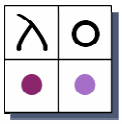

Knit Visualizer

User Manual

Presented by
The Knit Foundry: building better tools for knitters
http://www.knitfoundry.com

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What is Knit Visualizer?

Knit Visualizer was created to make it easy for you, the knitter/designer, to create charts from a stitch pattern and modify those charts easily. Why charts? Charts give you a chance to understand how a stitch pattern looks, what two repeats side by side look like before you ever sit down with needles and yarn. Want to change where you start knitting the pattern? That is much easier to do when you can see which stitches line up on top of each other in a chart and how the repeats interact with each other.

Knit Visualizer contains an extensive palette of knitting stitches that you can easily paint onto your chart. From lace, complex cables and color work, you can do it all easily. The symbols are clear and easy to read. You can easily zoom in/out to determine the best viewing size for your particular chart. High resolution export makes including Knit Visualizer charts in your pattern easy and with no necessary manipulation in a secondary graphics editor.

The Knit Visualizer parser will interpret a stitch pattern and build the chart for you. This gives you an excellent starting point for combining different patterns, changing the edge stitch/pattern or whatever you need to do to make the pattern work for your project.

Printing is a snap with multiple layout options for the chart, auto-generated legend, notes and more. A Print Preview screen shows exactly how your chart will look on paper. Printouts can be scaled down to fit more on a page, or scaled up to make the chart easier to read. A large notes area for each chart will let you put special instructions, even a full pattern with your chart. Chart, title, author, notes, and Chart Properties (including font size, row number preferences) are saved in your save file.

For the creative person - Knit Visualizer can also be used to chart out weaving treadle sequences, cross stitch charts, any type of pattern that requires a grid to organize the symbols.

If you are new to knitting using charts, be sure to check out the tutorial available from The Knit Foundry website http://www.knitfoundry.com/freestuff.html

How to Read this Manual

The manual covers installation, use of the software and a lot of tips and tricks. Throughout the document you might see these items:

This will be in front of a tip that will help you navigate a window or dialog using keyboard shortcuts.

Information about the application

k2p2

Text displayed like this is meant to be typed into the Pattern Entry text field.

This icon means a difference in the application for Mac users

Important Note On Reading-The-Manual-Even-If-You-Don't-Want-To

I know most people don't want to read the manual. I hardly blame you. However, there are a lot of scenarios related to custom stitches that are covered in that section that you should know and

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understand. Things like where the custom stitch information is saved. Or maybe - What happens if you delete a custom stitch from your library and then open a chart that used that custom stitch? If you are suddenly interested, please read on.

For Frequently Asked Questions (FAQs) and other related items (like the latest version of this manual), please see http://www.knitfoundry.com/software.html

Installation

Knit Visualizer is available for the following platforms: Windows XP, Windows Vista & Mac OS X 10.4+ (including Leopard, 10.5.x). Instructions for installation on your specific platform can be found here. The instructions for installing the Demo and the full application are the same.

It is recommended that you uninstall (Windows) or delete (Mac) the Demo or any previous versions of Knit Visualizer before installing the full version.

Windows Vista: Download and CD

System Requirements:

Disk Space	approx 65MB
Memory	512MB or more recommended
Screen Resolution	1024x768

The Vista installation is very similar to that of Windows XP, with a few exceptions:

- To install into the default C:\Program Files\Knit Visualizer location **you need to have administrative rights on your computer**. If you are not an administrator, right click the installation .exe file and select "Run as Administrator". You will need to know the username and password of an administrative user to continue. If you don't have administrative rights you can install it anywhere else that you have permissions.
- There is no charts directory under C:\Program Files\Knit Visualizer
  Vista doesn't let mere mortals write into this area of the file system, so your file save dialog should default to opening into your Documents directory.

When you first run the installer, Vista will show you a dialog that says "An unidentified program wants access to your computer" and say it's from an Unknown Publisher. This is normal. Click "Ok" to continue with the installation as shown in the Windows XP section.

Windows XP: Download and CD

System Requirements:

Disk Space	approx 65MB
Memory	512MB or more recommended
Screen Resolution	1024x768*

* All versions of Knit Visualizer will startup at 1024x768 resolution, unless it detects a lower resolution value. Prior to version 2.0 to force it into 800x600 follow these steps:
  - Run Knit Visualizer
  - Right click on the task bar and select Task Manager OR you can use Control-Alt-Delete to get to it

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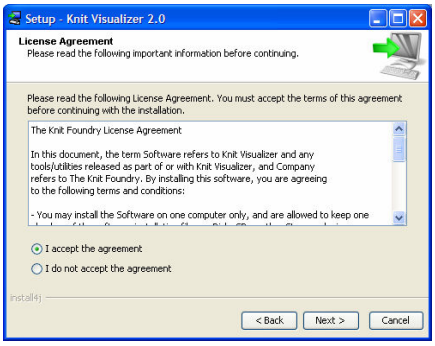
Older processors (more than a few years old) might have difficulty running Knit Visualizer due to the graphics-intensive nature of the application. More memory is always recommended and will improve the performance of Knit Visualizer accordingly. A dedicated video card isn't required; but even one that has 64MB of memory will improve your system's performance while running Knit Visualizer.

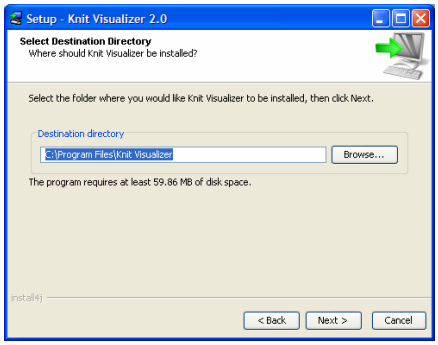
Once you have the installation exe file (either via download, or on a CD), browse to the file and double click it to begin the installation. Below you will find the important screens in the installation process, with an explanation of their purpose. If you received Knit Visualizer on CD, the CD should auto-play the installation program for you when you insert it into your CD drive on your computer. If not, open the CD in Windows Explorer, and open the Windows directory. Double click the exe file to begin the installation.

Important Installation Steps



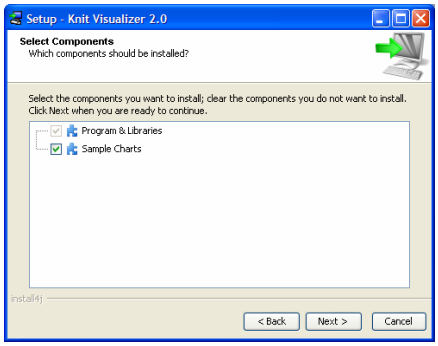
License agreement

You must agree to the license in order to install Knit Visualizer. Selecting "I accept the agreement" will enable the Next button.



Destination Directory

Select where you would like to install Knit Visualizer. The default is `C:\Program Files`



Select Components

You are required to install the Program & Libraries. Installing the Sample Charts is optional. It is recommended to install the Sample Charts so you will be able to view some pre-existing charts to get an idea of what you can create in Knit Visualizer.

- Make sure the Applications tab is selected
- Find the Knit Visualizer entry, and right click on it. Select "Maximize".

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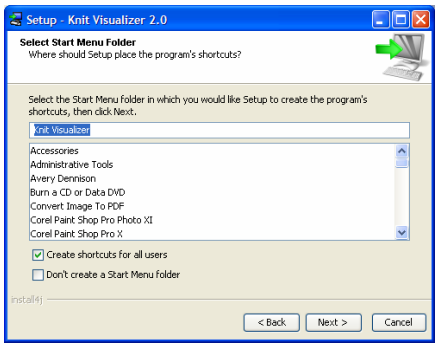
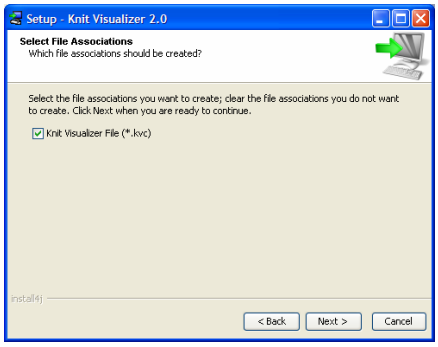


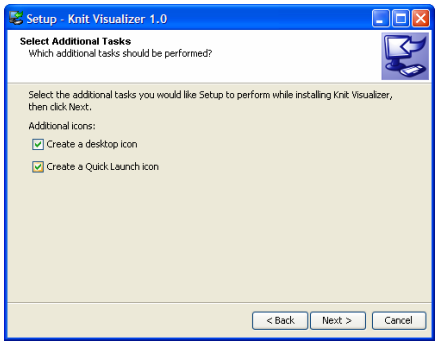
Select Start Menu Folder

In Windows, you access programs from the Start button, All Programs Menu. The default name of the folder placed there is Knit Visualizer.



Select File Associations

You can choose to associate the extension .kvc with Knit Visualizer. This will allow you to open the application by double clicking on a saved chart file.



Select Additional Icons

You can create a desktop icon, and/or a quick launch icon. If you unselect both of these, you will still be able to access Knit Visualizer from the Start button, All programs menu.

Finish

After a progress dialog displays the files being copied, you will be shown this last screen. You can run Knit Visualizer immediately from this screen.

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Mac OS X

System Requirements:
Mac OS X 10.4.x or 10.5.x
Administrator privileges are recommended
Disk Space approx 10MB
Memory 512MB or higher recommended
Screen Resolution 1024x768

In order to use Knit Visualizer on your Macintosh, you must first verify the proper system files are available. Using the Finder, find the path: "Applications → Utilities → Java"
You should see J2SE 5.0 listed. If not, follow these directions to install the proper files
You can download the JDK from the apple site at

http://www.apple.com/support/downloads/java2se50release3.html

(There might be a later version available, Check http://developer.apple.com/java/download/ for info)

When the Java download completes, you'll be prompted if you want to continue installing or not. Select "Continue" several times, Agree to the license agreement, Continue until prompted for the Administrator password (enter it). You should finish with a message "The software was successfully installed"

You can also use the Software Update mechanism to find and install the new version of Java. Refer to the documentation included with your computer for how to use the Software Update tool.

Install Knit Visualizer on Macintosh: Download

You will download a file named* `KnitVisualizer2.0.dmg` . After the download is complete, your system should automatically mount the file as a drive for you. As the file is mounted, you will be prompted to agree to the license to use Knit Visualizer (unless you're installing the Demo). Agree to the license, and once the file is mounted, open the Finder application and open the mounted drive, to find the Knit Visualizer, Save File Converter apps and the Sample Charts directory. Simply drag the Knit Visualizer application to your desired location. If you use /Applications, then you will need to authenticate as an administrator on your computer. If you use your user ~/Applications directory, you won't need admin privs.

If you have previously used an older version of Knit Visualizer you should also copy the Save File Converter program.

You may copy the Sample Charts directory to anywhere on your system.

Install Knit Visualizer on Macintosh: CD

Put the CD into your CD drive. Open the Knit Visualizer CD icon. You'll see a Mac OS X directory. Browse to that directory, then simply drag the Knit Visualizer & Save File Converter application to the desired location. If you use /Applications, then you will need to authenticate as an administrator on your computer. If you use your user ~/Applications directory, you won't need admin privs. The Sample Charts directory at the root of the mounted disk is valid for both Windows and Mac systems - You may copy the Sample Charts directory to anywhere on your system.

Once the installation is complete, you can Eject the temporarily mounted drive in the Finder.

* Version number or name might be slightly different

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Creating a file association for .kvc files

To create a file association for .kvc files follow these steps:

1. Find a chart file that ends in .kvc (you can use the Sample Charts provided for this)
2. Right Click and select "Get Info"
3. Find the section labeled "Open with:"
4. Select "Other…" from the drop down in that section
5. Choose to enable "All Applications" from the drop down
6. Select "Always Open With" checkbox
7. Browse to where you dragged Knit Visualizer to install it
8. Highlight Knit Visualizer
9. Click Open
10. Back in the Info dialog; click the "Change All…" button.
11. Accept the change in the dialog

Running the program

Windows XP

Double click the Knit Visualizer.exe file from the Windows File Explorer, or click on the desktop or quick launch icon created during installation. The splash screen will appear while the application is being loaded. Once the main window is visible, you may begin editing and creating charts.

Mac OS X

Browse to where you installed the application and double click the icon. The splash screen will appear while the application is being loaded. Once the main screen appears, you may begin editing and creating charts.

A note on keyboard shortcuts: Throughout the manual, keyboard shortcuts will be listed for most operations. They will be listed as "Control-<key>". On the mac substitute "Command" for the word "Control" and the shortcuts will work as described.

UnInstalling Knit Visualizer

To uninstall Knit Visualizer, simply find the Knit Visualizer Uninstaller (on Windows). Double click the item, and follow the prompts. Any charts you have created or altered in your Knit Visualizer program directory will remain after uninstallation. Please note you will not be able to read .kvc files once the program is uninstalled.

For Mac OS X, you simply drag the application(s) to the trash can.

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Change History

This section details out changes made to Knit Visualizer since the original release. More recent changes are listed first.

Version 2.1, December 2008

This release includes some bug fixes as well as a few new features.

- Import Chart feature
- Change the text that is associated with Legend, Notes, Pattern, etc in Application Preferences
- Bug Fixes
    - Pattern Parsing fields are hidden by default on the main window (use View -> Hide pattern Entry and unselect to see them)
    - Notes allow all characters now
    - Legend shows symbols in correct size
    - Certain Legend fields are editable on the Print Preview window (be warned: nothing is saved if you change it here)
    - Background of chart on Windows is truly white now; no longer using the theme color which caused grey printouts/exports
    - Added option to remove header on a direct printout
    - Rows with all no-stitch stitches no longer throw exception when pattern instructions generated

Version 2.0, January 2008

Many features have been added to version 2.0. This list covers the major functionality additions. You might find other new smaller features sprinkled throughout Knit Visualizer that aren't detailed here. The core functionality of Knit Visualizer remains the same. Please read the appropriate section in the manual for more details on each new feature.

- Save File Converter – tool to convert your Knit Visualizer 1.x save files into the new format for version 2.0
- Stitch Library to create custom stitches
- Color! Color stitches, backgrounds and borders
- Stitch Replacment tool
- New keyboard combinations to handle different modes (Select, Paint, Color, Eyedropper). "m" toggles between all four modes. Use "1" to go into Select mode, "2" for draw mode, "3" for color mode, "4" for eyedropper mode.
- Application preferences: Option to paint colors (or not) when in Draw mode.
- Chart Properties
    - Starting Row number
    - Grid Color
    - Aspect Ratio (can make stitches wider than tall)
- Preview (for printing and exporting)
    - High resolution option
    - Include color in legend
- New color themes available – also available on Mac platform
- Toolbar & Menu icons have been added/updated

Version 1.2a (Windows version and Manual)

- Made Knit Visualizer 1.2 compatible with Vista.
- Documentation in Manual about installing on a Vista system.

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- All other features remain the same – there have been no updates to the Knit Visualizer software itself; just the installation.

To determine if you have the 1.2a version of Knit Visualizer, navigate to the Help -> About Knit Visualizer window. You should see VISTA in the date of the build.

Version 1.2 (of Manual) August, 25, 2006
- Added information about screen resolution

Version 1.2, August 9, 2006
- Added Insert menu with commands to Insert Column(s) to the Right/Left & Insert Row(s) above/below
- Added stitch definition for sl2kwk1p2sso (was missing previously)
- Added new stitches: k4tog, k5tog, k6tog, k7tog, p4tog, p5tog, p6tog, p7tog, nupp, incr4, incr5, incr6, incr7
- Changed Stitch Palette to separate knit related decreases from purl related decreases
- Bug fix: Exception being thrown when parsing a multi-cell stitch on as a wrong side row
- Bug fix: pattern instructions generated for multi-cell stitches were incorrectly counting number of times to repeat the stitch.
- Enhanced pattern instruction generation to recognize when a multi-cell stitch is interrupted by another stitch and change instructions accordingly
- Changed Chart Preferences to Chart Properties to better describe what it does
- Added Application Preferences to allow user to set stitch used when deleting cells, and inserting new rows/columns

Version 1.1
- Mac OS X version available
- Added ability to generate written out instructions from your chart from the Preview window
- Modfied layout of Print Preview Window, set default view percentage to 50%
- Added key bindings for common commands in the File menu
- New Chart Preferences Key Binding : Control-[(left square bracket)
- Cancel out of Preview, Print Preview, Chart Preferences dialogs using the Escape key
- Changed key bindings for increase/decrease font size from arrow keys to +/- keys
- Added Border Keybindings (using the keystroke is just like pushing the button):
    - Control-T Add Top Border to current selection
    - Control-B Add Bottom Border to current selection
    - Control-R Add Right Border to current selection
    - Control-L Add Left Border to current selection
    - Control-0 (that's a zero), Remove all borders from within the current selection
    - Control-; (that's a semicolon), Add borders around all *edges* of the current selection
- Added binding to "S" key. Type S to switch between paint and select mode. Keep an eye on your cursor to see which mode you're currently in
- Remember the last Layout used in the Preview window; even after quitting Knit Visualizer
- New Symbols: make 1 right, make 1 left
- On startup, re-loads the last chart you were working on when you quit

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Converting from Version 1.x to Version 2.x

For previous users of Knit Visualizer; you will need to convert all your saved charts from the old format to the new format. Version 1.x of Knit Visualizer used the .kct format – once you go through this one time conversion process you'll have new copies of all your charts with the .kvc extension on them.

Also, in previous versions of Knit Visualizer, you might have used the charts directory underneath C:\Program Files\Knit Visualizer to store your charts. I highly recommend that you copy your charts out of that folder, and to somewhere else on your filesystem, such as Documents or "My Documents" or anywhere else that makes sense to you.

When you run the Save File Converter, you'll see the first page of the wizard, which lets you select the files you'd like to convert. While it's not necessary, you can save time by first consolidating all your old charts into one directory. Simply click on the "Select Files/Directories" button and you'll be shown a dialog where you can choose .kct files. If you leave the "Include files found in subdirectories" checked, the Save File Converter will also scan any subdirectories of any folders that you select to find files to convert.

Figure 1 shows what the screen looks like after we have selected some files to convert.

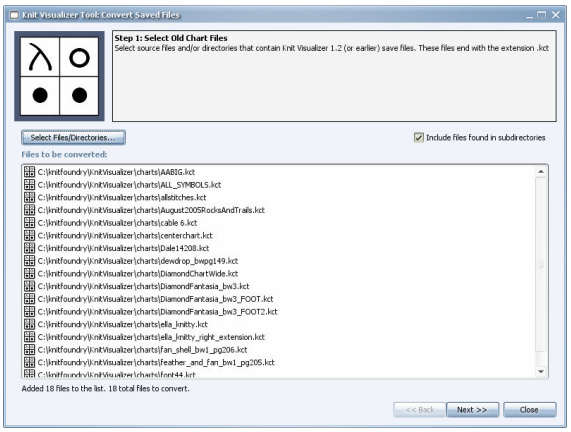

Figure 1: Save File Converter, select files

Click the "Next >>" button to proceed to the next screen, where you will be prompted to choose a destination for all of your new files.

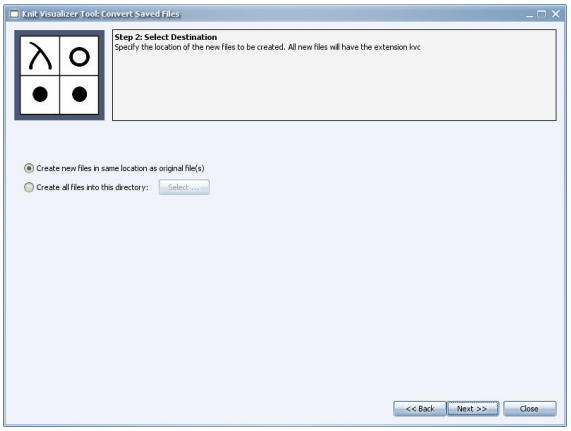

Figure 2: Save File Converter, choose destination

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The easiest choice is to let the converter create the new files in the same place as the original. Your old chart files will *not* be overwritten; as the new files will have a different filename extension. If you'd like all your files dumped into a single directory, you can choose that place here. Click on "Next >>" to come to the final screen in the conversion process. (Figure 3)

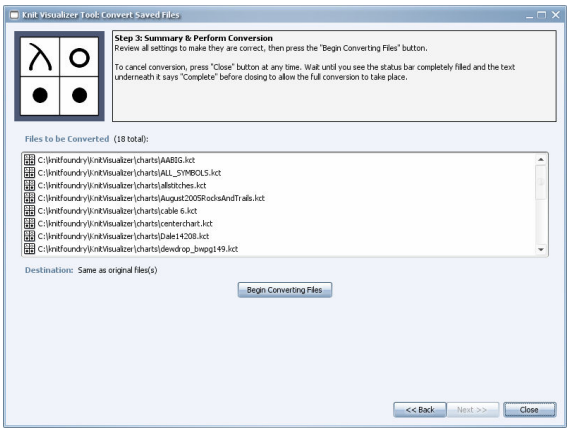

Figure 3: Save File Converter, perform conversion

Now that you have selected your files and destination, you're on the final step of the conversion process. Notice that the "Next >>" button is grayed out – that's because you'll need to click the "Begin Converting Files" button to actually perform the conversion after you check all the settings. If you decide to not convert your files at this time, you can use the "Close" button to exit out of the Save File Converter tool.

If there were errors in conversion (and this happens rarely); you'll see a dialog with details. If you happen to run the conversion process more than once on the same file, the Converter will *not* overwrite an already existing .kvc file. It will instead append -1 or -2 or -3 (up to -9) to the filename it creates.

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Learning the Main Window

There are several different areas of the screen that you should familiarize yourself with, as shown in *Figure 4*.

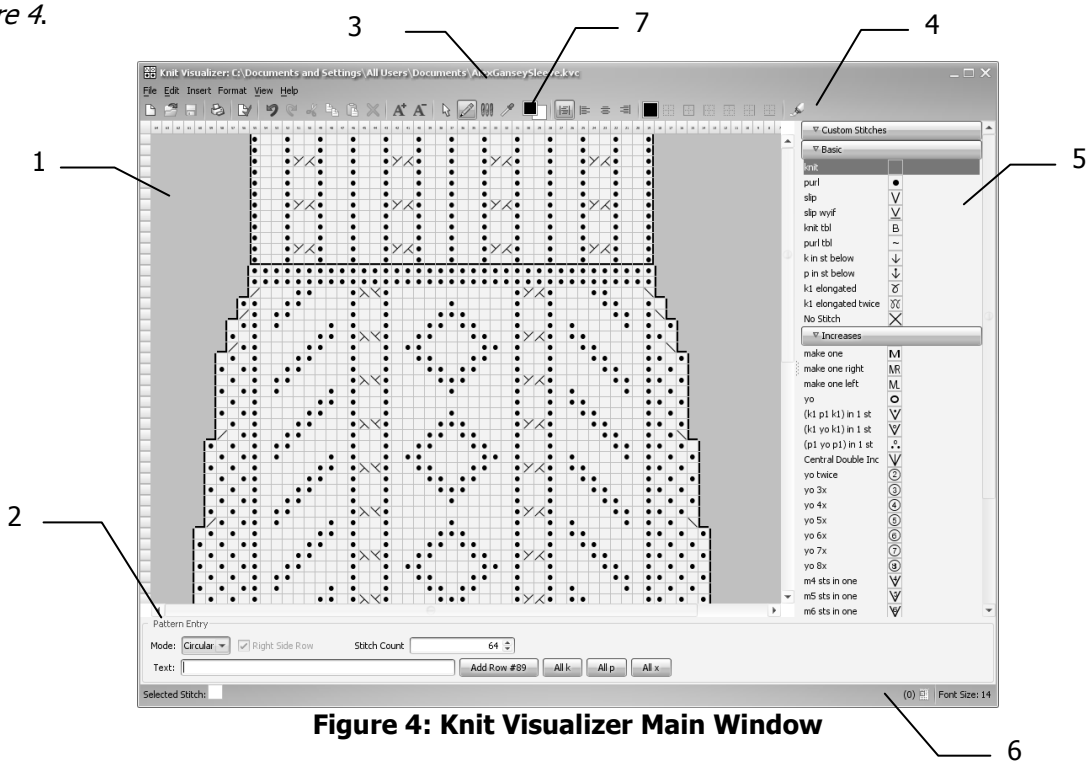

Figure 4: Knit Visualizer Main Window

1. Chart area
2. Pattern Instruction Entry area (hidden by default as of version 2.1)
3. Title Bar, shows location of file and indicator if file is unsaved
4. Menubar & Toolbar
5. Stitch Palette
6. Status Bar
7. Color swatches

This Manual will cover everything you need to know to create charts with Knit Visualizer. As a quick overview, you work with the chart in the Chart Area (1), selecting/copying/inserting rows, columns and cells, painting stitches and other operations. Each cell in the chart represents one stitch in your knitting. Sometimes it's a combination of stitches that make up a more complex stitch, such as a cable.

You use the Pattern Entry (2) area to type in pattern rows such as "k1 p2 (k2tog yo) 5 times". This will add new rows to your chart at the top (just like knitting adds new rows at the top).

The Stitch Palette (5) is what you use to select the stitches to paint in the Chart Area. Custom Stitches you create will be available in the section at the top.

The Status Bar (6) gives you information about the size and type of your current selection, the currently selected stitch and the font size used to display the chart on the screen and when printed.

When the application first starts up, the chart area will either contain a blank 10x10 chart, automatically created for you, or the last chart that you had open (as long as it was also successfully saved). If the

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chart area is empty (such as it would be after creating a New chart with 0 rows and 0 columns, or using the Clear Chart command), there is still a chart present – it just happens to contain no rows or columns. It is often best to begin using the Pattern Entry area with an empty chart. Alternately you can create a 'blank canvas' chart, that contains all knits, purls or Empty stitches from the New Chart dialog. Read the relevant sections for more details on how to use Pattern Entry and the Chart drawing tools.

Menus & Toolbar buttons

All the commands you need to access can be found either in the menus and/or in the toolbar. Many of these commands have keyboard shortcuts associated with them. This section will go over each of these commands and tell you what they do. While most of these commands are common to most software applications, there is information here that goes beyond how to open a file.

Each section also lists the keyboard shortcut, if there is one, for that command. On Windows system this shortcut will always start with Control. Mac OS X users would use Cmd (the fully little apple symbol) instead. Also, on the Mac OS X platform, some menu items are included in a menu that is named "Knit Visualizer" instead of on the File or Help menus.*

Knit Visualizer Menu – About Knit Visualizer

[Mac only] This command performs the same task as described below in the Help Menu – About Knit Visualizer.

Knit Visualizer Menu – Preferences

[Mac only] This command performs the same task as described in View Menu – Application Preferences.

Knit Visualizer Menu – Quit Knit Visualizer

[Mac only] Exits the application, prompting you to save the current chart if unsaved changes have been made.

Command-Q will invoke this command

File Menu – New Chart

Creates a new chart with prefilled cells.

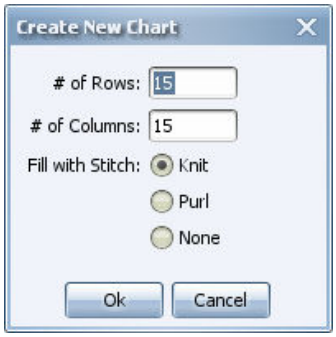

Figure 5: New Chart Dialog

* If you are using a Theme on the Mac, your menu bar will be half across the top of your screen, and half in the window of the application. Yes, it's a bit odd, but that's what you get for trying to not look like a Mac app anymore. If you really want all your menu items in the screen menu bar, use the Default theme.

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You can enter the number of rows and columns, and a default stitch for each cell to contain. To create an empty chart when you want to use the Pattern Entry mode, enter 0 (zero) for both # of Rows and # of Columns.

Before creating a new chart you will be prompted to save the existing chart if there were unsaved changes.

Use the Tab key to move between fields. The Enter key will close the dialog, as if you had pressed the "Ok" button. Use the space bar to select a radio button, once you have tabbed to it.

File Menu – Open...

This allows you to open a chart you have previously saved to your file system. Knit Visualizer chart files all have the kvc extension*. It is recommended that you create a charts directory in your Documents directory, but you can store them anywhere on your file system.

If the existing chart is unsaved, you will be prompted to save it before opening another one.

Keyboard Shortcut: Control-O will invoke the Open command

File Menu – Open Recent

Knit Visualizer keeps track of the last ten charts you opened/saved in this list for you to easily choose a recently opened file. Selecting a filename from this list will open the file. As always, if the currently displayed chart has not been saved, you will be prompted to save it before opening the new chart.

File Menu – Import

There are times when you want to easily combine two charts into one. The import functionality gives you a simple way to do this. Have the destination chart open in Knit Visualizer, then navigate through the File menu, and select Import -> Select a File … to bring up a File Chooser dialog that lets you pick a .kvc chart file. If you've opened the other chart recently, you can choose it from the list of files shown in the sub menu.

Once you've selected a file you will be shown a dialog that asks you where to put the imported chart.

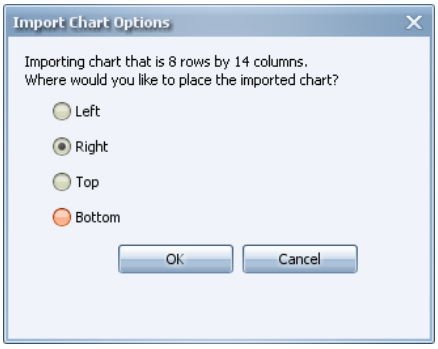

Figure 6: Import Chart dialog

When you import another chart into the existing one, you are adding to the chart, not overwriting your current chart. If you select "Right", the new chart will be put on the right side of the existing one, and

* Remember, version 1.x files were .kct; so look for .kvc files now!

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so on. The chart will remain rectangular; adding new rows or columns as necessary. Any new cells created that weren't in the open or imported chart will be created according to the Application Preference "Stitch used when adding new Columns/Rows" which can be a knit, purl or the 'no stitch'.

If you happen to make a mistake importing your chart, or don't like the positioning of it, simply use the Undo feature (Control-z) right after doing the import.

Note: Import Chart is a new feature available in version 2.1

File Menu – Save and Save As...

At any point when working on a chart, you can save it to your file system as a .kvc file. This allows you to work on the chart again later, or share it with your friends who also have Knit Visualizer. If the chart has already been saved once, using "Save" will save it again to the same location. "Save As..." lets you give a new filename to the chart. All charts are saved with the "kvc" filename extension.

Keyboard Shortcut: Control-S will invoke Save when you are in the main window.

You can tell if a chart has not been saved by looking at the Knit Visualizer's title bar. The filename of the current chart is shown there. A chart that has never been saved will be shown as "untitled". If the chart has been saved, the filename will be shown, and an asterisk (*) will be in front of the filename when it has not been saved.

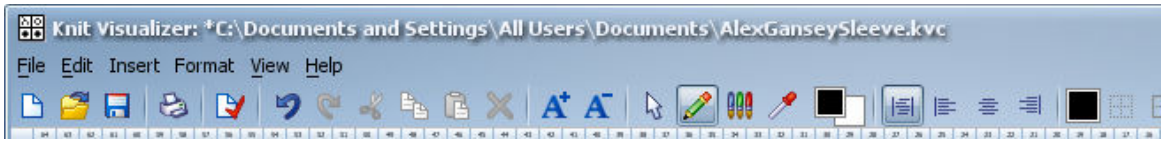

Figure 7: Title Bar showing unsaved changes

At any time if you try to do something that would close the current chart with unsaved changes, you will be shown this dialog:

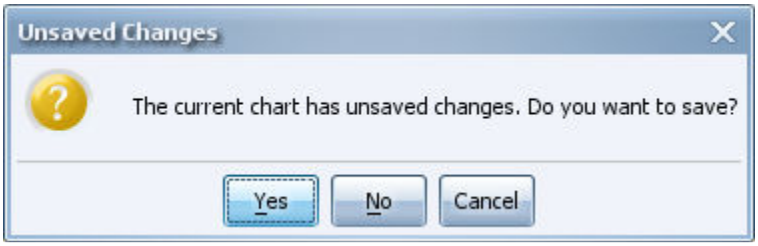

Figure 8: Unsaved Changes Dialog

Answer "Yes" to save the chart. "No" means don't save, and continue whatever task prompted the dialog. "Cancel" will abort the task (such as Exiting the program) and take you back to the main window, leaving the unsaved chart still open.

It is always a good idea to save your work often in case the cat happens to walk across the keyboard, or your dog steps on the power plug and turns the machine off.

To dismiss the dialog without using your mouse, use the Tab key to navigate to the desired button. Press the "Space" key to invoke that button.

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Don't try and open a kvc file with a text editor. While it looks like plain text, it's a special format that must exist in a specific order and have specific data in it. You could accidentally modify something in your file and lose all your hard work. If you still want to take a peek inside, that's OK (I understand, really!), but make sure to not save it after opening it outside Knit Visualizer.

File Menu – Page Setup

The Page Setup dialog lets you view and change printing related options. You can select a paper size & source, the Orientation of the chart on the page, the margin sizes and the printer to use. The specific options available in this screen are dependent on your operating system and specific printer options available. Changes made in the Page Setup dialog are in effect until you close Knit Visualizer.

You must close the Page Setup dialog either via the OK or Cancel buttons before you can go back to the main Knit Visualizer window.

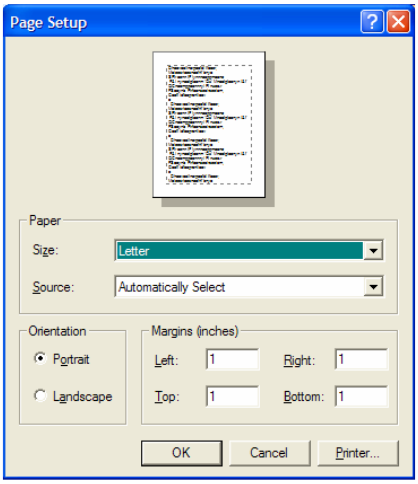

Figure 9: Example Page Setup Dialog

File Menu – Print... & Export as PNG

The two menu items **Print...** and **Export as PNG** both open the same dialog, the Preview Dialog. This dialog exists to allow you to choose what items you want included in your printout or image file. (See *Figure 10*). Both are included in the File menu to remind you of these important features.

Keyboard shortcut: Control-P will bring up the Preview window

By default the Preview Dialog shows the Title, Source, Chart, Legend and Pattern text. These field values are entered in the Chart Properties dialog (See the *View Menu – Chart Properties* section for more details). A scroll bar shows up along the right side of the window if there is more information than can easily fit on the screen. Knit Visualizer tries to make the Preview Dialog as big as it can if you have a large chart. This is to show you as much as possible, and minimize the amount of scrolling you need to do.

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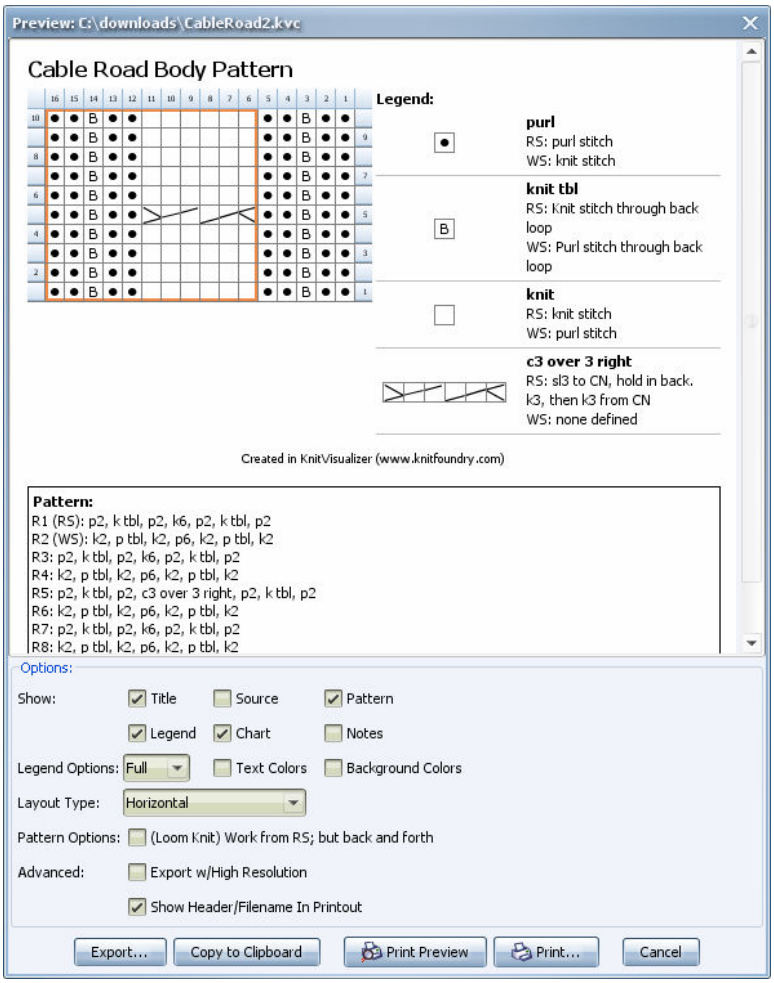

Figure 10: Preview Dialog

The size of the symbols in the Preview Dialog chart is the same size as the Main Window chart. If you'd like the chart to be smaller on paper, close the dialog, change the font size using the toolbar button, then select Print… again. The smaller the font, the more chart will be able to fit on one piece of paper.

Uncheck or check the appropriate checkboxes to affect what you see in the Preview Dialog*. What you see on this screen is exactly what will be printed, exported or copied to the clipboard.

Field	Description
Title	The title is displayed in a larger font across the very top of the chart.
Source	The source of the chart, in a smaller font than the title, displayed directly under the title.
Chart	The chart itself.
Notes	The notes entered in the Chart Properties Dialog.
Legend	The legend for the stitches in the chart. Only stitches

* To hide "Created in Knit Visualizer" tag line, use the keyboard shortcut Control-Shift-K when viewing the Preview dialog

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	included in the chart are displayed. Uncheck this box to hide the legend. The amount of information placed in the Legend is determined by the row numbering options in the Chart Properties dialog.
Pattern	Printed instructions to knit the chart.
Legend Options	Select "Simple" to see only the stitch name in the legend. Select "Full" to see knitting instructions for each stitch.
Text Colors	Include a different legend entry every time a stitch changes color. This way you can have a red purl, and a blue purl as separate entries in the legend.
Background Colors	Include a different legend entry every time a stitch has a different background color. Useful if you are using the background color to indicate knitting color in Intarsia or Fair Isle knitting.
Layout Type	How the elements are arranged together. See below.
Pattern Options/Loom Knit	Select this box if you're a loom knitter and want to always see the pattern instructions are right side row stitches, but knit back and forth.
High Resolution	Select this box to export a higher resolution image (takes more memory and time, recommended only for the final version of your pattern)
Show Header/Filename in printout	Selecting this box will always create a header for your printout that includes the filename in it. This option has no effect on a chart exported to PNG file.

All the auto generated information shown in this dialog is based on the row numbering options chosen in the Chart Properties dialog. The legend will show instructions for knitting a symbol on both the right and wrong sides if the pattern is not circular and wrong side rows are shown in the chart. The pattern instructions will mark the first right side and wrong side row as appropriate and the wrong side rows will contain the wrong side version of the stitch to knit (sometimes this is the same as the right side version, as in a yarn over)

Layouts

Knit Visualizer provides you with several layouts to choose from in the Preview Dialog. The default layout is Vertical. Select a different layout in the dropdown to change the layout, the effect is immediate and you will see the new layout. Here is a summary of the different layout types.[*]

[*] All charts generated by Knit Visualizer using "Copy to clipboard" and resized to fit on the page

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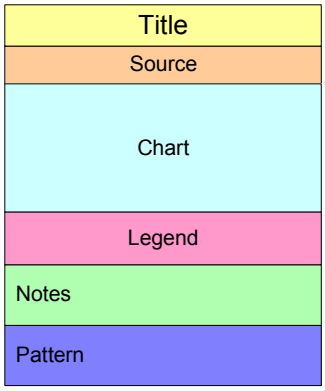
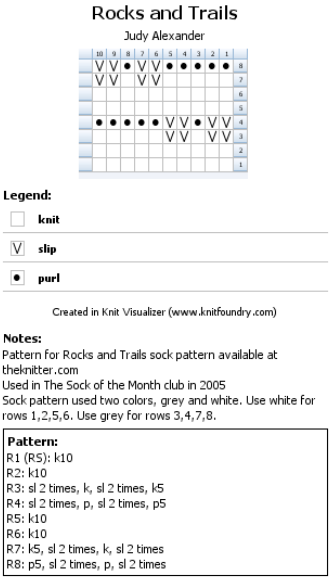
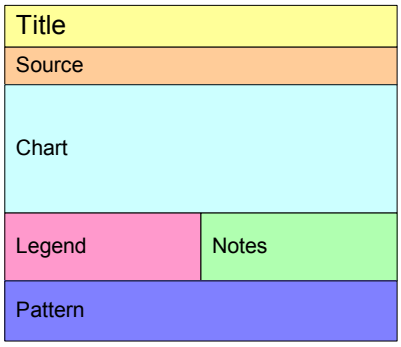
Vertical

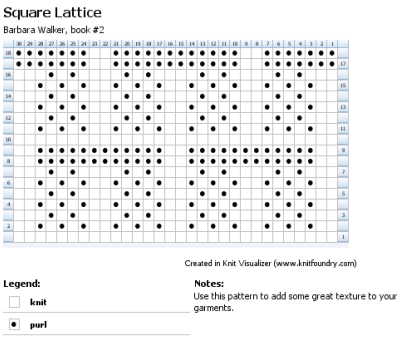
Vertical, Centered





Vertical, Wide





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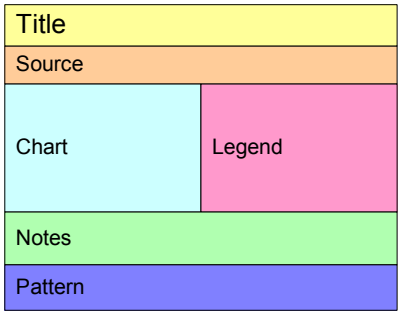
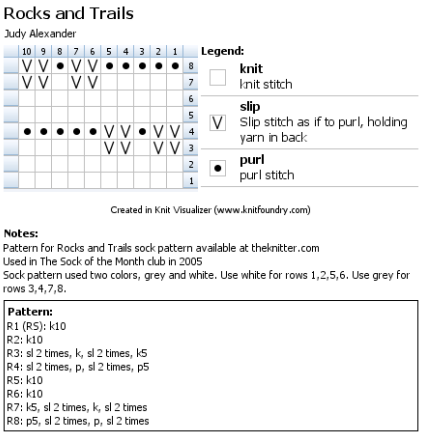
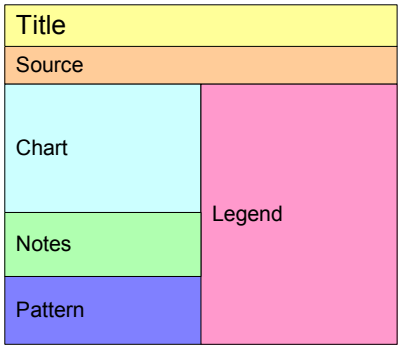
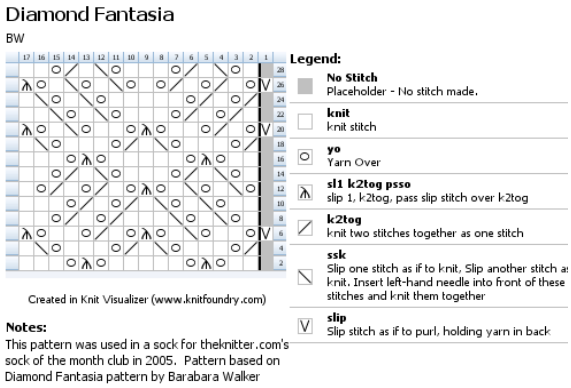
Horizontal





Horizontal (Long Legend)





We've shown the layout maps in color so you can see how each element type changes position. If an element is unselected in the Preview Dialog (eg. the notes or legend) that area will not be shown and the elements below the hidden ones will move up to take over that space.

The layout you choose depends on how many different symbols are included in your chart, the font size, note contents, and the chart width. Play around with the different layouts to find one that looks good with your charts.

Export

You can create a PNG file from the Preview Dialog. Click the "Export…" button and you will be prompted for a location to save the file. PNG files use the .png file extension. PNG stands for "Portable Network Graphic" and is a form of compressed image file that offers better quality than both GIF and JPEG. Once the file is saved to your hard drive, you can open it with any graphics imaging software, web browser, or similar application.*

Using PNG files is one of the best ways to include a Knit Visualizer chart in your own knitting pattern. Once you have created the PNG file, you can insert it into

* On very small charts, sometimes the image file created has a bit of extra white space around it. If space is tight where you are using the image, use any basic drawing program to crop out the extra white areas.

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your pattern (in Microsoft Word, or any other editor that accepts image files) and resize it according to the space available. Also check out "Copy to Clipboard" that skips the save to disk step.

Copy to Clipboard

For pattern designers, both Export and Copy to Clipboard will be extremely useful features. When writing your pattern, you want to include your chart in the pattern. Once you have the chart looking exactly as you want it to, select "Copy to Clipboard". You now have in your clipboard buffer your chart (and whatever else you decided to show) ready to be pasted into your document.* All of the charts shown in the Layout section above were inserted using Copy to Clipboard.

Print Preview

You can print directly to your printer using the Print button, or you can see how it will fit on the page(s) by using the Print Preview feature. Clicking the Print Preview button will show you this window:

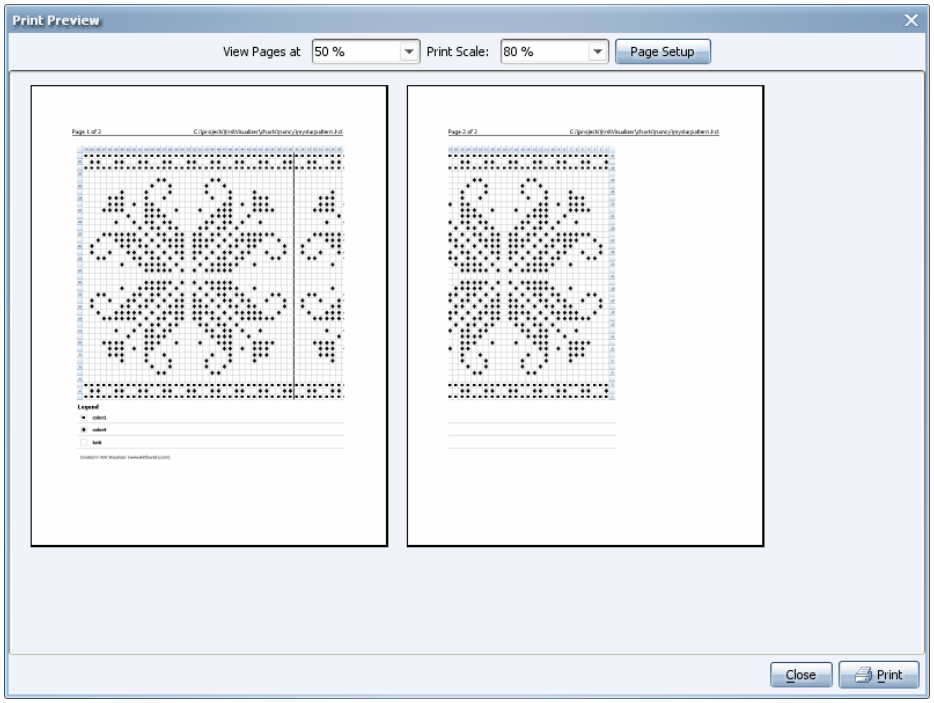

Figure 11: Print Preview window

The Preview Dialog closes when you bring up the Print Preview window. From this window you can perform the following tasks:

Task	Description
Page Setup	View and change paper size, orientation, margins, etc. This is the same command as File -> Page Setup
Print	Print the document as shown

* This has been tested on Windows XP, with Microsoft Office 2003. If you have an older version of Microsoft Word, Copy to Clipboard might not work for you. Export to a PNG file first, then include that image in your document.

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Close	Close the dialog without doing anything
View Page at %	Select a percentage for viewing the pages. The smaller the percentage the more pages on the screen at once.
Print Scale %	Change the scale of the chart in the printout. This lets you squeeze the chart onto less pages.

Note that the Print Preview is fairly memory intensive as it has to render each page. When you change the Page or Print scale percentages, all pages are re-rendered at the specified values.

Print

You can print directly from the Preview Dialog without going through the Print Preview window by clicking the Print button. It will use the options as last set in the Page Setup dialog and print exactly what you see in the Preview Dialog.

Knit Visualizer places a header on the top of each printed page containing the page number out of total number of pages, and the save location of the chart file, if the chart has been saved.

File Menu – Exit

[PC only] When you choose this option, you are closing Knit Visualizer. If the chart you've been working on isn't saved – you will be given a chance to save it before exiting. You can also exit the application by clicking on the "x" in the upper right corner of the Main Window (on Windows machines) or the red circle on a Macintosh.

Edit Menu Concepts

Many of the Edit menu commands are only available when there is something selected in the chart; or when a previous selection has been copied or cut into the buffer. For details on how to select cells, rows or columns in your chart, see the *Select Mode* section.

A selection can be either a selection of rows, columns or individual cells. All selections are contiguous, meaning that you can only have one group of rows/columns/cells selected at one time, and only one type of selection at one time. There is an off-screen storage space, the buffer, where a temporary copy is stored when you do a Copy or Cut. This section of the Manual will explain details and limitations on each operation.

Edit Menu – Undo

Many operations in Knit Visualizer can be undone by clicking the Undo button or menu item. Any alterations to the chart: painting, deleting, inserting, pattern entry parsing (once it has been entered into the chart) can be undone. If you close your chart without saving, that can *not* be undone. You are given 50 levels of undo.

Some operations only count as one undo, even though it might have affected more than one cell in the chart. For instance, when you use the Shift key to paint the same symbol many times; all of the symbols painted while holding the mouse down are part of the same undo action.

Keyboard shortcut: use Control-Z to invoke Undo

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Edit Menu – Redo

Once you have invoked the Undo command, you will be able to Redo that same command. If you Undo, then Redo – it is as if you didn't invoke either.

Keyboard shortcut: use Control-Y to invoke Redo

Edit Menu – Cut, Copy & Paste

All of these operations require that something a selection be present in the chart.

Cut will make a copy of the current selection into the buffer, and replace everything in the selection with the "No Stitch" symbol.

Copy will copy the contents of the current selection into the buffer.

Paste will fill the current selection with the contents of the copy-buffer. If the selection is larger than what the buffer contains, Knit Visualizer will repeat the buffer across and/or down to fill the space. You may not paste rows into a column Selection and vice versa, but you can paste cells into either row or column selections.

Keyboard shortcuts: Cut = Control-x Copy = Control-c Paste = Control-v

Edit Menu – Duplicate

Duplicates the current rows/columns selection to the top/right of the chart. You cannot duplicate a selection of cells.

Keyboard shortcut: use Control-D to invoke Duplicate

Edit Menu – Delete

Deletes the current selection. For cell selections, all cells are replaced with the symbol specified in the Application Preferences dialog. For row and column selections, the selected rows/columns are deleted out of the chart completely.

Keyboard shortcut: use the Delete key to invoke Delete

Edit Menu – Clear Chart

To create a completely empty (no rows, no columns) new chart, select Clear Chart. If the current chart has unsaved changes, you will be prompted to save them. This command has the same effect as File -> New Chart and entering 0 for both # of Rows and # of Columns.

Edit Menu – Mirror Selection (Horizontal & Vertical)

You can take the contents of a selection, and have Knit Visualizer mirror it vertically or horizontally. When you invoke Mirror, it takes the current selection and flips it around in the specified direction. This is not the same as rotating the selection. Note the position of the purl stitches in the following diagrams:

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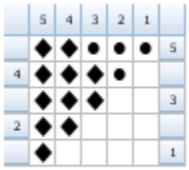
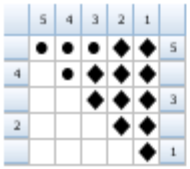
Original Chart

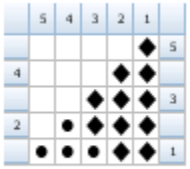


Mirrored Horizontally

Original Chart



Mirrored Vertically



Some caveats on using Mirror - Horizontal. If you attempt to mirror a cable stitch, it will flip around the symbols inside the cable, and it won't look like anything useful when it's done:

Cable Before

After Mirror Horizontal

Vertical Mirroring doesn't have that problem, as there will be no stitches spanning rows.

Mirroring works on any type of selection.

Insert Menu Overview

The insert menu contains commands that allow you to insert new rows or columns into your chart. All of the New Column or New Row commands work with whatever is currently selected in the chart. They will not be enabled if you do not have column(s) or row(s) selected respectively.

Insert Menu – Insert Copied Rows/Columns

This command is the only one on the Insert menu that requires you to have previously Copied a selection. It will not be enabled unless you have copied a selection of Rows or Columns, since this command does not work on cell selections.

Inserts the buffer into the chart based on the current selection's topmost cell (for rows) or left most cell (for columns). Only works if you have copied full row(s) or column(s) into the buffer.

Keyboard shortcut: use Control-I to invoke Insert

Insert Menu – New Columns to the Right/ Left

Once a column selection has been made, you can now insert new columns to the right or left. However many columns are selected is how many new columns will be created. For instance if you have 1 column selected, and choose "New Columns To the Right", a single column will be inserted to the right of your current selection. If you have 3 columns selected, and choose New Columns to the Left, then 3 new columns will be created to the left of your selection. The new column(s) will be selected when the operation is complete.

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Insert Menu – New Rows Above/ Below

To insert new rows into your chart, select one or more rows, then choose New Rows Above or New Rows Below. Just like with the New Columns command, however many rows you have selected will determine the number of rows created. The newly created rows will now be selected in the chart.

Format Menu – Increase & Decrease Font

You can change the size of the font used to display the symbols in the chart using the Increase/Decrease Font commands. The font size is saved with the chart; so when you re-open the chart, it will have the same font size it did when you saved it.

Keyboard shortcut: Control-+ to increase font size, and Control-- to decrease the font size.

Format Menu – Replace Stitch

If there is a stitch in your chart that you want to replace completely with another stitch (e.g. all ssk with k2tog) you can do so using the Replace Stitch tool. When you select Replace Stitch from the format menu, you'll see the dialog shown in Figure 12.

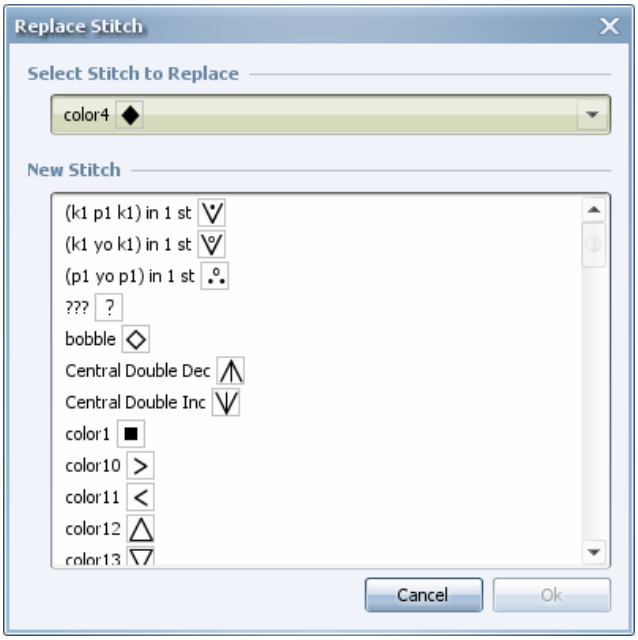

Figure 12: Replace Stitch Dialog

The top dropdown under Select Stitch to Replace, only contains stitches that are in your chart. You'll see the name of the stitch and the symbols used in that stitch.

The bottom list under New Stitch contains all the stitches from the User and System stitch libraries that contain the same number of symbols in the chart stitch. The OK button won't be enabled until you select something from the bottom list.

Once you select a stitch and a replacement, you can hit "OK" and all instances of that stitch will be replaced with the new one, including the colors of the new stitch. Borders (and any color associated with borders) will remain in place. This operation is also undoable – so if you make a mistake you can immediately use Undo to go back to where you started.

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Format Menu – Justify

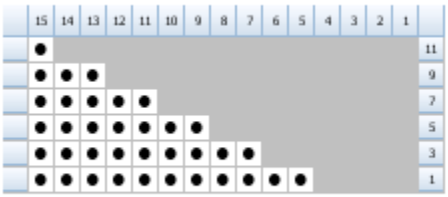
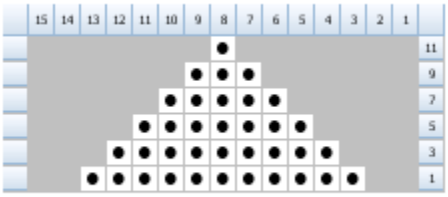
The items in the Justify menu only affect a chart that has the No Stitch included in it, and then only if those are on the edge. First though, we need to know what a "No Stitch" is.

The No Stitch Concept

In some charts, all the cells in the chart are real stitches. In other charts, the final piece has shape, such as in a sleeve, or a triangular shawl. Some lace patterns have increases on one row, and decreases on another row. To make the yarn-overs line up and look more like the final knitting, we need the ability to say "skip this space, it doesn't really exist" on those rows that have the decreases. Knit Visualizer uses the "No Stitch" symbol to represent these areas.

The Justify commands only affect a chart if there are No Stitch cells on the outside edges of the chart. Knit Visualizer decides how to allocate the No Stitch cells, based on the desired Justification. We will use an example chart to show the differences as you select the different Justifications

.

Original Chart	
None	Leave Justification as is. No changes to the chart, no matter how the No Stitch cells are placed.
Left	Justify with all symbols to the left, and No Stitches to the right 
Center	Justify with No Stitches to the left and right, balanced as possible. If there are an odd number of No Stitch cells, one side will have an extra No Stitch, but it will always be the same side. 
Right	Justify with all the symbols to the Right, and all No Stitches to the left

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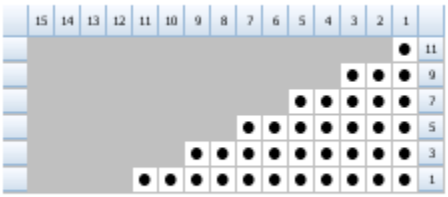
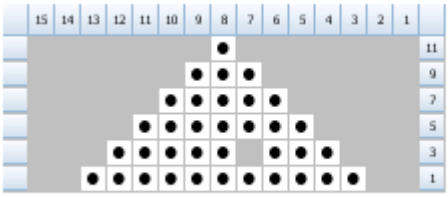


If there were any No Stitch cells in the center of the chart, those would be ignored, no matter what the justification setting. It is only the No Stitch cells on the left and right edges that are affected by the justification setting.



Keep in mind the purl stitches in the example could be anything; knits, increases, decreases and so on.

Format Menu – Borders

Many knitting charts like to indicate repeats within the chart by a line; or on very large charts mark every 10 columns and 10 rows. You can also use borders to help emphasize the cables in your cable patterns. See Figure 13 below.

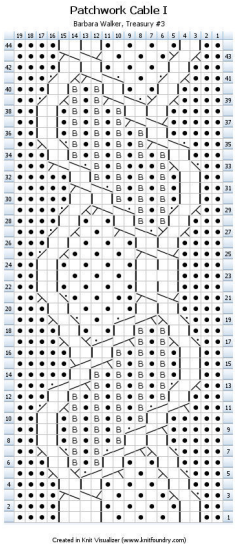


Figure 13: Cable pattern that uses borders for emphasis

Each of the Border buttons operates on the current selection, using the currently selected Border color (shown in the toolbar) and with the exception of the **Borders – None** command, will add the border indicated by the command.

None	For every cell in the selection (not just edge cells), remove all borders from those cells. Control-0 (zero)

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All	Draw borders around the outside perimeter of the selection. Interior cells are ignored. Control-;
Left	Draws a border on the left side of the selection Control-L
Top	Draws a border on the top side of the selection Control-T
Right	Draws a border on the right side of the selection Control-R
Bottom	Draws a border on the bottom side of the selection Control-B

Format Menu – Color

Starting with Knit Visualizer 2.0; you can use color in your chart. A stitch can have color (this is the foreground color); by default your stitches will use black. The area behind the stitch (the background) can have color as well. You can combine any of these to create the effect you want.

The first two commands in the Format -> Color submenu are Select Foreground Color and Select Background Color. These commands can also be invoked quickly by clicking on one of the color swatches in the toolbar.

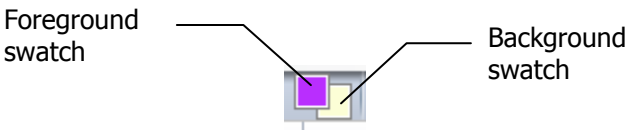

Figure 14: Foreground and Background color swatches

The color swatches in the toolbar also show you the currently selected foreground and background colors. When you first start Knit Visualizer, the swatches will be set to the default colors of black foreground, white background (shown in Figure 15).

Figure 15: Default colors

Select Foreground Color

If you click on the foreground swatch, or choose "Select Foreground Color" from the Format -> Color menu, you'll see the dialog in Figure 16.

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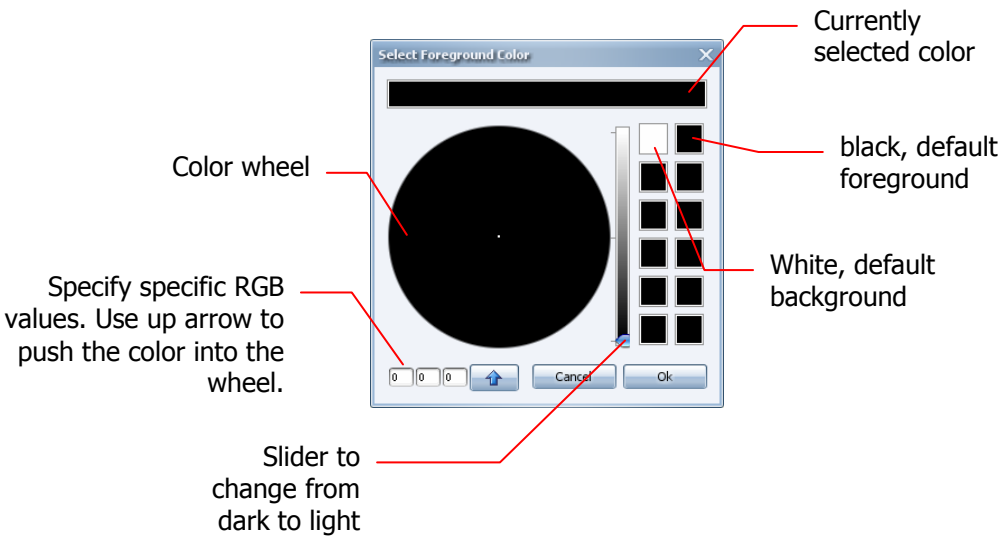

Figure 16: Foreground color selection dialog

The dialog will always show the currently selected color in the wheel portion, and the rectangle across the top. In Figure 16 it's black because that's what we started with. If you play with the slider to the right of the wheel and click elsewhere in the color wheel, you'll reveal a whole world of color, shown in Figure 17.

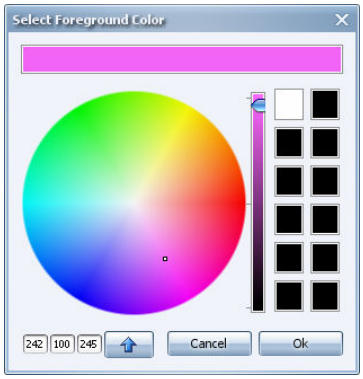

Figure 17: Choosing a color

You can move the slider down to make that color darker (adding more black into it). Or you can type in a specific RGB (Red, Green & Blue) value into the small boxes on the bottom left of the window; then press the up arrow to push that color into the color wheel.

Once you have chosen a color you like, click "Ok" to close the dialog and go back to the main window. You'll see that the foreground swatch now matches the color you chose:

Figure 18: Changed foreground color swatch

You can now click the three paintbrushes in the toolbar to enter Coloring mode, and click on a symbol in your chart to paint that symbol pink. You can paint the background color in Coloring mode by right clicking on a symbol.

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Coloring mode only lets you paint foreground or background colors, not both. If you right click in coloring mode, you'll be painting the background color. If you want to paint both colors at the same time you can change your application preference when in Drawing mode to paint both. See View Menu – Application Preferences.

Select Background Color

You can select the background color by choosing Format -> Color -> Select Background Color, or clicking on the background color swatch in the toolbar. The window will look the same as you see in Figure Figure 16, but have the title "Select Background color".

After you've selected a few different colors for foreground or background, you'll notice that the Color selection dialog shows those in the swatches on the right side. The top two swatches will always be white and black so you can get back to the default colors easily. If you want to choose another color again, simply click on that swatch again in the Color selection dialog, then click Ok.

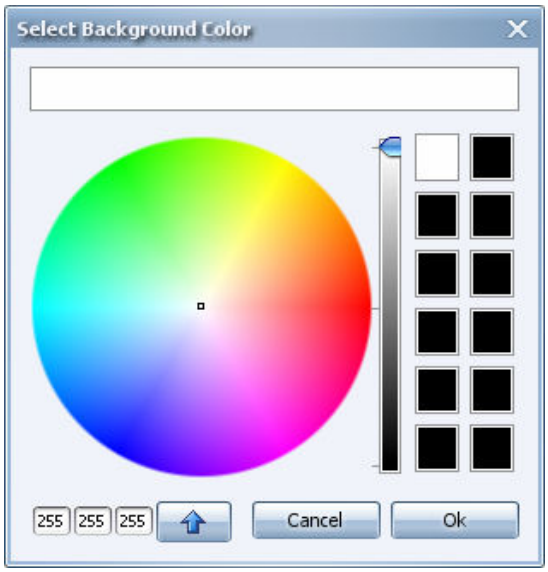
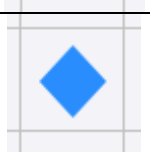


Figure 19: Color selection dialog

The following table shows you some examples of using color. When a color is changed from the default it has been made **bold** in the description.

Default colors used. Foreground: black Background: white*	
Foreground: **blue** background: white	

* If you're using a Theme, and select White as the background color, the true background might appear to have a slight tinge of color to it – that's the color provided by the theme. Switch to a different theme and you'll see a slightly different background. Screenshots for this section were taken using the Silver Moon theme, which provides a fairly true white background.

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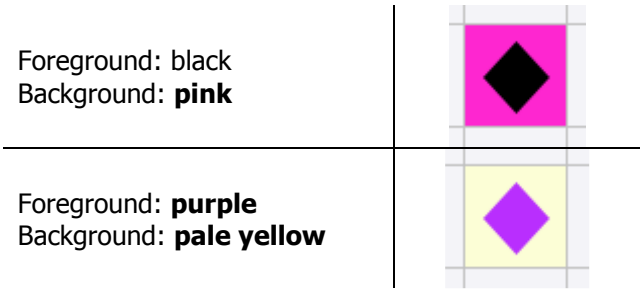

Select Border Color

You can select a different color to use for painting borders by choosing Format -> Color -> Select Border Color, or clicking on the Border color swatch on the toolbar:

Figure 20: Border color swatch in toolbar

You will see the same Color selection window as shown in Figure 16, Figure 17, and Figure 19. The default color for borders is black. Once the border color is changed, any new borders will be painted with the new color.

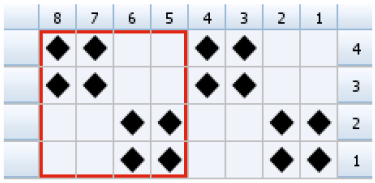

Figure 21: Using colored borders

You can use multiple colors of borders in your chart; you aren't limited to just one.

Force all Black and White

This tool will cause every stitch and background in your chart to black and white. There are cases where you can end up with knit stitches that have a color associated with the foreground (even though the foreground doesn't have a symbol) and it will show up in the Legend as a different stitch. This tool will allow you to set everything back to black and white and then start over coloring your chart.

Force Selection to Black and White

This tool will only affect the selected area in your chart; making the symbols black and the background white.

Force all to Stitch Defaults

This tool will cause all stitches in the chart to go back to their default colors. For system stitches this will be black on white, for custom stitches, they might have another default that you can set using the Stitch Library Manager.

Force selection to Stitch Defaults

This tool will cause all selected cells to go back to their default colors. For system stitches this will be black on white, for custom stitches, they might have another default that you can set using the Stitch Library Manager.

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View Menu – Chart Properties

Each chart you create in Knit Visualizer has a set of properties associated with it. In addition to changing the settings related to the row numbering, you may add a Title, Source, and Notes for a chart. See Figure 22 for what this window looks like.

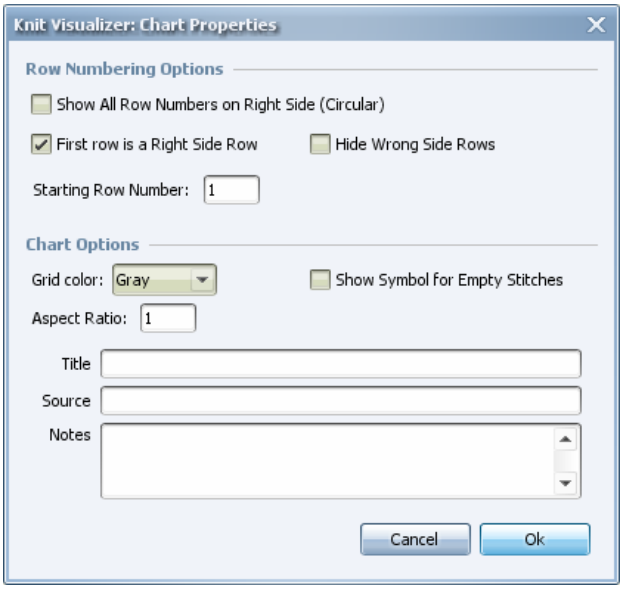

Figure 22: Chart Properties Dialog

Each of the options modifies the way the row numbers are displayed in the chart. No actual chart rows are removed if the row numbering options are changed; just the location of the row numbers. Chart Properties are saved with your chart's save file, so when you open the chart again later, all the options will be reloaded as well. If you create a New chart, the Chart Properties will remain as currently set by the last chart until they are edited. Click the Ok button to save the changes made in this dialog, and see them affect the chart. Click Cancel to close the dialog without saving any changes.

Row Numbering Options*

Show All Row Numbers as Right Side (Circular)
When this option is selected, the row numbers are all displayed on the right side of the chart, and the Legend generated in the Preview Dialog only includes knitting instructions for Right Side rows. This signals to the knitter to knit every row from the front side, since you begin knitting each row on the side where the row number is. When the chart is marked as a Circular Pattern, All other row numbering options will be disabled; as they will have no effect on the chart's row numbers.

First Row is a Right Side Row (in v1.x it was Odd # Rows on Right Side of Chart)
This option is only applicable if the Circular Pattern checkbox is unselected. If this option is checked, then the chart will have the first row number shown on the right of the chart (which is most common). When this option is unchecked, the first row number will be shown on the left.

Hide Wrong Side Rows
When this option is selected, it means that wrong side row numbers are not included in the chart. No rows are removed, only the row numbers are adjusted to reflect this option. If this option is selected,

* The labels of some of the options and meanings have been changed from prior versions of Knit Visualizer to clarify their effect on your chart.

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then there are no Wrong Side rows included in the chart, so the Legend generated in the Preview Dialog will not include Wrong Side instructions.

Starting Row Number
New in Knit Visualizer 2.0; you can specify the starting row number of your chart. This is useful if you want to use several smaller charts in your pattern and continue the row numbering from the previous chart. You can enter a negative number here, 0 (zero) or positive numbers. The very first row number shown on your chart will be this number and all other row numbers in the chart calculated according to the row numbering rules selected in the checkboxes.

Please note that Knit Visualizer is designed to only show row or column numbers up to three digits in length, so starting your row numbering at 999 is not a good idea.

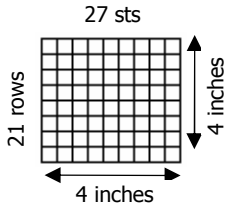
Chart Options

Grid Color
You can change the shade of the grid lines in the chart, by selecting something different in this drop down. To hide the gridlines completely, choose "None". Please note that whatever color you choose here for your gridline color will also be the color of the No Stitch background.

Show Symbol for Empty Stitches
The No Stitch stitch can also be called an empty stitch. The empty stitch will be depicted as an X on a grey background (matching the grid color) if this option is selected. If this option is not selected, then No Stitch cells will be shown with only the grey background, and no X symbol.

Aspect Ratio
To change the size of the cells in your chart to rectangular instead of square, you'll want to change the aspect ratio. To calculate your aspect ratio, you need to know how many stitches and how many rows are in square area of knitting, then divide the number of rows by the number of stitches.

For instance, a gauge swatch tells you that a 4 inch by 4 inch swatch contains 27 rows and 21 stitches. You would divide 27 by 21 to get the aspect ratio of 1.28.



$$\frac{27}{21} = 1.28$$

While you can enter a number that is less than 1, and numbers greater than 2; it isn't recommended. Stitches in the chart may not have as much vertical space when you change the aspect ratio to a number other than 1; so keep that in mind as you are viewing your chart, and the look you want it to have.

Here is the same chart with an aspect ratio of 1, and then an aspect ratio of 1.4:

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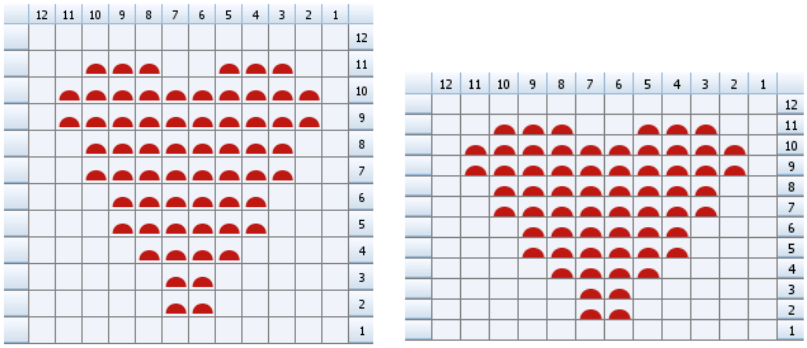

Figure 23: Aspect Ratio example

The second chart will look much more like your knitting will in size and shape.

Title
You can give your chart a title, by entering the text in this field. This title is displayed when you Print or Export your chart.

Source
It's always a good idea to give credit to the original pattern source. You can list your name, the book and pattern the chart is based on, or any other information desired. This information can be displayed when you Print or Export your chart.

Notes
This area is for any notes related to knitting the chart. This can include information on where repeats begin and end, suggested yarn, even the text of a pattern to knit using the chart. The notes can be displayed when you Print or Export your chart.

Keyboard shortcut: Use Control-[to open the Chart Properties dialog. Use Enter to save preferences and close the dialog. Use the Tab key to move between fields.

View Menu – Stitch Library Manager

To create your own custom stitches, or edit already created custom stitches, you use the Stitch Library Manager. The Stitch Library Manager will be covered in a separate section later in this document.

Keyboard shortcut: Use F3 to open the Stitch Library Manager.

View Menu – Application Preferences

You can change application wide preferences using the dialog shown in Figure 24.

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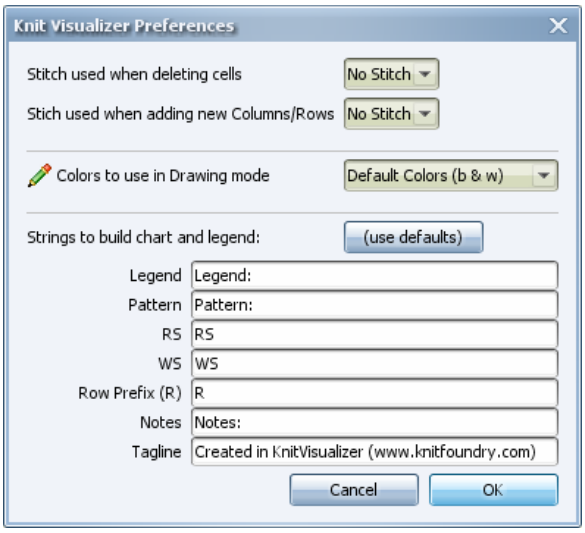

Figure 24: Application Preferences Dialog

Stitch used when deleting cells

When you select some cells (not rows or columns) and hit the Delete key, the application removes all the symbols associated with those cells. It has to fill the cells with something, and by default it fills with No Stitch symbols. If you'd like to always fill cells with something else, such as a knit stitch, change the option here. You can select from knit, purl and No Stitch.

Stitch used when adding new Columns/Rows

Inserting empty rows by default will contain the knit stitch, you may decide to use a knit, purl or No Stitch by selecting it here.

Colors to use in Draw mode

When painting symbols from the stitch palette, you have the choice to use default colors (black on white background) or use the currently selected color in the toolbar for the foreground or background, or both. If selecting something other than "default colors" for this option, you will use the colors selected and showing in the toolbar , unless painting a custom stitch that has a foreground and/or background color defined for that custom stitch.

Strings to build chart and legend

You can change the strings shown in the Preview Dialog associated with the Legend, Notes, Pattern and so on. This is very useful if you want to create a chart and legend in another language. This preference will affect all charts created using Knit Visualizer and is not chart specific. The different fields and where they are used are described in the following table:

Legend	Heading used when showing the Legend. Displays directly above the legend
Pattern	Heading used when displaying pattern instructions. Displayed inside the box, at the top, above the pattern instructions
RS	Label used to indicate a right side row in both the pattern instructions and in the legend when using the Full legend.
WS	Label used to indicate a wrong side row in both the

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	pattern instructions and in the legend
Row Prefix (R)	Text used to prefix each row number in the pattern instructions
Notes	Header used to indicate the Notes section. (Notes are entered in the Chart Properties dialog)
Tagline	Displayed underneath the chart in a smaller font than the other headers.

You can make any of these values blank (for instance, the tagline if you don't want to see it).

To go back to the default values, simply click the "(use defaults)" button and then click OK to save the change.

All application preferences are remembered even after closing Knit Visualizer. If you Clear Preferences from the About Knit Visualizer dialog, these settings will go back to their defaults.

Pressing cancel will abort any changes you made in the dialog. Pressing OK will cause the selections to go into effect immediately and be saved.

Keyboard shortcut: use Control-comma to open this dialog quickly.

View Menu – Hide Pattern Entry Fields

To see the pattern entry fields, make sure there is no check next to this menu item. The Pattern Entry fields are hidden by default (since version 2.1).

To give as much space as possible on the screen to the chart, you can hide all the pattern entry fields. Simply select the Hide Pattern Entry Fields checkbox and the Pattern Entry fields are hidden from view. To show them again, select Hide Pattern Entry Fields again (which will uncheck the checkbox, and show all the fields)

View Menu – Themes

New with version 2.0 both Mac and Windows users can change the theme used to display the windows, charts and other elements within Knit Visualizer. Each Theme has a slightly different set of colors* and also affects the colors used in the chart that is printed/exported.

The default Theme choice you will see the first time you run Knit Visualizer is the Blue Ice Theme, or on Mac the Mac OS theme. The application will remember the last Theme you selected; and start with that Theme the next time you run. The currently selected theme is indicated by the selected Radio Button in the View Menu.

On the Mac, you will need to restart Knit Visualizer before you'll see the theme change, and you'll be shown a nice dialog reminding you of that when you change themes. The other caveat with themes on the Mac is that you'll have a split menu bar. There will be the full screen menu bar across the top that contains the Knit Visualizer About and Properties items; but the rest of the menu items will be attached to the application window.

The following windows show you a sampling of the colors for each theme.

* Differences in monitors may affect the actual colors you see when you run Knit Visualizer.

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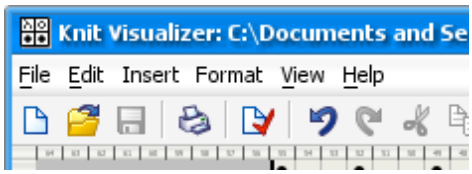
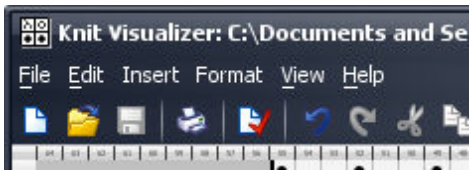
Default Theme

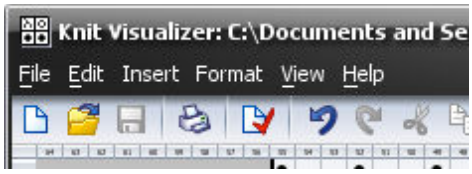
Will most closely match the look of the operating system. Example shown at right is on the Windows platform.



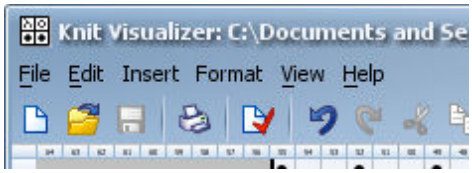
Black Star Theme



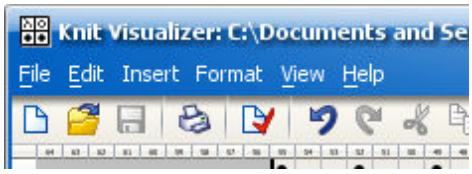
Black Moon Theme



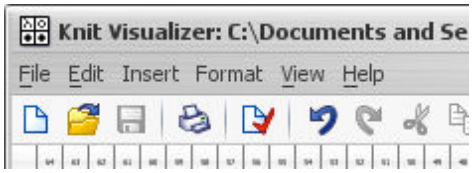
Blue Ice Theme



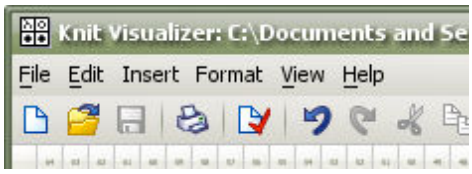
Blue Moon Theme



Blue Steel Theme

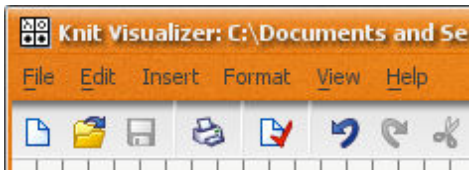


Green Dream Theme



Mauve Metallic Theme

Orange Metallic Theme



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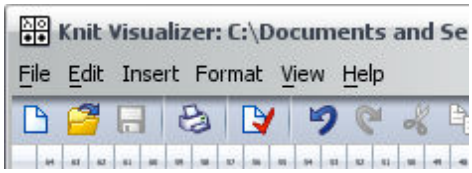
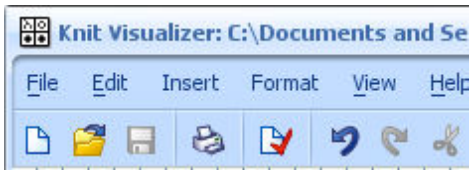
Silver Moon Theme



Sky Metallic Theme



White Vision

For consistency throughout the manual, almost all other screenshots are taken with the Blue Ice theme on a windows platform.

Help Menu – About Knit Visualizer

To learn what version of Knit Visualizer you have installed, and where to get support, open the About dialog. Figure 25 shows an example About dialog. The text within this dialog may be different in your version of Knit Visualizer.

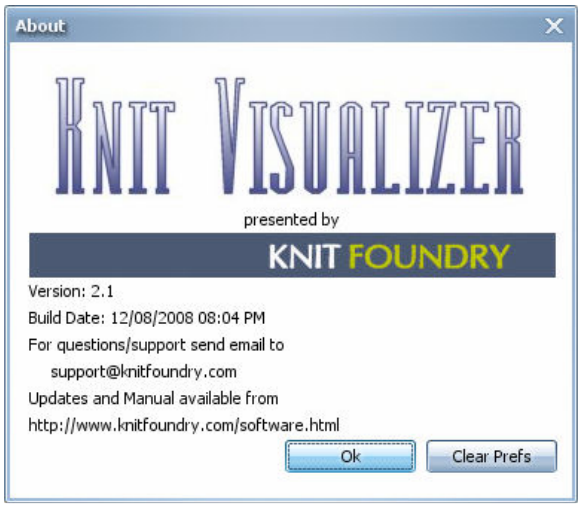


Figure 25: About dialog

Information from the About dialog might be needed if you have questions or need support. Click the Ok button to close the dialog.

The Clear Prefs button will clear out any application preferences saved, including the chosen theme, and recent files list. Preferences are not required for Knit Visualizer to function properly, but they are designed to make it easier to use. Note that the Recently Opened files list is not cleared out completely unless you close Knit Visualizer immediately after clearing the application prefs. Application Preferences are saved for you automatically as you perform actions (such as select a different Theme) in Knit Visualizer.

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Toolbar Buttons

The toolbar provides quick access to the most often used actions in Knit Visualizer. You can hold your mouse pointer steady over a button to see a quick tool tip with information on what that button does. The following table shows each toolbar button, and a short description of what it does.

	Creates a new chart
	Open a chart from your hard drive
	Save the chart to the hard drive
	Print/Export chart
	View Chart Properties
	Undo last edit
	Redo last undo action
	Copy selection
	Cut selection
	Paste selection
	Delete selection
	Zoom out, make the font smaller
	Zoom in, make the font larger
	Select mode
	Draw mode
	Coloring mode
	Eyedropper mode (select color from chart)
	Swatches showing currently in use colors (click on each box to change foreground/background)
	Justify, None
	Justify, Center
	Justify, Left
	Justify, Right
	Color used to draw borders (click on box to change)
	Border, Remove all
	Border, Add All edges
	Border, Add Left
	Border, Add Top
	Border, Add Right

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	Border, Add Bottom
	Highlight all stitches in chart that match currently selected stitch in palette.

Some toolbar buttons might be disabled, meaning that action cannot currently be performed. For instance, the Paste toolbar button is disabled if there is nothing in the buffer to be pasted. You'll see some of these same icons next to items in the menus – those have the same operation as the toolbar button.

Status Bar Information

The status bar is at the very bottom of the main window, and shows you some useful information as you work with your chart. See *Figure 26: Status Bar*.

Figure 26: Status Bar

On the very left of the status bar is the stitch that was last selected from the Stitch Palette. This is useful because the list of stitches in the Palette is very long, and the currently selected stitch might not be visible on the screen.

On the far right of the status bar is the font size currently in use. This number is in points. A 14pt font is as small as you can make the chart font in Knit Visualizer (otherwise you wouldn't be able to see any of the symbols!) If you play around with the Increase Font and Decrease Font buttons, you'll see this value change. If you wanted to pair two charts next to each other in a pattern (but not physically in the same chart), and make sure the cells were the same size, you'd check to make sure the font size was the same in both. The font size is saved as part of the chart, so whatever you select before you save the chart is what will be used when you re-open it.

To the left of the Font Size, is the size and type of the current selection. For more information on selections and how to use them, see the Selections section below.

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Knit Visualizer Modes

If you were reading carefully*, you'd have noticed that there are several toolbar buttons that let you switch between the different modes in Knit Visualizer. Beginning with Knit Visualizer 2.0; there are more modes for you to work with. The full list of modes:

	Mode Name	Description
	Select mode	Used for selecting rows, cells, columns in your chart to then copy, duplicate, delete, etc.
	Draw mode	Used to draw stitches into your chart from the Stitch Palette
	Coloring mode	Used to change the color of stitches already in your chart
	Eyedropper mode	Lets you select a foreground or background color from a stitch already painted and/or colored in your chart.

There is also a mode that doesn't have a toolbar button, because it's a special case: Parsing Mode. You use the Pattern Entry portion of the screen for typing in pattern rows and automatically generating symbols into new rows in the chart.

You can switch between modes in several ways. Click on the toolbar button for that mode, use a keyboard shortcut to switch into that mode, or perform an action that will automatically put you in that mode.

To enter Select mode, do one of the following:

- Click on the Select Mode button
- Click on the chart's row numbers, or the chart's column numbers at any time
- Use the keyboard shortcut "1" to switch to select mode
- Flip between Select and Draw mode with the "s" keyboard shortcut

To enter Draw mode, do one of:

- Click on the Draw mode toolbar button
- Click on a symbol in the Stitch Palette
- Use the keyboard shortcut "2"
- Flip between Select and Draw modes with the "s" keyboard shortcut

To enter Coloring mode:

- Click on the Coloring mode button
- Use the keyboard shortcut "3"

To enter Eyedropper mode:

- Click on the Eyedropper mode button
- Use the keyboard shortcut "4"

Use the "m" key to move through all the different modes in order.

* You didn't know there'd be a test, did you?

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All keyboard shortcuts are only 'active' when you have been working in the chart. If you are in the parser area, then you'll just end up typing 1 or m or s or whatever you tried to type into the parser field.

You can easily tell which mode you are in because the mouse cursor changes to a different cursor in the chart area and the appropriate mode button in the toolbar will be selected.

If you find that you have accidentally switched modes because you clicked in one of the areas mentioned above, simply click the correct Mode button in the toolbar to switch back. If you accidentally drew a stitch or colored a stitch, use Undo (Control-z) to remove that stitch.

Select Mode

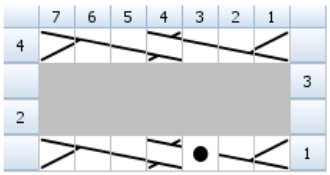
The first mode (and the most intuitive for most computer users) is Select Mode. You'll be using selections to (among other things) copy, paste, insert, duplicate and indicate where to add new columns or rows. When you're in select mode, the cursor in your chart will be an arrow.

There are three types of selections in Knit Visualizer. The status bar will give details on the size and type of the current or most recent selection.

Cell Selection	Once in Select Mode, click and hold in the first cell, then drag your mouse to add to the selection. The cells selected are highlighted in a different color. Check the status bar for details on the size of the selection
Column Selection	Click on a column header, hold, then drag to select multiple columns
Row Selection	Click on a row header, hold, then drag to select multiple rows

We've already covered the details of using Copy, Paste, Cut, Insert & Delete when going over the Edit Menu. Knit Visualizer will give you a message if you try to Paste or Insert the wrong type of buffer into the wrong type of selection. Remember, there is always the Undo (Control-z) feature to back out of the operation you just performed.

Once a stitch has been painted into the chart, it can now be "split up" by doing a delete, cut or paste through it. This is allowed for maximum flexibility when designing your patterns. Be careful to not chop up your stitches that are wider than one cell, unless you only want to knit the first few stitches of it. When the Legend is generated it will include that whole stitch and the knitting instructions for it even if only part of the stitch is present. This chart has the top cable that is still "complete" and the bottom cable has been split by a purl stitch being painted/pasted into the middle of it



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Drawing mode

Drawing mode* is how you draw stitches into your chart by using your mouse. Think of if just like sitting down at some graph paper with a pencil – you'll be drawing the symbols onto your chart. Of course with Knit Visualizer your task is made much simpler because we can easily draw a whole cable with a single click of the mouse.

You enter draw mode by clicking on the pencil toolbar button, or by selecting a stitch from the Stitch Palette. Once you're in Drawing mode the chart's cursor will change to be a pencil, just like the icon you see in the toolbar button.

The whole point of using the Drawing mode is so you can paint your stitches from the Stitch Palette. The Stitch Palette contains all the different stitches you can use in your chart. Each stitch is comprised of one or more cells. You can see exactly what the stitch looks like by its entry in the Stitch Palette. Once you select a stitch you can then paint it by simply left clicking on the chart at the desired location. The new stitch will be painted from that cell and out to the right. The currently selected stitch (which is what will be painted) is shown on the far left of the status bar.

If you want to paint the same stitch many times all in the same area, you can hold down the Shift key, then left click and drag. Every new cell you touch will have the stitch painted into it (and in the cells to the right, if the stitch spans multiple cells). The Undo command will undo the entire paint operation when you are painting the same stitch many times using the Shift Key.

Drawing a stitch using Color

If you want to draw your stitch using the selected foreground and/or background colors as shown in the toolbar swatches, check your Application Preferences. This will determine if the foreground & background colors are used when drawing stitches.

The only way a stitch will never be drawn with the selected foreground and/or background colors, even if your application preferences say to use the colors, is if you have a custom stitch defined with a specific color. (For instance, a purple diamond with a light yellow background). A custom stitch with a defined foreground or background will always win out and use its own colors when being drawn. You can change the color associated with that stitch later by using the Coloring mode. A warning though – if you manually color a custom stitch in your chart, any changes to the colors used in that custom stitch definition via the Stitch Library Manager won't change that specific stitch in your chart. You will have overridden the colors by manually coloring it. See the Stitch Library Manager section for more information.

Navigating the Stitch Palette

The stitch palette is organized into groups of stitches, to make it easy to find the stitch you need. The first group in the Stitch Palette is "Custom Stitches" and will contain all the custom stitches you create using the Stitch Library Manager. If you aren't interested in a group of stitches, you can hide that set by clicking on the title of the group. As of version 2.0; if you have closed a group, Knit Visualizer will remember that and keep it closed even if you quit the application. (See *Figure 27*).

To select a stitch, simply left click on it. It will now become the highlighted stitch, and you should see that stitch on the bottom left of the status bar. Any stitch previously selected will be unselected. You can only select one stitch at a time in the Stitch Palette. When you select a stitch in the palette, Knit Visualizer will be automatically put into Draw mode.

* This used to be called "Paint mode" in Knit Visualizer versions 1.x.

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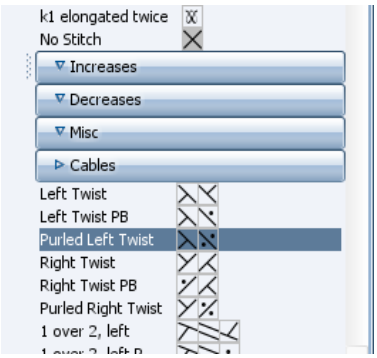

Figure 27: Stitch Palette with several groups closed

In Figure 27, The Increases, Decreases & Misc groups are all closed. To open them again, simply click again on the title bar for that group.

Each stitch comes pre-defined with a set of knitting instructions on how to make that stitch. You will see these instructions in the Legend in the Preview window or you can view this from within the Stitch Palette by holding your mouse steady over the stitch name.

If you'd like to see all instances of a stitch highlighted in the chart, select it in the Stitch Palette and click the Highlight Stitch toolbar button. Those stitches aren't a selection (you cannot copy and then paste them), the highlighting is just a visual indicator to allow you to find them easier.

Coloring Mode

Coloring mode exists so you can paint colors into your chart. If you haven't read it yet, go read the "Format Menu – Color" section. This tells you how you choose colors to color with. As a quick reminder, you'll be coloring with the colors selected in your foreground and background swatches on the toolbar:

Figure 28: Foreground/Background swatches from toolbar

You can switch into the Coloring mode by clicking on the toolbar icon or using the "3" keyboard shortcut. When you are in coloring mode, the chart's cursor will switch to a blue paintbrush.

Figure 29:Blue paintbrush cursor

Color foreground

To paint the foreground color on a cell, simply left click on that cell.

Color background

To paint the background color on a cell, right click on that cell.

Color foreground many times

To color more than one cell at a time, you can use the shift key just like you do in Draw mode to paint more than one stitch. Hold down the shift key, then left click and drag your mouse around to paint an

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area with the foreground color. (make sure you're still holding down that left mouse button the whole time)

Color background many times

You can hold down the shift key and paint background many times by doing a right click and drag.

Color both foreground and background many times

If you're really talented at mousing, you can push down the shift key (hold it there), and then push the left *and* right mouse buttons and drag it around to paint both foreground and background at the same time.

Eyedropper Mode

You'll use the eyedropper mode when you want to reselect a color that is already in use in your chart.

To go into Eyedropper mode, Click the eyedropper icon , or use the keyboard shortcut "4". You'll see the chart's cursor change to an eyedropper, and the eyedropper toolbar button will be selected.

To select the foreground color from a stitch, left click on it. You will see the color in the toolbar foreground swatch change to the color from the stitch clicked on.

To select the background color from a stitch, right click on it. You will see the color in the toolbar background swatch change to the background color from the stitch clicked on.

Don't forget that a knit stitch (which has no symbol) can still have a foreground color assigned to it. You can color a knit stitch green; and see no visible result; but the green will still be assigned to that stitch. If you then drew a purl stitch into that stitch (and had your application preferences set to draw in default colors) then you would see green purl stitches where you had painted the knit stitch green.

Pattern Entry Mode: Parsing Knitting Instructions

The Pattern Entry mode is an advanced mode in Knit Visualizer that helps you build a chart from a stitch pattern. All knitters seem to have extensive libraries of pattern books, stitch patterns and magazines. Not all of those pattern sources contain charts; but they do contain written out instructions. By using the Pattern Entry mode, you can create a chart from the written out instructions. You should treat this section of the Manual as more of a tutorial. It will be helpful to follow along by entering the example pattern instructions into Knit Visualizer, see what happens, and play around to see what changing different options does

The brains behind the Knit Visualizer's Pattern Entry function is the Parser. It reads what you type in, tries to understand it, then adds a row to your chart based on what it thinks you said. It's a bit like typing in German and getting English back out. Sometimes it won't know what you are saying and will give you a message that tells you where it became confused. There is no possible way for the manual to cover all the combinations you can enter in the parser; as the combinations are in some ways, endless. The parser might also be modified in future patches to parse additional combinations of stitches. We will cover the basics here to get you started.

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What Can Be Parsed

The basics consisting of: knits, purls, most decreases & increases. Cables are difficult because there is no common syntax used to specify the same exact cable between different books. The best thing to do is to use the Draw mode to fill in cables. This has the added bonus of letting you see which way the cables turn and you get a much better visual idea of how the pattern will look knit up.

There are several ways to specify repeats within a pattern row (see details in sections following). The parser was designed to parse most of the Barbara Walker Treasuries patterns, with the exception of cable stitches. The parser does understand the cable specification formats used in Nicky Epstein's *Knitting On the Edge* and *Knitting Over the Edge* books. (E.g. 2/2rpc) The best rule of thumb if you get an error back from the parser is to always check for typos first, and then check for odd stitches.

Pattern Entry Area

The pattern Entry area is where you enter the text of the knitting instructions, and specify the options that will help the software determine how to perform the translation. The pattern entry area of the screen is shown in Figure 30.

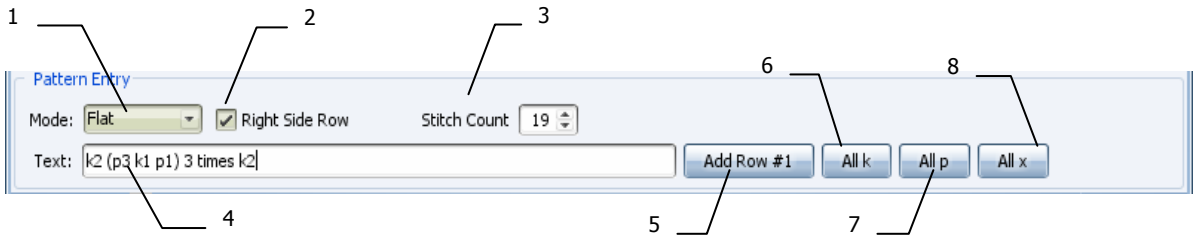

Figure 30: Pattern Entry

You enter one row at a time in the Pattern Entry section. The options above the Text field tell the Parser what type of row to expect. Starting from the top left:

1. **Mode**: Circular or Flat. Circular will mean we are always entering a Right Side Row. Selecting Flat means we need to specify if the row is RS or WS. The parser will flip this back and forth for us as we enter rows.
2. **Right Side Row**: If this box is selected, then you are entering a Right Side Row. Ignored if Circular is selected.
3. **Stitch Count**: How many stitches will this row consume? This should match the number of stitches in the row you already entered. The parser automatically adjusts this value for you as you enter new rows*. This is very important if there are repeats in the pattern, and you want the parser to fill across the size of your chart. You can type in a value, or click on the arrows to change the value.
4. **Text**: The area where you type (or paste in) the pattern text (You can use the up/down arrow keys to change the Stitch Count while typing in text)
5. **Add Row #**: Button to click when the pattern text is ready to be parsed (Pressing the Enter key in the Text box does the same thing)

* Sometimes you don't want this to be the exact number of the row already entered. There are cases when entering repeats that the number of stitches specified after the repeat is excessively long. For instance: k2 k2tog *yo ssk k1 k2tog yo sl2knitwise k1 p2sso rep from * end yo ssk k1 yo ssk k2. The repeat is calculated before the parser sees the stitches after the "end"; and then tacks all those stitches on. When you see the chart it will be obvious it added a few extra stitches.

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6. **All k**: A quick method to enter all knit stitches. Uses the value in Stitch Count for quantity of stitches. Clicking this button is equivalent to typing in `[k]` and clicking Add Row #.
7. **All p**: A quick method to enter all purl stitches. Uses the value in Stitch Count for quantity of stitches. Equivalent to `[p]`
8. **All x**: A quick method to enter all No Stitch (Empty) stitches. Uses the value in Stitch Count for quantity of stitches. Equivalent to `[x]`

As you enter pattern rows, it is important to keep an eye on these values to make sure they are what you expect. Sometimes just the Right Side Row checkbox being set incorrectly will give you very different results! *Before following along in these examples, please verify your Chart Properties are set to the following: Circular Knitting OFF, Odd # Rows on Right ON, Hide Wrong Side Rows OFF.*

The parser ignores all punctuation (commas, semicolons, etc) & most white space (with some notable exceptions). You can type upper or lower case letters.

Simple Parser Example

If you have selected "Flat" knitting, after you enter a row, the parser will change the state of the Right Side Row checkbox. For instance if you start with "Flat" selected, and Right Side Row selected. You are telling the parser you are entering a pattern that was written for knitting back and forth, and the row you are going to type in is a right side row. Stitch Count is set to 10. You then type in

```
k2 p2 yo k2tog p2 k2
```

and press the Enter key. The parser adds the first row to the chart:

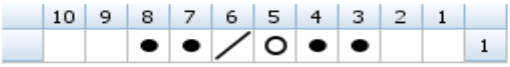

Figure 31: A Simple row entered via Parser

Now, the Right Side Row checkbox is automatically unselected, in preparation for the next row. Also the button Add Row# now has the text "Add Row #2". Hit Enter a few more times to see what happens. Notice how the Right Side Row checkbox keeps turning itself off and on, and the Symbols entered for the Wrong Side rows are different than those for the Right Side Rows. Also the Row # in the Add Row button increments to tell you what the next row will be.

Now you can use the Undo key (Control-Z) to remove those rows you just added, until there is only one left. The Add Row # button adjusts, but the Right Side Row checkbox doesn't check/uncheck during the Undo. This is because the parser assumes you are Undo-ing an error in the last entry, and that error might have been selecting the wrong type of row. It doesn't want to guess wrong, so it leaves it alone. The lesson in this is always check to make sure the Right Side Row checkbox is selected/unselected as you want it.

IMPORTANT: There are limitations to what the Parser can understand. There are so many different ways of representing the same basic knitting stitches, that it would be impossible to understand them all. The more complex the pattern, the less likely you will be able to enter it exactly as written. It is best to start with very simple examples, understand how the parser thinks (believe me, it has a mind of it's own) before moving on to more complex patterns. This section will give you ideas on how to make it understand the pattern you want to enter, but there are no guarantees. It is possible the parser will pretend to

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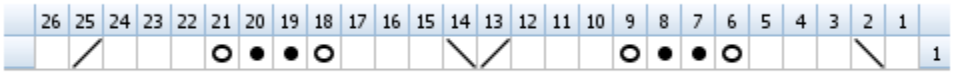
understand the pattern, but spit out a different stitch than you think it should. Always check your chart!

Entering Repeats

The parser can understand repeats and how to use them to fill out an entire pattern row. When entering stitch patterns via the parser, it's best to do at least two repeats worth so you get an idea of how they work together. Let's say we are working on the Lace Puff pattern from Barbara Walker's A Second Treasury of Knitting Patterns (page 283)*. That pattern is a Multiple of 12 sts, plus 2. That means there are 2 edge stitches, and 12 stitches in each repeat. If we want to enter this pattern, we should execute Edit -> Clear Chart if another chart was present and set up the Parser as follows:

Stitch Count: 26 (We get this number from adding 12 + 12 + 2)
Mode: Flat
Right Side Row: Selected
Text: `k1 * ssk k3 yo p2 yo k3 k2tog rep from * end k1`

Resulting Row:



If you happen to have the BW books, you'll notice that the actual text in the book was this:

K1, * ssk, k3, yo, p2, yo, k3, k2 tog; rep from *, end k1

The parser ignores all those commas, so there's no point in typing them in. We leave the spaces for clarity, although habit made me leave out the space in the "k2 tog" because I normally type k2tog. Either will be recognized by the parser. For the parser to recognize the * rep from * repeat, you must include the single spaces the the "rep from *" portion of the pattern. Given that adding spaces is a natural tendency, this shouldn't be a problem; but it is something to keep in mind.

The Stitch Count you enter is important because it tells the parser how many times to repeat the stitches in between the repeat indicators. If you accidentally enter 27, 28 or even 29; it's Ok, the parser will probably make a good guess and still only create 26 stitches. It's not until you get up to 38 (which is 3 repeats + 2 edge stitches) that it will actually create 3 repeats in the chart. If you don't get the number of repeats you expect, you can always use Undo, change the # of stitches and try again.

There are multiple ways to specify repeats, and the parser doesn't care which one you use. A lot of patterns use the * <stitches> rep from * syntax, but you might also see it written like this:

```
k1 ( ssk k3 yo p2 yo k3 k2tog ) end k1
```

The means exactly the same thing as the original text. We've changed the first * to a (and the rep from * to a). You can use pairs of parentheses () or square brackets [] or curly braces {} all in the same fashion. Make sure you always use them in pairs; as the first one tells the parser, "Attention, I'm going to enter some stitches to repeat" and the second one says, "The repeat is finished now, take all those stitches and repeat as indicated". If one of them is missing, as in this line:

```
k1 ( ssk k3 yo p2 yo k3 k2tog end k1
```

you'll see an error message like this one:

* You'll find the complete chart for this pattern in the Sample Charts directory, named LacePuff_BW2_pg283.kvc

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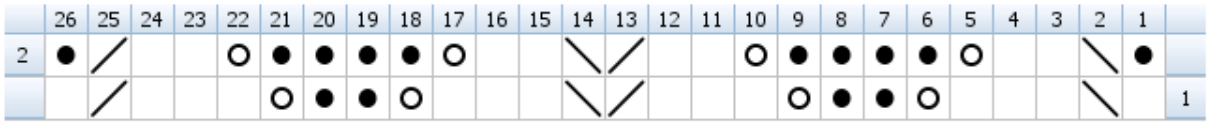
Figure 32: Parser Error Dialog

Whoops! Click Ok, and go back to fix the text. Verify that the Right Side Row checkbox is selected before re-adding the row.

Let's continue entering the Lace Puff pattern. We've successfully entered the first Row. Verify your settings:

Stitch Count: 26 (We get this number from adding 12 + 12 + 2)
Mode: Flat
Right Side Row: **UN**Selected
Text: `k1 *p2tog p2 yo k4 yo p2 p2tog-b rep from * end k1`

After entering the second row, the chart now looks like:



Row 3: RS row, Text: `k1 *ssk k1 yo p6 yo k1 k2tog rep from * end k1`

And so on, until you have finished all 8 rows in the pattern. Edit the Chart Properties, and enter the title (Lace Puff) and the source (BW#2, pg 283) and whatever notes you'd like. Make sure and save your work! The finished chart looks like this:

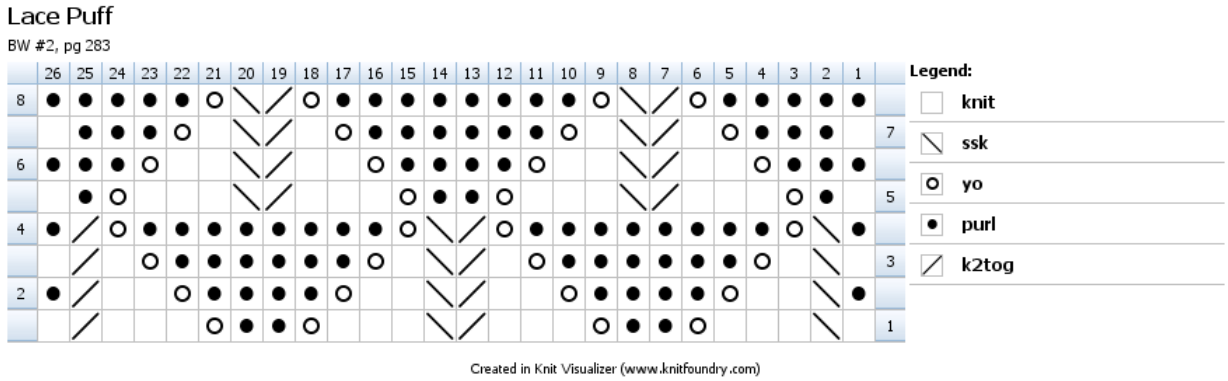


Figure 33: Lace Puff Chart for Flat Knitting

When I created this image in the Preview Dialog, I selected Horizontal Layout, Turned Simple Legend On to remove the stitch instructions, and didn't show any notes. I used Copy to Clipboard to bring the image into this document.

If you look at the picture in the Barbara Walker book, you'll see that this image matches very closely to the actually knitted item! If you'd like to convert this chart to knit something circularly, all you need to do is remove the outer two columns, which are edge stitches for when it is knit flat; and change the Chart Properties dialog to select "Circular" (modifying the location of the row numbers in the chart):

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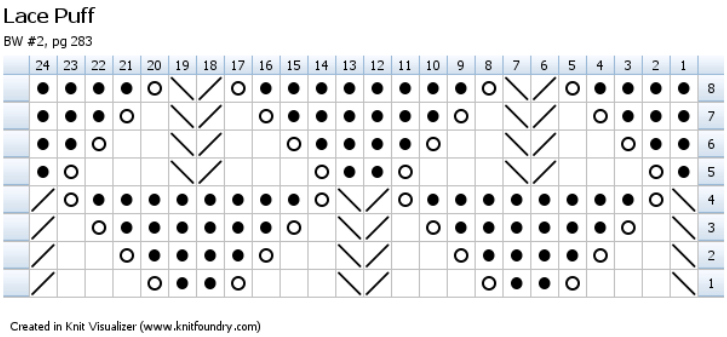

Figure 34: Lace Puff Chart for Circular Knitting

Remember that there are two full repeats shown in Figure 34. You might want to indicate the repeats by using borders, as shown in Figure 35.

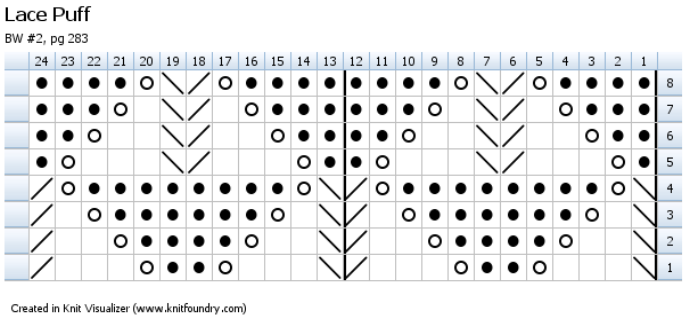

Figure 35: Lace Puff using Borders to show repeats

A Few Caveats

The parser will also automatically change the Stitch Count to match the last row you entered. 95% of the time this will work and you won't have to think about it. Every once in a while a row will be entered that will be way too long for what you really want. This is due to the way it counts repeats and adds on stitches after the repeats are completed. Usually it means one too many repeats has been entered. You can use Undo, then change the Stitch Count to a smaller value, making sure the Right Side Row checkbox is set correctly, then hitting Enter.

Quantified Repeats

In many patterns, there will be a grouping of stitches and a quantity to tell you how many times to work those stitches. From another pattern, that has a Multiple of 10 sts plus 2:

Stitch Count: 22
Mode: Flat
Right Side Row: Selected
Text: `k1 * (sl1 wyib, sl1 wyif ) twice, sl1 wyib, p5 rep from * end k1`

In this pattern, the * indicates that a repeat is starting. The (indicates another repeat is starting. After the end) is found, the parser sees the text 'twice', it knows to take the stitches in between the parentheses and use them two times. Then the parser continues reading the text and sees "rep from *". It knows that repeat is now completed; and fills out the remainder of the chart, ending with a single knit stitch.

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Here are some examples to get you used to what style of quantified repeats the parser will accept:

(p2 k2) twice
(p2 k2) 2 times
[p2 k2] 3 times
[p2 k2] once
{ p2 k2 } 1 times

Remember, you can combine different types of repeats by *nesting* one repeat inside another like this:

[p1 (k1 yo) 3 times]

Make sure that you don't confuse the end parens though. This would be incorrect
WRONG: [p1 (k1 yo] 3 times)
The parser will give you an error as it must finish the () repeat before it can finsh the [ ] repeat.

Changing the way the last repeat of the row ends

Often the very last repeat of a pattern row is slightly different for whatever reason. To change the last repeat you can do this:

```
p4 *yo p2tog p9 p2tog-b yo p7 rep from * end last repeat p4
```

Make sure and type in "end last repeat" just like that with only single spaces. This is one of those cases that the parser requires the spacing to be absolutely perfect. If you add an additional space it will get confused and not know what to do. Many of the patterns in Barbara Walker's books use this type of syntax.

Basic Stitches

This section will go over most of the basic stitches you can enter.

The following are all equivalent:
`kkkk`
`k4`
`knit 4`

or using purls
`pppp`
`p4`
`purl 4`
`p2p2`

`sl1` (slip 1)
`sl3` (slip 3 stitches)
`sl wyif`

`sl wyib` (same as a normal slip stitch)
`k tbl`
`p tbl`
`k in st below`
`p in st below`

`x` (empty stitch)

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Increase & Decreases

`yo`
`m1`
`m3` (puts three m1 stitches right next to each other)

`knit purl knit in 1 stitch`

`k2tog`
`k2tog tbl`
`ssk`
`k2tog b` (same as k2tog tbl)
`p3tog`
`k3tog`
`p3tog tbl` (the parser does NOT like p3tog b even though this should mean the same thing)

`sl1 k2tog psso`
`sl1 p2tog psso`

There are so many combinations/variations of sl1 <stitch> psso that it's impossible to have symbols for them all. There are a few provided in the Stitch Palette that you can use if you like them.

Special Stitches

`cluster2`
`cluster5` (and all those in between. Won't go larger than 5)

`mb` (means Make Bobble)

Cables

The parser understands cables that follow this syntax:

cXoverY<l/r>[pb]

Read this as "Cable X stitches over Y stitches To the Left/Right (With Purl Background)". Some examples will help clarify this:

Parser	Stitch Palette	Meaning
c1over3l	1 over 3, left	Cable 1 over 3 stitches, leaning left
c1over3r	1 over 3, right	Cable 1 over 3 stitches, leaning right
c3over2rpb	3 over 2, right P	Cable 3 over 2 stitches, leaning right with a purled background
c4over1rpb	4 over 1, right P	Cable 4 over 1 stitches, leaning right with a purled background

If you specify "pb" at the end, the instructions and symbol will have purled stitches behind the cable. Using l for left means the cable crosses to the left, Using r for right means the cable crosses to the right.

When entering patterns that have cables, the parser will most likely *not* understand the format used in your pattern. If you can't easily substitute the above syntax for cables for what the pattern specifies, use a number of No Stitch cells to be place holders for a cable (`x4` or `x8`), and then paint the cable in later from the stitch Palette. Cables in Knit Visualizer can go all the way up to 4 over 4. The parser will

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understand larger cables, but there aren't symbols to display for them. You'll see a bunch of question mark symbols in the chart where the cable would be.

How to Handle Non-Pattern Instructions

"Knit all the knits, Purl all the Purls"
Simply copy the last row worked, and Duplicate (Control-D) it to the top.
If you do this every other row (where you'd be doing Wrong Side rows), make sure "Circular" is selected, and "Right Side Row" is selected, then you can simply hit ENTER twice to enter the same row again. If there are more than just purls and knits in the row, use the stitch palette to fill in the correct stitches

"See Row X" or "Same as Row X"
Select the Row indicated by clicking on the row number (either to the right or left of the row) and Duplicate (Control-D). The works when the pattern row is for the same side both times. This won't work if Row X is a wrong side row, and the new row is a right side row. Then you'll have to type in the pattern instructions for that row again so that Knit Visualizer can parse it as the correct side row.

"Row X: Knit"
This really means knit ALL stitches, not just knit one stitch. Make sure the stitch count is set correctly, and then press "All k" button. Or you can type in "[k]" or "(k)" into the Instruction Field. The same applies for rows that should be all Purl stitches.

You can create a bunch of blank rows at the top of the chart easily, but pressing the "All x" button. Each time you press this, it will create a row that contains the "No Stitch" placeholder. You can then paint stitches with the Stitch Palette.

How Many Repeats To Enter

When entering a pattern that has repeats, it's a good idea to enter at least two repeats. For instance if your pattern is a "Multiple of 8 sts plus 1", you should enter "17" for the Stitch Count field. This is very useful if you don't want to start the repeat in the same place the pattern did. Looking at multiple repeats across (and down) will help you see it in a different way.

Keeping Track of Which Row Comes Next

The "Add" button will always tell you which row is the next one to be entered. This is true if you type in a row, or select one and Duplicate it using Control-D. If you copy and paste a full row into the middle of the chart, the button will adjust itself to use the next number in line.

Always check the "Right Side" checkbox to make sure it matches which side you are trying to enter next. If you enter one, and Undo (Control-Z), it doesn't modify the checkbox's status.

Parser Limitations

It is impossible to know all the different names for knitting stitches in the various books & patterns. Knit Visualizer has tried to come up with a good standard set to use, along with quite a few aliases for some stitch names. (For instance you can enter either ktbl or k-b or kb)

What To Do When Things Look Really Wrong

If you get an error message, you are entering something the parser doesn't understand, or it's possible you had a typo when you entered the pattern row. You could have the wrong number of stitches in the Stitch Count field. The Right Side checkbox might have been selected when it shouldn't have been. Use Undo (Control Z) to remove the last row entered, and verify the text you entered, then try again.

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Whenever using Undo or Duplicate always check to make sure the Right Side checkbox is selected correctly for the next row.

You might also see a question mark symbol in the chart. That means the parser recognized something that looked right, but it didn't know what symbol to assign to it.

Parsing vs The Stitch Palette

There are stitches on the palette, that you won't be able to put on your chart by parsing text. An example is "yo twice". This, and other stitches are included in the palette so that you can include it in your charts. If you find a strange stitch in your pattern instructions that the parser doesn't understand it's best to enter a place holder for them. You can use any stitch you want, but it might be easiest to find those placeholders by using something not commonly included in your patter such as the empty stitch:

```
k5 p2 x5 p2 k5
```

Here we've put in 5 empty stitches for a 5 stitch cable. The parser will include the empty stitch as place holders, and we can paint the appropriate looking cable on top of them once we get far enough into the pattern to decide what will look best.

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Stitch Library Manager

New in version 2.0; you can create your own Custom Stitches using the Stitch Library Manager. Once created, your custom stitches will show up on the Stitch Palette just like standard stitches do (except in their own special group, 'Custom Stitches', which is located at the top of the Palette); and you can click and draw with them just like standard stitches.

To bring up the Stitch Library Manager, you need to select View -> Stitch Library Manager, or use the "f3" keyboard shortcut.

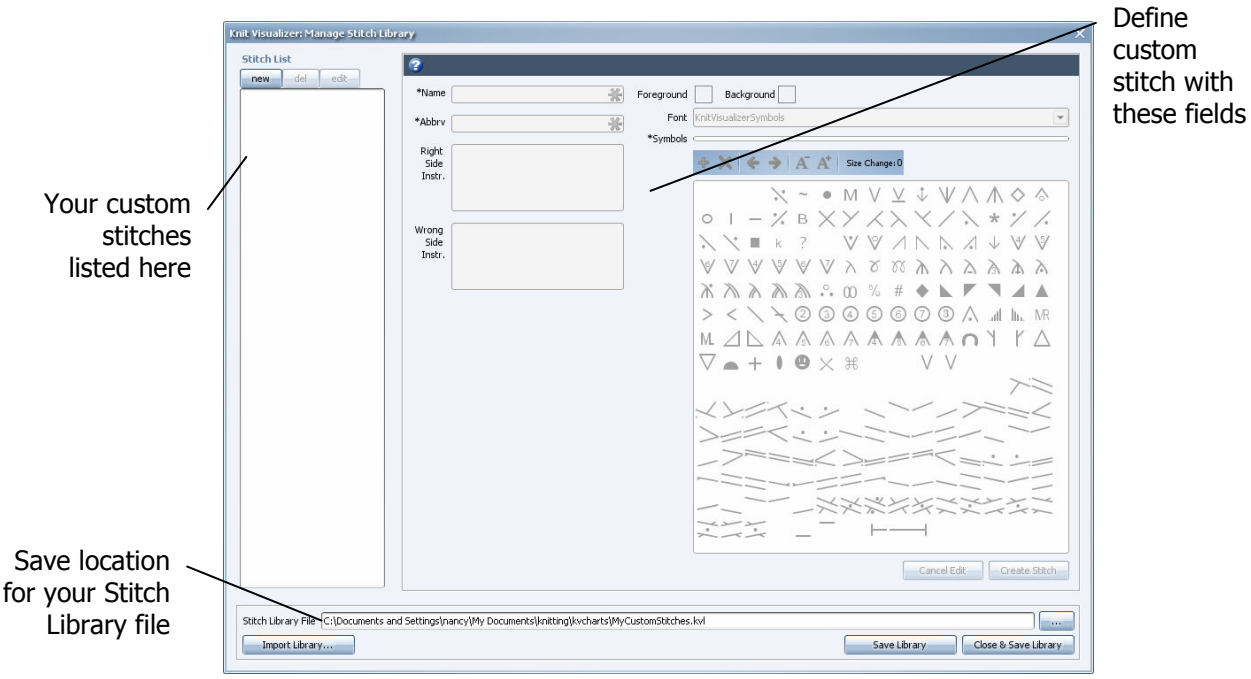

Figure 36: Stitch Library Manager window

When the window comes up, it is sized to be just slightly smaller than the Knit Visualizer main window*; so you might not notice that the Knit Visualizer main window is still there. You can't go back to the main window until you're done working in the Stitch Library Manager.

The first time you run Knit Visualizer's Stitch Library Manager, you won't have any custom stitches, so you'll see exactly the screen in Figure 36.

From here you can create a new custom stitch, delete an existing one, edit a custom stitch, or import someone else's stitch library.

A Note about fonts

You can specify which font to use when creating your custom stitch. The list of fonts includes ALL the fonts on your system. Some fonts might have better symbols than others (Wingdings, Webdings for instance). The built in Knit Visualizer fonts are the first ones in the list – KnitVisualizerSymbols and KVJknit. These two fonts have symbols much more geared towards knitting symbols. KVJknit includes

* This screen really really really really needs minimum 1024x768 resolution on your computer. Bigger numbers are better. If you're running at 800x600 resolution, you won't be able to see all the elements on the screen because there is just too much to display in that small of an area.

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some alternate cable symbols. If you pick a font that is available on your computer, you may or may not be able to see that same custom stitch in Knit Visualizer on another computer. It should always work on your current computer as long as that font remains installed.

For mac users (notably Tiger, aka 10.4.x) you'll notice that each font takes a bit of time to load before you can see all these symbols. This is necessary so that we can ask the font which symbols are available for your use. Once you've loaded the font once, it is cached into memory and will load faster the next time until you quite Knit Visualizer. Due to this slow load time you might be better of exploring the fonts on your system using Font Book to determine which font you want to use, and then select this font on within the Stitch Library Manager. Font loading appears to be faster on the mac in Leopard (10.5.x). Windows users shouldn't see any speed delays.

Create a Custom Stitch

To get started creating a custom stitch, press the "new" button above the empty list on the left side of the screen (See Figure 37). This will enable all of the fields on the right which you'll need to define your custom stitch and changes the title of that area of the screen to "Create New Stitch". The fields are defined in the following table. Some fields are required, and some optional.

Custom Stitch Fields

Name*	The name is what you'll see in the Stitch Palette, and used in the Legend for a chart. Required – you must enter a name. Example: *knit*
Abbrv*	Used in pattern generation; should be an abbreviation, or very short form of the name of the stitch. Required – you must enter an abbrv. Example: *k*
Right Side Instr.	This text will be used in the legend as the right side knitting instructions. Not required, but highly recommended.
Wrong Side Instr.	This text will be used in the legend as instructions for knitting the stitch when on the wrong side of your knitting. Used for Flat back-and-forth knitting. Not required, but highly recommended if you do charts for flat knitting.
Foreground	The color used to draw the symbols. Default is black
Background	The color used to draw the area behind the symbols. Default is white
Font	The font used to select the symbols. Only one font may be used for each custom stitch
Symbols*	The symbols that make up this custom stitch. Required - must choose at least one.

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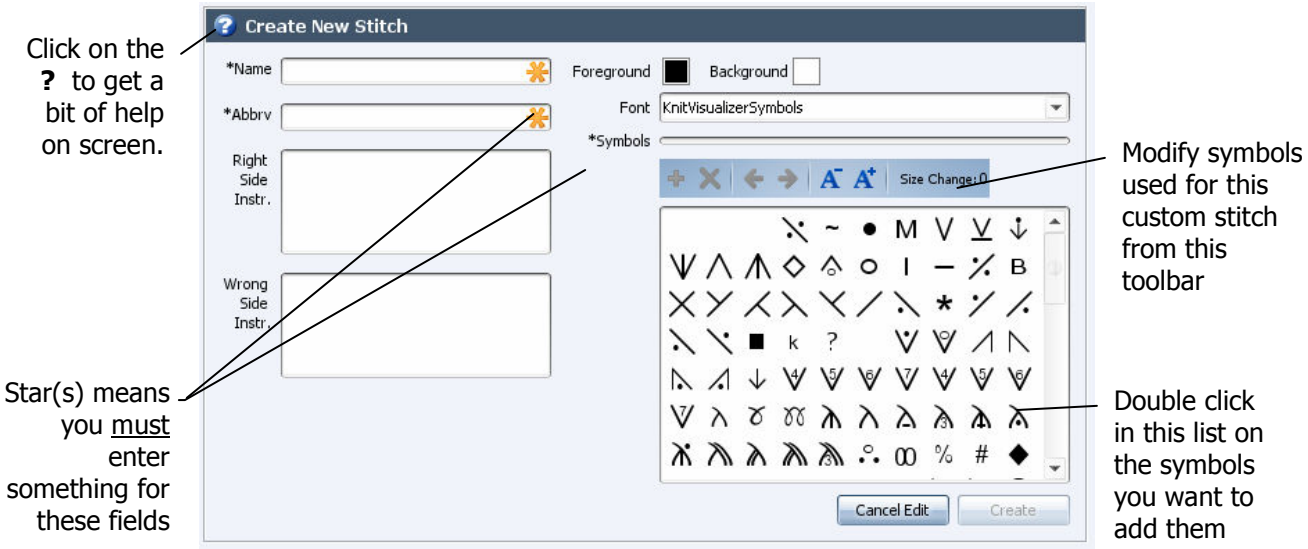

Figure 37:Editing area of Stitch Library Manager

Before you start entering data, let's take a look at all those fields. Note the asterisks on the Name and Abbrev fields. You'll also see one next to the Symbols field. These fields are required, and you cannot create a custom stitch without them. The Create button will remain disabled until all three of these fields have a value.

Let's create a different version of the knit stitch. By default, Knit Visualizer uses an empty cell to indicate a knit. Most of the time that's great, but there are times you might want to use a vertical bar to indicate a knit. Here is what the Stitch Library Manager looks like now that I've entered my values:

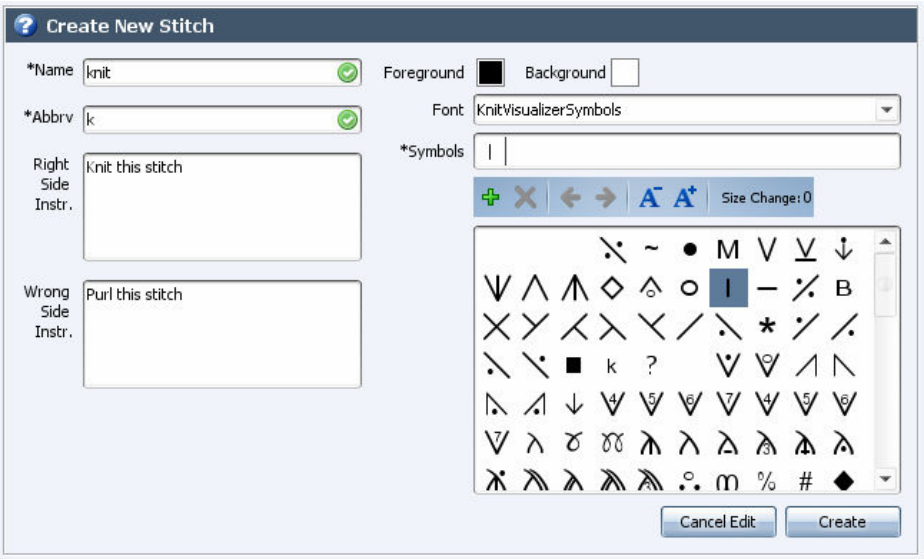

Figure 38: Creating a different "knit" with the Stitch Library Manager

If you've entered everything correctly, you'll have green checkmarks next to the Name and Abbrev fields, and the Create button will be enabled. Hit the Create button to create the stitch. The stitch shows up in the Stitch List on the left, with this icon next to it: ⚠

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This icon warns you that you haven't written this custom stitch to file yet. When the green book icon is next to a stitch name, that stitch has been read from or saved to the Library file.

Even though you've created your stitch, it's not really saved yet. To persist it in your own library, you need to save it out to an actual library file so that it will continue to live in your Stitch Library even if you don't use it in a chart.

Write the Library to File

In order to save your custom stitches so that Knit Visualizer will have them the next time you run it, you need to write out the Library file. The Library file will have an extension of .kvl (short for Knit Visualizer Library) plus Knit Visualizer automatically remembers where you said to save your User Library.

Figure 39:Saving the User Library

At the very bottom of the Stitch Library Manager, you'll find a place to specify the User Library filename to use. This needs to be a full pathname to your user library, and must have the .kvl extension on the name. To make this easier - you can click the "..." to browse for the location and specify a filename, or you can simply type in the full path and filename.

If you click the "Close & Save Library" button, your new stitch will be saved out to the library file and the window will be closed. (If an error occurs when trying to write to the file, you'll get an error message, and the window won't close). You can also just click "Save Library" to save the file and then keep working in the Stitch Library Manager.

If you try to close the Stitch Library Manager without having saved the work you just did, you'll get a warning prompting you to save to file. Remember – if you don't save to file – the custom stitches you created might be gone when you close Knit Visualizer!

What's that Toolbar for?

The toolbar above the list of symbols is there to modify the selected symbols for your custom stitch

Figure 40:Custom stitch symbol toolbar

Most of the buttons on that little toolbar will only be enabled when you can use them. Here's what they do:

	Insert a symbol from the list below
	Delete the selected symbol in the list above
	Move the selected symbol to the left
	Move the selected symbol to the right
	Decrease the size of the font used to draw these symbols

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	Increase the size of the font used to draw these symbols

Most of these buttons just move symbols around in your symbol list. The most important ones are the buttons that change font size. Sometimes you'll load a font that's on your system and it might appear that there isn't much there. Hit the A- button a few times to see if it makes any difference. You might see symbols showing up in the big list that only show up when the font is adjusted smaller. Once they are in your symbol list, check them again. If the font is built really large by default, you might not be able to see those stitches when you use them in your chart at a really small size. Experiment and see what works with the fonts you have on your system. Typically I needed to reduce my wingdings font by -2 to get the symbols to show up nicely.

The text "Size Change: #" shows how much larger or smaller than 'standard' this symbol font is being made. This font size changes applies to only this custom stitch. You'll notice that the size of the symbols changes immediately. When you change the size of font used in your chart, your custom stitches will scale with that change.

Delete a Custom Stitch

If you don't want a custom stitch in your library any more, select it in the list, and hit the "del" button. Don't forget to Save your library file, otherwise that stitch will show back up the next time you run Knit Visualizer.

If that stitch is currently being used by the open chart, you will see this warning:

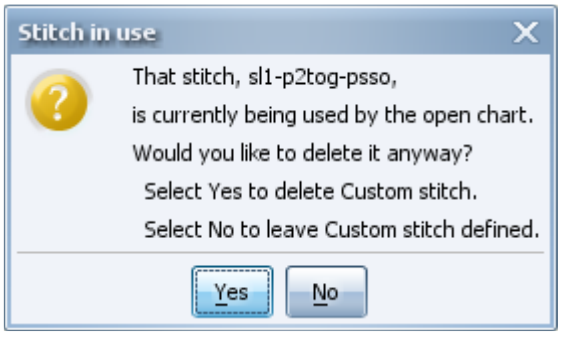

Figure 41: Stitch in Use warning

If you select "yes", you will see ? symbols in your chart where you had that stitch before. Select "no" to go back to the chart and replace that stitch with something else before deleting it from your library.

A few Caveats about Deleting Custom Stitches

If you delete a Custom Stitch named "Pink Diamond" and it's currently being used by the chart that's loaded in Knit Visualizer; the stitch will revert to an unknown state with '?' as it's symbol; and it won't have any definition in the legend if you export/print the chart.

The best way to deal with this is to load an empty chart, before deleting any custom stitches.

Custom Stitches and Chart files

Custom Stitch information is saved in two places. The first place is in your User Library file, which you specify in the Stitch Library Manager. The second place is in a chart that uses that custom stitch.

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Anytime you use a custom stitch in a chart, that stitch information will be saved with the chart. This way the definition of that custom stitch is "locked" into that chart as it is when you save it.

If you later change the definition of a stitch in your library (for instance, you decide your custom "knit" stitch should use a really thick rectangle instead of a slim bar), any chart you saved with the original definition will remain the same. When you go to load that chart again, the custom stitch will be compared with the one in the library, and a new version of it will be created just for your chart. Here's a walk through of a scenario to help explain:

- Create custom stitch "pink thing"
- Save library
- Create chart using "pink thing" stitch.
    - Save chart to coloredborder.kvc, information about "pink thing" stitch is saved with chart
- …. Time passes (feel free to knit, or go see a movie) ….
- Run Knit Visualizer with a different chart loaded, and edit entry for custom stitch "pink thing", changing the color used to green for this stitch
- Save library
- …. Time passes ….
- Run Knit Visualizer and load Chart "coloredborder.kvc"

Your chart looks correct; but how can that be? It's because Knit Visualizer saw that the custom stitch in your chart was slightly different than what is in your Library. It doesn't want to presume that you want to use the Library one; so it creates a different custom stitch using the definition on the chart file.

When you run the Stitch Library Manager now, you'll see two entries for this particular stitch (see Figure 42) The first one, which is still pink, is the one defined in your chart. You can tell this because the ⚠ icon tells you that custom stitch has not been written to file.

The other is the one that was read in from the Library file.

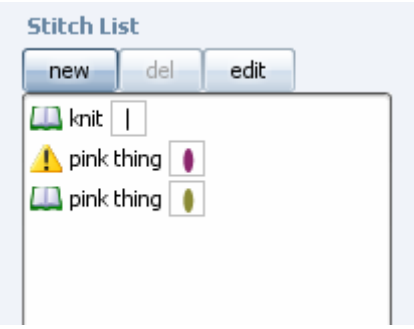

Figure 42: Two similar custom stitches

So what now? Maybe you wanted to use the new definition of the stitch. Knit Visualizer doesn't want to make any guesses so it just creates you a new stitch just in case you needed any of that information. If you'd like to use the "pink thing" from your library that is now green, you can use the Replace Stitch tool that you can get to from the Format menu. Save your chart, and now you'll have the same information

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for that stitch loaded in your library. You can delete the extra "pink thing" stitch if you need to work on your library and don't want it saved for all time.

You can also Compare the two stitches. Read on….

Comparing Two Custom Stitches

Sometimes it's hard to know what's different between two stitches that have the same name. The easiest way is to select those two stitches in the Stitch list using Control clicking, and then right click to find the Compare Stitches menu item. This is the window you'd see:

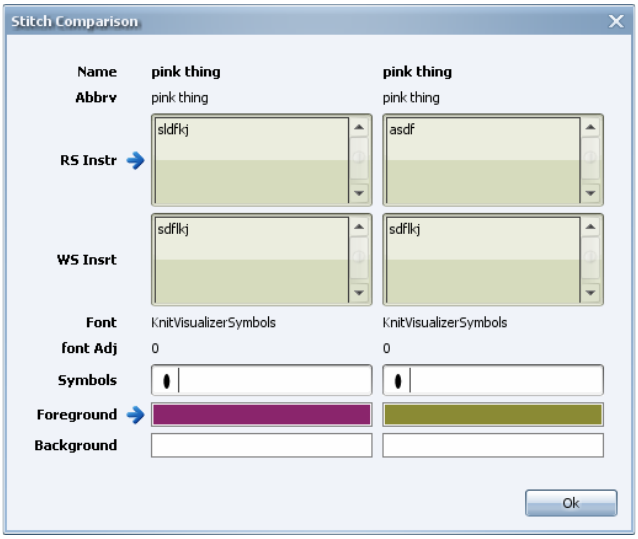

Figure 43: Stitch Comparison Dialog

The blue arrows in the second column point out what's different between the two stitches. In this case on the RS Instr, and the Foreground color are both different. You can't do anything in this dialog; only look at the two stitches to see what's different. Click the Ok button, or use the ESC key to close the dialog.

Creating a Custom Stitch and keeping it in your Chart only

For those of you paying attention, you'll have noticed that you can create custom stitches, and keep them with the charts that use them, and you don't really have to save them in the User Stitch Library file at all. (Unless you want to use them in other charts easily, without having to load the chart that has them defined). If you want to do this:

1. Create a Custom Stitch
2. Use "esc" to close the Stitch Library Manager, answer "No" when prompted to save your Stitch Library file
3. Create your chart, using your stitch
4. **Save** your chart
5. Exit Knit Visualizer

The next time you load this chart, the custom stitches used in it will be imported automatically.

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Importing Another Library

You can import a different library file by using the "Import Library…" button. Browse to the location of another .kvl file and you will import all the custom stitches from that library file. If you want to save these stitches into your own library, don't forget to hit "Save Library"; otherwise they will just disappear when you close Knit Visualizer.

Share your Stitch Library

Create a library of custom stitches to share.

- Remove all the stitches from your library but the ones you want to share.
- Change the name of your User Library to something like "NancySharedStitches.kvl" and then click "Save".
- Re-import your original stitch library
- Reselect the stitch library file you want to use to save ALL your stitches with the "…" key.
- Click "Save" again (make sure all the stitches you want are showing in the list).

Now you can send out the NancySharedStitches.kvl file to your friends, and they can import it. (Knit Visualizer library files (.kvl) are plain text, so they shouldn't be a problem to attach into an email.)

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Tips and Tricks

For more tips and tricks, please see our website http://www.knitfoundry.com/software.html

- To generate the pattern text for your chart, click on the Print button. You'll see the Preview window and one of the elements in that window is the pattern text. You can print it directly from there, or if you'd like to get just the text for the pattern for another document, select the pattern text using your mouse cursor and type Control-C to copy. Change to the other application (either notepad, MS Word, or other word processing software) and then type Control-V

- To include your chart in a pattern where you want the legend in a separate location than the chart, export one image file with only the chart, and one image file with only the legend. You can then move them around independently to work with whatever formatting your pattern uses.

- Remove all borders in the whole chart: Click on the "Select" Arrow to enter select mode; then use Control-A to select all cells in the chart. Click the Borders – None button.

- To fill an area very quickly with all purl stitches, or all knit stitches (or any stitch), copy a single instance of that stitch, then select the area to fill. Paste (Control-V), and the area will be filled.

- Does your chart look fuzzy when you paste it into another document? (either via Copy to Clipboard or Export to PNG) Usually this means the other application is making the chart larger than it was originally created. It's best to try and get the font size in Knit Visualizer as close as possible to where you want it for your other document. Otherwise we recommend making the font larger, then sizing the chart down in your other document.

- Switch between Select and Draw mode quickly using the S key. If you're in Draw mode, tap S and you're in Select mode. If you're already in draw mode, tap S and you're in Select mode now. This tip will only work if you are NOT currently typing into the pattern entry field.

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Quick Reference: Keyboard Shortcuts

Command	Key Sequence	Description
Application Preferences	Control-,	Shows dialog letting you edit Application wide preferences
Copy	Control-c	Copies current chart selection
Cut	Control-x	Cuts the current selection to the buffer; and replaces it with blank stitches in the chart
Decrease Font	Control--	Zoom out; decreases the font size of the chart
Delete	Delete	Deletes the current selection (not copied to buffer)
Duplicate	Control-d	Only works when selecting Cells or Columns; Duplicates & inserts the selection at the top of chart for rows, and at the right of the chart for columns
Duplicate	Control-d	Duplicates the row or column selection to the top or right side of the chart.
Increase Font	Control-+	Zoom in; increases the font size of the chart
Insert	Control-i	Inserts a full row or column that was previously copied into the buffer
Paste	Control-v	Pastes buffer
Redo	Control-y	Redo the last Undo action
Save	Control-s	Save the current chart. If filename has already been assigned it will save again in the same place.
Undo	Control-z	Reverses the last chart action (Edit, insert, etc)
Paint Continuous	Shift-left click, held down	Paints the same stitch over each cell the mouse is dragged over while both shift and the left mouse button are held down
Show Chart Properties	Control-[	Shows the Chart Properties dialog
Border Top	Control-T	Adds border on the top edge of the selection
Border Right	Control-R	Adds border on the right edge of the selection
Border Left	Control-L	Adds border on the left edge of the selection
Border Bottom	Control-B	Adds border on the bottom edge of the selection
Border All	Control-;	Adds border around all edges of the selection
Border None	Control-0	Removes all borders within all cells of the selection
New Chart	Control-N	Opens the New Chart dialog
Open Chart	Control-O	Prompts you to open a file containing a chart
Show Preview	Control-P	Lets the user view the Preview dialog and from there Print or Export to an image file

Print this page for a handy reference!

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Quick Reference: Stitches & Definitions

knit: knit stitch

purl: purl stitch

slip: Slip stitch as if to purl, holding yarn in back

slip wyif: Slip stitch as if to purl, with yarn in front

knit tbl: Knit stitch through back loop

purl tbl: Purl stitch through the back loop

k in st below: Knit into stitch below, inserting needle from front through the st in the row below

p in st below: Purl stitch in the row below, inserting needle from behind through the st in the row below

k1 elongated: knit one stitch wrapping yarn twice. Drop extra wrap from needle on next row.

k1 elongated twice: knit one stitch wrapping yarn three times. Drop extra wraps from needle on next row.

No Stitch: Placeholder - No stitch made.

make one: Make one by lifting strand in between stitch just worked and the next stitch, knit into back of this thread.

make one right: Place a firm backward loop over the right needle, so that the yarn end goes towards the back

make one left: Place a firm backward loop over the right needle, so that the yarn end goes towards the front

yo: Yarn Over

kfb: Knit into the Front and Back of the stitch

(k1 p1 k1) in 1 st: knit, purl and knit again all in the same st to make 3 sts from 1

(k1 yo k1) in 1 st: k1 leave on needle, yo, then knit again into same st to make 3 sts from 1

(p1 yo p1) in 1 st: (p1, yo, p1) all in 1 st to make 3 sts from 1

Central Double Inc: (k1 through back loop, k1) in one stitch, then insert left needle point behind the vertical strand that runs down between 2 sts just made, and k1 through back loop into this strand to make 3rd stitch of group

yo twice: Yarn Over Twice

yo 3x: Yarn Over three times

yo 4x: Yarn Over four times

yo 5x: Yarn Over five times

yo 6x: Yarn Over six times

yo 7x: Yarn Over seven times

yo 8x: Yarn Over eight times

m4 sts in one: (k1 p1 k1 p1) in one stitch

m5 sts in one: (k1 yo k1 yo k1) in one stitch

m6 sts in one: (k1 p1 k1 p1 k1 p1) in one stitch

m7 sts in one: (k1 yo k1 yo k1 yo k1) in one stitch

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ssk: Slip one stitch as if to knit, Slip another stitch as if to knit. Insert left-hand needle into front of these 2 stitches and knit them together

k2tog: Knit two stitches together as one stitch

k2tog tbl: Knit two stitches together in back loops as one

k3tog: Knit three stitches together as one

k3tog tbl: Knit three stitches together through back loops

Central Double Dec: Slip first and second stitches together as if to knit. Knit 1 stitch. Pass two slipped stitches over the knit stitch.

k4tog: Knit four stitches together as one

k5tog: Knit five stitches together as one

k6tog: Knit six stitches together as one

k7tog: Knit seven stitches together as one

sl1 k psso: slip 1, knit 1, pass slipped stitch over knit 1

sl1 kwise k1 psso: Slip 1 as it to knit, knit 1 stitch, pass slipped stitch over knit stitch.

sl1 k2tog psso: slip 1, k2tog, pass slip stitch over k2tog

sl1 k3tog psso: Slip 1 stitch, k3tog, pass slipped stitch over k3tog

sl2 k3tog p2sso: Slip 2 stitches, k3tog, pass 2 slipped stitches over k3tog

sssk: (Slip 1 as if to knit) 3 times; insert left-hand needle from the front to the back of all stitches at the same time and knit them together.

p2tog: Purl 2 stitches together

p2tog tbl: Purl two stitches together in back loops, inserting needle from the left, behind and into the backs of the 2nd & 1st stitches in that order

p3tog: Purl three stitches together as one

p3tog tbl: Purl three stitches together as one, inserting needle from the left and behind

p4tog: Purl four stitches together as one

p5tog: Purl five stitches together as one

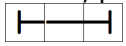
p6tog: Purl six stitches together as one

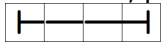
p7tog: Purl seven stitches together as one

sl1 p2tog psso: slip 1 stitch, p2tog, then pass slipped stitch over p2tog

bobble: To make bobble: (k1 yo k1 yo k1) in one stitch, turn and p5. Turn and k5. Turn and p2tog, p1, p2tog. Turn and sl1-k2tog-psso, completing bobble

cluster2: Slip 2 stitches with yarn in back, pass yarn to front, Slip same three stitches back to left needle, pass yarn to back. k3

 cluster3: Slip 3 stitches with yarn in back, pass yarn to front, Slip same three stitches back to left needle, pass yarn to back. k3

 cluster4: Slip 4 stitches with yarn in back, pass yarn to front, Slip same 4 stitches back to left needle, pass yarn to back. k4

cluster5: Slip 5 stitches with yarn in back, pass yarn to front, Slip same 5 stitches back to left needle, pass yarn to back. k5

nupp: (k1 p1 k1 p1 k1) in stitch, take first 4 stitches created over the last

Left Twist: sl1 to CN, hold in front. k1, k1 from CN

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Left Twist, purl bg: sl1 to CN, hold in front. p1. k1 from CN

Purled Left Twist: sl1 to CN and hold to front. p1, p1 from CN

Right Twist: Skip the first stitch, knit into 2nd stitch, then knit skipped stitch. Slip both stitches from needle together OR k2tog leaving sts on LH needle, then k first st again, sl both sts off needle.

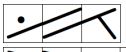
Right Twist, purl bg: sl1 to CN, hold in back. k1, p1 from CN

Purled Right Twist: sl1 to CN, hold in back. p1, p1 from CN. OR p into 2nd st, then p 1st st

c1 over 2 left: sl 1 to CN, hold in front. k2, k1 from CN

c1 over 2 left P: sl 1 to CN, hold in front. p2, k1 from CN

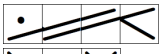
c1 over 2 right: sl2 to CN, hold in back. k1, k2 from CN

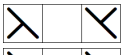
 c1 over 2 right P: sl2 to CN, hold in back. k1, p2 from CN

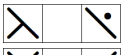
c1 over 3 left: sl1 to CN, hold in front. k3, k1 from CN

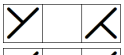
c1 over 3 left P: sl1 to CN and hold in front, p2, k1 from CN

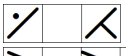
c1 over 3 right: sl3 st to CN, hold in back. k1, k3 from CN

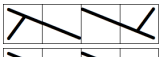
 c1 over 3 right P: sl3 to CN, hold in back. k1, p3 from CN

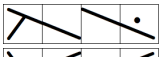
 c2 over 1 left: sl2 to CN, hold in front. k1, k2 from CN

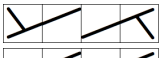
 c2 over 1 left P: sl2 to CN, hold in front. p1, k2 from CN

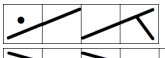
 c2 over 1 right: sl1 to CN, hold in back. k2, k1 from CN

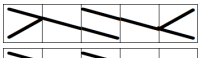
 c2 over 1 right P: sl1 to CN, hold in back. k2, p1 from CN

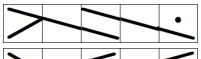
 c2 over 2 left: sl 2 to CN, hold in front. k2, k2 from CN

 c2 over 2 left P: sl 2 to CN, hold in front. p2, k2 from CN

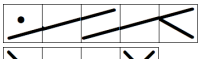
 c2 over 2 right: sl2 to CN, hold in back. k2, k2 from CN

 c2 over 2 right P: sl2 to CN, hold in back. k2, p2 from CN

 c2 over 3 left: sl2 to CN, hold in front. k3, k2 from CN

 c2 over 3 left P: sl2 to CN, hold in front. p3, k2 from CN

c2 over 3 right: sl3 to CN, hold in back. k2, then k3 from CN

 c2 over 3 right P: sl3 to CN, hold in back. k2 then p3 from CN

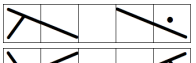
c3 over 1 left: sl3 to CN, hold in front. k1, then k3 from CN

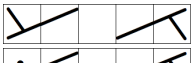
c3 over 1 left P: sl3 to CN, hold in front. p1, k3 from CN

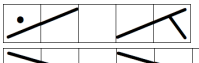
c3 over 1 right: sl1 to CN, hold in back. k3, k1 from CN

c3 over 1 right P: sl1 to CN, hold in back. k3, p1 from CN

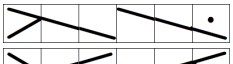
c3 over 2 left: sl3 to CN, hold in front. k2, then k3 from CN

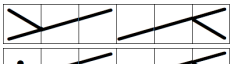
 c3 over 2 left P: sl3 to CN, hold in front. p2, then k3 from CN

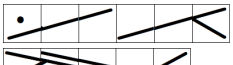
 c3 over 2 right: sl2 to CN, hold in back. k3, then k2 from CN

 c3 over 2 right P: sl2 to CN, hold in back. k3, then p2 from CN

c3 over 3 left: sl3 to CN, hold in front. k3, k3 from CN

 c3 over 3 left P: sl3 to CN, hold in front. p3, k3 from CN

 c3 over 3 right: sl3 to CN, hold in back. k3, then k3 from CN

 c3 over 3 right P: sl3 to CN, hold in back. k3 then p3 from CN

c1 over 4 left: sl1 to CN, hold in front. k4, k1 from CN

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c1 over 4 left P: sl1 to CN, hold in front. p4, k1 from CN

c1 over 4 right: sl4 to CN, hold in back. k1, then k4 from CN

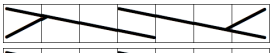
c1 over 4 right P: sl4 to CN, hold in back. k1 then p4 from CN

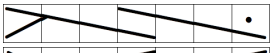
c2 over 4 left: sl2 to CN, hold in front. k4, k2 from CN

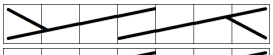
c2 over 4 left P: sl2 to CN, hold in front. p4, k2 from CN

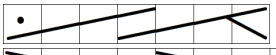
c2 over 4 right: sl4 to CN, hold in back. k2, then k4 from CN

c2 over 4 right P: sl4 to CN, hold in back. k2 then p4 from CN

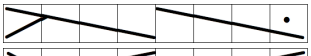
 c3 over 4 left: sl3 to CN, hold in front. k4, k3 from CN

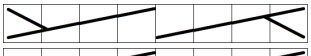
 c3 over 4 left P: sl3 to CN, hold in front. p4, k3 from CN

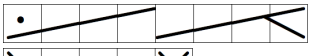
 c3 over 4 right: sl4 to CN, hold in back. k3, then k4 from CN

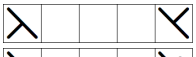
 c3 over 4 right P: sl4 to CN, hold in back. k3 then p4 from CN

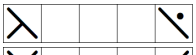
c4 over 4 left: sl4 to CN, hold in front. k4, k4 from CN

 c4 over 4 left P: sl4 to CN, hold in front. p4, k4 from CN

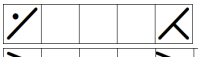
 c4 over 4 right: sl4 to CN, hold in back. k4, then k4 from CN

 c4 over 4 right P: sl4 to CN, hold in back. k4 then p4 from CN

 c4 over 1 left: sl4 to CN, hold in front. k1, then k4 from CN

 c4 over 1 left P: sl4 to CN, hold in front. p1, k4 from CN

c4 over 1 right: sl1 to CN, hold in back. k4, k1 from CN

 c4 over 1 right P: sl1 to CN, hold in back. k4, p1 from CN

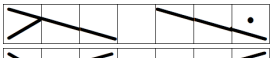
c4 over 2 left: sl4 to CN, hold in front. k2, then k4 from CN

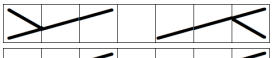
c4 over 2 left P: sl4 to CN, hold in front. p2, then k4 from CN

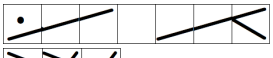
c4 over 2 right: sl2 to CN, hold in back. k4, then k2 from CN

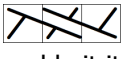
c4 over 2 right P: sl2 to CN, hold in back. k4, then p2 from CN

c4 over 3 left: sl4 to CN, hold in front. k3, k4 from CN

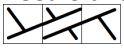
 c4 over 3 left P: sl4 to CN, hold in front. p3, k4 from CN

 c4 over 3 right: sl3 to CN, hold in back. k4, then k3 from CN

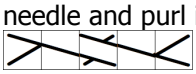
 c4 over 3 right P: sl3 to CN, hold in back. k4 then p3 from CN

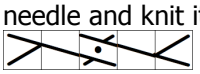
 cross 1 over 1 left: sl2 to CN, hold in front. k1, sl center st from CN back to left hand needle and knit it. k1 from CN

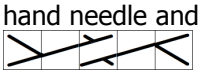
cross 1 over 1 left/purl bg: sl2 to CN, hold in front. k1, sl center st from CN back to left hand needle and purl it. k1 from CN

 cross 1 over 1 right: sl2 to CN, hold in back. k1, sl center st from CN back to left hand needle and knit it. k1 from CN

cross 1 over 1 right/purl bg: sl2 to CN, hold in back. k1, sl center st from CN back to left hand needle and purl it. k1 from CN

 cross 2 over 2 left: sl3 to CN, hold in front. k2, sl center st from CN back to left hand needle and knit it. k2 from CN

 cross 2 over 2 left/purl bg: sl3 to CN, hold in front. k2, sl center st from CN back to left hand needle and purl it. k2 from CN

 cross 2 over 2 right: sl3 to CN, hold in back. k2, sl center st from CN to left hand needle and knit it. k2 from CN

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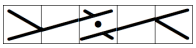
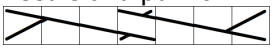
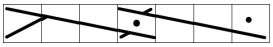
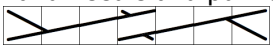
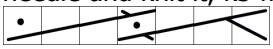
 cross 2 over 2 right/purl bg: sl3 to CN, hold in back. k2, sl center st from CN to left hand needle and purl it. k2 from CN

 cross 3 over 3 left: sl4 to CN, hold in front. k3, sl center st from CN to left hand needle and knit it. k3 from CN

 cross 3 over 3 left/purl bg: sl4 to CN, hold in front. k3, sl center st from CN to left hand needle and purl it, k3 from CN

 cross 3 over 3 right: sl 4 to CN, hold in back. k3, sl center st from CN to left hand needle and knit it, k3 from CN

 cross 3 over 3 right/purl bg: sl4 to CN, hold in back. k3, sl center st from CN to left hand needle and purl it, k3 from CN

■ color1: none defined

% color2: none defined

color3: none defined

◆ color4: none defined

◣ color5: none defined

◤ color6: none defined

◥ color7: none defined

◢ color8: none defined

▲ color9: none defined

> color10: none defined

< color11: none defined

△ color12: none defined

▽ color13: none defined

+ color14: none defined

◓ color15: none defined

⬮ color16: none defined

☻ color17: none defined

⌘ color18: none defined

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Where to go for Support

Yahoo group: knit-visualizer-users@yahoogroups.com
You can join this group by visiting: http://groups.yahoo.com/group/knit-visualizer-users
We have a group on Ravelry http://www.ravelry.com/groups/knit-visualizer-users

Both forums are monitored by The Knit Foundry. Additionally you can send email to support@knitfoundry.com. It might take us a while to get back to you; but we do read all comments and suggestions.

Other Resources

There are a lot of books on knitting charts. First and foremost are the Barbara Walker Treasuries. (The cable symbols used in Knit Visualizer are modeled after the cables drawn in Barbara Walker's Treasuries) While not all of these books cover charts, they are a great resource for stitch patterns. Knit Visualizer extensively used the patterns in these books to test and build the Pattern Entry parser.

A Treasury of Knitting Patterns
by Barbara G. Walker
Published by: Schoolhouse Press
ISBN: 0942018168

A Second Treasury of Knitting Patterns
by Barbara G. Walker
Published by: Schoolhouse Press
ISBN: 0942018176

Charted Knitting Designs: A Third Treasury of Knitting Patterns
by Barbara G. Walker
Published by: Schoolhouse Press
ISBN: 0942018184

A Fourth Treasury of Knitting Patterns
by Barbara G. Walker
Published by: Schoolhouse Press
ISBN: 0942018206

Online Resources

Knit Foundry has a tutorial for reading charts and knitting from them.
http://www.knitfoundry.com/freestuff.html

Kim Salazar at her *string-or-nothing* blog, wrote an excellent series of tutorials on charts & creating them from patterns. The first tutorial is here:
http://www.string-or-nothing.com/2005/10/31/CHARTING101.aspx
A lot of what she describes in her tutorials, Knit Visualizer does for you, but it's very useful to understand the concepts.

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