

Camera Readout Sequence

Host Computer	PCI Board	Controller
Send a "Start Exposure" command ('SEX') to the controller.		
	Receive the "Start Exposure" and send it along to the controller.	
		Receive the "Start Exposure" command. Send the 'IIA' command to the PCI board to initialize its pixel counter for a new image.
	Set PCIADDR = BASEADDR and NPIXELS = 0. Reply ('DON') to the host computer that the exposure has started.	
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">TIME</p> <p>Receive a done ('DON') reply that the exposure has started. Continuously interrogate the PCI board status and pixel counter. If the PCI board is not in readout and the exposure time is > 1 second, then also continuously read the elapsed exposure time from the controller. Sleep for 25ms after each interrogation. Continue on when the pixel counter on the PCI board reaches it's target value or when an interrupt is received.</p>		Clear the array and stop the clocks. Open the shutter if needed. Start the timer countdown for the exposure. When the timer counts down, send a "Read Array" command ('RDA') to the PCI board with the dimensions of the image.
	Receive the "Read Array" command, set up to read the indicated number of pixels. Write image data over the computer bus as its received and increment the pixel counter as pixels are transferred to the host computer.	Close the shutter if needed, and delay for it to be closed. Calculate readout parameters (split serial or parallel, binning, subarray). Skip over unwanted rows (if in subarray mode). Clear out the serial shift register. Parallel shift one or more rows (if parallel binning). Skip over unwanted columns (if in subarray mode). Read desired number of pixels and transmit them to the PCI board. Skip over unwanted columns (if in subarray mode). Read desired number of bias pixels and transmit them to the PCI board. Loop back to the parallel shifting until done.
	Interrupt when done if desired.	
Continue on. Deinterlace and save the image data.		