## Multi Camera Machine Vision

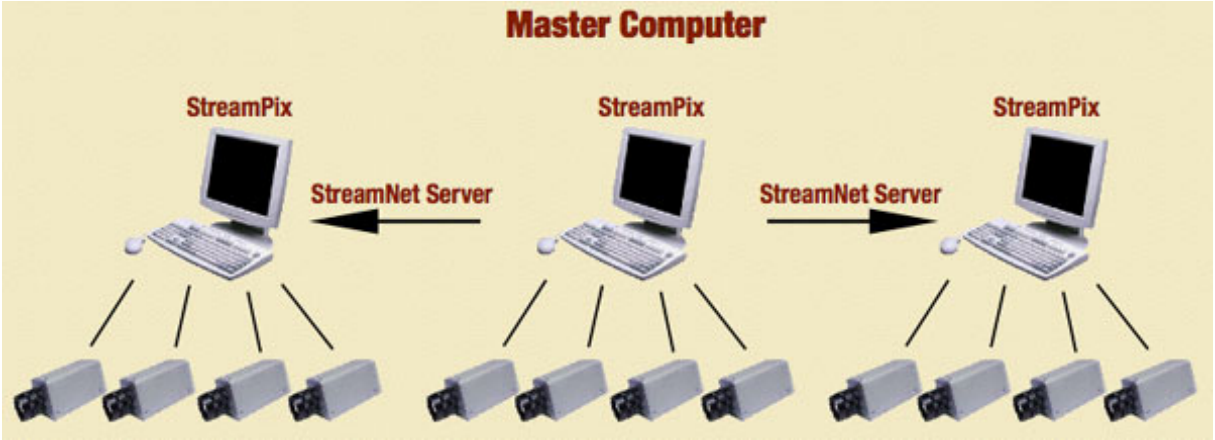
In a typical video trouble shooting application, a camera monitors an area or object, waiting for an “Event Trigger”. When an event trigger occurs, the software records the event, including a specified pre- and post-event buffer. Positioning the camera for optimal event capture can be problematic. In addition, reviewing the video of an event does not provide any information about other conditions at the time.

StreamPix 4, by NorPix, overcomes these limitations by using multiple cameras to simultaneously inspect various steps in a process from numerous vantage points. Because the video output of all cameras can be viewed and controlled from within the same GUI, it is much easier to manage multiple camera acquisition. The user can go back and visualize all the videos and pinpoint down to the millisecond what happened before and after the event trigger.

## Sample System

The following sample system uses 12 cameras on 3 computers with all 12 cameras synced together using an external trigger pulse. It should be noted that when acquiring multiple cameras on a single PC, limitations exist depending on the resolution and speed of the cameras.

The system consists of 4 high resolution high-speed GigE cameras connected to each of 3 PCs. StreamPix 4 supports the GigE standard which allows for the transmission of image data between the cameras and PCs over Gigabit Ethernet. The Gigabit Ethernet protocol also accommodates long distances between cameras and computers. Because the system uses off the shelf hardware, building and maintenance are straightforward.




## Simultaneous Image Acquisition

Image recording from the 12 cameras is controlled simultaneously by the StreamNet Server which resides on the master computer.  StreamNet also

broadcasts actions to all 3 computers and triggers all cameras simultaneously.

## Data Transfer and Storage

The Multi Camera acquisition system features impressive data transfer rates and storage space. The current data rates are 2040 x 1080 x 10 bits (pixel packed) x 30 fps per camera. This breaks down to 80 Mbytes/second per camera and 320 Mbytes/second per computer. The 600 Gigabytes of recording space per camera makes for ample storage of approximately 7 Terabytes in total, or over 125 minutes per camera.

Using the StreamPix new multi-disk feature, a total of 16 Terrabytes is possible.

## Flexibility

Norpix can also provide alternative solutions. For example, the Plugin SDK allows users to add input data from third party sources such as outside temperature, atmospheric pressure or GPS positioning along with the images in a sequence. The included Macro Builder lets users develop customized time lapse video acquisition.

## Additional Information

For further information on StreamPix 4 for multiple camera acquisition, go to: http://www.norpix.com/products/multicamera.php, contact sales at sales@norpix.com, or call (514) 907-1588.