Bindkeys in Virtuoso Layout Suite

This document lists the default bindkeys defined for Virtuoso Layout Suite. Bindkeys tie commonly-used commands to single keys, key combinations, or mouse sequences. They can be used to automate repetitive tasks and speed up your work.

In this document, bindkeys are arranged:

❍ [As a Keyboard Layout](#)

❍ [By Mouse Functions](#)

❍ [By Miscellaneous Keys](#)

❍ [By Functions](#)

Note: To use bindkeys in Layout XL or Layout EXL, you must first define them in Layout XL or Layout EXL, if not already defined. Bindkeys registered earlier using the Layout Viewer are no longer supported in Layout XL or Layout EXL.

Arranged as a Keyboard Layout

Legend	
Key	
Ctrl	
Shift	
Ctrl + Shift	

Function Key Row

Esc	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12
Cancel a Command	Launch Cadence Help	Save	Display Save a Copy Form	Toggle Partial Select	Display Open File Form	Toggle Maintain Connections	Display DRD Options Form		Toggle Filter Size		Toggle Assistants	
											Toggle Toolbars	
				Toggle Area Select Option	Fully Select Figure of Selected Set						Toggle Assistants and Toolbars	

Numeric / Symbol Row

-	+	#			+ (numeric keypad)	- (numeric keypad)	Enter (numeric keypad)			BackSpace	Delete	
Decrement stop value in a window	Increment stop value in a window	Toggle Anchor Magnifier			Set Reference Point	Set Reference Point Inactive	Add Point			Delete a Point	Delete	

`	1	2	3	4	5	6	7	8	9	0

QWERTY Row

Tab	Q	W	E	R	T	Y	U	I	O	P	[	]
Set Focus to Editable Field	Display Edit Properties Form	Go to Previous View	Open Display Options Form	Create Rectangle	Tap	Yank	Undo	Display Create Instance Form	Display Create Via Form			
Display Lower Window		Close the Layout Editing Window	Toggle DRD Mode	Redraw	Zoom to Selected Area	Cycle Select Next		Cycles through Overlapping Objects to Display Info Balloons for Each Object	Select Via Stack	Display Create Shape Pin Form		
	Display Edit Cellview Properties Form	Go to Next View	Display Layout Editor Options Form	Reshape	Display Tree Form	Paste	Redo		Rotate	Create Polygon		
	Add Wire Via	Create Wire								CW Hold Width		

ASDF Row

A	S	D	F	G	H	J	K	L	;	'	Return	Up Arrow
Quick Align	Stretch	Deselect the Figure Pointed by Mouse	Zoom to Fit	Toggle Gravity	Repeat Copy	Fully Select Partially Selected Objects	Create Rulers	Display Create Label Form		Display Magnifier Options Form	Apply or Finish a Point	Pan Up
Select All	Split	Deselect all	Set Display Stop Level to The Current Edit Level	Zoom to Grid	Freeze/Unfreeze DSA	Flip Selected Figure	Toggle Keep First Name					Pan Up and Stop at Edge of Design
Select Area	Display Find/Replace Form	Create a Deselection Box	Display Hierarchy Depth 32	Display Guard Ring Form			Clear Existing Rulers					Move Cursor Up
Add Wire Via			Finish Entire Net	Gather Bus Wires			Clear Ruler in Hierarchy					Scale up magnifier by a factor of 1.25

ZXCV Row

Z	X	C	V	B	N	M	,	.	Spacebar	Left Arrow	Down Arrow	Right Arrow
Zoom In	Edit in Place	Copy	Attach or Detach a Child Object	Return to Level	Cycle Snap Mode	Move		Toggle Magnifier Repeat Paste (when Repeat Copy command is active)	Add Wire Via	Pan Left	Pan Down	Pan Right
Zoom In x2	Zoom to Edit in Place		Go to CIW	Toggle Info Balloon	Set Snap mode option: L90X First					Pan Left and Stop at the Edge of Design		Pan Right and Stop at the Edge of Design
Zoom Out x2	Descend	Chop	Toggle World View	Return	Display Enter Points Form	Merge				Move Cursor Left	Move Cursor Down	Move Cursor Right
Cycle Control Wire		Cycle Auto Drop Via Solution	Finish Wire									Scale down magnifier by a factor of 0.80

Arranged by Mouse Functions

Mouse-click/Scroll/Drawthrough	
Ctrl	
Shift	
Ctrl + Shift	

Button 1 - Left Click (LMB)	Button 2 - Scroll (MMB)	Button 3 - Right Click (RMB)	Button 4	Button 5
Select a Point	Repeat	Display Context Menu	Zoom In at Click	Zoom Out at Click
Deselect a Point			Cycle Up Wire Via Alignment	Cycle Down Wire Via Alignment
Add to Current Selection	Move Mouse Point		Pan Left/West	Pan Right/East
Zoom In	Zoom Out		Scale Magnifier or Increase Width	Scale Magnifier or Decrease Width
Button 1 - Left Double Click	**Button 2 - Double Click**	**Button 3 - Right Double Click**	**Button 4 - Double Click**	**Button 5 - Double Click**
Enter Point		Display Edit Properties Form		
Button 1 - Draw Through	**Button 2 - Draw Through**	**Button 3 - Draw Through**	**Button 4 - Draw Through**	**Button 5 - Draw Through**
Select Objects	Pan	Zoom In		
Deselect Objects				
Add to Current Selection		Zoom Out		

Arranged by Miscellaneous Keys

Key	
Ctrl	
Shift	
Ctrl + Shift	

R4	R5	R6	R7	R9	R11	R13	R15
Set Cursor Movement Distance to 0.5 User Units	Set Cursor Movement Distance to 1.0 User Units	Set Cursor Movement Distance to 2.0 User Units	Pan North West	Pan North East	Pan to Design	Pan South West	Pan South East
			Pan North West and Stop at Edge of Design	Pan North East and Stop at the Edge of Design	Pan to All Edges of Design	Pan South West and Stop at Edge of Design	Pan South East and Stop at Edge of Design
			Move Cursor North West	Move Cursor North East	Move Cursor to Reference Point	Move Cursor South West	Move Cursor South East

Note: The R-keys are special keys available on some keyboards.

Arranged by Functions

The bindkey mappings are arranged according to the following functions:

❍ [Using the Layout Editor Basic Commands](#)

❍ [Viewing the Design](#)

❍ [Using the Palette Assistant](#)

❍ [Using Design Rules](#)

❍ [Working With Hierarchical Designs](#)

❍ [Creating Objects](#)

❍ [Editing Objects](#)

❍ [Generating Layout](#)

❍ [Using the DRD Commands](#)

❍ [Using the Wire Editor Commands](#)

❍ [Using the SPD Editor Commands](#)

❍ [Using the SPD Preview Commands](#)

Using the Layout Editor Basic Commands

Key	
Ctrl	
Shift	
Ctrl + Shift	

Keyboard							
Esc	**F1**	**F2**	**F3**	**F4**	**F5**	**F6**	**F11**
Cancel a Command	Launch Cadence Help	Save	Display Save a Copy Form	Toggle Partial Select	Display Open File Form	Toggle Maintain Connections	Toggle Assistants
							Toggle Toolbars
							Toggle Assistants and Toolbars

W	**E**	**V**
Close the Layout Editing Window		Go to CIW
	Display Layout Editor Options Form	

For more information about the Layout Editor Basic commands, see the *Layout Editor Basics* chapter in the *Virtuoso Layout Suite XL Basic Editing User Guide*.

Viewing the Design

Mouse-click/Scroll/Drawthrough	
Ctrl	
Shift	
Ctrl + Shift	

Keyboard

F9	#	W	E	T	F	I	G	'	Z
Toggle Filter Size	Toggle Anchor Magnifier	Go to Previous View	Open Display Options Form		Zoom to Fit			Display Magnifier Options Form	Zoom In
				Zoom to Selected Area		Cycles through Overlapping Objects to Display Info Balloons for Each Object	Zoom to Grid		Zoom In x2
		Go to Next View							Zoom Out x2

X	V	B	N	.	Up Arrow	Left Arrow	Down Arrow	Right Arrow	
			Cycle Snap Mode	Toggle Magnifier	Pan Up	Pan Left	Pan Down	Pan Right	
Zoom to Edit in Place		Toggle Info Balloon	Set Snap mode option: L90XFirst		Pan Up and Stop at Edge of Design	Pan Left and Stop at the Edge of Design		Pan Right and Stop at the Edge of Design	
	Toggle World View					Move Cursor Left	Move Cursor Down	Move Cursor Right	
					Scale up magnifier by a factor of 1.25		Scale down magnifier by a factor of 0.80		

Mouse functions

Button 1 - Left Click	Button 2 - Scroll	Button 4	Button 5	Button 2 - Draw Through	Button 3 - Draw Through
		Zoom In at Click	Zoom Out at Click	Pan	Zoom In
		Pan Left/West	Pan Right/East		Zoom Out
Zoom In	Zoom Out				

Miscellaneous keys

R7	R9	R11	R13	R15
Pan North West	Pan North East	Pan to Design	Pan South West	Pan South East
Pan North West and Stop at Edge of Design	Pan North East and Stop at the Edge of Design	Pan to All Edges of Design	Pan South West and Stop at Edge of Design	Pan South East and Stop at Edge of Design

Note: For more information about the Viewing the Design commands, see the *Viewing the Design* chapter in the *Virtuoso Layout Suite XL Basic Editing User Guide*.

Using the Palette Assistant

Key	
Ctrl	
Shift	
Ctrl + Shift	

Bindkeys available when the Palette assistant is active

Keyboard

F10	F11	F12	W	O	P	A	S	D
Display contextual menu	Toggle Show/Hide status of all toolbars	Toggle the Show/Hide status of all tools and toolbars	Toggle between synchronized and desynchronized Palette states	Display Options Form	Go to previous layer set		Toggle selectability status of objects	Discard changes made during current layer set editing session
					Find Previous		Toggle selectability status of all parent and child objects	
	Toggles Show/Hide status of unselected panels					Display Save As Layer Set form	Save current layer set	

F	L	V	B	N	M	<	>	
	Toggle state of LPP validity editing mode	Toggle visibility status of objects	Display Palette section of Bindkey Editor	Go to next layer set	Toggle layer set editing mode for Palettes	Collapse all items	Expand all items	
Display Search		Toggle visibility status of all parent and child objects		Find Next				

1	2	3	4	5	6	7	8	9
Activate specified layer set and set visibility and selectability attributes of LPPs contained within it								
Toggle between active and inactive state of specified layer set								

Mouse functions

Button 2 - Scroll (MMB)	Button 3 - Right Click (RMB)
Toggle Visibility with Depth	Toggle Selectability with Depth
setOnlyVisible with Depth	setOnlySelectable with Depth

Note: For more information about the Palette Assistant commands, see the *Palette Assistant* chapter in the *Virtuoso Layout Suite XL Basic Editing User Guide*.

Using Design Rules

Key, Mouse-click, Scroll, Drawthrough	
Ctrl	
Shift	
Ctrl + Shift	

Keyboard

T	S	K	
Tap		Create Rulers	
	Display Find/Replace Form	Clear Existing Rulers	

Bindkeys available when the Create Ruler command is active

Keyboard

Enter	Esc
Completes the current measurement	Cancels the Create Ruler command

Mouse functions

Button 1 - Left Click	Button 2 - Scroll	Button 3 - Right Click	Button 4	Button 5
Adds a point	Completes the ruler without drawing	Display Context Menu	Zoom In at Click	Zoom Out at Click
Enters second point (waits to complete the measurement by allowing to place the segment by clicking button 1)	Moves the measurement segment to the clicked location		Cycle Up Wire Via Alignment	Cycle Down Wire Via Alignment
Inserts a point to make current measurement multisegment	Move Mouse Point		Pan Left/West	Pan Right/East
Zoom In	Zoom Out		Scale Magnifier or Increase Width	Scale Magnifier or Decrease Width

Note: For more information about the Design Rules commands, see the *Using Design Tools* chapter in the *Virtuoso Layout Suite XL Basic Editing User Guide*.

Working With Hierarchical Designs

Key	
Ctrl	
Shift	
Ctrl + Shift	

Keyboard				
T	F	K	X	B
			Edit in Place	Return to Level
Display Tree Form	Display Hierarchy Depth 32		Descend	Return
		Clear Ruler in Hierarchy		

Note: For more information about the Hierarchical Designs commands, see the *Working With Hierarchical Designs* chapter in the *Virtuoso Layout Suite XL Basic Editing User Guide*.

Creating Objects

Key, Mouse-click, Scroll, Drawthrough	
Ctrl	
Shift	
Ctrl + Shift	

Keyboard

+ (numeric keypad)	- (numeric keypad)	Enter (numeric keypad)	BackSpace	Return	R	I
Set Reference Point	Set Reference Point Inactive	Add Point	Delete a Point	Apply or Finish a Point	Create Rectangle	Display Create Instance Form
O	**P**	**G**	**K**	**L**	**X**	**N**
Display Create Via Form				Display Create Label Form		
Select Via Stack	Display Create Shape Pin Form		Toggle Keep First Name			
	Create Polygon	Display Guard Ring Form				Display Enter Points Form

Mouse functions

Button 1 - Left Click	Button 2 - Scroll	Button 1 - Left Double Click
Select a Point	Repeat	Enter Point
Deselect a Point		
	Move Pointer	

Miscellaneous keys

R4	R5	R6	R7	R9	R11	R13	R15
Set Cursor Movement Distance to 0.5 User Units	Set Cursor Movement Distance to 1.0 User Units	Set Cursor Movement Distance to 2.0 User Units					
			Move Cursor North West	Move Cursor North East	Move Cursor to Reference Point	Move Cursor South West	Move Cursor South East

Note: For more information about the Creating Objects commands, see the *Creating Objects* chapter in the *Virtuoso Layout Suite XL Basic Editing User Guide*.

Editing Objects

Key, Mouse-click, Scroll, Drawthrough	
Ctrl	
Shift	
Ctrl + Shift	

Keyboard

F4	F5	Delete	Tab	Q	R	Y	-	+
Toggle Partial Select	Display Open File Form	Delete	Set Focus to Editable Field	Display Edit Properties Form	Create Rectangle	Yank	Decrement stop value in a window	Increment stop value in a window
			Display Lower Window		Redraw	Cycle Select Next		
Toggle Area Select Option	Fully Select Figure of Selected Set			Display Edit Cellview Properties Form	Reshape	Paste		

U	O	A	S	D	F	G	H	J
Undo	Display Create Via Form	Quick Align	Stretch	Deselect the Figure Pointed by Mouse	Zoom to Fit	Toggle Gravity	Repeat Copy	Fully Select Partially Selected Objects
	Select Via Stack	Select All	Split	Deselect all	Level to The Current Edit Level	Zoom to Grid	Freeze/Unfreeze DSA	Flip Selected Figure
Redo	Rotate	Select Area	Display Find/Replace Form	Create a Deselection Box	Display Hierarchy Depth 32	Display Guard Ring Form		

C	V	M	.
Copy	Attach or Detach a Child Object	Move	Toggle Magnifier Repeat Paste (when Repeat Copy command is active)
	Go to CIW		
Chop	Toggle World View	Merge	

Mouse

Button 1 - Left Click	Button 2 - Scroll	Button 3 - Right Click	Button 3 - Right Double Click	Button 1 - Draw Through
	Repeat	Display Context Menu	Display Edit Properties Form	Select Objects
				Deselect Objects
Add to Current Selection				Add to Current Selection

Note: For more information about the Editing Objects commands, see the *Editing Objects* chapter in the *Virtuoso Layout Suite XL Basic Editing User Guide*.

Generating Layout

Key, Mouse-click, Scroll, Drawthrough	
Ctrl	
Shift	
Ctrl + Shift	

Mouse				
Button 1 - Left Click	Button 2 - Scroll	Button 3 - Right Click	Button 3 - Right Double Click	Button 1 - Draw Through
	Transistor Width			
	Number of Folds			

Note: For more information about the layout generation and connectivity-driven commands, see the *Virtuoso Layout Suite XL: Connectivity Driven Editing User Guide*.

Using the DRD Commands

Key	
Ctrl	
Shift	
Ctrl + Shift	

Keyboard					
* (numeric keypad)	**/ (numeric keypad)**	**F7**	**1**	**E**	**H**
Set object at current pointer location as a DRD Target	Remove DRD Target at current pointer location	Display DRD Options form	Enable pixel threshold when DRD Smart Snap mode is enabled		
Display DRD Options Form					
				Cycle through DRD modes	
					Compact/spread selected objects towards leftmost object in selected set

J	**N**	**T**	**U**
Compact/spread selected objects towards rightmost object in selected set	Compact/spread selected objects towards bottommost object in selected set	Compact/spread selected objects towards previously specified DRD targets	Compact/spread selected objects towards topmost object in selected set

Note: Some DRD commands work in Virtuoso Layout Suite XL or GXL. For more information on these commands, refer to the *Virtuoso Design Rule Driven Editing User Guide*.

Using the Wire Editor Commands

Key, Mouse-click, Scroll, Drawthrough	
Ctrl	
Shift	
Ctrl + Shift	

Keyboard

2	I	P	S	D	X	C
Finish Trunk						
		Create Wire				
	Toggle orientation of routing envelope when Guided Routing command is active					
			Create Stranded Wire	Start interactive Point to Point routing command	Create Bus	Cycle Auto Drop Via Solution (snapToTrack or snapTosnapPattern enabled)

Bindkeys available:

*When either the Create Wire or Create Bus command is active						*When Create Bus command is active		
A	Q	E	V	Spacebar	Backspace	Z	G	
				Select Via	Backup Point			
				Cycle smart snapping targets				When digitizing a via: Cycle between via alignment options
Via Down the current layer	Via up the current layer	Via to Target Layers	Finish Wire/Bus	Use Current Position		Cycle through control wires during interactive bus editing	Gather/spread or ungather/unspread bus wires	

Bindkeys available:

*When Create Wire command is active							
L	V	{	}	=	-		
		Toggle Auto Twig Mode	Cycle Taper Mode	Twig Increase Layer	Twig Decrease Layer		
Use highlighted wire width to create next wire when Smart Snapping is active						Disable Layer Tapping (start from palette active layer)	
							Disable Smart Snapping (start from cursor position)

Bindkeys available:

* When Create Stranded Wire command is active

1	2	3	4	
Increase Number of Strands	Decrease Number of Strands	Increase spacing between strands	Decrease spacing between strands	
				Slide Mode hold

Mouse

Button 2 - Mouse Wheel	Button 2 - Mouse Wheel Up	Button 2 - Mouse Wheel Down	Button 4	Button 5
	Zoom In	Zoom Out		
Cycle Wire/Via Alignment	Pan Up	Pan Down	Cycle Up Wire Via Alignment	Cycle Down Wire Via Alignment
	Pan Left	Pan Right		
	Width Increase	Width Decrease		

Button 2 - Scroll (MMB)
Rotate Via Cuts
Rotate Via Enclosures

Note: Some Wire Editor commands work only in Virtuoso Layout Suite XL or higher tiers. For more information on these commands, refer to the *Virtuoso Space-based Router User Guide.*

Using the SPD Editor Commands

Key, Mouse-click, Scroll, Drawthrough	
Ctrl	
Shift	
Ctrl + Shift	

Keyboard

Esc	F1	F2	F5	Return	Up Arrow	Down Arrow	Left Arrow	Right Arrow	BackSpace
Cancel a Command	Launch SPD Help	Display Save SPD Design Form	Display Load SPD Design Form	Apply or Finish a Point	Pan Up	Pan Down	Pan Left	Pan Right	Delete a Point
					Pan Up and Stop at Edge of Design	Pan Down and Stop at the Edge of Design	Pan Left and Stop at the Edge of Design	Pan Right and Stop at the Edge of Design	

Tab	W	E	R	T	Y	U	O	A	D
Set Focus to Editable Field		Display SPD Options Form	Reset Placement			Undo	Fold	Align	Deselect the Figure Pointed by Mouse
Display Lower	Close the Current	Edit Stack	Redraw	Zoom to Selected	Cycle Select Next	Display Check or		Select All	Deselect all
						Redo		Unalign	Create a Deselection
								Check Align	Add Dummy

F	G	J	K	L	Z	C	V	B	N
Zoom to Fit	Generate Layout			Cycle Display of Flight Lines	Zoom In	Generate Chained Devices	Preview	Abut	Backannotate Active Dummies
	Zoom to Grid	Flip Selected Figure (Horizontal)	Stack		Zoom In (1.25)		Go to CIW		
		Flip Vertical	Unstack		Zoom Out (.8)		Toggle Free Size Mode	Unabut	Backannotate Selected Dummies

P	S	M
Pack	Swap	Smart Move
Permute	Split Fingered Devices	

Mouse

Button 1 - Left Click (LMB)	Button 2 - Scroll (MMB)	Button 4	Button 5
Select a Point	Repeat	Zoom In at Click	Zoom Out at Click
Deselect a Point		Pan Up/North	Pan Down/South
Add to Current		Pan Left/West	Pan Right/East
Zoom In	Zoom Out		

Button 1 - Draw Through	Button 2 - Draw Through	Button 3 - Draw Through
Select Objects	Pan	Zoom In
Deselect Objects		
Add Selected Box		Zoom Out

Button 1 - Down	Button 2 - Down
Zoom in	Zoom out

Miscellaneous keys

R7	R9	R11	R13	R15
Pan North West	Pan North East	Pan to Design	Pan South West	Pan South East
Pan North West and Stop at Edge of Design	Pan North East and Stop at the Edge of Design	Pan to All Edges of Design	Pan South West and Stop at Edge of Design	Pan South East and Stop at Edge of Design

Note: For more information about the SPD Editor Commands, see the *Virtuoso Symbolic Placement of Devices User Guide.*

Key, Mouse-click, Scroll, Drawthrough	
Ctrl	
Shift	
Ctrl + Shift	

Keyboard

Esc	F1	Up Arrow	Down Arrow	Left Arrow	Right Arrow	BackSpace	Tab	Return
Cancel a Command	Launch SPD Help	Pan Up	Pan Down	Pan Left	Pan Right	Delete a Point	Set Focus to Editable Field	Apply or Finish a Point
		Pan Up and Stop at Edge of Design	Pan Down and Stop at the Edge of Design	Pan Left and Stop at the Edge of Design	Pan Right and Stop at Edge of Design		Display Lower Window	

W	E	R	T	Y	U	I	P	A
Go to Previous View	Open Display Options Form				Undo		Pack	Toggle Abstract Display
Close the Preview Window		Redraw	Zoom to Selected Area	Cycle Select Next	Display Check or Update Form	Cycles through Overlapping Objects to Display Info Balloons for Each Object		Select All
Go to Next View					Redo			

D	F	G	K	Z	V	B	M	
Deselect the Figure Pointed by Mouse	Zoom to Fit	Generate Layout	Create Rulers	Zoom In			Move Tracks	
Deselect all		Zoom to Grid	Clear Ruler	Zoom In (1.25)	Go to CIW	Toggle Info Balloon		
Create a Deselection Box				Zoom Out (.8)				

Mouse

Button 1 - Left Click (LMB)	Button 2 - Scroll (MMB)	Button 4	Button 5
Select a Point	Repeat	Zoom In at Click	Zoom Out at Click
Deselect a Point		Pan Up/North	Pan Down/South
Add to Current Selection		Pan Left/West	Pan Right/East
Zoom In	Zoom Out		

Button 1 - Draw Through	Button 2 - Draw Through	Button 3 - Draw Through
Select Objects	Pan	Zoom In
Deselect Objects		
Add Selected Box		Zoom Out

Button 1 - Down	Button 2 - Down
Zoom in	Zoom out

Miscellaneous keys

R7	R9	R11	R13	R15
Pan North West	Pan North East	Pan to Design	Pan South West	Pan South East
Pan North West and Stop at Edge of Design	Pan North East and Stop at the Edge of Design	Pan to All Edges of Design	Pan South West and Stop at Edge of Design	Pan South East and Stop at Edge of Design

Note: For more information about the SPD Preview Commands, see the *Virtuoso Symbolic Placement of Devices User Guide.*