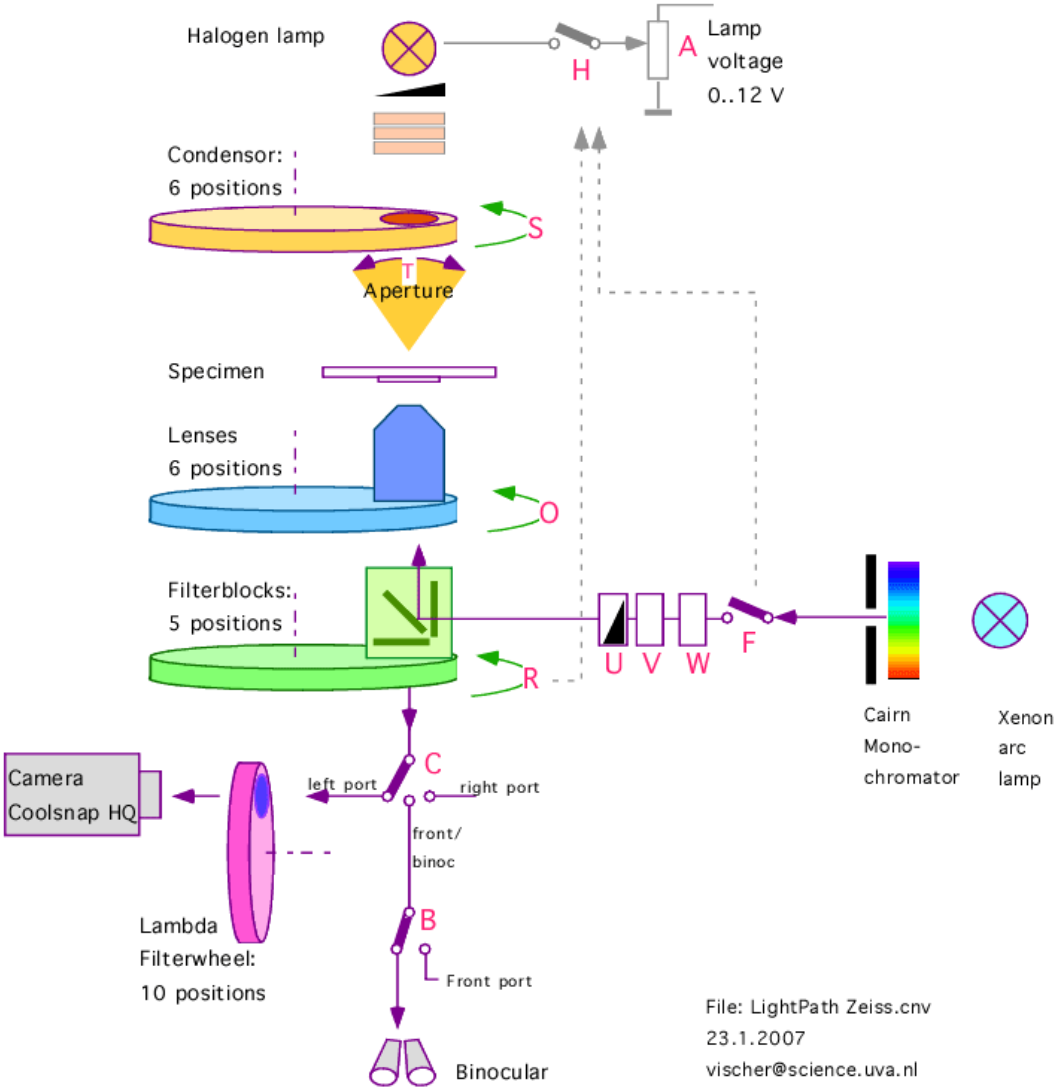


LCAM Filterscheme Cell Observer – April 2014



<i>Letter</i>	<i>Description</i>
A	Adjusts voltage for halogen lamp. *
B	Lightpath switch front port - binocular .
C	Lightpath switch left • right • front/binoc. Press once to enable LCD display (upper line), press a second time (within 3 sec) to move the switch.
D	Optovar ocular: not installed
F	Fl on/off: Enters or leaves Fluorescence mode (see display "FL", and opens or closes mechanical fluorescence shutter. While open, halogen voltage is set to zero (Use manual override with button H)
H	HAL on/off :toggles voltage for halogen lamp between default and zero. (Default value is mysterious). Press one second to go to high volatage (10.4 V = 3200K)
J	Zero: press short to read z position, press > 1 sec to assign current z position to zero (see LCD).
K (down)	Focus down: remembers focus and moves lens down, away from specimen, to "loading position"
K (up)	Focus up: moves lens back up to focus zero, or back to original value
O	Objective: rotates the lens revolver to next or previous position. Please don't use this; rather move the revolver by hand and care that the piezo cables will not entangle.
R	Reflector: rotates the reflector turret to engage the next or previous filter block (total 5 positions). Additionally, Fluorescence mode is entered (display FL), the excitation shutter (F) is opened, and the halogen lamp is switched off (H).
Q	For closing the ocular if ambient light is a problem
T	Condensor Aperture can be set to NA = 0.05 ... 0.55
S	Condensor turret 6 positions: BF, BF, BF, PH1, PH2, PH3
U	Excitation dimmer
V	not used
W	Excitation light stop?

Detection filters:

Beam Splitters

Label *excitation filter* *dichroich* *emiss.filter* *use camera filter:*

1. CFP	E460SP (375-460)	455DCLP	HQ460	2= CFP BP470/30
2. GFP	E490SP (375-490)	490DCXR	HQ500LP	5= GFP BP525/40
3. YFP	E520SP (375-520)	515DCXR	HQ520LP	3= YFP BP535/30
4. RFP	E580SP (375-580)	585CXR	E590LPv2	4= RFP BP620/60
5. C/Y FP *	z442/514dbx	8600xxx	-	2 and 3 *
6. G/R FP **	63137	51005c		5 and 4 (or 3 and 4)**

Filterblocks 5 and 6 for Dual Color imaging:

- a)** cubes 5 and 6 are for dual imaging. They have a dual bandpass excitation filter and a double dichroic but no emission filter.
- b)** The turret has only 5 positions. Ask for assistance to temporarily mount block 6.
- c)** These two blocks are suitable for camera use only, not for observation by eye.
- d)** *Optimal excitation wavelengths for dual color imaging are 440 nm and 510 nm for the C/Y filter cube (10 nm bandpass). Use CFP, YFP bandpass emission filters (pos 2 and 3 in the filter wheel).
- e)** ** The G/R filter cube can be used for GFP/RFP and YFP/RFP colocalizations. Although not tested yet the following wavelengths are suggested:
For GFP/RFP: exc 492 and 575 nm (10 nm bandpass), and use the GFP and RFP bandpass filters in the em. filter wheel (pos 5,4).
For YFP/RFP coloc: exc 505 and 575 nm (10 nm bandpass), and use the YFP and RFP bandpass filters in the em. filter wheel (pos 3,4).
- f)** Arrangement with adjacent positions was chosen for faster operation of the Sutter filter wheel.

Camera filters (Sutter filter wheel):

1. empty
2. CFP BP 470-30
3. YFP BP 535-30
4. RFP BP 620-60
5. GFP BP 525-40
6. BFP BP 445/40
7. empty
8. OFP 495/30 & 568/25
9. blocked
10. blocked