Abberior Instruments STEDYCON

Contains a class IV laser emitting invisible radiation.
Danger for eyes and skin!

The 100x objective has a cable attached. Do not rotate the objective turret in full rounds to avoid excessive twisting!

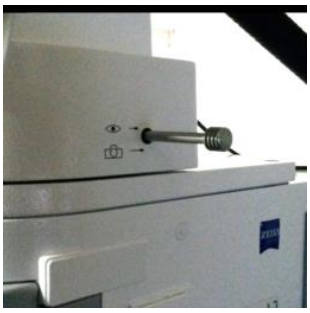
For STED and confocal mode, always move the reflector turret in an empty position (2 – 6, labelled 'STED')!

Status Indicators

POWER	● STED laser off, VIS lasers standby
	● Lasers warmed up and ready
STANDBY/READY	● Controller not yet booted
	● Standby – safe to power off
	● Intermediate state
	● Warmed up and ready
EMISSION	● Interlock(s) blocking laser emission
	● Laser emission enabled
SCANNING	● Scan head inactive
	● Active scanning

Laser Safety Interlocks

Key on controller
OFF: vertical
ON: horizontal



Ocular/camera slider
Eyepiece: in
Lasers/STED: out

Condenser
Eyepiece: pos. 2 or 3
Lasers/STED: pos. II

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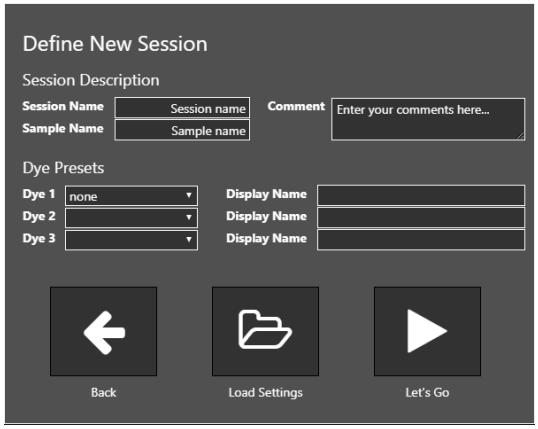
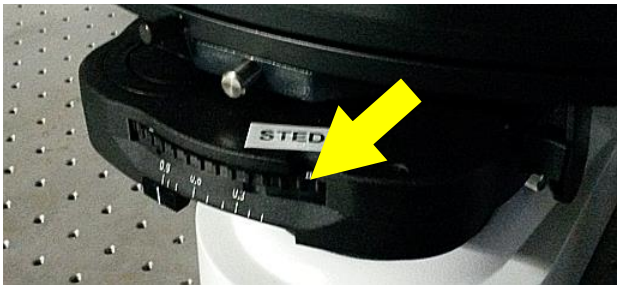
Startup

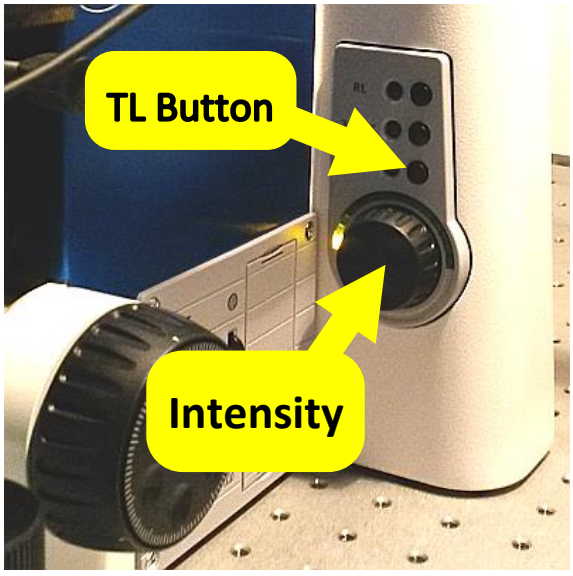
1. Turn on the main power switch
2. Turn the laser safety key on the controller in horizontal position (ON)
3. Boot the PC (power button on rear left side)
4. Launch the STEDYCON web interface
5. On the welcome screen, click "Start New Session"
6. Define a new session (session and sample name, dye presets) and click "Let's Go"



Eyepiece – Transmitted Light

1. Push the ocular/camera slider in
2. Turn the condenser to position 2 or 3
3. Turn on the halogen lamp with the TL button
4. Adjust the light intensity with the wheel on the frame
5. Turn off the TL button for fluorescence or STED





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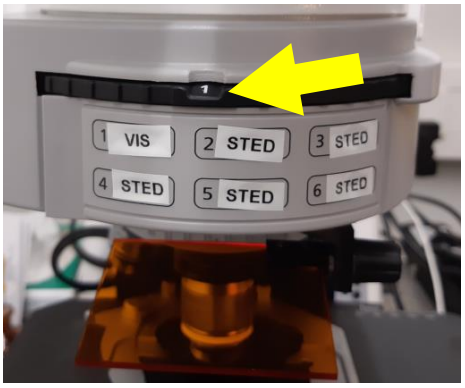
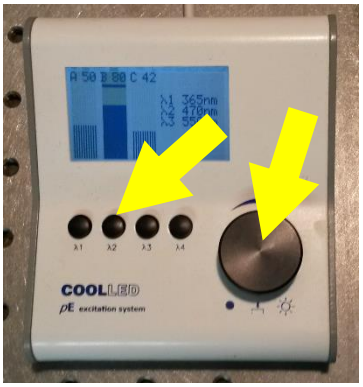
Eyepiece – Fluorescence

1. Push ocular/camera slider in
2. Turn the reflector turret to position 1 (labeled 'VIS')
3. On the CoolLED controller, select the corresponding wavelength:
   button λ1 = DAPI, λ2 = GFP, λ3 = TxRed (the active channel shows a bar on the top of the display)
4. Adjust the intensity by turning the knob on the controller, activate the light by pressing the knob
5. Turn off the light source for transmitted light or STED by pressing the knob again





Acquisition of Confocal and STED Images

1. Push the ocular/camera slider out
2. Turn off the halogen lamp and/or CoolLED light source (by pressing the knob on the controller)
3. Turn the condenser to position II
4. **Turn the reflector turret to an empty position (2, 3, 4, 5 or 6, all labeled 'STED')**
   This turret has no sensor or interlock!

Status LEDs while scanning:

LEDs before and after a scan:

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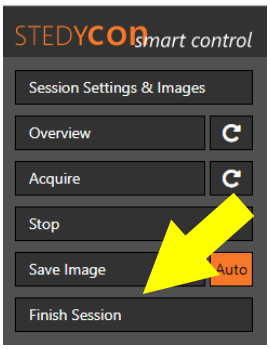
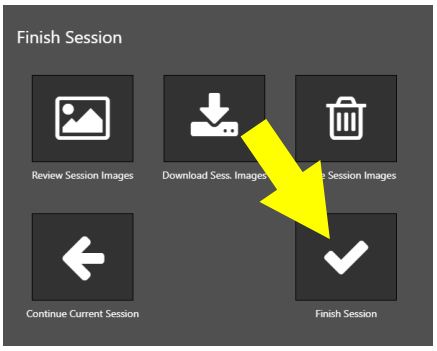
Leaving the System for the Next User

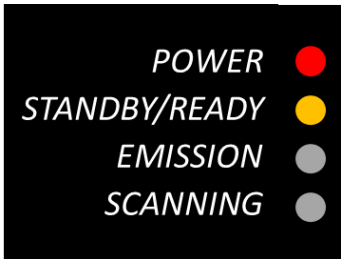
1. Turn the laser safety key on the controller vertically (OFF)
2. Lower the XY stage, remove your sample and wipe the objective with lens cleaning paper
3. In the STEDYCON web interface, click "Finish Session"
4. In the "Finish Session" dialog popping up, you can review and download images.
5. Clicking "Finish Session" brings you back to the welcome screen.
   You can leave the system in this state (the system will go standby within 10 min)





Full Shutdown

1. Execute steps 1-5 as above ("Leaving the system for the next user")
2. In the STEDYCON welcome screen, click "Shut Down Immediately"
3. Close the web interface and shut down the PC
4. Wait for the standby mode (*POWER* LED: red; *STANDBY/READY*: orange; all other dark)



5. Turn off the main power switch