

BCi₄ CMOS Camera Video Extensometry

Features Utilised

- Area with Window Of Interest
- Single Line-scan
- *n*-Line scan
- 8 bit, 12 bit digital output
- Serial LVDS
- PCI-Interface



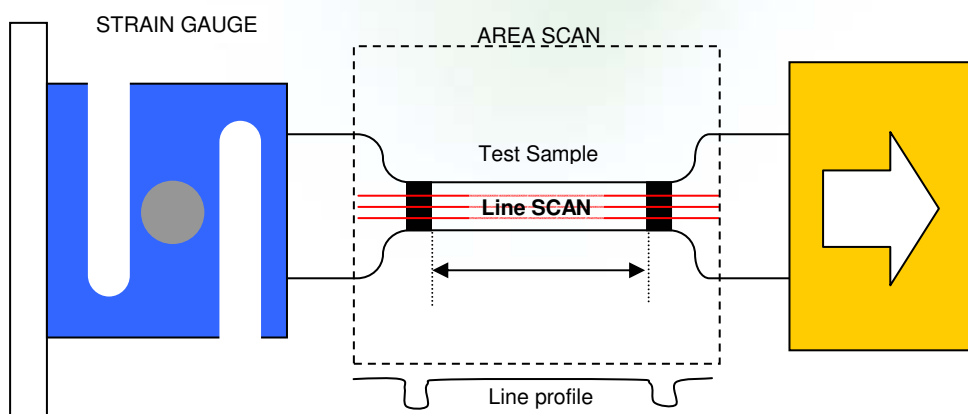
The BCi4 camera has been applied in the field of video extensometry to acquire high-speed images during test sequences. The user recovers high-resolution load-strain curves for material evaluation.

The PCI-LS Interface is used to configure the camera for "sight-finding" presenting a complete area scan of the test scene. The user can then choose the location of one or more lines to be captured during the test sequence.

When the test is started the camera changes from area scan to high-speed multi-line acquisition, only reading out the chosen lines. The external trigger input of the BCi4 camera is used to synchronize the acquisition of line-sets with the readings of the strain-gauge of the extensometer.

The PCI-LS interface reads batches of lines from the camera in the same way it would read an area, and deposits these lines into PC memory using DMA techniques. In this way there is no requirement for intervention of the CPU and data retrieval runs at full speed, without interruption.

Later the data can be recovered from memory and processed by the user's application software. The resulting image stream shows the change in position of the marker lines in relation to the force applied.



Area scan mode is used to view the test scene and choose the location of lines to be acquired during the test.

Line scan mode reads the defined pixels at high-speed during the test. (>11000 lines per second)