

This section describes the command set of the Spex BigDog and GuideDog Instrument control applications.

Keys

- B** - This command applies to BigDog's IC application.
- G** - This command applies to GuideDog IC application.
- X** - This is an XUI specific command.

AFoc.Init - [**B** **G**] Array Focus Initialization initializes the focus motor by searching for the position sensor and re-calibrating the 0 position.

Prompt 'AFoc.Init' button on the XUI Setup Window.
 Syntax `Afoc.Init`

AFoc.Pos - [**B** **G**] Array Focus Position command allows you to position the focus to a particular step position.

Prompt 'AFoc.Pos' prompt on the XUI's setup page.
 Range step is from 0 to MAX.
 Syntax `Afoc.pos step`

AFoc.Sim - [**B** **G**] Array Focus Simulation sets the simulation flag for the array focus. .

Prompt none
 Range off -moves the real motor.
 on - simulate motor movements.
 Initial off
 Syntax `Afoc.Sim {off|on}`

Array - [**B**] Sets the size and location of sub-arrays within quadrant 1. These subarrays are mirror in quadrant 2, 3 and 4. The sub-arrays determine which array pixel will be readout for a GO.

Prompt 'Array' prompt on the observing parameter's Obs page.
 Range `inx` - range is 0 to 2.
`x y wid hgt` - The (x,y) location of the upper left corner and its width and hgt is specified. x and wid must be at least 32 and a multiple of 16. y and hgt must be at least 2 and a multiple of 2.
 Initial All subarray are defines as full arrays (0 0 512 514).
 Syntax `ARRAY inx x y wid hgt`

Array - [**G**] Sets the size and location of the sub-arrays. The sub-arrays determine which array pixel will be readout for a GO.

Prompt 'Array' prompt on the observing parameter's Obs page.
 Range `inx` - Identifies the subarray
`x y wid hgt` - The (x,y) location of the upper left corner and its width and hgt is specified. x and wid must be at least 32 and a multiple of 16. y and hgt must be at least 2 and a multiple of 2.
 Initial All subarray are defines as full arrays (0 0 512 512).
 Syntax `ARRAY inx x y wid hgt`

AutoGuideBoxSetup - [**G**] Sets up the guidebox corrdinates (x,y position, wid, hgt) based on the current slit. Sets the TCS beam switch parameter using TW.BS, :q if needed.

Prompt 'Auto GuideBox Setup' button on the observing parameter's Obs page.
 Syntax `AutoGuideBoxSetup`

AutoSave - [**B** **G**] Determines whether the data is saved by the IC program. Note that in Movie Mode the data is always saved.

Prompt 'Autosave' on the observing parameter's Obs page.
 Range Off - Data is not saved.
 On - The IC program saves the data.
 Initial Off
 Syntax `AutoSave { off | on }`

bb2dv - [**B** **G**] Send the bufferboard memory (ixr1) to DV as a fits file.

Prompt none
 Syntax `BB2DV`

BBMemSet - [**B** **G**] Initializes the bufferboard memory (dsp3's ixr1) to a value.

Prompt none
 Range `nwords` - number of words, 1 to 10242.
`value` - Initial memory to this value.
 Syntax `BBMemSet nwords value`

BGR - [**B** **G**] There are sets of commands are uses to control the various parameters related to the BackGround Resets. As may be beneficial to periodically reset the array, the software is able to automatically reset the array by toggling its global reset line. The BGR command turns the background resets off/on.

Prompt 'BGResets' prompt on the XUI's Eng widow.
 Range Off – Turns Background resets off.

On – Turns Background resets on.

Syntax `BGR { off | on }`

BGR.min.ms – Specifies the minimum time between a global reset and the start of a GO sequence. Note that the GO sequence usually begins with a global reset.

Prompt 'BGResets' prompt on the XUI's Eng widow.

Range 1 to 60,000 ms. (1ms to 60secs).

Syntax `BGR.min.ms milliseconds`

BGR.ms – sets the background Resets period. This parameter determines how often BGR will occur.

Prompt 'BGResets' prompt on the XUI's Eng widow.

Range 1 to 3,600,000 ms. (1ms to 1hour).

Syntax `BGR.ms milliseconds`

BGR.ns - Specifies how long the global reset is held (or Active) during a background reset. The time is rounded to the nearest 25 ns period.

Prompt 'BGResets' prompt on the XUI's Eng widow.

Range 250 to 250,000,000 nanoseconds. (250 ns to 0.250 secs).

Syntax `BGR.ns nanoseconds`

BM2DV - [B G] BadMask 2 DV – Sends the bad mask to DV as a FITS images.

Syntax `BM2DV`

BM.Clear - [B G] Marks a pixel as 'good' in the bad pixel mask.

Range `x,y` – Identifies the pixel to be address (0,0) is upper-left.

Syntax `BM.Clear x y`

BM.ClearAll - [B G] Marks all pixels as 'good' in the bad pixel mask.

Syntax `BM.ClearAll`

BM.IsBad - [B G] Print message indicating if the pixel is marked bad or good.

Range `x,y` – Identifies the pixel to be address (0,0) is upper-left.

Syntax `BM.isbad x y`

BM.Set - [B G] Marks a pixel as 'bad in the bad pixel mask.

Range `x,y` – Identifies the pixel to be address (0,0) is upper-left.

Syntax `BM.Set x y`

CalMir - [B G] Selection the Calibration Mirror position.

Prompt Lamp/Mirror icon in XUI window.

Range Out - lamps not visible.
In - lamps are in the optical path.

Initial out

Syntax `CalMir {out|in}`

CalMir.Init - [B G] Calibration Mirror Initialization calibrations the motors and set the initial positions to off/out.

Prompt 'CalMir.Init' button on the XUI Setup Window.

Syntax `CalMir.Init`

CalMir.Pos - [B G] CalMir Position command allows you to position the calibration mirror to a particular step position.

Prompt 'CalMir.Pos' on the XUI Setup Window.

Range step is from 0 to MAX.

Syntax `CalMir.pos step`

CalMir.Sim - [B G] CalMir Simulation sets the simulation flag for the calmir software.

Prompt none

Range off -moves the real motor.
on - simulate motor movements.

Initial off

Syntax `CalMir.Sim {off | on}`

CamMode - [B G] Sets the Camera Mode, which defines the mode of camera operations.

Prompt 'CamMode' on the Obs XUI window.

Range An explanation of the different mode are in the BigDog and GuideDog How-to-Guides.

Initial Basic

Syntax `Cammode { sim | basic }`

CBMode - [B G] Set the Clocking and Buffer Mode, which defines the fundamental method of clocking and sampling the array to obtain pixels values

Prompt 'CBMode' on the setup XUI window.

Range An explanation of the different mode are in the BigDog and GuideDog How-to-Guides.

Initial ARC_D
 Syntax CBMode {MUX|ARC_S|ARC_D|CDS_PS}

Cmd.BigDog - [G] This GuideDog command enables the XUI to send a command over the network to the BigDog IC.

Syntax Cmd.Bigdog Command_for_bigdog_IC

Cmd.BigDog.HostName - [G] Identifies the hostname of the bigdog computer for Cmd.BigDog network communications.

Range Enter the hostname of the workstation BigDogIC.
 Initial bigdog
 Syntax Cmd.BidDog.Hostname name

Cmd.GuideDog - [G] This BigDog command enables the XUI to send a command over the network to the GuideDog IC.

Syntax Cmd.Guidedog Command_for_Guidedog_IC

Cmd.GuideDog.HostName - [G] Identifies the hostname of the GuideDog computer for Cmd.GuideDog network communications.

Range Enter the hostname of the workstation GuideDogIC.
 Initial guidedog
 Syntax Cmd.GuideDog.Hostname name

CoAdd - [B G] The number of integrations summed together per beam or chop position in a GO.

Prompt 'Coadd' on the XUI's Obs page.
 Range 1 to 32000
 Initial 1
 Syntax COADD num

Comment - [B G] Specifies a string to be place in the FITS header of the saved file as a comment.

Prompt 'Comment' on the XUI's Obs page.
 Range Any string up to 40 characters.
 Initial Undefined.
 Syntax COMMENT string

CvTest - [B G] Performs the ConvertTest procedure, which is an engineering testing tool. CvTest just generation a number of convert and captures the digitized values..

Prompt none
 Range nconverts - 1 to 32768 (32768*32pixel per converts is 1024*1024 pixels)

TSac – number of Time Slices for After Converts.
 TSrd – number of Time Slices for Read Data.
 TSpC – numer to Time Slices for Pre-converts

Syntax CvTest nconverts TSac TSrd TSpC

Cycles - [B G] Cycles is a repetition factor in a GO sequence.

Prompt 'Cycles' on the XUI's Obs page.
 Range 1 to 1000.
 Initial 1
 Syntax CYCLES num

Die - [B G] This command stops the execution of the IC program.

Syntax DIE

DisableRPC - [B G] This command disable/enable RPC calls to littledog. SpeX requires the littledog computer to be up and running. Disabling RPC allows you to run SpeX when littledog is offline.

Prompt none
 Range off - IC will use RPC to command littledog.
 on - RPC are not issued.
 Initial off
 Syntax DisableRPC {off|on}

Dit - [B G] Positions the Dichroic wheel.

Prompt Dit icon in XUI window.
 Range Dit selections are described in the '**LittleDog Mechanism**' manual, section 3.1.
 Initial N/A
 Syntax Dit { tbd | 0.9 | open | 0.8 }

Dit.Init - [B G] Dichroic Initialization initializes the dichroic wheel by searching for a position sensor and re-calibrating its position.

Prompt 'Dit.Init' button on the XUI Setup Window.
 Syntax Dit.Init

Dit.Pos - [B G] Dichroic Position command allows you to position the dichroic wheel to a particular step position.

Prompt 'Dit.Pos' prompt on the XUI's Setup page.
 Range step is from 0 to MAX.
 Syntax Dit.pos step

Dit.Sim - [B G] Dichroic Simulation sets the simulation flag for the dichroic wheel.

Prompt none
 Range off -moves the real motor.
 on - simulate motor movements.
 Initial off
 Syntax `Dit.Sim {off | on}`

DSPTimingInfo - [B G] When ON, spex will procedure a 'DSPTiming_9999.txt' file in the data directory. This text file contains details on the DSP timing during the array clocking. Refer to the Software Users Guide Vol II, 4.4 for details..

Prompt 'DSPTimingInfo' on XUI's Setup page
 Range OFF – Do not produced timing information file.
 ON – Produce the timing information file.
 Syntax `DSPTiming {off | on }`

DTime - [B G] Sets the deadtime delay after a telescope beam switch command is issued during a GO.

Prompt 'Beam Dtime' on XUI's Obs page
 Range From 0.5 to 20 seconds
 Syntax `DTime sec`

DV - [B G] Sends a command to DV (the Data Viewer). Only works on DV1.

Prompt none
 Range Any legal DV command.
 Syntax `DV Any_Legal_DV_Command`

DV1.Enable - [B G] This toggle determines if the IC sends data to DV at DV1's home:port_number..

Prompt 'dv1.enable' on the XUI Setup tab.
 Range Off – Do not display images on DV.
 On – display images on DV.
 Initial On
 Syntax `DV1.enable {off | on}`

DV1.HostName - [B G] The IC program uses this hostname when send data or commands to DV1.

Prompt 'dv1.hostname' on the XUI Setup tab.
 Range Enter the hostname of the workstation running DV.
 Initial localhost
 Syntax `DV1.HOSTNAME name`

DV1.Port - [B G] Specifies the TCP/IP port number when communication to DV for DV1.

Prompt 'DV1.Port' on the XUI Setup tab.
 Range Enter the port number of the DV application.
 Initial BigDog is 30123.
 GuideDog is 30124.
 Syntax `DV1.Port port_number`

DV2.enable, DV2.hostname, DV2.port - [B G] Similar to DV1 commands, except directory towards DV2. Thus a second data view can be used with spex.

Filename - [B G] This command defines the filename prefix is used to create filenames when saving data to disk. New filenames are constructed by concatenating Filename with the Image Number, then adding a file extension. For example, if Filename is '01jan' and image number is 45, the data file saved could be '01jan0045.a.fits'.

Prompt 'Filename' on the XUI's Setup page.
 Range A string of 8 characters
 Initial The current date in the form DDMMM
 Syntax `FILENAME string`

FullArray - [B G] The FullArray flag tell the camera to ignore the current NumArray, and Sub-Array parameters and take a single full size array image. This allows you to toggle between a sub-array setup and full array images.

Prompt 'SubArray/FillArray' tabs on the XUI window.
 Range off – Use NumArray, Array parameters to define sub-arrays.
 On – Take a single full size array image.
 Initial off
 Syntax `FullArray {off | on}`

GFit - [B G] Positions the Guider Filter wheel.

Prompt GFit icon in XUI window.
 Range GFit selections are full described in the '**LittleDog Mechanism**' manual. Section 8.1. The table below lists the GFLT selections.

Open
Z
J
H

K
L'
M'
Fell
H2
BrY
ContK
CO
H+K
3.454
Blank

Syntax `GFlt { open | Z | ... | Blank }`

GFlt.Init - [B G] The Guider Filter Initialization command initializes the Guider Filter wheel by searching for its home position sensor and it setting its step position.

Prompt 'GFlt.Init' button on the XUI Setup Window.

Syntax `GFlt.Init`

GFlt.Pos - [B G] The Guider Filter Position command allows you to position the Guide Filter to a particular step position.

Prompt 'GFlt.Pos' prompt on the XUI's Setup page.

Range step is from 0 to MAX.

Syntax `GFlt.pos step`

GFlt.Sim - [B G] The Guider Filter Simulation command sets the simulation flag for the Guider Filter wheel.

Prompt none

Range off -moves the real motor.

on - simulate motor movements.

Initial off

Syntax `GFlt.Sim {off | on}`

Go - [B G] Performs a GO, which is a set of integrations. Please read the section **SECTION_NAME** for a more complete description.

Syntax `GO`

Go.Init - [B G] Reset the DSP board and reloads their program, data, and parameters..

Syntax `Go.Init`

Go.Restart - [B G] Kills the UNIX go process (the program which handles the array operations) and re-starts a new one..

Syntax `Go.Restart`

GPSTime - [B G] The GPSTime parameter indicates which time source is used to timestamp the images: either the internal computer clock or the GPS clock board.

Prompt none

Range off -Timestamp obtained from GPS timer board.

on - Time stamp obtained from UNIX host timer.

Initial off

Syntax `GPSTime {off | on}`

Grat - [B G] Positions the grating turret.

Prompt Grat icon in XUI window.

Range Grating selections are full described in the 'LittleDog Mechanism' manual. Section 7.1. The table below lists the Grating selections.

ShortXD
LongXD1.9
LongXD2.3
LowRes60
LowRes15
ShortOS
LongOS

Syntax `Grat { ShortXD | ... | LongOS }`

Grat.Init - [B G] The Grating Initialization command initializes the grating turret by searching for a position sensor and re-calibrating its position.

Prompt 'Grat.Init' button on the XUI Setup Window.

Syntax `Grat.Init`

Grat.Pos - [B G] The Grating Position command allows you to position the grating turret to a particular step position.

Prompt 'Grat.Pos' prompt on the XUI's Setup page.

Range step is from 0 to MAX.

Syntax `Grat.pos step`

Grat.Sim - [B G] The Grating Simulation command sets the simulation flag for the grating turret.

Prompt none

Range off -moves the real motor.
on - simulate motor movements.

Initial off

Syntax `Grat.Sim {off | on}`

GResetNS - [B G] The Global Reset NS parameter specifies the time of the global reset in nanoseconds. The actual reset pulse is rounded to the nearest 25 ns due to the clock frequency of the DSP board.

Prompt 'GresetNS' on the XUI's Eng page.

Range 250 to 250,000,000.

Syntax `GResetNS nanoseconds`

GuideAB - [G] GuideAB is a slow guide parameter used to specify if the need to guide just in the A beam, or in both beams (A & B).

Prompt 'GuideAB' pulldown on the XUI Slow.Gd CamMode tab.

Range .

Syntax `GuideAB {off | on}`

GuideBox - [G] Sets the size and position of the Box on the array used in the guiding/offset calculations.

Prompt N/A

Range A or B to identify GuideBox A or B.
x, y, wid, hgt – location and size for the guide subarray..

Syntax `GuideBox (a | b) x y wid hgt`

GuideBox.Center - [G] Adjust the position of the guidebox so it is centered an (x,y).

Prompt A & B 'CenXY' on the XUI subarray tabs.

Range A or B to identify GuideBox A or B.
x, y – location for the guide subarray..

Syntax `GuideBox.Center (a | b) x y`

GuideBox.Wid - [G] Adjust the size (both wid & hgt) of the guidebox. Adjusted so that the center pixel is still in the same location.

Prompt A & B 'WH' on the XUI subarray tabs.

Range A or B to identify GuideBox A or B.
Wid – size for the guide subarray..

Syntax `GuideBox.Wid (a | b) wid`

GuideCorrectionsTo - [G] Tells the camera where to sent the guide correction offset.

Prompt 'CorrectionsTo' on Slow.Gd Tab on XUI's Obs panel.

Range Off – Correction not send.
TCS – Correction sent to TCS.

Syntax `GuideCorrectionsTo {Off|TCS}`

Guide.ClearRate - [G] This command zeros the accumulated offset totals send to the TCS while in GuideDog is Guiding. These total are used to determine a rate error.

Prompt 'ClearRate' button on XUI Slow.Gd Cammode tab.

Syntax `Guide.ClearSky`

Guide.ClearSky - [G] This command clears the sky buffer in the IC for the slowguide mode.

Prompt 'Guide.Clearsky' button on XUI Slow.Gd Cammode tab.

Syntax `Guide.ClearSky`

Guide.FullImage - [G] This slowguide command takes a full frame images and displays it in buffer D of DV (data viewer). You need a full frame image to specify your subarrays.

Prompt 'Guide.FullImage' button on XUI Slow.Gd Cammode tab.

Syntax `Guide.FullImage`

Guide.TakeSky - [G] This command take and stores and image in the sky buffer for slow guide mode. The sky buffer is subtracted from the image while guiding.

Prompt 'Guide.TakeSky' button on XUI Slow.Gd Cammode tab.

Syntax `Guide.TakeSky`

GuideGainX, GuideGainY - [G] A gain factor is applied to the offset magnitude when calculating pixel offset to RA,DEC sky offsets. Separate command are provide for the X and Y axis.

Prompt 'GainXY' on the XUI Slow.Gd CamMode tab.

Range The gain ranges from 0 to 50

Initial n/a

Syntax `GuideGainX gain`
`GuideGainY gain`

GuideMethod - [G] The algorithm used to calculate the X, Y displacement in the Guide Array is specified by the GuideMethod command.

Prompt 'Method' on the XUI Slow.Gd CamMode tab.

Range Available GuideMethods are:

Peak – Maximum pixel value in the guide array determines the object's locations.

Peak+Smooth – Each pixel value is replaced by averaging its value and all it neighborhooding pixels, then the Peak algorithm is applied.

Centroid – A centroid is calculated by weighting the pixel values and its location to determine the object's location.

Centroid+Flt1 – Before the centroid algorithm is applied the data modified by:

- rescaled so that [mean-std, mean+std] is mapped to [-25,25]..
- Set any negative values to 0.

Centroid+Flt2 – Before the centroid algorithm is applied the data is modified by:

- Subtract the mean value from each pixel.
- Divide by the standard deviation.
- Set any values < 1 is set to 0.

Initial n/a

Syntax `GuideMethod { peak | peak+smooth | centroid | centroid+flt1 | centroid+flt2 }`

GuideSleep - [G] During slow guiding a sleep interval can be specified to control the rate of correction issues to the Telescope Control System.

Prompt ?

Range 0.25 to 60 seconds.

Initial ?

Syntax `GuideSleep seconds`

IgnoreMotors - [B G] Normally GO cannot be issued if the motor are in any other state that READY (in other words, the motors are idle and already have been initialized). This command disables that restriction, allowing GO to proceed regardless of the motor state.

Prompt 'Ignore Motors' on the XUI setup page.

Range off – Only allow GO when motors are READY.
on – Ignore motor's state when executing the go command.

Initial off

Syntax `IgnoreMotors {off | on}`

ImageNumber - [B G] An ID number used to create the FITS filenames. See Filename for details.

Prompt ?

Range 1 to 9999

Initial 1

Syntax `ImageNumber number`

Instrument - [B G] This command set the value portion of the INSTRUME keyword for the FITS image header.

Prompt none

Range any string up to 40 characters.

Initial n/a

Syntax `Instrument string`

isready - [B G] Returns ERR_NONE is all the components (array, motors) of the camera is ready . Otherwise, returns ERR_BUSY. This command gives you a way to test if the camera is ready. Intended for macro files. The next line in a macro file after the isready command will not be executed until all component return to the ready state.

Syntax `isready`

itime - [B G] The amount of time the array is exposed between readouts, or the time interval for 1 coadd. The minimum value is depend on the array readout rate..

Prompt 'itime' on the XUI Obs page.

Range 0.0001 to 1800 seconds

Initial 1

Syntax `itime seconds`

Lamp - [B G] This command turns off/on individual lamp and position calibration mirror.

Prompt ?

Range Lamp states are:
Off – all lamp are off.
QTH – turn on the QTH lamp.
IR – turn on the IR source.
AR – turn on the argon lamp
Calibration mirror states are:
Out – Mirror is out of the beam.
In – Mirror is in the beam (lamps are visible).

Initial off out

Syntax `Lamp {off | QTH | IR | AR} {out | in}`

LDHostName - [B G] Specifies the hostname of the littledog computer. Littledog is an embedded PC used by spex for motor control, temperature control and various analog/digital IO functions.

Prompt 'LD hostname' prompt on the XUI Setup tab.
 Range Enter the hostname for the littledog PC.
 Initial littledog
 Syntax `LDHostName name`

LocalDisplay - [B G] The camera software can display image to a program running on the UNIX console monitor. This command controls whether the image data is display.

Prompt 'LocalDisplay' prompt on the XUI Setup tab.
 Range off – Do not display data on local display.
 On – Display the data on the local display.
 Initial off
 Syntax `LocalDisplay {off | on}`

Log - [B G] The camera software keeps a log of message it produces during execution. This command allows the users to log a message into this file.

Range Any text message.
 Syntax `log message`

NDR - [B G] The Non-Destructive Read parameter identifies the number of samples or times the array is readout to obtain the image for 1 coadd. Not the increasing NDR may lower your noise, but will increase your minimum integration time.

Prompt 'NDR' on the XUI's Setup page.
 Range 1 to 32
 Initial 8
 Syntax `NDR number`

NumArray - [B G] Specifies the number of sub-arrays to be readout on the Infrared Device.

Prompt 'NumArray' on the XUI Obs page.
 Range BigDog supports 1 to 3 sub-arrays.
 GuideDog supports 1 to 2 sub-arrays.
 Initial 1
 Syntax `NumArray number`

Object - [B G] This text identifies the object your are observing and is place in the FITS header on the OBJECT header line.

Prompt 'Object' on the XUI Setup page.
 Range Any string up to 40 characters.
 Initial 'Name of Object'
 Syntax `Object string`

Observer - [B G] This text identifies the observers and is place in the FITS header on the OBSERVER header line.

Prompt 'Observer' on the XUI Setup page.
 Range Any string up to 40 characters.
 Initial 'Your name'
 Syntax `Observer string`

ObsMode - [B G] Determines the beam switch pattern for 1 cycle in the Basic CamMode.

Prompt 'Obs Mode' on the XUI's Obs page.
 Range 0 - Obj(A) integrates at the present beam position. This data is treated as an 'object' frame.
 1 - Sky (B) integrates at the present beam position. This data is treated as a 'sky' frame.
 2 - Pair (AB). In this mode, a pair of images are taken. First the telescope is positioned at the A beam and a 'object' image is taken. Then the telescope is positioned at the B beam and a 'sky' image is taken.
 Initial 0
 Syntax `ObsMode index`

Origin - [B G] This command set the value portion of the ORGIN keyword for the FITS image header. The origin normally indicates the institution writing the data.

Prompt none
 Range any string up to 40 characters.
 Initial n/a
 Syntax `Origin string`

Osf - [B G] Positions the order sorter filter wheel.

Prompt OSF icon in XUI window.
 Range OSF selections are full described in the 'LittleDog Mechanism' manual. Section 4.1. The table below lists the selections.

Open
PK_50

SP_2.5
SP_4.1
Long4
Long5
Long6
Short3
Short4
Short5
Short6
Short7
CH_4s
CH_4l
Blank

Syntax `OSF { Open | PK_50 | ... | Blank }`

Osf.Init - [B G] Order Sorter Filter Initialization initializes the osf wheel by searching for a position sensor and re-calibrating its position.

Prompt 'Osf.Init' button on the XUI Setup Window.

Syntax `Osf.Init`

Osf.Pos - [B G] Order Sorter Position command allows you to position the osf wheel to a particular step position.

Prompt 'Osf.Pos' prompt on the XUI's Setup page.

Range step is from 0 to MAX.

Syntax `Osf.pos step`

Osf.Sim - [B G] Order Sorter Filter Simulation sets the simulation flag for the osf wheel.

Range off -moves the real motor.

on - simulate motor movements.

Initial off

Syntax `Osf.Sim {off | on}`

ParameterRestore - [B G] Restores certain parameters from a save buffer using the ParameterSave command.

Syntax `ParameterRestore`

ParameterSave - [B G] Copies certain instrument parameter into a save buffer. This allow the user to restore these parameter later using the ParameterRestore command.

Syntax `ParameterSave`

Path - [B G] This path identifies the subdirectory the IC programs uses when saving FITS data files. Will create a directory if it doesn't exist. The following strings substitution are applied:

\$HOME is replaced with your home path.

\$DATE is replaced with the current date, ie: 01JAN

Prompt 'Path' on the XUI's Obs page.

Range Any legal UNIX subdirectory

Initial ?

Syntax `PATH string`

ReadCkPattern - [B G] Issuing this command will force the IC to read the clocking patterns and generate a new clock table on the next GO.

Prompt 'ReadCkPatterns' button on the XUI's Eng page.

Syntax `ReadCkPattern`

RemoveExtra206MuxData - [B] If On, the garbage data row obtain using a 206 (Aladdin 3) multiplexer is removed from the saved or display images.

Prompt 'RemoveExtra206MuxData' button on the XUI's Eng page.

Syntax `RemoveExtra206MuxData { off | on }`

ResetCE - [B G] This command causes a reset command to issued to the cryostat electronics.

Prompt 'Reset CE' button on the XUI's Eng page.

Syntax `ResetCE`

ResetFIFO - [B G] The command causes a reset FIFO command to be issued to the cryostat electronics.

Prompt 'ResetFIFO' button on the XUI's Eng page.

Syntax `ResetFIFO`

Rot - [B G] Positions the Rotator to the Sky's position angle.

Prompt ROT icon in XUI window.

Range 0 to 360 degrees.

Syntax `Rot Position_angle`

RotAng - [B G] Positions the Rotator to the mechanical device's rotation angle.

Prompt N/A.

Range 0 to 360 degrees.
 Syntax `RotAng Rotation_angle`

Initial N/A
 Syntax `SetMask hex_number`

Rot.Init - [B G] Rotator Initialization initializes the Rot device by searching for its home sensor and initializing its position.

Prompt 'Rot.Init' button on the XUI Setup Window.
 Syntax `Rot.Init`

Shutter - [B G] Opens or Closes the shutter..

Prompt Open the Cal Box Dialog Box.
 Range Close – shutter is closed.
 Open – shutter is open.
 Syntax `Shutter {close|open}`

Rot.Pos - [B G] The Rotator Position command allows you to position the Rotator to a particular step position.

Prompt 'Rot.Pos' prompt on the XUI's Setup page.
 Range step is from 0 to MAX.
 Syntax `Rot.pos step`

Slit - [B G] Positions the slit wheel to a slit position.

Prompt Slit icon in XUI window.
 Range Slit selections are full described in the 'LittleDog Mechanism' manual. Section 6.1. The table below lists the selections.

Rot.Sim - [B G] The Rotator Simulation command sets the simulation flag for the rotator device.

Range off -moves the real motor.
 on - simulate motor movements.
 Initial off
 Syntax `Rot.Sim {off | on}`

Open
Mirror
0.3x15
0.5x15
0.8x15
1.6x15
3.0x15
0.3x60
0.5x60
0.8x60
1.6x60
3.0x60

Rot.SetPA - [B G] Queries the TCS for the telescope's position and determine the parallactic angle. The Rotator Angle is then set to match the parallactic angle.

Prompt 'Set Position Angle from Parallactic Angle' button on the Rotator Dialog window.
 Syntax `Rot.SetPA`

Syntax `Slit { Open | Mirror | ... | 3.0x60 }`

Rot.PASummary - [B G] Updates the parallacticw angle summary information on the XUI status window.

Syntax `Rot.PASummary`

SetDAC - [B G] Changes the bias voltage to the clock/bias DAC.

Prompt 'Set DAC:' prompt on the XUI's Eng page.
 Range board = 0 to 7
 dac = 0 to 15
 voltage = -10.0 to 10.0
 Syntax `SetDAC board dac voltage`

Slit.Init - [B G] The Slit Initialization command initializes the Slit device by searching for its home sensor and initializing its position.

Prompt 'Slit.Init' button on the XUI Setup Window.
 Syntax `Slit.Init`

SetMask - [B G] Sets the OR mask on the clocking board output interface.

Prompt 'Set Mask:' prompt on the XUI's Eng page.
 Range 32 bit hex number.

Slit.Pos - [B G] The Slit Position command allows you to position the Slit to a particular step position.

Prompt 'Slit.Pos' prompt on the XUI's Setup page.
 Range step is from 0 to MAX.
 Syntax `Slit.pos step`

Slit.Sim - [B G] The Slit Simulation command sets the simulation flag for the slit wheel.

Range off -moves the real motor.
on - simulate motor movements.

Initial off

Syntax `slit.sim {off | on}`

SlowCnt - [B G] The SlowCnt variable specifies the numbers of NOP's or delays in the DSP clocking algorithm. This effectively slows down the clocking pattern which lowers the readout rate and read noise.

Prompt 'SlowCnt' on the XUI's Eng page.

Range 1 to 100.

Initial 1

Syntax `SlowCnt num`

Stop - [B G] During an integration or GO cycle, the stop command is used to abort the acquisition.

Prompt 'Stop' button on the XUI's main window.

Syntax `Stop`

SubAB - [B G] After an image is taken , it can be read by DV for display, this switch also instructs DV to calculate the the object - sky image when the SubAB switch is ON.

Prompt 'Object-Sky' check box on the XUI window.

Range OFF or ON.

Initial OFF

Syntax `SUBAB { off | on }`

SyncFocusToGrating - [B G] When ON, the Array Focus position is synchronize whenever a Grating is selected.

Range off – Real IO to temperature controller.
off – Grating command don'tt affect the array focus.
on – Set the array focus, with a grating is selected.

Initial on

Syntax `SyncFocusToGrating {off | on}`

TC208 – [B G] Use this command to send a text string to the Temperature controller Model 208. This string is assumed to be a temperature controller command.

Range Any text up to 60 characters.

Syntax `TC208 string`

TC330 – [B G] Use this command to send a text string to the Temperature controller Model 330. This string is assumed to be a temperature controller command.

Range Any text up to 60 characters.

Syntax `TC330 string`

TC.sim - [B G] The Temperature Controller Simulation command sets the simulation flag for the temperature controller process.

Range off – Real IO to temperature controller.
on – simulates via software.

Initial off

Syntax `tc.sim {off | on}`

TCS - [B G] Sends a command string to the TCS.

Range cmd – Any valid TCS command, 50 characters maximum.

Syntax `tc cmd`

TCS.com - [B G] The command enable (on) or disables (off) any TCS communication from spex to the telescope control system.

Range off – TCS communication is not attempt.
on – TCS communications are performed

Initial on

Syntax `tc.com {off | on}`

TCSHostname - [B G] Specifies the hostname of the TCS computer. TCS command will be directed towards this host.

Prompt 'TCS Hostname' on the XUI Setup tab.

Range Enter the hostname for the tcs computer.

Initial n/a

Syntax `TCSHostname string`

Telescope - [B G] This command set the value portion of the TELESCOP keyword for the FITS image header.

Prompt none

Range any string up to 40 characters.

Initial n/a

Syntax `Telescope string`