

# Scroll Bar Control

toolslib\custctrl\scroll.fp

This [instrument driver](#) provides functions for creating and operating scroll bar controls.



**Note** The scroll bar control does not work when it is on the same panel as an easy tab custom control.

The functions in this instrument driver are multithread-safe.

## Function Tree, Scroll Bar Control

Class/Panel Name	Function Name
Create Scroll Bar	<a href="#">ScrollBar_Create</a>
Convert Graph To Scroll Bar	<a href="#">ScrollBar_ConvertFromGraph</a>
Set Scroll Bar Attribute	<a href="#">ScrollBar_SetAttribute</a>
Get Scroll Bar Attribute	<a href="#">ScrollBar_GetAttribute</a>
Update Scroll Bar	<a href="#">ScrollBar_Update</a>

## ScrollBar\_ConvertFromGraph

```
int ScrollBar_ConvertFromGraph (int panelHandle, int graphID, CtrlCallbackPtr callbackFunction, void *callbackData);
```

### Purpose

This function converts a graph control created in the User Interface Editor to a scroll bar. The position, size and color of the graph are retained in the scroll bar. The defined constant (located in the UIR header file) which was assigned to the graph control in the User Interface Editor can then be used in subsequent function calls.

### Parameters

*Input*

Name	Type	Description
<b>panelHandle</b>	integer	The specifier for a particular panel that is currently in memory.  This handle will have been returned by the <a href="#">LoadPanel</a> , <a href="#">NewPanel</a> , or <a href="#">DuplicatePanel</a> function.
<b>graphID</b>	integer	The defined constant (located in the UIR header file) which was assigned to the graph control in the User Interface Editor.
<b>callbackFunction</b>	CtrlCallbackPtr	The name of the user function that processes the scroll bar callback. This event function (type CtrlCallbackPtr) takes the form:  <pre>int CVICALLBACK ScrollBarCallback(int panel, int scrollBar, int event, void *callbackData, int eventData1, int eventData2);</pre> If the graph control being converted has a callback associated with it, pass 0 to use this callback function as the scrollbar's callback.  The event function is passed the Panel Handle and Scroll Bar ID of the scroll bar generating the event. The Event type as well as Callback data defined by the user is passed to the event function as well. The new value of the scroll bar is also passed in the <b>eventData1</b> parameter, and a pointer to this value is passed in the <b>eventData2</b> parameter. The following is a list of each scroll bar action, the fired scroll bar event and a description of changes to the scroll bar.

Action	Event Fired	Description
up arrow click or keyboard up arrow	EVENT_SB_UP_BUTTON	value decreases by 1
down arrow click or keyboard down arrow	EVENT_SB_DOWN_BUTTON	value increases by 1

click above thumb and below up arrow or keyboard page up	EVENT_SB_PAGE_UP	value decreases by the view size
click below thumb and above down arrow or keyboard page down	EVENT_SB_PAGE_DOWN	value increases by the view size
dragging the mouse after thumb click	EVENT_SB_THUMB_CHANGE	values change based on thumb position
releasing the mouse after any click or keyboard event	EVENT_SB_COMMIT	no additional value change
keyboard home	EVENT_SB_COMMIT	value set to doc minimum
keyboard end	EVENT_SB_COMMIT	value set to doc maximum

Holding down the mouse button or the key causes any of the first four events to continue firing.

The **eventData2** parameter can be cast to an integer pointer (int \*) and then used to modify the scroll bar value in the callback function. The scroll bar thumb is moved to the modified location immediately after exiting the callback.

**callbackData** void \* A pointer to user-defined data passed to the event function.

## Return Value

**Name** **Type** **Description**

**status** integer Return value indicating whether the function was successful. A negative number indicates that an error occurred.

- Return Values:
- 0 Success
  - 1 General error, probably out of memory.
  - 2 Control ID is not a graph
  - 3 Bad attribute value
  - 4 Bad attribute

## ScrollBar\_Create

```
int ScrollBar_Create (int panelHandle, int controlTop, int controlLeft, int vertical, CtrlCallbackPtr callbackFunction, void *callbackData);
```

## Purpose

This function creates a new scroll bar and returns a scroll bar ID used to specify the control in subsequent function calls.

## Parameters

*Input*

Name	Type	Description
<b>panelHandle</b>	integer	The specifier for a particular panel that is currently in memory. This handle will have been returned by the <a href="#">LoadPanel</a> , <a href="#">NewPanel</a> , or <a href="#">DuplicatePanel</a> function.
<b>controlTop</b>	integer	The vertical coordinate at which the upper left corner of the control (not including labels) is placed. The coordinate must be an integer value from -32768 to 32767. The origin (0,0) is at the upper-left corner of the panel (directly below the title bar) before the panel is scrolled.
<b>controlLeft</b>	integer	The horizontal coordinate at which the upper left corner of the control (not including labels) is placed.

The coordinate must be an integer value from -32768 to 32767.

The origin (0,0) is at the upper-left corner of the panel (directly below the title bar) before the panel is scrolled.

**vertical** integer This value of this control specifies the orientation of the scroll:

True—the orientation is vertical

False—the orientation is horizontal

**callbackFunction** CtrlCallbackPtr The name of the user function that processes the scroll bar callback. This event function (type CtrlCallbackPtr) takes the form:

```
int CVICALLBACK ScrollBarCallback(int panel, int scrollBar, int event, void *callbackData, int eventData1, int eventData2);
```

The event function is passed the Panel Handle and Scroll Bar ID of the scroll bar generating the event. The Event type as well as Callback data defined by the user is passed to the event function as well. The new value of the scroll bar is also passed in the **eventData1** parameter, and a pointer to this value is passed in the **eventData2** parameter. The following is a list of each scroll bar action, the fired scroll bar event and a description of changes to the scroll bar.

Action	Event Fired	Description
up arrow click or keyboard up arrow	EVENT_SB_UP_BUTTON	value decreases by 1
down arrow click or keyboard down arrow	EVENT_SB_DOWN_BUTTON	value increases by 1
click above thumb and below up arrow or keyboard page up	EVENT_SB_PAGE_UP	value decreases by the view size
click below thumb and above down arrow or keyboard page down	EVENT_SB_PAGE_DOWN	value increases by the view size
dragging the mouse after thumb click	EVENT_SB_THUMB_CHANGE	values change based on thumb position
releasing the mouse after any click or keyboard event	EVENT_SB_COMMIT	no additional value change
keyboard home	EVENT_SB_COMMIT	value set to doc minimum
keyboard end	EVENT_SB_COMMIT	value set to doc maximum

Holding down the mouse button or the key causes any of the first four events to continue firing.

The **eventData2** parameter can be cast to an integer pointer (int \*) and then used to modify the scroll bar value in the callback function. The scroll bar thumb is moved to the modified location immediately after exiting the callback.

**callbackData** void \* A pointer to user-defined data passed to the event function.

## Return Value

**Name**      **Type**      **Description**

**scrollBarID** integer Returns the ID used to specify this scroll bar in subsequent function calls. Negative values indicate that an error occurred.

Error Codes:

-1            General error, probably out of memory.

-2            Control ID is not a graph

-3	Bad attribute value
-4	Bad attribute

## ScrollBar\_GetAttribute

```
int ScrollBar_GetAttribute (int panelHandle, int scrollBarID, int scrollBarAttribute, int
    *attributeValue);
```

### Purpose

Obtains the value of a scroll bar attribute from the selected panel and scroll bar.

### Parameters

#### Input

Name	Type	Description
<b>panelHandle</b>	integer	The specifier for a particular panel that is currently in memory. This handle will have been returned by the <a href="#">LoadPanel</a> , <a href="#">NewPanel</a> , or <a href="#">DuplicatePanel</a> function.
<b>scrollBarID</b>	integer	The defined constant (located in the UIR header file) which was assigned to the graph control in the User Interface Editor, or the ID returned by the <a href="#">ScrollBar Create</a> or <a href="#">ScrollBar ConvertFromGraph</a> functions.
<b>scrollBarAttribute</b>	integer	The <a href="#">scroll bar attribute</a> value to obtain.  In the function panel, when you click the control or press <Enter>, <Spacebar>, or <Ctrl-down arrow>, a dialog box appears containing a hierarchical list of the available attributes. Attributes whose values cannot be obtained are dimmed. Help text is shown for each attribute. To select an attribute, double-click it or select it and then press <Enter>.  If the attribute shown in this ring control has named constants as valid values, you can open a list of them by moving to the Attribute Value control and pressing <Enter>. The Attribute Values dialog box displays the values and value help for the constants.

#### Output

Name	Type	Description
<b>attributeValue</b>	integer *	The value of the specified <a href="#">scroll bar attribute</a> .  If the attribute shown in this control has named constants as valid values, you can open a list of them by pressing <Enter>. The Attribute Values dialog box displays the values and value help for the constants.

### Return Value

Name	Type	Description
<b>status</b>	integer	Return value indicating whether the function was successful. A negative number indicates that an error occurred.  Return Values: 0 Success -1 General error, probably out of memory. -2 Control ID is not a graph -3 Bad attribute value -4 Bad attribute

## ScrollBar\_SetAttribute

```
int ScrollBar_SetAttribute (int panelHandle, int scrollBarID, int scrollBarAttribute, int
    attributeValue);
```

### Purpose

Sets a scroll bar attribute for the specified panel and scroll bar.

### Parameters

### Input

Name	Type	Description
<b>panelHandle</b>	integer	The specifier for a particular panel that is currently in memory. This handle will have been returned by the <a href="#">LoadPanel</a> , <a href="#">NewPanel</a> , or <a href="#">DuplicatePanel</a> function.
<b>scrollBarID</b>	integer	The defined constant (located in the UIR header file) which was assigned to the graph control in the User Interface Editor, or the ID returned by the <a href="#">ScrollBar_Create</a> or <a href="#">ScrollBar_ConvertFromGraph</a> functions.
<b>scrollBarAttribute</b>	integer	The <a href="#">scroll bar attribute</a> value to set.  In the function panel, when you click the control or press <Enter>, <Spacebar>, or <Ctrl-down arrow>, a dialog box appears containing a hierarchical list of the available attributes. Attributes whose values cannot be obtained are dimmed. Help text is shown for each attribute. To select an attribute, double-click it or select it and then press <Enter>.  If the attribute shown in this ring control has named constants as valid values, you can open a list of them by moving to the Attribute Value control and pressing <Enter>. The Attribute Values dialog box displays the values and value help for the constants.
<b>attributeValue</b>	integer	The value of the specified <a href="#">scroll bar attribute</a> .  If the attribute shown in this control has named constants as valid values, you can open a list of them by pressing <Enter>. The Attribute Values dialog box displays the values and value help for the constants.

## Return Value

Name	Type	Description
<b>status</b>	integer	Return value indicating whether the function was successful. A negative number indicates that an error occurred.  Return Values: 0 Success -1 General error, probably out of memory. -2 Control ID is not a graph -3 Bad attribute value -4 Bad attribute

## ScrollBar\_Update

```
int ScrollBar_Update (int panelHandle, int scrollBarID);
```

### Purpose

Updates the scroll bar.

### Parameters

#### Input

Name	Type	Description
<b>panelHandle</b>	integer	The specifier for a particular panel that is currently in memory. This handle will have been returned by the <a href="#">LoadPanel</a> , <a href="#">NewPanel</a> , or <a href="#">DuplicatePanel</a> function.
<b>scrollBarID</b>	integer	The defined constant (located in the UIR header file) which was assigned to the graph control in the User Interface Editor, or the ID returned by the <a href="#">ScrollBar_Create</a> or <a href="#">ScrollBar_ConvertFromGraph</a> functions.

## Return Value

Name	Type	Description
<b>status</b>	integer	Return value indicating whether the function was successful. A negative number indicates that an error occurred.  Return Values: 0 Success -1 General error, probably out of memory.

- 2 Control ID is not a graph
- 3 Bad attribute value
- 4 Bad attribute