

Command	AllLampsOFF
Description	Turn all lamps off.
Parameters	None
Return	"All lamps are off".

Command	StartExp
Description	Starts an exposure or dark. The integration time has to be defined previously. The shutter is operated automatically.
Parameters	1: light. shutter is opened during exposure. 0: dark or bias. Shutter is permanently closed.
Return	it returns an string type: DRV_SUCCESS Acquisition started. DRV_NOT_INITIALIZED System not initialized. DRV_ACQUIRING Acquisition in progress. DRV_VXDNOTINSTALLED VxD not loaded. DRV_ERROR_ACK Unable to communicate with card. DRV_INIERROR Error reading "DETECTOR.INI". DRV_ACQERROR Acquisition settings invalid. DRV_ERROR_PAGELOCK Unable to allocate memory. DRV_INVALID_FILTER Filter not available for current acquisition. DRV_BINNING_ERROR Range not multiple of horizontal binning.

Command	AbortExp
Description	Abort an exposure. This command can be only success if it occurs during the integration. It does NOT take any effect during the reading out.
Parameters	None
Return	it returns an string type: DRV_SUCCESS Acquisition aborted.

Command	ClearRelay
Description	Turn a relay off
Parameters	1-8. E.G. "ClearRelay 2"
Return	None.

Command	CoolerON
Description	Starts the cooler until the desired temperature is achieved. Such temperature has to be specified in advance.
Parameters	None
Return	it returns an string type: DRV_SUCCESS Acquisition started. DRV_NOT_INITIALIZED System not initialized. DRV_ACQUIRING Acquisition in progress. DRV_ERROR_ACK Unable to communicate with card.

Command	CoolerOFF
Description	Turn cooler off
Parameters	None
Return	it returns an string type: DRV_SUCCESS Acquisition started. DRV_NOT_INITIALIZED System not initialized. DRV_ACQUIRING Acquisition in progress. DRV_ERROR_ACK Unable to communicate with card.

Command	CCDStatus
Description	This function will return the current status of the Andor SDK system. This function should be called before an acquisition is started to ensure that it is IDLE and during an acquisition to monitor the process.
Parameters	None
Return	it returns an string type: DRV_IDLE IDLE waiting on instructions.

DRV_TEMPCYCLE	Executing temperature cycle.
DRV_ACQUIRING	Acquisition in progress.
DRV_ACCUM_TIME_NOT_MET	Unable to meet Accumulate cycle time.
DRV_KINETIC_TIME_NOT_MET	Unable to meet Kinetic cycle time.
DRV_ERROR_ACK	Unable to communicate with card.
DRV_ACQ_BUFFER	Computer unable to read the data via the ISA slot at the required rate.
DRV_SPOOLERROR	Overflow of the spool buffer.

Command	Exit
Description	Full Shutdown. Turns the cooler off, CCD off, Turns all lamps off, and shut down all the electronics.
Parameters	None
Return	None

Command	FindHomeServoRot
Description	Initialize the calibration mirror, and moves to the Hal Position setting to zero all the values .
Parameters	None
Return	None

Command	GetCCDTemp
Description	returns the temperature of the detector.
Parameters	None
Return	it returns an string type containing the temperature in Celsius.

Command	GetCCDTempStatus
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Description	returns the status of the cooler. Normally this function is useful to check if the cooler has achieved the desired temperature.	
Parameters	None	
Return	DRV_NOT_INITIALIZED	System not initialized.
	DRV_ACQUIRING	Acquisition in progress.
	DRV_ERROR_ACK	Unable to communicate with card
	DRV_TEMP_OFF	Temperature is OFF
	DRV_TEMP_STABILIZED	Temperature has stabilized at set point.
	DRV_TEMP_NOT_REACHED	Temperature has not reached set point.
	DRV_TEMP_DRIFT	Temperature had stabilized but has since drifted
	DRV_TEMP_NOT_STABILIZED	Temperature reached but not stabilized

Command	GetMotPos	
Description	returns the position of the calibration mirror.	
Parameters	1: rotator	
	2: MOI	
Return	TELMODULE: Rot stage is at position: "+ value	
	TELMODULE: Translator stage is at position: "+value.	

Command	GetJitterStatus	
Description	Get the status of the Jitter.	
Parameters	None	
Return	"Jitter is running"	
	"Jitter is stopped"	

Command	InitCCD
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Description	The initialization procedure is started through this command. It sets the default values of Readout rate, frame size, acquisition mode and shutter control.
Parameters	None
Return	it returns an string type: "CCD: IKON CCD initialized succesfully." if everything went right "CCD: IKON CCD NOT initialized." if everything went wrong

Command	iTime
Description	Specify the exposure time in seconds.
Parameters	Total integration time. E.g. "iTime 5.0"
Return	it returns an string type: DRV_SUCCESS Exposure time accepted. DRV_NOT_INITIALIZED System not initialized. DRV_ACQUIRING Acquisition in progress. DRV_P1INVALID Exposure Time invalid.

Command	InitCamModule
Description	Initialize the electronics of the Camera's module.
Parameters	None
Return	None

Command	InitElectronics
Description	Initialize the electronics of the Telescope's module.
Parameters	None
Return	None

Command	LampOn
Description	Turn a lamp on and moves the calibration mirrors to the proper position.
Parameters	1: Hal

2: ThAr
3: UNe
E.g. "LampOn 2"
Return Lamp+ " Lamp is ready"
Lamp+" Lamp is NOT ready"
"ERROR: Mirror is not IN"

Command LampOff
Description Turn a lamp off and moves the calibration mirrors to the proper position.
Parameters 1: Hal
2: ThAr
3: UNe
E.g. "LampOff 2"
Return Lamp+ " Lamp is off"
"ERROR: Mirror is not OUT"

Command MoveFocus
Description Moves the absolute position of the focus of the CAFE camera. Due to the hysteresis of the focus stage, this motor must be moved only if it is strictly necessary.
Parameters steps (0.12000). E.g. "MoveFocus 4000"
Return the status (int) of the limit switches of the focus stage. (1, 2)
1: Limit low
2: Limit high.

Command MoveMOI
Description Moves the calibration mirror IN or OUT of the optical path.
Parameters 1: IN
2: OUT
E.g. "MoveMOI 1"
Return "TELMODULE: MOI stage is at position: " + value

Command Rotate
Description Rotates the calibration mirror to a position.
Parameters steps (0-130000). E.g. "Rotate 10000"
Return none

Command	ReadFocusPos
Description	Returns the absolute position of the focus stage.
Parameters	None.
Return	int. returns the position (0-12000)

Command	Readout
Description	Starts the reading out procedure and save the data in memory.
Parameters	None.
Return	long *. A pointer type long containing the data.

Command	ReadIOData
Description	returns the values of the IO board.
Parameters	None
Return	9bits; 1.3 bit position, 7-9bits relay status.

Command	ReadLampStatus
Description	returns the current lamp status.
Parameters	none
Return	0: No lamp 1: Hal is set 2: ThAr is set 3: UNe is set

Command	ReadLimits
Description	returns the values of the limit switches of the focus stage.
Parameters	None
Return	1: Limit low 2: Limit high.

Command	ReadoutRate
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Description	Select the readout rate.
Parameters	0: 50Khz 1: 1Mhz 2: 3Mhz 3: 5Mhz E.g."ReadoutRate 2"
Return	DRV_SUCCESS Horizontal speed set. DRV_NOT_INITIALIZED System not initialized. DRV_ACQUIRING Acquisition in progress. DRV_P1INVALID Mode is invalid. DRV_P2INVALID Index is out of range

Command	SaveFits
Description	Once the readout is complete, the data can be saved in FITS format. Some parameters have to be defined before saving as, the objectname, exposure time, and observername.
Parameters	filename. E.g. "SaveFits chicken.fits"
Return	it returns an string type containing the temperature in Celsius.

Command	SetCCDTemp
Description	Sets the temperature of the detector.
Parameters	The value of the temperature. E.g. "SetCCDTemp -90"
Return	DRV_SUCCESS Temperature set. DRV_NOT_INITIALIZED System not initialized. DRV_ACQUIRING Acquisition in progress. DRV_ERROR_ACK Unable to communicate with card. DRV_P1INVALID Temperature invalid. DRV_NOT_SUPPORTED The camera does not support setting the temperature.

Command	SetObjectName
Description	Sets the object name.
Parameters	The value of the object name. E.g. "SetObjectName NGC555"
Return	OK

Command	SetObserverName
Description	Sets the observer name.
Parameters	The value of the object name. E.g. "SetObserverName Pepito"
Return	OK

Command	SetRelay
Description	Turn a relay on.
Parameters	value 1-8. E.g. "SetRelay 2"
Return	

Command	ShutDownCCD
Description	Disable the cooler and turn CCD offline.
Parameters	None.
Return	DRV_SUCCESS System shut down..

Command	ShutDownCamModule
Description	Shutdown the electronics of the camera's module.
Parameters	None
Return	None

Command	ShutDownElectronics
Description	Shutdown the electronics of the Telescope's module.
Parameters	None
Return	None

Command	ShutDownJitter
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Description	Shutdown the electronics of the Jitter's module.
Parameters	None
Return	None

Command	ShutterOn
Description	Change the actual status of the shutter.
Parameters	None
Return	None

Command	StartJitter
Description	Turn the Jitter On.
Parameters	None
Return	"Jitter is running" "Jitter is stopped"

Command	StopFocus
Description	Stops the focus stage.
Parameters	None
Return	None

Command	StopJitter
Description	Turn the Jitter Off.
Parameters	None
Return	"Jitter is running" "Jitter is stopped"

Command	WaitAcquisition
Description	WaitAcquisition can be called after an acquisition is started using StartExp to put the calling thread to sleep until an Acquisition Event occurs. Normally the reading out might starts when WaifAcquisition is finished.
Parameters	None.
Return	DRV_SUCCESS Acquisition Event occurred DRV_NOT_INITIALIZED System not initialized. DRV_NO_NEW_DATA Non-Acquisition Event occurred
