GetWindow

GetWindow [/Z] *winName, keyword*

The GetWindow operation provides information about the named window or subwindow. Information is returned in variables, strings, and waves.

Parameters

winName can be the name of any target window (graph, table, page layout, notebook, control panel, Gizmo, camera, or XOP target window) or subwindow. It can also be the title of a procedure window or one of these four special keywords:

kwTopWin	Specifies the topmost target window.
kwCmdHist	Specifies the command history area.
kwFrameOuter	Specifies the "frame" or "application" window that Igor Pro has only under Windows. This is the window that contains Igor's menus and status bar.
kwFrameInner	Specifies the inside of the same "frame" window under Windows. This is the window that all other Igor windows are inside.

When identifying a subwindow with *winName*, see **Subwindow Syntax** on page III-92 for details on forming the window hierarchy.

Only one of the following keywords may follow *winName*. The keyword chosen determines the information stored in the output variables:

active	Sets V_Value to 1 if the window is active or to 0 otherwise. Active usually means the window is the frontmost window.
activeSW	Stores the window "path" of currently active subwindow in S_Value. See **Subwindow Syntax** on page III-92 for details on the window hierarchy.
axsize	Reads graph axis area dimensions (where the traces are, including axis standoff) into V_left, V_right, V_top, and V_bottom in local coordinates. Dimensions are in points.
axsizeDC	Same as axSize but dimensions are in device coordinates (pixels).
backRGB	Sets V_Red, V_Green, V_Blue, and V_Alpha as **RGBA Values** to the background color of the window. The background color is set with **ModifyGraph (colors)** wbRGB, **ModifyLayout** bgRGB, and **Notebook** backRGB. Also returns the background color of procedure windows and the command/history windows. Other windows set these values to 65535 (opaque white). Added in Igor Pro 7.00.
exterior	Sets V_value to 1 if the window is an exterior panel window or to 0 otherwise. Useful for window hook functions that must work for both regular windows and exterior panel windows, since exterior panels use their own hook function.
bgRGB	Another name for backRGB. Added in Igor Pro 7.00.
cbRGB	Sets V_Red, V_Green, V_Blue, and V_Alpha as **RGBA Values** to the control panel area background color of the window in graphs and panel windows, as set by **ModifyGraph (colors)** cbRGB and **ModifyPanel** cbRGB. Other windows set these values to 65535 (opaque white). Added in Igor Pro 7.00.

doScroll	If the window is a graph or panel window with scroll bars added by SetWindow doScroll, the variable V_value is set to 1. If the window is a graph or panel window without scroll bars added by SetWindow doScroll, the variable V_value is set to 0. If the window is other than a graph or panel window, an error is generated. Added in Igor Pro 9.00.
drawLayer	If the specified window is a graph, layout, or panel window then the window's current drawing layer is returned in S_value. S_value is set to "" for other windows. See **Drawing Layers** on page III-68. Added in Igor Pro 7.00.
expand	Graph windows set V_Value to the expand value set by **ModifyGraph (general)** expand=value, a value normally 0 or 1, where 1.5 means 150%. Notebook, procedure and command windows set V_Value to the magnification, normally 100. See the **Notebook** magnification=m documentation for details. Layout windows set V_Value to the **ModifyLayout** mag=m value, usually 0.5 (50%). In Igor Pro 9.01 and later, panel windows set V_Value to the expand value set by **ModifyPanel** expand=value, a value normally 0 or 1, where 1.5 means 150%. This is the same value returned by **PanelResolution**(winName)/PanelResolution(""). Table windows set V_Value to 0, panels and other unsupported windows to NaN. Added in Igor Pro 7.00.
file	Works for notebook and procedure windows only. Returns via S_value a semicolon-separated list containing: - the file name - the Mac path to the folder containing the file with a colon at the end - the name of a symbolic path pointing to that folder, if any If the window was never saved to a standalone file then "" is returned in S_value. If the specified window is not a notebook or procedure window then "" is returned in S_value.
gbRGB	Sets V_Red, V_Green, V_Blue, and V_Alpha as **RGBA Values** to the plot area background color of the window in graph windows, as set by **ModifyGraph (colors)** gbRGB. Other windows set these values to 65535 (opaque white). Use wbRGB to get the color of window background (the area outside of the axes). Added in Igor Pro 7.00.
gsize	Reads graph outer dimensions into V_left, V_right, V_top, and V_bottom in local coordinates. This includes axes but not the tool palette, control bar, or info panel. Dimensions are in points.
gsizeDC	Same as gsize but dimensions are in device coordinates (pixels).
hide	Sets V_Value bit 0 if the window or subwindow is hidden. Sets bit 1 if the host window is minimized. Sets bit 2 if the subwindow is hidden only because an ancestor window or subwindow is hidden. Added in Igor Pro 7.00. On Macintosh, if you execute `MoveWindow 0,0,0,0` to minimize a window to the dock, and then you immediately call `GetWindow hide`, bit 1 may not be correctly set because of the delay caused by the animation of the window sliding into the dock.

hook	Copies name of window hook function to S_value. See **Unnamed Window Hook Functions** on page IV-305.
hook(*hName*)	For the given named hook *hName*, copies name of window hook function to S_value. See **Named Window Hook Functions** on page IV-295.
logicalpapersize	Returns logical paper size of the page setup associated with the named window into V_left, V_right, V_top, and V_bottom. Dimensions are in points. If the Page Setup dialog uses 100% scaling, these are also the physical dimensions of the page. V_left and V_top are 0 and correspond to the left top corner of the physical page. On the Macintosh, using a Scale of 50% multiplies all of these dimensions by 2.
logicalprintablesize	Returns logical printable size of the page setup associated with the named window into V_left, V_right, V_top, and V_bottom. Dimensions are in points. If the Page Setup dialog uses 100% scaling, these are also the physical dimensions of the page minus the margins. V_left and V_top are the number of points from the left top corner of the physical page to the left top corner of the printable area of page. On the Macintosh, using a page setup scale of 50% multiplies all of these dimensions by 2.
magnification	Sets V_Value exactly the same way that expand does. Added in Igor Pro 7.00.
maximize	Sets V_Value to 1 if the window is maximized, 0 otherwise. On Macintosh, V_Value is always 0.
needUpdate	Sets V_Value to 1 if window or subwindow is marked as needing an update.
note	Copies window note to S_value.
psize	Reads graph plot area dimensions (where the traces are) into V_left, V_right, V_top, and V_bottom in local coordinates. Dimensions are in points.
psizeDC	Same as psize but dimensions are in device coordinates (pixels).
sizeLimit	Returns the size limits imposed on a window via `SetWindow sizeLimit` in the V_minWidth, V_minHeight, V_maxWidth and V_maxHeight. The values are scaled for screen resolution to the same units as GetWindow wsize, which is points. Very large limits are returned as INF. The sizeLimit keyword was added in Igor Pro 7.00. Also returns a sizeLimit status value in V_Value. 0 means no SetWindow sizeLimit command will appear in the window's recreation macro, usually because no `SetWindow sizeLimit` command was applied to the window. 1 means a `SetWindow sizeLimit` command will appear in the window's recreation macro. -1 means it won't appear because of conflicts with graph absolute sizing modes.
title	Gets the title (set by as *titleStr* with NewPanel, Display, etc., or by the Window Control dialog) and puts it into S_value. S_value is set to "" if *winName* specifies a subwindow. See also the wtitle keyword, below.
userdata	Returns the primary (unnamed) user data for a window in S_value. Use **GetUserData** to obtain any named user data.
wavelist	Creates a 3 column text wave called W_WaveList containing a list of waves used in the graph in *winName*. Each wave occupies one row in W_WaveList. This list includes all waves that can be in a graph, including the data waves for contour plots and images.

wbRGB	Another name for backRGB. Added in Igor Pro 7.00.
wsize	Reads window dimensions into V_left, V_right, V_top, and V_bottom in points from the top left of the screen. For subwindows, values are local coordinates in the host. If the window is a graph or panel window with scroll mode turned on using SetWindow doScroll, then V_left and V_top are set to zero, and V_right and V_bottom are set to the width and height in points of the window content area.
wsizeDC	Same as wsize but dimensions are in local device coordinates (pixels). The origin is the top left corner of the host window's active rectangle. If the window is a graph or panel window with scroll mode turned on using SetWindow doScroll, then V_left and V_top are set to zero, and V_right and V_bottom are set to the width and height in pixels of the window content area.
wsizeForControls	Reads window width into V_right and the window height into V_bottom in panel units. "Panel units" are scaled so that a control having the dimensions of V_right and V_bottom exactly fills the window. The wsizeForControls keyword was added in Igor Pro 9.00. See ***Examples*** below for an example.
wsizeOuter	Reads window dimensions into V_left, V_right, V_top, and V_bottom in points from the top left of the screen. Dimensions are for the entire window including any frame and title bar. For subwindows, values are for the host window.
wsizeOuterDC	Same as wsizeOuter but dimensions are in local device coordinates (pixels). The origin is the top left corner of the host window's active rectangle, so V_top will be negative for a window with a title bar. V_left will be negative for windows with a frame; windows on Macintosh OS X have no frame, so V_left will be zero.
wsizeRM	Generally the same as wsize, but these are the coordinates that would actually be used by a recreation macro except that the coordinates are in points even if the window is a panel. Also, if the window is minimized or maximized, the coordinates represent the window's restored location. On Windows, GetWindow kwFrameOuter wsizeRM returns the pixel coordinates of the MDI frame even when the frame is maximized. wsizeDC returns 2,2,2,2 in this case.
wtitle	Gets the actual window title displayed in the window's title bar, regardless of whether it was set by the user (see the title keyword above) or is the default title created by Igor, and puts it into S_value. S_value is set to "" if winName specifies a subwindow. If winName is kwFrameOuter or kwFrameInner, on Macintosh S_Value is set to the name of the Igor application. On Windows it is set to the full title of the application as seen on the frame's window, which can be altered using DoWindow/T kwFrame.

Flags

/Z	Suppresses error if, for instance, *winName* doesn't name an existing window. V_flag is set to zero if no error occurred or to a non-zero error code.

Details

winName can be the title of a procedure window. If the title contains spaces, use:

```
GetWindow $"Title With Spaces" wsize
```

However, if another window has a name which matches the given procedure window title, that window's properties are returned instead of the procedure window.

The wsize parameter is appropriate for all windows.

The gsize, psize, gbRGB, and wavelist parameters are appropriate only for graph windows.

The logicalpapersize, logicalprintablesize and expand/magnification parameters are appropriate for all printable windows except for control panels and Gizmo plots.

Local Coordinates

"Local coordinates" are relative to the top left of the graph area, regardless of where that is on the screen or within the graph window. All dimensions are reported in units of points (1/72 inch) regardless of screen resolution. On the Macintosh, this is the same as screen pixels.

Frame Window Coordinates

kwCmdHist, kwFrameInner, and kwFrameOuter may be used with only the wsize keyword.

On Windows computers, kwFrameInner and kwFrameOuter return coordinates into V_left, V_right, V_top, and V_bottom. On the Macintosh, they always return 0, because Igor has no frame on the Macintosh.

kwFrameOuter coordinates are the location of the outer edges of Igor's application window, expressed in screen (pixel) coordinates suitable for use with `MoveWindow/F` to restore, minimize, or maximize the Igor application window.

If Igor is currently minimized, kwFrameOuter returns 0 for all values. If maximized, it returns 2 for all values. Otherwise, the screen (pixel) coordinates of the frame are returned in V_left, V_right, V_top, and V_bottom. This is consistent with `MoveWindow/F`.

kwFrameInner coordinates, however, are the location of the inner edges of the application window, expressed in Igor window coordinates (points) suitable for positioning graphs and other windows with **MoveWindow**.

If Igor is currently minimized, kwFrameInner returns the inner frame coordinates Igor would have if Igor were "restored" with `MoveWindow/F 1,1,1,1`.

V_left and V_top will always both be 0, and V_Bottom and V_Right will be the maximum visible (or potentially visible) window (not screen) coordinates in points.

The Wavelist Keyword

The format of W_WaveList, created with the wavelist keyword, is as follows:

Column 1	Column 2	Column 3
Wave name	partial path to the wave	special ID number

The wave name in column 1 is simply the name of the wave with no path. It may be the same as other waves in the list, if there are waves from different data folders.

The partial path in column 2 includes the wave name and can be used with the $ operator to get access to the wave.

The special ID number in column 3 has the format ##<number>##. A version of the recreation macro for the graph can be generated that uses these ID numbers instead of wave names (see the **WinRecreation** function). This makes it relatively easy to find every occurrence of a particular wave using a function like **strsearch**.

Examples

```
// These commands draw a red foreground rectangle framing
// the printable area of a page layout window.
GetWindow Layout0 logicalpapersize
DoWindow/F Layout0
SetDrawLayer/K userFront
SetDrawEnv linefgc=(65535,0,0), fillpat=0         // Transparent fill
DrawRect V_left+1, V_top+1, V_right-1, V_bottom-1

// These commands demonstrate the difference between title and wtitle.
Make/O data=x
Display/N=MyGraph data
GetWindow MyGraph title;Print S_Value             // Prints nothing (S_Value = "")
GetWindow MyGraph wtitle;Print S_Value            // Prints "MyGraph:data"
DoWindow/T MyGraph, "My Title for My Graph"
GetWindow MyGraph title;Print S_Value             // Prints "My Title for My Graph"
GetWindow MyGraph wtitle;Print S_Value            // Prints "My Title for My Graph"

// Create a panel expanded at 200% with a ListBox that fills the entire panel.
String list = CTabList()            // List of color tables
Make/O/T/N=(ItemsInList(list)) tw = StringFromList(p,list)
```