



Tutorial: BioFlux Montage, BioFlux Plate Calibration

This tutorial will show how to set up BioFlux Plates for automated image acquisitions using the Sample Reload Adjustment module in BioFlux Montage Software. You can use this procedure every time you load a new BioFlux Plate onto the BioFlux 1000 Stage.

Initial Plate Loading

1. To begin, load the BioFlux Plate onto the stage and clamp the Interface onto the plate. Open the 'Sample Reload Adjustment' (SRA) and 'Move Stage to Absolute Position' modules from the top menu bar.
2. Open the 'Multi-Dimensional Acquisition' (MDA) module and load the stage list which corresponds to the plate you are using for the experiment. The part number for the plate can be found on the side or top of the well plate.
3. In the SRA module, press the Live button to see an image preview with crosshairs. Using the joystick, position the well plate such that the tip of the arrow next to the Channel 4 marker aligns to the crosshairs. In the 'Move Stage to Absolute Position' Menu, press the 'Set Origin' button. The current position should now read 0 in X, Y, and Z.
4. In the SRA, click on 'Load Settings' and load the file for the type of plate you are working with.
5. In the MDA, double-click on Stage Position 22,2 (for 48-well Plates) or 8,2 (for 24-well plates). This will bring the stage in close proximity to the arrow marker by Channel 22 (48-well plates) or Channel 8 (24-well plates). Using the joystick, position the well plate such that the tip of the Channel 22 marker aligns to the crosshairs. Copy the Y-coordinate in the MDA module into the Y position of Point 2 in the Update Reference Points tab of the SRA Module.
6. In the Update Stage Positions tab of the SRA, click on 'Apply to MDA Stage List'. This will update all of the stage positions to be calibrated to the specific plate being used. The plate is now ready for image acquisition, and will use the calibrated stage positions.

Sample Reload Procedure

If you remove the plate from the stage during the experiment, you need to repeat some but not all of these steps.

1. Reload the plate into the stage and clamp on the Interface. Click on the 'Update Reference Points' tab of the SRA.
2. Click on Point 1 – Move to Position. Realign the Channel 4 arrow to the crosshairs and hit Set Origin in the 'Move Stage...' menu.
3. Click on Point 2 – Move to Position and align the arrow with the crosshairs.
4. Transfer the Y-coordinate from the 'Move Stage...' module to the SRA Module – Point 2.
5. Under the Update Stage Positions tab of the SRA, click 'Apply to MDA Stage List'. The Stage List is now updated.

For additional questions, please contact a member of Fluxion's technical team.