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<p>How to use indiserver and tools from xephem to operate an SXV-H9 CCD camera to acquire images, under Linux (Ubuntu).</p> <p>Version 1. based on my own experiments and advice from Peter Polakovic. Thanks!</p> <p>1) Install indiserver. =====</p> <p>Use these instructions, lifted from http://www.indilib.org/download.html</p> <p>To install libindi directly from the PPA:</p> <pre>sudo add-apt-repository ppa:mutlaqja/ppa</pre> <p>Then update APT's package information by running</p> <pre>sudo apt-get update</pre> <p>You can now install libindi by typing:</p> <pre>sudo apt-get install libindi0</pre> <p>To install 3rd party drivers, type:</p> <pre>sudo apt-get install indi-driver_name</pre> <p>For example, to install StarLight Xpress drivers:</p> <pre>sudo apt-get install indi-sx</pre> <p>1b) make sure 'bc' is installed.</p> <p>2) Using indiserver - one line at the time =====</p> <p>Connect the SX camera to a USB port.</p> <p>a) start the indiserver on some port e.g. 7264 like this</p> <pre>indiserver -vv -p 7264 indi_sx_ccd &</pre> <p>b) set the connection ON</p> <pre>indi_setprop -p 7264 "SX CCD SXVR-H9.CONNECTION.CONNECT=On"</pre> <p>c) in another terminal window see how the connection is doing</p> <pre>indi_getprop -p 7264</pre> <p>You should see the connection being ON near the top.</p> <p>d) set the timeout to something large</p> <pre>indi_getprop -p 7264 -t 30</pre> <p>e) In YET another window take an image</p> <pre>indi_setprop -p 7264 "SX CCD SXVR-H9.CCD_EXPOSURE.CCD_EXPOSURE_VALUE=1.2"</pre> <p>for instance, to get a 1.2 s exposure.</p>		

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<p>After a while a FITS image will appear in the directory you issued this command in. The file name has spaces in it, though.</p> <p>3) Scripts =====</p> <p>The above is somewhat cumbersome - all those terminal windows, so I have tried to group items into scripts. This is experimental so far.</p> <p>The first script is for starting things up.</p> <p>"indi.first" script:</p> <pre># start the indiserver indiserver -vv -p 7264 indi_sx_ccd & sleep 2 # set the connection ON indi_setprop -p 7264 "SX CCD SXVR-H9.CONNECTION.CONNECT=On" & sleep 2 indi_getprop -p 7264 &</pre> <p>(if this does not show you connection=ON you may have to put some more 'sleep' between the commands so that there is time for the system to settle. Experiment. Make the above script executable with</p> <pre>chmod +x indi.first</pre> <p>The second script is used to take images:</p> <p>"indi.takeimage" script:</p> <pre># set a large timeout indi_getprop -p 7264 -t 30 & # take an image indi_setprop -p 7264 "SX CCD SXVR-H9.CCD_EXPOSURE.CCD_EXPOSURE_VALUE=\$1" # wait a while sleep `echo "6+\$1 bc` # first number in above sum may have to be adjusted up according to speed of PC # rename image mv SX\ CCD\ SXVR-H9.CCD1.CCD1.fits \$2.fits</pre> <p>here I use \$1 as the exposure time (ins seconds) and \$2 as the filename you want. Make the script executable and use it like this</p> <pre>indi.takeimage 1.2 Mars_Image12</pre> <p>and you should get a FITS image called Mars_Image12.fits</p> <p>Any comments, improvements and suggestions are welcome.</p> <p>Peter Thejll peter.thejll@gmail.com February 9 2013</p>		