Property Inspector Help
Utility for managing VI properties and metrics from the project

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This help file contains information about how to use this utility to view, edit and analyze a large project using VI properties and VI metrics.

Sections of this help include:

Property Inspector Overview

Property Inspector is a powerful utility for viewing, searching and editing VI properties of all VIs in a project, class or library. It allows searching all the items based on 24 VI properties including *VI Description*, *Data Size* and *Allow Debugging*. After selecting all or some of the results, 12 of the 24 specified VI properties can be edited for all VIs in a single click. Powerful string manipulation functions allow for the entire field to be searched, edited, replaced or removed. It is also possible to modify a different VI property than the one searched.

Property Inspector allows many search operations that are not allowed by LabVIEW, like finding any value, a missing value, comparing a value against a threshold, or finding a value of True or False. Search *Description* for blank identifies Vis that need documentation. Search *LV Version* for Less Than the current version will show all older code. Search *Execution Status* Equals 'bad' shows all broken code. Search *Reentrant* is True followed by Search In with *Reentrancy Type* Contains 'Pre' shows all Vis with Preallocated Reentrancy. Searching a single property by True can quickly isolate all Vis with *Allow Debugging*, *Auto Error Handling* or *Modified* status. Easily disable *Allow Debugging* on hundreds of VIs, compare the performance of your program, and then turn it back on.

Flexible edit modes allow replacing a string with an empty value, replacing the whole string and not just the match, or removing a path value by replacing it with Not-A-Path. Sorting all VIs by value would identify VIs with the highest *Data Size*, *Code Size* or *Revision Number*. Unlike VI Profiler, the *Data Size* shows the memory used before the VI is executed and would identify static data saved in the front panel or block diagram. All VIs are searched against the VIs in memory to determine if they are loaded *In Memory*.

Selected search results can all be edited, deleted, opened or run in a single operation. All opened windows can be closed with a single operation. The visible details in the results window can be exported to a spreadsheet file for additional analysis or documentation. The settings can configure the object types and VI properties are displayed, allowing just the items of interest to be shown.

Powerful **VI Scripting** is included using the standard interfaces for VI Analyzer and Quick-Drop Plugins. This allows complex operations to be performed on some or all Vis with just a small amount of your own code. Leveraging the existing library of Community Quick-Drop Keyboard Plugins speeds the execution of standard operations like Align front panel controls to connector pane pattern or Move block diagram contents to origin.

The utility keeps a history of the last 9 Search operations and each can be repeated in a single click. This history can also be cleared.

The utility can be found under the Tools menu -> Property Inspector… It currently only supports the items found under My Computer.

Toolbar

Buttons on the toolbar speed operation of common functions. Some buttons are disabled if they don't apply to the selection or can't be used during the current operation.

Open Project button

Press the Open Project button to browse for the project file to open. The project file cannot be newer than the current LabVIEW version. If the project is older than the current version, any VIs edited would be updated to the current version.

Settings button

Opens the settings dialog. Options include the project object types, columns to display, search options, edit options and column sorting.

Filter on button

When a filter is applied, the Filter on button turns on. Click the filter on button to disable the filter and see the unfiltered results.

Open VI

When one or more VIs are selected, this button will open all VIs. Use the Window->Close opened windows to close them automatically. Double-clicking the item in the results window opens the VI also.

Refresh

When one or more VIs are selected, this button redraws the results for the selected row(s).

Back

Moves the selection one row higher in the results table. This button is only enabled if a result item is selected except the last one.

Next

Moves the selection one row lower in the results table. This button is only enabled if a result item is selected except the first one.

Search Parameters

Search [Description ▼] [Excludes ▼] [ABCDEF   ] [Search] [Search In]

Edit Mode [Append ▼]   Edit Text [Written by Michael Munroe ▲] [Edit Selected]
                                  [ABCDEF 800-422-1523   ▼]

Use the search parameters section to specify the properties or metrics to search by, the type of comparison and the value to display. Use the Edit Mode and Edit Text to change the value of the selected results.

Search

Use this drop-down to select the VI property to search. Choices include:

Name	Description	Editable	Notes
ALL	Combines the text of all properties to simplify searching	No	Numbers are converted to text and will be included in the results
Allow Debugging	VI Property found under Execution	Yes	
Auto Error Handling	VI Property found under Execution	Yes	
Block Diagram Size	VI Metric found under Memory Usage	No	
Code Size	VI Metric found under Memory Usage	No	May show as 0 if Separate Code from Source is ON and the Vi is not in memory
Data Size	VI Metric found under Memory Usage	No	
Date Modified	File system property found on the disk	No	Enter a date in mm/dd/yy format and use Greater or Less Than. Just enter a year (2000 and later) and Less Than will use 1/1 and Greater Than 12/31
Description	VI Property found under Documentation	Yes	
Execution State	VI State indicated by a broken run arrow	No	Includes invalid, idle, running, bad, run top level
Front Panel Size	VI Metric found under Memory Usage	No	
History Text	VI Property found under General, Revision History…	Yes	Can only be cleared (remove)
In Memory	VI Metric found by searching memory for each VI	No	
Item Name	VI Property as shown in the project window	No	
Item Path	VI Property as shown in the Files display under the project. This path is relative to the project folder unless the item is outside the project folder	No	
Item Type	VI Property indicating the item type (Control VI, Standard VI, Global VI, Folder, etc.)	No	
Logging File Path	Used with Operate -> Data Logging	Yes	
LV Version	VI Property found under General (Source version)	No	
Modified	Hidden property shown when closing the project	Yes	Modified only by saving
Protection	VI Property found under Protection	Yes	
Reentrant	VI Property found under Execution	Yes	
Reentrancy Type	VI Property found under Execution (Shared or Prealloc)	Yes	
Revision Number	VI Property found under General	Yes	Remove to set to zero. When writing this property, only replace with a value greater than the current revision number.
Run Time Menu	Setting found under Edit->Run-Time Menu…	Yes	
Same as VI Name	VI Property found under Window Appearance	Yes	
Window Title	VI Property found under Window Appearance	Yes	Set Same as VI Name to False before setting

Compare Modes

Use this drop- to specify the comparison method. Text match case is an option specified in the settings.

String	Equals	Includes results where the property or metric equals the specified string value
	Contains	Includes results where the property or metric contains the specified string value
	Excludes	Includes results where the property or metric excludes the specified string value
	Starts With	Includes results where the property or metric starts with the specified string value
	Ends With	Includes results where the property or metric ends with the specified string value
Binary/String	Is Blank/0/False	Includes results where the property or metric is a blank string or a 0 value. This includes settings that are False.
	Not Blank/True	Includes results where the property or metric is not blank string or a not a 0 value. This includes settings that are True.
Numeric	Less Than	Includes results where the Metric is less than the specified value. Strings are compared character by character.
	Greater Than	Includes results where the Metric is greater than the specified value. Strings are compared character by character.

Value Field

Enter the value to search for or to filter out. Enter the text to include or exclude from the results.

String	Enter text	Enter the text to include or exclude from the results.
Binary/String	1/T/0/F	Enter a 1 or T for true and a 0 or F for false.
Numeric	Enter number	Enter the number to compare. Metric syntax is allowed including K for 1,000 and M for 1,000,000. All value are integer except LabVIEW version, which returns a decimal digit (i.e. 8.6).
Special	Reentrancy Type	Enter 0 or S for Shared or 1 or P for Pre-allocate

Search Button

Applies the search criteria to the entire project and displays the filtered results. This also sets the Filter On button.

Search In Button

Applies the search criteria to the displayed results window and displays the combined search results. This also sets the Filter On button. There is no limit to the number of combined searches.

Edit Mode

Enter the how the edit is to be applied to the selected Search item. Note that it is possible to change the Search item and edit a different property than was used to filter the results window.

Match	Replaces the part of the property that matches the filter by value with the edit text, same as replace for binary settings
Prepend	Inserts the edit text to the start of the filter by property, same as replace for binary settings
Append	Appends the edit text to the end of the filter by property, same as replace for binary settings
Replace	Replaces the entire property with the contents of the edit text, or True or False, or 0 or 1
Remove	Removes the entire property contents and leaves the field empty, false or Not-A-Path value

Edit Text

Enter the text to edit the property. If the Edit Text box is disabled, selected search property is not editable.

Edit Selected Button

Applies the Edit Mode to the Search property, optionally using the Edit Text and the Value Field
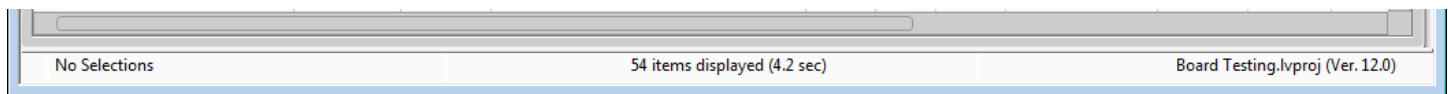
Results Table

Item Name	Item Type	Exec State	Description	In Mem	Debug	Auto Err	Date Modified	Code Size	Data Size	FP Size
Test A.vi	Standard VI	Idle	Test a basic DAQ board image.	0	1	1	12/19/2012 9:00 PM	10.36k	141.82k	4.06k
Test B.vi	Standard VI	Idle	Test an elite DAQ board image.	0	1	1	12/19/2012 9:00 PM	4.62k	138.52k	4.06k
Test C.vi	Standard VI	Idle	Test a GPIB board image.	0	1	1	12/19/2012 9:00 PM	13.22k	143.48k	4.06k
Test_Common To All Boards.vi	Standard VI	Idle	Image check for blocks that are common t	0	1	1	12/19/2012 9:00 PM	7.58k	4.74k	4.06k
Get Test Name.vi	Standard VI	Idle	Build a test name from the board type and	0	1	1	12/19/2012 9:00 PM	2.14k	1.25k	4.75k
Test Boards_TASK.vi	Standard VI	Idle	See Read_Me.html in the <b>Bo:	0	1	1	12/19/2012 9:00 PM	9.34k	2.87k	6.88k
Board Design.lvclass	LVClass		Base class for all board types.	1	0	0	12/19/2012 9:00 PM	0	0	0
Component Orientation and Positi	Control VI			1	0	0	12/19/2012 9:00 PM	0	0	5.76k

This table shows the project items flattened into a row format with the details separated by columns. Use the settings dialog to select which columns to display. The columns can optionally be sorted by the property name ascending or descending. The column widths can be adjusted by dragging the dividers. Double-click a VI in the results table to open it.

When the Filter On button is selected, the results table shows the filtered results. To edit VI properties, enter the change into the Edit Text box, select the rows in the table to change and press the Edit Selected button. Note that the editing the results table does not edit the VI properties in the VI.

Click on a column header to sort the results by the selected parameter. Click the same column to reverse the sort order. These sorting options can also be selected by the View menu.

Status Bar

No Selections	54 items displayed (4.2 sec)	Board Testing.lvproj (Ver. 12.0)

The status bar at the bottom of the window shows the current details of the project and the utility.

The left one-third shows the status of the toolbar and the Search Parameters. Messages include 'Initializing', 'Opening', 'Ready', 'Searching', 'Replacing', 'No Items', 'No Results', 'No Selections', 'Enter 0, F, 1, or T', 'Enter Edit Text', "Enter year or date (mm/dd/yy)", 'Enter Current password' and 'Enter New Password'. If the status shows 'Cannot edit ????', then the Search property is not editable. This is common for all VI metrics. Select a different property to search by or perform an edit operation.

If the status is 'No Selections', one or more results must be selected for the edit operation.

The middle one-third shows the details of the selections in the results window. It shows total number of items in the project, number of items in the filtered results (with percentage), number of items selected and the name of the item if only one is selected. Some operations include the total time to complete the operation.

The right one-third shows the name of the selected project and its saved LabVIEW version.
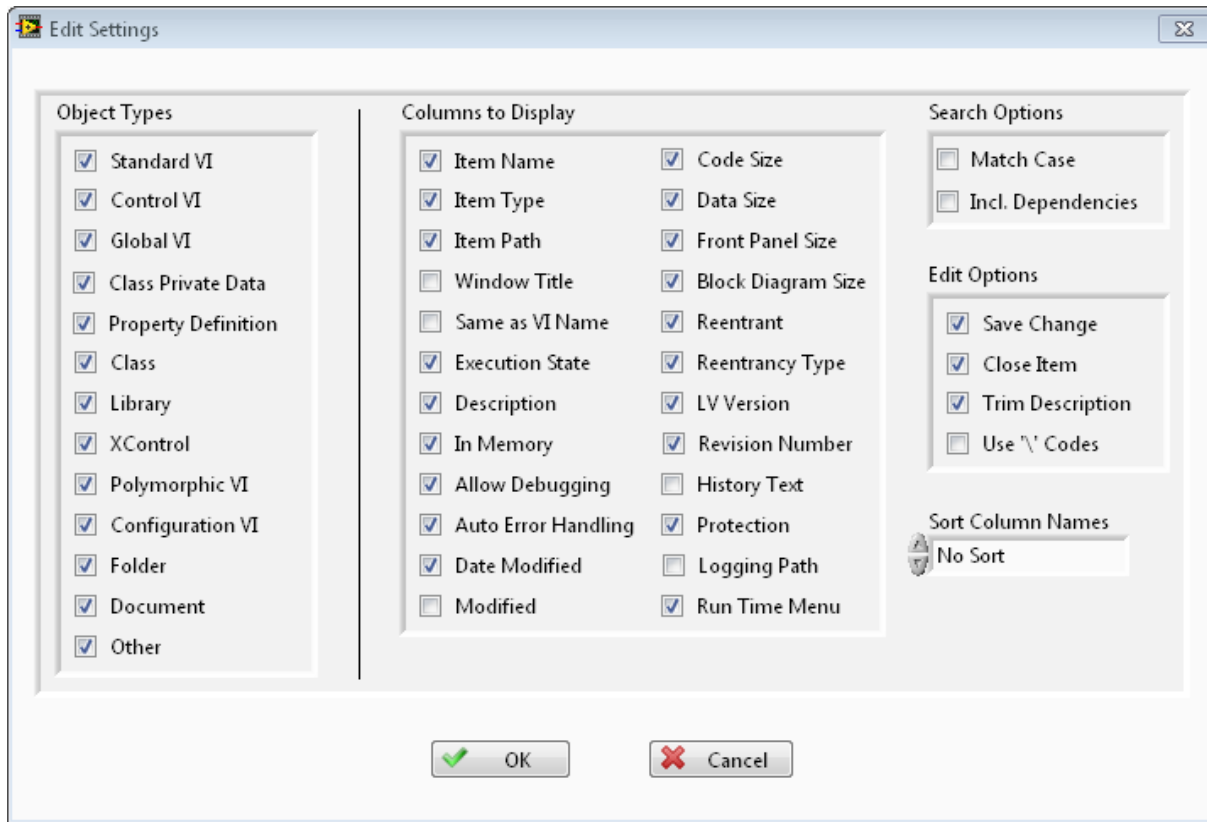
Menu Bar

The menu bar includes several operation that are also on the toolbar, and several that only on the menu. Shortcut keys are shown by underlines, just like in the menu. Hold the Alt key to use the shortcuts. Control shortcuts are available for some menu items shown with the (^) symbol. Items in parenthesis are replaced by the actual content described.

File Menu	Open Project … (^O)	Browses for a LabVIEW project file to load. An error shows if the Project file is newer than the current LabVIEW version.
	Open LVLib …	Browses for a LabVIEW library file to load (.LVLib). An error shows if the LVLib file is newer than the current LabVIEW version.
	Open LVClass	Browses for a LabVIEW class file to load (.LVClass). An error shows if the LVClass file is newer than the current LabVIEW version.
	Close All	Closes the current project, library or class
	Save Selected	Saves the selected items
	Save All	Saves all the items in the results window
	Export Results	Exports the filtered results window to a spreadsheet file
	Exit (^Q)	Exits the utility and closes the open project
Edit Menu	Select All (^A)	Selects all rows of the results window
	Deselect All (^D)	Deselects all results
	Invert Selection (^I)	Inverts the selection. Selects all results that are not selected and deselects all results that are selected
	Delete Selected VIs (^X)	Deletes the selected Vis from the project. A confirmation dialog asks if Vis in auto-populating folders should be deleted from disk.
	Open Script Template	Opens a sample Script Template VI for creating custom scripts using the VI Reference. The connector pane must not be modified.
	Select Script File	Selects a custom Script File to run
	Run VI Script (^V)	Run the custom Script File on the selected items
	Open QD Script Template	Opens a sample QD Script Template VI for creating custom scripts using the VI Reference. The connector pane must not be modified.
	Select QD Script File	Selects a custom QD Script File to run
	Run QD Script (^R)	Run the custom QD Script File on the selected items
View Menu	Sort By	Select the property column to sort by. Clicking the column header will also change the sort by setting. Select Unsorted to revert back to project order.
	Ascending	When checked the sort is ascending and unchecked is descending
Operate Menu	Open VIs	Opens the selected VIs and controls
	Run VIs	Opens and runs the selected VIs
History Menu	(History list)	This menu provides a quick and easy way to perform repetitive operation on several projects or VIs. This list keeps a history of the last 9 filter operations. This list is stored on disk and kept for every use. Duplicates are filtered out. If only No History is shown, then there is no history.
	Clear History	This clears the list of history items
	Search on Select (^0)	To speed repetitive operations, checking this option will perform the search on the history selection immediately. Disable to perform Search In results.
Window Menu	(Opened files)	This menu shows all the opened VIs.
	(Opened projects)	This section of the menu shows all the opened projects
	Close Opened Windows	If a large number of items are opened by the Open VIs function, this menu item will close them all at once. This option is only available when windows have been opened by the utility
	Show Edit Error Dialog	Displays the error dialog containing previous edit errors
Help Menu	Show Help (F1)	Opens the help document (this one)
	Online Support and Resources	Opens the product support webpage
	YouTube Videos	Opens a page with demonstration videos of the utility
	Search Examples	Loads examples shown below into the search and edit criteria
	Alliance Member Page	Opens the NI Alliance Member directory page for ABCDEF
	Product Homepage	Opens the product page at abcdef.biz
	LabVIEW Tools Network	Opens the product page on the LabVIEW Tools Network
	Community Quick Drop Keyboard Shortcuts	Opens the NI forum page listing the latest Quick Drop Plugins
	About Property Inspector	Displays the version number of the utility

Settings

The settings window allows control of project object types to include, columns to display, filter options, edit options and column sorting.

Object Types

Select the different types of project items to show in the results window. Types include Standard VI, Control VI, Global VI, Class Private Data, Property Definition, Class, Library, XControl, Polymorphic VI, Configuration VI, Folder, Document and other items. Changes to Object Types will be applied immediately.

Columns to Display

Select the VI property and VI metrics to show in the results window. Items include Item Name, Item Type, Item Path, Window Title, Same as VI Name, Execution State, Description, In Memory, Allow Debugging, Auto Error Handling, Date Modified, Code Size, Data Size, Front Panel Size, Block Diagram Size, Reentrant, Reentrancy Type, LV Version, Revision Number, History Text, Protection, VI Logging Path and Run Time Menu. Turning off the display of a column does not prevent it from being searched or edited.

Search Options

Match Case selects if text filters are case-independent or case-sensitive. Editing in Match mode will use the same case setting. Select Include Dependencies to include them in the results.

Edit Options

Save Change will automatically save the VI after each edit operation. Close Item will close each VI. If Save Change is off and Close Item is on, LabVIEW will prompt for every VI to be saved or not. Trim Description will Trim the whitespace from both ends of the Description before editing the string. Use '\' Codes will change the display of the Search Text and Edit Text to display \ codes.

Sort Columns

The result columns are pre-arranged in the same order as the Columns to Display settings. For convenience, all the columns may be sorted alphabetically by the displayed name of the column. Options include ascending order and descending order.
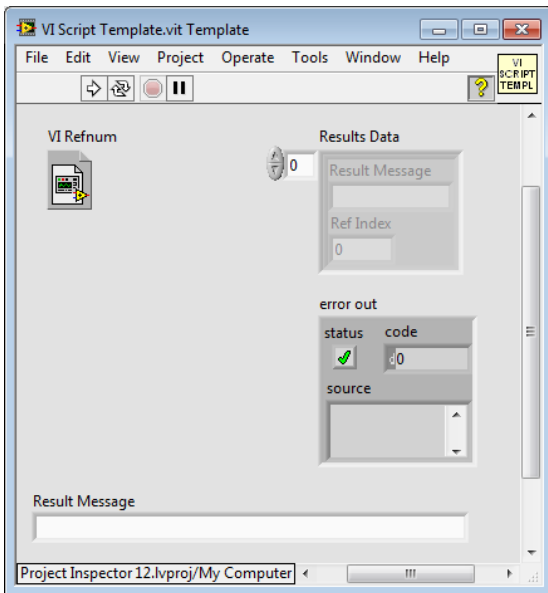
VI Scripting

Scripting allows custom extension of the operation of the Property Inspector beyond the 11 properties that can currently be edited. In only a few minutes, a scripting VI could be written to edit other properties or perform more complex edits. Leveraging the existing library of Quick Drop shortcuts provides a quick and easy capability of performing common operations without writing any code.

Standard templates are provided to assist the creation of these scripts. The front panel must not be altered, since the script is called dynamically. Save the modified script in any location and select it using the menu option. Then select all the VIs to be edited and run the script. Any errors generated will be displayed by the Error Details dialog. Both selected scripts files are stored separately, allowing both to be used alternately. It is possible to disable save and close for the first scripts and enable both for the last script run to minimize revisions.

VI Script

Use the included template VI based on the standard VI Analyzer template to write custom operations. PI will open the VI before the script and optionally save and close it (based on settings dialog).

QD Script

Use the included template VI based on the standard Quick Drop template to write custom operations. If there are Quick Drop shortcuts installed with LabVIEW, they can be used. Alternatively, use the included link in the Help menu to download pre-written QD scripts from the Quick Drop Community. Use the Quick Drop Configuration panel to set the required options once for all VIs.

PI will open the VI before the script and optionally save and close it (based on settings dialog).

Error Details

If any errors are detected during the editing process, a dialog will list the VIs with the corresponding error codes and a description of the errors. The total number of errors is also shown.

Export…

The list of errors with the details shown can be exported to a spreadsheet file for additional analysis or corrective actions.

Other Errors

Other error dialogs include: Project file is newer than current LabVIEW version, Library file is newer than current LabVIEW version, LVClass file is newer than current LabVIEW version, No selection, No columns are displayed, Not all items could be deleted, Not all items could be opened and Not all elements could be run.

Search Examples

Here are several useful examples of Property Inspector operations. The Property Inspector settings are expressed exactly as it appears on the screen. Some examples show the edit operation with sample edit text and notes in parenthesis.

All of these examples can be found in the Help menu under Search Examples.

1. Description Starts With Use this template to, Remove
2. Description Is Blank/0/False, Replace (Description of each VI) (then press Next to advance to the next VI)
3. Allow Debugging Not Blank/True, Remove (remove will disable Allow Debugging)
4. Execution State Equals Bad
5. Data Size Greater Than 100K
6. VI Version Less Than 12
7. In Memory Is Blank/0/False (locates all VIs not in memory)
8. Auto Error Handling Not Blank/True, Remove
9. Is Reentrant Not Blank/True
10. Reentrancy Type Contains Pre, Replace S (Search In the results of example 9 to narrow the results)
11. Date Modified Less Than 2010
12. Modified Not Blank/True

Support Resources

For support with Property Inspector, use the following resources:

Website: http://www.abcdef.biz/support

Phone: 1-800-422-1523

Email: support@abcdef.biz

View quick demonstration Videos on the ABCDEF YouTube Channel