

Parameter synchronisation at frame level in SMIA++

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Hardware support

- SMIA++ sensors allow pre-programming the sensor with an array of settings
- Exposure time and analog gain, for example
- Each set of settings are used on one frame
- Programmed before streaming is started
- When the streaming is started, the sensor outputs as many frames as settings have been provided for

Example

1. Program array of exposure times to sensor
frame 0: 4
frame 1: 9
frame 2: 20
2. VIDIOC_STREAMON
3. VIDIOC_DQBUF / VIDIOC_QBUF for three frames

Example, continued

- The result is that each consecutive frame is exposed using the pre-programmed exposure time:

frame 0: 4

frame 1: 9

frame 2: 20