

# AlliGator Source Code Documentation

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# Chapter 1. Project description

AlliGator: FLI Data Analysis

# Chapter 2. Libraries

This section describes the libraries contained in the project.

## 2.1. AlliGator Accumulated Dataset.lvlib

**Responsibility:** Handles dataset summation tasks (sum or average).

**Version:** 1.0.0.0

*Table 1. Functions (non private scope only)*

Name	Connector pane	Description	S.	R.	I.
AlliGator Add Dataset to Accumulated Dataset		Adds the <B>Current Dataset</B> to the <B>Accumulated Dataset</B>, if and only if the number of gates and channels are the same as those of the first dataset in the series.  If not, the <B>Current Dataset</B> is skipped.			
AlliGator Add Image to Accumulated Image		Adds a single <B>New Image</B> (gate image) to the <B>Accumulated Image Sum</B> (for that gate).  If the current <B>Dataset Index</B> is 0 (first dataset in the Series), the <B>Accumulated Image Sum</B> is cleared first.			
AlliGator Clear Dataset Series Sum		Clears the data structures associated with the Accumulated Dataset and resets the internal variable <B>Is Displayed Image Accumulated</b> to False.			
AlliGator Get Temp Accumulated File Name		Builds name of accumulated or averaged dataset displayed in AlliGator's title bar.			
AlliGator Script Sum All Datasets in Folder		Launches a series of steps loading each dataset in a series (including background correction) and adding them to a reset accumulated dataset. This script is followed by the usual series of steps after a new dataset is loaded (display, phasor plot update, phasor ratio or map overlay in image source and/or image ROI highlight in phasor plot).			

Scope: ⚡ → Protected | ⚡ → Community

Reentrancy: 📦 → Preallocated reentrancy | 📦 → Shared reentrancy

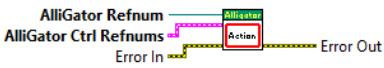
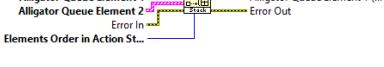
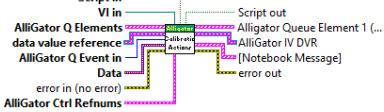
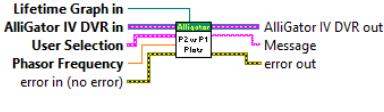
Inlining: 📦 → Inlined

## 2.2. AlliGator Action Engine.lvlib

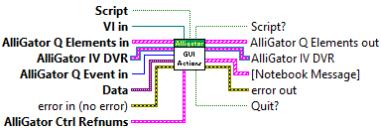
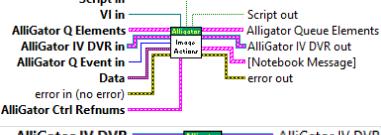
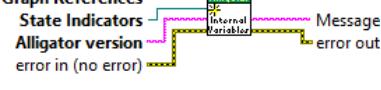
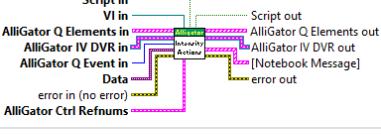
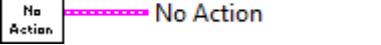
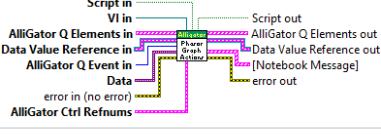
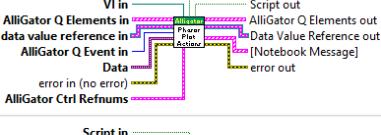
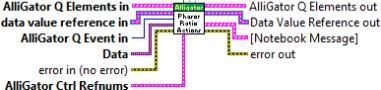
**Responsibility:** Handles AlliGator Event Queue, dispatching events to different handlers according to their category.

**Version:** 1.0.0.0

Table 2. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
AlliGator Action Loop		AlliGator action dispatcher. Each action array is handled as a package, each action in the array being sent to the appropriate category (Files, Image, Phasor Graph, etc.).			
AlliGator Add Action Array to Stack		One of the two options of the polymorphic <B>AlliGator Add Action(s) to Stack</B> VI. Appends (or prepends) an array of actions to the current ones being processed or about to be queued.			
AlliGator Add Single Action to Stack		One of the two options of the polymorphic <B>AlliGator Add Action(s) to Stack</B> VI. Appends (or prepends) a single action to the current ones being processed or about to be queued.			
AlliGator Calibration Actions		Processes AlliGator phasor calibration-related actions.			
AlliGator Check for Abort	AlliGator Q Elements → ⊗ → AlliGator Q Elements	Checks whether there is any <B>Abort</B> action in the input <B>AlliGator Q Elements</B>. If so, remove all other action items.			
AlliGator Compute P2 vs P1 Plots		Compute a (P1, P2) scatter plot for all selected phasor plots in the Phasor Graph and send them to the Lifetime & Other Parameters Graph.  P1 & P2 are parameters associated with each phasor plot or derived from the phasor and/or phasor ratio references.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Current Event		Get/Set current AlliGator action being processed.  Not used for any practical purpose at this stage.			
AlliGator Decay Actions		Processes AlliGator decay-related actions.			
AlliGator Decay Fit Parameter Map Actions		Processes AlliGator decay fit parameter map-related actions.			
AlliGator Event to Event Category		Extracts the category an event belongs to, in order to dispatch this event to the proper handler.			
AlliGator Event to String		Converts <B>AlliGator Q Event</B> enum to the corresponding string.			
AlliGator Files Actions		Processes AlliGator files-related actions.			
AlliGator Filter Event		Prevents adding an event to the main Action Queue if a similar event has been added less than <B>Timeout</B> ago.			
AlliGator FLI Dataset Actions		Processes AlliGator FLI Dataset-related actions.			
AlliGator FLI Dataset Series Actions		Processes AlliGator FLI Dataset Series-related actions.			
AlliGator Generic Graph Actions		Processes AlliGator generic graph-related actions.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Get First Event		Returns the first event (action + data) in the <B>AlliGator Q Elements in</B> array in <B>AlliGator Q Event</b> and the remaining events in the <B>AlliGator Q Elements out<B> array.  If there is a <B>GUI:Abort</B> element in the array, or if the abort flag is raised, returns a single <B>GUI:Abort</B> as <B>AlliGator Q Event</b> and an empty array as <B>AlliGator Q Elements out<B>.			
AlliGator GUI Actions		Processes AlliGator GUI-related actions.			
AlliGator Image Actions		Processes AlliGator source image-related actions.			
AlliGator Initialize Images		Initializes AlliGator image structures.			
AlliGator Initialize Internal Variables		Initializes AlliGator internal variables.			
AlliGator Intensity Actions		Processes AlliGator intensity time trace-related actions.			
AlliGator No Action Event		Returns a no-op event.			
AlliGator Package Notebook Messages		Formats Notebook message by adding AlliGator Action header and style.			
AlliGator Phasor Graph Actions		Processes AlliGator phasor graph-related actions.			
AlliGator Phasor Plot Actions		Processes AlliGator phasor plot-related actions.			
AlliGator Phasor Ratio Actions		Processes AlliGator phasor ratio-related actions.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Queue Non Empty Events		<p>Removes consecutive duplicates of any kind of AlliGator action to leave a single copy of each in the array of enqueued AlliGator events.</p> <p>The same action can appear several time, as long as the different copies are separated by a different action.</p>			
AlliGator Queue		Returns the AlliGator Action queue.			

Scope:  → Protected |  → Community

Reentrancy:  → Preallocated reentrancy |  → Shared reentrancy

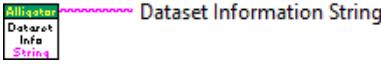
Inlining:  → Inlined

## 2.3. AlliGator Dataset Information Window.lvlib

**Responsibility:** VIs handling Dataset Information displayed to the user.

**Version:** 1.0.0.0

*Table 3. Functions (non private scope only)*

Name	Connector pane	Description	S.	R.	I.
AlliGator Build Dataset Information String		Creates <b>&lt;B&gt;Dataset Information String&lt;/B&gt;</b> based on internal variables and settings.			
Alligator Dataset Information Window		Displays dataset information extracted from internal variables and settings.			

Scope:  → Protected |  → Community

Reentrancy:  → Preallocated reentrancy |  → Shared reentrancy

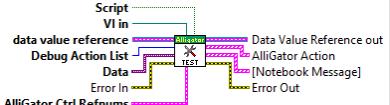
Inlining:  → Inlined

## 2.4. AlliGator Debug.lvlib

**Responsibility:** features under test and accessible via the **<B>DEBUG</B>** menu item (when exposed).

**Version:** 1.0.0.0

Table 4. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
AliGator Debug Variables Storage		Variant attribute storage of debug-related variables.			
AlliGator Debug Window		VI that can be run and peek at some of the internal data of Alligator (but not the AlliGator Internal Variable structure).			
AlliGator Feature Tests		VI implementing the successive debugged features as individual cases.  One feature can be tested per session, and is hardwire-selected.			
AlliGator View & Change Debug Variables	[AlliGator Debug.lvlib:AlliGator View & Change Debug Variables.vi]	Setter and Getter for the debug variables. Appears to be unused.			

Scope:  → Protected |  → Community

Reentrancy:  → Preallocated reentrancy |  → Shared reentrancy

Inlining:  → Inlined

## 2.5. AlliGator Decay Analysis.lvlib

**Responsibility:** VIs handling decay analysis (preprocessing, processing, Ifit, RF).

**Version:** 1.0.0.0

Table 5. Nested libraries

Name	Type
AlliGator Decay Fit.lvlib	Library
AlliGator Decay Preprocessing.lvlib	Library
AlliGator Decay Processing.lvlib	Library
AlliGator IRF.lvlib	Library

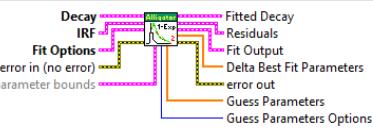
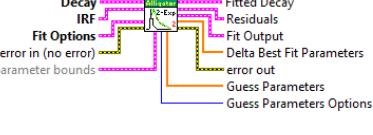
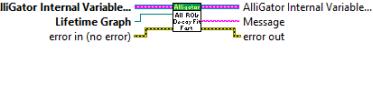
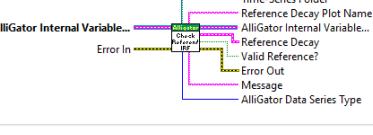
This library has no functions set to non private scope.

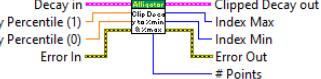
## 2.6. AlliGator Decay Fit.lvlib

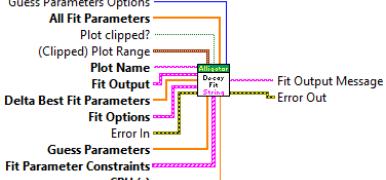
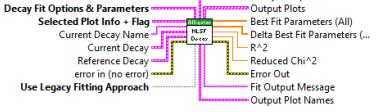
**Responsibility:** VIs used to fit decays to 1-Exp or 2-Exp models.

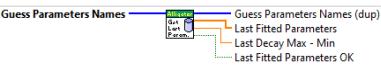
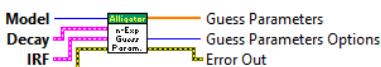
## Version: 1.0.0.0

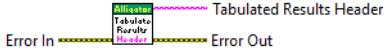
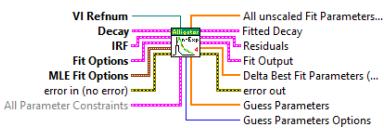
Table 6. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
AlliGator 1-Exp + IRF Fit v2		Legacy code for 1-Exp decay fit.			
AlliGator 2-Exp + IRF Convolution Fit v2		Legacy code for 2-Exp decay fit.			
AlliGator All ROIs Decay Fit Non-Interactive (Fast + Individual IRF) v2		Performs multi-ROIs NLSF decay fits for the selected ROIs. Each ROI has its own associated IRF.			
AlliGator All ROIs Decay Fit Script		Series of actions triggered by the <B>All ROIs NLSF Analysis:Interactive (Slow)</B> Analysis menu item.			
AlliGator All ROIs Decay Fit		Fits all ROI decays with the selected model, using a common IRF for all ROIs.			
AlliGator Best of All (weights) String	Weighted Fit ————— weight ————— Weighted Fit	String to append to the fit output sent to the Notebook in the case of a "Best of All" option, to specify which fit was the best (weighted or unweighted).			
AlliGator Check Decay Reference		Obtains the relevant IRF (either common or local) for the subsequent task.			
AlliGator Check IRF		Check whether the provided IRF is a valid plot. If not builds a mock Dirac IRF as a replacement.			
AlliGator Clear Local IRFs		Clears the internal variable-sorted local IRFs.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Clip Decay for Fit		<p>Clips the decay according to the &lt;B&gt;Min&lt;/B&gt; and &lt;B&gt;Max Percentile&lt;/B&gt; parameters provided.</p> <p>If the decay range is <math>[I_{\min}, I_{\max}]</math> and the decay percentiles are <math>(f_{\min}, f_{\max})</math> in <math>[0, 1]</math>, we look for:</p> <ul style="list-style-type: none"> <li>- starting from the location of the maximum (presumably the peak location) and moving forward, the point at which:</li> </ul> $I_i < I_{\min} + f_{\max}*(I_{\max} - I_{\min}) = F_{\max}$ <ul style="list-style-type: none"> <li>- starting from the last point and moving backwards, the point at which:</li> </ul> $I_i > I_{\min} + f_{\min}*(I_{\max} - I_{\min}) = F_{\min}$			
AlliGator Convert Decay Fit Parameter Constraints v2		<p>Returns constraints for all parameters of the model, even if the user only specified a few (or none at all).</p> <p>This VI assumes that the &lt;B&gt;Fit Parameter Constraints&lt;/B&gt; involve tau, and returns values with the same assumption.</p> <p>Look for constrained parameters. If present, replace default constraints (-Inf, Inf) by new ones, except for the offset, which is set to the guessed value (or zero if not provided).</p>			
AlliGator Convert New to Legacy Fit Parameter Constraints		version conversion for <B>Fit Parameter Constraints</B>.			
AlliGator Create Array of n-Exp Fit Constraints (Fixed Parameters)		Creates an array of fixed offset values to be tried successively and compared at the end of the series.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Create Fit Parameter Plots Script		Creates as many empty parameter plots as there are parameters.			
AlliGator Decay Fit Output String		Creates decay fit output string.			
AlliGator Enforce Lifetime Positivity	Constraints in  Constraints out	Constrains lifetime parameters to be positive (replacing them by zero otherwise).			
AlliGator Fit Decay		VI implementing single decay fit with either a single or double exponential model with IRF convolution (or in the absence of IRF, without convolution).			
AlliGator Fit IRF String	Use Local IRF 	Create the Notebook string specifying what kind of IRF was used in the fit.			
AlliGator Fit IRF to Cubic Spline + Sine	Selected Plot Info 	Fits the provided plot by a sum of a sinus function plus a cubic spline.			
AlliGator Fit Termination Criteria & Quality Metrics Output String	[AlliGator Decay Analysis.lvlib:AlliGator Decay Fit.lvlib:AlliGator Fit Termination Criteria & Quality Metrics Output String.vi]	Creates the string describing the fit termination criteria and quality metrics.			
AlliGator Get 1-Exp Guess Parameters	Decay 	Determines guess parameters for a 1-Exp fit according to the user-specified choices:  * Use last fitted parameters = TRUE:  If the number of available parameters is correct, uses those, otherwise use the estimated parameters.  * Use last fitted parameters = FALSE:  If a parameter has been provided by the user, uses it, otherwise uses the estimated parameter.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Get 2-Exp Guess Parameters		<p>Determines guess parameters for a 2-Exp fit according to the user-specified choices:</p> <ul style="list-style-type: none"> <li>* Use last fitted parameters = TRUE: If the number of available parameters is correct, uses those, otherwise use the estimated parameters.</li> <li>* Use last fitted parameters = FALSE: If a parameter has been provided by the user, uses it, otherwise uses the estimated parameters.</li> </ul>			
AlliGator Get Fit Options & Parameters	[AlliGator Analysis.lvlib:AlliGator Decay Fit.lvlib:AlliGator Get Fit Options & Parameters.vi]	Gets Decay Fit Options & Parameters.			
AlliGator Get Fit Output Options		Gets Fit Output Options.			
AlliGator Get Guess Offset		<p>Used to get an offset parameter when no constraint is provided:</p> <ul style="list-style-type: none"> <li>- if "Use last fitted parameters", find it</li> <li>- if "Use guess parameter", find it</li> <li>- if nothing works, use 0</li> </ul>			
AlliGator Get IRF Values & Locations	[AlliGator Analysis.lvlib:AlliGator Decay Fit.lvlib:AlliGator Get IRF Values & Locations.vi]	Gets the stored local IRFs' Y axis values as well as their locations.			
AlliGator Get Last Fitted Parameters		Returns <b>Last Fitted Parameters</b> as well as <b>Last Decay Max - Min</b> .			
AlliGator Get Min Decay Peak Value	Decay Statistics Graph → Min Peak → Min Decay Peak Value	Gets the abscissa (X value) of the first cursor in the <b>Decay Statistics Graph</b> .			
AlliGator Get n-Exp Guess Parameters		Get numerically estimated guess parameters for 1-Exp or 2-Exp models.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Get Tabulated Results Header (Decay Fit)		Creates the header line for the ASCII output of decay fit parameters.			
AlliGator Is Decay Valid		Checks whether the decay is valid, i.e. is non-zero, does not contain NaN and has more than one element.			
AlliGator Is IRF Valid		Checks that the decay is valid.			
AlliGator n-Exp + IRF Fit v4		Fits the provided decay to 1-Exp or 2-Exp model.  This VI assumes that the <B>All Parameter Constraints</B> involve tau, and returns values with the same assumption.			
AlliGator Number of Convolution Points		Computes the "optimal" number of convolution points N as T/dt + 1, where T is the <B>Period</B> and dt the step size in the input <B>t Array</B>.  Note that since <B>T</B> might not be an exact multiple of dt, the resulting step dt' = T/N might not be identical to dt.			
AlliGator Update Decay Fit Results (Stats)		Stores basic statistics (algorithm, Chi2/N, R2 and RMSE, where N is the number of evaluation points) for a successful fit.  This is used when the "Use All" fit method option is selected, and allows picking the best result out of the 3 methods (LS, LAR, Bisquare)			

Scope:  → Protected |  → Community

Reentrancy:  → Preallocated reentrancy |  → Shared reentrancy

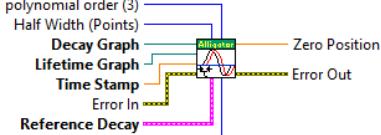
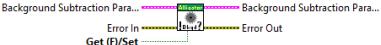
Inlining:  → Inlined

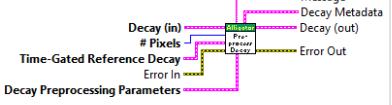
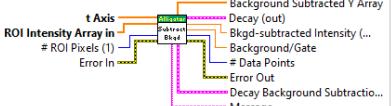
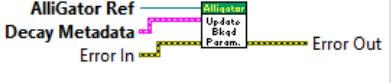
## 2.7. AlliGator Decay Preprocessing.lvlib

**Responsibility:** Handles decay pre-processing functions.

**Version:** 1.0.0.0

Table 7. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
AlliGator Create Head & Tail Bounding Cursors	[AlliGator Decay Analysis.lvlib:AlliGator Decay Preprocessing.lvlib:AlliGator Create Head & Tail Bounding Cursors.vi]	Creates a <B>Head</B> (HE) and a <B>Tail</B> (TS) cursor in the <B>Decay Graph</B> to be used for the definition of the decay end (the "Head" part) and start (the "Tail" part) when performing decay extrapolation.			
AlliGator Extrapolate Decay		Extrapolates a truncated decay by trying to fit an exponential to the tail part and connect it to the head part .			
AlliGator Find & Plot Threshold Crossing Position	[AlliGator Decay Analysis.lvlib:AlliGator Decay Preprocessing.lvlib:AlliGator Find & Plot Threshold Crossing Position.vi]	Find the location where the decay reaches the provided thresholf (from below), returns that position and adds it to the last plot in the <B>Lifetime & Other Parameters Graph</B>.			
AlliGator Find & Plot Zero-Crossing Position v2	[AlliGator Decay Analysis.lvlib:AlliGator Decay Preprocessing.lvlib:AlliGator Find & Plot Zero-Crossing Position v2.vi]	Finds the zero-crossing location for the last decay in the <B>Decay Graph</B> using the provided <B>Shift</B> and adds it to the last plot in the <B>Lifetime & Other Parameters Graph</B>.			
AlliGator Find Cross-Correlation Shift		Computes the shift of the last plot in the <B>Decay Graph</B> maximizing the cross-correlation of that plot and the <B>Reference Decay</b> and adds this value to the last plot in the <B>Lifetime & Other Parameters Graph</b>.			
AlliGator Get Background Subtraction Parameters		Obtains or stores information about <B>Background Subtraction Parameters</B> from Settings Preferences.			
AlliGator Get-Set Decay Preprocessing Options & Parameters	[AlliGator Decay Analysis.lvlib:AlliGator Decay Preprocessing.lvlib:AlliGator Get-Set Decay Preprocessing Options & Parameters.vi]	Get/Set Decay Pre-processing Options & Parameters (Settings).			
AlliGator Get-Set Decay Preprocessing Parameters		Get/Set Decay Pre-processing parameters.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Preprocess Decay v3		Applies the different selected pre-processing steps on the provided decay in the specified order.			
AlliGator Store Cursor-defined Head & Tail Fractions	[AlliGator Decay Analysis.lvlib:AlliGator Decay Preprocessing.lvlib:AlliGator Store Cursor-defined Head & Tail Fractions.vi]	Sets the head and tail fractions for decay extrapolation based on the corresponding cursor locations.  If one cursor is missing, the current fraction is preserved.			
AlliGator Subtract Background from Decay Curve v3		Subtracts background from a decay based on selected options.			
AlliGator Update Background Subtraction Indicators		Updates background subtraction indicators in the <B>Decay Graph</B> panel.			

Scope:  → Protected |  → Community

Reentrancy:  → Preallocated reentrancy |  → Shared reentrancy

Inlining:  → Inlined

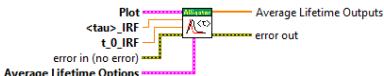
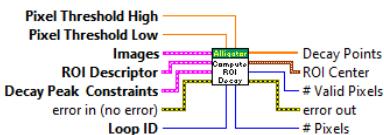
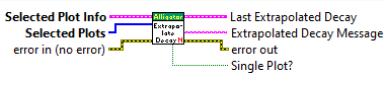
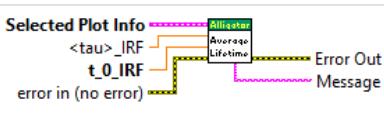
## 2.8. AlliGator Decay Processing.lvlib

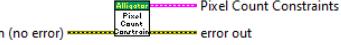
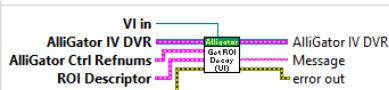
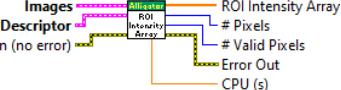
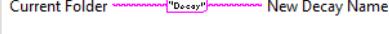
**Responsibility:** All functions related to decay processing (but not decay PRE-processing).

**Version:** 1.0.0.0

Table 8. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
AlliGator All ROIs Average Lifetimes		Computes an approximate average lifetime for all ROI decays, based on the integral under the curve and IRF information.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Compute Decay Average Lifetime		<p>Computes an estimate of the average lifetime of a decay using the formula <math>\langle\tau\rangle = \langle\tau\rangle_{F\_T} - \langle\tau\rangle_{IRF\_T}</math> where <math>F\_T</math> is the decay and <math>IRF\_T</math> is the IRF.</p> <p>This calculation involves estimating the location of the rising time for both IRF and decay.</p> <p>When the option "Use Local IRF" is selected and a <b>Decay Location</b> is provided, the corresponding local IRF (if it exists) is used.</p>			
AlliGator Compute ROI Decay		<p>Extracts the ROI pixel intensities for the different gate images, rejecting pixels not satisfying the intensity-based or peak-intensity based criteria.</p> <p>A different (faster) approach is used for single-pixel ROIs.</p>			
AlliGator Computer IRF t_0 and Mean Lifetime		Computes an estimate of the average lifetime of the IRF and the location of the rising time.			
AlliGator Decay Graph Get-Set Process Plot Target		<p><b>Get</b>: Check which plot(s) to process, and add/remove checkmarks accordingly. The <b>Menu</b> reference is mandatory.</p> <p><b>Set</b>: based on user selection, set which plot(s) to process. The <b>Plot(s) to Process</b> input is mandatory (Single Plot, Selected Plots, All Plots).</p>			
AlliGator Extrapolate Multiple Plots		Extrapolated the selected plots.			
AlliGator Get Decay Average Lifetime		Computes estimated average lifetime for the selected plot.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Get Decay Peak Constraints		Get Decay Peak constraints.			
AlliGator Get Decay Time Axis v2		Get decay time axis.			
AlliGator Get Pixel Count Constraints		Get intensity constraints.			
AlliGator Get Process Plots Indices		Get indices of plots to be processed.			
AlliGator Get ROI Decay UI		Computes the decay at the provided ROI and			
AlliGator Get ROI Decay		Extract decay from provided ROI (see exception below) and apply pre-processing steps if applicable. Data and metadata are stored internally for further analysis.  Option: instead of providing a ROI (which implies a Source Image dataset), a Decay can be provided, which will not be preprocessed but stored as is, with not additional metadata.			
AlliGator Get ROI Intensity Array v4		Gets the intensity array for the provided ROI.			
AlliGator Get Selected Plots and Reference Decay		Get selected plot indices and reference decay.			
AlliGator Get Tabulated Results Header (Average Lifetimes)		Builds string to output results of average lifetime calculation.			
AlliGator New Decay Plot Name		Builds name for new decay plot.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Only Show Last Decay	 Show Last Decay Only?	Returns option of showing only the last plot.			

Scope:  → Protected |  → Community

Reentrancy:  → Preallocated reentrancy |  → Shared reentrancy

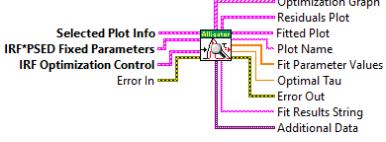
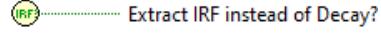
Inlining:  → Inlined

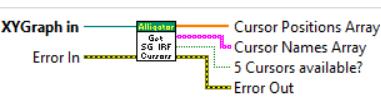
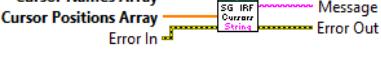
## 2.9. AlliGator IRF.lvlib

**Responsibility:** Handles IRF-related functions.

**Version:** 1.0.0.0

Table 9. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
AlliGator All ROIs IRF Analysis		Extracts the decays from all ROIs and stores them as IRFs for subsequent NLSF analysis.			
AlliGator Compute Optimal IRF v2		Extract IRF from provided decay using deconvolution and finding the minimal metrics.			
AlliGator Create Cursors for Square Gated IRF Fit		Creates 5 cursors (tr1, tr2, tf1, tf2 and ten) used to define the different transitions between domains in a square gate.			
AlliGator Extract IRF Instead of Decay		Get the value of the option "Get IRF instead of decay".			
AlliGator Find Optimal IRF Tail Slope		Find minimal absolute slope for the optimal IRF extraction algorithm.			
AlliGator Fit to Logistic Square Gated IRF		Fits the decay to a logistic square gate.			
AlliGator Fit to Model IRF		Fit the selected plot to a Gaussian convolved with a single-exponential decay.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Fit to Tilted Logistic Square Gated IRF		Fits the selected decay to a tilted logistic square gate.			
AlliGator Get IRF from Decay v2		Extract IRF by deconvolution with a single-exponential decay with the provided time constant.			
AlliGator Get Optimal IRF from Decay v2		Extract IRF from single-exponential decay by deconvolution and optimization of the time constant.			
AlliGator Get Reference Decay		Gets the internally stored reference decay.			
AlliGator Get Square Gated IRF Analysis Cursors		Gets locations and names of the 5 cursors needed to define the regions of a square gate fit.			
AlliGator Script All ROIs IRF Analysis		Interactive script computing the decay for all ROIs and storing them as IRFs for subsequent NLSF analysis.			
AlliGator Sort Cursors for Square Gated IRF Fit		Sorts 5 cursors by name (if they exist) corresponding to the 5 boundaries between regions in a square gate.			
AlliGator Square Gated IRF Fit Cursors String		Creates string describing the boundaries between regions in a square gate.			
AlliGator Thresholded IRF		Sets IRF values below threshold to 0.			

Scope:  → Protected |  → Community

Reentrancy:  → Preallocated reentrancy |  → Shared reentrancy

Inlining:  → Inlined

## 2.10. AlliGator Decay Fit Parameter Map.lvlib

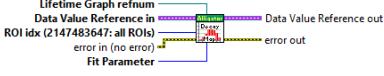
**Responsibility:** VIs related to the Decay Fit Parameter Map

**Version:** 1.0.0.0

*Table 10. Functions (non private scope only)*

Name	Connector pane	Description	S.	R.	I.
AlliGator Build Decay Fit Parameter Map		Builds the selected fit parameter map image.			
AlliGator Color Decay Fit Parameter Map in Original Image		Overlays the Decay Fit Parameter Map on the Source Image.			
AlliGator Convert Decay Range Options		Converts percentiles unit.			
AlliGator Decay Fit Parameter Map Context Menu Handler		Decay Fit Parameter Map contextual menu handler.			
AlliGator Decay Parameter Range Mouse Move Event		Handles mouse move event in the Decay Fit Parameter Map display range control.			
AlliGator Decay Parameters Map Mouse Up Event		Handles Mouse Up event in the Decay Fit Parameter Map image.			
AlliGator Export ROI(s) NLSF Parameters as ASCII File		Exports Decay Fit Parameter Map data to an ASCII file.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Get Decay Fit Parameter Map Data Wrapper		Returns selected fit parameter's map.			
AlliGator Get Decay Fit Parameter Map Data		Fills in matrix with fit parameter wherever it has been computed, NaN otherwise.			
AlliGator Get Local Fit Results String		Builds Decay Fit Parameters string.			
AlliGator Get Single ROI Message Start		Builds single-ROI Decay Fit Parameters header string.			
AlliGator Load IRFs & Fit Data (Map) HDF5 File v0.3	[AlliGator Decay Fit Parameter Map.lvlib:AlliGator Load IRFs & Fit Data (Map) HDF5 File v0.3.vi]	Loads Decay Fit Parameter Map and associated metadata.			
AlliGator Load IRFs & Fit Data Map v1	[AlliGator Decay Fit Parameter Map.lvlib:AlliGator Load IRFs & Fit Data Map v1.vi]	Old version of Load Decay Fit Parameter Map.			
AlliGator New NLSF Parameter Map Resolution		Map resolution conversion.  If <B>Is Full Image Parameter Map</B> is true, returns the input resolution parameters.  If not, returns -1.			
AlliGator NLSF Parameters to Coordinates		Extracts ROI coordinates from the Decay Fit Parameters array for all ROIs in the map.			
AlliGator Plot Fit Parameter vs Intensity v2		Creates scatter plot of selected parameter vs intensity for all ROIs and sends it to the <B>Lifetime & Other Parameters Graph</B>.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Post-Fit Parameter Map Update		Updates Decay Fit Parameter Map image and Profile Plot window.			
AlliGator Read IRFs & Fit Data HDF5 File Metadata	[AlliGator Decay Fit Parameter Map.lvlib:AlliGator Read IRFs & Fit Data HDF5 File Metadata.vi]	Reads Decay Fit Parameter Map metadata from HDF5 file.			
AlliGator Save All Decay Fit Parameter Maps to ASCII		Saves the Decay Fit Parameter Map 2D array to an ASCII file.			
AlliGator Save Decay Fit Parameter Map to ASCII		Saves single Decay Fit Parameter Map data into an ASCII file.			
AlliGator Save IRFs & Fit Data (Map) HDF5 File v0.4	[AlliGator Decay Fit Parameter Map.lvlib:AlliGator Save IRFs & Fit Data (Map) HDF5 File v0.4.vi]	Saves Decay Fit Parameter Map and associated metadata to an HDF5 file.			
AlliGator Save-Load IRFs & Fit Data (Map)	[AlliGator Decay Fit Parameter Map.lvlib:AlliGator Save-Load IRFs & Fit Data (Map).vi]	Load/Save Decay Fit Parameter Map & Metadata from/to HDF5 file.			
AlliGator Send Decay Fit Parameter Map to Lifetime Graph		Send the selected Decay Fit Parameter Map data to a single plot in <B>Lifetime & Other Parameters Graph</B>.			
AlliGator Update Decay Fit Parameter Map Palette		Updates the color palette of the <B>Decay Fit Parameter Map</B> image.			

Scope:  → Protected |  → Community

Reentrancy:  → Preallocated reentrancy |  → Shared reentrancy

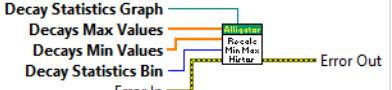
Inlining:  → Inlined

## 2.11. AlliGator Decay Statistics.lvlib

**Responsibility:** Handles the Decay Statistics Graph.

**Version:** 1.0.0.0

*Table 11. Functions (non private scope only)*

Name	Connector pane	Description	S.	R.	I.
AlliGator Compute Decay Statistics v2		Computes decay min & max histograms.			
AlliGator Recompute Decay Statistics Histograms		Rebins decay Min & Max histograms.			

Scope:  → Protected |  → Community

Reentrancy:  → Preallocated reentrancy |  → Shared reentrancy

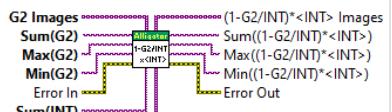
Inlining:  → Inlined

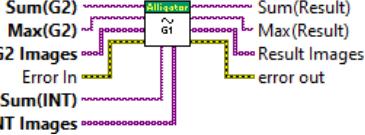
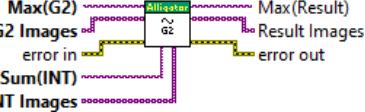
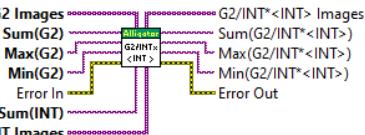
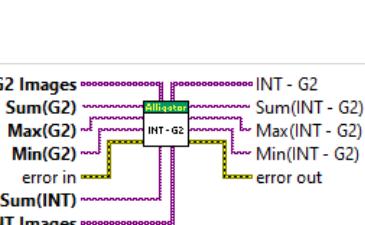
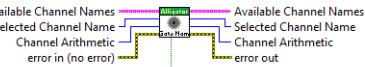
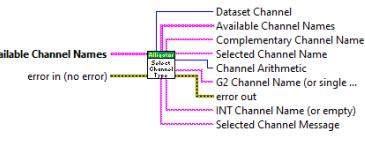
## 2.12. AlliGator Dual-Channel Datasets.lvlib

**Responsibility:** VIs handling dual-channel datasets

**Version:** 1.0.0.0

*Table 12. Functions (non private scope only)*

Name	Connector pane	Description	S.	R.	I.
AlliGator Channel Arithmetic Computation		If selected, computes the arithmetic combination of ING & G2 channel and stores it into the Dataset 1 structure.  If no arithmetic operation is selected, the G2 channel is in Dataset 1 structure, INT in Dataset 2 structure.			
AlliGator Compute (1-G2/INT)xMean(INT) Images		Computes $(1 - G2/INT) * <INT>$ .			

Name	Connector pane	Description	S.	R.	I.
AlliGator Compute G1 tilde Images		Computes $G_1^{\tilde{}} = (\text{Sum(INT}) + \text{INT})/2 - \text{G2}$ .			
AlliGator Compute G2 tilde Images		Computes $\text{G2} + (\text{Sum(INT}) - \text{INT})/2$ .			
AlliGator Compute G2_INTxMean(INT) Images		Computes $\text{G2}/\text{INT} * <\text{INT}>$ .			
AlliGator Compute INT - G2 Images		Computes $\text{INT} - \text{G2}$ .			
AlliGator Get Channel Names & Indices	[AlliGator Dual-Channel Datasets.lvlib:AlliGator Get Channel Names & Indices.vi]	Returns information on the dataset file's channel(s).			
AlliGator Get Selected, INT & G2 Channel Names	[AlliGator Dual-Channel Datasets.lvlib:AlliGator Get Selected]	Formats dual-gate channel name and returns selected channel.			
AlliGator Get-Set Channel Selection		Groups access to 3 different types of Dataset Information:  - available channel names - channel name - channel arithmetic			
AlliGator Is Selected Channel First Channel		Identifies what type of channel is selected (<B>First channel</B> = TRUE: G2 or <B>First channel</B> = FALSE: INT).  In the case of a single-channel dataset, the output is TRUE.			
AlliGator Select FLI Channel Type		Used when loading a new dataset. If the selected channel name is compatible, use it, if not either open a dialog (dual-channel dataset) or use the default (single-channel dataset).			

Scope: ⚡ → Protected | ⚡ → Community

Reentrancy: 🗃 → Preallocated reentrancy | 🗃 → Shared reentrancy

Inlining: → Inlined

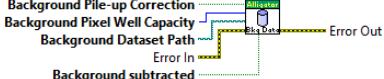
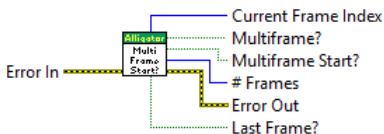
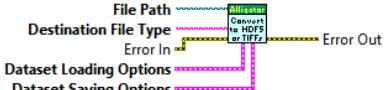
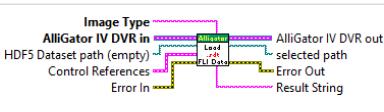
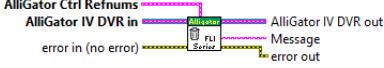
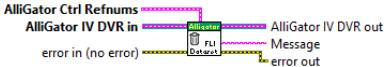
## 2.13. AlliGator Files.lvlib

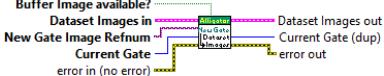
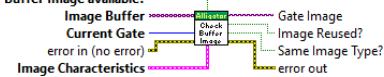
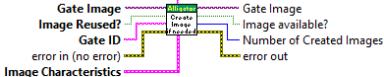
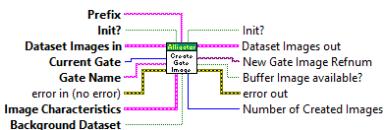
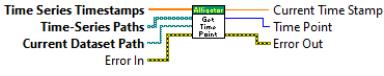
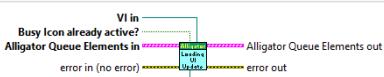
**Responsibility:** Handles all types of dataset files used by AlliGator.

**Version:** 1.0.0.0

*Table 13. Functions (non private scope only)*

Name	Connector pane	Description	S.	R.	I.
AlliGator Build Background Dataset Information String		Builds background dataset information string.			
AlliGator Check Background Dataset Compatibility		Compares settings of FLI dataset and background dataset to check for their compatibility.			
AlliGator Get Background File Data v2		Get single- or dual-channel background image structures.			
AlliGator Get Background File or Folder		If Background File subtraction is selected, returns the background file path.  If not, or no background file path is available, returns an empty path.			
AlliGator Get Load Dataset Action		Builds file/folder loading action.			
AlliGator Get-Set Background Dataset Options		Compares file parameters and loading options to previously stored one (if this is a background file). If no change, return FALSE to skip data loading, since we already have this data in memory.			
AlliGator Subtract Background Image(s) v4		Computes background-subtracted single- or dual-channel dataset image structures.			

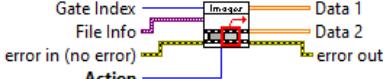
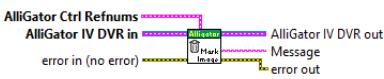
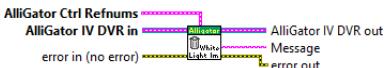
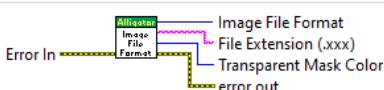
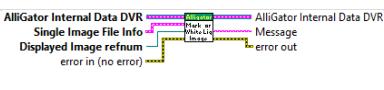
Name	Connector pane	Description	S.	R.	I.
AlliGator Update Background File Subtraction Information		Updates background file subtraction information.			
AlliGator Batch Dataset Export Window		GUI for batch .ptu datasets export to HDF5 files or folders of TIFF images.			
AlliGator Batch Export Status		Stores remaining batch export tasks list.			
AlliGator Export Dataset Script Core		Builds set of actions needed to export a single dataset.			
AlliGator Get-Set TIFF Series Options		Storage of options for dataset export to TIFF series.			
AlliGator Multiframe Loading Start		Sets parameters of multiframe loading script.			
AlliGator Script_Convert FLI Dataset to HDF5 or TIFF Series		Builds set of actions needed to export a single dataset as either a single frame or a multiframe series.			
AlliGator Load Becker-Hickl .sdt FLI Dataset		B & H dataset file loading.			
AlliGator Close FLI Dataset Series		Disposes images and empties data structures corresponding to the loaded dataset series.			
AlliGator Close FLI Dataset		Disposes images and empties data structures corresponding to the loaded dataset.			

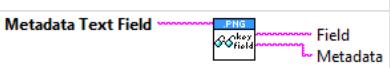
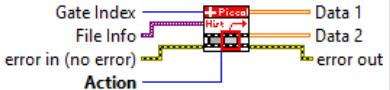
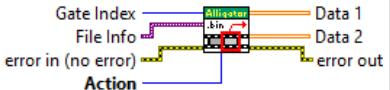
Name	Connector pane	Description	S.	R.	I.
AlliGatore Dispose Dataset Images		Disposes images corresponding to the loaded dataset.			
AlliGator Add New Gate to Array, Sum , Min & Max Image	[AlliGator Files.lvlib:AlliGator New Gate to Array]	Adds the new <b>Gate Image</b> to the gate image array and use it to build the Min, Max and Sum images.			
AlliGator Add New Gate to Dataset Images		Adds new gate image to dataset image structure.			
AlliGator Check .bin File Type		Determines what type of binned dataset image this is (PicoQuant or EPFL Piccolo).			
AlliGator Check Available Buffer Image		Checks whether the buffer already contains an image structure for the new loaded gate image.  If yes, returns it. If not, creates a new image structure.			
AlliGator Create Gate Image if needed		Creates an image structure if needed.			
AlliGator Create Gate Image v2		Creates image structure(s) for the new loaded gate, if needed.			
AlliGator Create Max & Sum Images	[AlliGator Files.lvlib:AlliGator Create Max & Sum Images.vi]	Creates image structures for Sum, Min and Max images			
AlliGator Current Time Point		Returns the current dataset's timestamp, either from the stored array of timestamp or if it is empty, from the "Current Frame Timestamp" internal variable.			
AlliGator File Loading UI Update		UI update action(s) performed after loading a dataset.			
AlliGator Find FLI Dataset Paths		Analyze what type of files or folders the path contains.			

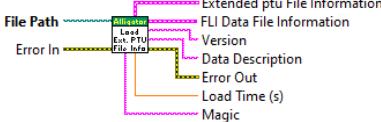
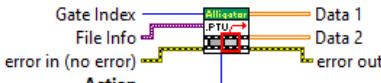
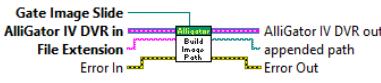
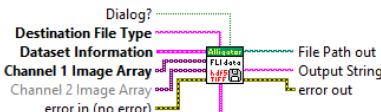
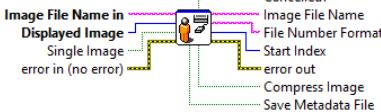
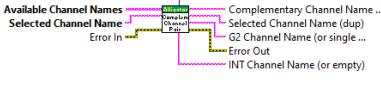
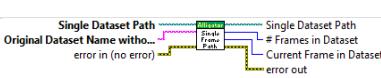
Name	Connector pane	Description	S.	R.	I.
AlliGator FLI Dataset Loading Core		Core VI handling loading the multiple gate images of a dataset as well as associated information and metadata. It dynamically calls a dataset-specific set of VIs to perform the actual loading.			
AlliGator Get Destination Folder		Returns the folder in which the current dataset is saved.			
AlliGator Get Gate Indices to Load		Gets the gate indices to load.			
AlliGator Get Gated Dataset Loading Options		Gets dataset loading options (structure + string) from stored settings.			
AlliGator Get Image & FLI Dataset Paths	[AlliGator Files.lvlib:AlliGator Get Image & FLI Dataset Paths.vi]	Gets FLI dataset paths (or image paths if the files are of that type).			
AlliGator Get Image Binning String		Get image binning options string.			
AlliGator Image Pre-processing		Applies selected preprocessing steps to a gate image.			
AlliGator Last Gate Loading		Last gate image loading actions and house-keeping.			
AlliGator Load Dataset or Series		Detects type of file loaded and generates the series of actions needed to load it.			
AlliGator Load First Dataset in FLI Dataset Series		Loads first dataset in a FLI dataset series.			
AlliGator Load FLI Dataset		Loads dataset of any kind, linking preparatory steps to the core VI.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Post Loading Action List		Generates series of actions to perform after a dataset is loaded (none if this is a single image file).			
AlliGator Script_Open Single FLI Dataset		Generates a series of actions to execute when loading a dataset.  <B>Series index</B> is U32 as we want to read the first array element in case of a Single Dataset (index = -1 passed as parameter)			
AlliGator Select Folder		Generates series of actions needed to load a series of dataset or an image folder (with optional dialog is the folder path is empty).			
AlliGator skippable_Delete Existing ROIs Dialog Window		Asks the user whether the existing ROIs should be kept or deleted before loading the new ones.  This dialog is skippable by clicking on a checkbox, but can be re-activated by going to Settings?Miscellaneous.			
AlliGator Supported FLI Dataset Files		Returns a string of supported image file name patterns that can be used in a File Dialog (*.hdf5; *.ptu; etc. and their uppercase variants) and an array of the same extensions (without the "*" or "." characters).			
AlliGator Update Data File		If <B>New File Path in</B> is empty, returns <B>Single Data Point Path</B> instead. <B>Update Data File?</B> is always TRUE.			
AlliGator Update Fit Options Laser Period		If Use Data Information Laser Period is TRUE, updates the Laser Period in Fit Options (Settings).			
AlliGator Update Loaded Dataset Info		Updates Settings and Internal Variables after loading a new dataset.			

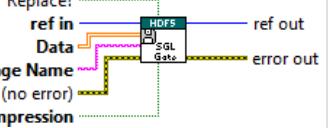
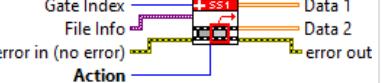
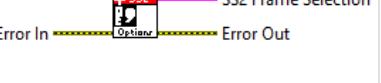
Name	Connector pane	Description	S.	R.	I.
AlliGator Get I-m-phi Dataset Phasor Harmonic Components		Converts FLIMBox data structure to one used internally in AlliGator.			
AlliGator Harmonic Orders String		Creates harmonic order string .			
AlliGator Load FLIMbox Data v0.3		Loads FLIMBox dataset.			
AlliGator Load I-m-phi Dataset		Loads a FLI dataset comprised of an intensity and phase image (FLIMBox).			
AlliGator Create Series Subfolders		Sorts image files into folders of images (to handle early flat data structure generated by Pi Imaging SPAD512S device).			
AlliGator Get FLI Image Folder Metadata		Tries different ways to extract FLI dataset metadata corresponding to different vendor formats.			
AlliGator Get Gate Image Series Folders		Reads valid folders of image in a time series.			
AlliGator Get LaVision .set File Path		Tries to extract FLI dataset metadata corresponding to one of LaVision formats.			
AlliGator Get Time Series Time Stamps & Settings from RecSettings Files	[AlliGator Files.lvlib:AlliGator Get Time Series Time Stamps & Settings from RecSettings Files.vi]	Extract time stamps of individual point in a series of LaVision FLI datasets.			
AlliGator Get Time Stamps & Settings from .set File	[AlliGator Files.lvlib:AlliGator Get Time Stamps & Settings from .set File.vi]	Tries to extract FLI dataset metadata corresponding to one of LaVision formats.			

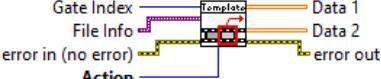
Name	Connector pane	Description	S.	R.	I.
AlliGator Load FLI Folder of Images Dataset Prelude		Gets various information about a folder of gate images.			
AlliGator Load FLI Image Folder File Information		Creates FLI Dataset information structure & string needed to load the dataset.			
AlliGator Load Single Gate Image from Image Folder		Dynamically called VI to load a single gate image in a folder of gate images.			
AlliGator Read metadata.txt File		Tries to extract FLI dataset metadata from a _metadata.txt file generated by AlliGator.			
AlliGator Read RecSettings.txt File		Tries to extract FLI dataset metadata corresponding to one of LaVision formats.			
AlliGator Read set File		Tries to extract FLI dataset metadata corresponding to one of LaVision formats.			
AlliGator Clear Intensity Corrections		Clears intensity correction array (used for series with adaptive illumination).			
AlliGator Close Mask Image		Clears Mask Image structure.			
AlliGator Close White Light Image		Clears White Light Image structure.			
AlliGator Get Image File Format		Obtains image file format to save the image.			
AlliGator Load Single Image		Loads White Light Image.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Open Single Image		Opens a single Mask or White Light image.			
AlliGator Save Mask Image		Save Mask Image to file.			
AlliGator Decode PI Imaging Metadata Field		Extract metadata from a Pi Imaging gate image field.			
AlliGator Decode PI Imaging Metadata		Decodes metadata from a Pi Imaging Gate Image.			
AlliGator Read PI Imaging File Metadata		Extracts & decodes all metadata from a Pi Imaging gate image file.			
AlliGator Convert to Piccolo .bin Information		Complements Piccolo dataset information with derived and pre-stored quantities.			
AlliGator Load Piccolo hist .bin Data		Loads Piccolo binned data.			
AlliGator Load Piccolo hist .bin FLI Dataset Prelude		Preliminary loading steps for Piccolo .bin files.			
AlliGator Load Single Gate Image from Piccolo hist .bin File		Single gate image loading step for Piccolo .bin files.			
AlliGator Load Single Gate Image from .bin File		Single gate image loading step for PicoQuant .bin files.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Get Frame Number in .ptu File		Hack to figure out the number of "frames" in a .ptu file generated by the Leica FLIM confocal microscope (basically reading the entire file).			
AlliGator Load Extended PTU File Information		Extracts metadata used to load FLI dataset from .ptu file.			
AlliGator Load Single Gate Image from PTU File		Loads single gate image from a .ptu file.			
AlliGator Build Saved Image Path		Builds path for a saved image.			
AlliGator Convert Gate Image for Export		Converts a Gate Image (Float) to a U8 or U16 image based on user-selected options.			
AlliGator Export Dataset to TIFF or HDF5		Saves gate images and dataset information to either a HDF5 file or an image series.  <B>Destination File Type</B>: 'TIFF Series' (Default) or 'HDF5'  Note: TIFF Series does not support dual-gate datasets.			
AlliGator Gate Image File Name Format Dialog		Dialog to specify naming convention for gate image files (or other image files).			
AlliGator Get Complementary Channel Names		Obtains information on channel names from the <B>Selected Channel Name</B>.			
AlliGator Get Single Saved Dataset Path		Builds path for saved HFD5 FLI Dataset file.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Ordered Available Channel Names		Reorders channel names to put that corresponding to G2 first.			
AlliGator Save FLI Dataset Gates to HDF5 (VDM)		Saves gate images (single- or dual-channel) to HDF5 file.			
AlliGator Save FLI Dataset Metadata to HDF5		Saves the FLI Dataset metadata in the AlliGator HDF5 file format.			
AlliGator Save FLI Dataset Metadata		No description found (add content in vi description)			
AlliGator Save FLI Dataset to HDF5 File v3 (VDM)		Save gate images (single- or dual-channel) and dataset information to HDF5 file.			
AlliGator Save FLI Dataset		Saves current FLI dataset to HDF5 or TIFF image series.			
AlliGator Save Gate Image Series		Saves image series (gate images of a FLI Dataset) to a series of TIFF files.  Because the gate images are floating point data (SGL = float32), a conversion to 8 or 16 bit images is applied, according to user-set options in the Settings window.			
AlliGator Save Hot Pixel Mask Image		Saves image as 8-bit binary Mask Image.			
AlliGator Save Image Data to File		Saves <B>Original Image</B> to an image file using user-selected options.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Save SGL Gate Image to HDF5		Saves single gate image data array to HDF5 FLI Dataset file.			
AlliGator Load Single Gate Image from SS1 Dataset		Loads single gate image from SS1 dataset.			
AlliGator Load SS1 FLI Dataset Information		Loads data information from SS1 dataset.			
AlliGator Load SS1 FLI Dataset Prelude		Preliminary steps (optional dialog) in loading a SS1 dataset.			
skippable_AlliGator SS1 Dataset Laser Frequency Dialog		Dialog to ask the user for the laser frequency used to record the dataset. This is different from the detector trigger frequency, which is always close to 20 MHz.			
AlliGator Load Single Gate Image from SS2 Dataset		Loads single gate image from SS2 HDF5 dataset.			
AlliGator Load SS2 FLI Dataset Information		Loads SS2 dataset information.			
AlliGator Load SS2 FLI Dataset Prelude		Preliminary steps to loading a SS2 dataset.			
skippable_AlliGator SS2 Dataset Load Option Dialog		Skippable dialog to determine which 8-bit frame to load out of the 4 constituting a 10-bit dataset.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Load Single Gate Image		VI template to use for any new type of FLI dataset file.  The resulting VI will be dynamically called in the Core Loading VI.			

Scope:  → Protected |  → Community

Reentrancy:  → Preallocated reentrancy |  → Shared reentrancy

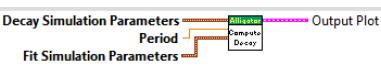
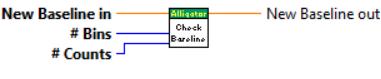
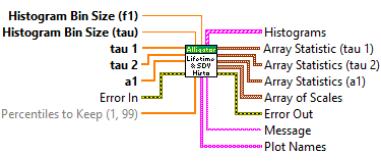
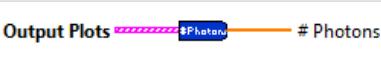
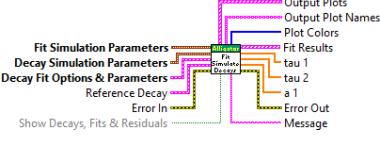
Inlining:  → Inlined

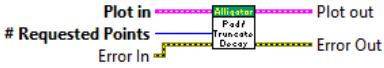
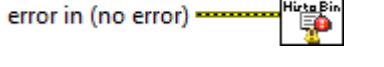
## 2.14. AlliGator Fit Method Benchmark.lvlib

**Responsibility:** VIs for the Fit Method Benchmark Tool.

**Version:** 1.0.0.0

Table 14. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
AlliGator 2-Exp Decay Model		Computes a 2-#xp decay with the provided parameters.			
AlliGator Baseline Simulation Check		Computes an optimized baseline.			
AlliGator Compute Lifetime Simulation Histograms		Computes fitted parameter histograms and statistics.			
AlliGator Decay Sum		Computes the number of simulated photons in each decay (the other two plots are the fit and the residuals).			
AlliGator Fit Linear Combinations of Exponentials		Simulate a 1-Exp or 2-Exp decay and fits it with the selected model.			
AlliGator Fit Method Benchmark		Fit Method Benchmark GUI.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Get tau1, tau2 & a1	[AlliGator Fit Method Benchmark.lvlib:AlliGator Get tau1]	Outputs tau1, tau2 and a1.			
AlliGator Load Experimental IRF		Load experimental IRF from ASCII file.			
AlliGator Pad or Truncate Decay		Adds or removes decay points for it to match the laser period.			
AlliGator Pseudo Dirac IRF		Computes a decay with a single non-zero bin.			
AlliGator Rescale 2-Exp Fraction		Normalizes decay amplitudes for random timestamp generation.			
AlliGator Save Simulation Outputs to ASCII		Saves simulation results.			
AlliGator Too Many Histogram Bins Message		Too many bins error dialog.			

Scope:  → Protected |  → Community

Reentrancy:  → Preallocated reentrancy |  → Shared reentrancy

Inlining:  → Inlined

## 2.15. AlliGator Globals, Variables & Constants.lvlib

**Responsibility:** Globals, refnums, constants, etc.

**Version:** 1.0.0.0

Table 15. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
AlliGator Clear Variables	[AlliGator Globals]	Reset all internal variables to their default.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Decay Graph Max Legend Size	[AlliGator Globals]	Returns the Decay Graph Max Legend Size internal variable.			
AlliGator Decay Statistics Graph Max Legend Size	[AlliGator Globals]	Returns the Decay Statistics Graph Max Legend Size internal variable.			
AlliGator Exported Internal Variable Names	[AlliGator Globals]	Array of internal variable names exposed to Python plugin users. These names are internally preceded by "X_" in the enum item list.			
AlliGator Graph Max Legend Size	[AlliGator Globals]	Returns the stored max legend size of the graph whose refnum is provided.			
AlliGator Intensity Time Trace Max Legend Size	[AlliGator Globals]	Returns the Intensity Time Trace Graph Max Legend Size internal variable.			
AlliGator Lifetime Graph Max Legend Size	[AlliGator Globals]	Returns the Lifetime Graph Max Legend Size internal variable.			
AlliGator Phasor Graph Max Legend Size	[AlliGator Globals]	Returns the Phasor Graph Max Legend Size internal variable.			
AlliGator Phasor Ratio Graph Max Legend Size	[AlliGator Globals]	Returns the Phasor Ratio Graph Max Legend Size internal variable.			
AlliGator Refnums Storage	[AlliGator Globals]	LV2-type global storing refnums to VIs, Tabs and Indicators.			
Alligator Variables Storage	[AlliGator Globals]	LV2-type global storage of internal AlliGator data and parameters.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Visible Tab Label	[AlliGator Globals]	Returns the label of visible tab on AlliGator's main window.			

Scope: → Protected | → Community

Reentrancy: → Preallocated reentrancy | → Shared reentrancy

Inlining: → Inlined

## 2.16. AlliGator Graphs.lvlib

**Responsibility:** Graph utilities.

**Version:** 1.0.0.0

*Table 16. Functions (non private scope only)*

Name	Connector pane	Description	S.	R.	I.
AlliGator Compute SEPL Plot		Computes <B>SEPL</B> Plot as well as <B>Ticks Label Data</B>.			
AlliGator Special Graph Menu Actions		Additional graph menu items developed for AlliGator.			

Scope: → Protected | → Community

Reentrancy: → Preallocated reentrancy | → Shared reentrancy

Inlining: → Inlined

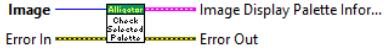
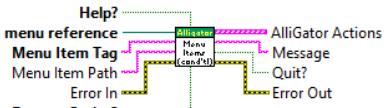
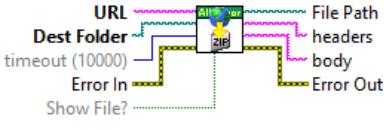
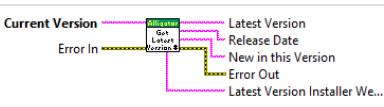
## 2.17. AlliGator GUI.lvlib

**Responsibility:** User Interface-related VIs.

**Version:** 1.0.0.0

*Table 17. Functions (non private scope only)*

Name	Connector pane	Description	S.	R.	I.
AlliGator Launcher		Runs transparently. Launches AlliGator in transparent mode until initialization is complete.			
About Alligator		Modal "About" window for AlliGator.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Check Selected Palette		Gets the color palette information (Name, Type, Color Array and Interpolation) for one of the 3 images (Source Image, Phasor Plot or Decay Fit Parameter Map).			
AlliGator Check Version		Compares the current AlliGator version to the latest released one on Github. If a newer version is available, offers to download and install it.			
AlliGator Check whether Source Image needs update		Checks whether some user-selected settings requires reloading the dataset. If so, turns on the corresponding status LED on the main window.			
AlliGator Conditional Menu Items		Handles AlliGator menu items that are only responsive when AlliGator is idle.			
AlliGator Download Installer		Downloads AlliGator installer from the provided URL.			
AlliGator Event Started on-at String	AlliGator Q Event → Event Started String	Creates a string containing the event description and the date/time of its start.			
AlliGator Get All Ancillary Window Paths		Returns the paths of all AlliGator windows (except those not close when quitting). This is used when quitting AlliGator.			
AlliGator Get Ancillary Window Path		Returns the path of the selected AlliGator window.			
AlliGator Get Latest Version Number (Github)		Fetches the last released version number from the ReadTheDocs website and compares it to the current version.  If the installed version is older, offers to download and install the newest version.			
AlliGator Get XY Graph Refnum		Returns a reference to one of the Graph objects in AlliGator based on the provided <B>XY Graph Name</B>..			
AlliGator Get-Set Control References		Storage of AlliGator controls and indicators refnums.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Get-Set Skippable Dialog		Stores state of dialog windows with a "Skip this dialog in the future" checkbox.			
AlliGator Get-Set State Indicators		Gets-sets the requested status LED.			
AlliGator Grayed out Menu Items		Grays out menu items that are not yet supported.			
AlliGator GUI Initialization		Launches sequence of initialization steps			
Alligator Initialization		Initializes controls and internal variables.			
AlliGator Install New Version		Installs the latest AlliGator version listed on the ReadTheDocs website.			
AlliGator Local Decay Plots Status		Boolean flag used to avoid constant update of the <B>Local Decay Graph</B> (when the corresponding window is opened).			
AlliGator Menu Items		Handles AlliGator menu items that are always responsive, including when AlliGator is busy.			
AlliGator Parse Version History reStructured Text File Content		Gets the version history page from the ReadTheDocs manual page and extracts the "New in this version" text for the last version.			
AlliGator Quit Dialog		Handles AlliGator quit menu command by checking whether the Notebook is closed and modified and has not been saved.			
AlliGator Register Control Events		Registers user events for controls on the main AlliGator window.			
AlliGator Set File Update LED		Sets the status of the "Dataset update needed" LED.			
AlliGator Set Phasor Plot Update LED		Sets the status of the "Phasor Plot update needed" LED.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Set Playback & Loop Menu Checkmarks	[AlliGator GUI.lvlib:AlliGator Set Playback & Loop Menu Checkmarks.vi]	Sets the checkmark(s) for the "Playback" and "Loop" menu items in the <B>Analysis:FLI Dataset Series</B> submenu.			
AlliGator Set Used Calibration Menu Checkmarks		Sets the checkmark(s) in the Calibration menu.			
AlliGator Source Image Display Mouse Move Flag		Stores the Source Image mouse move state.			
AlliGator Update Gate Image Slide		Checks and updates the gate image slide control depending on the selected displayed image type and dataset characteristics.			
AlliGator Update Menu		Updates AlliGator menu upon activation, in order to set checkmarks and include dynamic menu items such as Python plugins.			
AlliGator Update Dataset Series Slide		Updates the Series Slide and associated indicators.			
AlliGator Windows List		Returns an array of enum containing the list of AlliGator windows			
AlliGator		AlliGator main window. Spawns by AlliGator Launcher.vi. Spawns AlliGator Action Loop.vi, which handles UI requests from AlliGator.vi			

Scope: → Protected | → Community

Reentrancy: → Preallocated reentrancy | → Shared reentrancy

Inlining: → Inlined

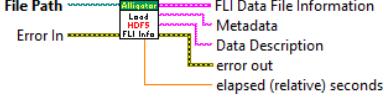
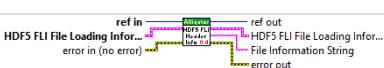
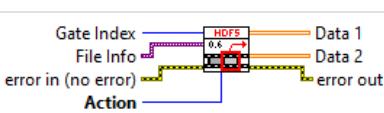
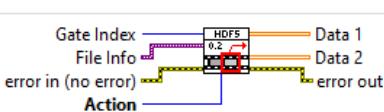
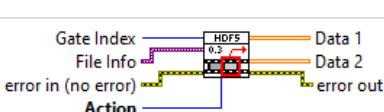
## 2.18. AlliGator HDF5.lvlib

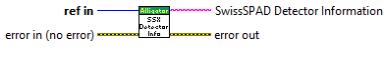
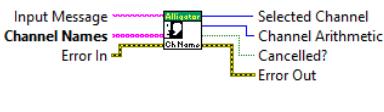
**Responsibility:** VIs handling HDF5 dataset files.

**Version:** 1.0.0.0

Table 18. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
AlliGator Check Gate Number in HDF5 File v2		<p>Checks that the gate images stored in the HDF5 file correspond to the description provided by the &lt;B&gt;FLI Parameters&lt;/B&gt;.</p> <p>If so updates &lt;B&gt;# Gates&lt;/B&gt; in that structure and sets the corresponding output flags.</p>			
AlliGator Check Gate Number in HDF5 File v3		<p>Checks that the gate images stored in the HDF5 file correspond to the description provided by the &lt;B&gt;FLI Parameters&lt;/B&gt;.</p> <p>If so updates &lt;B&gt;# Gates&lt;/B&gt; in that structure and sets the corresponding output flags.</p>			
AlliGator Check HDF5 File Type		Tries reading the HDF5 file's information for the 3 different supported dataset type, until success, and returns the identified dataset type.			
AlliGator Check HDF5 Image Size v2		Determines the gate image dimension (X, Y) from the provided file information.			
AlliGator Check HDF5 Image Size		Determines the gate image dimension (X, Y) from the provided file information.			
AlliGator Convert FLI Dataset Info to String		Builds HDF5 Dataset Information string			
AlliGator Get DAQ & Metadata	[AlliGator HDF5.lvlib:AlliGator DAQ & Metadata.vi]	Gets <B>DAQ Parameters</B> and <B>Metadata</B> string from internal data storage.			
AlliGator Get Pile-up Correction Parameter		Reads from the metadata whether or not pile-up correction was already applied, and if so, does not repeat it.			
AlliGator Is SS2 Dataset HDF5 File		Checks whether a HDF5 file is a SS2 dataset file (early version).			

Name	Connector pane	Description	S.	R.	I.
AlliGator Load HDF5 FLI Dataset Information		Loads HDF5 FLI dataset information.			
AlliGator Load HDF5 FLI Dataset Prelude		Initial steps of loading a HDF5 FLI dataset file.			
AlliGator Load HDF5 FLI Dataset		Loads a HDF5 FLI dataset file.			
AlliGator Load HDF5 FLI Header File Information v0.3		Loads HDF5 FLI dataset file information (v0.3).			
AlliGator Load HDF5 FLI Header File Information v0.4		Loads HDF5 FLI dataset file information (v0.4).			
AlliGator Load HDF5 FLI Header File Information v0.6		Loads HDF5 FLI dataset file information (v0.6).			
AlliGator Load Single Gate Image from HDF5 v 0.6b		Loads single gate image (or dual-channel images) from HDF5 FLI dataset file (v0.6b).			
AlliGator Load Single HDF5 Gate Image v 0.2b		Loads single gate image from HDF5 FLI dataset file (v0.2).			
AlliGator Load Single HDF5 Gate Image v 0.3b		Loads single gate image (or dual-channel images) from HDF5 FLI dataset file (v0.3b).			

Name	Connector pane	Description	S.	R.	I.
AlliGator Read HDF5 FLI Dataset Series Timestamps		Loads HDF5 FLI dataset gate images timestamps			
AlliGator Read HDF5 FLI Image Information		Reads HDF5 FLI dataset image information.			
AlliGator Read HDF5 SSx Detector information		Reads HDF5 FLI dataset SSx detector information.			
AlliGator Select FLI Dataset Channel Name		Dialog window to select which SS3 channel to display.			
AlliGator Single SS3 Gate Slip Correction		Removes one of two sets of columns of a SS3 dataset to account for common FPGA data transfer issues.			
AlliGator SS3 Gates Slip Correction		Performs the column truncation for SS3 datasets needed to fix a common FPGA data transfer issue.			

Scope: → Protected | → Community

Reentrancy: → Preallocated reentrancy | → Shared reentrancy

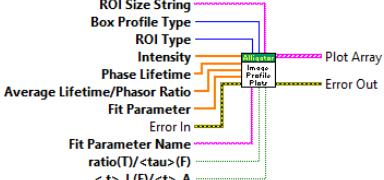
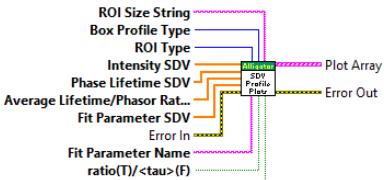
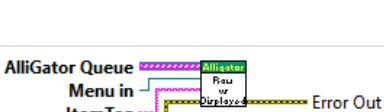
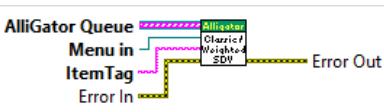
Inlining: → Inlined

## 2.19. AlliGator Image Profile Window.lvlib

**Responsibility:** VIs used with the Image Profile Window.

**Version:** 1.0.0.0

*Table 19. Functions (non private scope only)*

Name	Connector pane	Description	S.	R.	I.
AlliGator Build Image Profile Plots		Builds the array of displayed profiles according to the user-selected options and ROI type.			
AlliGator Build Image SDV Profile Plots		Builds the array of displayed SDV profiles according to the user-selected options and ROI type.			
AlliGator Get Phase Lifetime & Phasor Ratio at Pixel	[AlliGator Image Profile Window.lvlib:AlliGator Get Phase Lifetime & Phasor Ratio at Pixel.vi]	Computes Phase Lifetime and Phasor Ratio.			
AlliGator Get Profile Plot Name		Builds plot suffix depending on user-selected options.			
AlliGator Image Profile Menu Check Marks		Handles checked items in Profile Window menu.			
AlliGator Image Profile Plot Name to Y Scale Index		Selects vertical axis depending on plot type.			
AlliGator Image Profile Set Average Intensity Type		Updates type of intensity displayed in the Profile Window and corresponding menu item checkmark.			
AlliGator Image Profile Set Displayed vs Raw Data		Sets type of data displayed in the Profile Window and updates corresponding menu item checkmarks.			
AlliGator Image Profile Set Intensity-weighted vs Classic SDV		Sets type of SDV displayed in the Profile Window and updates corresponding menu item checkmarks			

Name	Connector pane	Description	S.	R.	I.
AlliGator Image Profile Update Graph		Updates Profile Window plots.			
AlliGator Init Image Profile Window Menu		Initialize Profile Window menu.			
AlliGator Send Plots to Image Profile Window		Computes plots and send them to the Profile Window.			
AlliGator Source Image Profile Window		AlliGator Profile Window.			

Scope: → Protected | → Community

Reentrancy: → Preallocated reentrancy | → Shared reentrancy

Inlining: → Inlined

## 2.20. AlliGator Intensity Corrections.lvlib

**Responsibility:** VIs handling intensity correction to the Sum of All Gates image.

**Version:** 1.0.0.0

Table 20. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
AlliGator Define & Save Intensity Corrections File	[AlliGator Intensity Corrections.lvlib:AlliGator Define & Save Intensity Corrections File.vi]	UI to enter intensity correction specifications.			
AlliGator Get Dataset Series Timestamp & Intensity Correction	[AlliGator Intensity Corrections.lvlib:AlliGator Get Dataset Series Timestamp & Intensity Correction.vi]	Get dataset timestamp and intensity corrections (if available and requested) or use defaults instead.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Load Intensity Corrections		Loads saved dataset series intensity corrections.			
AlliGator MCP Voltage to Gain		Heuristic fit of the relationship between effective ICCD gain G and MCP voltage V_MCP.  The function used is a stretched exponential with vertical and horizontal offsets.  Parameters need to be fitted independently with a G(V_MCP) series.			

Scope: → Protected | → Community

Reentrancy: → Preallocated reentrancy | → Shared reentrancy

Inlining: → Inlined

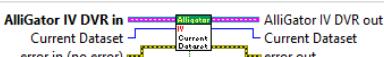
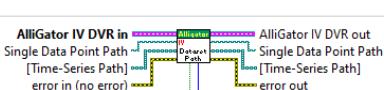
## 2.21. AlliGator Internal Variables.lvlib

**Responsibility:** VIs to access individual (or group of) internal data or variables using a data by value reference (DVR).

**Version:** 1.0.0.0

Table 21. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
AlliGator IV [Raw Phasor Plot]		No description found (add content in vi description)			
AlliGator IV Average Lifetime Map		No description found (add content in vi description)			
AlliGator IV Calibration Phasor Map		No description found (add content in vi description)			
AlliGator IV Calibration Phasor Series		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
AlliGator IV Calibration Phasor		No description found (add content in vi description)			
AlliGator IV Clear Phasor Data		No description found (add content in vi description)			
AlliGator IV Current Dataset		No description found (add content in vi description)			
AlliGator IV Current Folder		No description found (add content in vi description)			
AlliGator IV Dataset Path		No description found (add content in vi description)			
AlliGator IV Dataset Series Folder & Type	[AlliGator Internal Variables.lvlib:AlliGator IV Dataset Series Folder & Type.vi]	No description found (add content in vi description)			
AlliGator IV Decay Shift Plot		No description found (add content in vi description)			
AlliGator IV Decays Max & Min	[AlliGator Internal Variables.lvlib:AlliGator IV Decays Max & Min.vi]	No description found (add content in vi description)			
AlliGator IV Gate Image Slide		No description found (add content in vi description)			
AlliGator IV Intensity Corrections		No description found (add content in vi description)			
AlliGator IV Last Calibrated Phasor SDV		No description found (add content in vi description)			
AlliGator IV Last Calibrated Phasor		No description found (add content in vi description)			
AlliGator IV Mask Image		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
AlliGator IV Phasor Map		No description found (add content in vi description)			
AlliGator IV Phasor Plot		No description found (add content in vi description)			
AlliGator IV Phasor Plots Locked to Reference n		No description found (add content in vi description)			
AlliGator IV Phasor Ratio Map		No description found (add content in vi description)			
AlliGator IV Reference Decay		No description found (add content in vi description)			
AlliGator IV ROI Decay		No description found (add content in vi description)			
AlliGator IV ROI Mask		No description found (add content in vi description)			
AlliGator IV Selected Gate Images		No description found (add content in vi description)			
AlliGator IV Selected Max or Sum Image		No description found (add content in vi description)			
AlliGator IV Single Fit Parameters		No description found (add content in vi description)			
AlliGator IV Start Time		No description found (add content in vi description)			
AlliGator IV Template		No description found (add content in vi description)			
AlliGator IV Time Series Timestamps & Current Dataset	[AlliGator Internal Variables.lvlib:AlliGator IV Time Series Timestamps & Current Dataset.vi]	No description found (add content in vi description)			
AlliGator IV Type of Displayed Image		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
AlliGator IV Valid Decay		No description found (add content in vi description)			
AlliGator IV White Light Image		No description found (add content in vi description)			
AlliGator Update IV Calibration Phasor		No description found (add content in vi description)			

Scope:  → Protected |  → Community

Reentrancy:  → Preallocated reentrancy |  → Shared reentrancy

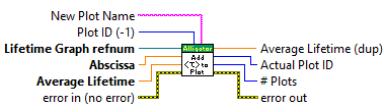
Inlining:  → Inlined

## 2.22. AlliGator Lifetime.lvlib

<strong>Responsibility:</strong> VIs handling lifetime plots (Lifetime & Other Parameters Graph).

Version: 1.0.0.0

Table 22. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
AlliGator Add Average Lifetime to Plot		Adds a single lifetime data point to a plot.			
AlliGator Add Decay Shift to Plot		Adds timestamp and decay shift to internal variables when computing a new decay.			

Scope:  → Protected |  → Community

Reentrancy:  → Preallocated reentrancy |  → Shared reentrancy

Inlining:  → Inlined

## 2.23. AlliGator Local Decay Window.lvlib

Responsibility: VIs used with the Local Decay Window.

Version: 1.0.0.0

Table 23. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
AlliGator Add Conditional Update Local Decay Window Event		If the Local Decay Window is open and a ROI is present, adds an update event to the action queue.			
AlliGator Decay Window		Local Decay Window UI. This window displays the decay (and when available, IRF, fit and residuals) at the selected ROI.			
AlliGator Get Local Fit & Residuals	[AlliGator Local Decay Window.lvlib:AlliGator Get Local Fit & Residuals.vi]	Gets the fit and residuals for the selected ROI.			
AlliGator Send Local Decay Plots		Gets the data (decay, fit, IRF, residuals and fit parameters) at the selected ROI and sends it to the Local Decay Window for update.			
AlliGator Update Local Decay Graph		Updates the Local Decay Window graph.			

Scope:  → Protected |  → Community

Reentrancy:  → Preallocated reentrancy |  → Shared reentrancy

Inlining:  → Inlined

## 2.24. AlliGator Notebook.lvlib

**Responsibility:** VIs communicating with the Notebook.

**Version:** 1.0.0.0

Table 24. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
AlliGator Format ROI Description for Notebook		Sends a formatted (and sometimes truncated) ROI description to the Notebook.			
AlliGator New Object Name		Message informing of a name change (typically a ROI).			

Name	Connector pane	Description	S.	R.	I.
AlliGator Remove Keywords from Action String		Removes frequent internal events from list of printed events in verbose mode.			
AlliGator Send Verbose Message to Notebook		Sends verbose action message to Notebook.			

Scope: → Protected | → Community

Reentrancy: → Preallocated reentrancy | → Shared reentrancy

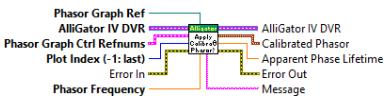
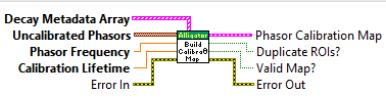
Inlining: → Inlined

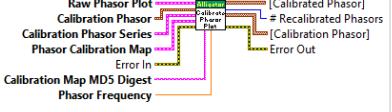
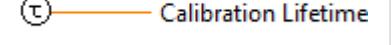
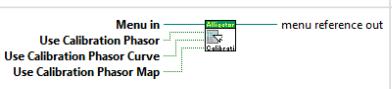
## 2.25. AlliGator Phasor Calibration.lvlib

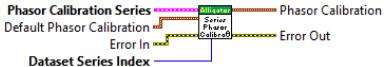
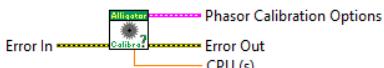
**Responsibility:** VIs handling phasor calibration.

**Version:** 1.0.0.0

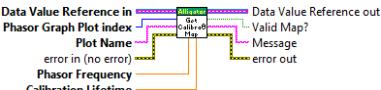
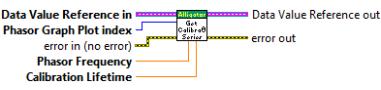
*Table 25. Functions (non private scope only)*

Name	Connector pane	Description	S.	R.	I.
AlliGator [Z] to Z Plot	[AlliGator Phasor Calibration.lvlib:AlliGator [Z] to Z Plot.vi]	Returns full plot of the series of phasors, or only one if <B>Single Point Display</B> = True.  The <B>Phasor Graph Slide</B> specifies which point to display.			
AlliGator Apply Calibration Phasor(s) v2		Calibrates single, selected or all plots. Updates the Phasor Graph and internal variables.			
AlliGator Build Phasor Calibration Map		Packages the provided <B>Uncalibrated Phasors</B> as a <B>Phasor Calibration Map</B>.			
AlliGator Build Phasor Calibration Series		Packages the provided <B>Uncalibrated Phasor Series</B> as a <B>Phasor Reference Series</B>.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Calibrate Single Phasor Plot		<p>Applies phasor calibration to a single phasor plot.</p> <p>Takes into account whether a single phasor calibration, a phasor map or a phasor calibration series is used.</p> <p>For a calibration map, takes into account the location of each individual phasor in the phasor plot.</p>			
AlliGator Calibration Frequency Dialog		<p>Dialog opened when the phasor frequency stored in a calibration file is different from the current one.</p> <p>Offers to ignore the file, or load it and replace the current phasor frequency with that stored in the file.</p>			
AlliGator Calibration Lifetime		Stored phasor calibration lifetime.			
AlliGator Calibration Phasor String		Builds calibration phasor string.			
AlliGator Check Calibration Menu Items		Checks the appropriate menu item telling what type of calibration is used (single phasor, map or series).			
AlliGator Check Deleted Locked Phasor Plot		When a plot is deleted from the Phasor Graph, updates the index of the plot linked to phasor reference 1.			
AlliGator Convert Calibration Map v1 to v2		Phasor calibration map version conversion.			
AlliGator Convert Calibration Map v2 to v1		Converts phasor calibration map from v2 to v1.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Find Closest Valid Calibration Phasor		<p>Going backwards and forwards in the calibration series, starting from the &lt;B&gt;Dataset Series Index&lt;/B&gt;, finds the first valid calibration phasor and returns it.</p> <p>If none is found (bogus series), setd the &lt;B&gt;Found&lt;/B&gt; flag to false.</p>			
AlliGator Find Optimal Phasor Calibration (no Starting Calibration)		Find optimal <B>Calibration Phasor</B> for the two existing phasor references.			
AlliGator Get Dataset Series Phasor Calibration v2		<p>Gets the phasor calibration corresponding to the &lt;B&gt;Dataset Series Index&lt;/B&gt;.</p> <p>If the calibration series doesn't have enough elements, returns the &lt;B&gt;Default Phasor Calibration&lt;/B&gt; instead.</p> <p>If the calibration series element is not valid (m or phi = NaN), searches for the nearest valid calibration in ths series and returns it. If none can be found (bogus calibration series), returns the &lt;B&gt;Dataset Series Index&lt;/B&gt;.</p>			
AlliGator Get Phasor Calibration in Calibration Map		<p>Finds the &lt;B&gt;Phasor Calibration&lt;/B&gt; corresponding to the &lt;B&gt;ROI Center&lt;/B&gt; location.</p> <p>If the location corresponds to a "dummy" ROI (typically a phasor created by manual conversion of a decay into a phasor by user interaction), the &lt;B&gt;Phasor Calibration in&lt;/B&gt; is used.</p>			
AlliGator Get Phasor Calibration Options		Returns <B>Phasor Plot Calibration Options</B> defined in <B>Settings</B>.			
AlliGator Is Full-Frame Single-Pixel Calibration		Checks whether the store Phasor Calibration Map has the same number of elements as the dataset's number of pixels. This is useful to speed the search for the correct calibration phasor.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Load Calibration Phasor Map		Loads a <B>Phasor Calibration Map</B>.			
AlliGator Load Calibration Phasor Series		Loads <B>Phasor Calibration Series</B>.			
AlliGator Load Calibration Phasor		Loads a <B>Calibration Phasor</B>.			
AlliGator Save Calibration Phasor Map		Saves the <B>Phasor Calibration Map</B>.			
AlliGator Save Calibration Phasor Series		Saves the <B>Phasor Calibration Series</B>.			
AlliGator Save Calibration Phasor		Saves the <B>Phasor Calibration</B>.			
AlliGator Select Phasor Calibration v3		Picks the appropriate Phasor Calibration, depending on the <B>ROI Center</B> and <B>Current Data Set</B> and phasor calibration options (single calibration, series or map).			
AlliGator Set Calibration Type Status LEDs		Sets phasor <B>Calibration Type</b> status LEDs.			
AlliGator Show Phasor Calibration Map ROI Centers Overlay		Displays a dot at the center of each Phasor Calibration Map locations.			

Name	Connector pane	Description	S.	R.	I.
AlliGator ucno_objective function phasor calibration		Minimization function used to search for the optimal calibration based on two references.			
AlliGator Update Phasor Calibration & References	[AlliGator Phasor Calibration.lvlib:AlliGator Update Phasor Calibration & References.vi]	Updates <b>Phasor Calibration</b> and the corresponding phasor references (as well as the line connecting them in the Phasor Graph).			
AlliGator Update Phasor Graph References		Updates Phasor Graph references.			
AlliGator Use Phasor Plot as Phasor Calibration Map		Use the selected phasor graph plot ( <b>Phasor Graph Plot index</b> ) as the new <b>Phasor Calibration Map</b> .			
AlliGator Use Phasor Plot as Phasor Calibration Series		Uses the selected <b>Phasor Graph Plot</b> as Phasor Calibration Series.			

Scope: → Protected | → Community

Reentrancy: → Preallocated reentrancy | → Shared reentrancy

Inlining: → Inlined

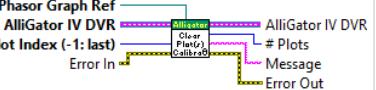
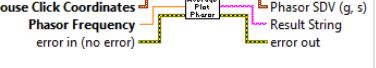
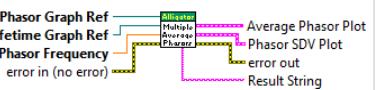
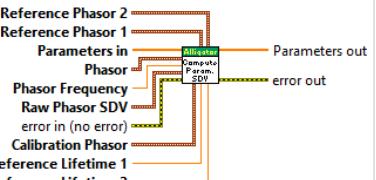
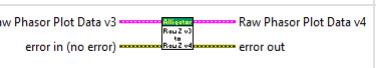
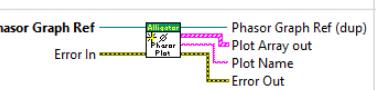
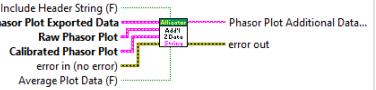
## 2.26. AlliGator Phasor Graph.lvlib

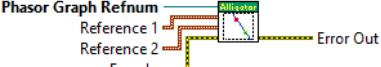
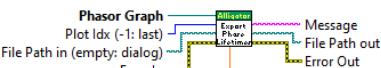
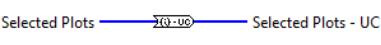
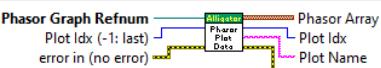
**Responsibility:** VIs handling Phasor Graph actions.

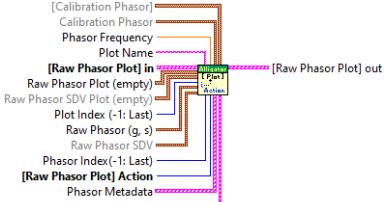
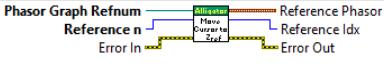
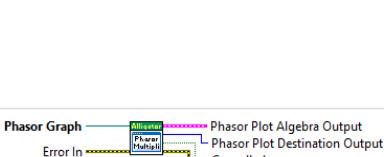
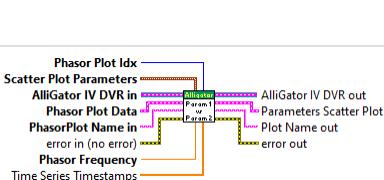
**Version:** 1.0.0.0

*Table 26. Functions (non private scope only)*

Name	Connector pane	Description	S.	R.	I.
AlliGator Add Phasor Value to Plot v2		<p>Core VI handling the creation of a phasor plot in the Phasor Graph.</p> <p>From the <b>&lt;B&gt;Decay&lt;/B&gt;</b> plot and <b>&lt;B&gt;Calibration Phasor&lt;/b&gt;</b>, computes the phasor (and if selected, the phasor standard deviation due to shot noise) and adds it to the current Phasor Plot in the Phasor Graph.</p>			
AlliGator All ROIs Phasor Analysis Script		Interactive phasor analysis of all ROIs.			
AlliGator All ROIs Phasor Analysis		Non-interactive phasor analysis of all ROIs.			
AlliGator Check Phasor Plot Destination		<p>Checks whether a Phasor Plot Destination is valid (i.e. a valid plot was provided: non empty name) as a destination.</p> <p>If not a valid destination, the new plot will be appended to the graph.</p>			
AlliGator Check Valid Scatter Plot Parameters		Checks whether the parameters selected in the "Parameter 2 vs Parameter 1" function are valid.			
AlliGator Choose Harmonic Order Dialog		Dialog to let the user enter the phasor frequency definition.			
AlliGator Clear Cursor Connecting Line		Clears the image drawing a line connecting the two references in the Phasor Graph.			
AlliGator Clear Phasor Graph Associated Indicators		Clears Phasor Graph-associated indicators.			
AlliGator Clear Phasor Ratio Reference		Removes Phasor Graph annotation representing one of the references.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Clear Plot(s) Calibration(s)		Removes calibration from single, selected or all phasor plots in the Phasor Graph.			
AlliGator Compute Average Plot Phasor		Computes average phasor of a single, selected or all phasor plots in the Phasor Graph.			
AlliGator Compute Multiple Average Phasors (Selected Plots)		Computes one average phasor (and derived quantities) per phasor plot in the Phasor Graph and plots each quantity as a series (where the abscissa is the plot index).			
AlliGator Compute Parameters SDV		Computes average and SDV of phasor-related quantities.			
AlliGator Compute Phasor Plot Parameter Array		Computes selected parameter for the phasors in a Phasor Plot of the Phasor Graph.			
AlliGator Convert Raw Phasor Plot Data v2 to v3		Convert Raw Phasor Plot Data v2 to v3.			
AlliGator Convert Raw Phasor Plot Data v3 to v4		Convert Raw Phasor Plot Data v3 to v4.			
AlliGator Create New Empty Phasor Plot		Creates empty plot in the Phasor Graph.			
AlliGator Create Phasor Plot Additional Data String		Creates a string with all the user-requested phasor plot additional data.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Current Phasor (g, s) Custom Menu Actions		Sends selected action to the main queue.			
AlliGator Draw Cursor Connecting Line		If Reference 1 or Reference 2 are provided, they are used to draw the line, otherwise the first or second cursor locations are used.			
AlliGator Enter Reference Lifetime Dialog		Reference Lifetime dialog.			
AlliGator Enter User-defined Phasor Dialog		User-entered phasor dialog.			
AlliGator Export Single Phasor Plot Phase Lifetimes		Saves phase lifetime for the selected phasor plot to an ASCII file.			
AlliGator Find Cursor Connecting Line Intersection(s) with Universal Circle		Computes intersections of a segment connecting the first two cursors of the Phasor Graph with the universal circle.			
AlliGator Get non UC Selected Plots		Removes UC index (0) from the list of selected phasor plots,			
AlliGator Get Phasor Plot Data		Returns the phasors in the selected phasor plot.			
AlliGator Get Phasor Value from Decay		Computes phasor for the last stored decay.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Get Time Stamps Array		Returns stored dataset series timestamps.			
AlliGator Load Phasor Plot(s)		Loads Phasor Plot(s) and stores the corresponding data in the internal variable structure.			
AlliGator Load Phasor Plots v3		Loads Phasor Plot(s) and associated data and metadata from a phplot file. If no file paths are provided, a dialog window is shown.			
AlliGator Manage Phasor Plots Array		Handles addition to/deletion from the internal data structure used to store phasor plots and their associated data and metadata.			
AlliGator Move Cursor n to Reference n		Moves cursor to the specified reference (if it exists).			
AlliGator New Phasor Plot		Creates a new phasor plot and adds it to the internal data structure storing phasor plots and their data and metadata.			
AlliGator Phasor Algebra Calculator		Implements user-requested calculations on phsor plots.			
AlliGator Phasor Graph Context Menu Handler		Interprets Phasor Graph right-click menu items and sends corresponding actions to the action queue.			
AlliGator Phasor Plot Multiplication Window		UI to let the user define algebraic operations to apply to Phasor Plots in the Phasor Graph.			
AlliGator Phasor Plot Parameters Scatter Plot		Computes (P1, P2) scatterplot for the selected Phasor Graph.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Remove Phasor Plot		Removes Phasor Plot from Phasor Graph.  Note that other actions need to be performed to remove the associated data and metadata.			
AlliGator Remove Selected Phasor Plots		Removes selected Phasor Plots from Phasor Graph.  Note that other actions need to be performed to remove the associated data and metadata.			
AlliGator Save Multiple Phasor Plots Additional Data		Save phasor plot additional data to an ASCII file.			
AlliGator Save Phasor Plot Additional Data		Save the user-selected Phasor Plot additional data.			
AlliGator Save Raw Phasor v2		Saves raw phasor plot data and associated data and metadata to .phplot file.			
AlliGator Select Parameter Scatter Plot Type		Dialog to select parameter 1 and parameter 2 to be computed for a Phasor Plot of the Phasor Graph.			
AlliGator Select Phasor Plot Data to Export Dialog		Dialog to select which phasor-related parameters to export as ASCII file.			
AlliGator Set Phasor Harmonic		Computes phasor frequency following the user-selected options.			
AlliGator skippable_New Phasor Plot Dialog Window		Dialog to define whether a new phasor should be added to the last phasor plot or to a new phasor plot.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Toggle Phasor Plot(s) Locking to Reference n		Locks Phasor Plot(s) to a reference.			
AlliGator Update Phasor Graph Information at Cursor		Computes phasor-related quantities and displays them in the Phasor Graph panel.			
AlliGator Update Phasor Ratio Reference		Sets Phasor References status LEDs.			
AlliGator Update Phasor References v2		Updates phasor references using the internally stored information.  Generally, this happens after the phasor harmonic has been changed.			
AlliGator Use Phasor Graph Selected Phasor Plots Principal Axis - UC Intersections as References		Defines references as the intersection of the major or minor axis of inertia of the phasor plot with the UC.			

Scope: → Protected | → Community

Reentrancy: → Preallocated reentrancy | → Shared reentrancy

Inlining: → Inlined

## 2.27. AlliGator Phasor Plot Color Map.lvlib

**Responsibility:** VIs handling the phasor plot color map tool.

**Version:** 1.0.0.0

Table 27. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
AlliGator Color Map Phasor in Original Image v3		Overlays a color-coded map on the Source Image based on the location of each pixel's phasor with respect to the user-defined <B>Color Map</B>, a polygon in the Phasor Plot, with one color associated with each vertex.			
AlliGator Compute Interpolated Color Map (Multipoints)		Computes a color map based on user-provided parameters.			
AlliGator Draw Color Map Vertices		Displays color map vertices on the Phasor Plot.			
AlliGator Get-Set Phasor Color Map Vertices		Stores color map vertices and their colors.			
AlliGator Phasor Color Map Picker		UI to define the vertices of a color map (using cursors) as well as their colors.			
AlliGator Phasor Color Map User Event Refnum		Stores the event refnum for the color map picker UI.			
AlliGator Save-Load Phasor Color Map		Saves/Loads a Phasor Plot Color Map from a XML file.			
AlliGator Set Phasor Map Color & Cursor Arrays	[AlliGator Phasor Plot Color Map.lvlib:AlliGator Set Phasor Map Color & Cursor Arrays.vi]	Updates color map based on stored vertices and colors.			
AlliGator Update Phasor Color Map Vertices Wrapper		Overlays color map on phasor plot.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Update Phasor Color Picker Color		Finds out whether the change in the cursor list is a color change only. In that case, the calling VI will update the color array accordingly.			

Scope:  → Protected |  → Community

Reentrancy:  → Preallocated reentrancy |  → Shared reentrancy

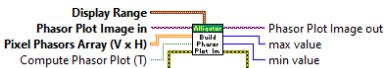
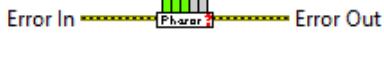
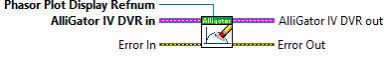
Inlining:  → Inlined

## 2.28. AlliGator Phasor Plot.lvlib

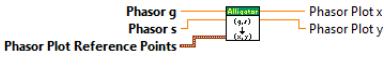
**Responsibility:** Handles Phasor Plot-related actions.

**Version:** 1.0.0.0

Table 28. Functions (non private scope only)

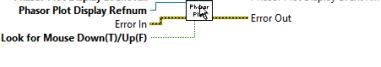
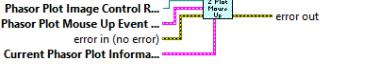
Name	Connector pane	Description	S.	R.	I.
AlliGator Adjust Phasor Plot Display Range Wrapper		Updates Phasor Plot colors according to the user-selected Display Range.			
AlliGator Build Phasor Plot Image		Builds Phasor Plot image based on phasor values and user-selected settings.			
AlliGator Check Decay Pre- Processing Steps Needed		Checks whether any decay pre-processing is needed.			
AlliGator Check whether Phasor Plot needs update		Checks whether any setting that could influence the Phasor Plot has been modified.			
AlliGator Clear Phasor Image Overlay		Clears whatever phasor plot overlay the user wants to clear.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Compute Phase Lifetime vs Intensity Scatter Plot		Computes a scatter plot of all valid pixels' Phase Lifetime vs Sum of All Gates intensity			
AlliGator Compute Phasor Plot for I-m-phi Dataset		Computes the Phasor Plot for a FLIMBox dataset.			
AlliGator Compute Phasor Plot Phase Lifetime Histogram		Computes Phase Lifetime histogram for valid pixels (uses a Dialog window to define histogram parameters).			
AlliGator Compute Phasor Plot Phasor Ratio Histogram		If two Phasor References are defined, computes an histogram of the phasor ratios of all valid pixels.			
AlliGator Compute Phasor Plot Weber 2-Component Decomposition		Computes the 2-component linear decomposition of each phasor using Weber's approach.  Returns two scatter plots (tau 2 vs tau 1 and f1 vs tau 1) sent to the Lifetime Graph.			
AlliGator Compute Pixel Phasor Array v3		Computes the phasor of all pixels using any user-selected decay pre-processing options.			
AlliGator Compute Smoothed Complex Phasor Array		Computes the (smoothed) array of single-pixel phasors.			
AlliGator Compute Valid Pixels Array		Computes a boolean array specifying whether each pixel is valid (verifies all user-defined constraints).			

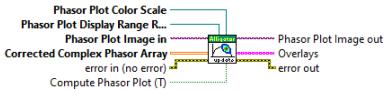
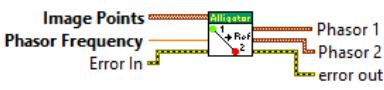
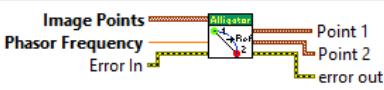
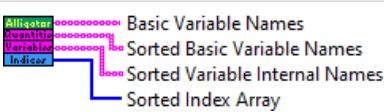
Name	Connector pane	Description	S.	R.	I.
AlliGator Computer User-defined Quantity		Computes a user-defined quantity based on the basic quantities:  f_!, f_2, a_1, a_2 tau_phi, tau_m, <tau>_i, <tau>_a, tau_1, tau_@, T_laser, T_sync, N_gates, dt (gate separation) Ch_INT (intensity of the INT channel) Ch_G2 (intensity of the INT channel)			
AlliGator Convert Image Points to Phasors		Converts Phasor Plot image coordinates to phasor values.			
AlliGator Convert Phasor Plot Point to Phasor		Converts Phasor Plot image coordinates to actual phasor value.			
AlliGator Convert Phasor to Phasor Plot Point		Converts phasor value to Phasor Plot image coordinates.			
AlliGator Convert Phasor Value to Phasor Image Coordinates (1)		Converts single phasor value to the corresponding Phasor Plot image coordinates.		 	
AlliGator Convert Phasor Value to Phasor Image Coordinates (N)		Converts array of phasor values to the corresponding array of Phasor Plot image coordinates.			
AlliGator Draw Phasor Plot SEPL v2		Draws the selected SEPL on the Phasor Plot image.			
AlliGator Draw Phasor Plot UC		Draws the UC in the Phasor Plot image.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Draw Phasor Ratio Reference Overlay Wrapper		Wrapper VI to the Draw Phasor Ratio Reference Overlay.vi.			
AlliGator Draw Phasor Ratio Reference Overlay		Updates Phasor Plot image phasor references overlay.			
AlliGator Draw Phasor Ratio References on Phasor Plot		Does the actual drawing of Phasor Ratio References (and associated segment and boundary region) on the Phasor Plot image.			
AlliGator Draw Phasor ROIs Overlay		Draws Phasor Plot image ROIs.			
AlliGator Draw SEPL Overlay v2		Draws SEPL in Phasor Plot image.			
AlliGator Draw Tick Labels		Draws UC or SEPL tick labels in the Phasor Plot image.			
AlliGator Draw UC Overlay		Draws the UC in the Phasor Plot image.			
AlliGator Filter Phasors in ROI(s)		Returns an array of phasor values located within the selected Phasor Plot ROI (or All ROIs).			
AlliGator Formula Interpreter		Replaces user quantities by definitions in the provided formula.			
AlliGator Get (Smoothed) Gate Images Sum & Stack	[AlliGator Plot.lvlib:AlliGator Get (Smoothed) Gate Images Sum & Stack.vi]	Computes the smoothed array of gate image data for subsequent phasor plot calculation.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Get Phasor at Phasor Plot Image Mouse Location		Returns phasor value at the Phasor Plot image mouse location.			
AlliGator Get Phasor at Source Image Cursor Location		Returns the phasor value corresponding to the pixel of the Source Image over which the mouse is located.			
AlliGator Get Phasor Plot Calibration Message String		Builds string specifying which phasor calibration is used.			
AlliGator Get Phasor Plot Display Options		Returns list of Phasor Plot image overlays to update.			
AlliGator Get Phasor Plot Parameters		Returns a structure with all the options needed to build the Phasor Plot image.			
AlliGator Get Phasor Plot Style		Gets information on how to draw the Phasor Plot image.			
AlliGator Get-Set Phasor Plot Reference is Updated		Stores status of Phasor Plot references changes.			
AlliGator Highlight Image ROI in Phasor Plot Wrapper		Wrapper for AlliGator Highlight Image ROI in Phasor Plot.vi			
AlliGator Highlight Image ROI in Phasor Plot		Highlights the phasors in the Phasor Plot image that correspond to pixels in the Source Image ROI.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Phasor Plot Context Menu Handler		Phasor Plot image context menu handler.			
AlliGator Phasor Plot Display Mouse Down-Up Event Monitoring		Handles event registration for mouse moves in the Phasor Plot image.			
AlliGator Phasor Plot Display Range Mouse Move Event		Sends action list following mouse Phasor Plot Display Range change.			
AlliGator Phasor Plot Display Range User Event Refnum		Stores Phasor Plot display range user event refnum.			
AlliGator Phasor Plot Image Cursor Location to Phasor v2		Converts Phasor Plot Image cursor location to Phasor value.			
AlliGator Phasor Plot Mouse Move Event		Handles mouse move events in the Phasor Plot image.			
AlliGator Phasor Plot Mouse Move Flag		Raise the flag when calling the action. Lower it when done.			
AlliGator Phasor Plot Mouse Up Event		Handles Mouse Up events in the Phasor Plot image.			
AlliGator Phasor Plot Overlay List		Stores list of Phasor Plot image overlays.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Phasor ROI to Source Image ROI		Buils a Source Image ROI comprising all pixels whose phasors are included in the Phasor Plot ROI.			
AlliGator Reset Cumulative Phasor Plot Image		Resets array of phasors when starting accunulation across several datasets.			
AlliGator Set Checkmarks in Phasor Overlay to Erase Button Menu		Checks appropriate context menu items for the "Phasor Overlay to Erase" button.			
AlliGator Set Checks in Phasor Update Button		Checks appropriate context menu items for the "Phasor Update" button.			
AlliGator Show Local Phasor Info in Phasor Plot		Displays phasor information at the mouse location in the Phasor Plot image.			
AlliGator Show-Hide Phasor Plot Menu Items		Sets the Phasor Plot image menu items.			
AlliGator Update Checkmarks in Phasor Overlay to Erase Button Menu		Builds the list of items to display with a checkmark in front of them in the contextual menu.			
AlliGator Update Phasor Image Elements to Update		Modifies the list of Phasor Plot image elements to update based on user selection.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Update Phasor Plot Image Overlay		Updates user-selected Phasor Plot image overlays.			
AlliGator Update Phasor Plot Image v2		Updates the Phasor Plot image including its overlays.			
AlliGator Update Phasor Plot Image		Updates the Phasor Plot image.			
AlliGator Update Phasor Plot Information at Mouse Location		Updates the phasor information at the mouse location in the Phasor Plot image.			
AlliGator Use Phasor Plot Segment Extremities as References		Defines the references as the extremities of the user-drawn segment in the Phasor Plot image.			
AlliGator Use Phasor Plot UC-Linear Fit Intersections as References		Defines the references as the intersections of the user-drawn segment and the UC in the Phasor Plot image.			
AlliGator Use Phasor Plot UC-Principal Axis Intersections as References		Defines the references as the intersection of the minor or major axis of the phasor plot with the UC in the Phasor Plot image.			
AlliGator Use Phasor Plot UC-Segment Intersections as References		Defines the references as the intersection of the user-drawn segment and the UC in the Phasor Plot image.			
AlliGator Variable Names		Stores basic variable names and their internal counterparts (used in formula).			

Scope: ⚡ → Protected | ⚡ → Community

Reentrancy: 🗃 → Preallocated reentrancy | 🗃 → Shared reentrancy

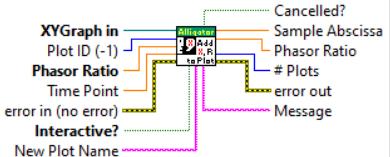
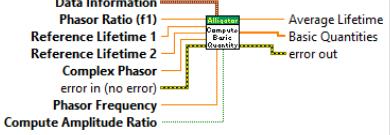
Inlining: 📁 → Inlined

## 2.29. AlliGator Phasor Ratio.lvlib

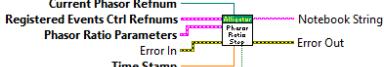
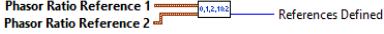
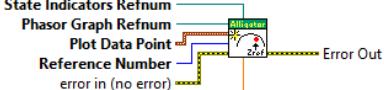
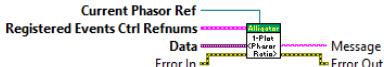
**Responsibility:** VIs handling phasor ratio analysis.

**Version:** 1.0.0.0

Table 29. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
AlliGator Add Phasor Ratio to Plot (with optional dialog)		Dialog to add individual Phasor Ratio value to a Phasor Ratio plot.			
AlliGator Add Phasor Ratio to Plot		Adds single phasor ratio to a phasor ratio plot.			
AlliGator Build Phasor Ratio Plot Name Prefix		Strips " Phasor Plot" from the source phasor plot name.			
AlliGator Build Reference Lifetime String		Builds reference lifetime string.			
AlliGator Compute Basic Quantities		Computes phasor ratio-derived quantities.			
AlliGator Compute Phasor Plot's Phasor Ratio	[AlliGator Ratio.lvlib:AlliGator Compute Phasor Plot's Phasor Ratio.vi]	Computes phasor ratio and derived quantities and outputs the corresponding plots.			
AlliGator Compute Phasor Ratio at Mouse Location		Computes phasor ratio and derived quantities at mouse location (interactively or using the last computed phasor) and updates a variety of indicators.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Define Phasor References		Reorders phasor references according to user preferences. Updates annotations in Phasor Graph.			
AlliGator Fit Phasor Ratio Plot v2		Fits phasor ratio plot to a line.			
AlliGator Get Phasor Ratio Interpolated Color v2		Computes phasor ratio equivalent color using the two references' colors.			
AlliGator Get Phasor Ratio Map Color v2		Computes phasor ratio equivalent color using the provided color scale.			
AlliGator Get Phasor Ratio Reference v2		Gets the phasor reference selected by the user.			
AlliGator Get Updated Phasor Ratio References		Updates references when the harmonic is changed.			
AlliGator Get-Set Phasor Ratio References		Stores the references and their associated data.			
AlliGator Load Phasor Ratio References		Dialog to select one or both references to load.			
AlliGator Overlays Phasor Ratio or Derived Quantity on Source Image v3		Computes and overlays the phasor ratio map (or map of a derived quantity) on the Source Image.			
AlliGator Phasor Ratio Reference String		Builds phasor reference output string.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Phasor Ratio Step		Computes phasor ratio and updates graphs.			
AlliGator Phasor References Defined		Checks whether all references parameters are defined.			
AlliGator Reorder Phasor Ratio References		Reorders phasor references as specified in Settings.			
AlliGator Save Phasor Ratio References		Saves phasor reference(s) - with Dialog.			
AlliGator Set Phasor Reference		Updates phasor reference annotation in the Phasor Graph and sets corresponding status flag to True.			
AlliGator Single Plot Average Phasor Ratio		Computes single phasor plot's average phasor ratio.			
AlliGator Update Phasor Ratio References		Builds series of actions to update phasor references.			

Scope:  → Protected |  → Community

Reentrancy:  → Preallocated reentrancy |  → Shared reentrancy

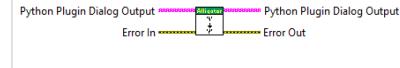
Inlining:  → Inlined

## 2.30. AlliGator Python Plugins.lvlib

**Responsibility:** VIs handling python plugins.

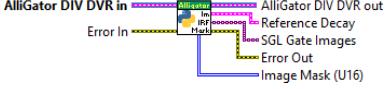
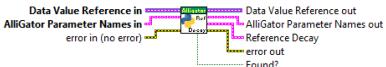
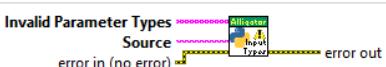
**Version:** 1.0.0.0

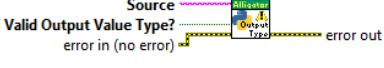
Table 30. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
AlliGator Add Python Functions to Menu		Adds python function found in script to corresponding menu in AlliGator.			
AlliGator Add Python Functions to Object Menu		Adds python function to object menu.			
AlliGator Build Plots JSON String		Builds JSON string used to pass graph name and plot names to a python function.			
AlliGator Export Plugin Parameters to Clipboard		Sends a string containing all parameters, internal variables and data accessible to python plugins.			
AlliGator Find Object Python Function Information		Gets object's python function's information			
AlliGator Find Python Function Information		Gets python function's information.			
AlliGator Format Path String for Python		Formats path for python function consumption.			
AlliGator Get Message & Parameters from JSON Output	[AlliGator Plugins.lvlib:AlliGator Get Message & Parameters from JSON Output.vi]	Interprets JSON string output and formats it to be sent to the Notebook.			
AlliGator Get Python Function Parameter Values Dialog		Dialog to allow user to enter python function parameters.			
AlliGator Get Python Session ID		Gets the current (or creates a new) python session ID.			

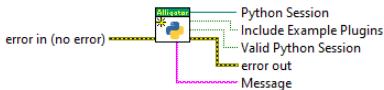
Name	Connector pane	Description	S.	R.	I.
AlliGator JSON Output Warning		Formats error message with python function information.			
AlliGator JSON String to Settings Parameter		Decodes JSON python ouput string.			
AlliGator Parameter Type to Default Value String		Returns default value of input parameter type.			
AlliGator Plugin Target to Submenu		<p>Convert Plugin Target to Menu Tag for insertion of the menu item.</p> <p>For plugins associated with objects such as Source Image or Decay Graph, the insertion takes place at the bottom of contextual menu and thus an empty string is provided.</p> <p>For plugins associated with data not exposed to the user (such as the Gate Series), the plugin menuui is added to the main menu, and thus the tag of the submenu in which it will be inserted needs to be provided.</p>			
AlliGator Python Plugin Function Doc String		Extracts doc string from python function.			
AlliGator Python Plugin is Function a Plugin		Checks for the presence of the ### IsAlliGatorPythonPlugin ### tag in the python function.			
AlliGator Python Plugin Plot Data Type		Looks at the python function name to figure out whether it acts on "All Plots" or "Selected Plots".			

Name	Connector pane	Description	S.	R.	I.
AlliGator Python Plugin Valid Input Datatype		Checks whether the input datatype is valid.			
AlliGator Python Plugin Valid Output Datatype		Checks whether the output datatype is valid.			
AlliGator Python Plugin Valid Output Destination		Checks whether the output destination is valid.			
AlliGator Send Python Function Doc String to Notebook		Sends python function doc string to Notebook.			
AlliGator Get Plots from JSON Output		Extract plots from JSON output.			
AlliGator Run XY Graph Python Function		Calls a XY Graph-associated python function.			
AlliGator XY Graph Python Function Handler Core		Calls XY Graph-associated python function.			
AlliGator Add Missing Parameter Map Parameters		Complements python function output parameter map by adding "NaN" instead of the missing parameters.  The map needs to be complete to be displayable in AlliGator, even though the python function might only ouput a few parameters.			

Name	Connector pane	Description	S.	R.	I.
AlliGator FLI Dataset Python Function Handler Core		Calls FLI Dataset python function.			
AlliGator Parameter Names to Parameters List		Converts parameter names to an array of enums.			
AlliGator Python Plugin Get FLI Dataset		Gets FLI Dataset and related information to pass to a python plugin.			
AlliGator Python Plugin Get FLI Dataset Data		Gets FLI Dataset Images and Reference Decay for python plugin call.			
AlliGator Run FLI Dataset Python Function		Runs FLI Dataset python plugin function.			
AlliGator Python Plugin Get Reference Decay		If <B>AlliGator Parameter Names in</B> contains 'Reference Decay', returns the <B>Reference Decay</B> cluster and removes 'Reference Decay' from <B>AlliGator Parameter Names out</B>. Sets the <B>Found?</B> flag to TRUE.  Otherwise, do nothing and returns the default cluster and set the <B>Found?</B> flag to FALSE			
AlliGator Add Plugins to Main Menu		Adds python functions to the corresponding AlliGator submenus.  If a submenu is empty, deactivates it.			
AlliGator Check Invalid Python Plugin Input Parameter Types		Formats error with invalid input parameter message.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Check Invalid Python Plugin Output Destination		Outputs warning message with invalid destination.			
AlliGator Check Invalid Python Plugin Output Value Type		Outputs warning with invalid output value type			
AlliGator Check Missing Python Plugin Doc String		Outputs warning with missing doc string message.			
AlliGator Check Missing Python Plugin Function Name		Outputs warning with missing function name.			
AlliGator Check Missing Python Plugin Input Section		Outputs warning with missing input section.			
AlliGator Check Missing Python Plugin Output Section		Outputs warning with missing output section.			
AlliGator Check Valid Python Plugin Target		Outputs warning with missing python plugin target.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Clear Unknown Python Error		Clears unknown python function error (i.e. code != 1672).			
AlliGator Close Python Session		Closes python session with message.			
AlliGator Decode Python Plugin Output Section		<p>Looks for Python Plugin Header and Footer and returns:</p> <ul style="list-style-type: none"> <li>- String before Header - &lt;B&gt;Output Type&lt;/B&gt; - &lt;B&gt;Output Destination&lt;/B&gt;</li> <li>&lt;B&gt;String before Header&lt;/B&gt;: if the section is not found (no header or no footer), the input string is passed unchanged.</li> </ul> <p>If the section is found, the part that preceded that section is returned,</p>			
AlliGator Get Python Plugin Function Parameters String		Gets requested parameter names from the python function description, opens up a dialog window to allow the user to enter the required parameters, and builds a JSON string to pass those parameters (names and values) to the python function.			
AlliGator Get Python Plugin Functions List		Extracts list of python plugin functions from the Python Plugin folder.			
AlliGator Get Python Script Function List		Extracts list of python plugin functions and their information from python script.			
AlliGator Get Python Functions List in Scripts		Gets python functions list in scripts array.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Parse Python Function Input Parameters		Looks for Python Plugin Input Paramater Section Header and Footer and returns the parameter names, types and descriptions  If the section is found, the part that follows that section is returned.			
AlliGator Python Plugin Function Offsets		Finds function definition section <B>Offsets</B>. Returns the script part preceding the first function as <B>Script Header</B>.			
AlliGator Python Plugin Get Function Name		Returns function name and whether the function should be preceded by a separator in the menu.			
AlliGator Python Plugin Target Information		Extracts information on the python plugin target(s).			
AlliGator Reset Python Session		Resets python session.			
AlliGator Unzip Python Plugins		Unzips python plugin archive provided with AlliGator installation.			
AlliGator Image Python Function Handler Core		Runs image-related python plugin function.			
AlliGator Run Source Image Python Function		Runs image-related python function.			

Scope:  → Protected |  → Community

Reentrancy:  → Preallocated reentrancy |  → Shared reentrancy

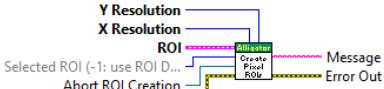
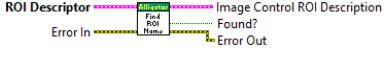
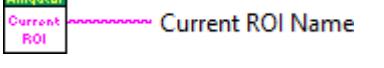
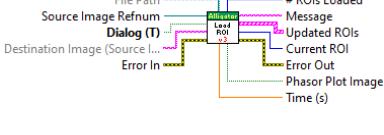
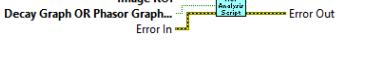
Inlining:  → Inlined

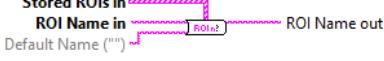
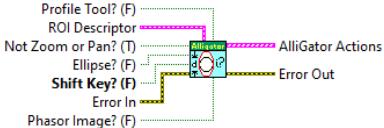
## 2.31. AlliGator ROIs.lvlib

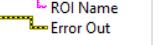
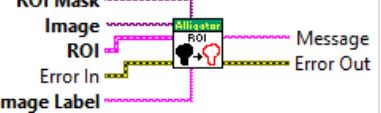
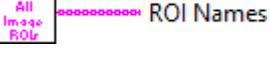
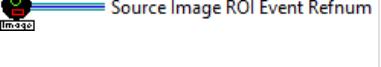
**Responsibility:** VIs handling ROI actions.

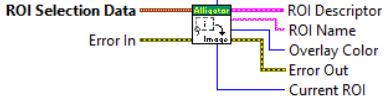
**Version:** 1.0.0.0

Table 31. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
AlliGator Create Complementary ROI		Computes complementary ROI and adds it to the ROI list.			
AlliGator Create Individual Pixel ROIs from ROI		Converts a closed ROI into a series of single-pixel ROIs.			
AlliGator Find ROI Name		Looks for the stored ROI having the same definition as the input ROI and returns its name if found.			
AlliGator Get Current ROI Name		Returns the current ROI name.			
AlliGator Get ROI Components		Separates stored ROIs information into arrays of: - ROI Descriptors - ROI Names - Overlay Colors			
AlliGator Get ROI Names		Returns list of ROI names.			
AlliGator Load ROI v3		When invoked from a context menu, used Dialog for file selection: the Dialog flag should be set to True (default) and the Destination Image string is ignored.  When invoked from a drag & drop event, the Dialog flag should be set to False and the Destination Image (Source Image or Phasor Plot Image) should be provided.			
AlliGator Preview ROI File		Returns information on ROIs stored in the file.			
AlliGator ROI Analysis Script		Actions needed to extract the decay corresponding to the current ROI or input ROI and compute its phasor.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Save ROI(s)		Saves one or more ROIs.			
AlliGator Save Multiple ROIs v3		Save multiple ROIs.			
AlliGator Save ROI v3		Saves single ROI.			
AlliGator Set New ROI Name		Sets new ROI name (verifies that the input name is not already used).			
AlliGator Update ROI After Mouse Release		Builds list of actions handling ROI update following a mouse release event.			
AlliGator Get Phasor Plot ROI Event Refnum		Returns the Phasor Plot Image ROI Event refnum.			
AlliGator Get Phasor Plot ROIs, Names & Current ROI	[AlliGator ROIs.lvlib:AlliGator Phasor Plot ROIs]	Get	Returns all ROIs and their names as well as the index of the current ROI.		
AlliGator Phasor Plot Image Edit ROI Name		Changes current Phasor Plot image ROI name.			
AlliGator Phasor Plot Image ROI Storage [MULT] v3	[AlliGator ROIs.lvlib:AlliGator Phasor Plot Image ROI Storage [MULT] v3.vi]		Handles multiple Phasor Plot image ROIs storage.		
AlliGator Phasor Plot Image ROI Storage [SGL] v3	[AlliGator ROIs.lvlib:AlliGator Phasor Plot Image ROI Storage [SGL] v3.vi]		Handles single Phasor Plot image ROI storage.		
AlliGator Phasor Plot ROI Manager		Phasor Plot image ROI list display UI.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Quit Phasor Plot Image ROI Manager	 Error In ————— Error Out	Handles Phasor Plot image ROI Manager quit event.			
AlliGator Select Phasor Plot ROI	 ROI Selection Data ————— AlliGator Phasor ROI Descriptor Error In ————— ROI Name Error Out	Handles Phasor Plot image ROI selection.			
AlliGator Compute & Plot All ROIs Characteristics	[AlliGator ROIs.lvlib:AlliGator Compute & Plot All ROIs Characteristics.vi]	Computes all Source Image ROI characteristics and sends them as plots to the Lifetime & Other Parameters Graph.			
AlliGator Create Source Image Contour ROI	 ROI Mask Image ROI Error In ————— Image Label Message Error Out	Create new Source Image ROI consisting of the contour of the input ROI.			
AlliGator Create Source Image ROI Grid	 ROI Error In ————— Message Error Out	Creates a series of Source Image ROIs layed out on a grid.			
AlliGator Add Multiple Source Image ROIs	 Header message ROI Mask Image Path ROIs Error In ————— Add ROI Message Error Out	Adds multiple Source Image ROIs to ROI storage.			
AlliGator Get All Image ROIs	 All Image ROIs ROI Names	Returns all Source Image ROI names.			
AlliGator Get Source Image ROI Event Refnum	 Image Source Image ROI Event Refnum	Returns the Source Image ROI Event refnum.			
AlliGator Get Source Image ROIs, Names & Current ROI	[AlliGator ROIs.lvlib:AlliGator Source Image ROIs] Get	Returns list of store Source Image ROIs, their names and the index of the current ROI.			
AlliGator is Full-Frame ROI	 ROI Descriptor in error in (no error) ————— AlliGator Full-Frame ROI? Full-Frame ROI? ————— ROI Descriptor (dup) error out	Checks whether the Source Image ROI is a full-frame ROI.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Mask Image to ROIs		<p>Define ROIs as sets of &lt;B&gt;Mask Image&lt;/B&gt; pixels with identical integer values.</p> <p>If the &lt;B&gt;Mask Image Name&lt;/B&gt; parameter is left unconnected (or is an empty string), the file name of the loaded Mask Image is used as a prefix to all ROI names.</p>			
AlliGator Quit Source Image ROI Manager		Handles Source Image ROI manager quit event.			
AlliGator Reject Source Image ROIs based on Characteristics		<p>Computes ROI characteristics and compare them to the conditions defined by the user in a dialog box.</p> <p>Keeps only the ROIs that meet those conditions.</p>			
AlliGator ROIs to Mask Image		<p>Uses existing ROIs to build a mask image summarizing their information.</p> <p>Define ROIs as sets of &lt;B&gt;Mask Image&lt;/B&gt; pixels with identical integer values.</p>			
AlliGator Select Source Image ROI		Selects Source Image ROI(s).			
AlliGator Set Source Image ROI ID		Change the selected Source Image ROI ID.			
AlliGator Source Image Edit ROI Name		Changes current Source Image ROI name.			
AlliGator Source Image ROI Manager		Source Image ROI list display UI.			
AlliGator Source Image ROI Storage [MULT] v3	[AlliGator ROIs.lvlib:AlliGator Source Image ROI Storage [MULT] v3.vi]	Handles multiple Source Image ROIs storage.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Source Image ROI Storage [SGL] v3	[AlliGator ROIs.lvlib:AlliGator Source Image ROI Storage [SGL] v3.vi]	Handles single Source Image ROI storage.			

Scope: → Protected | → Community

Reentrancy: → Preallocated reentrancy | → Shared reentrancy

Inlining: → Inlined

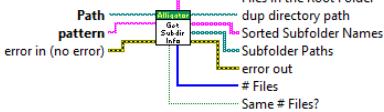
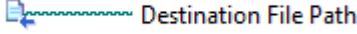
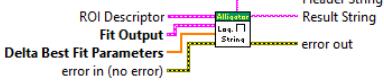
## 2.32. AlliGator Scripts.lvlib

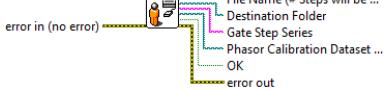
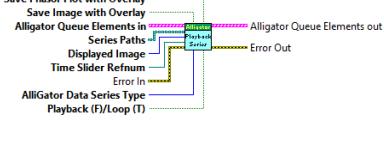
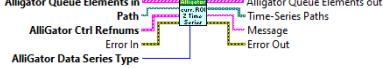
**Responsibility:** AlliGator actions performing a series of sequential tasks.

**Version:** 1.0.0.0

Table 32. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
AlliGator Calibrated Phasor Map Series Dialog		Dialog window to enter the information needed to run the Calibrated Phasor Map Series script.			
AlliGator Calibrated Phasor Maps Series Script		Loops through a series of FLI Dataset files, loads them with the specified gate step, and performs an All ROIs Phasor Analysis, using the resulting phasor plot as Phasor Calibration Map. This map is then save and optionally, the phasor plot as well.			
AlliGator Clear Internal Variables before Script		Clears internal data structure before a script.			
AlliGator Get Series Analysis Type		Decodes menu tag to determine whether an action is limited to the <B>Current ROI</B> or <B>All ROIs</B>.			
AlliGator Get Series Dataset Type		Converts Dataset Series type to FLI Dataset type enum.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Get Series Subfolders Information		Returns a breakdown of the folder's content for subsequent script actions.			
AlliGator Get- Set Data Information		Gets/Sets Dataset Information stored in the Settings Storage.vi			
AlliGator Get- Set Loading & Pre- Processing Options	[AlliGator Scripts.lvlib:AlliGator Get- Set Loading & Pre- Processing Options.vi]	Gets/Sets <b>Data Information</b> , <b>Source Image Settings</b> and <b>Decay Preprocessing</b> from/in the Settings Storage.vi.			
AlliGator Get- Set Source Image Settings		Gets/Sets <b>Source Image</b> options.			
AlliGator IV Script Destination File Path		Gets the <b>Script Destination File Path</b> internal variable.			
AlliGator Load ROIs, Select one ROI (& Convert to Pixel ROIs) Script	[AlliGator Scripts.lvlib:AlliGator Load ROIs]	Script loading the selected ROI from a multi-ROIs file,  This requires a number of subsequent steps that are queued by this script.			
AlliGator Load, Merge & to Pixel ROIs Script	[AlliGator Scripts.lvlib:AlliGator Load]	Loads a (multi-) ROI(s) file and merges all the ROIs (including the existing ones), before converting it to a list of single-pixel ROIs.			
AlliGator Logistic Square Gated IRF Characteristics Map		Computes the decays of all ROIs and fits them with a logistic square gate model.  Saves the results in an ASCII file.			
AlliGator Logistic Square Gated IRF Fit Result File String		Builds string containing the output of a logistic square gate fit.			

Name	Connector pane	Description	S.	R.	I.
AlliGator NLSF & Phasor Multi-ROI Analysis Dialog	[AlliGator Scripts.lvlib:AlliGator NLSF & Phasor Multi-ROI Analysis Dialog.vi]	Dialog window to set up a multi-ROIs single-pixel NLSF analysis of a FLI dataset.			
AlliGator Phasor Calibration Map Series Dialog		Dialog to enter the parameters necessary for the calculation of a Series of Phasor Calibration Maps differing by the gate step used when loading the FLI dataset.			
AlliGator Phasor Calibration Maps (# Gates Series) Script	[AlliGator Scripts.lvlib:AlliGator Phasor Calibration Maps (</mark> Gates Series) Script.vi];	Series of Phasor Calibration Map differing by the gate step used when loading the FLI dataset script.			
AlliGator Playback Time-Gated Data Series v2		Launches the playback of a FLI dataset series.			
AlliGator Save Single Phasor Plot Script		Script used to save the last Phasor Plot in the Phasor Graph with the specified name and folder.			
AlliGator Script Current ROI Time-Gated Data Series NLSF Analysis v1		Script performing NLSF analysis of the current ROI for the series of FLI dataset in the provided folder.			
AlliGator Script Current ROI Time-Gated Data Series Phasor Analysis v2		Script computing a phasor plot consisting of the current ROI's phasor in the FLI dataset series.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Script Export ROI Fit Parameters as ASCII		Script saving the Decay Fit Parameter Map parameters selected by the user to individual ASCII files (one file per parameter per ROI).  This script works for a single ROI or all ROIs.			
AlliGator Script Multi-ROI Single-Pixel NLSF Analysis		Scripts performing NLSF analysis of all pixels in all ROIs, using individual IRFs if provided.			
AlliGator Script Multi-ROI Single-Pixel Phasor Analysis		Scripts performing phasor analysis of all pixels in all ROIs, using individual IRFs if provided.			
AlliGator Script Open Mask Image		Script used to open a <B>Mask Image</b> and identify the corresponding ROIs.			
AlliGator Script Open White Light Image		Script used to open a <B>White Light Image</b>.			
AlliGator Script Sequential ROIs Time-Gated Data Series NLSF Analysis		Script performing NLSF analysis of a different ROI for each dataset in a series. This is used for instance if the ROI list is representing the successive locations of an object being tracked across the dataset series.			
AlliGator Script Sequential ROIs Time-Gated Data Series Phasor Analysis		Script performing phasor analysis of a different ROI for each dataset in a series. This is used for instance if the ROI list is representing the successive locations of an object being tracked across the dataset series.			
AlliGator Scripting Window		Template for Scripting UI.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Square Gated IRF Characteristics Map	 AlliGator Internal Variable... error in (no error)  Message error out	Performs a crude square gate analysis of all ROI decays and saves the gate parameters in an ASCII file.			
AlliGator Tilted Square Gated IRF Characteristics Map	 AlliGator Internal Variable... Cursor Positions Array    Message Cursor Names Array error in (no error)	Performs a tilted logistic square gate NLSF analysis of all ROI decays and saves the gate parameters in an ASCII file.			
AlliGator Toggle (Loop) Playback	 Playback (F)/Loop (T) Error In  Error Out	Toggles from normal playback (stops at the end of the series) to looped playback or vice versa.			

Scope:  → Protected |  → Community

Reentrancy:  → Preallocated reentrancy |  → Shared reentrancy

Inlining:  → Inlined

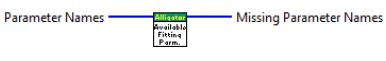
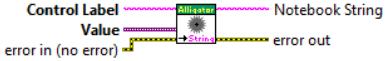
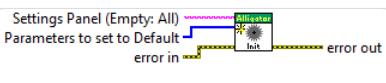
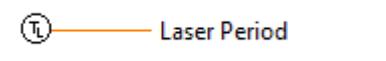
## 2.33. AlliGator Settings.lvlib

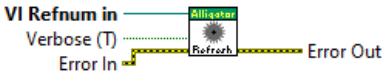
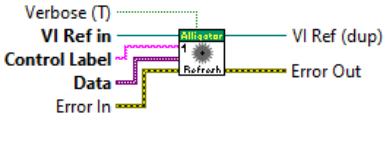
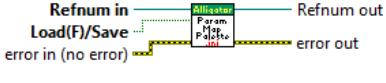
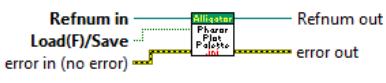
**Responsibility:** VIs handling user-defined parameters.

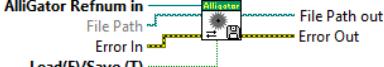
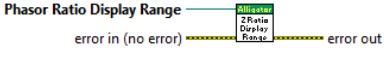
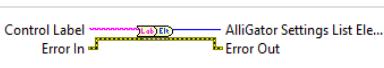
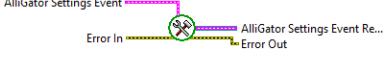
**Version:** 1.0.0.0

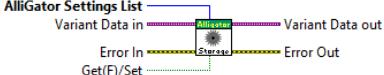
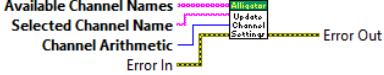
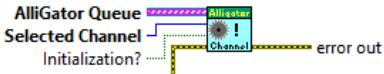
Table 33. Functions (non private scope only)

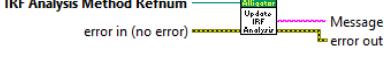
Name	Connector pane	Description	S.	R.	I.
AlliGator Check & Update Settings SEPL Parameters	[AlliGator Settings.lvlib:AlliGator Check & Update Settings SEPL Parameters.vi]	Updates SEPL parameters for consistency.			
AlliGator Check Fit Options	 Use Data Information Period...  MLE Options Visible? Modified Option error in (no error)	Handles user-initiated parameter changes in the <B>Fit Options</B> panel.			
AlliGator Compute Natural Frequency	 Laser Period Error In  Error Out	Computes the "natural" phasor frequency as a function of various settings parameters.			

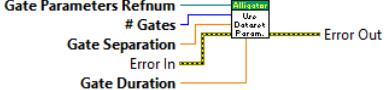
Name	Connector pane	Description	S.	R.	I.
AlliGator Export Settings Parameter JSON String to Clipboard		Reads the control's value and creates a JSON string describing it and copies it into the clipboard.			
AlliGator Gate Separation (ns)		Returns the <b>Gate Separation</b> settings parameter.			
AlliGator Get Available Fitting Parameters		Returns list of parameters not in the <b>Parameter Names</b> list.			
AlliGator Get Control Label & Settings Element	[AlliGator Settings.lvlib:AlliGator Get Control Label & Settings Element.vi]	Returns the label string of the Settings control whose <b>CtlRef</b> refnum is provided, as well as the corresponding <b>AlliGator Settings List</b> enumerated value.			
AlliGator Get Control Notebook String		Formats the input <b>Value</b> of the control whose <b>Control Label</b> is provided into a string.  A special case is needed when units are involved, otherwise the default case should be able to handle all other cases.			
AlliGator Get Phasor Ratio Interpolated Color Scale		Builds a <b>Interpolated Color Scale Definition</b> based on the colors associated with both references.			
AlliGator Hot Pixel Removal Options String		Builds a string defining the hot pixel removal options.			
AlliGator Init Settings v2		Resets selected Settings parameters to their default values.			
AlliGator Laser Period		Settings Data Information:Laser Period value.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Nanotime Gate Separation	 <b>Nanotime Gate Separation</b>	Settings Data Information:Nanotime Gate Separation value.			
AlliGator Number of Gates	 <b># Gates</b>	Settings Data Information:# Gates value.			
AlliGator Phasor Frequency	 <b>Phasor Frequency</b>	Settings Data Information:Phasor Frequency value.			
AlliGator Refresh All Settings	 <b>VI Refnum in</b> <b>Verbose (T)</b> <b>Error In</b> <b>Refresh</b> <b>Error Out</b>	Reads all Settings values and refresh the corresponding controls and indicators with those values.			
AlliGator Refresh Single Setting	 <b>Verbose (T)</b> <b>VI Ref in</b> <b>Control Label</b> <b>Data</b> <b>Error In</b>  <b>VI Ref (dup)</b> <b>Refresh</b> <b>Error Out</b>	Refresh the control with <B>Control Label</b> with the provided <B>Data</B>. Optionally sends this label and value to the Notebook.			
AlliGator Remove Duplicated Fit Parameter Constraints	 <b>Old Constraints</b> <b>New Constraints in</b> <b>Error In</b>  <b>New Constraints out</b> <b>Check for Duplicates</b> <b>Constraint</b> <b>Error Out</b>	Removes any potential duplicate entries in the array of fit parameter constraints.			
AlliGator Reorder Decay Pre-processing Operations	 <b>Ring in</b>  <b>Error In</b>  <b>Alligator</b> <b>Reorder</b> <b>Operations</b>  <b>Error Out</b>	Dialog window allowing the user to reorder decay pre-processing steps.			
AlliGator Save-Load Parameter Map Color Palette List	 <b>Refnum in</b> <b>Load(F)/Save</b> <b>error in (no error)</b>  <b>Refnum out</b> <b>error out</b>	Loads/Save the list of palettes used for the <B>Decay Fit Parameter Map</B> in the AlliGator Settings ini file.			
AlliGator Save-Load Phasor Plot Color Palette List	 <b>Refnum in</b> <b>Load(F)/Save</b> <b>error in (no error)</b>  <b>Refnum out</b> <b>error out</b>	Loads/Save the list of palettes used for the <B>Phasor Plot</B> in the AlliGator Settings ini file.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Save-Load Settings		<p>Use this file to Save or Load AlliGator's settings to an ini file.</p> <p>If the &lt;B&gt;File Path&lt;/B&gt; input is left unconnected, the default ini file is used (overriding the current ini file).</p> <p>To save settings in a user-specified location, either provide a valid path, or connect a "Not a Path" constant to the input. A File Dialog window will then open to allow the user to choose a path.</p>			
AlliGator Save-Load Source Image Color Palette List		Loads/Save the list of palettes used for the <B>Source Image</B> in the AlliGator Settings ini file.			
AlliGator Save-Load Source Image Overlay Color Palette List		Loads/Save the list of palettes used to overlay a phasor-based map on the <B>Source Image</B> in the AlliGator Settings ini file.			
AlliGator Set Phasor Ratio Display Range		Constrains the sliders of the Phasor Ratio (or other parameter) Range to the displayed slide's min and max values.			
AlliGator Settings Array		Returns the complete list of settings parameters (values of the enumerated constant).			
AlliGator Settings Control Label to Element		Convert Control label to Settings Parameter List enum.			
AlliGator Settings Element to Control Label		Returns the last string after the rightmost semicolon in the parameter's name., which corresponds to the control's label.			
AlliGator Settings Event Refnum		Sends user event to the Settings window.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Settings Names		Returns the list of settings parameter names stored internally.			
AlliGator Settings Storage		Get/Set Settings parameter values using variant attributes.			
AlliGator Settings to String v2		Returns a string listing all or only the selected settings.			
AlliGator Settings Window		GUI providing access to settings parameters for all aspect of AlliGator's functions.			
AlliGator Special Controls Update		Handles update of some Settings controls & indicators as a result of settings changes.			
AlliGator SYNC Period		Returns the <B>SYNC Period</B> stored in Settings.			
AlliGator Update Channel File Settings		Updates the values of the <B>Channel Name</b> and <B>Channel Arithmetic</b> controls, as well as of the hidden <B>Available Channel Names</b> indicator.			
AlliGator Update Settings & Control	[AlliGator Settings.lvlib:AlliGator Update Settings Control.vi]	& Updates the Control whose reference or label is passed. The Settings window is updated as well (or if the Settings Window is the sender, AlliGator is).			
AlliGator Update Settings Available Channel Names		Updates the <B>Channel Name</B> control in the Settings window.			
AlliGator Update Settings Dataset Channel		Updates <B>Source Image</B> according to the <B>Selected Channel</B>.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Update Settings Decay Shift Parameters Visibility		Updates the visibility of controls related to shift pre-processing operations.			
AlliGator Update Settings Fit Options Laser Period		Updates the <b>Fit Options</b> cluster's <b>Laser Period</b> obtained from the Data Information tab of the Settings if the <b>User Data Information Period</b> option is selected.			
AlliGator Update Settings Fit Options		If the <b>Laser Period</b> parameter of the <b>Fit Options</b> is modified, and it is different from the value associated with the dataset, toggles the <b>Use Data Information Laser Period</b> checkbox off.			
AlliGator Update Settings Guess Parameter Arrays		Handles user modifications of the <b>Guess Parameter Names</b> and/or <b>Guess Parameter Values</b> in the Settings window. Ensures that both arrays have the same size.			
AlliGator Update Settings IRF Analysis Method Control		Update decay shifting parameters in the Settings window.			
AlliGator Update Settings Python Options & Valid Flag	[AlliGator Settings.lvlib:AlliGator Update Settings Python Options & Valid Flag.vi]	Updates Python Plugins options and Valid Session flag in the Settings window.			
AlliGator Update Settings Python Options		Updates Python Plugins options in the Settings window.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Update Settings SEPL Parameters		Updates SEPL parameters in the Settings window.			

Scope:  → Protected |  → Community

Reentrancy:  → Preallocated reentrancy |  → Shared reentrancy

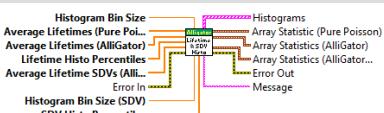
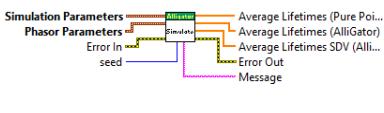
Inlining:  → Inlined

## 2.34. AlliGator Shot Noise Influence on Average Lifetime.lvlib

**Responsibility:** VIs used for the Shot Noise Influence on Average Lifetime Analysis Tool.

**Version:** 1.0.0.0

Table 34. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
AlliGator Compute Shot Noise Average Lifetime Simulation Histograms		Computes histograms and summary statistics for the computed lifetimes.			
AlliGator Shot Noise Influence on Average Lifetime		Main window of the Shot Noise Influence on Average Lifetime tool.			
AlliGator Simulate Average Lifetime of Linear Combination		Performs the simulations used in the Shot Noise Influence on Average Lifetime tool.			

Scope:  → Protected |  → Community

Reentrancy:  → Preallocated reentrancy |  → Shared reentrancy

Inlining:  → Inlined

## 2.35. AlliGator Source Image.lvlib

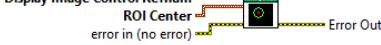
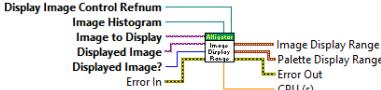
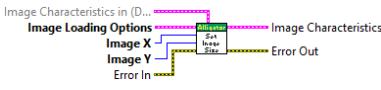
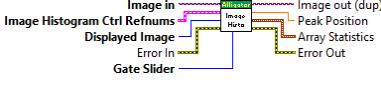
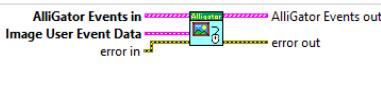
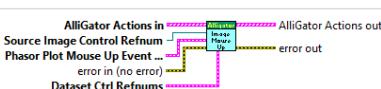
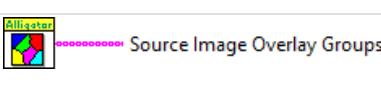
**Responsibility:** VIs handling Source Image actions.

**Version:** 1.0.0.0

*Table 35. Functions (non private scope only)*

Name	Connector pane	Description	S.	R.	I.
AlliGator Add Scale Bar Overlay		Draws a scale bar overlay on the Source Image.			
AlliGator Bin Simple Image		Bins an image according to the Settings:Source Image:<B>Image Binning Options</B>.			
AlliGator Clear Source Image Overlay		Erase selected overlays in the Source Image.			
AlliGator Define ROI Selection Criteria		Dialog to define selection/rejection criteria for ROIs based on computed characteristics.			
AlliGator Display Accumulated Dataset		Displays the Sum of all accumulated images or their mean, depending on the user-selected menu option.			
AlliGator Export Average Lifetime Map as ASCII		Saves the average lifetime map (computed after overlay on the Source Image, to a ASCII matrix file.			
AlliGator Export Phasor Ratio Map as ASCII		Saves the phasor ratio map (computed after overlay on the Source Image, to a ASCII matrix file.			
AlliGator Export User-Defined Quantity Map as ASCII		Exports the User-defined quantity matrix as an ASCII file.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Find Optimal ROI		Find the ROI center in either one of the following two ways:  - use the barycenter  - use the pixel with maximum intensity			
AlliGator Gate Images as 3D Array		Outputs a 3D array of all gate images (within optional selection rectangle).			
AlliGator Get Hot Pixel Removal String		Builds string describing hot pixel removal options.			
AlliGator Get Image Destination File Path		Builds path to save a front panel object's image based on its source and the current dataset.			
AlliGator Get Image Smoothing String		Builds image smoothing options string.			
AlliGator Get Selected Image to Display		Gets the selected Image structure.			
AlliGator Get Sum Image Threshold		Computes intensity threshold based on the multi-parameter Pixel Rejection criteria.			
AlliGator Highlight Phasor ROI in Original Image v3		Compute and overlays the selected Phasor Plot ROI's pixels in the Source Image.			
AlliGator Image Contrast Status		Raises the flag when calling the action. Lowers it when done.			
AlliGator Is Search ROI Modified		If the "Use Search ROI" option is checked and the user modified the ROI, uncheck this option.			

Name	Connector pane	Description	S.	R.	I.
AlliGator Overlay ROI Center		Overlays the provided ROI center on the Source Image.			
AlliGator Set Check Marks in Source Image Overlay to Erase Button Menu		Sets checkmarks in front of menu items for the "Erase Overlay" button of the Source Image.			
AlliGator Set Image Display Range		Handles Source Image display range using the Histogram.			
AlliGator Set Loaded Image Resolution		Sets the loaded image's resolution from the provided information.			
AlliGator Set Search ROI		Stores the current ROI as the search ROI.			
AlliGator Single Image Histogram		Computes image histogram and associated parameters.			
AlliGator Single Image Type		No description found (add content in vi description)			
AlliGator Source Image Context Menu Handler		Converts menu items into Source Image actions.			
AlliGator Source Image Mouse Move Event		Handles mouse move event in the Source Image: if the Phasor Plot panel is visible and the SHIFT key is pressed, request phasor information update.			
AlliGator Source Image Mouse Up Event		Handles mouse up event (signifying the end of an action).			
AlliGator Source Image Overlay List		List of overlay groups on the Source Image (constant).			

Name	Connector pane	Description	S.	R.	I.
AlliGator Source Image Scale Bar		Computes scale bar parameters based on user-defined options.			
AlliGator Source Image Selection		Builds sequence of actions following a Source Image ROI selection.			
AlliGator Store Search ROI		Stores Search ROI definition.			
AlliGator Test Flat Field Correction		Test VI to correct for flatfield distortions.			
AlliGator Update Checkmarks in Source Image Overlay to Erase Button Menu		Builds the list of items to display with a checkmark in front of them in the Source Image's Erase Overlay button's context menu.			
AlliGator Update Displayed Image		Updates displayed image if background correction is not expected to follow immediately after.			
AlliGator Update Local Decay Window Event		Sends an update event to the Local Decay Window.			

Scope: → Protected | → Community

Reentrancy: → Preallocated reentrancy | → Shared reentrancy

Inlining: → Inlined

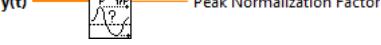
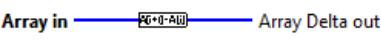
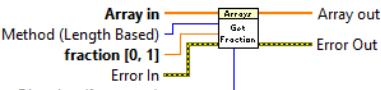
## 2.36. Arrays.lvlib

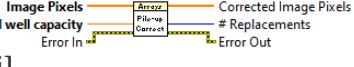
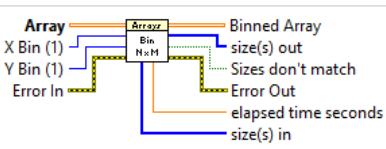
**Responsibility:** No description found (add content in lvlib description)

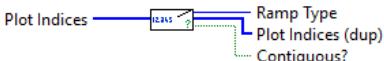
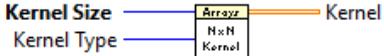
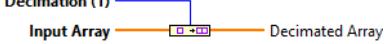
**Version:** 1.0.0.0

*Table 36. Functions (non private scope only)*

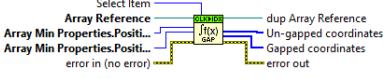
Name	Connector pane	Description	S.	R.	I.
(Signed) Index 1D Array [String]	[Arrays.lvlib:(Signed) 1D Array [String].vi]	No description found (add content in vi description)			
(Signed) Index 1D Array		Returns element $i[n]$ of the array, where $n$ is the number of elements.  For $0 \leq i < n$ , this is the standard behavior.  $i = -1 \Rightarrow i[n] = n + i = n - 1 \rightarrow$ the last array element is returned.			
1D Histogram (G) v5		If Min or Max are not provided, they are set to the Array Min or Max. If one of the bounds is infinite, the histogram is not computed. If Bin Size is not provided, or has a bogus value (< or = 0, Inf), Sturge's rule is used.			
1D Weighted Histogram (G) v5		If Min or Max are not provided, they are set to the Array Min or Max. If one of the bounds is infinite, the histogram is not computed. If Bin Size is not provided, or has a bogus value (< or = 0, Inf), Sturge's rule is used.			
to [[1,NaN]] (SGL)	[Arrays.lvlib:[[Boolean]] [[1,NaN]] (SGL).vi]	No description found (add content in vi description)			
Add Element to Array if New		No description found (add content in vi description)			
Added Array Element Indices		Compares a New Array to its old version, knowing that at least one element was added/inserted. Returns the indices in the old array where new elements were inserted (in decreasing order) and the number of elements appended (added to the end of the old array).  Typically used to reflect changes in one array into another type of array.			
Append Element to Array (by ref) [U32]	[Arrays.lvlib:Append Element to Array (by ref) [U32].vi]	No description found (add content in vi description)			

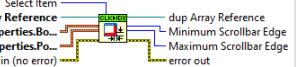
Name	Connector pane	Description	S.	R.	I.
Array (Signed) Normalization Factor		Finds the maximum absolute value and returns the inverse signed maximum of a series			 
Array Delta [I32]		Computes $X[i+1] - X[i]$ for $i = 0$ to $N-2$ , where $N = \text{size}(X)$			 
Array Delta		No description found (add content in vi description)			 
Array Exponential Dampening		Multiplies an array by $\exp(-Ki/n)$ where K is the damping factor, i the element index and n the number of elements in the array.			
Array Fraction		<p>Returns part of the input array <math>[Ai]</math>, according to the following rules:</p> <ul style="list-style-type: none"> <li>- if <math>\text{Method}</math> is <math>\text{Value Based}</math>, returns (possibly non-consecutive) array values <math>Ai</math> such that: <math>Ai - \text{Min} \leq (\text{Max} - \text{Min}) * \text{fraction}</math> (<math>\text{from start}</math>) or <math>Ai - \text{Min} \geq (\text{Max} - \text{Min}) * \text{fraction}</math> (<math>\text{from end}</math>)</li> <li>- if <math>\text{Method}</math> is <math>\text{Length Based}</math> (default), returns <math>N * \text{fraction}</math> elements of the array (where <math>N</math> is the array size) starting from the end or the beginning, depending on the <math>\text{Direction}</math> parameter (default: <math>\text{from start}</math>)</li> </ul>			
Array Level Estimation		Find mode (or mean) of an array by computing it for increasingly fine-grained histograms of the array and returning the average value.			
Array Median		No description found (add content in vi description)			 
Array Percentile		No description found (add content in vi description)			 
Array Percentiles		No description found (add content in vi description)			 
Array Pile-up Correction	[Arrays.lvlib:Array Pile-up Correction [[SGL]].vi]	No description found (add content in vi description)			

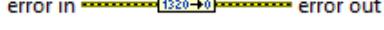
Name	Connector pane	Description	S.	R.	I.
Array Pile-up Correction [SGL]		No description found (add content in vi description)			
Array Reduced Mean & SDV	[Arrays.lvlib:Array Reduced Mean & SDV.vi]	Computes the reduced mean and standard deviation an array by limiting the analysis to the "peak" part of the array, i.e. for points within $[m - SDV, m + SDV]$ , where $m$ is the array mean and $SDV$ its standard deviation.			
Array Weighted Average		<p>Compute a weighted average:</p> $\langle A \rangle = (\sum(w_i A_i)_{\{i = 1 \dots N\}}) / (\sum(w_i)_{\{i = 1 \dots N\}})$ <p>where <math>\{A_i\}_{\{i = 1 \dots N\}}</math> is the <math>\langle B \rangle</math>Parameter Array<math>\langle B \rangle</math> and <math>\{w_i\}_{\{i = 1 \dots N\}}</math> is the <math>\langle B \rangle</math>Weight Array<math>\langle B \rangle</math>.</p> <p>If <math>\langle B \rangle</math>Reject Negative Weights<math>\langle B \rangle</math> is true, only the term with <math>w_i \geq 0</math> are retained in both sums.</p> <p>If the two arrays have different sizes, the unweighted mean of <math>\langle B \rangle</math>Parameter Array<math>\langle B \rangle</math> is returned.</p>			
Arrays to Cluster Array		No description found (add content in vi description)			
Bin 2D Array		Because the array data type is preserved, overflow is not handled.			

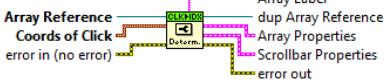
Name	Connector pane	Description	S.	R.	I.
Binary (Approximate) Search 1D Array (DBL)	[Arrays.lvlib:Binary (Approximate) Search 1D Array (DBL).vi]	<p>This is a binary search through a 1D array. It has no start index input and searches the entire array for the element requested.</p> <p>If found, the index of the match is returned. If not found, an index of -1 is returned.</p> <p>Due to the nature of the binary search, your input array must already be sorted. This function will not sort your array, so if you send in an unsorted array, it will not function properly. Furthermore, if you have duplicate elements in your array, it is not guaranteed that the index returned will be to the match with the lowest array element number.</p> <p>This is the double-precision floating-point (DBL) portion of the polymorphic VI.</p>			
Check Index Ramp		No description found (add content in vi description)			
Compute n x n Kernel (SGL)		No description found (add content in vi description)			
Cumulative Array		No description found (add content in vi description)		 	
Cumulative Function Computation		Extract IRF from provided decay and time constant			
Decimate Array		No description found (add content in vi description)		 	
Define Ramp Array Dialog		<p>Displays a standard dialog box that prompts users to enter information, such as a user name and password.</p> <p>-----</p> <p>This Express VI is configured as follows:</p> <p>Message to Display to the User:This is a test The inputs are: Number: Ramp Type Number: Start Number: End</p>			

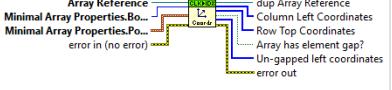
Name	Connector pane	Description	S.	R.	I.
Delete Element from Array (by ref) [U32]	[Arrays.lvlib:Delete Element from Array (by ref) [U32].vi]	No description found (add content in vi description)			
Delete Elements from 1D Array	 array length (l) index (last elem)	No description found (add content in vi description)			

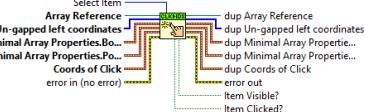
Name	Connector pane	Description	S.	R.	I.
Determine Clicked Array Element Index - Calculate Gapped and Un-Gapped Coordinates	 <p>The diagram shows a block diagram of the VI. It takes three inputs: 'Select Item' (yellow), 'Array Reference' (green), and 'error in (no error)' (blue). The 'Select Item' input connects to a 'Case Structure' block. The 'Array Reference' input connects to a 'Get Array Reference' node inside the case. The 'error in (no error)' input connects to an 'Error Cluster' node. The 'Case Structure' has two cases: one for 'Row' and one for 'Column'. Each case contains a 'Get Array Min Properties' node, which then connects to a 'Get Position' node. The 'Get Position' node outputs 'Position.Left' (left) and 'Position.Top' (top). These positions are then used to calculate 'Un-gapped coordinates' and 'Gapped coordinates' respectively. The calculated coordinates and a 'dup Array Reference' (green) output are grouped together as the final output. An 'Error Cluster' node also receives the 'error in (no error)' input and provides the 'error out' output.</p>	<p>Determine Clicked Array Element Index - Calculate Gapped and Un-Gapped Coordinates.vi</p> <p>Description: This VI calculates the top or left array element coordinates (gapped and un-gapped) based on the setting of the Select Item input.</p> <p>Inputs: Array Reference - Reference to the array to operate on.</p> <p>Select Item - Specifies the coordinates (Row or Column) to calculate.</p> <p>Array Min Properties.Position.Left - The left position of the array when the scrollbars, index display, label and caption are hidden.</p> <p>Array Min Properties.Position.Top - The top position of the array when the scrollbars, index display, label and caption are hidden.</p> <p>error in - Standard error cluster.</p> <p>Outputs: dup Array Reference - Dup reference to the array to operate on.</p> <p>Un-gapped coordinates - The calculated un-gapped coordinates.</p> <p>Gapped coordinates - The calculated gapped coordinates.</p> <p>error out - Standard error cluster.</p> <p>Developed By: Mark.ridgley Mark.Ridgley_LabVIEW.Developer@comcast.net</p>			

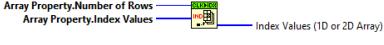
Name	Connector pane	Description	S.	R.	I.
Determine Clicked Array Element Index - Calculate Scrollbar Edges	 <p>The diagram shows a LabVIEW block diagram for the 'Determine Clicked Array Element Index - Calculate Scrollbar Edges' VI. It starts with an 'Array Reference' input. This is combined with 'Minimal Array Properties.Bounds' using a 'Select Item' node. The output of this is then combined with 'Minimal Array Properties.Position' using another 'Select Item' node. The final output is a 'Dup' reference to the array. The 'error in (no error)' and 'error out' wires are also shown.</p>	<p>Determine Clicked Array Element Index - Calculate Scrollbar Edges.vi</p> <p>Description: This VI calculates the location of the edges of either the vertical or horizontal scrollbar.</p> <p>Inputs: Array Reference - Reference to the array to operate on.</p> <p>Minimal Array Property.Bounds - Bounds property when the scrollbars, index display, label and caption are hidden.</p> <p>Minimal Array Property.Position - Position property when the scrollbars, index display, label and caption are hidden.</p> <p>Select Item - Specifies the item to operate on.</p> <p>error in - Standard error cluster.</p> <p>Outputs: dup Array Reference - Dup reference to the array to operate on.</p> <p>Minimum Scrollbar Edge - The location of the top or left edge of the selected scrollbar.</p> <p>Maximum Scrollbar Edge - The location of the bottom or right edge of the selected scrollbar.</p> <p>error out - standard error cluster.</p> <p>Developed By: Mark.ridgley Mark.Ridgley_LabVIEW.Developer@comcast.net</p>			

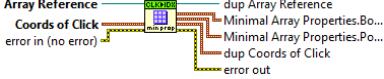
Name	Connector pane	Description	S.	R.	I.
Determine Clicked Array Element Index - Cancel Error Code 1320		<p>Determine Clicked Array Element Index - Cancel Error Code 1320.vi</p> <p>Description: This VI determines if error code 1320 has occurred, and if so, cancels the error.</p> <p>Inputs: error in - Standard error cluster.</p> <p>Outputs: error out - standard error cluster.</p> <p>Developed By: Mark.ridgley Mark.Ridgley_LabVIEW.Developer@comcast.net</p>			

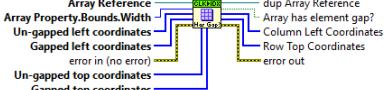
Name	Connector pane	Description	S.	R.	I.
Determine Clicked Array Element Index - Determine Array and Scrollbar Properties	 <p>The diagram shows a block diagram of the VI. The inputs are 'Array Reference', 'Coords of Click', and 'error in (no error)'. These feed into a central 'Determine' block. The outputs are 'Array Label', 'dup Array Reference', 'Array Properties', 'Scrollbar Properties', and 'error out'.</p>	<p>Determine Clicked Array Element Index - Determine Array and Scrollbar Properties.vi</p> <p>Description: This VI determines multiple properties of the array and scrollbars of the array specified by the Array Reference input.</p> <p>If no caption has been created for the array of interest, instruct the user how to correct the issue.</p> <p>Inputs: Array Reference - Reference to the array to operate on.</p> <p>Coords of Click - The screen coordinates of the click within the array. These values are used to determine if the click occurred on the selected item.</p> <p>error in - Standard error cluster.</p> <p>Outputs: dup Array Reference - Dup reference to the array to operate on.</p> <p>Array Properties - Cluster containing the array properties of the array specified by the Array Reference input.</p> <p>Scrollbar Properties - Cluster containing the scrollbar properties of the array specified by the Array Reference input.</p> <p>error out - standard error cluster.</p> <p>Developed By: Mark.ridgley Mark.Ridgley_LabVIEW.Developer@comcast.net</p>			

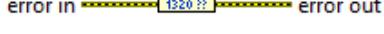
Name	Connector pane	Description	S.	R.	I.
Determine Clicked Array Element Index - Determine Array Element Coordinates	 <p>The diagram shows a block diagram of the VI. It takes an 'Array Reference' and 'Minimal Array Properties.Bounds.Width' as inputs. It also takes 'Minimal Array Properties.Position' and 'error in (no error)' as inputs. The outputs are 'dup Array Reference', 'Column Left Coordinates', 'Row Top Coordinates', 'Array has element gap?', 'Un-gapped left coordinates', and 'error out'.</p>	<p>Determine Clicked Array Element Index - Determine Array Element Coordinates.vi</p> <p>Description: This VI calculates the gapped and un-gapped array element coordinates, determines if the array specified by the Array Reference input has an element gap displayed and outputs either the gapped or un-gapped coordinates accordingly.</p> <p>Inputs: Array Reference - Reference to the array to operate on.</p> <p>Minimal Array Properties.Bounds.Width - The width of the array when the scrollbars, index display, label and caption are hidden.</p> <p>Minimal Array Properties.Position - The array position when the scrollbars, index display, label and caption are hidden.</p> <p>error in - Standard error cluster.</p> <p>Outputs: dup Array Reference - Dup reference to the array to operate on.</p> <p>Column left coordinates - The left coordinates of all columns displayed in the array.</p> <p>Row Top coordinates - The top coordinates of all rows displayed in the array.</p> <p>Array has element gap? - Indicates if the array has an element gap displayed or not.</p> <p>Un-gapped left coordinates - The calculated un-gapped coordinates.</p> <p>error out - Standard error cluster.</p> <p>Developed By: Mark.ridgley Mark.Ridgley_LabVIEW.Developer@comcast.net</p>			

Name	Connector pane	Description	S.	R.	I.
Determine Clicked Array Element Index - Determine if Item Clicked	 <p>The diagram shows a complex LabVIEW block diagram. At the top, there's a 'Select Item' subVI with its output connected to a 'Minimal Array Properties' subVI. This is followed by several 'dup' sub-VIs (duplicating array reference, un-gapped left coordinates, minimal array properties, and coordinates of click). Error handling is present throughout the diagram, with 'error in' and 'error out' clusters at various points.</p>	<p>Determine Clicked Array Element Index - Determine if Item Clicked.vi</p> <p>Description: This VI determines if the item specified by the Select Item input was clicked.</p> <p>Inputs: Array Reference - Reference to the array to operate on.</p> <p>Un-gapped left coordinates - The left coordinates of each column with no element gap accounted for.</p> <p>Minimal Array Property.Bounds - Bounds property when the scrollbars, index display, label and caption are hidden.</p> <p>Minimal Array Property.Position - Position property when the scrollbars, index display, label and caption are hidden.</p> <p>Coords of Click - The screen coordinates of the click within the array. These values are used to determine if the click occurred on the selected item.</p> <p>Select Item - Specifies the item to operate on.</p> <p>error in - Standard error cluster.</p> <p>Outputs: dup Array Reference - Dup reference to the array to operate on.</p> <p>dup Un-gapped left coordinates - Dup left coordinates of each column with no element gap accounted for.</p> <p>dup Minimal Array Property.Bounds - Dup bounds property when the scrollbars, index display, label and caption are hidden.</p> <p>dup Minimal Array Property.Position - Dup position property when the scrollbars, index display, label and caption are hidden.</p>			

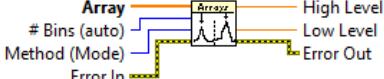
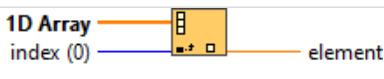
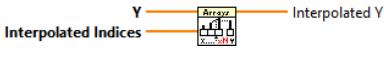
Name	Connector pane	Description	S.	R.	I.
Determine Clicked Array Element Index - Determine Index Values (1D or 2D Array)		<p>Determine Clicked Array Element Index - Determine Index Values (1D or 2D Array).vi</p> <p>Description: This VI determines the index values for 1D or 2D arrays. If the array is a 1D array, this VI outputs the correct index values whether the array is displayed horizontally or vertically.</p> <p>Inputs: Array Property.Index Values - Index values returned from the array property node.</p> <p>Array Property.Number of Rows - Number of rows returned from the array property node.</p> <p>Outputs: Index Values (1D or 2D Array) - The index values for a 1D or 2D array.</p> <p>Developed By: Mark.ridgley Mark.Ridgley_LabVIEW.Developer@comcast.net</p>			

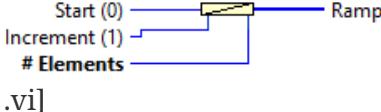
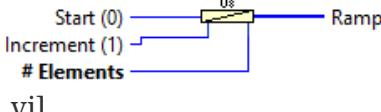
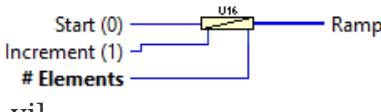
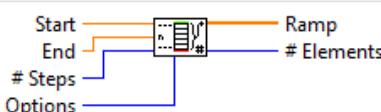
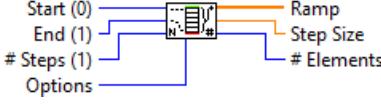
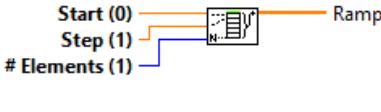
Name	Connector pane	Description	S.	R.	I.
Determine Clicked Array Element Index - Get Minimal Array Properties	 <pre> graph LR     A[Array Reference] --&gt; B[Get Minimal Array Properties]     B --&gt; C[dup Array Reference]     B --&gt; D[Minimal Array Properties.Bounds]     B --&gt; E[Minimal Array Properties.Position]     B --&gt; F[dup Coords of Click]     B --&gt; G[error out]     C --&gt; H[error in]     </pre> <p>The diagram shows a LabVIEW block diagram for the VI. It starts with an 'Array Reference' input terminal. This is connected to a 'Get Minimal Array Properties' function block. From this function, six output terminals emerge: 'dup Array Reference', 'Minimal Array Properties.Bounds', 'Minimal Array Properties.Position', 'dup Coords of Click', 'error out', and 'error in'. The 'error in' terminal is highlighted in yellow.</p> <td> <p>Determine Clicked Array Element Index - Get Minimal Array Properties.vi</p> <p>Description: This VI returns the minimal properties of the array specified by the Array Reference input. Minimal properties are the properties when the scrollbars, index display, label and caption are hidden.</p> <p>Inputs: Array Reference - Reference to the array to operate on.</p> <p>Coords of Click - The coordinates indicating where the user clicked.</p> <p>error in - Standard error cluster.</p> <p>Outputs: dup Array Reference - Dup reference to the array to operate on.</p> <p>Minimal Array Properties.Bounds - The bounds of the array when the scrollbars, index display, label and caption are hidden.</p> <p>Minimal Array Properties.Position - The position of the array when the scrollbars, index display, label and caption are hidden.</p> <p>dup Coords of Click - Dup coordinates indicating where the user clicked.</p> <p>error out - Standard error cluster.</p> <p>Developed By: Mark.ridgley Mark.Ridgley_LabVIEW.Developer@comcast.net</p> </td> <td></td> <td></td> <td></td>	<p>Determine Clicked Array Element Index - Get Minimal Array Properties.vi</p> <p>Description: This VI returns the minimal properties of the array specified by the Array Reference input. Minimal properties are the properties when the scrollbars, index display, label and caption are hidden.</p> <p>Inputs: Array Reference - Reference to the array to operate on.</p> <p>Coords of Click - The coordinates indicating where the user clicked.</p> <p>error in - Standard error cluster.</p> <p>Outputs: dup Array Reference - Dup reference to the array to operate on.</p> <p>Minimal Array Properties.Bounds - The bounds of the array when the scrollbars, index display, label and caption are hidden.</p> <p>Minimal Array Properties.Position - The position of the array when the scrollbars, index display, label and caption are hidden.</p> <p>dup Coords of Click - Dup coordinates indicating where the user clicked.</p> <p>error out - Standard error cluster.</p> <p>Developed By: Mark.ridgley Mark.Ridgley_LabVIEW.Developer@comcast.net</p>			

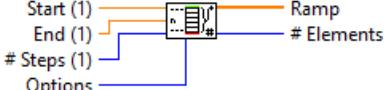
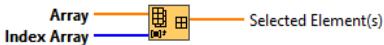
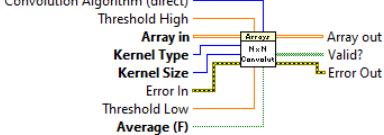
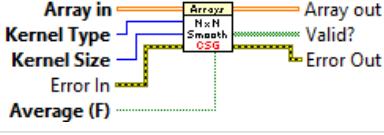
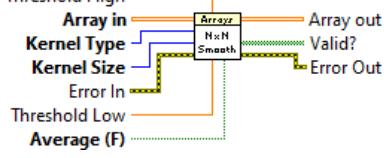
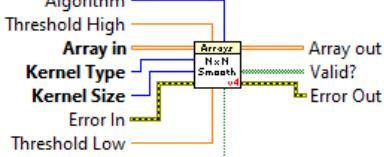
Name	Connector pane	Description	S.	R.	I.
Determine Clicked Array Element Index - Test For Array Element Gap	 <p>The block diagram shows the internal structure of the VI. It starts with an "Array Reference" and "Array Properties.Bounds.Width" input. These feed into a "dup Array Reference" block. The "dup Array Reference" block also receives "error in (no error)". The output of "dup Array Reference" is "Array has element gap?", "Column Left Coordinates", and "Row Top Coordinates". The "dup Array Reference" block also outputs "error out". The "dup Array Reference" block also outputs "Un-gapped left coordinates" and "Gapped left coordinates" to a "Gapped left coordinates" block. The "Gapped left coordinates" block also receives "error in (no error)" and outputs "Gapped left coordinates". The "Gapped left coordinates" block also outputs "error out". The "Gapped left coordinates" block also outputs "Un-gapped top coordinates" and "Gapped top coordinates" to a "Gapped top coordinates" block. The "Gapped top coordinates" block also receives "error in (no error)" and outputs "Gapped top coordinates". The "Gapped top coordinates" block also outputs "error out".</p>	<p>Determine Clicked Array Element Index - Test For Array Element Gap.vi</p> <p>Description: This VI determines if the array specified by the Array Reference input has an element gap displayed and outputs either the gapped or un-gapped coordinates accordingly.</p> <p>Inputs: Array Reference - Reference to the array to operate on.</p> <p>Array Properties.Bounds.Width - The width of the array when the scrollbars, index display, label and caption are hidden.</p> <p>Un-gapped left coordinates - The left coordinates of each column with no element gap accounted for.</p> <p>Gapped left coordinates - The left coordinates of each column with element gap accounted for.</p> <p>Un-gapped top coordinates - The top coordinates of each row with no element gap accounted for.</p> <p>Gapped top coordinates - The top coordinates of each row with element gap accounted for.</p> <p>error in - Standard error cluster.</p> <p>Outputs: dup Array Reference - Dup reference to the array to operate on.</p> <p>Array has element gap? - Indicates if the array has an element gap displayed or not.</p> <p>Column left coordinates - The left coordinates of all columns displayed in the array.</p> <p>Row Top coordinates - The top coordinates of all rows displayed in the array.</p> <p>error out - Standard error cluster.</p>			

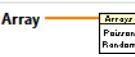
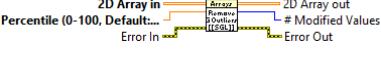
Name	Connector pane	Description	S.	R.	I.
Determine Clicked Array Element Index - Test For Error Code 1320		<p>Determine Clicked Array Element Index - Test For Error Code 1320.vi</p> <p>Description: This VI determines if error code 1320 has occurred, and if so, instructs the user how to correct the issue and cancels the error.</p> <p>Inputs: error in - Standard error cluster.</p> <p>Outputs: error out - standard error cluster.</p> <p>Developed By: Mark.ridgley Mark.Ridgley_LabVIEW.Developer@comcast.net</p>			

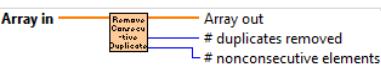
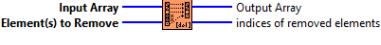
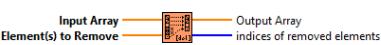
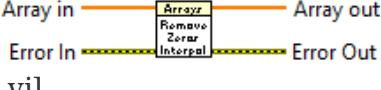
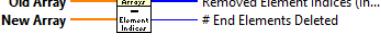
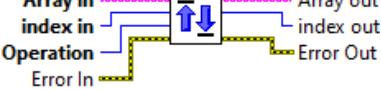
Name	Connector pane	Description	S.	R.	I.
Determine Clicked Array Element Index	 <p>Determine Clicked Array Element Index.vi</p> <p>Description: This VI takes the coordinates of click input and determines the index of the array element that the user clicked.</p> <p>NOTE: Proper operation of the Determine Clicked Array Element Index VI requires that a caption has been created for the array of interest by following the numbered steps below:</p> <ol style="list-style-type: none"> <li>(1) Right click on the array of interest and select Visible Items &gt;&gt; Caption (The item should be checked)</li> <li>(2) Right click on the array of interest and select Visible Items &gt;&gt; Caption (The item should be un-checked)</li> <li>(3) Right click on the array of interest and select Visible Items &gt;&gt; Label (The item should be checked)</li> <li>(4) Save the VI</li> </ol> <p>Inputs: Array Reference - Reference to the array to operate on.</p> <p>Coords of Click - The screen coordinates of the click within the array. These values are used to determine the index of the array element the user clicked.</p> <p>Outputs: Clicked Index - The row and col indices of the item that the user clicked in the array.</p> <p>Clicked Row - The row index of the item that the user clicked in the array.</p> <p>Clicked Col - The column index of the item that the user clicked in the array.</p> <p>Vert Scroll Clicked - Indicates if the vertical scrollbar was clicked.</p> <p>Horizontal Scroll Clicked - Indicates if the</p>				

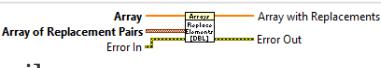
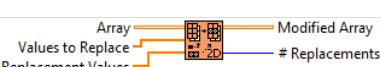
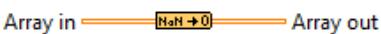
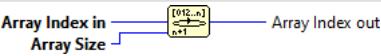
Name	Connector pane	Description	S.	R.	I.
Find Array High-Low Levels		Split the array into its lower and higher 50 percentiles and computes the mode (or mean) of each part.			
First Array Element [DBL]		No description found (add content in vi description)		 	
First Array Element [I32]		No description found (add content in vi description)		 	
First Array Element [I64]		No description found (add content in vi description)		 	
First Array Element [String]		No description found (add content in vi description)		 	
First Array Element [U32]		No description found (add content in vi description)		 	
First Array Element		No description found (add content in vi description)		 	
Get First Changed Array Value & Index	[Arrays.lvlib: Get First Changed Array Value & Index.vim]	No description found (add content in vi description)		 	
Index 1D Array		No description found (add content in vi description)		 	
Interpolate 1D Array (xN)		No description found (add content in vi description)		 	
Intervals Above Threshold		No description found (add content in vi description)			
Linear Ramp (DBL)		<p>Creates a linear ramp with steps provided by "Delta". Depending on the chosen Options:</p> <ul style="list-style-type: none"> <li>- Include Min/Exclude Max (Default) -</li> <li>- Exclude Min/Include Max -</li> <li>- Include Both -</li> <li>- Exclude Both</li> </ul> <p>the number of array elements will vary as well as the start and end values.</p>			

Name	Connector pane	Description	S.	R.	I.
Linear Ramp [I32]		No description found (add content in vi description)			
Linear Ramp [U8]		No description found (add content in vi description)			
Linear Ramp [U16]		No description found (add content in vi description)			
Linear Ramp by Number (CDB)		<p>Creates a linear ramp with steps provided by "Delta". Depending on the chosen Options:</p> <ul style="list-style-type: none"> <li>- Include Min/Exclude Max (Default) - Exclude Min/Include Max - Include Both - Exclude Both</li> </ul> <p>the number of array elements will vary as well as the start and end values.</p>			
Linear Ramp by Number		<p>Creates a linear ramp with N steps provided by "# Steps". The number of elements varies (see below). Depending on the chosen Options:</p> <ul style="list-style-type: none"> <li>- Include Min/Exclude Max (Default) - Exclude Min/Include Max - Include Both - Exclude Both</li> </ul> <p>the number of array elements will vary as well as the start and end values. For instance, let Min = 0, Max = 1, and # Steps = 5. The output will be:</p> <ul style="list-style-type: none"> <li>- Include Min/Exclude Max (Default): {0, 0.2, 0.4, 0.6, 0.8} = 5 elements</li> <li>- Exclude Min/Include Max: {0.2, 0.4, 0.6, 0.8, 1} = 5 elements</li> <li>- Include Both: {0, 0.2, 0.4, 0.6, 0.8, 1} = 6 elements</li> <li>- Exclude Both: {0.2, 0.4, 0.6, 0.8} = 4 elements</li> </ul>			
Linear Ramp by Step		Creates a Linear Ramp defined by a <B>Start</B> point, <B>Step</B> and number of points (<B># Points</B>).			

Name	Connector pane	Description	S.	R.	I.
Logarithmic Ramp by Number		<p>Creates a linear ramp with steps provided by "Delta". Depending on the chosen Options:</p> <ul style="list-style-type: none"> <li>- Include Min/Exclude Max (Default) -</li> <li>- Exclude Min/Include Max -</li> <li>- Include Both -</li> <li>- Exclude Both</li> </ul> <p>the number of array elements will vary as well as the start and end values.</p>			
Min & Max	[Arrays.lvlib:Min & Max [[I16]].vi]	No description found (add content in vi description)			
Min & Max	[Arrays.lvlib:Min & Max [[SGL]].vi]	No description found (add content in vi description)			
Min & Max	[Arrays.lvlib:Min & Max [[U8]].vi]	No description found (add content in vi description)			
Min & Max	[Arrays.lvlib:Min & Max [[U16]].vi]	No description found (add content in vi description)			
Multiple Index Array		No description found (add content in vi description)			
my Remove Duplicates from 1D Array		This polymorphic VI removes all duplicate elements in <B>Input Array</B> and outputs the result as <B>Output Array</B>. It also outputs the <B>indices of removed elements</B>.			
n x n Kernel Convolution (SGL)		No description found (add content in vi description)			
n x n Smooth 2D Array (CSG) v3		No description found (add content in vi description)			
n x n Smoothen Array (SGL) v3		No description found (add content in vi description)			
n x n Smoothen Array (SGL) v4		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
Number of Inf to NaN Conversions String	# Inf >> NaN —————— Inf>NaN —————— # inf >> NaN Conversion String	No description found (add content in vi description)			
Poisson Randomize Array	 Poisson Randomized Array	No description found (add content in vi description)			
Remove (Almost) Duplicates from 1D Array (DBL)	[Arrays.lvlib:Remove (Almost) Duplicates from 1D Array (DBL).vi]	This polymorphic VI removes all duplicate elements in <B>Input Array</B> and outputs the result as <B>Output Array</B>. It also outputs the <B>indices of removed elements</B>.			
Remove 2D Array Global Outliers (SGL) with Mask		No description found (add content in vi description)			
Remove 2D Array Global Outliers (SGL)		No description found (add content in vi description)			
Remove 2D Array Global Outliers (U8) with Mask		No description found (add content in vi description)			
Remove 2D Array Global Outliers (U16) with Mask		No description found (add content in vi description)			
Remove 2D Array Local Outliers (SGL)		No description found (add content in vi description)			
Remove Array Outliers		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
Remove Consecutive Duplicates		<p>Removes consecutive duplicated from an array.</p> <p>Go through all elements of the array and adds them to the array output only if they differ from the previous element.</p>			
Remove Element from 1D Array v2		This polymorphic VI filters out all instances of <B>items to filter</B> from the input <B>array</B> and outputs the result as <B>filtered array</B> along with an array of <B>filtered item indices</B> containing the indices of the items that were filtered. You can wire either a 1D array or a scalar value to <B>items to filter</B>.			
Remove Element from 1D Array		This polymorphic VI removes all duplicate elements in <B>Input Array</B> and outputs the result as <B>Output Array</B>. It also outputs the <B>indices of removed elements<B>.			
Remove NaN-containing Pairs		No description found (add content in vi description)			
Remove Zeros By Interpolation [DBL].vi]		Replaces zero elements by an interpolated value between the nearest elements or 1, whichever is largest. Repeats until there is no zero elements left or there is no change from one iteration to the next (in which case an error is returned).			
Removed Array Element Indices		Compares New and Old array, knowing that one or more elements were removed from the old array (and no changes to individual elements were made). Returns the indices (for the old array) where elements were removed (in reverse order) and how many elements were removed from the end.			
Reorder Array Element		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
Replace Array Element (by ref) [U32]	[Arrays.lvlib:Replace Array Element (by ref) [U32].vi]	No description found (add content in vi description)			
Replace Array Elements [DBL]		No description found (add content in vi description)			
Replace Elements in 2D Array		No description found (add content in vi description)			
Replace NaN by 0 (2D CSG)		No description found (add content in vi description)			
Replace NaN by 0 (2D SGL)		No description found (add content in vi description)			
Reshape 1D Array		No description found (add content in vi description)			
Signed Array Index		use $i[n]$ ( $i$ modulo $n$ ) as the resulting index, where $i$ is the input index and $n$ is the number of array element, making it a circular array.  For instance, to select the last array element, use $-1$ .  Using $i = n$ results in the first element to be selected ( $i \rightarrow 0$ ), etc.			
Slice Index Array in Contiguous Chunks		Sorts the input index array in increasing order and slices it into chunks of consecutive indices.			
Smoothen Noise below Threshold		No description found (add content in vi description)			
Split Array in Two		No description found (add content in vi description)			
Squish 1D Array to [0,1]	.vi]	No description found (add content in vi description)			
Threshold 1D Array (Linear Search) [DBL]	[Arrays.lvlib:Threshold 1D Array (Linear Search) [DBL].vi]	No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
Threshold 1D Array (xN)		No description found (add content in vi description)			
Threshold 1D T-Periodic Array (xN)		No description found (add content in vi description)			
Truncate Kernel		No description found (add content in vi description)			
Virtual Index of Element in Incremental Array		No description found (add content in vi description)			

Scope: → Protected | → Community

Reentrancy: → Preallocated reentrancy | → Shared reentrancy

Inlining: → Inlined

## 2.37. Becker-Hickl Files.lvlib

**Responsibility:** No description found (add content in lvlib description)

**Version:** 1.0.0.0

Table 37. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
Becker-Hickl Convert FLIM Dataset Info to String		No description found (add content in vi description)			
Becker-Hickl Load .sdt FLI Dataset Information		No description found (add content in vi description)			
Becker-Hickl Load FLIM Data Prelude		No description found (add content in vi description)			
Becker-Hickl Read Single DBL		No description found (add content in vi description)			
Becker-Hickl Read Single I16		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
Becker-Hickl Read Single I32		No description found (add content in vi description)			
Becker-Hickl Read Single SGL		No description found (add content in vi description)			
Becker-Hickl Read Single U8		No description found (add content in vi description)			
Becker-Hickl Read Single U16		No description found (add content in vi description)			
Becker-Hickl Read Single U32		No description found (add content in vi description)			
Extract Becker-Hickl ASCII Setup Parameters		No description found (add content in vi description)			
Extract Becker-Hickl Binary Setup Parameters		No description found (add content in vi description)			
Get Becker- Hickl Data Block Type		No description found (add content in vi description)			
Load Becker- Hickl Data Headers		No description found (add content in vi description)			
Load Becker- Hickl Data		No description found (add content in vi description)			
Load Becker- Hickl File Header		No description found (add content in vi description)			
Load Becker- Hickl File Information String		No description found (add content in vi description)			
Load Becker- Hickl File Setup		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
Load Becker-Hickl File		No description found (add content in vi description)			
Load Becker-Hickl FLIM Data Block		No description found (add content in vi description)			
Load Becker-Hickl Measurement Descriptions		No description found (add content in vi description)			
Load Becker-Hickl Measurement FCS Information		No description found (add content in vi description)			
Load Becker-Hickl Measurement Histo Information		No description found (add content in vi description)			
Load Becker-Hickl Measurement Stop Information		No description found (add content in vi description)			
Uncompress Becker-Hickl Data		No description found (add content in vi description)			
Load Becker-Hickl FLIM Data		No description found (add content in vi description)			
Load Becker-Hickl File Information		No description found (add content in vi description)			
Load Single Gate Image from Becker-Hickl .sdt File		No description found (add content in vi description)			

Scope: → Protected | → Community

Reentrancy: → Preallocated reentrancy | → Shared reentrancy

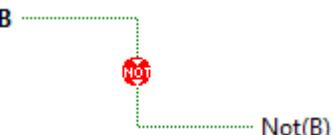
Inlining:  → Inlined

## 2.38. Boolean.lvlib

**Responsibility:** No description found (add content in lvlib description)

**Version:** 1.0.0.0

*Table 38. Functions (non private scope only)*

Name	Connector pane	Description	S.	R.	I.
Vertical Red Dot Not		No description found (add content in vi description)			

Scope:  → Protected |  → Community

Reentrancy:  → Preallocated reentrancy |  → Shared reentrancy

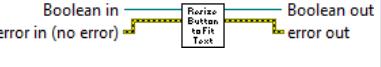
Inlining:  → Inlined

## 2.39. Buttons.lvlib

**Responsibility:** No description found (add content in lvlib description)

**Version:** 1.0.0.0

*Table 39. Functions (non private scope only)*

Name	Connector pane	Description	S.	R.	I.
Resize Button to Fit Text		No description found (add content in vi description)			

Scope:  → Protected |  → Community

Reentrancy:  → Preallocated reentrancy |  → Shared reentrancy

Inlining:  → Inlined

## 2.40. Comparison.lvlib

**Responsibility:** No description found (add content in lvlib description)

**Version:** 1.0.0.0

*Table 40. Functions (non private scope only)*

Name	Connector pane	Description	S.	R.	I.
[X] = X0 [DBL]	[Comparison.lvlib:[X] = X0 [DBL].vi]	No description found (add content in vi description)			
[X] ~ 0 [DBL]	[Comparison.lvlib:[X] ~ 0 [DBL].vi]	No description found (add content in vi description)			
Is a Valid Number (DBL)		No description found (add content in vi description)			
Is a Valid Number (SGL)		No description found (add content in vi description)			
Is Infinite or NaN		This VI checks the value of a <b>unitless</b> scalar.  To handle scalars with unit, use the <b>Convert Unit</b> function before this VIM.			
Is Infinite		No description found (add content in vi description)			
Is Valid Number (SGL 2D Array)		No description found (add content in vi description)			
Is Valid Number (SGL Array)		No description found (add content in vi description)			
x = y (+- epsilon) [DBL]	image:Comparison.lvlib_x_=y(_epsilon)_DBL_.vi.png[Comparison.lvlib:x = y (- epsilon) [DBL].vi]	No description found (add content in vi description)			
X ~ Y		Computes $ x-y / x $ and compares it to epsilon.  If $ x  = 0$ , use 1 instead (no normalization).			

Scope: → Protected | → Community

Reentrancy: → Preallocated reentrancy | → Shared reentrancy

Inlining: → Inlined

## 2.41. Error.lvlib

Responsibility: No description found (add content in lvlib description)

## Version: 1.0.0.0

Table 41. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
Anything to no Error Cluster		No description found (add content in vi description)			
Clear Error		No description found (add content in vi description)			
Clear Warning		<p>This VI output an "no error" cluster as &lt;B&gt;cleared warning or error dup&lt;/B&gt; if the input cluster is a warning, otherwise it leaves the input error cluster untouched.</p> <p>The &lt;b&gt;error in (dup)&lt;/b&gt; cluster is a copy of the input cluster, and is therefore where the copy of the clearer warning can be found.</p> <p>Use this VI to clear a warning when the following node overreacts to warnings (such as the Python Node, which interprets this as an error).</p>			
Convert Error Code & Message to Error Cluster	[Error.lvlib:Convert Error Code & Message to Error Cluster.vi]	No description found (add content in vi description)			
Convert Error to Warning		No description found (add content in vi description)			
Error Code to Error Cluster		No description found (add content in vi description)			
Filter Errors		No description found (add content in vi description)			
Get Best Case Error		No description found (add content in vi description)			
Is there an Error		No description found (add content in vi description)			

Scope: → Protected | → Community

Reentrancy: → Preallocated reentrancy | → Shared reentrancy

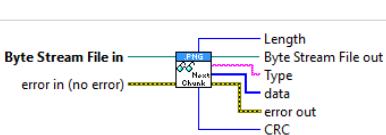
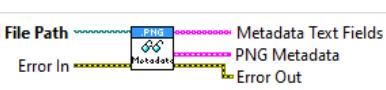
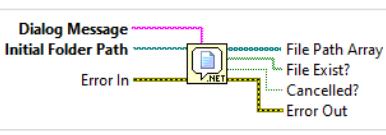
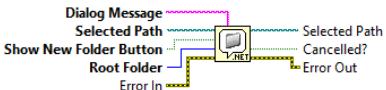
Inlining: → Inlined

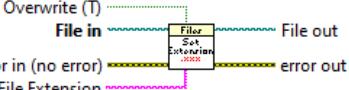
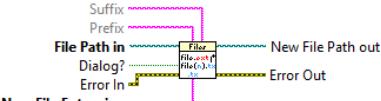
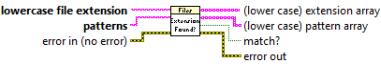
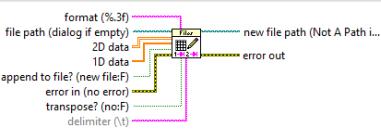
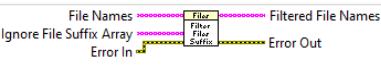
## 2.42. Files.lvlib

**Responsibility:** No description found (add content in lvlib description)

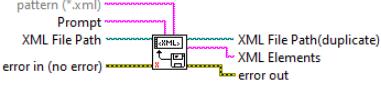
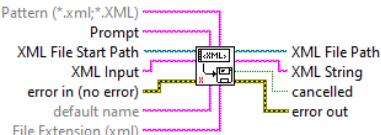
**Version:** 1.0.0.0

Table 42. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
Decode PNG End Chunk		No description found (add content in vi description)			
Decode PNG Header Chunk		No description found (add content in vi description)			
Decode PNG Palette Chunk		No description found (add content in vi description)			
Decode PNG pHYs Chunk		No description found (add content in vi description)			
Decode PNG tIME Chunk		No description found (add content in vi description)			
Read Next PNG Chunk		No description found (add content in vi description)			
Read PNG File Metadata		No description found (add content in vi description)			
Read PNG iTXT Chunk		No description found (add content in vi description)			
Read PNG tEXT Chunk		No description found (add content in vi description)			
Read PNG zTXT Chunk		No description found (add content in vi description)			
.NET File Dialog		No description found (add content in vi description)			
.NET Folder Dialog		No description found (add content in vi description)			
Backup File or Folder		Backup the file at the provided location (by creating a copy with ~added in front of the file name) and returns the original path for deletion (or other use). If the file doesn't exist, returns an error.			

Name	Connector pane	Description	S.	R.	I.
Change File Extension		No description found (add content in vi description)			
Create File on Error		Create a file with the specified path if there is an error as input. Returns the path of the created file with no error if the file could be created (or replaced).			
Create File with New Extension		Takes a file with extension 1 (e.g. <B>.ext</B>) or folder and a new extension 2 (e.g. <B>.tx</B>) and creates a new file with the second extension.  If a file with that name already exists, adds a number in parenthesis to the name to avoid overwriting the existing file.  Note: if the second extension does not contain a dot, it is added.			
Create New File (no overwrite)		This VI checks that the provided path is not used. If it is, it returns a path with a number suffix that is not used at that time.			
File Extension Found		No description found (add content in vi description)			
Files Write Delimited Spreadsheet (CSV)		Converts a 2D or 1D array of strings, signed integers, or double-precision numbers to a text string and writes the string to a new byte stream file or appends the string to an existing file. Wire data to the <B>2D data</B> input or <B>1D data</B> input to determine the polymorphic instance to use or manually select the instance.  Use this VI to transpose or separate data.  <B>Note</B> To format with Microsoft Excel, use ActiveX with LabVIEW or the Report Generation Toolkit for Microsoft Office.			
Filter File Names by Extension		No description found (add content in vi description)			
Filter Names by Suffix		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
Get Common Root Folder		No description found (add content in vi description)			
Get File Name or Folder Name (wo .ext)		No description found (add content in vi description)			
Get Ordered List of Files		No description found (add content in vi description)			
Modified File Dialog		No description found (add content in vi description)			
My Read Lines From File		Reads a specified number of lines from a byte stream file beginning at a specified character offset. The VI opens the file before reading from it and closes it afterwards.			
Open Folder Dialog		Displays a dialog box with which you can specify the path to a file or directory.  This Express VI is configured as follows:  Selection Mode: New or existing directory		P	
Save File Dialog with Overwrite Option		No description found (add content in vi description)			
Write Delimited Spreadsheet (SGL)		Converts a 2D or 1D array of strings, signed integers, or double-precision numbers to a text string and writes the string to a new byte stream file or appends the string to an existing file. Wire data to the <B>2D data</B> input or <B>1D data</B> input to determine the polymorphic instance to use or manually select the instance.  Use this VI to transpose or separate data.  <B>Note</B> To format with Microsoft Excel, use ActiveX with LabVIEW or the Report Generation Toolkit for Microsoft Office.			

Name	Connector pane	Description	S.	R.	I.
X_Read From XML File(string)		Reads and parses tags from a LabVIEW XML file. When you place this VI on the block diagram, the polymorphic VI selector is visible. Use this selector to choose which polymorphic instance to use. All XML data must follow the standard LabVIEW XML schema.			
X_Write to XML File(string)		Writes a text string of XML data with accompanying header tags to a text file. Wire data to the <B>XML Input</B> input to determine the polymorphic instance to use or manually select the instance. All XML data must follow the standard LabVIEW XML schema.			

Scope:  → Protected |  → Community

Reentrancy:  → Preallocated reentrancy |  → Shared reentrancy

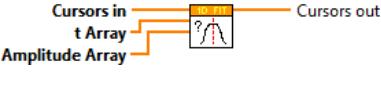
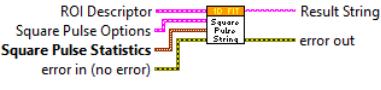
Inlining:  → Inlined

## 2.43. Fits.lvlib

**Responsibility:** No description found (add content in lvlib description)

**Version:** 1.0.0.0

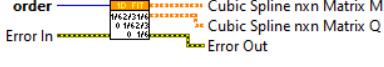
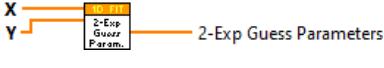
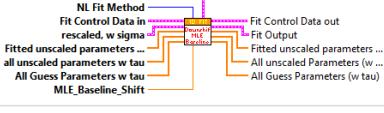
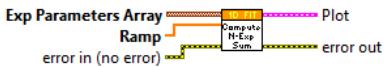
Table 43. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
Check Logistic Square Pulse Midpoint Location		No description found (add content in vi description)			
Square Pulse Fit Result String		No description found (add content in vi description)			
Square Pulse Options String		No description found (add content in vi description)			
1-Exp (X) Gaussian Fit		Extract IRF from provided decay and time constant			

Name	Connector pane	Description	S.	R.	I.
1D Fit Effective Number of Parameters		No description found (add content in vi description)			
1D Fit Insert Fixed Parameters		No description found (add content in vi description)			
1D Fit Rescale Fit Outputs		No description found (add content in vi description)			
1D Fit Rescale Fit Results (Stats)		No description found (add content in vi description)			
1D Fit Unscale Fit Outputs v2		No description found (add content in vi description)			
3 Gaussians Fit Guess Parameters		No description found (add content in vi description)			
Build Convolution Support v2		No description found (add content in vi description)			
Chi2 MLE		No description found (add content in vi description)			
CNR abx MLE		No description found (add content in vi description)			
Complement with Fixed Parameters		No description found (add content in vi description)			
Compute 1-Exp Guess Parameters		No description found (add content in vi description)			
Compute 2-Exp Guess Parameters		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
Compute Complementary Amplitude Multi-Exponential		No description found (add content in vi description)			
Compute Convolution Rotated Components		No description found (add content in vi description)			
Compute Deconvolved IRF Plot		No description found (add content in vi description)			
Compute Delta Best Fit Parameters from Hessian Matrix		No description found (add content in vi description)		[S]	
Compute Delta Best Fit Parameters		No description found (add content in vi description)		[S]	
Compute Fit Curve v4		No description found (add content in vi description)			
Compute Guess Fit Parameters		No description found (add content in vi description)			
Compute IRF(X)PSED Fitted Plot		No description found (add content in vi description)			
Compute IRF(X)PSED Plot		No description found (add content in vi description)			
Compute N-Exp Fit Optimal Offset		If more than 2 offsets have been tried, fits a parabola through the Chi^2 values to find the minimum location. and returns the curvature C_00 used to compute the offset uncertainty. Otherwise, use the result with the smallest Chi^2.		[S]	

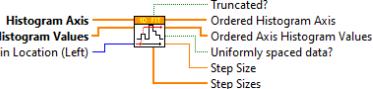
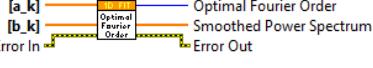
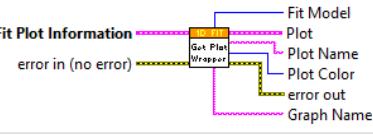
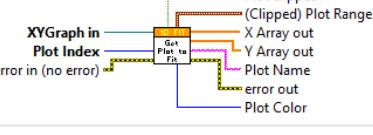
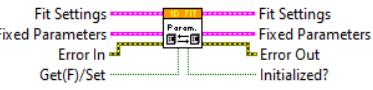
Name	Connector pane	Description	S.	R.	I.
Compute Optimal IRF v3		Extract IRF from provided decay and time constant			
Compute Plots Convolution Product v2		No description found (add content in vi description)			
Compute Weight Array v2		If provided, the control array should have the same dimension as the data array and be in [0, 1]			
Constrained IRF Amplitude Array		No description found (add content in vi description)			
Constrained IRF Amplitude Gradient Array		No description found (add content in vi description)			
Constrained Non-Linear Fit (Best of All)		No description found (add content in vi description)			
Convert Decay Fit Options v1 to v2	Decay Fit Options v1 → Decay Fit Options v2	No description found (add content in vi description)			
Convert Fit Parameters (tau to-from sigma)		The VI expects that bounds for all parameters of the model are provided.  This VI assumes that the <B>Fit Parameter Constraints</B> involve tau, and returns values which involve sigma = sqrt(tau).  Rescales the constraints according to the Y normalization factor.			
Create Array of n-Exp Fit Constraints		No description found (add content in vi description)			
Cubic Spline + Sine Fit Result String		No description found (add content in vi description)			

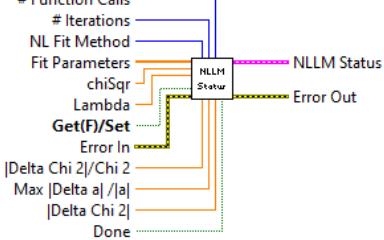
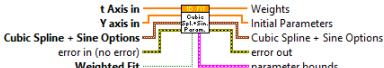
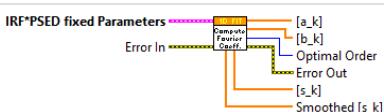
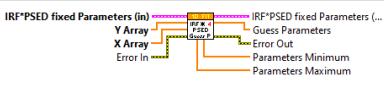
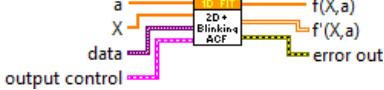
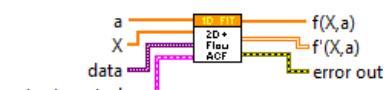
Name	Connector pane	Description	S.	R.	I.
Cubic Spline Matrices		No description found (add content in vi description)			
Decode Fit Parameter Names & Values	[Fits.lvlib:Decode Parameter Names & Values.vi]	Fit	No description found (add content in vi description)		
Double Exponential Guess Parameters		No description found (add content in vi description)			
Downshift MLE Baseline		No description found (add content in vi description)			
Evaluate Partial Derivatives of 1-Exp		No description found (add content in vi description)			
Evaluate Partial Derivatives of 2-Exp		No description found (add content in vi description)			
Evaluate Sum of Exponentials		Evaluates a sum of T-periodic exponential terms whose parameters are provided as an array of components (<B>Exp Parameters Array</B>).  The <B>baseline</B> parameter needs to be provided with the first component. Additional baseline parameters are ignored.  This VI computes the exponential term as $\exp(-(t - t_0)[T]/\tau)$ if parameter <B>sigma</B> is NaN.  Otherwise, the exponential term is computed as $\exp(-(t - t_0)[T]/\sigma^2)$ .  The sum is evaluated at locations provided in the <B>Ramp</B> array.			

Name	Connector pane	Description	S.	R.	I.
Extended Periodic 2-Exp Fit Parameters		No description found (add content in vi description)			
Extract IRF from PSED v2		Extract IRF from provided decay and time constant			
Extract IRF v2		Extract IRF from provided decay and time constant			
Extract IRF v3		Extract IRF from provided decay and time constant			
Extract IRF		Extract IRF from provided decay and time constant			
Find Edge Boundaries		No description found (add content in vi description)			
Fit Cubic Spline + Sine		No description found (add content in vi description)			
Fit Decay with Offset v2		No description found (add content in vi description)			
Fit Logistic Square Pulse		No description found (add content in vi description)			
Fit Model to Plot Core		No description found (add content in vi description)			
Fit Model to Plot v3		No description found (add content in vi description)			
Fit Model to Plot Wrapper		No description found (add content in vi description)			
Fit Plot to Circle		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
Fit Points to Circle		No description found (add content in vi description)			
Fit Regularized IRF		Extract IRF from provided decay and time constant			
Fit RSS, AIC & BIC	[Fits.lvlib:Fit RSS]	No description found (add content in vi description)			
Fit Tilted Logistic Square Pulse		No description found (add content in vi description)			
Fit to Square Pulse		No description found (add content in vi description)			
Format Fit Output		No description found (add content in vi description)			
Format Sum of Asymmetric Gaussians Fit Parameters		No description found (add content in vi description)			
Format Sum of Gaussians Fit Parameters		No description found (add content in vi description)			
Gaussian Fit Guess Parameters		No description found (add content in vi description)			
Get 2-Exp Global Fit Guess Parameters v2		No description found (add content in vi description)			
Get Best Fit Output (legacy)		Picks the fit with the largest R^2			
Get Best Fit Output v2		Picks the fit with the largest R^2			
Get Convolution Product Support		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
Get Cursor Positions		No description found (add content in vi description)			
Get Decay Fit Parameters		Get Decay fit parameters from fir output.			
Get Fit Parameter Names, Values & Uncertainties	[Fits.lvlib:Get Fit Parameter Names]	No description found (add content in vi description)			
Get Fit Plot Name		No description found (add content in vi description)			
Get Fit Results String		No description found (add content in vi description)			
Get Fit Settings		No description found (add content in vi description)			
Get Fixed & Fitted Parameters v2	[Fits.lvlib:Get Fixed & Fitted Parameters v2.vi]	No description found (add content in vi description)			
Get Fixed & Fitted Parameters	[Fits.lvlib:Get Fixed & Fitted Parameters.vi]	No description found (add content in vi description)			
Get Full Decay Fit & Residual Plots (1-Exp Fit) v2	[Fits.lvlib:Get Full Decay Fit & Residual Plots (1-Exp Fit) v2.vi]	No description found (add content in vi description)			
Get Full Decay Fit & Residual Plots (1-Exp Fit)	[Fits.lvlib:Get Full Decay Fit & Residual Plots (1-Exp Fit).vi]	No description found (add content in vi description)			
Get Full Decay Fit & Residual Plots (2-Exp Fit) v2	[Fits.lvlib:Get Full Decay Fit & Residual Plots (2-Exp Fit) v2.vi]	No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
Get Full Decay Fit & Residual Plots (2-Exp Fit)	[Fits.lvlib:Get Full Decay Fit & Residual Plots (2-Exp Fit).vi]	No description found (add content in vi description)			
Get Histogram Fit Axis v2		<p>Determines what abscissa values to use to fit the selected plot:</p> <p>If the histogram bin locations are &lt;B&gt;centered&lt;/B&gt;, the fit should use these values as X coordinates</p> <p>If the histogram bin locations are to the &lt;B&gt;left&lt;/B&gt;, the fit should use these values + 1/2 bin size as X coordinates</p> <p>If the histogram bin locations are to the &lt;B&gt;right&lt;/B&gt;, the fit should use these values - 1/2 bin size as X coordinates</p> <p>Note: this assumes that the user is not choosing the plot's interpolation arbitrarily!</p>			
Get IRF support & Guess Values	[Fits.lvlib:Get IRF support & Guess Values.vi]	No description found (add content in vi description)			
Get Optimal Fourier Order		No description found (add content in vi description)			
Get Plot to Fit Wrapper		No description found (add content in vi description)			
Get Plot to Fit		No description found (add content in vi description)			
Get Valid Decay Fit Parameters List	Parameter ID Array Size → Current Version	No description found (add content in vi description)			
Get-Set 1D Fit Parameters		No description found (add content in vi description)			

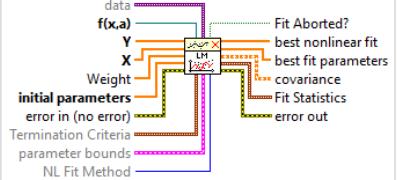
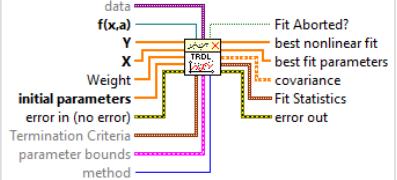
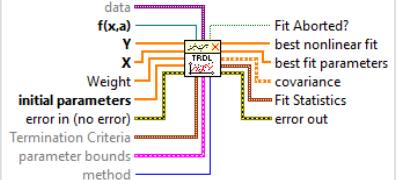
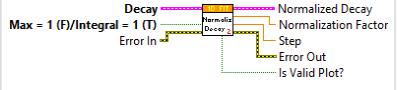
Name	Connector pane	Description	S.	R.	I.
Get-Set NLLM Fit Status		No description found (add content in vi description)			
Global LM model function and gradient (1-Exp, Convolved, Periodic)		This template is the starting point for creating a model function to be passed to the Nonlinear Curve Fit.vi.			
Global LM model function and gradient (2-Exp, Convolved, Periodic)		This template is the starting point for creating a model function to be passed to the Nonlinear Curve Fit.vi.			
Init Cubic Spline + Sine Parameters		No description found (add content in vi description)			
Insert Fitted Offset in Parameters Array		No description found (add content in vi description)			
IRF(X)PSED Fourier Coefficients		No description found (add content in vi description)			
IRF(X)PSED Guess Parameters v4		No description found (add content in vi description)			
LM 2D Gaussian + Blinking ACF and gradient		This template is the starting point for creating a model function to be passed to the Nonlinear Curve Fit.vi.			
LM 2D Gaussian + Flow ACF and gradient		This template is the starting point for creating a model function to be passed to the Nonlinear Curve Fit.vi.			

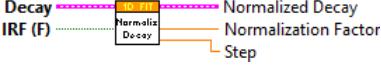
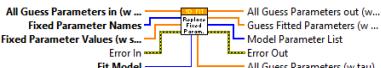
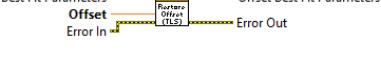
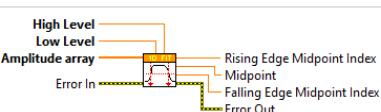
Name	Connector pane	Description	S.	R.	I.
LM 2D Gaussian ACF + Flow and gradient (Global)	[Fits.lvlib:LM 2D Gaussian ACF + Flow and gradient (Global).vi]	This template is the starting point for creating a model function to be passed to the Nonlinear Curve Fit.vi.			
LM 2D Gaussian ACF and gradient		This template is the starting point for creating a model function to be passed to the Nonlinear Curve Fit.vi.			
LM 3D Gaussian + Blinking ACF and gradient		This template is the starting point for creating a model function to be passed to the Nonlinear Curve Fit.vi.			
LM 3D Gaussian ACF and gradient		This template is the starting point for creating a model function to be passed to the Nonlinear Curve Fit.vi.			
LM Asymmetric Gaussian and gradient		This template is the starting point for creating a model function to be passed to the Nonlinear Curve Fit.vi.			
LM Asymmetric Lorentzian and gradient		This template is the starting point for creating a model function to be passed to the Nonlinear Curve Fit.vi.			
LM Cubic Spline + Sine and gradient		This template is the starting point for creating a model function to be passed to the Nonlinear Curve Fit.vi.			
LM Double Exponential and gradient		This template is the starting point for creating a model function to be passed to the Nonlinear Curve Fit.vi.			
LM Gaussian and gradient		This template is the starting point for creating a model function to be passed to the Nonlinear Curve Fit.vi.			
LM Gaussian-Lorentzian and gradient		This template is the starting point for creating a model function to be passed to the Nonlinear Curve Fit.vi.			
LM IRF(X)PSED and gradient v4		This template is the starting point for creating a model function to be passed to the Nonlinear Curve Fit.vi.			
LM Lorentzian and gradient		This template is the starting point for creating a model function to be passed to the Nonlinear Curve Fit.vi.			

Name	Connector pane	Description	S.	R.	I.
LM Lorentzian-Gaussian and gradient		This template is the starting point for creating a model function to be passed to the Nonlinear Curve Fit.vi.			
LM model function and gradient (1-Exp, Convolved) v2		This template is the starting point for creating a model function to be passed to the Nonlinear Curve Fit.vi.			
LM model function and gradient (1-Exp, Convolved, Periodic) v3		This template is the starting point for creating a model function to be passed to the Nonlinear Curve Fit.vi.			
LM model function and gradient (1-Exp, Convolved, Periodic, Fixed Parameters) v3		This template is the starting point for creating a model function to be passed to the Nonlinear Curve Fit.vi.			
LM model function and gradient (1-Exp, Gated, Periodic)		This template is the starting point for creating a model function to be passed to the Nonlinear Curve Fit.vi.			
LM model function and gradient (2-Exp + IRF) v2		This template is the starting point for creating a model function to be passed to the Nonlinear Curve Fit.vi.			
LM model function and gradient (2-Exp, Convolved, Periodic) v3		This template is the starting point for creating a model function to be passed to the Nonlinear Curve Fit.vi.			

Name	Connector pane	Description	S.	R.	I.
LM model function and gradient (2-Exp, Convolved, Periodic, Fixed Parameters) v3		This template is the starting point for creating a model function to be passed to the Nonlinear Curve Fit.vi.			
LM model function and gradient (Gaussian (X) 1-Exp)		This template is the starting point for creating a model function to be passed to the Nonlinear Curve Fit.vi.			
LM model function and gradient (IRF deconvolution + 1-Exp)		This template is the starting point for creating a model function to be passed to the Nonlinear Curve Fit.vi.			
LM model Function and gradient (Logistic Square-Gated IRF)		This template is the starting point for creating a model function to be passed to the Nonlinear Curve Fit.vi.			
LM model Function and gradient (Tilted Logistic Square-Gated IRF)		This template is the starting point for creating a model function to be passed to the Nonlinear Curve Fit.vi.			
LM Single Exponential and gradient		This template is the starting point for creating a model function to be passed to the Nonlinear Curve Fit.vi.			
LM Three Asymmetric Gaussians and gradient		This template is the starting point for creating a model function to be passed to the Nonlinear Curve Fit.vi.			
LM Three Gaussians and gradient		This template is the starting point for creating a model function to be passed to the Nonlinear Curve Fit.vi.			

Name	Connector pane	Description	S.	R.	I.
LM Two Asymmetric Gaussians and gradient		This template is the starting point for creating a model function to be passed to the Nonlinear Curve Fit.vi.			
LM Two Gaussians and gradient		This template is the starting point for creating a model function to be passed to the Nonlinear Curve Fit.vi.			
LM Two H-Connected Asymmetric Gaussians and gradient		This template is the starting point for creating a model function to be passed to the Nonlinear Curve Fit.vi.			
LM Two H-Connected Gaussians and gradient		This template is the starting point for creating a model function to be passed to the Nonlinear Curve Fit.vi.			
LM Two T-Connected Asymmetric Gaussians and gradient		This template is the starting point for creating a model function to be passed to the Nonlinear Curve Fit.vi.			
LM Two T-Connected Gaussians and gradient		This template is the starting point for creating a model function to be passed to the Nonlinear Curve Fit.vi.			
Logistic Square Pulse Fit Result String		No description found (add content in vi description)			
Model IRF Fit Output String		No description found (add content in vi description)			
Model Parameter List		No description found (add content in vi description)			
My Check Fit Convergence		No description found (add content in vi description)			
My Nonlinear Curve Fit Intervals		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
My Nonlinear Curve Fit LM bounds		No description found (add content in vi description)			
My Nonlinear Curve Fit TR bounds		No description found (add content in vi description)			
My Nonlinear Curve Fit TRDL bounds		No description found (add content in vi description)			
N Asymmetric Gaussians Fit Guess Parameters		No description found (add content in vi description)			
Normalize Decay v2		<p>Normalizes the incoming plot such that the integral equals 1.</p> <p>* &lt;B&gt;IRF = False&lt;/B&gt;: The Y Array is divided by the sum of all Y values (&lt;B&gt;Normalization Factor&lt;/B&gt;) multiplied by the most likely abscissa step (&lt;B&gt;Step&lt;/B&gt;, maximum interval between successive abscissa).</p> <p>* &lt;B&gt;IRF = True&lt;/B&gt;: The Y Array is divided by the sum of all Y values (&lt;B&gt;Normalization Factor&lt;/B&gt;).</p>			

Name	Connector pane	Description	S.	R.	I.
Normalize Decay		<p>Normalizes the incoming plot such that the integral equals 1.</p> <p>* &lt;B&gt;IRF = False&lt;/B&gt;: The Y Array is divided by the sum of all Y values (&lt;B&gt;Normalization Factor&lt;/B&gt;) multiplied by the most likely abscissa step (&lt;B&gt;Step&lt;/B&gt;, maximum interval between successive abscissa).</p> <p>* &lt;B&gt;IRF = True&lt;/B&gt;: The Y Array is divided by the sum of all Y values (&lt;B&gt;Normalization Factor&lt;/B&gt;).</p>			
Optimal Offset Calculations		No description found (add content in vi description)			
Replace Fixed Parameters		<p>This VI assumes that &lt;B&gt;All Parameters in&lt;/B&gt; involve tau, and &lt;B&gt;Fixed Parameters&lt;/B&gt; involve sigma = sqrt(tau).</p> <p>It returns &lt;B&gt;All Parameters out&lt;/B&gt; and &lt;B&gt;Fitted Parameters&lt;/B&gt; involving sigma = sqrt(tau).</p> <p>However, &lt;B&gt;Guess Parameters&lt;/B&gt; involve tau.</p>			
Restore Offset to Logistic Square Pulse Parameters		No description found (add content in vi description)			
Restore Offset to Tilted Logistic Square Pulse Parameters		No description found (add content in vi description)			
Rising-Falling Edge Midpoints		No description found (add content in vi description)			
Scale 1-Exp Parameter Constraints		Rescales the constraints according to the Y normalization factor.			

Name	Connector pane	Description	S.	R.	I.
Scale 2-Exp Parameter Constraints		No description found (add content in vi description)			
Scale All Parameter Constraints		The VI expects that bounds for all parameters of the model are provided.  This VI assumes that the <B>Fit Parameter Constraints</B> involve tau, and returns values which involve sigma = sqrt(tau).  Rescales the constraints according to the Y normalization factor.			
Square Gated IRF Fit Result File String		No description found (add content in vi description)			
Square Pulse Plot		No description found (add content in vi description)			
Square Pulse Rise & Fall Characteristics	[Fits.lvlib:Square Pulse Rise & Fall Characteristics.vi]	No description found (add content in vi description)			
String to Fit Model		No description found (add content in vi description)			
Tilted Logistic Square Pulse Fit Result File String		Creates Notebook output for a tilted logistic square gate fit.			
Tilted Logistic Square Pulse Fit Result String		No description found (add content in vi description)			
Tilted Logistic Square Pulse Guess Parameters		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
Two Asymmetric Gaussians Fit Guess Parameters		No description found (add content in vi description)			
Two Gaussians Fit Guess Parameters		No description found (add content in vi description)			
Update Optimal Offset Fit Output		Adds function calls and iterations from the offset series fits to those of the fit at the optimal offset			
Upshift MLE Baseline		No description found (add content in vi description)			

Scope: → Protected | → Community

Reentrancy: → Preallocated reentrancy | → Shared reentrancy

Inlining: → Inlined

## 2.44. FLIMBox.lvlib

**Responsibility:** No description found (add content in lvlib description)

**Version:** 1.0.0.0

This library has no functions set to non private scope.

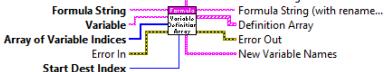
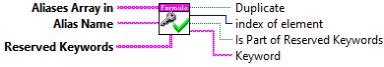
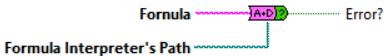
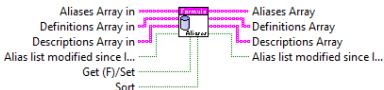
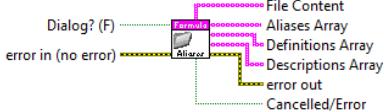
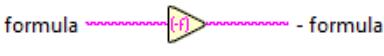
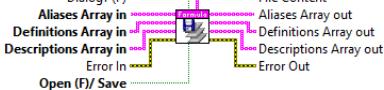
## 2.45. Formula.lvlib

**Responsibility:** No description found (add content in lvlib description)

**Version:** 1.0.0.0

*Table 44. Functions (non private scope only)*

Name	Connector pane	Description	S.	R.	I.
Aliases Definition Window		No description found (add content in vi description)			
Binary Formula Decoding		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
Build Variable Definition Array		No description found (add content in vi description)			
Check Alias for Reserved Keywords		No description found (add content in vi description)			
Check Formulas Alias Name		No description found (add content in vi description)			
Check Local Formula Validity		No description found (add content in vi description)			
Create Variable Name Array		No description found (add content in vi description)			
Expand Alias Formula		No description found (add content in vi description)			
Find Variable Indices in Formula		No description found (add content in vi description)			
Formula Aliases Storage		No description found (add content in vi description)			
Get-Set Reserved Keywords		No description found (add content in vi description)			
Load Formula Aliases		No description found (add content in vi description)			
Negate Formula String		No description found (add content in vi description)			
Open-Save Alias Definitions		No description found (add content in vi description)			
Replace Aliases in Formula		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
Replace Nested Parenthesis Pairs		No description found (add content in vi description)			
Save Formula Aliases		No description found (add content in vi description)			
Search for Deepest Nested Parenthesis Pairs		No description found (add content in vi description)			
Send Aliases to Notebook		No description found (add content in vi description)			
Sort Aliases by Names & Decreasing Length	[Formula.lvlib:Sort Aliases by Names & Decreasing Length.vi]	No description found (add content in vi description)			

Scope: → Protected | → Community

Reentrancy: → Preallocated reentrancy | → Shared reentrancy

Inlining: → Inlined

## 2.46. Graphs.lvlib

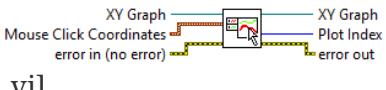
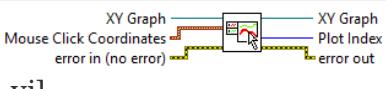
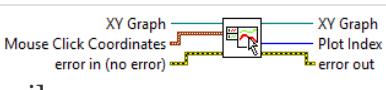
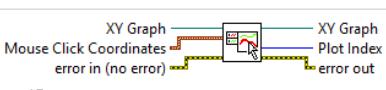
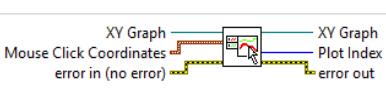
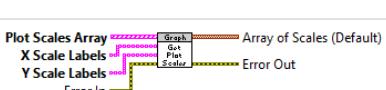
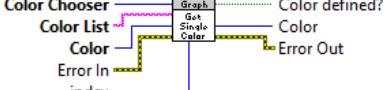
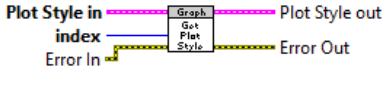
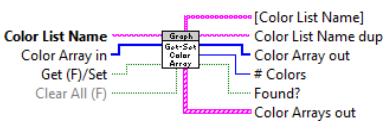
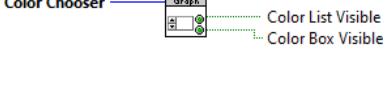
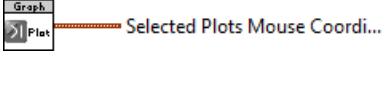
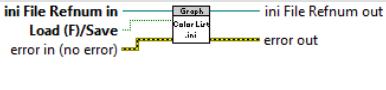
**Responsibility:** No description found (add content in lvlib description)

**Version:** 1.0.0.0

Table 45. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
Add N-complement Cursors		No description found (add content in vi description)			
All Plots Mouse Coordinates Constant		No description found (add content in vi description)			
Check whether Click is in Plot Area		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
Edit Color List Dialog		No description found (add content in vi description)			
Get Added Plot Index		Check whether the plot to add to a graph overwrites an existing one or is appended to the end (default).			
		Default Plot Index: 2,147,483,648 (= Inf) == Append to End Negative Plot Indices are counted from the last plot (-1: last, -2: next to last, etc.)			
Get Plot at Mouse Click [AAC]	 .vi]	Finds plot index at mouse click location in the specified XY Graph. If not Mouse Click Coordinates are provided, returns -1 as the index, which is generally interpreted as referring to the last plot in a Graph (but not always).			
		If Mouse Coordinates = [I32_max,I32_max], the last plot is returned (-1 is none exist)			
Get Plot at Mouse Click [AC]	 .vi]	No description found (add content in vi description)			
Get Plot at Mouse Click [ACCA]	 .vi]	No description found (add content in vi description)			
Get Plot at Mouse Click [APAC]	 .vi]	No description found (add content in vi description)			
Get Plot at Mouse Click [CA]	 .vi]	No description found (add content in vi description)			
Get Plot at Mouse Click [PA]	 .vi]	No description found (add content in vi description)			
Get Plot at Mouse Click in Legend		No description found (add content in vi description)			
Get Plot at Mouse Click in Plot Area [AAC]	 .vi]	If the Mouse Coordinates X value = 2147483647 (max I32 value), this means that the last plot is sought for is thus the plot returned. If there is no plot in the Graph, -1 is returned			

Name	Connector pane	Description	S.	R.	I.
Get Plot at Mouse Click in Plot Area [AC]		No description found (add content in vi description)			
Get Plot at Mouse Click in Plot Area [ACCA]		No description found (add content in vi description)			
Get Plot at Mouse Click in Plot Area [APAC]		No description found (add content in vi description)			
Get Plot at Mouse Click in Plot Area [CA]		No description found (add content in vi description)			
Get Plot at Mouse Click in Plot Area [PA]		No description found (add content in vi description)			
Get Plots Scale Indices		No description found (add content in vi description)			
Graph Get Color List Element		No description found (add content in vi description)			
Graph Get Single Plot Style		No description found (add content in vi description)			
Graph Get-Set Color Array		No description found (add content in vi description)			
Graph Plot Color Chooser Update		No description found (add content in vi description)			
Last Plot Mouse Coordinates Constant		No description found (add content in vi description)			
Load-Save Color Lists		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
Order Plot Axis		No description found (add content in vi description)			
Plot Style Chooser Dialog		No description found (add content in vi description)			
Point or Line Color List		No description found (add content in vi description)			
Restore X & Scale Indices	[Graphs.lvlib:Restore X & Scale Indices.vi]	No description found (add content in vi description)			
Selected Plots Mouse Coordinates Constant		No description found (add content in vi description)			
Set Waveform Graph Plot Style		No description found (add content in vi description)			
Special Mouse Coordinates		No description found (add content in vi description)			

Scope: → Protected | → Community

Reentrancy: → Preallocated reentrancy | → Shared reentrancy

Inlining: → Inlined

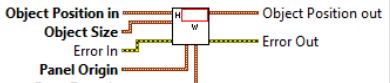
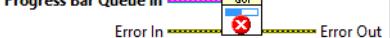
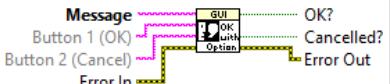
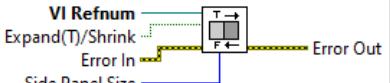
## 2.47. GUI.lvlib

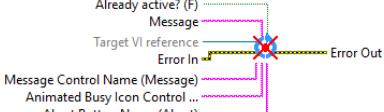
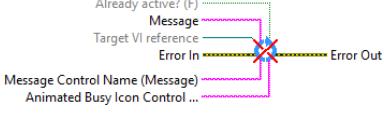
**Responsibility:** No description found (add content in lvlib description)

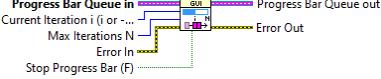
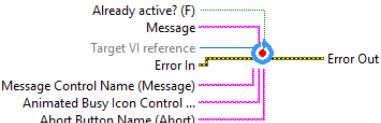
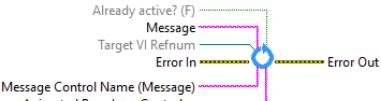
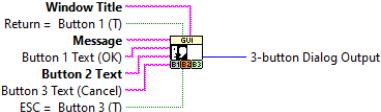
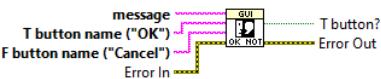
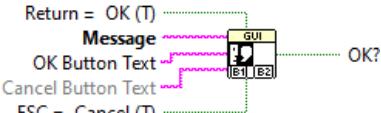
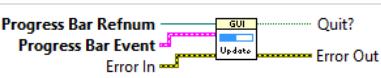
**Version:** 1.0.0.0

Table 46. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
Add File Path to VI Title		No description found (add content in vi description)			
Append Suffix to VI Name		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
Busy Icon & Message Storage	[GUI.lvlib:Busy Icon Message Storage.vi]	& No description found (add content in vi description)			
Check Keyboard Keys Pressed		No description found (add content in vi description)			
Constrain Object into Pane		No description found (add content in vi description)			
Destroy Embedded Progress Bar		No description found (add content in vi description)			
Dialog Window with Option		No description found (add content in vi description)		P	
Embedded Progress Bar Q		No description found (add content in vi description)			
Expand-Shrink Front Panel Right		No description found (add content in vi description)			
Get 2-variable Formula String Dialog		<p>Displays a standard dialog box that prompts users to enter information, such as a user name and password.</p> <p>-----</p> <p>This Express VI is configured as follows:</p> <p>Message to Display to the User: The inputs are: Text Entry Box: Formula</p>			
Get Formula String Dialog		<p>Displays a standard dialog box that prompts users to enter information, such as a user name and password.</p> <p>-----</p> <p>This Express VI is configured as follows:</p> <p>Message to Display to the User: The inputs are: Text Entry Box: Formula</p>			

Name	Connector pane	Description	S.	R.	I.
Hide Animated Busy Icon with Message and Abort Button		This VI passes error in through and ignores it.			
Hide Animated Busy Icon with Message		This VI passes error in through and ignores it.			
Hide Animated Busy Icon		This VI passes error in through and ignores it.			
New Object Name Dialog		<p>Displays a standard dialog box that prompts users to enter information, such as a user name and password.</p> <p>-----</p> <p>This Express VI is configured as follows:</p> <p>Message to Display to the User: Enter a name for the new ROI: The inputs are: Text Entry Box: ROI Name</p>			
Resize Message String & 3-button Dialog Window	[GUI.lvlib:Resize Message String & 3-button Dialog Window.vi]	No description found (add content in vi description)			
Resize Message String & Dialog Window	[GUI.lvlib:Resize Message String & Dialog Window.vi]	No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
Send Embedded Progress Bar Update		<p>Pass -2 before the first iteration for &lt;b&gt;Current Iteration i&lt;/b&gt; and -1 on subsequent iterations. The &lt;b&gt;Max Iterations N&lt;/b&gt; parameter is only needed on the first iteration and should be passed outside the loop with the value -2 for i.</p> <p>Wire True to &lt;b&gt;Stop Progress Bar&lt;/b&gt; to hide the Progress Bar (usually done outside a loop after completion of the task requiring the progress bar).</p>			
Set Slide Range		No description found (add content in vi description)			
Show Animated Busy Icon with Message and Abort Button		This VI uses error in normally (doesn't do anything if there is an error in) and passes through the error in (ignores additional internal errors).			
Show Animated Busy Icon with Message		This VI uses error in normally (doesn't do anything if there is an error in) and passes through the error in (ignores additional internal errors).			
Show Animated Busy Icon		This VI uses error in normally (doesn't do anything if there is an error in) and passes through the error in (ignores additional internal errors).			
Three Buttons Dialog Window		No description found (add content in vi description)			
Two Button Dialog with Error		No description found (add content in vi description)			
Two Buttons Dialog Window with Resizeable Message		No description found (add content in vi description)			
Update Embedded Progress Bar Indicator		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
VI References Storage		No description found (add content in vi description)			

Scope: → Protected | → Community

Reentrancy: → Preallocated reentrancy | → Shared reentrancy

Inlining: → Inlined

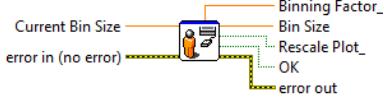
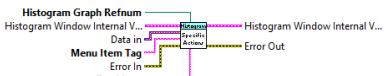
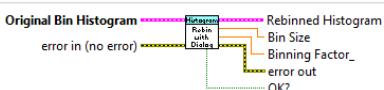
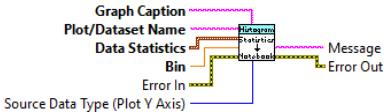
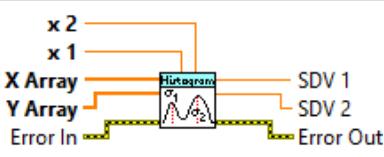
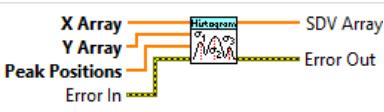
## 2.48. Histogram Window.lvlib

**Responsibility:** No description found (add content in lvlib description)

**Version:** 1.0.0.0

*Table 47. Functions (non private scope only)*

Name	Connector pane	Description	S.	R.	I.
Build Array Histogram		No description found (add content in vi description)			
Build Weighted Array Histogram		No description found (add content in vi description)			
Build XY Plot Histogram (Core)		No description found (add content in vi description)			
Create XY Plot Histogram		No description found (add content in vi description)			
Filter Histogram Values		No description found (add content in vi description)			
Get Histogram Style		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
Histogram Bin Size Definition Dialog		<p>Displays a standard dialog box that prompts users to enter information, such as a user name and password.</p> <p>-----</p> <p>This Express VI is configured as follows:</p> <p>Message to Display to the User:Histogram bin to use: The inputs are: Number: Bin</p>			
Histogram Bin Size Dialog		<p>Displays a standard dialog box that prompts users to enter information, such as a user name and password.</p> <p>-----</p> <p>This Express VI is configured as follows:</p> <p>Message to Display to the User:Enter new histogram bin size: The inputs are: Number: Bin Size</p>			
Histogram Window Specific Actions		No description found (add content in vi description)			
Histogram Window		No description found (add content in vi description)			
Rebin Plot with Dialog		No description found (add content in vi description)			
Send Data Statistics to Notebook		No description found (add content in vi description)			
Compute Histogram Halves Standard Deviations		No description found (add content in vi description)			
Compute Histogram Thirds Standard Deviations		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
Histogram Mean & Standard Deviation	[Histogram Window.lvlib:Histogram Mean & Standard Deviation.vi]	No description found (add content in vi description)			

Scope:  → Protected |  → Community

Reentrancy:  → Preallocated reentrancy |  → Shared reentrancy

Inlining:  → Inlined

## 2.49. Histograms.lvlib

**Responsibility:** No description found (add content in lvlib description)

**Version:** 1.0.0.0

*Table 48. Functions (non private scope only)*

Name	Connector pane	Description	S.	R.	I.
Get Histogram Low & High Percentile Locations	[Histograms.lvlib:Get Histogram Low & High Percentile Locations.vi]	No description found (add content in vi description)			
Histogram Min & Max Percentiles	[Histograms.lvlib:Histogram Min & Max Percentiles.vi]	No description found (add content in vi description)			
Set-Get Histogram Min & Max Cursor Locations	[Histograms.lvlib:Set-Get Histogram Min & Max Cursor Locations.vi]	No description found (add content in vi description)			

Scope:  → Protected |  → Community

Reentrancy:  → Preallocated reentrancy |  → Shared reentrancy

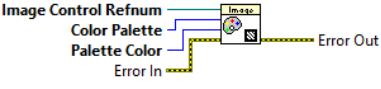
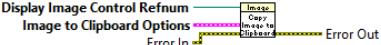
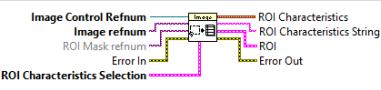
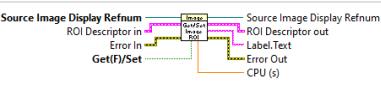
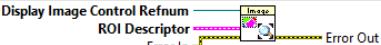
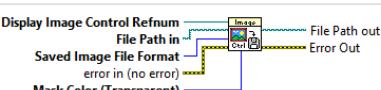
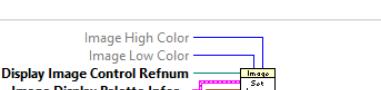
Inlining:  → Inlined

## 2.50. Image.lvlib

**Responsibility:** No description found (add content in lvlib description)

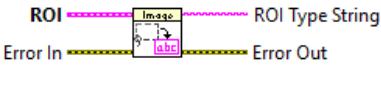
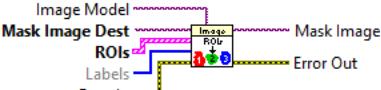
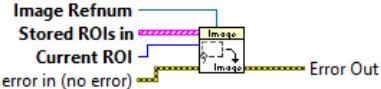
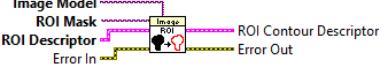
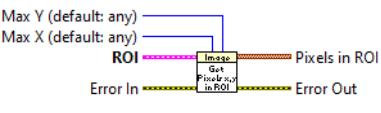
**Version:** 1.0.0.0

*Table 49. Functions (non private scope only)*

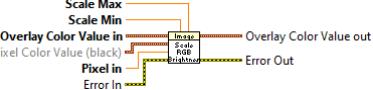
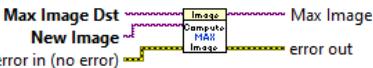
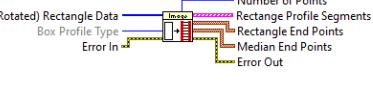
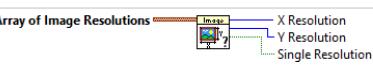
Name	Connector pane	Description	S.	R.	I.
Display Image in Image Control		No description found (add content in vi description)			
Image Display Change Palette		No description found (add content in vi description)			
Image Display Copy Image to Clipboard		No description found (add content in vi description)			
Image Display Get ROI Characteristics		No description found (add content in vi description)			
Image Display Get-Set ROI		No description found (add content in vi description)			
Image Display Is ROI Selected		No description found (add content in vi description)			
Image Display Mouse Wheel Zoom		No description found (add content in vi description)			
Image Display Rectangle ROI Zoom		No description found (add content in vi description)			
Image Display Save Image		No description found (add content in vi description)			
Image Display Save Overlay		No description found (add content in vi description)			
Image Display Set Color Palette		No description found (add content in vi description)			

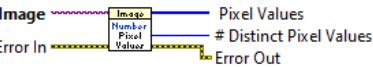
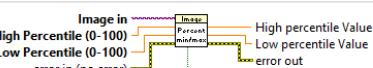
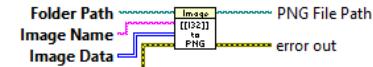
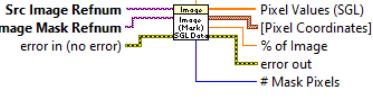
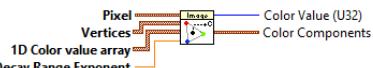
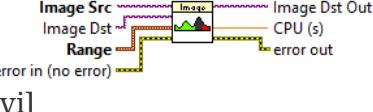
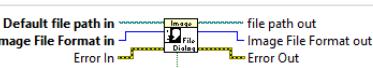
Name	Connector pane	Description	S.	R.	I.
Image Display Set ROI Diameter		No description found (add content in vi description)			
Image Display Zoom to Fit		No description found (add content in vi description)			
Check ROI Type (Closed or Open)		No description found (add content in vi description)			
Compute Image ROI Statistics		<p>&lt;B&gt;Image Refnum&lt;/B&gt; is the image to be analyzed.</p> <p>&lt;B&gt;ROI Mask Refnum&lt;/B&gt; is the image used to store the mask image corresponding to the ROI (same type as source image). If no image is provided, a temporary one is created (and destroyed after use).</p> <p>&lt;B&gt;ROI&lt;/B&gt; is the ROI descriptor.</p>			
Compute ROI Grid v2		No description found (add content in vi description)			
Convert Oval to ROI		Converts a rectangle or rotated rectangle to an ROI Descriptor. The contour of the ROI Descriptor returned is always of the type rotated rectangle.			
Create Single Pixel ROIs from ROI (Core)		No description found (add content in vi description)			
Extract Complementary Image ROI		Builds complementary ROI.			
Extract ROI Points		No description found (add content in vi description)			
Find ROI Max Location v2		No description found (add content in vi description)			
Generic ROI Barycenter		No description found (add content in vi description)			
Get All Points in ROI		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
Get ROI Area		No description found (add content in vi description)			
Get ROI Description String		No description found (add content in vi description)			
Get ROI Grid Definition		Displays a standard dialog box that prompts users to enter information, such as a user name and password.  -----  This Express VI is configured as follows:  Message to Display to the User: The inputs are: Number: Horizontal Step Number: Vertical Step Number: Horizontal Size Number: Vertical Side Number: # Horizontal ROIs Number: # Vertical ROIs			
Get ROI Statistics String		No description found (add content in vi description)			
Image Get Line ROI Extremities		No description found (add content in vi description)			
Is Current ROI Tool Zoom, Pan or Ellipse		No description found (add content in vi description)			
Is Point in Rectangular ROI		No description found (add content in vi description)			
is ROI Empty		No description found (add content in vi description)			
Mask Image to ROIs		No description found (add content in vi description)			
my Convert ROI to Point		Converts an ROI Descriptor to a point element.			
Named ROIs to ROI Descriptors		No description found (add content in vi description)			
ROI Barycenter		No description found (add content in vi description)			

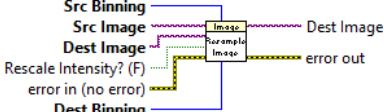
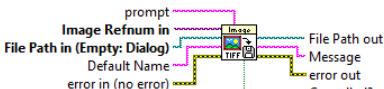
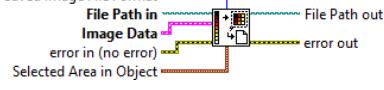
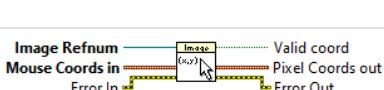
Name	Connector pane	Description	S.	R.	I.
ROI Description to ROI		No description found (add content in vi description)			
ROI to Default ROI Name		No description found (add content in vi description)			
ROIs to Mask Image		No description found (add content in vi description)			
Select ROI Statistics Dialog		<p>Displays a standard dialog box that prompts users to enter information, such as a user name and password.</p> <hr/> <p>This Express VI is configured as follows:</p> <p>Message to Display to the User:Select the type of data to export: The inputs are:      Checkbox: Average Plot Data      Checkbox: g      Checkbox: s      Checkbox: m      Checkbox: phi      Checkbox: tau phi      Checkbox: tau m      Checkbox: phasor ratio      Checkbox: &lt;tau&gt;      Checkbox: Standard Deviations</p>			
Set Image Current ROI		No description found (add content in vi description)			
Threshold Max Image to ROIs		No description found (add content in vi description)			
Get Image ROI Contour		No description found (add content in vi description)			
Get ROI Edge ROI		No description found (add content in vi description)			
Convert ROI Type to Image Selection Tool		No description found (add content in vi description)			
Get Pixel Coordinates in ROI		No description found (add content in vi description)			

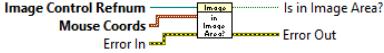
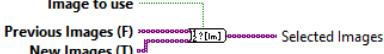
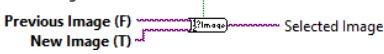
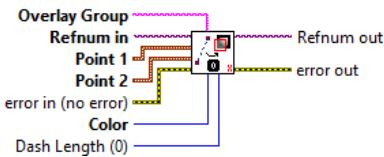
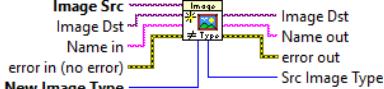
Name	Connector pane	Description	S.	R.	I.
X_IMAQ Convert Point to ROI		Converts a point element to an ROI Descriptor.			
ROI Segment Points to Array of Pixels		No description found (add content in vi description)			
Create Image Type		No description found (add content in vi description)			
Compare Image Sizes		No description found (add content in vi description)			
Create-Reset 0 SGL Image		No description found (add content in vi description)			
Dispose Array of Images		No description found (add content in vi description)			
Create Same Type Image v2		No description found (add content in vi description)			
Adjusted Palette Range		No description found (add content in vi description)			
Bin SGL Image		No description found (add content in vi description)			
Calculate Zoom From Mouse Wheel		No description found (add content in vi description)			
Calculate Zoom from ROI & Image Size	[Image.lvlib:Calculate_Zoom from ROI & Image Size.vi]	No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
Adjust Pixel Overlay Brightness		<p>Scales the brightness of a RGB <b>Overlay Valor Value in</b> according to the value of <b>Pixel in</b> and <b>Scale Min</b> &amp; <b>Scale Max</b> according to:</p> $R,G,B \text{ out} = R,G,B \text{ in} \times f \quad f = (\text{Pixel in} - \text{Scale Min}) / (\text{Scale Max} - \text{Scale Min})$ <p>where a value of 0 is used for <math>f</math> if <math>\text{Pixel in} &lt; \text{Scale Min}</math> and a value of 1 if <math>\text{Pixel in} &gt; \text{Scale Max}</math>.</p> <p>If <b>Pixel Color Value</b> is provided, the overlay color is blended with that of the pixel such that for a <b>Pixel in</b> value of <b>Scale Min</b>, the overlay color is identical to that of the pixel:</p> $R,G,B \text{ out} = R,G,B \text{ in} \times (1 - f) + \text{Pixel Color in} \times f \quad f = (\text{Pixel in} - \text{Scale Min}) / (\text{Scale Max} - \text{Scale Min})$			
Color Picker Dialog		No description found (add content in vi description)			
Compute Linear Coefficients		Computes the intercept ( $u$ : vertical coordinate for abscissa = 0) and slope ( $v$ ) of the line connecting the two points.			
Compute Max Image		No description found (add content in vi description)			
Compute Peak Max Image		No description found (add content in vi description)			
Convert Coordinates Array to Vertices		No description found (add content in vi description)			
Convert Rectangle Data to Segment Array		Converts the array of Rectangle (or Rotated Rectangle) data to an array of structures, each containing an array of (x,y) point coordinates for the corresponding "cross-section" segments.			
Get Common Image Resolution		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
Copy Image Data to Clipboard		No description found (add content in vi description)			
Get Image Number of Pixel Values		No description found (add content in vi description)			
Get Image Percentiles		No description found (add content in vi description)			
Get SGL Image Pixel Values		No description found (add content in vi description)			
Global Rectangle Origin & Size	[Image.lvlib:Global Rectangle Origin & Size.vi]	No description found (add content in vi description)			
I32 Image Data to PNG		No description found (add content in vi description)			
Image (Mask) SGL Data		Returns the value (SGL) of pixels od the <B>Src Image</B> matching the mask. <B>Image Mask</B> needs to be of U8 or U16 type.			
Image (Mask) Characteristics		No description found (add content in vi description)			
Image Compute Polygon Interpolated Color		No description found (add content in vi description)			
Image Dual Threshold [SGL]		Sets the out-of-range values of <B>Image Src</B>s to range min or max.s  If <B>Image Dst</B> is not provided, <B>Image Src</B> is used as the destination.			
Image Dual Threshold [U16]		No description found (add content in vi description)			
Image File Dialog (Optional)		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
Image Get Pixel Color		<p>Provide the <b>&lt;B&gt;Image Display Range&lt;/B&gt;</b> and <b>&lt;B&gt;Image Display Palette</b> Information&lt;/B&gt; when first calling this VI (setting <b>&lt;B&gt;Init Palette&lt;/B&gt; = TRUE</b>), and if appropriate, the <b>&lt;B&gt;Image High Color&lt;/B&gt;</b> and <b>&lt;B&gt;Image Low Color&lt;/B&gt;</b> parameters.</p> <p>On subsequent calls, if no change occurred to these settings, only provide the <b>&lt;B&gt;Image Pixel Value&lt;/B&gt;</b> parameter and set <b>&lt;B&gt;Init Palette&lt;/B&gt; = FALSE</b>.</p>			
Image Histogram		No description found (add content in vi description)			
Image I32 Array to U8 Array Autocontrast		No description found (add content in vi description)			
Image Path Dialog		No description found (add content in vi description)			
Image to SGL Array		No description found (add content in vi description)			
IMAQ Get Pixel Value Wrapper		No description found (add content in vi description)			
Load Hot Pixel Map		No description found (add content in vi description)			
Order Rectangle & Median Coordinates	[Image.lvlib:Order Rectangle & Median Coordinates.vi]	No description found (add content in vi description)			
Rebin Image		If Dest Binning is $\leq 0$ , the Src Image is copied unchanged into the Dest Image			
Remove Duplicate Consecutive Vertices		No description found (add content in vi description)			
Remove Image Outliers (SGL)		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
Resample Image		If <B>Dest Binning </B> or <Src Binnning</B> is <= 0, the <B>Src Image</B> is copied unchanged into <B>Dest Image</B>. This VI uses <B>IMAQ Resample.vi</B> with the Bi-linear option for rescaling. If <B>Rescale Intensity</B> is true, this VI rescales the data to emulate signal redistribution across pixels.			
Save Image as TIFF		No description found (add content in vi description)			
Save Selected Area in Image		No description found (add content in vi description)			
Set Oval Diameter		No description found (add content in vi description)			
Two Pixels to Segment		No description found (add content in vi description)			
Vision Toolkit Supported Files		Returns a string of supported image file name patterns that can be used in a File Dialog (*.tif; *.bmp; etc. and their uppercase variants) and an array of the same extensions (without the "*" or "." characters)			
Compute Min Image		No description found (add content in vi description)			
Correct U16 Image Array		Subtract 32768 from a U16 array if that it its minimum, as is the case for image data read from TIFF files			
Create Same Type Image		No description found (add content in vi description)			
Get Image SGL Array		No description found (add content in vi description)			
Get Pixel at Cursor Location		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
Get SGL Array from Image		Extract SGL Array from SGL image. For other image types, the returned array is empty. If there is an error before this VI executes, the input array (default: empty) is returned.			
Is Mouse in Image Area		No description found (add content in vi description)			
Select one Image Array		No description found (add content in vi description)			
Select one Image		No description found (add content in vi description)			
Swap Images in Array		No description found (add content in vi description)			
X_Overlay Dashed Line		No description found (add content in vi description)			
Build Image Histogram with Options		No description found (add content in vi description)			
Pixel Array Long & Short Axis Length & Aspect Ratio	[Image.lvlib:Pixel Array Long & Short Axis Length & Aspect Ratio.vi]	<p>Computes the length of the projections of the &lt;B&gt;Pixel Coordinates&lt;/B&gt; on the axes formed by the &lt;B&gt;Center&lt;/B&gt; and the &lt;B&gt;Direction&lt;/B&gt; and its orthogonal direction, and returns the differences between max and min of all coordinates along the two axes, as well as their &lt;B&gt;Aspect Ratio&lt;/B&gt;.</p> <p>The first difference is interpreted as the &lt;B&gt;Long Axis Length&lt;/B&gt; and the second as the &lt;B&gt;Short Axis Length&lt;/B&gt; when the center is the barycenter of the cloud of points and the direction is that of the minor or major axis of inertia of the array of pixels.</p>			
Create Image of Different Type		If necessary, creates an <B>Image Dst</B> of the requested type. If <B>Image Dst</B> exists but is not of the requested type, casts it to that type.			

Name	Connector pane	Description	S.	R.	I.
Image Flatfield Correction (SGL)		No description found (add content in vi description)			

Scope:  → Protected |  → Community

Reentrancy:  → Preallocated reentrancy |  → Shared reentrancy

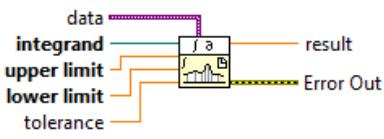
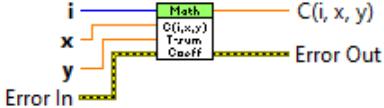
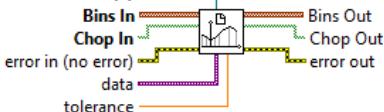
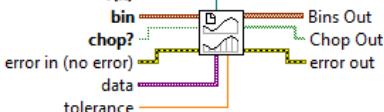
Inlining:  → Inlined

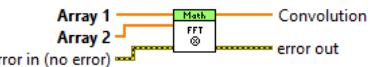
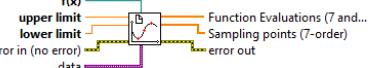
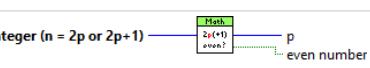
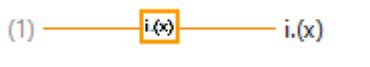
## 2.51. Math.lvlib

**Responsibility:** No description found (add content in lvlib description)

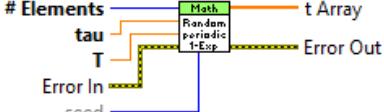
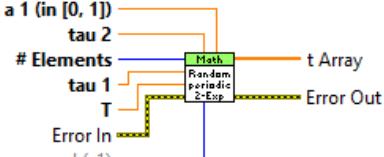
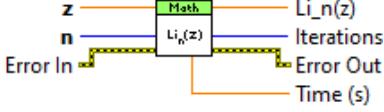
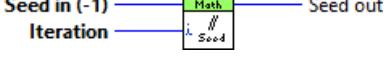
**Version:** 1.0.0.0

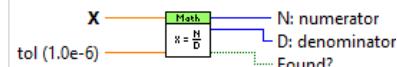
Table 50. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
1D Quadrature (VI)		No description found (add content in vi description)			
Array Mean, Var & SDV	[Math.lvlib:Array Mean]	No description found (add content in vi description)		 	
C(i,x,y) T-sum coefficient		No description found (add content in vi description)			
Chop Integration Bins (VI)		No description found (add content in vi description)			
Chop One Bin (VI)		No description found (add content in vi description)			
Cluster to Complex	Complex Coordinates	No description found (add content in vi description)		 	
Complex to Cluster	x + iy	No description found (add content in vi description)		 	
Compute Exponential IRF & Decay convolution	[Math.lvlib:Compute Exponential IRF & Decay convolution.vim]	No description found (add content in vi description)		 	

Name	Connector pane	Description	S.	R.	I.
Convolution by Real FFT		No description found (add content in vi description)			
Eval Function at Sampling Points (VI)		No description found (add content in vi description)			
Even or Odd		No description found (add content in vi description)			
Fano Factor Zero Finder f(x) 1D		No description found (add content in vi description)			
half (x + y) [DBL]	[Math.lvlib:half (x + y) [DBL].vi]	No description found (add content in vi description)			
half (x + y) [I32]	[Math.lvlib:half (x + y) [I32].vi]	No description found (add content in vi description)			
half (x + y)		No description found (add content in vi description)			
I32 Max		$2,147,483,647 = 2^{31} - 1$			
ix (DBL)		input numeric (default: 1) multiplied by i (complex root of -1)  Depending on what numeric type (optional) is provided, a different type (CXT, CDB or CSG) is returned. Default is Complex Double (CDB).			
ix (EXT)		input numeric (default: 1) multiplied by i (complex root of -1)  Depending on what numeric type (optional) is provided, a different type (CXT, CDB or CSG) is returned. Default is Complex Double (CDB).			
ix (SGL)		input numeric (default: 1) multiplied by i (complex root of -1)  Depending on what numeric type (optional) is provided, a different type (CXT, CDB or CSG) is returned. Default is Complex Double (CDB).			

Name	Connector pane	Description	S.	R.	I.
ix [DBL]	x (1) — i(x) — i.(x).vi ]	<p>input numeric (default: 1) multiplied by i (complex root of -1)</p> <p>Depending on what numeric type (optional) is provided, a different type (CXT, CDB or CSG) is returned. Default is Complex Double (CDB).</p>		P	
ix [EXT]	x (1) — i(x) — i.(x).vi ]	<p>input numeric (default: 1) multiplied by i (complex root of -1)</p> <p>Depending on what numeric type (optional) is provided, a different type (CXT, CDB or CSG) is returned. Default is Complex Double (CDB).</p>		P	
ix [SGL]	x (1) — i(x) — i.(x).vi ]	<p>input numeric (default: 1) multiplied by i (complex root of -1)</p> <p>Depending on what numeric type (optional) is provided, a different type (CXT, CDB or CSG) is returned. Default is Complex Double (CDB).</p>		P	
Lambda_tau, T(t)	t tau T T-?	No description found (add content in vi description)		S	
Lobatto Quadrature Core (VI)	data f(x) upper limit lower limit tolerance	No description found (add content in vi description)		S	
Lobatto Weights (4&7 order)	[Math.lvlib:Lobatto_Weights (4&7 order).vi]	No description found (add content in vi description)		S	
Math Compute Segment Intersection with Unit Circle	Point 1 Point 2 Error In	No description found (add content in vi description)			
Math Eval y=f(x)	number of points end start Error In formula	No description found (add content in vi description)			
Math Find Fano Factor	Y Array Fitted Values Error In	No description found (add content in vi description)		S	
my Poisson Random	samples (1) lambda seed (-1)	No description found (add content in vi description)		S	

Name	Connector pane	Description	S.	R.	I.
Periodic 1-Exp Distributed Random Variable		No description found (add content in vi description)			
Periodic Linear Combination of 1-Exp Distributed Random Variable		No description found (add content in vi description)			
Polylogarithm (DBL)		No description found (add content in vi description)			
Quotient & Remainder	[Math.lvlib:Quotient Remainder.vim]	&	No description found (add content in vi description)		
Random Seed for Parallel Loop		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
Rational_Approximation_(iterated_continued_fraction)	 <p>Rational Approximation (iterated, continued fraction) - produces the smallest (numerator, denominator) ratio that approximates the original floating point value to within the specified maximum error. The algorithm also allows the user to limit the maximum values allowed for the numerator and denominator. The method uses a continued fraction representation of the original floating point value. The advantage of this algorithm is its bounded execution time. Preliminary testing shows a slowest case that is ~5x the time of the fastest case.</p> <p>The original problem for which this function was devised was to create a repeating analog waveform with minimal end-of-buffer distortion. This distortion can arise whenever the waveform frequency cannot divide evenly into an integer number of analog update cycles. In such cases, the transition from the last value in the buffer back to the first value in the buffer is not exactly as desired. This distortion can generally be significantly reduced if a larger buffer can be created which defines multiple cycles of the waveform. An example might be an attempt to produce a 6 kHz waveform using a 100 kHz analog update rate. How large a buffer should be created? How many cycles of the waveform will fit in it? To find the answer, run this subvi using <math>100 / 6 \approx 16.666667</math> as the 'orig floating point value' input. The 'numerator' output will be the buffer size (50) and the 'denominator' output will be the # of waveform cycles (3). Another example (one that inspired this solution) might be an attempt to produce a 600 Hz waveform using an externally generated 15.625 kHz analog update rate, giving a ratio of <math>\approx 26.0416667</math>. This results in a numerator (buffer size) of 625 and a denominator (# waveform cycles) of 24.</p>				

Name	Connector pane	Description	S.	R.	I.
T-Periodic Finite Edge Square Gate		No description found (add content in vi description)			
T-Periodic Finite Edge Tilted Top Square Gate		No description found (add content in vi description)			
T-Periodic Sawtooth Gate		No description found (add content in vi description)			
T-Periodic Square Gate		No description found (add content in vi description)			
T-Periodic Triangle Gate		No description found (add content in vi description)			

Scope: → Protected | → Community

Reentrancy: → Preallocated reentrancy | → Shared reentrancy

Inlining: → Inlined

## 2.52. Menu.lvlib

**Responsibility:** No description found (add content in lvlib description)

**Version:** 1.0.0.0

Table 51. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
Get All Menu Items		<p>This VI returns all menu tags below the provided top menu items (recursively).</p> <p>The 'APP_SEPARATOR' tags are removed, as well as the top menu tag (an empty string).</p> <p>To obtain all tabs in a menu, do not wire the &lt;B&gt;Item Tags&lt;/B&gt; input.</p>			
Get Item Depth & @ Locations	[Menu.lvlib:Get Item Depth & @ Locations.vi]	No description found (add content in vi description)			
Get Menu Tag & Item Name	[Menu.lvlib:Get Menu Tag & Item Name.vi]	No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
Init Menu		No description found (add content in vi description)			
Use Custom Object Menu		No description found (add content in vi description)			

Scope: → Protected | → Community

Reentrancy: → Preallocated reentrancy | → Shared reentrancy

Inlining: → Inlined

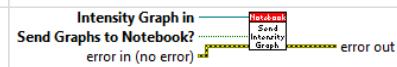
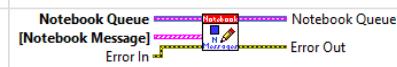
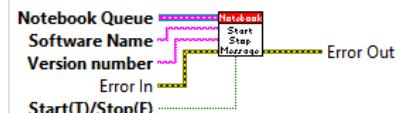
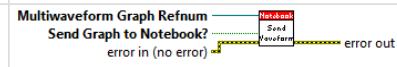
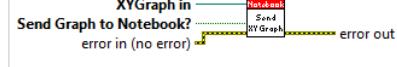
## 2.53. Notebook.lvlib

**Responsibility:** A simple rich text box notebook

**Version:** 1.0.0.0

Table 52. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
Backup Notebook Content		No description found (add content in vi description)			
Check Notebook Status Before Quitting App		No description found (add content in vi description)			
Delete Notebook Backup on Quit		No description found (add content in vi description)			
Get Notebook Queue		No description found (add content in vi description)			
Initial File Name & Calling VI	[Notebook.lvlib:Initial File Name & Calling VI.vi]	No description found (add content in vi description)			
Notebook Parameter Storage		No description found (add content in vi description)			
Notebook Shortcuts		No description found (add content in vi description)			
Notebook		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
Send Error to Notebook		No description found (add content in vi description)			
Send Intensity Graph to Notebook (Optional)		No description found (add content in vi description)			
Send Message to Notebook		This VI executes no matter what the <B>Error in</B> value is. The error is passed unchanged to <B>Error out</B>, or, if there is an error when sending the message, with that new error appended to the incoming one.			
Send Multiple Messages to Notebook		This VI executes no matter what the <B>Error in</B> value is. The error is passed unchanged to <B>Error out</B>, or, if there is an error when sending the message, with that new error appended to the incoming one.			
Send Start-Stop Message		No description found (add content in vi description)			
Send Waveform Graph to Notebook (Optional)		No description found (add content in vi description)			
Send XY Graph to Notebook (Optional)		No description found (add content in vi description)			
Set-Get Calling VI Name		No description found (add content in vi description)			
Set-Get Calling VI Process ID		No description found (add content in vi description)			

Scope:  → Protected |  → Community

Reentrancy:  → Preallocated reentrancy |  → Shared reentrancy

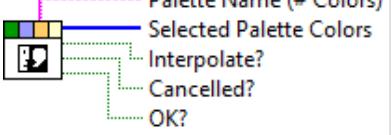
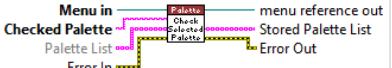
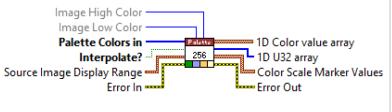
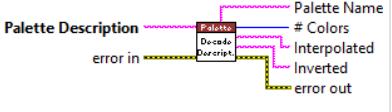
Inlining:  → Inlined

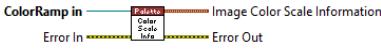
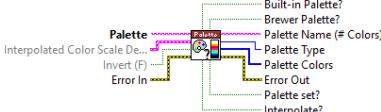
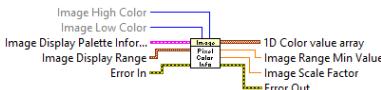
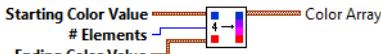
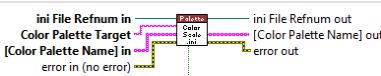
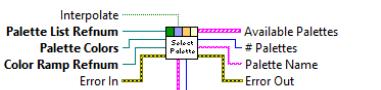
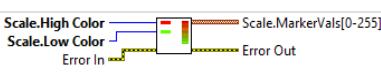
## 2.54. Palette.lvlib

**Responsibility:** No description found (add content in lvlib description)

**Version:** 1.0.0.0

*Table 53. Functions (non private scope only)*

Name	Connector pane	Description	S.	R.	I.
Brewer Palette Array	 Color Brewer Palette Array Palette List	No description found (add content in vi description)			
Brewer Palette Dialog v2	 Palette Name (# Colors) Selected Palette Colors Interpolate? Cancelled? OK?	The Palette Colors array returned was chosen by the user while it was displayed vertically. In other words, the top color is in fact color index 0, while the bottom color is in fact the last color in the array. To use this array for a color ramp (or color scale), this array will need to be inverted to obtain the same visual effect.			
Check Selected Palette in Menu	 Menu in Checked Palette Palette List Error In Stored Palette List	No description found (add content in vi description)			
Create 256 Values Palette	 Image High Color Image Low Color Palette Colors in Interpolate? 256 Source Image Display Range Error In 1D Color value array 1D U32 array Color Scale Marker Values Error Out	No description found (add content in vi description)			
Create Interpolated Color Palette	 Color Scale Points Interpolated Color Scale Error In Error Out	No description found (add content in vi description)			
Decode Palette Description	 Palette Description Decoder error in error out Palette Name # Colors Interpolated Inverted	No description found (add content in vi description)			
Edit Image Palette List Dialog	 Palette List (in) Edit Palette List	No description found (add content in vi description)			
Export Color Ramp to Clipboard	 ColorRamp in Clipboard	No description found (add content in vi description)			
Get Brewer Palette Colors by Name (#Colors)	 Brewer Palette Name (# Colors) Color Brewer Palette Array Found?	No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
Get Color Scale Information		No description found (add content in vi description)			
Get Selected Palette's Color Array	[Palette.lvlib: Get Selected Palette's Color Array.vi]	No description found (add content in vi description)			
Get User Palette Choice		No description found (add content in vi description)			
Image Display Get Pixel Color Information		Provide the <B>Image Display Range</B> and <B>Image Display Palette Information</B> when first calling this VI (setting <B>Init Palette</B> = TRUE), and if appropriate, the <B>Image High Color</B> and <B>Image Low Color</B> parameters.			
Interpolate N Between Two Colors		No description found (add content in vi description)			
Load-Save Color Palette List		No description found (add content in vi description)			
Palette to U32 Color Ramp		No description found (add content in vi description)			
Select Color Brewer Palette v2		No description found (add content in vi description)			
Set Color Ramp Palette v3		No description found (add content in vi description)			
Simple 2-color Interpolation Palette		No description found (add content in vi description)			
Test Edit Palette List Dialog		No description found (add content in vi description)			

Scope:  → Protected |  → Community

Reentrancy:  → Preallocated reentrancy |  → Shared reentrancy

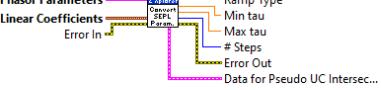
Inlining:  → Inlined

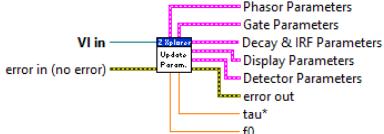
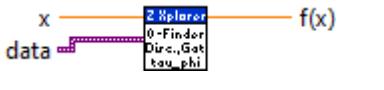
## 2.55. Phasor Explorer.lvlib

**Responsibility:** No description found (add content in lvlib description)

**Version:** 1.0.0.0

*Table 54. Functions (non private scope only)*

Name	Connector pane	Description	S.	R.	I.
Phasor Explorer Control Label to Settings Element		No description found (add content in vi description)			
Phasor Explorer Convert SEPL Parameters		No description found (add content in vi description)			
Phasor Explorer f(tau) [SEPL Intersections]	[Phasor Explorer.lvlib:Phasor Explorer f(tau) [SEPL Intersections].vi]	No description found (add content in vi description)			
Phasor Explorer Lifetime at UC Intersection (discrete)		No description found (add content in vi description)			
Phasor Explorer Lifetime at UC Intersection (gated)		No description found (add content in vi description)			
Phasor Explorer Lifetime at UC Intersection (standard)		No description found (add content in vi description)			
Phasor Explorer SEPL Plot Name		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
Phasor Explorer Settings Storage		No description found (add content in vi description)			
Phasor Explorer Update Decay & IRF Parameters Visibility & Caption	[Phasor Explorer.lvlib:Phasor Explorer Update Decay & IRF Parameters Visibility & Caption.vi]	No description found (add content in vi description)			
Phasor Explorer Update Decay & IRF Parameters	[Phasor Explorer.lvlib:Phasor Explorer Update Decay & IRF Parameters.vi]	No description found (add content in vi description)			
Phasor Explorer Update Parameters		No description found (add content in vi description)			
Phasor Explorer Update Phasor Calibration Options Visibility		No description found (add content in vi description)			
Phasor Explorer Update Settings Storage		No description found (add content in vi description)			
Phasor Explorer Zero Finder tau (Discrete, Gated Phasor)		No description found (add content in vi description)			

Scope:  → Protected |  → Community

Reentrancy:  → Preallocated reentrancy |  → Shared reentrancy

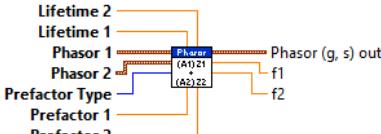
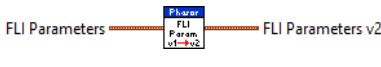
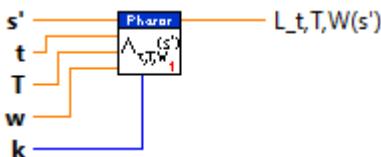
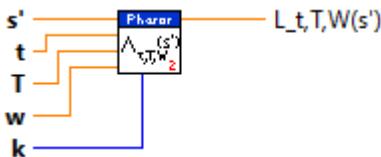
Inlining:  → Inlined

## 2.56. Phasor.lvlib

**Responsibility:** No description found (add content in lvlib description)

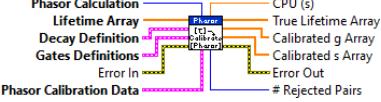
**Version:** 1.0.0.0

Table 55. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
1D Quadrature Integrand for Gated Decay		This template is the starting point for creating a function that is the integrand evaluation to be passed to the Quadrature.vi.			
Compute Linear Phasor Combination		No description found (add content in vi description)			
Compute Phasor Ratio References from UC Intersections		No description found (add content in vi description)			
Convert FLI Parameters v1 to v2		No description found (add content in vi description)			
Convert FLI Parameters v2 to v3		No description found (add content in vi description)			
Dirac Integrand for Gated Decay		This template is the starting point for creating a function that is the integrand evaluation to be passed to the Quadrature.vi.			
Lambda_tau, T,W 1(s')		No description found (add content in vi description)			
Lambda_tau, T,W 2(s')		No description found (add content in vi description)			
Lambda_tau, T,W(s)		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
O(tau,tau_0,t_0)_Analytical		No description found (add content in vi description)			
Phasor 1-Exp Decay Parameters from Gated Decay		No description found (add content in vi description)			
Phasor Add Ticks to SEPL		No description found (add content in vi description)			
Phasor Apply-Cancel Calibration		<p>&lt;B&gt;Phasor in&lt;/B&gt; = z_in</p> <p>&lt;B&gt;Calibration Phasor&lt;/B&gt; = z_c</p> <p>&lt;B&gt;Target Phasor&lt;/B&gt; = z_t</p> <p>&lt;B&gt;Phasor out&lt;/B&gt; = z_out</p> <p>Apply Calibration: <math>z_{out} = z_{in} * z_t / z_c</math></p> <p>Cancel Calibration: <math>z_{out} = z_{in} * z_c / z_t</math></p>			
Phasor Average Lifetime SDV		No description found (add content in vi description)			
Phasor Calibrate Complex Phasor		No description found (add content in vi description)			
Phasor Calibration v3		No description found (add content in vi description)			
Phasor Check Backup Calibration Frequency		No description found (add content in vi description)			
Phasor Check Calibration Map Change		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
Phasor Check Gate Calculation Type v2		No description found (add content in vi description)			
Phasor Check Gated Decay Calculation Flags		No description found (add content in vi description)			
Phasor Check Type of Phasor Calculation		No description found (add content in vi description)			
Phasor Compare Calibrations		Compares two calibrations.  If m = NaN (interpreted as "Use nearest valid calibration", a standard comparison test will fail because NaN != NaN, hence the need for this VI to report whether any of the components is different.)			
Phasor Compare Frequencies		No description found (add content in vi description)			
Phasor Compute 1-Exp Array		No description found (add content in vi description)			
Phasor Compute 1-Exp Gate Array v2		No description found (add content in vi description)			
Phasor Compute 1-Exp Gate Array		No description found (add content in vi description)			
Phasor Compute alpha(beta) Plot		No description found (add content in vi description)			
Phasor Compute Barycenter & Inertial Axes	[Phasor.lvlib:Phasor Compute Barycenter & Inertial Axes.vi]	No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
Phasor Compute Base Frequency & Harmonic Orders	[Phasor.lvlib:Phasor Compute Base Frequency & Harmonic Orders.vi]	No description found (add content in vi description)			
Phasor Compute Calibrated Phasor Array		No description found (add content in vi description)			
Phasor Compute Calibrated SDV [(g, s) cal]	[Phasor.lvlib:Phasor Compute Calibrated SDV [(g, s) cal]	No description found (add content in vi description)			
Phasor Compute Calibrated SDV [(m, phi) cal]	[Phasor.lvlib:Phasor Compute Calibrated SDV [(m, phi) cal]	No description found (add content in vi description)			
Phasor Compute Calibration Map Size		No description found (add content in vi description)			
Phasor Compute Calibration Phasor & jw	[Phasor.lvlib:Phasor Compute Calibration Phasor & jw.vi]	<p>z (tau_cal) is the phasor calculated for tau_cal in either the UC_00 case (standard universal semicircle) or the UC_N case (discrete phasor of ungated periodic single-exponential decay), depending on the selected Calibration Phasor Type</p>			
Phasor Compute Decay & Time Gates	[Phasor.lvlib:Phasor Compute Decay & Time Gates.vi]	No description found (add content in vi description)			
Phasor Compute Discrete Calibration Phasor & jw	[Phasor.lvlib:Phasor Compute Discrete Calibration Phasor & jw.vi]	No description found (add content in vi description)			
Phasor Compute f(tau) & Zeros	[Phasor.lvlib:Phasor Compute f(tau) & Zeros.vi]	No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
Phasor Compute Gate-IRF Array		No description found (add content in vi description)			
Phasor Compute Gated Decay (Fixed Integration Steps)		No description found (add content in vi description)			
Phasor Compute Gated Decay (Tolerance)		No description found (add content in vi description)			
Phasor Compute Gated Phasor		No description found (add content in vi description)			
Phasor Compute Lifetime Ramp		No description found (add content in vi description)			
Phasor Compute Phasor from Decay v2		Computes the discrete phasor of the provided decay, assuming that the time array has ns unit.  The trigonometric functions are evaluated the first time a new time array is provided, and saved for subsequent calls with the same time array.			
Phasor Compute Plots Product or Ratio		No description found (add content in vi description)			
Phasor Compute Saturated Gate Image Array		Saturated recorded count rates for a detector with:  - multiplicity p = 1 (e.g. SPAD) - counter capacity: q bits - number of gate accumulation per frame: L - number of frame accumulation: F			
Phasor Compute SEPL v2		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
Phasor Compute Square-Gated Discrete Calibration Phasor & jw	[Phasor.lvlib:Phasor Compute Square-Gated Discrete Calibration Phasor & jw.vi]	No description found (add content in vi description)			
Phasor Compute Standard Deviation (Poisson)		No description found (add content in vi description)			
Phasor Compute Sum of Gates Plot		No description found (add content in vi description)			
Phasor Compute tau_m SDV		No description found (add content in vi description)			
Phasor Compute tau_phi & tau_m from Phasor (Continuous, Gated)	[Phasor.lvlib:Phasor Compute tau_phi & tau_m from Phasor (Continuous)]	No description found (add content in vi description)			
Phasor Compute tau_phi & tau_m from Phasor (Discrete, Gated)	[Phasor.lvlib:Phasor Compute tau_phi & tau_m from Phasor (Discrete)]	No description found (add content in vi description)			
Phasor Compute tau_phi & tau_m from Phasor (Discrete, Ungated)	[Phasor.lvlib:Phasor Compute tau_phi & tau_m from Phasor (Discrete)]	No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
Phasor Compute tau_phi & tau_m from Phasor	[Phasor.lvlib:Phasor Compute tau_phi & tau_m from Phasor.vi]	No description found (add content in vi description)			
Phasor Compute tau_phi SDV		No description found (add content in vi description)			
Phasor Compute UC Tau Tick (g, s) & (dg, ds)	[Phasor.lvlib:Phasor Compute UC Tau Tick (g)]	No description found (add content in vi description)			
Phasor Convert (g,s) to (m, phi)	[Phasor.lvlib:Phasor Convert (g)]	No description found (add content in vi description)			
Phasor Convert (g,s,f) to (tf, tm)	[Phasor.lvlib:Phasor Convert (g)]	No description found (add content in vi description)			
Phasor Convert (m, phi) to (g,s)	[Phasor.lvlib:Phasor Convert (m)]	No description found (add content in vi description)			
Phasor Convert (tau, f) to (g, s) & (m, phi)	[Phasor.lvlib:Phasor Convert (tau)]	No description found (add content in vi description)			
Phasor Convert (tau, f) to (g, s)	[Phasor.lvlib:Phasor Convert (tau)]	No description found (add content in vi description)			
Phasor Convert (tau, f) to (jw, z)	[Phasor.lvlib:Phasor Convert (tau)]	No description found (add content in vi description)			
Phasor Convert (tau, f) to (m, phi)	[Phasor.lvlib:Phasor Convert (tau)]	No description found (add content in vi description)			
Phasor Convert Decay & Gates Parameters	[Phasor.lvlib:Phasor Convert Decay & Gates Parameters.vi]	No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
Phasor Convert g & s to Phasor	[Phasor.lvlib:Phasor Convert g & s to Phasor.vim]	No description found (add content in vi description)			
Phasor Convert Phasor to g & s	[Phasor.lvlib:Phasor Convert Phasor to g & s.vim]	No description found (add content in vi description)			
Phasor Convert phi to (m, tau)		No description found (add content in vi description)			
Phasor Convert Ratio to Amplitude Ratio & Average Lifetime	[Phasor.lvlib:Phasor Convert Ratio to Amplitude Ratio & Average Lifetime.vi]	No description found (add content in vi description)			
Phasor Convert z or (g,s) to g & s	[Phasor.lvlib:Phasor Convert z or (g,s) to g & s]	No description found (add content in vi description)			
Phasor Correct Complex Phasor (Calibration Map) v3		No description found (add content in vi description)			
Phasor Correct Complex Phasor (Single Calibration) v2		No description found (add content in vi description)			
Phasor Cosine-Sine Complex Vector		No description found (add content in vi description)			
Phasor Explorer Update Identity Plot (P-Ph-tau Graph)		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
Phasor f_p,L(y)		<p>Recorded (saturated) signal per frame upon an incident signal with count rate mu detected by a SPAD with L accumulations per frame and recording in a counter with max value p</p> <p><math>y = e^{-\mu t}</math> (<math>0 \leq y \leq 1</math>) <math>p = \text{counter capacity}</math> (<math>p \geq 1</math>) <math>L = \text{number of gate accumulation}</math> (<math>L \geq 1</math>)</p> <p>Formula of 10/18/18</p>			
Phasor Find Intersections of Fitted Line with Universal Circle		No description found (add content in vi description)			
Phasor Find Intersections of Line Connecting References with Universal Circle		No description found (add content in vi description)			
Phasor Find Root of f_W,T,D(x) = 0		No description found (add content in vi description)			
Phasor Find Unique Zero		No description found (add content in vi description)			
Phasor Get Min, Med & Max Decay Indices	[Phasor.lvlib:Phasor Min]	Get No description found (add content in vi description)			
Phasor Get Phasor Ratio		Computes the phasor ratio based on phasor references 1 and 2. If $z$ is not connected, the $\text{Phasor}$ cluster is used instead.			
Phasor Get UC tick taus		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
Phasor Get Valid Time Gate Location		No description found (add content in vi description)			
Phasor Is (g,s) on UC		Verifies that $g^2 + s^2 = g$ , which is the definition of the universal circle.			
Phasor Plot f(tau)		No description found (add content in vi description)			
Phasor Rotation due to Offset		No description found (add content in vi description)			
Phasor Subtract Baseline from Array [DBL]		No description found (add content in vi description)			
Phasor Subtract Baseline from Array [SGL]		No description found (add content in vi description)			
Phasor Universal Semicircle Plot		No description found (add content in vi description)			
Phasor Update (g,s) on UC to New Frequency		No description found (add content in vi description)			
Phasor Update Gate Parameters Visibility v2		Updates gate parameters visibility.			
Phasor Update Gate Step & Number	[Phasor.lvlib:Phasor Update Gate Step & Number.vi]	Updates gate step number depending on other parameters.			
Phasor Weber 2-component Calculation		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
z[Lambda_ta_u,T,W,t_0]_Analytical		No description found (add content in vi description)			
_Analytical.vi]					
z_N[Lambda_0,T,W]_Analytical		No description found (add content in vi description)			
_Analytical.vi]					
z_N[Lambda_tau,T,t_0]_Analytical		No description found (add content in vi description)			
_Analytical.vi]					
z_N[Lambda_tau,T,W,t_0]_Analytical		No description found (add content in vi description)			
_Analytical.vi]					
z_N[Psi_tau,tau_0,T,W,t_0]_Analytical		No description found (add content in vi description)			
_Analytical.vi]					
zeta_f(tau)_Analytical		No description found (add content in vi description)			

Scope: → Protected | → Community

Reentrancy: → Preallocated reentrancy | → Shared reentrancy

Inlining: → Inlined

## 2.57. Piccolo.lvlib

**Responsibility:** No description found (add content in lvlib description)

**Version:** 1.0.0.0

Table 56. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
Convert Piccolo Hist Dataset		No description found (add content in vi description)			
Piccolo Decode Raw Data		No description found (add content in vi description)			
Piccolo Raw Data Decoding		No description found (add content in vi description)			
Test Piccolo Hist Conversion		No description found (add content in vi description)			
Test Piccolo Raw Conversion		No description found (add content in vi description)			

Scope: → Protected | → Community

Reentrancy: → Preallocated reentrancy | → Shared reentrancy

Inlining: → Inlined

## 2.58. PicoQuant.lvlib

**Responsibility:** No description found (add content in lvlib description)

**Version:** 1.0.0.0

Table 57. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
Load BIN File Information		No description found (add content in vi description)			
Load PQ .bin Data		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
Load PQ .bin File Information		<p>Uncheck the &lt;B&gt;Process&lt;/B&gt; checkbox to read only the header (and fill the PicoQuant Data File Information structure).</p> <p>Check the box to actually read and decode the data.</p> <p>The &lt;B&gt;Max # Gates&lt;/B&gt; control is used to set the level of nanotime binning (smaller is better in terms of memory usage).</p> <p>When the file is decoded (green LED), scroll to the right to show the &lt;B&gt;Stop&lt;/B&gt; button and display controls used to represent the data in an Intensity Graph (Intensity Image or individual gate images) and represent individual pixel decays at the cursor location.</p>			
Load PQ .bin FLI Dataset Prelude		No description found (add content in vi description)			
Convert PTU FLI Dataset Info to String		No description found (add content in vi description)			
Load PQ .ptu FLI Dataset Prelude		No description found (add content in vi description)			
Load PTU File Information		No description found (add content in vi description)			

Scope: → Protected | → Community

Reentrancy: → Preallocated reentrancy | → Shared reentrancy

Inlining: → Inlined

## 2.59. Plot Editor.lvlib

**Responsibility:** No description found (add content in lvlib description)

**Version:** 1.0.0.0

*Table 58. Functions (non private scope only)*

Name	Connector pane	Description	S.	R.	I.
Plot Editor Asynchronous Call		No description found (add content in vi description)			
Plot Editor_Controls to Store		No description found (add content in vi description)			
Plot Editor_Data to Controls & Plot	[Plot Editor.lvlib:Plot Editor_Data to Controls & Plot.vi]	No description found (add content in vi description)			
Plot Editor_Data to Store		No description found (add content in vi description)			
Plot Editor_Plot to Data & Controls	[Plot Editor.lvlib:Plot Editor_Plot to Data & Controls.vi]	No description found (add content in vi description)			
Plot Editor_Remove out-of-bound Plot Values		No description found (add content in vi description)			
Plot Editor_Store to Controls		No description found (add content in vi description)			
Plot Editor_Store to Plot Style		No description found (add content in vi description)			
Plot Editor_Store to Plot		No description found (add content in vi description)			
Plot Editor		No description found (add content in vi description)			

Scope: → Protected | → Community

Reentrancy: → Preallocated reentrancy | → Shared reentrancy

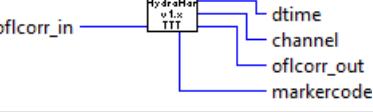
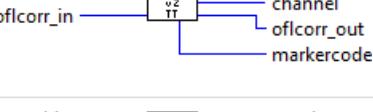
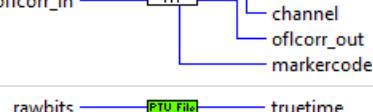
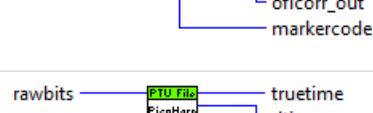
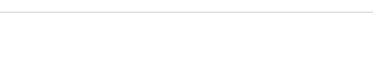
Inlining: → Inlined

## 2.60. PTU Files.lvlib

**Responsibility:** Set of VIs to Read PicoQuant PTU files. Based on PicoQuant LabVIEW demo code

**Version:** 1.0.0.0

Table 59. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
Check Tag String		No description found (add content in vi description)			
Decode BiDirectional Tag (Erroneous Type)		No description found (add content in vi description)			
Decode Date-Time Tag (Erroneous Type)		No description found (add content in vi description)			
Decode HydroHarp v1 TT Data		No description found (add content in vi description)			
Decode HydroHarp v1 TTT Data		No description found (add content in vi description)			
Decode HydroHarp v2 TT Data		No description found (add content in vi description)			
Decode HydroHarp v2 TTT Data		No description found (add content in vi description)			
Decode PicoHarp TT Data		No description found (add content in vi description)			
Decode PicoHarp TTT Data		No description found (add content in vi description)			
Decode Single Tag		No description found (add content in vi description)			
Read Single PTU Tag		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
Bin Nanotimes in Pixel		No description found (add content in vi description)			
Bin Photon Data in to Images		No description found (add content in vi description)			
Bin Photons in Pixels		No description found (add content in vi description)			
Compute Nanotime Bin Size		No description found (add content in vi description)			
Compute Optimal Nanotime Bin Sizes		No description found (add content in vi description)			
Decode PTU File Header		No description found (add content in vi description)			
Read & Decode PTU Data v4	[PTU Files.lvlib:Read Decode PTU Data v4.vi]	&	No description found (add content in vi description)		
Sum Frame Images		No description found (add content in vi description)			
Get PTU File Frame Number		No description found (add content in vi description)			

Scope: → Protected | → Community

Reentrancy: → Preallocated reentrancy | → Shared reentrancy

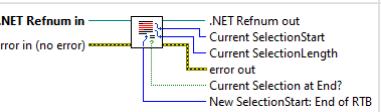
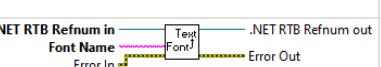
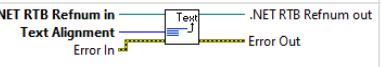
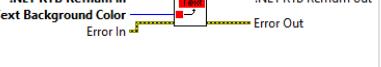
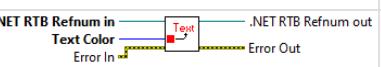
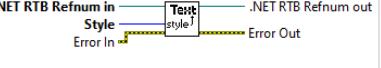
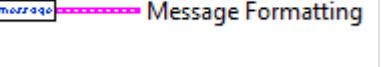
Inlining: → Inlined

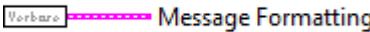
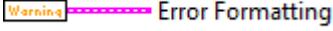
## 2.61. Rich Text Box.lvlib

**Responsibility:** Implements some of the functions of a rich text box using the .NET interface

**Version:** 1.0.0.0

Table 60. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
Append Image to Rich Text Box		No description found (add content in vi description)			
Append Text to Rich Text Box		No description found (add content in vi description)			
Replace Default Text Formatting		If <B>Message Formatting in</B> is the default text formatting (created using "Use Default" in Case Structures), replaces it by a user provided <B>New Default Message Formatting</B>.			
Set New Selection to End		No description found (add content in vi description)			
Set RTB Selection Font Size		No description found (add content in vi description)			
Set RTB Selection Font		No description found (add content in vi description)			
Set RTB Selection Text Alignment		No description found (add content in vi description)			
Set RTB Selection Text Background Color		No description found (add content in vi description)			
Set RTB Selection Text Color		No description found (add content in vi description)			
Set RTB Selection Text Style		No description found (add content in vi description)			
Error Style		No description found (add content in vi description)			
Message Style		No description found (add content in vi description)			
Result Style		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
Verbose Style	 Message Formatting	No description found (add content in vi description)			
Warning Style	 Error Formatting	No description found (add content in vi description)			

Scope:  → Protected |  → Community

Reentrancy:  → Preallocated reentrancy |  → Shared reentrancy

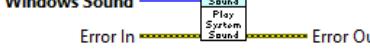
Inlining:  → Inlined

## 2.62. Sound.lvlib

**Responsibility:** No description found (add content in lvlib description)

**Version:** 1.0.0.0

Table 61. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
Play Abort Sound	 Error In — Circular icon — Error Out	No description found (add content in vi description)			
Play End of Task Sound	 Error In — Circular icon — Error Out	No description found (add content in vi description)			
Play Error Sound	 Error In — Circular icon — Error Out	No description found (add content in vi description)			
Play System Sound	 Windows Sound — Error In — Sound Play System Sound icon — Error Out	No description found (add content in vi description)			

Scope:  → Protected |  → Community

Reentrancy:  → Preallocated reentrancy |  → Shared reentrancy

Inlining:  → Inlined

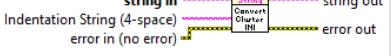
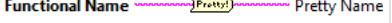
## 2.63. Strings.lvlib

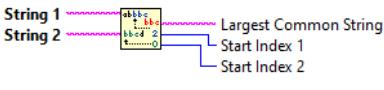
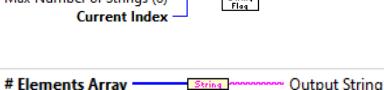
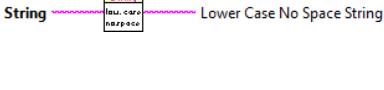
**Responsibility:** No description found (add content in lvlib description)

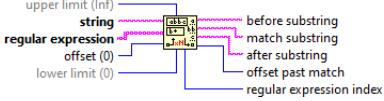
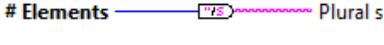
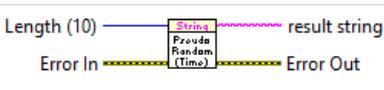
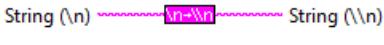
**Version:** 1.0.0.0

Table 62. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
Add Line Feed to String	 String — String\ln	Adds line feed to the string only if it is not empty			

Name	Connector pane	Description	S.	R.	I.
Check for Names v2		No description found (add content in vi description)			
Concatenate String Array		<p>Concatenate a &lt;B&gt;String Array&lt;/B&gt; into a single string, each element being separated by a &lt;B&gt;Separator&lt;/B&gt; string (default: TAB), and the final string bracketed by the &lt;B&gt;Prefix&lt;/B&gt; and &lt;B&gt;Suffix&lt;/B&gt; strings.</p> <p>If the array is empty, an empty string is returned.</p> <p>If the array contains a single string, that string is returned.</p> <p>If the user provides a &lt;B&gt;Max Number of Elements&lt;/B&gt; parameter, the string array size is compared to it, and the output is limited to the first and last string, with an ellipsis in between.</p>			
Convert Cluster INI String		No description found (add content in vi description)			
Convert Functional String to Pretty String		<p>Replaces underscore by spaces and double underscores by alternating parentheses.</p> <p>Use this function to convert a file or function name to a more user-friendly display name.</p>			
Convert Version String to Version Descriptor		No description found (add content in vi description)			
Current Date & Time String (High Precision)	[Strings.lvlib:Current Date & Time String (High Precision).vi]	<B>Error In</B> is passed unchanged to <B>Error Out</B> and is ignored			
Current Date & Time String	[Strings.lvlib:Current Date & Time String.vi]	No description found (add content in vi description)			
Decimal Number to String & Length	[Strings.lvlib:Decimal Number to String & Length.vi]	Converts a decimal number to a string and returns the length of the string. If the number is an integer, it does not show any decimal part.			

Name	Connector pane	Description	S.	R.	I.
Enter User String		<p>Displays a standard dialog box that prompts users to enter information, such as a user name and password.</p> <p>-----</p> <p>This Express VI is configured as follows:</p> <p>Message to Display to the User:Please enter the beta code to unlock beta features: The inputs are: Text Entry Box: Code</p>			
Enum to String		No description found (add content in vi description)	 		
Error to String		No description found (add content in vi description)			
Find Largest Common Substring		No description found (add content in vi description)			
Find String Dialog		<p>Displays a standard dialog box that prompts users to enter information, such as a user name and password.</p> <p>-----</p> <p>This Express VI is configured as follows:</p> <p>Message to Display to the User: The inputs are: Text Entry Box: String to search for:</p>			
Find Strings Common Root		No description found (add content in vi description)			
Format Index List		No description found (add content in vi description)			
Keep String in Array		No description found (add content in vi description)			
List of Folder Number of Elements - Indices		No description found (add content in vi description)			
Lower Case No Space String		<p>Removes all invisible characters (including end of line, etc) and underscore characters.</p> <p>Use this VI to simplify comparison with a target pattern(s).</p>			

Name	Connector pane	Description	S.	R.	I.
Match Multiple Patterns		No description found (add content in vi description)			
Parse Path String		Finds the last component of a path string.			
Plural s		No description found (add content in vi description)			
Polynomial Coefficients to Formula String		No description found (add content in vi description)			
Proper Case (Whole String)		No description found (add content in vi description)			
Pseudo-random (Time-based) String		No description found (add content in vi description)			
Remove Empty Lines from String Array		No description found (add content in vi description)			
Remove HTML Tags from String		No description found (add content in vi description)			
Remove Invisible Characters from String		Removes <B>space</B> and <B>TAB</B> characters from a string.  Optionally, also removes all end of line characters.			
Remove n final characters		No description found (add content in vi description)			
Replace Backslash Codes by Special Characters		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
Replace Double Underscores by Parentheses	String in  →(+) String out	<p>Replaces alternating double underscores by alternating parentheses: ( or ).</p> <p>Note that if the input strings ends with a double underscore, the output string will end with a space, and therefore some trimming might be necessary for some purposes.</p>			
Replace Spaces by Web-safe Equivalent	String in  →(+) 20 String out	No description found (add content in vi description)			
Replace TAB,CR,LF by SPACE	String  →(+) String with replacements	No description found (add content in vi description)			
Replace Underscores by Spaces	String in  →(+) String out	No description found (add content in vi description)			
Search and Replace Multiple Patterns		No description found (add content in vi description)			
Sort String Array By Length		No description found (add content in vi description)			
Sort String Array by Numeric Suffix		No description found (add content in vi description)			
Split String Around Character		No description found (add content in vi description)			
Split Strings around Split String		No description found (add content in vi description)			
String Contains Quote(s)	String  Contains quotes?	No description found (add content in vi description)			
String Match Format	String  String Format →(+) match? Match format?	No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
String to V16_A2E	[Strings.lvlib:String V16</em>A2E.vi#93;	<p>to This VI convert a array of string in a array of V16 rules : each string is preceed by the number of characters follow-up by the ascii value of all of it. And all the blocks (Number+ascii code) are grouped and truncated in V16 array data. Note : if there is not enough characters a last 00 is add.</p> <p>This conversion is usefull for typeDescriptor Data</p> <p>Eric Bobillier INRA15/01/2007 France (eric.bobillier@rennes.inra.fr)</p>			
Truly Empty Almost Empty String Array	String Array  String Array	<p>This VI deals with "almost" empty string arrays, where the array contains one or more empty strings and remove those strings.</p> <p>In particular, it helps with the dreaded "almost empty" string array consisting of a single element which is empty. This is not considered an empty array in a test. This VI returns an empty array.</p>			

Scope:  → Protected |  → Community

Reentrancy:  → Preallocated reentrancy |  → Shared reentrancy

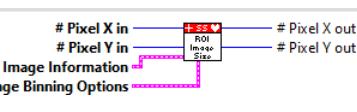
Inlining:  → Inlined

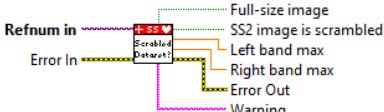
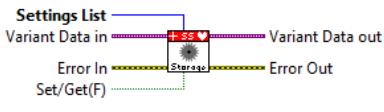
## 2.64. SwissSPAD Live.lvlib

**Responsibility:** No description found (add content in lvlib description)

**Version:** 1.0.0.0

Table 63. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
SwissSPAD Live_(Sub)Image Size		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
SwissSPAD Live_Correct SS3 Gate Slippage [SGL]		No description found (add content in vi description)			
SwissSPAD Live_Correct SS3 Gate Slippage [U8]		No description found (add content in vi description)			
SwissSPAD Live_Correct SS3 Gate Slippage [U16]		No description found (add content in vi description)			
SwissSPAD Live_Format SS2 Data		No description found (add content in vi description)	 		
SwissSPAD Live_Is SS2 Dataset Scrambled		No description found (add content in vi description)			
SwissSPAD Live_Settings Storage		No description found (add content in vi description)			

Scope:  → Protected |  → Community

Reentrancy:  → Preallocated reentrancy |  → Shared reentrancy

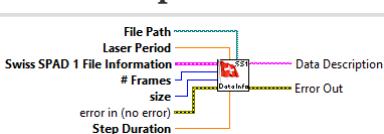
Inlining:  → Inlined

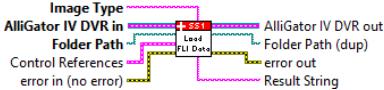
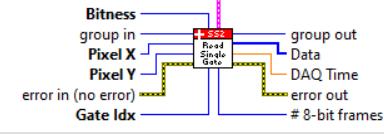
## 2.65. SwissSPAD.lvlib

**Responsibility:** No description found (add content in lvlib description)

**Version:** 1.0.0.0

Table 64. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
SwissSPAD 1 Convert Data Info to String		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
SwissSPAD 1 Format Data		No description found (add content in vi description)			
SwissSPAD 1 Load File Info		No description found (add content in vi description)			
SwissSPAD 1 Load FLI Dataset		-- Author: X. Michalet, Department of Chemistry & Biochemistry, UCLA (C) 2023, The Regents of the University of California			
Convert SS2 Data Info to String		No description found (add content in vi description)			
Get SS2 Data Bitness		No description found (add content in vi description)			
Get SS2 HDF5 File Version		No description found (add content in vi description)			
Read Single Gate in SS2 Data Group		No description found (add content in vi description)			
Read SS2 DAQ Parameters		No description found (add content in vi description)			
Read SS2 Data Information		No description found (add content in vi description)			
Selected SS2 8-bit Frame Indices		No description found (add content in vi description)			

Scope:  → Protected |  → Community

Reentrancy:  → Preallocated reentrancy |  → Shared reentrancy

Inlining:  → Inlined

## 2.66. Time.lvlib

**Responsibility:** No description found (add content in lvlib description)

**Version:** 1.0.0.0

Table 65. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
Convert Date to Timestamp		No description found (add content in vi description)			
High Resolution Timing		<p>To compute the time used to perform a task, put one of these VIs before the task with nothing connected to the input, and one after the task, with the &lt;B&gt;elapsed (relative) seconds&lt;/B&gt; output of the first VI connected to the input of the second.</p> <p>The output of the second VI (&lt;B&gt;elapsed (relative) seconds&lt;/B&gt;) will be the duration of the task.</p> <p>It is possible to daisy-chain several of these VIs, but in that case, connect the &lt;B&gt;relative seconds&lt;/B&gt; output of the VI before the task to be timed, to the input of the VI placed after the task to be timed.</p> <p>Note: use the error connectors to enforce precedence.</p>			

Scope: → Protected | → Community

Reentrancy: → Preallocated reentrancy | → Shared reentrancy

Inlining: → Inlined

## 2.67. Utilities.lvlib

**Responsibility:** No description found (add content in lvlib description)

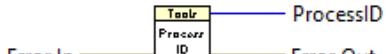
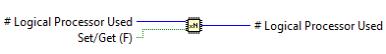
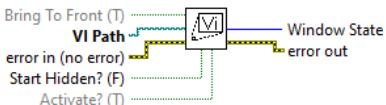
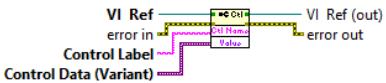
**Version:** 1.0.0.0

*Table 66. Functions (non private scope only)*

Name	Connector pane	Description	S.	R.	I.
All Running Vis		No description found (add content in vi description)			
ArrayToEnum_A2E	[Utilities.lvlib:ArrayToEnum_A2E.vi#93;	This VI converts an array of strings into an enum with the strings as enum value-strings			
Close & Abort VIs	[Utilities.lvlib:Close & Abort VIs.vi]	No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
Compare Version Descriptors		No description found (add content in vi description)			
For Loop Iteration		No description found (add content in vi description)			
Get All Controls Tip Strips		No description found (add content in vi description)			
Get App Kind, Name & Path	[Utilities.lvlib:Get App Kind]	No description found (add content in vi description)			
Get Control From Type Descriptor_A2E	[Utilities.lvlib:Get Control From Type Descriptor</em>A2E.vi#93 ;]	No description found (add content in vi description)			
Get Control References		Returns an array of control references and a string array of control label names, from the front panel of the calling VI.  This VI also accounts for tab controls within other tab controls.			
Get Control Refnum and Tab by Name		Returns an array of control refnums, labels and data, from the front panel of the calling VI.  This VI also accounts for tab controls within other tab controls.			
Get CPU Time String	CPU (s) —> CPU String	No description found (add content in vi description)			
Get MAC Address		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
Get Memory Statistics		<p>Gathers information about all VIs currently in memory.</p> <p>For each VI, it produces this information:</p> <ol style="list-style-type: none"> <li>1) The path to the VI's file.</li> <li>2) The size of the data space attached to the VI's front panel.</li> <li>A re-entrant VI has a data space for each usage of the VI. Therefore, this number is not a true reflection of the amount of data a VI is responsible for.</li> <li>3&amp;4) The size of the VI's front panel and the number of objects in it; both are zero if the front panel is not currently in memory.</li> <li>5&amp;6) Same as above for the block diagram</li> <li>7) size of the code generated for this VI.</li> <li>8) the VI's description.</li> <li>9) The VI's handle.</li> <li>10) the indices into the raw data array of this VI's callers</li> <li>11) the indices into the raw data array of this VI's callees (subVIs).</li> </ol>			
Get Pane Control Refnums by Names		<p>Returns an array of control refnums, labels and data, from the front panel of the calling VI.</p> <p>This VI also accounts for tab controls within other tab controls.</p>			
Get VI Control Refnums by Names		<p>Returns an array of control refnums, labels and data, from the front panel of the calling VI.</p> <p>This VI also accounts for tab controls within other tab controls.</p>			

Name	Connector pane	Description	S.	R.	I.
Get VIs in Memory		<p>Gathers information about all VIs currently in memory.</p> <p>For each VI, it produces this information:</p> <ol style="list-style-type: none"> <li>1) The path to the VI's file.</li> <li>2) The size of the data space attached to the VI's front panel.</li> <li>A re-entrant VI has a data space for each usage of the VI. Therefore, this number is not a true reflection of the amount of data a VI is responsible for.</li> <li>3&amp;4) The size of the VI's front panel and the number of objects in it; both are zero if the front panel is not currently in memory.</li> <li>5&amp;6) Same as above for the block diagram</li> <li>7) size of the code generated for this VI.</li> <li>8) the VI's description.</li> <li>9) The VI's handle.</li> <li>10) the indices into the raw data array of this VI's callers</li> <li>11) the indices into the raw data array of this VI's callees (subVIs).</li> </ol>			
Get Windows User Name		No description found (add content in vi description)			
GetCurrentProcessID		No description found (add content in vi description)			
Is Runtime Application		No description found (add content in vi description)			
Logical Processors Used		No description found (add content in vi description)			
Run Vi		No description found (add content in vi description)			
Save Control_A2E	[Utilities.lvlib:Save Control</em>A2E.vi#93;]	No description found (add content in vi description)			
Set Control Value by Name		<p>Returns an array of control refnums, labels and data, from the front panel of the calling VI.</p> <p>This VI also accounts for tab controls within other tab controls.</p>			
Variant To Control_A2E	[Utilities.lvlib:Variant To Control</em>A2E.vi#93;]	Converts any datatype into a control. This control can be a (strict) TypeDef			

Scope:  → Protected |  → Community

Reentrancy:  → Preallocated reentrancy |  → Shared reentrancy

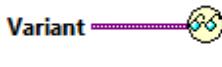
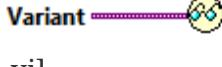
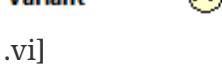
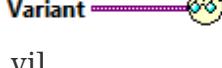
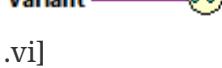
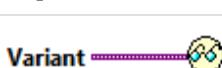
Inlining:  → Inlined

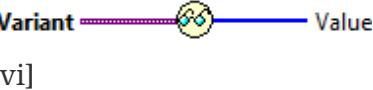
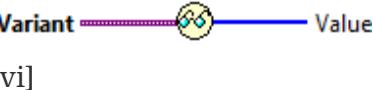
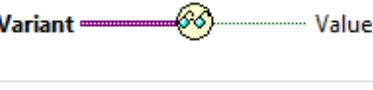
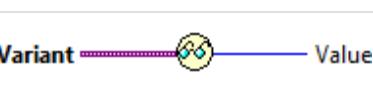
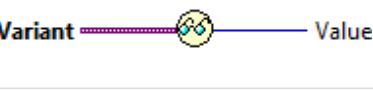
## 2.68. Variant to Data.lvlib

**Responsibility:** No description found (add content in lvlib description)

**Version:** 1.0.0.0

Table 67. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
Variant to [Boolean]	 .vi]	No description found (add content in vi description)			
Variant to [DBL]	 .vi]	No description found (add content in vi description)			
Variant to [EXT]	 .vi]	No description found (add content in vi description)			
Variant to [I8]	 .vi]	No description found (add content in vi description)			
Variant to [I16]	 .vi]	No description found (add content in vi description)			
Variant to [I32]	 .vi]	No description found (add content in vi description)			
Variant to [I64]	 .vi]	No description found (add content in vi description)			
Variant to [Path]	 .vi]	No description found (add content in vi description)			
Variant to [SGL]	 .vi]	No description found (add content in vi description)			
Variant to [String]	 .vi]	No description found (add content in vi description)			
Variant to [U8]	 .vi]	No description found (add content in vi description)			
Variant to [U16]	 .vi]	No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
Variant to [U32]	 Variant -----○----- Value	No description found (add content in vi description)			
Variant to [U64]	 Variant -----○----- Value	No description found (add content in vi description)			
Variant to Boolean	 Variant -----○----- Value	No description found (add content in vi description)			
Variant to DBL	 Variant -----○----- Value	No description found (add content in vi description)			
Variant to Error	 Variant -----○----- Value	No description found (add content in vi description)			
Variant to EXT	 Variant -----○----- Value	No description found (add content in vi description)			
Variant to I8	 Variant -----○----- Value	No description found (add content in vi description)			
Variant to I16	 Variant -----○----- Value	No description found (add content in vi description)			
Variant to I32	 Variant -----○----- Value	No description found (add content in vi description)			
Variant to I64	 Variant -----○----- Value	No description found (add content in vi description)			
Variant to Image	 Variant -----○----- Value	No description found (add content in vi description)			
Variant to Path	 Variant -----○----- Path	No description found (add content in vi description)			
Variant to SGL	 Variant -----○----- Value	No description found (add content in vi description)			
Variant to String	 Variant -----○----- String	No description found (add content in vi description)			
Variant to U8	 Variant -----○----- Value	No description found (add content in vi description)			
Variant to U16	 Variant -----○----- U16 Value	No description found (add content in vi description)			
Variant to U32	 Variant -----○----- Value	No description found (add content in vi description)			
Variant to U64	 Variant -----○----- Value	No description found (add content in vi description)			

Scope:  → Protected |  → Community

Reentrancy:  → Preallocated reentrancy |  → Shared reentrancy

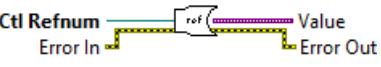
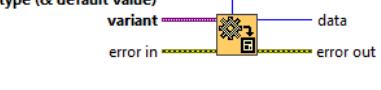
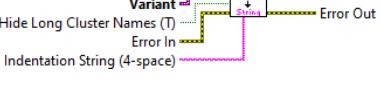
Inlining:  → Inlined

## 2.69. Variant.lvlib

**Responsibility:** No description found (add content in lvlib description)

**Version:** 1.0.0.0

Table 68. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
Ctrl Refnum to Value (Variant)		No description found (add content in vi description)			
Variant Checksum		No description found (add content in vi description)			
Variant to Data (with Default)		Does the same as the <B>Variant To Data</B> function with the exception that, in case of error, it returns the provided type value instead of the default type value.			
Variant to Formatted String v2		Gets the text of the variant			
Variant to Formatted String		No description found (add content in vi description)			

Scope:  → Protected |  → Community

Reentrancy:  → Preallocated reentrancy |  → Shared reentrancy

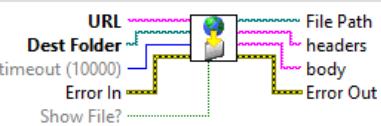
Inlining:  → Inlined

## 2.70. Web.lvlib

**Responsibility:** No description found (add content in lvlib description)

**Version:** 1.0.0.0

Table 69. Functions (non private scope only)

Name	Connector pane	Description	S.	R.	I.
Download Web File		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
Get Redirection URL (HTTP 302)		No description found (add content in vi description)			
Get Redirection URL		No description found (add content in vi description)			

Scope: → Protected | → Community

Reentrancy: → Preallocated reentrancy | → Shared reentrancy

Inlining: → Inlined

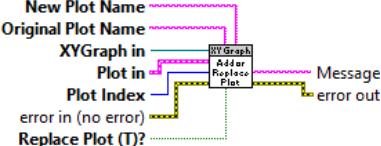
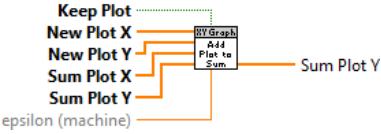
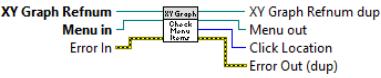
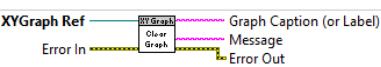
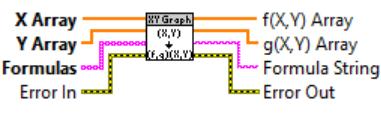
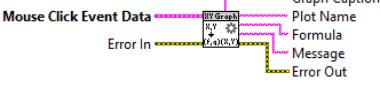
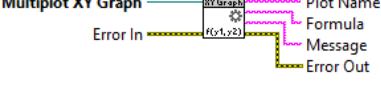
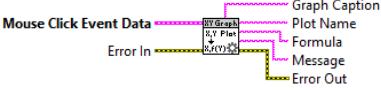
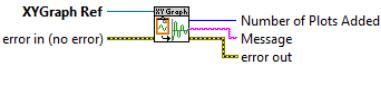
## 2.71. XY Graph Add-Ons.lvlib

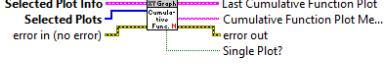
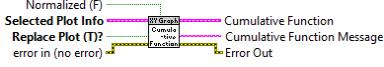
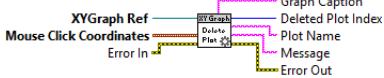
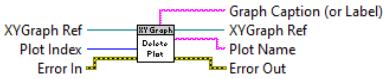
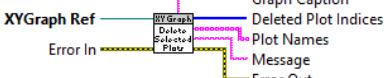
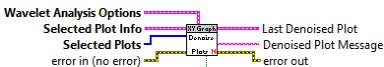
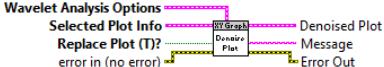
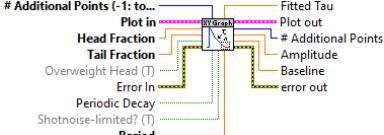
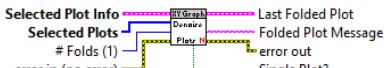
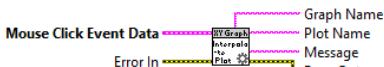
**Responsibility:** No description found (add content in lvlib description)

**Version:** 1.0.0.0

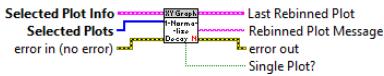
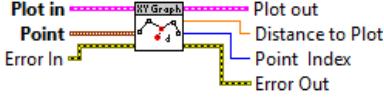
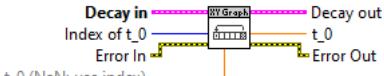
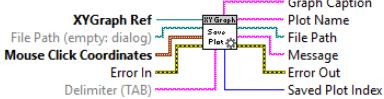
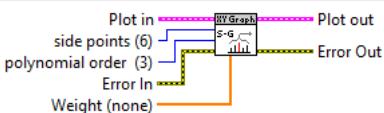
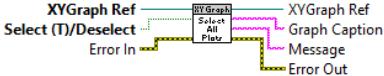
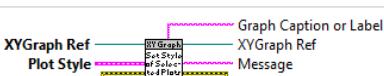
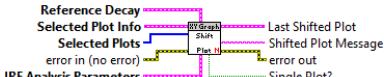
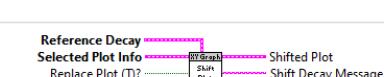
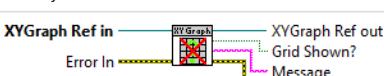
Table 70. Functions (non private scope only)

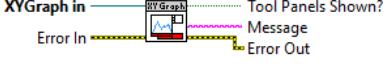
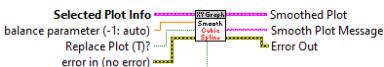
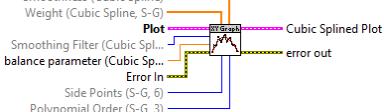
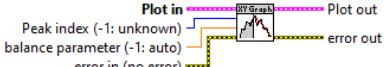
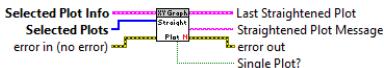
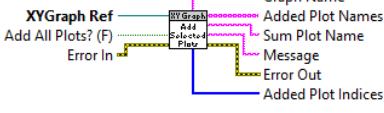
Name	Connector pane	Description	S.	R.	I.
XY Graph NXG with TipStrip		No description found (add content in vi description)			
XY Graph NXG		No description found (add content in vi description)			
XY Graph White		No description found (add content in vi description)			
XY Graph 1- Normalize Multiple Plots		No description found (add content in vi description)			
XY Graph 1- Normalize Plot		No description found (add content in vi description)			
XY Graph [0- 1]-Normalize Multiple Plots	[XY Graph Add-Ons.lvlib:XY Graph [0-1]-Normalize Multiple Plots.vi]	No description found (add content in vi description)			
XY Graph [0- 1]-Normalize Plot	[XY Graph Add-Ons.lvlib:XY Graph [0-1]-Normalize Plot.vi]	No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
XY Graph Add or Replace Plot (by Index)		No description found (add content in vi description)			
XY Graph Add Plot to Sum		No description found (add content in vi description)			
XY Graph Check- Uncheck Menu Items		Check whether the Tools Panels and Grids are visible or not, and add/remove checkmarks accordingly.			
XY Graph Clear Event		No description found (add content in vi description)			
XY Graph Compute (f,g)(X,Y) Arrays		No description found (add content in vi description)			
XY Graph Compute Complex Plot Formula Event		No description found (add content in vi description)			
XY Graph Compute Multiplot Math Event		No description found (add content in vi description)			
XY Graph Compute Simple Plot Formula Event		No description found (add content in vi description)			
XY Graph Compute Sliced Mean & SDV Plots	[XY Graph Add-Ons.lvlib:XY Graph Compute Sliced Mean & SDV Plots.vi]	No description found (add content in vi description)			
XY Graph Copy Plot(s) from Clipboard		No description found (add content in vi description)			

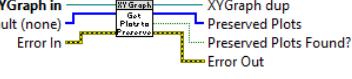
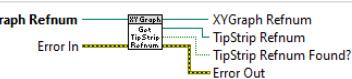
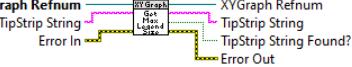
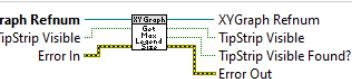
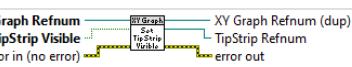
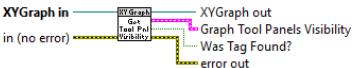
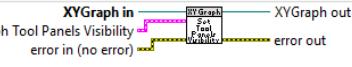
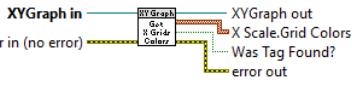
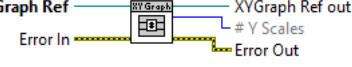
Name	Connector pane	Description	S.	R.	I.
XY Graph Cumulative Function of Multiple Plots		No description found (add content in vi description)			
XY Graph Cumulative Function		No description found (add content in vi description)			
XY Graph Delete Plot Event		No description found (add content in vi description)			
XY Graph Delete Plot		No description found (add content in vi description)			
XY Graph Delete Selected Plots Event		No description found (add content in vi description)			
XY Graph Denoise Multiple Plots		No description found (add content in vi description)			
XY Graph Denoise Plot		No description found (add content in vi description)			
XY Graph Extrapolate Decay v2		No description found (add content in vi description)		S	
XY Graph Fold Multiple Plots		No description found (add content in vi description)			
XY Graph Fold Plot		No description found (add content in vi description)			
XY Graph Graph Axes Chooser Dialog		No description found (add content in vi description)			
XY Graph Interpolate Plot Event		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
XY Graph Invert Plots Selection Event		No description found (add content in vi description)			
XY Graph Load Plot(s) Event		No description found (add content in vi description)			
XY Graph Load Plot(s) from ASCII File		No description found (add content in vi description)			
XY Graph Load Single Column Plot from ASCII		No description found (add content in vi description)			
XY Graph Merge Selected Plots Event		No description found (add content in vi description)			
XY Graph Multiplot Math Window		No description found (add content in vi description)			
XY Graph Normalize Plot		If <B>Subtract Baseline</B> is True, first subtract the minimum to the array.  If <B>Normalization Factor</B> is not connected (or NaN), divides the decay <B>Y Array</B> by its maximum (or max - min if <B>Subtract Baseline</B> is True).  If <B>Normalization Factor</B> is connected, divide the decay <B>Y Array</B> by this factor. Typically, this would be the number of pixels in a ROI, in order to obtain a "per-pixel" decay.			
XY Graph Pair Selected Plots Event		No description found (add content in vi description)			
XY Graph Plot Interpolation		No description found (add content in vi description)			

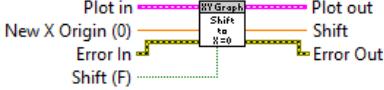
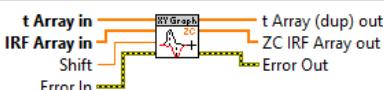
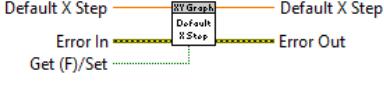
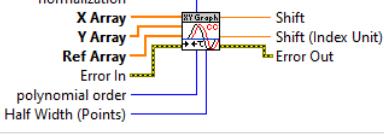
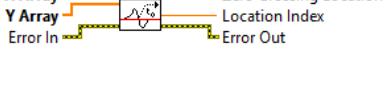
Name	Connector pane	Description	S.	R.	I.
XY Graph Rebin Multiple Plots		No description found (add content in vi description)			
XY Graph Rebin Plot		No description found (add content in vi description)			
XY Graph Remove Data Point from Plot		No description found (add content in vi description)			
XY Graph Rotate Plot		No description found (add content in vi description)			
XY Graph Save Plot Event		No description found (add content in vi description)			
XY Graph Save Selected Plots Event		No description found (add content in vi description)			
XY Graph Savitzky-Golay Filter Plot		No description found (add content in vi description)			
XY Graph Select All Plots Event		No description found (add content in vi description)			
XY Graph Select Plots... Event	[XY Graph Add-Ons.lvlib:XY Graph Select Plots... Event.vi]	No description found (add content in vi description)			
XY Graph Set Plot Style		No description found (add content in vi description)			
XY Graph Set Style of Selected Plots		No description found (add content in vi description)			
XY Graph Shift Multiple Plots		No description found (add content in vi description)			
XY Graph Shift Plot		No description found (add content in vi description)			
XY Graph Show-Hide Grid Event		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
XY Graph Show-Hide Tool Panels Event		No description found (add content in vi description)			
XY Graph Sliced Mean & SDV Plots Event	[XY Graph Add-Ons.lvlib:XY Graph Sliced Mean & SDV Plots Event.vi]	No description found (add content in vi description)			
XY Graph Smoothen Multiple Plots (Cubic Spline)		No description found (add content in vi description)			
XY Graph Smoothen Plot (Cubic Spline)		No description found (add content in vi description)			
XY Graph Smoothen Plot Data		No description found (add content in vi description)			
XY Graph Smoothen Plot Tail		No description found (add content in vi description)			
XY Graph Special Event Handler Core		No description found (add content in vi description)			
XY Graph Special Event Handler Wrapper		No description found (add content in vi description)			
XY Graph Straighten Decay		No description found (add content in vi description)			
XY Graph Straighten Multiple Decays		No description found (add content in vi description)			
XY Graph Sum Selected Plots Event		No description found (add content in vi description)			

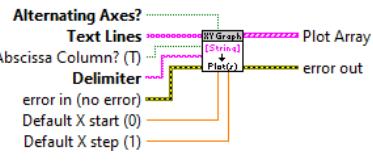
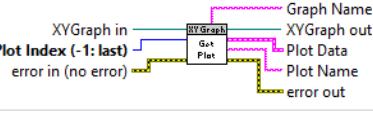
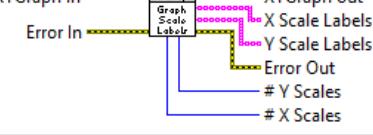
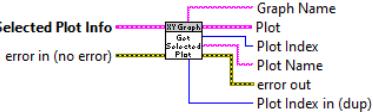
Name	Connector pane	Description	S.	R.	I.
XY Graph Transpose Plot Event		No description found (add content in vi description)			
XY Graph TipStrip Event Registration		No description found (add content in vi description)			
XY Graph Tipstrip Mouse Enter		Connect the corresponding dynamic event clusters of the Event Structure's "Mouse Enter" event for the XYGraph to this subVI			
XY Graph Tipstrip Mouse Leave		Connect the corresponding dynamic event clusters of the Event Structure's "Mouse Leave" event for the XYGraph to this subVI			
XY Graph TipStrip Mouse Move		<p>Shows a tipstrip indicating the name of the plot in the graph legend over which the mouse is located.</p> <p>The maximal length (<b>Max Length</b>) of the tipstrip is optional (default: 200 pixels). The relative location of the tipstrip (with respect to the mouse) can be specified with two flags (<b>Top/Bottom</b> and <b>Left/Right</b>) and an <b>Offset</b> value. The default is bottom right, with an offset of 10 pixels in both directions.</p> <p>If the mouse is over a plot legend, its index and legend are returned. Otherwise -1 and an empty string are returned.</p>			
XY Graph Get Max Legend Size		No description found (add content in vi description)			
XY Graph Set Max Legend Size		No description found (add content in vi description)			
XY Graph Get Plots Metadata		No description found (add content in vi description)			
XY Graph Set Plots Metadata		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
XY Graph Get Plots to Preserve		No description found (add content in vi description)			
XY Graph Set Plots to Preserve		No description found (add content in vi description)			
XY Graph Get TipStrip Refnum		No description found (add content in vi description)			
XY Graph Get TipStrip String		No description found (add content in vi description)			
XY Graph Set TipStrip String		No description found (add content in vi description)			
XY Graph Get TipStrip Visible		No description found (add content in vi description)			
XY Graph Set TipStrip Visible		No description found (add content in vi description)			
XY Graph Get Tool Panels Visibility		No description found (add content in vi description)			
XY Graph Set Tool Panels Visibility		No description found (add content in vi description)			
XY Graph Get X Scale Number		No description found (add content in vi description)			
XY Graph Get X Scales Grid Colors		No description found (add content in vi description)			
XY Graph Set X Scales Grid Colors		No description found (add content in vi description)			
XY Graph Get Y Scale Number		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
XY Graph Get Y Scales Grid Colors		No description found (add content in vi description)			
XY Graph Set Y Scales Grid Colors		No description found (add content in vi description)			
XY Graph Get Plot Name & Scale Arrays	[XY Graph Add-Ons.lvlib:XY Graph Get Plot Name & Scale Arrays.vi]	No description found (add content in vi description)			
XY Graph Is Plot Valid		No description found (add content in vi description)			
XY Graph Number of Plots		No description found (add content in vi description)			
XY Graph Add Data to Last Plots		Adds data points to the last plots in a graph.  Provide a N x M array of data, where N in the number of elements in the series and M is the number of plots.			
XY Graph Add Multiplots with Names		No description found (add content in vi description)			
XY Graph Add New Plot		No description found (add content in vi description)			
XY Graph Add Single Plot with Name		No description found (add content in vi description)			
XY Graph Append Point to Plot		No description found (add content in vi description)			
XY Graph Are Tool Panels Visible		No description found (add content in vi description)			

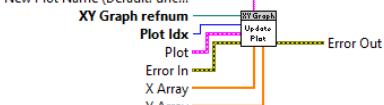
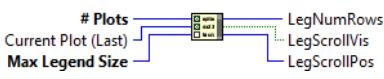
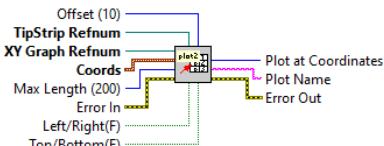
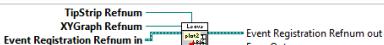
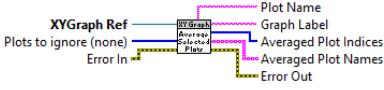
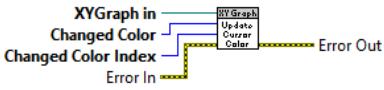
Name	Connector pane	Description	S.	R.	I.
XY Graph Change X Axis Origin		Conditionally shifts the plot's X axis such that the first value is equal to the <B>New X Origin</B> parameter.  Returns the resulting <B>Shift</B> parameter (New X Origin - Old X Origin).			
XY Graph Check New Plot Name		No description found (add content in vi description)			
XY Graph Compare X Array		No description found (add content in vi description)			
XY Graph Compute Plot Zero-Crossing Transform		No description found (add content in vi description)			
XY Graph Decode Plot Columns Header		No description found (add content in vi description)			
XY Graph Default X Step		No description found (add content in vi description)			
XY Graph Defer Owning VI Panel Update & Hide	[XY Graph Add-Ons.lvlib:XY Graph Defer Owning VI Panel Update & Hide.vi]	No description found (add content in vi description)			
XY Graph Delete Consecutive Plots		No description found (add content in vi description)			
XY Graph Find Plot CC Shift		No description found (add content in vi description)			
XY Graph Find Plot Zero-Crossing Location		No description found (add content in vi description)			

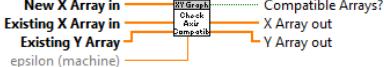
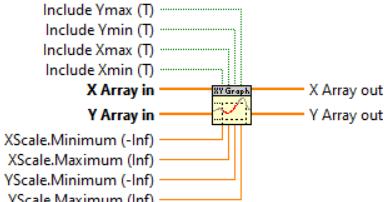
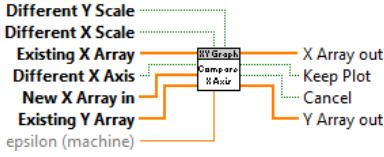
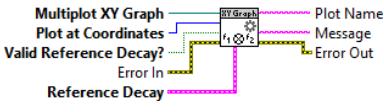
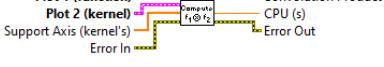
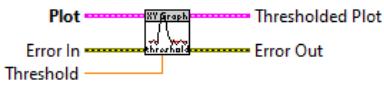
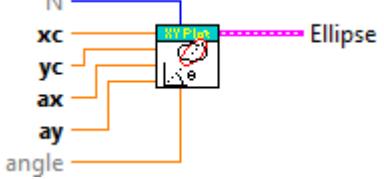
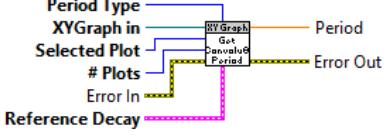
Name	Connector pane	Description	S.	R.	I.
XY Graph Find Threshold Location		Finds the first element $Y_i$ in $<B>Y$ Array such that $Y_i \geq <B>Threshold$ . Returns the corresponding $X_i$ as $<B>Threshold Location$ and, assuming a monotonously increasing $<B>X$ Array, the index of that element as $<B>Location Index$ . If no value is found verifying this condition, the $<B>Threshold Location$ is NaN.			
XY Graph Fold Plot xn		No description found (add content in vi description)			
XY Graph Get Caption (or Label)		No description found (add content in vi description)			
XY Graph Get Label		No description found (add content in vi description)			
XY Graph Get Last Plot ID		No description found (add content in vi description)			
XY Graph Get Multiplot Action Message		No description found (add content in vi description)			
XY Graph Get Plot & Scale Strings v2	[XY Graph Add-Ons.lvlib:XY Graph Get Plot & Scale Strings v2.vi]	No description found (add content in vi description)			
XY Graph Get Plot & Scale Strings	[XY Graph Add-Ons.lvlib:XY Graph Get Plot & Scale Strings.vi]	No description found (add content in vi description)			
XY Graph Get Plot Data & Info	[XY Graph Add-Ons.lvlib:XY Graph Get Plot Data & Info.vi]	No description found (add content in vi description)			
XY Graph Get Plot Info & Clip Data	[XY Graph Add-Ons.lvlib:XY Graph Get Plot Info & Clip Data.vi]	No description found (add content in vi description)			
XY Graph Get Plot Metadata Type		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
XY Graph Get Plot Metadata Type		No description found (add content in vi description)			
XY Graph Get Plot Name Format String		<p>Displays a standard dialog box that prompts users to enter information, such as a user name and password.</p> <p>-----</p> <p>This Express VI is configured as follows:</p> <p>Message to Display to the User:Select plot names matching the following format: The inputs are: Text Entry Box: String Format</p>			
XY Graph Get Plot Names & Number	[XY Graph Add-Ons.lvlib:XY Graph Get Plot Names & Number.vi]	No description found (add content in vi description)			
XY Graph Get Plot Number		No description found (add content in vi description)			
XY Graph Get Plot Range		No description found (add content in vi description)			
XY Graph Get Plot(s) from Headerless String Array		No description found (add content in vi description)			
XY Graph Get Plot		No description found (add content in vi description)			
XY Graph Get Scale Labels		No description found (add content in vi description)			
XY Graph Get Selected Plot Index		No description found (add content in vi description)			
XY Graph Get Selected Plot Names & Indices	[XY Graph Add-Ons.lvlib:XY Graph Get Selected Plot Names & Indices.vi]	No description found (add content in vi description)			
XY Graph Get Selected Plot		No description found (add content in vi description)			

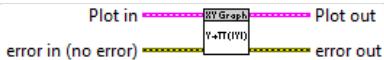
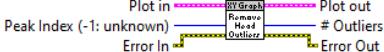
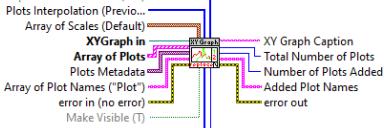
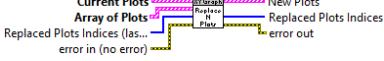
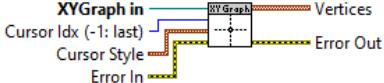
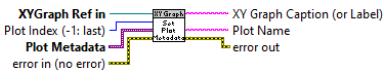
Name	Connector pane	Description	S.	R.	I.
XY Graph Get-Set Plot Style		No description found (add content in vi description)			
XY Graph Init		Clears Plot Names and restores their visibility			
XY Graph Insert Plot		Append a new plot or replace an existing plot in an existing XY Graph  Plot Index = 2^21 - 1 (or Inf) --> Append Plot Index < 0: count plot index from end (-1: last plot, etc.)			
XY Graph Interpolate Plot at x		Compute the value G(t) where t is the input time point and User-defined Gate is a cluster of two arrays, [t_i], i = 0, ..., n and [G_i], i = 0, ..., n as: 1) G(t) = 0 if t < t_0 or t > t_n 2) G(t) is linearly interpolated in between			
XY Graph Is Grid Hidden		No description found (add content in vi description)			
XY Graph Plot ASCII File Format Dialog		Displays a standard dialog box that prompts users to enter information, such as a user name and password.  This Express VI is configured as follows:  Message to Display to the User: Define File Format The inputs are: Number: Number of Lines to Skip: Checkbox: Header Line? Text Entry Box: Separator:			
XY Graph Remove Data Point		No description found (add content in vi description)			
XY Graph Replace Single Plot		No description found (add content in vi description)			
XY Graph Save Graph Image		No description found (add content in vi description)			
XY Graph Save Plot		No description found (add content in vi description)			

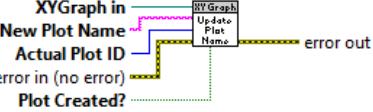
Name	Connector pane	Description	S.	R.	I.
XY Graph Set Cursor Style		No description found (add content in vi description)			
XY Graph Set Plot Name Event		No description found (add content in vi description)			
XY Graph Shift Plot (Core)		No description found (add content in vi description)			
XY Graph Shift Plot Arrays		No description found (add content in vi description)			
XY Graph Show Plot		No description found (add content in vi description)			
XY Graph Show-Hide Grid		No description found (add content in vi description)			
XY Graph Show-Hide Index Display Mask		No description found (add content in vi description)			
XY Graph Show-Hide Tool Panels		No description found (add content in vi description)			
XY Graph Sliced Mean & SDV Enter Data Dialog	[XY Graph Add-Ons.lvlib:XY Graph Sliced Mean & SDV Enter Data Dialog.vi]	No description found (add content in vi description)			
XY Graph Straighten Decay [Core] v3	[XY Graph Add-Ons.lvlib:XY Graph Straighten Decay [Core] v3.vi]	Corrects a single period of a periodic decay, when the decay starts at the first data point and ends at the last point, in the presence of a single-exponential damping (due for instance to fluorescence photobleaching).  The correction is in general still valid when the last provided point is not exactly the period.			
XY Graph Try Plot Name		No description found (add content in vi description)			
XY Graph Update Plot & Style	[XY Graph Add-Ons.lvlib:XY Graph Update Plot & Style.vi]	No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
XY Graph Update Plot		Update the Plot whose index is provided using either the Plot structure (first) or, if empty, the X and Y arrays. If all are empty, then an empty plot is replacing the selected one.			
Test XY Graph with TipStrip		No description found (add content in vi description)			
Compute Plot Legend Size		No description found (add content in vi description)			
Set Plot TipStrip (XY Graph)		<p>Shows a tipstrip indicating the name of the plot in the graph legend over which the mouse is located.</p> <p>The maximal length (<b>Max Length</b>) of the tipstrip is optional (default: 200 pixels). The relative location of the tipstrip (with respect to the mouse) can be specified with two flags (<b>Top/Bottom</b> and <b>Left/Right</b>) and an <b>Offset</b> value. The default is bottom right, with an offset of 10 pixels in both directions.</p> <p>If the mouse is over a plot legend, its index and legend are returned. Otherwise -1 and an empty string are returned.</p>			
Tipstrip Mouse Enter (XY Graph)		Connect the corresponding dynamic event clusters of the Event Structure's "Mouse Enter" event for the XYGraph to this subVI			
Tipstrip Mouse Leave (XY Graph)		Connect the corresponding dynamic event clusters of the Event Structure's "Mouse Leave" event for the XYGraph to this subVI			
XY Graph Average Selected Plots Event		No description found (add content in vi description)			
XY Graph Change Cursor Color		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
XY Graph Check X Arrays Compatibility		No description found (add content in vi description)			
XY Graph Clip Plot Based on Graph Boundaries v2		No description found (add content in vi description)			
XY Graph Compare New Plot and Sum X Arrays		No description found (add content in vi description)			
XY Graph Compute Convolution Product Event		No description found (add content in vi description)			
XY Graph Compute Interpolated Plot		No description found (add content in vi description)			
XY Graph Compute Plots Circular Convolution Product v3		Convolves two plots interpolated over the provided <B>Support Axis</b>. If <B>Support Axis</B> is empty, uses the support of <B>Plot 2</B> considered as the <B>kernel</B> for the convolution product (otherwise both plots have an identical role).			
XY Graph Compute Thresholded Plot		Set IRF values below threshold to zero.			
XY Graph Ellipse Plot		No description found (add content in vi description)			
XY Graph Get Convolution Period		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
XY Graph Get Convolution Step		No description found (add content in vi description)			
XY Graph Get Deleted Cursor Index		This assumes that only one cursor was deleted			
XY Graph Get Head & Tail Fraction from Cursors	[XY Graph Add-Ons.lvlib:XY Graph Get Head & Tail Fraction from Cursors.vi]	Computes the fractional location of the head and tail fraction from the <B>HE</B> and <B>TS</B> cursors locations.  If one (or both) of the cursors is missing, keep the existing values.			
XY Graph Get Plot Data Point at Mouse		No description found (add content in vi description)			
XY Graph Get Plot Data Point near Point		No description found (add content in vi description)			
XY Graph Get Selected Plot(s) Indices		No description found (add content in vi description)			
XY Graph Get Tail (& Head) & Extra Points for Extrapolated Decay	[XY Graph Add-Ons.lvlib:XY Graph Get Tail (& Head) & Extra Points for Extrapolated Decay.vi]	No description found (add content in vi description)			
XY Graph Get Tail or Head Fraction		Given an array with a maximum (peak) and a fractional index, returns what fraction of the head or tail the index corresponds to.			
XY Graph Is Special Event		No description found (add content in vi description)			
XY Graph Modern with TipStrip		No description found (add content in vi description)			
XY Graph Modern		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
XY Graph Multiple TipStrip Event Registration		No description found (add content in vi description)			
XY Graph Normally Positivise Plot		No description found (add content in vi description)			
XY Graph Plot Convolution Dialog		No description found (add content in vi description)			
XY Graph Register Mouse Move Events		Registers the Enter event for the selected graph, and reserves the Move and Leave events			
XY Graph Remove Head Outliers		No description found (add content in vi description)			
XY Graph Replace Multiplots with Names		No description found (add content in vi description)			
XY Graph Replace N Plots Helper Function		No description found (add content in vi description)			
XY Graph Set Cursor Style 2		No description found (add content in vi description)			
XY Graph Set Plot Metdata		No description found (add content in vi description)			
XY Graph Set Selected Plots		No description found (add content in vi description)			
XY Graph Shift Decay to Origin		No description found (add content in vi description)			
XY Graph Show-Hide Cursor Axes		No description found (add content in vi description)			

Name	Connector pane	Description	S.	R.	I.
XY Graph Update New Plot Name		No description found (add content in vi description)			

Scope:  → Protected |  → Community

Reentrancy:  → Preallocated reentrancy |  → Shared reentrancy

Inlining:  → Inlined

# Chapter 3. Legal Information

## 3.1. Document creation

This document has been generated using the following tools.

### 3.1.1. Antidoc

Project website: [Antidoc](#)

Maintainer website: [Wovalab](#)

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### 3.1.2. Asciidoc for LabVIEW™

Project website: [Asciidoc toolkit](#)

Maintainer website: [Wovalab](#)

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