

FEATURES

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Auto Exposure

AUTO EXPOSURE APPLICATIONS:

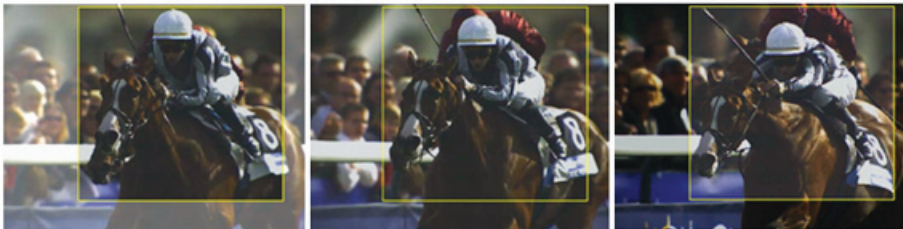
Applications that benefit most from Auto Exposure include:

- Outdoor ranges where cloud cover is present
- Object tracking where the background changes dramatically
- Object tracking where target enters or leaves a shadow
- Test where a high intensity light source adds additional illumination to the area of interest during the recording

INTRODUCTION:

Auto Exposure adjusts the overall exposure of the field-of-view based on the light level measured within a user defined area of interest. The user needs to simply input a gray scale level, click-drag a box in the image around the area containing the desired exposure, and enable the Auto Exposure feature. Auto Exposure is beneficial when the overall lighting changes dramatically during a recording. As the lighting changes, the camera automatically adjusts the shutter speed to maintain a constant light level in the defined area.

The following images illustrate the result of using the Auto Exposure feature.



In the image sequence above notice how the area of interest, inside the rectangle, remains properly exposed even when cloud cover changes the exposure of the surrounding area of the entire scene.

GENERAL OPERATION:

Auto Exposure is most useful in constantly changing lighting conditions. Cloud movement can affect exposure by two or three f/stops. To use Auto Exposure most effectively, it should be set using the longest acceptable Exposure time with the lens stopped down. Once enabled, open the lens iris to the widest aperture. The camera will automatically increase the shutter speed to compensate for the additional light. When set in this manner, the user allows either a brighter or darkening of the overall lighting while maintaining an overall exposure.

HOW TO SPECIFY THE AUTO EXPOSURE SETTING:

The following procedure describes the steps necessary to set Auto Exposure setting:

1. Start the PCC (Phantom Camera Control) application.
2. From the Manager Control Panel select the Phantom camera to be defined by moving the mouse over the desired available Phantom camera you wish to control, then double-click the left mouse key.

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IMPORTANT OPERATION NOTES:

The larger the Auto Exposure area is the slower the Auto Exposure adjustment becomes.

The Auto Exposure feature cannot be used in conjunction with the EDR, (Extreme Dynamic Range), feature. Once the Auto Exposure feature is enabled EDR will automatically be disabled.

Auto Exposure feature should not be enabled while performing a CSR, (Current Session Reference), calibration adjustment.

Focused

Since 1950, Vision Research has been shooting, designing, and manufacturing high-speed cameras. Our single focus is to invent, build, and support the most advanced cameras possible.



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3. Click on the Auto Exposure Selector and define the Auto Exposure parameters:
 - a. Enable, (check), Auto Exposure.
 - b. Specify the desired Level, the average gray scale level for the specified area, to be realized by the automatic exposure process, (i.e., for an 8-bit pixel image depth a mid gray level is 128, black is 0, and saturation is 255), by either:
 - 1) Clicking the up/down arrows to the right of the Level entry window, alternatively
 - 2) Type the desired Level into the entry window.
 - c. Define the area of interest Rectangle:
 - 1) Dragging a box around the Image-Based Auto-Trigger Area.
 - a) Place the cursor over the image, to the upper left-hand corner or the Area, in the selected Phantom camera's Preview Panel.
 - b) Hold down the left mouse key, then
 - c) Drag the cursor to the lower right-hand corner or the Area, in the selected Phantom camera's Preview Panel, then
 - d) Release the mouse key.
 - e) Select the Auto Trigger option when the pop-up dialogue window displays.
 - 2) Alternatively, manually enter the XY coordinates of the Top, Left, Right, and Bottom pixels to define the Area.
 - a) Place the cursor over the image, to the upper left-hand corner or the area of interest, in the selected Phantom camera's Preview Panel, and note the XY: values in the Preview Panel Status Bar.
 - b) Enter the X value in the Area Left entry window, then
 - c) Enter the Y value in the Area Top entry window.
 - d) Move the cursor to the lower right-hand corner or the area of interest, in the selected Phantom camera's Preview Panel, and note the XY: value in the Preview Panel Status Bar.
 - e) Enter the X value in the Area Right entry window, then
 - f) Enter the Y value in the Area Bottom entry window.
 - 3) Or click on the Full button to auto-expose the entire image area.