

SYSTEM OVERVIEW

6 position control panel for scanning
User can define this box

High QE APD Detectors
Dichroic

Integrated CCD Camera

Tunable Spectral Detectors
System has 2 SP detectors
range 400-800nm detection

Control touchpad for
microscope

Dotd power
supply

MP laser attenuation box
contains 1/2 waveplate and
EOM

EL6000 Power
supply. Fluor
Light

EOM power supply

DAQ Box

Deep See control knob

Deep See MP laser
Precomp control box

Dotd contrast control pad

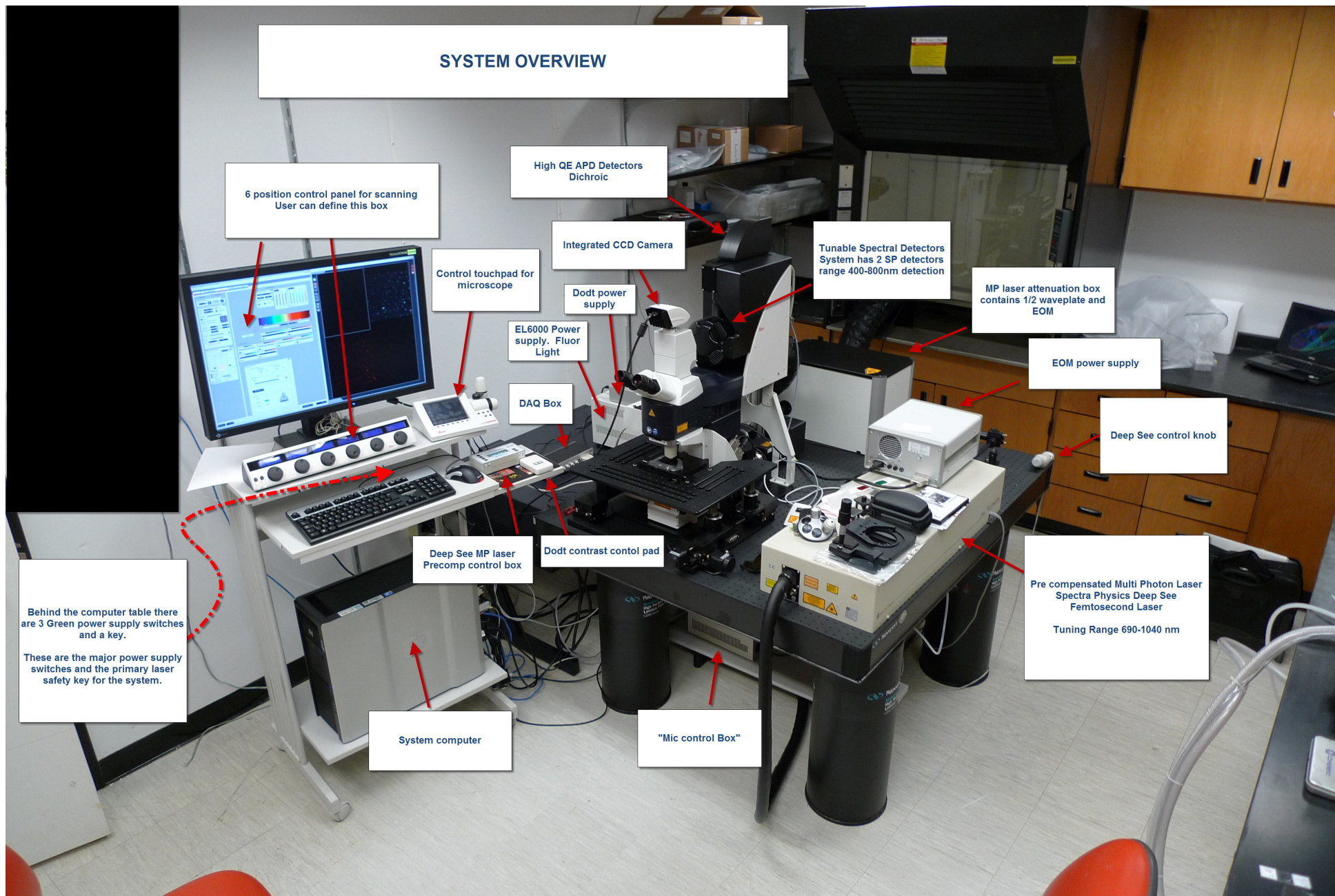
Pre compensated Multi Photon Laser
Spectra Physics Deep See
Femtosecond Laser
Tuning Range 690-1040 nm

Behind the computer table there
are 3 Green power supply switches
and a key.

These are the major power supply
switches and the primary laser
safety key for the system.

System computer

"Mic control Box"

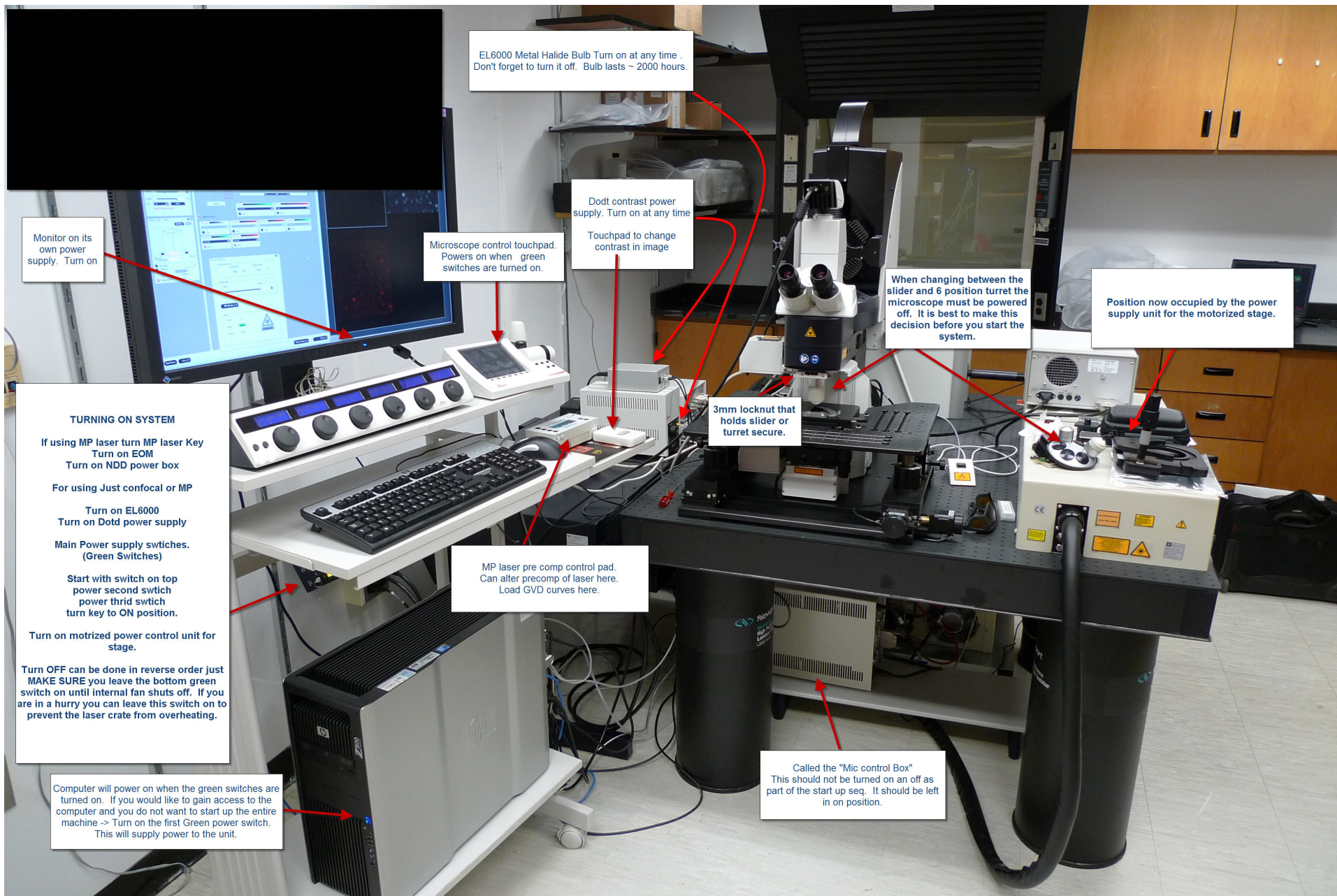






X & Y Motors for motorized stage control in these directions.

Manual Z stage position control
Raise and lower the height of the stage to match the working distance you need for the sample. Total travel of the objective is 9mm.
**Note as with all upright systems there is a risk of crashing into your sample **



EL6000 Metal Halide Bulb Turn on at any time . Don't forget to turn it off. Bulb lasts ~ 2000 hours.

Monitor on its own power supply. Turn on

Microscope control touchpad. Powers on when green switches are turned on.

Dodt contrast power supply. Turn on at any time

Touchpad to change contrast in image

When changing between the slider and 6 position turret the microscope must be powered off. It is best to make this decision before you start the system.

Position now occupied by the power supply unit for the motorized stage.

3mm locknut that holds slider or turret secure.

MP laser pre comp control pad. Can alter precomp of laser here. Load GVD curves here.

Called the "Mic control Box" This should not be turned on or off as part of the start up seq. It should be left in on position.

TURNING ON SYSTEM

If using MP laser turn MP laser Key
Turn on EOM
Turn on NDD power box

For using Just confocal or MP

Turn on EL6000
Turn on Dodt power supply

Main Power supply switches.
(Green Switches)

Start with switch on top
power second switch
power third switch
turn key to ON position.

Turn on motorized power control unit for stage.

Turn OFF can be done in reverse order just
MAKE SURE you leave the bottom green switch on until internal fan shuts off. If you are in a hurry you can leave this switch on to prevent the laser crate from overheating.

Computer will power on when the green switches are turned on. If you would like to gain access to the computer and you do not want to start up the entire machine -> Turn on the first Green power switch. This will supply power to the unit.



APD Detectors physically located here. Dichroics have been included and BP of filters is listed on Dichroic. Empty Dichroic was included for custom filtersets.

Motorized Dodt Contrast can be used with MP excitation. This gives you a contrast "brightfield" image. This device can be turned on at any time during the imaging process when needed.

NDD Box Turns on the following detectors:
NDD TLD and NDD RLD
This box must be turned on before

High power EOM
This device must be turned on to control the power of the MP laser. This also enables the user to do ROI scanning / bleaching with the MP laser. This device can be turned on when needed but should be turned off when the MP laser is not being used since it uses very high voltage.

High QE APD Detectors. These detectors can be turned on when needed. There is no need to turn them on or off in a specific order. The power switch in the front (shown) is the main power switch for the box. In the back you have the ability to turn on either Ch 1 or Ch2 or both. These detectors are VERY sensitive so they are ideal for low signal conditions.

Critical alignment mirror. Don't bump or put anything near this component

MP laser power key. If you are going to use the MP laser you must turn this key from Standby to the ON position.
**This will not power up the laser. The laser must be powered through the software due to safety interlock rules

MP Laser Pre Comp control knob

Power switch Black and Orange should not be turned off unless directed by SP or Leica.

Just toggles between what value is displayed in the LCD Screen.

Not important to users

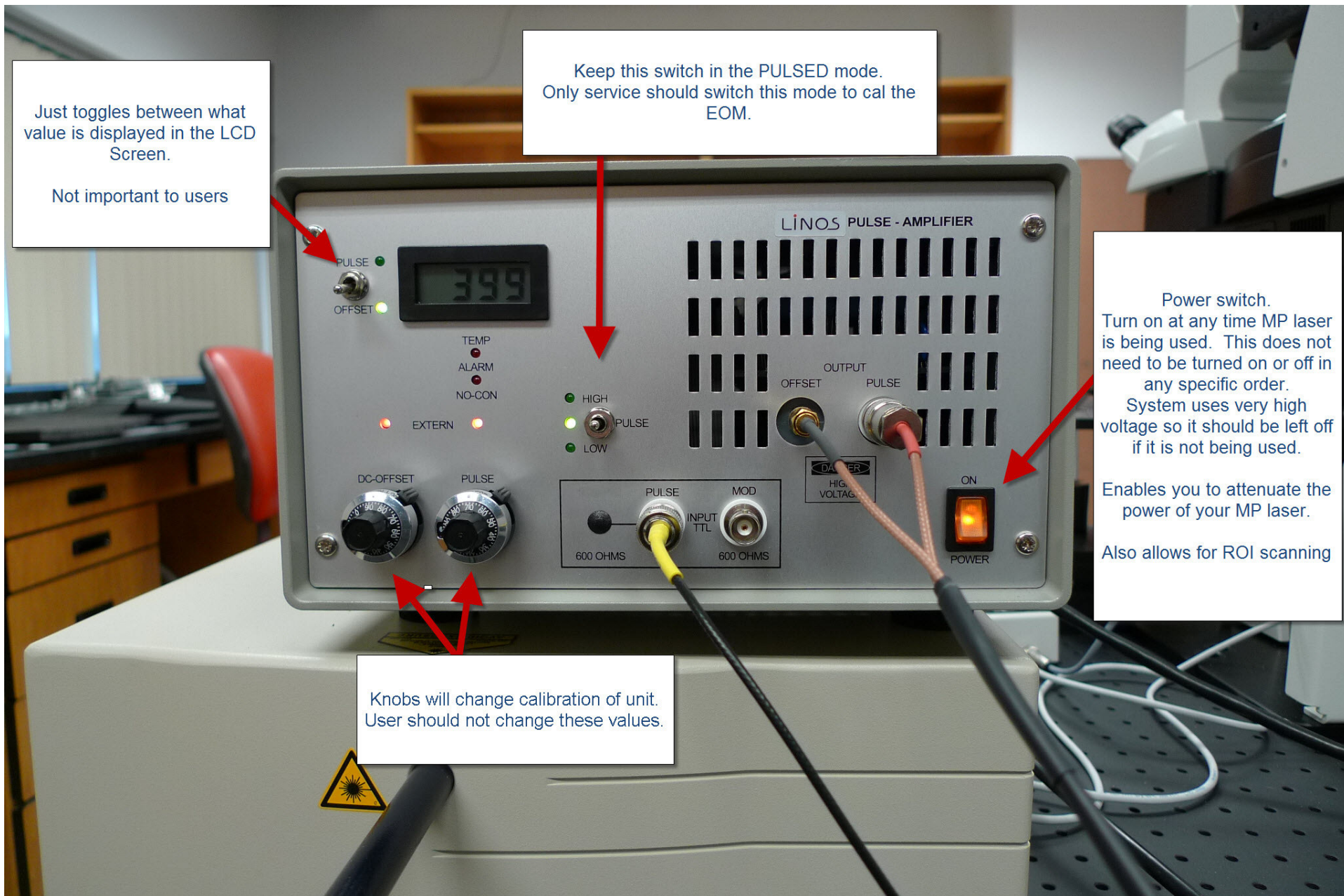
Keep this switch in the PULSED mode.
Only service should switch this mode to cal the EOM.

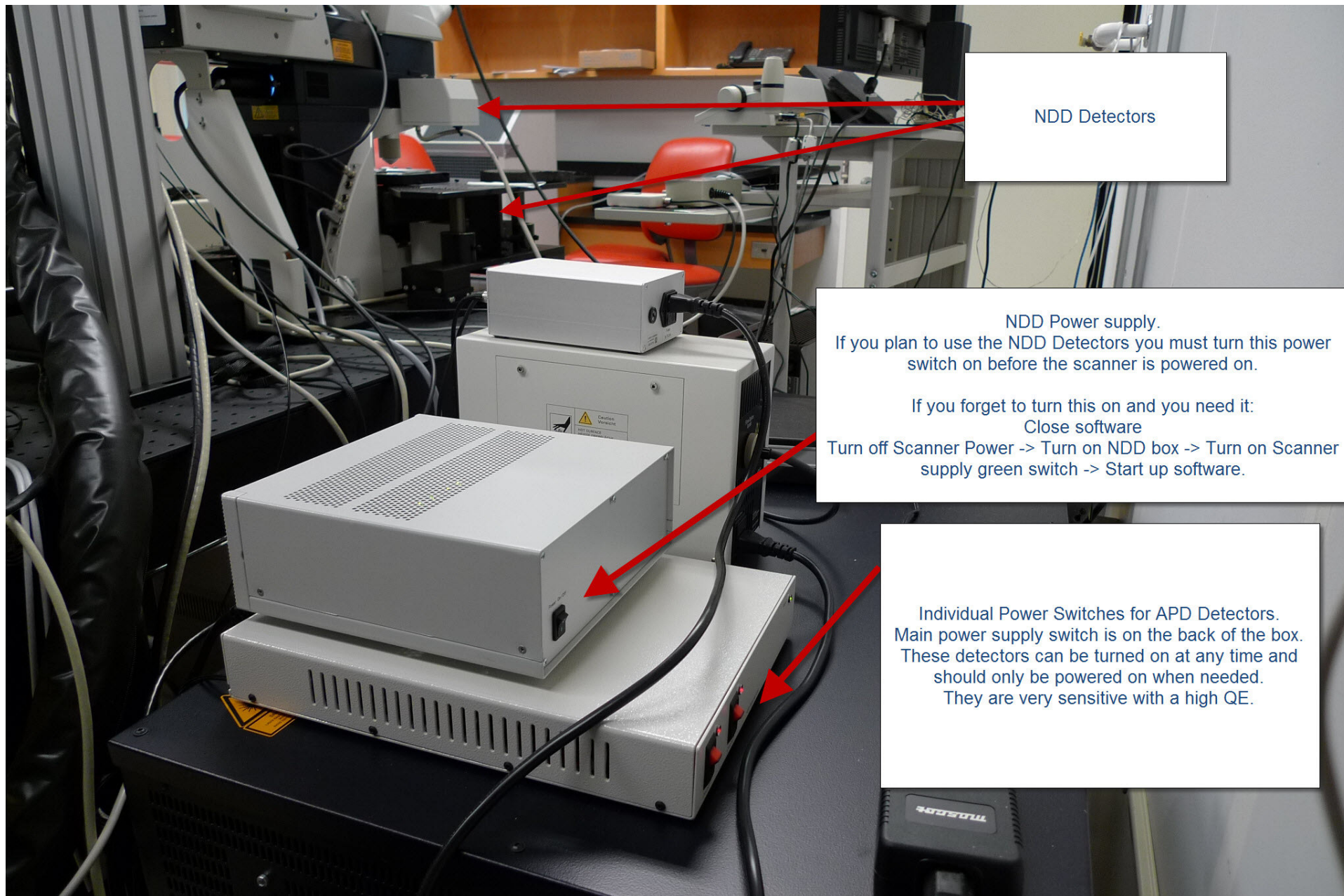
Power switch.
Turn on at any time MP laser is being used. This does not need to be turned on or off in any specific order.
System uses very high voltage so it should be left off if it is not being used.

Enables you to attenuate the power of your MP laser.

Also allows for ROI scanning

Knobs will change calibration of unit.
User should not change these values.





NDD Detectors

NDD Power supply.

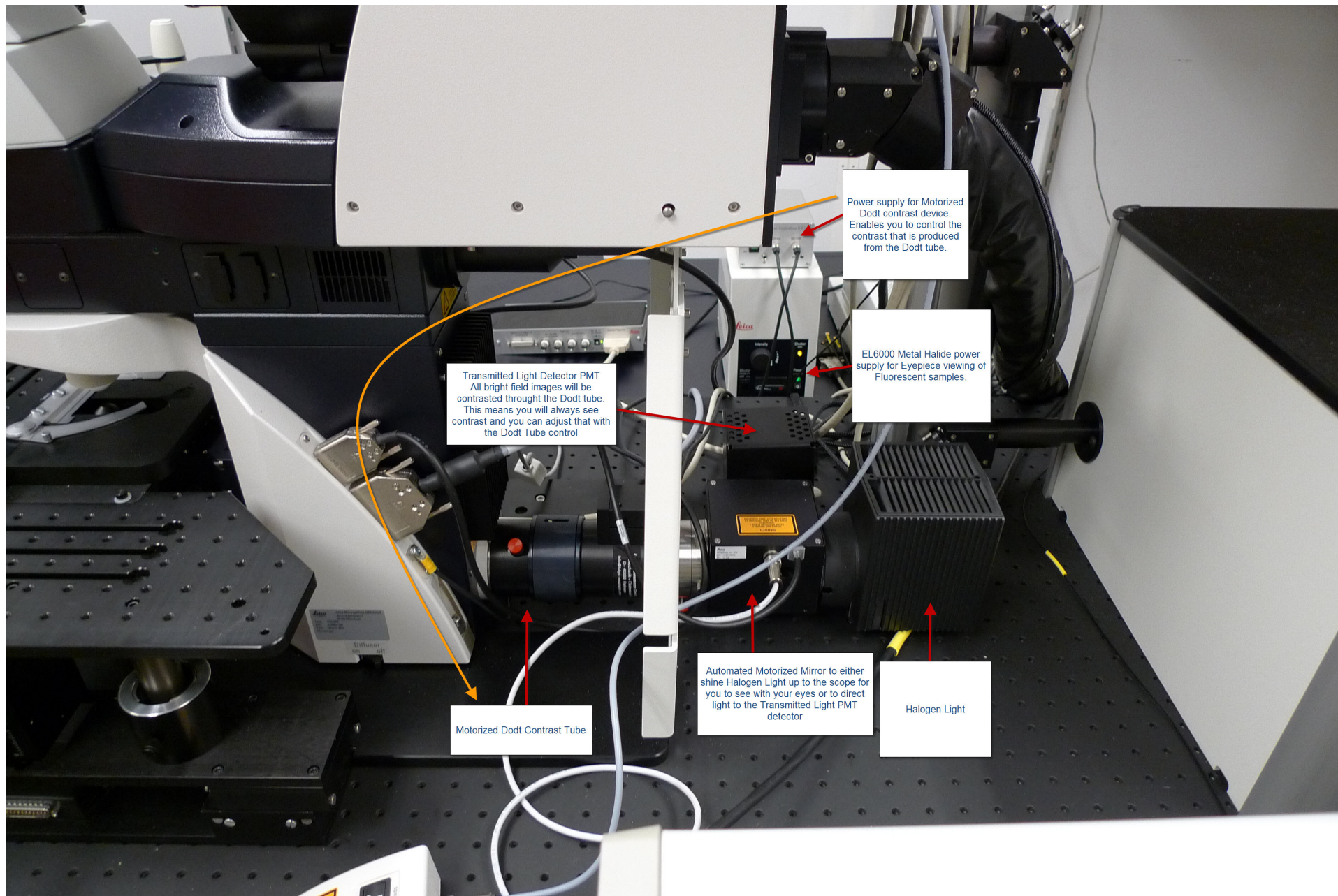
If you plan to use the NDD Detectors you must turn this power switch on before the scanner is powered on.

If you forget to turn this on and you need it:

Close software

Turn off Scanner Power -> Turn on NDD box -> Turn on Scanner supply green switch -> Start up software.

Individual Power Switches for APD Detectors.
Main power supply switch is on the back of the box.
These detectors can be turned on at any time and should only be powered on when needed.
They are very sensitive with a high QE.



Transmitted Light Detector PMT
All bright field images will be contrasted through the Dodt tube. This means you will always see contrast and you can adjust that with the Dodt Tube control

Power supply for Motorized Dodt contrast device. Enables you to control the contrast that is produced from the Dodt tube.

EL6000 Metal Halide power supply for Eyepiece viewing of Fluorescent samples.

Motorized Dodt Contrast Tube

Automated Motorized Mirror to either shine Halogen Light up to the scope for you to see with your eyes or to direct light to the Transmitted Light PMT detector

Halogen Light

NDD TLD
(Non Descan Detector
Transmitted Light Detector)
Used in MP imaging

Removable Dichroic
in the detector box.
SP 680 dichroic
supplied so that you
can install custom
filtersets.

DIC prisms are not included here so
this silver ring will not do anything.
Your system has been upgraded to
include Motorized Dodt contrast
instead which can be used with MP
laser.

Condenser centering screws
Used for proper Koehler
Illumination.

Condenser positioning
knobs. Raise or lower the
entire unit. Please note on
upright stages you must be
careful to set this height
correctly. Also key in
setting Koehler illumination.

Put this manual slider in this position if you
are using MP laser and you would like to
detect fluorescence in the Transmitted
direction. IR light will pass through the
dichroic and can be detected in the
Brightfield detector for simultaneous
Fluorescent and Brightfield overlay.

Put the manual slider in this position if you are
looking in the microscope eyepieces and want to
see brightfield illumination.

Inner manual stage
control. This stage
can be removed and
replaced with a flat
plate.

VISIBLE AND INVISIBLE
LASER RADIATION
IS APERTURE
↑
AVOID EXPOSURE

APD Detector Dichroic.
BP is written on the cube. Cube can be removed. Empty Dichroic was also included in the config so that custom filter set could be made. Contact Chroma or Semrock for possible filtersets.

