This UV mask exposure system is designed for relatively low resolution patterns (>25um).

UV Light is not collimated.

This manual assumes that the equipment is always in its proper resting state, with the glass table top down, and basic operation is completed by putting the machine back in that condition.

0. Turn on the power to this machine by pressing the square power button at the upper left.

1. Program the desired UV dose by typing in the desired number using the keypad at the top center. The standard process dose is 10.0 units.

2. Open the door, lift the glass top, and prop it up on the support arm which is on the left side of the cabinet.
3. Use a clean razor blade to lightly check the inner surface of the glass top as there is a tendency for debris and UV adhesive to build up on the underside of the glass. Drag the surface with the razor blade to dislodge all debris, then use IPA wipes to clean the surface.

Use a wiper with IPA to wipe off the black mesh bottom surface. Do not use a blade on the plastic mesh.

4. Blow off your substrate with deionized nitrogen and place your substrate, photoresist side up, in the center of the black mesh.

5. Blow off the mask with deionized nitrogen and place on top of your substrate with emulsion or chrome side down (in contact with your plate).

6. Support the glass top with one hand and completely lower the support arm, and then lower the glass down onto the vacuum bed.

7. Close the door to the cabinet.

8. Turn the round black knob on the upper right to close the vacuum bleed valve all the way.
9. Then depress the square vacuum button to turn on the internal vacuum source. (This system does not use house vacuum service).

10. Watch the vacuum pressure gauge and when the space between the glass plate and the mesh has been evacuated, the dial will start to show increased vacuum levels. Once the gauge stabilizes, the air between your substrate and the mask has been evacuated, intimate contact has been made for best 1:1 pattern reproduction, and you then depress the start button on the number keypad, which is an ‘S’.

11. The UV light source shutter will open and begin exposing your substrate thru the mask, and it will integrate the power over time until it reaches the dose that you requested. (10.0 units).

12. Then you will hear a click and the UV light will go off.

13. Depress the square vacuum button to turn the vacuum source off.

14. Turn the vacuum bleed knob counterclockwise to open the valve, and this will allow air into the system to vent the vacuum bed.

15. Open the door of the cabinet. Wait for your substrate and mask to drop onto the black mesh surface because they sometimes stick to the glass top. If you raise the glass top before they have dropped off, they will sometimes slide down the glass surface and crash into the back of the unit.

16. Open the glass top and secure open with the supporting arm as before.

17. Remove your mask and set on a clean surface, emulsion/chrome side up, and then remove your substrate.

18. If you have more substrates to run, repeat steps 4-17 until you have no more.

19. To restore the system to its proper resting state, turn off the power, close the bleed valve, lower the glass top and close the cabinet door.
**NOTE1:** This unit can be used to cure UV adhesives, such as for curing an assembled plate. However, the UV dose is low and adhesion and state of cure will not be great. Total dose for curing adhesives will be greater than for exposing photoresist. However, because the UV dose is low, the larger total dose will not have a large effect on the final cure state.

**NOTE2:** This unit presses from the bottom with a wrap-around type system. That means, that breakable substrates and masks stacked up in the system must stack in the order of smaller to larger. If there are any hanging ledges or unsupported pieces of breakable material on the bottom, the system will push these toward the glass top and they will break.

For any questions or technical problems, please see this machine’s primary manager,

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