

Mask unwanted reflections

Masking enables grayscale blobs that are generated from reflections of objects other than markers (eg, reflections from floor or furniture, or opposing camera strobe rings) to be ignored by the Vicon cameras. In capture volumes where this spurious data is present, camera masking improves calibration robustness and reconstruction quality.

In Nexus, masking is shown as a grid of small blue tiles superimposed over the camera image in a **Camera** view, each cell of which can be set to obscure unwanted reflections that are seen by a camera.

Vicon Nexus offers both automatic masking and tools for manual masking. If you have a large number of reflections in your capture volume, it is a good idea to create camera masks automatically first. You can then eliminate any remaining reflections by creating masks manually.

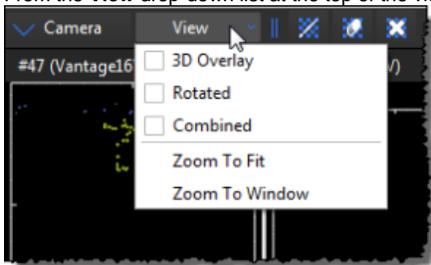
For more information, see:

- [Automatically create Vicon camera masks](#)
- [Manually create Vicon camera masks](#)

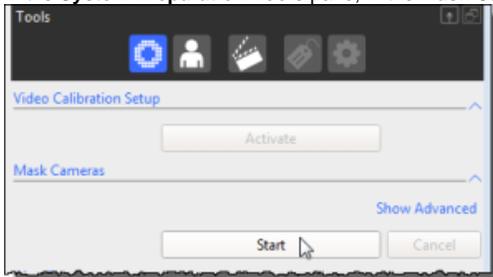
Automatically create Vicon camera masks

To automatically create camera masks:

1. Remove from the capture volume any unnecessary objects, such as calibration objects. For best results, the capture volume should be entirely free from objects likely to cause background interference.
2. In the **Resources** pane, ensure Nexus is in Live mode.
3. From the **System Resources** tree, select all Vicon cameras.
4. From the view pane toolbar, select **Camera** to display the 2D data being captured by each selected camera in a separate **Camera** view.
5. From the **View** drop-down list at the top of the view pane, ensure that the **3D Overlay** and **Combined** options are cleared.



6. In the **Options** dialog box (F7), under the **General View Options** section ensure that the **Threshold Map** option is selected.
7. Ensure you have adjusted camera settings as described in [Configure Vicon optical cameras for data capture](#). Any reflections are clearly visible in the **Camera** view, typically as non-circular areas of grayscale or edge data. Note that as reflections can severely affect the camera data rates, you may find that the camera overloads. In this case, the camera automatically sends edge data instead of full grayscale.
8. In the **System Preparation Tools** pane, in the **Mask Cameras** section, click **Start**.



9. The **Start** button switches to its **Stop** setting. Nexus starts recording the data visible to each of the cameras connected. Any camera masks created are displayed as blue cells in the **Camera** views for affected cameras. If there is no data visible to a particular camera, Nexus does not create any masks for it. About 30 seconds of recording is generally sufficient to enable Nexus to collect the data visible to the cameras.
10. After about 30 seconds, click **Stop**. If you still see unwanted reflections, you can start and stop the **Mask Cameras** option again until you have hidden the reflections, or mask any remaining reflections manually.

Manually create Vicon camera masks

You can manually create masks to eliminate any reflections in the capture volume that are visible to the cameras. If you have a large number of reflections in your capture volume, it is a good idea to create camera masks automatically first (see above).

To manually create camera masks:

1. From the capture volume, remove any unnecessary objects, such as calibration objects. For best results, ensure the capture volume is entirely free from objects likely to cause unwanted reflections.
2. From the **System Resources** tree, select all Vicon cameras.
3. From the view pane toolbar, select **Camera** to display the 2D data being captured by each selected camera in a separate **Camera** view.
4. From the **View** drop-down list at the top of the view pane toolbar, ensure that the **3D Overlay** and **Combined** options are cleared.

5. In the **Options** dialog box (F7), under **General View Options**, ensure that **Threshold Map** is selected.



Tip

The **Threshold Map** default color is blue, but you can change the color in the **Options** dialog box. In the following descriptions, the masking tiles are described as blue.

6. Ensure you have adjusted camera settings as described in [Configure Vicon optical cameras for data capture](#). If reflections are present, they should be clearly visible in the **Camera** view, typically as non-circular areas of grayscale or edge data. Note that as reflections can severely affect the camera data rates, you may find that the camera overloads. In this case, the camera automatically sends edge data instead of full grayscale.
7. From the view pane toolbar, use the following buttons to obscure any unwanted reflections visible to the selected Vicon cameras. (When you click any of these buttons, a grid of small blue tiles is superimposed over the camera image in each **Camera** view.)

- Paint a mask onto the camera



Click an individual tile, click and drag across multiple tiles, or hold down ALT and click while dragging the mouse across an entire area of unwanted reflections visible in the camera grid. You can drag the mouse horizontally, vertically, or diagonally. When a cell is painted, its background color changes from black to blue. The camera mask consists of blue cells obscuring unwanted reflections.

- Erase a mask from the camera



Click an individual tile, click and drag across multiple tiles, or hold down ALT and click while dragging the mouse across an entire area of blue cells in the camera grid. You can drag the mouse horizontally, vertically, or diagonally. When an individual cell is erased, its background color changes from blue to black, and any reflection that had previously been obscured is visible again.

- Clear the mask from the camera



Click the button to automatically remove the entire mask from the camera. When the mask is cleared, the background color of any previously painted cells changes from blue to black, and any reflections that had previously been obscured are visible again.



Tip

To zoom in on the images, right-click and drag the mouse forward (to zoom in) or backward (to zoom out). To pan the image, click both mouse buttons and drag.

The camera masks are applied in real time and are saved along with your camera calibration.