

Introduction  
to  
weaving software  
using  
PCW Fiberworks

Presented by Robyn Spady

[www.spadystudios.com](http://www.spadystudios.com)  
[robyn@spadystudios.com](mailto:robyn@spadystudios.com)  
(360) 204-6188

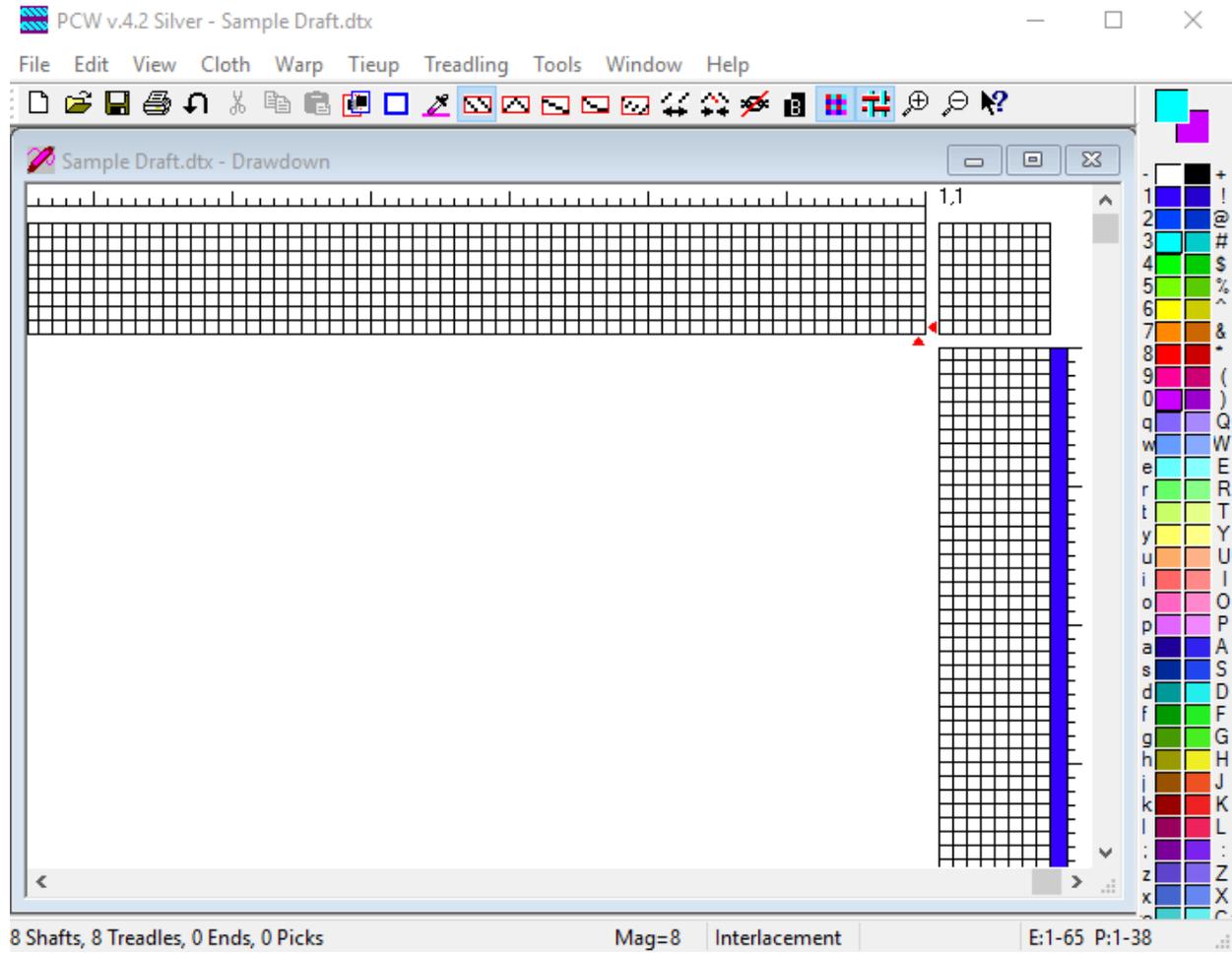
## Table of Contents

<b>Topic</b>	<b>Page</b>
Workspace	
• Draft View for PC	3
• Draft View for Mac	4
Tool Bar – Basic Commands	5
Drafting Tools – PC and Mac	7
Increase or Decrease the Size of the Draft	9
Help Function	
• PC version	10
• Mac version	11
Making a Simple Draft	
• How to Add and Delete Warp ends, Weft Picks, and Treadle	12
• Repeat Threading or Treading Sequence	12
• Flip Threading or Treading Sequence	13
• Editing in the Drawdown	14
• Entering Warp Ends and Weft Picks using the Keyboard	14
• Entering Ends using Menus	15
Copying a Threading or Treading Selection	15
Filling a Tie-up	16
Treading Tools	
• Multiple Treadles	16
• Weave as Drawn In (aka Tromp as Writ)	16
• Adding and Removing Tabby	17
Viewing Tools	
• Cloth View	19
• Fabric/Fabric Back	19
Color and Color Palettes	
○ PC	20
○ Mac	20
• Color Bar	21
• Adding Color	
○ Keyboard	21
○ Mouse	21
○ Menu	22
• Pick-up Color with the Eye Dropper	23
• Changing Color	
○ PC	23
○ Mac	24
• Create a Color Gradient (Mac version only)	25

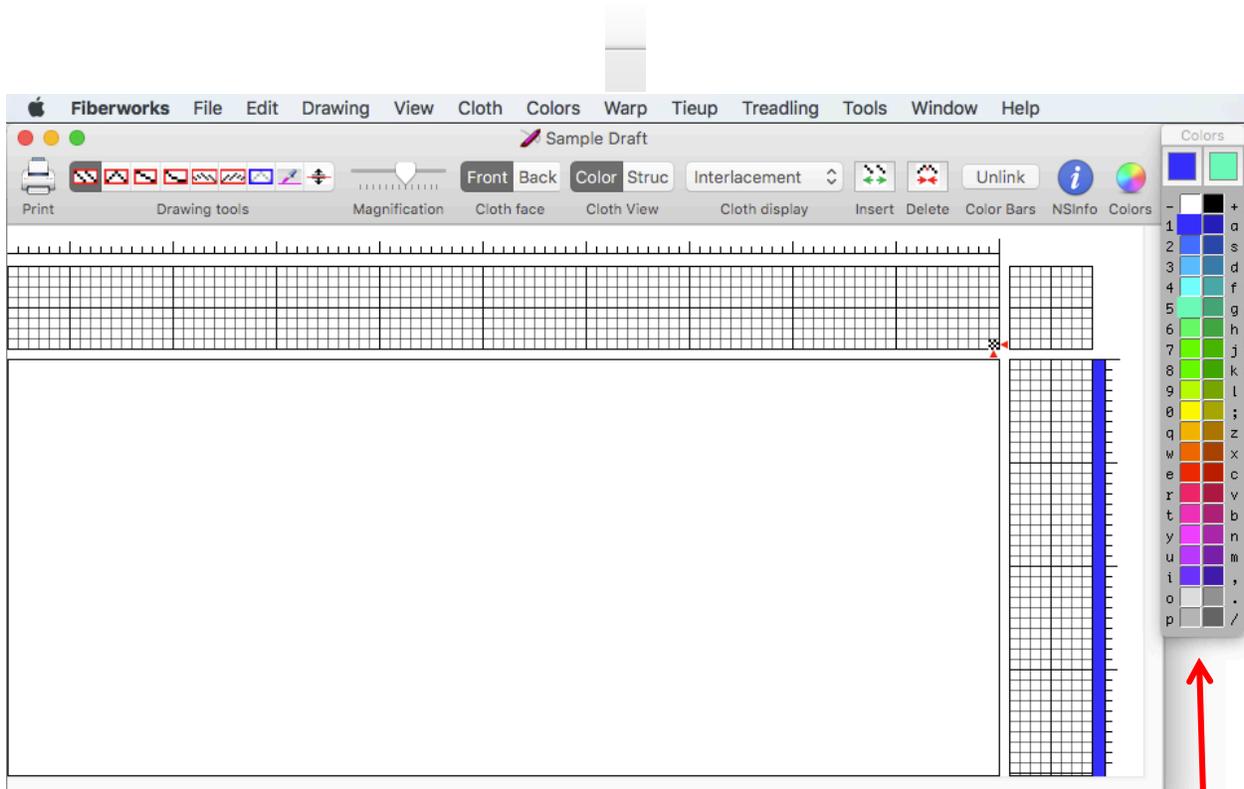
---

<b>Topic</b>	<b>Page</b>
Properties for Drafts and Project	
• Changing the Number of Shafts and Treadles	26
• Changing Preferences	
○ PC	26
– New Design Settings	26
– Print Settings	27
– Miscellaneous Settings	27
○ Mac	28
Notes and Records	29
• Notes	29
• Heddle Count	30
• Thread Count by Color	30
Float Search	31
• PC	31
• Mac	32
Turning a Draft	33
Thick and Thin Threads	34
Block Substitution	36
• Block Substitution Menu - PC	37
• Block Substitution Menu - Mac	38
• Example of Block Substitution (including regular vs skeleton tie-up)	39
• Edit Block – PC version only	40
Create Double Weave	41
Shaft Shuffler	42
Copying Drafts into Documents	43
Deleting and Copying Components of Drafts	43
Name Drafting	44
Sketchpad (PC version only)	45
Printing	47
Network Drafts	48
Integrated Threadings and Treadlings	49

## Workspace – Draft View (PC version)



## Workspace – Draft View (Mac version)

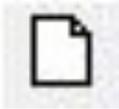


This color palette is a floating toolbar and may appear in a different location on your screen.

## Tool Bar – Basic Commands

(icons only show for the PC version)

### New File



**New File** - Creates a new document with the default settings from the application's preferences and opens a draft view for it.

*PC = Ctrl + N*

*Mac = Command + N*

### File Open



**File Open** - Opens a DTX or WIF file and displays it in a draft view.

*PC = Ctrl + O*

*Mac = Command + O*

### File Save



**File Save** - Saves the file in DTX or WIF format using the original filename, if any. Use the **File** → **Save As** command from the menu bar to save the file under a new name or format (.dtx vs .wif)

*PC = Ctrl + S*

*Mac = Command + S*

### Preview and Print



**Preview and Print** - Opens the print preview window which contains options for printing the active view in WYSIWYG fashion (*what you see is what you get*).

*PC = Ctrl + P*

*Mac = Command + P*

## Undo



**Undo** – Backs up one action

*PC = Ctrl + Z*

*Mac = Command + Z*

## Cut



**Cut** – Removes selection

*PC = Ctrl + X*

*Mac = Command + X*

## Copy



**Copy** – Saves the selection into the computer's memory.

*PC = Ctrl + C*

*Mac = Command + C*

## Paste



**Paste** – Places the selection in the computer's memory.

*PC = Ctrl + V*

*Mac = Command + V*

## Drafting Tools – PC and Mac

### Straight Draw



**Straight draw** – May be used to insert a single end or pick with a single mouse click. It may also be used to click-and-drag to create a straight in the threading, treadling, or tie-up.

### Point Draw



**Point draw** – May also be used to click-and-drag a point line in the threading, treadling, or tie-up.

### Line Draw



**Line draw** – Draws a stepped line along the diagonal of the rectangle from where you clicked down to the current cursor location. This style can be used for profile drafts.

### Draw Freehand



**Freehand draw** – Draws directly into the threading or treadling draft. Unlike the *straight*, *point*, and *line* draw tools, in *freehand* mode the mouse tracks exactly on the line. This style is used mostly for profile drafts and creating network drafts.

### Draw on Network



**Draw on network** – Draws onto a network based on a 1:3 twill initial, with network lines running left or right respectively. The mouse should follow the overall shape of the line you are drawing, as for freehand mode.

This is one mode where you should not try to click one square at a time, since drawing does not take place exactly on the mouse hotspot.

## Select Rectangle

**Select rectangle** – This tool allows you to select a rectangular area in threading, warp color bar, treadling, weft color bar or tie-up. A selection rectangle is outlined in blue to distinguish it from a red drawing rectangle. Click down in one corner and drag out until the rectangle covers the desired area. The contents of the selection rectangle can then be used in **Cut**, **Copy** or **Transform** operations.



To use the Select tool, click the toolbar button. The cursor will become a pointer instead of a pencil to indicate the mouse is selecting rather than drawing. While the cursor is a pointer inside the drawdown frame, you can't draw, apply color or change thread thickness with the mouse. When you have completed the task required using the selection tool, click a red drawing tool icon when you need to draw again.

## Pickup Color

**Pickup color** – The pickup color tool looks like an eyedropper. It is used to select or re-select a color that appears in the warp or weft color bars. When the tool is active, the cursor becomes an eyedropper.



Position the eyedropper on the warp or weft color in the color bar you want to select. When you click with the left button on the color using pickup tool, the color becomes the main working color (upper left square).

Use this tool when the palette contains several similar colors, and you can't remember which was used previously. After you have clicked a color, the drawing tool previously used is restored. You must click the pickup color tool again if you need to select another color.

## Insert Tool



PC

**Insert tool** – The insert tool pushes threads apart to make a gap for adding warp ends, weft picks, or treadles in the tie-up. First move the insertion point onto the end or treadle where you want create space. The insertion point is usually wherever you last clicked or released the mouse button. Each click of the toolbar button or each keystroke either adds one empty thread (spacebar or insert button).

*PC = Insert button*



Mac = *Spacebar*

Mac

## Delete Tool



PC

**Delete tool** – The delete tool removes warp ends, weft picks, and treadles. First move the cursor to the location where you want to remove ends or treadles. Remove ends by clicking the left mouse button or clicking on the delete button.



Mac

PC = *Delete button*

Mac = *Delete button*

## Increase or Decrease Size of Draft



PC

**Increase or Decrease the Size of the Draft** – Click on these buttons (PC) or sliding the arrow on the bar (Mac) will make the size of the draft increase (+) or decrease (-)

PC = *Ctrl + +* and *Ctrl + -*



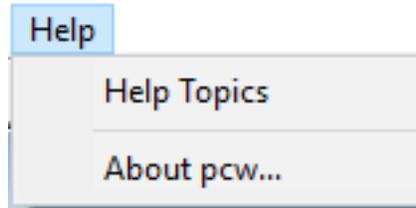
Mac

Mac = *Command + +* and *Command + -*

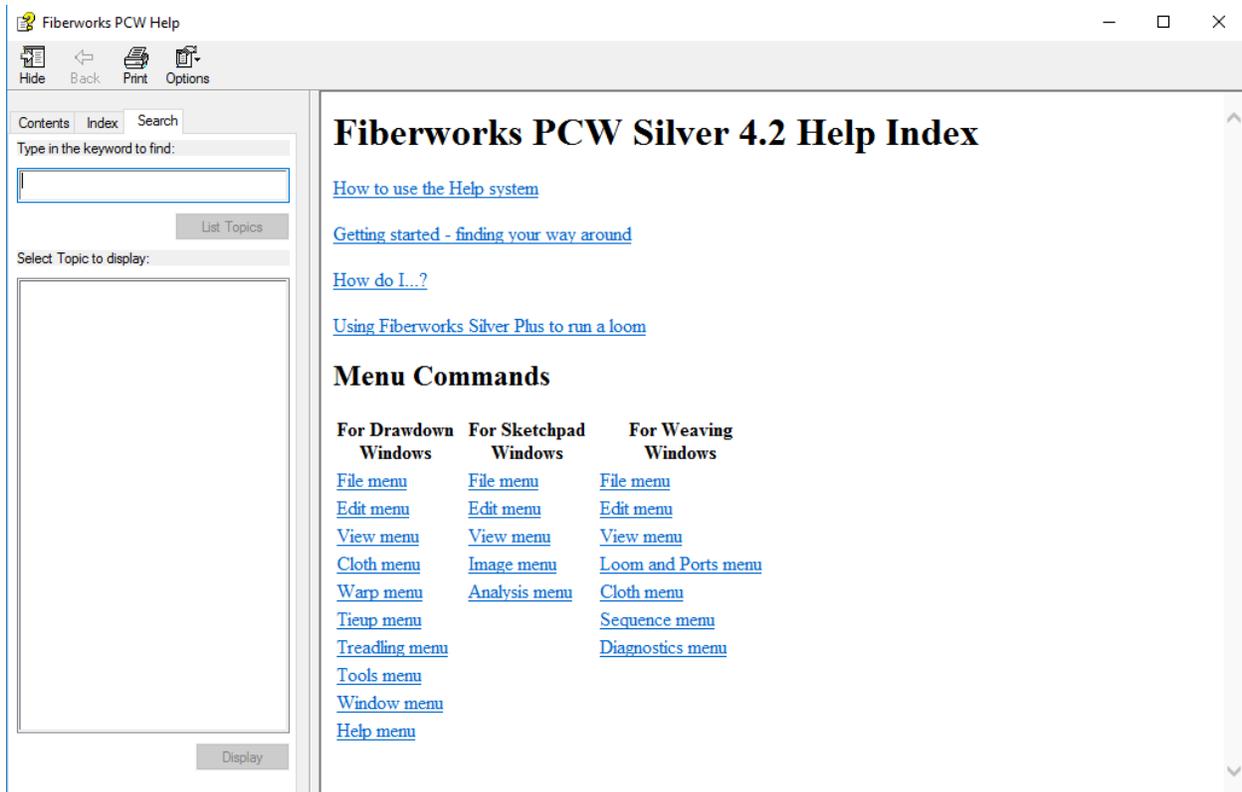
## Help Function – PC version

### Help → Help Topics

To search how to use many functions in **Fiberworks**, go to the **Help** menu. This menu may be found on the tool bar on the far-right side. You may enter key words in the Search entry field to find what you are looking for.



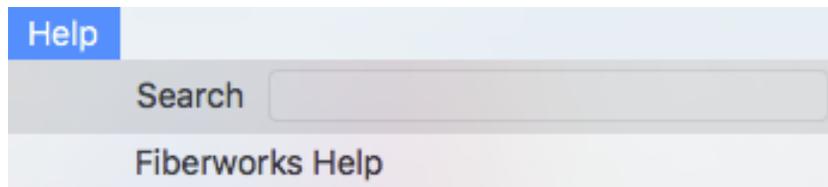
By selecting **Help Topics**, the screen below will open. From this screen, it is possible to search on a keyword, view Help contents, or view the Help index.



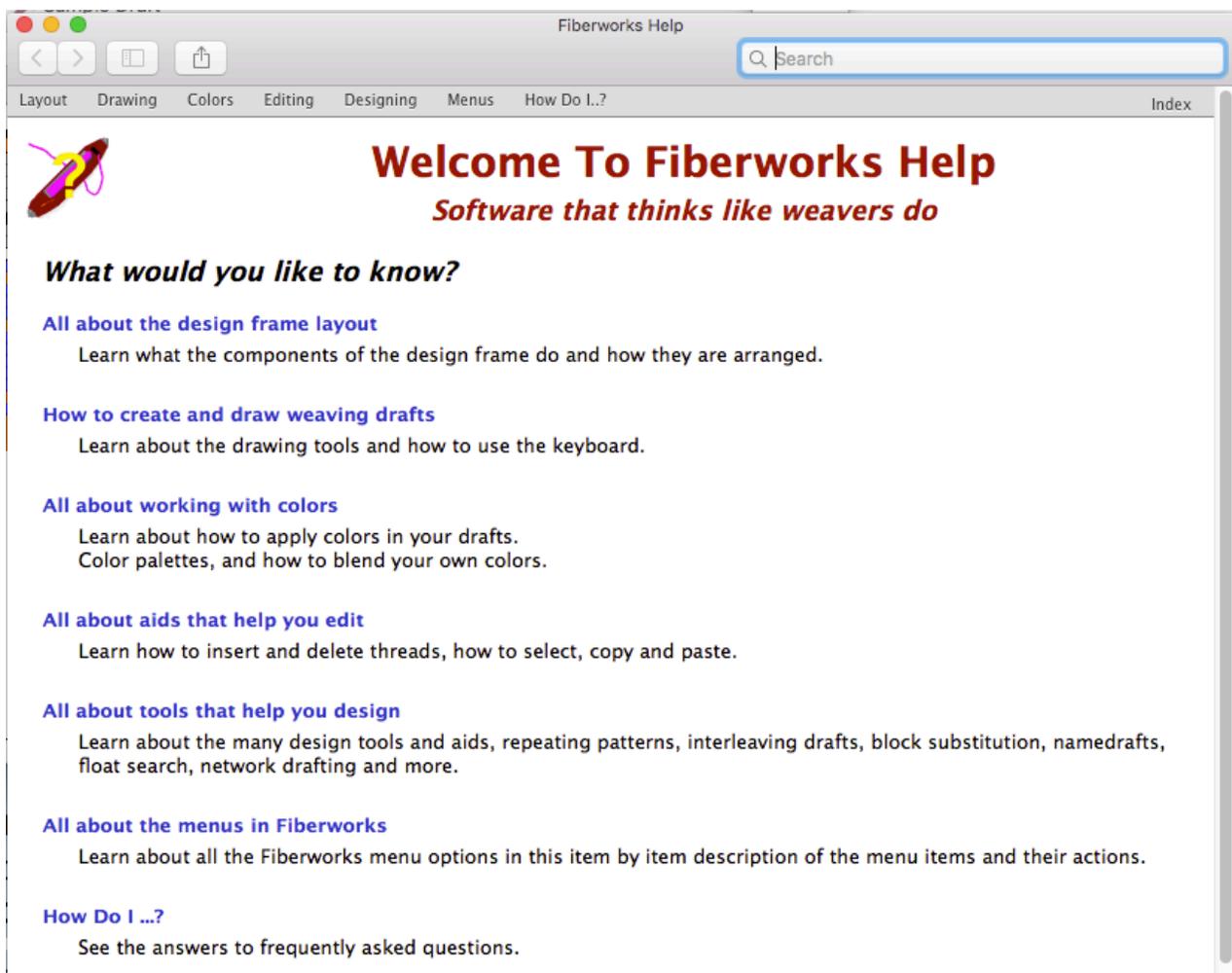
## Help Function – Mac version

### Help → Search entry and Fiberworks Help

To search many functions in **Fiberworks**, go to the **Help** menu. This menu may be found on the tool bar on the far-right side. You may enter key words in the **Search** entry field to find what you are looking for.



By selecting **Fiberworks Help**, a window appears.



## Making a Simple Draft

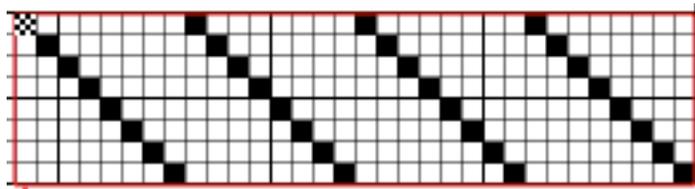
### How to Add and Delete Warp ends, Weft Picks, and Treadles

To add or delete one end at a time or freehand lines



Select the appropriate drawing tool. Your cursor will change to a pencil.

- To add one warp end, click the left mouse button once in the threading area.
- To add a series of continuous warp ends, click and hold down on the left mouse button and drag across the threading area. A red box will outline the area



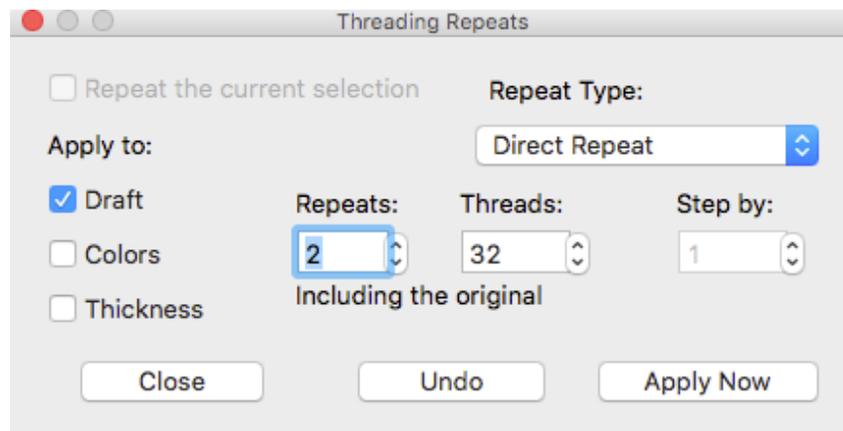
- On a PC
  - To delete one warp end, double click with the left mouse button on the warp end you want to delete.
- On a Mac . . .
  - To delete one warp end, click the right mouse button on the warp end you want to delete or double click with the left mouse button.
  - To delete a series of continuous warp ends, click and hold down on the right mouse button and drag across the threading area.

### Repeat Threading or Treadling Sequence

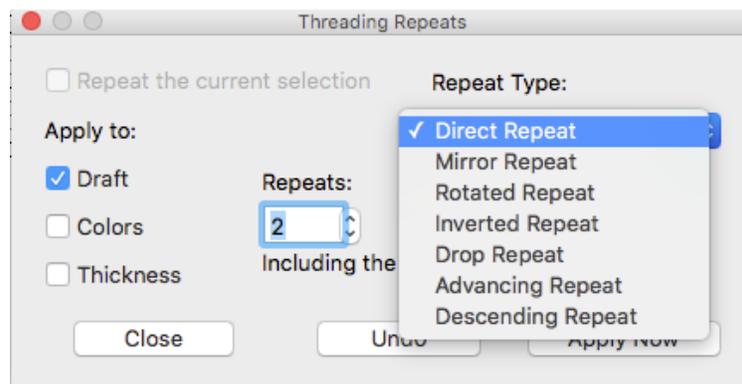
#### Warp → Repeat or Treadling → Repeat

From this window, it is possible to set the following parameters:

- Repeat the threading or treadling sequence, warp or weft colors, and warp or weft thickness.
- Number of repeats (as the number of repeats is increased or decreased, the number of threads will change)



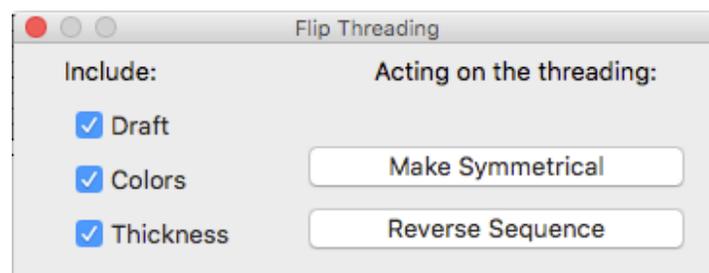
Under **Repeat Type**, a menu of repeat options are shown



The **Step By** entry point is used for advancing and descending sequences

### Flip Threading or Treading Sequence

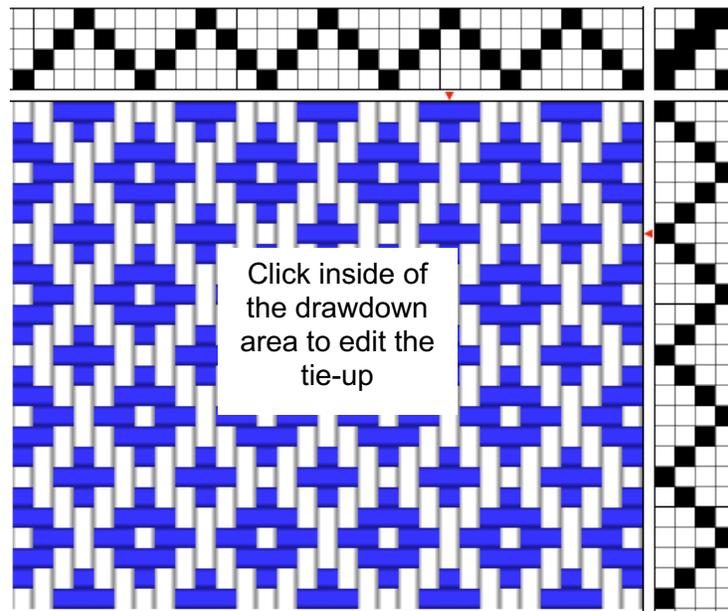
To repeat a warp threading or weft treading sequence, choose **Flip Sequence** from the **Warp** or **Treading** menu.



**Make Symmetrical** – Adds a reversed sequence

**Reverse Sequence** - Replaces the original sequence with a reversed sequence

**Editing in the Drawdown** – It is possible to edit the tie-up of the draft by clicking in the drawdown of the draft. This will change the tie-up or the liftplan.



### Entering Warp Ends and Weft Picks using the Keyboard

A threading or treadling pattern can be entered using the keyboard instead of using the mouse. This can be an efficient way to enter a threading or treadling sequence.

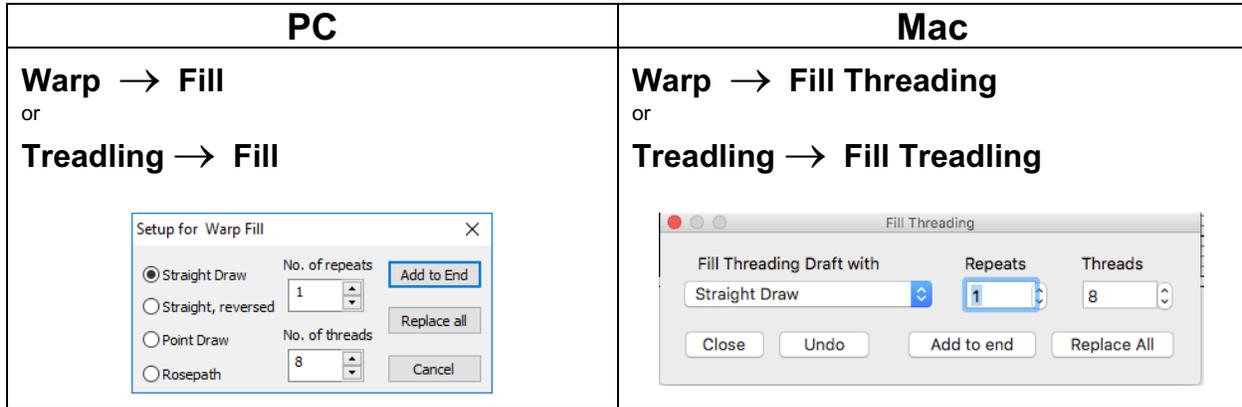
To enter a pattern, click on the starting point in either the threading or treadling window and type in the shaft (or treadle) numbers starting with that end (or pick).

For numbers greater than 10, the row of keys below the number keys will enter warp ends or weft picks. For example, 'q' 11, 'w' for 12, and so on. See the diagram below for which keys will enter ends on which shafts or treadles.

1	2	3	4	5	6	7	8	9	0
1	2	3	4	5	6	7	8	9	10
q	w	e	r	t	y	u	i	o	p
11	12	13	14	15	16	17	18	19	20
a	s	d	f	g	h	j	k	l	;
21	22	23	24	25	26	27	28	29	30
z	x	c	v	b	n	m	,	.	/
31	32	33	34	35	36	37	38	39	40

## Entering Ends using Menus

A threading or treadling pattern can be added from the **Warp** and **Treadling** menus.

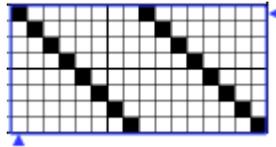


## Copying a Threading or Treadling Selection



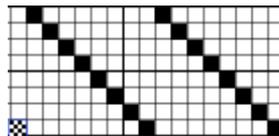
**Step One** - Click on the **Select Rectangle** tool in the tool bar

**Step Two** - Click and hold down on the left mouse button and drag across the threading area. A blue box will outline the area.

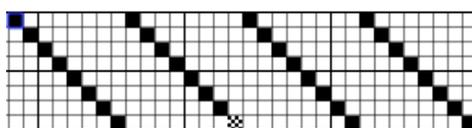


**Step Three** – To copy the selection, select **Copy** from the **Edit** menu or using keyboard commands (e.g., PC = **Ctrl + C** and Mac = **Cmd + C**)

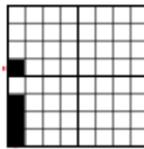
**Step Four** – Click on the entry point of the copied selection.



**Step Five** –To add the copied selection, select **Paste** from the **Edit** menu or using keyboard commands (e.g., PC = **Ctrl + V** and Mac = **Cmd + V**)

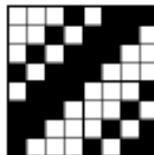


**Filling a Tie-up** – It is possible to automatically fill a tie-up with a twill tie-up. For example, for a 3/1/1/3 tie-up, fill-in the tie-up for the first treadle



PC	Mac
<p><b>Tieup → Twill Repeat</b></p> 	<p><b>Tieup → Diagonal Repeat</b></p> 

The remaining treadles in the tie-up will fill based on the parameters chosen in the above window.



### Treadling Tools

**Multiple Treadles** - When a Draft Requires Multiple Treadles for a Single Pick

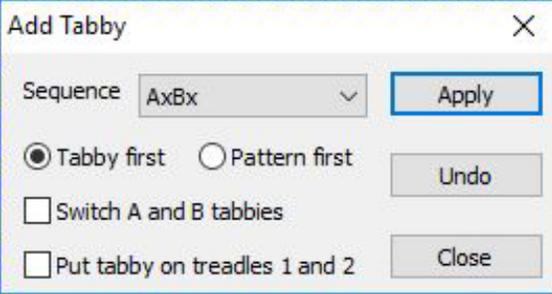
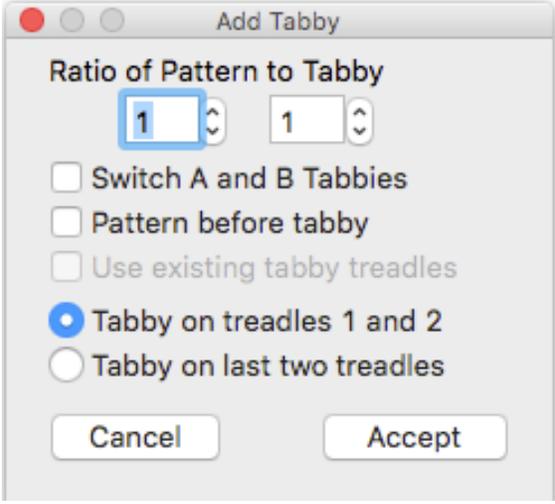
PC	Mac
<p><b>Tieup → Allow Multipedal Treadling</b></p>	<p><b>Treadling → Allow Multipedal Treadling</b></p>

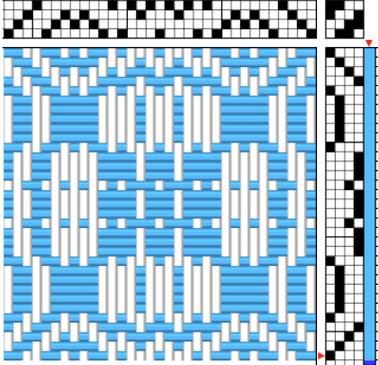
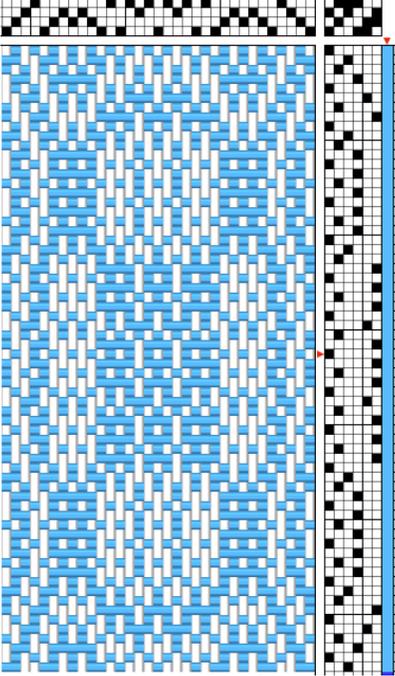
**Weave as Drawn In/Tromp as Writ**

**Treadling → Weave As Drawn In**

By choosing this command, the treadling sequence will be populated with the warp threading sequence. In the weaving community, this command may also be referred to *Tromp as Writ*.

### Adding and Removing Tabby

PC	Mac
<p><b>Treadingling → Add Tabby</b></p>  <p><b>Treadingling → Remove Tabby</b></p>	<p><b>Treadingling → Insert Tabby</b></p>  <p><b>Treadingling → Remove Tabby</b></p>

Without Tabby	With Tabby Added
	

## Tie-up Tools

**Sinking Shed** – This will adjust the draft's tie-up for a sinking shed (e.g., counterbalance) loom

**Convert to Liftplan** – If working with a tie-up, this will automatically redraw the treadling sequence into a liftplan for a direct tie-up or table loom.

**Convert to Tieup**– If working with a liftplan, this will automatically redraw the treadling sequence into a tie-up and single treadle treadling sequence.

## Cloth View

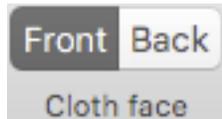
The fabric views are useful for visualizing the entire draft, while still editing the draft at a larger magnification level.

**Cloth** menu – For both the PC and Mac versions, the view of the fabric may be changed (e.g., warp faced, interlacement, etc.)

Cloth	Colors	Warp	Tie
Warp Drawdown			⌘1
Weft Drawdown			⌘2
Color Drawdown			⌘3
✓ Interlacement			^⌘I
Rep/Warp Faced			^⌘R
Weft Faced			^⌘W
Bound Weave			^⌘B
Double Weave			^⌘D
View Front			⌘F
✓ View Back			⌘B
Show Grid			⌘G
✓ Hide Grid			^⌘G
Notes and Records ...			

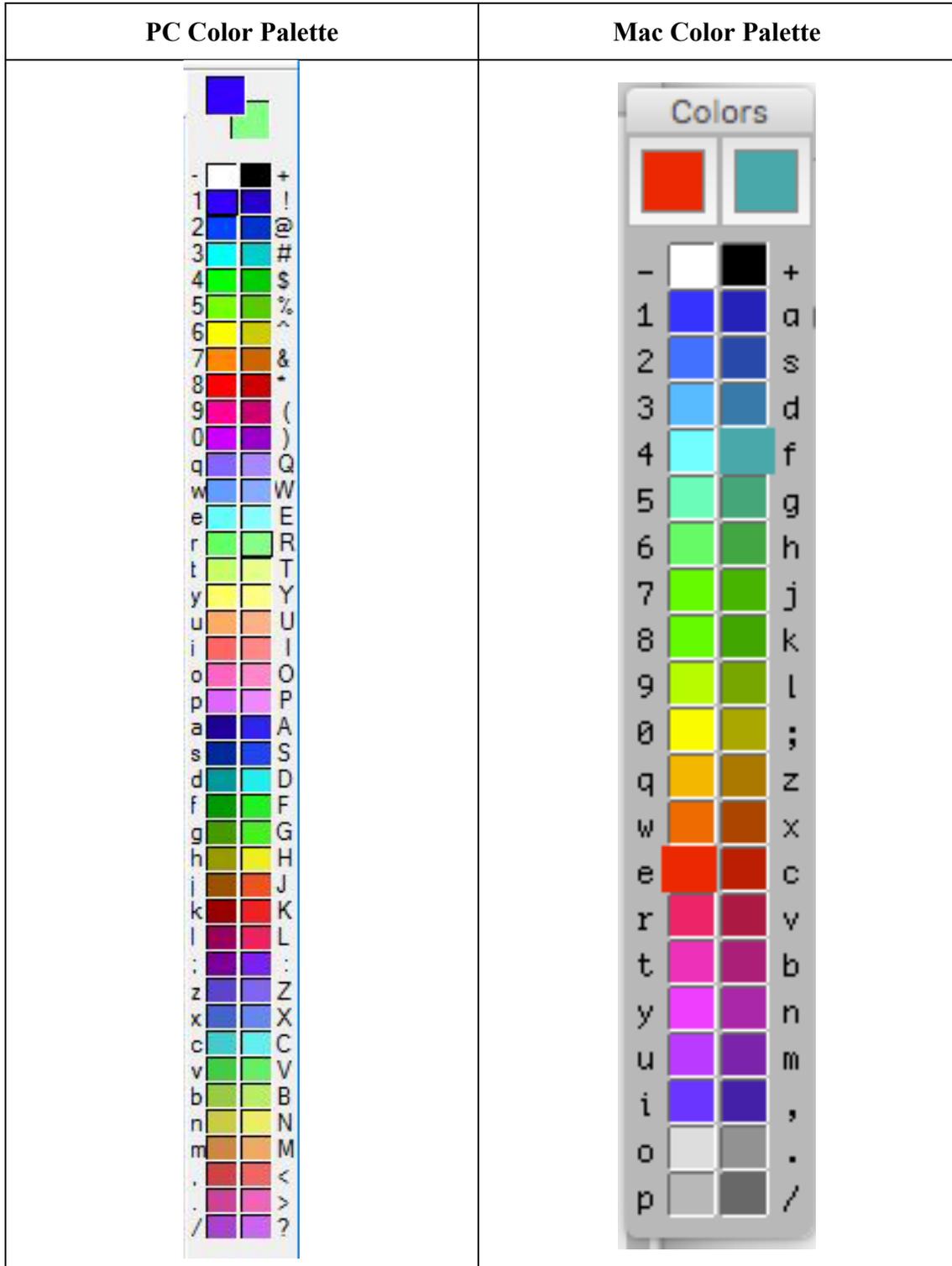
## Fabric Back

To view the back of the fabric, choose from the **View** menu or click on the **Back View** (PC) or **View Back** (Mac)

PC	Mac
<p><b>View</b> → <b>Back View</b></p> <p>or from the menu bar</p> 	<p><b>Cloth</b> → <b>View Back</b></p> <p>or from the menu bar</p> 

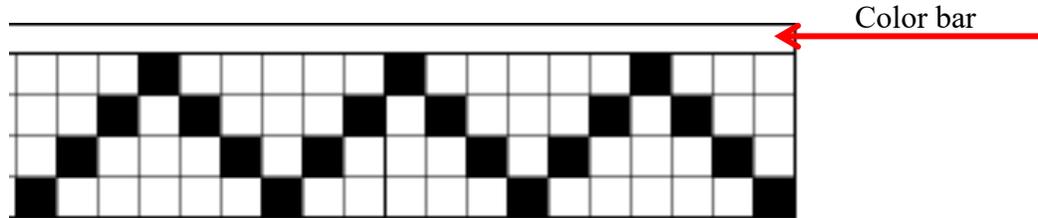
### Color and Color Palettes

**Color Palette** – For the PC version, the color palette appears to the right of the draft screen. For the Mac version, the color palette is on a floating tool bar. Click-and-drag to reposition it.



## Color Bar

Above the threading and to the right of the treadling is a narrow area. This area is the color bar. By clicking in the space, a blinking cursor will appear.



## Adding Color

There are three ways to add colors to a draft:

- Keyboard
- Mouse
- Menu

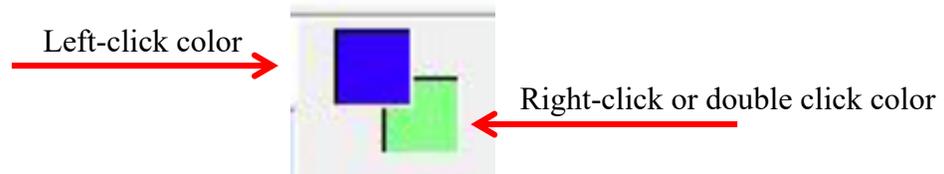
### Keyboard Method of Entering Color

Next to each of the colors on the color palette (shown on the previous page) is a letter, number, or punctuation. Typing the character on the keyboard while the cursor is in the color bar will enter the associated color

### Mouse Method of Entering Color

The top two colors on the color palette show which color will be added to the color bar on a mouse click.

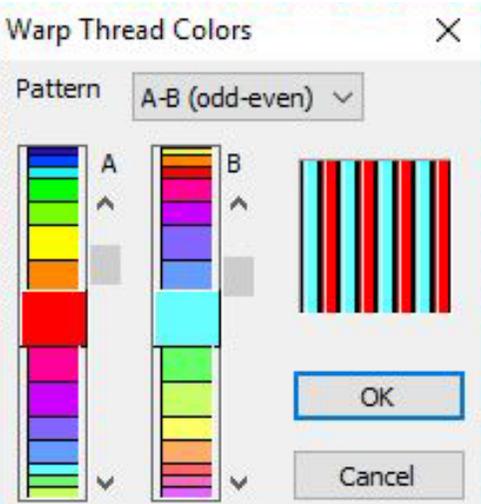
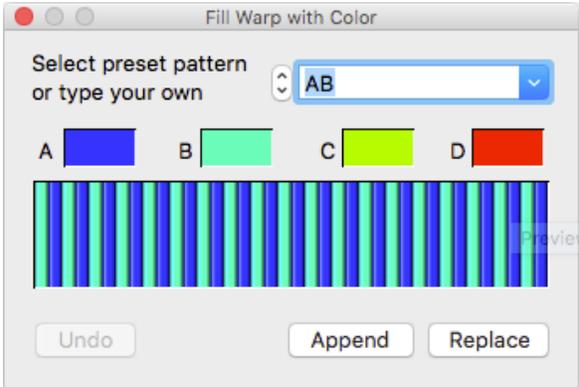
- Left-click on the mouse will enter the color on the left
- Right-click or a double left-click will enter the color on the right



Click-and-drag with the left or right button to fill the color bar with a color.

To change the color in the top two boxes on the color palette using the mouse, click on any color in the palette. A left click will place the color in the left box and a right click or double click with the left button will place the color in the right box.

## Menu Method of Entering Color

PC	Mac
<p><b>Warp → Colors</b></p> <p>or</p> <p><b>Treadingling → Colors</b></p>  <p>The above tool will allow up to two colors to be selected. The pattern pull-down menu allows the following sequences to be filled:</p> <ul style="list-style-type: none"> <li>• All threads (one color)</li> <li>• A-B (odd-even)</li> <li>• A-A-B-B</li> <li>• A-B-A</li> <li>• A-B-B-A</li> <li>• A-B-B-B</li> <li>• A-A-A-B</li> </ul>	<p><b>Warp → Fill Warp Colors</b></p> <p>or</p> <p><b>Treadingling → Fill Weft Colors</b></p>  <p>To change the color in the boxes, click-and-drag a color from the color palette and drop it into the appropriate box.</p> <p>The above tool will allow up to four colors to be selected. The pattern pull-down menu allows the following sequences to be filled:</p> <ul style="list-style-type: none"> <li>• Single Color A</li> <li>• A-B (odd-even)</li> <li>• A-A-B</li> <li>• A-A-A-B</li> <li>• A-A-B-B</li> <li>• A-A-A-A-B-B</li> <li>• A-A-A-B-B-B</li> <li>• A-A-A-A-B-B-B-B</li> <li>• A-B-C</li> <li>• A-A-B-C</li> <li>• A-B-A-C</li> <li>• A-A-B-B-C-C</li> <li>• A-B-C-D</li> <li>• A-B-A-C-A-D</li> <li>• A-A-B-B-C-C-D-D</li> </ul>



### Pickup Color -

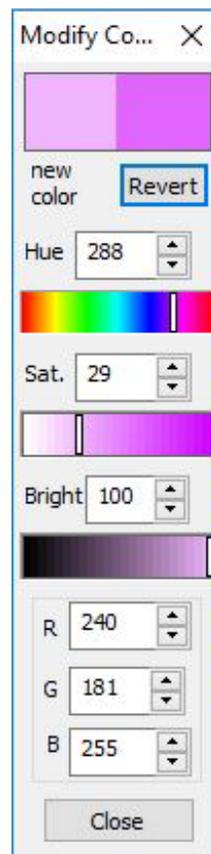
The **Pickup Color** tool looks like an eyedropper. It is used to select or re-select a color that appears in the warp or weft color bars. When the tool is active, the cursor becomes an eyedropper.

Position the eyedropper on the warp or weft color in the color bar you want to select. When you click with the left button on the color using pickup tool, the color becomes the main working color (upper left square).

### Changing Palette Colors – PC version

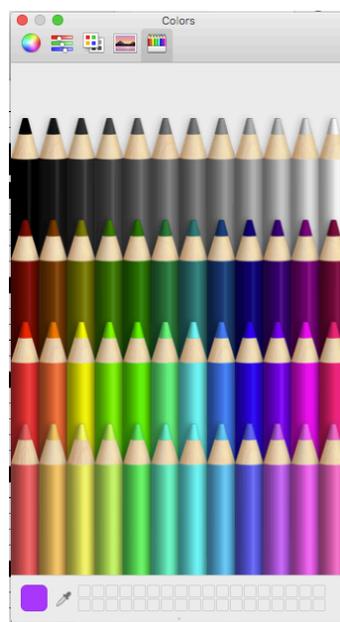
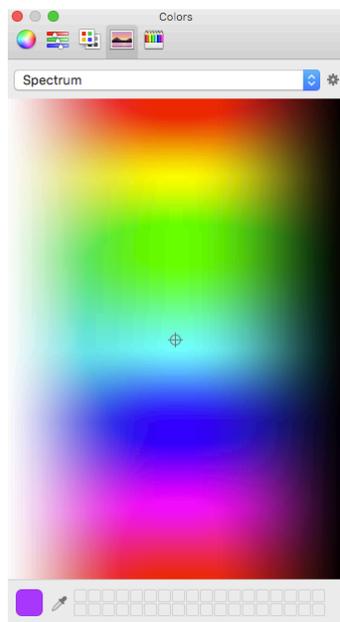
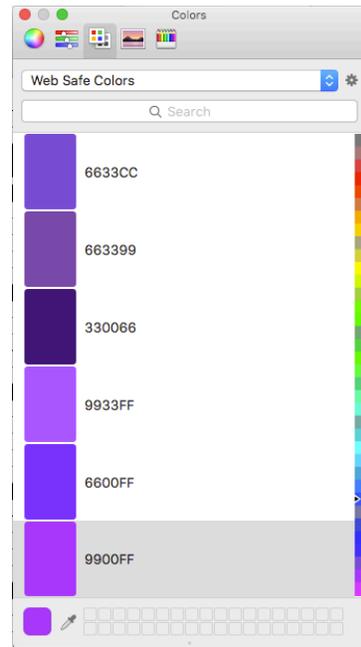
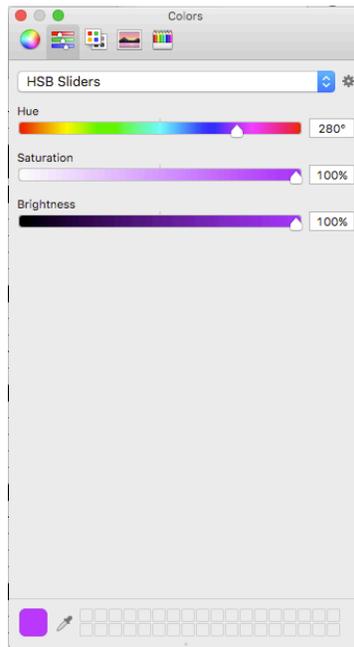
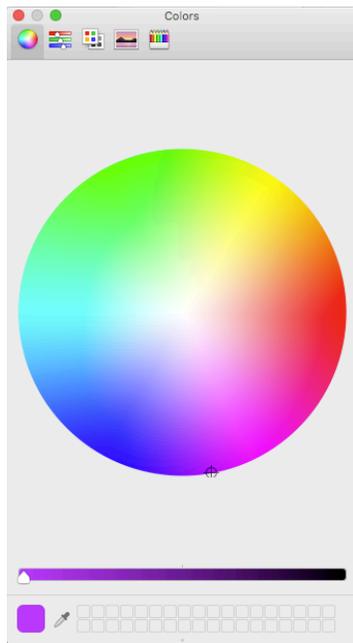
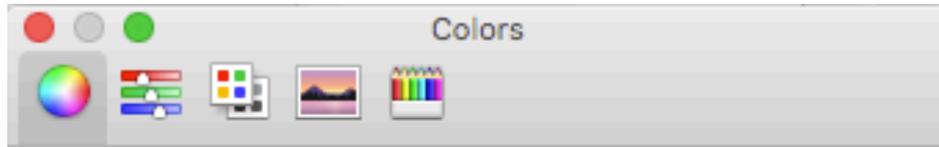
By clicking on the top two colors on the color palette, the window below will appear. The color at the top on the right is the original color. As adjustments are made to the parameters, the color on the left will change.

To go back to the original color, click on the **Revert** button. To close the window and return to the color palette with the color adjusted, click on the **Close** button.



### Changing Palette Colors – Mac version

By clicking on the top two colors on the color palette, a window opens with five different options.



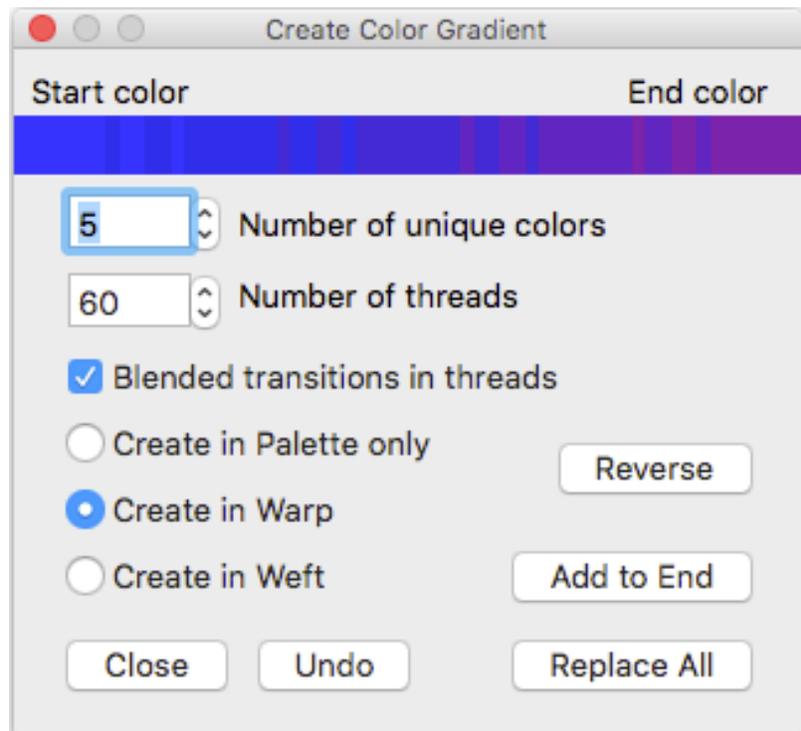
## Create a Color Gradient (Mac version only)

### Colors → Create Gradient

The **Create Gradient** tool allows a graded series of colors to be created.

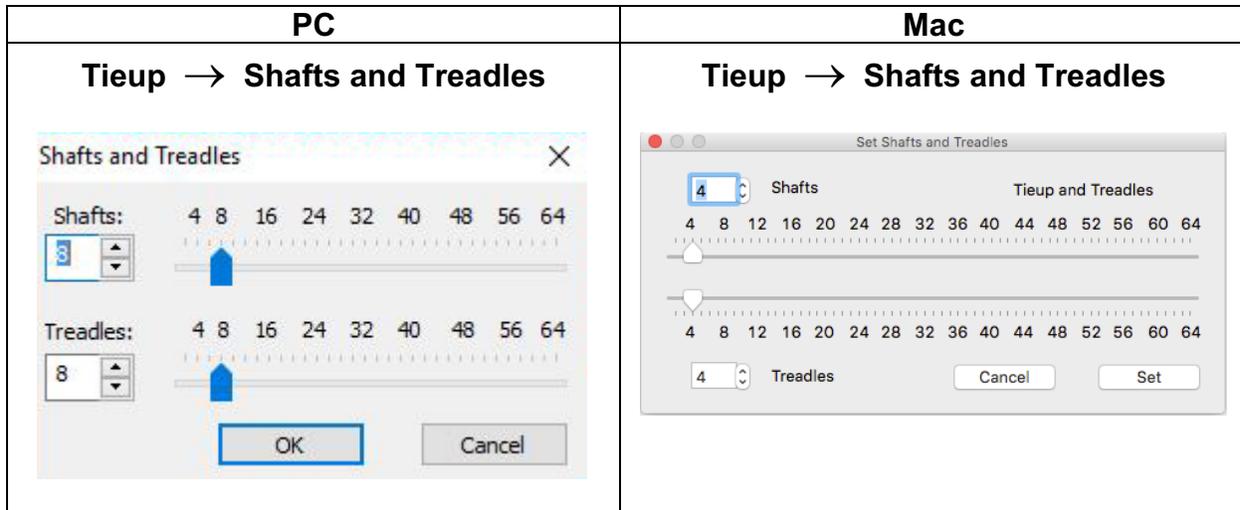
Choose the **Start** and **End** colors by clicking and dragging a color from the color palette and dropping onto the left and right end of the gradient strip respectively. The number of unique colors and number of threads will create different effects.

When choosing the number of unique colors, the same number of matching yarns is required.



## Properties for Draft and Project

### Changing the Number of Shafts and Treadles

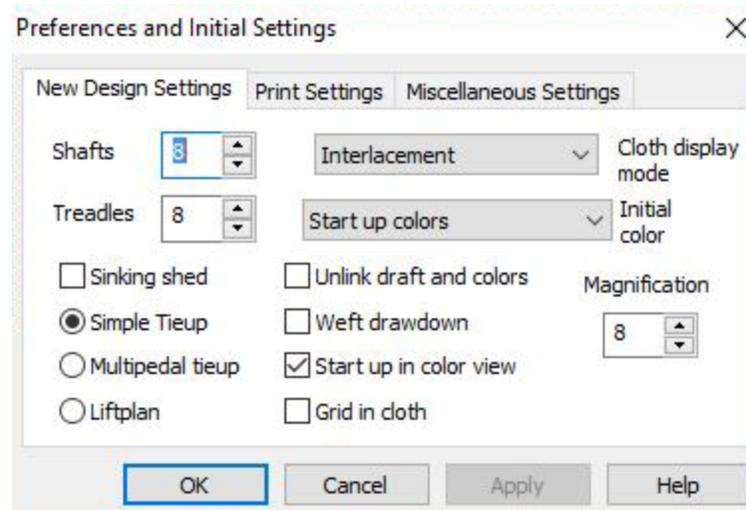


### Changing Preferences – PC version

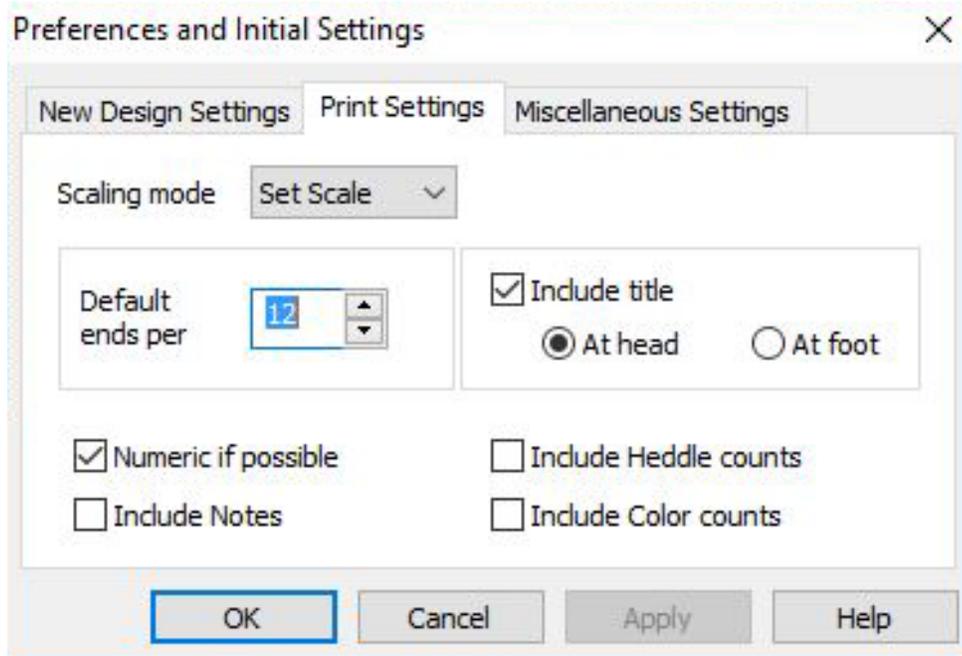
#### File → Preferences

This panel allows the standard characteristics to be changed and applied for all new drafts when **File → New** is chosen. These settings do not affect drawdowns already on the screen or saved drafts. There are three different **Preferences and Initiate Setting** windows:

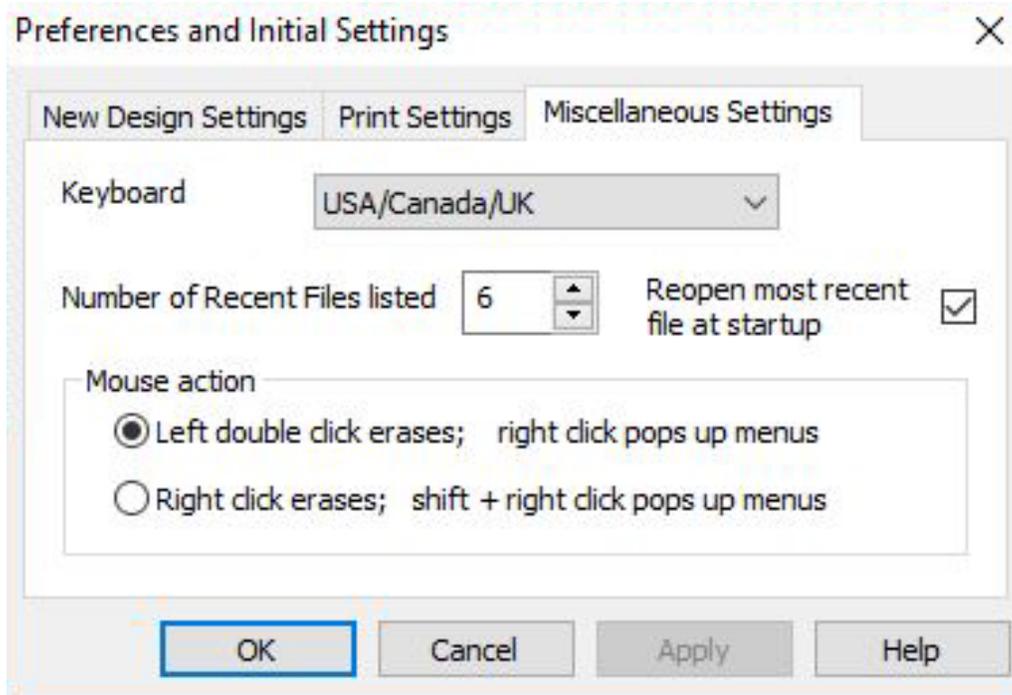
#### New Design Settings



### Print Settings



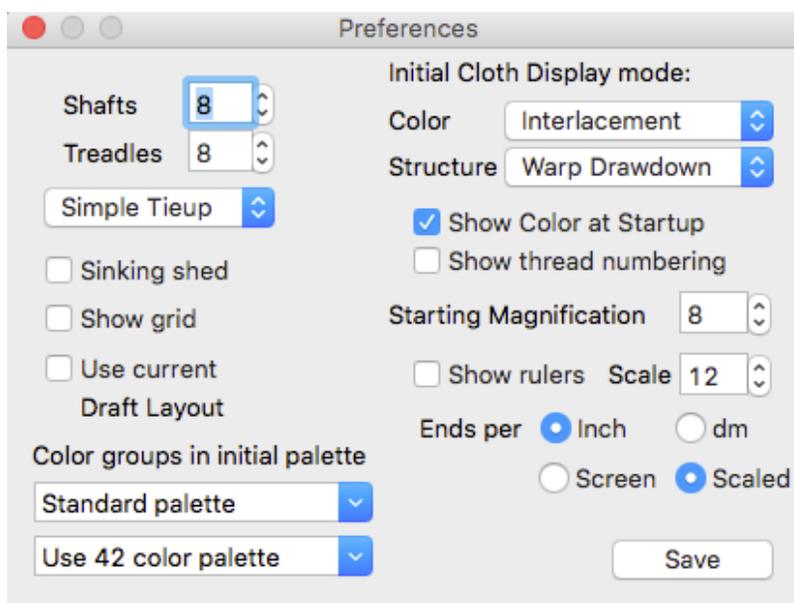
### Miscellaneous Settings



## Changing Preferences – Mac version

### Fiberworks → Preferences

This panel allows the standard characteristics to be changed and applied for all new drafts when **File** → **New** is chosen. These settings do not affect drawdowns already on the screen or saved drafts.



## Notes and Records

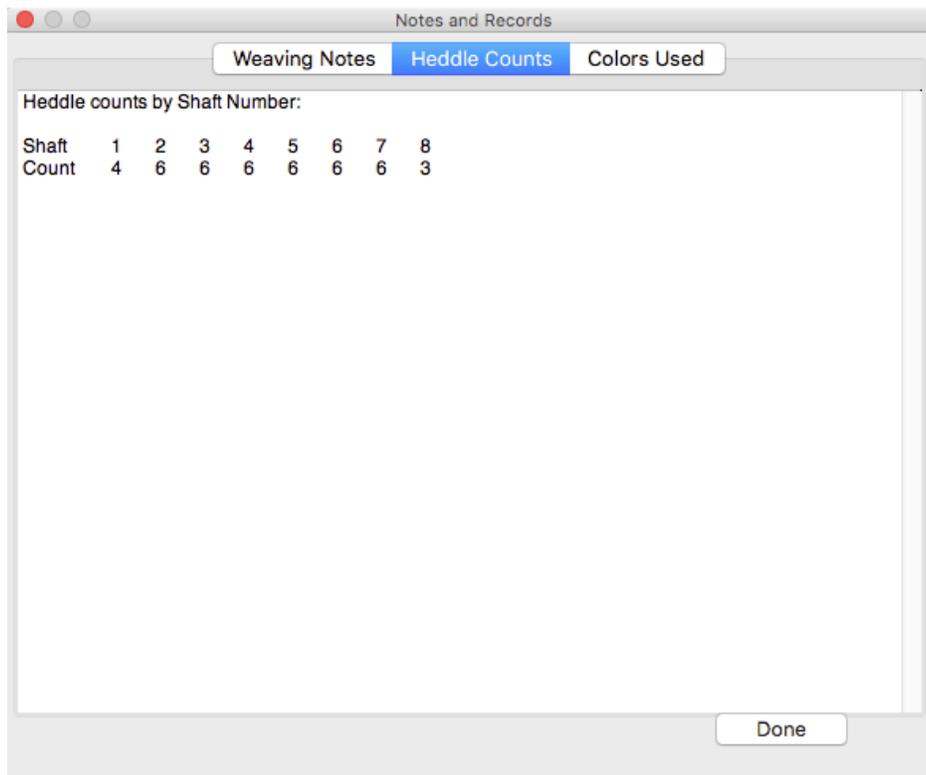
### Cloth → Notes and Records

This menu item opens a window with three tabs:

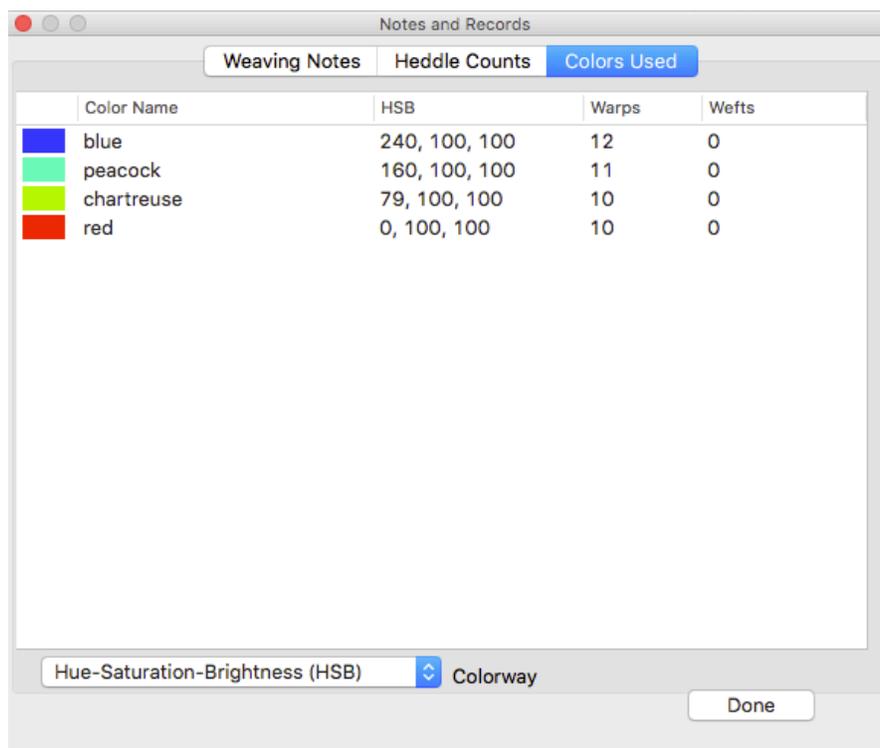
**Notes** – allows entry of information for a draft and/or project. A button allows you to insert a records template. Below is the information that may be entered.

PC	Mac
<p>WARP DESCRIPTION</p> <p>Warp Yarn: Count: Color: Cost, source: Warp length: Warp width: Sett: Reed: Sley: # Ends: Weight:</p> <p>WEFT DESCRIPTION</p> <p>Weft yarn: Count: Color: Cost, source: Weight:</p> <p>FINISHED PRODUCT:</p> <p>Dimensions: % shrinkage: Ends per inch: Picks per inch</p>	<p>WARP DESCRIPTION</p> <p>Warp Yarn: Count: Color: Cost, source: Warp length: Warp width: Sett: Reed: Sley: # Ends: Weight:</p> <p>WEFT DESCRIPTION</p> <p>Weft yarn: Count: Color: Cost, source: Weight:</p> <p>FIBER CONTENT:</p> <p>Dimensions: % shrinkage: Ends per inch: Picks per inch</p>

**Heddles used per Shaft** – Shows the number of heddles used per shaft.



**Thread Counts by Color** - Shows the use number of ends for each color in warp and weft.



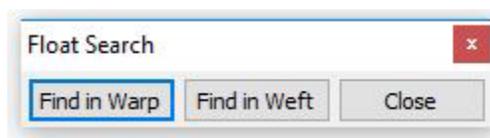
## Float Search

### Tools → Float Search

To use **Fiberworks** to help identify excessive floats in the warp and weft, from the **Tools** menu, choose the **Float Search** selection. The PC and Mac versions perform this function in different manners.

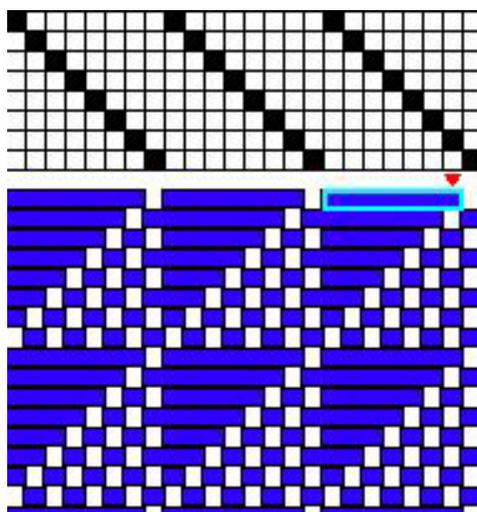
### Float Search – PC version

### Tools → Float Search



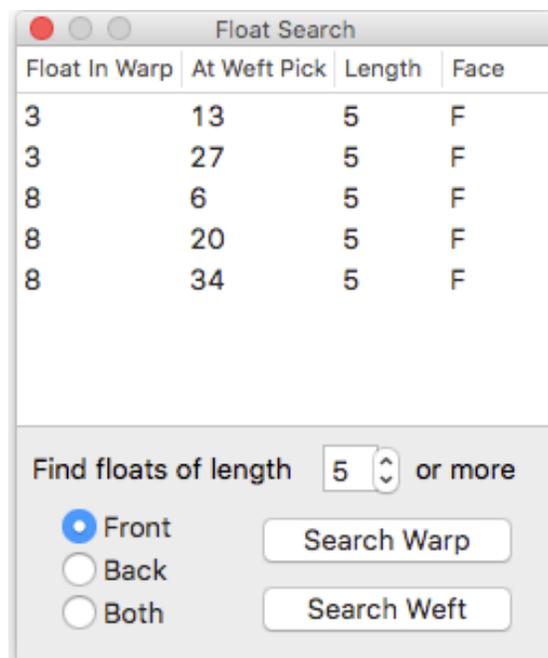
When completing a float search in **Fiberworks** on a PC, there are a few things to understand.

- There are separate searches for warp and weft floats as shown in the above image.
- Floats of three threads or less are ignored.
- Only the visible surface is searched. To search the other face, choose **Change Face** from the **Tie-up** menu or click the **Back View** button on the toolbar, then do warp or weft float search again.
- The longest float found is reported at the left end of the status bar, along with its location. The float is also outlined in light cyan (see below on the right). If the cyan outline is hard to see in a color drawdown, it may be advisable to switch to a structure view.
- If the long float is currently off screen, it is scrolled into position so it's visible on-screen.



## Float Search – Mac version

### Tools → Float Search



When completing a float search in **Fiberworks** on a Mac, there are a few things to understand.

- There are separate searches for warp and weft floats as shown in the above image.
- The minimum float length to search for can be set.
- The buttons in the lower left corner allow the float search for the front, back, or both.
- Floats found in the draft that meet or exceed the set float length will be listed. If the list is long, the list may be scrolled. The information about the float will include the following:
  - The warp end where the float is found
  - The weft pick where the float is found
  - The length of the float
  - Whether the float was found on the front or the back
- By clicking a float that appears in the list, the float in the draft will be highlighted.

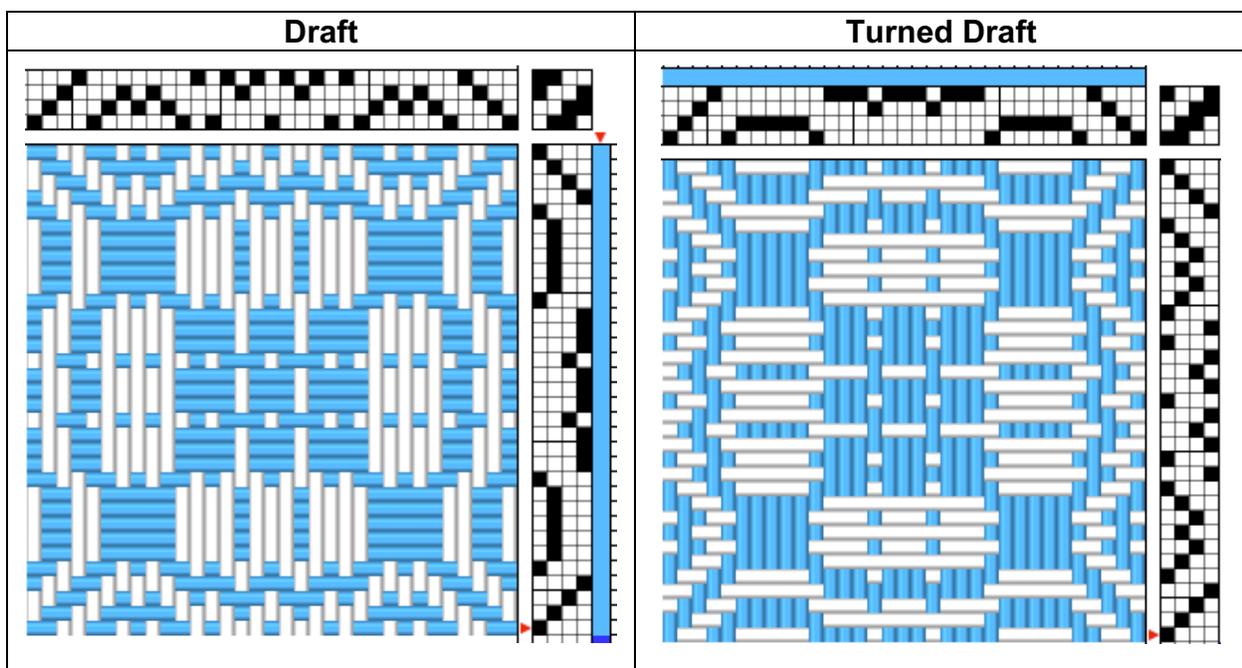
## Turning a Draft

You may rotate a draft 90 degrees. This is called *turning a draft*. It is done for following reasons:

- Reduce the number of treadles or shafts
- Create a single shuttle weave for a compound weave where the original draft required more than one shuttle
- Change the direction of a pattern

This will not only make the threading the treadling and the treadling the threading, it will also automatically invert the tie-up

PC	Mac
Tieup → Turn Draft	Tools → Turn Draft

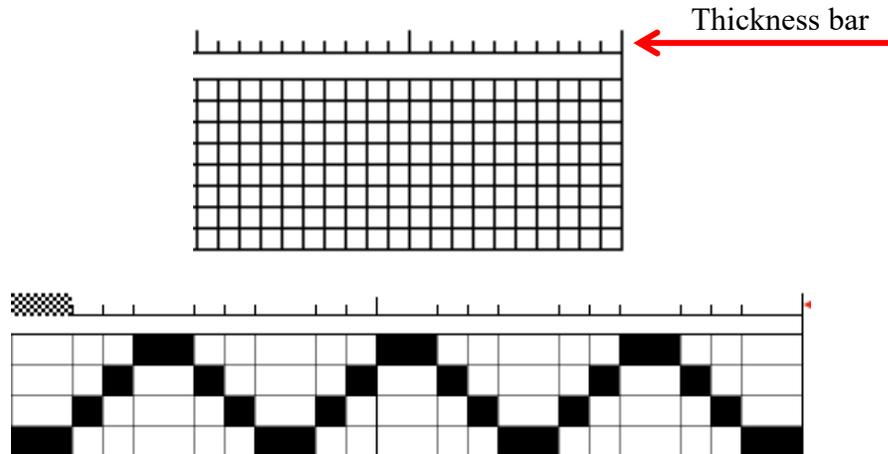


## Thick and Thin Threads

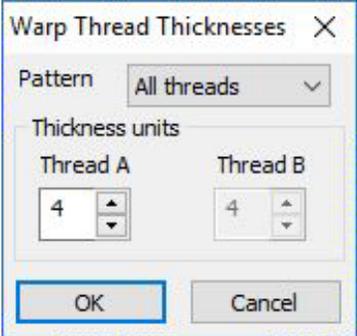
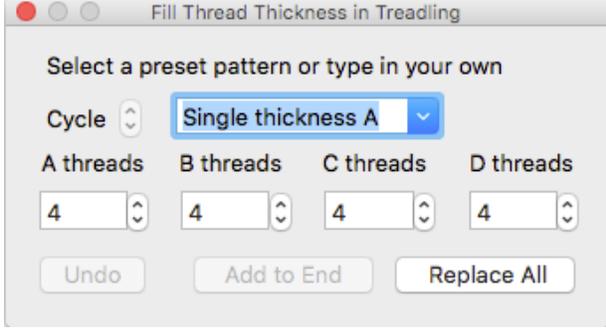
There are two ways to change the width of the warp end or treading pick.

**Mouse Method** – To change the width of a single warp end or weft pick, clicking on a drawing tool (the cursor will change to a pencil). Click in the space for the end.

- To make the width wider, click once
- To make the width narrower, click twice.



**Menu Method** – It is possible to use To define a sequence of thick and/or thin warp ends or weft picks, Using the **Threading** and/or **Treading** menus, select the **Thickness** option.

PC	Mac
<p><b>Warp → Thickness</b> <b>Treading → Thickness</b></p>  <p>To change the thickness of an end, click the arrow or enter the number.</p>	<p><b>Warp → Fill Thickness</b> <b>Treading → Fill Thickness</b></p>  <p>To change the thickness of an end, click the arrow or enter the number.</p>

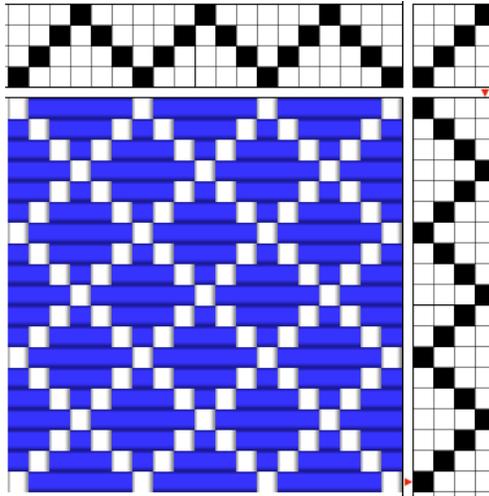
<p>The thickness tool shown on the previous page will allow up to two thicknesses to be selected. The pattern pull-down menu allows the following sequences to be filled:</p> <ul style="list-style-type: none"><li>• All Threads</li><li>• A-B (odd-even)</li><li>• A-A-B-B</li><li>• A-B-A</li><li>• A-B-B-A</li><li>• A-B-B-B</li><li>• A-A-A-B</li><li>•</li></ul>	<p>The thickness tool shown on the previous page will allow up to four thicknesses to be selected. The pattern pull-down menu allows the following sequences to be filled:</p> <ul style="list-style-type: none"><li>• Single Thickness A</li><li>• A-B (odd-even)</li><li>• A-A-B</li><li>• A-A-A-B</li><li>• A-A-B-B</li><li>• A-A-A-A-B-B</li><li>• A-A-A-B-B-B</li><li>• A-A-A-A-B-B-B-B</li><li>• A-B-C</li><li>• A-A-B-C</li><li>• A-B-A-C</li><li>• A-A-B-B-C-C</li><li>• A-B-C-D</li><li>• A-B-A-C-A-D</li><li>• A-A-B-B-C-C-D-D</li></ul>
--	--

## Block Substitution

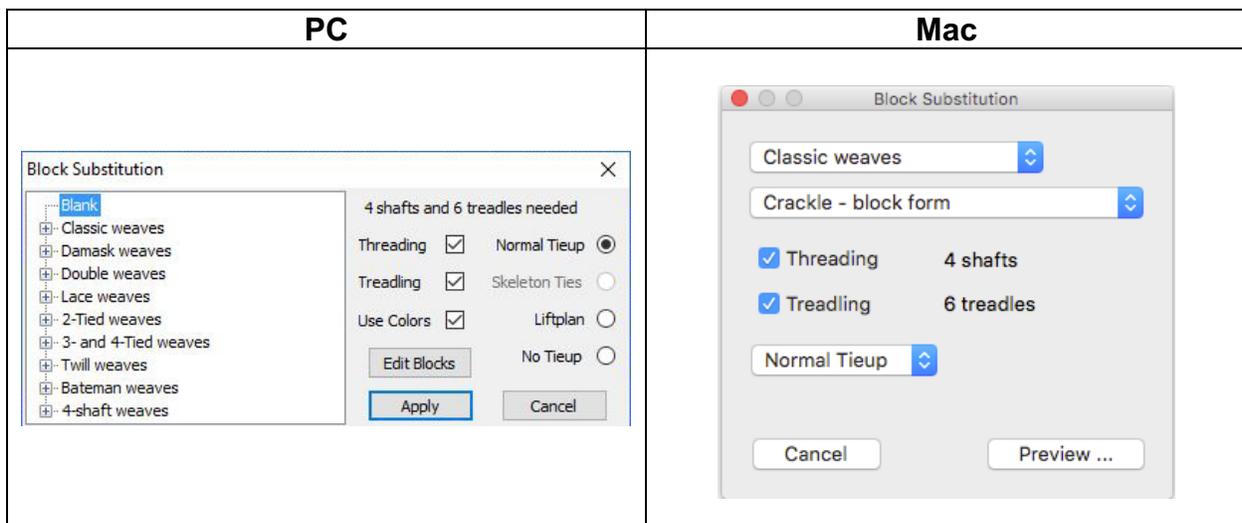
### Tools → Block Substitution

The **Block Substitution** tool allows you to substitute a weave structure into a profile draft.

**Step One** - First, you need to create or open a profile draft.



**Step Two** – From the **Tools** menu, choose **Block Substitution**



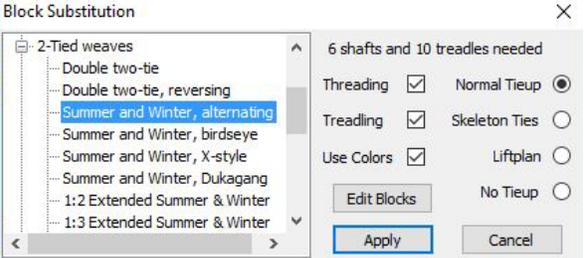
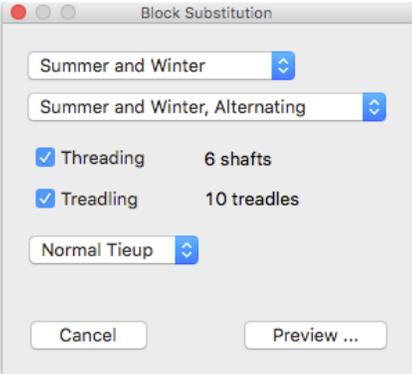
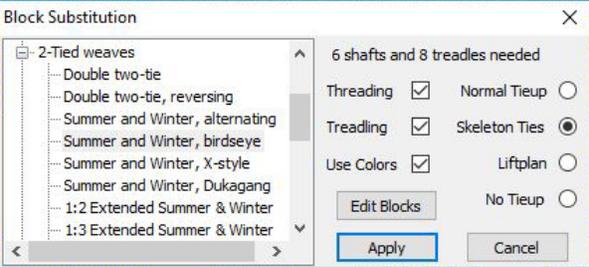
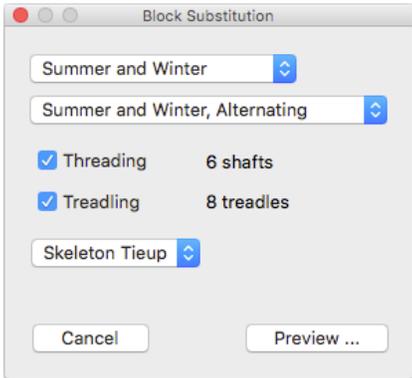
**Step Three** – A window will appear that includes block substitution options. By selecting one of the block substitution options, the window will show how many shafts and treadles are required. Click on **Apply** (PC) or **Preview** (Mac) to generate a new draft in the weave structure based on the profile draft used.

<b>Block Substitutions - PC</b>	
<p>Classic weaves</p> <ul style="list-style-type: none"> <li>• Crackle, block form</li> <li>• Crackle as summer and Winter</li> <li>• Crackle, twill form</li> <li>• M's and O's</li> <li>• Overshot</li> <li>• Overshot, multishaft</li> <li>• Overshot, multishaft, balanced</li> <li>• Overshot, all tabby ground</li> <li>• Overshot, tabby ground, balance</li> <li>• Overshot, tabby halftone</li> <li>• Overshot, tabby halftone, balanced</li> <li>• Overshot, single unit tied</li> <li>• Overshot, paired unit tied</li> </ul> <p>Damask weaves</p> <ul style="list-style-type: none"> <li>• 4-shaft damask</li> <li>• 5-shaft damask</li> <li>• 6-shaft damask</li> <li>• 8-shaft damask</li> </ul> <p>Double weaves</p> <ul style="list-style-type: none"> <li>• Double weave</li> <li>• Double weave, paired threads</li> <li>• Beiderwand</li> <li>• Beiderwand, half blocks</li> <li>• 1:4 Lampas, stitched</li> <li>• 1:4 Lampas, stitched, half blocks</li> <li>• 1:2 Lampas, twill order</li> <li>• 1:2 Lampas, stitched</li> <li>• 1:2 Lampas, broken order</li> <li>• 1:2 Lampas, stitched, broken</li> </ul> <p>Lace weaves</p> <ul style="list-style-type: none"> <li>• Atwater Bronson</li> <li>• Bronson sport</li> <li>• Huck blocks, lace effect</li> <li>• Huck blocks, spots</li> <li>• Huck lace effect</li> <li>• Huck lace effect variant</li> <li>• Huck spot</li> <li>• Swedish lace</li> </ul> <p>2-Tied weaves</p> <ul style="list-style-type: none"> <li>• Double two-tie</li> <li>• Double two-tie, reversing</li> <li>• Summer and Winter, alternating</li> <li>• Summer and Winter, birdseye</li> <li>• Summer and Winter, X-style</li> <li>• Summer and Winter, Dukagang</li> </ul>	<p>2-Tied weaves (continued)</p> <ul style="list-style-type: none"> <li>• 1:2 Extended Summer &amp; Winter</li> <li>• 1:3 Extended Summer &amp; Winter</li> <li>• 1:4 Extended Summer &amp; Winter</li> <li>• 1:2 Extended S&amp;W Dukagang style</li> <li>• 1:3 Extended S&amp;W Dukagang style</li> <li>• 1:4 Extended S&amp;W Dukagang style</li> <li>• 4:2 paired-tie straight</li> <li>• 6:2 paired-tie straight</li> <li>• 4:2 paired-tie alternating</li> <li>• 6:2 paired-tie alternating</li> </ul> <p>3- and 4-Tied weaves</p> <ul style="list-style-type: none"> <li>• Bergman</li> <li>• Bergman, half blocks</li> <li>• Quigley, diamond</li> <li>• Quigley, points</li> <li>• Quigley, half blocks</li> <li>• Single, 3-tie straight</li> <li>• Single 3-tie, rosepath</li> <li>• Single 4-tie</li> </ul> <p>Twill weaves</p> <ul style="list-style-type: none"> <li>• Broken twill</li> <li>• Diamond twill</li> <li>• 3-thread turned twill</li> <li>• 4-thread turned twill</li> </ul> <p>Bateman weaves</p> <ul style="list-style-type: none"> <li>• Park weave on opposites (draft 90)</li> <li>• Park weave, draft 49 style</li> <li>• Park weave, draft 71 style</li> <li>• Boulevard on opposites (draft 56)</li> <li>• Boulevard, draft 72 style</li> </ul> <p>4-shaft weaves</p> <ul style="list-style-type: none"> <li>• Crackle, polychrome</li> <li>• M's and O's</li> <li>• Overshot</li> <li>• Overshot as Summer and Winter</li> <li>• Overshot 2-block polychrome</li> <li>• Overshot 4 block polychrome</li> <li>• 4 block Summer &amp; Winter, alternating</li> <li>• 4 block Summer &amp; Winter, birdseye</li> <li>• 4 block Summer &amp; Winter, X-style</li> <li>• 4 block Summer &amp; Winter, Dukagang</li> <li>• Swedish lace</li> </ul>

<b>Block Substitutions - Mac</b>	
<p>Classic weaves</p> <ul style="list-style-type: none"> <li>• Crackle, block form</li> <li>• Crackle as summer and Winter</li> <li>• Crackle, twill form</li> <li>• M's and O's</li> <li>• Overshot</li> <li>• Overshot, multishaft</li> <li>• Overshot, multishaft, balanced</li> <li>• Overshot, all tabby ground</li> <li>• Overshot, tabby ground, balance</li> <li>• Overshot, tabby halftone</li> <li>• Overshot, tabby halftone, balanced</li> <li>• Overshot, single unit tied</li> <li>• Overshot, paired unit tied</li> </ul> <p>Damask weaves</p> <ul style="list-style-type: none"> <li>• 4-shaft damask</li> <li>• 5-shaft damask</li> <li>• 6-shaft damask</li> <li>• 7-shaft damask</li> <li>• 8-shaft damask</li> </ul> <p>Double weaves</p> <ul style="list-style-type: none"> <li>• Double weave</li> <li>• Double weave, paired threads</li> <li>• Double weave, paired, weft only</li> <li>• Piqué and Stitched Double Cloth</li> <li>• Piqué, figured</li> <li>• Beiderwand</li> <li>• Beiderwand, half blocks</li> <li>• 1:4 Lampas</li> <li>• 1:4 Lampas, stitched</li> <li>• 1:4 Lampas, stitched, half blocks</li> <li>• 1:2 Lampas, twill order</li> <li>• 1:2 Lampas, twill order, stitched</li> <li>• 1:2 Lampas, broken twill order</li> <li>• 1:2 Lampas, stitched, broken</li> </ul> <p>Lace weaves</p> <ul style="list-style-type: none"> <li>• Atwater Bronson</li> <li>• Bronson spot</li> <li>• Huck Paired Blocks, Lace</li> <li>• Huck Paired Blocks, Spot</li> <li>• Huck Triple Blocks, Lace</li> <li>• Huck Triple Blocks, Spot</li> <li>• Huck Lace effect</li> <li>• Huck Lace effect variant</li> <li>• Huck spot</li> <li>• Swedish lace</li> </ul> <p>Summer and Winter</p> <ul style="list-style-type: none"> <li>• Summer and Winter, Alternating</li> <li>• Summer and Winter, Birdseye</li> <li>• Summer and Winter, X-style</li> <li>• Summer and Winter, Dukagång</li> </ul>	<p>Summer and Winter (continued)</p> <ul style="list-style-type: none"> <li>• 1:2 Extended Summer and Winter</li> <li>• 1:3 Extended Summer and Winter</li> <li>• 1:4 Extended Summer and Winter</li> <li>• 1:2 ext'd Summer &amp; Winter, Dukagång</li> <li>• 1:3 ext'd Summer &amp; Winter, Dukagång</li> <li>• 1:4 ext'd Summer &amp; Winter, Dukagång</li> </ul> <p>More 2-Tie weaves</p> <ul style="list-style-type: none"> <li>• Two-color Taqueté</li> <li>• Diversified Plain Weave</li> <li>• Double Two-tie</li> <li>• Double Two-tie, Reversing Twill</li> <li>• Double Two-tie, Symmetrical</li> <li>• 4:2 Paired Tie, straight</li> <li>• 6:2 Paired Tie, straight</li> <li>• 4:2 Paired Tie, alternating</li> <li>• 6:2 Paired Tie, alternating</li> </ul> <p>3- and 4-Tied weaves</p> <ul style="list-style-type: none"> <li>• Bergman</li> <li>• Bergman, half blocks</li> <li>• Quigley, diamond</li> <li>• Quigley, points</li> <li>• Quigley, half blocks</li> <li>• Single, 3-Tie straight</li> <li>• Single 3-Tie, rosepath</li> <li>• Single 4-Tie</li> <li>• Single 4-Tie, half blocks</li> </ul> <p>Twill weaves</p> <ul style="list-style-type: none"> <li>• Broken twill</li> <li>• 1:2 Turned Twill</li> <li>• 1:3 Turned Twill</li> <li>• 1:2 Diamond Twill</li> <li>• 1:3 diamondd Twill</li> </ul> <p>Bateman weaves</p> <ul style="list-style-type: none"> <li>• Boulevard on Opposites</li> <li>• Boulevard on Opposites, draft 56</li> <li>• Boulevard, draft 72 style</li> <li>• Park Weave on Opposites, draft 90</li> <li>• Park Weave, draft 49 style</li> <li>• Park Weave, draft 71 style</li> </ul> <p>4-shaft weaves</p> <ul style="list-style-type: none"> <li>• Crackle, polychrome</li> <li>• Overshot</li> <li>• Overshot 4 Block Polychrome</li> <li>• Overshot as Summer and Winter</li> <li>• M's and O's, 2-Block</li> <li>• 4 block Summer &amp; Winter, alternating</li> <li>• 4 block Summer &amp; Winter, birdseye</li> <li>• 4 block Summer &amp; Winter, X-style</li> <li>• 4 block Summer &amp; Winter, Dukagång</li> <li>• Swedish lace, 2-block</li> </ul>

## Examples of Block Substitution

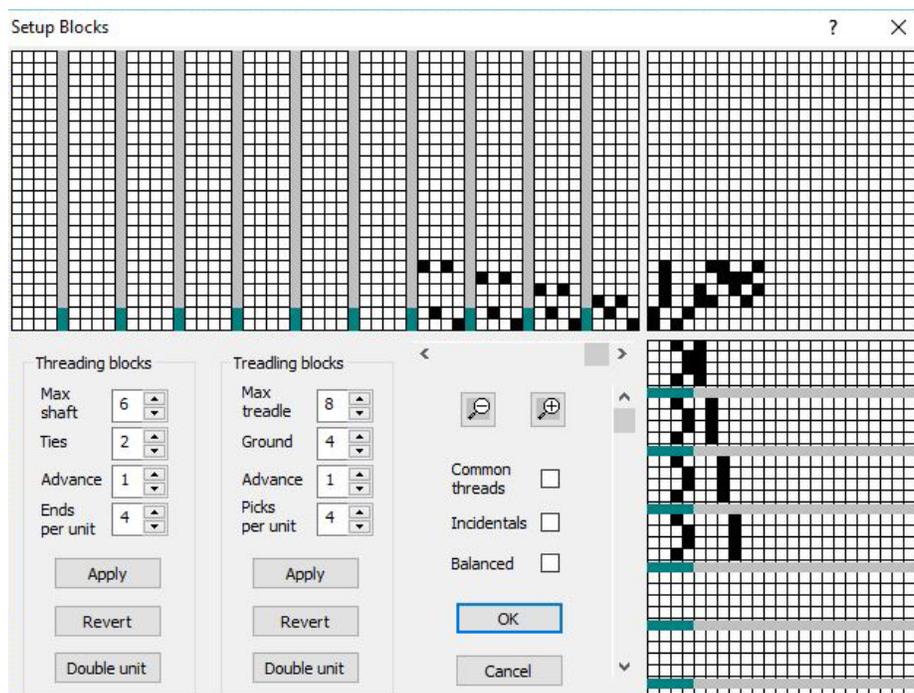
### Regular tie-up vs Skeleton tie-up

PC	Mac
<p style="text-align: center;">Block substitution Summer and Winter, alternating 10-treadle tie-up</p> 	<p style="text-align: center;">Block substitution Summer and Winter, alternating 10-treadle tie-up</p> 
<p style="text-align: center;">Block substitution Summer and Winter, alternating 8-treadle skeleton tie-up</p> 	<p style="text-align: center;">Block substitution Summer and Winter, alternating 8-treadle skeleton tie-up</p> 

## Edit Block – PC version only

The editing of blocks is possible in the PC version of Fiberworks.

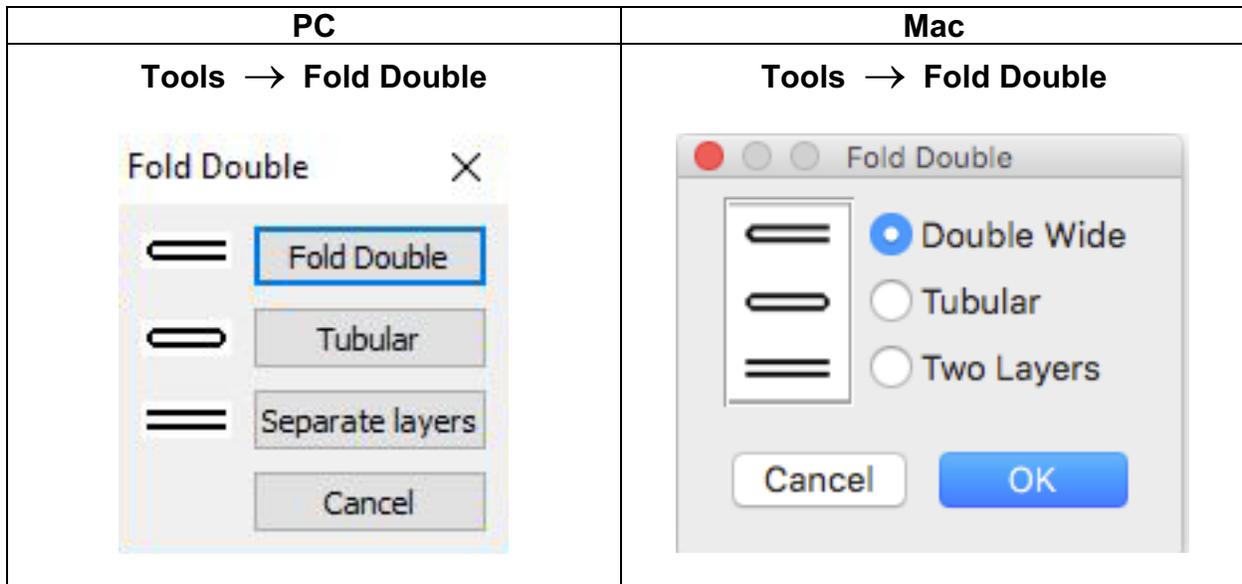
- Select **Blank** (at the top of the list) or weave structure from the list
- Click the **Edit Blocks** button.
- A window like the one below will appear



- In this window, the parameters of the blocks may be adjusted. Note – It is not possible to save the block edits, so be careful before clicking on **OK**.

## Double Weave

**Fiberworks** can automatically transform a draft into a double weave pattern,



Any draft up to 8 shafts can be folded to create a double weave or double width weave

- Fold Double – requires double the number of shafts and treadles in the original draft
- Tubular – The rotation of the shuttle connects both sides with one shuttle used in the following order: top, bottom, top, bottom. There are no selvages in a tubular weave.
- Separate layers – Requires two shuttles

## Shaft Shuffler

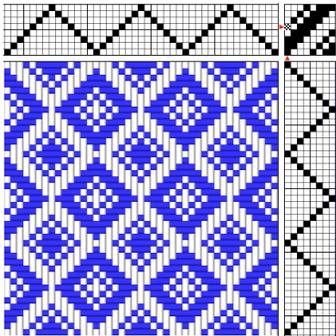
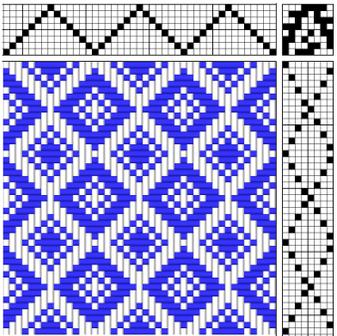
**Fiberworks** has a tool that allows the order of the shafts and the treadles in a draft to be rearranged without affecting the drawdown. The tie-up or Liftplan is automatically adjusted.

PC	Mac
Tools → Shaft Shuffler	Drawing → Shaft Shuffler Draft toolbar → 

When you select the **Shaft Shuffler**, the mouse cursor turns into a shape with two arrowheads.

Threading	Treadling
	
<p>When the cursor is over the threading, the arrows are positioned up-and-down.</p> <p>Click on the shaft to be moved and drag it up or down to the new location. A red line will indicate the shaft being moved. Every warp end on the shaft being moved is relocated to the new position.</p>	<p>When the cursor is over the treadling, the arrowheads face side-to-side.</p> <p>Click on the treadle to be moved and drag it to the left or right to the new location. A red line will indicate the treadle being moved. Every weft pick end on the treadle being moved is relocated to the new position.</p>

When a draft has a liftplan, the **Shaft Shuffler** will adjust both the warp ends and liftplan simultaneously. The drawdown remains unchanged. If you click and drag within the liftplan, the threading will be adjusted also. Below is an example of a draft with a point treadling (left) with the treadles reshuffled (right) into a *walking* treadling.

Original draft	Draft with reshuffled treadles
	

## Copying Drafts into Documents

### Edit → Copy Image

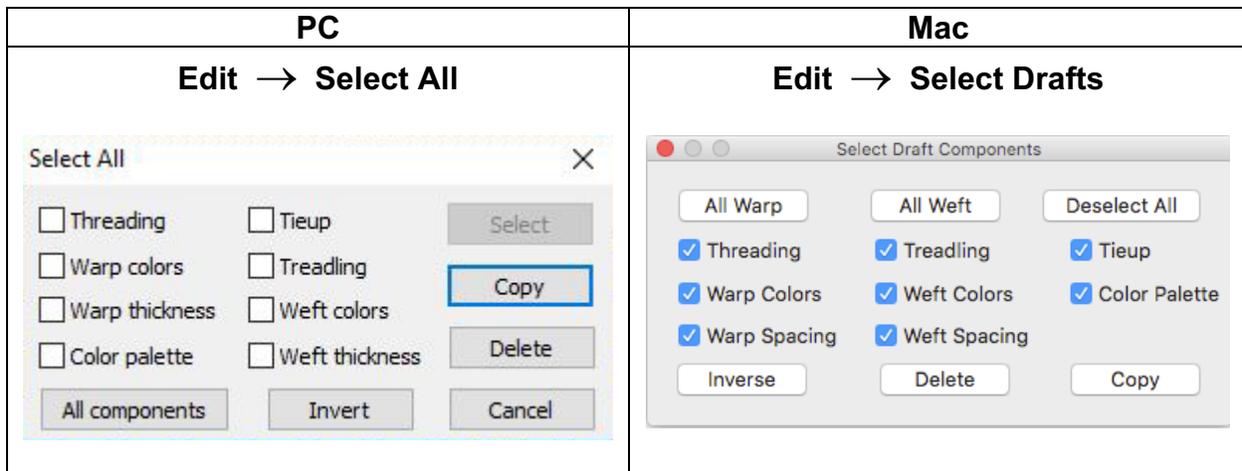
To quickly and easily copy a draft from **Fiberworks** to a document (e.g., MS Word), select **Copy Image** from the **Edit** menu. This will place the entire active window into the computer's memory. Then go to the document application the draft will be inserted into and select **Paste** from the application's appropriate menu.

### A couple of things about **Copy Image**

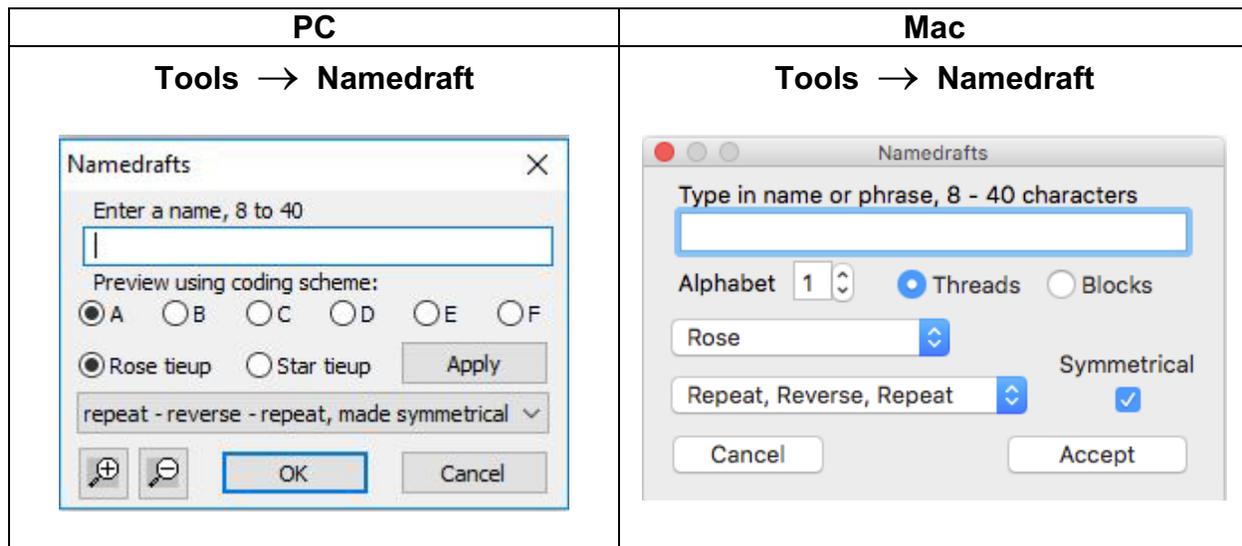
- Since it copies the content of the active window, it is possible more than the draft will be in the image.
- To capture the entire draft, it is necessary to have the entire draft in the active window. Any part of the draft that does not appear in the active window will not be copied.

## Deleting and Copying Components of Drafts

Each component of a draft (e.g., threading, treadling, tie-up, colors, etc.) may be copied or deleted using the **Select All** (PC) or **Select Drafts** (Mac) feature. When selected a window opens up where components may be selected or deselected by clicking on the check boxes next to the various components. Multiple components may be selected or deselected. When selected it includes everything within the draft component. For example, if the tie-up and treadling from a draft is copied to be pasted into another draft, the entire tie-up and treadling sequence will be included.



## Name Drafting



Name drafting is a fun way to create a design from a name, phrase, etc. **Fiberworks** allows name drafting to create four-shaft overshot designs.

**Step 1** - Start with a blank drawdown window

**Step 2** - Go to **Tools** → **Namedraft**

**Step 3** - Type a name or phrase into the text box. A minimum of 8 characters is required. The maximum is 40 characters. The more names or the longer the phrase, the longer the threading will become.

**Step 4** – Click on **Apply**. This will create a draft for review.

**Step 5** - Adjust the parameters and click on **Apply** until the desirable pattern is achieved.

**Step 6** – Click on **OK** (PC) or **Accept** (Mac) the draft pattern.

## Sketchpad (PC version only)

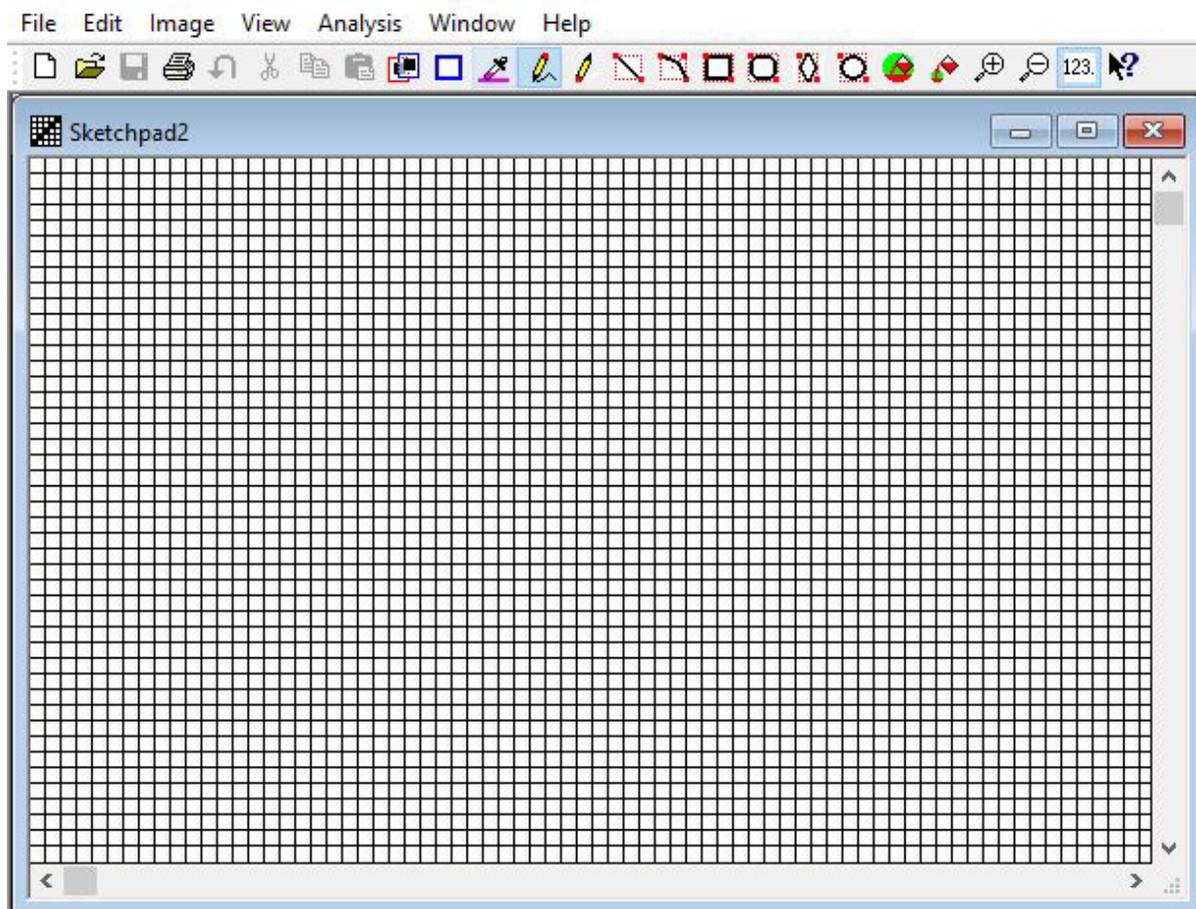
### File → New Sketchpad

**Fiberworks** may be used for fabric analysis and develop a draft while figuring out how fabric was created. The **New Sketchpad** feature on the **File** menu creates a unique editing mode.

By choosing New Sketchpad, a window opens with a grid. Above the grid are drawing tools.

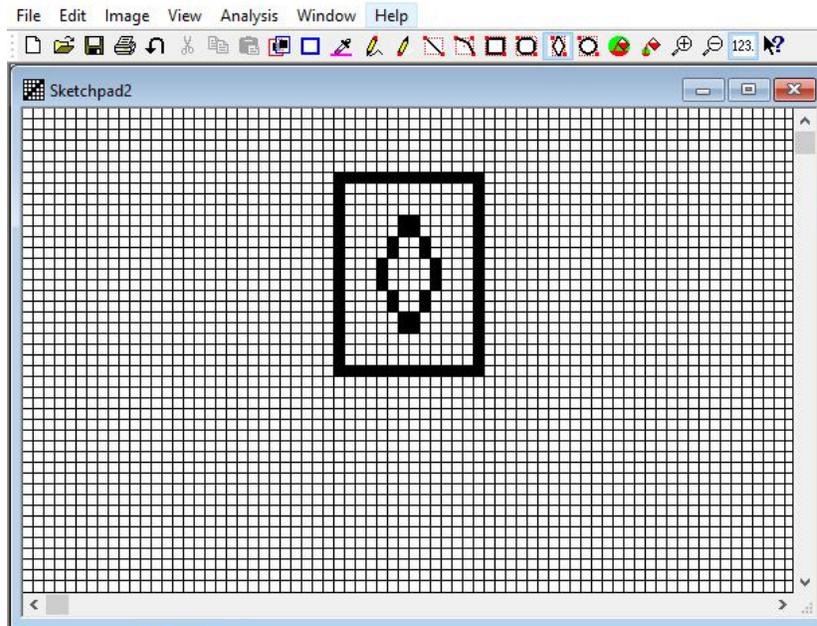


### Sketchpad Drawing Tools

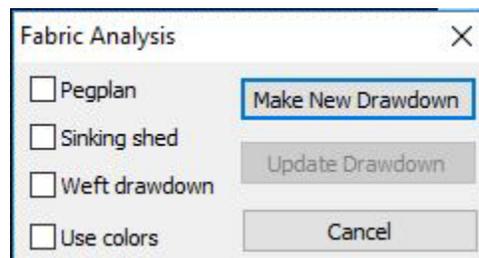


### Sketchpad

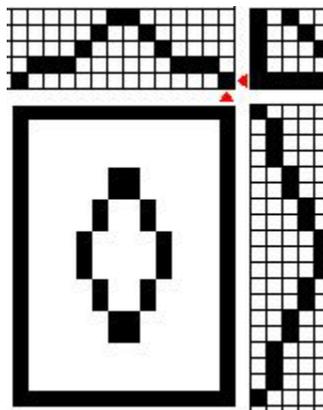
Using the drawing tools, it is possible to create designs on the grid.



When the design is complete, go to **Analysis** → **Make Drawdown**. The window below will appear.



Click on **Make New Drawdown** and a profile draft will be created.

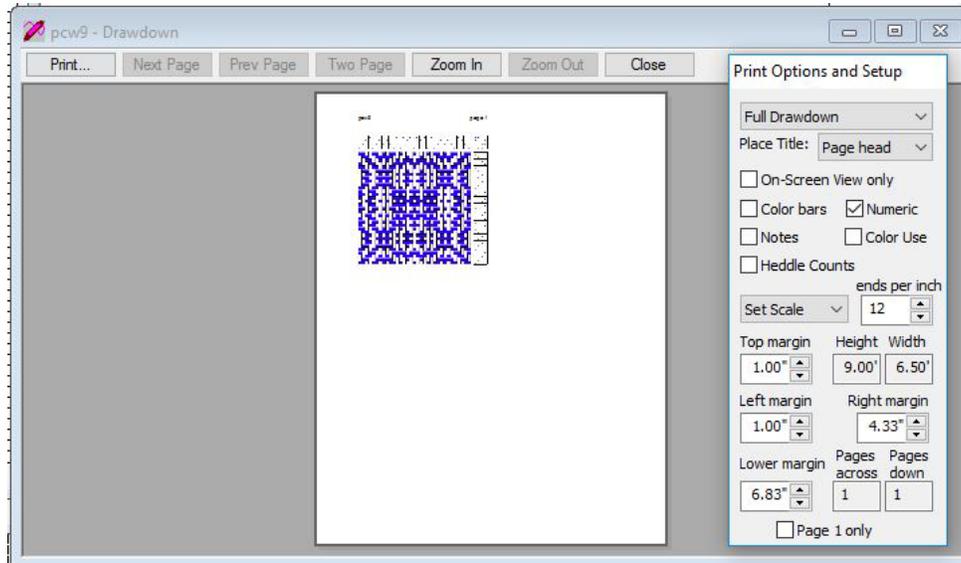


Use **Tools** → **Block Substitution** to create a weaving draft from the profile draft.

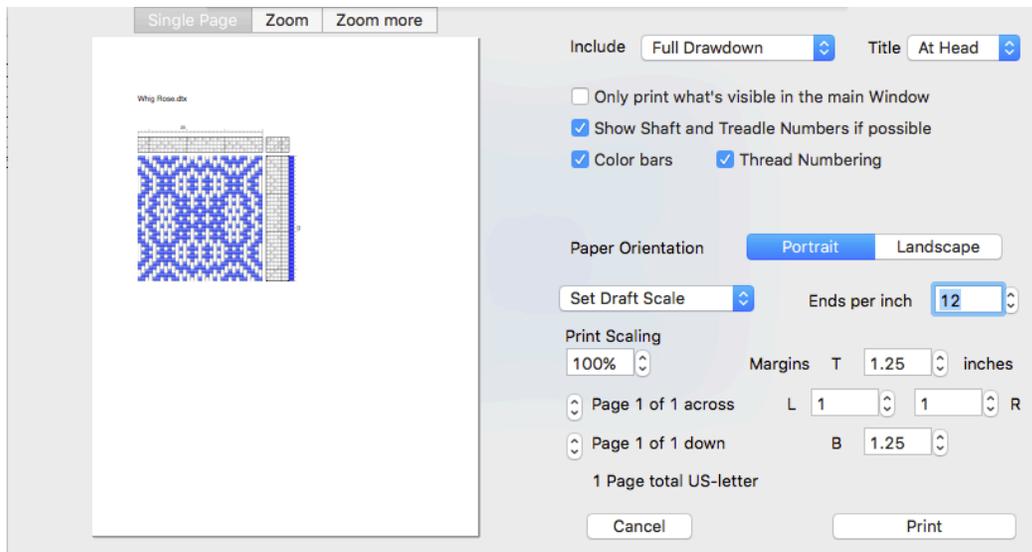
## Printing

Drafts and components of drafts may be printed. **Printing is also a way to get the threading, tie-up, and treadling in numbers.** Below are the PC and Mac screens that appear when the print command is selected from the **File** menu.

### PCs - File → Print Preview

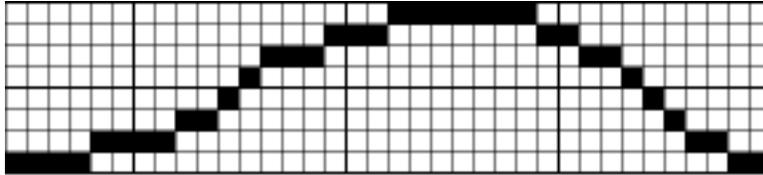


### Macs - File → Print



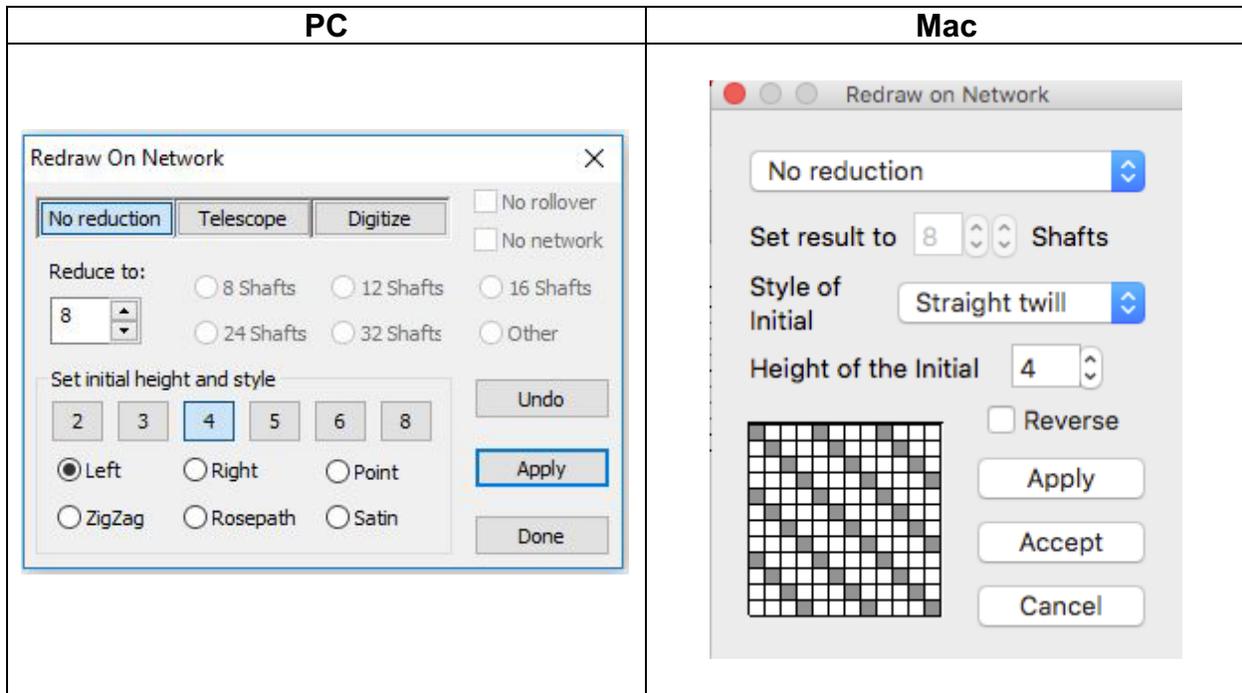
## Network Drafts

Using the **Freehand Draw** tool, draw a curving line in the threading and/or the treadling area.

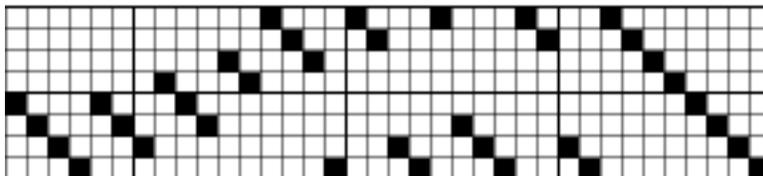


**Warp** → **Redraw on Network**

**Treadling** → **Redraw on Network**



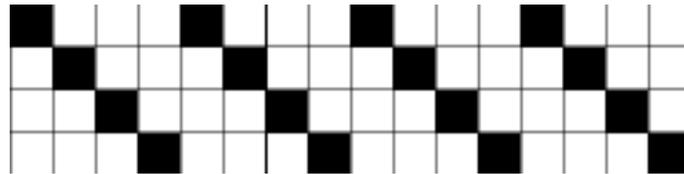
Adjust the parameters of the network components and click **Apply**.



## Integrated Threadings and Treadlings

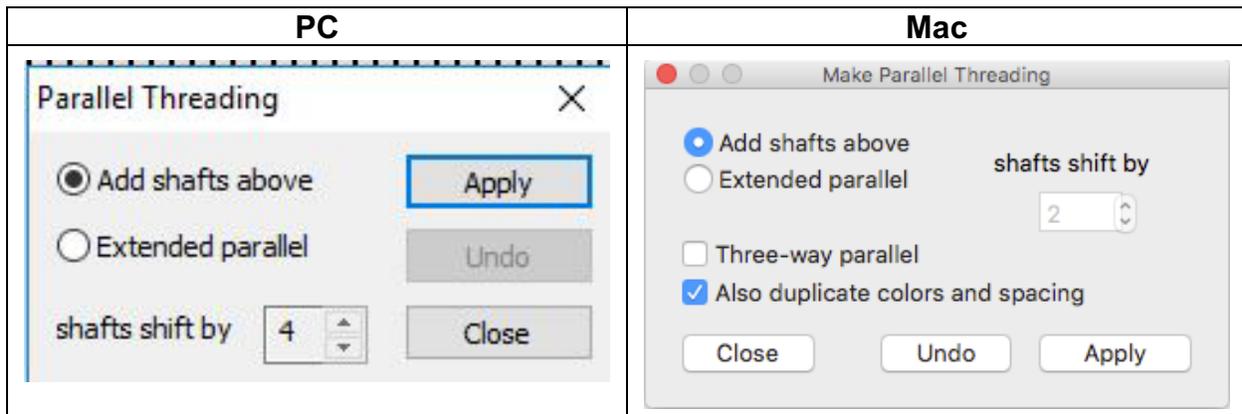
**Fiberworks** provides the ability to integrate threading and treadling sequences.

Start with a threading or treadling sequence

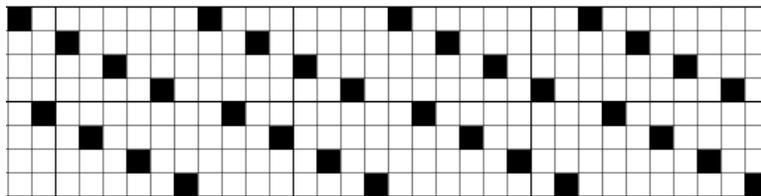


**Warp** → **Parallel Repeat**

**Treadling** → **Parallel Repeat**



Selecting **Add shafts above** or **Add treadles right** (PC) or **Add extra treadles** (Mac), the original sequence is duplicated by adding shafts above the original sequence for the threading or adding treadles to the right.



Selecting **Extended parallel**, the original sequence is interleaved with the same sequence without increasing the number of shafts or treadles, but offset by the number in the **shafts shift by** box.

