Signal Timing in EIS

Timing between vsync and exposure time

```
1st_effective_line_timestamp = vsync_timestamp + blanking x dt - exptime*0.5
```

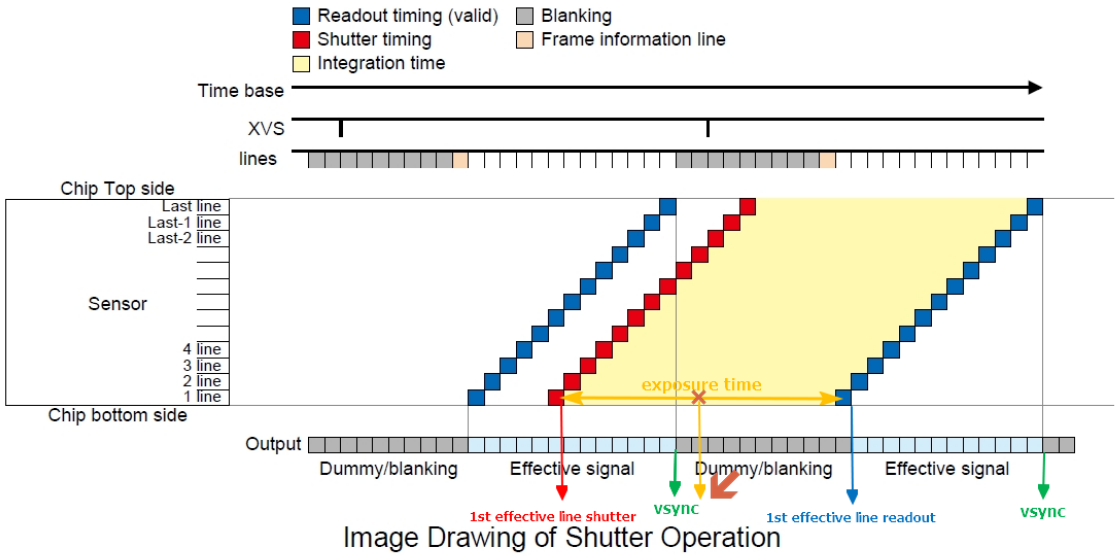
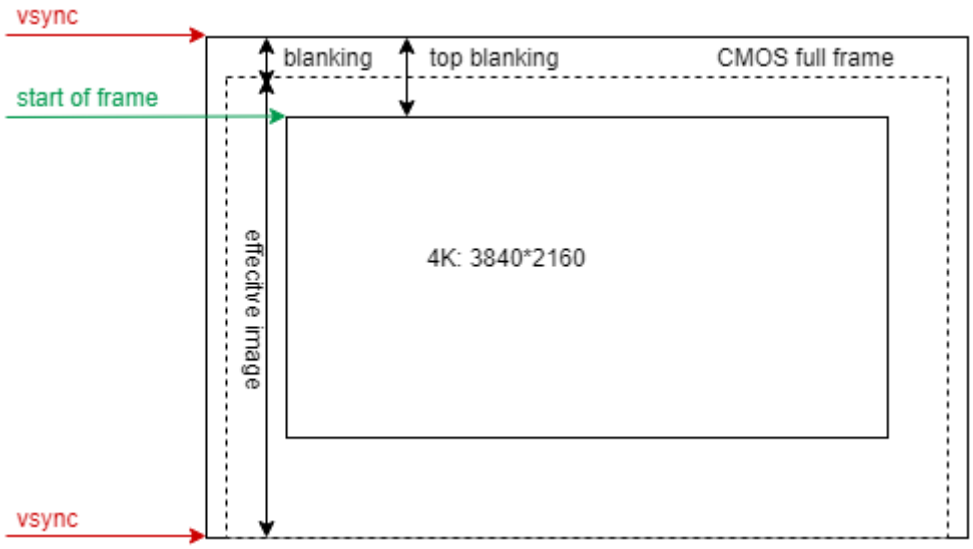


Image Drawing of Shutter Operation

Timing of Start of Frame

```
start_of_frame_timestamp = vsync_timestamp + top_blanking x dt - exptime*0.5
end_of_frame_timestamp = vsync_timestamp + (top_blanking + image_height) x dt - exptime*0.5
```



start of frame differs from aspect ratio of video resolution

	Modes				
	Full-pixel	2x2 Adjacent Pixel Binning	2x2 Adjacent Pixel Binning	2x2 Adjacent Pixel Binning	2x2 Adjacent Pixel Binning V2H2
Cropping	Non(4:3)	Non(4:3)	Non(4:3)	Vcrop(16:9)	Vcrop(16:9)
Binning	Non	H/V	H/V	H/V	H/V
Scaling	Non	Non	Non	Non	Non
H Pixels	8000	4000	4000	4000	2000
V Pixels	6000	3000	3000	2256	1132
Frame Rate	15fps	60fps	30fps	60fps	240fps
PDAF	Support	Not Support	Support	Not Support	Not Support
Max Analog Gain	24dB	36dB	36dB	36dB	36dB
FOV					
Output					

Timing between inter-frame motion and intra-frame motion

inter-frame duration

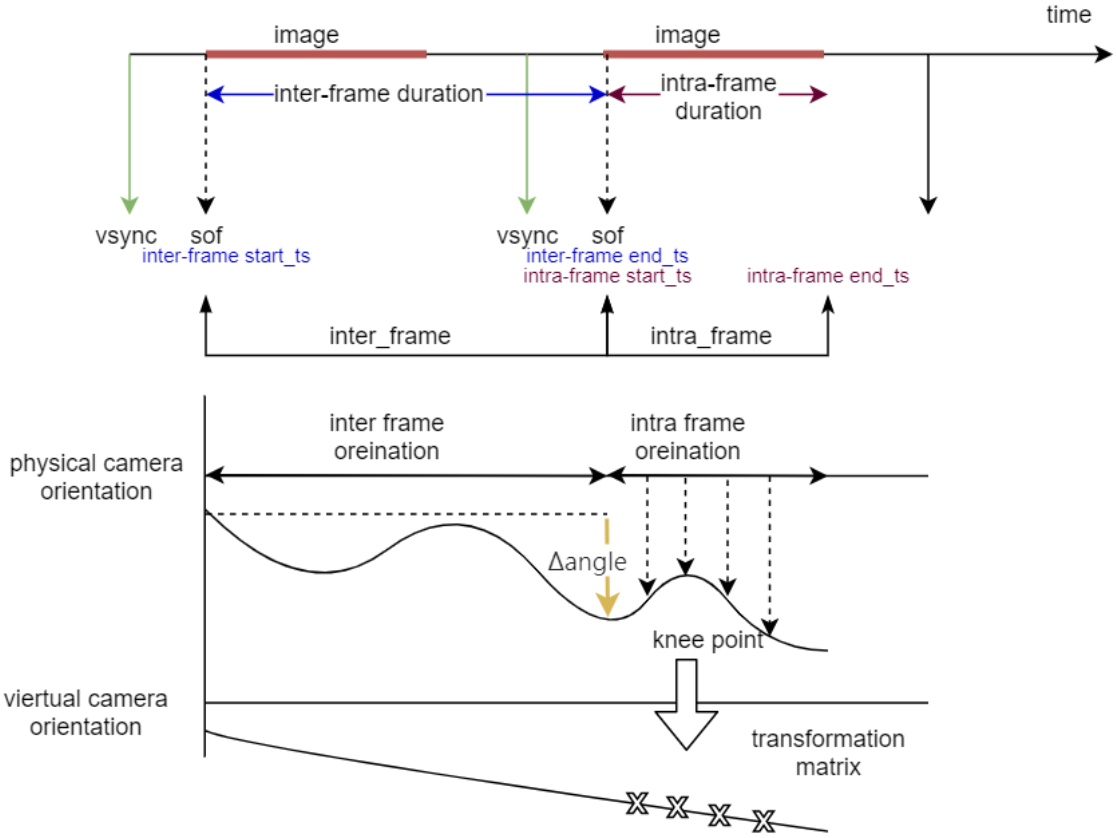
```
inter-frame_start_ts =
vsync_timestamp - vsync_duration + top_blanking x dt - prev_exptime*0.5

inter-frame_end_ts =
vsync_timestamp + top_blanking x dt - exptime*0.5
```

intra-frame duration

```
intra-frame_start_ts = vsync_timestamp + top_blanking x dt - exptime*0.5

intra-frame_end_ts = vsync_timestamp + (top_blanking + image_height) x dt -
exptime*0.5
```


time
image
image
inter-frame duration
intra-frame
duration
vsync
sof
inter-frame start_ts
vsync
sof
inter-frame end_ts
intra-frame start_ts
intra-frame end_ts
inter_frame
intra_frame

inter frame
oreination
intra frame
oreination
physical camera
orientation
Δangle
knee point
viertual camera
orientation
transformation
matrix