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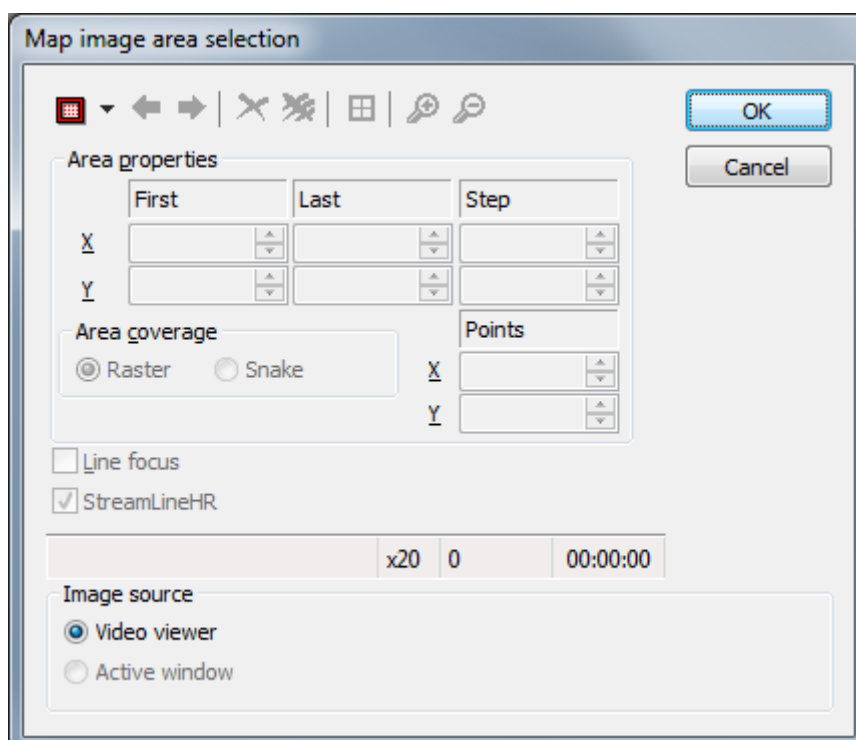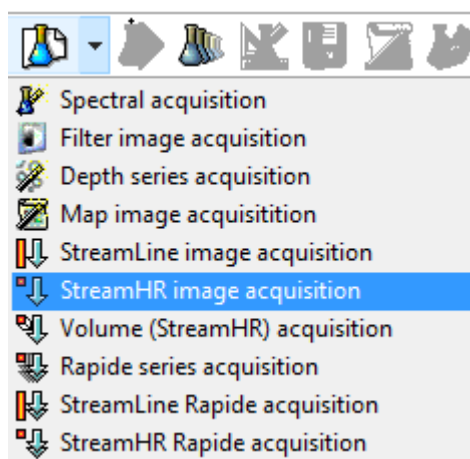
TM009 - StreamHR imaging   WiRE™ 5

This document aims to show the WiRE™ 5 user how to use the StreamHR fast imaging mode in conjunction with the Renishaw RenCam detector.
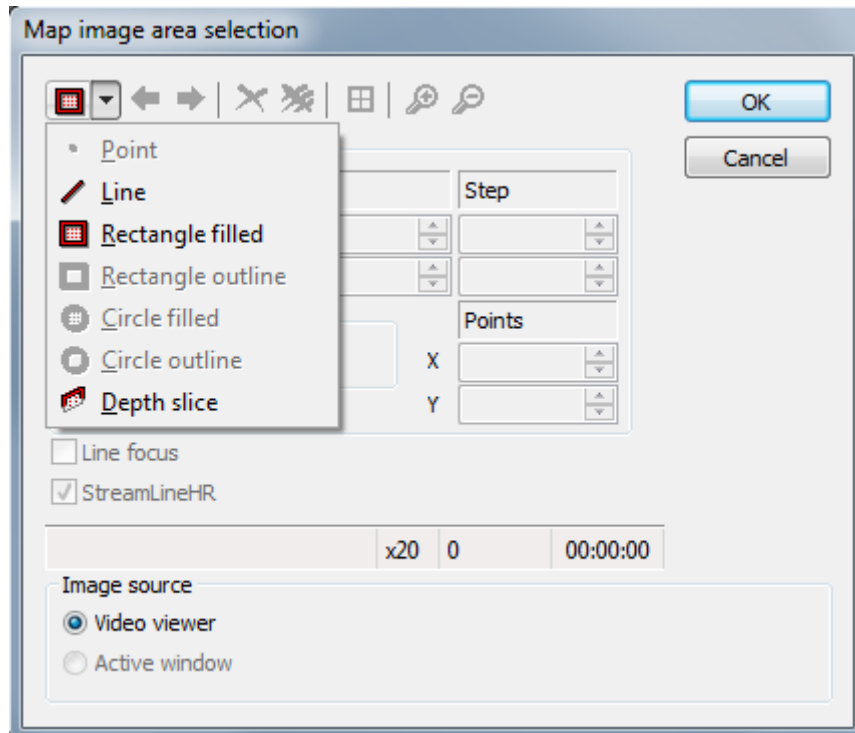
StreamHR imaging

Ensure that a suitable configuration has been selected (typically a spot focus laser with no line focus lens. Do not use 'Linefocus' or StreamLine imaging laser types).

1. Select **Measurement….New…StreamHR image acquisition** to initiate the Map Image window.
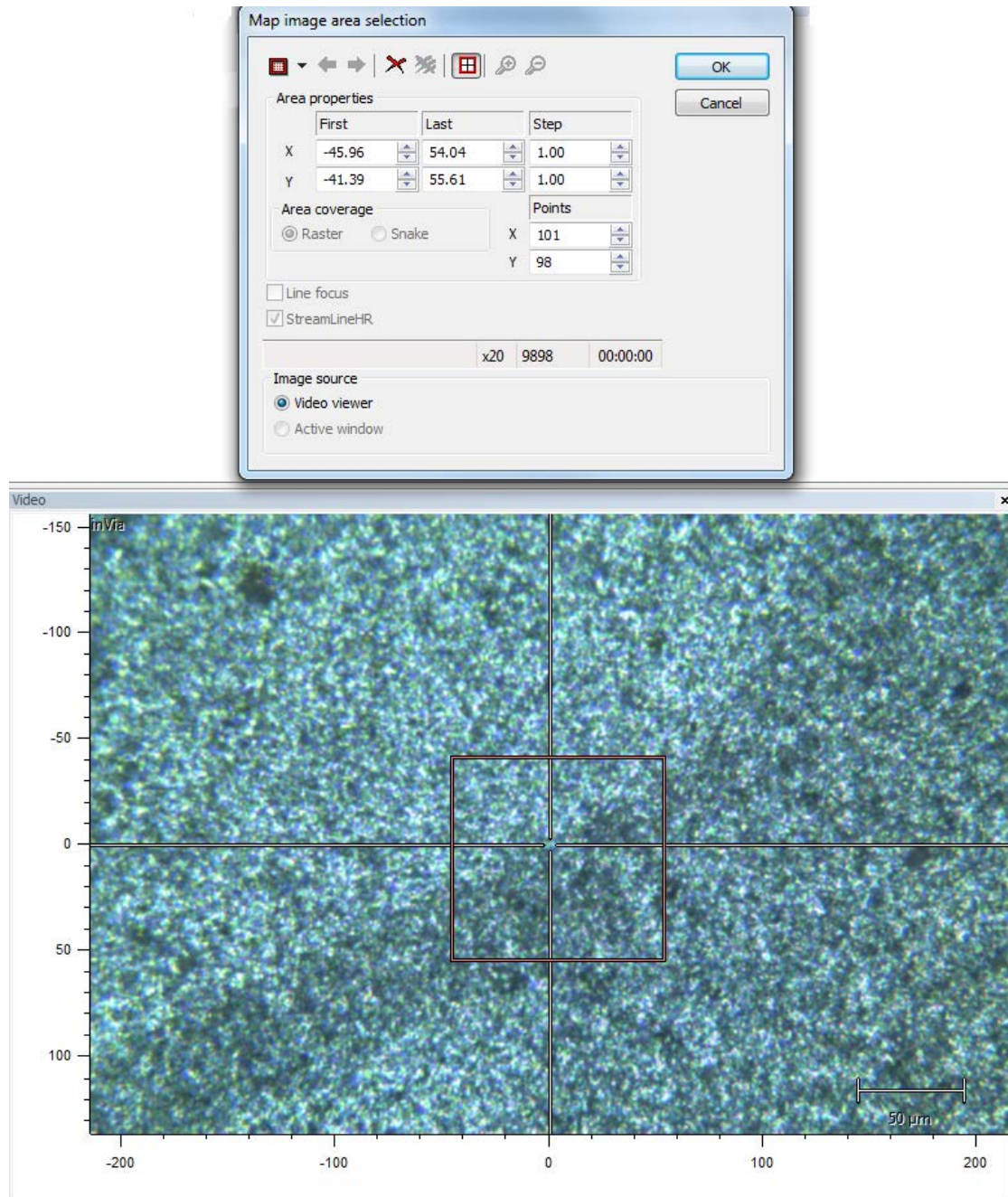
2. Use the line, filled rectangle, or depth slice options to define the mapping area on the live video image (displayed within the video viewer), or snap / montage image (displayed within the still image viewer):
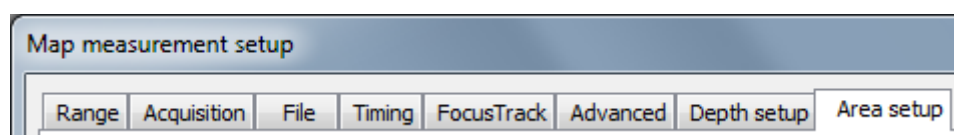

The first and last XY co-ordinates can be adjusted by typing directly into the boxes. The XY step sizes can be altered in the Map Image window. The default XY step size is 1 µm. However, a minimum step size of 0.1 µm (100 nm) can be used in conjunction with the Renishaw High Speed Encoded Stage (HSES).

StreamHR only supports the Raster direction pattern for map data acquisition.

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3. When the map is defined, and **OK** is pressed, the Map Measurement Setup window is activated. The Range, Acquisition, File, and Advanced tabs will be familiar to the user as they are identical to those that appear in the general Spectral Acquisition setup. The Area setup tab allows the user to review the map area settings i.e. co-ordinates, and XY step sizes.

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4. Use the 'Range' tab to set the centre position of the scan (the spectral range and spectral resolution will depend on the laser wavelength, grating groove density and detector type).

5. Use the 'Acquisition' tab to select the exposure time and laser power to be used. StreamHR has a minimum exposure time which of 0.05 s (50 ms).

6. Select the 'close laser shutter on completion' option.

7. Go to the 'File' tab and define the filename and location. Select the 'Auto increment' option to ensure the data cannot be overwritten.

8. Once **OK** is pressed, the mapping measurement can be started using the button.

   A new viewer opens with the base image on the left, and the spectrum acquired at each point on the right hand side. The lower portion of the window gives information on the current acquisition and time remaining for the measurement to complete.

9. Once map data collection has finished, a Map Review window opens showing the base white light image and the spectrum corresponding to the current cursor position.
   (Tip: On loading a saved map dataset, this view can be regained by selecting **View…View map data**).

It is possible to recover files which have not been saved for a period of up to 7 days (see module TM18).