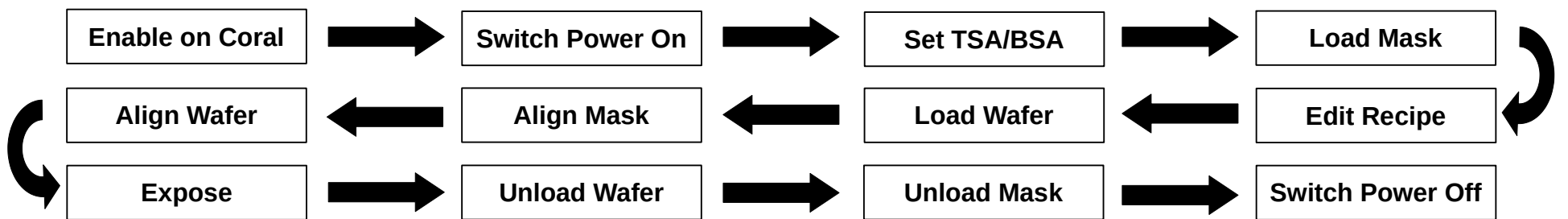


# SÜSS MicroTech: MA6 Mask Aligner Step by Step

## Operation Outline



## Operations

Enable on Coral

Switch Power On

**Set TSA/BSA/LOAD:**

- \* For TSA, deselect "**BSA MICROSCOPE**" key
- \* For TSA, switch "**SPITFIELD**" knob to "**LEFT**"
- \* For TSA, switch "**ILLUMINATION**" knob to "**TSA**"
- \* Press "**LOAD**" key to initialize the machine

**Load Mask:**

- \* Bank mask against the 3 banking pins with chrome side up
- \* On the keypad press the "**CHANGE MASK**" key
- \* Press "**ENTER**" key to enable vacuum on mask
- \* Flip mask holder 180° and slide it back into reticle fixture chrome side down
- \* Press "**CHANGE MASK**" to lock mask holder on chamber
- \* Notice that the tool now is on "**Ready for Load**" (IDLE)

**Edit Recipe:**

- \* Press "**EDIT PARAMETER**" key to enter edit mode
- \* Using Left and Right arrow keys select to "**Lithography**" for "**Process**"
- \* Using Right and Left X keys move to "**Expose Type**"
- \* Using Up and Down Y key select Exposure Method (example: **Soft Contact**)
- \* Choices are **Proximity, Soft, Hard, Vacuum, Low Vacuum** and **Flood Exposure**
- \* Each "**Expose Type**" has independent associated parameter values
- \* Using Right and Left X key move to "**Al. Gap**"
- \* Using Up and Down Y keys Edit to get desire value in microns
- \* Using Right and Left X keys move to "**Expo Time[s]**"
- \* Using Up and Down Y keys Edit to get desire value in seconds
- \* Using Right and Left X key move to "**WEC Type**"
- \* Using Right and Left X keys move to "**WEC Offset**" and with Up Down Key set it to **OFF**
- \* Using Up and Down Y keys select "**Continuous**"
- \* Using Right and Left X key move to "**Expose Type**"
- \* Using Up and Down Y keys select "**Soft**"
- \* Press "**EDIT PARAMETER**" key to save and exit edit mode
- \* The machine now goes back to "**READY FOR LOAD**"

**Example:  
For TSA**

- \* Deselect "**BSA**", "**SPITFIEL**" set to "**LEFT**", "**ILLUMINATION**" set to "**TSA**"
- \* "**Exp. Tim [s]**": "##"
- \* "**Al. Gap**": "##[μ]"
- \* "**Expose Type**": "**SOFT**"

**Load Wafer:**

- \* Press "**LOAD**" key
- \* Pull slide and load substrate onto chuck while banking against the three pins
- \* Press "**ENTER**" key to enable vacuum on wafer chuck
- \* Move slide into the machine and press "**ENTER**".
- \* The machine will now perform the WEC (leveling)
- \* The "**TSA**" Microscope will move down
- \* The machine is now ready for the alignment of the substrate

**Align Mask:**

- \* Adjust **TSA Theta**, X & Y position using **X & Y keys** and scope **X position knobs**
- \* Adjust Magnification, Focus and Light intensity

**Align Wafer:**

- \* Adjust the **X micrometer**, The **Y micrometer** and **Theta micrometer**
- \* Once aligned bring stack into contact with "**ALIGMENT CHECK**" key
- \* If alignment is off, press "**ALIGMENT CHECK**" and re-align

**Expose:**

- \* If alignment is good, press "**EXPOSE**" key

**Unload Wafer:**

- \* Pull slide out and remove you substrate

**Unload Mask:**

- \* If done with the machine press "**CHANGE MASK**" key,
- \* Pull out mask holder, flip 180°, place on the left of the stage on the holder stand
- \* Remove your mask

**Switch Power Off:**

- \* If Done with tool Switch the "**OFF/On**" knob to "**OFF**"
- \* Disable machine on **CORAL**