

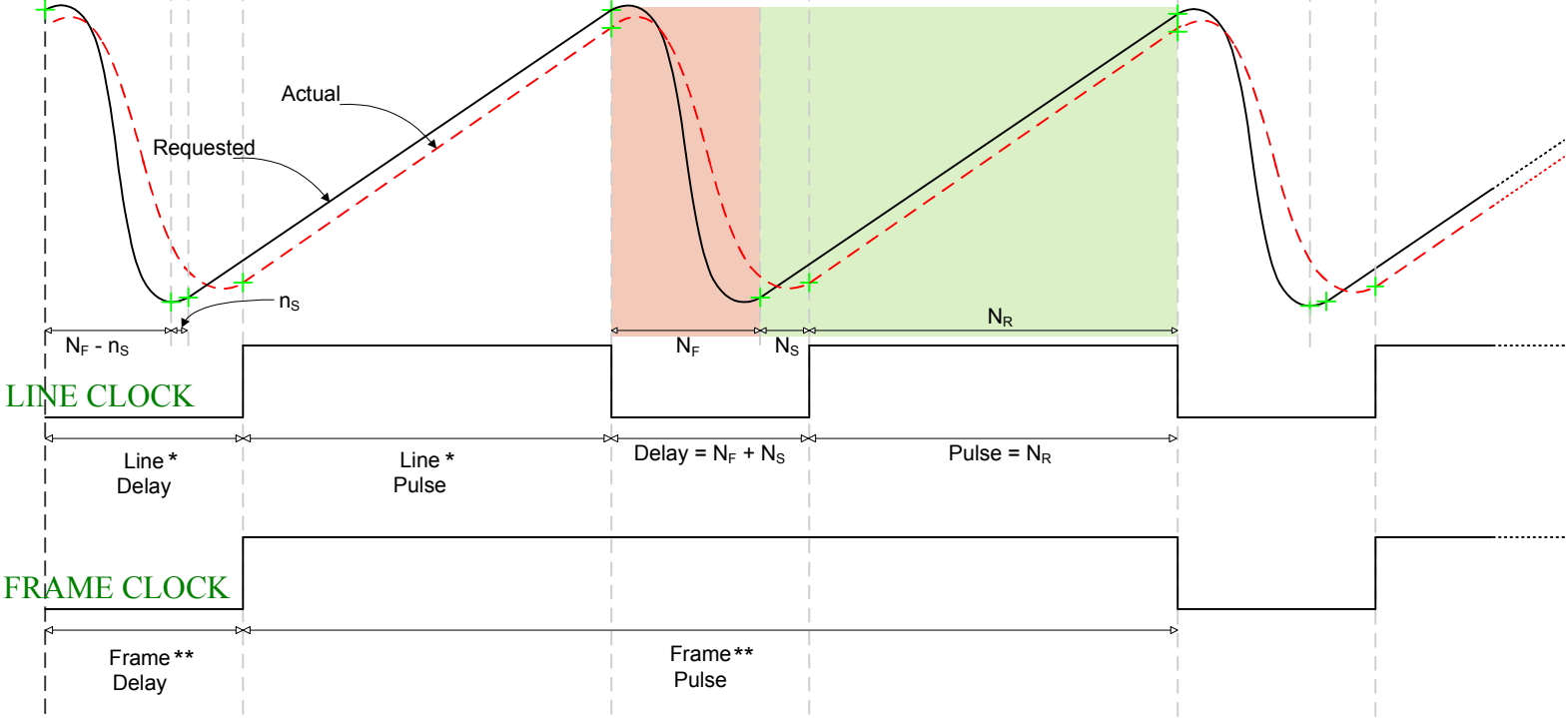
Trigger

AO UPDATE CLOCK (not to scale – too small to show in this diagram – chosen to fit into total pixel time)

PIXEL CLOCK

LINE CLOCK

FRAME CLOCK



$$S_R(n) = W1_D(n - N_F) + \left(X0_D - \frac{1}{2}N_S W1_D \right) \quad N_F < n \leq N_F + N_R + N_S$$

$$S_F(n) = \frac{X2_D}{2\pi} [W2_D n - \sin(W2_D n)] + W1_D n + X_{Start_D} \quad 0 < n \leq N_F$$

n_S = Number of points between stationary point and linear ramp

$$= \frac{1}{W2_D} \left[\cos^{-1} \left(\frac{2\pi W1_D}{X2_D W2_D} + 1 \right) \right]$$

N_S = Number of points in step response of galvanometer

N_F = Number of points in flyback

N_R = Number of points in linear ramp

* The line delay has an additional pixel delay and the line pulse has a reduction of a pixel delay, to ensure the union of rising and falling edges.

$$LinePulse = [Width \times (PixelDelay + PixelPulse)] - PixelDelay$$

$$LineDelay = [n \times (PixelDelay + PixelPulse)] + PixelDelay$$

** The frame delay has an additional line delay and the frame pulse has a reduction of a line delay, to ensure the union of rising and falling edges.

$$FramePulse = [Height \times (LineDelay + LinePulse)] - LineDelay$$

$$FrameDelay = [n \times (LineDelay + LinePulse)] + LineDelay$$