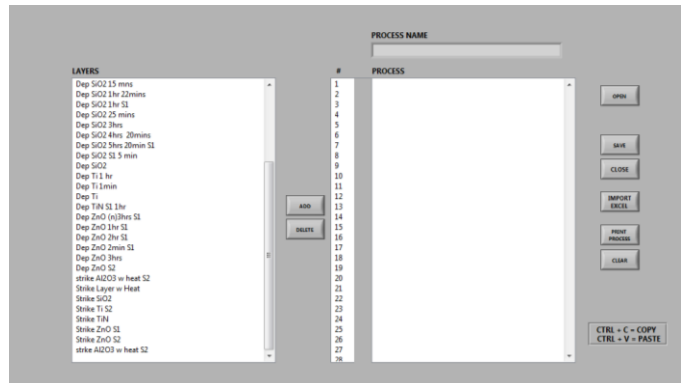
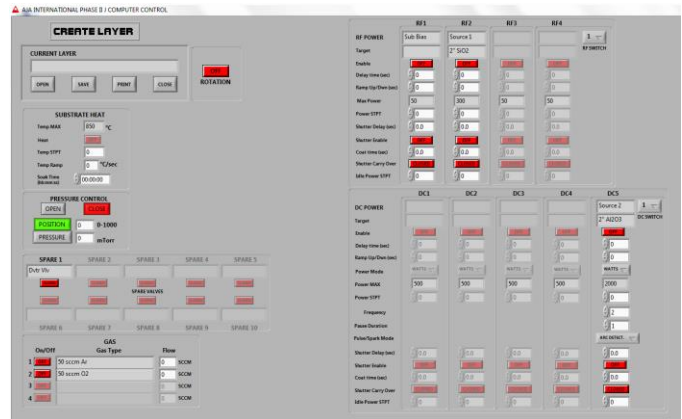
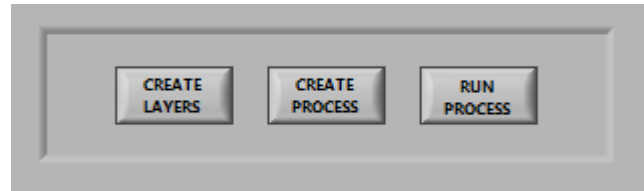


## 6. DEFINE YOUR PROCESS:

First, click “CREATE LAYERS”. You can modify specific steps of the process. You can edit an existing process by opening it and then saving it with the same name.

Please consult with the superusers or cleanroom staff before creating new layers.

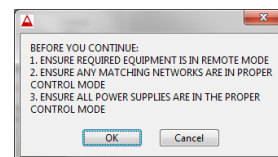
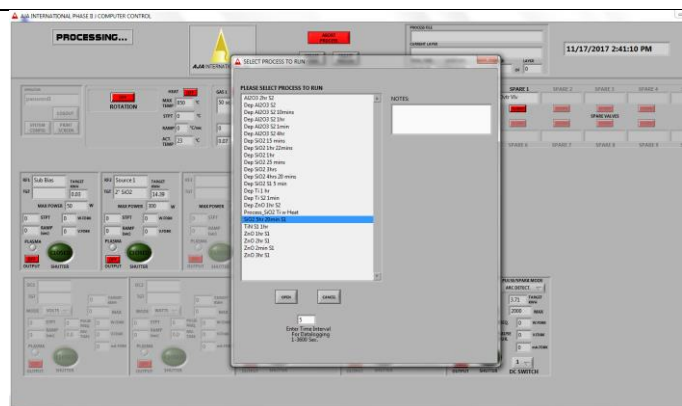
Once all the steps are ready, you can either create or edit the whole process by clicking “CREATE PROCESS”. In this menu, you can add or move around any existing layers.



## 7. RUN PROCESS:

Select “RUN PROCESS” in the software and choose your process from the list. Be careful that once you click on it and hit enter it will immediately start.

The only way to stop or change it, is to hit “ABORT PROCESS”. Please be sure before you start the process.





**8. UNLOAD SAMPLE:**

After the process finishes, open the gate valve and move the arm into the main chamber.

Move the stage down to the loading position so that the arm and sample holder fit together snugly. Do not go further down than the position. It will bend the transfer arm. Rotate the sample holder as necessary to ensure a secure fit.

Rotate the rotation column to the left and move the stage up to release the sample holder onto the arm.

Move the arm back to the load lock. Close the gate valve and vent the load lock.

Remove your sample. Place the sample holder back in the load lock. Pump down the load lock.



**9. BADGER LOGOUT:**

Disable the tool in Badger when you're done.

