

Instruction LSM900 inverted short 2022-09-12.docx 2022-11-13

LSM 900 quick operation manual

Switch on

- In the main Electronic rack turn on the following switches **1 → 2 , 3 turn the lasers module key**
- Switch on main cable **4**
- Turn on the computer and log in
User name: **multilabs**
Password: **123456**

Position	Objective lens	Magnification	NA	coverslip	Working distance	Immersion
1	Plan Apochromat	x10	0.45	0.17 mm	2 mm	Air
2	Plan Apochromat	x20	0.8	0.17 mm	0.55 mm	Air
3	LD LCI Plan Apochromat	x25	0.8	0-0.17 mm	0.57 mm	Oil Glycerin Water
4	Plan Apochromat	x63	1.4	0.17	0.19 mm	Oil

Software and acquisition

- Log into **BookitLab** and activate your reservation to start **Zen blue 3.5**
 - To acquire images click **ZEN System**
 - **Sample mounting and viewing**
 - Set the filter turret position to DIC and the condenser to II or III \BF according to the objective lens (see objective lens info on touchpad).
In the software choose **Switch to >Transmission**
Set up Kohler illumination.
 - **Reflected light (fluorescence)**
Open fluorescence shutter
Set the filter turret to one of the reflector positions
And choose the desirable LED through the touchpad or in **locate window > Colibri 5/7**
 - **Image Acquisition**
In Zen, **Acquisition** tab:
Load a saved configuration from the **Experiment Manager** or open an image and below the image click **Reuse** or open new setup with the **smart setup** wizard.
Select **Show all tools** and open the following tabs:
Light Path, Channels, Acquisition Mode
With one track checked, in fast settings (512x512, speed 8, no averaging) click **Continuous** to focus.
Optimize each channel separately by checking **Range Indicator** and setting pinhole (1 Airy unit) detector gain, laser power, offset, digital gain.
Check all channels and set acquisition parameters: zoom, pixel number, scanning speed, averaging.
After setting zoom press "optimum" so that the system will calculate number of pixels according to the optimal Nyquist number for the given objective. If scanning time is too high you can consider saving time by:
 - lowering pixel dwell time.
 - setting scanning direction to meander instead of comb
 - decreasing number of averaging iterations
 - using frame instead of line mode
- Press **Snap** to acquire image
For multidimensional images check the desired dimension (Z, time,) and after setting the relevant parameters click **Start Experiment**

- **Saving images**
Save image as CZI filetype in **D:\ USERS DATA\PI name\user name\mm-yyyy**
- **Data backup**
Data are copied automatically every night, if computer is on and connected to the internet.
PLEASE do not use any type of USB flash drive to retrieve your data.
There are computers with active scanning anti-virus software at the Computerized Analysis Room, connected to the servers.

Ending session

Before you finish please make sure the next user is coming.

If yes:

- Close the ZEN software
- **Log off your reservation at BookItLab**
- clean water dipping objectives by dipping in DDW (e.g., in 35mm dish) and gently wipe with 85%petroleum-Ether with 15% Isopropanol
- Leave nosepiece at 5x objective lens
- Center the stage
- Leave surfaces clean

If no user is coming in the next two hours, also, **in this order:**

- Close the ZEN software
- Log off your reservation in BookItLab
- Switch off 4
- Turn off the laser model key **3**
- Switch off **2** → **1** in the switch box
- Cover microscope
- Turn off air condition

Do not turn off computer unless you are the last user before the weekend.

Please do not use any type of USB drive to copy your data.