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# Classes

## SDIAutoParallel

Inherits from: **XDIBASE**

Class Data:

<i>(long)</i>	id	<i>(string)</i>	status	<i>(float)</i>	wavelength
<i>(double)</i>	start_time	<i>(float)</i>	param	<i>(int)</i>	step
<i>(int)</i>	nominal	<i>(int)</i>	leg1	<i>(int)</i>	leg2
<i>(int)</i>	leg3	<i>(int)</i>	curr_leg	<i>(int)</i>	param_pos
<i>(ptr)</i>	ref_image	<i>(int)</i>	get_ref_flag	<i>(string)</i>	obj_num
<i>(structure)</i>	geometry	<i>(int)</i>	need_frame	<i>(int)</i>	need_timer
<i>(int)</i>	auto	<i>(structure)</i>	palette	<i>(obj)</i>	manager

### Defined in file:

C:/cal/Operations/SDI\_Instruments/common/idl/core/sdiautoparallel\_\_define.pro

---

## METHODS:

### (function) INIT

#### Method Documentation:

No Doc

#### Arguments:

*data=*data: No Doc

*restore\_struc=*restore\_struc: No Doc

Example Call:

```
result = SDIAutoParallel-> init(data = data,  
                                restore_struc = restore_struc)
```

---

### (pro) CLEANUP

#### Method Documentation:

No Doc

#### Arguments:

*log*: No Doc

Example Call:

**SDIAutoParallel**→ *cleanup, log*

---

## **(pro) FRAME\_EVENT**

### **Method Documentation:**

No Doc

### **Arguments:**

*image*: No Doc

*channel*: No Doc

Example Call:

**SDIAutoParallel**→ *frame\_event, image,*  
*channel*

---

## **(function) GET\_SETTINGS**

### **Method Documentation:**

No Doc

Takes no arguments

Example Call:

*result* = **SDIAutoParallel**→ *get\_settings()*

---

## **(pro) START\_PARALLEL**

### **Method Documentation:**

No Doc

### **Arguments:**

*event*: No Doc

Example Call:

**SDIAutoParallel**→ *start\_parallel, event*

---

**(pro) STOP\_PARALLEL****Method Documentation:**

No Doc

**Arguments:**

*event*: No Doc

Example Call:

**SDIAutoParallel**→ **stop\_parallel**, *event*

---

## SDIEtalonScanner

Inherits from: **XDIBASE**

Class Data:

<i>(long)</i>	id	<i>(string)</i>	status	<i>(float)</i>	wavelength
<i>(double)</i>	start_time	<i>(int)</i>	nchann	<i>(string)</i>	obj_num
<i>(structure)</i>	geometry	<i>(int)</i>	need_frame	<i>(int)</i>	need_timer
<i>(int)</i>	auto	<i>(structure)</i>	palette	<i>(obj)</i>	manager

**Defined in file:**

C:/cal/Operations/SDI\_Instruments/common/idl/core/sdietalonscanner\_\_define.pro

---

## METHODS:

### (function) INIT

**Method Documentation:**

Initialize the EtalonScanner.

**Arguments:**

*data=data*: Misc data

*restore\_struc=restore\_struc*: Restored settings

Example Call:

```
result = SDIEtalonScanner->init(data = data,
                                restore_struc = restore_struc)
```

---

### (pro) CLEANUP

**Method Documentation:**

Cleanup, stop any current scans.

**Arguments:**

*log*: No Doc

Example Call:

```
SDIEtalonScanner->cleanup, log
```

---

### (pro) FRAME\_EVENT

**Method Documentation:**

A new frame has been recieved. Update leg diagrams, decide if we need to start a new scan.

**Arguments:**

*image*: The new camera frame

*channel*: The current scan channel

Example Call:

```
SDIEtalonScanner-> frame_event, image,  
                      channel
```

---

## (function) GET\_SETTINGS

### Method Documentation:

Select settings to save.

Takes no arguments

Example Call:

```
result = SDIEtalonScanner-> get_settings()
```

---

## (pro) PAUSE\_SCAN

### Method Documentation:

Pause the current scan.

### Arguments:

*event*: Widget event

Example Call:

```
SDIEtalonScanner-> pause_scan, event
```

---

## (pro) SET\_WAVELENGTH

### Method Documentation:

Set the wavelength for scanning.

### Arguments:

*event*: Widget event

Example Call:

```
SDIEtalonScanner-> set_wavelength, event
```

---

## (pro) START\_SCAN

### Method Documentation:

Start a scan.

### Arguments:

*event*: Widget event

Example Call:

**SDIEtalonScanner**→ **start\_scan**, *event*

---

## **(pro) STOP\_SCAN**

### **Method Documentation:**

Stop the current scan (will restart from beginning on next 'start')

### **Arguments:**

*event*: Widget event

Example Call:

**SDIEtalonScanner**→ **stop\_scan**, *event*

---



## SDIEtalonSpacer

Inherits from: **XDIBASE**

Class Data:

<i>(long)</i>	id	<i>(string)</i>	status	<i>(int)</i>	step
<i>(int)</i>	leg1	<i>(int)</i>	leg2	<i>(int)</i>	leg3
<i>(string)</i>	obj_num	<i>(structure)</i>	geometry	<i>(int)</i>	need_frame
<i>(int)</i>	need_timer	<i>(int)</i>	auto	<i>(structure)</i>	palette

**Defined in file:**

C:/cal/Operations/SDI\_Instruments/common/idl/core/sdietalonspacer\_\_define.pro

---

## METHODS:

### (function) INIT

**Method Documentation:**

EtalonSpacer initialization.

**Arguments:**

*data=data*: Misc data

*restore\_struc=restore\_struc*: Restored settings

Example Call:

```
result = SDIEtalonSpacer-> init(data = data,
                                restore_struc = restore_struc)
```

---

### (pro) ADJUST\_LEGS\_EVENT

**Method Documentation:**

An event from the widget sliders representing leg voltages.

**Arguments:**

*event*: Widget event

Example Call:

```
SDIEtalonSpacer-> adjust_legs_event, event
```

---

### (pro) CLEANUP

**Method Documentation:**

Cleanup - nothing to do

**Arguments:**

*log*: No Doc

Example Call:

**SDIEtalonSpacer**→ *cleanup, log*

---

### **(function) GET\_SETTINGS**

**Method Documentation:**

Get settings for saving.

Takes no arguments

Example Call:

*result* = **SDIEtalonSpacer**→ *get\_settings()*

---

### **(pro) STEP\_CHANGE**

**Method Documentation:**

Change the size of the tilt adjustment.

**Arguments:**

*event*: Widget event

Example Call:

**SDIEtalonSpacer**→ *step\_change, event*

---

### **(pro) TILT**

**Method Documentation:**

A tilt event, for adjusting along the two orthogonal axes.

**Arguments:**

*event*: Widget event

Example Call:

**SDIEtalonSpacer**→ *tilt, event*

---

## SDIPhaseMapper

Inherits from: **XDIBASE**

Class Data:

<i>(long)</i>	id	<i>(int)</i>	nscans	<i>(int)</i>	current_scan
<i>(int)</i>	scanning	<i>(int)</i>	nchann	<i>(float)</i>	wavelength
<i>(int)</i>	channel	<i>(ptr)</i>	image	<i>(ptr)</i>	phasemap
<i>(int)</i>	xdim	<i>(int)</i>	ydim	<i>(ptr)</i>	p
<i>(ptr)</i>	q	<i>(ptr)</i>	px	<i>(ptr)</i>	qx
<i>(int)</i>	source_order	<i>(float)</i>	source_lambda	<i>(ptr)</i>	source_pmap
<i>(int)</i>	current_source	<i>(float)</i>	gain	<i>(float)</i>	exptime
<i>(float)</i>	smooth_window	<i>(string)</i>	obj_num	<i>(structure)</i>	geometry
<i>(int)</i>	need_frame	<i>(int)</i>	need_timer	<i>(int)</i>	auto
<i>(structure)</i>	palette	<i>(obj)</i>	manager	<i>(obj)</i>	console

Defined in file:

C:/cal/Operations/SDI\_Instruments/common/idl/core/sdiphasemapper\_\_define.pro

---

## METHODS:

### (function) INIT

#### Method Documentation:

Phasemapper initialization.

#### Arguments:

*restore\_struc=restore\_struc*: Misc data

*data=data*: Restored settings

Example Call:

```
result = SDIPhaseMapper->init(restore_struc = restore_struc,
                               data = data)
```

---

### (function) AUTO\_START

#### Method Documentation:

Auto start the Phasemapper - called whn running in auto mode, and plugin is started from a scheduled command.

#### Arguments:

*args*: String of arguments passed from the schedule file

Example Call:

```
result = SDIPhaseMapper->auto_start(args)
```

---

**(pro) CLEANUP****Method Documentation:**

Cleanup, close any active scans.

**Arguments:**

*log*: No Doc

Example Call:

**SDIPhaseMapper**→ **cleanup**, *log*

---

**(pro) FRAME\_EVENT****Method Documentation:**

Frame event - update the Fourier summations for every pixel, if scan is finished, finalize and unwrap the phasemap, and save it.

**Arguments:**

*image*: Latest frame from the camera

*channel*: Current scan channel

Example Call:

**SDIPhaseMapper**→ **frame\_event**, *image*,  
*channel*

---

**(function) GET\_SETTINGS****Method Documentation:**

Get settings to save.

Takes no arguments

Example Call:

*result* = **SDIPhaseMapper**→ **get\_settings**()

---

**(pro) SET\_INTERP****Method Documentation:**

When using more than one wavelength to generate a phasemap, we set the order of the cal sources (the numbers corresponding to positions of the calibration source selector switch) and the wavelengths those sources correspond to. The info from both phasemaps is store in such a way as to allow the spectral plugin to interpolate between the phasemaps at the two wavelengths.

**Arguments:**

*event*: Widget event

Example Call:

**SDIPhaseMapper**→ **set\_interp**, *event*

---

### (pro) SET\_NUM\_SCANS

**Method Documentation:**

Set the number of scans to co-add.

**Arguments:**

*event*: Widget event

Example Call:

**SDIPhaseMapper**→ **set\_num\_scans**, *event*

---

### (pro) SET\_SMOOTH\_WINDOW

**Method Documentation:**

Set the width of the smoothing window, applied after phasemap is unwrapped.

**Arguments:**

*event*: Widget event

Example Call:

**SDIPhaseMapper**→ **set\_smooth\_window**, *event*

---

### (pro) START\_SCAN

**Method Documentation:**

Start scanning.

**Arguments:**

*event*: Widget event

Example Call:

**SDIPhaseMapper**→ **start\_scan**, *event*

---

### (pro) STOP\_SCAN

**Method Documentation:**

Stop the current scan.

**Arguments:**

*event*: Widget event

Example Call:

**SDIPhaseMapper**→ **stop\_scan**, *event*

---

## SDISharpness

Inherits from: **XDIBASE**

Class Data:

<i>(long)</i>	id	<i>(float)</i>	sbuffer	<i>(float)</i>	history
<i>(int)</i>	count	<i>(int)</i>	bcount	<i>(float)</i>	best
<i>(int)</i>	leg1_best	<i>(int)</i>	leg2_best	<i>(int)</i>	leg3_best
<i>(int)</i>	xcen	<i>(int)</i>	ycen	<i>(int)</i>	xdim
<i>(int)</i>	ydim	<i>(string)</i>	obj_num	<i>(structure)</i>	geometry
<i>(int)</i>	need_frame	<i>(int)</i>	need_timer	<i>(int)</i>	auto
<i>(structure)</i>	palette	<i>(obj)</i>	manager	<i>(obj)</i>	console

**Defined in file:**

C:/cal/Operations/SDI\_Instruments/common/idl/core/sdisharpness\_\_define.pro

---

## METHODS:

### (function) INIT

**Method Documentation:**

No Doc

**Arguments:**

*restore\_struc=restore\_struc*: No Doc

*data=data*: No Doc

Example Call:

```
result = SDISharpness-> init(restore_struc = restore_struc,
                             data = data)
```

---

### (pro) CLEANUP

**Method Documentation:**

No Doc

**Arguments:**

*log*: No Doc

Example Call:

```
SDISharpness-> cleanup, log
```

---

**(pro) FRAME\_EVENT****Method Documentation:**

No Doc

**Arguments:**

*image*: No Doc

*channel*: No Doc

*scan*: No Doc

Example Call:

```
SDISharpness-> frame.event, image,  
                                channel,  
                                scan
```

---

**(pro) GET\_CENTER****Method Documentation:**

No Doc

**Arguments:**

*event*: No Doc

Example Call:

```
SDISharpness-> get_center, event
```

---

**(function) GET\_SETTINGS****Method Documentation:**

No Doc

Takes no arguments

Example Call:

```
result = SDISharpness-> get_settings()
```

---



## SDISpectrum

Inherits from: **XDIBASE**

Class Data:

<i>(long)</i> id	<i>(int)</i> scanning	<i>(int)</i> nchann
<i>(int)</i> xdim	<i>(int)</i> ydim	<i>(int)</i> save_file_id
<i>(ptr)</i> spectra	<i>(ptr)</i> last_spectra	<i>(ptr)</i> zonemap
<i>(ptr)</i> zonemap_boundaries	<i>(ptr)</i> phasemap	<i>(float)</i> signal_noise_history
<i>(float)</i> channel_background_history	<i>(float)</i> scan_background_history	<i>(ptr)</i> zone_centers
<i>(int)</i> nzones	<i>(string)</i> dll	<i>(int)</i> nscans
<i>(int)</i> file_id	<i>(string)</i> zone_settings	<i>(float)</i> wavelength
<i>(float)</i> a	<i>(float)</i> b	<i>(float)</i> c
<i>(double)</i> scan_start_time	<i>(string)</i> spec_path	<i>(int)</i> nrings
<i>(string)</i> file_name_format	<i>(string)</i> filename	<i>(ptr)</i> rads
<i>(ptr)</i> secs	<i>(ptr)</i> accumulated_image	<i>(int)</i> finalize_flag
<i>(string)</i> insprof_filename	<i>(float)</i> etalon_gap	<i>(string)</i> obj_num
<i>(structure)</i> geometry	<i>(int)</i> need_frame	<i>(int)</i> need_timer
<i>(int)</i> auto	<i>(structure)</i> palette	<i>(obj)</i> manager

Defined in file:

C:/cal/Operations/SDI\_Instruments/common/idl/core/sdispectrum\_\_define.pro

## METHODS:

### (function) INIT

Method Documentation:

No Doc

Arguments:

*restore\_struct=restore\_struct*: No Doc

*data=data*: No Doc

*zone\_settings=zone\_settings*: No Doc

*file\_name\_format=file\_name\_format*: No Doc

Example Call:

```
result = SDISpectrum->init(restore_struct = restore_struct,
                           data = data,
                           zone_settings = zone_settings,
                           file_name_format = file_name_format)
```

### (function) AUTO\_START

Method Documentation:

No Doc

Arguments:

*args*: No Doc

Example Call:

*result* = **SDISpectrum**→ **auto\_start**(*args*)

---

## **(pro) CLEANUP**

**Method Documentation:**

No Doc

**Arguments:**

*log*: No Doc

Example Call:

**SDISpectrum**→ **cleanup**, *log*

---

## **(pro) FINALIZE\_SCAN**

**Method Documentation:**

No Doc

**Arguments:**

*event*: No Doc

Example Call:

**SDISpectrum**→ **finalize\_scan**, *event*

---

## **(pro) FIT\_SPECTRA**

**Method Documentation:**

No Doc

**Arguments:**

*event*: No Doc

Example Call:

**SDISpectrum**→ **fit\_spectra**, *event*

---

## **(pro) FRAME\_EVENT**

**Method Documentation:**

No Doc

**Arguments:**

*image*: No Doc

*channel*: No Doc

Example Call:

```
SDISpectrum-> frame_event, image,  
                        channel
```

---

## (function) GET\_SETTINGS

### Method Documentation:

No Doc

Takes no arguments

Example Call:

```
result = SDISpectrum-> get_settings()
```

---

## (pro) INITIALIZER

### Method Documentation:

No Doc

Takes no arguments

Example Call:

```
SDISpectrum-> initializer
```

---

## (pro) SET\_PHASEMAP

### Method Documentation:

No Doc

### Arguments:

*failed*: No Doc

Example Call:

```
SDISpectrum-> set_phasemap, failed
```

---

## (pro) START\_SCAN

### Method Documentation:

No Doc

### Arguments:

*event*: No Doc

Example Call:

**SDISpectrum**→ **start\_scan**, *event*

---

## **(pro) STOP\_SCAN**

### **Method Documentation:**

No Doc

### **Arguments:**

*event*: No Doc

Example Call:

**SDISpectrum**→ **stop\_scan**, *event*

---

## SDIStepsPerOrder

Inherits from: **XDIBASE**

Class Data:

<i>(long)</i>	id	<i>(ptr)</i>	corr	<i>(int)</i>	num_chords
<i>(int)</i>	curr_chord	<i>(int)</i>	scanning	<i>(int)</i>	nchann
<i>(int)</i>	start_volt_offset	<i>(int)</i>	stop_volt_offset	<i>(float)</i>	volt_step_size
<i>(obj)</i>	scan_obj	<i>(int)</i>	curr_chann	<i>(int)</i>	last_chann
<i>(ptr)</i>	image	<i>(ptr)</i>	ref_image	<i>(int)</i>	xdim
<i>(int)</i>	ydim	<i>(int)</i>	counter	<i>(int)</i>	last_counter
<i>(ptr)</i>	chord_hist	<i>(float)</i>	wavelength	<i>(int)</i>	record_value
<i>(string)</i>	record_file	<i>(float)</i>	gain	<i>(float)</i>	exptime
<i>(string)</i>	obj_num	<i>(structure)</i>	geometry	<i>(int)</i>	need_frame
<i>(int)</i>	need_timer	<i>(int)</i>	auto	<i>(structure)</i>	palette

Defined in file:

C:/cal/Operations/SDI\_Instruments/common/idl/core/sdistepsperorder\_\_define.pro

---

## METHODS:

### (function) INIT

Method Documentation:

No Doc

Arguments:

*restore\_struc=restore\_struc*: No Doc

*data=data*: No Doc

Example Call:

```
result = SDIStepsPerOrder-> init(restore_struc = restore_struc,
                                data = data)
```

---

### (function) AUTO\_START

Method Documentation:

No Doc

Arguments:

*args*: No Doc

Example Call:

```
result = SDIStepsPerOrder-> auto_start(args)
```

---

**(pro) CLEANUP****Method Documentation:**

No Doc

**Arguments:**

*log*: No Doc

Example Call:

**SDIStepsPerOrder**→ *cleanup, log*

---

**(pro) FRAME\_EVENT****Method Documentation:**

No Doc

**Arguments:**

*image*: No Doc

*channel*: No Doc

Example Call:

**SDIStepsPerOrder**→ *frame\_event, image,*  
*channel*

---

**(function) GET\_SETTINGS****Method Documentation:**

No Doc

Takes no arguments

Example Call:

*result* = **SDIStepsPerOrder**→ *get\_settings()*

---

**(pro) START\_SCAN****Method Documentation:**

No Doc

**Arguments:**

*event*: No Doc

Example Call:

**SDIStepsPerOrder**→ *start\_scan, event*

---

**(pro) STOP\_SCAN****Method Documentation:**

No Doc

**Arguments:**

*event*: No Doc

Example Call:

**SDIStepsPerOrder**→ **stop\_scan**, *event*

---

**(pro) TOGGLE\_RECORD****Method Documentation:**

No Doc

**Arguments:**

*event*: No Doc

Example Call:

**SDIStepsPerOrder**→ **Toggle\_Record**, *event*

---

## SDIVidshow

Inherits from: **XDIBASE**

Class Data:

<i>(long)</i>	id	<i>(int)</i>	inst	<i>(float)</i>	exp_time
<i>(int)</i>	xdim	<i>(int)</i>	ydim	<i>(int)</i>	scale
<i>(float)</i>	scale_fac	<i>(int)</i>	crosshairs	<i>(int)</i>	crosshairs_point
<i>(int)</i>	grid	<i>(int)</i>	color_table	<i>(long)</i>	framecount
<i>(double)</i>	tstrt	<i>(int)</i>	mask_quadrants	<i>(string)</i>	obj_num
<i>(structure)</i>	geometry	<i>(int)</i>	need_frame	<i>(int)</i>	need_timer
<i>(int)</i>	auto	<i>(structure)</i>	palette	<i>(obj)</i>	manager

**Defined in file:**

C:/cal/Operations/SDI\_Instruments/common/idl/core/sdividshow\_\_define.pro

---

## METHODS:

### (function) INIT

**Method Documentation:**

No Doc

**Arguments:**

*restore\_struc=restore\_struc*: No Doc

*data=data*: No Doc

Example Call:

```
result = SDIVidshow-> init(restore_struc = restore_struc,
                           data = data)
```

---

### (pro) CLEANUP

**Method Documentation:**

No Doc

**Arguments:**

*log*: No Doc

Example Call:

```
SDIVidshow-> cleanup, log
```

---



**(pro) FIT\_WINDOW****Method Documentation:**

No Doc

**Arguments:**

*event*: No Doc

Example Call:

**SDIVidshow**→ **fit\_window**, *event*

---

**(pro) FRAME\_EVENT****Method Documentation:**

No Doc

**Arguments:**

*image*: No Doc

*channel*: No Doc

Example Call:

**SDIVidshow**→ **frame\_event**, *image*,  
*channel*

---

**(function) GET\_SETTINGS****Method Documentation:**

No Doc

Takes no arguments

Example Call:

*result* = **SDIVidshow**→ **get\_settings**()

---

**(pro) MASK\_QUADRANTS****Method Documentation:**

No Doc

**Arguments:**

*event*: No Doc

Example Call:

**SDIVidshow**→ **mask\_quadrants**, *event*

---

**(pro) SCALING****Method Documentation:**

No Doc

**Arguments:**

*event*: No Doc

Example Call:

**SDIVidshow**→ **scaling**, *event*

---

**(pro) SET\_COLOR\_TABLE****Method Documentation:**

No Doc

**Arguments:**

*event*: No Doc

Example Call:

**SDIVidshow**→ **set\_color\_table**, *event*

---

**(pro) SET\_CROSSHAIRS****Method Documentation:**

No Doc

**Arguments:**

*event*: No Doc

Example Call:

**SDIVidshow**→ **set\_crosshairs**, *event*

---

**(pro) SET\_CROSSHAIRS\_POINT****Method Documentation:**

No Doc

**Arguments:**

*event*: No Doc

Example Call:

**SDIVidshow**→ **set\_crosshairs\_point**, *event*

---

**(pro) SET\_GRID****Method Documentation:**

No Doc

**Arguments:**

*event*: No Doc

Example Call:

**SDIVidshow**→ **set\_grid**, *event*

---

**(pro) SET\_SCALE****Method Documentation:**

No Doc

**Arguments:**

*event*: No Doc

Example Call:

**SDIVidshow**→ **set\_scale**, *event*

---

**XDIBase**

Inherits from: **None**

Class Data:

<i>(string)</i>	obj_num	<i>(structure)</i>	geometry	<i>(int)</i>	need_frame
<i>(int)</i>	need_timer	<i>(int)</i>	auto	<i>(structure)</i>	palette

**Defined in file:**

C:/cal/Operations/SDI\_Instruments/common/idl/core/xdibase\_\_define.pro

---

## XDIconsole

Inherits from: **XDIBASE**

Class Data:

<i>(structure)</i>	etalon	<i>(structure)</i>	camera	<i>(structure)</i>	header
<i>(structure)</i>	logging	<i>(structure)</i>	misc	<i>(structure)</i>	runtime
<i>(structure)</i>	buffer	<i>(string)</i>	obj_num	<i>(structure)</i>	geometry
<i>(int)</i>	need_frame	<i>(int)</i>	need_timer	<i>(int)</i>	auto
<i>(structure)</i>	palette	<i>(obj)</i>	manager	<i>(obj)</i>	console

**Defined in file:**

C:/cal/Operations/SDI\_Instruments/common/idl/core/xdiconsole\_define.pro

---

## METHODS:

### (function) INIT

**Method Documentation:**

No Doc

**Arguments:**

*schedule=schedule*: No Doc

*mode=mode*: No Doc

*settings=settings*: No Doc

*start\_line=start\_line*: No Doc

Example Call:

```
result = XDIconsole-> init(schedule = schedule,
                           mode = mode,
                           settings = settings,
                           start_line = start_line)
```

---

### (pro) CAM\_COOLER

**Method Documentation:**

No Doc

**Arguments:**

*event*: No Doc

Example Call:

```
XDIconsole-> cam_cooler, event
```

---

**(pro) CAM\_COOLER\_EVENT****Method Documentation:**

No Doc

**Arguments:**

*event*: No Doc

Example Call:

**XDIConsole**→ **cam\_cooler\_event**, *event*

---

**(pro) CAM\_EXPTIME****Method Documentation:**

No Doc

**Arguments:**

*event*: No Doc

*new\_time=new\_time*: No Doc

Example Call:

**XDIConsole**→ **cam\_exptime**, *event*,  
*new\_time = new\_time*

---

**(pro) CAM\_GAIN****Method Documentation:**

No Doc

**Arguments:**

*event*: No Doc

*new\_gain=new\_gain*: No Doc

Example Call:

**XDIConsole**→ **cam\_gain**, *event*,  
*new\_gain = new\_gain*

---

**(pro) CAM\_INITIALIZE****Method Documentation:**

No Doc

**Arguments:**

*event*: No Doc

Example Call:

**XDIConsole**→ **cam\_initialize**, *event*

---

## **(pro) CAM\_SHUTDOWN**

**Method Documentation:**

No Doc

**Arguments:**

*event*: No Doc

Example Call:

**XDIConsole**→ **cam\_shutdown**, *event*

---

## **(pro) CAM\_SHUTTERCLOSE**

**Method Documentation:**

No Doc

**Arguments:**

*event*: No Doc

*shutdown=shutdown*: No Doc

Example Call:

**XDIConsole**→ **cam\_shutterclose**, *event*,  
*shutdown = shutdown*

---

## **(pro) CAM\_SHUTTEROPEN**

**Method Documentation:**

No Doc

**Arguments:**

*event*: No Doc

Example Call:

**XDIConsole**→ **cam\_shutteropen**, *event*

---

**(pro) CAM\_STATUS****Method Documentation:**

No Doc

**Arguments:**

*event*: No Doc

Example Call:

**XDIconsole**→ **cam\_status**, *event*

---

**(pro) CAM\_TEMP****Method Documentation:**

No Doc

**Arguments:**

*event*: No Doc

Example Call:

**XDIconsole**→ **cam\_temp**, *event*

---

**(pro) CLEANUP****Method Documentation:**

No Doc

Takes no arguments

Example Call:

**XDIconsole**→ **cleanup**

---

**(pro) CLOSE\_MPORT****Method Documentation:**

No Doc

**Arguments:**

*event*: No Doc

Example Call:

**XDIconsole**→ **close\_mport**, *event*

---



**(pro) EDIT\_PORTS****Method Documentation:**

No Doc

**Arguments:**

*event*: No Doc

Example Call:

**XDICConsole**→ **edit\_ports**, *event*

---

**(pro) EDIT\_SETTINGS****Method Documentation:**

No Doc

**Arguments:**

*event*: No Doc

Example Call:

**XDICConsole**→ **edit\_settings**, *event*

---

**(pro) EDITOR\_CLOSED****Method Documentation:**

No Doc

**Arguments:**

*event*: No Doc

Example Call:

**XDICConsole**→ **editor\_closed**, *event*

---

**(pro) END\_AUTO\_OBJECT****Method Documentation:**

No Doc

**Arguments:**

*id*: No Doc

*ref*: No Doc

*kill=kill*: No Doc

Example Call:

```
XDICConsole-> end_auto_object, id,  
                                ref,  
                                kill = kill
```

---

### (pro) EVENT\_HANDLER

#### Method Documentation:

No Doc

#### Arguments:

*event*: No Doc

Example Call:

```
XDICConsole-> Event_Handler, event
```

---

### (pro) EXECUTE\_SCHEDULE

#### Method Documentation:

No Doc

Takes no arguments

Example Call:

```
XDICConsole-> execute_schedule
```

---

### (pro) FILE\_CHANGE\_SCHD

#### Method Documentation:

No Doc

#### Arguments:

*event*: No Doc

Example Call:

```
XDICConsole-> file_change_sched, event
```

---

### (pro) FILE\_RE\_INITIALIZE

#### Method Documentation:

No Doc

#### Arguments:

*event*: No Doc

Example Call:

**XDIConsole**→ **file\_re\_initialize**, *event*

---

## **(pro) FILE\_SHOW**

**Method Documentation:**

No Doc

**Arguments:**

*event*: No Doc

Example Call:

**XDIConsole**→ **file\_show**, *event*

---

## **(pro) FILE\_SHOW\_SCHED**

**Method Documentation:**

No Doc

**Arguments:**

*event*: No Doc

Example Call:

**XDIConsole**→ **file\_show\_sched**, *event*

---

## **(function) FORCE\_IMAGE\_UPDATE**

**Method Documentation:**

No Doc

Takes no arguments

Example Call:

*result* = **XDIConsole**→ **force\_image\_update**()

---

## **(pro) GET\_CAMERA\_TEMP**

**Method Documentation:**

No Doc

**Arguments:**

*temp*: No Doc

*temp\_state*: No Doc

*set\_point*: No Doc

Example Call:

```
XDICConsole→ get_camera_temp, temp,  
                                     temp_state,  
                                     set_point
```

---

### **(function) GET\_DEFAULT\_PATH**

#### **Method Documentation:**

No Doc

Takes no arguments

Example Call:

```
result = XDICConsole→ get_default_path()
```

---

### **(function) GET\_DLL\_NAME**

#### **Method Documentation:**

No Doc

Takes no arguments

Example Call:

```
result = XDICConsole→ get_dll_name()
```

---

### **(function) GET\_ETALON\_INFO**

#### **Method Documentation:**

No Doc

Takes no arguments

Example Call:

```
result = XDICConsole→ get_etalon_info()
```

---

### **(function) GET\_HEADER\_INFO**

#### **Method Documentation:**

No Doc

Takes no arguments

Example Call:

```
result = XDICConsole-> get_header_info()
```

---

### **(function) GET\_IMAGE**

**Method Documentation:**

No Doc

**Arguments:**

*image*: No Doc

Example Call:

```
result = XDICConsole-> get_image(image)
```

---

### **(function) GET\_LOGGING\_INFO**

**Method Documentation:**

No Doc

Takes no arguments

Example Call:

```
result = XDICConsole-> get_logging_info()
```

---

### **(function) GET\_PALETTE**

**Method Documentation:**

No Doc

Takes no arguments

Example Call:

```
result = XDICConsole-> get_palette()
```

---

### **(function) GET\_PHASE\_MAP\_PATH**

**Method Documentation:**

No Doc

Takes no arguments

Example Call:

```
result = XDIConsole-> get_phase_map_path()
```

---

### (pro) GET\_PHASEMAP

#### Method Documentation:

No Doc

#### Arguments:

*phasemap\_base*: No Doc

*phasemap\_grad*: No Doc

*phasemap\_lambda*: No Doc

Example Call:

```
XDIConsole-> get_phasemap, phasemap_base,  
                    phasemap_grad,  
                    phasemap_lambda
```

---

### (function) GET\_PORT\_MAP

#### Method Documentation:

No Doc

Takes no arguments

Example Call:

```
result = XDIConsole-> get_port_map()
```

---

### (function) GET\_RAW\_IMAGE

#### Method Documentation:

No Doc

#### Arguments:

*image*: No Doc

Example Call:

```
result = XDIConsole-> get_raw_image(image)
```

---

---

**(function) GET\_SNR\_PER\_SCAN****Method Documentation:**

No Doc

Takes no arguments

Example Call:

$$result = \text{XDIconsole} \rightarrow \text{get\_snr\_per\_scan}()$$

---

**(pro) GET\_SOURCE\_MAP****Method Documentation:**

No Doc

**Arguments:***smap*: No Doc

Example Call:

$$\text{XDIconsole} \rightarrow \text{get\_source\_map}, \text{smap}$$

---

**(function) GET\_SPEC\_SAVE\_INFO****Method Documentation:**

No Doc

**Arguments:***nrings*: No Doc

Example Call:

$$result = \text{XDIconsole} \rightarrow \text{get\_spec\_save\_info}(\text{nrings})$$

---

**(function) GET\_SPECTRA\_PATH****Method Documentation:**

No Doc

Takes no arguments

Example Call:

$$result = \text{XDIconsole} \rightarrow \text{get\_spectra\_path}()$$

---

---

**(function) GET\_TIME\_NAME\_FORMAT****Method Documentation:**

No Doc

Takes no arguments

Example Call:

```
result = XDIconsole-> get_time_name_format()
```

---

**(function) GET\_ZONE\_SET\_PATH****Method Documentation:**

No Doc

Takes no arguments

Example Call:

```
result = XDIconsole-> get_zone_set_path()
```

---

**(pro) IMAGE\_CAPTURE****Method Documentation:**

No Doc

**Arguments:***event*: No Doc

Example Call:

```
XDIconsole-> image_capture, event
```

---

**(pro) KILL\_HANDLER****Method Documentation:**

No Doc

**Arguments:***id*: No Doc*kill\_widget=kill\_widget*: No Doc

Example Call:

```
XDIconsole-> Kill_Handler, id,  
                                kill_widget = kill_widget
```

---



**(pro) LOAD\_SETTINGS****Method Documentation:**

No Doc

**Arguments:***event*: No Doc*filename=filename*: No Doc*error=error*: No Doc*first\_call=first\_call*: No Doc

Example Call:

```
XDICConsole-> load_settings, event,  
                                     filename = filename,  
                                     error = error,  
                                     first_call = first_call
```

---

**(pro) LOG****Method Documentation:**

No Doc

**Arguments:***entry*: No Doc*sender*: No Doc*display\_entry=display\_entry*: No Doc

Example Call:

```
XDICConsole-> log, entry,  
                sender,  
                display_entry = display_entry
```

---

**(pro) MODE\_SWITCH****Method Documentation:**

No Doc

**Arguments:***event*: No Doc

Example Call:

```
XDICConsole-> mode_switch, event
```

---

**(pro) MOT\_DRIVE\_CAL****Method Documentation:**

No Doc

**Arguments:**

*event*: No Doc

Example Call:

**XDIConsole**→ **mot\_drive\_cal**, *event*

---

**(pro) MOT\_DRIVE\_SKY****Method Documentation:**

No Doc

**Arguments:**

*event*: No Doc

Example Call:

**XDIConsole**→ **mot\_drive\_sky**, *event*

---

**(pro) MOT\_HOME\_CAL****Method Documentation:**

No Doc

**Arguments:**

*event*: No Doc

Example Call:

**XDIConsole**→ **mot\_home\_cal**, *event*

---

**(pro) MOT\_HOME\_SKY****Method Documentation:**

No Doc

**Arguments:**

*event*: No Doc

Example Call:

**XDIConsole**→ **mot\_home\_sky**, *event*

---

**(pro) MOT\_HOME\_SOURCE****Method Documentation:**

No Doc

**Arguments:**

*image*: No Doc

Example Call:

**XDICConsole**→ **mot\_home\_source**, *image*

---

**(pro) MOT\_SEL\_CAL****Method Documentation:**

No Doc

**Arguments:**

*event*: No Doc

*set\_source=set\_source*: No Doc

Example Call:

**XDICConsole**→ **mot\_sel\_cal**, *event*,  
*set\_source = set\_source*

---

**(pro) MOT\_SEL\_FILTER****Method Documentation:**

No Doc

**Arguments:**

*event*: No Doc

Example Call:

**XDICConsole**→ **mot\_sel\_filter**, *event*

---

**(pro) OPEN\_MPORT****Method Documentation:**

No Doc

**Arguments:**

*event*: No Doc

Example Call:

**XDICConsole**→ **open\_mport**, *event*

---

### (pro) REFRESH\_SPEC\_PMAPS

#### Method Documentation:

No Doc

Takes no arguments

Example Call:

**XDICConsole**→ refresh\_spec\_pmaps

---

### (pro) SAVE\_CURRENT\_SETTINGS

#### Method Documentation:

No Doc

#### Arguments:

*filename=filename*: No Doc

Example Call:

**XDICConsole**→ save\_current\_settings, *filename* = *filename*

---

### (pro) SCAN\_ETALON

#### Method Documentation:

No Doc

#### Arguments:

*caller*: No Doc

*start\_scan=start\_scan*: No Doc

*stop\_scan=stop\_scan*: No Doc

*pause\_scan=pause\_scan*: No Doc

*cont\_scan=cont\_scan*: No Doc

*start\_volt\_offset=start\_volt\_offset*: No Doc

*stop\_volt\_offset=stop\_volt\_offset*: No Doc

*volt\_step\_size=volt\_step\_size*: No Doc

*status=status*: No Doc

*reference=reference*: No Doc

*get\_ref=get\_ref*: No Doc

*wavelength=wavelength*: No Doc

*force\_start=force\_start*: No Doc

Example Call:

```
XDIconsole—> scan_etalon, caller,  
                    start_scan = start_scan,  
                    stop_scan = stop_scan,  
                    pause_scan = pause_scan,  
                    cont_scan = cont_scan,  
                    start_volt_offset = start_volt_offset,  
                    stop_volt_offset = stop_volt_offset,  
                    volt_step_size = volt_step_size,  
                    status = status,  
                    reference = reference,  
                    get_ref = get_ref,  
                    wavelength = wavelength,  
                    force_start = force_start
```

---

### (pro) **SEE\_CALIBRATION**

**Method Documentation:**

No Doc

**Arguments:**

*event*: No Doc

Example Call:

```
XDIconsole—> see_calibration, event
```

---

### (pro) **SET\_CENTER**

**Method Documentation:**

No Doc

**Arguments:**

*xcen*: No Doc

*ycen*: No Doc

Example Call:

```
XDIconsole—> set_center, xcen,  
                    ycen
```

---

**(pro) SET\_NM\_PER\_STEP****Method Documentation:**

No Doc

**Arguments:**

*nm\_per\_step*: No Doc

Example Call:

**XDIConsole**→ **set\_nm\_per\_step**, *nm\_per\_step*

---

**(pro) SET\_PHASEMAP****Method Documentation:**

No Doc

**Arguments:**

*phasemap\_base*: No Doc

*phasemap\_grad*: No Doc

*phasemap\_lambda*: No Doc

Example Call:

**XDIConsole**→ **set\_phasemap**, *phasemap\_base*,  
*phasemap\_grad*,  
*phasemap\_lambda*

---

**(pro) SET\_SNR\_PER\_SCAN****Method Documentation:**

No Doc

**Arguments:**

*snr*: No Doc

Example Call:

**XDIConsole**→ **set\_snr\_per\_scan**, *snr*

---

**(pro) SET\_SOURCE\_MAP****Method Documentation:**

No Doc

**Arguments:**

*smap*: No Doc

Example Call:

**XDICConsole**→ **set\_source\_map**, *smap*

---

### **(pro) SHUTDOWN\_SPEX**

**Method Documentation:**

No Doc

Takes no arguments

Example Call:

**XDICConsole**→ **shutdown\_spex**

---

### **(pro) SPECTRUM\_SNAPSHOT**

**Method Documentation:**

No Doc

**Arguments:**

*snapshot*: No Doc

Example Call:

**XDICConsole**→ **spectrum\_snapshot**, *snapshot*

---

### **(pro) START\_PLUGIN**

**Method Documentation:**

No Doc

**Arguments:**

*event*: No Doc

*args=args*: No Doc

*new\_obj=new\_obj*: No Doc

Example Call:

**XDICConsole**→ **start\_plugin**, *event*,  
*args = args*,  
*new\_obj = new\_obj*

---

**(pro) TIMER\_EVENT****Method Documentation:**

No Doc

Takes no arguments

Example Call:

**XDICConsole**→ `timer_event`

---

**(pro) UPDATE\_CAMERA****Method Documentation:**

No Doc

**Arguments:**

*commands*: No Doc

*results*: No Doc

Example Call:

**XDICConsole**→ `update_camera, commands,`  
*results*

---

**(pro) UPDATE\_LEGS****Method Documentation:**

No Doc

**Arguments:**

*leg1=leg1*: No Doc

*leg2=leg2*: No Doc

*leg3=leg3*: No Doc

*legs=legs*: No Doc

Example Call:

**XDICConsole**→ `update_legs, leg1 = leg1,`  
*leg2 = leg2,*  
*leg3 = leg3,*  
*legs = legs*

---



## XDILog

Inherits from: **None**

Class Data:

<i>(string)</i>	log	<i>(long)</i>	log_window	<i>(string)</i>	prog_name
<i>(string)</i>	log_path	<i>(int)</i>	show_log	<i>(string)</i>	curdate

**Defined in file:**

C:/cal/Operations/SDI\_Instruments/common/idl/core/XDILog\_\_define.pro

---

## METHODS:

### (function) INIT

**Method Documentation:**

No Doc

**Arguments:**

*log\_window=log\_window*: No Doc

*show\_log=show\_log*: No Doc

*prog\_name=prog\_name*: No Doc

*log\_path=log\_path*: No Doc

*log\_append=log\_append*: No Doc

*enabled=enabled*: No Doc

*header=header*: No Doc

Example Call:

```
result = XDILog-> init(log_window = log_window,
                      show_log = show_log,
                      prog_name = prog_name,
                      log_path = log_path,
                      log_append = log_append,
                      enabled = enabled,
                      header = header)
```

---

### (pro) REFRESH

**Method Documentation:**

No Doc

Takes no arguments

Example Call:

**XDILog-> refresh**

---

**(pro) UPDATE****Method Documentation:**

No Doc

**Arguments:***entry*: No Doc

Example Call:

**XDILog**→ **update**, *entry*

---

# XDIWidgetReg

Inherits from: **None**

Class Data:

<i>(long)</i>	id	<i>(string)</i>	type	<i>(obj)</i>	ref
<i>(int)</i>	store	<i>(int)</i>	need_timer	<i>(int)</i>	need_frame

**Defined in file:**

C:/cal/Operations/SDI\_Instruments/common/idl/core/xdiwidgetreg\_define.pro

---

## METHODS:

### (function) INIT

**Method Documentation:**

No Doc

**Arguments:**

*ref=ref*: No Doc

*id=id*: No Doc

Example Call:

*result* = **XDIWidgetReg**→ **init**(*ref* = *ref*,  
*id* = *id*)

---

### (function) COUNT\_OBJECTS

**Method Documentation:**

No Doc

Takes no arguments

Example Call:

*result* = **XDIWidgetReg**→ **count\_objects**()

---

### (pro) DELETE\_INSTANCE

**Method Documentation:**

No Doc

**Arguments:**

*id*: No Doc

Example Call:

**XDIWidgetReg**→ **delete\_instance**, *id*

---

**(function) GENERATE\_LIST****Method Documentation:**

No Doc

Takes no arguments

Example Call:

$$result = \text{XDIWidgetReg} \rightarrow \text{generate\_list}()$$

---

**(function) MATCH\_REGISTER\_FRAME****Method Documentation:**

No Doc

**Arguments:***id*: No Doc

Example Call:

$$result = \text{XDIWidgetReg} \rightarrow \text{match\_register\_frame}(id)$$

---

**(function) MATCH\_REGISTER\_FROM\_TYPE****Method Documentation:**

No Doc

**Arguments:***type*: No Doc

Example Call:

$$result = \text{XDIWidgetReg} \rightarrow \text{match\_register\_from\_type}(type)$$

---

**(function) MATCH\_REGISTER\_REF****Method Documentation:**

No Doc

**Arguments:***id*: No Doc

Example Call:

$$result = \text{XDIWidgetReg} \rightarrow \text{match\_register\_ref}(id)$$

---

**(function) MATCH\_REGISTER\_STORE****Method Documentation:**

No Doc

**Arguments:**

*id*: No Doc

Example Call:

```
result = XDIWidgetReg-> match_register_store(id)
```

---

**(function) MATCH\_REGISTER\_TIMER****Method Documentation:**

No Doc

**Arguments:**

*id*: No Doc

Example Call:

```
result = XDIWidgetReg-> match_register_timer(id)
```

---

**(function) MATCH\_REGISTER\_TYPE****Method Documentation:**

No Doc

**Arguments:**

*id*: No Doc

Example Call:

```
result = XDIWidgetReg-> match_register_type(id)
```

---

**(pro) PRINT\_REGISTER****Method Documentation:**

No Doc

Takes no arguments

Example Call:

```
XDIWidgetReg-> print_register
```

---

**(pro) REGISTER****Method Documentation:**

No Doc

**Arguments:***id*: No Doc*ref*: No Doc*type*: No Doc*store*: No Doc*timer*: No Doc*frame*: No Doc

Example Call:

```
XDIWidgetReg-> register, id,  
                                ref,  
                                type,  
                                store,  
                                timer,  
                                frame
```

---

**(pro) SAVE\_SETTINGS****Method Documentation:**

No Doc

**Arguments:***path*: No Doc*id*: No Doc*owner*: No Doc*ref*: No Doc

Example Call:

```
XDIWidgetReg-> save_settings, path,  
                                id,  
                                owner,  
                                ref
```

---

**(pro) SET\_CONTROL****Method Documentation:**

No Doc

**Arguments:**

*id*: No Doc

*ref*: No Doc

*control*: No Doc

Example Call:

```
XDIWidgetReg->set_control, id,  
                                ref,  
                                control
```

---

# Functions

## (function) GET\_ERROR

**Defined in file:**

C:/cal/Operations/SDI\_Instruments/common/idl/core/get\_error.pro

**Function Documentation:**

Return an ANDOR error string given an error code.

**Arguments:**

*err\_code*: Error code

---

## (function) GET\_NAMES

**Defined in file:**

C:/cal/Operations/SDI\_Instruments/common/idl/core/get\_names.pro

**Function Documentation:**

From a full path list of plugins, return only the plugin names

**Arguments:**

*path\_list*: Vector of plugin full path names

---

## (function) ACE\_FILTER\_INTERFACE

**Defined in file:**

C:/cal/Operations/SDI\_Instruments/common/idl/core/ace\_filter\_interface.pro

**Function Documentation:**

Sends commands to an ACE filter wheel (used only at Poker I guess, since com ports are hard coded here).

**Arguments:**

*command=command*: Command to send

---



## (function) DRIVE\_MOTOR

**Defined in file:**

C:/cal/Operations/SDI\_Instruments/common/idl/core/drive\_motor.pro

**Function Documentation:**

Wrapper for controlling Fualhaber motors. Open/close ports, enable/disable motor, get status, set position, drive to position, set speed/accel, drive in a direction in small increments until blocked (i.e. when homing the mirror motor) etc.

**Arguments:**

*port*: Com port of the motor

*dll\_name*: SDIExternal dll name (full path)

*direction=direction*: String direction ("forwards" or "backwards") to drive until blocked

*gohix=gohix*: Drive to nearest hall index

*goix=goix*:

*drive\_to=drive\_to*: Drive to absolute position

*control=control*: String control command (see function body)

*readpos=readpos*: Read the motor position (returned from the function)

*speed=speed*: Set the speed

*accel=accel*: Set the acceleration

*verbatim=verbatim*: Send a string command verbatim to the motor, appending a carriage return

*home\_max\_spin\_time=home\_max\_spin\_time*: Max time to spin (for every small increment) when homing

*timeout=timeout*: Timeout in seconds

---

## (function) GET\_PATHS

**Defined in file:**

C:/cal/Operations/SDI\_Instruments/common/idl/core/get\_paths.pro

**Function Documentation:**

No Doc

Takes no arguments

---

## (function) GET\_SUN\_ELEVATION

**Defined in file:**

C:/cal/Operations/SDI\_Instruments/common/idl/core/get\_sun\_elevation.pro

**Function Documentation:**

Get the current sun elevation for a given latitude and longitude.

**Arguments:**

*lat*: Geographic latitude

*lon*: Geographic longitude

---

## (function) PHASEMAP\_UNWRAP

**Defined in file:**

C:/cal/Operations/SDI\_Instruments/common/idl/core/phasemap\_unwrap.pro

**Function Documentation:**

'Unwrap' a phasemap produced by the SDI Phasemapper plugin.

**Arguments:**

*xcen*: Nominal x center

*ycen*: Nominal y center

*radial\_chunk*: Size of the chunk over which to average the phase (value of 50 is used in phasemapper)

*channels*: Number of channels in the scan

*threshold*: Value of 80 is used by the phasemapper

*wavelength*: The wavelength at which the phasemap was recorded

*phasemap*: The actual phasemap 2D array

*show=show*: Show the unwrap as it occurs

*tv\_id=tv\_id*: Id of the tv window for showing the unwrap

*dims=dims*: Dimensions of the tv window for drawing

---

## (function) ZONEMAPPER

**Defined in file:**

C:/cal/Operations/SDI\_Instruments/common/idl/core/zonemapper.pro

**Function Documentation:**

Function/method/pro documentation here

**Arguments:**

*nx*: Arg0

*ny*: Arg1

*cent*: Arg2

*rads*: Arg3

*secs*: Arg4

*nums*: Arg5

*show=show*: Arg6

*outang=outang*: No Arg Doc

*outrad=outrad*: No Arg Doc

---

# Procedures

## (pro) GET\_EPHEMERIS

**Defined in file:**

C:/cal/Operations/SDI\_Instruments/common/idl/core/get\_ephemeris.pro

**Procedure Documentation:**

No Doc

**Arguments:**

*save\_name=save\_name*: No Doc

*safe\_sea=safe\_sea*: No Doc

*lat=lat*: No Doc

*lon=lon*: No Doc

*timeres=timeres*: No Doc

*start\_stop\_times=start\_stop\_times*: No Doc

*get\_sea=get\_sea*: No Doc

---

## (pro) HANDLE\_ERROR

**Defined in file:**

C:/cal/Operations/SDI\_Instruments/common/idl/core/SDI\_Main.pro

**Procedure Documentation:**

Error handler.

**Arguments:**

*error*: Error recieved

---

## (pro) HANDLE\_EVENT

**Defined in file:**

C:/cal/Operations/SDI\_Instruments/common/idl/core/SDI\_Main.pro

**Procedure Documentation:**

Handle widget events. These are rerouted to the console's event handler.

**Arguments:**

*event*: Widget event structure

---

## (pro) KILL\_ENTRY

**Defined in file:**

C:/cal/Operations/SDI\_Instruments/common/idl/core/SDI\_Main.pro

**Procedure Documentation:**

Handle widget destroy events. These are rerouted to the consoles kill handler.

**Arguments:**

*id*: Widget id

---

## (pro) MARKS\_PALETTE

**Defined in file:**

C:/cal/Operations/SDI\_Instruments/common/idl/core/load\_pal.pro

**Procedure Documentation:**

No Doc

Takes no arguments

---

## (pro) SDI\_MAIN

**Defined in file:**

C:/cal/Operations/SDI\_Instruments/common/idl/core/SDI\_Main.pro

**Procedure Documentation:**

SDI entry point, called with a settings file, optional schedule and optional mode.

**Arguments:**

*settings=settings*: Settings file (required)

*schedule=schedule*: Schedule file (required if mode is "auto")

*mode=mode*: String mode, "auto" or "manual", defaults to "manual"

---

## (pro) TREE\_CLEANUP

**Defined in file:**

C:/cal/Operations/SDI\_Instruments/common/idl/core/edit\_console\_settings.pro

**Procedure Documentation:**

If this editor was created by the SDI console, alert it that we have closed.

**Arguments:**

*id*: Widget id

---

## (pro) TREE\_EVENT

**Defined in file:**

C:/cal/Operations/SDI\_Instruments/common/idl/core/edit\_console\_settings.pro

**Procedure Documentation:**

Handle events generated by the tree widget.

**Arguments:**

*event*: Widget event structure

---

## (pro) WRITE\_SPECTRA\_NETCDF

**Defined in file:**

C:/cal/Operations/SDI\_Instruments/common/idl/core/write\_spectra\_netcdf.pro

**Procedure Documentation:**

No Doc

**Arguments:**

*ncdid*: No Doc

*spectra*: No Doc

*start\_time*: No Doc

*end\_time*: No Doc

*nscans*: No Doc

*acc\_im*: No Doc

*create=create*: No Doc

*fname=fname*: No Doc

*return\_id=return\_id*: No Doc

*header=header*: No Doc

*data=data*: No Doc

*reopen=reopen*: No Doc

*update=update*: No Doc

---

## (pro) COMMS\_WRAPPER

**Defined in file:**

C:/cal/Operations/SDI\_Instruments/common/idl/core/comms\_wrapper.pro

**Procedure Documentation:**

No Doc

**Arguments:**

*port*: No Doc

*dll\_name*: No Doc

*type=type*: No Doc

*:* No Doc

---

## (pro) CONSOLE\_CRASH\_ROUTINE

**Defined in file:**

C:/cal/Operations/SDI\_Instruments/common/idl/core/crash\_routines.pro

**Procedure Documentation:**

Check to see if the console 'crash' file is present. If it is, it is likely that the SDI console has stopped running, and this gets logged.

**Arguments:**

*log\_file*: The filename to send/append log output to

---

## (pro) CONSOLE\_MAKE\_CRASH\_FILE

**Defined in file:**

C:/cal/Operations/SDI\_Instruments/common/idl/core/crash\_routines.pro

**Procedure Documentation:**

Create the console 'crash' file.

**Arguments:**

*crash\_file*: Filename for the crash file

---

## (pro) CRASH\_ROUTINES

**Defined in file:**

C:/cal/Operations/SDI\_Instruments/common/idl/core/crash\_routines.pro

**Procedure Documentation:**

This gets called by a Windows scheduled script, and checks to see if a crash file is present (the console should delete this file, so if it is present, the console has likely crashed), and if so it logs a crash. If not ,it recreates the file.

Takes no arguments

---

## (pro) DEFINE\_VARIABLES

**Defined in file:**

C:/cal/Operations/SDI\_Instruments/common/idl/core/edit\_console\_settings.pro

**Procedure Documentation:**

Create the SDI variables/structures.

**Arguments:**

*var\_holder*: Variables will be returned in this structure

---

## (pro) DRIVE\_MOTOR\_WAIT\_FOR\_POSITION

**Defined in file:**

C:/cal/Operations/SDI\_Instruments/common/idl/core/drive\_motor.pro

**Procedure Documentation:**

Wait for a position reached notification from the motor (a 'p' character). A timeout can be provided to prevent waiting forever.

**Arguments:**

*port*: Com port for the motor

*dll\_name*: Name of the SDI\_External dll

*com*: String 'com' type, e.g. "moxa"

*max\_wait\_time=max\_wait\_time*: Max time to wait in seconds

*errcode=errcode*: Returned error code

---

## (pro) EDIT\_CONSOLE\_SETTINGS

**Defined in file:**

C:/cal/Operations/SDI\_Instruments/common/idl/core/edit\_console\_settings.pro

**Procedure Documentation:**

Entry point for the console settings editor. Can be called directly from IDL command line, or from the SDI console.

**Arguments:**

*filename=filename*: Pass in a filename to load upon startup

*leader=leader*: Widget leader, when called from the console

*console=console*: The console object reference, if started from the console

---

## (pro) EDIT\_LOAD\_SETTINGS

**Defined in file:**

C:/cal/Operations/SDI\_Instruments/common/idl/core/edit\_console\_settings.pro

**Procedure Documentation:**

Load a settings file from disk.

**Arguments:**

*filename=filename*: Filename to load

---

## (pro) EDIT\_PORT\_SETTINGS

**Defined in file:**

C:/cal/Operations/SDI\_Instruments/common/idl/core/edit\_console\_settings.pro

**Procedure Documentation:**

Create an xvaredit dialog for editing the port structure.

Takes no arguments

---

## (pro) EDIT\_SAVE\_SETTINGS

**Defined in file:**

C:/cal/Operations/SDI\_Instruments/common/idl/core/edit\_console\_settings.pro

**Procedure Documentation:**

Save the current settings.

**Arguments:**

*filename=filename*: Filename to save to

*nosplash=nosplash*: Optionally hide the "File saved" dialog

---

## (pro) GET\_JD0\_SEC

**Defined in file:**

C:/cal/Operations/SDI\_Instruments/common/idl/core/get\_jd0\_sec.pro

**Procedure Documentation:**

Get the current julian date and the seconds into the day.

**Arguments:**

*jd0*: OUT: Julian date at midnight I think...

*sec*: OUT: Seconds into the julian day

---



## (pro) LOAD\_PAL

**Defined in file:**

C:/cal/Operations/SDI\_Instruments/common/idl/core/load\_pal.pro

**Procedure Documentation:**

No Doc

**Arguments:**

*culz*: No Doc

*idl\_table=itbl*: No Doc

*bright=brt*: No Doc

*proportion=prp*: No Doc

---

## (pro) PAL\_SUBSAMP

**Defined in file:**

C:/cal/Operations/SDI\_Instruments/common/idl/core/load\_pal.pro

**Procedure Documentation:**

No Doc

**Arguments:**

*idulo*: No Doc

*idchi*: No Doc

*sred*: No Doc

*sgrn*: No Doc

*sblu*: No Doc

*brt*: No Doc

*satval*: No Doc

*sign*: No Doc

---

## (pro) RESTART\_MOXA

**Defined in file:**

C:/cal/Operations/SDI\_Instruments/common/idl/core/restart\_moxa.pro

**Procedure Documentation:**

Restart the MOXA USB hub, using pstools (TODO: is this used? Paths are hard coded...)

Takes no arguments

---

## (pro) SCHEDULE\_READER

**Defined in file:**

C:/cal/Operations/SDI\_Instruments/common/idl/core/schedule\_reader.pro

**Procedure Documentation:**

Query an SDI schedule file for the next command.

**Arguments:**

*schedule\_file*: Schedule file name

*schedule\_line*: The current schedule line

*xcomm*: OUT: string command

*xargs*: OUT: string array of arguments

*lat*: Geographic latitude

*lon*: Geographic longitude

*console\_ref*: Object reference for the console

*refresh\_nm\_per\_step=refresh\_nm\_per\_step*: Look for a nm per step refresh command (special syntax)

*refresh\_phasemap=refresh\_phasemap*: Look for a phasemap refresh command (special syntax)

---