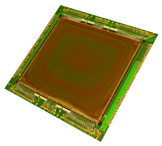
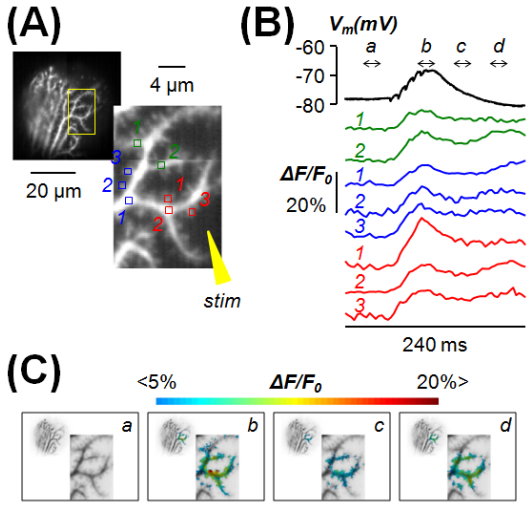
ULTIMATE SOLUTION FOR
HIGH SPEED ACTIVITY IMAGING

LIGHT SHEET MICROSCOPY • VSD & ION IMAGING • TIRF IMAGING • MOLECULE TRACKING

DaVinci-2K CMOS Camera



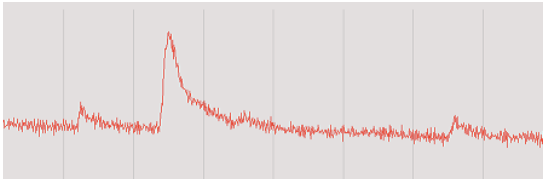
- **High Speed**
  - >200fps NDR, 100fps CDS at 2048x2048
  - >640fps NDR, 320fps CDS at 1024x1024-bin2
  - >2,000fps NDR, 1,000fps CDS at 1024x320-bin2
  - 2500fps NDR, >1000fps CDS at 2048x180 & more
- **On-chip Bin** - Unique true on-chip binning with 15Ke⁻ well depth and 65Ke⁻ at 2X2 binned.
- **Low Noise** - 2.8e- read noise without pixel correction
- **High QE** - 65% without distorting micro- lenses (15um^2 pixel)
- **Monotonic** - Single A-D per channel, no dual-A-D stitching
- **NDR Mode** - Double the maximum speed with over-sampling that offers significant advantages for post-analysis



Ca^{2+} transients associated with parallel fiber EPSPs
(Courtesy of Canepari lab)

How do we achieve better uniformity and linearity, and higher speed than sCMOS?

- Off-chip CDS – Correlated Double Sampling subtraction is performed after amplification and digitization.
- Single A-D converter – One A/D per channel instead of two A/Ds per column, no stitching of two different A-D converters, therefore monotonic and more linear output.
- No micro-lenses for uniform and flat image.
- Unique NDR (Non-Destructive Read) mode more than doubles the readout speed.
- On-chip binning (2X horizontal, >64X vertical) significantly increases frame rate and well size.



Spontaneous Calcium Sparks
from disassociated rabbit cardio myocytes
(Frame Interval: 2 msec)
(Courtesy of Smith lab)

SciMeasure
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REDSHIRT IMAGING

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