

# QUICK START GUIDE



Congratulations on the purchase of your new *Excelis HDMI* microscopy camera! This guide will help you get up and running fast so you may begin using your camera right away.

## What's in the Box — 4K

- Quick Start Connection Guide
- *Excelis* 4K Camera
- HDMI Cable
- USB 3.0 Cable (USB to USB)
- 12v Power Adapter
- USB 3.0 Mouse
- USB flash drive containing:
  - Installation Instructions
  - *CaptaVision+* Software
  - Manual for *CaptaVision+* Software
  - *Excelis* HD Quick Start Guide



## Using *Excelis HDMI* With a Monitor ONLY

The Excelis HDMI's on-board software can be used with a PC, Mac or stand alone HDMI monitor.

### INSTALLATION

- 1) **INSTALL THE CAMERA:** Install the c-mount adapter onto your *Excelis HDMI* camera, then mount the camera onto your microscope's photo port.

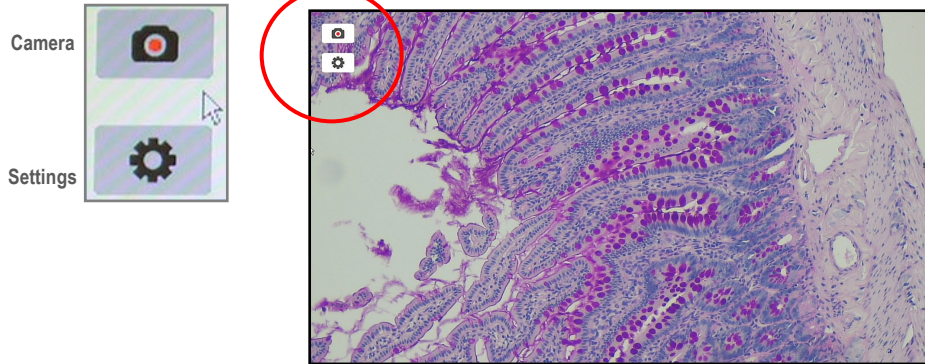
**INSERT A USB DRIVE:** the USB flash drive that came with your 4K camera contains the CaptaVision+ software, manual and the Quick Start Guide. When using in stand-alone mode (without a PC), it is recommended to use a different USB flash drive to capture images as the 4K camera will not save images or video without a USB flash drive inserted. Insert the USB flash drive for saving images into the USB 3.0 port on the camera – do not insert it into the port marked "Mouse".

- 3) **CONNECT MOUSE:** connect the mouse by plugging it into the MOUSE port of the camera.
- 4) **CONNECT HDMI CABLE:** connect one end of the HDMI cable by plugging it into the HDMI port on the camera and the other end into the HDMI port on your monitor. Do not connect the other end of the HDMI cable to the HDMI port on a PC or Mac.
- 5) **CONNECT POWER CORD:** plug the one end of the power cord into the 12VDC port on the top of the camera and the other into a 120v AC outlet.
- 6) **SET YOUR MONITOR SIGNAL TO HDMI:** be sure to set your monitor's input signal to HDMI to enable it to see your camera.
- 7) **POWER ON THE CAMERA:** (before turning on your camera, be sure your microscope is turned on and light is going to your photo port) - press the ON/OFF (power) button on the the camera – a blue light on will come on indicating the camera is ready. (A red light indicates stand-by mode.

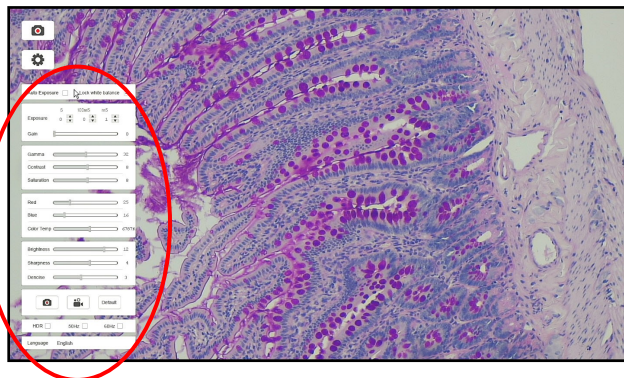
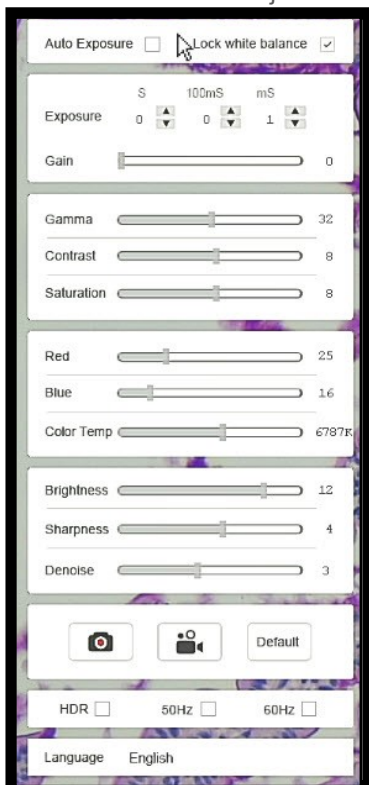


## VIEWING & ADJUSTING AN IMAGE

- 1) CAMERA MENU & SETTINGS:** With your camera mouse navigate to the TOP LEFT area of your monitor – as you hover there, a CAMERA ICON and SETTINGS ICON will appear on the display.



- 2) ADJUSTING DISPLAY SETTINGS FOR YOUR LIVE IMAGE:** with your specimen on the microscope, CLICK the SETTINGS ICON — this will bring up the SETTINGS MENU. The camera automatically defaults to “Auto Exposure” which chooses the best settings based on the sample and illumination. To adjust settings, simply UNCLICK Auto Exposure.



From the SETTINGS MENU you can adjust:

**Exposure, Gain, Gamma, Contrast, Saturation, Color, Brightness, Sharpness, and Denoise**

*It is recommended you adjust your image here and save*

### CAPTURING AN IMAGE

**CAPTURE AN IMAGE:** to capture an image, CLICK the CAMERA ICON – the image will be saved to the SD card in JPEG format (.jpg). The camera will revert back to live view.




### IMAGE TOOLS












**MANIPULATING/CHANGING AN IMAGE:** move the camera mouse to the top right side area of your monitor — the IMAGE TOOLS icons appear.





**IMAGE TOOLS** *(continued)*


 Indicates this feature available only on Excelis 4K and AU-600-HD cameras with SN# ending with “-M” or “-MC” (i.e., 1707001-M).


- 















**CALIBRATION:** Allows measurements to be taken.
- 


**HORIZONTAL FLIP:** Flips a saved image on the SD card on its horizontal axis.
- 


**VERTICAL FLIP:** Flips a saved image on the SD card on its vertical axis.
- 


**ZOOM IN:** Zooms in on an area of the saved image on the SD card.
- 


**ZOOM OUT:** Zooms out on an area of the saved image on the SD card.
- 

**MASK:** Enables temporary covering of portions of an image.
- 

**BROWSER:** Allows you to view saved images/video on the SD card.
- 

**COMPARISON BROWSER:** Allows you to compare saved images on the SD card with the live view.
- 

**DIVISION CANCEL:** Cancels the COMPARISON BROWSER split screen view (returns to the live image)
- 

**CROSSLINE:** Inserts a crossline on a saved image on the SD card.
- 

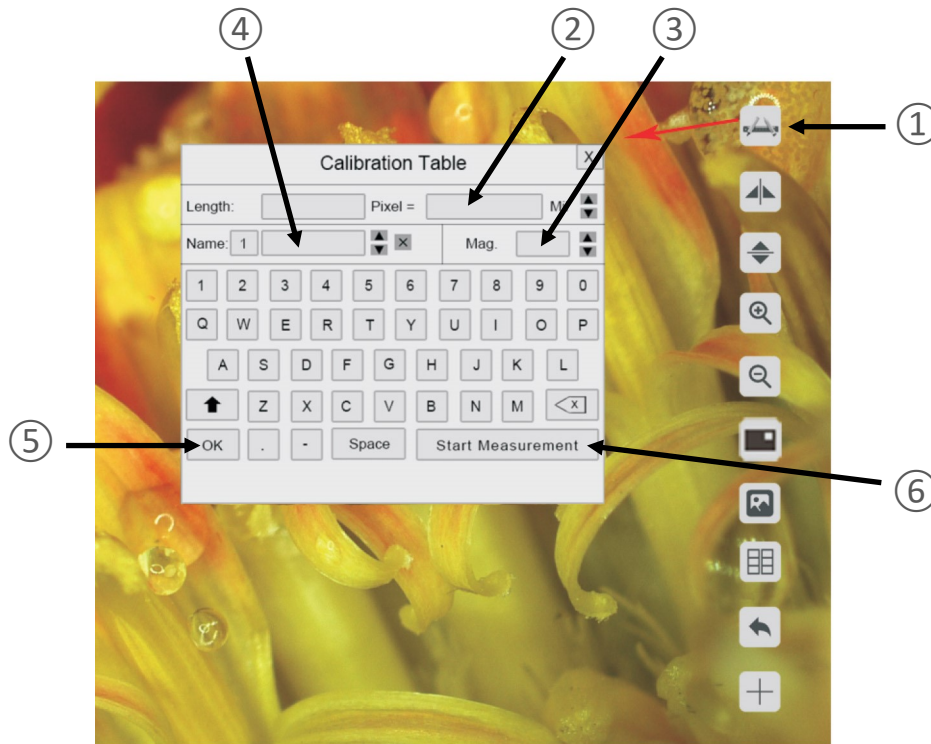
**RULER:** Overlays a ruler with an X and Y scale on the image.

**IMAGE TOOLS** (continued)

★ Indicates this feature available only on Excelis 4K and AU-600-HD cameras purchased after July 1, 2017 and with SN# ending with “-M” or “-MC” (i.e., 1707001-M).

★ **CALIBRATION ICON**

To perform a measurement, follow these steps:



- 1) Place a stage micrometer on the microscope, and using the objective/magnification of your choice focus on the stage micrometer.
- 2) **CLICK** on the **CALIBRATION** icon ① at the top right of your monitor.
- 3) Using the mouse, **CLICK** and **HOLD** left mouse button to **DRAW A LINE** of a known length and **RELEASE** and **CLICK** at the end of the measurement. Enter the length value in the “Pixel” box ② using the onscreen keypad. You can change the unit of measurement using the arrows on the right of the pixel box.
- 4) **TYPE IN THE MAGNIFICATION** of the microscope used during the observation of the line drawn for the calibration in the “Mag” box ③ using the onscreen keypad. The user can select from specific magnification values already pre-entered via the arrows on the side of the box, or enter any value of their choosing using the onscreen keypad.
- 5) To **SAVE THE CALIBRATION**, enter a name in the “Name” box ④ and **CLICK** “OK” ⑤.
- 6) To **BEGIN A MEASUREMENT** after the calibration has been saved, **CLICK** the **CALIBRATION** icon ① and then **CLICK** “Start Measurement” ⑥. **RIGHT CLICK** to bring up the dialog box to select you cursor style. **LEFT CLICK** to start your measurement dragging the mouse and **RELEASE** and **LEFT CLICK** to end the measurement.

**IMAGE TOOLS** *(continued)*

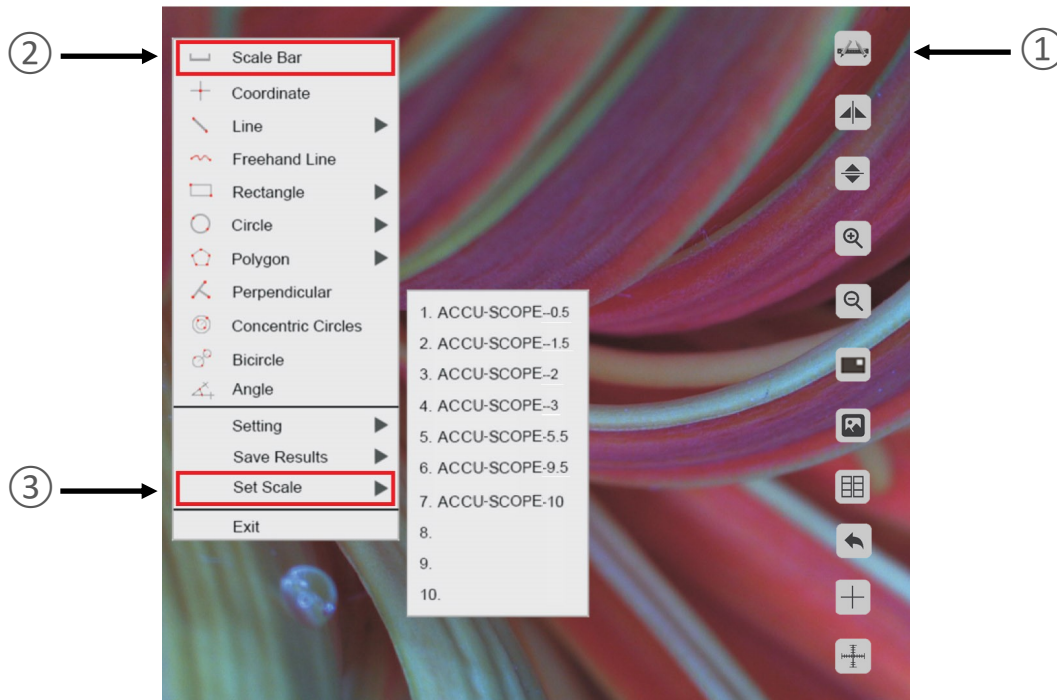
★ Indicates this feature available only on Excelis 4K and AU-600-HD cameras purchased after July 1, 2017 and with SN# ending with “-M” or “-MC” (i.e., 1707001-M).

★ **SCALE DISPLAY & SELECTION FEATURE**

The scale bar can be displayed on the screen which corresponds to the length set during the measurement calibrations. The scale bar can be quickly selected from the first 10 saved calibration tables.

To display the scale bar, **CLICK** the **CALIBRATION** icon ①, then **CLICK** “Start Measurement”.

**RIGHT CLICK** to bring up the scale menu, then **CLICK SCALE BAR** ②, then **CLICK SET SCALE** ③ to show saved measurements. **MOVE** your mouse and **CLICK** on one of the saved settings. The scale bar for that setting will appear on the bottom right of your display.





**IMAGE TOOLS** *(continued)*

★ *Indicates this feature available only on Excelis 4K and AU-600-HD cameras purchased after July 1, 2017 and with SN# ending with “-M” or “-MC” (i.e., 1707001-M).*

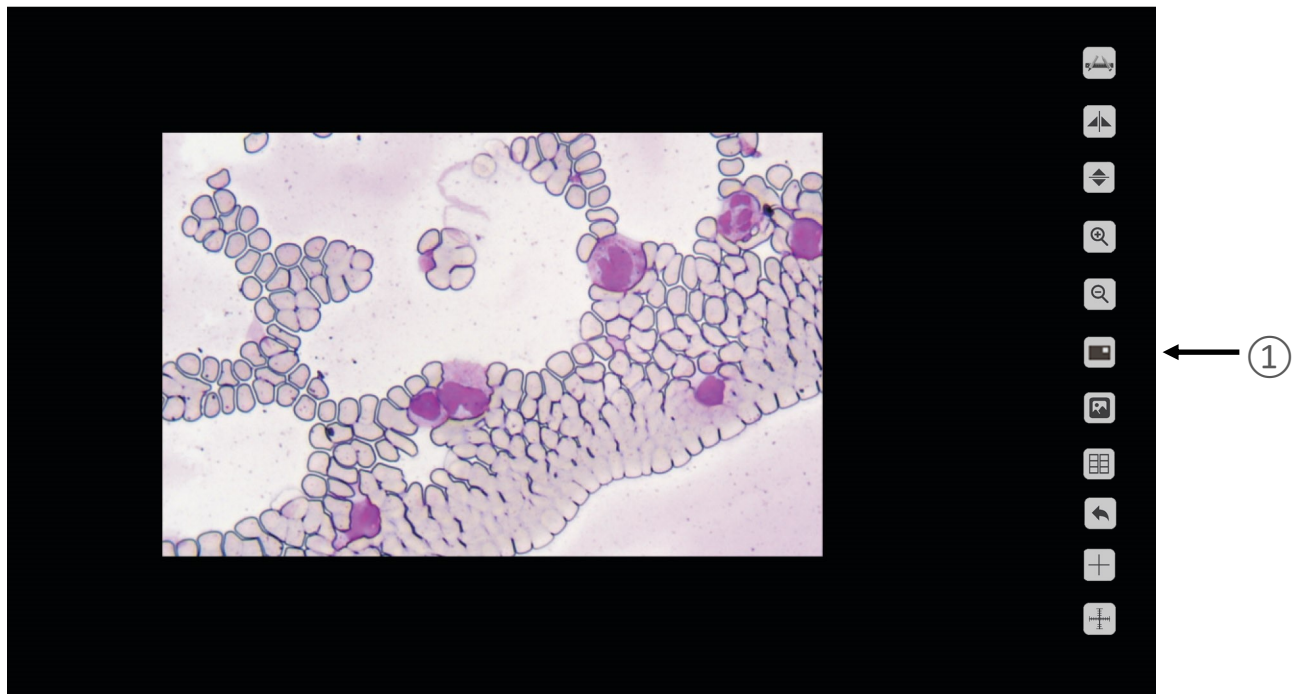
★ **MASK ICON**

The mask feature allows the user to highlight a area of an image to demonstrate, operate or explain. This feature temporarily blacks out nonselected parts of the image.

To apply the mask, **CLICK** the **MASK** icon , and **CLICK** and **DRAG** the mouse/hand cursor over the area you want to highlight, then let go.

You can then move the mask to other areas of your image by **CLICKING**, **HOLDING** and **DRAGGING** the box (masked area) around.

To turn off the mask feature, **RIGHT CLICK**.



## IMAGE TOOLS *(continued)*

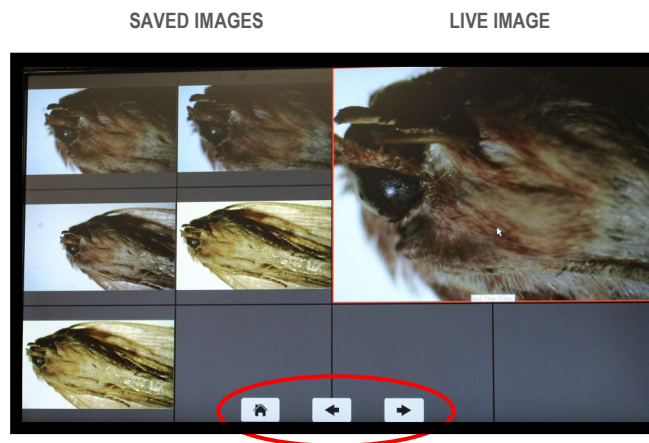
### COMPARISON BROWSER ICONS

The comparison browser allows you to compare saved images on the SD card with the live view.

**HOME:** brings you back to the previous screen.

**BACK:** brings you to the previous page of saved images (if there is one).

**FORWARD:** brings you to the next page of saved images (if there one).



## IMAGE TOOLS *(continued)*

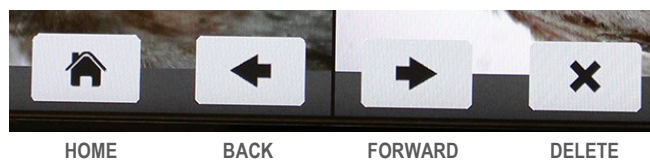
### BROWSER ICONS

The browser allows you to view, select or delete saved images and video on the SD card.

**HOME:** brings you back to the previous screen.

**BACK:** brings you to the previous page of saved images or video (if there is one).

**FORWARD:** brings you to the next page of saved image (if there one).



## Copying/Retrieving Images From the SD Card to a PC or Mac

For *Excelis HDMI*, remove the SD Card and insert into any SD reader to copy images and video from the card to your PC or Mac.

For *Excelis 4K* remove the USB flash drive and insert into any USB port on your PC or Mac to copy/transfer images and video.



## CaptaVision+ Imaging Software

For More Image Control

For more image control, analysis and annotation of images, use *CaptaVision+* imaging software that came with your camera. You can download the latest version of *CaptaVision+* from <https://accu-scope.com/support/software-updates>.

**NOTE:** *CaptaVision+* imaging software is compatible with Windows 7, 8, and 10 (32 or 64 bit), and Mac OS 10.4 and higher

### INSTALLATION ON A PC:

- 1) Find the EXE file "*CaptaVision+* Setup" on the USB flash drive, and double-click it to install the software and driver.
- 2) Follow the installation steps to finish the installation. After the installation, the application software "*CaptaVision+*" shortcut icon will be created on the desktop.
- 3) Connect the camera to the PC.
- 4) Double-click on the *CaptaVision+* shortcut icon to start the *CaptaVision+* imaging software and to view a live image from the camera.

### INSTALLATION ON A MAC:

- 1) The *CaptaVision+* icon will appear in a new Finder window. Drag the icon to the desktop or copy it to the Applications folder.
- 2) Connect the camera to the Mac computer.
- 3) Double-click the *CaptaVision+* icon to start the software and to view a live image from the camera.

For information on how to use *CaptaVision* imaging software, please refer to the *CaptaVision Manual PDF* included on the USB flash drive that came with your camera.

## Limited Warranty

### Digital Cameras for Microscopy

This digital camera is warranted to be free from defects in material and workmanship for a period of one (1) year from the date of invoice to the original (end user) purchaser.

This warranty does not cover damage caused in-transit, damage caused by misuse, neglect, abuse or damage resulting from either improper servicing or modification by other than ACCU-SCOPE or UNITRON approved service personnel. This warranty does not cover any routine maintenance work or any other work that is reasonably expected to be performed by the purchaser. No responsibility is assumed for unsatisfactory operating performance due to environmental conditions such as humidity, dust, corrosive chemicals, deposition of oil or other foreign matter, spillage or other conditions beyond the control of ACCU-SCOPE Inc. This warranty expressly excludes any liability by ACCU-SCOPE INC. and UNITRON Ltd for consequential loss or damage on only grounds, such as (but not limited to) the non-availability to the End User of the product(s) under warranty or the need to repair work processes.

All items returned for warranty repair must be sent freight prepaid and insured to ACCU-SCOPE INC., or UNITRON Ltd., 73 Mall Drive, Commack, NY 11725 – USA. All warranty repairs will be returned freight prepaid to any destination within the Continental United States of America. Charges for repairs shipped back outside this region are the responsibility of the individual/company returning the merchandise for repair.