



$t_e$  = Exposure time as set in marccd dialog (single frame or dataset dialog)

$t_r$  = Readout time characteristic of CCD, binning, speed setting, PSD

$t_g$  = Gate time – exposure time of individual sub-exposures – determined by user's gating of shutter

$t_s$  = Shift time =  $N * t_1$

$N$  = Number of line pairs ( $N$  is set in software, height of each corrected subimage is  $2*N$  lines)

$t_1$  = Shift time per line pair =  $a + b * PSD$ ,  $a = 32\mu s$   $b = 1.6\mu s$ , Normal value is  $\sim 440\mu s$ , minimum is  $\sim 34\mu s$

PSD = Parallel Shift Delay = Software selectable from 1 to 4095, Normal is 250, full dynamic range guaranteed only at 250

$A$  = Jitter between Aux In and start of shift, approximately 1ms

$B$  = Shutter close delay – software selectable – normally 1 to 40ms