

Zeiss LSM 880 Upright (u880) Condensed User Guide

The Zeiss LSM880 is a laser scanning confocal microscope with full confocal and multiphoton capability. The confocal detectors are spectrally resolved and can be used with either the standard (single photon) excitation lines or the multiphoton excitation lines.

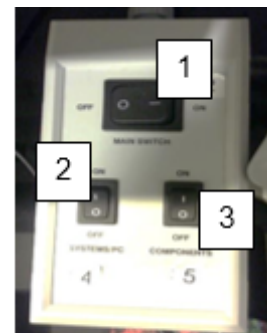
Do not use standard 405,458, 488, 514, 543,561 or 633 nm lines with the NDD detectors! **The non-descanned (NDD) detectors can only be used with multiphoton excitation.**

Turn on Sequence

1. If the computer is off, turn it on and let it boot.
2. Check that objective turret position is set to the objective you need.
3. Turn on the main switch (1).
4. Turn on the Systems/PC switch (2).
Wait until touchscreen boots.
5. Turn on the Components switch (3).
6. Log in to the computer.
7. Check manual slider. It must be empty for standard confocal detection.
8. Start Zen and select Start System Button.
9. Turn on lasers you will be using.

Note that the Ar and multiphoton lines take ~5 min to turn on.

You can follow the warm-up progress by selecting the laser you are using and the Laser Properties (located below laser list).

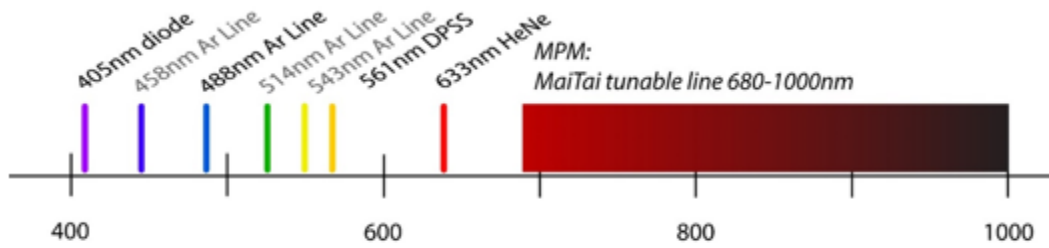


Startup switches 1- Main, 2-System/PC, and 3-Components

Turn off Sequence

1. Save your data and transfer it to the fileshare.
2. Remove your sample and clean off your objective.
3. Replace manual slider to empty if you used the NDD detectors.
4. Turn off lasers.
5. Exit Zen.
6. Log out of the computer.
7. Turn off the Components switch.
8. Turn off the Systems/PC switch.
9. Wait a few minutes for the Ar laser to cool. Turn off the main switch.
10. **Do Not** turn off computer.

Laser Lines

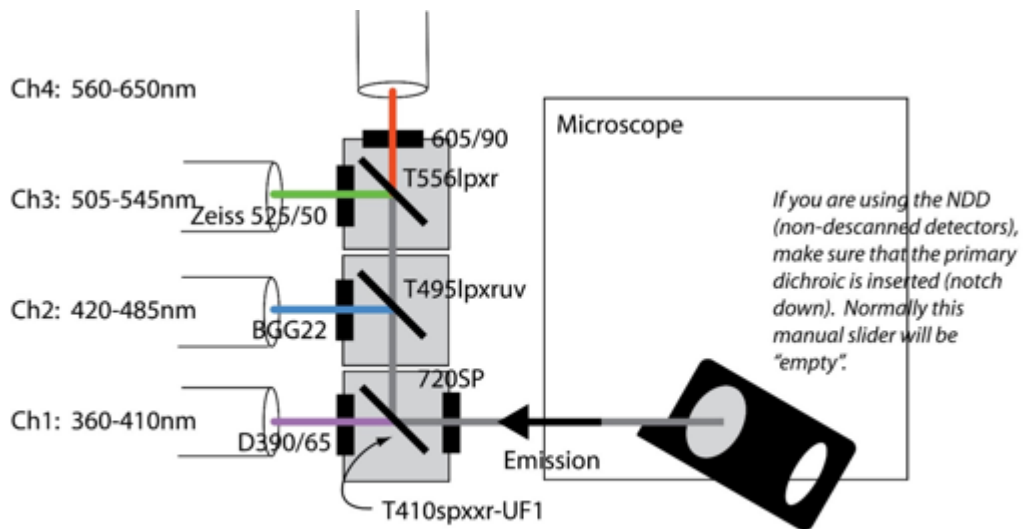


Available laser lines on the u880 include confocal lasers covering the visible wavelengths of the spectrum and a tunable multiphoton laser line in the near infrared region

Standard Objective Specifications

Mag	NA	Immersion medium	Coverslip thickness (mm)	Working Distance, (mm)	Objective Type	Trans > 0.5 (nm)
5x	0.25	Air	0.17	12.5	Fluar	330-1300
10x	0.45	Water	0.17	1.8	C-Apochromat	330-1300
20x	1.0	Water Dipping	0	2.4	W Plan-Apochromat	440-1300
20x	1.0	1.32-1.40 Corr	0.17	2.3	W Plan-Apochromat	350-1200
25x	0.8	Water, Oil	0.14-0.19	0.62	LCI Plan Neofluar	360-1250
40x	1.1	Water	0.14-0.19	0.62	LD C-Apochromat	360-1250
63x	1.2	Water	0.14-0.19	0.28	C-Apochromat	360-1250

Non-Descanned Detector (NDD) Filters



NDD channels showing emission detection wavelengths and corresponding excitation filter – dichroic mirror – barrier filter combinations