

## Olympus BX61 Automated Fluorescence and Transmittance Upright Microscope

- Excitation light source: [156W X-Cite TURBO Multi-wavelength LED Illumination System](#)
  - 385 nm (375-400 nm) (DAPI)
  - 430 nm (415-450 nm) (CFP)
  - 475 nm (460-495 nm) (GFP/FITC)
  - 525 nm (505-550 nm) (YFP, PE, TRITC/Cy3)
  - 575 nm (555-610 nm) (RFP/TexRed/Alexa 594)
  - 630 nm (615-660 nm) (Cy5)
- [Olympus Real Time Controller \(U-RTC\)](#)
  - TTL controlled LED on-off reduces effective sample illumination time up to 25-times compared to USB controlled mechanical shutter.
  - Camera (Synchronization) via TTL trigger allows 7X more imaging cycles. compared to PC/USB control camera shutter.
- [cellSens Dimension](#) v 3.2 64 bit Image Acquisition, Process and Analysis software
  - Automatic Multi-channel Fluorescence (FL) acquisition (DAPI, GFP/FITC, YFP, PE, TRITC/Cy3, mCherry/TexRed/Alexa 594, Cy5).
  - Automatic Transmittance (BF or PL) colour or gray scale acquisition.
  - Automatic Z-Stack imaging and Extended Focal Imaging. Z-priority.
  - Automatic Multi-position Image Acquisition (MIA) including tiling and real-time stitching, either FL or Transmittance, up to thousand frames.
  - Polygon definition of MIA tiling imaging area.
  - Automatic folder and file naming, and direct file saving to networked group or personal driver.
- Cameras
  - [Hamamatsu Flash4.0 V3 monochromic camera](#), 4K 4.2M 3<sup>rd</sup> gen sCMOS camera, 6.5 X 6.5  $\mu\text{m}^2$  pixel size, 2048 X 2048 pixels, 16/12/8 bit, 40-80 fps, full well 30,000 e<sup>-</sup>, peak QE 82%, read noise 0.8-1.6 e<sup>-</sup>, dark current 0.006-0.06 e<sup>-</sup>/pix/s.
  - [Olympus UC90](#), 9M colour CCD camera, 3.69 X 3.69  $\mu\text{m}^2$  pixel size, 3384 X 2708 native, 14/8 bit colour, 26 fps max at 4K (3840 x 2160), Automatic White Balance.
- Filter wheels
  - DM1: [Chroma 89402bs](#) (DAPI/FITC/TRITC/Cy5)
  - DM2: [Chroma 89403bs](#) (CFP/YFP/RFP/Cy7)
  - DAPI: [EM ET 434/32](#)
  - GFP/FITC: [ET 525/50](#)
  - YFP: [ET 540/24](#)
  - PE: [ET 575/40](#)
  - TRITC/Cy3: [ET 595/33](#)
  - mCherry/TexRed/Alexa 594: [ET 642/80](#)
  - Cy5: [ET 697/60](#)

- Objectives
  - [4X/0.16 U PLAN S-APO, WD 13mm](#)
  - [10X/0.4 U PLAN X-APO, WD 3.1mm](#)
  - [20X/0.8 U PLAN X-APO, WD 0.6mm](#)
  - [40X/0.9 U PLAN S-APO, WD 0.18mm, coverslip correction 0.11-0.23mm](#)
  - [60X/1.42 PLAN APO N Oil, WD 0.15mm](#)
  - [100X/1.35-0.5 U PLAN APO Oil Iris, WD 0.13mm](#)