

Additional notes:

There have been some updates since the document has been written. Please see below for updated information.

## DualSimpleLiveAppStreamSavingExternalTrigger.vi

The screenshot shows the LabVIEW front panel of the 'DualSimpleLiveAppStreamSavingExternalTrigger.vi' VI. The interface is divided into two main sections for 'Camera 1' and 'Camera 2'. At the top, there are control buttons: 'Open' (1), 'Close' (2), 'Live start' (3), and 'Live stop' (4). Below these are status indicators for 'Camera Status' (5) and 'Available Ram' (6). The main section contains two columns of controls for each camera. For Camera 1, the controls include: 'Exposure Time' (7), 'Stream Saving On/Off' (8), 'Big TIFF On/Off' (9), 'Multi Page TIFF Size' (10), 'Format' (11), 'Path' (12), 'Buffer Index' (13), 'Dropped Frames' (14), 'Disk Stream Dropped Frames' (15), 'Multi Page TIFF Size Read' (16), 'StreamSavingPath' (17), 'Trigger Out Behaviour' (18), and 'Trigger In Behaviour' (19). For Camera 2, the controls include: 'Exposure Time 2' (20), 'Stream Saving On/Off 2' (21), 'Big TIFF On/Off 2' (22), 'Multi Page TIFF Size 2' (23), 'Format 2' (24), 'Path 2' (25), 'Buffer Index 2' (26), 'Dropped Frames 2' (27), 'Disk Stream Dropped Frames 2' (28), 'Multi Page TIFF Size Read 2' (29), 'StreamSavingPath 2' (30), 'Trigger Out Behaviour 2' (31), and 'Trigger In Behaviour 2' (32). The right side of the image contains a description, steps to run, and notes about TIFF and Big TIFF saving.

**DualSimpleLiveAppStreamSavingExternalTrigger.vi**

**Description:**  
This sample code lets the user use stream saving and trigger in/out with live mode in an event driven structure.

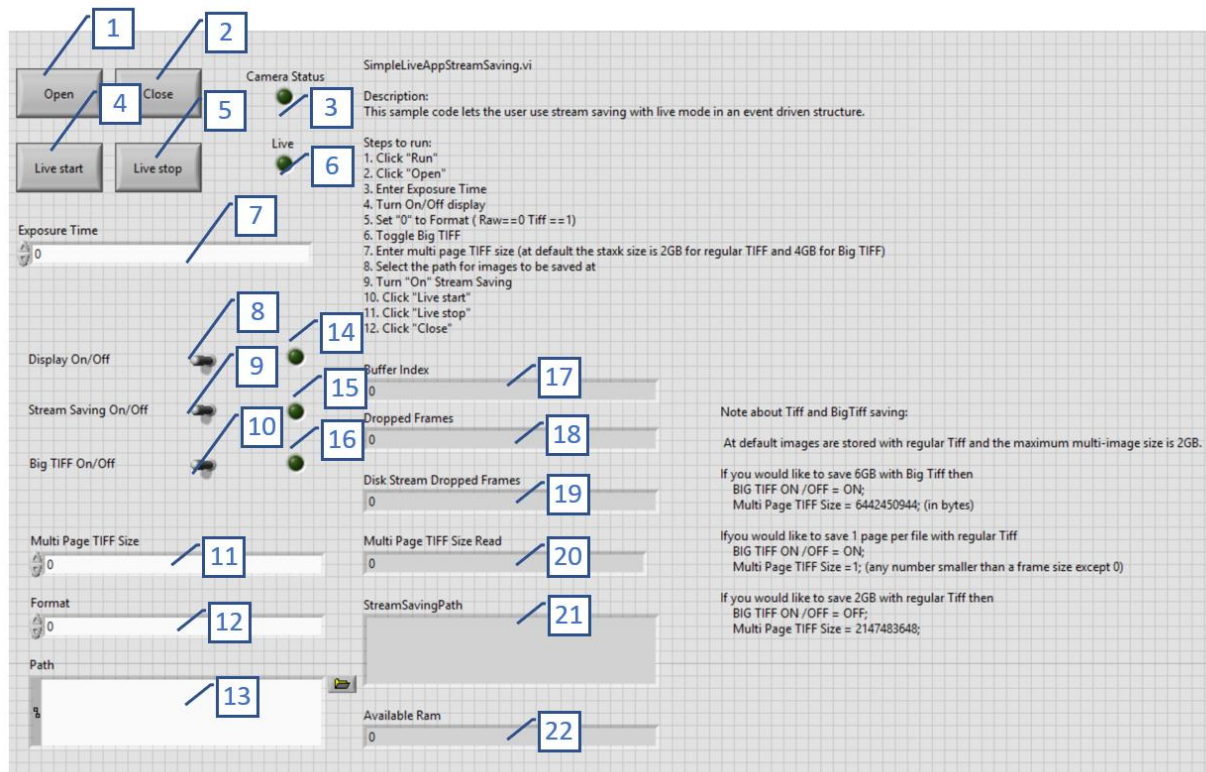
**Steps to run:**  
1. Connect two cameras.  
2. Click "Run"  
3. Click "Open" to open two cameras  
4. Enter Exposure Time  
5. Turn On/Off display  
6. Toggle Big TIFF  
7. Enter multi page TIFF size (at default the staxk size is 2GB for regular TIFF and 4GB for Big TIFF)  
8. Select the path for images to be saved at  
9. Turn "On" Stream Saving  
10. Click "Live start"  
11. Click "Live stop"  
12. Click "Close"

**Note about Tiff and BigTiff saving:**  
At default images are stored with regular Tiff and the maximum multi-image size is 2GB.  
If you would like to save 6GB with Big Tiff then  
BIG TIFF ON /OFF = ON;  
Multi Page TIFF Size = 6442450944; (in bytes)  
If you would like to save 1 page per file with regular Tiff  
BIG TIFF ON /OFF = ON;  
Multi Page TIFF Size = 1; (any number smaller than a frame size except 0)  
If you would like to save 2GB with regular Tiff then  
BIG TIFF ON /OFF = OFF;  
Multi Page TIFF Size = 2147483648;

1. Open button to initialize PVCamNET and open the first index camera
2. Close button to close the camera and uninitialized PVCamNET
3. Live start button starts live mode

4. Live stop button stops live mode
5. Camera Status becomes on upon initialization
6. Available Ram indicator tells available memory in bytes.
7. Live indicator turns on during live mode for camera #1
8. Live indicator 2 turns on during live mode for camera #2
9. Exposure Time sets exposure time
10. Stream Saving On/Off toggle switch allows to turn on/off stream saving
11. The indicator turns on if stream saving is on.
12. Big TIFF On/Off toggle switch
13. The indicator turns on if Big TIFF is on
14. Multi Page TIFF size for TIFF and Big TIFF
15. Stream saving format. 0 is for RAW and 1 for TIFF.
16. Stream saving images will be saved in this path
17. Buffer Index indicator tells image buffer index
18. Dropped frames indicator tells the number of images that have been dropped
19. Disk Stream Dropped Frames indicator tells the number of streaming images that have been dropped
20. Multi Page TIFF Size Read
21. StreamSavingPath indicator tells the path of stream saving images
22. Trigger Out Behaviour combo box allows to update supported expose out mode.
23. Trigger In Behaviour combo box allows to update supported trigger mode

## SimpleLiveAppStreamSaving.vi



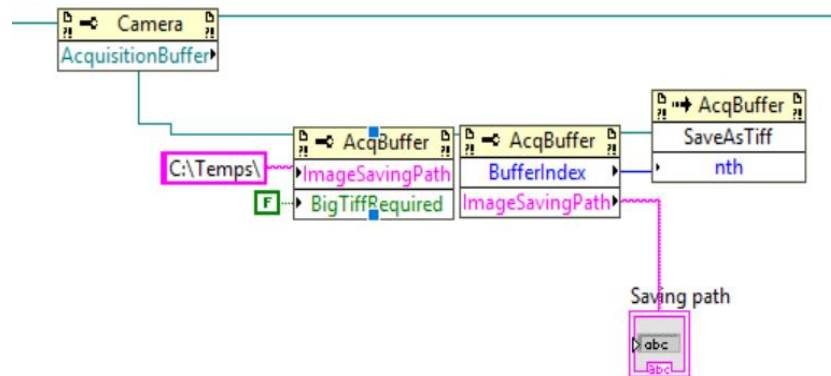
1. Open button initializes PVCamNET and open the first camera
2. Close button closes the camera and uninitializes PVCamNET
3. Camera Status indicator turns on after camera is successfully opened
4. Live start button starts live mode
5. Live stop button stops live mode
6. Live indicator turns on during live mode is on
7. Exposure Time sets exposure time
8. Display turn on/off toggle switch
9. Stream saving turn on/off toggle switch
10. Big TIFF on/off toggle switch
11. Multi Page TIFF Size in bytes
12. Format (0 for RAW mono only and 1 for TIFF mono and color)
13. The directory where stream saving images are saved
14. Display on/off indicator
15. Stream saving on/off indicator
16. Big TIFF on/off indicator
17. Buffer index
18. Dropped frames
19. Stream saving dropped frames

- 20. Multi Page TIFF Size display
- 21. Stream saving path
- 22. Available ram indicator

## Saving Images

There are two ways to save the image data. One is to save image(s) given image buffer index and the other is to use stream saving.

For the first method the user must access Camera AcquisitionBuffer, select BufferIndex, and finally access Frame's SaveAsTiff from FrameToDisplay. The user also has to set the output directory from AcqBuffer ImageSavingPath. (Example: SingleAcquisitionSaveTiffImage.vi  
SequenceAcquisitionSaveMultipleTiffImage.vi)



For stream saving mode the user must set the following properties in AcquisitionBuffer:

- DiskStreamingRequired to be true
- DiskStreamingSavingPath to be where the user wants output images to be. The folder must exist.
- DiskStreamingFormat to be either 0 or 1.
  - o 0 for RAW format. Mono is supported. (default)
  - o 1 for TIFF format. Mono and color are both supported.

(Example: SimpleLiveAppStreamSaving.vi)

If TIFF format is chosen at default a multi-page size is 2GB. The size can be configured with AcqBuffer MultiPageFrameSize.

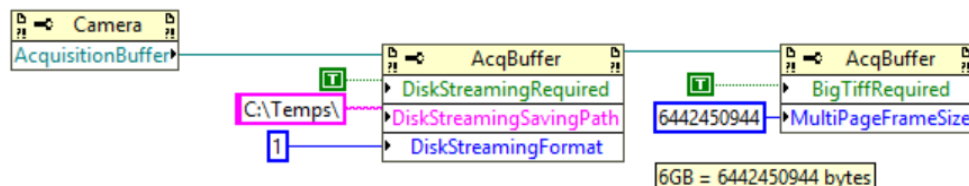
If Big TIFF format is preferred, then AcqBuffer BigTIFFRequired must be set true and MultiPageFrameSize can be configured in any size

Examples for Tiff and BigTiff stream saving:

If you would like to save 6GB with Big Tiff then

BigTiffRequired = true;

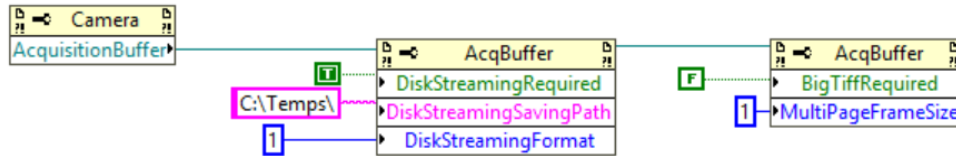
MultiPageFrameSize = 6442450944; (in bytes)



If you would like to save 1 page per file with regular Tiff

BigTiffRequired = true;

MultiPageFrameSize = 1; (any number smaller than a frame size except 0)



If you would like to save 2GB with regular Tiff then

BigTiffRequired = false;

MultiPageFrameSize = 2147483648;

