PROJECT DESIGNER - TOOL QUICK REFERENCE GUIDE

File Menu

	**New Piece/Project**	Select this button to launch the New Dialog to create a new piece or project.
	**Open Piece/Project**	Select this button to launch an operating system File Open Dialog to recall a piece or project previously saved to disk.
	**Open with Preview (Designer PRO)**	Option to open a preview of patterns or projects. This function must create a database first. It can be turned off.
	**Save**	Select this button to launch an operating system Save Dialog to save a work currently in progress.
	Save As	Allows you to place it in a new location on your computer and/or change its name.
	Flash Manager	Accesses your memory card where you can manage card space and firmware, reformat the card, download scan, access and manage quality settings and estimated time.
	**Upload**	Select this button to upload a project to the flash card.
	Download Scan (Pattern Editor)	Accesses scans from memory card.
	Download Scan from file (Pattern Editor)	Accesses scan files from location on your computer.

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Import	Used to bring in artwork and images created in various other programs and additional software maybe required depending on the format the piece was created in.
CW Racing Dragster (CO2 Dragster Software)	This add-on feature allows use of the CW CO2 Dragster Jig.
Import Tracing Image (2D Vector Drawing)	Import Tracing Image allows for an image file (jpg, png, gif, bmp) to be imported and placed on the design board to be used as a pattern for tracing with the drawing tools. The image can be cropped and scaled during the import process to suit your needs and can be toggled on and off to better view your drawing.
Import Image	Select this button to import an image into your pattern library.
Import DXF File (DXF Importer)	This advanced feature allows the import of 2D vector drawing saved in the DXF format.
Import STL File (STL Importer)	This advanced feature allows the import of 3D models saved in the STL format.
Launch Pattern Editor (Pattern Editor)	This add-on feature allows scanned and imported patterns to be edited on a pixel by pixel basis.
Launch Pattern Sculptor (Pattern Sculptor and Designer PRO)	This advanced feature allows patterns to be edited with powerful sculpting tools.
Print	Select this button to print a paper copy of the workpiece.
Exit	Closes out the program. (WINDOWS)

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Edit Menu

	**Undo**	Select this button to undo the last edit operation.
	**Redo**	Select this button to redo the last undone edit operation.
	**Cut**	Select this button to cut the currently selected carvings or figures and place them onto the clipboard.
	**Copy**	Select this button to copy the currently selected carvings or figures onto the clipboard.
	**Paste**	Select this button to paste any carvings or figures currently on the clipboard onto the board.
	**Select all**	Select this button to select all items on the board.
	**Delete**	Select this button to delete highlighted items from the workpiece.
	Preferences	Manages general behavior of software, measurement preference, cache and 3D graphics.
	**Board Settings**	Allows management of board size, pattern bit, and virtual representation of wood type, stain and finish.

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Drawing Menu

	**Pointer Tool**	Select this tool, then left-click on the board to select carvings for manipulation. You may hold down the SHIFT key to select or de-select additional carvings. You may also click and drag to draw a wire-box to select multiple carvings.
	**Line Segment Tool**	Select this tool, then left-click on the board to begin a line segment. Left-click again to end it. You may also click and drag to create a segment.
	**Connected Lines Tool**	Select this tool, then left-click on the board to begin a line segment. Each successive left click ends the previous segment and begins a new one. To end the segments, you may either double-click to place a final segment, click on the last vertex placed, press the ESC key, or click on the first vertex to create a closed loop.
	**Spline Tool**	Select this tool, then left-click on the board to begin a curved segment. Each successive left click ends the previous segment and begins a new one. You need to create two or more connected segments to see the curve effect. To end the segments, you may either double-click to place a final segment, click on the last vertex placed, press the ESC key, or click on the first vertex to create a closed loop.
	**Smart Spline Tool (2D Vector Drawing)**	Allows the ability for free form draw with multiple points either as tangents or line segments.
	**Square Tool**	Select this tool, then left-click on the board to start a square, and then left-click again to end it. You may also click and drag to create a square. Squares will maintain their square aspect when manipulated.
	**Rectangle Tool**	Select this tool, then left-click on the board to start a rectangle, and then left-click again to end it. You may also click and drag to create a rectangle.
	**Circle Tool**	Select this tool, then left-click on the board to place the center of the circle, then left-click again to end it. You may also click and drag to create a circle. Circles will maintain their circular aspect when manipulated.

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	**Oval Tool**	Select this tool, then left-click on the board to place the center of the oval, then left-click again to end it. You may also click and drag to create an oval.
	**Arc Tool**	Select this tool, then left-click on the board to place one end of the arc, then left-click to place the other end. You may also click and drag to create an arc. Either way you need to click and drag the Green Control Point to change the radius of the arch.
	**Text Tool**	Select this tool, then left-click to place text. See Placing Text for more information.
	**Rout Tool**	The rout tool allows for adjusting the pivot point of a depth profile.
	**Trim Tool (2D Vector Drawing)**	Select this tool to trim intersecting line segments. To use this tool, select at least two intersecting line segments. Then select this tool and left-click the portion of the line segment or segments you wish to keep.

Carving Menu

	**Pattern Tool**	Selecting this tool will display the pattern selection window. Select a pattern from the list, view it in the thumbnail view window beneath the pattern list, and then left-click on the board to place the pattern. See the Placing Patterns section for more information.
	**Feather**	This sets the degree of feathering applied to the highlighted pattern on the workpiece. This angle is projected from the base of the pattern's outer edge. Used for creating a transition from the top surface of the board to the base of the carving.
	**Feather None**	Removes any feather settings.
	**Feather 1/8**	This sets the degree of feathering to 1/8"

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Feather 1/4

This sets the degree of feathering to 1/4”

Feather 1/2

This sets the degree of feathering to 1/2”

Feather Custom (Designer PRO)

This sets the degree of feathering to any dimension up to 1 inch.

Draft

This sets an angle to the outer top edge of raised carvings to reduce chip-out issues. There are 3 degrees of draft to choose from for raster patterns or text.

Draft None

Removes any Draft settings

Draft Small

This sets a small angle to the outer top edge of raised carvings to reduce chip-out issues.

Draft Medium

This sets a medium angle to the outer top edge of raised carvings to reduce chip-out issues.

Draft large

This sets a large angle to the outer top edge of raised carvings to reduce chip-out issues.

Merge Style

This sets the conditions on how patterns or surfaces overlap one another.

Merge None

Removes any merge style

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Merge Additive

This sets the merge condition to add the patterns or surface to each other.

Merge Subtractive

This sets the merge condition to subtract the patterns or surface from each other.

Clip Carving

Clip Pattern can be used to clip, or mask, a portion of a pattern.

Clip Carving: None

Removes clip from patterns

Clip Carving: Inclusive

Clip Pattern can be used to include a portion of a pattern.

Clip Carving Exclusive

Clip Pattern can be used to exclude a portion of a pattern.

Bit Optimization

Sets the limit with which the bit carves into tight areas to preserve the top level detail.

Bit Optimization: None

Applies no bit optimization.

Bit Optimization: Low

Decreases the depth of the carve in tight areas slightly.

Bit Optimization: Medium

Decreases the depth of the carve in tight areas at medium level.

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	**Bit Optimization: High**	Decreases the depth of the carve in tight areas at high level.
	**Bit Optimization: Best**	Eliminates all top level detail thinning in tight carved areas.
	**Invert Pattern**	This button toggles the invert mode for patterns, which reverses the direction of the artwork.
	**Hide**	This tool allows a pattern to be on the board yet hidden. This can be use to cut out the shape of a pattern while not carving the pattern.
	**Place Tabs**	Used for doing cut outs and pieced carvings to ensure that the piece does not come loose during machine operation.
	**Decorate with Text (Designer PRO)**	This Designer PRO feature allow you to set text to follow a defined path. The path can be any form created in the software.
	**Remove Text Decoration (Designer PRO)**	To remove text that you have applied to a path simply select the decorate with text tool again.
	**Edit Envelope (Designer PRO)**	This feature allows the warping of shapes, patterns, and text to create customer features of the project.

Layout Menu

	**Center**	Selecting this will center the pattern with respect to the X-axis, Y-axis, or both.
	**Center Horizontally**	Selecting this will center the pattern to the X-axis.

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Center Vertically

Selecting this will center the pattern to the Y-axis.

Center Both

Selecting this will center the pattern to both axis

Align

Aligns multiple features with respect to one another along the selected orientation.

Center Group Horizontally

Centers multiple selected patterns along the X-axis

Center Group Vertically

Centers multiple selected patterns along the y-axis

Align Tops

Aligns patterns along their top edges.

Align Bottoms

Aligns patterns along their bottom edges.

Align lefts

Aligns patterns along their left edges.

Align rights

Aligns patterns along their right edges.

Align Centers Horizontally

Aligns patterns along their horizontal axis edges.

Align Centers Vertically

Aligns patterns along their vertical axis edges.

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Mirror

Creates a copy of the selected feature(s) about the horizontal, vertical, or diagonal axis.

Mirror Horizontally

Creates a copy of the selected feature(s) about the horizontal axis.

Mirror Vertically

Creates a copy of the selected feature(s) about the vertical axis.

Mirror Diagonally

Creates a copy of the selected feature(s) about the diagonal axis.

Mirror All

Creates a copy of the selected feature(s) about the horizontal, vertical, and diagonal axis.

Flip & Rotate

Flips the highlighted feature(s) with respect to their horizontal and vertical axis, or rotates the highlighted feature(s) with respect to their midpoint.

Flip Horizontally

Flips the highlighted feature(s) with respect to its horizontal axis.

Flip Vertically

Flips the highlighted feature(s) with respect to its vertical axis.

Rotate 90 CW

Rotates the highlighted feature(s) 90º Clockwise to their midpoint.

Rotate 90 CCW

Rotates the highlighted feature(s) 90º Counter Clockwise to their midpoint.

Rotate 180

Rotates the highlighted feature(s) 180º to their midpoint.

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	**Group**	Groups multiple features together as one.
	Snap...	Allows you to manage grid options including setting interval and assigning snap to grid or object.
	**Snap to Edge**	Toggles the snap to board edge on or off. (Found In View Toolbar)
	**Snap to Grid**	Toggles the snap to grid on or off. (Found In View Toolbar)

Tools Menu

	**Drill Tool**	Select this tool, then left-click to place the hole. A dialog box will appear, asking for the diameter and depth of the hole.
	**Keyhole Tool (Keyhole Function)**	Allows keyhole slots to be added to projects for hanging.
	**Edge Rout**	This button launches the Edge Rout Dialog, allowing you to select a bit for edge routing the workpiece.
	**Carve Region**	This mode creates a region inside closed figures, which is a flattened area to which a surface or pattern may be applied.
	**Select Surface**	This allows the user to apply a surface, other than flat, to a carved region.
	**Select Texture**	This allows the user to apply a texture to a carved region.

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	**Select Puffing (3D Pattern Modeling)**	The puffing tools allow closed vector shapes to be raised up or puffed in four different styles; Curve, bevel, flat and bubble. The steepness of the sides and depth of puffs can be adjusted to suit.
	**Edit Text**	Takes you to the Text Tool dialog box for the highlighted text.
	**Select Depth Profile**	This button launches the Select Depth Profile dialog, allowing you to select a carving cut profile to apply along the path of the selected figure.
	**Reverse Depth Profile**	This button reverses the profile set under Select Depth Profile.
	**Select Bit**	This button launches the Select Bit dialog, allowing you to select a bit or macro to apply along the path of the selected figure.
	**Cut Path**	This tool cuts through the board along the selected path.
	**Flip Cutout**	This flips the cut to the other side of the line chosen in Cut Path.
	**Hide Cutout**	This hides the workpiece on the cut side of the line chosen in Cut Path.
	**Flip Feather**	Changes feather to the inside or outside of the path.
	**Outline Pattern(s)**	This outlines any pattern to create a vector path.
	**Path Offset (2D Vector Drawing)**	Used to generate a path around the outside of an object at a given distance.

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Extrude (3D Pattern Modeling)

The Extrude tool allows a profile to be extruded along the inside of a closed vector shape. The angle of the extrusion can be adjusted by setting horizontal, vertical, or setting a custom angle.

Revolve (3D Pattern Modeling)

The Revolve tool will rotate a profile around the center-point of a circle. The revolve tool only works with circles.

The Sweep tools will allow a drawn profile to be swept along a single vector path. This means the profile will follow the line along it's entire length.

Sweep Corner (3D Pattern Modeling)

Used to sweep a drawn profile along the length of a path. (allows sharp corners)

Sweep Rounded (3D Pattern Modeling)

Used to sweep a drawn profile along the length of a path. (forces rounded corners)

Sweep Rail (3D Pattern Modeling)

The Sweep with Rails tool is a more dynamic sweep in that it uses two curves (rails). These two curves define the two edges of the surface. Then a profile is defined for the surface's cross sections.(Found in 3D Toolbar)

Tilt Tool (3D Pattern Modeling)

The Tilt tool allows a pattern to be tilted vertically, horizontally, or a combination of both can be used to achieve different angles.

Edit Cut Out

Allows an already set cut out to be edited and altered.

Make Pattern

To be used only on grouped items and will create a new pattern base on the grouped content only. Must be patterns created by the user

Extract Patterns

Used with a pattern selected and allows a new category to be created within the favorites folder that will house the selected pattern and can have others added to it.

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Copy Offset (2D Vector Drawing)

The Copy Offset tool allows an object on the board to be copied either vertically or horizontally a give number of times with a given spacing. If you need to make multiple's of a pattern, or even a tiled repeating pattern, this tool makes it quick and easy.

Make Vector Group (Designer PRO)

Allows for v-carving or "chip carving" of vector patterns.

View Menu

Toolbars: 

With in this option are the various toolbars that can be added to the User Interface to make the features more accessible

Carving List

This list will show all of the object placed on the project board

Pattern List

This shows all of the available pattern saved on the computer that have been imported into the designer program.

Standard Toolbar

This toolbar feature several of the basic functions of the software and bring in to the User Interface for easy access

Drawing Toolbar

This toolbar features several of the basic drawing features such as line segment, arc, circle, and square

Carving Toolbar

This toolbar features several of the basic feature tools such as patterns, text, feathering, draft, and bit optimization

View Toolbar

This toolbar show several of the viewing options available such as view grid, board texture, snap to grid, and snap to edge

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	Layout Toolbar	This toolbar feature several alignment tools such as center vertically, center horizontally, align left, align right, align top, and align bottom.
	Tools Toolbar	Features several tools depth, texture, and cut outs such as carve region, select texture, drill, cut out, tabs, and keyhole
	Input Toolbar	This toolbar allows for the setting of various dimensions of objects on the board such as pierced, depth, inset, radius, and size.
	3d Toolbar (3D Pattern Modeling)	Contains the tools that allow object to be given a 3D effect such as puffing, extrude, and revolve
	Utility Toolbar (2D Vector Drawing)	Contains the extra drawing tools found in the 2D Vector Drawing Suite.
	**Render Quality**	For performance reasons, the piece is normally displayed in a lower-quality format while being manipulated, and then redisplayed in a high quality format after all manipulation has ceased. Click this option to disable this feature, or click the drop-down button for a list of rendering quality settings. Faster machines with good graphics cards may be able to turn off auto-render and run with the highest "++" quality setting.
	**Lighting Direction**	Clicking this option allows you to change which direction the light is shining on the board, thus changing the shadows on the board.
	**Toggle Auto Re-Render:**	For performance reasons, the piece is normally displayed in a lower-quality format while being manipulated, and then redisplayed in a high quality format after all manipulation has ceased.
	**Toggle Perspective View**	Click this option to toggle between perspective and orthographic view of the currently displayed piece. Perspective view applies a natural depth perspective to the 3D rendering, whereas orthographic view does not.

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Pan Tool

Select this tool, then position the mouse over the board. Now hold down the left mouse button and move the mouse to pan/move the board. TIP: An alternate method for panning the board is to hold down the SHIFT key and the right mouse button while panning the board with the mouse.

Rotate Tool

Select this tool, then position the mouse over the board. Now hold down the left mouse button and move the mouse to rotate the board to the desired view. TIP: An alternate method for rotating the board is to hold down the SHIFT key and the middle mouse button while rotating the board with the mouse.

Magnify Tool

Select this tool, then position the mouse over the board. Left-click the mouse to zoom in and right-click the mouse to zoom out. TIP: An alternate method for zooming in and out is to hold down the SHIFT key and the left mouse button while zooming in and out with the mouse. A roller wheel on your mouse will also allow you to zoom in and out.

Front View

Click this button to re-orient the currently displayed piece to its front face, front clockwise & front counter-clockwise.

Rear View

Click this button to re-orient the currently displayed piece to its rear face, rear clockwise, rear counter-clockwise & rear 180 degrees.

Isometric View

Click this button to re-orient the currently displayed piece to an isometric front view. This angle of rotation is convenient for viewing three-dimensional carvings.

Square Board

Click this button to re-orient the workpiece to the most prominent surface displayed.

Texture

Clicking this option gives you a drop down option of wood grain, lithopane (Designer PRO), or none. Some carvings are easier to visualize without the grain, but the grain gives you a better idea what the finished piece will look like.

Wood

Turns on the wood grain texture or the tracing image.

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	**Lithopane (Designer PRO)**	Simulates the backlit effect of a carved lithopane.
	**None**	Turns off all board textures
	**Toggle Construction Lines**	Clicking this option toggles the display of dashed construction lines, which include the board centerlines and the dashed lines of geometric figures that have not been assigned a cut profile.
	**Toggle Grid Lines:**	Clicking this option toggles the grid lines.
	**Toggle Labels**	Clicking this option toggles the display of all constraint labels, which indicate distances from carving vertices to board edges and centerlines. See Setting Attachments for more information.
	**Toggle Control Points**	Toggles on and off the control handles used for adjusting spline curves created when drawing with splines.
	**Toggle Non-Endpoints**	Toggles on and off the vertexes, or points, along a path that are not the end points.
	**Carving List**	Click this button to display a tree of the features added to the workpiece.

Window

Toggle Tabbed Windows	Enables multiple windows to be open and swappable with a mouse click
Tile	Only available when Tabbed Windows is off. This option will position multiple projects on the same split screen.
Cascade	Only available when Tabbed Windows is off. This option will stack multiple project windows on the same screen.

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Next Window	Allow for switching between multiple open project windows.
Previous Window	Allows for switching between multiple open project windows.

Help

Sample Projects	Allows you to view and choose from multiple pre-made sample projects.
Tutorials	Opens a web browser to the CarveWright website on the tutorial page.
Start Wizard	Displays the pop-up menu that shows when the program is first opened.
 **Pattern Store**	Will open a web browser to the CarveWright Pattern Store.
 **Open Carvewright.com**	Will open a web browse to CarveWright.com
Check for Updates	Will open up to CarveWright updates website and will display where there are any available updates.
Check for Updates Automatically (Designer PRO)	This feature will automatically check for updates and open to the updates page if any are found.
Disable File Previews (Designer PRO)	This will disable the open with previews in Designer 2.
Manage Licenses	This will allow new patterns, projects and subscriptions to be activated as well as viewing of all installed licenses and features.
Hardware Manuals 	Allows selection of the A/B Series Manual or the C Series Manual.
C Series	Will open to the C Series Manual on the CarveWright website.

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	A and B Series	Will open to the A/B Series Manual on the CarveWright website.
	Software Manual (PDF)	Will open the PDF Software Manual that was saved on the computer at designer installation.
	Web Account Login	Will open a web browser to the CarveWright Customer Account Log-In Page.
	Online Forum	Will open a web browser to the CarveWright Community Forum.
	About	Will display the splash screen that appears when the designer program is opened and show the designer version installed.
Utility Toolbar	**(2d Vector Drawing Suite)**	
	**Smart Spline Tool**	The Smart Spline tool is the most powerful drawing tool available to Project Designer. It allows you to quickly define a shape by placing points, or vertexes, along a path, while on-the-fly designating the segments between as either lines or curves.
	**Add Vertex Tool**	This tool creates a new vertex at the point selected on the element.
	**Remove Vertex Tool**	This tool removes a vertex from the selected element.
	**Break Tool**	This tool is use to break any line and create a new vertex at the selected point.
	**Trim Tool**	The Trim Tool serves as a way to merge intersecting vectors by allowing you to delete overlapping segments and join closed vector shapes together. As an example, to make a cross, you could draw 2 rectangles overlapping, and then use the trim tool to remove the interior lines to create one continuous cross shape.

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Path Offset

The Offset Path tool is used to generate a path either inside or outside of an closed vector path at a specified distance. So, for example, if you wish to create an outline around a shape you've drawn, but you want it a half an inch larger all the way around, this is the tool you would use.

Make Tangent Tool

The points (vertexes) between the segments have two states, either tangent or free. Tangent means a curved segment on either side of a point will be locked into the angle of the segment on the other side. The free state means the segments are not locked into the previous segments influence. This tool allows for quickly changing those states for more control over defining your drawings.

Change to Line Tool

Converts a drawn segment from either a spline or arc to a line.

Change to Arc Tool

Converts a drawn segment from either a spline or line into an arc.

Change to Spline Tool

Converts a drawn segment from either a line or arc into a spline.

Horizontal Tool

Converts an angled line segment to a flat horizontal line.

Vertical Tool

Converts an angled line segment to a straight vertical line.

Input Toolbar:

Pierced

This tool will allow the object selected to be carved to the point of only being connected with a paper thin connection to the rest of the board allowing it to easily be removed from the project.

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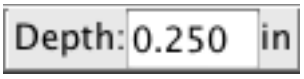
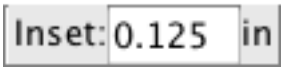
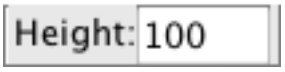
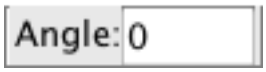
	**Depth**	This will set the deepest point of the selected element of the project and can be set as needed per element.
	**Inset**	When applying a bit to a vector path the inset of the cut can be adjusted in or out of the path line.
	**Height**	This is a relative value of the height from the deepest part of the carving to the top of the board being used. Can be from 0-999 with 999 being no material removed from the highest point of the element.
	**Angle**	This refers to the angle of the element from its natural orientation.
	**Size**	This determines the length and width of the element selected and has a ratio lock enabled by default. This red lock will lock the aspect ratio of length to with so that the image will not become distorted by resizing.
	**Conform (Conforming Vectors)**	The Conforming Vectors add-on enables v-bit routing along a carved surface. Without Conforming Vectors, these types of routs can only be made on the flat, top surface of the board. The conform feature can be applied to any vector function, including Centerline Text and Vector Groups.
	**Floor Feather**	Forces a consistent base level edge along the perimeter of a patterns.