

ATspectrographInitialize

[ret] = ATspectrographInitialize(iniPath)

Description Initializes the spectrograph driver.

Inputs iniPath: the Andor camera DETECTOR.ini file

Outputs ret: Function return code

ATSPECTROGRAPH_SUCCESS	Spectrograph driver initialized
ATSPECTROGRAPH_COMMUNICATION_ERROR	Can't read spectrograph EEPROM
ATSPECTROGRAPH_P1INVALID	Invalid device
ATSPECTROGRAPH_NOT_INITIALIZED	Spectrograph not initialized

See also [ATspectrographGetNumberDevices](#),
[ATspectrographGetFunctionReturnDescription](#),
[ATspectrographClose](#)

Note To confirm that ATspectrographInitialize has been successful, please call ATspectrographGetNumberDevices to compare the number of presently connected spectrographs and the number of spectrographs recognized by the software.

ATspectrographClose

[ret] = ATspectrographClose()

Description Closes the ATspectrograph SDK down.

Outputs ret: Function return code

ATSPECTROGRAPH_SUCCESS	Spectrograph shut down
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See also [ATspectrographInitialize](#), [ATspectrographGetNumberDevices](#)

ATspectrographGetNumberDevices

[ret, noDevices] = ATspectrographGetNumberDevices()

Description Returns the number of available spectrographs.

Outputs	ret: Function return code	
	ATSPECROGRAPH_SUCCESS	Number of available spectrographs returned
	ATSPECROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
	ATSPECROGRAPH_P1INVALID	Invalid pointer
	ATSPECROGRAPH_NOT_INITIALIZED	Spectrograph not initialized
	noDevices: the number of available spectrographs	
See also	ATspectrographInitialize , ATspectrographClose	

ATspectrographGetFunctionReturnDescription

[ret, description] = ATspectrographGetFunctionReturnDescription(error, maxDescStrLen)

Description	Returns a short description of an Error Code.	
Inputs	error: Error Code to identify maxDescStrLen: Number of char allocated for the description string	
Outputs	ret: Function return code ATSPECROGRAPH_SUCCESS Error Code description returned ATSPECROGRAPH_P1INVALID Invalid error code ATSPECROGRAPH_P2INVALID Invalid pointer to description ATSPECROGRAPH_P3INVALID Invalid MaxDescStrLen description: the Error Code description	
Note	MaxDescStrLen should never be greater than the number of char allocated for the description. 64 char is a reasonable number for MaxDescStrLen. If MaxDescStrLen does not allow for the full description, this is truncated and ATSPECROGRAPH_P3INVALID returned.	

ATspectrographGetSerialNumber

[ret, serial] = ATspectrographGetSerialNumber(device, maxSerialStrLen)

Description Returns the device serial number.

Inputs device: Spectrograph to interrogate

maxSerialStrLen: Maximum length serial can contain

Outputs ret: Function return code

ATSPECTROGRAPH_SUCCESS

serial
number
returned

ATSPECTROGRAPH_COMMUNICATION_ERROR

Unable to
communicate
with
spectrograph

ATSPECTROGRAPH_P1INVALID

Invalid
device

ATSPECTROGRAPH_P2INVALID

Invalid
pointer

ATSPECTROGRAPH_P3INVALID

Invalid string
length

ATSPECTROGRAPH_NOT_INITIALIZED

Spectrograph
not initialized

serial: the device serial number

See also [ATspectrographEepromGetOpticalParams](#)

ATspectrographEepromSetOpticalParams

[ret] = ATspectrographEepromSetOpticalParams(device, focalLength, angularDeviation, focalTilt)

Description Sets the Focal Length, Angular Deviation and Focal Tilt of the spectrograph.

Inputs device: Spectrograph to interrogate

focalLength: Focal Length

angularDeviation: Angular Deviation

focalTilt: Focal Tilt

Outputs ret: Function return code

ATSPECTROGRAPH_SUCCESS	Focal Length, Angular Deviation and Focal Tilt set
ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
ATSPECTROGRAPH_P1INVALID	Invalid device
ATSPECTROGRAPH_NOT_INITIALIZED	Spectrograph not initialized

See also [ATspectrographEepromGetOpticalParams](#)

ATspectrographEepromGetOpticalParams

[ret, focalLength, angularDeviation, focalTilt] =
ATspectrographEepromGetOpticalParams(device)

Description	Returns the Focal Length, Angular Deviation and Focal Tilt from the spectrograph.
Inputs	device: Spectrograph to interrogate
Outputs	ret: Function return code
ATSPECTROGRAPH_SUCCESS	Focal Length, Angular Deviation and Focal Tilt returned
ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
ATSPECTROGRAPH_P1INVALID	Invalid device
ATSPECTROGRAPH_P2INVALID	Invalid pointer to Focal Length

ATSPECTROGRAPH_P3INVALID	Invalid pointer to Angular Deviation
ATSPECTROGRAPH_P4INVALID	Invalid pointer to Focal Tilt
ATSPECTROGRAPH_NOT_INITIALIZED	Spectrograph not initialized
focalLength: Focal Length	
angularDeviation: Angular Deviation	
focalTilt: Focal Tilt	

See also [ATspectrographEepromSetOpticalParams](#)

ATspectrographGetNumberGratings

[ret, noGratings] = ATspectrographGetNumberGratings(device)

Description	Returns the number of available gratings.	
Inputs	device: Spectrograph to interrogate	
Outputs	ret: Function return code	
	ATSPECTROGRAPH_SUCCESS	Number of available gratings returned
	ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
	ATSPECTROGRAPH_P1INVALID	Invalid device
	ATSPECTROGRAPH_P2INVALID	Invalid pointer to the number of gratings
	ATSPECTROGRAPH_NOT_INITIALIZED	Spectrograph not initialized
noGratings: the number of available gratings		

See also [ATspectrographGratingIsPresent](#), [ATspectrographGetGrating](#),
[ATspectrographSetGrating](#), [ATspectrographGetGratingOffset](#),
[ATspectrographSetGratingOffset](#), [ATspectrographGetGratingInfo](#)

ATspectrographSetGrating

[ret] = ATspectrographSetGrating(device, grating)

Description Sets the required grating.

Inputs device: Select spectrograph to control
grating: Required grating

Outputs ret: Function return code

ATSPECTROGRAPH_SUCCESS	Grating set
ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
ATSPECTROGRAPH_P1INVALID	Invalid device
ATSPECTROGRAPH_P2INVALID	Invalid grating
ATSPECTROGRAPH_NOT_INITIALIZED	Spectrograph not initialized

See also [ATspectrographGratingIsPresent](#), [ATspectrographGetTurret](#),
[ATspectrographGetNumberGratings](#), [ATspectrographGetGrating](#),
[ATspectrographGetGratingInfo](#), [ATspectrographGetGratingOffset](#),
[ATspectrographGetDetectorOffset](#), [ATspectrographSetTurret](#),
[ATspectrographWavelengthReset](#),
[ATspectrographSetGratingOffset](#),
[ATspectrographSetDetectorOffset](#)

ATspectrographGetGrating

[ret, grating] = ATspectrographGetGrating(device)

Description Returns the current grating.

Inputs device: Spectrograph to interrogate

Outputs ret: Function return code

ATSPECTROGRAPH_SUCCESS	Grating
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		returned
ATSPECTROGRAPH_COMMUNICATION_ERROR		Unable to communicate with spectrograph
ATSPECTROGRAPH_P1INVALID		Invalid device
ATSPECTROGRAPH_P2INVALID		Invalid pointer to grating
ATSPECTROGRAPH_NOT_INITIALIZED		Spectrograph not initialized
grating: grating		

See also [ATspectrographGratingIsPresent](#), [ATspectrographGetNumberGratings](#), [ATspectrographSetGrating](#), [ATspectrographGetGratingInfo](#), [ATspectrographGetGratingOffset](#), [ATspectrographSetGratingOffset](#)

ATspectrographGetGratingInfo

[ret, lines, Blaze, home, offset] = ATspectrographGetGratingInfo(device, grating, maxBlazeStrLen)

Description Returns the grating information.

Inputs device: Spectrograph to interrogate
grating: Grating to interrogate

maxBlazeStrLen: Maximum size the blaze string can be

Outputs ret: Function return code

ATSPECTROGRAPH_SUCCESS	Grating information returned
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ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
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ATSPECTROGRAPH_P1INVALID	Invalid device
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ATSPECTROGRAPH_P2INVALID	Invalid grating
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	ATSPECTROGRAPH_P3INVALID	Invalid pointer to lines
	ATSPECTROGRAPH_P4INVALID	Invalid pointer to blaze
	ATSPECTROGRAPH_P5INVALID	Invalid blaze string length
	ATSPECTROGRAPH_NOT_INITIALIZED	Spectrograph not initialized
See also	lines: the grating lines/mm Blaze: the grating blaze wavelength (nm) home: the grating home (steps) offset: the grating offset (steps)	ATspectrographGratingIsPresent , ATspectrographGetNumberGratings , ATspectrographGetGrating , ATspectrographSetGrating , ATspectrographGetGratingOffset , ATspectrographSetGratingOffset

ATspectrographGratingIsPresent

[ret, present] = ATspectrographGratingIsPresent(device)

Description	Finds if grating is present.	
Inputs	device: Spectrograph to interrogate	
Outputs	ret: Function return code	
	ATSPECTROGRAPH_SUCCESS	Grating presence flag returned
	ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
	ATSPECTROGRAPH_P1INVALID	Invalid device
	ATSPECTROGRAPH_P2INVALID	Invalid poitner to flag present

	ATSPECTROGRAPH_NOT_INITIALIZED	Spectrograph not initialized
	present: flag:	
0		Grating is NOT present
1		Grating IS present

See also [ATspectrographGetNumberGratings](#), [ATspectrographGetGrating](#), [ATspectrographSetGrating](#), [ATspectrographGetGratingOffset](#), [ATspectrographSetGratingOffset](#), [ATspectrographGetGratingInfo](#)

ATspectrographSetDetectorOffset

[ret] = ATspectrographSetDetectorOffset(device, entrancePort, exitPort, offset)

Description Sets the detector offset.

Inputs device: Select spectrograph to control

entrancePort: Entrance port to query

DIRECT_PORT	0
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SIDE_PORT	1
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exitPort: Exit port to query

DIRECT_PORT	0
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SIDE_PORT	1
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offset: Detector offset (steps)

Outputs ret: Function return code

ATspectrograph_SUCCESS	Detector offset set
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ATspectrograph_NOT_INITIALIZED	Spectrograph not initialized
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ATspectrograph_P1INVALID	Invalid device
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ATspectrograph_P2INVALID	Invalid entrance port
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ATspectrograph_P3INVALID	Invalid exit port
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ATspectrograph_P4INVALID	Invalid offset
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	ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
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See also [ATspectrographGetDetectorOffset](#), [ATspectrographGetGratingOffset](#), [ATspectrographSetGratingOffset](#)

ATspectrographGetDetectorOffset

[ret, offset] = ATspectrographGetDetectorOffset(device, entrancePort, exitPort)

Description Gets the detector offset.

Inputs device: Spectrograph to interrogate

entrancePort: Entrance port to query

DIRECT_PORT	0
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SIDE_PORT	1
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exitPort: Exit port to query

DIRECT_PORT	0
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SIDE_PORT	1
-----------	---

Outputs ret: Function return code

ATSPECTROGRAPH_SUCCESS	Detector offset returned
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ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
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ATSPECTROGRAPH_P1INVALID	Invalid device
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ATSPECTROGRAPH_P2INVALID	Invalid entrance port
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ATSPECTROGRAPH_P3INVALID	Invalid exit port
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ATSPECTROGRAPH_P4INVALID	Invalid pointer to offset
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ATSPECTROGRAPH_NOT_INITIALIZED	Spectrograph
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not initialized

offset: detector offset (steps)

See also [ATspectrographSetDetectorOffset](#),
[ATspectrographGetGratingOffset](#),
[ATspectrographSetGratingOffset](#)

ATspectrographSetGratingOffset

[ret] = ATspectrographSetGratingOffset(device, grating, offset)

Description Sets the grating offset.

Inputs device: Select spectrograph to control
grating: Grating to which the offset will be applied
offset: Grating offset (steps)

Outputs ret: Function return code

ATSPECTROGRAPH_SUCCESS	Grating offset set
ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
ATSPECTROGRAPH_P1INVALID	Invalid device
ATSPECTROGRAPH_P2INVALID	Invalid grating
ATSPECTROGRAPH_NOT_INITIALIZED	Spectrograph not initialized

See also [ATspectrographGratingIsPresent](#), [ATspectrographGetTurret](#),
[ATspectrographGetNumberGratings](#), [ATspectrographGetGrating](#),
[ATspectrographGetGratingInfo](#), [ATspectrographGetGratingOffset](#),
[ATspectrographGetDetectorOffset](#), [ATspectrographSetTurret](#),
[ATspectrographSetGrating](#), [ATspectrographWavelengthReset](#),
[ATspectrographSetDetectorOffset](#)

ATspectrographGetGratingOffset

[ret, offset] = ATspectrographGetGratingOffset(device, grating)

Description Returns the grating offset.

Inputs	device: Spectrograph to interrogate grating: Grating to interrogate	
Outputs	ret: Function return code	
	ATSPECTROGRAPH_SUCCESS	Grating offset returned
	ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
	ATSPECTROGRAPH_P1INVALID	Invalid device
	ATSPECTROGRAPH_P2INVALID	Invalid grating
	ATSPECTROGRAPH_P3INVALID	Invalid pointer to offset
	ATSPECTROGRAPH_NOT_INITIALIZED	Spectrograph not initialized
	offset: the grating offset (steps)	
See also	ATspectrographGratingIsPresent , ATspectrographGetNumberGratings , ATspectrographGetGrating , ATspectrographSetGrating , ATspectrographSetGratingOffset , ATspectrographGetGratingInfo , ATspectrographGetDetectorOffset , ATspectrographSetDetectorOffset	

ATspectrographSetTurret

[ret] = ATspectrographSetTurret(device, turret)

Description	Sets the required Turret.	
Inputs	device: Select spectrograph to control	
	turret: Required Turret	
Outputs	ret: Function return code	
	ATSPECTROGRAPH_SUCCESS	Turret set
	ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph

ATSPECTROGRAPH_P1INVALID	Invalid device
ATSPECTROGRAPH_P2INVALID	Invalid turret
ATSPECTROGRAPH_NOT_INITIALIZED	Spectrograph not initialized

See also [ATspectrographGetTurret](#)

ATspectrographGetTurret

[ret, turret] = ATspectrographGetTurret(device)

Description Returns the current Turret.

Inputs device: Spectrograph to interrogate

Outputs ret: Function return code

ATSPECTROGRAPH_SUCCESS	Turret returned
ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
ATSPECTROGRAPH_P1INVALID	Invalid device
ATSPECTROGRAPH_P2INVALID	Invalid pointer to turret
ATSPECTROGRAPH_NOT_INITIALIZED	Spectrograph not initialized

turret: the Turret

See also [ATspectrographSetTurret](#)

ATspectrographWavelengthIsPresent

[ret, present] = ATspectrographWavelengthIsPresent(device)

Description Finds if the turret motors are installed.

Inputs device: Spectrograph to interrogate

Outputs ret: Function return code

ATSPECTROGRAPH_SUCCESS	Turret motors presence flag returned
ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
ATSPECTROGRAPH_P1INVALID	Invalid device
ATSPECTROGRAPH_P2INVALID	Invalid pointer to flag
ATSPECTROGRAPH_NOT_INITIALIZED	Spectrograph not initialized
present: flag:	
0	Turret motors is NOT present
1	Turret motors IS present

See also

[ATspectrographGetWavelengthLimits](#) ,
[ATspectrographGetWavelength](#) , [ATspectrographSetWavelength](#) ,
[ATspectrographAtZeroOrder](#) , [ATspectrographGotoZeroOrder](#)

ATspectrographWavelengthReset

[ret] = ATspectrographWavelengthReset(device)

Description Resets the wavelength to 0 nm.

Inputs device: Select spectrograph to control.

Outputs ret: Function return code

ATSPECTROGRAPH_SUCCESS	Wavelength reset
ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
ATSPECTROGRAPH_P1INVALID	Invalid device

	ATSPECTROGRAPH_NOT_INITIALIZED	Spectrograph not initialized
See also	ATspectrographWavelengthIsPresent , ATspectrographGetWavelengthLimits , ATspectrographGetWavelength , ATspectrographSetWavelength , ATspectrographAtZeroOrder , ATspectrographGotoZeroOrder	
Note	same as ATspectrographGotoZeroOrder.	

ATspectrographSetWavelength		
[ret] = ATspectrographSetWavelength(device, wavelength)		
Description	Sets the required wavelength.	
Inputs	device: Select spectrograph to control wavelength: Required wavelength	
Outputs	ret: Function return code	
	ATSPECTROGRAPH_SUCCESS	Required wavelength set
	ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
	ATSPECTROGRAPH_P1INVALID	Invalid device
	ATSPECTROGRAPH_P2INVALID	Invalid wavelength
	ATSPECTROGRAPH_NOT_INITIALIZED	Spectrograph not initialized
See also	ATspectrographWavelengthIsPresent , ATspectrographGetWavelength , ATspectrographGetWavelengthLimits , ATspectrographAtZeroOrder , ATspectrographGotoZeroOrder	

ATspectrographGetWavelength		
[ret, wavelength] = ATspectrographGetWavelength(device)		
Description	Returns the current wavelength.	

Inputs	device: Spectrograph to interrogate	
Outputs	ret: Function return code	
	ATSPECTROGRAPH_SUCCESS	Wavelength returned
	ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
	ATSPECTROGRAPH_P1INVALID	Invalid device
	ATSPECTROGRAPH_P2INVALID	Invalid pointer to wavelength
	ATSPECTROGRAPH_NOT_INITIALIZED	Spectrograph not initialized
	wavelength: the wavelength	
See also	ATspectrographWavelengthIsPresent , ATspectrographGetWavelengthLimits , ATspectrographSetWavelength , ATspectrographAtZeroOrder , ATspectrographGotoZeroOrder	

ATspectrographGotoZeroOrder

[ret] = ATspectrographGotoZeroOrder(device)

Description	Sets wavelength to zero order.	
Inputs	device: Spectrograph to send command to.	
Outputs	ret: Function return code	
	ATSPECTROGRAPH_SUCCESS	Wavelength set to zero order
	ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
	ATSPECTROGRAPH_P1INVALID	Invalid device
	ATSPECTROGRAPH_NOT_INITIALIZED	Spectrograph not initialized

See also [ATspectrographWavelengthIsPresent](#),
[ATspectrographGetWavelengthLimits](#),
[ATspectrographGetWavelength](#), [ATspectrographSetWavelength](#),
[ATspectrographAtZeroOrder](#)

Note same as ATspectrographWavelengthReset.

ATspectrographAtZeroOrder

[ret, atZeroOrder] = ATspectrographAtZeroOrder(device)

Description Finds if wavelength is at zero order.

Inputs device: Spectrograph to interrogate

Outputs ret: Function return code

ATSPECROGRAPH_SUCCESS	At zero order flag returned
ATSPECROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
ATSPECROGRAPH_P1INVALID	Invalid device
ATSPECROGRAPH_P2INVALID	Invalid pointer to atZeroOrder
ATSPECROGRAPH_NOT_INITIALIZED	Spectrograph not initialized
atZeroOrder: flag:	
0	Wavelength is NOT at zero order
1	Wavelength IS at zero order

See also [ATspectrographWavelengthIsPresent](#),
[ATspectrographWavelengthReset](#),
[ATspectrographGetWavelengthLimits](#),
[ATspectrographGetWavelength](#), [ATspectrographSetWavelength](#),
[ATspectrographGotoZeroOrder](#)

ATspectrographGetWavelengthLimits

[ret, min, max] = ATspectrographGetWavelengthLimits(device, grating)

Description Returns the Grating wavelength limits.

Inputs device: Spectrograph to interrogate

grating: Grating to interrogate

Outputs ret: Function return code

ATSPECTROGRAPH_SUCCESS

Wavelength returned

ATSPECTROGRAPH_COMMUNICATION_ERROR

Unable to communicate with spectrograph

ATSPECTROGRAPH_P1INVALID

Invalid device

ATSPECTROGRAPH_P2INVALID

Invalid grating

ATSPECTROGRAPH_P3INVALID

Invalid pointer to min

ATSPECTROGRAPH_P4INVALID

Invalid pointer to max

ATSPECTROGRAPH_NOT_INITIALIZED

Spectrograph not initialized

min: the lower wavelength limit (nm)

max: the upper wavelength limit (nm)

See also

[ATspectrographWavelengthIsPresent](#),
[ATspectrographGetWavelength](#), [ATspectrographSetWavelength](#),
[ATspectrographAtZeroOrder](#), [ATspectrographGotoZeroOrder](#)

ATspectrographSlitIsPresent

[ret, present] = ATspectrographSlitIsPresent(device, slit)

Description Finds if Output Slit is present.

Inputs device: Spectrograph to interrogate

slit: Specifies which slit to check:

	INPUT_SIDE	1
	INPUT_DIRECT	2
	OUTPUT_SIDE	3
	OUTPUT_DIRECT	4
Outputs	ret: Function return code	
	ATSPECTROGRAPH_SUCCESS	Output Slit presence flag returned
	ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
	ATSPECTROGRAPH_P1INVALID	Invalid device
	ATSPECTROGRAPH_P2INVALID	Invalid slit index
	ATSPECTROGRAPH_P3INVALID	Invalid pointer to present
	ATSPECTROGRAPH_NOT_INITIALIZED	Spectrograph not initialized
	present: flag:	
	0	Output Slit is NOT present
	1	Output Slit IS present
See also	ATspectrographSlitReset , ATspectrographSetSlitWidth , ATspectrographGetSlitWidth , ATspectrographSetSlitZeroPosition , ATspectrographGetSlitZeroPosition , ATspectrographGetSlitCoefficients	

ATspectrographSlitReset

[ret] = ATspectrographSlitReset(device, slit)

Description Resets the specified Slit to its default (10um).

Inputs device: Select spectrograph to control.

slit: Specifies which slit to reset:

INPUT_SIDE	1
INPUT_DIRECT	2
OUTPUT_SIDE	3
OUTPUT_DIRECT	4
Outputs	ret: Function return code
ATSPECROGRAPH_SUCCESS	Input Slit reset
ATSPECROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
ATSPECROGRAPH_P1INVALID	Invalid device
ATSPECROGRAPH_P2INVALID	Invalid slit index
ATSPECROGRAPH_NOT_INITIALIZED	Spectrograph not initialized
See also	ATSpecrographSlitIsPresent , ATSpecrographGetSlitWidth , ATSpecrographSetSlitWidth , ATSpecrographSetSlitZeroPosition , ATSpecrographGetSlitZeroPosition , ATSpecrographGetSlitCoefficients

ATSpecrographSetSlitWidth

[ret] = ATSpecrographSetSlitWidth(device, slit, width)

Description	Sets the width of the specified slit.
Inputs	device: Select spectrograph to control slit: Specifies which slit to update:
INPUT_SIDE	1
INPUT_DIRECT	2
OUTPUT_SIDE	3
OUTPUT_DIRECT	4
width: Required width of each slot (um)	
Outputs	ret: Function return code
ATSPECROGRAPH_SUCCESS	Slit width set

ATSPECROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
ATSPECROGRAPH_P1INVALID	Invalid device
ATSPECROGRAPH_P2INVALID	Invalid slit index
ATSPECROGRAPH_P3INVALID	Invalid width
ATSPECROGRAPH_NOT_INITIALIZED	Spectrograph not initialized

See also [ATspectrographSlitIsPresent](#), [ATspectrographGetSlitWidth](#), [ATspectrographSlitReset](#)

ATspectrographGetSlitWidth

[ret, width] = ATspectrographGetSlitWidth(device, slit)

Description	Returns the specified Slit width.	
Inputs	device: Spectrograph to interrogate slit: Specifies which slit to get the width of: INPUT_SIDE 1 INPUT_DIRECT 2 OUTPUT_SIDE 3 OUTPUT_DIRECT 4	
Outputs	ret: Function return code ATSPECROGRAPH_SUCCESS Output Slit width returned ATSPECROGRAPH_COMMUNICATION_ERROR Unable to communicate with spectrograph ATSPECROGRAPH_P1INVALID Invalid device ATSPECROGRAPH_P2INVALID Invalid slit index	

ATSPECROGRAPH_P3INVALID	Invalid pointer to width
ATSPECROGRAPH_NOT_INITIALIZED	Spectrograph not initialized
width: the Output Slit width (um)	

See also [ATspectrographSlitIsPresent](#), [ATspectrographSetSlitWidth](#), [ATspectrographSlitReset](#)

ATspectrographSetSlitZeroPosition

[ret] = ATspectrographSetSlitZeroPosition(device, slit, offset)

Description Sets the zero position of the specified slit.

Inputs device: Select spectrograph to control
slit: Specifies which slit to update:

INPUT_SIDE	1
INPUT_DIRECT	2
OUTPUT_SIDE	3
OUTPUT_DIRECT	4

offset: Offset of the slit (between -200 and 0)

Outputs ret: Function return code

ATSPECROGRAPH_SUCCESS	Slit offset set
ATSPECROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
ATSPECROGRAPH_P1INVALID	Invalid device
ATSPECROGRAPH_P2INVALID	Invalid slit index
ATSPECROGRAPH_P3INVALID	Invalid offset
ATSPECROGRAPH_NOT_INITIALIZED	Spectrograph not initialized

See also [ATspectrographSlitIsPresent](#), [ATspectrographSlitReset](#), [ATspectrographGetSlitZeroPosition](#)

ATspectrographGetSlitZeroPosition

[ret, offset] = ATspectrographGetSlitZeroPosition(device, slit)

Description Gets the offset of the specified slit.

Inputs device: Select spectrograph to control

slit: Specifies which slit to get the zero position from:

INPUT_SIDE	1
INPUT_DIRECT	2
OUTPUT_SIDE	3
OUTPUT_DIRECT	4

Outputs ret: Function return code

ATSPECROGRAPH_SUCCESS	Slit zero position returned
ATSPECROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
ATSPECROGRAPH_P1INVALID	Invalid device
ATSPECROGRAPH_P2INVALID	Invalid slit index
ATSPECROGRAPH_P3INVALID	Invalid pointer to offset
ATSPECROGRAPH_NOT_INITIALIZED	Spectrograph not initialized

offset: the offset of the slit zero position

See also [ATspectrographSlitIsPresent](#), [ATspectrographSlitReset](#), [ATspectrographSetSlitZeroPosition](#)

ATspectrographSetSlitCoefficients

[ret] = ATspectrographSetSlitCoefficients(device, x1, y1, x2, y2)

Description Sets the coefficients for the slits.

Inputs device: Select spectrograph to control

x1:

y1:

x2:

y2:

Outputs	ret: Function return code	
	ATSPECROGRAPH_SUCCESS	Slit coefficients set
	ATSPECROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
	ATSPECROGRAPH_P1INVALID	Invalid device
	ATSPECROGRAPH_P2INVALID	Invalid x1 coefficient
	ATSPECROGRAPH_P3INVALID	Invalid y1 coefficient
	ATSPECROGRAPH_P4INVALID	Invalid x2 coefficient
	ATSPECROGRAPH_NOT_INITIALIZED	Spectrograph not initialized

See also [ATspectrographSlitIsPresent](#), [ATspectrographSlitReset](#),
[ATspectrographSetSlitWidth](#), [ATspectrographGetSlitWidth](#),
[ATspectrographSetSlitZeroPosition](#),
[ATspectrographGetSlitZeroPosition](#),
[ATspectrographGetSlitCoefficients](#)

ATspectrographGetSlitCoefficients

[ret, x1, y1, x2, y2] = ATspectrographGetSlitCoefficients(device)

Description Gets the coefficients for the slits.

Inputs device: Select spectrograph to control

Outputs ret: Function return code

ATSPECROGRAPH_SUCCESS	Coefficients returned
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ATSPECROGRAPH_COMMUNICATION_ERROR	Unable to
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		communicate with spectrograph
ATSPECROGRAPH_P1INVALID		Invalid device
ATSPECROGRAPH_P2INVALID		Invalid pointer to x1
ATSPECROGRAPH_P3INVALID		Invalid pointer to y1
ATSPECROGRAPH_P4INVALID		Invalid pointer to x2
ATSPECROGRAPH_NOT_INITIALIZED		Spectrograph not initialized
x1: the x1 coefficient		
y1: the y1 coefficient		
x2: the x2 coefficient		
y2: the y2 coefficient		

See also [ATSpecrographSlitIsPresent](#), [ATSpecrographSlitReset](#),
[ATSpecrographSetSlitWidth](#), [ATSpecrographGetSlitWidth](#),
[ATSpecrographSetSlitZeroPosition](#),
[ATSpecrographGetSlitZeroPosition](#)

ATSpecrographShutterIsPresent

[ret, present] = ATSpecrographShutterIsPresent(device)

Description Finds if Shutter is present.

Inputs device: Spectrograph to interrogate

Outputs ret: Function return code

ATSPECROGRAPH_SUCCESS	Shutter presence flag returned
ATSPECROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
ATSPECROGRAPH_P1INVALID	Invalid device

ATSPECROGRAPH_P2INVALID	Invalid pointer to present
ATSPECROGRAPH_NOT_INITIALIZED	Spectrograph not initialized
present: flag:	
0	Shutter is NOT present
1	Shutter IS present

See also [ATspectrographGetShutter](#), [ATspectrographSetShutter](#), [ATspectrographIsShutterModePossible](#)

ATspectrographIsShutterModePossible

[ret, possible] = ATspectrographIsShutterModePossible(device, mode)

Description Checks if a particular shutter mode is available.

Inputs device: Spectrograph to interrogate

mode: Shutter mode to check:

SHUTTER_CLOSED	0
SHUTTER_OPEN	1
SHUTTER_BNC (not applicable for SR-303)	2

Outputs ret: Function return code

ATSPECROGRAPH_SUCCESS	Shutter mode availability returned
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ATSPECROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
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ATSPECROGRAPH_P1INVALID	Invalid device
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ATSPECROGRAPH_P2INVALID	Invalid mode
-------------------------	--------------

ATSPECROGRAPH_P3INVALID	Invalid pointer to present
-------------------------	----------------------------

`ATSPECTROGRAPH_NOT_INITIALIZED` Spectrograph
not initialized

possible: flag:

0 Shutter mode
is NOT
available

1 Shutter mode
IS available

See also [ATspectrographShutterIsPresent](#), [ATspectrographGetShutter](#),
[ATspectrographSetShutter](#)

ATspectrographSetShutter

[ret] = ATspectrographSetShutter(device, mode)

Description Sets the shutter mode.

Inputs device: Select spectrograph to control

mode: Shutter mode:

`SHUTTER_CLOSED` 0

`SHUTTER_OPEN` 1

`SHUTTER_BNC` (not applicable for SR-303) 2

Outputs ret: Function return code

`ATSPECTROGRAPH_SUCCESS` Shutter mode
set

`ATSPECTROGRAPH_COMMUNICATION_ERROR` Unable to
communicate
with
spectrograph

`ATSPECTROGRAPH_P1INVALID` Invalid
device

`ATSPECTROGRAPH_P2INVALID` Invalid mode

`ATSPECTROGRAPH_NOT_INITIALIZED` Spectrograph
not initialized

See also [ATspectrographShutterIsPresent](#), [ATspectrographGetShutter](#),
[ATspectrographIsShutterModePossible](#)

ATspectrographGetShutter

[ret, mode] = ATspectrographGetShutter(device)

Description Returns the current device shutter mode.

Inputs device: Spectrograph to interrogate

Outputs ret: Function return code

ATSPECROGRAPH_SUCCESS	device shutter mode returned
ATSPECROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
ATSPECROGRAPH_P1INVALID	Invalid device
ATSPECROGRAPH_P2INVALID	Invalid pointer to mode
ATSPECROGRAPH_NOT_INITIALIZED	Spectrograph not initialized
mode: the device shutter mode:	
SHUTTER_CLOSED	0
SHUTTER_OPEN	1
SHUTTER_BNC (not applicable for SR-303)	2

See also [ATspectrographShutterIsPresent](#),
[ATspectrographIsShutterModePossible](#),
[ATspectrographSetShutter](#)

ATspectrographFilterIsPresent

[ret, present] = ATspectrographFilterIsPresent(device)

Description Finds if Filter is present.

Inputs device: Spectrograph to interrogate

Outputs ret: Function return code

ATSPECROGRAPH_SUCCESS	Filter presence flag returned
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ATSPECROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
ATSPECROGRAPH_P1INVALID	Invalid device
ATSPECROGRAPH_P2INVALID	Invalid pointer to present
ATSPECROGRAPH_NOT_INITIALIZED	Spectrograph not initialized
present: flag:	
0	Filter is NOT present
1	Filter IS present

See also [ATSpecrographFilterReset](#), [ATSpecrographGetFilter](#),
[ATSpecrographSetFilter](#), [ATSpecrographGetFilterInfo](#),
[ATSpecrographSetFilterInfo](#)

ATSpecrographFilterReset

[ret] = ATSpecrographFilterReset(device)

Description Resets the filter to its default position.

Inputs device: Spectrograph to reset the filter

Outputs ret: Function return code

ATSPECROGRAPH_SUCCESS	Filter reset
ATSPECROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
ATSPECROGRAPH_P1INVALID	Invalid device
ATSPECROGRAPH_NOT_INITIALIZED	Spectrograph not initialized

See also [ATSpecrographFilterIsPresent](#), [ATSpecrographSetFilter](#),
[ATSpecrographGetFilter](#), [ATSpecrographSetFilterInfo](#),
[ATSpecrographGetFilterInfo](#)

ATspectrographSetFilter

[ret] = ATspectrographSetFilter(device, filter)

Description Sets the required filter.

Inputs device: Select spectrograph to control

filter: Filter to set

Outputs ret: Function return code

ATSPECROGRAPH_SUCCESS

Filter set

ATSPECROGRAPH_COMMUNICATION_ERROR

Unable to
communicate
with
spectrograph

ATSPECROGRAPH_P1INVALID

Invalid
device

ATSPECROGRAPH_P2INVALID

Invalid filter

ATSPECROGRAPH_NOT_INITIALIZED

Spectrograph
not initialized

See also

[ATspectrographFilterIsPresent](#) , [ATspectrographGetFilter](#) ,
[ATspectrographGetFilterInfo](#) , [ATspectrographSetFilterInfo](#)

ATspectrographGetFilter

[ret, filter] = ATspectrographGetFilter(device)

Description Gets current Filter.

Inputs device: Spectrograph to interrogate

Outputs ret: Function return code

ATSPECROGRAPH_SUCCESS

Filter
returned

ATSPECROGRAPH_COMMUNICATION_ERROR

Unable to
communicate
with
spectrograph

ATSPECROGRAPH_P1INVALID

Invalid
device

ATSPECROGRAPH_P2INVALID

Invalid

		pointer to filter
	ATSPECTROGRAPH_NOT_INITIALIZED	Spectrograph not initialized
	filter: filter	
See also	ATspectrographFilterIsPresent , ATspectrographFilterReset , ATspectrographSetFilter , ATspectrographGetFilterInfo , ATspectrographSetFilterInfo	

ATspectrographGetFilterInfo

[ret, info] = ATspectrographGetFilterInfo(device, filter, maxInfoLen)

Description Gets the filter information.

Inputs device: Spectrograph to interrogate

filter: Filter to interrogate

maxInfoLen: Size of the info buffer

Outputs ret: Function return code

ATSPECTROGRAPH_SUCCESS

Filter information returned

ATSPECTROGRAPH_COMMUNICATION_ERROR

Unable to communicate with spectrograph

ATSPECTROGRAPH_P1INVALID

Invalid device

ATSPECTROGRAPH_P2INVALID

Invalid filter

ATSPECTROGRAPH_P3INVALID

Invalid pointer to info

ATSPECTROGRAPH_P4INVALID

Invalid maxInfoLen

ATSPECTROGRAPH_NOT_INITIALIZED

Spectrograph not initialized

info: the filter information

See also [ATspectrographFilterIsPresent](#), [ATspectrographGetFilter](#),
[ATspectrographSetFilter](#), [ATspectrographSetFilterInfo](#)

AT Spectrograph Set Filter Info

[ret] = AT Spectrograph Set Filter Info(device, filter, info)

Description Sets the filter information.

Inputs device: Select spectrograph to control
filter: Filter whose information is to be set
info: filter information

Outputs ret: Function return code

AT SPECTROGRAPH_SUCCESS	Filter information set
AT SPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
AT SPECTROGRAPH_P1INVALID	Invalid device
AT SPECTROGRAPH_P2INVALID	Invalid filter
AT SPECTROGRAPH_P3INVALID	Invalid pointer to info
AT SPECTROGRAPH_NOT_INITIALIZED	Spectrograph not initialized

See also [AT Spectrograph Filter Is Present](#), [AT Spectrograph Get Filter](#), [AT Spectrograph Set Filter](#), [AT Spectrograph Get Filter Info](#)

AT Spectrograph Flipper Mirror Is Present

[ret, present] = AT Spectrograph Flipper Mirror Is Present(device, flipper)

Description Finds if flipper is present.

Inputs device: Spectrograph to interrogate
flipper: The flipper can have two values which are as follows:
INPUT_FLIPPER 1
OUTPUT_FLIPPER 2

Outputs	ret: Function return code	
	ATSPECROGRAPH_SUCCESS	Flipper presence flag returned
	ATSPECROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
	ATSPECROGRAPH_P1INVALID	Invalid device
	ATSPECROGRAPH_P2INVALID	Invalid flipper
	ATSPECROGRAPH_P3INVALID	Invalid pointer to present
	ATSPECROGRAPH_NOT_INITIALIZED	Spectrograph not initialized
	present: flag:	
	0	Flipper is NOT present
	1	Flipper IS present

See also [ATSpecrographFlipperMirrorReset](#), [ATSpecrographSetFlipperMirror](#), [ATSpecrographGetFlipperMirror](#)

ATSpecrographFlipperMirrorReset

[ret] = ATSpecrographFlipperMirrorReset(device, flipper)

Description Resets the specified flipper to its default position.

Inputs device: Spectrograph to interrogate

flipper: The flipper can have two values which are as follows:

INPUT_FLIPPER	1
---------------	---

OUTPUT_FLIPPER	2
----------------	---

Outputs ret: Function return code

ATSPECROGRAPH_SUCCESS	Flipper reset
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ATSPECROGRAPH_COMMUNICATION_ERROR	Unable to communicate with
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		spectrograph
ATSPECTROGRAPH_P1INVALID		Invalid device
ATSPECTROGRAPH_P2INVALID		Invalid flipper
ATSPECTROGRAPH_NOT_INITIALIZED		Spectrograph not initialized

See also [ATspectrographFlipperMirrorIsPresent](#), [ATspectrographSetFlipperMirror](#), [ATspectrographGetFlipperMirror](#)

ATspectrographSetFlipperMirror

[ret] = ATspectrographSetFlipperMirror(device, flipper, port)

Description Sets the position of the specified flipper mirror.

Inputs device: Spectrograph to interrogate

flipper: The flipper can have two values which are as follows:

INPUT_FLIPPER	1
---------------	---

OUTPUT_FLIPPER	2
----------------	---

port: The port to set the flipper mirror to:

DIRECT_PORT	0
-------------	---

SIDE_PORT	1
-----------	---

Outputs ret: Function return code

ATSPECTROGRAPH_SUCCESS	Port set
------------------------	----------

ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
------------------------------------	---

ATSPECTROGRAPH_P1INVALID	Invalid device
--------------------------	----------------

ATSPECTROGRAPH_P2INVALID	Invalid flipper
--------------------------	-----------------

ATSPECTROGRAPH_P3INVALID	Invalid port
--------------------------	--------------

ATSPECTROGRAPH_NOT_INITIALIZED	Spectrograph not initialized
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See also [ATspectrographFlipperMirrorIsPresent](#), [ATspectrographFlipperMirrorReset](#), [ATspectrographGetFlipperMirror](#)

ATspectrographGetFlipperMirror

[ret, port] = ATspectrographGetFlipperMirror(device, flipper)

Description Returns the current port for the specified flipper mirror.

Inputs device: Spectrograph to interrogate

flipper: The flipper can have two values which are as follows:

INPUT_FLIPPER	1
---------------	---

OUTPUT_FLIPPER	2
----------------	---

Outputs ret: Function return code

ATSPECTROGRAPH_SUCCESS	Port returned
------------------------	---------------

ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
------------------------------------	---

ATSPECTROGRAPH_P1INVALID	Invalid device
--------------------------	----------------

ATSPECTROGRAPH_P2INVALID	Invalid flipper
--------------------------	-----------------

ATSPECTROGRAPH_P3INVALID	Invalid pointer to port
--------------------------	-------------------------

ATSPECTROGRAPH_NOT_INITIALIZED	Spectrograph not initialized
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port: the current port:

DIRECT_PORT	0
-------------	---

SIDE_PORT	1
-----------	---

See also [ATspectrographFlipperMirrorIsPresent](#),
[ATspectrographFlipperMirrorReset](#),
[ATspectrographSetFlipperMirror](#)

ATspectrographSetFlipperMirrorPosition

[ret] = ATspectrographSetFlipperMirrorPosition(device, flipper, position)

Description Sets the position of the specified flipper mirror.

Inputs device: Spectrograph to interrogate

flipper: The flipper can have two values which are as follows:

	INPUT_FLIPPER	1
	OUTPUT_FLIPPER	2
	position: The step position to set the flipper mirror to	
Outputs	ret: Function return code	
	ATSPECROGRAPH_SUCCESS	Position set
	ATSPECROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
	ATSPECROGRAPH_P1INVALID	Invalid device
	ATSPECROGRAPH_NOT_INITIALIZED	Spectrograph not initialized
See also	ATSpecrographFlipperMirrorIsPresent , ATSpecrographGetFlipperMirrorMaxPosition , ATSpecrographGetFlipperMirrorPosition , ATSpecrographFlipperMirrorReset	

ATSpecrographGetFlipperMirrorPosition

[ret, position] = ATSpecrographGetFlipperMirrorPosition(device, flipper)

Description	Returns the current step position for the specified flipper mirror.	
Inputs	device: Spectrograph to interrogate flipper: The flipper can have two values which are as follows:	
	INPUT_FLIPPER	1
	OUTPUT_FLIPPER	2
Outputs	ret: Function return code	
	ATSPECROGRAPH_SUCCESS	Position returned
	ATSPECROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
	ATSPECROGRAPH_P1INVALID	Invalid device
	ATSPECROGRAPH_P2INVALID	Invalid flipper

	ATSPECTROGRAPH_P3INVALID	Invalid pointer to position
	ATSPECTROGRAPH_NOT_INITIALIZED	Spectrograph not initialized
position: the current step position		

See also [ATspectrographFlipperMirrorIsPresent](#),
[ATspectrographFlipperMirrorReset](#),
[ATspectrographGetFlipperMirrorMaxPosition](#),
[ATspectrographSetFlipperMirrorPosition](#)

ATspectrographGetFlipperMirrorMaxPosition

[ret, maxPosition] = ATspectrographGetFlipperMirrorMaxPosition(device, flipper)

Description Returns the max step position for the specified flipper mirror.

Inputs device: Spectrograph to interrogate

flipper: The flipper can have two values which are as follows:

INPUT_FLIPPER	1
---------------	---

OUTPUT_FLIPPER	2
----------------	---

Outputs ret: Function return code

ATSPECTROGRAPH_SUCCESS	position returned
------------------------	-------------------

ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
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ATSPECTROGRAPH_P1INVALID	Invalid device
--------------------------	----------------

ATSPECTROGRAPH_P2INVALID	Invalid flipper
--------------------------	-----------------

ATSPECTROGRAPH_P3INVALID	Invalid pointer to maxPosition
--------------------------	--------------------------------

ATSPECTROGRAPH_NOT_INITIALIZED	Spectrograph not initialized
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maxPosition: the max step position

See also [ATspectrographFlipperMirrorIsPresent](#),
[ATspectrographFlipperMirrorReset](#),

[ATspectrographGetFlipperMirrorPosition](#),
[ATspectrographSetFlipperMirrorPosition](#)

ATspectrographGetCCDLimits

[ret, low, high] = ATspectrographGetCCDLimits(device, port)

Description Gets the upper and lower accessible wavelength through the port.

Inputs device: Spectrograph to interrogate

port: Port to interrogate:

1 port 1

2 port 2

Outputs ret: Function return code

ATSPECTROGRAPH_SUCCESS	Accessible wavelength limits returned
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ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
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ATSPECTROGRAPH_P1INVALID	Invalid device
--------------------------	----------------

ATSPECTROGRAPH_P2INVALID	Invalid port
--------------------------	--------------

ATSPECTROGRAPH_P3INVALID	Invalid pointer to low
--------------------------	------------------------

ATSPECTROGRAPH_P4INVALID	Invalid pointer to high
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ATSPECTROGRAPH_NOT_INITIALIZED	Spectrograph not initialized
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low: lower accessible wavelength (nm)

high: upper accessible wavelength (nm)

See also [ATspectrographFlipperMirrorIsPresent](#),
[ATspectrographFlipperMirrorReset](#),
[ATspectrographGetFlipperMirror](#), [ATspectrographSetFlipperMirror](#)

ATspectrographAccessoryIsPresent

[ret, present] = ATspectrographAccessoryIsPresent(device)

Description Finds if Accessory is present.

Inputs device: Spectrograph to interrogate

Outputs ret: Function return code

ATSPECROGRAPH_SUCCESS	Accessory presence flag returned
ATSPECROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
ATSPECROGRAPH_P1INVALID	Invalid device
ATSPECROGRAPH_P2INVALID	Invalid pointer to present
ATSPECROGRAPH_NOT_INITIALIZED	Spectrograph not initialized
present: flag:	
0	Accessory is NOT present
1	Accessory IS present

See also [ATspectrographGetAccessoryState](#), [ATspectrographSetAccessoryState](#)

ATspectrographSetAccessoryState

[ret] = ATspectrographSetAccessoryState(device, accessory, state)

Description Sets the Accessory state.

Inputs device: Select spectrograph to control

accessory: Line to set:

1 line 1

2 line 2

state: Accessory state:

0	OFF
1	ON
Outputs	ret: Function return code
ATSPECROGRAPH_SUCCESS	Line state set
ATSPECROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
ATSPECROGRAPH_P1INVALID	Invalid device
ATSPECROGRAPH_P2INVALID	Invalid line
ATSPECROGRAPH_P3INVALID	Invalid state
ATSPECROGRAPH_NOT_INITIALIZED	Spectrograph not initialized
See also	ATSpecrographAccessoryIsPresent , ATSpecrographGetAccessoryState
Note	The function call defines State as an integer. The function will interpret the accessory state to set as: 1 for State > 0, 0 otherwise.

ATSpecrographGetAccessoryState

[ret, state] = ATSpecrographGetAccessoryState(device, accessory)

Description	Gets the Accessory state.	
Inputs	device: Spectrograph to interrogate accessory: Line to interrogate:	
1		line 1
2		line 2
Outputs	ret: Function return code	
ATSPECROGRAPH_SUCCESS	Line state returned	
ATSPECROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph	
ATSPECROGRAPH_P1INVALID	Invalid device	

ATSPECTROGRAPH_P2INVALID	Invalid line
ATSPECTROGRAPH_P3INVALID	Invalid pointer to state
ATSPECTROGRAPH_NOT_INITIALIZED	Spectrograph not initialized
state: line state:	
0	OFF
1	ON

See also [ATspectrographAccessoryIsPresent](#),
[ATspectrographSetAccessoryState](#)

ATspectrographFocusMirrorIsPresent

[ret, present] = ATspectrographFocusMirrorIsPresent(device)

Description	Finds if Focus mirror is present.
Inputs	device: Spectrograph to interrogate
Outputs	ret: Function return code
	ATSPECTROGRAPH_SUCCESS
	Focus mirror presence flag returned
	ATSPECTROGRAPH_COMMUNICATION_ERROR
	Unable to communicate with spectrograph
	ATSPECTROGRAPH_P1INVALID
	Invalid device
	ATSPECTROGRAPH_P2INVALID
	Invalid pointer to present
	ATSPECTROGRAPH_NOT_INITIALIZED
	Spectrograph not initialized
present: flag	
0	Focus mirror is NOT present
1	Focus mirror

IS present

See also	ATspectrographFocusMirrorReset , ATspectrographGetFocusMirrorMaxSteps , ATspectrographSetFocusMirror , ATspectrographGetFocusMirror
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ATspectrographFocusMirrorReset

[ret] = ATspectrographFocusMirrorReset(device)

Description Resets the specified focus mirror to its default position.

Inputs device: Spectrograph to interrogate

Outputs ret: Function return code

ATSPECTROGRAPH_SUCCESS	Flipper reset
ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
ATSPECTROGRAPH_P1INVALID	Invalid device
ATSPECTROGRAPH_NOT_INITIALIZED	Spectrograph not initialized

See also	ATspectrographFocusMirrorIsPresent , ATspectrographGetFocusMirrorMaxSteps , ATspectrographGetFocusMirror , ATspectrographSetFocusMirror
-----------------	---

ATspectrographSetFocusMirror

[ret] = ATspectrographSetFocusMirror(device, focus)

Description Sets the required focus mirror position.

Inputs device: Select spectrograph to control

focus: Required focus movement

Outputs ret: Function return code

ATSPECTROGRAPH_SUCCESS	Focus set
ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph

	ATSPECTROGRAPH_P1INVALID	Invalid device
	ATSPECTROGRAPH_P2INVALID	Invalid focus
	ATSPECTROGRAPH_NOT_INITIALIZED	Spectrograph not initialized

See also [ATspectrographGetFocusMirror](#),
[ATspectrographGetFocusMirrorMaxSteps](#),
[ATspectrographFocusMirrorReset](#),
[ATspectrographFocusMirrorIsPresent](#)

ATspectrographGetFocusMirror

[ret, focus] = ATspectrographGetFocusMirror(device)

Description Gets current focus mirror position.

Inputs device: Spectrograph to interrogate

Outputs ret: Function return code

ATSPECTROGRAPH_SUCCESS	Focus mirror position returned
ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
ATSPECTROGRAPH_P1INVALID	Invalid device
ATSPECTROGRAPH_P2INVALID	Invalid pointer to focus
ATSPECTROGRAPH_NOT_INITIALIZED	Spectrograph not initialized

focus: the focus position

See also [ATspectrographFocusMirrorIsPresent](#),
[ATspectrographFocusMirrorReset](#),
[ATspectrographGetFocusMirrorMaxSteps](#),
[ATspectrographSetFocusMirror](#)

ATspectrographGetFocusMirrorMaxSteps

[ret, steps] = ATspectrographGetFocusMirrorMaxSteps(device)

Description Gets current maximum position of the focus mirror.

Inputs device: Spectrograph to interrogate

Outputs ret: Function return code

ATSPECROGRAPH_SUCCESS	Focus mirror maximum step position returned
ATSPECROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
ATSPECROGRAPH_P1INVALID	Invalid device
ATSPECROGRAPH_P2INVALID	Invalid pointer to steps
ATSPECROGRAPH_NOT_INITIALIZED	Spectrograph not initialized

steps: the maximum step position

See also

[ATspectrographFocusMirrorIsPresent](#),
[ATspectrographFocusMirrorReset](#), [ATspectrographGetFocusMirror](#),
[ATspectrographSetFocusMirror](#)

ATspectrographSetPixelWidth

[ret] = ATspectrographSetPixelWidth(device, width)

Description Sets the pixel width in microns of the attached sensor.

Inputs device: Select spectrograph to control

width: Pixel width of attached sensor

Outputs ret: Function return code

ATSPECROGRAPH_SUCCESS	Port set
ATSPECROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph

	ATSPECTROGRAPH_P1INVALID	Invalid device
	ATSPECTROGRAPH_NOT_INITIALIZED	Spectrograph not initialized

See also [ATspectrographSetNumberPixels](#), [ATspectrographGetPixelWidth](#), [ATspectrographGetNumberPixels](#), [ATspectrographGetCalibration](#)

ATspectrographGetWidth

[ret, width] = ATspectrographGetWidth(device)

Description Gets the current value of the pixel width in microns of the attached sensor.

Inputs device: Select spectrograph to control

Outputs ret: Function return code

ATSPECTROGRAPH_SUCCESS	Pixel width returned
ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
ATSPECTROGRAPH_P1INVALID	Invalid device
ATSPECTROGRAPH_P2INVALID	Invalid pointer to width
ATSPECTROGRAPH_NOT_INITIALIZED	Spectrograph not initialized

width: Current pixel width of attached sensor

See also [ATspectrographGetNumberPixels](#), [ATspectrographSetNumberPixels](#), [ATspectrographSetPixelWidth](#), [ATspectrographGetCalibration](#)

ATspectrographSetNumberPixels

[ret] = ATspectrographSetNumberPixels(device, numberPixels)

Description Sets the number of pixels of the attached sensor.

Inputs device: Select spectrograph to control

numberPixels: Number of pixels of attached sensor

Outputs	ret: Function return code	
	ATSPECROGRAPH_SUCCESS	Number of pixels set
	ATSPECROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
	ATSPECROGRAPH_P1INVALID	Invalid device
	ATSPECROGRAPH_NOT_INITIALIZED	Spectrograph not initialized

See also [ATSpecrographSetPixelWidth](#), [ATSpecrographGetPixelWidth](#),
[ATSpecrographGetNumberPixels](#), [ATSpecrographGetCalibration](#)

ATSpecrographGetNumberPixels

[ret, numberPixels] = ATSpecrographGetNumberPixels(device)

Description Gets the number of pixels of the attached sensor.

Inputs device: Select spectrograph to control

Outputs ret: Function return code

ATSPECROGRAPH_SUCCESS	Nubmer of pixels returned
ATSPECROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
ATSPECROGRAPH_P1INVALID	Invalid device
ATSPECROGRAPH_P2INVALID	Invalid pointer to numberPixels
ATSPECROGRAPH_NOT_INITIALIZED	Spectrograph not initialized

numberPixels: Number of pixels of attached sensor

See also [ATSpecrographSetNumberPixels](#), [ATSpecrographSetPixelWidth](#),
[ATSpecrographGetPixelWidth](#), [ATSpecrographGetCalibration](#)

ATspectrographGetCalibration

[ret, calibrationValues] = ATspectrographGetCalibration(device, numberPixels)

Description Obtains the wavelength calibration of each pixel of attached sensor.

Inputs device: Select spectrograph to control

numberPixels: Number of pixels of attached sensor

Outputs ret: Function return code

ATSPECTROGRAPH_SUCCESS	Calibration returned
ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
ATSPECTROGRAPH_P1INVALID	Invalid device
ATSPECTROGRAPH_P2INVALID	Invalid pointer to calibrationValues
ATSPECTROGRAPH_P3INVALID	Invalid number
ATSPECTROGRAPH_NOT_INITIALIZED	Spectrograph not initialized

calibrationValues: Wavelength calibration of each pixel of attached sensor

See also [ATspectrographSetNumberPixels](#), [ATspectrographSetPixelWidth](#)

ATspectrographGetPixelCalibrationCoefficients

[ret, A, B, C, D] = ATspectrographGetPixelCalibrationCoefficients(device)

Description

Inputs device: Select spectrograph to control

Outputs ret: Function return code

ATSPECTROGRAPH_SUCCESS	Coefficients returned
ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph

ATSPECTROGRAPH_P1INVALID	Invalid device
ATSPECTROGRAPH_P2INVALID	Invalid pointer to A
ATSPECTROGRAPH_P3INVALID	Invalid pointer to B
ATSPECTROGRAPH_P4INVALID	Invalid pointer to C
ATSPECTROGRAPH_P5INVALID	Invalid pointer to D
ATSPECTROGRAPH_NOT_INITIALIZED	Spectrograph not initialized
A:	
B:	
C:	
D:	

See also

[ATspectrographGetPixelWidth](#) , [ATspectrographSetPixelWidth](#) ,
[ATspectrographGetNumberPixels](#) ,
[ATspectrographSetNumberPixels](#) , [ATspectrographGetCalibration](#)

ATspectrographIrisIsPresent

[ret, present] = ATspectrographIrisIsPresent(device, iris)

Description Indicates whether or not an input port has an iris.

Inputs device: Spectrograph to interrogate

 iris: Iris to interrogate:

DIRECT_PORT	0
-------------	---

SIDE_PORT	1
-----------	---

Outputs ret: Function return code

ATSPECTROGRAPH_SUCCESS	Value returned
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ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
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ATSPECTROGRAPH_P1INVALID	Invalid
--------------------------	---------

		device
ATSPECROGRAPH_P2INVALID		Invalid port
ATSPECROGRAPH_P3INVALID		Invalid pointer to present
ATSPECROGRAPH_NOT_INITIALIZED		Spectrograph not initialized
present: flag:		
0		Iris is NOT present
1		Iris IS present

See also [ATSpecrographGetIris](#), [ATSpecrographSetIris](#)

ATSpecrographSetIris

[ret] = ATSpecrographSetIris(device, iris, value)

Description Sets iris position for the specified iris port.

Inputs device: Spectrograph to interrogate

iris: Iris to interrogate:

DIRECT_PORT

0

SIDE_PORT

1

value: Iris position between 0 and 100

Outputs ret: Function return code

ATSPECROGRAPH_SUCCESS

Iris position
set

ATSPECROGRAPH_COMMUNICATION_ERROR

Unable to
communicate
with
spectrograph

ATSPECROGRAPH_P1INVALID

Invalid
device

ATSPECROGRAPH_P2INVALID

Invalid port

ATSPECROGRAPH_P3INVALID

Invalid iris
position

<code>ATSPECTROGRAPH_NOT_INITIALIZED</code>	Spectrograph not initialized
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See also [AT Spectrograph Get Iris](#), [AT Spectrograph Iris Is Present](#)

AT Spectrograph Get Iris

[ret, value] = AT Spectrograph Get Iris(device, iris)

Description Gets the iris position for the specified port.

Inputs device: Spectrograph to interrogate

iris: Iris to interrogate:

DIRECT_PORT	0
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SIDE_PORT	1
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Outputs ret: Function return code

<code>ATSPECTROGRAPH_SUCCESS</code>	Iris position returned
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<code>ATSPECTROGRAPH_COMMUNICATION_ERROR</code>	Unable to communicate with spectrograph
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<code>ATSPECTROGRAPH_P1INVALID</code>	Invalid device
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<code>ATSPECTROGRAPH_P2INVALID</code>	Invalid port
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<code>ATSPECTROGRAPH_P3INVALID</code>	Invalid pointer to value
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<code>ATSPECTROGRAPH_NOT_INITIALIZED</code>	Spectrograph not initialized
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value: the current iris position

See also [AT Spectrograph Iris Is Present](#), [AT Spectrograph Set Iris](#)
