

Flowchart for FIFO stream processing (PS FLIM Image matrix generation)

This flowchart should give a general idea on how to translate a FIFO measurement data stream into an $3 \times n$ -dimensional decay curve matrix, where 3 is given by the image resolution in x and y direction and the ADC resolution (time bins) of each pixel and finally n as the number of routing channels (FLIM/PLIM, wavelength, polarity...).

What should be kept in mind is the assumptions made for this example:

- A new/first frame only starts once a frame marker is A: followed by a line marker in any subsequent marker event or B: accompanied by a line marker in the same marker event.
- A line marker implicitly includes a pixel marker whether it is present in the same marker event or not. Therefore a line marker always resets the pixel index.
- Any subsequent pixel/line marker increase the pixel/line index.

These assumptions are based on the behavior of the BH-GVD and have to be adjusted accordingly when using a different control system.

