Quick Start Guide for INFINITY*HD* Cameras

The INFINITY*HD* camera requires only an HDMI connection to your monitor and a power adapter to provide a sharp, colorful, and very fast live video preview from your microscope. Insert the CD provided with the camera into your computer to easily install the INFINITY*HD* application. The application software provides basic camera controls to: optimize the camera's color response to your illumination source; turn the camera on or off; and capture HD resolution images for storage to a file.

Camera setup and connection

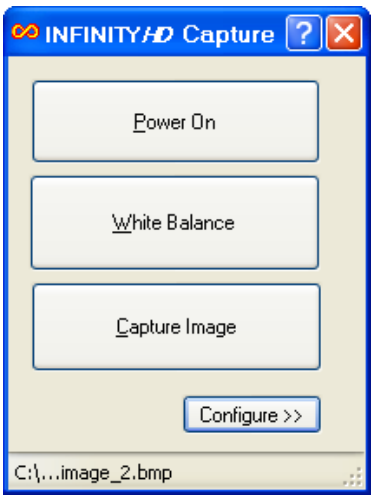
Follow these simple steps to setup the camera:

1. Remove the lens cap and rotate the camera onto your microscope's C-mount adapter.
2. Connect the supplied HDMI cable between the HD monitor and the back of the camera.
3. Connect the supplied power adapter (5V DC) between a wall outlet and the camera's input jack.
4. At this point the camera is operational and streaming video, and the hardware buttons for camera power and white balance functions are active. Ensure your monitor is turned on and that the monitor is configured to accept input from the HDMI port being used by the camera.
5. Place the installation CD into your laptop or desktop computer. The application can be installed on any 32-bit or 64-bit computer running Windows 7, VISTA, or Windows XP.
6. Follow the on-screen instructions to complete the installation.
7. Connect the supplied USB 2.0 cable between the computer and the mini-USB port on the back panel of the camera, and allow Windows to load the device driver files.
8. Launch the INFINITY*HD* application from the Windows Start menu.

Camera Control Buttons

Three physical buttons are accessible on the front of the camera. They provide direct camera control for **Power on/off**, **White Balance** and **Image Capture.** NOTE: The **Image Capture** function requires a USB connection to a PC, with file storage configuration defined, and the INFINITY*HD* CAPTURE application must be running.

Using INFINITY*HD* CAPTURE



The dialog for controlling the INFINITY*HD* camera is very simple to use. The main dialog shows three large button controls, and the Configure >> button, as seen in the image to the right.

1. **Power On** – this button is used to toggle the camera output to be either On or Off.
2. **White Balance** – select this button to perform a color balance operation that sets the camera's color response to match the light source / filter combination that is in-use. See below for additional details on White Balance.
3. **Capture Image** – Use this button to grab an image from the camera's live stream and have it saved to the computer.
4. The **Configure** button is used to expand the application dialog to provide access to fields that control the filename, file type, and folder location for the captured images. It is also used to collapse the Configure menu.
5. At the base of the dialog, the current filename specified for captured images is presented.

Lumenera Corporation • 7 Capella Court, Ottawa, ON, Canada K2E 8A7 • (t) 1.613.736.4077 • (f) 1.613.736.4071 • www.lumenera.com • support@lumenera.com

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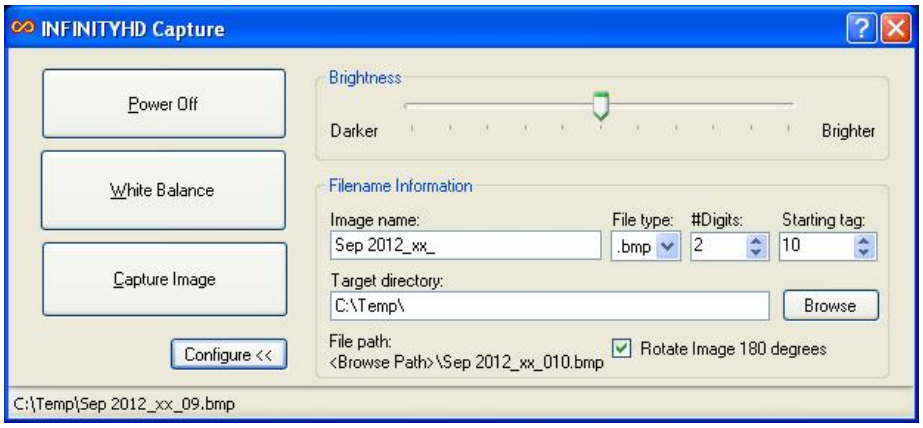

Image Orientation

Use the option "Rotate Image 180 degrees" on the configure menu to control the orientation of the camera output image. It takes 15 to 20 seconds to update the on-camera settings when this option is selected. The user interface buttons will be temporarily disabled, and the status bar shows the progress of the update. Once the settings are saved, the image orientation will be persistently stored on the camera.

Preview the HD Video Output

The camera's video output stream is displayed directly on the HD monitor. **Note:** The monitor must support 1080p60 format in order for the video preview to be displayed.

Adjust the microscope lamp to a bright setting. The camera automatically adjusts the image brightness as the objectives are switched on the microscope, or as the sample is changed. The best image quality is achieved when plenty of light is reaching the sensor. The INFINITY*HD* CAPTURE application provides a target brightness setting to allow the camera's default brightness level to be manipulated. Moving the **Brightness** slider to the right will cause the camera to produce a brighter image and moving it to the left will darken the image. Return the slider position to the center to restore the default brightness target value.

Performing a White Balance

This is one of the most important steps to be performed when the camera is setup on the microscope. It must also be repeated if the illumination conditions are altered. The camera's red, green, and blue pixels respond to the color temperature of the light source. If the intensity of the lamp is altered, or if optical filters are placed in the light path, then the camera's perception of the light is altered and the display of colors will change. The most recent white balance setting is automatically stored in the camera, even if the camera is disconnected from the power supply. This enables the camera to operate without the USB connection to the computer, once the White Balance operation has been completed.

Configuring Image Capture

The INFINITY*HD* CAPTURE application will expand when the **Configure** button is selected. Use the options present on the dialog extension to specify the prefix for the captured image filename, to specify the number of digits, and a numeric start value for the filenames applied to each captured image. Images will be stored in the specified folder and will be sequentially numbered based on the values entered. The folder location for the captured files can be either entered directly in the Target directory field, or click the Browse button to display a standard Windows directory selection panel.

Note: It is normal for image capture to take a few moments as the camera's HD format output image must be prepared for delivery over the USB 2.0 interface to the computer.