

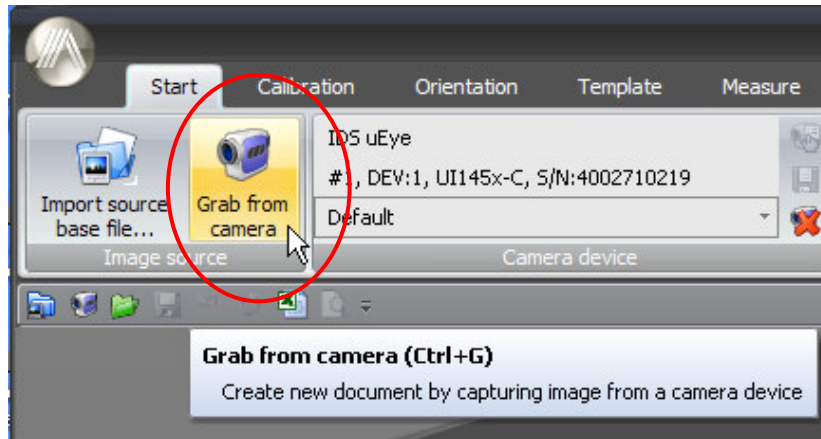
Working with Images

Direct from Camera



ATOMS
Precision V2


In this tutorial, we look at the how to import images directly from a Camera. In the **Start Tab/Image Source** panel, we find the **Grab from Camera** command as shown in figure 1. This command can also be found in the **Quick Access Toolbar** or the **Application Button** and is used for taking a snapshot of the object directly from a camera.



In this example, we use a metal plate as shown in figure 2. We recommend placing the object against a white or green light to get a good & clear profile from the image.



Figure 2

We can also use the camera icon  at the **Measurement Light** menu to activate the camera. After clicking the camera icon, we see the plate appear on the screen as shown in figure 3.

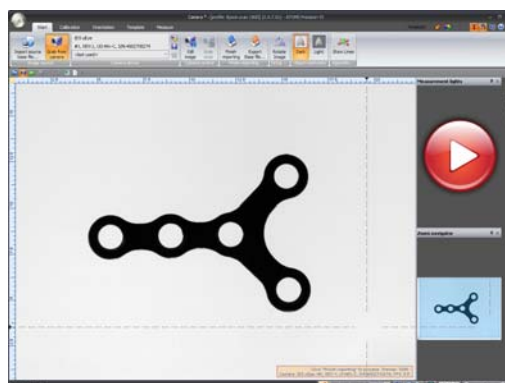


Figure 3

If you have multiple cameras installed on your computer, you can select the video device to use from the **Options** menu under the **Video Grabber** section as shown in figure 4.

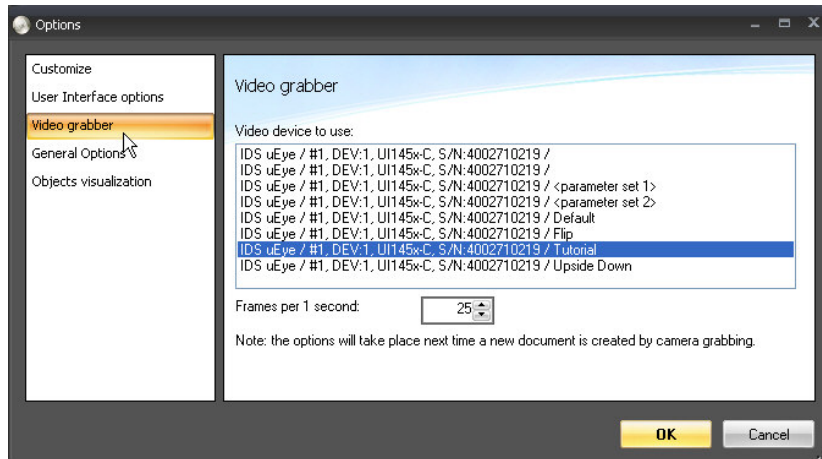


Figure 4

Atoms Precision V2 has been developed to be compatible with a variety of cameras. A IDS uEye USB camera is used in this tutorial. The selected camera is displayed in the **Camera Device** panel where we can edit a camera setting, save a new setting or delete a setting.

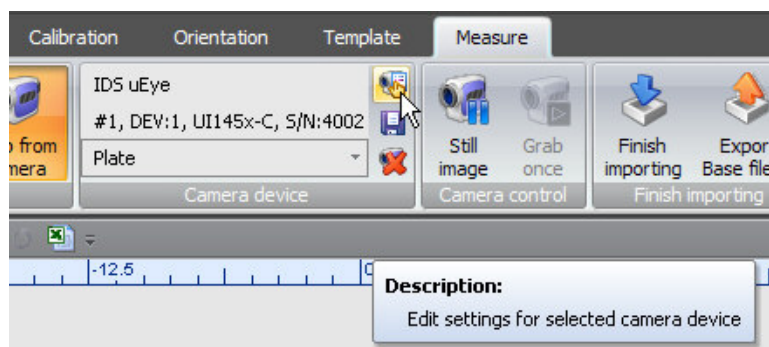


Figure 5

Under the **Camera Tab**, we can specify the *Pixel Clock*, the *Frame Rate* and the *Exposure Time*. We recommend using the **Optimum** setting for the *Pixel Clock* and **Max** for the *Exposure Time* as shown in figure 6.

You can make the necessary adjustments so as to get a clear and good contrast image of the object. This will make it easier for you to get a sharp focus of the object when adjusting the camera focus. You may need to adjust the aperture of the camera depending on the intensity of the light used as the background.

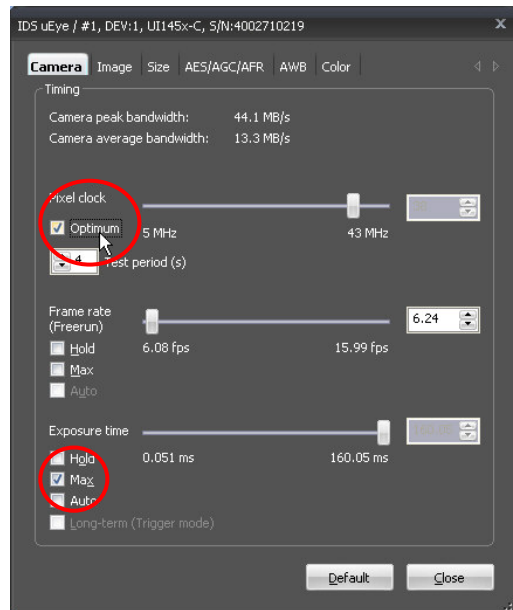


Figure 6

In the **Size Tab**, you can flip the Image by using the **Mirror Left/Right** and **Mirror Up/Down** options as you require as shown in figure 7.

These options enable to flip the image horizontally or vertically without having to physically flip the object.

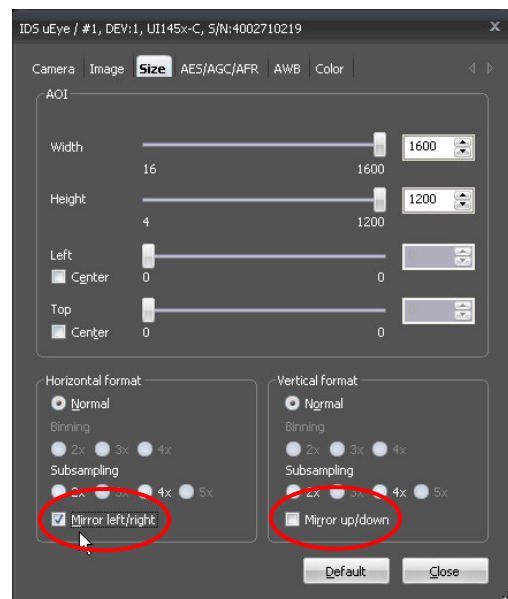


Figure 7

Moving to the **Color Tab**, you may want to try the “Best” option to get sharper image as shown in figure 8.

Start by using the default values for any settings when in doubt. From these values you can make the necessary adjustments as required.

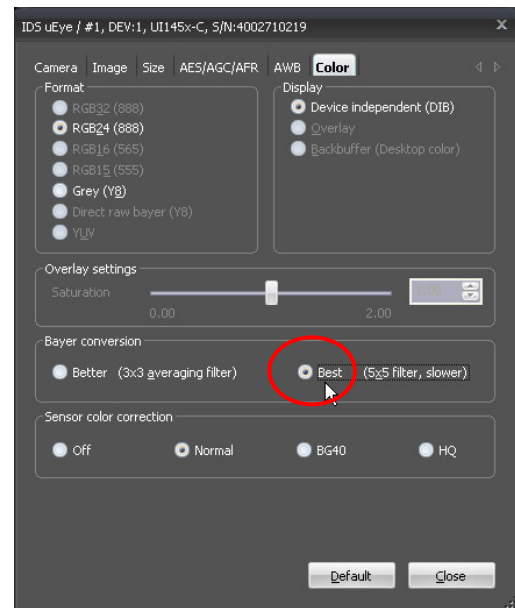


Figure 8

You can also switch from one camera setting to another using the drop-down list easily. Shown in figure 9 are some camera settings saved earlier.

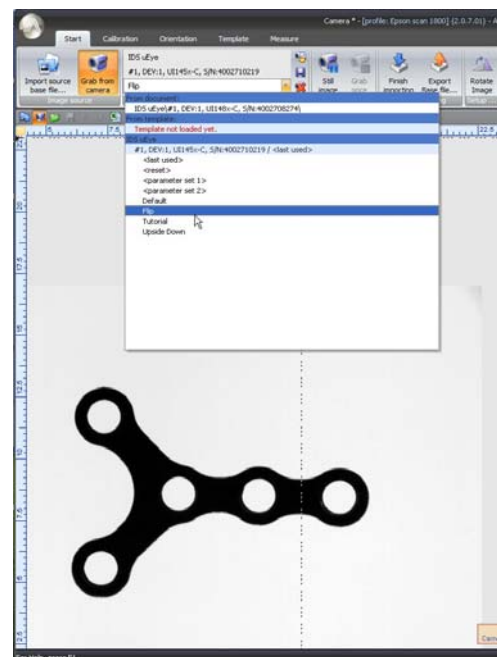


Figure 9

Figure 10 shows a clear and sharp image obtained by optimally adjusting the aperture of lens of camera, intensity of light and camera focus. A red backlight is used in this case.



Figure 10

Figure 11 shows a poorly adjusted image. The contrast is too strong due to the high intensity of the light and the focus of the camera is not well adjusted resulting in a blurred image.

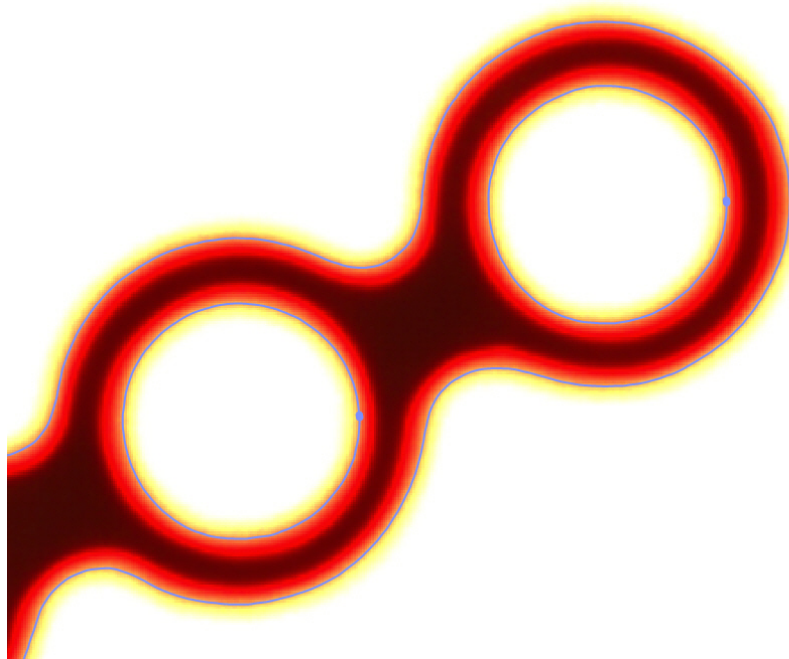


Figure 11



To “freeze” momentarily, you can use the **STILL IMAGE** command while the camera is active.




While the **STILL IMAGE** command is active, you can use the **GRAB ONCE** command to retake a snapshot again from the camera.



To rotate an image by 90 degrees, you can use the **ROTATE IMAGE** command.



When you are satisfied with the image and want to finalize it, you can click either the **FINISH IMPORTING** command or the camera  icon at the Measurement Lights panel.

The contour is then created by Atoms Precision V2 for the imaged captured. The contour of the profile can be seen clearly in figure 12 in the zoomed area of the image.

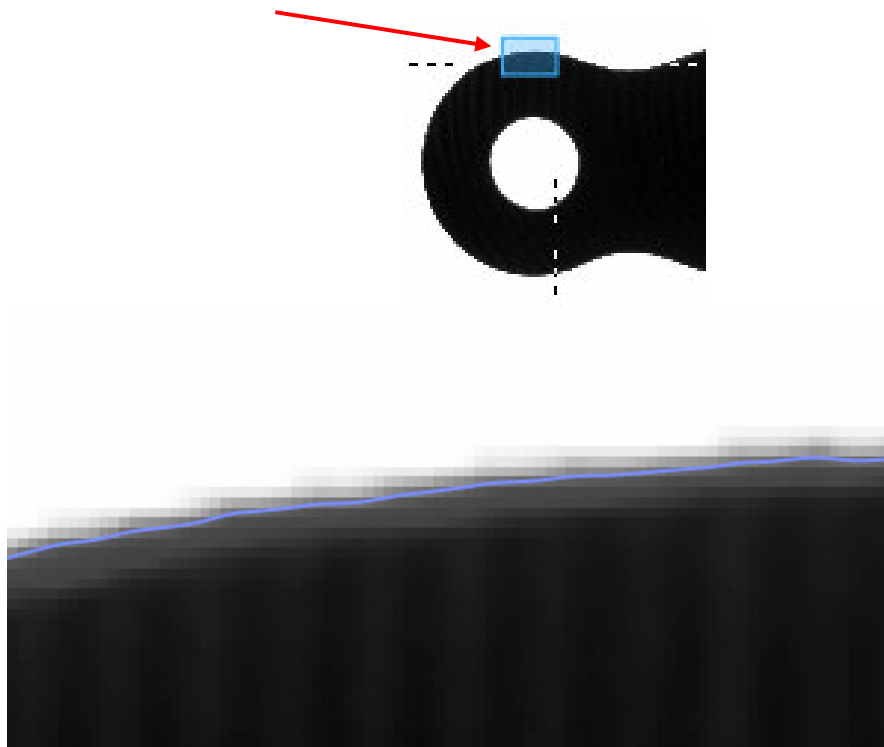
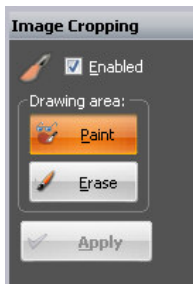


Figure 12



In some cases we may have unwanted areas of the captured image such as from a holder, a bracket or light spots. We can use the **Image Cropping** tool to remove these unwanted portions.

Use the **Paint** tool to click and drag a 'mask' onto the area to be cropped. Any area incorrectly masked can be removed by the **Erase** tool. Finally click on the **Apply** button when finished masking. The contour where the image is cropped is deleted.

Tips

1. If possible, shut off interfering lights from the surroundings, leaving only the backlight on.
2. The backlight should ideally be of LED type that will provide sufficient intensity.

In this tutorial, we learned how grab images directly from camera in Atoms Precision V2. Thanks for viewing this tutorial and please view the other tutorials in this series to learn more about the features of Atoms Precision V2.

