

IVIS platform: Auto-exposure

Auto-exposure automatically sets the exposure time, f/stop and binning to keep the signal within an optimal range for quantification.

To use auto-exposure, select **Auto** on the **Exposure Time** entry field by scrolling down below '0' (Figure 1).

This tech note outlines procedures on using auto-exposure on the IVIS® platform using Living Image® software.

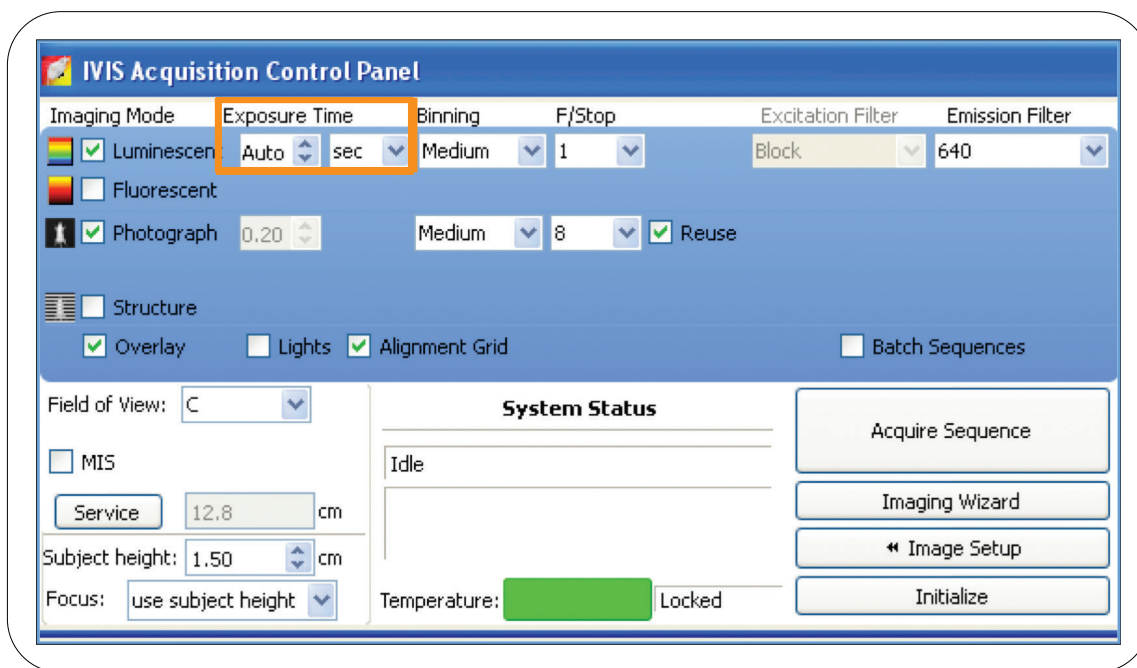


Figure 1. Auto-exposure can be found underneath Exposure Time in the Control Panel. Click the down arrow until it says "Auto".

You can control which imaging parameters are varied along with the order and range of parameter adjustment (Figure 2). The auto-exposure settings can be found at **Edit > Preferences**, on the **Acquisition** tab.

The IVIS® will take a snapshot of the bioluminescent or fluorescent source and record the counts. Sensitivity settings used for the snapshot image will be adjusted in order to obtain the desired user definable **Target Count Minimum**. You can define separate targets for bioluminescence, epi-fluorescence and trans-fluorescence images. It is advantageous to raise the Minimum Target Count at or around 30,000 counts as to bring out low intensity signals (e.g., finding small metastases in a mouse with a large primary tumor or imaging multiple mice that have widely varying signal intensities). Raising the target above 30,000 counts, though, will increase the chance of oversaturation.

Sensitivity settings will be adjusted beginning with your **First Preference** until the target count level has been attained. If the target level cannot be closely approximated by adjusting the first preference, the software also uses the second and then third preferences to attempt to reach the target level during image acquisition using the user defined settings on the control panel as a starting point.

Default settings are, Exposure time of 0.5 - 60 sec. (max. of 300 sec.) for First Preference and Binning of 1-8 (Small binning = 4, Medium = 8, Large = 16) for the Second Preference. Third Preference defaults to f/Stop ranging from 1 (largest aperture) to 8 (smallest aperture). For maximum sensitivity, set your exposure maximum to 300 sec (5 min) and your binning maximum to Large (16). The camera is incredibly sensitive, so if you do not see any signal after a 5 minute exposure, please contact your regional field application scientist to discuss changes you could make to your experimental design to improve visualization of your target.

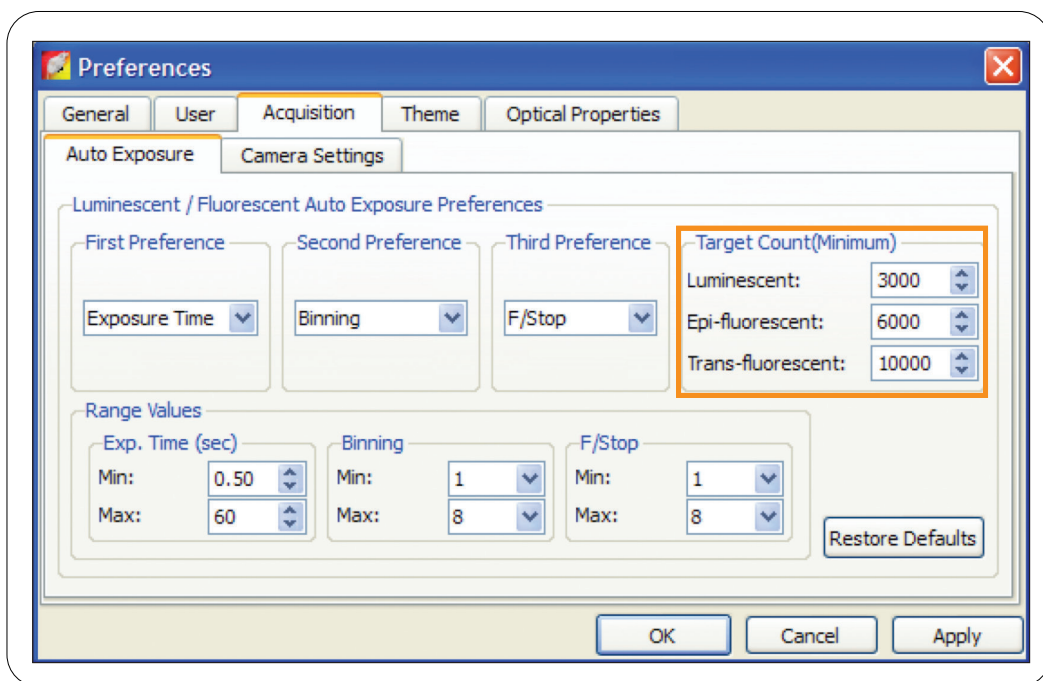


Figure 2. Auto-exposure preferences window.

