

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

See also [ATSpectrographInitialize](#), [ATSpectrographGetNumberDevices](#)

ATSpectrographGetNumberDevices

[ret, noDevices] = ATSpectrographGetNumberDevices()

Description Returns the number of available spectrographs.

Outputs	ret: Function return code	
	ATSPECTROGRAPH_SUCCESS	Number of available spectrographs returned
	ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
	ATSPECTROGRAPH_P1INVALID	Invalid pointer
	ATSPECTROGRAPH_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	
	ATSPECTROGRAPH_SUCCESS	Error Code description returned
	ATSPECTROGRAPH_P1INVALID	Invalid error code
	ATSPECTROGRAPH_P2INVALID	Invalid pointer to description
	ATSPECTROGRAPH_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 ATSPECTROGRAPH_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 [ATSpectrographGratingsPresent](#), [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 [ATSpectrographGratingsPresent](#), [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
ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
ATSPECTROGRAPH_P1INVALID	Invalid device
ATSPECTROGRAPH_P2INVALID	Invalid grating

ATSPECTROGRAPH_P3INVALID	Invalid pointer to lines
ATSPECTROGRAPH_P4INVALID	Invalid pointer to blaze
ATSPECTROGRAPH_P5INVALID	Invalid blaze string length
ATSPECTROGRAPH_NOT_INITIALIZED	Spectrograph not initialized

lines: the grating lines/mm

Blaze: the grating blaze wavelength (nm)

home: the grating home (steps)

offset: the grating offset (steps)

See also [ATSpectrographGratingsPresent](#), [ATSpectrographGetNumberGratings](#), [ATSpectrographGetGrating](#), [ATSpectrographSetGrating](#), [ATSpectrographGetGratingOffset](#), [ATSpectrographSetGratingOffset](#)

ATSpectrographGratingsPresent

[ret, present] = ATSpectrographGratingsPresent(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

SIDE_PORT 1

exitPort: Exit port to query

DIRECT_PORT 0

SIDE_PORT 1

offset: Detector offset (steps)

Outputs ret: Function return code

ATSPECTROGRAPH_SUCCESS Detector offset set

ATSPECTROGRAPH_NOT_INITIALIZED Spectrograph not initialized

ATSPECTROGRAPH_P1INVALID Invalid device

ATSPECTROGRAPH_P2INVALID Invalid entrance port

ATSPECTROGRAPH_P3INVALID Invalid exit port

ATSPECTROGRAPH_P4INVALID Invalid offset

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
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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 [ATSpectrographGratingsIsPresent](#), [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	ATSpectrographGratingsIsPresent , 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
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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
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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 wavelength
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ATSPECTROGRAPH_NOT_INITIALIZED	Spectrograph not initialized
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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

ATSPECTROGRAPH_SUCCESS	At zero order flag 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 pointer to atZeroOrder
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ATSPECTROGRAPH_NOT_INITIALIZED	Spectrograph not initialized
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atZeroOrder: flag:

0	Wavelength is NOT at zero order
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1	Wavelength IS at zero order
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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](#)

ATSpectrographSlitsPresent

[ret, present] = ATSpectrographSlitsPresent(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	
	ATSPECTROGRAPH_SUCCESS	Input Slit reset
	ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
	ATSPECTROGRAPH_P1INVALID	Invalid device
	ATSPECTROGRAPH_P2INVALID	Invalid slit index
	ATSPECTROGRAPH_NOT_INITIALIZED	Spectrograph not initialized
See also	AT spectrographSlitsPresent , AT spectrographGetSlitWidth , AT spectrographSetSlitWidth , AT spectrographSetSlitZeroPosition , AT spectrographGetSlitZeroPosition , AT spectrographGetSlitCoefficients	

AT spectrographSetSlitWidth

[ret] = AT spectrographSetSlitWidth(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

ATSPECTROGRAPH_SUCCESS	Slit width set
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ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
ATSPECTROGRAPH_P1INVALID	Invalid device
ATSPECTROGRAPH_P2INVALID	Invalid slit index
ATSPECTROGRAPH_P3INVALID	Invalid width
ATSPECTROGRAPH_NOT_INITIALIZED	Spectrograph not initialized

See also [ATSpectrographSlitsPresent](#), [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:								
	<table> <tr> <td>INPUT_SIDE</td><td>1</td></tr> <tr> <td>INPUT_DIRECT</td><td>2</td></tr> <tr> <td>OUTPUT_SIDE</td><td>3</td></tr> <tr> <td>OUTPUT_DIRECT</td><td>4</td></tr> </table>	INPUT_SIDE	1	INPUT_DIRECT	2	OUTPUT_SIDE	3	OUTPUT_DIRECT	4
INPUT_SIDE	1								
INPUT_DIRECT	2								
OUTPUT_SIDE	3								
OUTPUT_DIRECT	4								
Outputs	ret: Function return code								
	<table> <tr> <td>ATSPECTROGRAPH_SUCCESS</td><td>Output Slit width returned</td></tr> <tr> <td>ATSPECTROGRAPH_COMMUNICATION_ERROR</td><td>Unable to communicate with spectrograph</td></tr> <tr> <td>ATSPECTROGRAPH_P1INVALID</td><td>Invalid device</td></tr> <tr> <td>ATSPECTROGRAPH_P2INVALID</td><td>Invalid slit index</td></tr> </table>	ATSPECTROGRAPH_SUCCESS	Output Slit width returned	ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph	ATSPECTROGRAPH_P1INVALID	Invalid device	ATSPECTROGRAPH_P2INVALID	Invalid slit index
ATSPECTROGRAPH_SUCCESS	Output Slit width returned								
ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph								
ATSPECTROGRAPH_P1INVALID	Invalid device								
ATSPECTROGRAPH_P2INVALID	Invalid slit index								

ATSPECTROGRAPH_P3INVALID	Invalid pointer to width
ATSPECTROGRAPH_NOT_INITIALIZED	Spectrograph not initialized

width: the Output Slit width (um)

See also [ATSpectrographSlitsPresent](#), [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

ATSPECTROGRAPH_SUCCESS	Slit offset set
ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
ATSPECTROGRAPH_P1INVALID	Invalid device
ATSPECTROGRAPH_P2INVALID	Invalid slit index
ATSPECTROGRAPH_P3INVALID	Invalid offset
ATSPECTROGRAPH_NOT_INITIALIZED	Spectrograph not initialized

See also [ATSpectrographSlitsPresent](#), [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

ATSPECTROGRAPH_SUCCESS	Slit zero position returned
ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
ATSPECTROGRAPH_P1INVALID	Invalid device
ATSPECTROGRAPH_P2INVALID	Invalid slit index
ATSPECTROGRAPH_P3INVALID	Invalid pointer to offset
ATSPECTROGRAPH_NOT_INITIALIZED	Spectrograph not initialized

offset: the offset of the slit zero position

See also [ATSpectrographSlitsPresent](#), [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	
	ATSPECTROGRAPH_SUCCESS	Slit coefficients set
	ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
	ATSPECTROGRAPH_P1INVALID	Invalid device
	ATSPECTROGRAPH_P2INVALID	Invalid x1 coefficient
	ATSPECTROGRAPH_P3INVALID	Invalid y1 coefficient
	ATSPECTROGRAPH_P4INVALID	Invalid x2 coefficient
	ATSPECTROGRAPH_NOT_INITIALIZED	Spectrograph not initialized
See also	ATSpectrographSlitsPresent , 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

ATSPECTROGRAPH_SUCCESS	Coefficients returned
ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to

	communicate with spectrograph
ATSPECTROGRAPH_P1INVALID	Invalid device
ATSPECTROGRAPH_P2INVALID	Invalid pointer to x1
ATSPECTROGRAPH_P3INVALID	Invalid pointer to y1
ATSPECTROGRAPH_P4INVALID	Invalid pointer to x2
ATSPECTROGRAPH_NOT_INITIALIZED	Spectrograph not initialized
x1: the x1 coefficient	
y1: the y1 coefficient	
x2: the x2 coefficient	
y2: the y2 coefficient	

See also [ATSpectrographSlitsPresent](#), [ATSpectrographSlitReset](#), [ATSpectrographSetSlitWidth](#), [ATSpectrographGetSlitWidth](#), [ATSpectrographSetSlitZeroPosition](#), [ATSpectrographGetSlitZeroPosition](#)

ATSpectrographShutterIsPresent

[ret, present] = ATSpectrographShutterIsPresent(device)

Description Finds if Shutter is present.

Inputs device: Spectrograph to interrogate

Outputs ret: Function return code

ATSPECTROGRAPH_SUCCESS	Shutter 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	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

ATSPECTROGRAPH_SUCCESS	Shutter mode availability returned
ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
ATSPECTROGRAPH_P1INVALID	Invalid device
ATSPECTROGRAPH_P2INVALID	Invalid mode
ATSPECTROGRAPH_P3INVALID	Invalid pointer to present

ATSpectrographGetShutter

[ret, mode] = ATSpectrographGetShutter(device)

Description Returns the current device shutter mode.

Inputs device: Spectrograph to interrogate

Outputs ret: Function return code

ATSPECTROGRAPH_SUCCESS	device shutter mode returned
ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
ATSPECTROGRAPH_P1INVALID	Invalid device
ATSPECTROGRAPH_P2INVALID	Invalid pointer to mode
ATSPECTROGRAPH_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

ATSPECTROGRAPH_SUCCESS	Filter presence flag returned
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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	Filter is NOT present
1	Filter IS present

See also [ATSpectrographFilterReset](#), [ATSpectrographGetFilter](#), [ATSpectrographSetFilter](#), [ATSpectrographGetFilterInfo](#), [ATSpectrographSetFilterInfo](#)

ATSpectrographFilterReset

[ret] = ATSpectrographFilterReset(device)

Description Resets the filter to its default position.

Inputs device: Spectrograph to reset the filter

Outputs ret: Function return code

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

See also [ATSpectrographFilterIsPresent](#), [ATSpectrographSetFilter](#), [ATSpectrographGetFilter](#), [ATSpectrographSetFilterInfo](#), [ATSpectrographGetFilterInfo](#)

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

ATSPECTROGRAPH_SUCCESS	Filter set
ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
ATSPECTROGRAPH_P1INVALID	Invalid device
ATSPECTROGRAPH_P2INVALID	Invalid filter
ATSPECTROGRAPH_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

ATSPECTROGRAPH_SUCCESS	Filter returned
ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
ATSPECTROGRAPH_P1INVALID	Invalid device
ATSPECTROGRAPH_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](#)

ATSpectrographSetFilterInfo

[ret] = ATSpectrographSetFilterInfo(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

ATSPECTROGRAPH_SUCCESS	Filter information set
ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
ATSPECTROGRAPH_P1INVALID	Invalid device
ATSPECTROGRAPH_P2INVALID	Invalid filter
ATSPECTROGRAPH_P3INVALID	Invalid pointer to info
ATSPECTROGRAPH_NOT_INITIALIZED	Spectrograph not initialized

See also [ATSpectrographFilterIsPresent](#), [ATSpectrographGetFilter](#), [ATSpectrographSetFilter](#), [ATSpectrographGetFilterInfo](#)

ATSpectrographFlipperMirrorIsPresent

[ret, present] = ATSpectrographFlipperMirrorIsPresent(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	
	ATSPECTROGRAPH_SUCCESS	Flipper presence flag returned
	ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
	ATSPECTROGRAPH_P1INVALID	Invalid device
	ATSPECTROGRAPH_P2INVALID	Invalid flipper
	ATSPECTROGRAPH_P3INVALID	Invalid pointer to present
	ATSPECTROGRAPH_NOT_INITIALIZED	Spectrograph not initialized
	present: flag:	
	0	Flipper is NOT present
	1	Flipper IS present
See also	ATSpectrographFlipperMirrorReset , ATSpectrographSetFlipperMirror , ATSpectrographGetFlipperMirror	

ATSpectrographFlipperMirrorReset

[ret] = ATSpectrographFlipperMirrorReset(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

ATSPECTROGRAPH_SUCCESS	Flipper reset
ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with

	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

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

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	
	ATSPECTROGRAPH_SUCCESS	Position set
	ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
	ATSPECTROGRAPH_P1INVALID	Invalid device
	ATSPECTROGRAPH_NOT_INITIALIZED	Spectrograph not initialized
See also	ATSpectrographFlipperMirrorIsPresent , ATSpectrographGetFlipperMirrorMaxPosition , ATSpectrographGetFlipperMirrorPosition , ATSpectrographFlipperMirrorReset	

ATSpectrographGetFlipperMirrorPosition

[ret, position] = ATSpectrographGetFlipperMirrorPosition(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

ATSPECTROGRAPH_SUCCESS	Position returned
ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
ATSPECTROGRAPH_P1INVALID	Invalid device
ATSPECTROGRAPH_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
ATSPECTROGRAPH_P1INVALID	Invalid device
ATSPECTROGRAPH_P2INVALID	Invalid flipper
ATSPECTROGRAPH_P3INVALID	Invalid pointer to maxPosition
ATSPECTROGRAPH_NOT_INITIALIZED	Spectrograph not initialized

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
ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
ATSPECTROGRAPH_P1INVALID	Invalid device
ATSPECTROGRAPH_P2INVALID	Invalid port
ATSPECTROGRAPH_P3INVALID	Invalid pointer to low
ATSPECTROGRAPH_P4INVALID	Invalid pointer to high
ATSPECTROGRAPH_NOT_INITIALIZED	Spectrograph not initialized

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

ATSPECTROGRAPH_SUCCESS	Accessory presence flag 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 pointer to present
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ATSPECTROGRAPH_NOT_INITIALIZED	Spectrograph not initialized
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present: flag:

0	Accessory is NOT present
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1	Accessory IS present
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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	
	ATSPECTROGRAPH_SUCCESS	Line state set
	ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
	ATSPECTROGRAPH_P1INVALID	Invalid device
	ATSPECTROGRAPH_P2INVALID	Invalid line
	ATSPECTROGRAPH_P3INVALID	Invalid state
	ATSPECTROGRAPH_NOT_INITIALIZED	Spectrograph not initialized
See also	ATSpectrographAccessoryIsPresent , ATSpectrographGetAccessoryState	
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.	

ATSpectrographGetAccessoryState

[ret, state] = ATSpectrographGetAccessoryState(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	
	ATSPECTROGRAPH_SUCCESS	Line state returned
	ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
	ATSPECTROGRAPH_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](#)

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

ATSPECTROGRAPH_SUCCESS	Focus mirror maximum step position returned
ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
ATSPECTROGRAPH_P1INVALID	Invalid device
ATSPECTROGRAPH_P2INVALID	Invalid pointer to steps
ATSPECTROGRAPH_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

ATSPECTROGRAPH_SUCCESS	Port set
ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph

ATSPECTROGRAPH_P1INVALID	Invalid device
ATSPECTROGRAPH_NOT_INITIALIZED	Spectrograph not initialized

See also [ATSpectrographSetNumberPixels](#), [ATSpectrographGetPixelWidth](#), [ATSpectrographGetNumberPixels](#), [ATSpectrographGetCalibration](#)

ATSpectrographGetPixelWidth

[ret, width] = ATSpectrographGetPixelWidth(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	
	ATSPECTROGRAPH_SUCCESS	Number of pixels set
	ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
	ATSPECTROGRAPH_P1INVALID	Invalid device
	ATSPECTROGRAPH_NOT_INITIALIZED	Spectrograph not initialized
See also	ATSpectrographSetPixelWidth , ATSpectrographGetPixelWidth , ATSpectrographGetNumberPixels , ATSpectrographGetCalibration	

ATSpectrographGetNumberPixels

[ret, numberPixels] = ATSpectrographGetNumberPixels(device)

Description	Gets the number of pixels of the attached sensor.	
Inputs	device: Select spectrograph to control	
Outputs	ret: Function return code	
	ATSPECTROGRAPH_SUCCESS	Nubmer of pixels returned
	ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
	ATSPECTROGRAPH_P1INVALID	Invalid device
	ATSPECTROGRAPH_P2INVALID	Invalid pointer to numberPixels
	ATSPECTROGRAPH_NOT_INITIALIZED	Spectrograph not initialized
	numberPixels: Number of pixels of attached sensor	
See also	ATSpectrographSetNumberPixels , ATSpectrographSetPixelWidth , ATSpectrographGetPixelWidth , ATSpectrographGetCalibration	

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
	ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
	ATSPECTROGRAPH_P1INVALID	Invalid

	device
ATSPECTROGRAPH_P2INVALID	Invalid port
ATSPECTROGRAPH_P3INVALID	Invalid pointer to present
ATSPECTROGRAPH_NOT_INITIALIZED	Spectrograph not initialized
present: flag:	
0	Iris is NOT present
1	Iris IS present

See also [ATSpectrographGetIris](#), [ATSpectrographSetIris](#)

ATSpectrographSetIris

[ret] = AT_Spectrograph_SetIris(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

ATSPECTROGRAPH_SUCCESS	Iris position set
ATSPECTROGRAPH_COMMUNICATION_ERROR	Unable to communicate with spectrograph
ATSPECTROGRAPH_P1INVALID	Invalid device
ATSPECTROGRAPH_P2INVALID	Invalid port
ATSPECTROGRAPH_P3INVALID	Invalid iris position

ATSPECTROGRAPH_NOT_INITIALIZED	Spectrograph not initialized
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See also [ATSpectrographGetIris](#), [ATSpectrographIrisIsPresent](#)

ATSpectrographGetIris

[ret, value] = ATSpectrographGetIris(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
-----------	---

Outputs ret: Function return code

ATSPECTROGRAPH_SUCCESS	Iris position 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 port
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ATSPECTROGRAPH_P3INVALID	Invalid pointer to value
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ATSPECTROGRAPH_NOT_INITIALIZED	Spectrograph not initialized
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value: the current iris position

See also [ATSpectrographIrisIsPresent](#), [ATSpectrographSetIris](#)
