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4D Embroidery Extra
4D Stitch Editor
4D Sketch
4D Design Creator
4D Design Aligner
4D Organizer
4D Configure
4D Disk Manager
4D Reader/Writer USB
4D d-Card Reader/Writer
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All of the projects and information presented in this book were completed using version 8.0 of the 4D Embroidery System and stitched out on a Husqvarna Viking Designer SE sewing machine. However, no warranty is given nor results guaranteed.

Questions, comments, and inquiries are welcomed by the author who may be contacted via email at his web site:

www.mrpatience.com

Table of Contents

Chapter 0 – Computer Skills Prerequisites

Before we get started, I need to establish some ground rules. Using *4D Embroidery* is not complicated, but you must have some basic computer skills before you use this book. If you already know how to navigate through your hard drive and find/create various folders, subfolders, and files on your own, then you should create a new folder in your root directory named **Embroidery Projects** then skip the rest of this chapter and go straight to **Chapter 1**. However, if your computer skills are weak, then you must first **thoroughly** learn the concepts presented in this chapter. If I were to write this book with the intention of explaining all of the basic computer concepts presented here in every chapter, then the book would probably be as thick as one of those 1,000 page books you see on the shelves of your local computer store and cost a lot more. I promise that this won't hurt, and you will be a better person for learning these basic concepts.

You need certain basic computer skills to get the most out of *4D Embroidery*. If you are comfortable with the following computer-related tasks, then you can skip ahead to **Chapter 1 – Jump Right In**. If you are not sure if you have the required skills, then take a few minutes to review the objectives of this chapter listed here.

- Understand what a file extension is and what it means
- Start Windows Explorer (as opposed to Internet Explorer)
- Navigate through Windows Explorer to a specific folder
- Create a new folder in a specific location
- Use Windows Explorer's search feature to find a specific file

If you feel comfortable with these concepts and understand the meanings of them, then feel free to move on to **Chapter 1**. On the other hand, if the list above looks like this:

- Understand what a ⚹⌘●⚏ ⚏⊠♦⚏■♦⌘■ is and what it means
- Start ⚶⌘■♏◻♦♦ ☞⊠◻●◻◻⚏◻ (as opposed to ✋■ ☞⊠◻●◻◻⚏◻)
- Navigate through ⚶⌘■♏◻♦♦ ☞⊠◻●◻◻⚏◻ to a specific ⚹◻●♏⚏◻
- Create a new ⚹◻●♏⚏◻ in a specific location
- Use ⚶⌘■♦♦ ☞⊠◻●●❼♦ ♦⚏♒ ⚹☺⑅⌘●⌘♦⊠ to find ☺ ♦◻⚏⑅⌘⚏

then you need to read this chapter carefully and make sure that you understand the concepts of managing and finding files on your computer.

Files – What are they?

In the world of computer terminology, a file is a container that holds something. A file may contain a collection of text like a letter you wrote with your word processing software. Some of the files that we will work with while using *4D Embroidery* contain stitches and other instructions to the sewing machine telling it when to start, stop, and end the embroidering process.

Files all have names. File names consist of a long series of text. An example is:

C:\4DEmbroidery\Samples\4DEmb\Stitch\Cherry.vp3

Let's break down that string and explain it. The **file name** was all the way at the end of that string of characters. The **file name** is **Cherry.vp3**. A **file name** is just like the name of a person. i.e. There is a first and last part of the name. Just like a person's name, the part of the name that comes <u>after</u> the period is kind of like the family name. e.g. The name John Smith could be thought of as John.Smith. In the old days, your last name told the public what your skill or trade was. John Smith was probably a blacksmith. Henry Tailor was the person who made clothing. You wouldn't visit Mr. Tailor and ask him to fix a wheel on your wagon any more than you would visit Mr. Smith and ask him to make you a pair of pants. The family part of the name is known as the **file extension**. The **file extension** tells your computer what kind of information is in the file and, more importantly, <u>which program</u> on your computer should be used to work with the file. You would not want to try to open a word processing document with *4D Embroidery* because it just wouldn't work.

All of the other characters in the text that you typed in told the computer the **<u>exact location</u>** for the file. Let's break down the rest of the text so that you understand what it means.

C:\4DEmbroidery\Samples\4DEmb\Stitch\Cherry.vp3

C: - this told your computer which piece of <u>hardware</u> holds the file you want to use. The **C:** designation almost universally represents the hard drive that is built into your computer.

** - the backward slash is a separator used to indicate that we are about to designate a **folder name or a **file name**. Each set of characters that you see between the \'s are the names of **folders**. **Folders** are also containers. They may contain **files** and/or other **folders**. Here is an English translation of what the text string means to the computer:

"Look on the hard disk drive **C:** on this computer for the <u>folder</u> named **4DEmbroidery** and open it, find the <u>folder</u> named **Samples** located inside of the **4DEmbroidery** folder and open it, find the <u>folder</u> named **4DEmb** located inside of the folder **Samples** and open it, find the <u>folder</u> named **Stitch** inside of the folder **4DEmb** and open it, find the <u>file</u> named **Cherry.vp3** and open it."

The **file name** is <u>always</u> found at the <u>end</u> of the text string.

I'm sure that you are thinking that there must be a better way to find a file without doing all of that typing. There is a way to **navigate** through your hard drive to find a file. You have to use a tool known as **Windows Explorer**. (**Note:** This is <u>not</u> **Internet Explorer**. Internet Explorer is the program that you use to surf the internet. It's also known as a **browser**. **Windows Explorer** is used to view and manage the **files** and **folders** on your hard drive.)

6

Starting and Using Windows Explorer

Starting **Windows Explorer** is the easiest thing in the world. All you have to do is to use a keyboard shortcut. If you look on your keyboard, you can find a key known as the **Windows** key. It is usually located on the same row of keys as the space bar. Depending on your keyboard, you may even have two Windows keys, one on each side of the space bar. If you are working with a laptop computer, then you probably only have one Windows key and it may be anywhere on the keyboard.

The Windows key has four squares on it and looks like a flag being blown by the wind. On my computer it is right between the **Ctrl** and **Alt** key on the left side of my keyboard. Take a second and find your **Windows** key.

The **Windows** key, like the **Shift** key, the **Ctrl** key, and the **Alt** key, is meant to be used in combination with another key. When you see an instruction like "Hit **Ctrl A**" this means that you should treat the **Ctrl** key the same way that you would treat the **Shift** key. If the instruction had said "Type a capital A". You would hold down the **Shift** key and then tap on the **A** key to type a single capital A. There is no need to try and synchronize the pressing of these keys. You should **hit and hold down** the first key indicated. But you should **not hold down** the second key in the combination. If you hit the **Shift** key and then held down the **A** key, you would see a line of **A's**. And this is not what you want.

Let's use the **Windows** key to start **Windows Explorer**. To do this you need to hit the **Windows E** key. Remember, this means to **hit and hold down** the **Windows** key first and then tap on the **E** key. (You don't have to type in a capital E. I just use a capital letter for emphasis.)

After a few seconds **Windows Explorer** will start. Here is how your screen will look. (**Note:** You will have different **device** and **folder** names on your computer.)
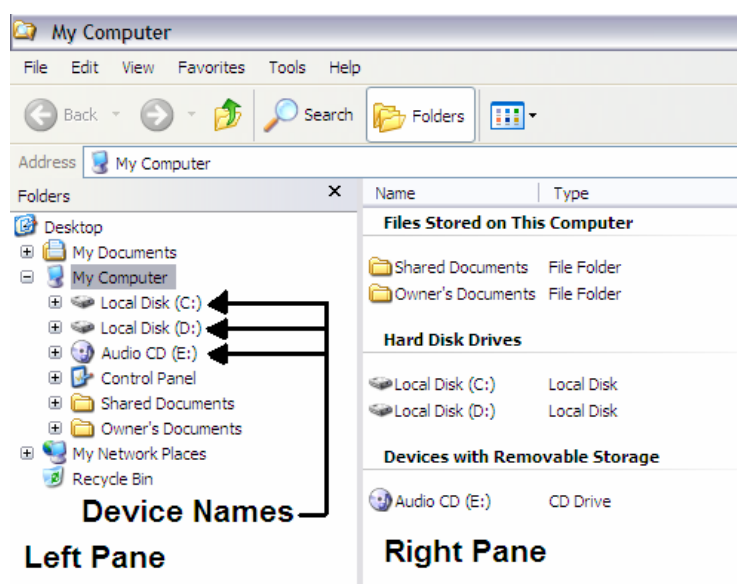
There is a **left pane** that shows **device names** (what kind of hardware you have installed in your computer.)

There is a **right pane** that shows the **contents** of anything (a **device** or **folder**) that is currently **opened** in the **left pane**.

Let's open the **C:** drive by **left clicking** (click on your left mouse button once) on the **name** of the device, **Local Disk**.

When you **left click** on the **name** of the **device** or **folder** in the **left pane**, then that **device** or **folder** will open and its contents will appear in the **right pane.**
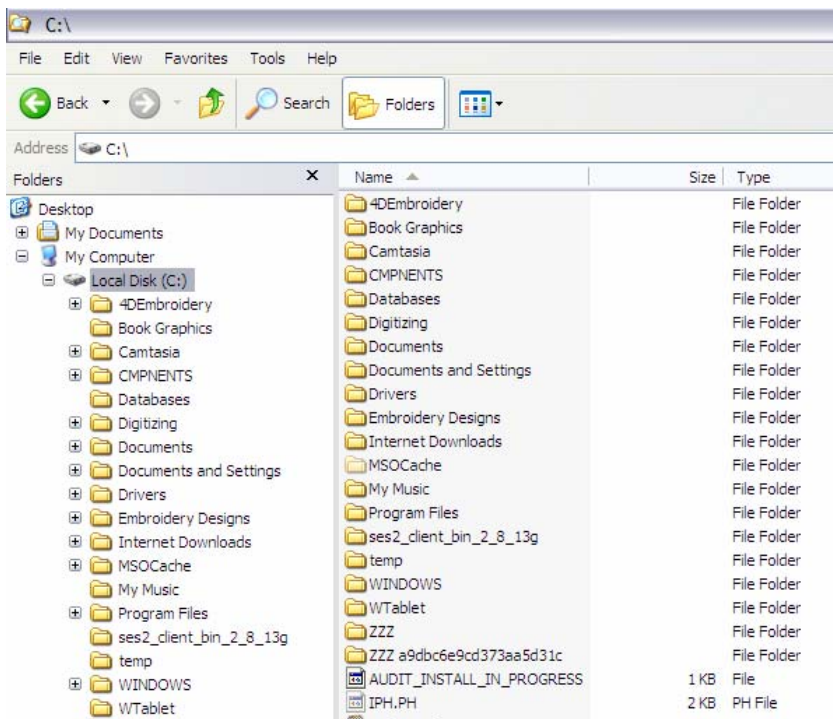
If your screen does not look like this, then you have to change the **view** in your **right pane**. There is a tool you can use on the **menu bar**. The **menu bar** is the list of words reading, from left to right, **File Edit View Favorites Tools Help**.

Left click on **View** and a drop down menu will appear.

Left click on the word **Details** as shown here:
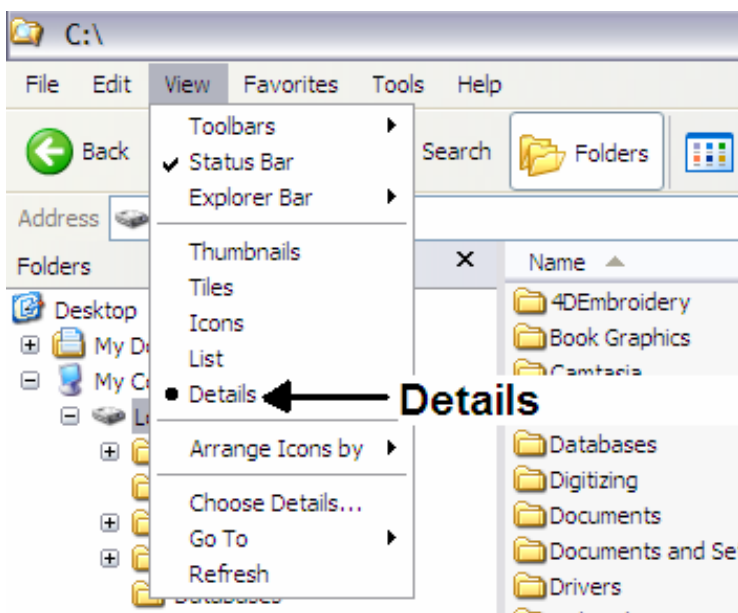
The **folders** and **files** will now look like the first picture I showed you of **Windows Explorer**.

Now we can get back to an explanation of what we are seeing in **Windows Explorer.**
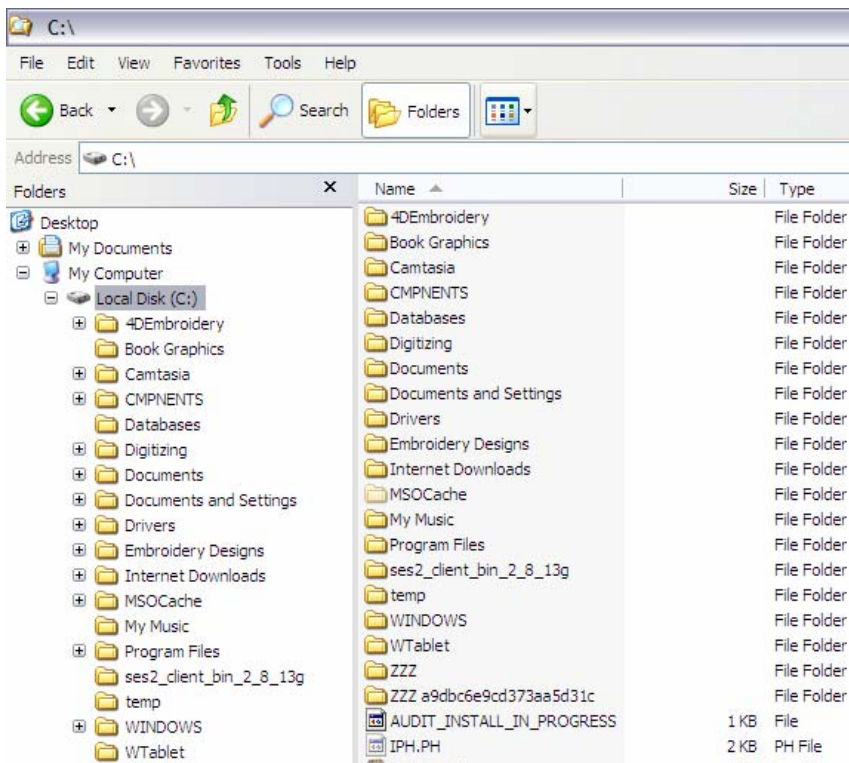
You can see the names of various **folders** in the left pane. **Folders** each have a little icon in front of them that resembles a yellow, manila folder. If you look closely enough, the folder appears to be closed. As we open a folder, the little icon will change so that it appears to be open. There is also a plus sign next to some of the folders.

This means that there are **additional folders**, or **sub-folders** inside of that folder. Look at the folder we are most interested in, **4DEmbroidery**. There is a plus sign next to it. You can open a folder in one of two ways. You can either **left click** on the little plus sign, or you can **left click** on the **name** of the folder. If you use the technique of left clicking on the plus sign, the folder will open and display the names of the sub-folders it contains in the left pane. However, the right pane will remain unchanged. If you **left click** on the **name** of the folder, not only will the contents of the left pane change, but the contents of the right pane will also change as well and show us the contents of the folder we just opened in the left pane. I prefer to use the **left click** technique and I recommend that you use it as well.   Let's open the **4DEmbroidery** folder now. **Left click** on the **name** of the folder. You should see something like this:
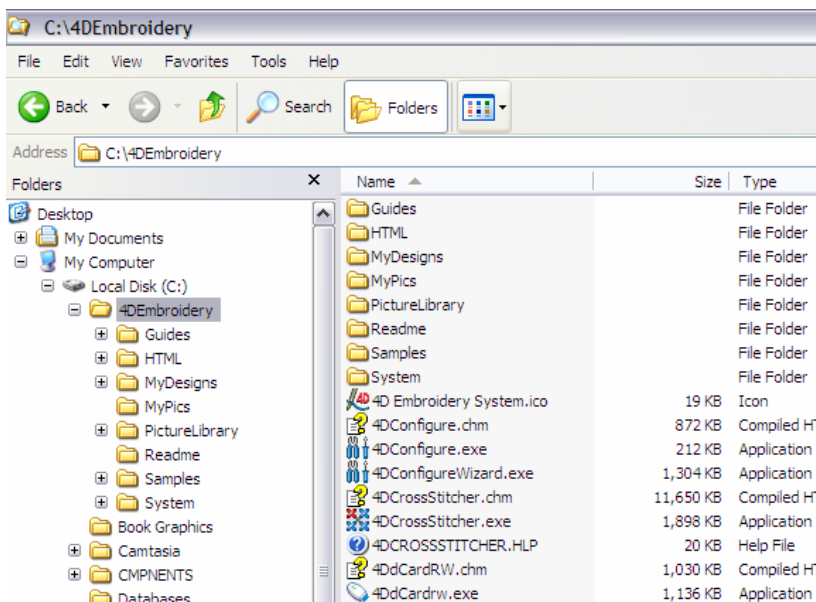
Note: If your right pane does not look like this, then you need to change the **View** like we did earlier in this section. Remember, change it to **Details**.

You can see something interesting in this graphic. The names of the **sub-folders** in the left pane are the same as the names of the first few items in the right pane. The **folder** names in the right pane do not have the little plus signs in front of them like the **folder** names in the left pane. However, they are the same **sub-folders**. All of the other objects listed after the folder names in the right pane are the names of various **files** contained in the **4DEmbroidery folder**. Several of them have different icons in front of their names. These icons are little pictograms intended to remind you what the files are used for and which

program will open that kind of file. We don't have to worry about their meaning, since we will let the software handle their meanings.

To open one of the **sub-folders** contained in the **4D Embroidery** folder, you can **left click** on the folder name in the left pane of **Windows Explorer** or **double left click** on the name of the folder in the right pane of **Windows Explorer**. For now, let's get into the habit of clicking on the **name** of the folders you want to open in the **left pane** of Windows Explorer. Think of the **left pane** of Windows Explorer as the table of contents of a book and the **right pane** as showing you what is in the chapter of each book as you open the book to that chapter.

The majority of the stitch files that you will be using are stored in the sub-folder named **Samples**. Open that folder now by **left clicking** on its **name**. Your screen should look like this:
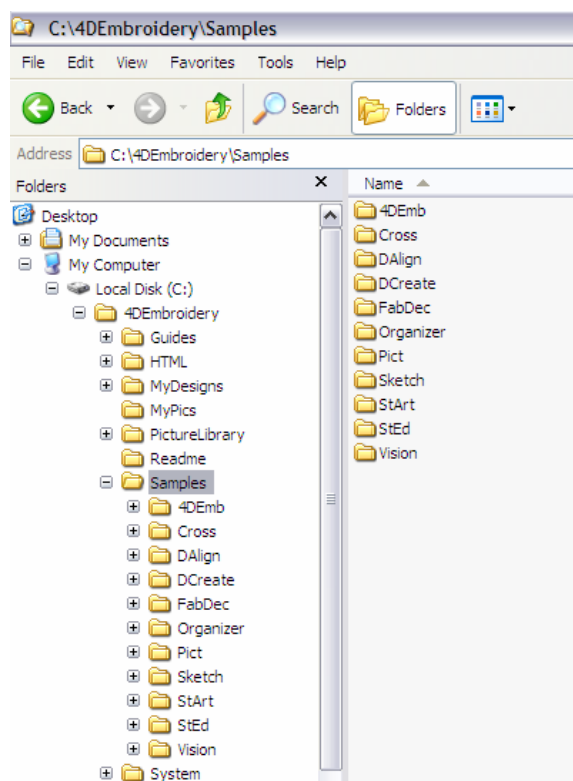
You can see that there are several sub-folders in the **Samples** folder. If you do not have all of the modules of the **4D Professional System**, then you will not have all of the sub-folders shown here. You will have the sub-folder named **4DEmb** so let's open that sub-folder and see what's in it.
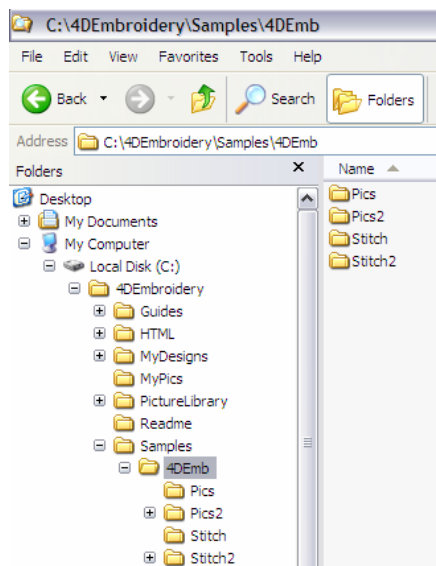
The sub-folder **4DEmb** contains four sub-folders named **Pics, Pics2, Stitch** and **Stitch2**. If you open the **Pics** sub-folder or the **Stitch** sub-folder, you will find the pictures or stitch files that were installed with *4D Embroidery.* We will use some of these pictures and designs later to complete various projects.

Creating Folders for Your Projects

We will be creating stitch files that we will store in **Embroidery Projects** folder as we work through this book. They should not be mixed in with the original designs that were installed with *4D Embroidery*. That way you can always come back to the originals and use them again. So let's create a folder and name it **Embroidery Projects**. As you complete the projects in this book, I will be giving you instructions on how to save your work in the **Embroidery Projects** folder.

When you open Windows Explorer, and then click on the name of your **C:** drive, we want to see the new folder **Embroidery Projects** right away. That is, we do not want to have to click on other folders to open them to find this folder. Folders that appear when you first open the **C:** drive this way are said to be contained in the **root directory** of your hard drive. Let's create the **Embroidery Projects** folder now.

1. If Windows Explorer is not already open on your computer, then open it by hitting **Windows E**.

2. Find your **C:** drive in the left pane of Windows Explorer and **left click** on its __name__ (here it is **Local Disk (C:**). You will now see that the **right pane** of Windows Explorer contains all of the folders and files that are contained in the **root directory** of your hard drive. It should look something like this:
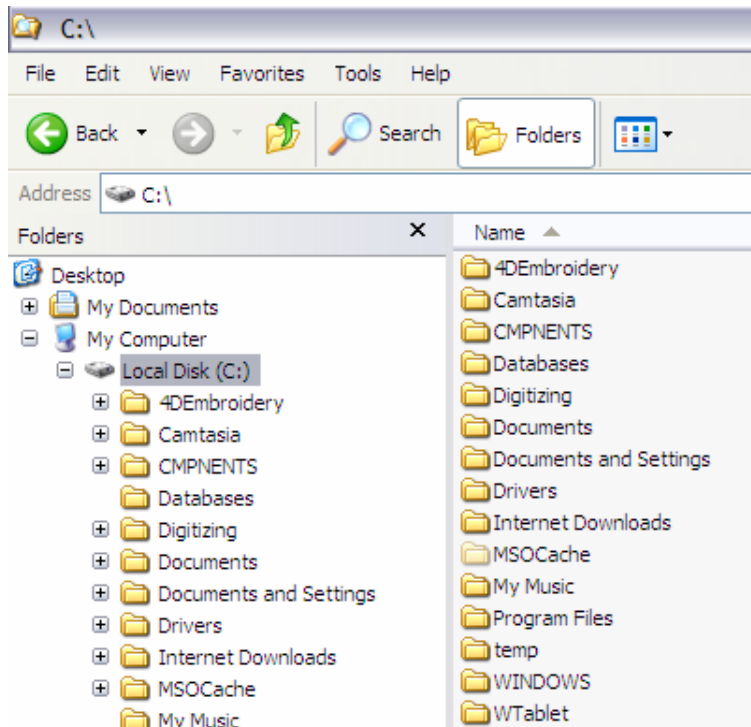
Here, only the folders shown in the **root directory** are shown in the left and right pane. You should follow these instructions as they are and you will soon have a folder named **Embroidery Projects** in your **root directory**.

3. Now, left click on the word **File** on the **menu bar** (remember this is the list of words at the top of the screen.) and another pop-down menu will appear like this:
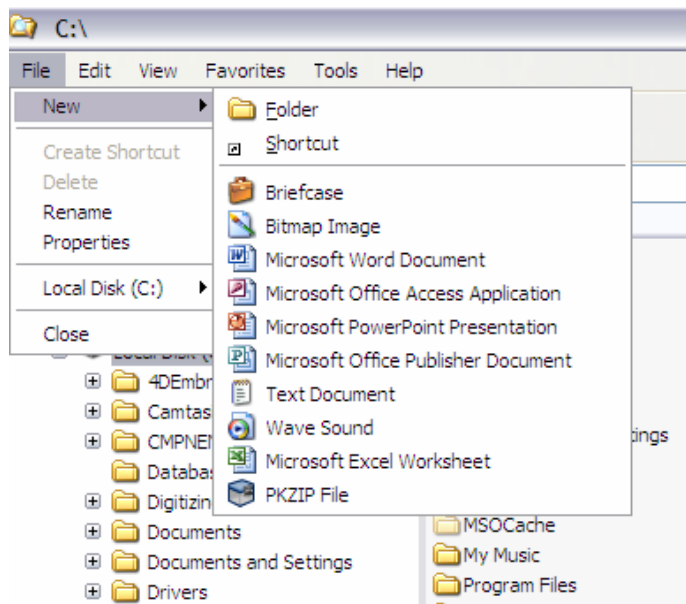
See the word **New** at the top of the menu? It has a little arrowhead pointing to the right. This means that when you hold your mouse pointer on it, there will be some additional options presented to you. Move your mouse pointer (the little arrow head on your screen) to the word **New** and the menu on the right will appear.

4. The first option in this menu is the word **Folder** and this is what we must left click on to create a new folder. Left click on folder and your computer will make a new folder and name it **New Folder** and put the new folder at the bottom of the list of folders in your **root directory** until you name it. The name of the folder will be selected (it will appear as white letters on a navy blue background or black letters on a gray background depending upon how your computer is set up). When you begin typing, all of the letters will disappear and be replaced with whatever you type in. Type in **Embroidery Projects** and then hit your **Enter** key.

5. Your screen should now look like this:
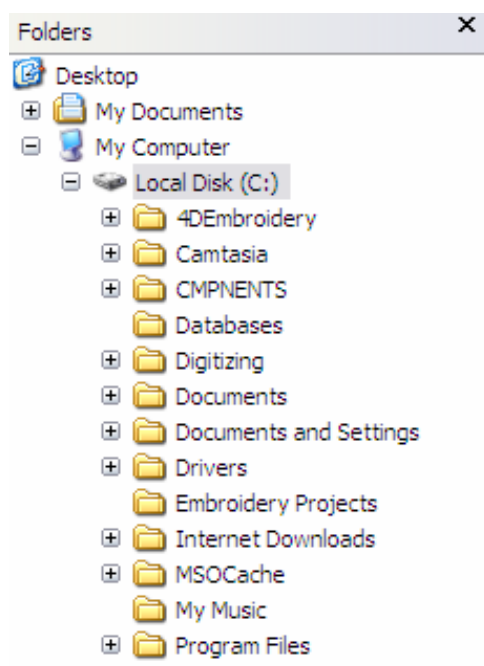
There in the left pane of Windows Explorer, in alphabetical order is your new folder **Embroidery Projects**.

Navigating Through Your Hard Disk in Dialogs

From time to time when you are working with *4D Embroidery*, or any other software package, you will activate a **dialog** to find and load a file. There is nothing mysterious about navigating through your hard disk once you get your head around what is happening and what your computer is trying to tell you. Let's run through a quick exercise and learn how to tame **dialogs**.

1. Start *4D Embroidery* on your computer.

2. **Left click** on the word **File** on the menu bar. Then **left click** on the word **Open** on the drop down menu that appears. You have just activated the **Open dialog**. Your screen should look something like this:
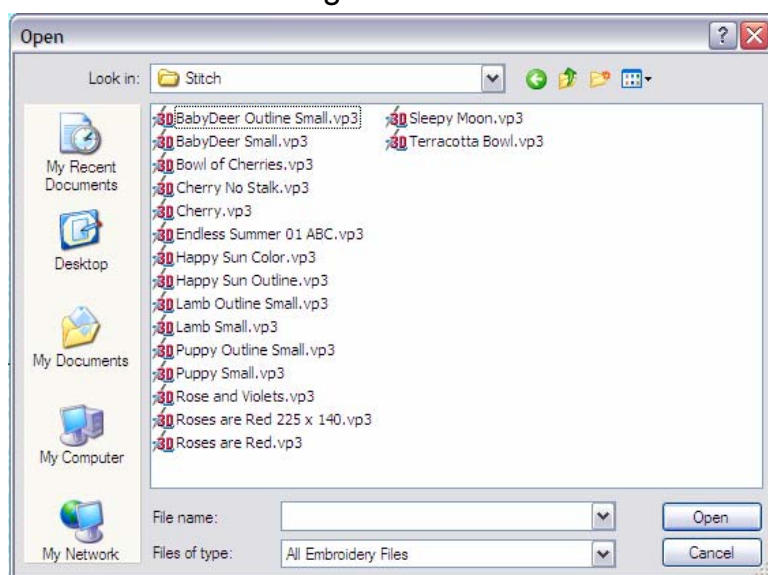
You will probably see a different set of folders and files than those I'm showing here. That's OK, we will get in synch with each other in a second. What we are seeing here is the contents of a folder named **Stitch**. That is the name shown in the **Look in:** box at the top of the dialog. Let's get in synch so that we are looking at the same thing now.

3. **Left click** on the downward pointing arrow at the right side of the **Look in:** box. Here is what your screen should look like now:
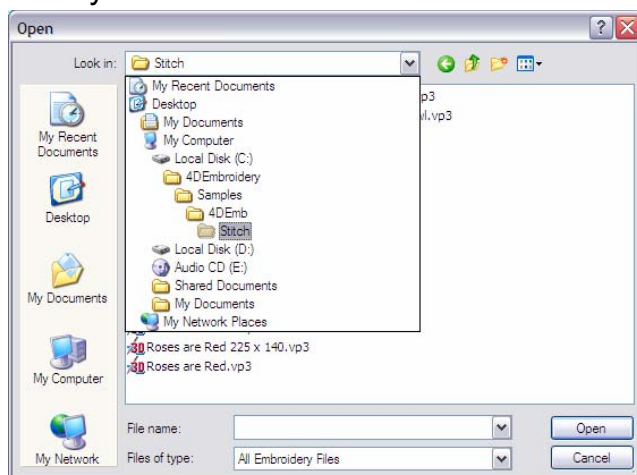
This screen gives us lots of information. We can see that the **Stitch** folder I had open was a sub-folder in **4DEmb**, which is a sub-folder in **Samples**, which is a sub-folder in **4DEmbroidery**, which is located on my **C:** drive. Your screen will look different at this time unless you had the same folder open when the dialog started (which is highly unlikely). However, you will see that the first 5 items in your list should match mine (My Recent Documents, Desktop, My Documents, My Computer, and Local Disk (C:).) From there on down we will probably not match. But that's OK. We are about to get in synch with each other.

13

4. **Left click** on **My Computer**. Once you do, your screen should look something like this:
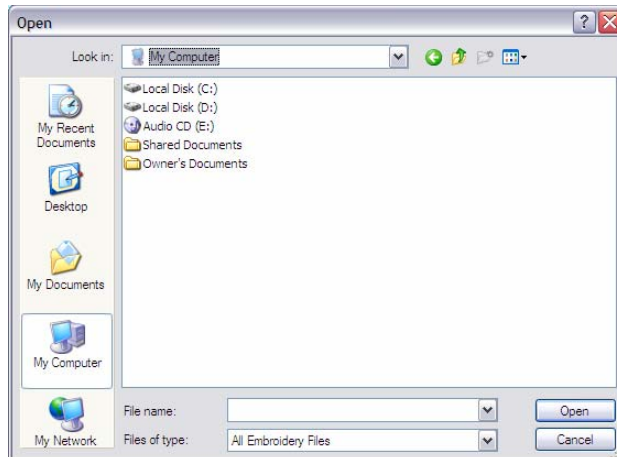
What we are seeing here is the **hardware** installed on our computer. If your computer has a 3 ½" floppy disk drive, you will see an entry that reads **3 ½ Floppy (A:).** The important thing is that we both have **Local Disk (C:)**. We are about to do what is known to geeks like me as **drilling down** through the C: drive to find a particular folder and file within that folder.

5. **Double left click** (that means to quickly click twice) on the words **Local Disk (C:)**. This will cause that device to open. (You can also **single left click** on the words **Local Disk (C:)** to select the device, and then **single left click** on the command button labeled **Open** in the lower right corner of the dialog.) In any event, your screen should now look something like this:
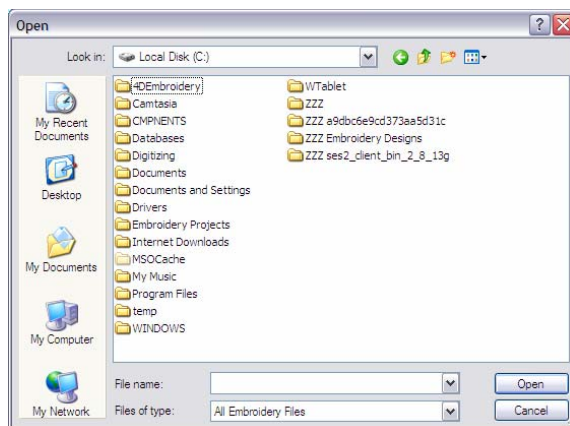
The first folder (or certainly one of the first folders) should be **4DEmbroidery**. These are the folders in your **root directory**. You should also see the **Embroidery Projects** folder we created earlier. But we won't go there now. I want to drill down into the next level down in the **4DEmbroidery** folder. This is done the same way we got here, either by double left clicking on that folder or by single left clicking on the folder name and then single left clicking on the **Open** command button. Using either technique, open the **4DEmbroidery** folder.

6. Your screen should now look like this:
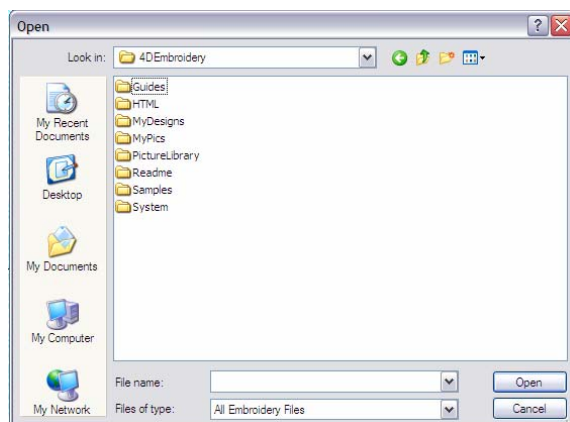
Do you understand how we are going deeper and deeper into the directory structure of your hard disk? Each time we open a folder shown in the **Open** dialog, we **drill down** to a lower level. Let's see if you can now drill down a few more levels on your own. First, open the **Samples** folder, then open the **4DEmb** folder, then open the **Stitch** folder.

7. Here is what your screen should look like now:
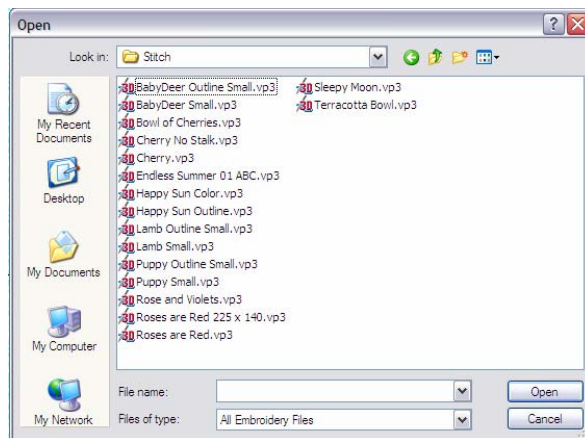
There are no folders shown here because this folder contains no sub-folders (we have hit the ground floor and can't drill down any further). This folder does contain files controlled by the contents of the **Files of type:** box shown at the bottom of the dialog. In this case, the types of files being looked for are **All Embroidery Files**. This folder has a number of stitch files that were placed on your hard drive when you installed *4D Embroidery*. Let's see what the path was that we followed down to get here.

8. **Left click** on the downward pointing arrow at the right of the **Look in:** box. Here is what you will see:
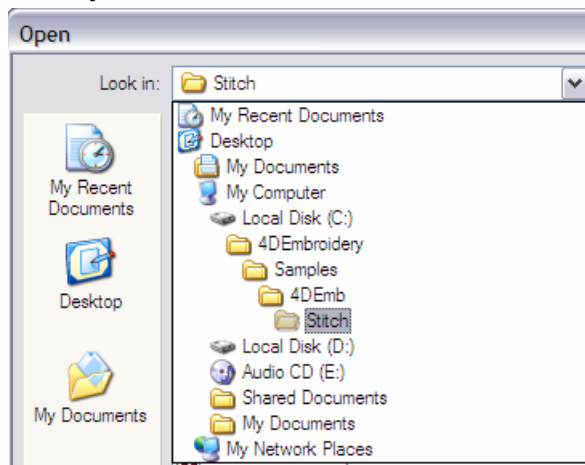
There is the path that we followed: My Computer, Local Disk (C:), 4DEmbroidery, Samples, 4DEmb, Stitch. Elsewhere in this book I may refer to the same path in this notation:

C:\4DEmbroidery\Samples\4DEmb\Stitch

and you now know how to drill down to that exact folder.

Chapter 1 – You are the 4th Dimension using *4D Configure*

Some of the biggest changes in the new ***4D Embroidery System*** allow <u>you</u> to select an expanded number of default settings in the software. Now, <u>you</u> can tailor the software so that <u>your</u> favorite settings are in effect when you do your work. You might have noticed some of these settings as you were installing your software. If you chose some settings that you want to change now, or if you just accepted all of the default settings, don't worry. I'll show you how to use ***4D Configure*** to make your selections.

What's NEW in 4D Embroidery

If you are moving up to ***4D Embroidery*** from an earlier version, here is a quick summary of the new tools and features of this new software.

Machine Manager – with this option, you can select which sewing machines you wish to use. Based upon the machines you select, the software selects different options for the **Send1** and **Send2** options.

Hoop Manager – this option allows you to specify exactly which hoops you have and only display those hoops when you make a hoop selection. You can now even mix different hoops from different machines.

Themes – these are found on the **Color Selection** tool and set up in **Thread Manager**. They are new blocks of colors you can set up in the **Quick Colors** frame. Four new themes are supplied with the software and you can create your own.

Show My Thread Ranges – this option is set up in **Thread Manager**. It allows you to show only those thread ranges that you actually use rather than all of the **143** Thread Ranges installed in the software.

Encore Hoop Option – you can now use the new **Hoop** option to fit designs precisely within the selected hoop.

Remove Overlap Option – this feature is available in the **Endless** and **Encore** feature. It is also automatically applied when the **Combine** tool is used. It automatically removes underlying stitches.

View Font – this feature is found on the **Letter** page. Now, when you are looking for a font to use, you can see a realistic representation of it right on the screen.

Machine Font Category – based upon the machines you selected in the **Machine Manager**, you will see the machine stitches provided by that machine.

New Fonts – there are now **104** fonts installed with the software.

Additional Fill Patterns – The total number of Fill Patterns available to use with Shapes and Font Properties, has been re-organized and increased to **252** from 108 in the earlier versions of the software.

Letter Properties – it is now easier to place multiple lines of text into a design. You can also control the justification of your lettering by using the **Letter Properties** tool.

Line Types – in **15** of the **21 Line Types** you can now place **multiple lines of text** inside of these **Line Types**.

If you have the *4D Embroidery Extra* installed on your system, then you also have this fantastic **NEW** feature.

Express Design Wizard – this new feature actually allows you to create **new embroidery designs** with virtually all of the features found in any **AUTODIGITIZING** software. Yes, you did read that correctly. You can now automatically create **NEW DESIGNS** based on any graphic file that you have on your computer. **THIS IS HUGE!** I will devote an entire chapter on how to use this fantastic new feature.

Let's go through each of the options now available in *4D Configure* to set up your software.

Starting 4D Configure

Let's start *4D Configure* from within the *4D Embroidery* program group. Here is how to do that. Later, I'll show you how to start it from within the *4D Embroidery* software itself.

1. **Double left click** on the *4D Embroidery System* shortcut on your desktop and the program group will open. This is what the shortcut looks like:
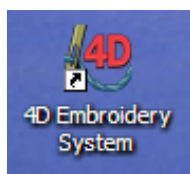
2. When the *4D Embroidery System* program group opens, this is what you should see:
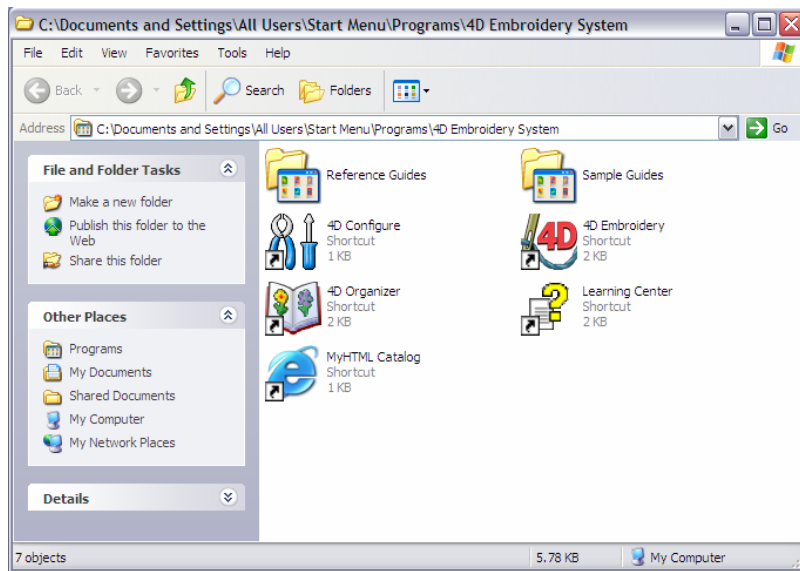
Your screen may look a little different than this. If so, it is because your **View** is not set to **Tiles** as I have it set here. Just **left click** on the icon to the **right** of the word **Folders** on the tool bar and then **left click** on the word **Tiles** in the menu that appears. Your program group will then look just like this. The *4D Configure* shortcut looks like a pair of pliers and a screwdriver. This is the same icon that is used within the software itself.

Double left click on the *4D Configure* shortcut to open that module.

3. Here is what *4D Configure* looks like when it first opens:
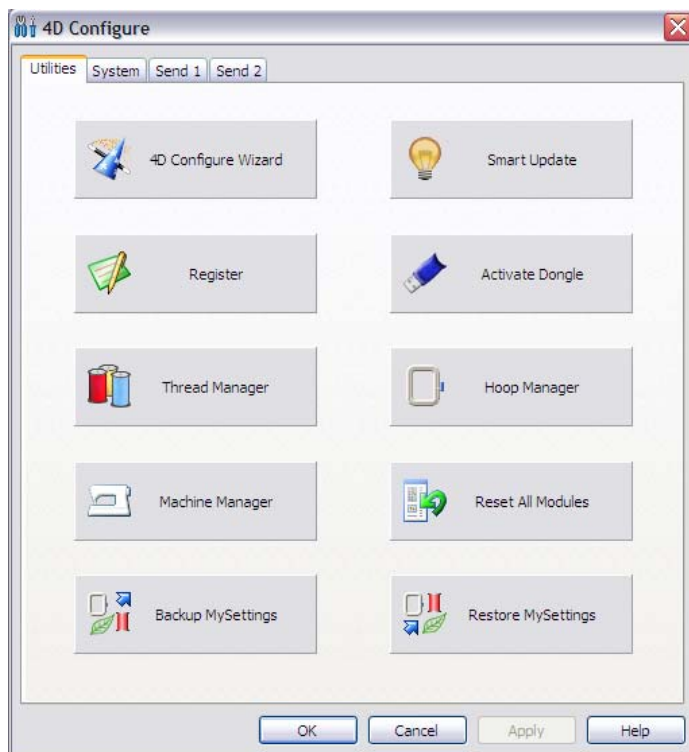
There are 4 **tabs** at the top of the window (Utilities, System, Send 1, and Send 2). Let's look at the **Utilities** tab first. There are 10 buttons on this part of *4D Configure*. Here is what they do.

4D Configure Wizard runs a small program that asks you each of the questions that were asked when you first installed the software so that you can go through each option again. We won't use that now. You just need to know that it's available to you any time you wish to use it without your having to re-install your software.

Smart Update connects you to the Husqvarna Viking web site to see if there are any updates available for this software. You must be connected to the internet before using this option.

Register is used when you wish to register your software. **Registering your software is the most important thing you can do**. If you do not register your software, then it will be impossible to get any free updates to the software and to prove your ownership of the software. Choose to not register **at your own risk**.

18

Activate Dongle is used when you add new modules to your software. If you purchased the *4D Professional System* then you will never use this button unless new software modules become available later. However, if you initially purchased the *4D Embroidery* base software, and then later chose to add additional modules such as *4D Design Creator*, you will have to use this button to ensure that once you install the additional module, your dongle will work with this new software.

Thread Manager has new options for controlling the identity and number of thread ranges to display. You can also us it to print examples of various thread ranges. **Themes** a NEW feature of *4D Embroidery*, can also be found in **Thread Manager.**

Hoop Manager, a **NEW** feature of *4D Embroidery,* allows you to control the type and number of hoops to display in your software. For example, if you do not have the **Endless Hoop**, then why display it as an option when you select your hoop size? If you purchase the **Endless Hoop** later, then you can easily add it to your list of hoops using the **Hoop Manager** option of *4D Configure*.

Machine Manager, a **NEW** feature of *4D Embroidery*, allows you to add any number of Viking (or non-Viking) sewing machines to your software. If you, or someone who you create designs for, has a different sewing machine, this option allows you to tailor your software so that you can easily create designs for a specific machine.

Reset All Modules will change all of your settings back to the default settings that were set up when your software was first installed. If you moved any tool bars or tabs in the **Control Panel** while using *4D Embroidery*, then using this button will restore everything. It will **not** change any of your machine preferences, hoop preferences, or **Thread Range** settings.

Backup MySettings will save all of your special settings so that you do not have to go through *4D Configure* all over again in the event that you find it necessary to re-install your software, or if you decide to install your software on another computer. This option will save all of the following:

- MyThreads contents including all custom threads
- Any **Themes** you create for **Quick Colors**
- The contents of your **MyThreadRanges** list
- The contents of your **MyHoops** list
- All custom hoop definitions you may have set up
- All motifs you may have stored in the **MyMotifs** folder
- All custom fill patterns you may have stored in the **MyFills** folder

Restore MySettings will use the settings that you saved when you used **Backup MySettings**. You will need to use this if you install your software on an additional computer if you wish that computer to have the same settings.

4. Let's move on to the next tab, **System**. **Left click** on the **System** tab and this is what you will see:
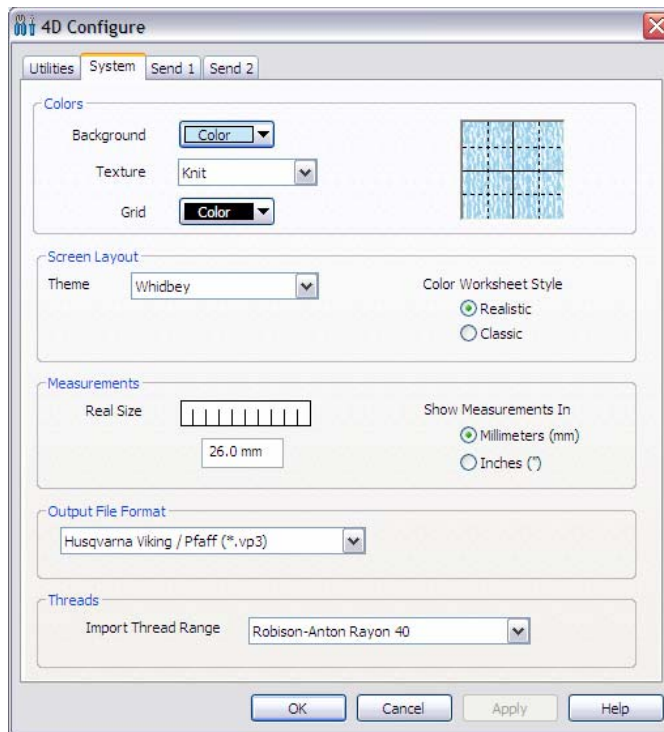
There are 5 frames on this tab, **Colors, Screen Layout, Measurements, Output File Format,** and **Threads**. Let's look at each one in turn.

In the **Colors** frame you can select the background color for your **work area**, the color for the grid to appear on the **work area**, and a new setting, **Texture**. With *4D Embroidery* you can not only select from having **no background texture**, you can also choose from **7 different textures** (canvas, fleece, knit, sheer, silk, terrycloth, and woven). Just **left click** on the drop down arrow on the right of the **Texture** combo box to see the options and then **left click** on the option of your choice to select it.

Screen Layout has **two new and exciting options**.

The first of these is the ability to select a **Theme** for the overall appearance of *4D Embroidery*. If you **left click** on the drop down arrow to the right of the **Theme** combo box, a list of options will appear (Whidbey, Windows XP, Office 2000, Office XP, Office 2003, Office 2007 Luna, Office 2007 Obsidian, and Office 2007 Aqua). You can **left click** on any of these (you need not have any of the **Office** products installed on your computer to use them) and then **left click** on the **Apply** button to see what effect they will have on your computer. All of the graphics in this book use the **Whidbey** setting.

The second of these new options controls the format of the **Color Worksheet Style** in *4D Embroidery*. There are two options here. If you use the **Classic** option, you will see a little square in the **Color Worksheet** that approximates the color of the thread being used in a particular part of the embroidery. If you choose the new **Realistic** option, then your **Color Worksheet** will show a color block that more closely resembles the actual thread as seen on a thread manufacturer's thread chart.

The **Measurements** frame is where you set the actual size of a small bar on your computer screen to more accurately show the size of an embroidery project. But now there is another **new and exciting** setting. You can choose to have your measurements in **either millimeters or INCHES**! Yes, you read that correctly. You can now see your measurements in **INCHES**. There is one small thing about this option. The inch measurements are **decimal** inches. i.e. 2¾'' will show up as 2.75 inches. Still, it is a big improvement for those of you who wish to see measurements in inches.

Output File Format sets the default format for you when you save your embroidery projects. As always, here you are just setting the default value. When you actually save your embroidery files, you can change the file format temporarily at that time.

In the **Threads** frame, you can set the default thread range to use when converting thread colors from one thread range to another.

5.   Let's move on to the **Send 1** tab and see the <u>**exciting new features**</u> present there. **Left click** on the **Send 1** tab. Here is what the **Send 1** tab looks like:
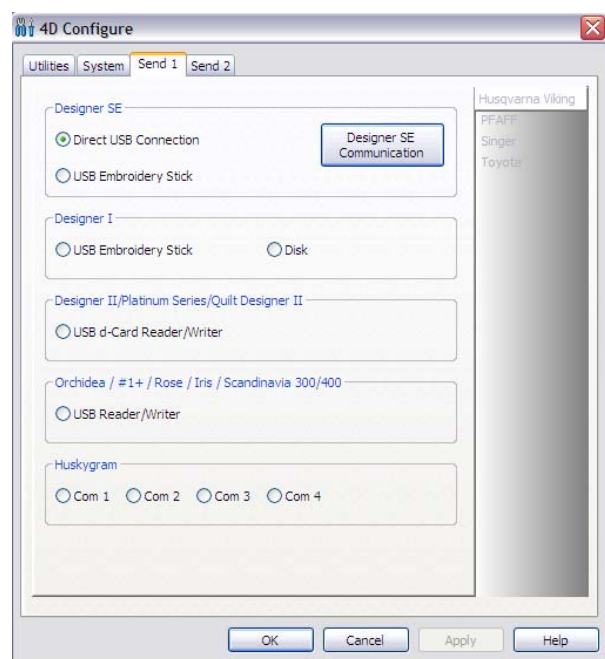
Remember back a few pages when I spoke of the **Machine Manager** button on the **System** tab? This is where you tell your software which machine(s) you want to use with this software. Look at the right side of this graphic. It's a little hard to see, but the words **Husqvarna Viking, PFAFF, Singer,** and **Toyota** are listed there. This is because when I set up my software, I selected the top-of-the-line machines from those 4 manufacturers. This will allow me to select from the communications options from these machines here. Let's go back to the **System** tab for a second and I'll show you how this works.

Using Machine Manager

6.   **Left click** on the **System** tab in *4D Configure*. Once you get to the **System** tab, **left click** on the **Machine Manager** button. Here is what you should see:
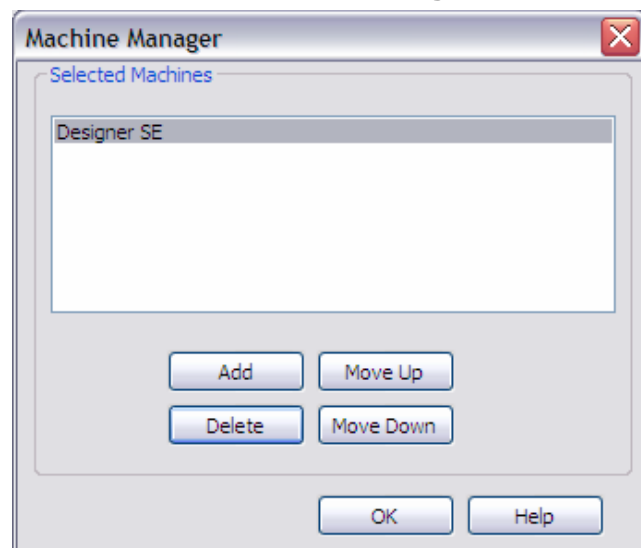
If you selected the **Designer SE** when you first installed *4D Embroidery*, then this is what you will see. If you selected the **Designer I**, or any of the other machines, then you will see their name here. Let's add some machines to see how it is done.

21

7. **Left click** on the command button labeled **Add**. Here is what you will see:

There are two combo boxes in the **Select Machines** frame. **Left click** on the drop down arrow on the right of the **Brand** combo box and a list of manufacturers will appear. For now, **left click** on **Pfaff**. As soon as you click on **Pfaff**, you will notice that the name of the machine in the **Machine** combo box changes from **Designer SE** to **2170 / 2140 / 2144**. This is because **Pfaff** does not have a machine named the **Designer SE**. Now, **left click** on the drop down arrow on the right side of the **Machine** combo box.

8. Here is what your screen will look like now:
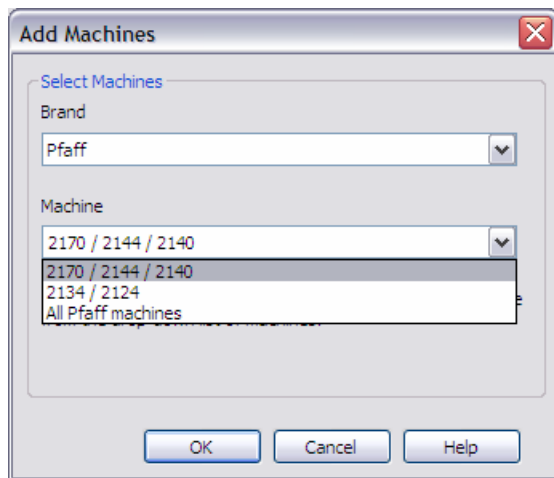
Here is a listing of all of the **Pfaff** machines. You can **left click** on anyone of them to select the machine(s) that you wish to support. For now, **left click** on **2170 / 2144 / 2140**. Then, **left click** on the command button labeled **OK**.

9. Here is what your screen should look like now:
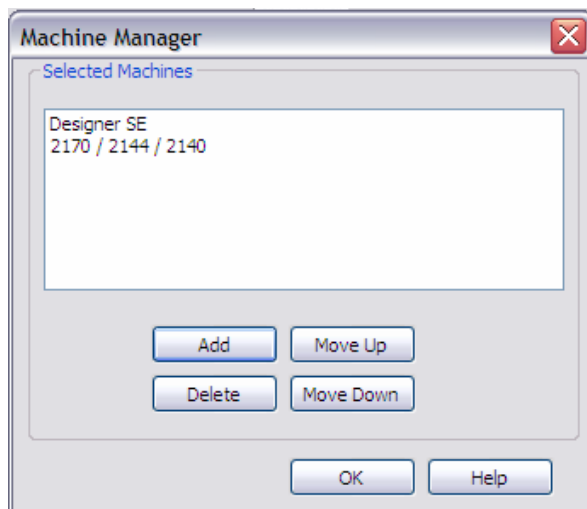
You can see that we now have two different machines listed in the **Selected Machines** text box. The options available to you on the **Send 1** and **Send 2** tabs will be based upon the machines you select here. In addition, if you want to use the *4D Disk Manager USB*, *4D d-Card Reader/Writer*, or the *4D Reader/Writer USB*, then you must select the machine that uses these particular interfaces. Now that we have selected our machines, let's return to the **Send 1** tab to see what options are there.

10. When you get to the **Send 1** tab, you will see that both **Husqvarna Viking** and **PFAFF** are present on the right side of the window. **Left click** on **Husqvarna Viking** on the right side of the window. Here is what your screen should look like:
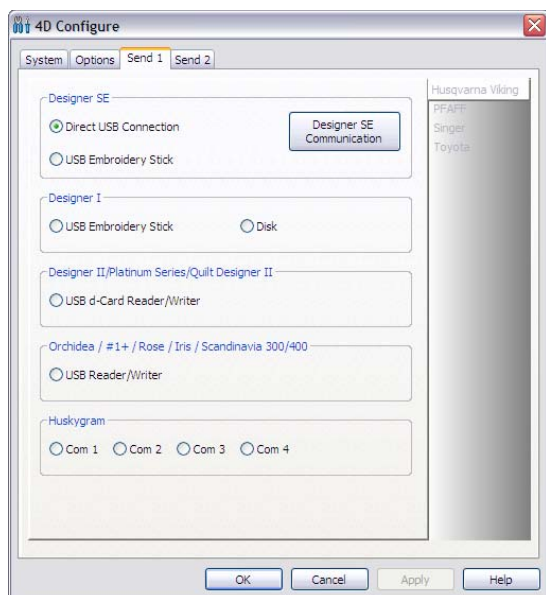
Since I selected **All Viking Machines** back in the **Machine Manager**, you can see that each machine is represented here with the appropriate options for output devices. In the case of the **Designer SE**, I can choose either the **Direct USB Connection** or the **USB Embroidery Stick**. For the **Designer I**, I can choose either the **USB Embroidery Stick** or **Disk** (for the 3 ½" floppy disk). Go ahead and **left click** on the word **PFAFF** on the right side of the window and you'll see the options available for **Pfaff** machines. **NOTE:** Even if you do not have a **Pfaff** machine, make sure that you select a **Pfaff** machine in the **Machine Manager** part of *4D Configure*. Doing this will lead to *yet another exciting feature* of the *4D Embroidery* software. I'll show this feature to you when we get to the chapter on **Lettering**. Believe me, you **will** want to do this now to activate this new feature of the software.

The **Send 2** tab of *4D Configure* is identical to the **Send 1** tab in form and function. It is there so that if you have two different machines, you can easily swap back and forth between the machines when writing out your embroidery project files.

Using Hoop Manager

11. Now that you selected your machine in **Machine Manager**, you can use the new **Hoop Manager** to make the hoops that are available on your chosen machine(s) available for use in *4D Embroidery*. Let's look at the **Hoop Manager** by **left clicking** on the **Hoop Manager** button. Here is what your screen will look like:
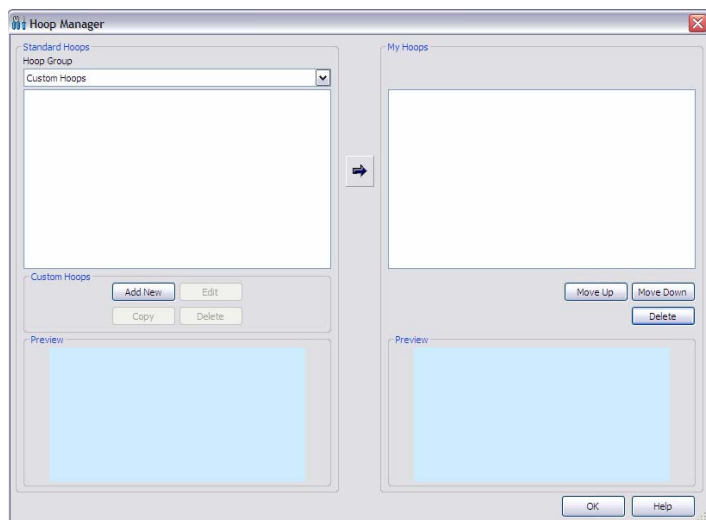
There are two frames on this dialog. The frame on the left is named **Standard Hoops** and the frame on the right is named **My Hoops**. We will be looking at the available hoops in the **Standard Hoops** frame and choosing which hoops we have and then add them to the **My Hoops** frame.

The **Hoop Group** combo box in the **Standard Hoops** frame contains the words **Custom Hoops**. **Left click** on the drop down arrow on the right of the combo box.

23

12. Here is what your screen should look like:
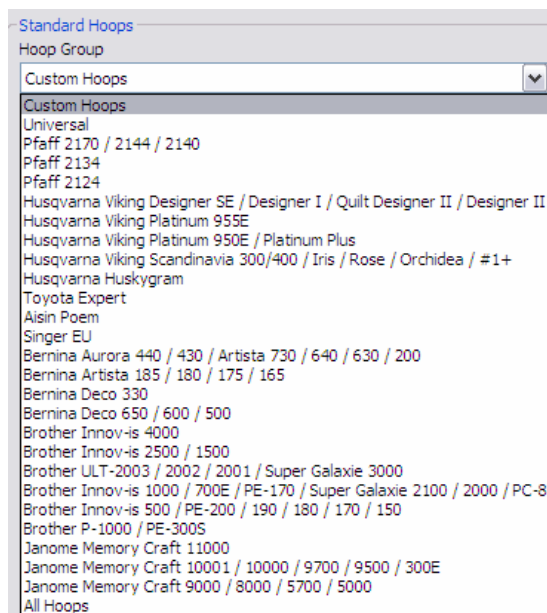
I am going to add the hoops that work with the Husqvarna Viking Designer SE/ Designer I/ Quilt Designer II/ Designer II. (You can add the hoops that are applicable to your machine(s).) If you have multiple machines, you have to add the hoops by machine, one machine at a time. **Left click** on the line that contains the machine you are using. When you do that, this list will disappear and the sizes and names of the hoops that are available for that machine will appear in the **Hoop Group** box.

13. Here is what my screen looks like now:
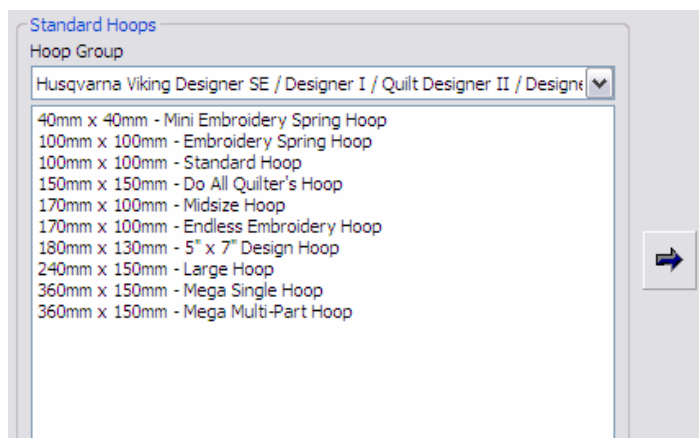
To add the hoops that you have, you must select them by **left clicking** on the hoop name and then **left click** on the arrow button on the right side of the frame. If you hold down the **Ctrl** button as you click, you can select multiple hoops. To add all of the hoops, left click on the top hoop, then hold down the **Shift** key and then left click on the bottom hoop. All hoops will be selected.

14. After I selected my hoops and clicked on the arrow button, here is what my screen looks like:
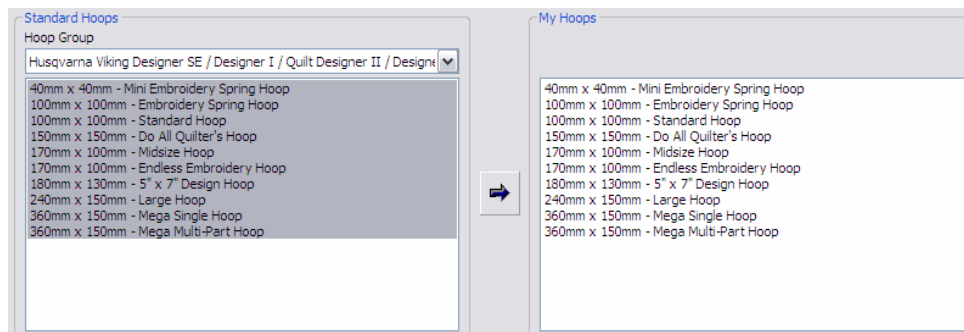
Now that all my hoops are added, I can **left click** on the **OK** button to close **Hoop Manager**. If I had another machine and wanted to add hoops for that machine, I would go back to step 12 and follow those instructions to pick my next machine and the hoops that belong to that machine.

That's enough about *4D Configure* for now. A manual about *4D Configure* was placed on your hard drive when you installed the software. You can find all of the manuals on your hard drive by **double left clicking** on the shortcut labeled **Reference Guides** in the *4D Embroidery System* program group. All of the manuals and their locations on your hard drive are shown here:
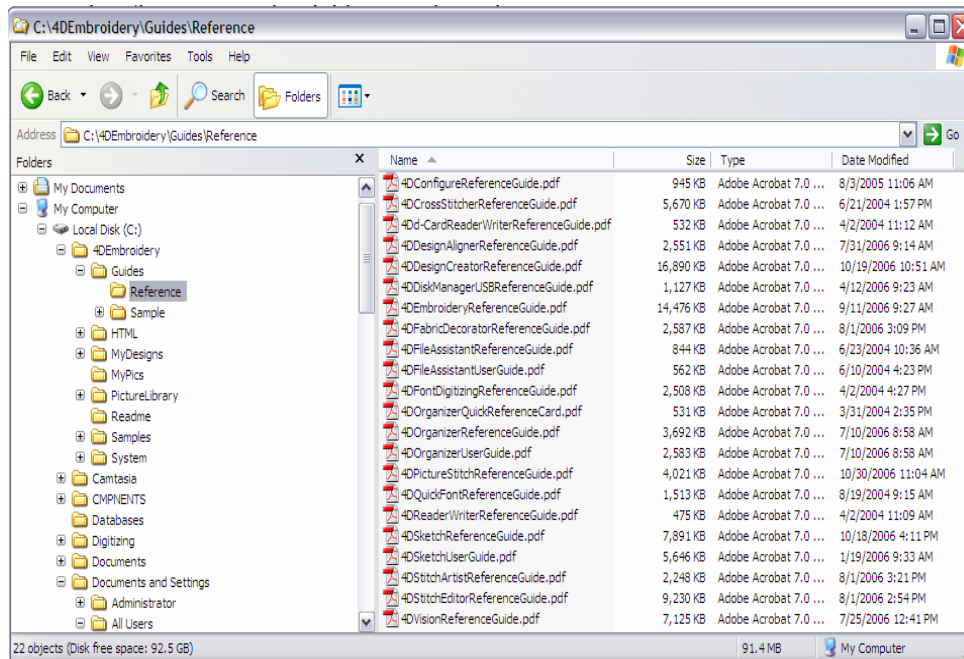
Let's get started with a few projects. This has been a lot of reading and configuring, it's time to start learning how to use this fantastic software with a few quick projects.

Chapter 2 – Jump Right In

Welcome to **Husqvarna Viking's** *4D Embroidery* software! Once again, the folks at Husqvarna Viking have set a new standard of performance in the field of embroidery software. *4D Embroidery*, version 8 of the software, is an order of magnitude better than Husqvarna Viking's ground-breaking version 7, *3D Embroidery Studio*. If you are a new user of Husqvarna Viking's software, you are going to find that it is easy, almost intuitive to use. *4D Embroidery* contains a large number of features that make it easy for you to unleash your creative juices when you put together your designs. If you are an experienced user of *3D Embroidery Studio*, you are going to discover a wealth of <u>**new features**</u> that make the software even easier to use.

If you are like me, you don't like to read pages and pages of dry text and directions before you can begin to use your new software. So let's get started with some simple projects that will show both new and experienced users how to take advantage of the great features of this software.

Starting 4D Embroidery

1. When you installed *4D Embroidery* on your computer, a shortcut to the *4D Embroidery* program group was installed on your desktop. It looks like this:
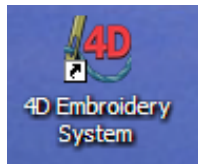
   When you **double left click** on this shortcut, the program group will open on your desktop. One of the items in the program group is a shortcut that will start the actual *4D Embroidery* software. The shortcut for *4D Embroidery* looks very much like this icon. The name of the shortcut is *4D Embroidery*. **Double left click** on this shortcut to start the software.

2. After a few seconds the *4D Embroidery* software will start. You will see a **splash screen** that looks like this:
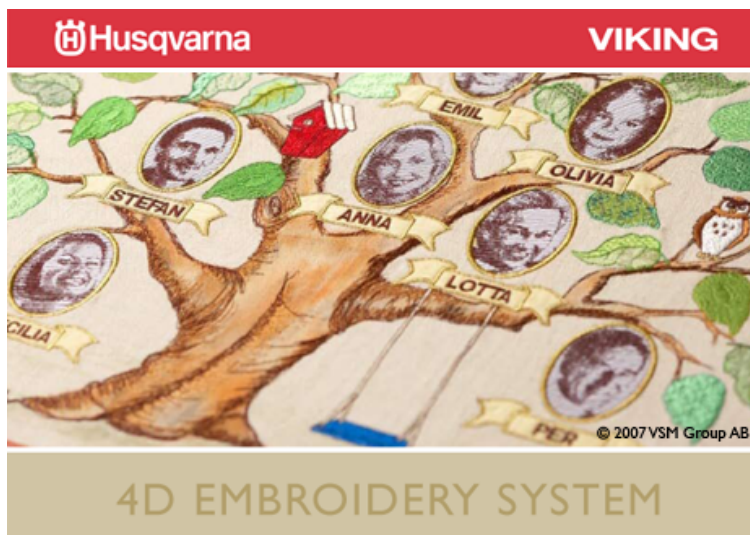
3. A few seconds later, the **4D Embroidery** software itself will appear. The opening screen looks like this:
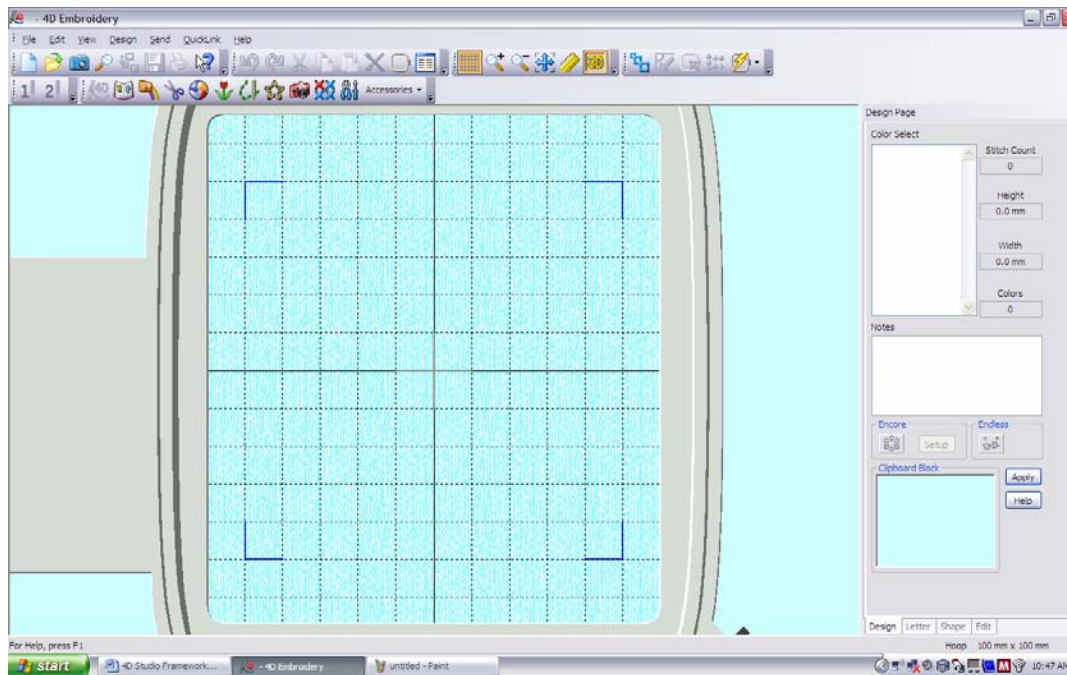
Setting Preferences

Before we go any further, we need to set up our computers so that the screens shown in this book look the same as the ones you see on your computer at home. This is done by using the **Preferences** tool on your tool bar.

1. Look at the tool bar at the top of your screen. Right about in the middle of the tool bar, there is an icon that looks like a small window. Here is where it is located:

2. **Left click** on the **Preferences** icon and the **Preferences dialog box** will open. It looks like this:
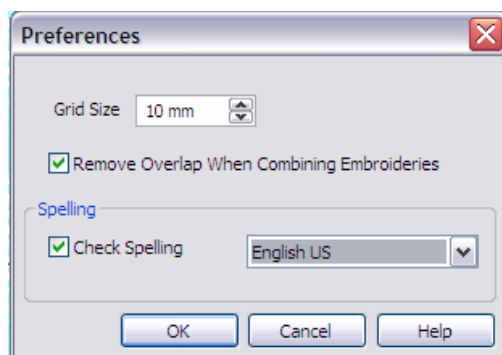
We should set the **Grid Size** to 10 mm. The first of the **new features** in **Preferences** is the next check box. And this feature is a **huge** one. If you **left click** in this check box (so that there is a check mark there as shown here) the **4D Embroidery** software will **automatically remove all overlapping stitches** when you put one embroidery design on top of another design. This stops the designs from becoming too thick and possibly ruining the design.

27

The second **new** feature in *4D Embroidery* is **huge**. The software will <u>automatically</u> <u>check your spelling</u> when you enter lettering in your designs and if you **left click** on the drop down arrow in the box containing the words **English US**, you will see all of the various languages you can choose from.

For users of *3D Embroidery Studio*, you may be wondering where you choose the size of your hoop went to. The answer is that there is now a **new tool** to be used for setting the hoop size. We'll look at that tool now.

3. Just to the left of the **Preferences** tool is a new tool, the **Hoop** tool. It looks like an embroidery hoop. Here is the icon:

And this is what the **Hoop Selection** dialog box looks like:
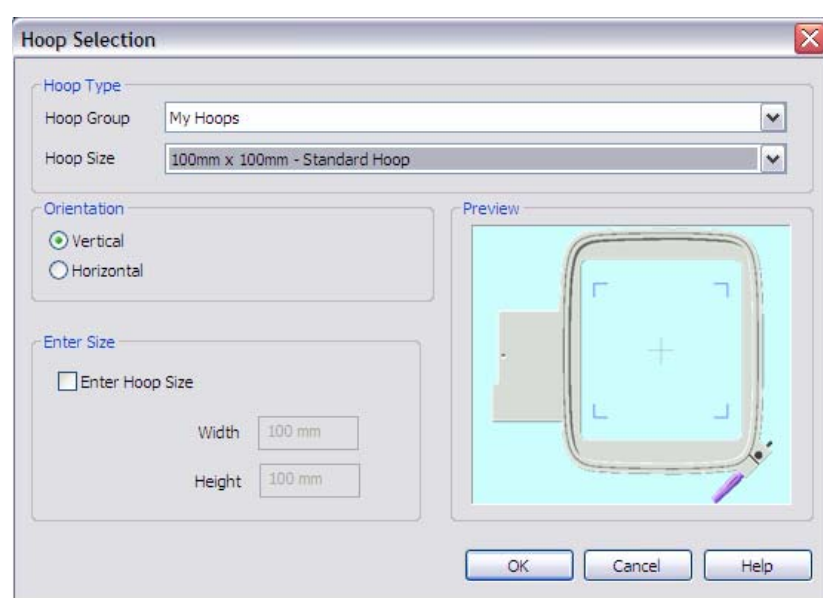
Regardless of what is showing in your **Hoop Selection** dialog box. We are going to make some quick settings so that our screens look alike. Here, you not only select the hoop size, but you also select if the hoop will be displayed in a **Vertical** or **Horizontal** orientation. You can also choose to left click in the **Enter Hoop Size** box to activate the **Width** and **Height** boxes to enter a custom hoop sixze.

4. **Left click** on the drop down arrow at the right of the **Hoop Group** combo box. A list of hoop manufacturers will appear. **Left click** on the line that reads **Husqvarna Viking Designer SE / Designer I / Quilt Designer II / Designer II.**

5. **Left click** on the drop down arrow at the right of the **Hoop Size** combo box. A list of all of the hoops available for this group of machines will appear. **Left click** on the line that reads **100 mm x 100 mm Standard Hoop**.

6. **Left click** on the **Vertical** radio button in the **Orientation** frame.

7. **Left click** on the command button labeled **OK** to close the **Hoop Preferences** dialog box.

Now we are ready to begin Project 1 – Strawberry

Project 1 – Strawberry

You will learn the following basic techniques in this project:

- How to find and place an **embroidery file** into the **work area**.
- How to change the thread colors of the stitching
- How to save the changed file to your hard disk

For now, we are going to learn how to save the completed project on your hard disk. In **Appendix A – Moving designs to your machine**, I will explain how to use the different techniques for saving your designs to sewing machine readable media.

Let's get started…

1. Turn to **Appendix B – Using 4D Organizer** for instructions on how to load a stitch file. You will be loading the following stitch file:

   C:\4DEmbroidery\Samples\4DEmb\Stitch2\Fruit\Strawberry.vp3

   This is what the stitch file looks like:

2. This is a beautiful design as it is. But for the purpose of learning about color changes, we are going to change one of the thread colors so that you can learn how to use the **Color Select** tool. That tool is found at the top of the **Control Panel** on the right side of your screen. Here is what the **Color Select** tool looks like in **Classic View**:
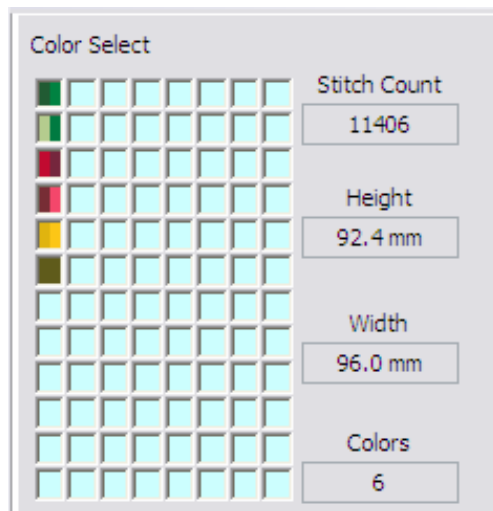
We see each of the different thread colors used in this design. The six different boxes represent the colors in the order in which they will stitch out from top to bottom. You also see the **Stitch Count**, the **Height**, and **Width** of the design along with the total number of colors that are in the design.

If you decided to use the **Realistic View** when you initially installed your software, the **Color Select** tool will look a little different here. However, the technique for changing thread colors is exactly the same regardless of which view you select.

Move your mouse pointer to the top color in the **Color Select** tool, but **DO NOT PRESS ANY MOUSE BUTTONS** for now. Just take note of the fact that the color of the threads on the **work area** changes to a light blue color. This is just to show you which stitches you will affect when you change the color. In addition, **another new feature** of *4D Embroidery* is seen when the little tool tip box opens and tells you what the current color of the thread is. In this case we see that the top color is **Robison-Anton Rayon Twist 35 79053 Mistletoe**. i.e. We now see the thread manufacturer, the thread type, the thread weight, the thread number, and the color name.

Left click on the top color block in the **Color Select** tool to open it.

3. Here is what the **Color Select** dialog box looks like:
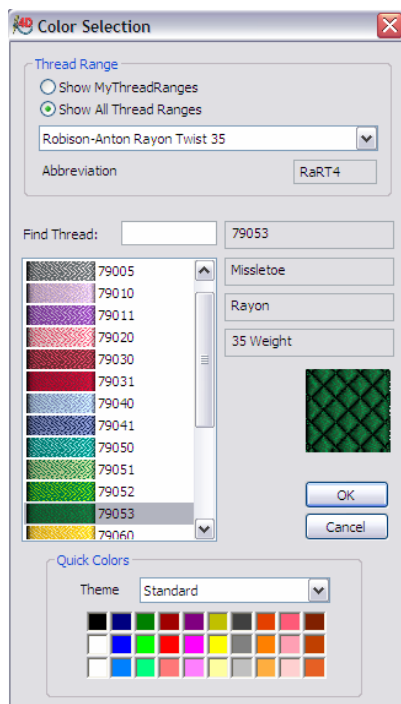
We see the current thread selection and a number of additional thread options within this thread range. For now, we are going to just change the color of the current thread from **79053** to the one immediately above it, **79052**. I'll explain all of the various options in the **Color Selection** dialog later. **Left click** on color number **79052** and then **left click** on the command button labeled **OK** to make the change effective and close the **Color Selection** dialog box.

This is the only change we are going to make for now to this design. Now, we need to save our new design in a safe place on our hard drive so that we can find it later when we are ready to stitch it out.

4. Way back in **Chapter 0** we went over a procedure to create a folder on your hard drive that we would use to save your designs. That folder should be in your root directory and it should have the name **Embroidery Projects**. This is where we will save this newly changed design. The tool to use is the **Save As** tool. It is located on the tool bar and looks like a floppy diskette. Here is where the **Save As** tool is located:
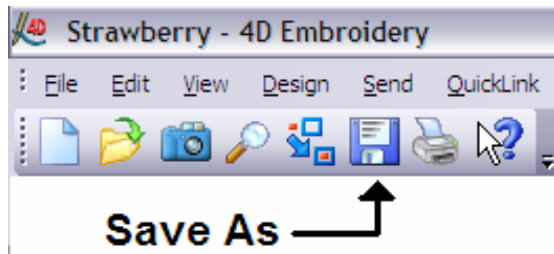
When you **left click** on this tool, you may see a quick window pop open saying "Removing Overlap" and then quickly disappear. Immediately after that window disappears, the **Save As** dialog begins.

5. Use the skills you learned back in the section on **Navigating Through Your Hard Disk in Dialogs** to drill down to the **Embroidery Projects** folder. Once you have opened that folder, your screen should look like this:
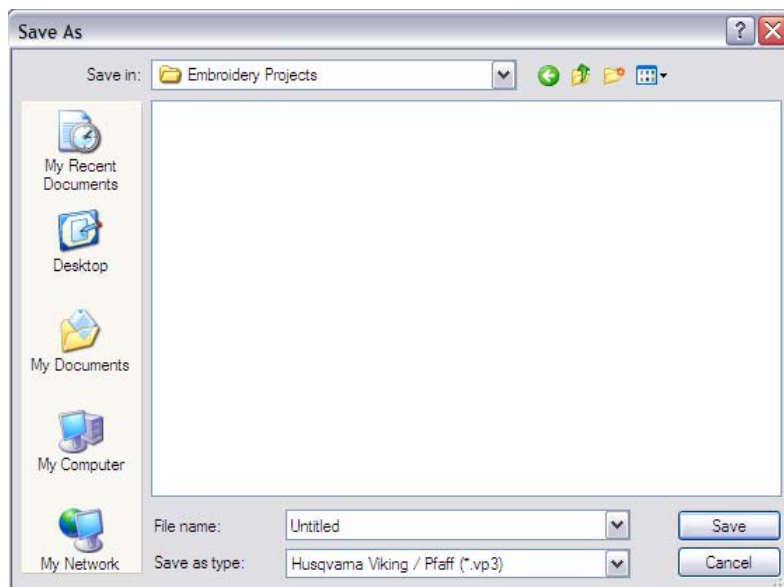
At the bottom of the dialog, the **File Name** text box shows the default name of **Untitled**. **Double left click** on the word **Untitled** to select it. Now, change the name of the file to **NewStrawberry**. Take note of the contents of the **Save as type** text box just beneath the **File Name** box. This is the format of the file you are going to save. In this case, we are using the **Husqvarna Viking/Pfaff (*.vp3)** format. If you are using a different machine, then this is the time to choose another format by left clicking on the drop down arrow in the **Save as type** combo box.

You're done! It was just that easy to bring in a design, change the color of the thread to be used, and then save the design in a safe place on your hard drive without overlaying and changing the original design.

Let's move on to something a little more complex in the next project.

Project 2 – Fun in the Sun

We can now build upon the skills we learned in the first project to create a new and more personalized project. In this project, you will learn:

- How to add lettering to a stitch file
- How to move designs within the hoop
- The importance of the **Combine** tool
- How to center the completed design in the hoop

Let's get started with a short project.

1.   Turn to **Appendix B – Using *4D Organizer*** for instructions on how to load a stitch file. You will be loading the following stitch file:

     C:\4DEmbroidery\Samples\4DEmb\Stitch\Happy Sun Color.vp3

     Here is what the design looks like:
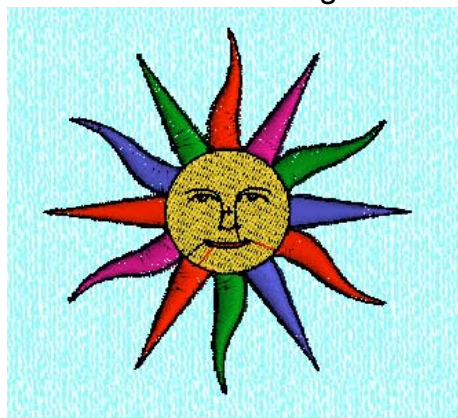
We are going to add some lettering to this design and then combine the two to create a great embroidery design for summer fun.

2.   As soon as you load this design into *4D Embroidery* you will notice a few things about the design as shown here:
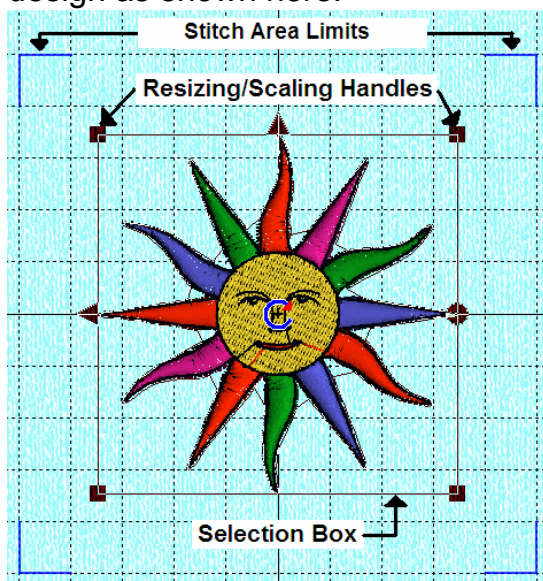
The four, blue corners in the **Stitch Area** show the maximum size of a design that you can place in a given hoop. When you place and move around a design in the hoop, you must make sure that the **Selection Box** remains entirely within the area bounded by these four, blue corners and that the **Resizing/Scaling Handles** remain **square** and not round (an indication that the design is too large or placed outside of the hoop area).

3.   We need to move the design towards the upper right hand corner of the **Stitch Area** to make some room for the lettering we are going to add to the design. Moving the design is very easy. To move the design, it must be **Selected**. Since this is the only design presently in the **Stitch Area**, and it has the **Selection Box** around it, all we have to do is what is called in computer terms **drag and drop**. To do this, you move your mouse pointer to anywhere within the **Selection Box** (but not on or near the blue C in the middle of the design), then **left click and hold down** the mouse button. While holding down the left mouse button, you can drag the design around the **Stitch Area**. Give it a try. If you accidentally release the mouse button, just **left click and hold** again and begin dragging the design around. Move it to a point in the upper right corner of the screen so that your design now looks like this:
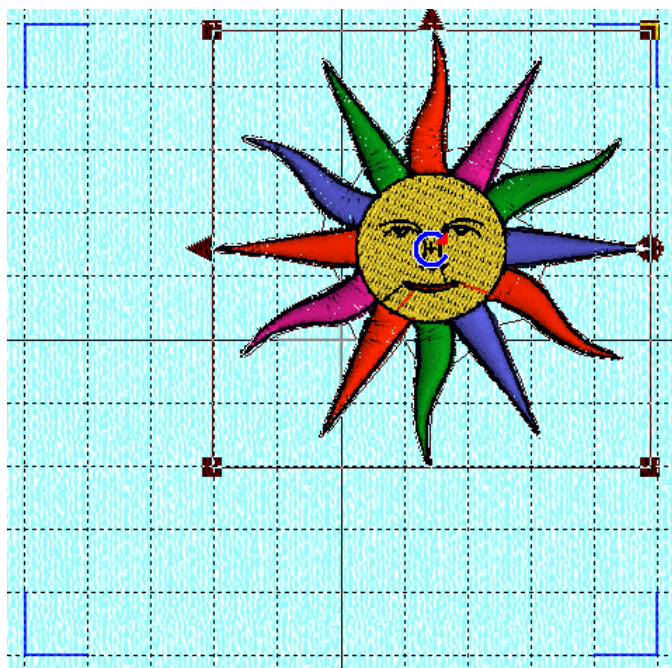
If you move the design too far and it is outside of the **Stitch Area**, the corners will change from **square** to **round**. This is not a problem, just **drag and drop** the design until it is within the **Stitch Area**. If you wish to, you can press on the **Arrow Keys** on your keyboard to move the design slowly in the direction of the arrow. This is called the **Nudge** feature and it works really well. If you hold down the arrow key, the design moves faster. If you just tap the arrow key, the design moves just a little. Give it a try. You can't hurt anything.

4.   Now we are ready to add some lettering to our design. Look at the right side of your screen. The area to the right of the embroidery hoop is called the **Control Panel**. This is where the **Color Select** tool is located. At the bottom of the **Control Panel** are 3 or 4 tabs. If you have the *4D Embroidery* software, then you will have the **Design, Letter,** and **Shape** tabs. If you have the *4D Embroidery Extra* software, then you will also have a fourth tab labeled **Edit**. Here is what the tabs look like:

Design	Letter	Shape	Edit
		Hoop	100 mm x 100 mm
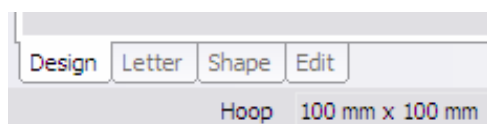
Left click on the tab labeled **Letter.**

5. Here is what the **Letter** version of the **Control Panel** looks like:
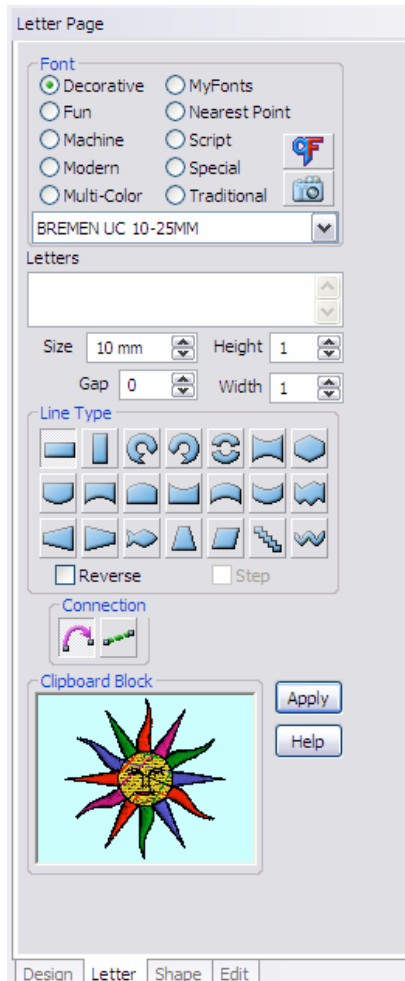
There are a lot of options here. I'll teach you about all of them in the chapter on lettering. For now, just follow these instructions and we will be applying lettering in no time.

Left click on the little circle to the left of the word **Traditional** in the **Font** frame at the top of the **Control Panel.** When you do this, the name of the font will change from **BREMEN UC 10-25MM** to **AMERICAN GOTHIC 25-75MM**.

Left click on the drop down arrow to the right of **AMERICAN GOTHIC 25-75MM** and a list of available fonts in that font category will appear.

The ninth font down from the top is **ITALIC 7-40MM**. **Left click** on the name of that font and the list will disappear.

Right beneath the name of the font is a text box labeled **Letters**. This is where you type in the lettering that you wish to have on your design. We are going to use another one of the **new features** of *4D Embroidery*. I want to put lettering on this design in two lines, like this:

Have fun
in the Sun

Here is how to do it. Type in **Have fun** and then hold down the **CTRL** key and hit the **Enter** key. The insertion point (a blinking, vertical bar) will move down to the next line. Now type in the words **in the Sun**. Now, we have the lettering set up, we need to select a **Size** for this lettering.

Right beneath the **Letters** box, there is a box labeled **Size**. Inside of the box there are two arrow heads. One arrowhead points up and the other arrow head points down. The value inside of the box now reads **7.0**. I want you to **left click** on the **upward pointing arrow head** until the new value is **12.0**.

We are now ready to **left click** on the command button labeled **Apply** at the right side of the **Clipboard Block**.

6. Here is the result:
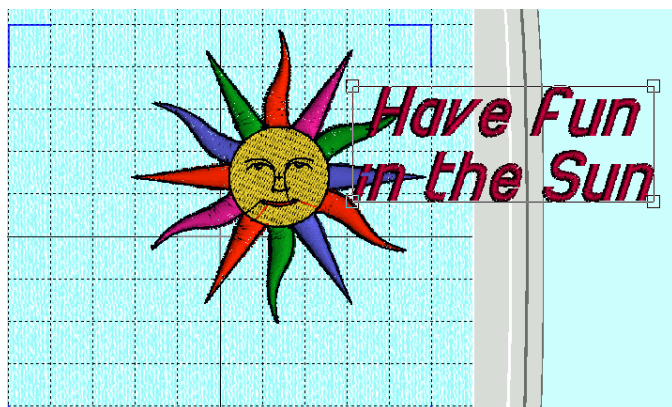
Your lettering may appear in a different position from the one I have. No problem, all you have to do is **left click and hold** anywhere **inside of** the selection box that appears outside of the lettering and then drag the box to the lower left corner of the work area.

7. Here is what the completed design should look like:
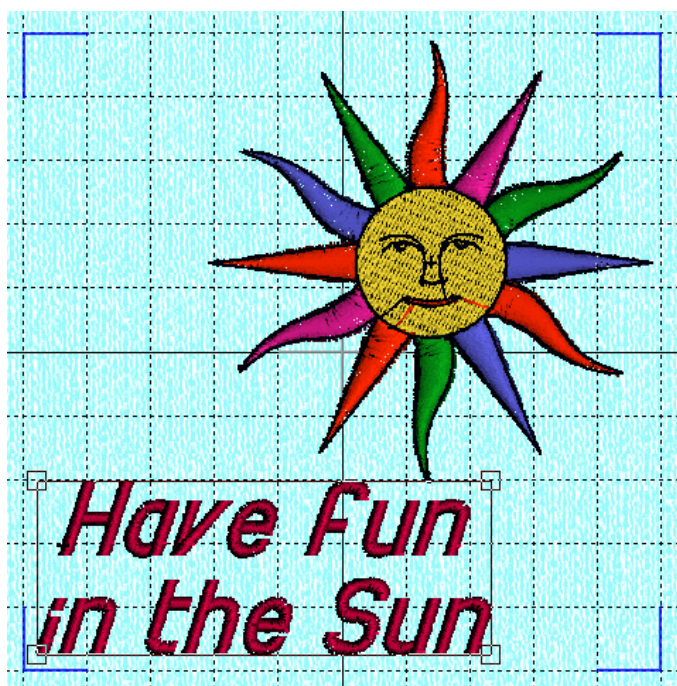
Notice that I kept the lettering **inside of** the four, blue corners of the **Stitch Area**. This ensures that the design will stitch out in the hoop size that I originally selected.

There's one more thing that we need to do and we need to go back to the **Design** tab to do that. **Left click** on the **Design** tab at the bottom of the **Control Panel** and we'll finish up this design.

8. Right now, we have two separate designs on the **Stitch Area**. One design is the lettering we just created and the other design is the sun that we loaded with *4D Organizer*. We have to put both designs together into one design before we can save them. We will use the **Combine** tool to do this. Here is where **Combine** is located on the tool bar:

Left click on **Combine** to activate the tool. A little message box will pop up saying, "Removing Overlap" **another new feature** and then quickly disappear.

9. Look at the **Color Select** tool at the top of the **Control Panel**. Here is what it looks like:
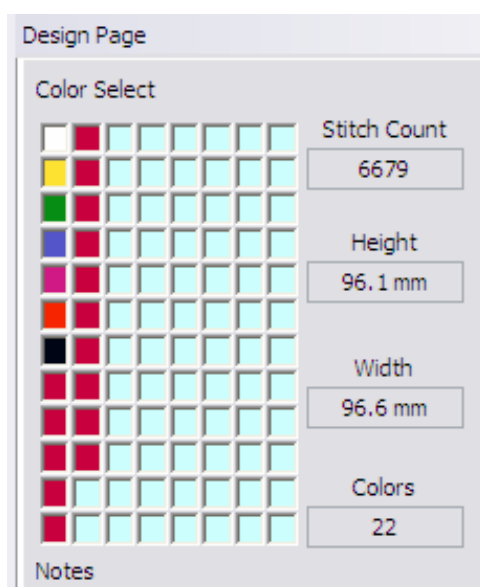
The first seven colors represent the colors of the **Sun** design. The next **15** colors are all the same color and they represent one block for each of the letters we typed in when we put our lettering on the design. Each one of these blocks represents a time that your sewing machine will stop to allow you to change colors. We want all of our lettering to be the same color so there is one more thing we have to do to fix this. We need to use the **Color Sort** tool to remove all of these color stops and changes.

Here is what the **Color Sort** tool looks like:
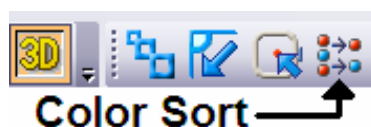
Left click on color sort and watch what happens.

10. Here is what the **Color Select** tool looks like now:
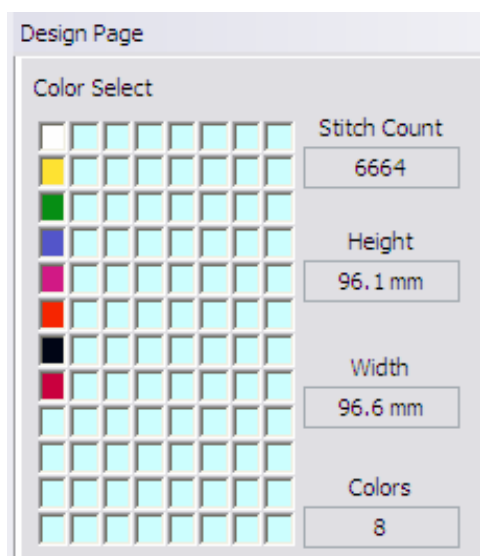
Notice that there are only **8** colors rather than the original **22** colors. The design is now complete and ready to be saved to your hard drive the same way we did in **Project 1**. If you forgot how to use the **Save As** tool, refer back to the last few steps of **Project 1** to refresh your memory.

Project 3 – Something for Men

I've seen many designs and projects that are created specifically for women and children. This time we will do a project that should appeal to a man.

We will be using some of the techniques you learned in **Project 1** and **Project 2** to create and enhance this stitch file. This project is actually going to be two projects in one. First we will complete a project using only the tools available in *4D Embroidery*, then, for those of you who have *4D Embroidery Extra*, we will use some of the tools on the **Edit** page to further enhance the project.

In this project you will learn how to do the following:

- How to use two separate stitch files to create a new design
- Select only a part of an embroidery design to include in the finished product
- How to **Rotate** and **Flip** parts of a design
- How to switch between parts of a design for editing purposes
- How to **center** your design in the hoop

Let's get started and create something for the fisherman in your life.

1. Using *4D Organizer*, find and load the following design into *4D Embroidery*:

    C:\4DEmbroidery\Samples\4DEmb\Stitch2\Animals\FishLeaping.vp3

    If you need help finding the design or using *4D Organizer,* then refer to **Appendix B – Using *4D Organizer***.

2. Here is what the design looks like:
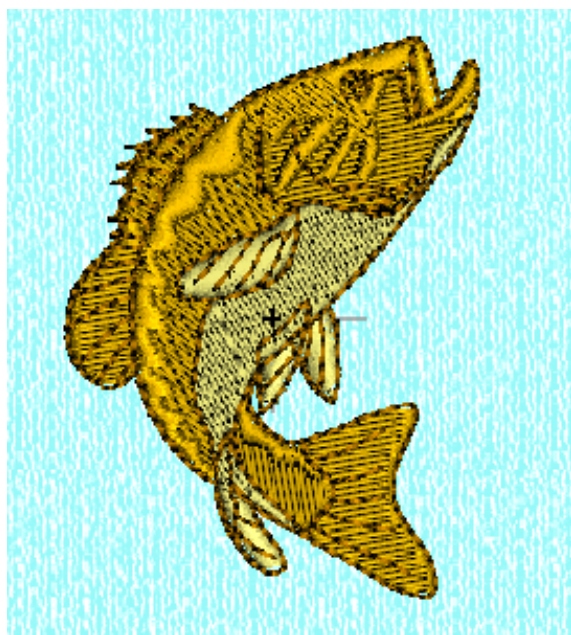
It does not matter if the design isn't centered. We'll fix that in a second.

This is a great design of a bass. The only thing that's wrong with it is that the colors should be changed to look more realistic. That's one of the first things we'll do.

I think this design can also use some lettering and some vegetation to show the fish leaping from the water.

3. Let's add the vegetation now. Using your skills with *4D Organizer*, load the following design into the **Stitch Area**:

   C:\4DEmbroidery\Samples\4DEmb\Stitch2\Frames and Borders\Trailing Flower.vp3

   Here is what the design looks like:
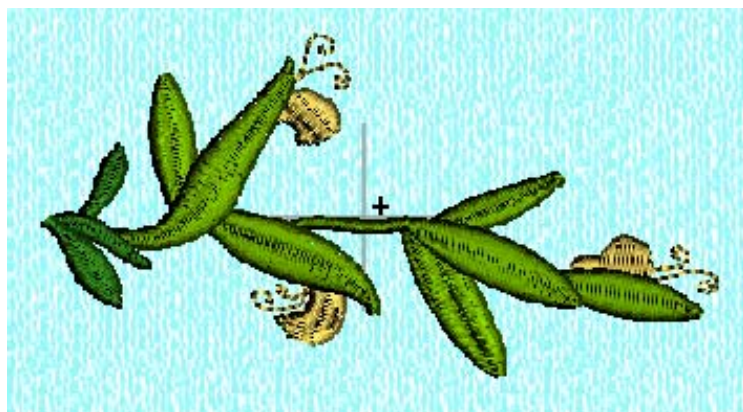
Once again, it doesn't matter where the design loaded in the **Work Area**. Shortly, we will be changing it and moving it to it's place in the **Stitch Area**.

4. Here is what your screen might look like now:
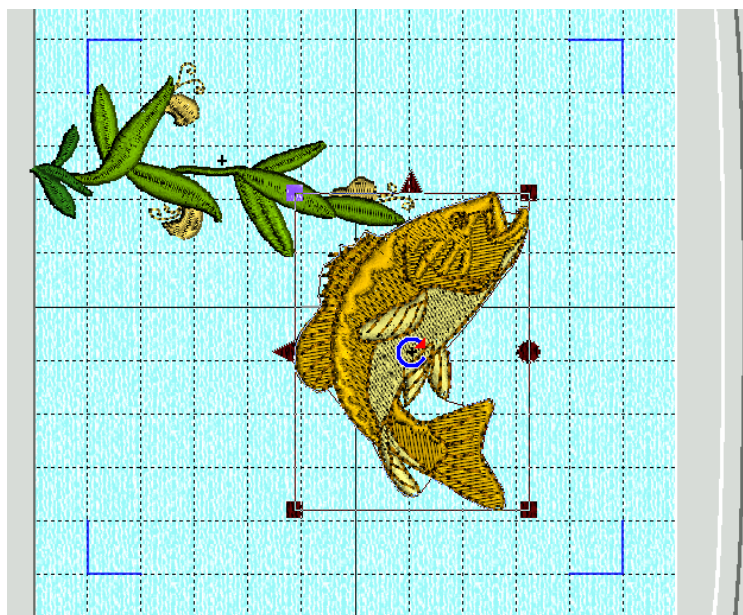
You can see that neither the fish nor the leaves are centered in the hoop. In fact, the leaves are outside of the **Stitch Area** (the area bounded by the four blue corners inside of the hoop). You already know that we can **drag and drop** the selected design component to another area of the hoop like we did in **Project 2** when we moved the Sun and the lettering around. Before we move on in this project you have to learn how to shift the selection box from one part of the design to another. The easiest way to do this is to hit the **Tab** key on your computer keyboard. Go ahead and do that now. Just tap on the **Tab** key as if you were typing a single letter. You will see the selection box jump back and forth between the fish and the leaves. If either of these design components is outside of the **Stitch Area** you should notice that the corners of the selection box are **round** rather than **square**. This is how the software tells you if the design component is within the **Stitch Area** or not.

5. Make sure that the selection box is around the fish. We will now use the **NEW** Center In Hoop** tool to center this part of the design. Here is where the tool is on the tool bar and what it looks like:

It's found on the right side of your tool bar.

Center In Hoop

6.   **Left click** on the **Center In Hoop** tool and the fish will instantly be centered in the hoop. There is a tool known as **Center Design** in this software. The only thing that the **Center Design** tool does is to re-orient the **Center of Rotation** (the thing that looks like a blue C) and the **Origin** (the little black plus sign) after the design was modified. This new tool **Center In Hoop** does all three.

7.   Let's add some lettering. **Left click** on the **Letter** tab at the bottom of the **Control Panel** on the right to go to the **Letter** page. We are going to use some of the skills we learned in **Project 2** to add the lettering. And we'll learn some new skills.

8.   When you get to the **Letter** page, you are going to select the **Traditional** font category, and then select the **PRESIDENT 20-90MM** font. Here is what your screen should look like:
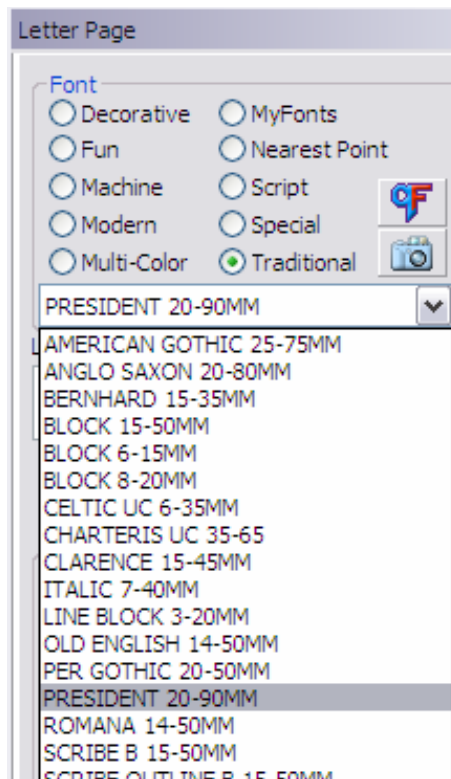
Notice that I **left clicked** on the radio button to the left of the word **Traditional**. I then **left clicked** on the drop down arrow to the right side of the list of font names and the whole list of fonts in this category dropped down. I then **left clicked** on the name **PRESIDENT 20-90MM** to select it.

We are now ready to enter our lettering. But this time rather than have the lettering in a straight, horizontal line, I want it to be on top of a circle. So that it wraps around the top of the fish. I want to have the name **Pop-pop** there. As we put this lettering in place, I'm going to show you a trick to get it just right.

9. Type these words in the **Letters** text box: **Pop-pop**
Now, **left click** on the **Circle Clockwise** tool in the **Line Type** frame. Your screen should look like this:
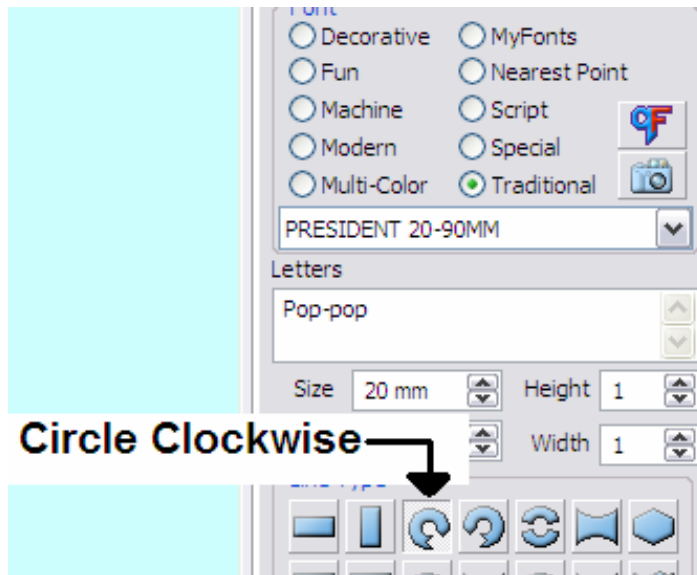
The **Line Type** tools allow you to arrange your lettering on various schemes. I'll teach you about each and every one of them later.

So, it looks like we are all ready to apply this lettering. We have the correct **Font Category** checked, and that allowed us to choose the correct font. We typed in our lettering correctly. And we selected the correct **Line Type**. All that's left to do is to **left click** on the **Apply** button.

10. Here is the result:
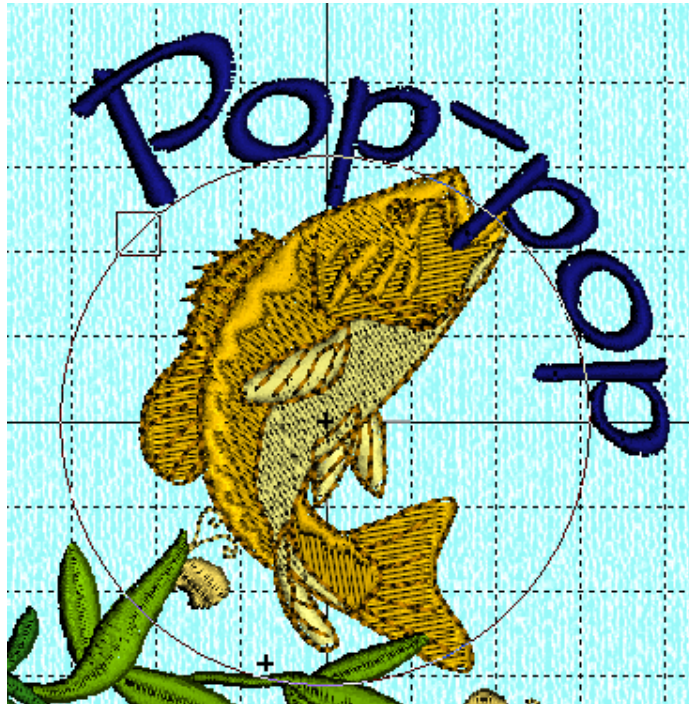
Hey! Wait a minute! I thought that we typed in **Pop-pop** but what we got was **Pop** then something that looks like the top of the letter T and then **pop**. This is what happens sometimes when you use the fancy **Line Type** like we used. You know, I really want it to read as I typed it, **Pop-pop**. Hmmm…you know something? I just got an idea. **Left click** in the **Letters** text box and select the words **Pop-pop**. While they are selected, type in **Pop_pop**. Use the **underscore** character instead of the hyphen. Now **left click** on the **Apply** button and let's see what we get.

11. Here is what you should see now:
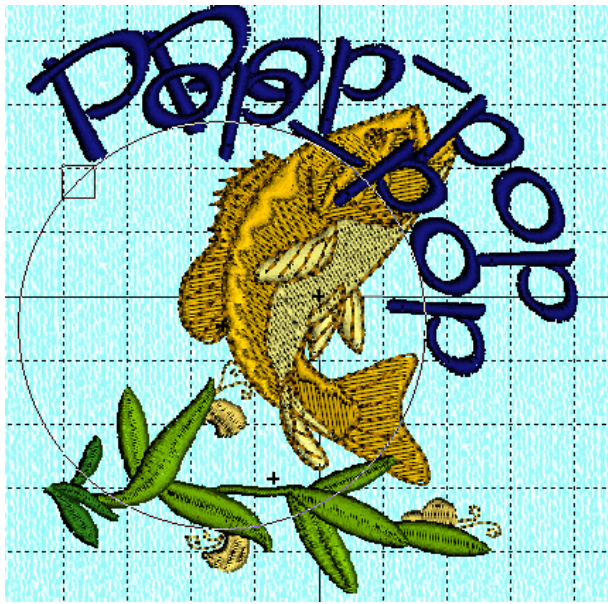
Your letters might appear to be right on top of the first set of letters. If so, just **left click and hold** anywhere within the thin, black circle and drag the second set of letters to the left and down a bit so that you can see both sets of letters.

Notice how the **underscore** character in the second set of letters was moved up a bit so that it now resembles a dash? That's a pretty cool way to make the software do something unusual to achieve the results you are looking for.

All we have to do now is remove the first set of letters. Do you remember what I said at the beginning of this project about changing the selection box to the part of the design that you wish to work with? That's right, all you have to do is hit the **Tab** key until the selection box is on the component of the design that you wish to change. Hit the **Tab** key once and the selection box appears around the fish. Hit the **Tab** key again and the selection box appears around the leaves. Hit the **Tab** key again and…wait a minute! The selection box turns into a thin black circle! Hit the **Tab** key again. The selection box moves…but it's still a thin black circle! This is because neither of the sets of lettering has been converted from a graphic image into stitches yet. (That won't happen until you change to the **Design** page.) But don't do that yet. We can remove the unwanted letters here. Hit the **Tab** key until the fish is selected. Hit the **Tab** key again (the leaves are selected). Hit the **Tab** key again and the **first set of letters we applied** are selected. Now hit the **Delete** key on your keyboard to remove the defective lettering. I wanted you to learn this important lesson. **Design components are selected in the order in which they were added to the overall project**. By now you should be an expert at stepping through the various design components with the **Tab** key. Make sure that the lettering is selected and we can go on with this project.

12. Here is what your screen should look like:
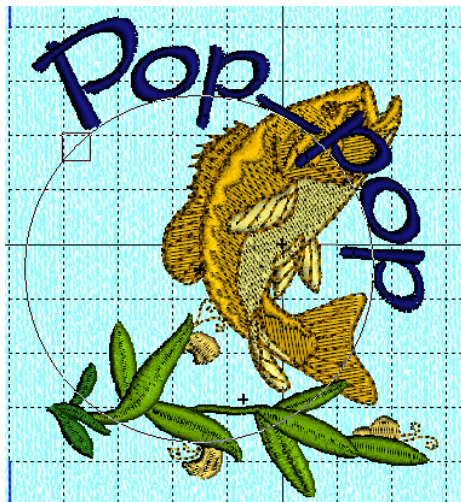
If you **left click and hold** anywhere inside of the circle, you can drag the circle around the screen without changing its size. To change the size of the circle (and affect the placement and curvature of the lettering), **left click and hold** inside of the little square near the first letter**.** Now, as you drag the little square, the circle gets bigger and smaller. As you move the square around on the circle, the place where the lettering begins move with the square. **Hint:** If you hold down the **CTRL** key while dragging the little square, both the

size and position of the circle will remain in place. Go ahead now and fix the lettering.

13.   This is the look I am trying to achieve:
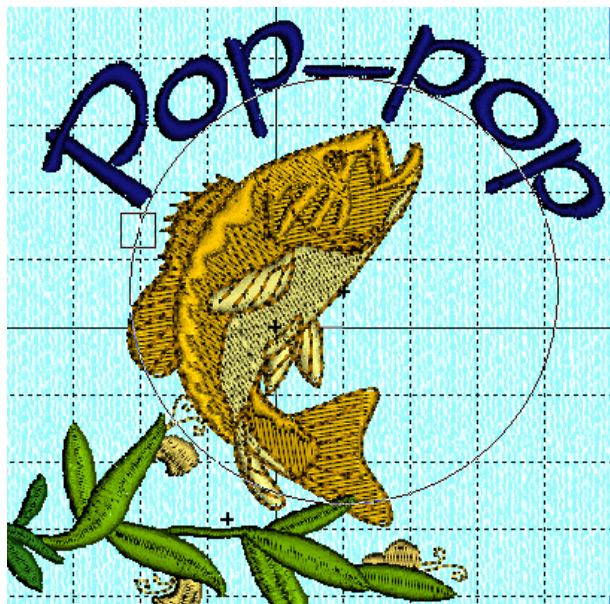
It doesn't matter if the center of the circle is not on the center of the fish. I'm trying to achieve a certain look to the lettering and that's all that matters at this point.

Once you have your lettering arranged as I show here you can move on to the next step.

14.   **Left click** on the **Design** tab to move to the **Design Page**. If you have *4D Embroidery Extra*, I am going to show you how to use some of the fantastic features that come with that software. But first, let's finish up this project using only the features of *4D Embroidery*. Right now we have a design component (the leaves) that we need to temporarily remove from the design before we save it. Since we are going to use them in a few minutes, let's just copy them to the **Clipboard**. Use the **Tab** key to select the leaves, then **left click** on the **Copy** tool. You'll see the leaves in the **Clipboard** on the **Design** page. Now, it's safe to hit the **Delete** key to remove the leaves from the design.

15.   We are now ready to use the **Combine** tool to combine the lettering and the fish. **Left click** on the **Combine** tool. Once the deigns are combined, **left click** on the **Center In Hoop** tool to center it in the hoop.

16.   Let's change the colors of the fish now. **Left click** on the top color in the **Color Select** tool. When the **Color Selection** dialog opens, look at the bottom of the dialog and find the **Quick Colors** frame. **Left click** on the green block in the middle row. **Left click** on the **OK** button. You'll see that some of the stitches in the fish have changed color. **Left click** on the second color from the top in the **Color Select** tool. When the **Color Selection** dialog opens, **left click** on the white box on the bottom row in the first column. **Left click** on the **OK** button to complete the change. More of the stitches changed color. **Left click** on the third color from the top in the **Color Select** tool. When the **Color Selection** dialog opens, **left click** on the top green block (the darkest green) to select it. **Left click** on the **OK** button to complete the change. Finally, **left click** on the fourth color block from the top. When the **Color Selection** dialog opens, **left click** on the darkest block on the top row at the far left. **Left click** on the **OK** button. Here is what your design should look like:
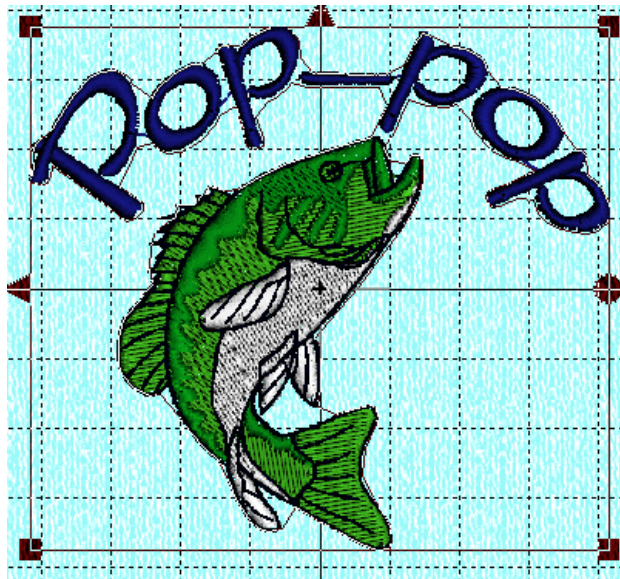
Use the **Color Sort** tool like we did in **Project 2** to make all of the lettering one color.

17. The next thing we have to do is to place the leaves back on the design. Since they are already on the **Clipboard,** just **left click** on the **Paste** tool.

18. Here is what your screen should look like now:
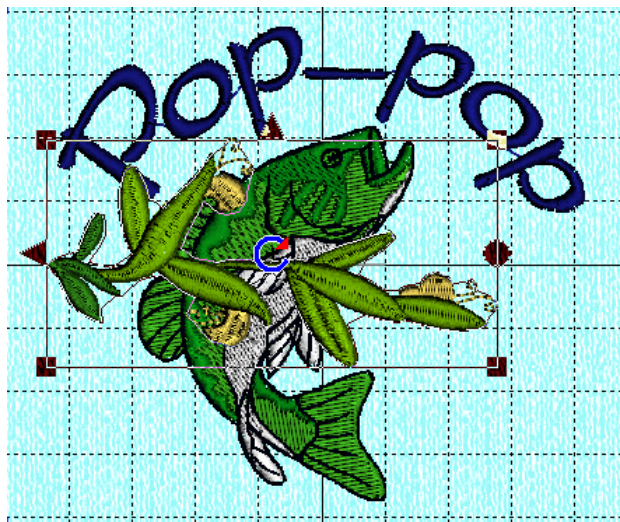
Your leaves may appear anywhere on the screen. For now, just drag them into the center of the screen and leave then there. The leaves need to be oriented so that they appear to be growing vertically rather than lying horizontally as we see here. Let's use the **Rotate** tool to move the leaves.

19. Make sure that the leaves are **selected** as shown above. Find the **Rotate 90** tool on the tool bar. Here is what it looks like:

Each time you **left click** on this tool, the selection is rotated 90º in a **clockwise** direction. **Left click** on this tool **3 times**.

43

20. Here is what your screen should look like now:
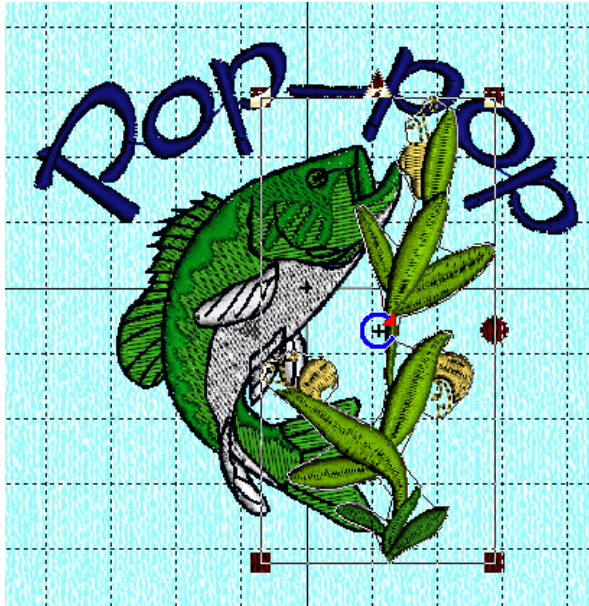
Now that the design is correctly oriented, and it is still in **selection** mode, use the **Copy** tool to copy it to the **Clipboard**. Look at the **Clipboard** and you will see that the design is now in the vertical position. This means that the next time we **Paste** a copy of this design on the **Work Area**, it will be in a vertical orientation. You already know how to move these designs using the **drag and drop** technique, so let's move this initial design to the **right side** of the **Stitch Area**. Next, we will add, then modify another copy of the leaves.

21. **Left click** on the **Paste** tool to place another copy of the leaves on the **Work Area**. Here is what your screen should look like now:
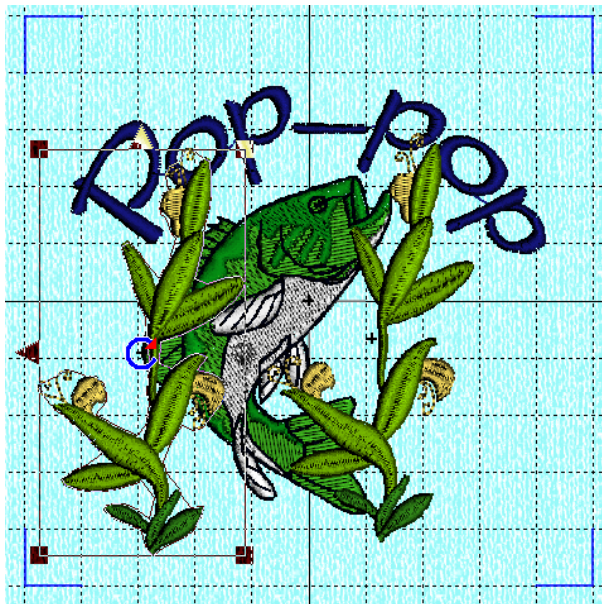
Because the two sets of leaves are exact copies, the design is a bit boring. So let's make it look a little different and flip one of the designs. Do you see the black triangles on the left and top of the selection box? Those are **Flipping Handles**. If you click on one of the flipping handles, the design flips over on the axis of the other flipping handle. Let's give it a try. **Left click** on the **top Flipping Handle**. Notice that the design is turned upside down. **Left click** on the **top Flipping Handle** again. Now the design is right side up again. We want the design to be a mirror image of the first design. **Left click** on the **Flipping Handle** on the **left side** of the **Selection Box**.

22. Here is what our design looks like now:
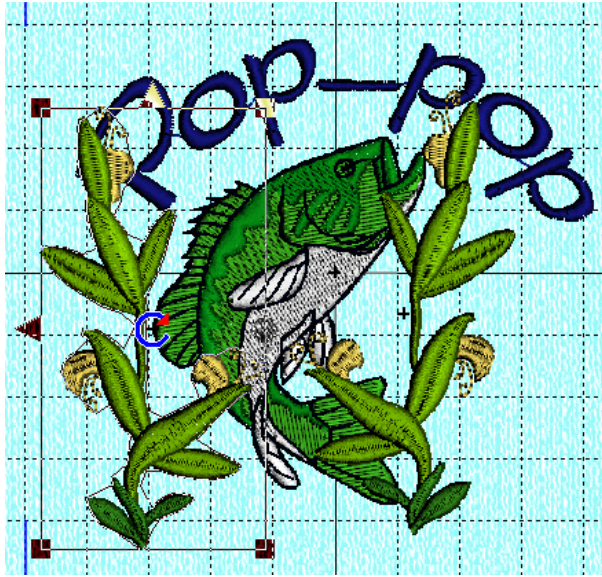
You can see how the designs are now mirror images of each other. This would be quite noticeable if we left them in this position, but we are going to use another tool to fix that. Look at the **Selection Box** again and you will see a **round handle** on the **right side** of the **Selection Box**. That if the **Rotation Handle**. If you **left click and hold** on the **Rotation Handle** and then drag it, the design will rotate around the **Center of Rotation** (the blue **C** in the center of the design.) Let's learn how to use these two tools.

23. You can move the **Center of Rotation** by using the **drag and drop** method. Let's move the **Center of Rotation** to the base of the leaves. Don't worry about moving the **Center of Rotation** too far, or even moving it outside of the **Selection Box**. You can place it wherever you need it to complete your project.

24. With the **Center of Rotation** at the bottom of the **Selection Box**, use the **drag and drop** method to rotate the leaves to the left so that your design now looks like this:
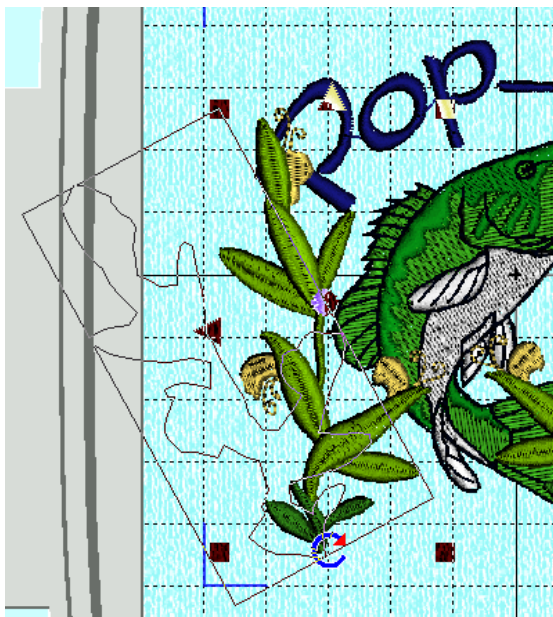
Before you release the left mouse button, you can see an outline of the design. This helps you to decide where to position the stitches. When you release the left mouse button, the stitches move and the **Center of Rotation** returns to the center of the design segment. Now, rotate the other stitches in a clockwise direction so that the two sets of leaves form a **V.**

25. Here is what your design should look like now:
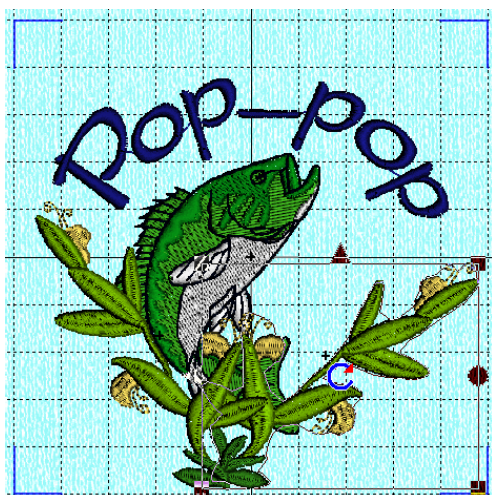
This looks pretty good. But I think we can make it better. Hit the **Tab** key until the fish and the words are **selected**. When they are selected, use the **drag and drop** method to move them towards the top of the **Stitch Area**.

26. Here is what your design should look like now:
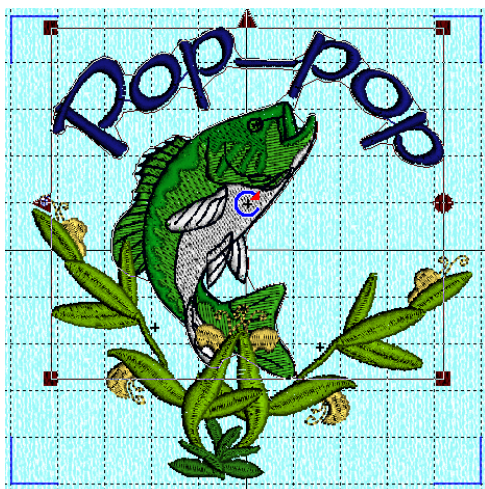
Use the **Color Sort** tool to minimize the number of color changes. Finally, use the **Center Design** tool to place the design in the center of the hoop.

However, if you have *4D Embroidery Extra*, there are some additional changes we can make on the **Edit** page. Let's do that now. Before we can proceed, we have to use the **Undo** tool to un-combine the designs. **Left click** on **Undo**. Now use the **Tab** key to **Select** a set of leaves and **Delete** it. Do this until all of the leaves are gone. Then, use *4D Organizer* to get a fresh copy of the leaves and put that design into your **Work Area**.

27. I want to remove the yellow and dark green stitches in the design. This will make the leaves look more like aquatic plants. To do this, we need to go to the **Edit Page** of *4D Embroidery Extra*. **Left click** on the **Edit** tab at the bottom of the **Control Panel**. Here is what your screen will look like:
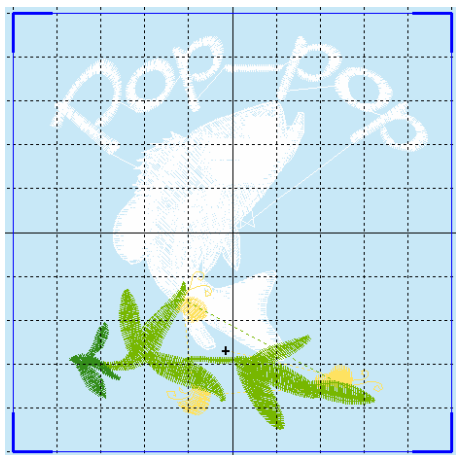
The first thing you see is that the design is in **2D** rather than **3D** view. Also, only the leaves are in color. The rest of the design is in **Ghost Mode** and shown in white. And the **Control Panel** is different. Only 3 colors are shown in the **Color Select** tool because only the colors in the **Selected** part of the design are shown. Now that we are here, we are going to simply **turn off** the stitches that we don't want to include in the design. Here is how to do it.

46

28. Make sure that the set of leaves is **Selected** by tapping the **Tab** key until the leaves are shown in color. These leaves will be a complete set of leaves as shown here:
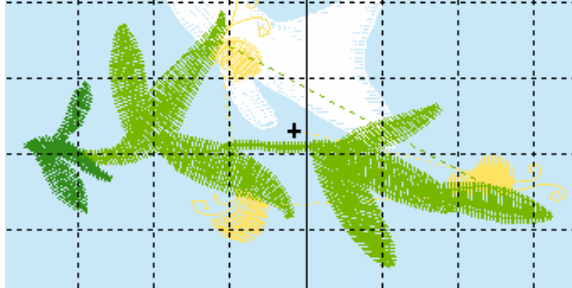
There are only three colors in this design. We want to remove colors **1** (light yellow) and **3** (dark green). Turn off these colors by either **left clicking** in the little check boxes in front of the color if you are in **Realistic** color mode or **right click** in the little color chips if you are in **Classic** view mode.

29. Eventually, you should have turned off all of the stitches except the main leaves. This is what your screen should look like now:
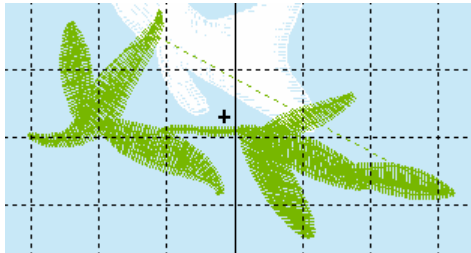
We now need to take a snapshot of this design as it is now. This is done by using the **Make Block From Visible Area** tool found in the lower right corner of the **Select** frame. Here is what it looks like:
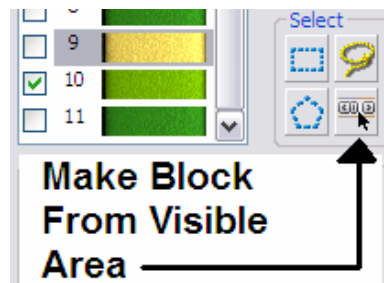
30. **Left click** on **Make Block From Visible Area** and then look at the **Clipboard**. Right now the **Clipboard** contains a copy of the leaves. There is a **Selection Box** around the entire design in the **Stitch Area**. Now, **left click** on the **Copy** tool and look at the **Clipboard**. The new design is there on the **Clipboard.**

31. **Left click** on the **Design** tab. Here is what you'll see:

Wait a minute! I thought we took out the yellow and dark green stitches! Look closely at the **Clipboard** and you will see that the stitches are gone from that copy of the design. All we have to do is to remove the present design from the screen and then paste from the **Clipboard**. Make sure that the leaves are still selected in the **Work Area**, then hit the **Delete** key on your keyboard and the leaves in the **Stitch Area** will disappear. Then **left click** on the **Paste** tool and the design on the **Clipboard** will be pasted onto the **Work Area**. You can now arrange the leaves as we did previously in steps 18 through 26 to create the new design.

32. Here is what you'll see:
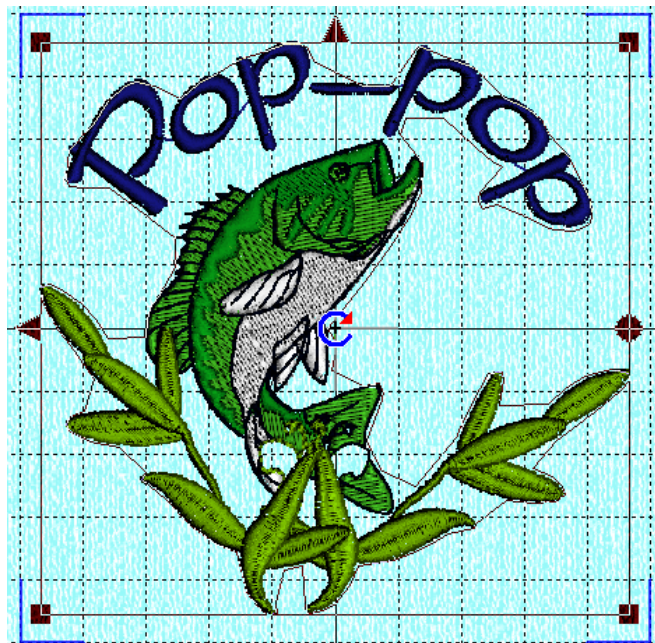
Wow!!! And, this is only **one** of the great things you can do on the **Edit** page. With *4D Embroidery Extra* you get access to these tools and a whole lot more.

We are done. All you have to do now is to use the **Color Sort** tool to reduce color changes to **6** and then use the **Center Design** tool. Save the design to the folder of your choice with the **Save As…** tool and you are ready for a new project.

Chapter 3 – Basic Design Manipulation

Husqvarna Viking **4D Embroidery** is an extremely powerful software package that is so feature rich, it's hard to know where to start describing its capabilities. Those of you who used the **3D Embroidery Studio** are in for quite a few surprises when you see what the new software can do.

4D Embroidery gives you the ability to do the following:

- Open an existing embroidery file
- Change the color of any or all of the stitches in an existing embroidery file
- Add lettering to an existing embroidery file
- Combine two or more embroidery files to make a new embroidery file
- Rotate all or part of an existing embroidery file
- Resize an existing embroidery file
- Select thread colors from an enormous list of various thread manufacturers
- Create an inventory of threads based upon the colors and types of threads that you already own or purchase in the future
- Create additional lettering fonts from any TrueType® or OpenType® font
- Create designs for the **Endless** hoop
- Instantly apply multiple copies of a design using the **Encore** feature

With **4D Embroidery Extra** you can do many more things with your designs such as:

- Select only a portion of an embroidery file and use that set of stitches in a new embroidery file
- Create a stitch file based upon the contents of a graphic or photograph

I could go on and on, probably filling three pages with all of the various features of this wonderful software.

With that being said, let's get started working with the software.

This is what *4D Embroidery* looks like when it first starts. Let's take a quick look at the various components and see how they work.
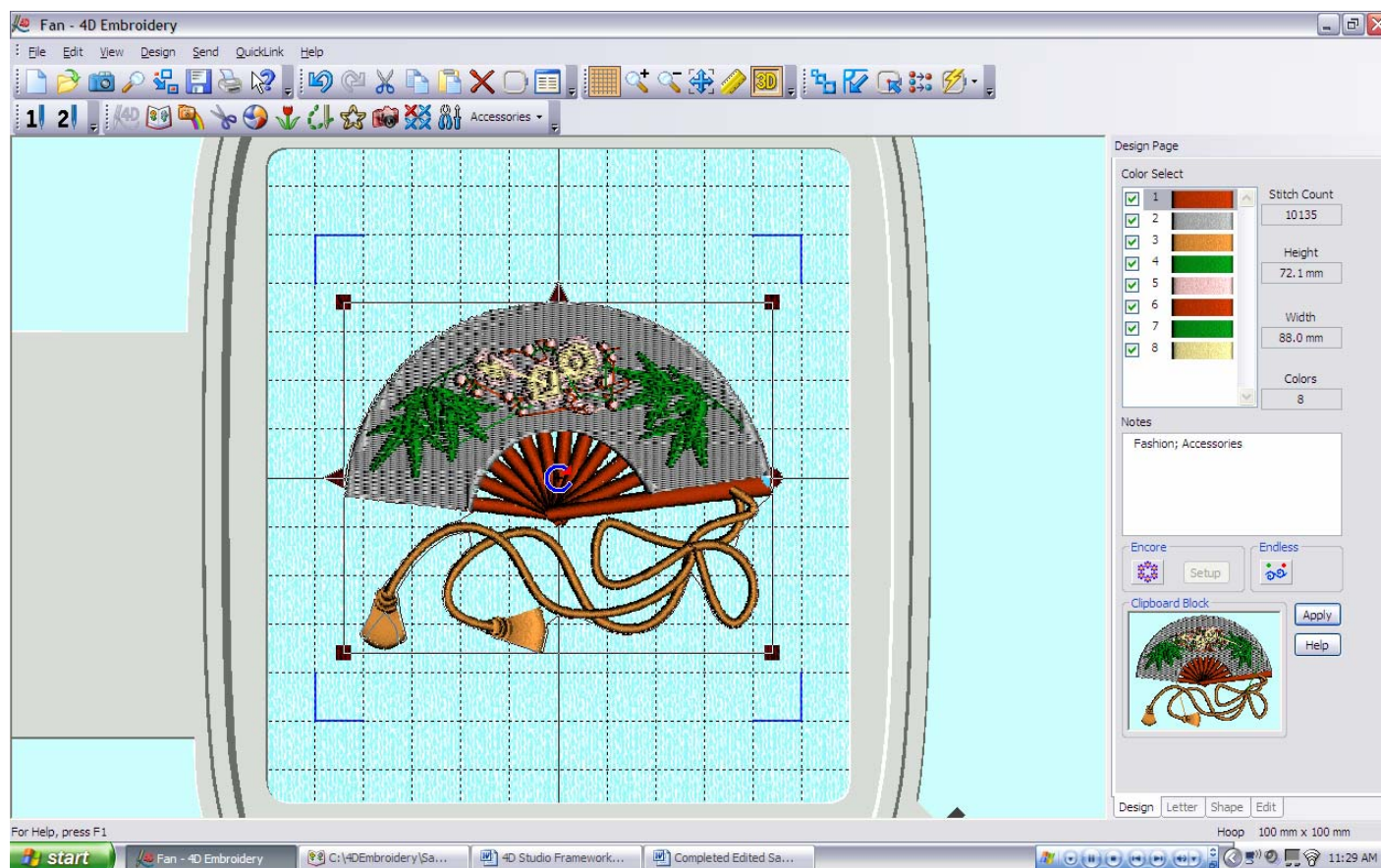
There are two parts to this screen. The left side of the screen that shows the embroidery file you are working on is called the **Work Area**. The actual stitches are shown in the area within the hoop and are referred to as the **Stitch Area**. To the right of the work area is the vertical **Control Panel.** The **Control Panel** has several tabs at the bottom of it that allow you to select different functions and tools to accomplish your work. We will discuss them in later chapters. Along the top of the screen is the **title bar**. This area tells you the name of the embroidery stitch file that you are currently working with (in this case it says "Fan – 4D Embroidery"). Below the title bar is the **menu bar**. It contains the words File, Edit, View, Design, Send, QuickLink, and Help. Below the menu bar is the **toolbar** (shown on two lines) containing little pictures or icons that allow you to quickly select some of the most frequently used tools.

As I said before, this software is so feature rich that it may take some time before you remember what all of the various tools and commands will allow you to do. The designers of *4D Embroidery* provided you with an excellent tool to help you remember and find the icon you need for a given application. It is the 8th icon from the left on the topmost toolbar. Let's take a look at it before we go on.

Help or What's This?

This is what the icon looks like. When you let your cursor sit on this icon, the **tool tip** that pops up says "Help". There is much more to this icon than mere help. I have seen this icon in other software and it is often labeled "What's this?" It is a tremendous help to new users and old users alike because it performs several different functions. Here is how it is used.

When you **left click** on the **Help** tool, it seems as though nothing has happened. If you look closely at the cursor, you will see that a question mark appeared to the right of the cursor so that the cursor now looks just like the tool itself. Now, if you move the cursor to another place on the screen, and **left click** on the cursor, one of two things happens. Either an extended tool tip appears with a short, but detailed description of the area of the screen pointed to, or the extensive **Help** application opens giving you what is known as **contextual** help on the tool selected. By contextual help, I mean that not only is the Help application opened, but it is opened on the section of the help file that pertains directly to the area you clicked on. Here are some quick exercises.

Help on a Tool

1. Move your cursor to the **Background Grid** tool on the toolbar and let it sit (or **hover**) on the tool.
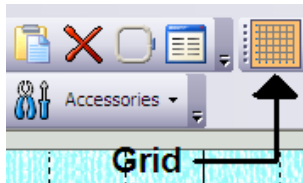
    Notice that a little yellow box (known as a **tool tip**) pops up saying "Grid".

2. It looks like this:
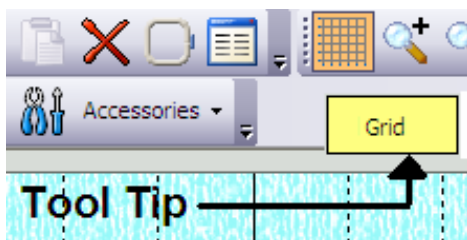
    The tool tip is helpful for experienced users. But what if you need more help or information?
    Let's use the **Help** tool.

3. **Left click** on the **Help** tool.

4. Notice that your cursor has changed to the "What's this?" cursor. Move your cursor to the **Grid** tool and **left click** on the **Grid** tool. This is what you see:
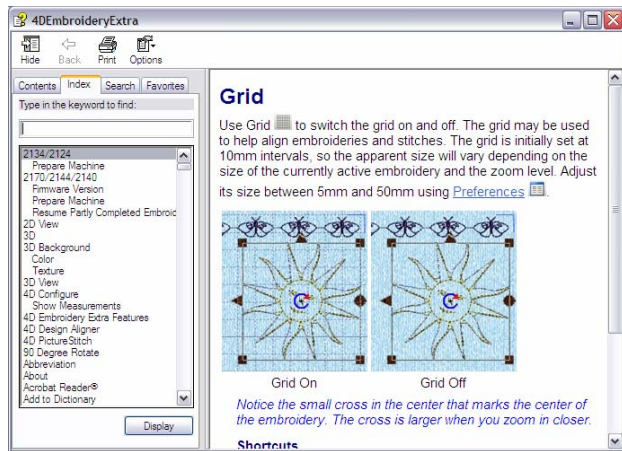
You will see **Contextual Help** on the tool you just selected.

You should notice that you only get one click while in the help mode. Once you click on something, the shape of your cursor reverts to the arrow head. If you want to ask for help on something else, you must left click on the **Help** tool to turn it back on for another click.

Asking for help on something specific like the meaning of a particular tool is easy for the software to show to you. However, if you click on something that could have many meanings, you will be shown **Contextual Help**. Let's give this a try so that you know what it looks like.

1. **Left click** on the **Help** tool.

2. Move your cursor so that it is positioned anywhere in the **Control Panel** area and then **left click.** Your screen should look like this:
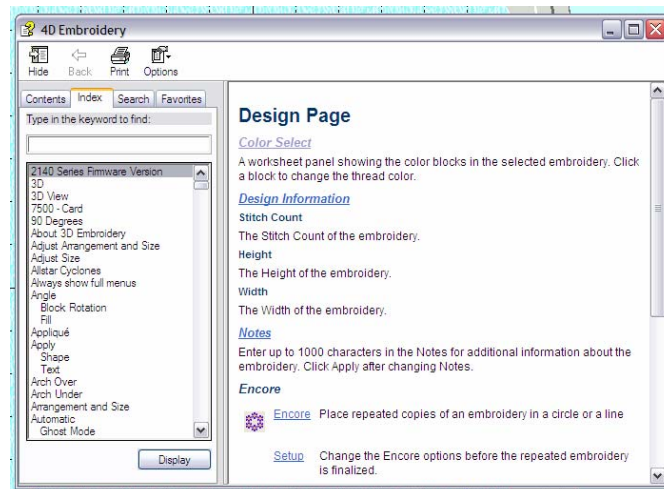
The **Help** file is opened to the section about the **Design Page Control Panel**. You can see on the right side of the help dialog the Quick Reference Guide is open and the Design Page of the Control Panel section within it is also opened. The actual help information is shown on the right side of the dialog. If you move your cursor on a word that is in blue and underlined on the help page and left click on it, you will see additional help about that item. When you are done with Help, just **left click** on the little red box with the white X in the upper right corner of the **Help dialog window** to close help. If you think that you need to come back to this area of help in the near future, you can left click on the underscore character in the upper right corner of the **Help dialog window** to minimize the window to the task bar at the bottom of your screen. Then you can just left click on that item in the task bar to bring the Help dialog back to where you left off reading it.

The **Help tool** is probably the most important tool you can learn to use at this time. Even though I use this software a lot, I still find myself using this tool to take me to the right area of the Help file for assistance.

Loading Embroidery Stitch Files

Before you can do anything in *4D Embroidery* (unless you are using the **Express Design Wizard**), you have to open, or load, a stitch file. There are several ways to do this. Each one has its advantages and disadvantages.

Stitch files can be opened using any one of these three tools.

- **Open**
- **View**
- **Find Designs**

Before demonstrating each tool, here is a short description of how each tool works and what it does.

Open Tool

With the **Open tool** you must know the name of the stitch file that you want to open and its location on your hard drive. If you only know what the stitch file looks like, but don't know the name, then you will probably be better off using the next tool.

View

If you know what the embroidery design looks like, but you don't know the name of the stitch file, you can easily find the stitch file using the **View** tool. You still have to have a general idea of where your stitch files are stored on your hard drive, but this tool allows you to browse through your stitch files and find one that is pleasing to the eye.

Find Designs

This tool takes the longest time to use, but it will find stitch files stored anywhere on your hard drive even if you are not sure of their name or location. However, you must know **something** about the file in advance. You must know at least part of the file name, or the **Notes** section of the file must be filled in and you must know at least one of the words in the **Notes** area.

Let's do a few exercises to illustrate the use of these tools.

Open Tool

1. **Left click** on the **Open** tool. It is located on the left side of the tool bar.
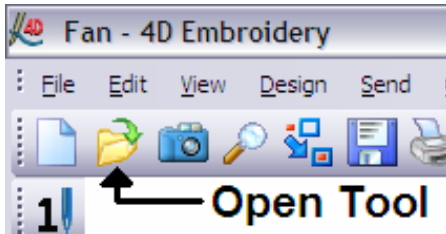
After you click on this tool, the **Open dialog** will start.

Let's open the file with this name:

C:\4DEmbroidery\Samples\4DEmb\Stitch2\Fruit\Strawberry.vp3

2. This is what the **Open dialog** looks like.
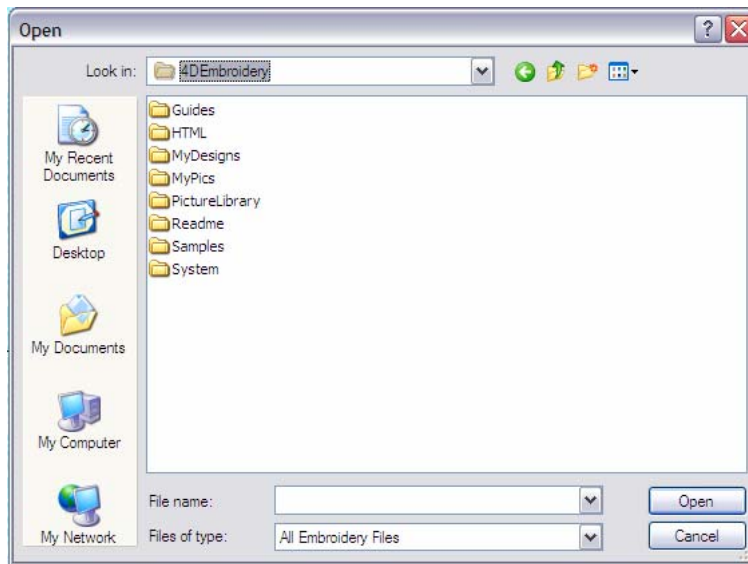
Your screen might look different than mine based on where you last searched. It really doesn't matter. Just **left click** in the text box at the bottom of the dialog window labeled **File name:** and begin to type in the name of the file we are looking for…but don't type too fast. We will let the computer help us out on this one. Find the 4 arrow keys on your keyboard. We will use them in this exercise.

3. Type in "C:\" and your screen should now look something like this:
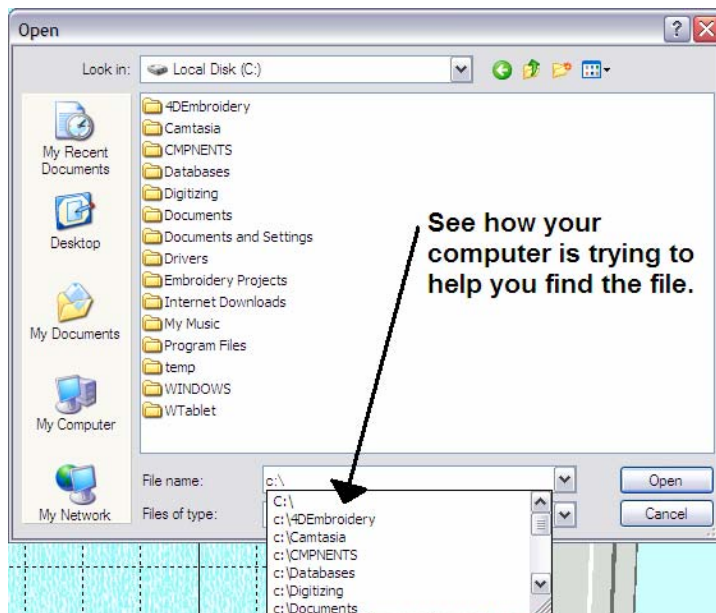
You can use this to your advantage.

Hit the down arrow on your keyboard until the line reading **C:\4DEmbroidery** is highlighted and hit **Enter**. Now, hit the **right arrow** key.

The computer will fill in the rest of the **File Name** box with **4DEmbroidery**.

Now, type a "\" and the computer will display the first few **folders** in the **4DEmbroidery** folder. Press the downward pointing arrow on your keyboard and the computer will fill in **4DEmbroidery** for you.

54

4. Your screen should now look like this:
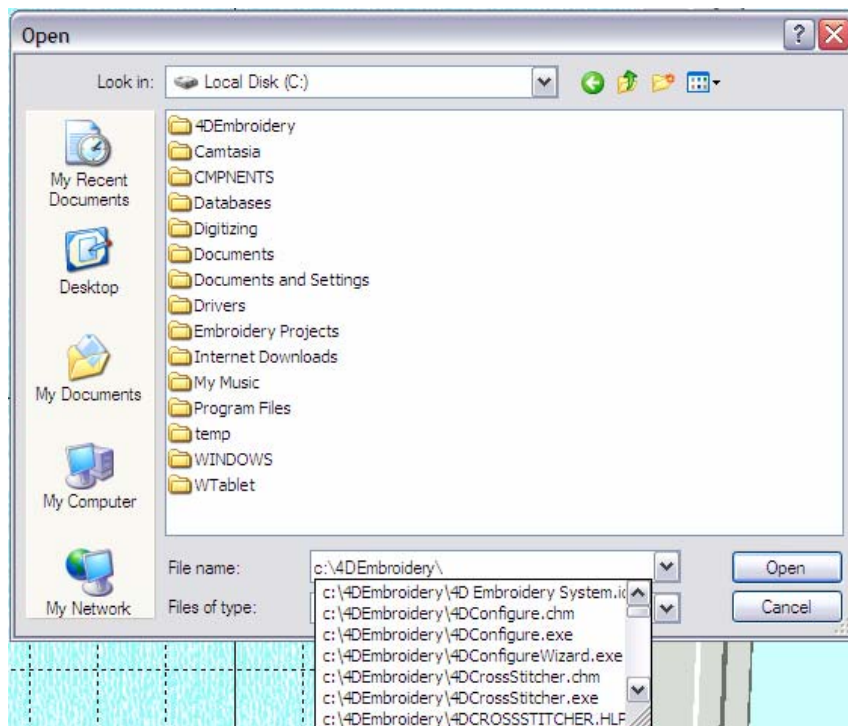
Notice that the first part of the name is filled in for you. The computer put the word **4DEmbroidery** in the **File Name** box.

You can use this same technique to move down to the next node by hitting the **right arrow** key, then typing in another \. The computer will help you again by showing the next few folders in the **4DEmbroidery** folder.

5. The next folder in the file name we are looking for is "Samples". Type the letter "s" and watch what happens.
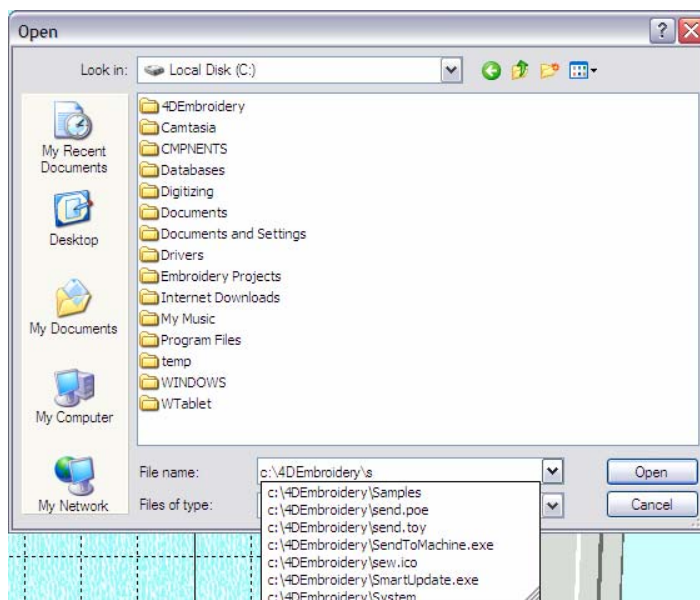
We are now going to do the same thing we did in step 3 above. Use the downward pointing arrow to move down to the "Samples" file. The computer will fill in the **File Name** box with the rest of the word "Samples".

You are now ready to hit the **right arrow** key and then type in another \ and the computer will show you the first few folders in the Samples folder.

6. Your screen will now look like this:
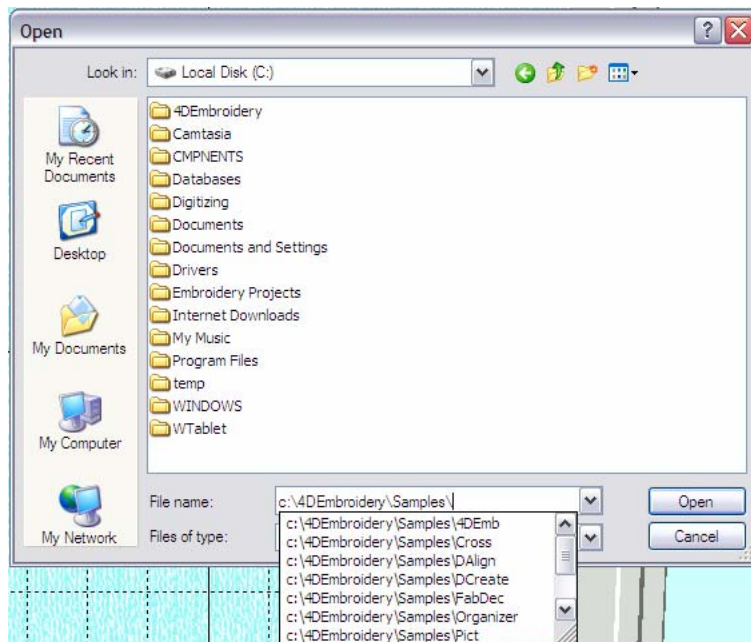
There are the folders that are contained in the Samples folder. The next folder that we need is **4DEmb**. Just as before, use the downward pointing arrow on your keyboard to select the first folder, **4DEmb**. Hit **Enter**. Now, hit the **right arrow** key. Type in a \ and the computer will fill in the name of the folder in the **File Name** box.

Once the **4DEmb** folder is selected, you will see the folders contained in it.

7. Your screen will now look like this:
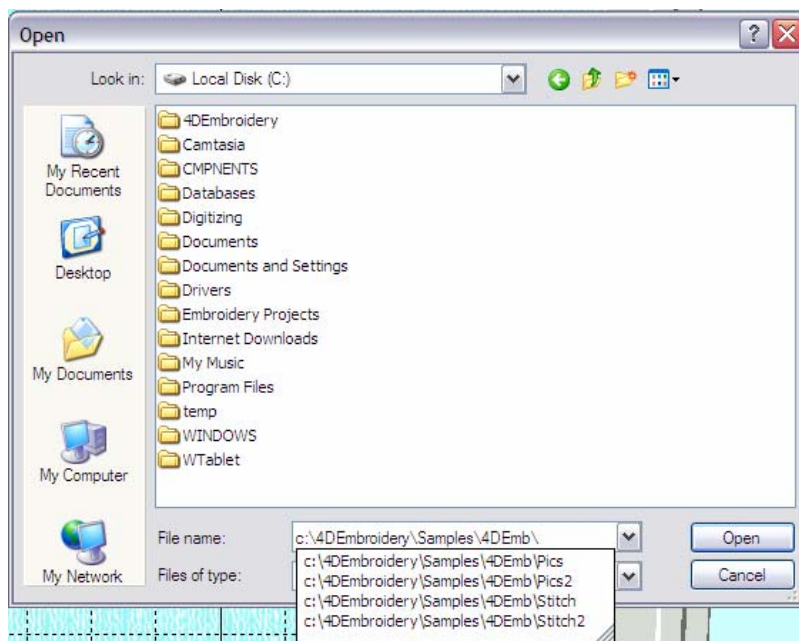
There are 4 folders inside of the **4DEmb** file. Looking back at the full name of the file, we see that the next node in the name of the file is **Stitch2.** Use the downward pointing arrow to select the **Stitch2** folder. Then, hit the **right arrow** key and then type in another \ to open the stitch folder.

8. Your screen will now look like this:
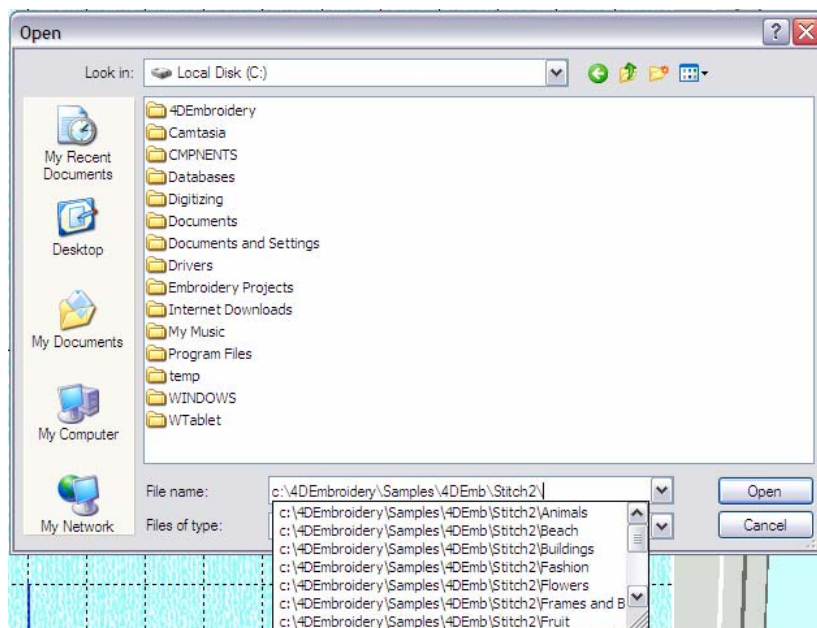
You can see that there are quite a number of items shown in the **Stitch2** folder. (If you cannot see the names of the folders in the **Stitch2** folder, then move your mouse pointer to the **right side** of the **Open** dialog box until it changes into a horizontal, double-headed arrow. When the cursor changes, **left click and hold** as you drag the side of the dialog box to the right to enlarge it. This will make the drop down list wider.)

Let's look at the name of the stitch file we are looking for again. It is:

C:\4DEmbroidery\Samples\4DEmb\Stitch2\Fruit\Strawberry.vp3

So far you have navigated down to the point that we are looking at **C:\4DEmbroidery\Samples\4DEmb\Stitch2**. All we need to do now is to move down one more level to the **Fruit** sub-folder.

Type in the first **3** letters of the word "Fruit" and let the computer find it for us.

9. Here is what you should now see:
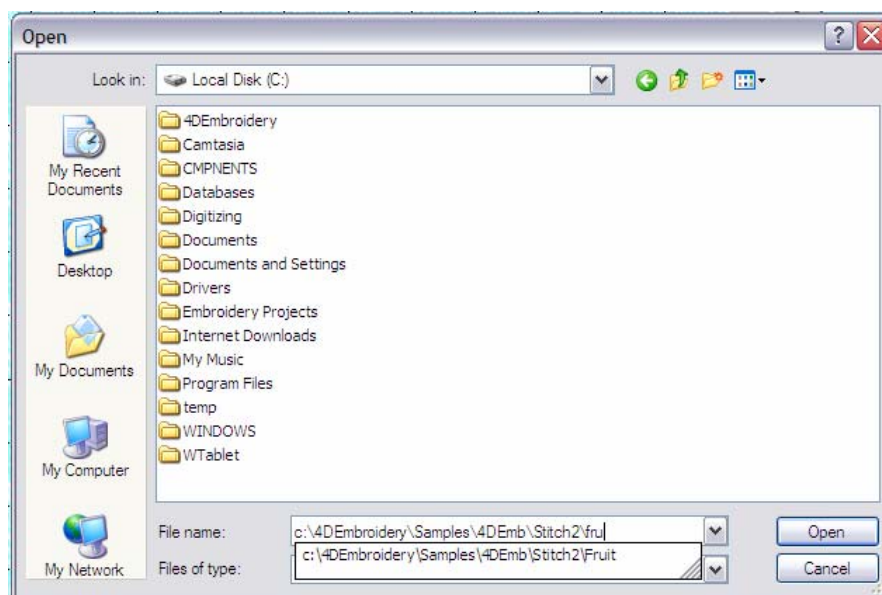
Hit the **down arrow** key to select the folder named **Fruit**. Then type in another \ character and the names of the stitch files in the folder can be seen.

10. Your screen will now look like this:
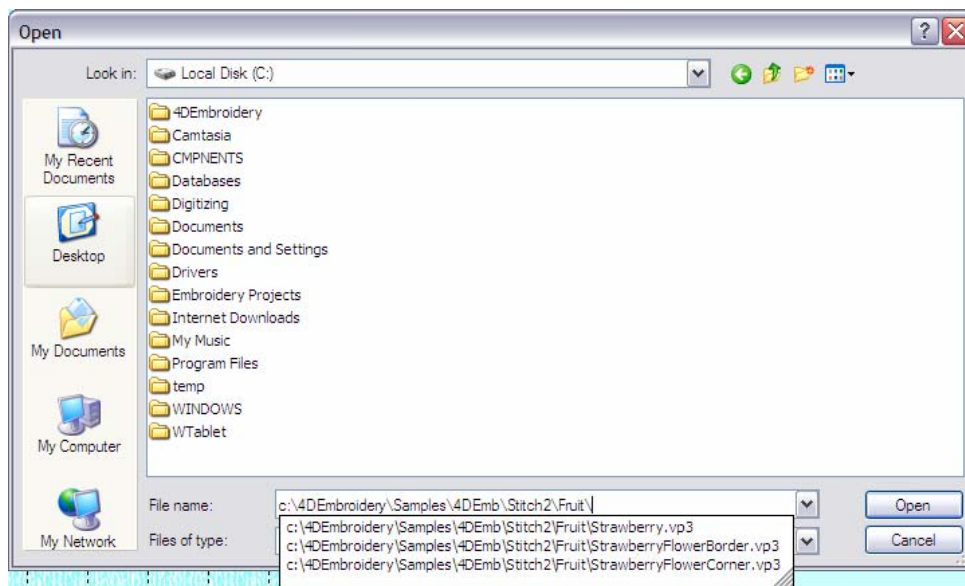
Hit the **down arrow** key to select the file named **Strawberry.vp3.** Hit the **Enter** key. You can now click on **Open** and your stitch file will be placed into the work area.

This is a really neat feature of Windows XP. You'll find that it works in other Windows based software as well.

This is a handy procedure to use if you know the __name__ of the stitch file you are looking for. However, it can be somewhat cumbersome and requires a bit of typing. Now I'll show you the procedure to use if you only know what the stitch file looks like, but not its name.

View

Before I show you how to use the **Design View** dialog, we need to ensure that your PC is set up so that the procedure outlined below will work. Each time that you use the *4D Embroidery* software, the various tools, such as **Open File** will remember where you were the last time you used that tool. Since you may have already been using your software to look at various features, we need to reset the **View Designs** tool so that it will work with this exercise. You will not need to follow this resetting procedure in the future.

Resetting View

1. **Left click** on the **View** tool on the left side of the tool bar.
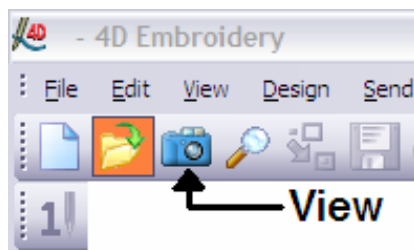
After you click on this tool, the **Design View** dialog will begin.

2. When you first start using the **View** tool, your screen might look something like this:
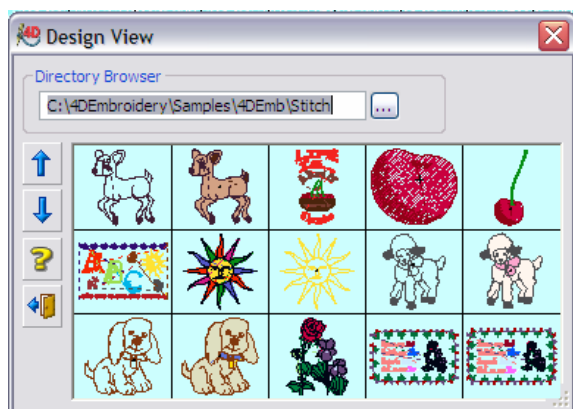
You can see that I have some words filled in the **Directory Browser** text box. You may have the same or similar words in your text box. Also note that the words are already **selected**. i.e. They appear on a shaded background. This means that you can just type in **C:** and then click on the **white X** in the red box in the upper right hand corner of the **Design View** dialog to close this window.

You will now be ready to begin the following exercise.

Using the View Tool

Let's assume that you want to find the file we used in the **Open File** exercise above, the stitch file of the strawberry. We will pretend that you don't know the name of the file. You only know what it looks like.

1. **Left click** on the **View** tool and your screen should look like this:
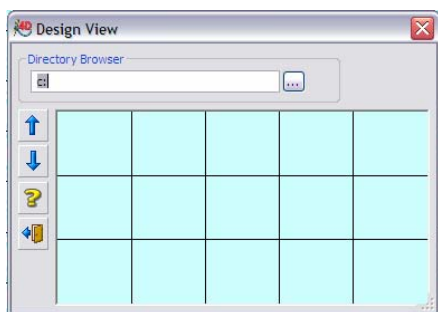
If the **Design View** boxes are filled in with pictures of stitch files, it's OK. Just move on to the next step.

2. **Left click** on the ellipsis button at the right side of the **Directory Browser** text box as shown here:
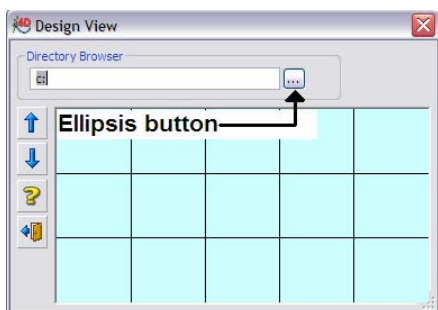
When you click on the ellipsis, a drop down menu will appear that will allow us to navigate through the disk directory and search for your stitch files. You must have some idea of where the files are located before you can use this tool to look at the contents of the stitch files.

We will browse through the samples that were provided with your software. Let's pretend that we know that we have a design with strawberries on it but we don't know the name of the file.

3. **Left click** on the ellipsis and a navigation dialog will open. It should look something like this:
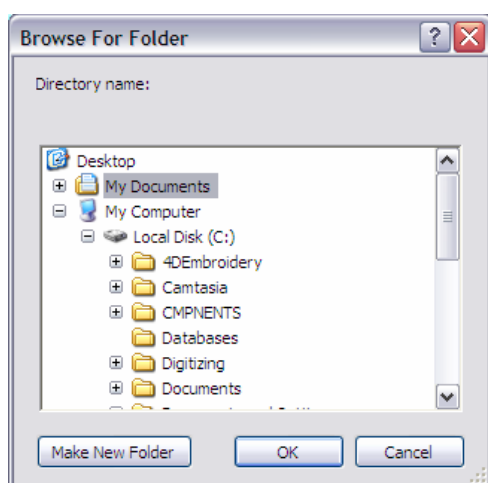
Note: You may have to **left click** on the plus sign (+) to the left of **My Computer** and the plus sign (+) to the left of **Local Disk (C:)**. You should then see something similar to the graphic shown at left.

We will assume that all of your embroidery stitch files are contained in the **4DEmbroidery** folder.

Left click on the plus sign to the left of the folder named **4DEmbroidery**. When you do, the folder will open and you'll see the folders contained in the **4DEmbroidery** folder.

4. After opening the **4DEmbroidery** folder your screen will look like this:
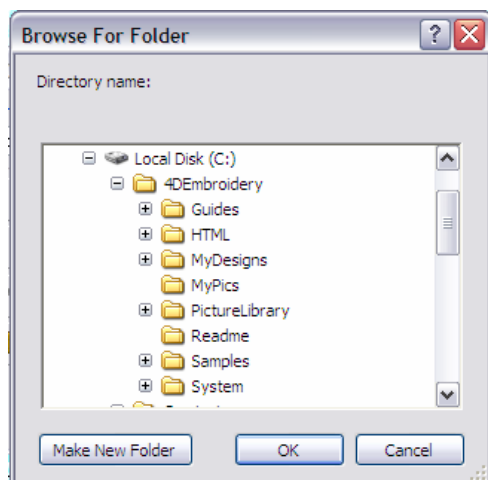
We now need to open the folder named **Samples**. To do this, **left click** on the plus sign to the left of that folder.

After you click on the plus sign, the folder will open and you can see the folders contained in **Samples**.

5. Here you can see the folders contained in the **Samples** folder.
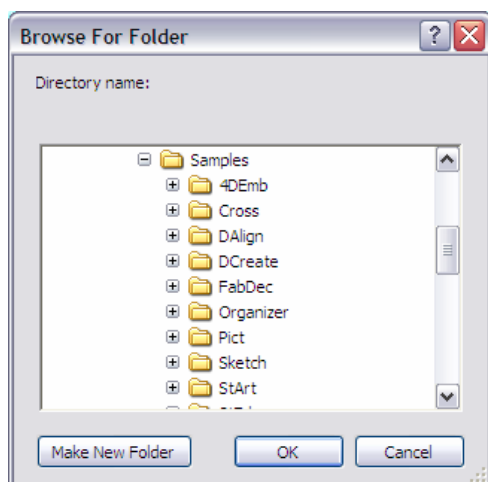
You will have one or more folders contained in the **Samples** folder based on which modules (Cross Stitch, Design Creator, Stitch Editor, etc.) you own. Everyone will have the first folder shown here **4DEmb**.

We need to drill down a little deeper into this directory structure because we still have not found a directory named **Stitch** (this is the name that Husqvarna Viking uses to store the designs that come with the various software modules.)

6. **Left click** on the plus sign (+) to the left of the **4DEmb** folder to open that folder up. Here is what you will see:
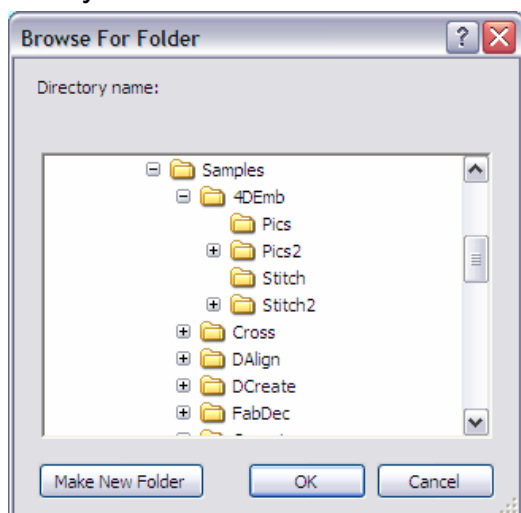
Finally, we have found a folder with the word **Stitch** in it. Now, only because I already know where this design is, we will go right to the **Stitch2** folder. But it has a plus sign (+) to the left of it. This means that there are more sub-folders inside of the **Stitch2** folder.

7. **Left click** on the plus sign (+) to the left of the **Stitch2** folder. Here is what you will see:
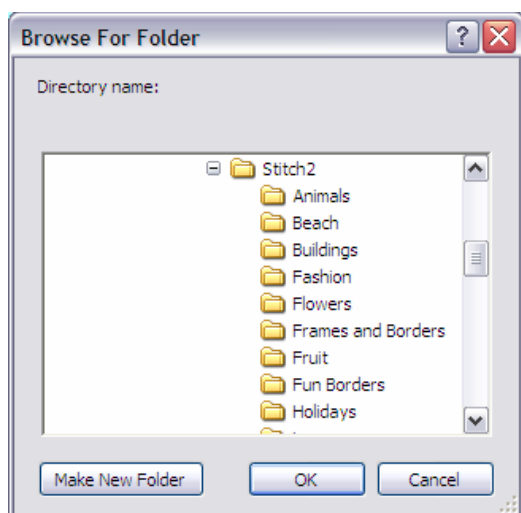
I want to find a design that looks like a piece of fruit, so I'm thinking it might be in the folder named **Fruit**. Since there is no plus sign(+) to the left of the folder name, I know that there are no sub-folders in this folder.

You have to <u>select</u> the <u>name</u> of the folder that you wish to search for a design. To do this you need to **left click** on the **<u>name</u>** of the folder.

Left click on the name of the **Fruit** folder and it will show in <u>selected</u> mode. i.e. It will have a shaded background.

At this point, we are ready to let the **Design View** tool do its work.

8. Your screen should look like this:

We can now **left click** on the button labeled **OK** to close the navigation dialog and let the **Design View** tool do its work.

If there are any stitch files in the **Fruit** folder, the **Design View** tool will display them.

Let's see what designs are in this folder.

61

9. Now, at last, you can see some designs in the **Design View** dialog. Here is what it looks like:
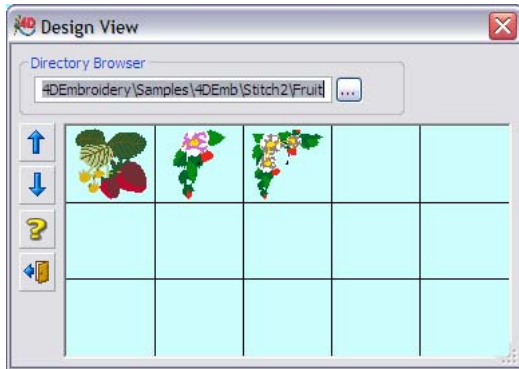
You can see the 3 designs contained in the **Fruit** folder. The first design looks like our strawberry.

On the left side of the **Design View** dialog, there are arrows that allow you to look up and down in the folder in case there are more than 15 designs in the folder.

If you **left click** on the picture of the file, it will open in *4D Embroidery*.

There are two more buttons on the left side of the **Design View** dialog. If you click on the one that looks like a question mark, the **Help Dialog** will open and point to the **View** section. If you click on the bottom button of the **Design View** dialog, it will close the dialog.

Once you find designs using the **View** tool, it is possible to navigate to several designs and add them to the work area before closing the **View** tool.

10. Now that you found the file we were looking for, you can **left click** on the bottom button on the left side of the **Design View** dialog to exit from this tool.

Starting the Find Designs Tool
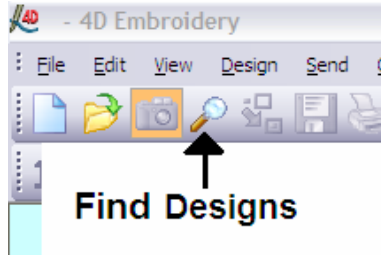
The button for this tool looks like a magnifying glass and is located at the left side of the tool bar.

This is the most powerful of the search tools available in **4D Embroidery**. Let's go through an exercise and see how it works.

1. **Left click** on the tool (the magnifying glass) and the following dialog will begin:
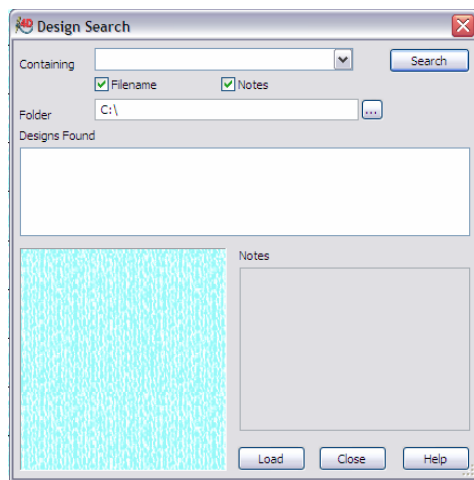
Here in the **Design Search** dialog, the first thing we are going to do is type in is a word (or part of a word) that we think is in either the name of the stitch design file, or in the **Notes** section of the file.

Left click in the text box next to the word **Containing** at the top of the dialog then type in **fish**. But **don't** hit the **Search** button yet.

Right below the text box where we typed in **fish** there are two check boxes. Here, both are checked. For now, I want to **turn off** the option to search for the word **fish** in the **Notes** area.

In addition, let's limit our search to the **4DEmbroidery** folder and those subfolders contained in it. You don't have to limit your search this way. If you have designs stored in several folders on your computer, this tool will find them no matter where they are hiding…providing you know at least part of the **name** of the file, or a word in the **Notes** section of the file.

2. **Left click** on the check box next to the word **Notes** until the check mark is missing. Notice, that as you click on the box repeatedly, the check mark appears and disappears. Your screen should now look like this:
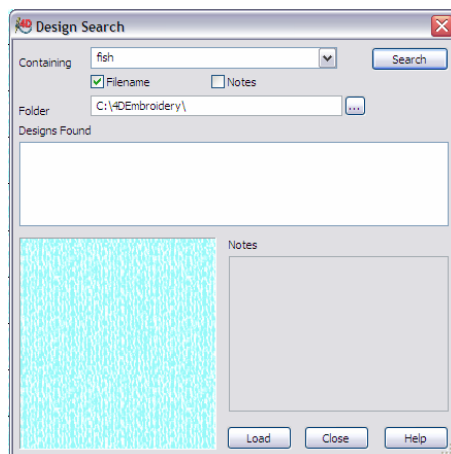
We told the **Design Search** tool where to look for the designs (in the C:\4DEmbroidery folder and any of the sub-folders in it.)

Look in the text box to the right of the word **Folder** and make sure that the characters **C:\4DEmbroidery** are typed there. If your text box contains something else, then just **double left click** in the text box to select all of the text and then type in **C:\4DEmbroidery**.

When your screen looks like the one at the left, you will be ready to **left click** on the **Search** button in the upper right corner of the dialog. Let's do this now and see what happens.

3. Your screen should look like the one pictured below.
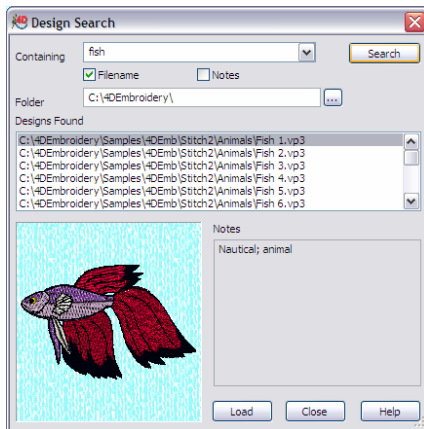
Depending on the speed of your computer, and the size of your hard drive, it may take a few seconds to complete the search.

Here you can see that I found many files on my computer. You probably found the same first 6 files that I did.

You can see that the first 6 files are all contained in the same folder.

Also, you can see that we did not have to use the wildcard character * to find the word **fish** embedded in the filename. The software takes care of this for you.

Notice that you also see a preview of the stitch file. If you **left click** on the selected name of the file, the first one on the list, you can then press on the **down arrow key** on your keyboard to look at each design in turn. Do that now.

4. Here is what your screen should look like after you **left click** on the name of the first file, and then press the **down arrow** key twice.
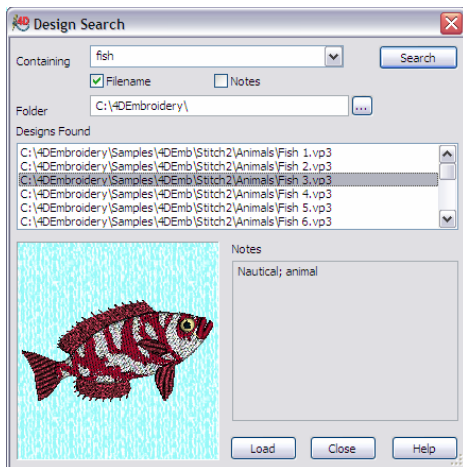
You see the stitch file with a tropical fish in it. You can also see that the **Notes** section of the file contains the text **Nautical; animal**. These are **keywords** used to find the stitch file.

Let's reset the search to include words found only in the **Notes** section and then re-run the search.

Left click on the check mark in the **Filename** box to turn it off. **Left click** on the empty check box next to **Notes** to turn it on.

Left click on the command button labeled **Search**.

5. Hey! What happened to the first fish we found? You screen should look like this:
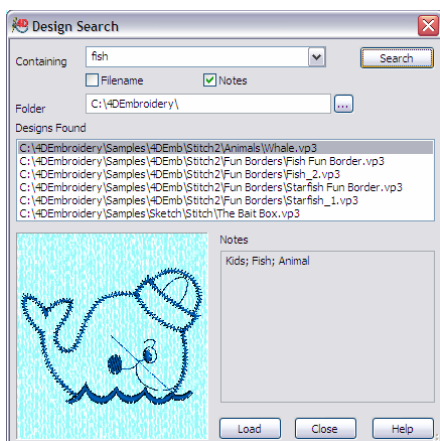
Notice that the first file's name is **Whale.vp3**. The word **fish** is not in the name of the file, it is contained in the **Notes** section (Kids; Fish; Animal).

But what about the other fish we found? If you look in the **Notes** section they only contain the words **Nautical** and **Animal**. If they had the word **fish** in them we would have found them too.

Make sure that the name of the first file (**Whale.vp3**) is selected by **left clicking** on it. Now **left click** on the button labeled **Load**.

6. After you click on the **Load** button, your screen will look like this:
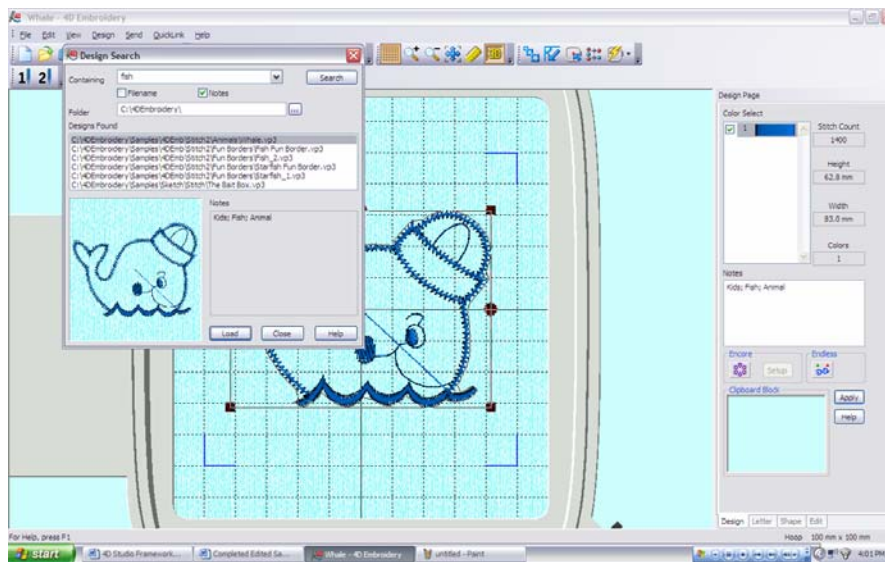
You can see that the stitch file was loaded into your work area.

You can repeat your search as many times as you want and, each time you find the stitch file you are looking for, load it into the work area for use.

When you are done, just **left click** on the button labeled **Close** to end the dialog.

While using this tool, you can also search for and load additional stitch files without closing the **Design Search** tool.

Now that we know how to find and load stitch files on the computer, it's time to get into the really exciting part of the software. You can add lettering to your designs to personalize them, combine multiple designs to create new designs, and many, many other new and exciting things with your embroidery machine.

Chapter 4 – Changing A Single Stitch File

Now we can begin to use the powerful features of *4D Embroidery*. The best way to get started is to begin with simple projects. Later, as we go over additional features of the software, you can build on your experience to further enhance your designs.

I will cover a number of techniques and tools in this lesson. You will learn how to do the following things:

- Load a stitch file
- Change the colors of the stitches in a stitch file
- **Undo** changes made to a stitch file
- **Flipping** a stitch file to change its orientation
- **Rotating** a stitch file
- Changing the size of a stitch file
- Using the **Encore** feature
- Creating **Endless** designs

Loading a Stitch File

Let's begin by loading a design from the **Animals** folder provided with *4D Embroidery.*

You should already know how to load stitch files by now. If you need assistance, then refer back to **Appendix B** and use *4D Organizer* to load the file named:

C:\4DEmbroidery\Samples\4DEmb\Stitch2\Animals\Shirehorse.vp3

Here is what the design looks like:

All of the stitch files supplied with your software are beautiful as they are. Sometimes you might want to change the color of some or all of the stitches so that the design fits your personal taste or need. Let's examine the **Color Select** panel and learn about its full potential.

Before we change the thread color, it's time to initialize the **My Thread Ranges** setting on your computer. This is another **new and exciting feature** of the *4D Embroidery* software.

Changing the My Thread Ranges Setting

Most of us have 2 or 3 different thread manufacturers that supply us with most of our embroidery thread. It's usually based on what your local dealer sells. I use Madeira®, Sulky®, and Robison-Anton® most of the time. For the sake of this exercise, this is what we will set the **MyThreadRange** settings to show.

1. We work with the **Thread Manager** tool in *4D Configure* to make these changes. So, we have to start *4D Configure*. **Left click** on *4D Configure* on the tool bar to start that module.

2. When *4D Configure* starts, **left click** on the **Thread Manager** button (the third button from the top in the left column.)

3. Here is what **Thread Manager** looks like:
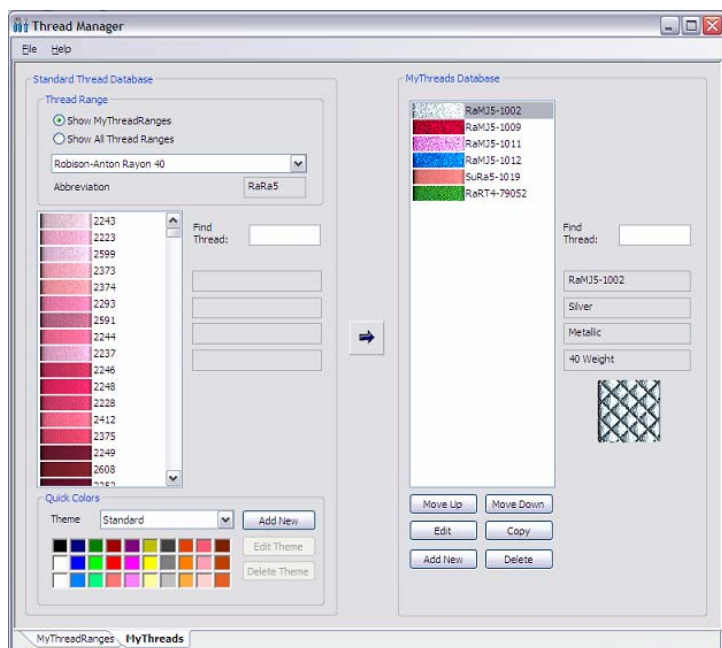
At the bottom of the **Thread Manager** dialog box there are two tabs: **MyThreadRanges** and **MyThreads**. First, I'll talk about **MyThreads**. This is a little database that you can use to store the information about the threads that you actually have at home. Right now, you can see that there are only 5 threads in the **MyThreads Database** as shown on the right side of the dialog. If you want to remove any of these threads, all you have to do is to **left click** on the thread listed in the **right pane** of the **Thread Manager** dialog, then **left click** on the **Delete** button at the bottom of the dialog. To add a new thread to your **MyThreads** database, you first find the **Thread Range** in the **Standard Thread Database** frame on the left side of the dialog. If there is a little dot in the **Show MyThreadRanges** radio button, then when you click on the drop down arrow in the **Thread Range** frame, you will only see the thread ranges that you presently have in your **MyThreadRanges** setting. If you have a little dot in the **Show All Thread Ranges** radio button, then when you click on the drop down arrow you will see all 143 thread ranges. Let's initialize your **MyThreadRanges** setting now.

4. Look at the bottom of the **Thread Manager** dialog. There are two tabs there. Right now, we are looking at the **MyThreads** tab. **Left click** on the **MyThreadRanges** tab to switch to that page. Here is what your screen should look like now:
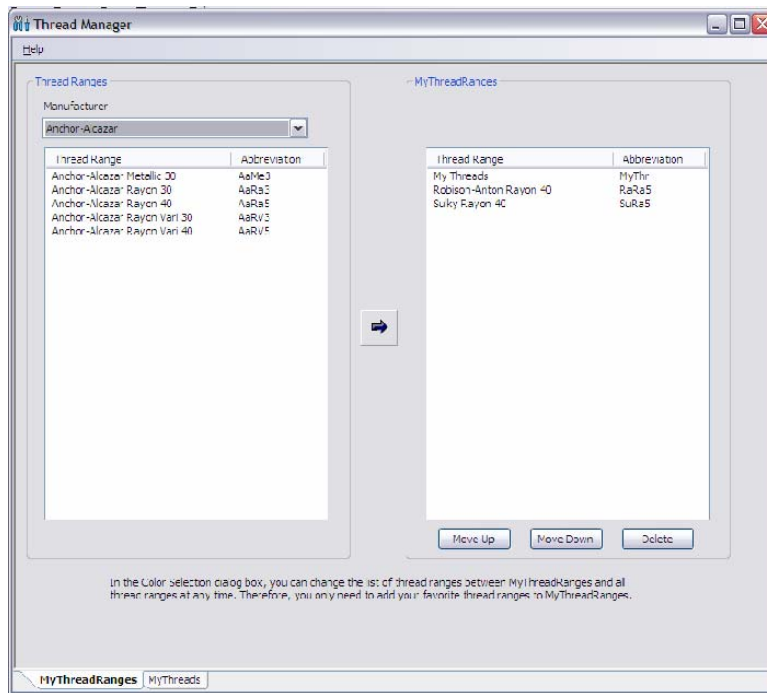
There are **24** Manufacturers to choose from when you click on the drop down arrow. We want to add a **Madeira** thread range. So, we have to find **Madeira** in that list.

Left click on the drop down arrow on the right side of the **Manufacturers** box. A list of names appears. **Left click** on **Madeira.**

Also add **Robison-Anton Rayon 40** to your **MyThreadRanges** if it is not already there. We'll be using it later.

5. As soon as you click on **Madeira** this is what you will see:
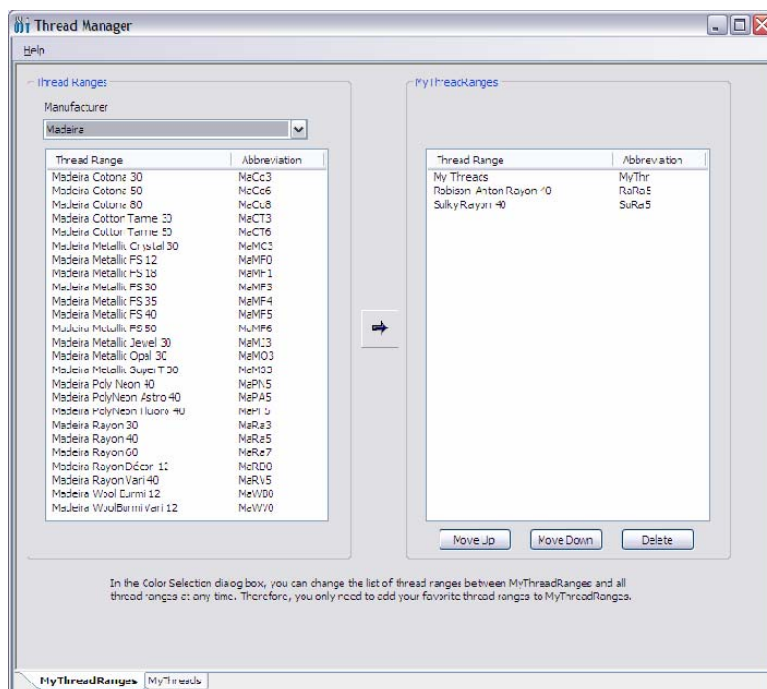
You can see in the right pane that I presently have **MyThreads**, **Robison-Anton Rayon 40**, and **Sulky Rayon 40** in my **MyThreadRanges** list. I want to add **Madeira Rayon 40** to that list. Locate **Madeira Rayon 40** in the list on the left pane of **Thread Manager**, then **left click** on the button in the middle of the two frames to copy that range into the **MyThreadRanges** side. If you later wish to remove any of the ranges in **MyThreadRanges**, just **left click** on them on the **right pane** of the dialog, then **left click** on the **Delete** button at the bottom of the dialog. This action will only remove the thread range from the

MyThreadRanges database, not from your computer. You can re-add it later if you need to do so.

6. **Left click** on the **X** in the upper right corner of the **Thread Manager** dialog to close it.

Changing Thread Colors

Look at the different colored blocks in the **Color Select** area on the **Design Page** of the **Control Panel**. You can see that there are 4 different colors in this design.

The order that these colors appear in the **Color Select** area is the same order that they will stitch out in the sewing machine. It is possible to <u>change</u> the order in which the colors sew out, but I don't recommend that you try using this option until you gain a great deal of experience with both this software and stitching out designs on your sewing machine.

Before you change any colors in the design, you might want to know which stitches are sewn using that color. Fortunately this is one of the easiest things to do. All you have to do is position your mouse pointer on any of the colors in the **Color Select** tool and the stitches that use this color are shown in a contrasting color on the **Stitch Area**. Try it now. Position your mouse pointer on the top color first and let the pointer rest there. Look at the design and see the color change. Then move on to the next color down and look at how the color of the design changes to show you those stitches.

Let's do a little exercise and change the color of some of the threads in the design. Based on what we've seen so far, let's make the color of the horse's body and the feathers around the hooves a little lighter.

1. **Left click** on the top color in the **Color Select** area and the **Color Selection** dialog begins as shown here:
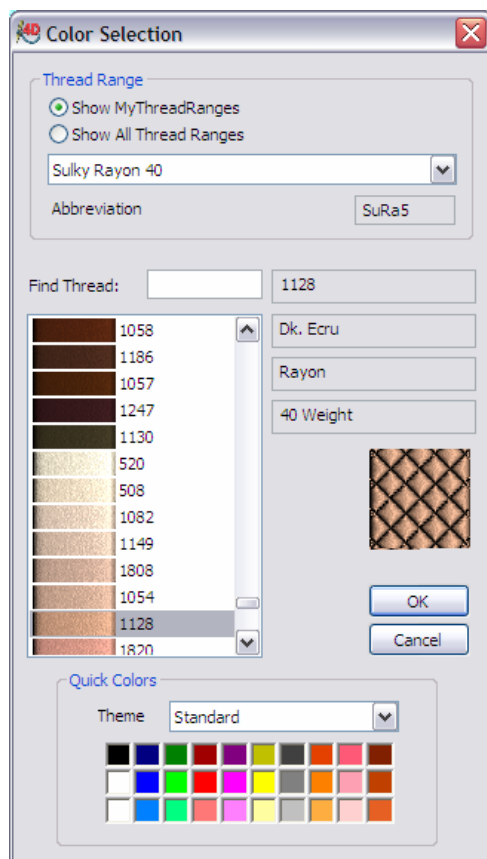
You can see that the original color selected when this design was created came from the **Sulky Rayon 40** thread collection as shown in the **Thread Range** text box. You can change the thread range to whichever type of threads that you choose to use. **4D Embroidery** provides you with <u>143</u> different **Thread Ranges from 24** different manufacturers to use. Most of the time you will use the top radio button **Show My Thread Ranges** to limit the display of the thread ranges that you actually use. Make sure there is a little dot in the **Show MyThreadRanges** radio button. **Left click** on the drop down arrow on the right side of the **Thread Range** text box and you can see all of the thread ranges that are presently in your **MyThreadRanges** database.

On the right side of the Color Selection dialog you see (reading from top to bottom) the **number** of the color used, the **name** of the color, the **composition** of the thread, and the **weight** of the thread.

Suppose that you want to use something other than Sulky Rayon 40 weight thread for your design. **4D Embroidery** makes it easy to change to a different thread manufacturer.

Suppose that you don't have any of the thread listed in the color or weight selected. But you do have a large collection of **Robison-Anton®** 40 weight Rayon thread. You want to see which **Robison-Anton®** 40 weight Rayon thread most closely matches the one in the design. *4D Embroidery* will take care of that for you.

2. **Left click** on the drop down arrow at the right of the **Thread Range** box. Your screen will look like this:
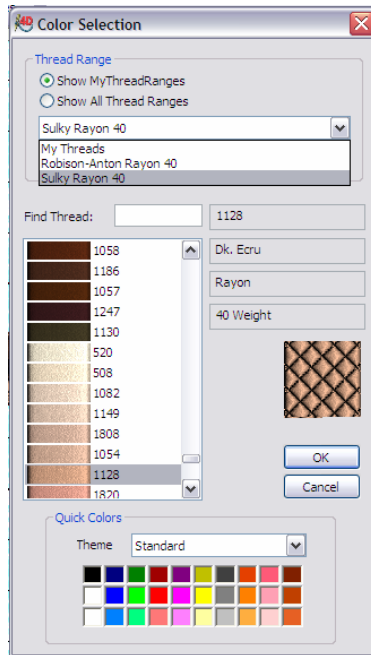
Here you can see the various different thread ranges in your **MyThreadRanges** database. To use Robison-Anton Rayon 40, you have to **left click** in the name of the desired thread ranges, which in this case is **Robison-Anton Rayon 40** in the drop down menu.

Right now we are set up to use Sulky number 1128. When you click on Robison-Anton Rayon 40, the thread range list closes and the database containing all of those threads will be selected, **and** the color of Robison-Anton® 40 weight Rayon thread that **most closely** matches the color of the original Sulky® 40 weight Rayon will **automatically be selected**. (How is that for a great feature?)

3. Your screen will now look like this:

You can see that the information for the Robison-Anton 40 weight Rayon thread was chosen (number 2273, Tan, Rayon, 40 Weight) for you.
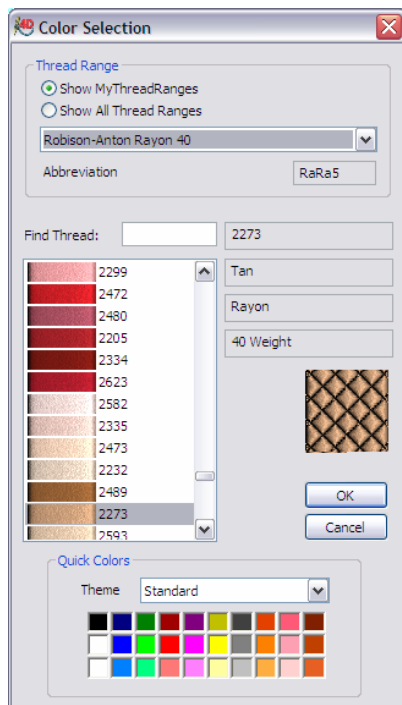
If this meets your needs then you can **left click** on the button labeled **OK.** The **Color Selection** dialog will close and go back to your design.

But, if you want to change the color of the thread for this part of the design, then you can do it several ways.

The first way you can do this is to enter the number in the text box labeled **Find Thread**. As you type in the number of the thread, the colors will move up or down, as the case may be, until they arrive at a number closest to the number you typed in.

The second way to find a color is to simply browse through the list of colors using the scroll bar on the color window.

The third way, and I think this is one of the fastest ways to find the color you want, is to **left click** on any of the color boxes at the bottom of the dialog in the **Quick Colors** frame.

Suppose we want to see what the design will look like with a **light gray** body. **Left click** in the gray box in the bottom row, and watch what happens.

4. Your screen will look like this:
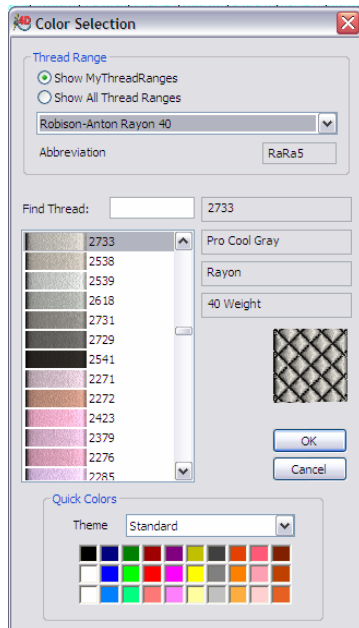
Color number 2733, Pro Cool Gray, was selected for you. You see that there are a number of other gray threads near this color. With one click, you were moved to the gray part of the Robison-Anton® color chart. You can now use the scroll bar to move up and down in the colors that are close to the one you selected with **Quick Colors**.

Left click on the **OK** button to change the color to **Pro Cool Gray**. This will close the **Color Selection** dialog and change the color in your design.

Left click on any of the colors in the design so that I can show you another **new and exciting feature** in *4D Embroidery*. Within the **Quick Colors** frame there is a new choice. There is a text box labeled **Theme** and the word **Standard** is in the box. There's also a drop down arrow and this means that there must be more. Let's look at the new **Theme** option and learn how to create our own **Themes**.

Using and Creating Themes

In the earlier version of this software, there were no **Themes**. You could use the **Quick Colors** listed in the **Quick Color** frame and that was it. But now there are **Themes**. You can create your own, customized set of **Quick Colors** for the specific project you are working on at the time. Let's take a look at the existing **Themes** and learn how to create new ones.

1. Look at the bottom of the **Color Selection** dialog. There, in the **Quick Colors** frame you will find the **Theme** selection box. **Left click** on the drop down arrow on the right side of the selection box. Your screen will look like this:
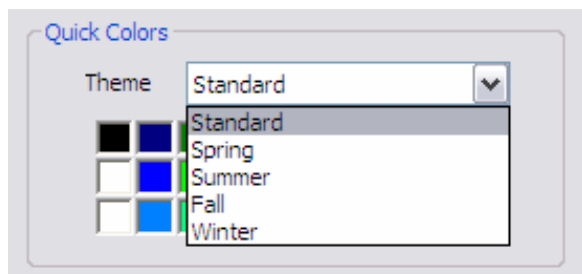
There are **4** additional, pre-made **Themes**. Let's take a look at the **Fall Theme**.

71

2. **Left click** on the word **Fall** in the list of **Themes**. Instantly, the blocks in the **Quick Colors** frame change to a group of colors that all have that autumn feel to them. Let's look at another **Theme**.

3. **Left click** on the drop down arrow to show the list of **Themes**. **Left click** on the word **Winter** in the list of **Themes**. Again, the selection of colors changes. Take a minute to look at each of the other **Themes** and then we will learn how to create our own **Theme**.

4. **Themes** are created in the **Thread Manager** module. **Left click** on the *4D Configure* tool (remember, it's the one that looks like a pair of pliers and a screwdriver). When *4D Configure* opens, **left click** on the **Thread Manager** button. When **Thread Manager** opens, check the tab at the bottom of the dialog and make sure that the tab labeled **MyThreads** is active. (If you have any doubts, just **left click** on that tab.)

5. When **Thread Manager** opens, look at the bottom of the **left pane** and you will see the tools to work with **Themes** here is what they look like:
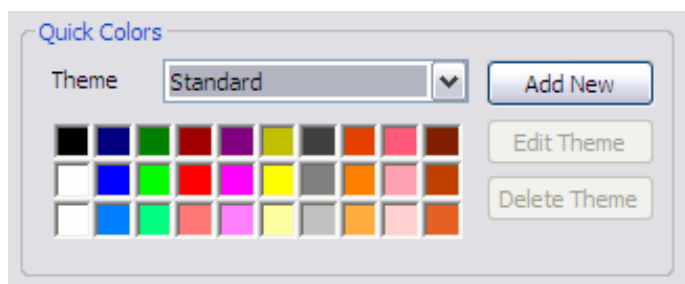
You can see that there are three buttons on the right side of the frame. **Add New** is the only available button. This is because you do not have any custom **Themes** that could be edited or deleted. You can't change any of the five **Themes** that were installed with your software, but you can create new ones and then edit them as you wish. Let's create a new **Theme** for working with one of my favorite subjects, **Wildlife**.

6. **Left click** on the **Add New** button. Here is what your screen will look like:
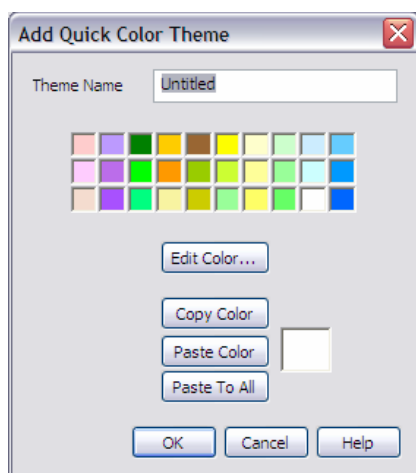
Since the **Theme Name** is already highlighted, just type in **Wildlife**. Now that the **Theme** has a name, let's begin changing colors. For my **Wildlife Theme** I want mostly browns, greens, tans, yellows, black, whites, and blues. You can add whatever colors you wish to add.

Now, we need to add our colors.

7. **Left click** on the leftmost square in the top row. You will see that the block now has a little, black selection frame around it. We are ready to change this color block. **Left click** on the **Edit Color…** button.

8. Here is what you will see:
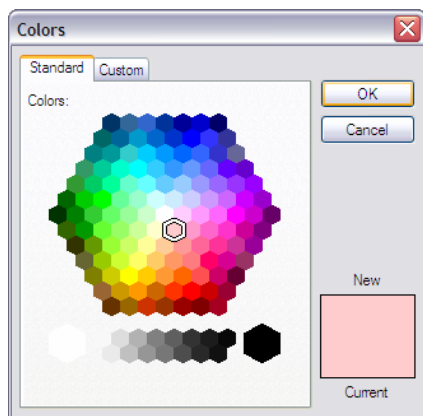
This part of the **Colors** dialog shows the **Standard** colors. At the top of the dialog, you can see another tab labeled **Custom**. We'll get to that in a minute. The first color I want to choose is **pure white**. At the bottom of the large hexagon of color tiles, is a row of white, gray, and black tiles. Let's **left click** on the **leftmost** tile in the **bottom row**.

9. This is what your screen will look like:
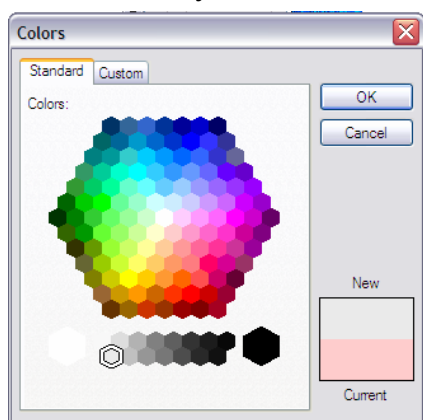
There is a small frame around the selected color. In the lower right corner of the dialog, you can see the **New** color and the **Current** color for the block we are editing. Looking at the **New** color, it's not a white as I had hoped. Let's see if there is something we can do about this.

10. **Left click** on the **Custom** tab at the top of the dialog. Here is what the screen looks like now:
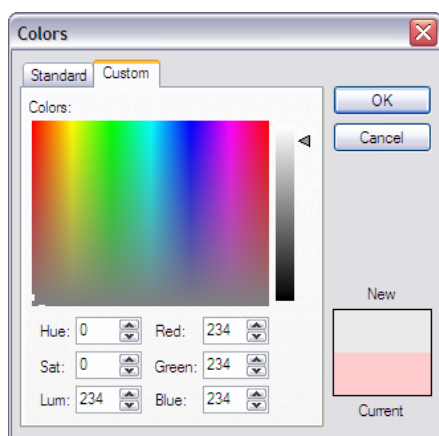
This looks really complex to use, but it's not really once you know how. On the right, there is an arrow head pointing to the left. **Left click** on the arrowhead and drag it to the top. As you do so, watch the **New** color at the bottom right corner of the dialog. It gets lighter as you move to the top and darker as you move to the bottom. The numbers in the various boxes also change. Don't worry about them. Just understand that they vary from 0 to 255. A value of 0 means that **none** of that color is in the mix. A value of 255 means that the **maximum** amount of that color is in the mix. We really want to go by sight rather than these colors. With all four of these numbers at 255, **left click** on the **OK** button.

11. Now that we changed one of the colors in this new **Theme**, we are ready to change the next color. Let's pick the next box down in the first column by **left clicking** on it. Now, **left click** on the **Edit…** button to return to the **Colors** dialog. Find a of the color chip that looks brown to you. I chose the one at the **lower left** corner of the hexagon.

12. **Left click** on the **Custom** tab and look at what's happened on that screen. On the right side of the screen, the colors vary from very light brown at the top of the color bar to very dark brown at the bottom of the color bar. We will use this to our advantage as a shortcut to set all of the other brown colors.

13. **Left click** on the **OK** button to set this color. Now we are back here:
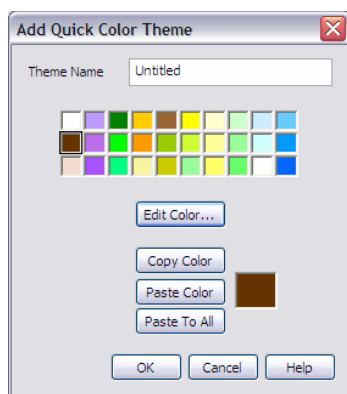
I want to edit the color chip at the bottom of the first row. I want to make it a little lighter brown. With the selection box on the middle chip in the first column, **left click** on the **Copy Color** button. Notice that the square to the right of the three editing buttons changes to that color. Now, **left click** on the bottom chip in the first column. We have selected that color for editing. **Left click** on the **Paste Color** button. The new color appears on the color chip. But I don't want two chips with the same color. So, **left click** on the **Edit Color…** button.

14. As soon as you arrive on the **Colors** dialog, **left click** on the **Custom** tab. Look at the shaded color bar on the right side of the dialog. Now, rather than being shades of black to white, it is shades of brown from dark to light. **Left click** on the arrow head and drag it up a bit. Notice that the **New** color in the lower right corner is getting lighter. Stop sliding when you like the color. **Left click** on the **OK** button, and you are finished changing your second color.

15. **Left click** on the **OK** button again, and you will see that the **Theme** you just created will be in the **Theme** selection box. That's all there is to creating a **Theme** that you will use again and again to make your work easier.

Undoing a Change

What can you do to correct any changes that you might have inadvertently made during this exercise? Or what if you make a color change and don't like the results? Fortunately, this version of the software will allow you to **undo (and redo) the last __10__ changes** you made. If you want to undo anything you just did, all you have to do is press the **Undo** button. It's located here on the tool bar:
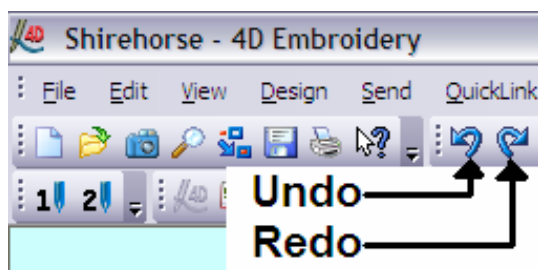
Just **left click** on the **Undo** tool to undo the last change. If you have to undo another change you made before that, just **left click** on the **Undo** button again. If you change your mind and want to quickly revert back to the change that you just undid, then **left click** on the **Redo** button.

Flipping the Design

The horse in our design faces to the right as we look at it. Suppose you wanted the horse to face to the left instead? Making this change couldn't be easier. When a stitch file is selected on the **Design** page, it has black scaling handles around it and two **Flipping** handles as shown here:
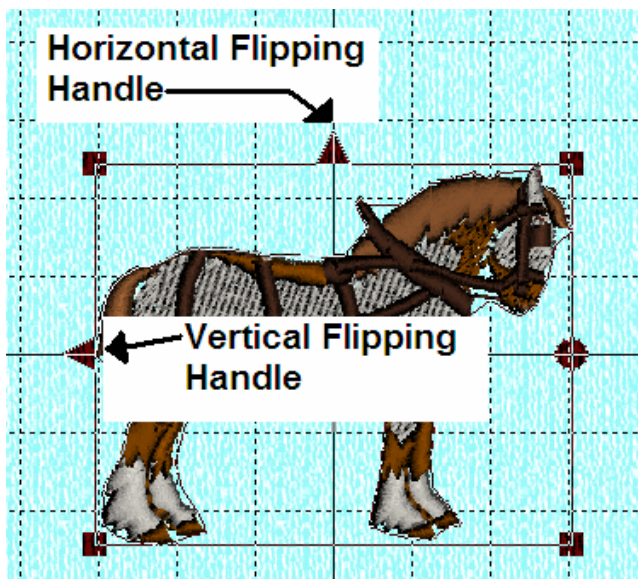
Here is how the flipping handles work.

When you **left click** on either one of the handles, the stitch file rotates on the axis of the other flipping handle.

Basically what this means is that if you want to flip the top of the design to the bottom, then **left click** on the **Horizontal Flipping Handle** and the top of the stitch file will become the bottom of the stitch file.

If you want to flip the file so that the left side of the file becomes the right side of the stitch file, then **left click** on the **Vertical Flipping Handle**. Let's give it a try on the horse. **Left click** on the **Vertical Flipping Handle** and your stitch file should look like this:
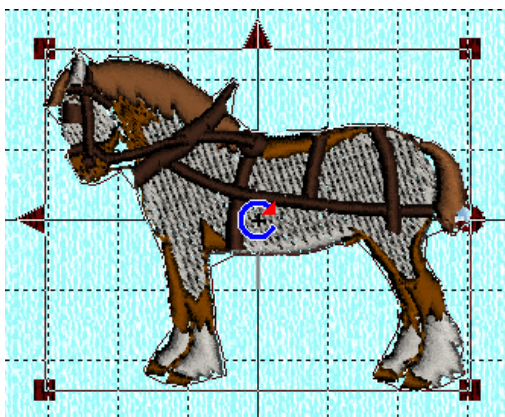
Wasn't that easy? Let's **left click** on the **Horizontal Flipping Handle** and see what happens.
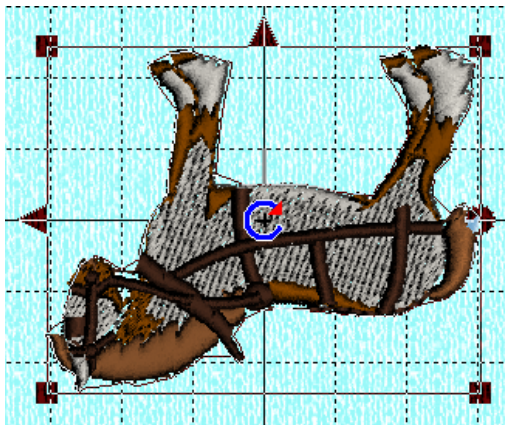
Oops!

You can easily fix this by **left clicking** again on the **Horizontal Flipping Handle** and put him right side up again.

Rotating a Design

There will be times when you wish to rotate a design a little. There are two tools that you need to learn about to do this. These tools are the **Rotation Handle** and the **Center of Rotation**. First, we will look at the **Center of Rotation** and how it works. Notice what looks like a blue C with a red arrow on its tip? Here is a zoomed in picture of it:

The black plus sign **+** is the **Origin** (the exact center and starting point of embroidery). The blue **C** with the red triangle in the upper right corner of it is the **Center of Rotation**.

Using the Center of Rotation

If you look at the selected stitch file, you see the **Resizing/Scaling Handles** at the four corners of the design. You can also see the **Rotation Handle** on the <u>right</u> side of the design as shown here:
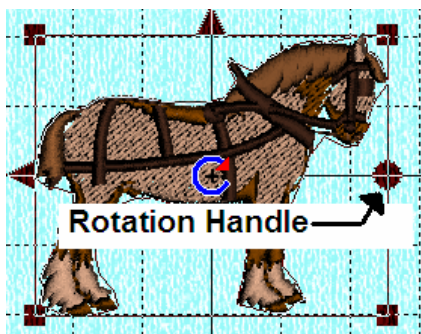
If you **left click and hold down** the left mouse button, you can rotate the design. Give it a try. After you rotate the design a bit, **left click** on the **Undo Changes** tool to return the design to this position.

Remember, the **Undo Changes** tool looks like this:

Notice that when you rotate your design, it rotates around the **Center of Rotation**. Suppose that you wanted to rotate the design based on the horse's ear? All you have to do is to **drag and drop** (left click and hold down the mouse button) on the **Center of Rotation** and move it to the horse's ear and then drop it (left go of the left mouse button). Your stitch file should now look like this:
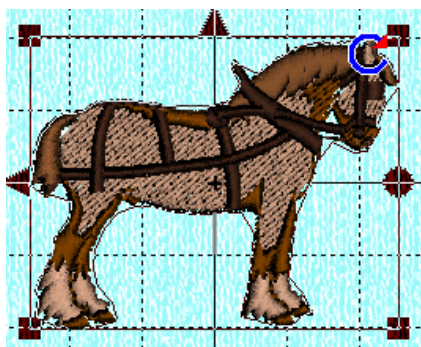
See that the **Center of Rotation** is now on his ear in the upper right corner of the design? Now try using the **Rotation Handle** and see how the stitch file moves about centered on the ear of the horse.

Look what happens after you let go of the **Rotation Handle** after rotating the stitch file. The **Center of Rotation** snaps back into the **center** of the design. You can always move the **Center of Rotation** and redo the rotation. You can move the **Center of Rotation** anywhere on the screen. You can even move it outside of the hoop, or even outside

of the entire **Work Area**. You can move the **Center of Rotation** to a place underneath the **Control Panel**. It will still work and it will still snap back into the center of the design as soon as you release the left mouse button.

Using the Rotate 90° Tool

Using the **Rotation Handle** is fine if you wish to do some creative experimentation with a design. However, if you need to rotate a design <u>exactly</u> 90°, there is a special tool you can use to accomplish this. Here is where it is located on the toolbar:
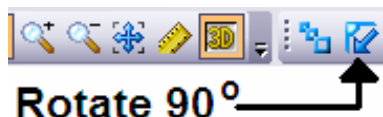
If you **left click** on this tool, whatever design is currently selected in the stitch area (has black handles around it), will be rotated 90° in a clockwise direction. If you **left click** on the **Rotate 90°** tool again, the design will be rotated <u>another</u> 90° in a clockwise direction. You can continue to **left click** on this tool and the selected design will continue to rotate 90° with each click.

Resizing a Stitch File

Increasing or decreasing the size of a stitch file is possible with *4D Embroidery*. There are a couple of concepts and terms that you must become familiar with before you increase or decrease the size of your stitch file.

At the point that every stitch file was created through the digitizing process, a decision was made on the size of the stitch file and the density of the stitches contained in the design. For example, you might have a stitch file that is 2 inches on a side (a total of 4 square inches) that contains 2,000 stitches. If you increase the size of the stitch file so that it is 3 inches on a side (a total of 9 square inches) but do not increase the number of stitches, then the original 2,000 stitches will not be able to cover the total area of the design. In order to provide you with the larger version of the same design, you might find that the stitch file must have approximately 5,000 stitches to give you the same effect.

Husqvarna Viking, in the help file for *4D Embroidery* refers to this as **Scaling** and **Resizing.**

When you **Resize** a stitch file, the **<u>stitch density</u>** (the number of stitches per square inch) will increase, or decrease if you reduce the size of the stitch file, to account for the change in size.

When you **Scale** a stitch file, the **<u>stitch density</u>** (the number of stitches per square inch) remains the same whether you increase or decrease the size of the stitch file.

Here is an example of when happens when you **Scale** a stitch file. Remember the Shirehorse.vp3 stitch file we worked with earlier? Here is what the original stitch file looks like:
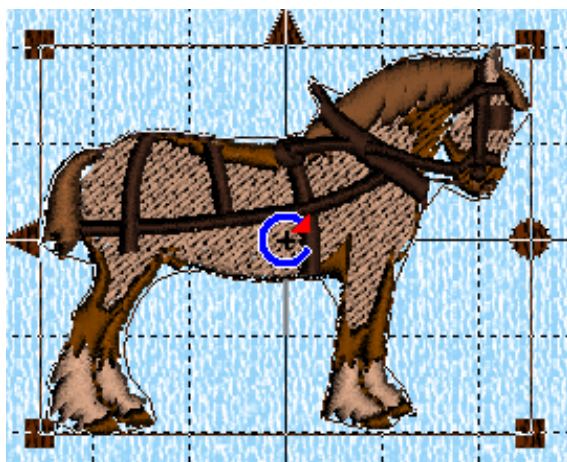
Notice how the harness on the horse looks. The stitch density looks great. In the entire design, there are 3,057 stitches and the design is 40.6 mm high by 50.8 mm wide (approximately 1 ¾" by 2 ¼").

I'm going to **Scale** the file to fit the entire inside of the 100 mm by 100 mm hoop. Let's see what happens.
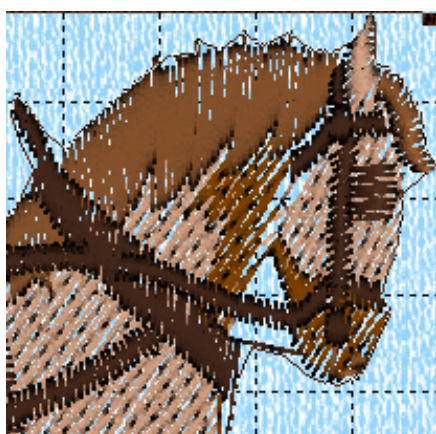
I increased the size of the stitch file to 98.8 mm by 98.3 mm (almost 4" by 4" and approximately a **471%** increase) without increasing the number of stitches. You can see that the individual stitches in the harness really stand out and the entire design doesn't really look that good any longer.

This isn't surprising, because I increased the number of square inches in the design from approximately 4 square inches to almost 16 square inches!

This was not a good idea. If I really wanted to have a large version of this stitch file, I should have **Resized** it. When I **Resize** the stitch file the number of threads increases to 8,906 stitches (a **291%** increase) and that provides much better coverage. Here is a picture of the same part of the stitch file once I **Resized** it.
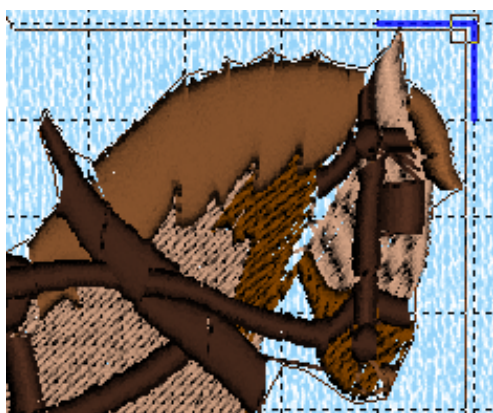
What a difference! You can see that the density looks much better now that I used the **Resize** tool. However, you can see that there is a large gap in the stitches in the middle of the horse's head. This can be a problem when you increase the size of a design by **400+%**. When it comes to resizing, you should consider trying to find a larger design rather than making such a huge increase in a small design.

Therefore, you should be careful when attempting to greatly enlarge or reduce the size of your stitch files. If you make too great a change in the size of a stitch file, then you might find that your results are disappointing and you might need to use the *4D Stitch Editor* software (which is available separately from Husqvarna Viking).

If you reduced the size of the file using the **Scale** tool, then you could have the problem of having too many stitches in a given area.

With this in mind, let's look at how you can **Resize** and **Scale** your own designs.

When you first load a design into the stitch area, the handles at the corners of the design are black. They look like this:
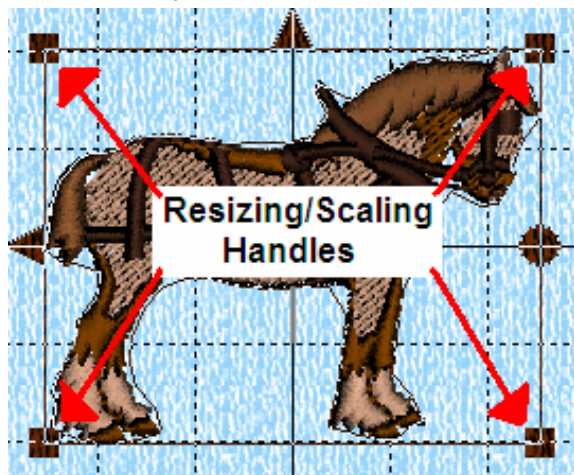
When the handles are **black** this means that **Scale** is in effect rather than **Resize**. If you **drag and drop** any of the **Resizing Handles** around the design, the stitch file will either be enlarged or reduced **but the number of stitches will remain the same**. Remember, this is the definition of **Scaling**. Husqvarna Viking recommends that you do not attempt to <u>enlarge</u> or <u>reduce</u> the size of the stitch file by more than **20%** when **Scaling** a design.

If you want to **Resize** a design, then you have to turn **Resize** on by clicking on the appropriate button on the tool bar. **Resize** is located here on the toolbar:
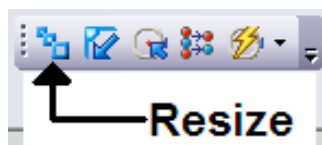
Press the **Resize** button to activate the tool. When **Resize** is active you will see that the resizing handles on the edges of the selection box are now clear as shown here:
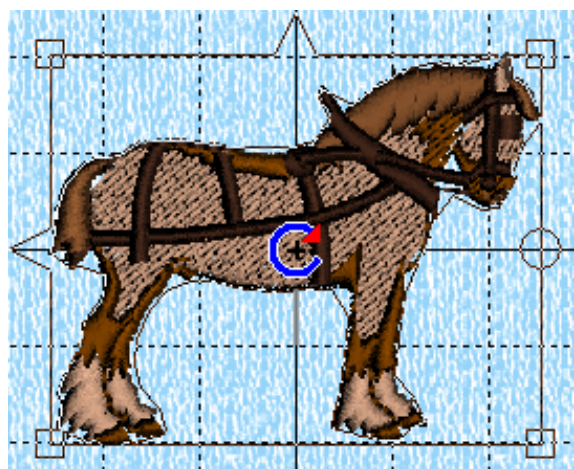
The way I remember the difference between **Scale** and **Resize** is that in **Resize** mode, the handles are clear and, therefore, have no stitches in them yet. This allows me to change the size of the graphic, and then, when I turn release my mouse button, the software will fill in the appropriate number of stitches based on the new size of the graphic.

There is an important thing to remember when using the **Resize** tool to change the size of a stitch file. This advice applies whether you are enlarging or reducing the size of the file.

When you decide to use the **Resize** tool, you should **only use it once** to either enlarge or reduce the size of the design. i.e. When you drag the size of the design box you can enlarge or reduce it to make it fit your needs, but once you let go of the mouse button and see the newly sized design, **do not resize it again**. If you make a mistake when resizing, use the **Undo** tool to go back to the original size and start over again.

In addition to only making one size change to a design, the **Ctrl** key on your computer is important. Every design has what is known as an **aspect ratio**. e.g. The design might be 2 inches wide and 1 inch tall. You can, if you wish, change the aspect ratio when you resize the design. In most cases you will want to preserve the aspect ratio of the design. This is where the **Ctrl** key comes into play.

After you select the **Resize** tool, **press and hold down** the **Ctrl** key before you begin to resize the design. You will see that the aspect ratio of the design is preserved while you change the size of the design.

Using the Nudge Feature

If you need to reposition your design accurately, then you will want to use the **Nudge** feature. **Nudge** feature allows you to move your designs by <u>incredibly</u> small amounts so that you can accurately position them. Using the **Nudge** feature is very easy.

All you have to do to move a stitch file with the **Nudge** feature is to follow this procedure.

1. Make sure that the design you wish to move is **selected**. You can do this by pressing the **Tab** key on your keyboard until the selection box is present around the design.

2. Now that the desired design is **selected**, just press any one of the **Arrow** keys on your keyboard to move the design in the direction pointed to by the arrow. If you **<u>tap</u>** an arrow key, then the design will move **one pixel** in that direction. If you **<u>hold down</u>** an arrow key, then the design will move continuously, but **<u>slowly</u>**, in the direction of the arrow key.

This feature allows for extremely accurate positioning of any design.

Chapter 5 – Creating Designs Using Multiple Embroideries

So far we have only worked with using a single stitch file in a design. Most designs that you will make will, in all probability, involve the use of multiple stitch files to complete the design. In this chapter you will learn:

- How to load multiple stitch files to make a composite design
- How to set the stitch order of the various stitch files in the design

The most important thing to remember when creating a complex design that contains multiple stitch files is this:

<u>The components of your design will be stitched out in the order that they were added to the design.</u>
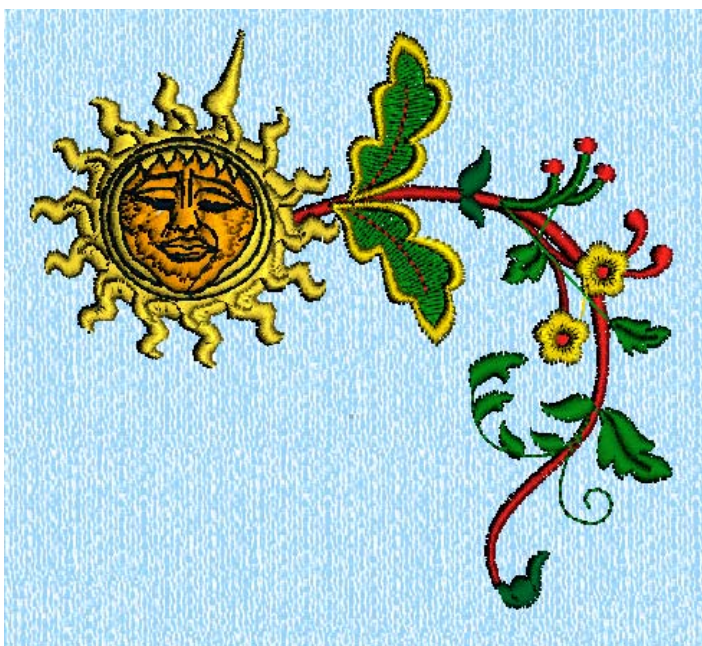
For this lesson we will create the following scene:

The stitch files used in this design were all included with your copy of *4D Embroidery* and were installed along with that software. The font I used is also included in the fonts installed with the software.

Let's get started creating this design.

First, we will load the stitch files. After loading the stitch files, we will move them around and modify them slightly to fit our design.

Let's begin by loading a design from the **Samples** folder provided with *4D Embroidery.*

You should already know how to load stitch files by now. If you need assistance, then refer back to **Appendix B** and use *4D Organizer* to load the file named:

C:\4DEmbroidery\Samples\4DEmb\Stitch2\Zodiac\Sun.vp3

Here is what the design looks like:

Now, using *4D Organizer*, load the file named:

C:\4DEmbroidery\Samples\4DEmb\Stitch2\Frames and Borders\VineFlowersCorner.vp3

Here is what the design looks like:
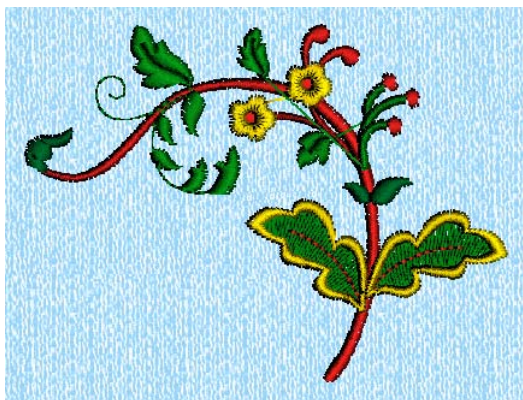
Your **Stitch Area** will now look something like this:

The **VineFlowersCorner.vp3** stitch file may not be in exactly the same place as pictured here. It doesn't really matter because you are going to move it and flip it so that it fits our target design.
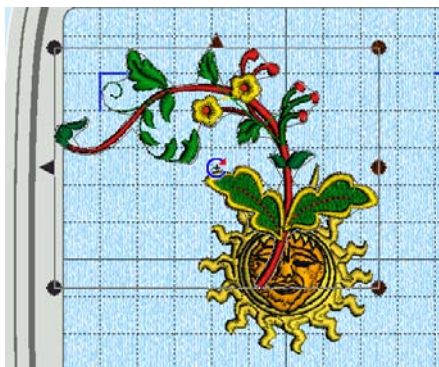
To get the **VineFlowersCorner.vp3** stitch file in the proper position, you have to first **left click** on the **Rotate 90º** tool 3 times to rotate the design 270° until it is properly positioned. At this point, we want to get the vertical, mirror image of this design. So we have to **left click** on the **Vertical Flipping Handle** to achieve this.

Move the **VineFlowersCorner.vp3** design so that it is in the upper right corner of the hoop.

Now, hit the **Tab** key to move the selection box to the **Sun.vp3** stitch file. Once it is selected, move the **Sun.vp3** stitch file so that it is positioned in the upper left corner of the hoop**,** using the drag and drop technique you learned earlier,.
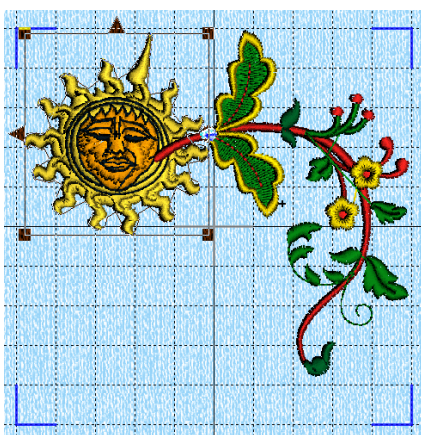
When you have made these adjustments to the design, it should look like this:

Remember, if you have difficulty selecting a particular part of the stitch file, just hit the **Tab** key on your keyboard and it will cycle the selection box through each stitch file in the **Work Area**.

Looking at this design as it is now, we can see that there is a problem with this design. The stem of the vine is lying across the face of the sun. We want the sun to be in the foreground and stitch out on top of the vine. However, because we added the sun first and then the flowers second, this is the order that they will stitch out.

When you are creating a design that consists of multiple stitch files, you need to be aware of the fact that the **order that stitches are added to the design is the order that they will be stitched out**.

We could, at this point, just erase both stitch files from the **Work Area** and begin again. But there is another way to change the order of stitching and it is very easy. Here is how to do it.

Changing the Order of Stitching

1. Use the **Tab** key to ensure that the **Sun.vp3** is selected as shown here:
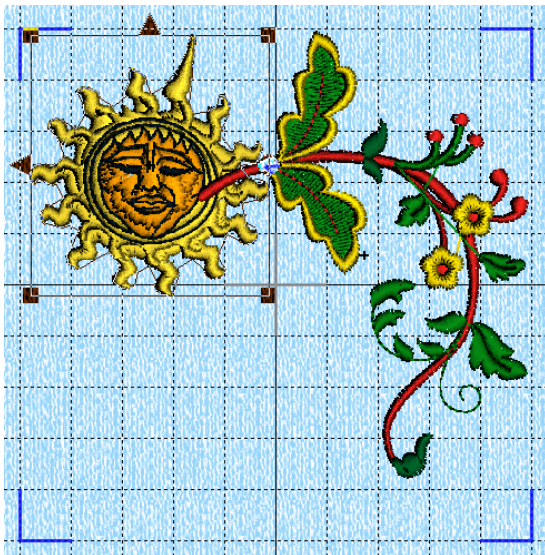
Notice that the black selection handles are present around the sun.

2. At this point we want to remove the **Sun.vp3** stitch file from our design, and it would be nice to have it handy to immediately place it back into the **Work Area** without searching for it again. You can use the **Cut** tool to remove the stitches from the **Work Area** <u>and</u>, simultaneously, place them onto the **Clipboard!** Here is what the **Cut** tool looks like:
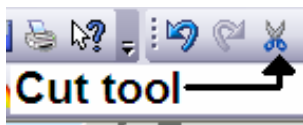
The tool looks like a pair of scissors. When you **left click** on this tool, whatever is selected in the **Work Area** is removed from the design and placed on the clipboard.

Left click on the **Cut** tool and remove these stitches from the **Work Area** and place them onto the **Clipboard**.

3. When you cut the **Sun.vp3** stitches, this is what your screen will look like:
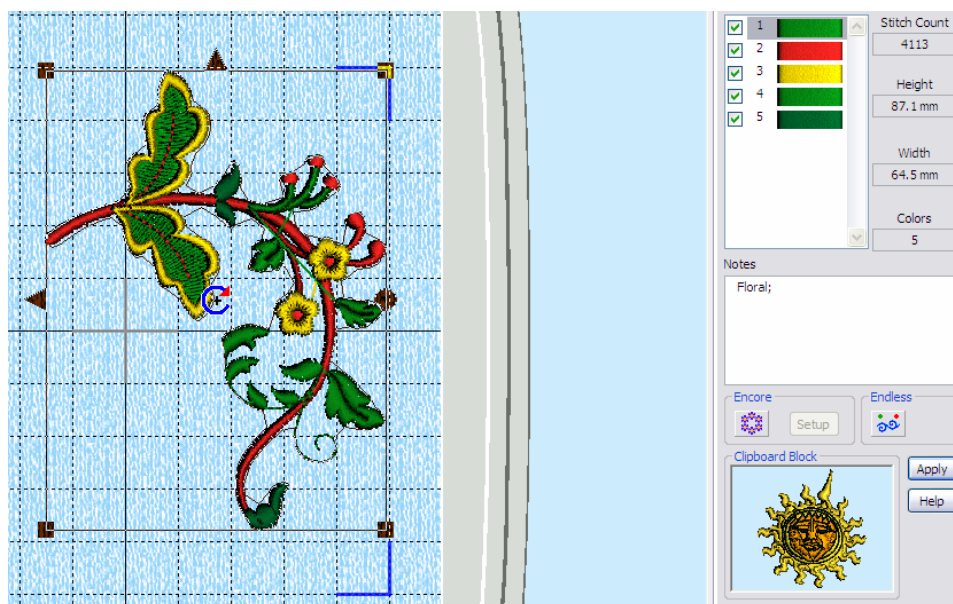
See the **Sun.vp3** stitches on the **Clipboard?** Right now, the *4D Embroidery* software thinks that there is only one stitch file in the design.

This means that the **VineFlowersCorner.vp3** file will be the **first set of stitches** to be stitched out.

Now, you can add a second set of stitches, the **Sun.vp3** stitch file, by **left clicking** on the **Paste** tool. Remember, the **Paste** tool is found here on the toolbar:
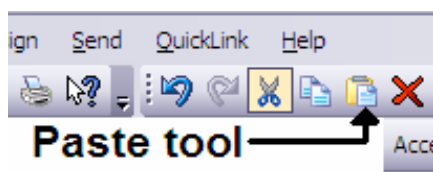
Once you **left click** on the **Paste** tool, the **Sun.vp3** stitches will be placed in the **Work Area**. Since this is now the last set of stitches added to the **Work Area**, it will be the second set of stitches sewn out.

4. This is what your screen will look like now.
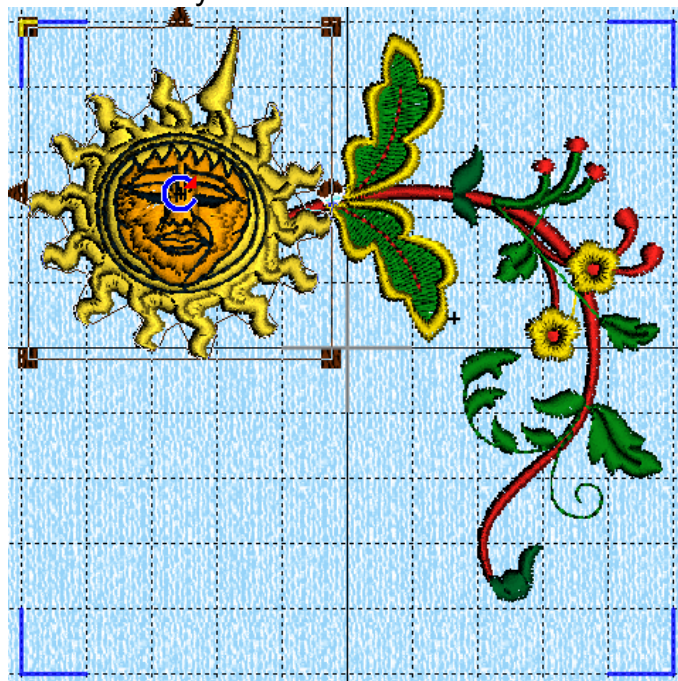
Notice that the sun will now be stitched over the stem of flowers.

Remember, it is important to plan out the order of stitching when adding multiple stitch files to a design.

One thing that might be of concern to you is that the red stitches of the vine will show through the light color of the sun. And that the stitches of the vine might make the sun look bumpy or, worse yet, break a needle while you are stitching out the design and ruin the design and, quite possibly, the fabric or garment you are embroidering. Wouldn't it be nice if we could just remove those unseen stitches? Let me tell you about **another HUGE change to the *4D Embroidery* software**.

5. You will see this change as soon as we use the **Combine** tool here. Remember from project 3, when you use more than one stitch file in a design, you have to combine them into one design before saving that completed design. This is what the **Combine** tool is for. **Combine** does a number of things. First, it puts all of the elements of the design into one file. Second, it tests to make sure that the completed design fits inside of the hoop that you selected to use. And now that this **new feature** was added to *4D Embroidery*, all stitches that **overlap** are removed **automatically**. **Left click** on the **Combine** tool and watch for this quick animation:
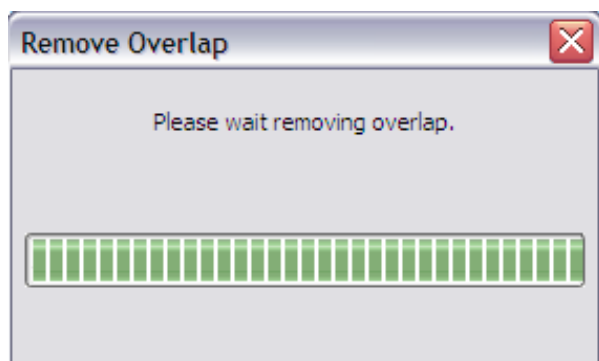
4D Embroidery has just removed the stitches that made up the red stem and lay under the sun. Let me show you how to see where the overlapping stitches were removed.

6. **Left click** on the *3D View* tool on the tool bar to switch to 2D view from 3D view. Here is what the *3D View* tool looks like:

Now, use the **Zoom In** tool to look at the point in the design where the red stem stitches meet the sun. Here is what you will see:
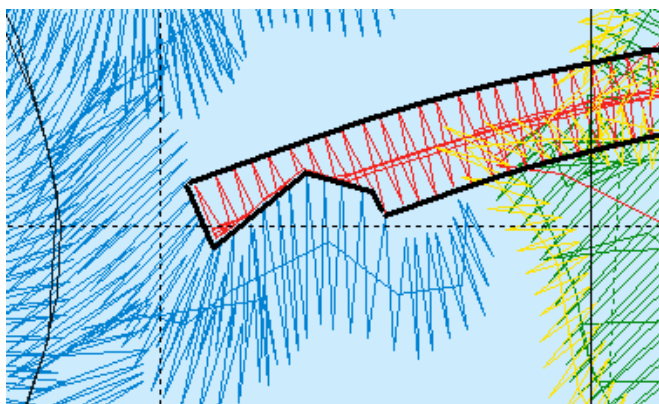
Because this might be hard to see in black and white printing, I added a black line around the stem stitches for emphasis. You can see here how the stem stitches were molded around the ray of the sun and how the stem stitches that used to extend beneath the sun have been removed completely.

In the next chapter, we will add the lettering to complete the design.

For now, why don't you save a copy of this design on your computer's hard drive in one of the personal folders you created in Chapter 2.

Name the file "SpringIsInTheAirNoWords.vp3"

Chapter 6 – Lettering

Some of the biggest changes in *4D Embroidery* are located on the **Letter** page. *4D Embroidery* ships with over **100** fonts! There are new features that now allow you to view the fonts as they will actually appear on your design **before** you place the letters into the design. It's now easier to add multiple lines of text. And you can now automatically add center, left, and right **justification** to your lettering. And, in one of the most important changes, *4D Embroidery* now has a **spellchecker** in it to prevent the kind of disaster that is only discovered after you have already stitched out that last-minute gift.

Let's get started because we have lots of new features to cover.

Lettering is added to stitch files using the tools available on the **Letter Page** in *4D Embroidery*. You activate those tools by **left clicking** on the tab labeled **Letter** on the lower right corner of the **Control Panel** as shown here:
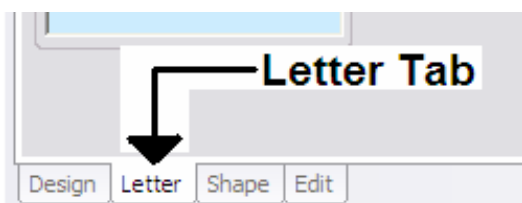
Be careful when you **left click** on any of the tabs in the control panel. If you **drag and drop** them, you can change the order that they appear on your screen. Moving these buttons won't hurt anything, they just won't be in the position you expect them to be in.

When you **left click** on the **Letter** tab, the entire control panel changes in appearance. Before we proceed with adding lettering to our project, let's take a few minutes to look at the various features of the **Letter Page** of the **Control Panel**.

Go ahead and **left click** on the **Letter** tab and activate the **Letter Page** of the **Control Panel**.

Here is what the **Letter** section of the **Control Panel** looks like:
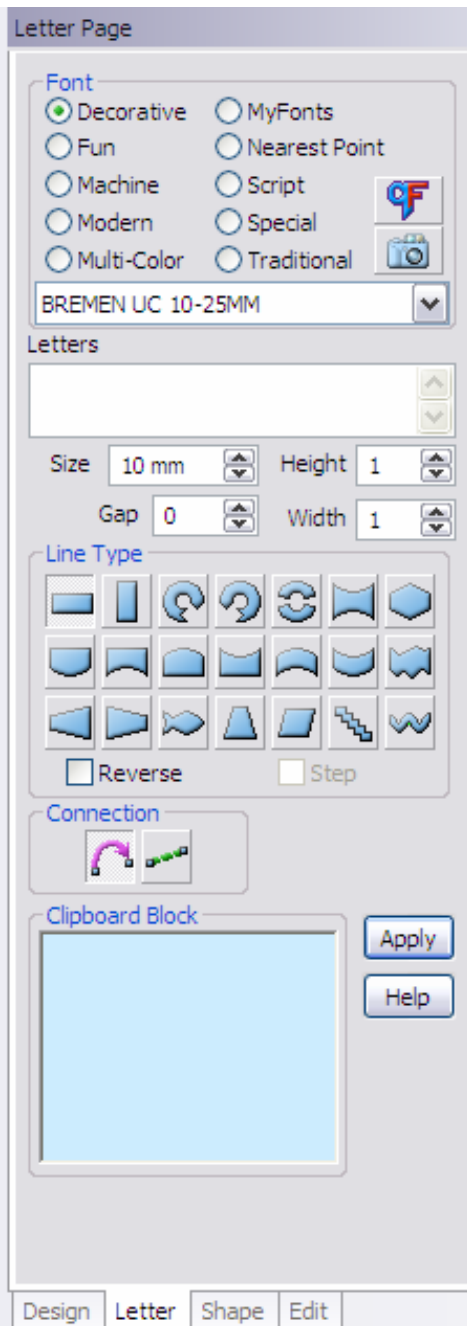
You select the font that you wish to use in the **Font** section. All of the fonts available in *4D Embroidery* are grouped into categories such as **Decorative, Fun, Machine**, etc. The category presently selected is **Decorative** and this is indicated by the little green dot in the circle to the left of the category name. To the right of the font categories are two buttons. When you left click on the top button, the **Quick Font Wizard** opens. You can create new fonts with the **Quick Font Wizard.** Beneath the **Quick Font Wizard** is another **new feature** that makes its debut in *4D Embroidery*. This button starts the **View Font** tool.

Right below the categories is a combo box with the name of the font presently being used. In this case it is **BREMEN UC 10-25MM**. If you **left click** on the downward pointing arrow on the right of the combo box, a list of all the fonts in the selected category will appear.

Beneath the name of the font is a text box labeled **Letters**. This is where you type in the text that you want to appear in your embroidery.

The old check box beneath the **Letters** text box labeled **Multiple** is gone. There is a new technique for placing multiple lines of text into your design. I'll discuss that later.

Next are the controls that allow you to set certain characteristics of the font (**Size, Gap, Height** and **Width)** before you place the lettering onto the design. However, another **new feature** in *4D Embroidery* allows you to edit the lettering **after** you place it into the design.

The frame labeled **Line Type** encloses a group of icons that allow you to select how the letters will appear in the embroidery. There are two check boxes at the bottom of the **Line Type** frame labeled **Reverse** and **Step**.

The buttons in the **Connection** frame allow you to choose whether the stitches between letters will be a single jump stitch or multiple running stitches.

Finally, you see the **Apply** button and the **Help** button.

Let's take a look at each part in detail and see how they work.

Choosing a Font

The first thing you are going to do is to select the particular font that you wish to use in your project. I said earlier that **4D Embroidery** comes with more than **more than** 100 fonts. Finding the particular font you want to use can be difficult without a printed guide. However, on of the **new features** of **4D Embroidery** is the new **View Font** tool 📷. You can use this new feature to get a preview of every embroidery font on your computer (even the fonts that you create using the **Quick Font Wizard**).

Let's add some lettering to the design we began in Chapter 5. I thought that the words "Spring is in the air" would add a nice touch to this design. Here is how I found the font I wanted to use. Use your new skills to locate and load the file you saved at the end of Chapter 5.

1. After you load the design, use the **Nudge** feature to move the design as close as possible to the upper right of the **Stitch Area**. Your screen should show the following design at this point:
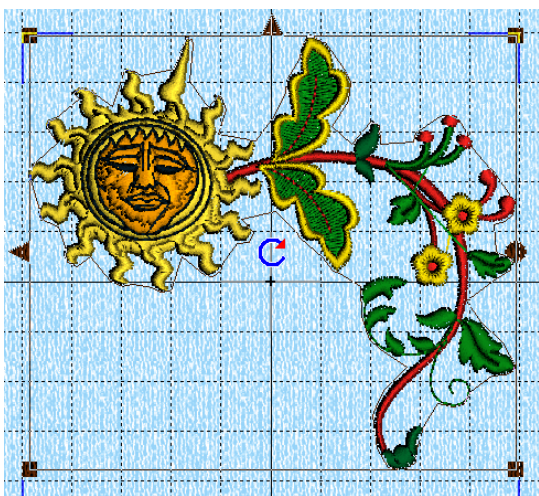
Now, we have to find the font that we wish to use. Let's pretend that we don't know which font we want to use right now.

Finding the right font to use can be a little frustrating until you learn the names of the fonts and the categories where they reside. Even then, it's hard to remember what the font looks like. However now, using the **new feature View Font**, we can get a preview of all of the fonts in each category. Let's use this tool to pick out a font.

2. Let's take a look at the fonts that are available in the first category at the top of the left column, **Decorative**. **Left click** on the radio button in front of the category name **Decorative**. A little green dot will appear in that button.

Using the View Font Tool

3. We see the name of the first font in that category, **BREMEN UC 10-25MM** in the font name box. The problem here is that I don't know what this font (or any of the other fonts in the **Decorative** category) look like. There are manuals in PDF form on your hard drive that you can print which contain all of the characters in all the fonts (they are in the folder **C:\4DEmbroidery\Guides\Sample**). Printing all of the manuals takes lots of time and paper to print all of the guides out. If you are going to do lots of embroidery, I think that the time and materials needed to print these guides is well worth the effort. But now, we have a **new tool** to use to get a great preview of each font. **Left click** on the **View Font** tool 📷.

4. Here is what your screen should look like now:

BREMEN UC 10-25MM

Here in the **Font View** dialog, you see examples of the first 5 fonts. The topmost font has a black, dotted line around it. At the bottom of the dialog, we see the name of the font being viewed, **BREMEN UC 10-25MM**. Notice that there is a scroll bar on the right. The presence of the scroll bar means that there are more than these five fonts in this category. **Tap two times** on the **down arrow** key on your keyboard. You will see that the thin, outline box moves down by two fonts to the third font on the list. Look in the lower left corner of the dialog window. The name of the third font from the top is **CHANCE 10-40MM**. Continue tapping on the **down arrow** key and look at each of the fonts in the **Decorative** category. You will know when you get to the bottom of the category because the **elevator** (that's what the box in the scroll bar is called) reaches the bottom of the scroll bar.

5. These are all really great fonts, but I'm looking for something else. **Left click** on the **OK** button in the lower right corner of the **Font View** dialog to close the dialog. Let's move on to a different font category.

6. **Left click** on the radio button to the left of the **Traditional** font category. **Left click** on the **View Font** tool. It will take your computer a few seconds to build the list of fonts so be patient. When the **Font View** dialog opens, move down through the list of fonts until you arrive at the font named **Scribe B 15-50MM** font. Make sure that the selection box is around this font (the name **Scribe B 15-50MM** will appear in the lower left corner of the **Font View** dialog). **Left click** on the **OK** button to select this font. When the **Font View** dialog closes, the name of the selected font will appear in the list box right beneath the various **Font Categories**.

7. I want to put the words "Spring is in the air" on this design. And, I want the words to fit within the blank space at the lower left of the design, so we have to put the words on multiple lines. There is a **new way** to do this. Here is how it is done. **Left click** in the **Letters** box located right beneath the font name. **Type** the word Spring then **hold down** the **Ctrl** key on your keyboard and hit the **Enter** key. You will see that the insertion point (the long, vertical bar) in the **Letters** box is now beneath the S in the word Spring. **Type** the words is in, then **hold down** the **Ctrl** key and hit the **Enter** key. You will see that the insertion point in the **Letters** box is now beneath the letter i in the word is. **Type** the words the air and then **left click** on the **Apply** button. Here is what your screen should look like before clicking on the **Apply** button:
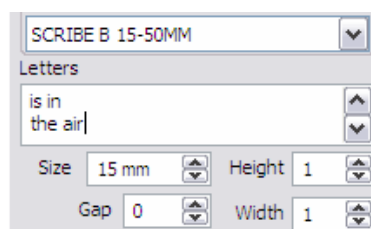
The word Spring is no longer visible. It scrolled up and out of the **Letters** box when you inserted the third line of text. When you click on the **Apply** button, it will be on the **Work Area**. Now we are ready to learn about **yet another new and exciting feature** in your software.

8. Here is what you should now see on the screen:

As always, it's impossible to predict where the lettering will appear on the **Work Area**. We need to drag this lettering into the lower left corner of the **Stitch Area**. Do this now by **left clicking and holding down** your mouse button anywhere within the area of the screen bounded by the lines around the text. Once you move the lettering, we will adjust the size of the letters.

Now is a good time to resize and shape the lettering. The reason for this is that no stitches have been created yet. What we are seeing is a graphic representation of what the stitches will look like when we move to the **Design** page. Resizing here before stitches are created is the best way to achieve an excellent result.

After you drag the letters to the lower left corner of the **Stitch Area**, you can adjust the size of the letters by **left clicking and holding down** you mouse button on any of the **boxes at the corners** of the lettering selection area. Resize your lettering so that it fits in the design without overlapping any of the other stitches.

Using Letter Properties

9. Here is what your design should look like when you are finished resizing the lettering:

I made the letters a little shorter but a little wider than they first appeared. This looks nice, but wait until you see what can be done now. We are going to learn about the **new feature** of editing the **Properties** of the lettering. **Right click** anywhere inside of the lettering selection box to open the **new Letter Properties** dialog.

10. This is the new **Letter Properties** dialog:
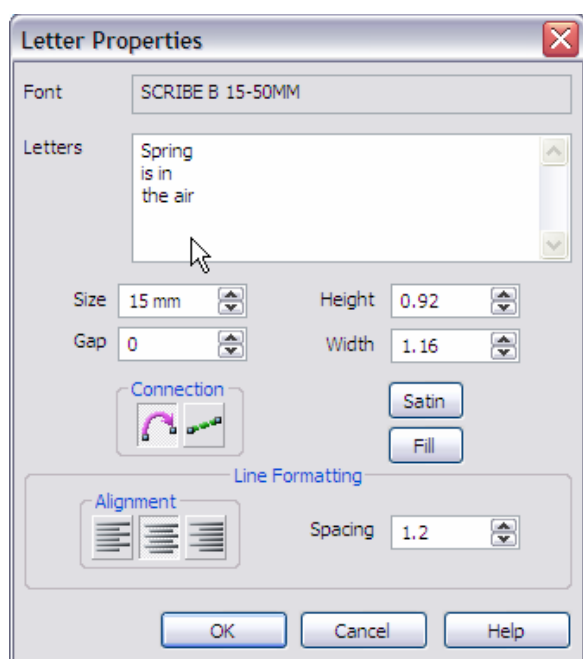
You can make all of the editing changes to the lettering <u>right here</u> other than changing the font. You can change the letters themselves by **left clicking** in the **Letters** box. e.g. You could change the word Spring to Winter. You can change everything, **Size**, **Gap**, **Height**, **Width**, **Connection Type**, and the **Satin** and/or **Fill** pattern where applicable. Look at the bottom left corner of the dialog. The **Alignment** frame is new. There are three buttons that allow you to choose from **Left Justification**, **Center Justification**, and **Right Justification**. All you have to do is **left click** on the button to change the justification. Let's do that now. **Left click** on the **Left Justification** button, then **left click** on the **OK** button.

11. Here is what your screen should look like:
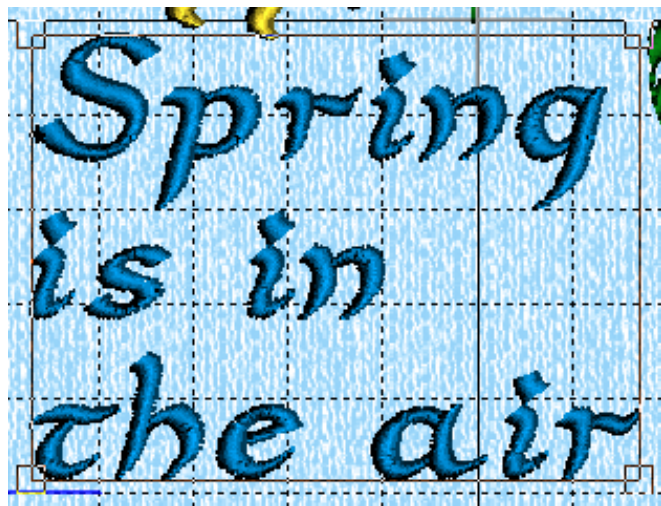
The letters are now **Left Justified**! If we had clicked on the **Right Justification** button, they would have been **Right Justified**. This is really nice. But, as they say on the TV commercials, *wait…there's more.* Before you go to the next step, please be sure that you are sitting down. The next thing I show you is going to make you say **WOW** so many times that you might become light headed.

12. **Right click** anywhere inside of the lettering selection box to open the **Letter Properties** dialog again. **Left click** inside of the **Letters** box on the word **Spring**. With the insertion point on the word **Spring**, type any letter. This causes a misspelling of the word **Spring**. Now, hit the **down arrow** on your keyboard to move the insertion point to the next row of letters down and here is what you should see:
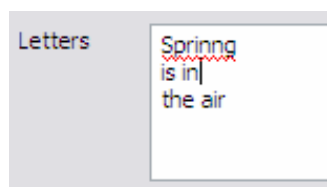
They put a **Spelling Checker** into the *4D Embroidery* software! The red, squiggly underline is telling us that the word **Spring** is spelled wrong. *But wait…there's more!!!!!!* Suppose I don't know how to spell this word. (Please remain seated before you look at the next step.)

13. Let's say I need some help with this spelling. **Right click** on the misspelled word and this is what you'll see:
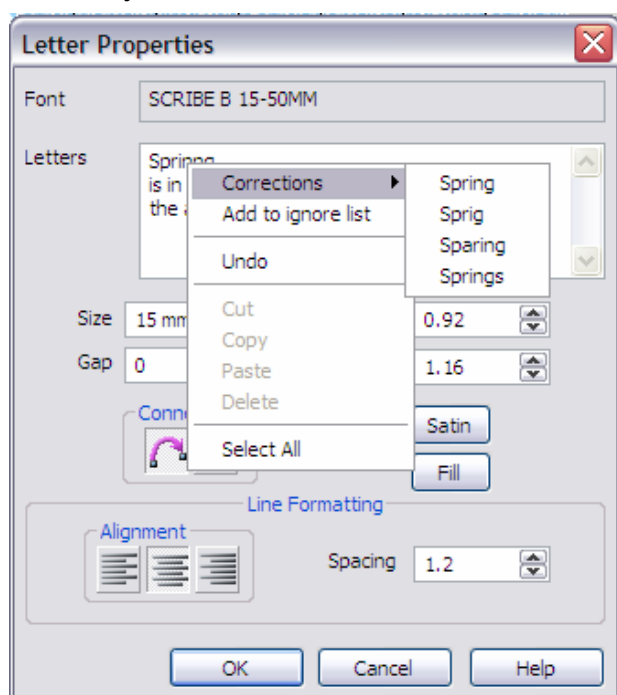
A pop-up menu appears and you move your mouse pointer to the **Corrections** entry and the suggested spellings appear! Just in case you are using someone's name or a special word like the name of a company that has an intentional misspelling in it such as the word "nite", the second option, **Add to ignore list** can be selected and you will not be told that the word "nite" is misspelled. How fantastic is that? How many of us have created a design, checked it over, then stitched it out only to have someone point out a misspelling later? I know that I have done it. This is a really big feature.

Go ahead and correct the misspelling of **Spring** then we will look at another __new feature__ of the **Letter Properties** dialog. To the right of the **Alignment** frame there is __another new setting__. **Spacing** controls the amount of space between lines of lettering. You can either **left click** on the up or down arrow to increase or decrease this value, or just **left click** on the number in the text box and change it directly. After you correct your misspelling, **left click** on the **OK** button and close the **Letter Properties** dialog. Your lettering should be **Center Justified.**

14. Now that we have our lettering in place and the size of the lettering adjusted, it's time to complete this design. **Left click** on the **Design** tab at the bottom of the **Control Panel** to move to the **Design Page**. Here is what your screen should look like:

You can tell that the lettering has now been converted to stitches because there is a selection box around the lettering. If you look at the **Color Select** tool, you can see that there are a number of color changes. In fact, there is one color change for every letter in the embroidery. This is done so that you can, if you wish, change the color of each individual letter. Color number 1 represents the color of the **S** in the word Spring, color number 2 represents the color of the **p** in the word Spring and so on. Just for fun, why don't you change the color of one of the letters to see how it works and then use the **Undo** tool to change the color back.

15. Now, the design is complete. Before we save the design on our hard disk, we must use the **Combine** tool to make one design out of these two components. We will also use another **new tool** introduced in *4D Embroidery*. First, **left click** on the **Combine** tool 🖳 to make one embroidery. You screen should look like this:

If you look closely at this design, you can see that it is located in the upper right corner of the **Stitch Area**. You can leave the design there if you want. But you must understand that when the design is stitched out on your project, it will be placed in the upper right corner of the hoop. Most of the time, we want the design to be centered in the hoop. You could move the design by hand to the center of the hoop or you could use the new tool provide in *4D Embroidery*. Let's use this new tool.

16. The new **Center In Hoop** tool 🖼 actually does two important things for your design. It places the design in the center of the hoop and it ensures that the **Center of Rotation** ↻ and the **Origin** (the little black plus sign) are co-located in the center of the hoop. The **Origin** is the place from which all other stitches are measured. **Left click** on the **Center In Hoop** tool. Your screen should look like this:

You can see that the design is in the center of the hoop, and the **Center of Rotation** and the **Origin** are co-located in the center of the hoop. We have one more thing that we must do before we save this design.

17. Take a look at the list of colors present in this design. There are a large number of color changes (one for each letter) that are the same. If you are finished making changes to the color(s) of your lettering, then we are ready for the final step and that is to use the **Color Sort** tool 🔳. **Left click** on the **Color Sort** tool. A little animation will appear and the number of colors will be reduced to the maximum extent possible. I say to the maximum extent possible because there may be some designs that have duplicate colors, one of which, might have to be stitched out first because other colors that abut the first color need to be stitched out with a little overlap to prevent the underlying fabric from showing through. Then, the first color stitched might be needed again to abut the colors that came after the first stitches so that it can slightly overlay the other stitches.

18. You are now ready to save your design. **Left click** on the **Save As…** tool 💾. When you do this, the little **Remove Overlap** animation will appear as shown here:

When this animation appears, there is nothing you need do except enjoy watching this new feature do its thing.

19. At this point, the **Save As…** dialog will open. Your screen will look something like this:
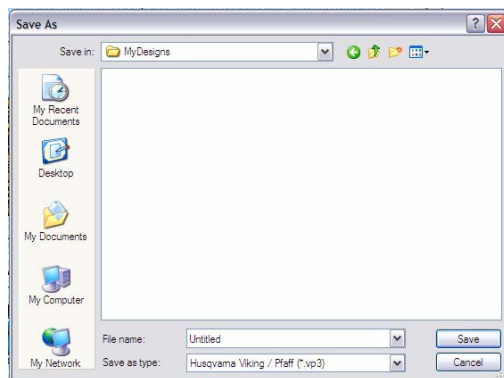
I recommend that you save your designs in a folder other than the **MyDesigns** folder. I say this because in the unlikely event that you need to re-install your software you won't have to worry about losing any of your designs. I would create a new folder named **C:\Embroidery Projects** (this will be in your root directory) and put the designs there. If you followed my instructions in the chapter on **Computer Skills Prerequisites**, then you will already have such a folder available. We will use that folder now. **Left click** on the drop down arrow on the right side of the **Save In:** combo box at the top of the **Save As** dialog.

20. A drop down menu will appear as like the one shown here:
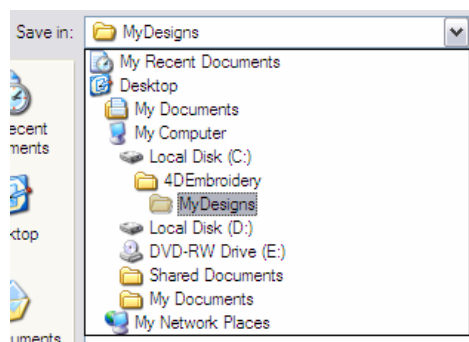
Left click on the line **Local Disk (C:).** The list of folders that are in your **Root Directory** will appear. If you have a folder named **Embroidery Projects** in that list, then **left click** on that folder now. If you do not have a folder named **Embroidery Projects** and you wish to create one at this time, then **left click** on the **New Folder** icon shown here:

94
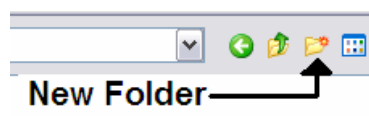
If you click on the **New Folder** icon, a folder named <u>New Folder</u> will be created. Simply type the words **Embroidery Projects** and the old name, <u>New Folder</u> will disappear and your **Embroidery Projects** folder will be created.

21. **Left click** on the **Embroidery Projects** folder and it will open in the **Save As** dialog. The name of the design appears at the bottom of the **Save As** dialog in the **File Name:** box as **Untitled**. **Left click** in the **File Name:** text box and change the name from **Untitled** to whatever name you wish to give to this design. Just beneath the **File Name:** box is another combo box labeled **Save As Type**. This box contains the name the type of file you will save this design as. It is here that you can change the file type to any one of **12** different formats. In fact, after you save this file as one format, such as VIP, you can immediately save it again as another format, such as HUS, or VP3, without changing the actual name of the file. This is because a file named **SpringIsInTheAir.HUS** is considered to be different than **SpringIsInTheAir.VP3**. **Left click** on the **Save** button to close the dialog and you're done!

Choosing a Line Type

Every project we have done in this book so far used only one Line Type for our lettering. There are actually 21 separate Line Types you can use, and two of these Line Types have a special Step option that changes their appearance. The different Line Types essentially provide an initial shape to your lettering. In each of these Line Types you have the ability to make major changes to the size and shape of the lettering. Here is a list of the line types and a brief description of their properties:

Horizontal Line – Normal lettering reading from left to right.
Vertical Line – Letters read from top to bottom.
Circle Clockwise – Letters are on the outside of a circle reading in a clockwise direction.
Circle Counter Clockwise – Letters are on the outside of a circle in a counter clockwise direction.
Full Circle – Letters are on the outside of a circle and, using the # as a separator, combine the effects of Circle Clockwise and Circle Counter Clockwise.
Double Arch – Letters are concave on both the top and bottom.
Diamond – Letters are placed in a diamond shape. Usually used for **<u>monograms</u>**.
Bridge Convex Down – Bottom of letters are on a curve that may be adjusted downward.
Bridge Concave Down – Bottom of letters are on a curve that may be adjusted upward.
Bridge Convex Up – Top of letters are on a curve that may be adjusted upward.
Bridge Concave Up – Top of letters are on a curve that may be adjusted downward.
Arch Over – Letters appear on an arch, the top of which is convex.
Arch Under – Letters appear on an arch, the top of which is concave.
Fit To Shape – Letters are placed into a box having 6 handles on top and 6 handles on bottom. Virtually infinite adjustments can be made using these 12 points.
Pennant Right – Letters are placed in a rectangle with four points of adjustment. Appear as a trapezoid-shaped pennant with large size to right.
Pennant Left - Letters are placed in a rectangle with four points of adjustment. Appear as a trapezoid-shaped pennant with large size to left.
Fish – Letters are placed into a fish-shaped enclosure with four handles having nearly infinite adjustment options.

Perspective – Letters are placed in a trapezoidal shape with the short side initially at the top of the figure.

Italic – Letters are placed in a rhomboid shape with four handles which allow for horizontal adjustment of lettering.

Fit To Straight Line – One of the most flexible options available. Letters are placed on a straight line. The line may be moved a full 360º. Using the **Step** option, an additional handle becomes available that allows a full 360º adjustment of the letters' orientation.

Fit To Wavy Line – One of the most flexible options available. Letters are placed on a wavy line with five adjustment handles. Using the **Step** option, an additional handle becomes available that allows a full 360º adjustment of the letter's orientation.

New Multiple Line Feature

Rather than repeat this in each of the following **Line Types** I will tell you now that you <u>**can apply multiple lines of text**</u> in each of the following **Line Types** with the exception of **Circle Clockwise, Circle Counter Clockwise, Full Circle, Fit to Straight Line** and **Fit to Wavy Line**. In each of those **Line Types** if you have multiple lines of text in the **Letters** box, they will simply be placed in one line. To place multiple lines of text in a design, simply follow this procedure:

1. Type in the first line of lettering in the **Letters** box.
2. **Hold down the Ctrl key** and then hit the **Enter** key. Your insertion point will move to a new line.
3. Type in the next line of lettering. You can repeat these steps as many times as you want to create multi-line lettering.

This is an incredible number of options and there are many adjustments that can be made within each of these **Line Types**. Like me, you will probably find that you only use certain favorite **Line Types** in your designs, but it sure is nice to know that you have total flexibility to adjust your lettering.

The **Line Types** all begin with an initial shape. They all have handles (little squares located at various places on the outline of the initial shape) that can be moved using the **drag and drop** technique to resize and otherwise modify the letters. Many of the line types also incorporate the use of the **Ctrl** key to help you keep the shape of your lettering symmetrical. Using the **Ctrl** key while shaping your lettering is easy. All you have to do is to hold down the **Ctrl** key and continue to hold it down before you use your mouse to **drag and drop** any of the handles around the **Line Type** outline.

Let's look at a few examples with a practical exercise.

Using Line Types with Lettering

There are **21** initial Line Types available. Each line type has a number of different handles to use for adjusting the appearance of the lettering. What they all have in common is this. **To move your lettering, regardless of the Line Type, just <u>left click and hold</u> inside of the block of letters to move them as a unit.**

Initial Setup

There are a lot of **Line Types** to look at here. If you decide to take a break during this lengthy chapter, then you need to follow this small procedure when you resume your work.

1. Erase any stitch files that you might have in your work area. Do this by **left clicking** on the **New** tool on the toolbar. (The **New** tool looks like a blank sheet of paper.)
2. Use the **Preferences** tool to set your hoop size to **240mm X 150mm (Large Hoop)** and choose the **Horizontal** orientation. This will give you plenty of room to work and to compare the differences between **Line Types**.
3. **Left click** on the **Letter** tab at the bottom of the **Control Panel** to get to the Letter Page.
4. Choose the **Modern** font category, and then select **Placid 10-45MM** from the list of available fonts. I chose this font because the shape of the letters is fairly straight and it will be easy to see the effect of some of these line types on the lettering.
5. Type the word **Embroidery** in the **Letters** text box.
6. Leave all of the other settings as they are (Size mm should be 10, Gap should be 0 and both Height and Width should be set to 1.

<u>Major Consideration</u>

We are about to use the various Line Types to add lettering to our design. The **<u>most important thing</u>** for you to understand is this: **You can only adjust the shape of the lettering while you are <u>initially</u> on the Letter Page. Once you leave the Letter Page and the lettering is converted to stitches, you can <u>resize</u> or <u>scale</u> the letters but you *cannot change the shape* of the letters.** If, after leaving the Letter Page, you decide that you do not like the shape of the lettering you just added, you **cannot undo** the changes. You will have to start all over again and reshape the letters within the Line Type you chose.

This is an extremely important consideration to make when applying lettering to your design. You will see that it's possible to make an almost <u>infinite</u> number of changes to your lettering, but once you leave the Letter Page, the shape of the letters is locked in and cannot be changed.

Horizontal Line

The Horizontal Line is the default choice when you first arrive on the Letter Page. I'll be using this **Line Type** to illustrate some of the finer points of lettering.

1. Type the word **Embroidery** into the **Letters** text box.
2. **Left click** on the **Apply** button or hit the **Enter** key on your keyboard. I prefer to use the **Enter** key because I think it's more natural to do so after typing characters and I'll use it throughout the lettering examples. You can substitute **left click** on the **Apply** button and you will get the same results.
3. At this point, you will see the following lettering in the **Work Area**:
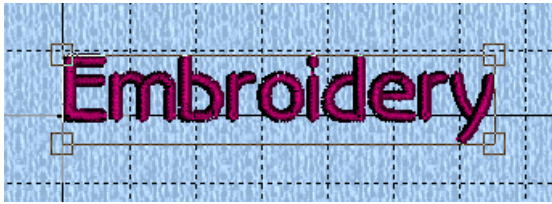
Notice that this **Line Type** has only four resizing handles around the lettering. You should also notice that the handles are clear. Remember, this means that what you are seeing has <u>not yet been converted into stitches</u>. It will be converted into stitches when we switch to the **Design Page** of the control center later in this exercise. Because it is not yet a stitch file, there is also <u>no rotation handle</u> and <u>no **Center or Rotation**</u> on the letters. Therefore, you cannot yet rotate these letters. You **<u>can</u>** resize them at this point.

4. Remember the difference between **Resizing** and **Scaling?** When you use the **Resize** tool (the handles of the stitch file change from black to clear), you may change the size of the stitch file to be larger or smaller and the software will increase or reduce the number of stitches as appropriate. However, when you change the size of a stitch file when the handles are black, this is called **Scaling** and **<u>the number of stitches remains constant</u>**. If you are going to change the size or shape of your lettering, then <u>now</u> is the time to do it, here on the Letter Page. Let's try increasing the size of the letters a bit. **Drag and drop** either of the upper handles to make the lettering a bit larger and look at the results. You will see that the stitch density still looks good. Now try something different.

5. Press down on the **Ctrl** button and hold it down as you drag and drop any one of the handles around the lettering. It doesn't make any difference does it? This means that for the **Horizontal Line Type**, the **Ctrl** button has no effect. Later, as we look at some of the other **Line Types** you will see that the **Ctrl** button has a <u>noticeable</u> effect.

Vertical Line

The Vertical Line is the second **Line Type** from the left in the top row of line types.

1. Make sure that the word **Embroidery** is entered into the **Letters** text box.
2. **Left click** on the **Vertical Line** button and then hit **Enter**.
3. This is how your screen will look:

Notice that the lettering is centered in the selection box. Remember earlier that I showed you how to open the **Font Properties** dialog by **right clicking** inside of the lettering selection? If you wanted to change the alignment, then this is where you would do that.

As with all of the various **Line Types** (with the exception of two of them), you can place multiple lines of lettering inside of the same area. However, in the **Vertical Line** this feature tends to show a confusing jumble of letters. Here is what "Embroidery is fun and easy!" looks like:

I don't know about you, but at first glance this looks to me like it says, "Ef mu bn r oa in dd…" well, I think you get it. I tend to use the

Vertical Line to create a design in which the initial letters of a phrase are in a vertical position and the rest of the lettering is in a different font reading horizontally to the right of the initial letters.

Circle Clockwise

Circle Clockwise is the third button from the left in the top line of **Line Types**. This **Line Type** places the letters on a circular path with the <u>**bottom**</u> of the letters on the circular line. Here is what it looks like:
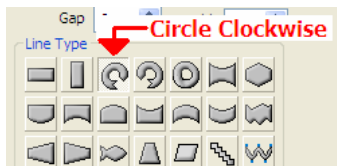
Left click on the **Circle Clockwise** button to activate this line type.

Let's do a quick exercise to learn how to use this **Line Type**.

1. Make sure that the word **Embroidery** is typed in the **Letters** box.
2. **Left click** on the **Circle Clockwise** button.
3. Hit the **Enter** key (or **left click** on the **Apply** button). Your screen will look like this:
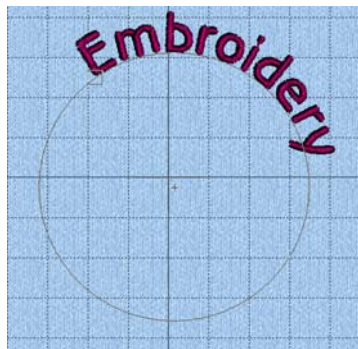
Notice the little square block at the bottom left of the **E**? This is the handle that you can use to do two things with this line type.

If you **left click** on the square and hold down the left mouse button, you can drag the size of the circle to make it larger or smaller.

If you **hold down the Ctrl key** while you **left click and hold** on the square, you will see that the size of the circle is locked and you can slide the square around the circumference of the circle. This allows you to control where the lettering begins.

In addition to the square handle, you can also see a plus sign in the center of the circle. This can be used as a guide if you wish to center the circle on a part of your design.

To move the circle and the lettering, just **left click and hold** anywhere inside of the circle then drag the lettering around on the work area.

What happens if we try to place multiple lines of lettering using this **Line Type**? Do we get two lines of text or just one?

4. Hit the **Delete** key on your keyboard to remove this lettering. **Left click** in the **Letters** box and type in **Embroidery is** then **hold down the Ctrl** key and hit the **Enter** key. Type in **fun and easy!** on the second line. **Left click** on the **Apply** button. Here is what you will see:
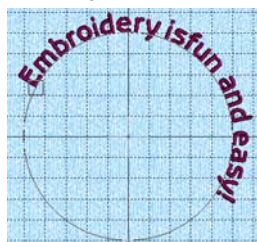
If you want two lines of text on a circular line, you will have to put them in separately and make a manual adjustment to the design.

The next **Line Type** works in a similar manner.

Circle Counter-Clockwise

Circle Counter-Clockwise is the fourth button from the left on the top line of **Line Types**. This **Line Type** places the letters on a circular path with the __top__ of the letters on the circular line. Here is what it looks like:
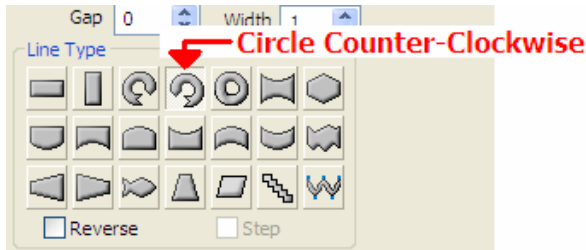
Left click on the **Circle Counter-Clockwise** button to active this line type.

Let's do a quick exercise to learn how to use this **Line Type**.

1. Make sure that the word **Embroidery** is typed in the Letters box.

2. **Left click** on the **Circle Counter-Clockwise** button.

3. Hit the **Enter** key (or **left click** on the **Apply** button). Your screen will look like this:
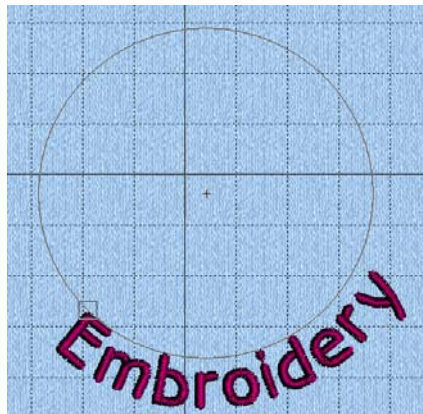
Notice the little square block at the top left of the **E**? This is the handle that you can use to do two things with this line type.

If you **left click** on the square and hold down the left mouse button, you can drag the size of the circle to make it larger or smaller.

If you **hold down the Ctrl key** while you **left click and hold** on the square, you will see that the size of the circle is locked and you can slide the square around the circumference of the circle. This allows you to control where the lettering begins.

In addition to the square handle, you can also see a plus sign in the center of the circle. This can be used as a guide if you wish to center the circle on a part of your design.

To move the circle and the lettering, just **left click and hold** anywhere inside of the circle then drag the lettering around on the work area.

If you want to put letters around both the top and the bottom of a circle, then the next **Line Type** will allow you to do this.

Full Circle

Full Circle is one of the more unique **Line Types** in *4D Embroidery*. It allows you to place text on the outside of a circle at both the top and the bottom of the circle at the same time. It's kind of like placing one set of text in the design using the Circle Clockwise Line Type and then placing additional text into the design using the Circle Counter-Clockwise Line Type and superimposing the two one each other. That would be a difficult task. The software engineers at Husqvarna Viking have made this an easy task using the **Full Circle** Line Type.

100

Full Circle works essentially the same way as the **Circle Clockwise Line Type** and **Circle Counter-Clockwise Line Type**. But with this **Line Type** you can easily specify which letters are to be placed at the top of the circle and which letters are placed at the bottom of the circle.

1. Select the **Traditional** fonts category by **left clicking** on the radio button to the left of the category name and then select the **Tital 9-40 mm** font.

2. Type the following characters in the **Letters** text box: **Sail the Chesapeake**

3. Select the **Full Circle** Line Type by **left clicking** on the tool. Here is what it looks like:
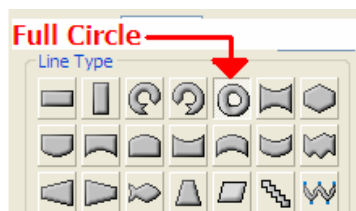
The **Full Circle** tool looks like a doughnut. Now, **left click** on the **Apply** button and let's see what happens.

Your screen should look like this
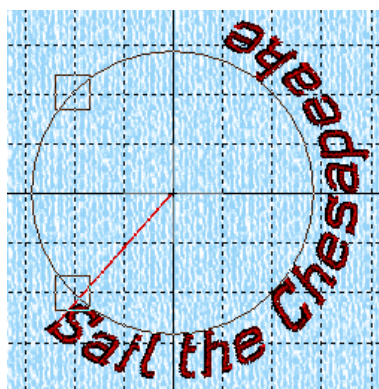
Hey! What happened? I thought that this **Line Type** was supposed to put one part of the lettering at the top and the other part of the lettering at the bottom of the circle! Well, normally, the software would do that for us. It would look at the number of letters and try to split them evenly. But here, the first two words contain **7** letters and **1** space and the second word contains **10** letters. Being unsure of how we want these letters separated, the software just leaves them together. Let's do this correctly now.

4. **Left click** on the **Letters** box on the **Control Panel** and erase the existing lettering. Now type in **Sail the** then **hold down the Ctrl** button and hit the **Enter** key and type in **Chesapeake**. **Left click** on the **Apply** button. Here is what you will see now:

Notice that there are **two** handles near the lettering. One is placed near the top lettering and the other is near the bottom lettering. If you **left click and hold** your mouse button you can drag the letters around the circle. While holding down the mouse button, you can also resize the circle by dragging it toward and away from the center of the circle.

If you hold down the **Ctrl** button on your keyboard while dragging the letters, the size of your circle will remain the same.

Give it a try and experiment with the design before we go on to the next Line Type.

Double Arch

The **Double Arch** Line Type places the letters on a horizontal line with both the top and the bottom of the line of letters concave. This Line Type is located on the top row of buttons and it is the sixth button from the left. There are six handles on this line type that can be used to adjust the appearance of the letters. It looks like this:
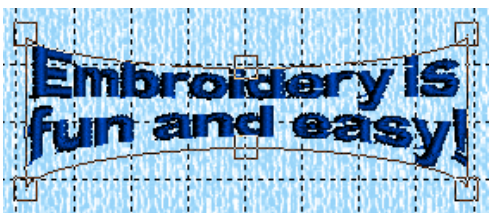
If you **left click and drag** either of the handles on the top of the lettering, both handles move at the same time.

If you **left click and drag** either of the handles on the bottom of the lettering, both handles move at the same time.

If you **left click and drag** either of the handles in the middle of the line, only that handle moves and it will not move further than a line horizontal with the outside handles, or nearly to the point where the other middle handle is located.

For this Line Type, holding the **Ctrl** button while moving the handles has no effect.

Diamond

This **Line Type** is probably one of the most used **Line Type** of them all. The **Diamond Line Type** is used primarily to make monograms. When you use the **Diamond Line Type**, the lettering is placed in a hexagonal shape with 6 handles for adjustment. This **Line Type** is the last button on the right on the top row of **Line Types**. Because there are a large number of adjustments available in this **Line Type**, let's do a short exercise to become familiar with each of the options.

1. Clear your work area of all other stitches. **Left click** on the **New** tool button (the first button on the extreme left of the tool bar).
2. Select the **Traditional** font category.
3. Select the **ROMANA 14-50mm** font.
4. Type **TFW** (the initials for my monogram) in the **Letters** box.
5. Select the **Diamond** Line Type by **left clicking** on it. Here is where it is located:
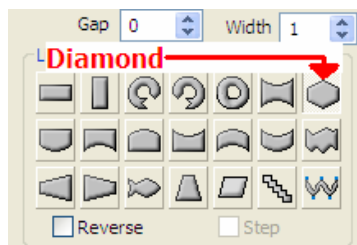
Once you select the **Diamond** Line Type, then hit the **Enter** key or **left click** on the **Apply** button to put these letters into the Work Area.

Here is what the embroidery now looks like:
You see all 6 of the handles that may be used to modify the lettering.
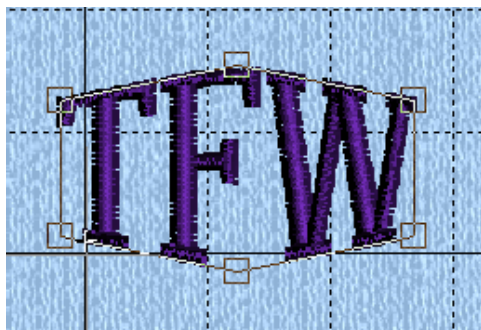
Let's look at how to use them.

Center Handles

If you **left click and drag** either the top or bottom **Center Handles**, and then move them up or down, then the other handle will move in the opposite direction.

If you hold down the **Ctrl** button first, and then **left click and drag** either of the **Center Handles**, then both of the Center Handles will move in the same direction.

The Center Handle may be moved up and down, but not sideways. To make the monogram wider, you must use the Outside Handles.

Outside Handles

The Outside Handles work the same way that the Center Handles work. That is, if you **left click and drag** one of the Outside Handles and then move it, the other Outside Handle moves in the opposite direction. If you hold down the **Ctrl** button first, and then **left click and drag** either of the Outside Handles, they will both move in the same direction at the same time.

The main difference in the use of the Outside Handles is that these handles may be used to make the entire monogram wider or narrower if you wish. If you move either sets of the Outside Handles, the other handles remain in place.

Designing Tip

Here is a tip on how to ensure that your design remains symmetrical. If you want to make your monogram wider than the default size, you should move the initial design so that the Outside Handles are aligned exactly with one of the grid lines. When magnified, it looks like this:
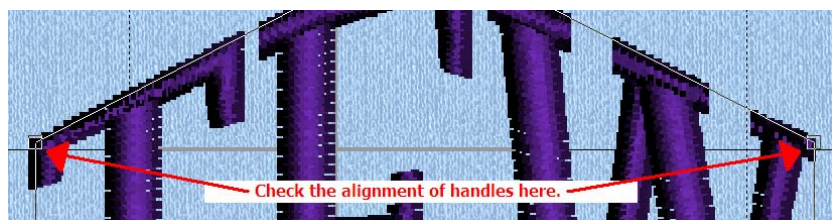
Change the grid size in **Preferences** to 5 so that you have more grid lines to help you align the handles of this **Line Type**.

Bridge Convex Down

Bridge Convex Down is the first button on the left in the middle row of Line Types.

Bridge Convex Down puts the letters in a straight, horizontal line with the bottom of the lettering convex toward the bottom of the design, like the bottom of the pocket on a man's shirt. There are 5 handles around the lettering. The center handle at the bottom of this Line Type is used to increase or decrease the curvature of the bottom of the lettering. The handles on the left and right sides of the Line Type are used to increase or decrease the width of the lettering. The handles on the sides of the Line Type may also be moved up and down to change the curvature of the bottom of the letters. The **Ctrl** button has no effect on the motion of the handles in this line type.

Bridge Concave Down

Bridge Concave Down is the second button from the left in the middle row of Line Types.

Bridge Concave Down puts the letters in a straight, horizontal line with the bottom of the lettering is concave toward the top of the design. There are 5 handles around the lettering. The center handle at the bottom of this Line Type is used to increase or decrease the curvature of the bottom of the lettering. The handles on the left and right sides of the Line Type are used to increase or decrease the width of the lettering. The handles on the sides of the Line Type may also be moved up and down to change the curvature of the bottom of the letters. The **Ctrl** button has no effect on the motion of the handles in this line type.

Bridge Convex Up

Bridge Convex Up is the third button from the left in the middle row of Line Types.

Bridge Convex Up puts the letters in a straight, horizontal line with the top of the lettering is convex toward the top of the design. There are 5 handles around the lettering. The center handle at the top of this Line Type is used to increase or decrease the curvature of the top of the lettering. The handles on the left and right sides of the Line Type are used to increase or decrease the width of the lettering. The handles on the sides of the Line Type may also be moved up and down to change the curvature of the top of the letters. The **Ctrl** button has no effect on the motion of the handles in this line type.

Bridge Concave Up

Bridge Concave Up is the fourth button from the left in the middle row of Line Types.

Bridge Concave Up puts the letters in a straight, horizontal line with the top of the lettering concave toward the top of the design. There are 5 handles around the lettering. The center handle at the top of this Line Type is used to increase or decrease the curvature of the top of the lettering. The handles on the left and right sides of the Line Type are used to increase or decrease the width of the lettering. The handles on the sides of the Line Type may also be moved up and down to change the curvature of the top of the letters. The **Ctrl** button has no effect on the motion of the handles in this line type.

Arch Over

Arch Over is the fifth button from the left in the middle row of Line Types.

Arch Over puts the letters on a curved, horizontal line with the top of the lettering convex at the top of the design and the bottom of the lettering concave at the bottom of the design. There are 6 handles around the lettering. The center handle at the top of this Line Type is used to increase or decrease the curvature of the top of the lettering. The center handle at the bottom of this Line Type is used to increase or decrease the curvature of the bottom of the lettering. The handles on the left and right sides of the Line Type are used to increase or decrease the width of the lettering. The handles on the sides of the Line Type may also be moved up and down to change the curvature of the top or the bottom of the letters. The **Ctrl** button has no effect on the motion of the handles in this line type.

Arch Under

Arch Under is the sixth button from the left in the middle row of Line Types.

Arch Under puts the letters on a curved, horizontal line with the top of the lettering concave at the top of the design and the bottom of the lettering convex at the bottom of the design. There are 6 handles around the lettering. The center handle at the top of this Line Type is used to increase or decrease the curvature of the top of the lettering. The center handle at the bottom of this Line Type is used to increase or decrease the curvature of the bottom of the lettering. The handles on the left and right sides of the Line Type are used to increase or decrease the width of the lettering. The handles on the sides of the Line Type may also be moved up and down to change the curvature of the top or the bottom of the letters. The **Ctrl** button has no effect on the motion of the handles in this line type.

Fit To Shape

Fit To Shape is the seventh and last button on the middle row of Line Types.

Fit To Shape places the letters on a free-form, wavy line with **12** handles around the exterior of the Line Type. All 12 of these handles can be individually adjusted to give you an infinite amount of adjustments to the lettering. The **Ctrl** button has no effect on the motion of the handles in this line type. Here is what **Fit To Shape** initially looks like:
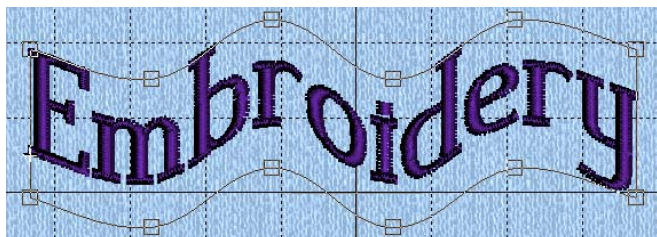
I'm going to **left click and hold** some of the handles and change the shape of the lines outlining the lettering.

Here is my new design:
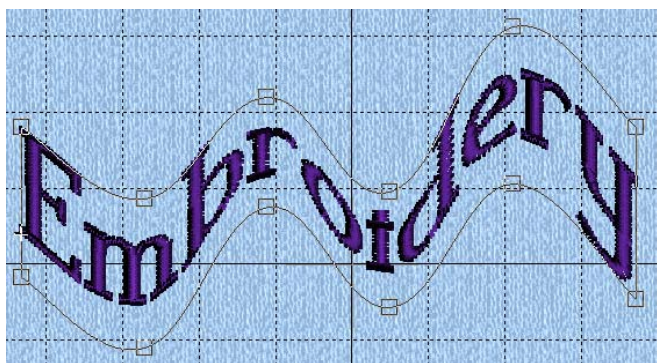
You can see that I made radical change to the lettering.

This is just a small sample of what you can do with this Line Type.

Pennant Right

Pennant Right is the first button from the left in the bottom row of Line Types.

Pennant Right puts the letters on a straight, horizontal line with the right side of the lettering being larger than the left side of the lettering, like a pennant. There are 4 handles at the four corners of the lettering. When you **left click and drag** on any of the handles, and then move that handle up and down, it will increase or decrease the height of the lettering at that end of the Line Type. You can also increase or decrease the width of the lettering by moving the handles to the left or right.

If you hold down the **Ctrl** button before you **left click and drag** any of the handles, then the handle on the same side of the embroidery moves in concert with the other handle.

Pennant Left

Pennant Left is the second button from the left in the bottom row of Line Types.

Pennant Left puts the letters on a straight, horizontal line with the left side of the lettering being larger than the right side of the lettering, like a pennant. There are 4 handles at the four corners of the lettering. When you **left click and drag** on any of the handles, and then move that handle up and down, it will increase or decrease the height of the lettering at that end of the Line Type. You can also increase or decrease the width of the lettering by moving the handles to the left or right.

If you hold down the **Ctrl** button before you **left click and drag** any of the handles, then the handle on the same side of the embroidery moves in concert with the other handle.

Fish

Fish is the third button from the left in the bottom row of Line Types.

Fish puts the letters on a fish-shaped, horizontal line. There are 8 handles around the lettering. When you **left click and drag** on any of the handles, and then move that handle up and down, it will increase or decrease the height of the lettering at that section of the Line Type. You can also increase or decrease the width of the lettering by moving the corner handles to the left or right.

The **Ctrl** button has a special effect if you hold it down before clicking on any of the four internal handles. This is best seen with a graphic example. Here is the initial shape of the **Fish** Line Type:
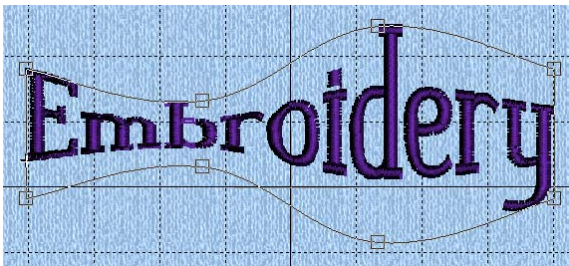
If you hold down the **Ctrl** button and then **left click** on either of the handles near the letter **D** in this example, then the handles near the letter **B** will be moved to mirror the handles near to the letter **D**. After holding **Ctrl** and **left clicking** on one of these handles, here is the result:
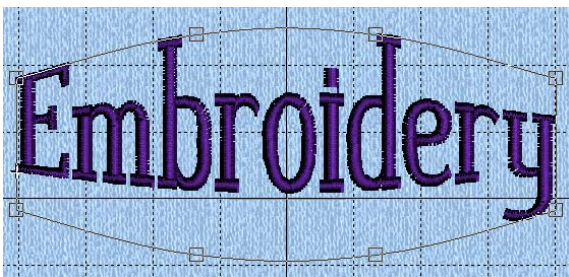
The opposite effect will happen if you hold **Ctrl** and then **left click** on the handle on one of the concave sections. The lettering will then be concave on both the top and bottom.

It will look something like the following graphic:
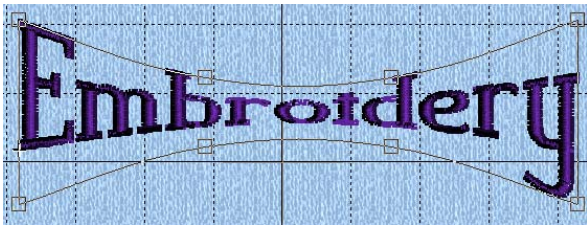
Perspective

Perspective is the fourth button from the left on the bottom row of Line Types.

Perspective puts the letters on a straight, horizontal line with the top of the lettering narrower than the bottom of the lettering. There are **4** handles at the corners of Line Type. If you **left click and hold** on either of the top handles, you can adjust the width of the top of the letters as you move the handles to the left and right. If you **left click and hold** on either of the bottom handles, you can adjust the width of the bottom of the letters as you move the handles left and right. With either the top or bottom handles, you can **left click and drag** the handles to make the lettering taller or shorter.

If you hold down the **Ctrl** button before you **left click and drag** either the top or bottom handles, then both the top or bottom handles move in unison in any direction.

Italic

Italic is the fifth button from the left on the bottom row of Line Types.

Italic puts the letters on a straight, horizontal line with the top of the lettering further to the right than the bottom of the lettering creating an italic effect. There are **4** handles at the corners of Line Type. If you **left click and hold** on either of the top or bottom handles, you can adjust the width and height of the letters as you move the handles to the left, right, up or down.

If you hold down the **Ctrl** button before you **left click and drag** either the top or bottom handles, then both the top or bottom handles move in unison in any direction, allowing you to increase, decrease, or even reverse the direction of the italic slant.

Fit To Straight Line

Fit To Straight Line is the sixth button from the left on the bottom row of Line Types.

Fit To Straight Line is one of the most exciting Line Types available in *4D Embroidery*. This line type places your letters on a straight line. The line on which the letters are placed may, itself, **be rotated a full 360°**. In addition, using the **Step** option, the letters on the line **may be rotated a full 360°**. Let's do a short exercise to learn how to use this Line Type.

1. Clear your work area of all stitches by **left clicking** on the **New** tool.

2. Select the **Traditional** font category by **left clicking** on the radio button to the left of the category name.
3. Select the **Romana** font by **left clicking** on the drop down arrow on the font name combo box.
4. Type the word **Embroidery** in the **Letters** text box.
5. Select the **Fit To Straight Line** tool in the Line Type area (this button is the sixth button from the left on the bottom line and looks like a diagonal line.)
6. Hit the **Enter** key or **left click** on the **Apply** button to put the letters on the work area.

Your lettering should look something like this:
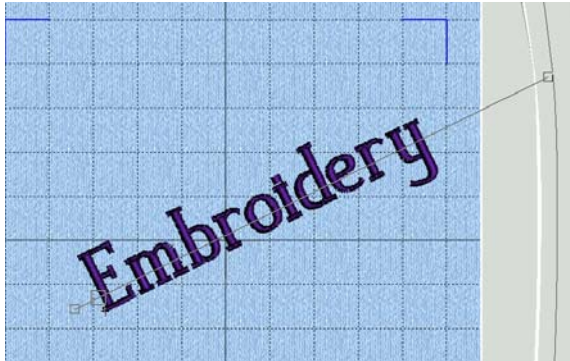
Your computer might show a slightly different placement of the lettering than I'm showing here. If the lettering is not inside of the Work Area, then just place your mouse cursor anywhere <u>on</u> the line. **Left click and hold**, and drag the letters into the center of the Work Area.

This Line Type is very powerful and has a number of features.

There are three handles on this Line Type. The two **Endpoint** handles are used to adjust the

angle of the line of the lettering. You can move either Endpoint handle anywhere in the Work Area to position the lettering. **Note:** The Endpoint handle <u>may be placed</u> outside of the **Stitch Area** (the area enclosed by the four blue right angles seen in each corner of the **Work Area**), but the actual lettering <u>must be placed</u> within the **Stitch Area**.
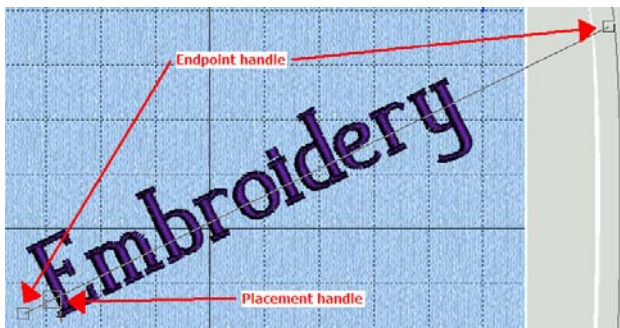
You can use the **Placement** handle to move the letters along the length of the line between the two Endpoint handles. Try moving the Endpoint handles around the Work Area and see how the lettering follows them. Try moving the lettering along the line using the Placement handle and see how that works. This is a pretty powerful Line Type. Now, let's turn on the **Step** option and see what happens.

7. Right below the collection of Line Types, there are two check boxes. The one on the left is labeled **Reverse**. If this box is checked, it reverses the order of the letters so that they read from right to left rather than from left to right (this is important when using the **Hebrew** font). Make sure that the **Reverse** check box remains <u>**unchecked**</u>.

8. To the right of the **Reverse** check box is the **Step** check box. We are going to use it at this time, so **left click** on the **Step** check box and make sure that it is selected (a little green check mark will appear inside of the box when it is selected.)

9.   Hit the **Enter** key or **left click** on the **Apply** button. Here is what your screen should look like now:
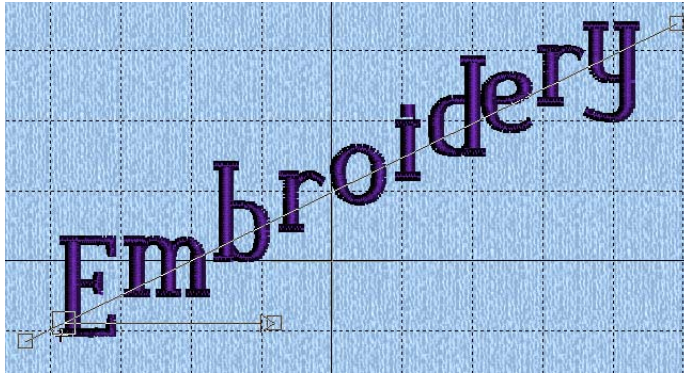
The first thing you will notice is that the individual letters are all now oriented on a horizontal line and they appear to be placed one letter on a step as the steps go up and to the right. (Hence the name of the option, **Step**.)

In addition, a new handle is present on this Line Type. The new handle extends from the Placement handle to the right of the screen and has both an arrow head and a handle box at the end of it. This is the **Letter Rotation** handle. If you **left click and hold** on the Letter Rotation handle, and then move it, you will see that it is anchored in the center of the Placement handle. You can move the Letter Rotation handle all the way around the Placement handle through a full 360⁰. When you release the left mouse button, **just the letters** are rotated. The line is left in place. You may move **any of the handles** in any order that to make the letters come out the way you want.

Notice that in the above graphic, the letters **d** and **e** appear to be right on top of each other. This is a characteristic of this, and other fonts. If you change the angle of the line, as seen here, the problem with the **d** and the **e** disappears, but now there is a problem with the letters **m** and **b**. You can, however, fix either, or both, problems by using tools on the **Edit** tab (if you have **4D Embroidery Extra**).
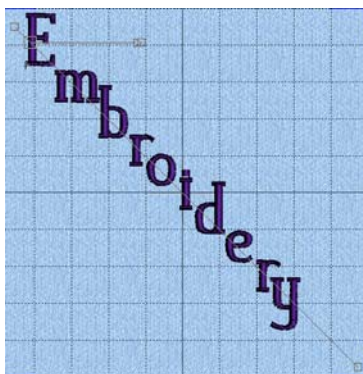
Fit To Wavy Line

Fit To Wavy Line is the seventh button from the left on the bottom row of Line Types.

Fit To Wavy Line is the most flexible Line Type available in *4D Embroidery*. This line type places your letters on a wavy line which can be as close to or as far from a straight line as you wish to make it. The line on which the letters are placed may, itself, **be rotated a full 360°**. In addition, using the **Step** option, the letters on the line **may be rotated a full 360°**. Let's do a short exercise to learn how to use this Line Type.

1.   Clear your work area of all stitches by **left clicking** on the **New** tool.
2.   Select the **Traditional** font category by **left clicking** on the radio button to the left of the category name.

110

3.   Select the **Romana** font by **left clicking** on the drop down arrow on the font name combo box.
4.   Type the word **Embroidery** in the **Letters** text box.
5.   Select the **Fit To Wavy Line** tool in the Line Type area (this button is the seventh button from the left on the bottom line and looks like the letter W.)
6.   Hit the **Enter** key or **left click** on the **Apply** button to put the letters on the work area. Your lettering should look something like this:
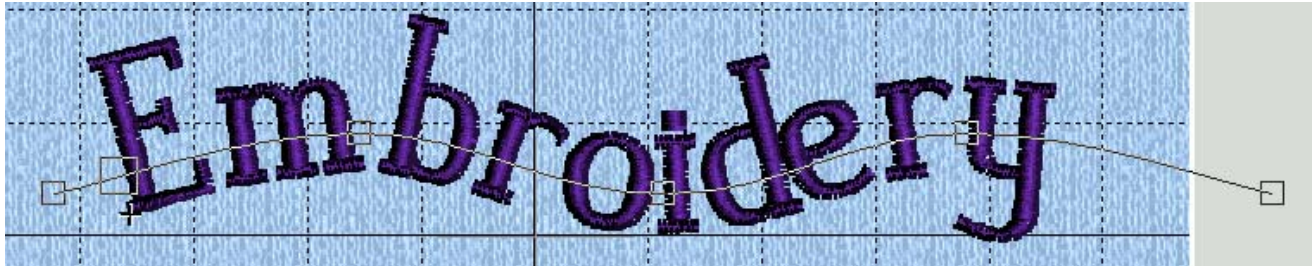
There are 3 handles on the line that allow you to change the shape of the line in an infinite number of ways. You can shape the line into anything that you can imagine. There is also a **Placement** handle present so that you can move the lettering anywhere along the line.

Here are a few examples of what can be done using the **Fit To Wavy Line** feature on the Lettering Page:
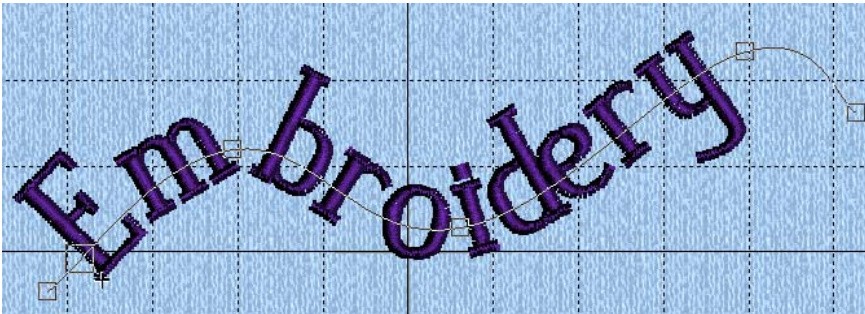
As you can see, the amount of control you have over this Line Type is virtually infinite.

Let's continue on with this exercise.

Left click on the **Step** check box and hit the **Enter** key or **left click** on the **Apply** button. Here is the result:

 The **Letter Rotation** handle is added so that you can control the rotation of the letters as they appear on the line. This handle works

exactly like the **Letter Rotation** handle in the Fit To Straight Line we saw previously.

Choosing Connection Type

Along with selecting the font you wish to use and the Line Type to place the letters on, you can also choose the type of stitches to connect the letters. The type of connection stitch can be chosen in the **Letters** Control Panel or on the **Letter Properties** dialog. It works the same way no matter which place you choose to set this option.

 The default selection is for a **Jump** stitch (the option on the left). In most cases, the jump stitch is the kind of connection between letters you will want to use. A jump stitch is much easier to snip to clean up the embroidery after the lettering is complete.

The **Running Stitch** option (the button on the right) could be used when you select a font listed in the **Script** font category.

You must select the type of connection **before** you add the lettering to the stitch design. Once you select the type of connection, it remains on until you change it.

Using the Satin and Fill Options

 The **Satin** and **Fill** options are located in the **Letter Properties** dialog to the right of the **Connection** buttons.

 Using these buttons depends upon the selection of the font. Some fonts have a fill pattern in them, such as the **Traffic LC 15-40 mm** font found in the **Fun** category. If you use a font such as the Traffic font that contains a **Fill** pattern, then you can use the **Fill** option to modify the Fill Pattern used in the letters. If you attempt to use the **Fill** option on a font that does not have a Fill pattern, then the choice you make in the Fill option will have no effect in the lettering and vice versa. To use the **Satin** option, you must be using a font that contains letters with a satin stitch such as **Bremen UC 10-25mm** in the Decorative font category.

Let's do a quick exercise to see how to use these options and the effect they have on your lettering.

112

Satin Option

1. Clear your work area.
2. **Left click** on the **Letters** tab.
3. **Left click** on the **Decorative** font category.
4. **Left click** on the combo box with the font names to open the list of fonts.
5. **Left click** on the name of the **Bremen UC 10-25mm** font to select it.
6. Type the word **Embroidery** in the **Letters** text box.
7. Hit **Enter** or **left click** on the **Apply** button.

This is the result. The lettering consists of simple satin stitches.

Now, let's select an option under the **Satin** option.

8. **Right click** inside of the letters in the **Work Area** and the **Letter Properties** dialog will open. **Left click** on the **Satin** button and an option screen will appear. It looks like this:

The **Satin Properties** dialog opens. Here, I **left clicked** on the second square from the left in the bottom row. The square is enlarged somewhat to show that it is selected. For the most part, you should leave the Density and Border Width should be left alone.

Left click on the pattern I selected to select it, then **left click** on the **OK** button.

9. This is the result:

You can see the difference immediately. It looks like and entirely different font!

Now, let's take a look at a font that uses a **Fill** pattern.

Fill Option

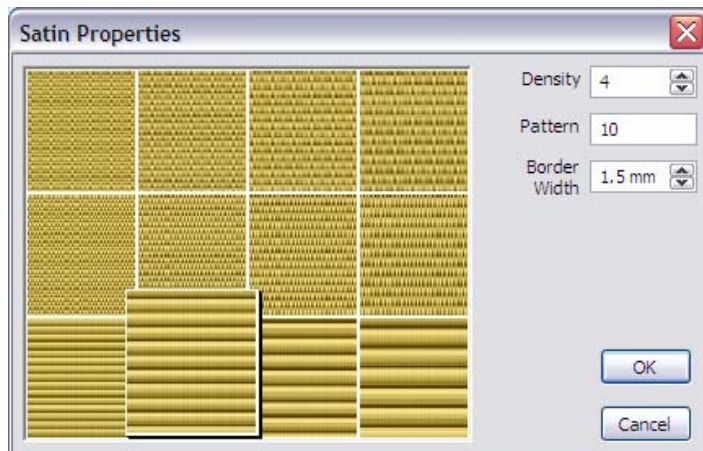1. Clear your work area.
2. **Left click** on the **Letters** tab.
3. **Left click** on the **Fun** font category.
4. **Left click** on the combo box with the font names to open the list of fonts.
5. **Left click** on the name of the **Traffic LC 15-40mm** font to select it.
6. Type the word **Embroidery** in the **Letters** text box.
7. Hit **Enter** or **left click** on the **Apply** button.

This is the result:
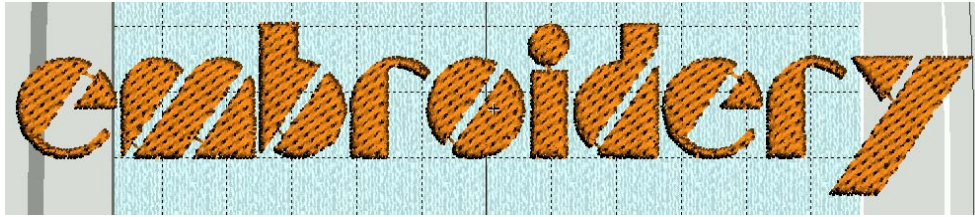
You can see that the fill pattern is basically a plain fill pattern. Due to the size of the font and the length of the word **Embroidery**, the letters stick out over the sides of the 100mm X 100mm hoop. For the purposes of this exercise, I'm not worried about this but on a real project I would have to change the hoop size to accommodate the lettering.

Now, let's continue the exercise and apply a fill pattern change.

8. **Right click** inside of the lettering selection to open the **Letter Properties** dialog. **Left click** on the **Fill** button and the **Fill Properties** dialog opens as shown here:
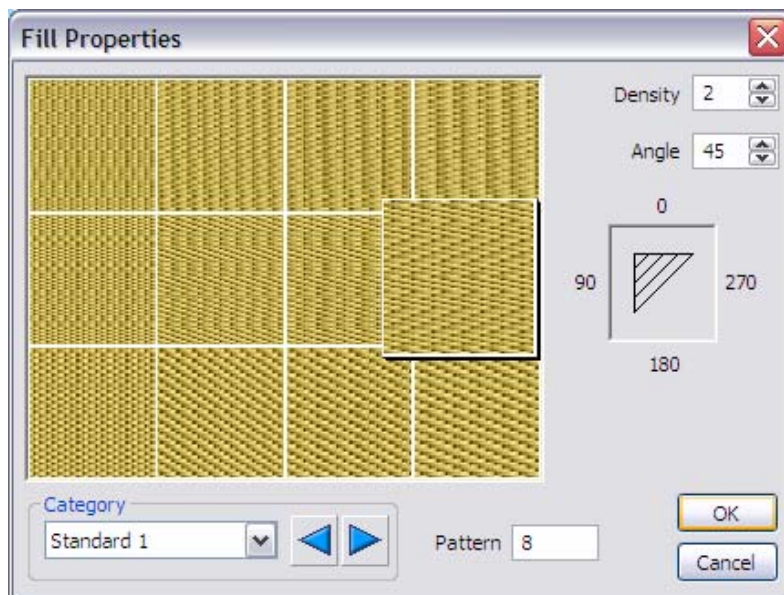
Initially, fill pattern number **8** is selected. This is based on the fill pattern used when the font was initially digitized. At the bottom of the dialog, there is a combo box labeled **Category** that you can use to select a new page of Fill patterns. There are 12 patterns on each of 21 pages for a total of **252** available patterns. To select a new page of fill patterns, you can either **left click** on the drop down arrow on the **Category** combo box, or you can **left click** on either the left or right arrow inside of the **Category** frame to move to a new page. If you know which pattern you want to use, as in this exercise, you can **left click** in the text box next to the word **Pattern** and type in the pattern number **73**. When you type a number in the **Pattern** box, that pattern is immediately displayed in an enlarged box in the **Fill Properties** dialog. Now that we have selected pattern number 73, **left click** on the **OK** button to apply this change. The **Fill Properties** dialog will close. Now, **left click** on the **OK** button in the **Letter Properties** dialog to close it and see the changes. This will be the result:
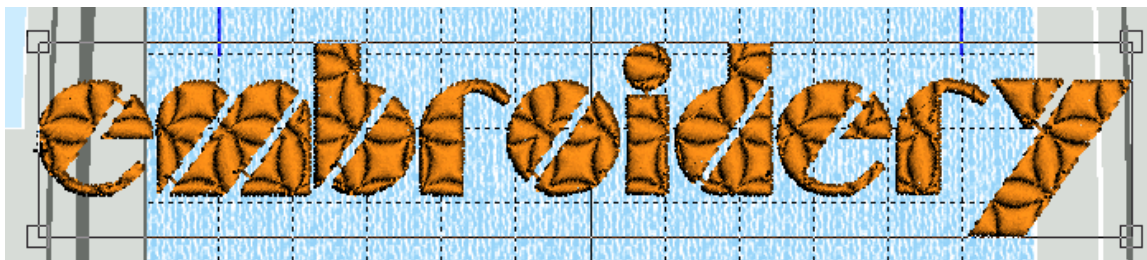
Using Machine Fonts

One of the **Font Categories** is labeled **Machine**. If you select this category, you will have access to a wealth of little decorative stitches to use when creating new designs for your work. Selecting the correct machine stitch is a bit different than selecting stitches in normal fonts. The reason for this is that when you type in the various letters, different characters show up on the screen. The trick is knowing what the stitch will be when you type in a certain character. To do this, it is necessary to locate and view the guides that were installed on your computer when you first installed the software. The guides are located in these files:

> **C:\4DEmbroidery\Guides\Sample\Fonts&Shapes\4DMachineFontGuide_H.pdf**
> **C:\4DEmbroidery\Guides\Sample\Fonts&Shapes\4DMachineFontGuide_U.pdf**

Here is what part of the first page of this document looks like:
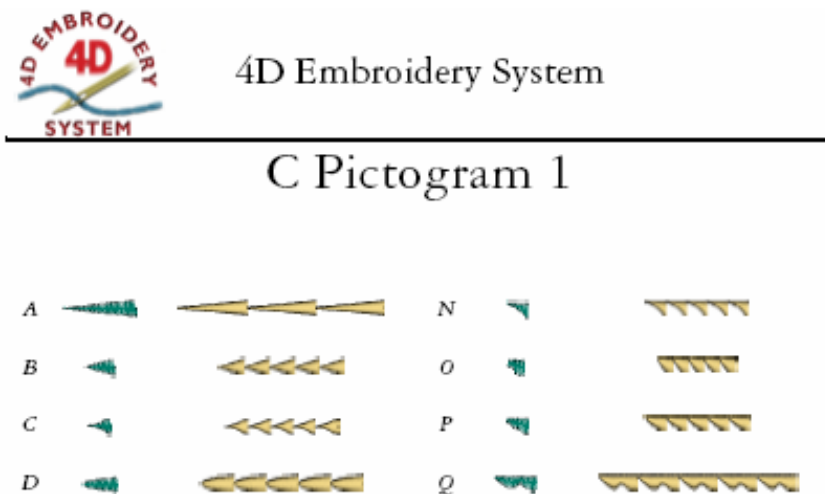
Here is how you use **Machine** stitches. First, you select the **Machine** font category. Then, just like choosing any other font in any of the other **Categories**, you left click on the drop down arrow on the font name box to see the various fonts in that category. When you have chosen the font that you wish to use, you need to see this document to understand which stitch will be placed into the **Work Area** when you type in a given letter. Let's see how this works with a quick exercise.

1. Clear out any designs in your **Work Area** by **left clicking** on the **New** tool.

2. **Left click** on the **Letter** tab to go to the **Letter Page**.

3. **Left click** on the radio button to the left of the **Machine** category. Here is what your screen should look like now:
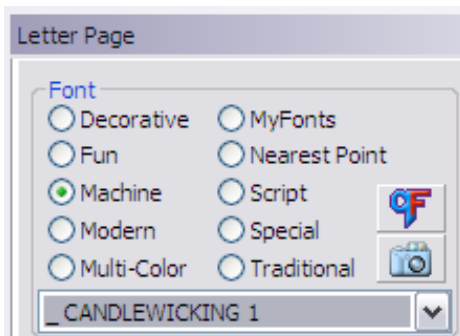
The **CANDLEWICKING 1** font is in the font name window. This will always be the default font for **Machine** fonts. I want to use a different font. I am looking for the **C Pictogram1** font. **Left click** on the downward pointing arrow at the right of **CANDLEWICKING 1**. A list of font names will appear. Find and **left click** on **C Pictogram 1.**

115

4. Now that we have selected the correct font, I refer to the **4DMachineFontGuide_H.pdf**. I want to use the stitches produced by the letters **A** and **C**. I type in AC (**in uppercase**) in the **Letters** box and then **left click** on **Apply.** This is the result:

Hmm…look at that little space between the two pieces of stitching. I wish there was an easy way to eliminate that. Well, there is such a way to do just this. Look at the **bottom** of the page from the font guide. Here is what it looks like:

Enter the character in the Letters box in 4D Embroidery.
Use upper case to enable gap and kerning.

Examples are not to scale.

The key is in the second sentence. Since we used **uppercase**, this turned on the **Gap** and **Kerning** feature. What this means is that the little space between the stitches should go away if we turn those features off. Let's change the letters to **lowercase** but still use the same two letters.

5. This is now the result:
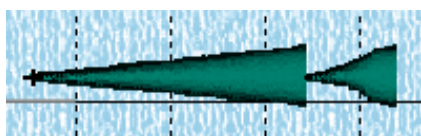
Here you can see that there is no space between the stitch segments represented by these two letters.

This is how you use the various **Machine** stitches. I really encourage you to look a these manuals and see all of the beautiful stitches that you have available to add to your designs. They work especially well with the **Encore** feature to create beautiful borders around designs and new designs just from these stitches.

Using Special Fonts

If you are going to use either of the fonts contained in the **Special** category (**Greek** or **Hebrew**) then you will also need to take a look at the font guide for **Special Fonts**. This guide is found here:

C:\4DEmbroidery\Guides\Sample\Fonts&Shapes\4DFontsNPtSpecialGuide.pdf

The reason that you need to take a look at the printed guide is because your keyboard probably does not have characters like רלא or ΔΦβ on it. So, if you wish to put Hebrew or Greek lettering in your design, you have to know which special keys to strike to get these characters. Let's take a look at the guide for Greek and try and decode it.

Here is part of what the page looks like:

Greek 10-40mm

A	B	Γ	Δ	E
Alt 65	Alt 66	Alt 67	Alt 68	Alt 69
N	O	Π	Ω	P
Alt 78	Alt 79	Alt 80	Alt 81	Alt 82
α	β	γ	δ	ε
Alt 97	Alt 98	Alt 99	Alt 100	Alt 101
ν	ο	π	ω	ρ
Alt 110	Alt 111	Alt 112	Alt 113	Alt 114

I moved a piece of the bottom of the page up to the top of the page to make it easier to explain. You see the Δ (letter Delta) in the embroidery. I want to use this character in my design. At the bottom of the page, we see the same character with the words **Alt 68** beneath it. This means that to get this character into the design, you have to **hold down** the **Alt** key on your keyboard and then, **this is important**, type the number **68** *on your numeric keypad*. This is the little 12 key section of your keyboard to the right of the main keyboard. That's fine if you are not using a laptop. But how is this done on a laptop? Take a close look at your laptop's keyboard. On the keys for **U, I, and O** are the numbers **4, 5,** and **6**. The numbers are also probably in a different color. On my laptop, the letters are white and the numbers (on keys U, I, and O) are **blue**. Somewhere on your keyboard you will find a key labeled **Fn**. Mine is in the same row as the space bar in the lower left corner of the keyboard. When you hold down that key, you have access to all of the different functions on your laptop keys. (Some of your keys make your screen brighter and dimmer. While other keys turn the sound on your laptop up or down.) One of the special function keys on your laptop is the **Num Lock** key. This key looks like a little padlock with the number 1 on the front of the lock. You will also have to turn on **Num Lock** to use these letters. Let's run through a quick exercise to show you how to apply these letters.

1. Clear your **Work Area** using the **New** tool.

2. **Left click** on the **Letter** tab to go to the **Letter Page**.

3. **Left click** on the **Special** font category. **Greek 10-40 MM** will be the default font. Let's say that we want to use the letters Delta and Omega (Δ and Ω). We see from the guide that they have **Alt 68** and **Alt 81** beneath them. We now know which codes to key in.

4. **Left click** in the **Letters** text box to put the insertion point there.

5. If you are using a computer **with a separate numeric keypad**, then hit the **Num Lock** key (this will turn **Num Lock** on). If you are using a laptop **without a separate numeric keypad**, then hit and hold down the **Fn** key. While holding the **Fn** key down, tap on the key that has the little padlock with a 1 in it to turn on **Num Lock**.

6. If you are using a computer **with a separate numeric keypad**, then hold down the **Alt** key and type in **68** on the **numeric keypad**, then hit the **Space Bar**, then hold down the **Alt** key and type in **81** on the **numeric keypad**. If you are using a laptop **without a separate numeric keypad**, then hold down the **Alt** key and type in **68** **using the keys with the Fn colors**. (If your laptop is like mine then this means that you hit the letter O and the key with the white 8 on it to get **Alt 68**, and then hit the keys with the white number 8 and the letter J on it to get **Alt 81**.) At this point, you will see the letters **DQ** in the **Letters** text box. This may not look correct to you, but when you **left click** on the **Apply** button, this is what you will see:

The same principles apply if you decide to use the **Hebrew 10-40 MM** font.

Regardless of which kind of computer you are using, remember to **turn off** the **Num Lock** function by once again hitting the **Num Lock** key on your desktop keyboard, or the combination of the **Fn** key and the **Num Lock** key on your laptop.

Chapter 7 – Using the Encore and Endless Feature

There is a special features found on the **Design** page that you can use to create your designs. The **Encore** feature helps you to create new designs from other sets of stitches that you choose for your design. **Encore** has a new option with the release of *4D Embroidery* that helps you to instantly create beautiful frames for your designs. We will look at this and all of the features of **Encore.**
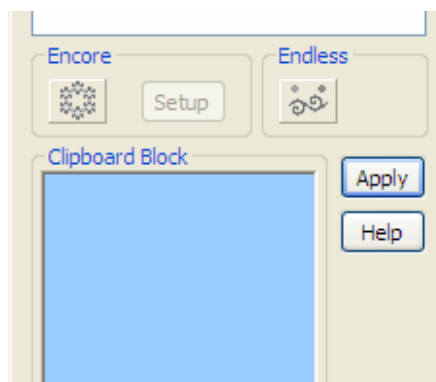
Encore

Encore was introduced as a free upgrade in the previous version of this software. **Encore** is upgraded in the new *4D Embroidery* system. What the **Encore** feature does is to add multiple copies of a set of stitches to your design. The stitches can be added in a straight line, or they can be added in a circle. You can control the number of copies to be added to the design as well as setting an option that creates mirror images of the stitches to further enhance your design. You can also choose to apply **Color Sort** to your design before the **Encore** feature is applied or you can forgo using **Color Sort** until after you placed your stitches. I'll show why this is important. Another <u>new and exciting</u> option was added to **Encore**. This option will, when selected, automatically size and place the repeated stitch files so that they fit evenly in the hoop you select. Let's take a look at **Encore** with a quick project.

Basic Concepts

When you first start *4D Embroidery* you are automatically placed on the **Design** page. This is where you need to be to activate the **Encore** feature. If you are already in *4D Embroidery*, make sure that you are on the **Design** page by **left clicking** on the **Design** tab at the bottom of the **Control Panel**. Make sure that you select the **100 MM X 100 MM Standard Hoop**.

1. Take a look at the **Control Panel**. Right above the **Clipboard** you can see the buttons for the **Encore** and the **Endless** design feature. Here is what they look like:

The **Encore** button is grayed out (inactive) right now because we have not yet placed a stitch file in the **Work Area**. Once we place a design into the **Work Area** you will see that the **Encore** feature becomes available.

Let's pick out a design from the **Shape** page to use with the **Encore** feature.

2. **Left click** on the **Shape** tab at the bottom of the **Control Panel**. Now that you are on the **Shape** page of the **Control Panel**, **left click** on the **Shapes** drop down arrow and look at the list of **Shape** categories:
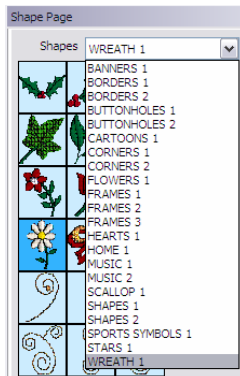
Left click on the **Wreath 1** category and those shapes will appear.

3. Pick the white flower with the yellow center (the forth shape from the top in the leftmost column) by **left clicking** on it. Here is what it looks like:

You can tell that this shape is selected because the background of the shape appears as dark blue.

Now that you selected the shape, **left click** on the **Apply** button to place the shape into the **Work Area**.

Don't worry about adjusting the size of the shape. We'll just accept the default size of 25 mm for this exercise.

4. Go back to the **Design** page by **left clicking** on the **Design** tab at the bottom of the **Control Panel**. If you take a look at the **Encore** button now, you can see that it is no longer grayed out. Here is what it looks like now:
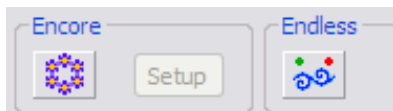
You can see that the **Encore** button is now active since there is now a stitch file present in the **Work Area**.

Before we go on, let's **left click** on the **Copy** tool to place a copy of this design on the **Clipboard**. Having the design on the clipboard will make the rest of this exercise easier as we explore the various features and settings of the **Encore** feature.

120

5. Now we are ready to use **Encore**. **Left click** on the **Encore** button and the **Encore** dialog will appear:
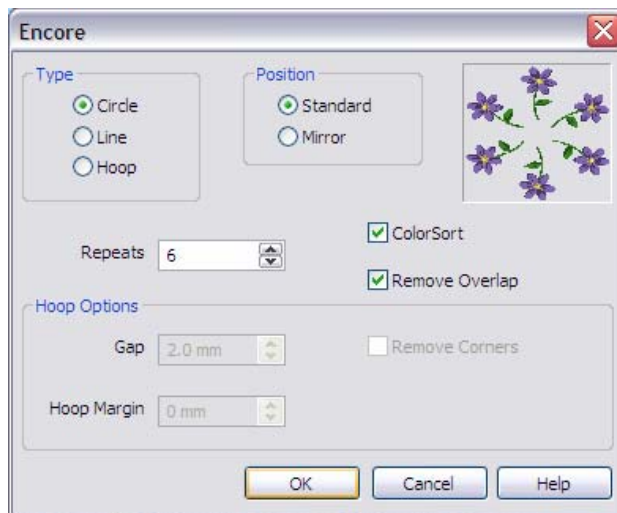
You can see that there are 4 settings we can use:

Type of placement
Position of the stitch files items
Number of **Repeats**
Color Sort option
Remove Overlap option
Hoop Options
   Gap
   Remove Corners
   Hoop Margin

Let's take a look at each setting and learn how they change our design.

6. **Type** allows you to put the designs in either a straight **Line** or in a **Circle**. **Left click** on the **Line** radio button to make sure it's selected. Change the number of **Repeats** to 3, and the **Position** option of **Standard** should be selected. While we are here, notice the positioning of the flowers in the little exemplar box. There are **4** flowers, and they are placed in a straight **Line**. (The number in the **Repeats** box has nothing to do with the number of flowers in the little exemplar box. 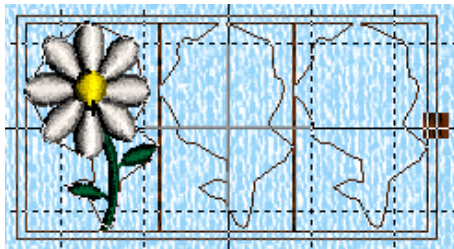This is just a little preview of what we will get when we **left click** on the **OK** button.) Go ahead and do that now. Here is what you will see:

There are 3 flowers. One filled in and two in outline only. See the black box on the right side of the design box? That is a handle that you can **left click and hold** then drag to the right or left to change the spacing between the flowers. Go ahead and move the spacing handle to see what it does. When you are finished spacing out the flowers, we are ready to go on to the next step and actually create the stitches.

7. To actually generate the stitches, all you have to do is to **right click** anywhere in the **work area**. The **Color Sort** animation will appear for a few seconds and then this will be the result:
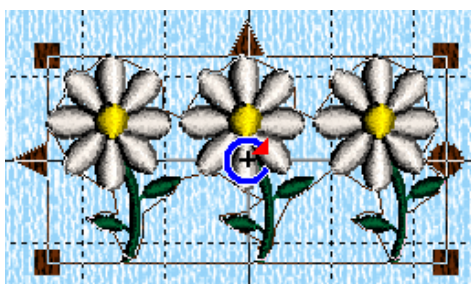
All of the stitches are generated and the design is ready for you to use. At this point you can **rotate** the design, **resize** the design, **copy** the design, etc. Let's look at the next option available to us, the **Circle** option.

8. **Left click** on the **Undo** tool and we will return to the single flower. The **Encore** feature is still available because we have a stitch design in the **Work Area**. Go ahead and **left click** on **Encore** to open the **Encore** dialog.

9. Once the **Encore** dialog opens, **left click** on the radio button next to **Circle** in the **Type** frame. Change the **Repeats** value to 8. Make sure that the **Position** option is still set to **Standard**. Notice that the flowers in the exemplar box are now shown as 6 flowers in a circle. (Neither the number of repeats nor the description of the stitch file has any effect on the exemplar. It will always show 4 or six flowers with a curved stem.) This is done so that you can see graphically if the object to be repeated by **Encore** will be in a **Standard** position (all the same) or in alternating reversed positions, **Mirror**.

10. **Left click** on the **OK** button and your screen will look like this:
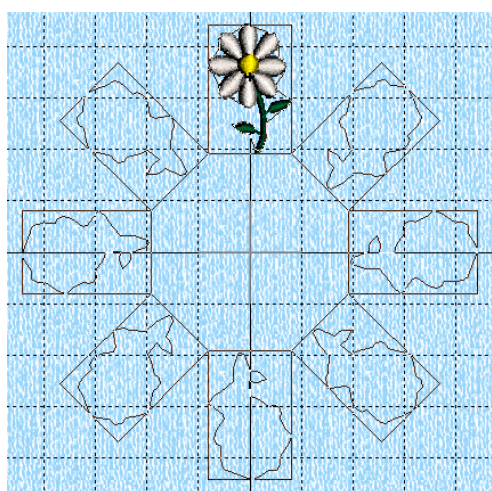
Notice that, as with the **Line** position, you can see one flower in full color while all the other repeated designs are in outline form. Also, the designs are positioned so that they are all as far towards the outside of the hoop as possible.

You can now **left click and hold** on the full color design and drag it downward towards the center of the hoop to place the multiple designs closer to each other and away from the outside of the hoop.

The outline boxes, even the designs themselves, can overlap if you wish. Go ahead and **left click and hold** on the top design and move it down now to any position you like. **Right click** to activate **Encore** and create your design.

11. Here is what your screen might look like:
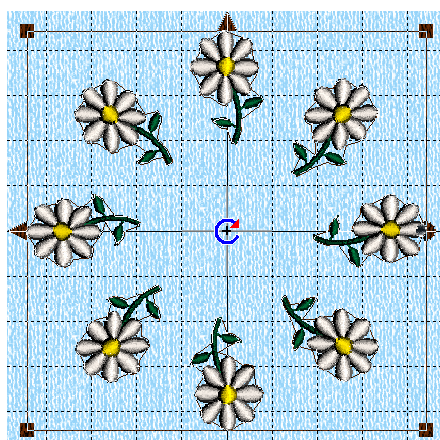
Looks great, doesn't it? Now that you have created the stitches, you can now use the **Rotate** handle (the round dot on the right side of the design) by **left clicking and holding** on it to rotate the design to a different position in the **Work Area**. You can also **left click** on the **Vertical Flipping Handle** on the left side of the selection box and, in doing so, change the direction of the curves of the flower stems. Try it and look at the result.

So far we have changed the **Type** control and seen the difference between **Line** and **Circle**. Now, let's take a look at the **new** third option in the **Type** frame of **Hoop.**

12. **Left click** on the **Undo** tool to return to the single flower design. **Left click** on the **Encore** button to open the **Encore** dialog. **Left click** on the **Hoop** option in the **Type** frame. Here is what your screen should look like:
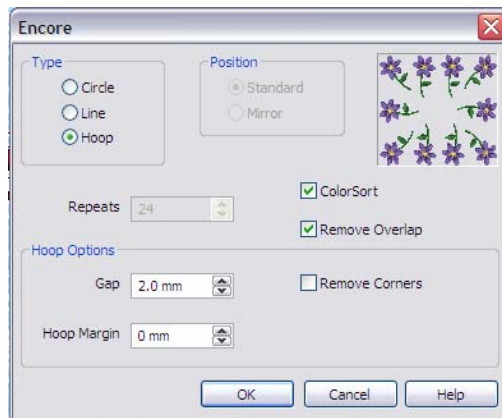
Notice that both the **Position** and **Repeats** options are grayed out and not available. Instead, the **Hoop Options** are now available. There are three settings in the **Hoop Options**. The **Gap** setting controls the amount of space to appear between copies of the designs to be duplicated and, therefore, the number of designs that will appear within the hoop. The **Hoop Margin** sets the amount of space to appear between the edge of the hoop and the duplicated designs. **Remove Corners** will, when unchecked, as shown here, cause a copy of the design to appear (or not appear if this box is checked) in each corner of the hoop. Let's leave the settings as shown here and **left click** on the **OK** button.

13. Here is what you should see on your screen:

Complete the design by **right clicking** in the **Work Area**. You should notice a difference between using the **Hoop** option versus the **Line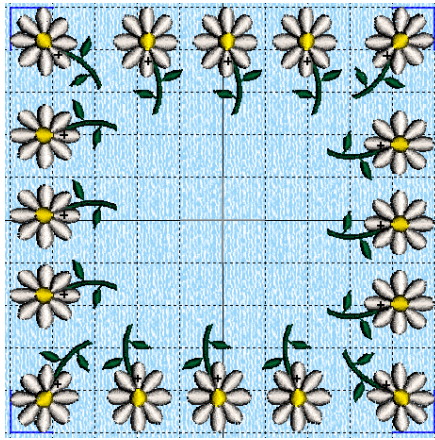** or **Circle** options. The most noticeable change is that you do not have the option to adjust the design in size or position with the **Hoop** option. All of the designs will be placed up against the edge of the hoop. If you want a margin around the designs at the edge of the hoop, then you must set this in the **Hoop Margin** setting in the **Encore** dialog.

Let's look at some of the other controls in the **Encore** dialog.

14. With the current design selected, hit the **Delete** button on your computer keyboard to clear the design from the **Work Area**. **Left click** on the **Paste** button on the toolbar. This will place a copy of the flower shape into the **Work Area**. Now, **left click** on the **Encore** button to open the **Encore** dialog. Once the dialog opens, make the following settings on the dialog. **Type** – Line, **Position** – Mirror, **Repeats** – 4, **Color Sort** – Not Checked. **Left click** on the **OK** button. Then **right click** to activate **Encore**.

15. This should be your result:
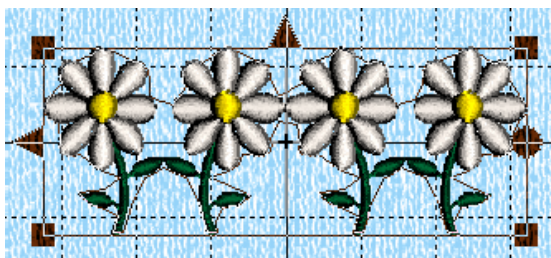
The stems now alternate from curving to the left to curving to the right. This is exactly how it works with the **Circle Type** as well. Take a look at the **Color Select** section of the **Control Panel**. There are 12 color changes. This is because **Color Sort** was not selected. With all of these color changes, you have full access to

123

each of the color changes. This option makes it possible to set the color of each flower's petals, stems, and/or the center of the flowers each to a different color. Move your mouse pointer to the second white block from the top of the **Color Select** panel and you will see that the stitches on the second flower will change telling us that this block will allow you to change the color of just those stitches. Once you are finished making color changes, you can always use the **Color Sort** tool [icon] to remove the numerous color changes later,

When I use the **Encore** feature, I always leave the **Color Sort** box <u>unchecked</u> so that I can make any adjustments to the colors after I see the duplicate designs.

16.   With the current design selected, hit the **Delete** button on your computer keyboard to clear the design from the **Work Area**. **Left click** on the **Paste** button on the toolbar [icon]. This will place a copy of the flower shape into the **Work Area**. Now, **left click** on the **Encore** button to open the **Encore** dialog. Once the dialog opens, make the following settings on the dialog. **Type** – Circle, **Position** – Standard, **Repeats** – <u>24</u>, **Color Sort** – Not Checked. **Left click** on the **OK** button. Then **right click** to activate **Encore**.

17.   Here is what your screen should look like:
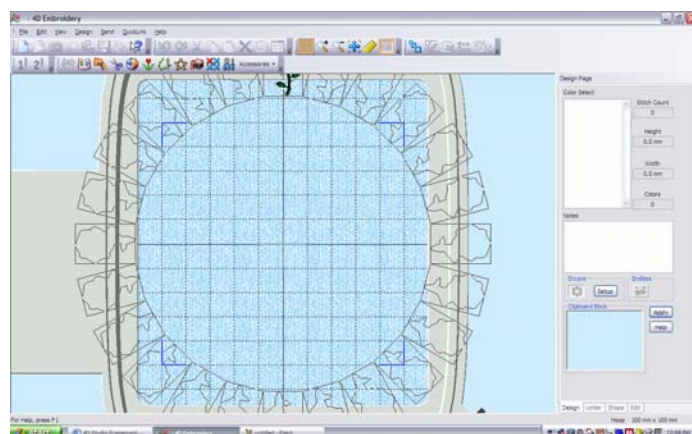
I don't really recommend you use 24 designs, but I needed this to explain some points to you. Look at the screen. You can barely see the design at the 12 o'clock position. If this design were larger, you might not see it at all. If that happens to you, then you must use the **Zoom Out** tool to make the hoop smaller so that you can see the filled in design. **Left click and hold** on the filled in design at the 12 o'clock position and drag it down so that all of the designs fit within the hoop.

18.   Here is what your screen will look like:
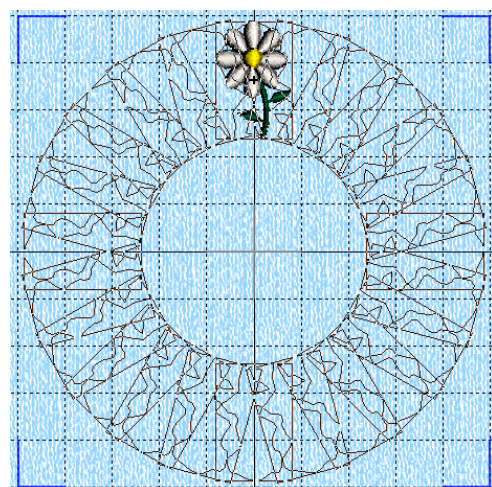
You can tell that these designs overlap. In fact, if we were to stitch out this design, we might have a problem with it being too thick, to say nothing of breaking a few needles. Fortunately, in *4D Embroidery*, the software will remove the overlap. In fact, it is one of the options in the **Encore** dialog. I recommend that you **ALWAYS** leave the **Remove Overlap** option turned on. Go ahead and **right click** to create the design. Notice that the **Remove Overlap** animation appears as the stitches are being created.

124

Chapter 8 – Creating Designs for the Endless Hoop

When you use the **Endless** feature, *4D Embroidery* not only creates the appropriate number of duplicate stitch designs to fill the **Endless Hoop**, it also adds the index stitches you need to correctly align each, subsequent re-hooping of your project.

Creating the design is only one aspect of using the **Endless** feature. Before you actually stitch your design out, we will cover some layout options for you to consider.

Basic Controls for the Endless Feature

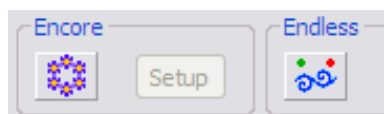The **Endless** feature is located in the **Design** page of the software. When you first start *4D Embroidery* and the **Design** page comes up, this control is grayed out and not available. Here is where the **Endless** button can be found on the **Control Panel**:

The lack of color in the **Endless** design means that this feature is <u>not available</u> at this time. The reason it is not available is because we do not have a design in the **Work Area** of the hoop to turn into an endless design. As soon as you place a stitch file into the **Work Area**, the **Endless** button will turn to full color and it will then be available.

Before getting started on this project, we need to select the **Endless Hoop**. Setting the hoop size is easy. Just **left click** on the **Hoop** tool on the tool bar ⌷ to start the **Hoop Selection** dialog. Then, **left click** on the look in arrow in the **Hoop Size** text box. The list of available hoops will appear. **Left click** on the **170 MM X100 MM Endless Embroidery Hoop** selection. Once the **Endless Hoop** is selected, **left click** on the **OK** command button.

1. Now, let's find a stitch file and load it into the **Work Area** and begin our project. Refer to **Appendix B** and use **4D Organizer to** find the design named

    C:\4DEmbroidery\Samples\4DEmb\Stitch2\Holidays\Jackolan.vp3.

2. **Left click** on the **Paste** button to load the design into the **work area** (if it is not already there).

3. Here is what your screen should look like:
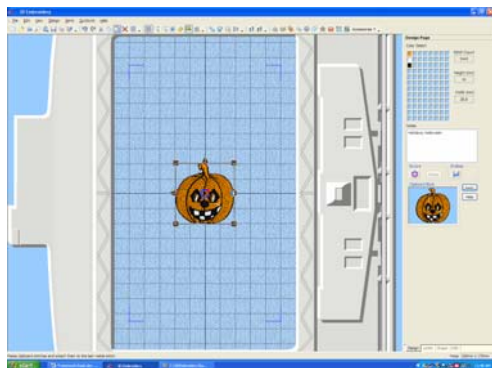
    Before we move on, there are some things you have to understand. The hem of the fabric you will stitch on is going to be on the <u>right</u> side of the screen as we are looking at it. Since you will probably want the design to be sitting upright on that hem, we must rotate the design so that the stem of the pumpkin is on the <u>left</u> of the screen. You can just **left click and hold** on the **rotation handle** on the right side of the design and rotate the design 90 degrees to the left, or you can **left click** 3 times on the **Rotate 90°** tool .

After you rotate the design, **left click** on the **Copy** tool.

4. Now we have the design in the correct position as shown here:
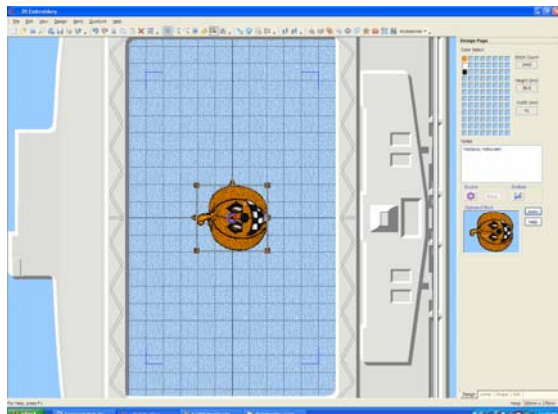
You are now ready to begin using the **Endless** feature. Turning on the **Endless** feature is as easy as clicking on the button located just below the **Notes** area on the **Design Page Control Panel**.

5. Here is what the **Endless** control looks like and where it is located on the **Design Control Panel**:
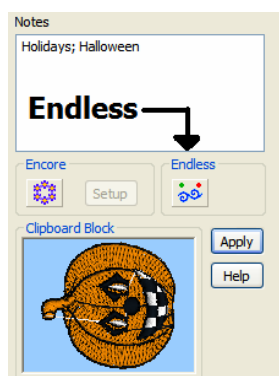
Note: The **Endless** feature will **not** be available until you have a stitch file placed in the **Work Area.** This is because until there is a stitch file in the stitch area and it is in **Selection Mode** (the **Scaling, Flipping,** and **Rotation Handles** are shown) the software thinks that there is nothing to available to make an endless design from! Now that we are ready, let's get started.

6. **Left click** on the **Endless** button and the **Endless Dialog** will appear on your screen. Here is what it looks like:
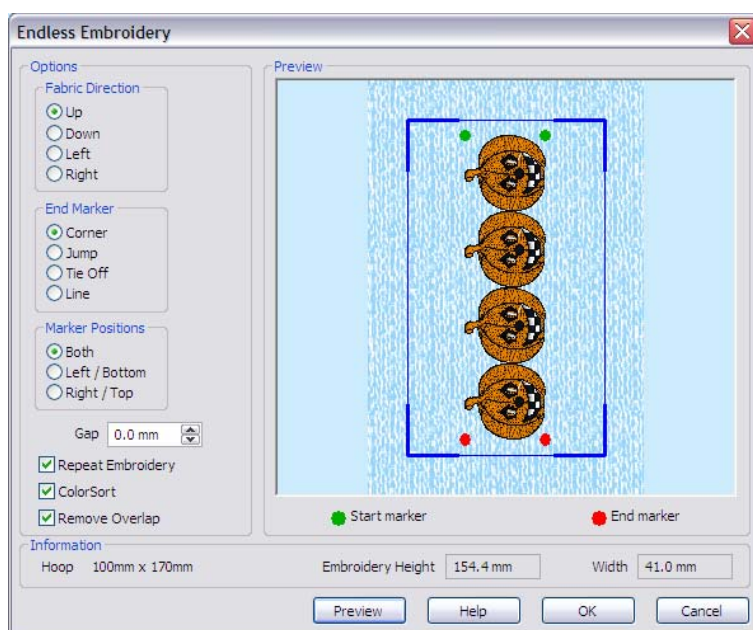
Here is what each control means. First, you have to make a choice in **Fabric Direction**. This selection will determine if each hoop of embroidery will require you to move the fabric **Up**, i.e. towards the machine and away from you, or **Down**, i.e. away from your machine and towards you. (**Left** is the same as **Up** and **Right** is the same as **Down**.) The choice here is up to you. Either your completed embroideries will end up in your lap (if you choose **Down**) or behind your machine (if you select **Up**). It doesn't have any effect on the way the stitching is carried out.

Next, you must choose the type of **End Marker** to use. The **End Marker** stitches are the stitches you use to align each set of embroidery designs. **Corner** means that a small set of stitches will be placed at the corner of the design shaped like a small "L". These stitches will look something like the blue corners that bound the **Design Area** on your software only they will be located closer to the actual embroidery stitches. **Corner** stitches are easy to remove. They look like 4 jump stitches. Speaking of **Jump** stitches, that is the next option for corner markers. These are long **Jump** stitches from the **origin** (center) of the embroidery to the corners. Like the **Corner** stitches they are easy to remove. **Caution:** Sometimes jump stitches pull out of a design before you want them to. This is why I prefer the **Corner End Marker**. The next type of **End Marker** will not be easy to remove. **Tie Off End Marker** stitches actually create a **Tie Off** in the embroidery canvas and are difficult to remove both accidentally and when the embroidery is complete. The final type of **End Marker** is the **Line**. This type of **End Marker** is ½ of a **Corner** type of **End Marker**. It runs parallel to the long edge of the embroidery.

Once you choose the type of **End Marker**, you have three options for placing the **End Marker** stitches. You can place them in all four corners of the embroidery if you select **Both**. (This is the option I always use because it gives me two places to align the embroideries.) You can select **Left/Bottom** or you can select **Right/Top** to place only two **End Markers** on your design. You can see where the **Start Marker** and the **End Marker** will be placed by looking at the green and red dots on the exemplar in the **Endless dialog**.

Gap is the next option to set. **Gap** tells the software how much space you want to have between the individual embroidery components in your design. **Gap** is initially set to zero millimeters. This is done so that the maximum number of individual embroideries as possible can be stitched out in one hooping. I have more to say about this later.

Finally, there are three check boxes (all of which are initially checked). **Repeat Embroidery** tells the software to make multiple copies of the initial design. You might wonder why you would ever **not** check this box. More on that in a few minutes. **Color Sort** is the next option you can control. Checking **Color Sort** means that you want the software to do a **Color Sort** as it is creating the **Endless** design. If you don't check **Color Sort** and create a design, then you have the option of changing the colors of the various components in the design. In our case, if we didn't check **Color Sort** then we could change the color of each pumpkin after the **Endless** design is completed. If **Color Sort** was selected, we would have to change the color of all of the pumpkins at the same time. **Remember:** You can always do a **Color Sort** after the **Endless** design is complete. **Remove Overlap** is the third option. It tells the software if you want to have overlapping stitches removed. I recommend that you always have this option turned on for the same reasons I mentioned earlier when discussing setting your preferences.

On the bottom of the dialog, you also see in the **Information** frame, the height and width of the design.

There are also some **command buttons** in this dialog. If you **left click** on the **Preview** button after making a change, such as increasing the **Gap** setting, you will see the new

design in the exemplar. If you **left click** on the **Help** button, you will be placed into the **context sensitive** help area of the software so that you can read about the **Endless** feature. If you **left click** on the **OK** button, the software will create your **Endless** design and close the dialog. If you **left click** on the **Cancel** button, the **Endless Dialog** will close without creating an **Endless** design.

For now, just leave everything as it is. **Gap** should be zero, leave **Repeat Embroidery** checked, leave **Color Sort** checked.

7. **Left click** on the **OK** button and create an **Endless** design. Your design should look like this:

Notice that **Color Sort** did its job. In the **Notes** section, "Holidays; Halloween" was repeated 4 times and the words "**Endless Embroidery**" were inserted at the end. (This is so that you can easily find all of your **Endless** designs when you use the **Find Embroidery Files** tool and search for **Endless** in the **Notes**.) You see the total **Stitch Count** (13,890) and the **Height** (154.4 mm) and **Width** (41 mm).

The design looks pretty good, but there are some things that you need to take into consideration when creating and stitching out an **Endless** design. Let's talk about that now that you understand how to create an **Endless** design.

Planning and stitching your Endless design

While we were looking over the various commands and options available in the **Endless Dialog** I said that I was going to revisit some of them later. Now is the time and this is the place.

The Importance of the Gap Setting

Remember that initially the **Gap** setting is zero. With a zero **Gap** your software will place as many designs in one hooping as possible based on the size of the initial design being generated as an endless design. However, the smaller the gap within the design, the more critical the placement for the second and subsequent hooping of your project will be. If there is no gap between the individual designs inside of each hooping, it will show unless you get the following hoopings right on the mark. This can be difficult to do. Besides, especially in this pumpkin project, I think it looks too crowded. Why don't we fix this, and give ourselves some margin of error when hooping the project. Before we get started, you need to clear the **Work Area** and ensure that your **Clipboard** contains the pumpkin design oriented with the stem on the left side of the **Stitch Area**.

Let's begin our revised version of the Jack O'Lantern **Endless** design.

1. **Left click** on the **Endless** button to open the **Endless Dialog**. It looks like this:
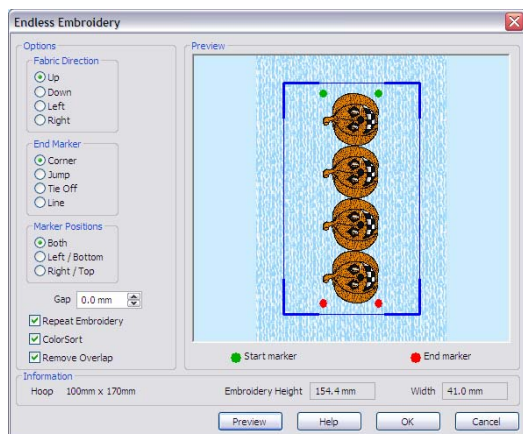
    Let's use the **Gap** setting to spread out the individual designs a little. This will have two beneficial effects. First, it makes the design less crowded and, I think, look better. Second, and most important, it will allow us some wiggle room when we re-hoop to stitch out the second set of pumpkins.

    Left click in the **Gap** box and change the number from 0 to **10**. After you do that, let's take a look at what we have done.

2. **Left click** on the **Preview** button to see what will happen if we use this gap to create our design. Here is what you should see:
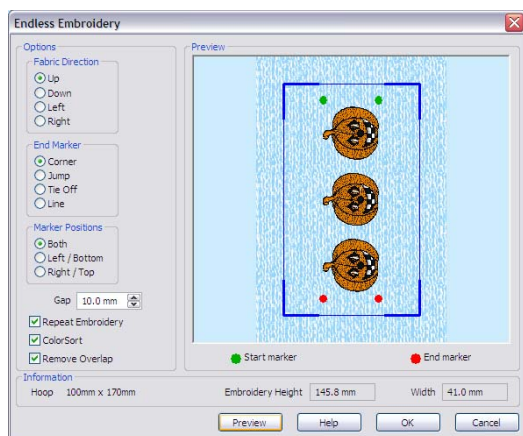
    Now there are only 3 pumpkins per hoop. The design is a little shorter (145.8 mm vs. 154.4 mm). The width is, of course, identical to the other design (41 mm).

    What is not apparent in this view, but will become apparent after we generate the design, is that the **Gap** we set (10 mm) is set between the pumpkins, and the **Gap** is evenly divided between the top and bottom of the design.

3. **Left click** on the **OK** button and create this **Endless** design. Here is what it looks like in the hoop:
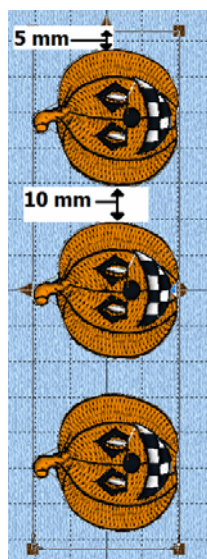
    There is a 5 mm gap at the top and bottom because when you do your second and subsequent hoopings, 5 mm + 5 mm = 10 mm which is the value we set for **Gap** in the **Endless Embroidery Dialog**. When you re-hoop you now might accidentally have a gap of 9 mm or 12 mm, depending on your skill. Take a look at a metric ruler and you tell me if anyone will see the difference between a 10 mm gap between the pumpkins and tell the difference when you made a slight mistake and had a 12 mm or 8 mm gap between the end pumpkins when you did a re-hoop. Unless they are carrying around a ruler, they will never see it. But what would have happened if the pumpkins had no gap between them and you made the same mistake? I think it might have been more noticeable. Further, the baseline on which each pumpkin sits is less noticeable if the next hooping is a little out of line when there is a gap present. Just think of it as one of the tricks of the trade.

Now, let's talk about another trick of the trade and answer the question, "Why would I ever want to create an **Endless** design with only <u>one</u> stitch file in it?"

Using the Single Repetition Endless Design

Why would anyone want to create an **Endless** design with only <u>one repetition</u> of the stitch file in it? Think about it for a minute. You have a table cloth, or a garment and you want to stitch out your endless design of pumpkins with the 10 mm gap. You begin at one end embroidering 3 pumpkins, 3 pumpkins, 3 pumpkins, and when you reach the end of the project, uh oh! There is only room for 1 or 2 more pumpkins! Do you really want to try and hoop by eye without those **End Markers** to guide your next hooping? That's what you would have to do <u>unless</u> you created a 1-design version at the same time you created the 3-design version. Let's do this now. Clear your **stitch area** and make sure that you have the pumpkin correctly oriented in the **Clipboard**. (You put the design on the **Clipboard** so that you can easily recall it to the **stitch area** in case you make a mistake). Let's begin.

1. Make sure that you have the pumpkin in the **Stitch Area. Left click** on the **Endless** command button. Here is the **Endless Embroidery** dialog:
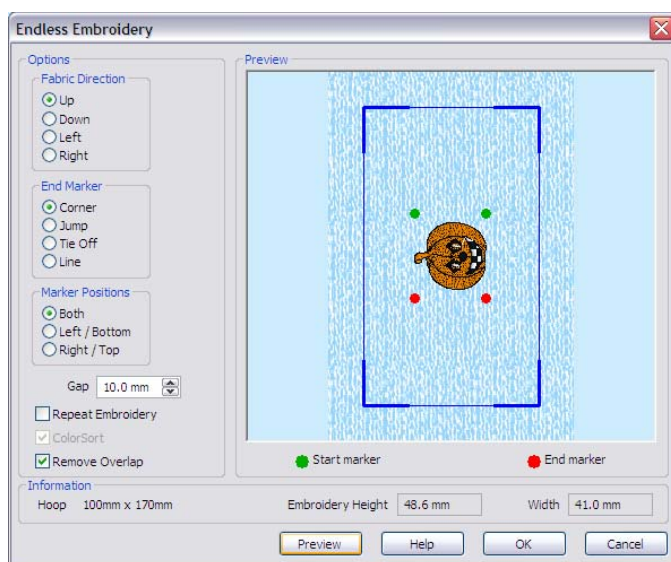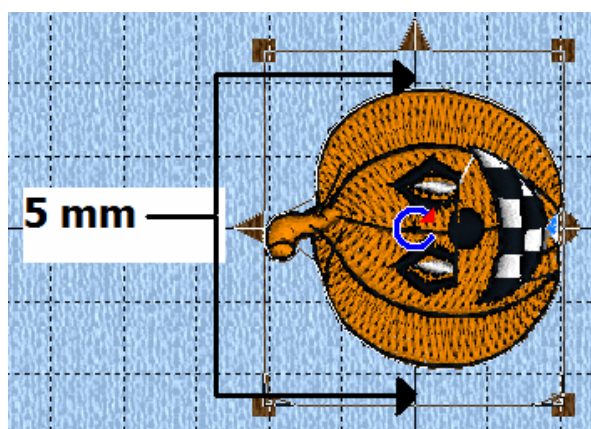

Set the **Gap** to 10 mm.

Go to the **Repeat Embroidery** check box and **left click** on it so that there is <u>no check mark</u> in this box.

Left click on the **Preview** command button and look at the exemplar. You should see a single pumpkin with a 5 mm gap at the top and bottom.

Left click on the **OK** command button and create the design.

2. Here is what your screen should look like:

You can see that there is a 5 mm gap at the top and bottom to perfectly match the 5 mm gap at the top and bottom of the 3 pumpkin design. Now, if you need to you can re-hoop and stitch in one pumpkin or two pumpkins to evenly fill the gap. In fact, since you have that 10 mm gap to play with, you might want to <u>intentionally</u> leave a 12 mm or 8 mm gap to make the designs come out "evenly". The real difference in the gap is our trade secret…and I'm not telling anyone about it.

Chapter 9 – Using Shapes

Another option you can use to build your design can be found on the **Shape Page** in **3D Embroidery Studio**. There are **22** different categories of items that you can add to your design. Each category contains **18** different components. Here are the names of the categories and a short description of their contents.

- **Banners 1** – Banners are small frames of stitches suitable to use to enclose and highlight lettering in your design.
- **Borders 1** – Short sections of straight designs you can use to create full-sized borders for your design.
- **Borders 2** – This category contains designs you can use to create full-sized borders for your design.
- **Buttonholes 1** – A collection of ornamental buttonholes to add to your design.
- **Buttonholes 2** – A collection of ornamental buttonholes to add to your design.
- **Cartoons 1** – A collection of whimsical faces with various expressions done in cartoon style. In addition to the faces, there are six balloons used in cartoons to express speaking, thoughts, etc. that can be enlarged to hold lettering.
- **Corners 1** – A collection of ornamental corners to add a large accent to your design.
- **Corners 2** – Ornamental corners to add a large accent to your design.
- **Flowers 1** – Flower components (whole flowers, leaves, and petals).
- **Frames 1** – A collection of complete frames to enclose the elements of your design.
- **Frames 2** – 18 <u>different</u> complete frames.
- **Frames 3** – 18 additional <u>different</u> complete frames.
- **Hearts 1** – A collection of hearts. Some of the hearts are in outline form and are suitable to use as a frame once they are resized.
- **Home 1** – A collection of sewing and hardware items found in the home.
- **Music 1** – A collection of musical notation symbols.
- **Music 2** –Musical notation symbols.
- **Scallop 1** – Scallop stitch components (works great in **Encore**)
- **Shapes 1** – A collection of miscellaneous shapes that may be combined to create new shapes, or used as frames around other design elements.
- **Shapes 2** – 18 <u>different</u> miscellaneous shapes.
- **Sports Symbols 1** – Stylized depictions of people playing various sports.
- **Stars 1** – A collection of stars and groups of stars to add accents to your design.
- **Wreaths 1** – A collection of Christmas shapes

Working with **Shapes** is easy. It is very similar to working with **Lettering** as we did in the previous chapter. There are several things that you must remember when working with **Shapes** to avoid frustration as you complete your design.

Factors to Keep in Mind When Working With Shapes

- When you first add a **Shape** to your design, it is **not yet** a stitch file. You can tell this is true because the **handles** shown at each corner of the shape are clear rather than being solid. In addition, neither the **Flipping Handles** (triangles at the top and left of the shape) nor the **Rotation Handle** (a circular handle on the right of the shape) are present. The **Shape** does not become a stitch until you **left click** on the **Design Tab** at the bottom of the **Control Panel**.

- If you want to increase the size of the **Shape** you select, you should do it **before** converting it to a stitch file. This is so that as the size of the design is increased, the number of stitches that make up the design will also be increased.

There are a few additional techniques to know when you work with **Shapes** and they are best illustrated with a few short exercises.
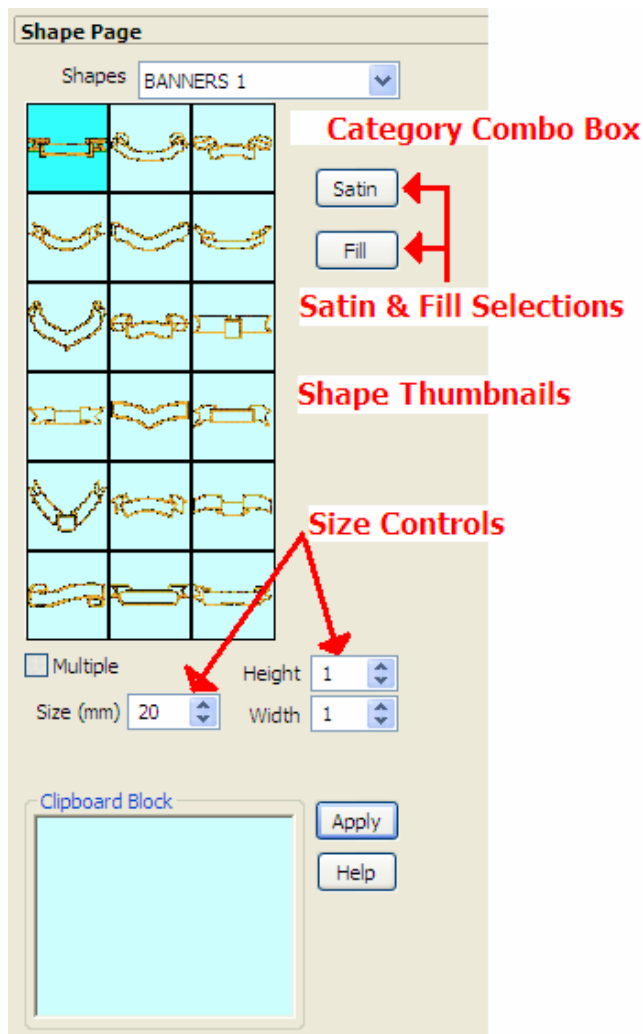
Adding a Shape

1. Begin by clearing any designs that are present in the stitch area.

2. **Left click** on the **Shape** tab at the bottom of the **Control Panel.** Your screen will look like this:
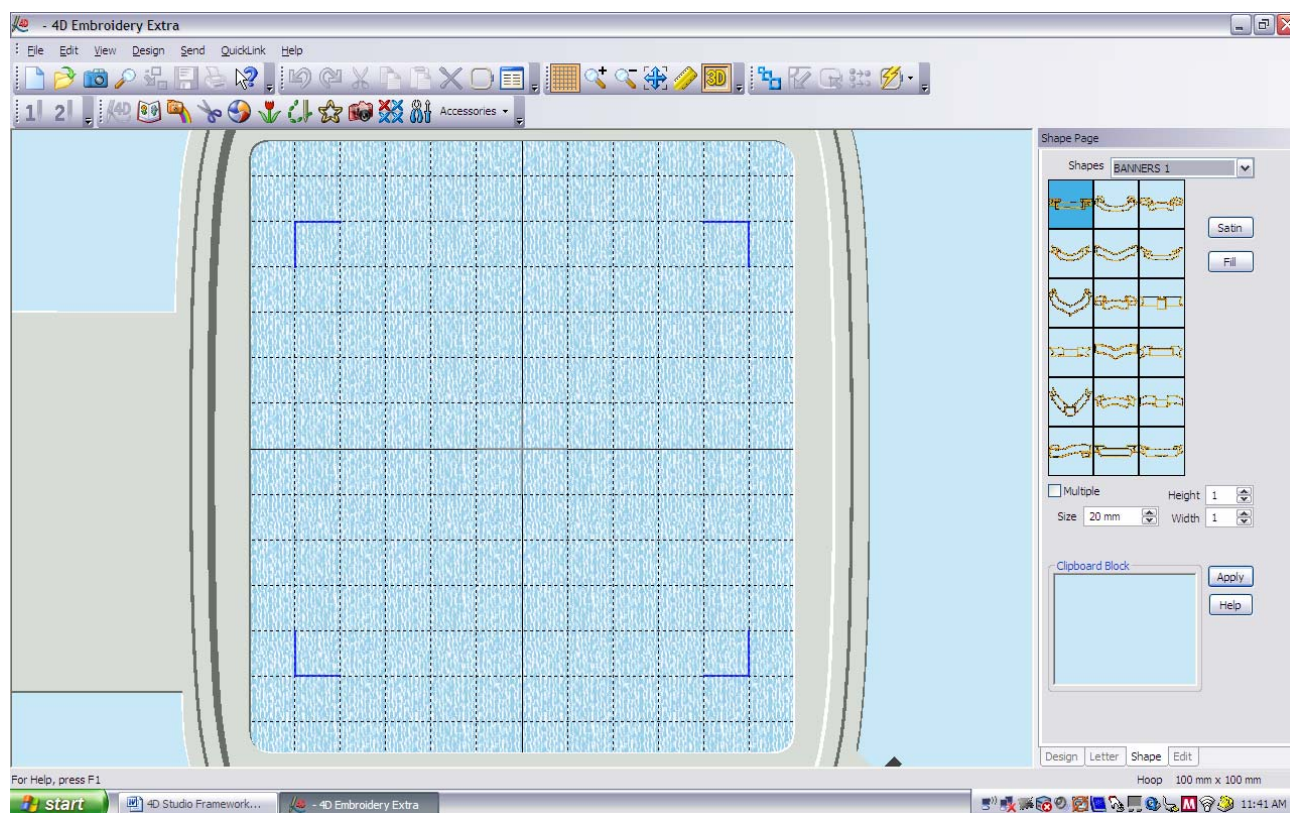
The **Shape Page** opens pointing to the default collection of **Banners 1**.

Let's take a closer look at the **Shapes** options on this part of the **Control Panel.**

This is the **Shape Page** of the **Control Panel**. The Category Combo Box has a drop down arrow used to select the Category of Shapes.

The **Satin** and **Fill** buttons are used to select the Satin and Fill patterns to be used as appropriate to the selected Shape.

The **Shape Thumbnails** show a miniature picture of all 18 shapes contains in the Category selected.

The **Size** controls work two ways. You can either type the size in millimeters in the box labeled **Size** or type in a **multiplication factor** in the **Height** box, the **Width** box, or both the **Height and Width** boxes. (The range of values for both height and width can be in the range of .5 to 4 in increments of .1)

To select a shape, you must **left click** on the thumbnail of the shape you want to select.

To add the shape to your design, you must **left click** on the button labeled **Apply**.

3. **Left click** on the drop down arrow on the right side of the **Shapes** category combo box to reveal the list of categories. This is what you should see:
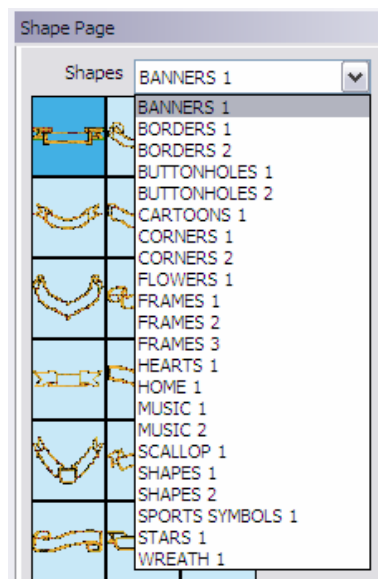
There is the list of Shape categories. Let's use one of the shapes in the **Corners 1** category.

To do this you must **left click** on the name of the category in the drop down list, **Corners 1**. When you click on the name of the category, it will show signs of being selected by turning into white lettering on a blue background, the list will disappear and the new shapes will appear in the Shapes Palette. If you accidentally pick the wrong category from the list, just repeat this step and **left click** on the **Corners 1** category.

4.   Now we are going to select a corner from the **Shapes** Palette. **Left click** on the shape in the fourth row down, in the center column to select it. This is what your screen will look like:
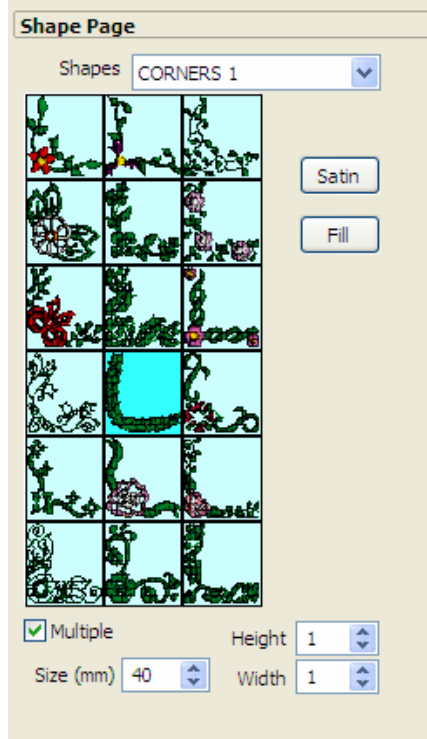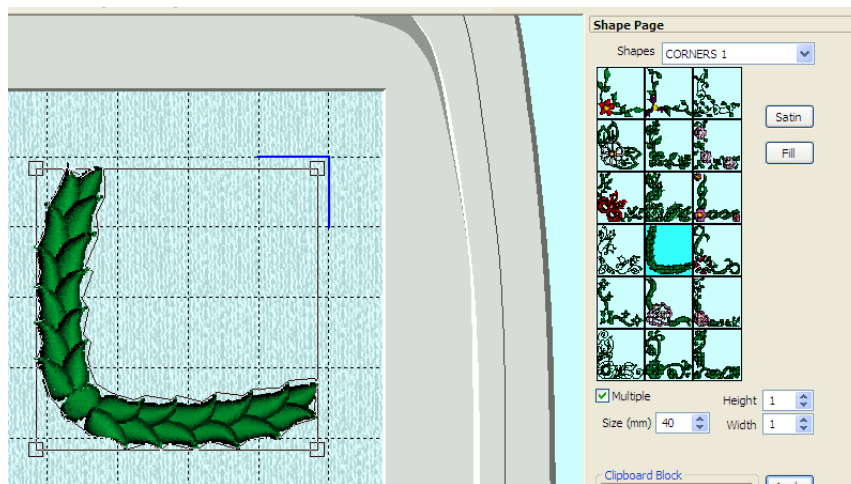

Notice that the background color of the selected shape has changed. The shape hasn't yet been placed onto the **Work Area** because we have not yet **left clicked** on the **Apply** button. At this point you have the opportunity to look at the **Size** box (shown here to read 40 mm) and change it if you wish to have a larger, or smaller size shape inserted into the **Work Area**.

For now, leave the size at **40 mm** and the **Height** and **Width** set to **1**.

Make sure that the **Multiple** check box has a check in it. If there is no check in **Multiple**, then **left click** inside of the check box to turn on **Multiple**.

Now, **left click** on the **Apply** button.

5.   Your screen will look like this:

Your **Shape** may appear anywhere on the page. I moved mine to the upper right corner for this exercise.

Now, let's say that we want to use this **Shape**, but we want it to be half the size it is now.

Left click on the number **40** in the **Size** box, delete the **40** and type in **20**. Now, **Left click** on the **Apply** button to add the smaller **Shape** to the **Work Area**.

134

6. After moving the smaller **Shape** to the upper right corner, your screen should look like this:
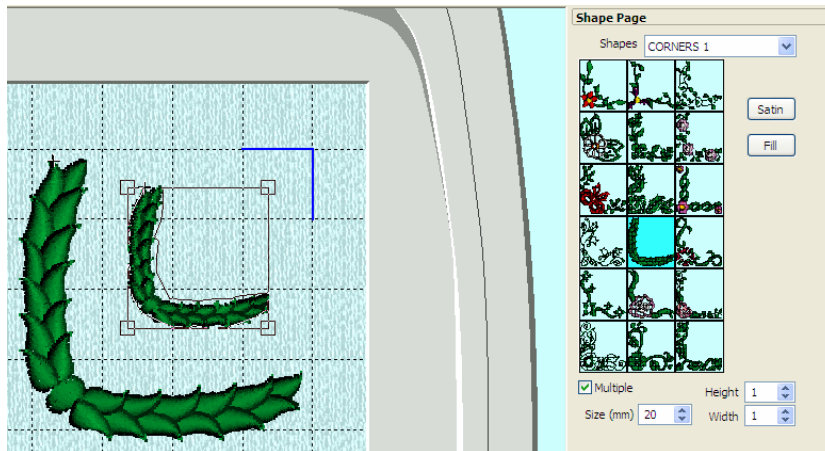

The smaller **Shape** is half the size of the first **Shape**.

You could have **Resized** the **Shape** by **left clicking** and **dragging** any one of the clear boxes on the corners. However, using the technique of entering the number into the **Size** box allows you to accurately create a **Shape** that is **exactly** half the size of the first **Shape**. Now I'll show you how to **enlarge** the Shape using the **Height** and **Width** boxes.

7. **Left click** on the **Size** box and type in **40** (the original size of the Shape). Suppose we want the **Shape** to be twice as large as the original. That would be expressed mathematically as **40 mm X 2 = 80 mm**. The reason I use this formula is that you can think of the **Height** and **Width** as a multiplier. **Left click** in the **Height** box and change the number **1** to the number **2**. Do the same thing in the **Width** box. What you are doing is telling the software that you want to take the **Height** and multiply it by **2** to make the new Height 80 mm and also take the **Width** and multiply it by **2** to make the new Width 80 mm. This will preserve the **aspect ratio** of the design. Make sure that everything looks like this:
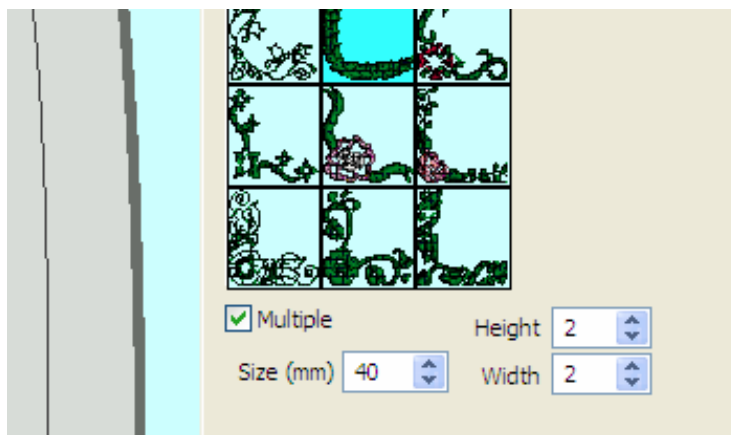
This is what the **Control Panel** should look like.

Now, **left click** on the **Apply** button and look what happens.

8.   Your screen should look like this:
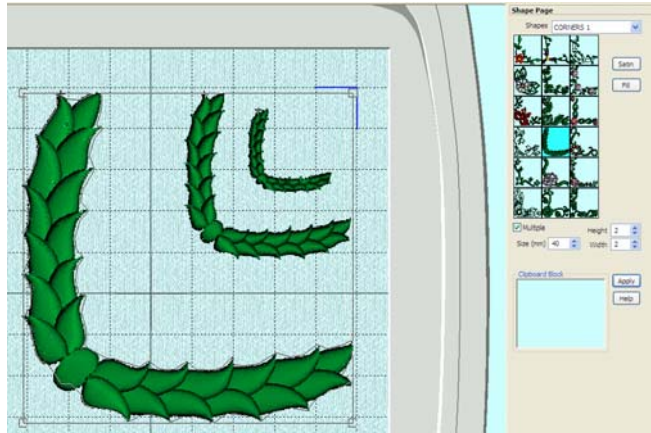
You can see the three different sizes of the corners are here.

So much for using the **Size** controls. Let's now learn to use the **Satin** control and see how it affects the **Shapes** we apply.

Leave all of the settings on your software alone. We will be using the largest Corner first.

9.   **Left click** on the **Satin** button. When you do, the **Satin Properties** dialog opens. It looks like this:
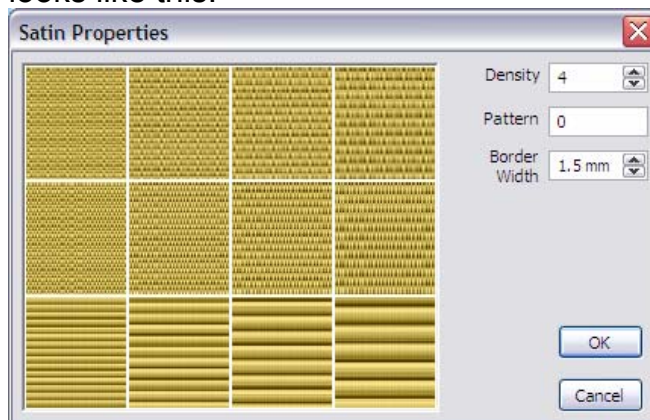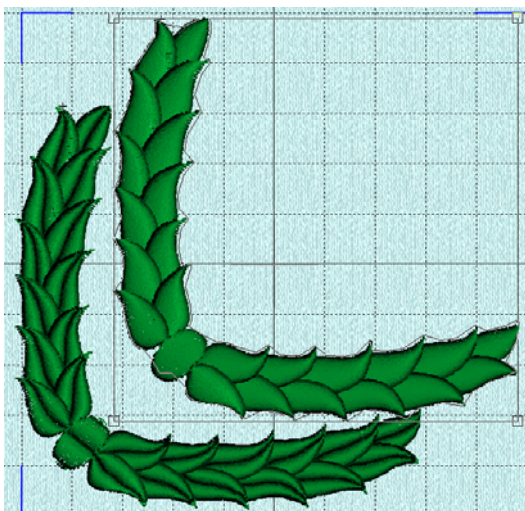

These are the same **Satin** patterns we saw when we looked at **Lettering** earlier. **Left click** on the third box from the left in the bottom row to select pattern number 11.

The pattern will enlarge to show that it is selected.

**Left click** on the button labeled **OK.**

10. This is what your screen should look like:

Notice the indentation running down the middle of each leaf. Beautiful, isn't it? As long as you remain in **this Shape category**, each applied Shape will have this Satin pattern applied to it. If you want to reset the Satin Pattern, you have to **left click** on the **Satin** command button and change the number of the pattern to zero.

Note: If there are no satin stitches in the Shape applied, then this procedure will have no effect on the Shape. Let's look at the use of the **Fill Pattern** button.

11. **Left click** on the **New** button on the toolbar:
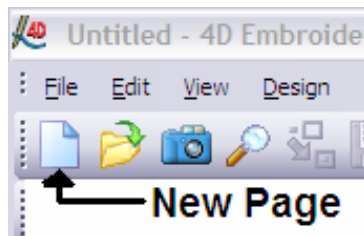
12. **Left click** on the **Shapes** combo box and then **left click** on the **Sports Symbols 1** category to select it.

13. Left click on the **Snowmobiling** symbol (the second row down, last symbol on the right).

14. **Left click** on the **Apply** button to insert the symbol into the **Work Area**. Your screen will look like this:
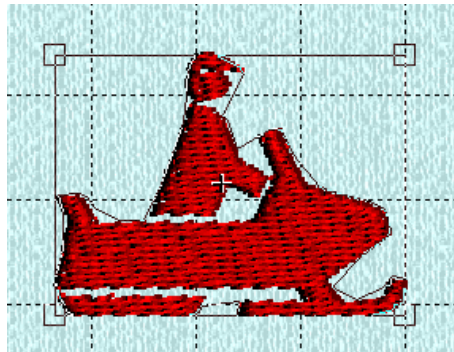
You can see that the symbol has a plain fill pattern. You can change this fill pattern easily to add some dimension to the symbol.

We will do this now.

15. **Left click** on the **Fill** button and the **Fill Properties** dialog will open. It looks like this:
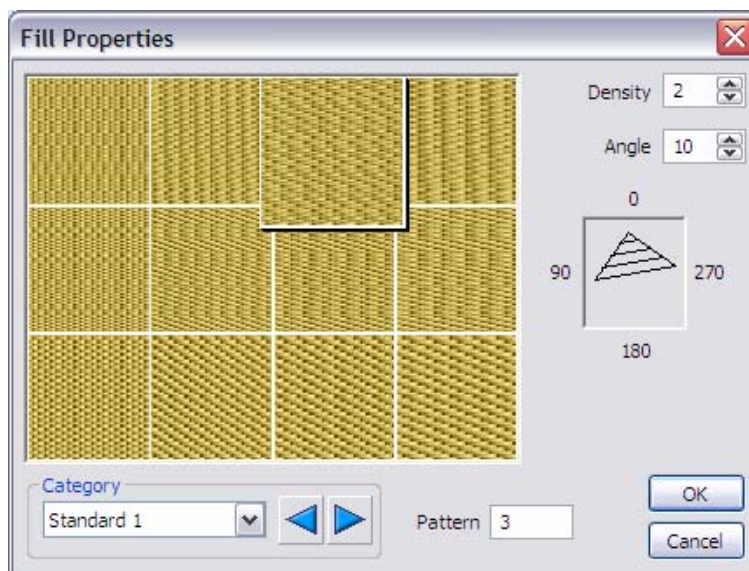
The default fill pattern is set to pattern 3 as shown here. There are **252** fill patterns to choose from. You can see a thumbnail view of each fill pattern by **left clicking** to either the right or the left side of the slider button in the lower left corner of the dialog. Each time the button moves, a new set of 12 patterns shows in the dialog. For the purposes of this exercise, we will select a pattern that has a large imprint in it. To the right of the slider button is a text box labeled **Pattern**. For now we will select the fill pattern by its number.

16. **Left click** in the **Pattern** text box and change the number from 3 to **231**. Now, **left click** on the button labeled **OK**. Your screen will look like this:
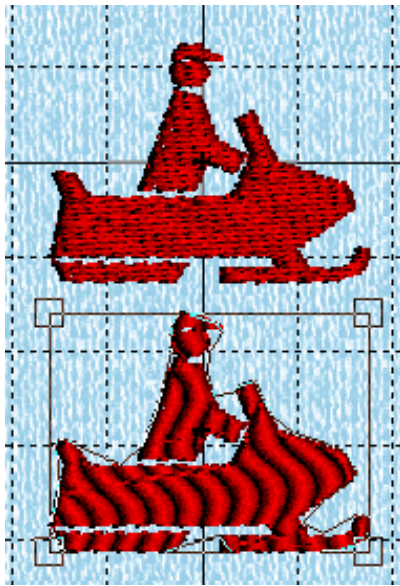
You can see the difference immediately in the two **Shapes**.

Note: I had the **Multiple** box checked so that I could place several different **Shapes** on the same page. I do this when picking out the right **Fill Pattern** to get just the right effect in a **Shape** that uses a fill pattern.

Changing the Fill or Satin Pattern

Once you select a **Satin** or **Fill Pattern** for a **Shape**, the same pattern will be used for all subsequent **Shapes**. You can change the **Fill Pattern** in the **Fill Properties** dialog until you find the one you wish to use. However, if you are using a **Shape** that is composed of satin stitches and then apply one of the 12 **Satin Properties**, to revert to the original **Satin Property** you must hit the **Satin** button and change the pattern number to zero. If you switch to another **Shape** category, the satin fill will automatically be reset to pattern number zero.

Chapter 10 – Creating Designs with the Express Design Wizard

The **new** **Express Design Wizard** is probably the **most exciting, new feature** of *4D Embroidery Extra*. This new feature lets you to create new embroidery designs from your graphic files with just a few clicks of the mouse. While it is extremely easy to create your new designs with the **Express Design Wizard**, you still have a good deal of control over the creation of the design. By the time you are finished reading this chapter, you will be creating new designs like a pro. Let's get right into the software and learn how to create a new design.

Clear anything you might have on your **Work Area**. Make sure that you have the **100 MM X 100 MM Standard Hoop** selected.

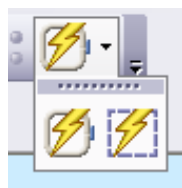1. The **Express Design Wizard** is located on the right of your tool bar. It looks like this:

The options for the **Express Design Wizard** actually begin here. The little downward pointing arrowhead to the right of the icon indicates that there are other options available here. Let's look at these options and see what they mean.

2. **Left click** on the little arrowhead and another two options will appear. They look like this:


If you let your mouse pointer sit on the left option, a tool tip appears giving you the name **Express Design Wizard**. If you let your mouse pointer sit on the right option, a tool tip appears giving you the name **Fit To Rectangle**. In fact, clicking on either of these buttons will start the **Express Design Wizard**. The difference between the two buttons is this. If you click on the button with a hoop in it **(Express Design Wizard),** then the design that you create will be made large enough to fit the full **Stitch Area** in the hoop that you have selected before you started the **Express Design Wizard**. If, on the other hand, you click on the **Fit To Rectangle** button, then you will be given the chance to select the size of the **Stitch Area** that you wish to have as the size of your design. You create a rectangle by using the left click and hold technique to then drag a rectangular area for your design. During our exercises, we will just use the **Express Design Wizard** option.

Creating an Express Embroidery

3.   **Left click** on the **Express Design Wizard** and the wizard will open. When the wizard opens, we have the following three options:
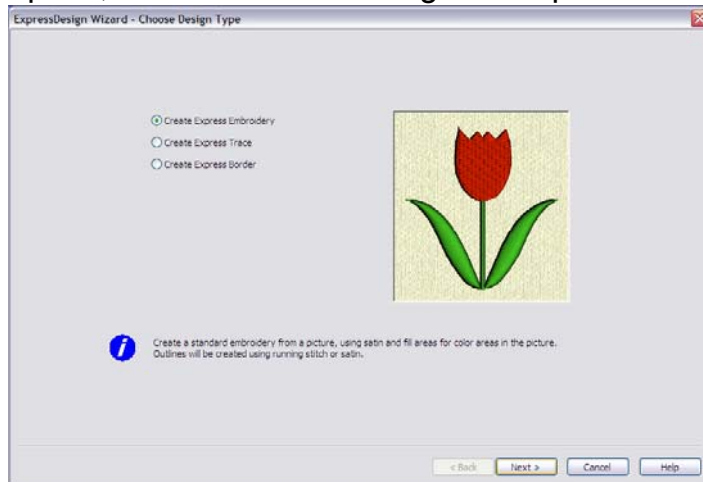

Create Express Embroidery will create a full design with fill and satin stitch objects.

Create Express Trace will create an outline of the design similar to red work.

Create Express Border will create a satin border of the design similar to an appliqué design.

You don't have to remember what these options do because as you click on each of the three radio buttons on the left, the little exemplar screen changes to remind you of what kind of design will be created. Go ahead and click on each of the options and watch what happens to the design. When you are done viewing each option, **left click** on the **Create Express Embroidery** option and then **left click** on the **Next** button at the bottom of the wizard.

4.   Here we enter the **Choose Picture** phase of the wizard:
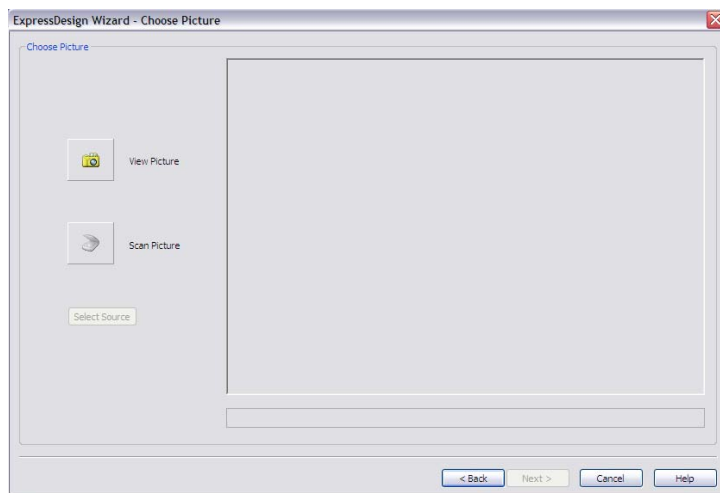

Here there are two options.

View Picture is used to select a graphic from your hard drive or other memory device on your computer.

Scan Picture is used to activate your scanner software so that you can obtain a picture from your TWAIN – compatible scanner.

I don't have the space in this book to discuss how to operate your scanner.

If you have any questions about this option, feel free to contact me through my web site and I'll be happy to help you. For now, let's **left click** on the **View Picture** option.

140

5.   Here is what the next screen looks like:
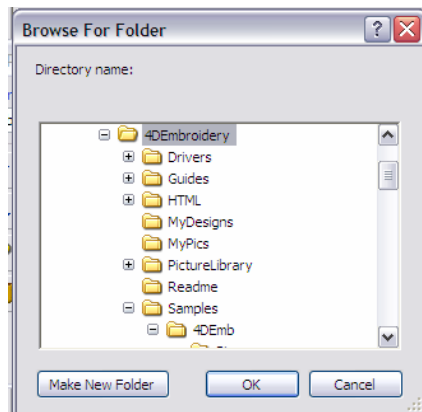
Here is where your computer navigation skills come into play. You can search through your hard disk to find a folder containing graphics to use when creating your design. We will use the graphics that were installed with your software. You can use any graphic files that you have on your computer. For now, use your skills to find this folder:

**C:\4DEmbroidery\Samples\4DEmb\Pics2\Celebration**

When you find this folder, **left click** on the **OK** button**,** to close the **Browse For Folder** dialog and open **Picture Viewer** dialog.

6.   Here is what you will see next:

We will select the wreath on the right side of the screen in the second row. **Left click** on the wreath to select it and close and **Picture Viewer**.

7.   We are returned to the **Express Design Wizard** and our next option. Here is what the screen should look like:
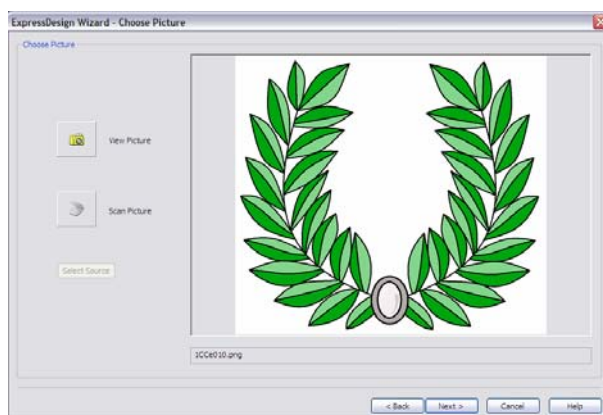
There is our graphic. If you made a mistake and chose the wrong graphic, just left click on the **View Picture** button to go re-open the **Picture Viewer** dialog and select another picture.

Since this is what we want, **left click** on the **Next** button to move on to the next phase of creating our design.

8. Here is what the next phase of the **Express Design Wizard** looks like:
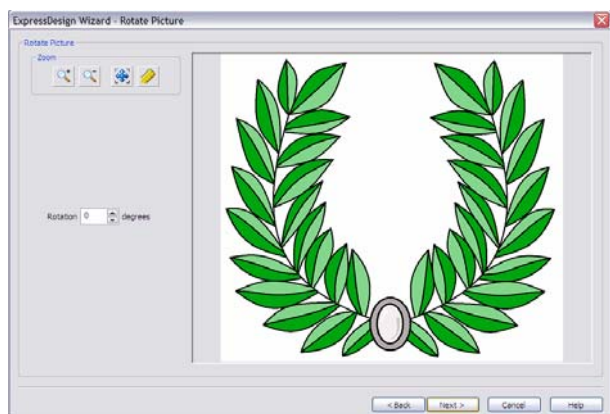
This is the **Rotate Picture** phase of the wizard. You can set the amount of rotation for the design. Let's try this out. **Left click** in the **Rotation** box and type in **45**. Notice that the design rotates and appears to be smaller. In truth, the design will only be made as small as required to still fit it inside of the hoop size (or rectangular area if that is the option you first chose). The graphic appears smaller so that it can fit in this window. When you are done, **left click** on the **Rotation** box and type a **0** into it. Note: You **cannot** use the **Undo** tool when you are using the **Express Design Wizard**. You can use the **Back** button to return to an earlier phase and undo your changes that way. Let's **left click** on the **Next** button to move on.

9. This is the **Crop Picture** phase of the wizard:
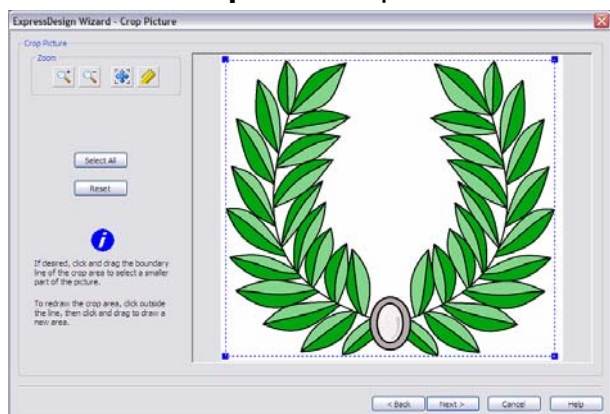
If you want to pick only part of the design to use in your embroidery, you can crop the picture here by using the left click and hold technique to drag any (or all of) the blue corners on the graphic to zero in and select part of the design. Remember, even if you select only a part of the design, the final product will be created to fit either the hoop or rectangular area that you chose. Let's leave the picture here alone and just **left click** on the **Next** button.

10. We are now in the **Reduce Colors** phase of the wizard:
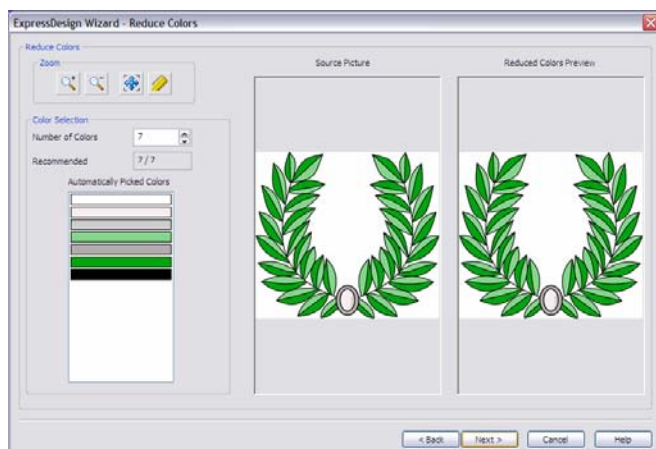
Let's go over this screen for a minute. In the **Color Selection** frame we see the **Number of Colors** box. It contains a **7**, telling us that the original graphic has 7 colors in it. In the **Recommended** box we see **7/7** meaning that the software recommends that we use 7 out of the 7 colors that are in the original graphic. The **Automatically Picked Colors** show us what those colors are. Here is where this phase of the wizard becomes important. And it illustrates a dilemma that faces anyone who creates embroidery designs.

Rather than choose a good, clean **vector** graphic that is made up of solid colors, we could have chosen a **raster** graphic (a BMP, GIF, JPG, etc.) file that is made up of hundreds or thousands of colors. We could even choose a photograph that is made up

142

of as many as **16,000,000+** colors. This software <u>can handle photographs</u>. The problem though is that at this point, we would be given the option of reducing the number of colors in our design. The more we reduce the number of colors, the less detail appears in the final product. Suppose that rather than thousands of colors, we reduced the number of colors to **256**. Would you want to stitch out a design that has **256** color changes in it? This is the reason that it is important to have realistic expectations of what the software can do and what you are willing to do at the sewing machine. I have worked with 4 different embroidery software programs and **they all have this same limitation**.

Let's see what happens when we reduce the number of colors.

11. **Left click** in the **Number of Colors** box. Change the number to **3** and look at the result. Look in the **Reduced Colors** pane. The background changed from white to light green. The medallion at the bottom of the wreath is now all light green. Yet the design is still recognizable as a wreath. If you had changed the number of colors to 5 or 6, there would be changes, but they would be more subtle and, perhaps, hard to see. For now, **left click** in the **Number of Colors** box and change it back to 7. **Left click** on the **Next** button to move on to the next phase of the wizard.

12. Next up is the **Choose Thread Colors** phase of the wizard. Here is what it looks like:
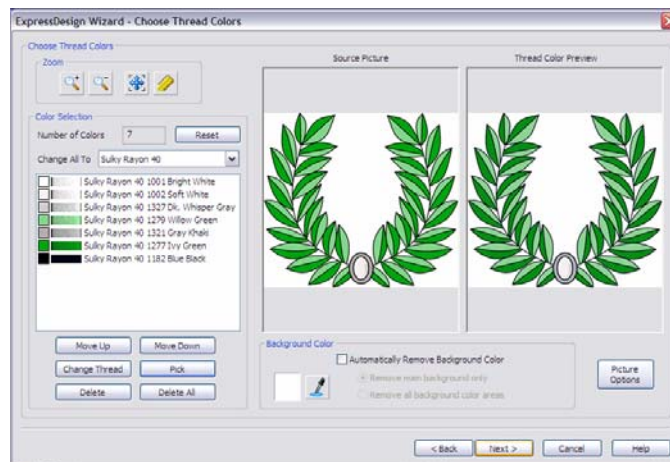

The colors shown in the Color Selection frame are shown from top to bottom in the order in which they will stitch out. i.e. The blue black stitches for the outline will stitch out last. For this reason, I do not recommend that you change the order of stitching by using the **Move Up** or **Move Down** buttons.

The **Change Thread** button will open the **Color Selection** dialog allowing you to change the color of the selected thread.

Let's see how this works.

13. **Left click** on the top color in the list Sulky Rayon 40 1001 Bright White to select it. Now, **left click** on the **Change Thread** button. When the **Color Selection** dialog opens, **left click** in the **Quick Colors** frame on the color chip in the middle row, 4th from the left (deep orange) to select this color. **Left click** on the **OK** button.

14. Here is what your screen should look like now:
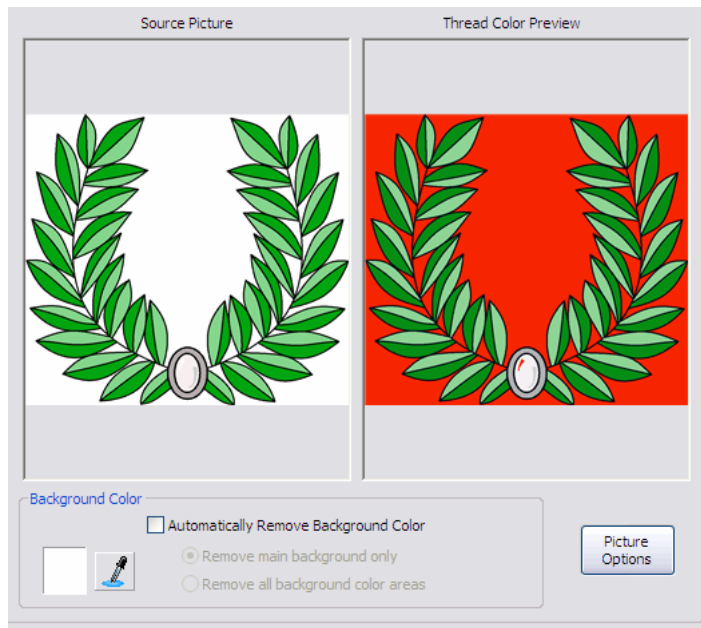
I wanted you to see everywhere that this color is located in the picture. It is the background color. But it is also found in between the leaves and there is even a little sliver of it inside of the medallion at the bottom of the design. I want you to see this because we are going to use another option to remove the stitches from this area. There in the **Background Color** frame there is a checkbox labeled **Automatically Remove Background Color.** If you check this box, then there will be no stitches placed wherever the orange color appears in the **Thread Color Preview** frame. Unfortunately, there also will be no stitches on that little section of the medallion, but I'll show you how to fix that in the chapter on the **Edit Page**. **Left click** in the **Automatically Remove Background Color** stitches check box.

15. Here is what your screen will look like now:
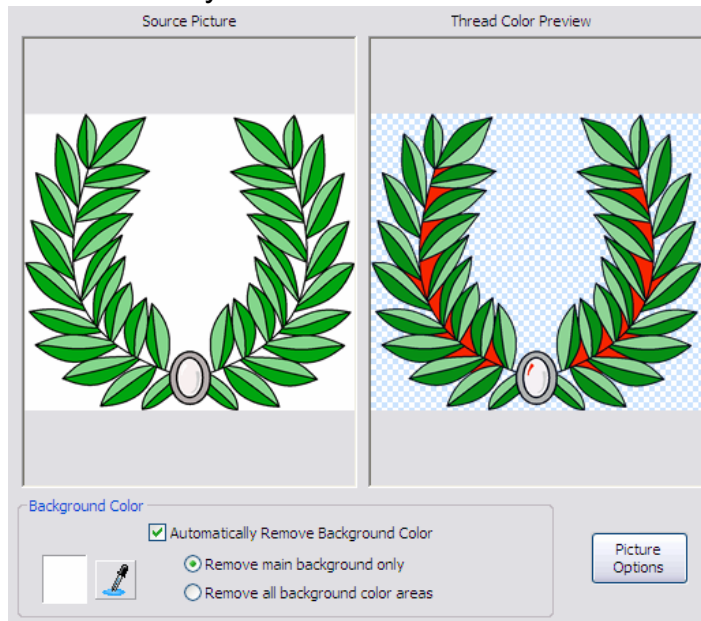
You can see that the background stitches are removed (the orange color is gone and it has been replaced by a light blue and white plaid pattern). However, there are still areas of orange in between the leaves and in the medallion. Beneath the **Automatically Remove Background Color** check box there are two radio buttons that are now available. The top radio button **Remove main background only** is automatically selected. **Left click** on the bottom radio button **Remove all background color areas** and all of the remaining orange color is removed. When you do this, take note of the area(s) such as the stitches within the medallion that we will have to repair or replace later.

16. **Left click** on the **Next** button. Here is what you will see:
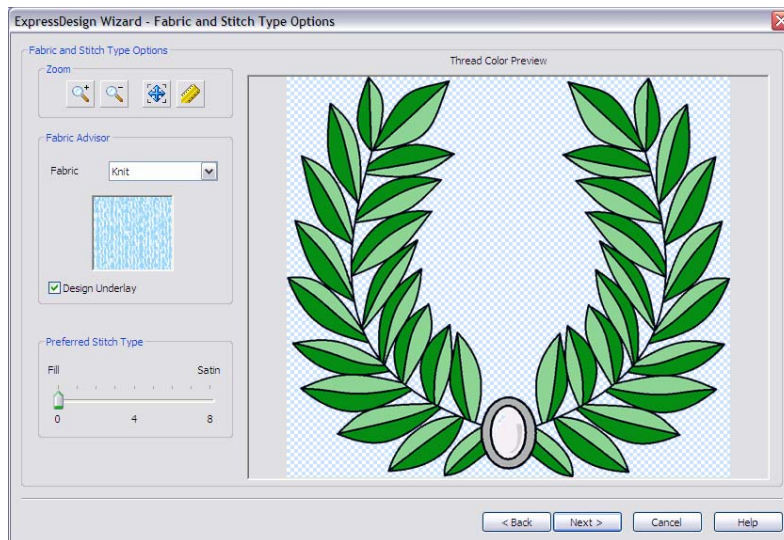
We are now in the **Fabric and Stitch Type Options** phase of design creation. Here you will select the type of fabric in the **Fabric Advisor** frame that best fits the type of fabric that your design will be applied to. This option generates the correct amount of pull compensation and underlay (those are both digitizing concepts) based on the design and amount of stretch in the proposed fabric. **Left click** on the drop down arrow on the right of the **Fabric** combo box to see the 5 options you have to choose from. For our purposes, just leave this option set on **Knit**. Also, leave the **Design Underlay** box checked. Underlay stitches further stabilize your embroidery project. Of most interest on this page is the **Preferred Stitch Type** frame and the slider setting that it contains. Right now, the default setting is set at **Fill**. Let's leave the setting there and then **left click** on the **Next** button to see what happens.

17. Here is what you should now see:
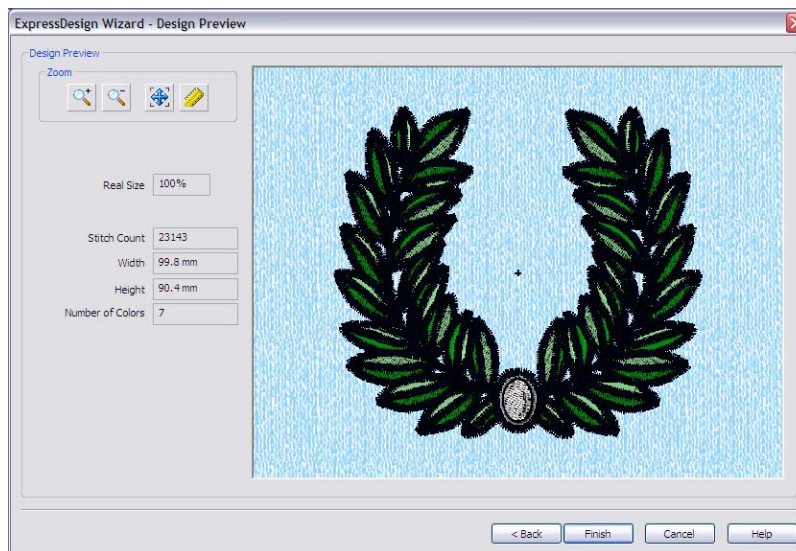
Hmmm…I don't know about you, but I don't like what I'm seeing here. The outline stitching is way too wide and it appears that all of the leaves are done as fill stitches. I had hoped that they would be satin stitches. Well, there is an easy way to fix both of these problems. Look at the bottom of the screen. There is a command button labeled **Back**. If you **left click** on the **Back** button, you can move backwards through each screen of the **Express Design Wizard**. In fact, you could go all the way back to the very first screen if you wanted to do so. We don't need to go that far back to correct these problems. **Left click** on the **Back** button to go back to the previous phase (**Fabric and Stitch Type Options**) and then **left click** on the **Back** button again to go back to the **Choose Thread Colors** phase.

18.   Here is what your screen should look like:
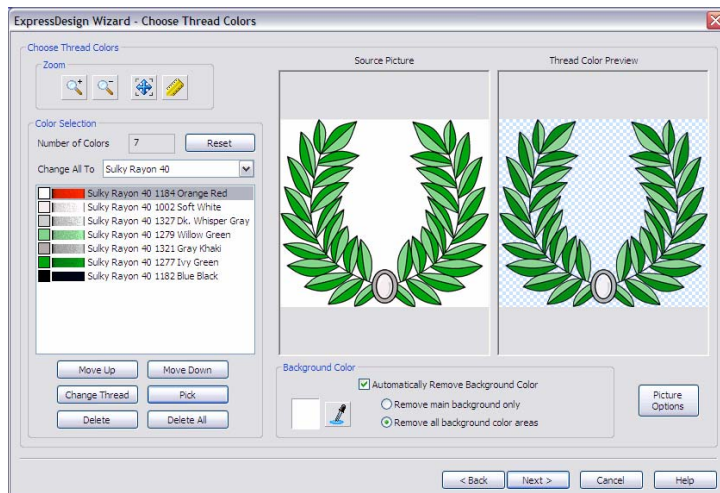
On the right side of the dialog, beneath the **Thread Color Preview** frame, there is a button labled **Picture Options**. Let's **left click** on that button and take a look at the choices that are present there.

19.   Here is what the **Picture Options** dialog looks like:
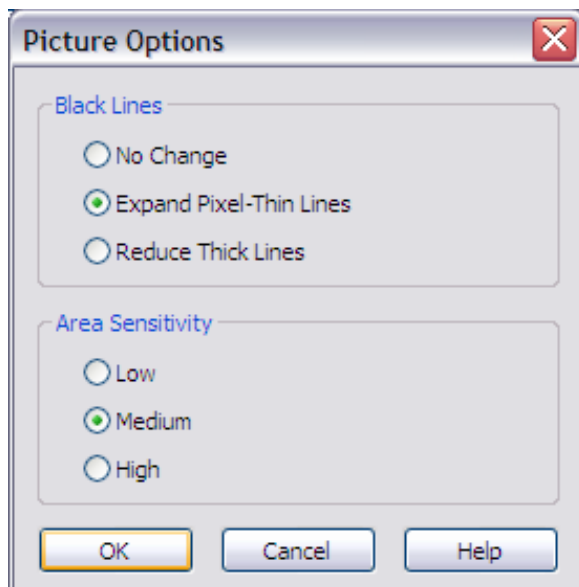
Inside of the **Black Lines** frame there are three options: **No Change**, **Expand Pixel-Thin Lines**, and **Reduce Thick Lines**. We need to **left click** on **Reduce Thick Lines**.

Inside of the second frame, **Area Sensitivity**, there are also three settings. **Medium** is selected now and that is OK for this design. What **Area Sensitivity** does is to control the amount of details that are put into the embroidery design. **High** puts in more details, and therefore, more color changes. **Low** puts in fewer details and fewer color changes. For now, just leave this set on **Medium.**

20.   Let's see what the results are so far. **Left click** on the **Next** button to move to the **Fabric and Stitch Type Options** and then **left click** on the **Next** button to move to the **Design Preview** (the last phase**)** of processing. Here is what you will see:

This certainly looks a lot better than it did before. But if you look closely at the leaves, you will see that some of them are fill stitches and some of them are satin stitches. I wanted all of them to be satin stitches. Now I will show you how to correct that. Once again, we have to use the **Back** button to return to an earlier phase of processing. **Left click** on the **Back** button once to return to the **Fabric and Stitch Type Options**.

146

21. Find the **Preferred Stitch Type** frame on this screen in the lower left corner:

Here you can see that the **Fill** option is selected. There is a range from **0 – 8**. When you move the slider across the range, it means that you want the software to **tend more** towards that type of stitch object. Here, we indicated that we want **most** stitches to be fill stitches. I actually want to tend more toward **Satin** stitches. **Left click and hold** on the slider and move it to a position right above the number **4**. Now, **left click** on the **Next** button to see the results.

22. Here is what you should see:

All of the leaves are now done as satin stitches. Take a few minutes to play around with this option. Use the **Back** button to go back to the previous page and set the **Preferred Stitch Type** to 3, then **left click** on **Next** to come back here and review the results. Repeat this process and change the setting to 2. This time, use the **Zoom In** tool to look at the topmost leaves. They are now done in **Fill** stitches. And the center of the medallion is done as a **Fill** stitch. Unfortunately, there is no way to change individual stitch objects here in **4D Embroidery Extra**. But there **is** a way to do this in **4D Design Creator**. I will go over that technique, and more, in my book on **4D Design Creator**. For now, just **left click** on the **Finish** button and your finished design will be placed into the hoop. When you are finished admiring your work, use the **Save As…** tool to save it on your hard drive. We will be using it in the chapter on the **Edit Page**.

Creating an Express Trace

Another option you can use when you create a design using the **Express Design Wizard** is to select **Create Express Trace** at the beginning of the wizard. This option will take your initial picture and create a line trace of the design. The resulting design will not only be an outline of the original picture, but it will include internal tracing of areas that contain different colors. There are a few new tools and concepts that you need to learn to successfully use this option. Clear all designs from your **Work Area** and we will learn about this option with a short exercise.

1. **Left click** on the **Express Design Wizard** to begin the design creation process. When the first screen appears, **left click** on the middle option in the list, **Create Express Trace.**

2. The next screen to appear is the **Choose Picture** phase. This is the same screen we saw when we were using the **Create Express Embroidery**. For this project, select the birthday cake that appears on the top row at the extreme left of the display for the **C:\4DEmbroidery\Samples\4DEmb\Pics2\Celebration** folder Here is what it looks like:

   I want you to notice a couple of things about this design. Even though there are areas of shading on the icing at the top of the cake and a shadow shown on the right side of the cake, these will not be picked up in our design. But when you think about it, would you really want them outlined?

   Left click on the cake to select it. Then, **left click** on the **Next** button to move to the next phase of processing.

3. Next up is the **Rotate Picture** phase. We'll just leave the picture as is and **left click** on the **Next** button.

4. The next phase of processing is new to the **Create Express Trace** process. This is the **Outline Finder and Expander** phase of processing. On the left side of the screen you can see a check box labeled **Find Outline**. It is unchecked by default. We want to **left click** on the **Find Outline** box to turn it on. Here is what checking the box will do for us. If you do not check the box, then some small details, like the body of the candles, will not be traced correctly later. Rather than showing up as a box, they will show up as a single set of running stitches. With almost any design, you will find that you need to go through the wizard with and without turning on various options to see how they come out in the end. If you do not like what you see, you can always use the **Back** button to return to an earlier stage of processing and change things with a click of your mouse. As soon as you turn on the **Find Outline** option, **left click** on the **Next** button.

5. Setting the **Monochrome Threshold** is the next phase of processing. There is only one option on this screen. Beneath the picture we see a scrolling arrow and a text box to the left of the arrow. The default value setting of **127** is set. This value can range from **0** to **255**. The purpose of this screen is to allow you to either pick up, or loose, details in the picture. Try an experiment. **Left click** on the number **127** and change it to the maximum value of **255**. The entire screen turns black. This is because by setting the value this high, the computer picked up every pixel as a detail and turned it to black. **Left click** on the value **255** and change it to **233**. Now you can see that the shadows and shading I talked about in step 2 are now picked up. I don't think I want them to be part of my trace. **Left click** on the number and change it to **0**. Hmmm…the picture doesn't look much different than it did at 127. **Left click** on the number and change it back to **127**. Now, **left click**, on the **Next** button.

6. Next up is the **Crop Picture** option. Since we want to use this entire picture, we will just leave this setting alone. If you wanted to crop the picture, you could click on any of the corners and drag them into the picture to select an area to crop. **Left click** on the **Next** button.

7. Now we are on the **Express Trace Options** phase of processing. There are four options here. One of which we already learned about in the previous project using **Create Express Embroidery.** That option is the **Picture Options** where we set the **Area Sensitivity**. When using the **Create Express Trace** this is not usually a consideration so I won't review it here. The more important of the options can be found in the **Quick Trace Method** frame. Here is what it looks like:
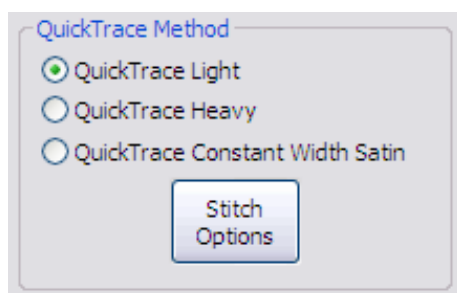
Here is what these options mean. **QuickTrace Light** creates a design that is made of a single running stitch. **QuickTrace Heavy** creates a design that is made of a triple running stitch. **QuickTrace Constant Width Satin** creates a design made up of a satin border similar to one created for an appliqué. A command button labeled **Stitch Options** gives you different options based on the **QuickTrace Method** that you choose.

 If you choose either of the first two trace options, then the **Stitch Options** you will be presented with looks like this:
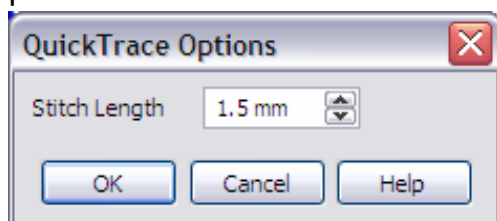
You can adjust the length of the stitches but there is little else to change here. A stitch length of 1.5 mm is a good length for most designs created with the **QuickTrace Light** or **Heavy** option.

If you choose **QuickTrace Constant Width Satin**, then these are the **Stitch Options** you have:
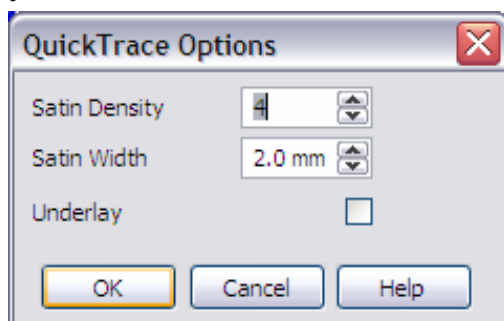
Here you have three choices. The **Satin Density** ranges from **2** (highest density) to **15** (lowest density). By the way, that's not a typo. It is the actual way that density is set and refers to the amount of space between the stitches and **not** the number of stitches/mm. **Satin Width** establishes the overall width of the satin column. **Underlay** is either on or off depending on whether or not you think you will need underlay stitches to stabilize your design. When I use the **Constant Width Satin** option, I always turn **Underlay** on.

Left click on **QuickTrace Light** to select that option and then **left click** on the **Next** button.

And just like that…there is our design. If you like what you see, then **left click** on the **Finish** button and your work will be placed into the hoop.
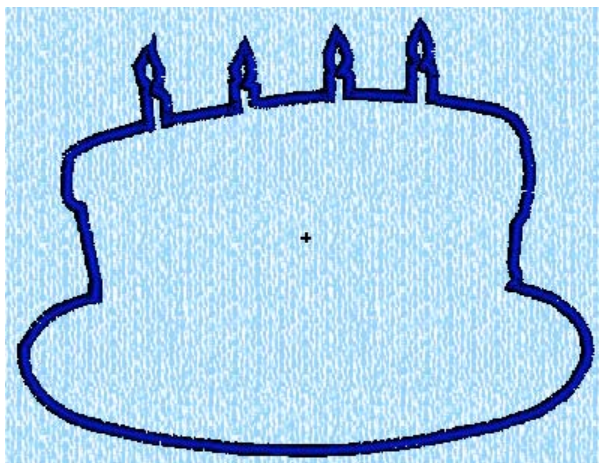
Creating an Express Border Design

This is the third option available in the **Express Design Wizard**. You can use the **Express Border Design** option to create a number of different designs. However, there is one thing that you need to understand with this option. When you use the **Express Border Design** option, the tool only places stitches around the **outside** of the design. None of the internal lines in the design are traced. Here is the design that you can create with the **QuickTrace Constant Width Satin** option of the **Create Express Trace** part of the wizard:

Here, all of the lines are traced both inside of and outside of the perimeter of the design. Let's see what happens when we use the **Create Express Border** option of the **Express Design Wizard** and use the same picture of the birthday cake.

Taking all of the default values, here is what I arrived at:

Here, you can see that all we got was a satin border design. None of the internal lines were included in the final product. And this is not just because I set certain options a certain way. It's because this is the way this option works. But there are many more options available here, including one to instantly create an appliqué. Let's take a look at all the options with a short exercise.

Begin by clearing any designs that you have on your **Work Area**.

1. **Left click** on the **Express Design Wizard.** When the wizard opens, **left click** on the **Create Express Border** option. Now, **left click** on the **Next** button.

2. **Left click** on the **View Picture** button and then select the same graphic of a birthday cake we selected in the previous exercise. **Left click** on the **Next** button. The next phase of processing will appear, the **Rotate Picture** phase. **Left click** on the **Next** button and move to the next phase of processing.

150

3. The **Monochrome Threshold** phase of processing appears next. It works the same way here as I previously explained in the **Create Express Trace** option. Just **left click** on the **Next** button.

4. The **Crop Picture** phase of processing appears next. It works the same way here as I previously explained in the **Create Express Trace** option. Just **left click** on the **Next** button.

5. Finally, we get to the **Express Border Options** phase of the wizard. You can see that there are several options available at this point. Here is what the options look like:
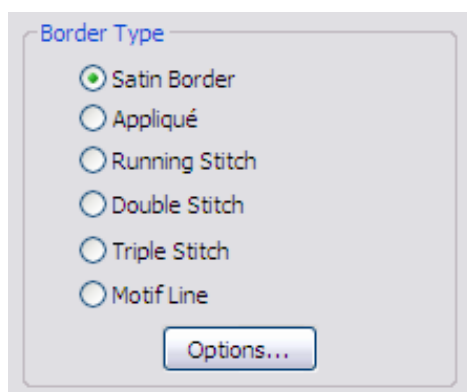
There are 6 different options available here. You have already seen the options for **Satin Border**, **Running Stitch**, **Double Stitch**, and **Triple Stitch**. The options for **Appliqué,** and **Motif Line** are new. We will go over each of them here. Let's begin with **Appliqué**. **Left click** on the radio button to the left of the word **Appliqué**. Then, **left click** on the **Options…** button.

6. Here is what the **Appliqué** options look like:
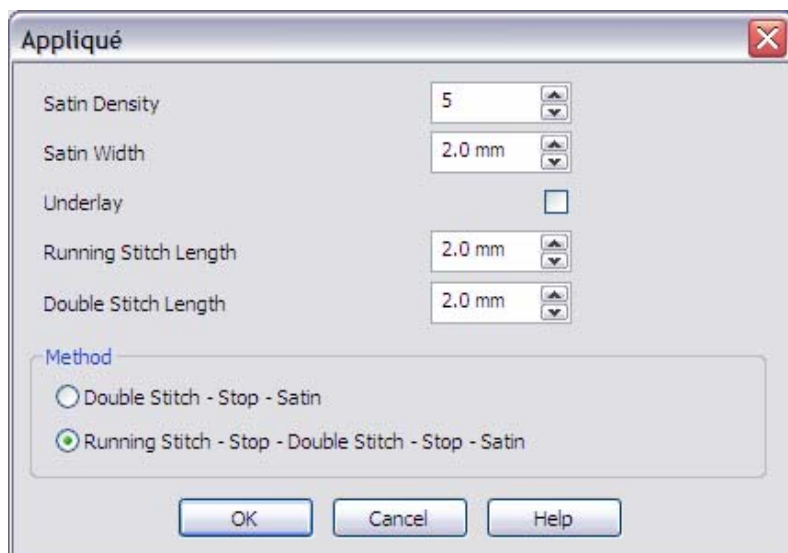
There are either 6 or 7 options to choose from here depending upon which of the radio buttons in the **Method** frame is checked. If the top **Method** is chosen, then you will not be able to set the **Running Stitch Length** because that **Method** does not use the **Running Stitch**. All of the other options are self explanatory. As I described earlier, the first option **Satin Density** determines how much space there is between stitches with the lower values making the stitching dense and the higher values making the stitches more open. **Left click** on the **Cancel** button to close the **Appliqué** dialog.

7. **Left click** on the **Motif Line** option. Then, **left click** on the **Options…** button. Here is what you will see:
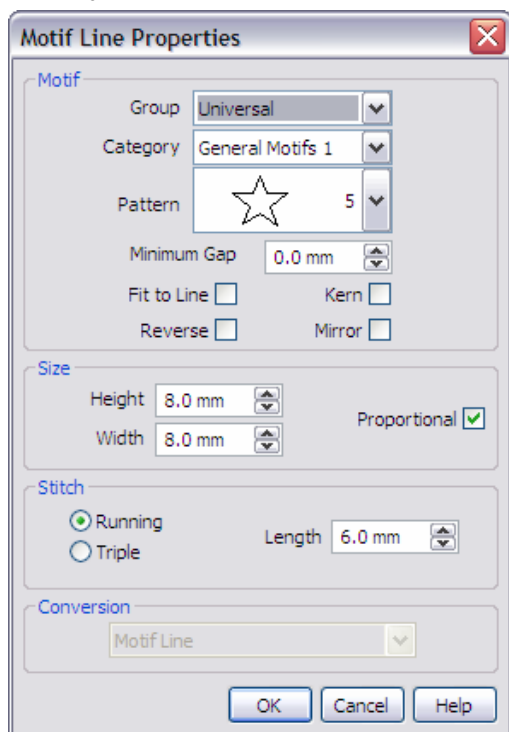
Inside of the **Motif** frame, if you **left click** on the drop down arrow in the **Group** combo box you will see all of the various groups of motifs that are available in your software. Everyone will have the **Universal** group and a **MyMotifs** group. (Yes, you can create your own motifs, but instructions on how to do that will have to wait for another book covering advanced techniques.) If you selected a **Husqvarna Viking** machine(s) in the **Machine Manager** option in *4D Configure*, then you will also have a group of **Husqvarna Viking** motifs.

If you **left click** on the drop down arrow in the **Category** combo box, you will see all of the various **Categories** of motifs in the **Group** that you first chose.

If you **left click** on the drop down arrow in the **Pattern** combo box, you will see the actual stitches for each motif **Pattern**.

The **Minimum Gap** setting will determine how much space there will be between each occurrence of each motif **Pattern** on a given line.

Fit to Line, when checked, automatically rotates the motif pattern so that it follows the curvature of a line in the graphic.

Kern, when checked, will fit motif patterns as closely as possible while ensuring that none of the patterns overlaps with another pattern on the same line.

Reverse causes the motif pattern to be flipped on a vertical axis. i.e. If the motif pattern was a train that appears to be going from right to left, **Reverse** changes the pattern so that the train now appears to be going from left to right.

Mirror causes the motif pattern to be flipped on a horizontal axis. e.g. The same train that was upright, going from right to left will now be upside down still going from right to left.

In the **Size** frame, **Height** and **Width** control the size of the motif pattern. If the **Proportional** box is checked, then when **either** the **Height** or **Width** is changed, the other value will be automatically changed to maintain the aspect ratio of the **Pattern**.

In the **Stitch** frame, you can select from **Running** for a single running stitch or **Triple** for a triple running stitch. You can also set the **Stitch Length** here.

Special Note About the Conversion Option

At the bottom of the **Options** dialogs for the **Satin Border**, **Running Stitch**, **Triple Stitch**, and the **Motif Line** there is a frame labeled **Conversion** and it is grayed out in each of these dialogs. This is because the *4D Embroidery* module uses computer programming code that is common to both this module and the *4D Design Creator* module. In *4D Design Creator* you will have the capability of changing the stitch object type when you create a new design with that software. Here in *4D Embroidery* and in *4D Embroidery Extra* that option is disabled.

Chapter 11 – Using the Edit Page

4D Embroidery Extra has another page of tools available for you to modify any design that you can load into your computer. These tools are extremely powerful. Once you learn how to use them, you will find yourself visiting this part of your software more and more often. There is another module in the *4D Professional System* that contains even more powerful editing tools, *4D Stitch Editor*. I will cover that module in another book. As you read through this chapter, I think that you will be surprised at what you can do with the tools on the **Edit Page** of your *4D Embroidery Extra* software.

4D Embroidery Extra includes some incredibly powerful features from *4D Stitch Editor*. You can use the **Edit Page** in *4D Embroidery Extra* to do the following:

- Remove as few as one stitch or as many stitches as you wish to select.
- Add as few as one or an unlimited number of stitches.
- Select, move, or copy any number of stitches.
- Insert or remove color changes.
- Change the order that colors stitch out.
- Force a color sort to remove even more colors than the automated color sort will remove.
- Set the angle and size of your design precisely.

General Considerations

Using the **Edit Page** requires some understanding of the basic concepts of editing. These rules are not complicated and once you think about them they will seem obvious in their operations.

**Concept 1 – Any stitches that you want to modify must first be selected.**

This rule applies whether you are going to delete, move, or change the colors of a group of stitches. If you think about it, this only makes sense. You use the **Edit Page** to make changes to a portion of the design. If the changes applied universally without you first having selected any stitches, then you could never pick and choose the area of the design that you wished to change.

Concept 2 – Only stitches that are visible can be selected.

When you add stitch files to a design, only one design is in **selected** mode at a time. You can use the **Tab** key to switch easily between the various stitch files. When you switch to the **Design Page** only the stitch file that was in **selected** mode is visible in **full color**. The other designs are shown in all **white** stitches and are said to be in **Ghost Mode**. When stitches are in **Ghost Mode**, you cannot select them for any kind of modification.

Let's begin with a practical exercise. Do you remember the first design we created with the **Express Design Wizard**? That was the wreath design. There was a small part of the design in the medallion that I want to work on. Let's do that now and learn how to use some of the tools on the **Edit Page**.

1. Begin by loading the wreath design you created earlier. You will be on the **Design Page** in the software. As soon as the design is loaded, **left click** on the **Edit** tab. Here is what you should see:
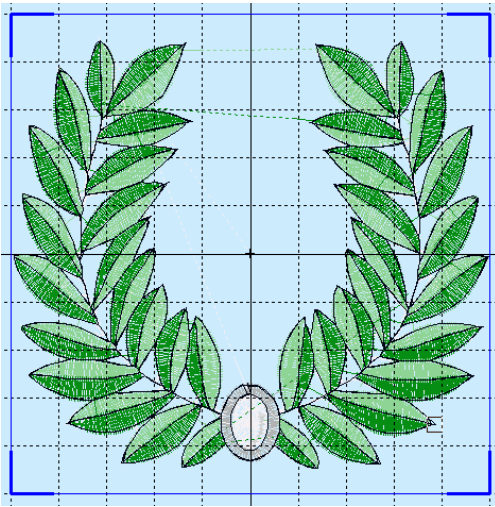
This looks a lot different than what you saw on the design page. Here on the **Edit Page** everything is done in **2D** (2 dimensional view). This is done in 2D because it's easier to see and manipulate the individual stitches as you will see in a minute.

For this exercise, we are going to concentrate on the inside part of the medallion at the bottom of the design. Let's do a couple of things that will make it easy on ourselves to work with this design. If, like me, you have a light color as the background color for your **Work Area**, it is hard to see most of the stitches inside of the medallion. We have the **Color Select** tool (which we already saw on the **Design Page**) here on the **Edit Page**. The **Color Select** tool works the same way here as it does on the **Design Page**. Move your mouse pointer so that it rests of color number 1. You will see that these stitches are mostly underlay stitches. Move your mouse pointer to color number 2 and you will see that this color makes up almost all of the stitches inside of the medallion. Now that we have found the color for these stitches, change the color to a color that is not in the design, like red. Changing the color to red will make the stitches more visible against the background. Let's use the **Zoom In** tool and take a close look at these stitches.

2. Here is what your screen should look like:
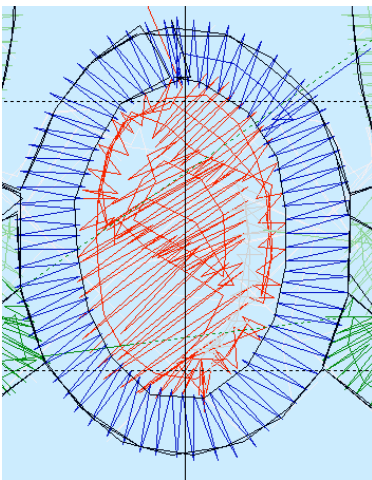
In this view, you can see that there is an area of stitching in the upper left corner of the design that is missing some stitches. This is where there was a light colored highlight to give the center a three-dimensional view. When we removed the background stitches from the design, these stitches went with them. I would like to put them back in place. If you look at the lower right corner of the medallion, there is an almost identical set of stitches that form a highlight. Wouldn't it be nice if we could copy those stitches, rotate them, then paste them over that hole in the design? Using the right tools, this is exactly what we will do. Let me show you how this is done.

3. The first thing we have to do is **isolate** these stitches so that we can select them from the rest of the design. Move your mouse pointer down the list of colors until you find the color that makes up these stitches. You will find that it is the **third** color down. Do you see the check boxes to the left of each color bar? Beginning at the top box, **left click** on the **first** check box and the check mark will disappear. Looking at the design, all of the stitches associated with this color are hidden from view. **Left click** on the **second** check box down. Those stitches are also removed from view. Do this with **every check box except the *third* on from the top**.

4. Here is what your screen should look like now:
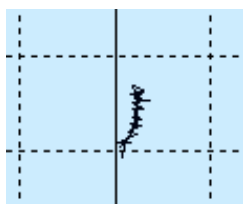
You only see the small crescent of highlight stitches. All of the other stitches are still there. It's just that right now they are invisible. This brings up the **most important principle** for you to remember about using the tools on the **Edit Page**. ***You can only work with stitches that are visible on the Edit Page.*** We can now easily make a copy of these stitches. Let me show you how this is done.

5. There are a set of tools on the **Control Panel** inside of the **Select** frame. You use these tools to make a selection of stitches so that you can **Copy** or **Delete** the stitches depending upon what you are doing. Here is what they look like with a quick description of each one and how it works:


The tool in the upper left corner is the **Box Select** tool. You use this by left clicking in one corner of the **Work Area** and then dragging a box to select the stitches. The tool in the top right corner is **Freehand Select**. You hold down your left mouse button while drawing a line around the stitches that you want to select. The lower left tool is the **Polygon Select**. To use this tool, you position your mouse pointer, then left click to mark one point in the selection area, you then move to the next place in your selection and left click again until you have outlined the selection area. Then right click to activate the selection. We are going to use the tool in the lower right corner, **Make Block From Visible Area**. This tool will select all **visible** stitches. That is why we made the others invisible by left clicking on the little check boxes on each color. **Left click** on the **Make Block From Visible Area** tool.

6. Here is what your screen should look like now:
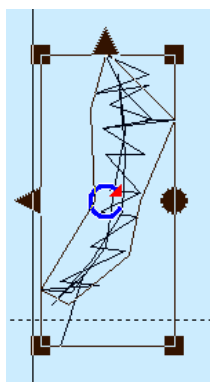
By turning off all of the other stitches, we could easily copy just these stitches to use again in our design. **Left click** on the **Copy** tool and these stitches will appear on the **Clipboard**. Once you see the stitches on the **Clipboard**, **left click** on the **Design** tab. The entire design will re-appear and the **Paste** tool will be available. Now, **left click** on the **Paste** tool to put another copy of the stitches onto the **Work Area**.

156

7. After you **Paste** the new stitches, your screen should look something like this, after you use the **Zoom to Fit** tool ⊕:
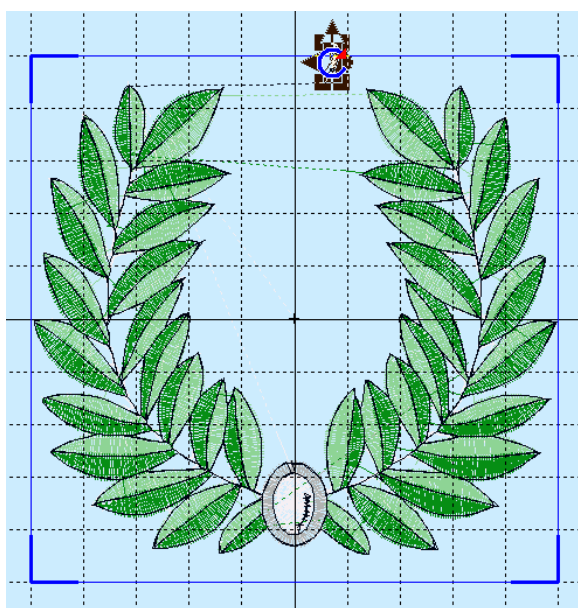
We need to arrange these stitches so that they curve in a different direction before we place them on top of the other stitches in the medallion. Let's **Zoom In** on the stitches, but this time we will use a keyboard shortcut. After you zoom in on the stitches, we need to flip them **once** using the **Vertical Flipping Handle** (that is the triangle pointing to the left on the selection box) and then flip them **once** using the **Horizontal Flipping Handle** (the triangle on the top of the selection box). Go ahead and **left click** once on the **Horizontal Flipping Handle** and then **left click** once on the **Vertical Flipping Handle**.

8. Here is what your stitches should look like now:
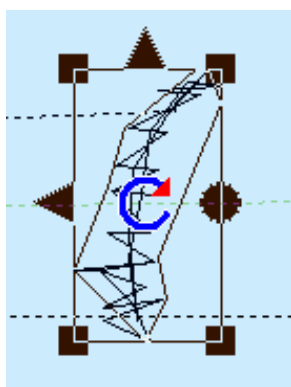
Now the stitches look like the letter **C** and they are ready to move down to their final destination, on top of the upper left corner of the medallion. Do this while you are in **Zoom In** mode. It's easier to **left click and hold** inside of the selection box with small objects when you are zoomed in on them. Drag the stitches toward their final destination. If you run out of screen area and can't see the part of the screen where they are going to be placed, then release your mouse button and move your mouse pointer over to the scroll bar and move the screen so that you can continue to move in that direction. **NOTE: Be careful to *NOT CLICK* anywhere on the Work Area when you are scrolling the screen**. Doing so will look the selection and you will have to re-select the stitches. I am now going to make that mistake and show you how to recover from it.

9. Here is where I will begin my move:
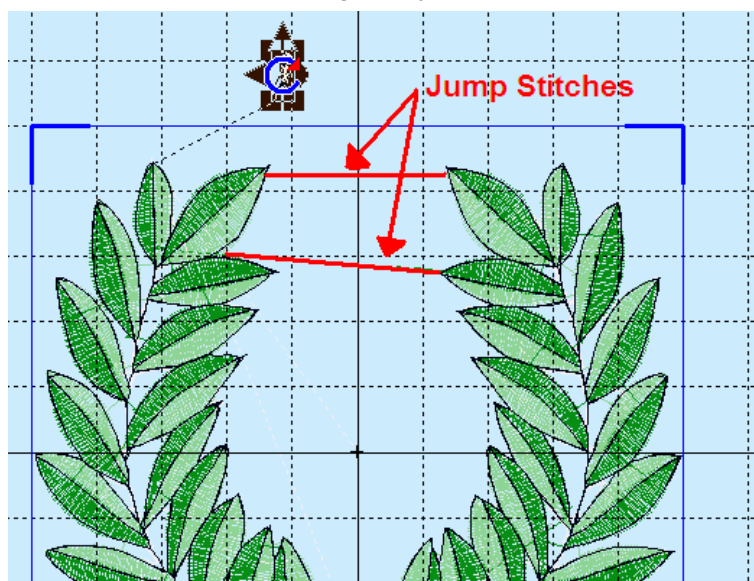
I want to avoid putting down the selected stitches anywhere near the two jump stitches that I drew onto this graphic so that you can see them. I want to make the first part of my move into that open space beneath the bottom jump stitch. That way, if I make a mistake and loose the selection (as I am going to do here), then it will be easy to make the selection again with another tool in the **Select Frame**. So, only **Zoom In** to the area that encompasses the place that you are moving from and the temporary landing zone.

10. After I made my first move, this is what I had:
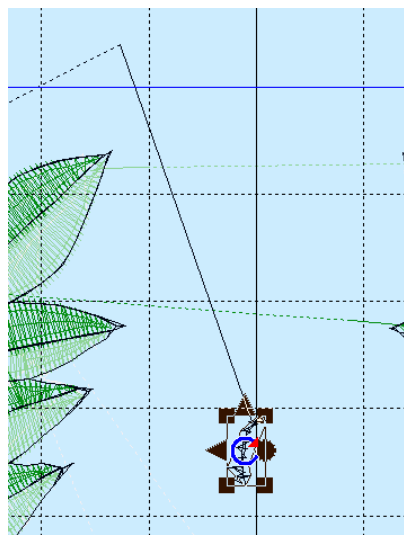
I am clear of the bottom jump stitch and any other stitches. Now, if I make a mistake, I can easily recover the selection using the **Box Select** tool.

I make a mistake and click on the **Work Area** loosing my selection. If you made this same move with me, then go ahead and make the mistake and **left click** anywhere in the **Work Area**. The selection box disappears and we have to recover it.

11. Since we already made one mistake, let's avoid making another mistake before we make the selection again. **Left click and hold** on the scroll bar(s) and move the view of the design so that you can see the planned final resting place for the stitches we are about to select. Here is what my screen looks like:
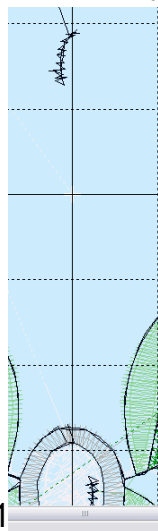

Now, I am ready to make the selection again and this time I will be able to drag the stitches all the way down to the place in the medallion where they belong.


Left click on the **Box Select** tool to activate it, then **left click and hold** to drag a box around the set of stitches that we previously selected. When the box is placed correctly, **release the left mouse button** to make the selection. Now that the **Selection Box** is again around these stitches, **left click and hold** inside of the **Selection Box** and drag it to the upper left part of the medallion.

12. Your current result should look like this:
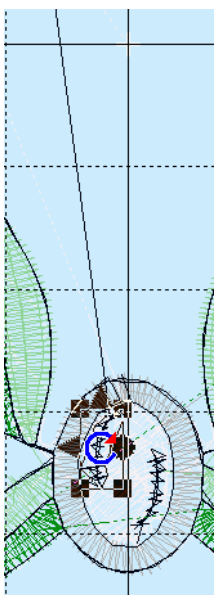
Wait a minute! Why is there a long stitch leading from the set of stitches we just moved that leads up and off the screen to the top left? That is a huge jump stitch created when we put these stitches into the design. You see, what we have done is stumbled on a basic principle of digitizing. That principle is: **Stitches are stitched out in the order that they are placed into the design.** The last stitches added to this design were the copy of the little highlight stitches. In its present state, everything in this design will stitch out before the little group of stitches that we just added. This will cause an **8th** color change to be added to the overall design. It would be nice if we could arrange it so that when the stitches in the lower right of the medallion stitched out, then the stitches in the upper left would stitch out. This would eliminate the 8th color change for us. To do this we will have to use one last tool on the **Edit Page**.

13. Move your mouse pointer to color number 3 and watch which stitches change color in the **Work Area**. Color number 3 is for the highlight stitches in the lower right of the medallion. Now move your mouse pointer to color number 8 and watch which stitches change color in the **Work Area**. Color number 8 is for the highlight stitches in the upper left of the medallion. They are both the same color, because when we selected those stitches, their **Thread Range** and **Color** were copied at the same time. We can now use another tool, the **Change Order of Color Blocks** tool to fix this problem. Here is where the tool is located:

Change Order of Color Blocks
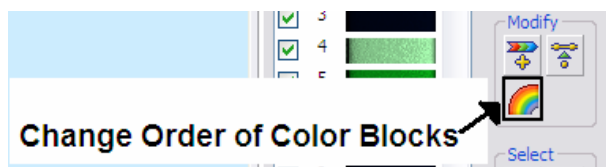
Right click anywhere in the **Work Area** to lose the selection box, then **left click** on this tool and the **Color Order** dialog opens as shown here:
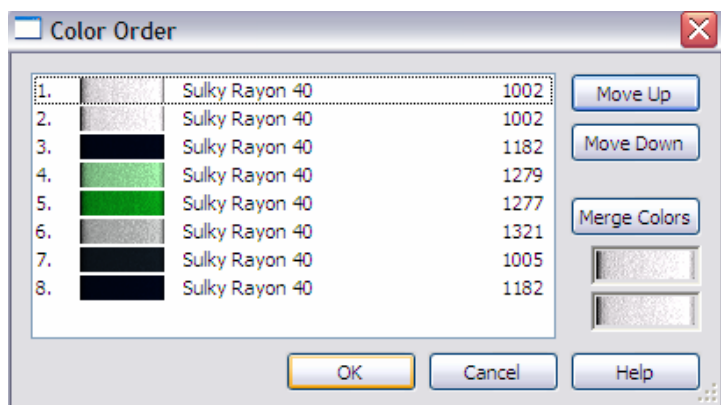
Notice that color number 3 and color number 8 are both **Sulky Rayon 40 1182**. You can see that there are several controls here. Currently, color number 1 is selected because it has a dotted line around it. We need to select color number 8. **Left click** anywhere on the line with color number 8. Once color 8 is selected, **left click** on the button labeled **Move Up 4 times.** Looking at the left side of the **Color Order** dialog, the numbers now read (from the top) 1, 2, 3, **8**, 4, 5, 6, 7.

159

14. Here is what the dialog should look like now:
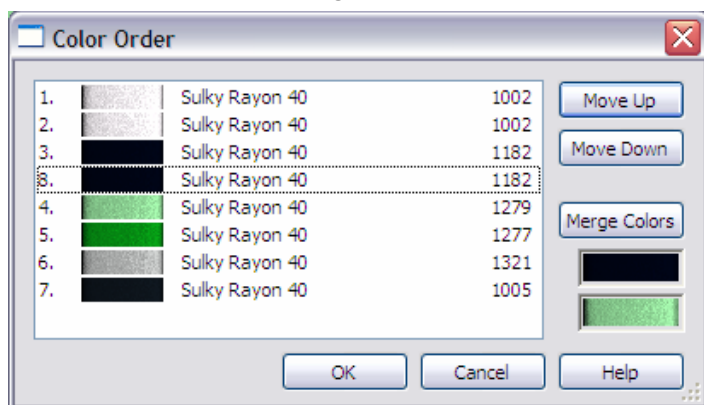
This next step is crucial to the successful use of this tool. Look at the color bars beneath the **Merge Colors** button. The top color is the one that is currently selected (number 8). The bottom color is the one just beneath it (number 4). If you clicked on the **Merge Colors** button at this time, you would lose the number 4 color in the design because it would be merged with color number 8. That's not what we want to do. We want to merge color 3 with color 8. To do this, **left click** on color number 3. Now look at the two color bars on the lower right corner of the dialog are both the same color. **Left click** on the **Merge Colors** button. A handy way to remember which color merges with which is to think of the top color as being wet paint. When you click on the **Merge Colors** button, that color runs down from gravity pulling it down and covers the bottom color.

15. **Left click** on the **OK** button in the **Color Order** dialog. The dialog will close and you will see that the jump stitches have disappeared.

This is just a sample of the things you can do here on the **Edit Page**. Time and space don't permit me to go into all of the other tools and techniques that you can use here. Look for more lessons on using the **Edit Page** in a follow-up book.

Postscript

I hope that you learned a lot about this fantastic software. *4D Embroidery* and its companion *4D Embroidery Extra*, are both so packed with great features and tools that it is impossible to cover everything (and every technique) in one volume. I'm already planning a follow-up book to this one that will cover many more tools and techniques you can use to create beautiful embroidery work.

If you have any questions about anything I covered in this book, please feel free to contact me through my web site, **www.mrpatience.com**. I love to hear from my readers.

160

Appendix A – Moving Designs to Your Machine

After you finish your design, the next thing to do is to move the design to some kind of media (a memory card, a diskette, etc.) so that it can be loaded into your sewing machine. There are four types of sewing machine interfaces.

- Direct connection via USB port
- Solid state memory stick via USB port
- 3.5" floppy diskette
- d-Card Reader/Writer
- USB card Reader/Writer

The model of your machine will determine which type of interface you will have to use. However, certain basic principles apply to each one. You only need to read about the machine or machines that you own.

Designer SE

You have a choice of using either the direct connection via a USB line or you can place your designs on the solid state memory stick and put that into the USB port on your Designer SE. As far as the format of the designs that you can load directly onto your Designer SE, you will find that your machine will read files directly in all of the Viking formats as well as many other formats. Check your Designer SE owner's manual for a complete list. There is no need to convert the design from, for example, a VP3 format to the SHV format that is required when using the Designer I and other machines. You <u>do not</u> have to use another piece of software such as the *4D Disk Manager* to convert the design to a machine-readable format for your sewing machine. The main thing to understand here is that you can either <u>send</u> designs to your machine through the *4D Embroidery* software using the **Send 1** or **Send 2** options (depending on how you set them up with *4D Configure*), or you can use your Designer SE to browse the hard drive on your computer to find and load designs.

Using the Direct USB Line

Your computer, when it is connected to your machine via the USB line, can be searched the same way that you would search any stand-alone hard disk that is connected to your Designer SE. You must know where the design is located on your computer hard drive. You can even place a CD-ROM into your computer's CD-ROM drive and browse through the designs that are located on a CD. The only problem with using this technique is that you have to know what the design looks like before you load it into the machine. You can, of course, load a design, then delete it from your machine if it is the wrong design, but because of the small sizes displayed on the Designer SE's screen, it can be difficult to tell one design from another.

Using the USB Memory Stick

You can also use this device, also known by various names such as a flash drive, thumb drive, USB memory stick, etc. to move your designs to your Designer SE or your Designer I USB. The USB Memory stick is treated the same way as a hard disk. That is, you create a folder, or one or more individual, stand-alone files on the USB Memory stick, then use the software built into your Designer SE to search through the folders and files to find the design that you are looking for.

Designer I or Designer I USB

Working with a Designer I machine is a little different. Before the Designer I and the Designer I USB model can read a design, the design must be in a special format. That format is the **SHV** format. Your *4D Embroidery* software does not save designs in this format. You must use another piece of software that comes with your *4D Embroidery* software to make the conversion.   You will be using either the *4D Disk Manager USB* software (even if you have a Designer I with a built-in 3.5" floppy disk drive) or you can use the **Send 1** or **Send 2** feature. I will cover each procedure separately.

Using Send1 or Send2 with the Designer I

Whether you are using a USB Memory stick, or a 3.5" floppy diskette, you must use caution when using either of the **Send** options. The reason for this is simple. **When you use the Send1 or Send2 option, the *4D Disk Manager USB* software will erase all designs on the device that you are sending the design to.** This means that if you put a 3.5" floppy disk in your computer, or if you are using the USB Memory stick, after you use **Send1** or **Send2**, there will only be **one design** on that device…the one you just sent. **Send1** and **Send2** are a good idea for times when you know that you can afford to erase a floppy disk or USB Memory stick. But if you have a number of designs on that device, the results can be catastrophic. There is **NO KNOWN WAY** to recover designs erased by using the **Send1** or **Send2** option. So if you are going to use this option, be extremely careful of what you are doing.
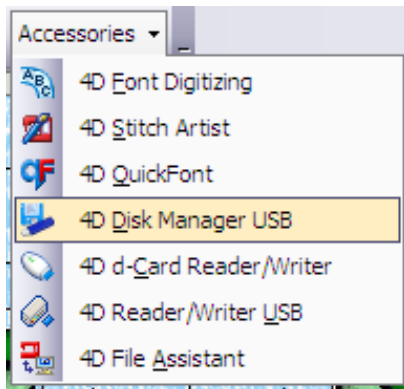
Using *4D Disk Manager USB*

A much safer way to work with your Designer I is to use the *4D Disk Manager USB* software. This software works with **both** the 3.5" floppy drive and the USB Memory stick. Let's run through a quick exercise to learn how to save your designs using the *4D Disk Manager USB* software.

1. Start by loading any design into your *4D Embroidery* software. I'm going to use one of the designs that comes with the software.

2. With the design loaded into the **Stitch Area**, **left click** on the **Copy** tool to place a copy of the design onto the **Clipboard.**

3. Now that the design is on the **Clipboard**, you are ready to start the *4D Disk Manager USB* software. To start the *4D Disk Manager USB* software, **left click** on the little downward pointing arrow to the right of the word **Accessories** here on the tool bar:

When you click on that arrow, a pop down menu will appear.

4. Here is what the new menu looks like:

One of the items in the list (depending upon how many modules you have installed on your computer) will be *4D Disk Manager USB*. **Left click** on that item in the menu to start that module.

5. This is what *4D Disk Manager USB* looks like when it first opens:
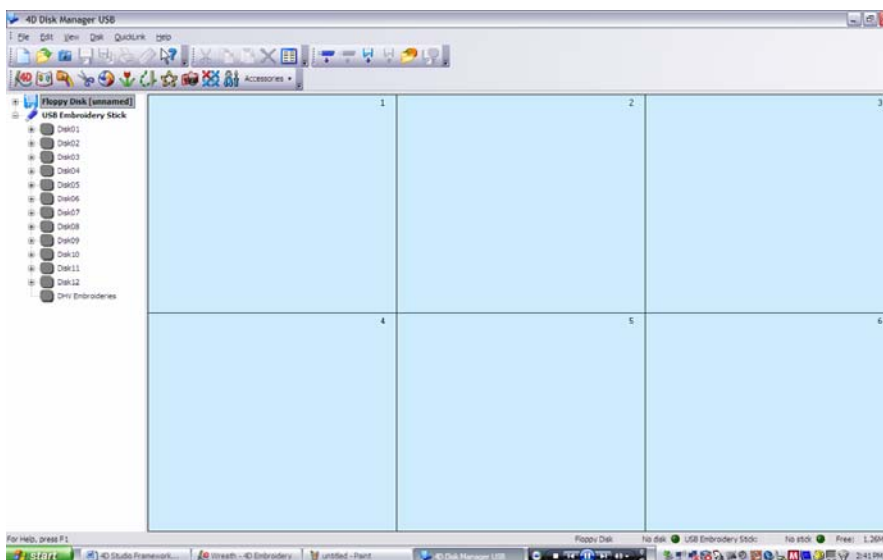
I want to welcome the users of the **d-Card Reader/Writer** and the **USB Card Reader/Writer** to this explanation because their software looks nearly identical to this and the procedure to follow will be virtually the same as for those of you using the 3.5" floppy diskette or the USB memory stick.

Earlier in this procedure, I said that we had to start *4D Embroidery*, load our design into the **Stitch Area** and then use the **Copy** tool to place the design on the **Clipboard**. We are now ready to proceed with saving the design to our output device whether that be a 3.5" floppy, USB memory stick, d-Card, or USB Card. The basic principles that follow apply equally to all of these devices. The only difference between each device is the memory capacity of the device. For simplicity I will refer to the

diskette and memory card only so that I don't have to type in the names of each device each time.

6. After you place your diskette or memory card into your device, the **first thing** you must **ALWAYS, ALWAYS, ALWAYS, ALWAYS, ALWAYS, ALWAYS, ALWAYS, ALWAYS. ALWAYS, ALWAYS DO** is to **READ the contents of the diskette or memory card before proceeding**. I cannot emphasize this too strongly. The reason for this is that in the process of writing out designs onto a diskette or memory card, **ALL OF THE DESIGNS that were on the card will be destroyed.** Therefore, you will want to copy all of the designs on the diskette or memory card into the computer's memory before adding the new design to the card. If you only have one design in the squares shown above in step 5, but started out with 10 designs on the diskette or memory card and <u>did not</u> read the designs into the computer's memory before writing onto the diskette or memory card, then you will only have **ONE DESIGN** on the diskette or memory card after the writing process is complete. Therefore, you must **ALWAYS, ALWAYS, ALWAYS, ALWAYS, ALWAYS, ALWAYS, ALWAYS, ALWAYS. ALWAYS, ALWAYS READ the contents of the diskette or memory card before proceeding**. Reading the contents of the diskette or memory card is easy. All you have to do is **left click** on the **Read Disk, Read Stick**, **Read Card, or Read d-Card** (the **Read Card** and **Read d-Card** are present in the **4D Reader/Writer USB** and **d-Card Reader/Writer** respectively) tool as shown here:

Read Stick
Read Disk
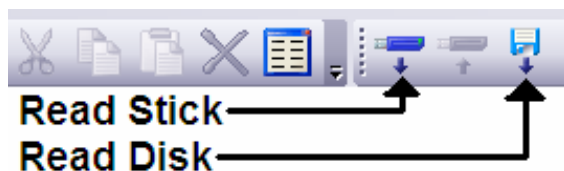
This will read into the computer's memory all of the designs presently stored on the diskette, memory stick, or memory card.

At this point, one of two things will happen. You may see an error message like this:
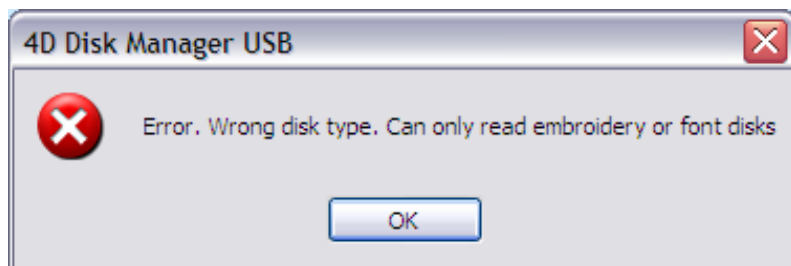
This means that there are **no stitch files** on this diskette or memory card. There is nothing wrong with the diskette or memory card. You are just being told that there are no stitch files on the media. Just **left click** on the button labeled **OK** and go ahead with the next step in this procedure.

After you have been using your software for a while, it is more likely that you will have some media with stitch files already stored on them. Here is what *4D Disk Manager USB* looks like when it finds and then copies into memory the stitch files contained on a diskette or memory card.
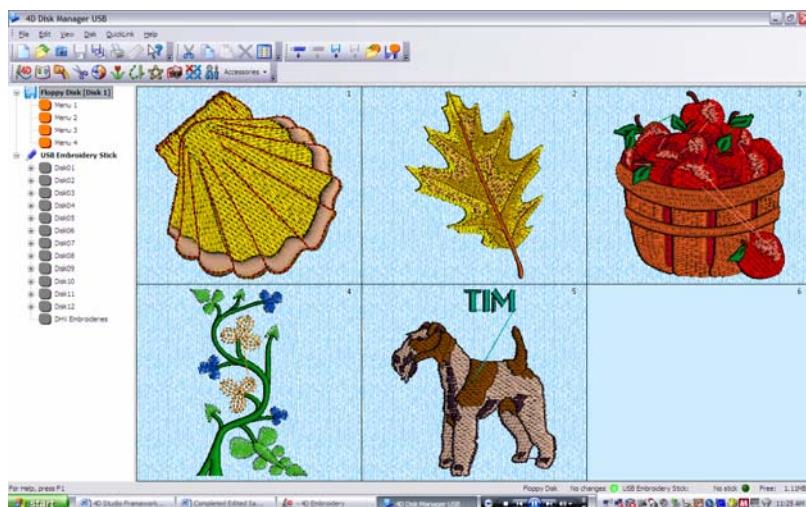
You can see here that I have 5 designs on **Menu1** on this diskette. I am now ready to add another design to **Menu1** of this diskette.

It doesn't matter which square the design is placed in, because you will select the design you want to stitch out when you get to the sewing machine. Nor do you have to worry that you will paste your design over one of the existing designs. *4D Disk Manager USB* and the other similar programs will simply place the design into the next available slot when you **left click** on the **Paste** tool.

7. After **left clicking** on the **Paste** tool, this is what the *4D Disk Manager USB* screen looks like:
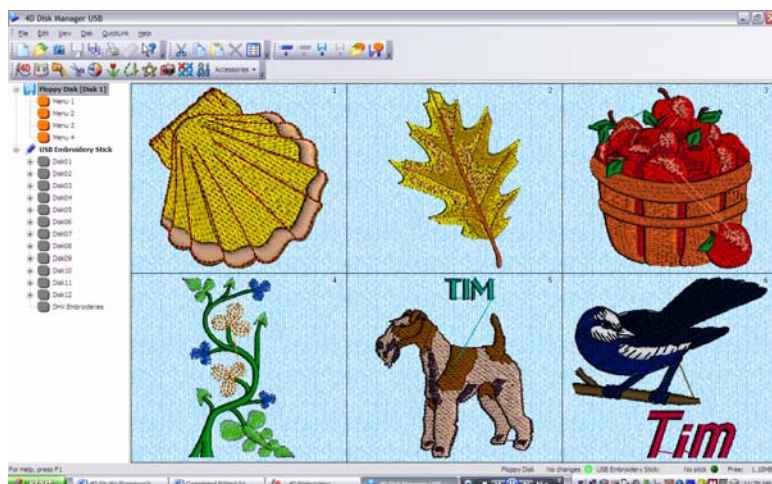
You can see the Magpie design is now pasted into an open slot in this **Menu**. At this point, we are now ready to **write** the designs onto the diskette or memory card.

8. You must now **left click** on the **Write Disk** tool. It is located on the tool bar immediately to the right of the **Read Disk** tool as shown here:

9. After you **left click** on the **Write Disk** tool, the following message box will open:
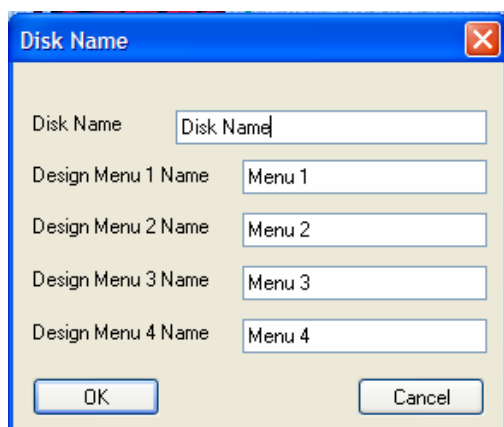
The **Disk Name** dialog gives you the chance to name the disk or memory card, and to name each of the four **Design Menus** on the card. There are four **Design Menus** provided so that you can group your designs on the diskette or memory card. Using separate **Menus** also makes it easier to see the designs on your sewing machine's screen. You can also name the **Menus** to remind you of what they contain. You might name the first one **Tim's gifts**, and the second one **Carol Ann's gifts**, and so on. Then when you are working at your machine, you can concentrate on one set of projects at

165

a time. For now, I'll leave the **Disk Name** and **Design Menu** names as they are and just **left click** on the command button labeled **OK**.

10. After you **left click** on the **OK** button, the following message box appears:
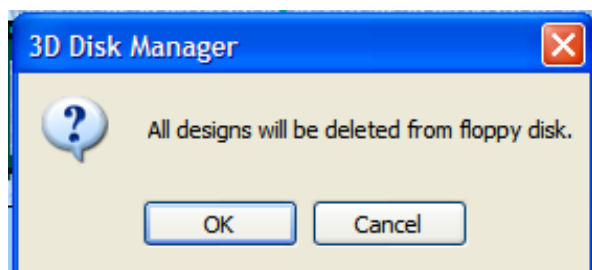
This means just what it says. All of the designs that are presently on the diskette or memory card will be deleted in the process of writing these designs to the diskette or memory card. **If** you followed my instructions in step **4** above, and read into memory all of the designs on the diskette or memory card, then added your new design, as I did with the Magpie, you will not loose any designs at all. If there were 3 designs on the diskette or memory card to begin with, then you added another to the designs being held in your computer's memory after you used the **Read Disk** tool, when you **left click** on the **OK** command button in this dialog, the software will proceed to re-write the 3 original designs plus the design we added (the Dragonfly) to the diskette or memory card and you will end up with **4** designs on the diskette or memory card. As soon as you **left click** on the **OK** button in this dialog, the **4D Disk Manager USB** software begins to write the designs to your chosen media. During the writing process, your cursor will turn into an hourglass and a light will light up on your diskette drive or memory card reader/writer. **DO NOT REMOVE** the diskette or memory card until the **light goes off**.

11. Once the light on your diskette drive or memory card reader/writer goes off, you can remove your diskette or memory card. You can also now close the **4D Disk Manager USB** software. **Left click** on the white X in the red box located in the upper right corner of **4D Disk Manager USB**. Another message box will open. It looks like this:
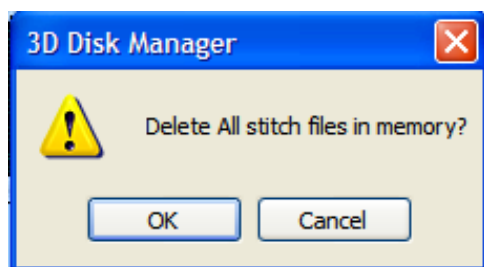
It is alright to **left click** on the **OK** button here. All this means is that **4D Disk Manager USB** is going to close and erase these stitch files from your computer's memory. They will still be present on the diskette or memory card (which you have removed by now), and the designs will be available on your hard disk in your computer if you saved them on that disk using the **Save As** tool in **4D Embroidery**.

There are many additional features available in **4D Disk Manager USB**. I encourage you to read the reference guide provided by **Husqvarna Viking Software** with your software and learn about the many additional features of **4D Disk Manager USB**. The basic principles you just read about apply equally to using the USB Memory stick in this software, the d-Card in the **4D d-Card Reader/Writer** software and the USB card in the **4D Reader/Writer USB** with their respective media. All of these products look like each other when they are started.

166

Appendix B – Using *4D Organizer*

The easiest way to find stitch files on your computer is to use *4D Organizer.* This module is included with *4D Embroidery*. Let's do a quick exercise to learn how to use this valuable tool.

If you already know how to use the previous version of this software, you will find that this new version has some great new features. All of the same features are there however here are the new features:

- When you close *4D Organizer*, the next time you open the software, it remembers the folder that you were last looking in making it easier to find and load your designs.
- When you locate a design and use the **Real Size** tool to look at the design, you can now use the **Zoom In** and **Zoom Out** tools to examine the design in the manner that suits you best.

Let's learn how to use *4D Organizer* with a short exercise.

1. There is a button on the right side of the toolbar you can **left click** on to start *4D Organizer*. It looks like an open book. Here is where it's located:

Left click on the button and *4D Organizer* will begin.

2. Here is what *4D Organizer* looks like when it first opens:

There are 3 parts to *4D Organizer*. The **Folder List Pane** is the area where you select the folder that contains **Stitch Files**. The **Design Pane** is the area of *4D Organizer* where the designs are displayed. The **Worksheet Pane** is the area where the **Worksheet** for the selected design is displayed.
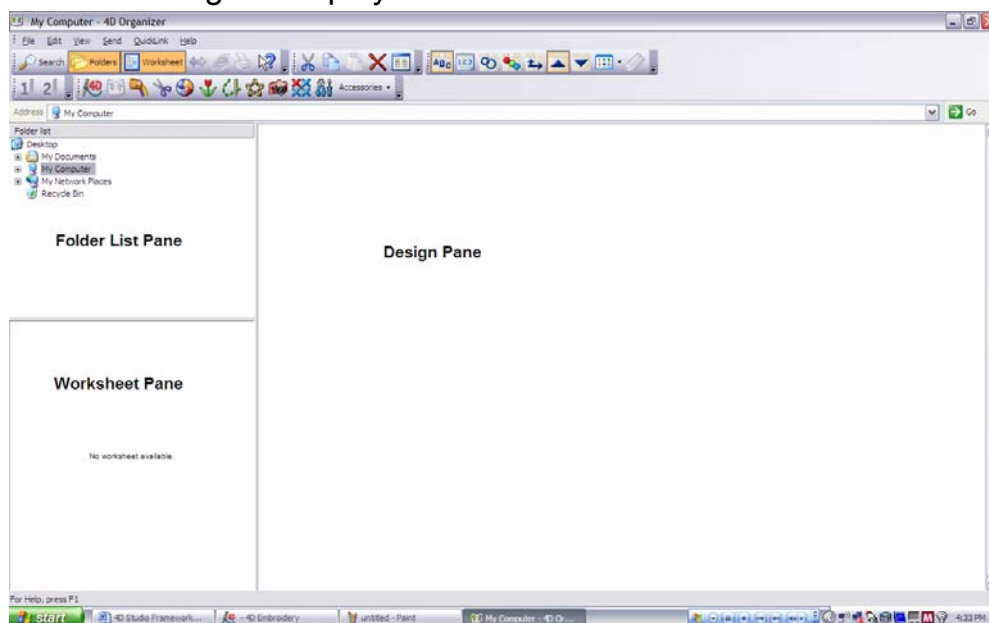

When you begin to use *4D Organizer*, you should have some idea where you have **Stitch Files** stored on your computer. You can use *4D Organizer* to load **Stitch Files** directly from floppy diskettes, CD's, and memory cards. All you have to do to use any one of these devices is to place the media (a floppy disk, CD, or memory card) into the

167

device and **left click** on that device to open it. For now, we will concentrate on using the designs that were loaded onto our hard disk when we installed *4D Embroidery*.

Before we proceed with using *4D Organizer*, let's look at where the folders are on our hard drive that hold our stitch files. When you installed *4D Embroidery*, the following file structure was created.

A folder named **4DEmbroidery** was created. Several sub-folders were created inside of the **4DEmbroidery** folder. One of them is named **Samples**. Within the **Samples** sub-folder, there are one or more sub-folders depending upon which modules of the **4D Embroidery System** you have installed. Since you are using *4D Embroidery*, I know that you have a sub-folder in **Samples** named **4DEmb**. Within the **4DEmb** folder there are 4 sub-folders named **Pics**, **Pics2, Stitch,** and **Stitch2**. Within the **Pics2** sub-folder there are **9** other sub-folders containing 331 vector graphic files. In the **Stitch2** sub-folder, there are **15** other sub-folders containing 300 **Stitch Files**. Here is what the file structure looks like in Windows Explorer:
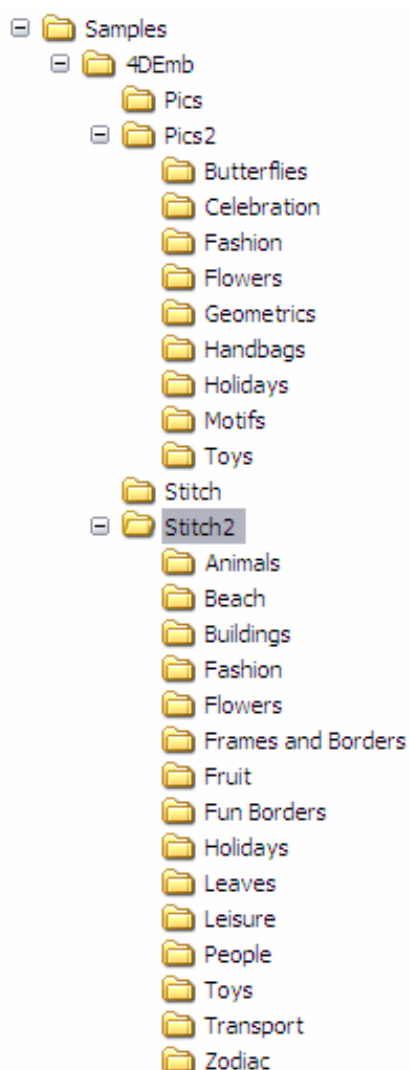
Notice how the file structure is displayed in an indented format. Each time that you open a folder, any sub-folders that are contained in that folder are displayed indented to the right of the parent folder's name.

You will use this knowledge to navigate, or drill down, through the folder structure to the folder that contains the **Stitch Files** you are looking for.

When you open *4D Organizer*, you'll find that it looks almost the same as **Windows Explorer**. You will be working in the **Folder List Pane** to find the folder that contains your designs. For the purposes of this exercise, we will search for the free designs that came with the *4D Embroidery* software.

3. Let's look for the main folder created when *4D Embroidery* was first installed. It is: **C:\4DEmbroidery\Samples\4DEmb.** To begin the process of drilling down through the directory of your hard drive, **left click** on the name of your computer (probably **My Computer**) as shown here:
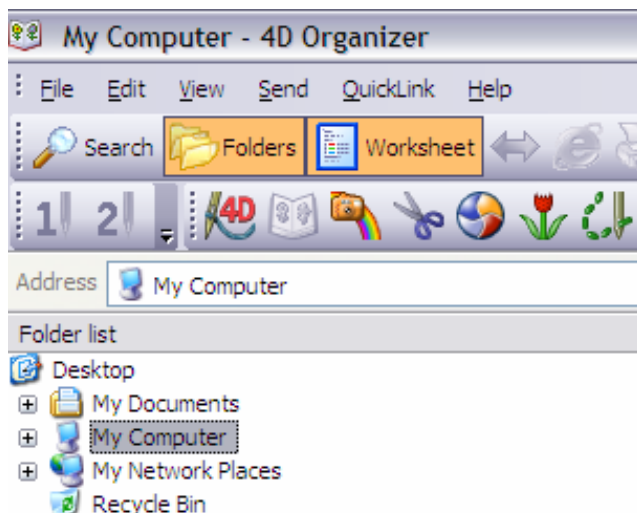

Note: This is probably the only time you will see **MyComputer** in the folder list. Remember that I said earlier that *4D Organizer* will remember the last folder you looked in. After we drill down to our designs, the next time you start *4D Organizer* it will be pointing to that folder.

Left click on **the words MyComputer.** **DO NOT** click on the little box with the plus sign on it. When you click on the plus sign, only the folder structure is expanded. If there are any graphics or designs in the folder, they **will not** be shown in the **Design Pane** of *4D Organizer*. When you **left click** on the words **MyComputer**, it will open and display all of the devices connected to your computer. One of them will be the **C:** drive and is probably named **Local Disk**.

4. The **Folder List** pane of *4D Organizer* will look like this:
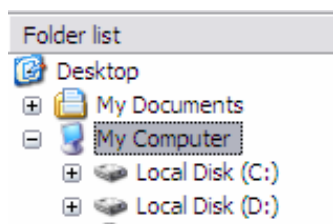
Now, we need to open the **C:** drive to look at the folders stored in the root directory. To do this, **left click** on the **name** of the device **Local Disk (C:)** and the folders contained on the C: drive will be displayed.

5. After you left click on the **Local Disk (C:)** device your screen will look like something like this:
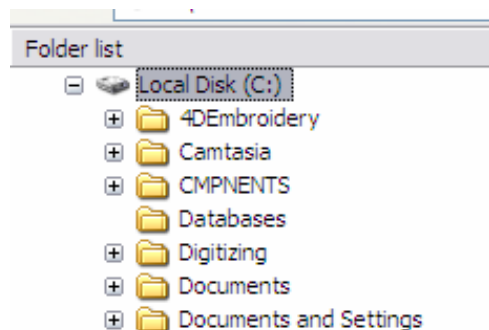

Right at the top of the list of files (or nearly at the top) you should see the folder named **4DEmbroidery**. We need to open this folder so that we can get down to the next level of the name, **Samples**. **Left click** on the **4DEmbroidery** folder name and it will open.

169

6. After you left click on the **4DEmbroidery** folder, this is what your screen should look like:
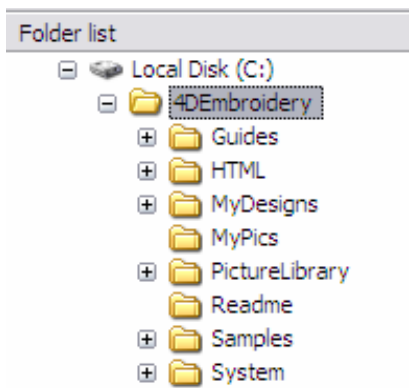
So far so good. You have successfully drilled down to **C:\4DEmbroidery** and you can now see the **Samples** folder. We still have a little further to go. **Left click** on the **Samples** folder and it will open.

7. After you left click on the **Samples** folder, this is what your screen will look like:
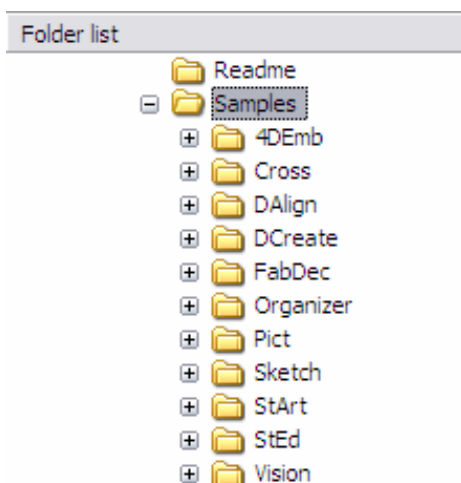
You will definitely have the next folder in our search **4DEmb**. The other folders are there for other modules available from **Husqvarna Viking Software**. Each of these folders contain samples for **4D Embroidery, 4D Cross Stitch, 4D Design Aligner, 4D Design Creator, 4D Fabric Decorator, 4D Organizer, 4D Picture Stitch, 4D Sketch, 4D Stitch Artist,43D Stitch Editor,** and **4D Vision** respectively.

We need to open the folder named 4**DEmb**. **Left click** on the **4DEmb** folder to open it.

8. After you left click on the **4DEmb** folder, this is what your screen will look like:
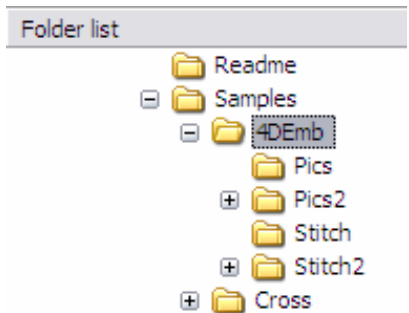
Notice that the large **Design Frame** on the right is still blank. This is because *4D Organizer* has not yet found any graphic or stitch files.

When we open the folder named **Stitch** in the next step, you will see the first of the stitch files that were installed with *4D Embroidery*.

Left click on the folder named **Stitch** and watch what happens.

9.   Here is what *4D Organizer* looks like when you find some stitch files:
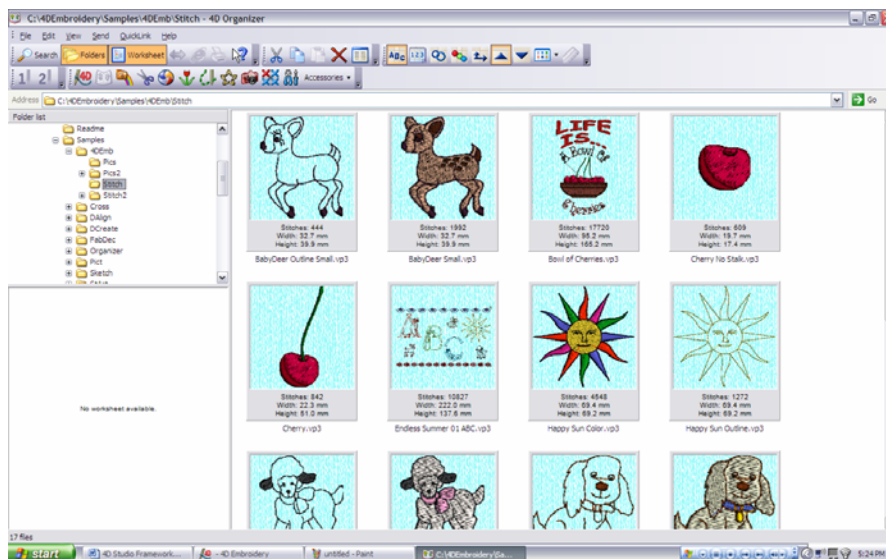
A number of designs are now visible in the **Design Frame**. The design itself, the number of stitches in the design, the height and width of the design are all shown with each design.

So far, none of the designs is selected. **Left click** on any of the designs and look at the information that appears in the **Worksheet Pane.**

I clicked on the first design in the second row, Cherry.vp3 and the following information appears in the Worksheet Pane.:

Here is a wealth of information. The name of the design and the name of the folder containing the design appear.

The number of stitches and the dimensions of the design are also shown.

The color information is provided.

Contents of the **Notes** field are displayed.

Finally, the distance from the center of the design to the top, bottom, left, and right of the design is shown.

All you have to do to add the design to your **Work Area** is to double left click on the design and it will be copied into *4D Embroidery*.

There are several tools available in *4D Organizer* that you can use to simplify your work. When you first open *4D Organizer*, it will automatically sort your designs in one of five ways. You can sort by:

- Name of the stitch file
- Date last modified
- Stitch count
- Number of colors
- Length of longest side

This is done by **left clicking** on one of the five buttons on the toolbar shown here:
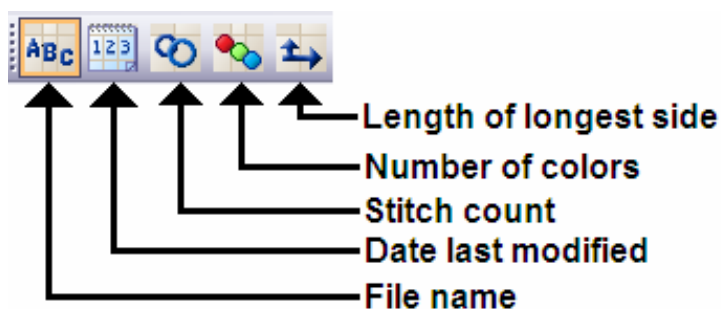
The option selected is contained in a blue square (here it is by file name). Once you select an option, it is remembered the next time that *4D Organizer* is opened again.

10.   Let's find an embroidery design based on the name of the design. I want you to find the following design and load it into *4D Embroidery*:

   **C:\4DEmbroidery\Samples\4DEmb\Stitch2\Fashion\Fan.vp3**

       If you think you know how to find it, then go ahead and load it into *4D Embroidery*. If you aren't sure of what to do, just follow along in the next few steps.

11.   If you have been following along in this procedure, the **Folder List** pane of *4D Organizer* should look like this:
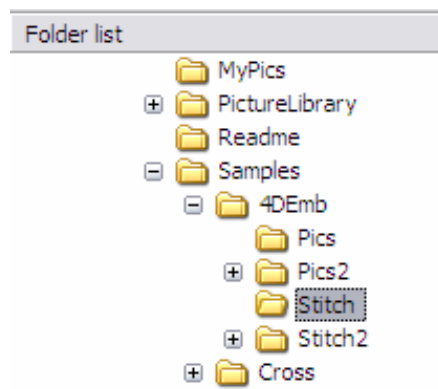

You can already see that we have drilled down through the first 4 **nodes** of the file name. i.e. You can see that the **C:\4DEmbroidery\Samples\4DEmb** folder is open and it contains 4 sub-folders some of which have more sub-folders contained within them (indicated by the little plus sign to the left of the folder name). We need to open the **Stitch2** sub-folder because it is the next **node** in the name of the file. **Left click** on the word **Stitch2** to open that sub-folder and reveal its contents.

12. Your screen should now look like this:
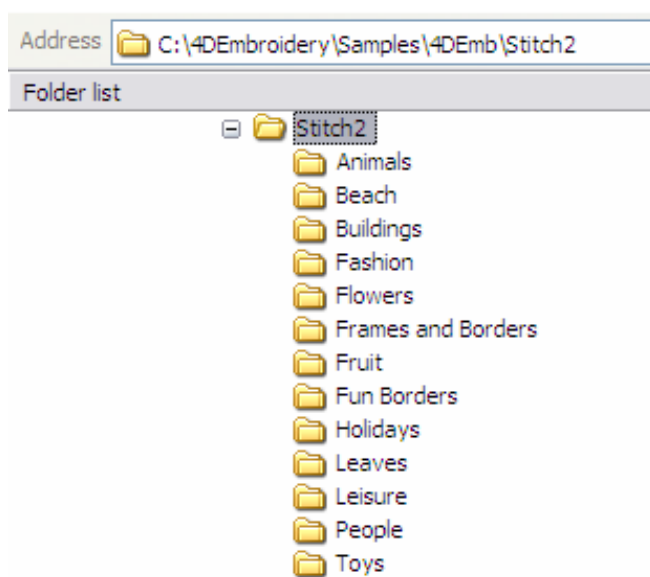
Notice how the name of the folder is beginning to build in the text box above the folder list. It shows how far along we have progressed in finding this design. Since the next **node** in the name of the file is **Fashion** and we can see a sub-folder in the **Stitch2** folder with the same name, we know that we are on the right track. **Left click** on the name of the **Fashion** folder to open it and reveal its contents.

13. Finally, we see some designs in the **Design Pane** of *4D Organizer*. Here is what your screen should look like:
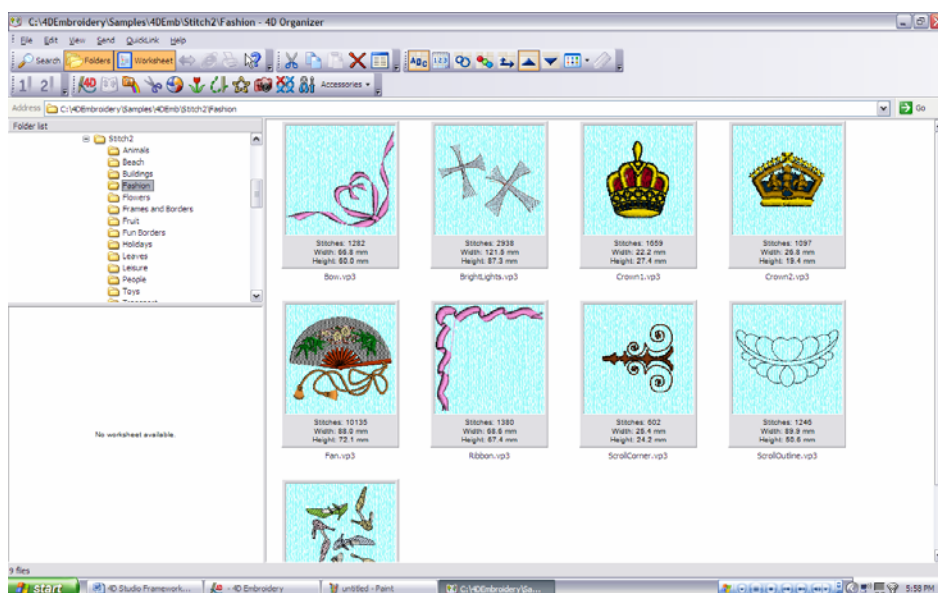

There is the design we are looking for in the second row, **Fan.vp3**. **Left click** on the design to select it. Once it is selected, **right click** on the design to bring up another menu. When that menu appears, **left click** on the **fourth option from the top Real Size**.

14. This is what the **Real Size** dialog looks like:
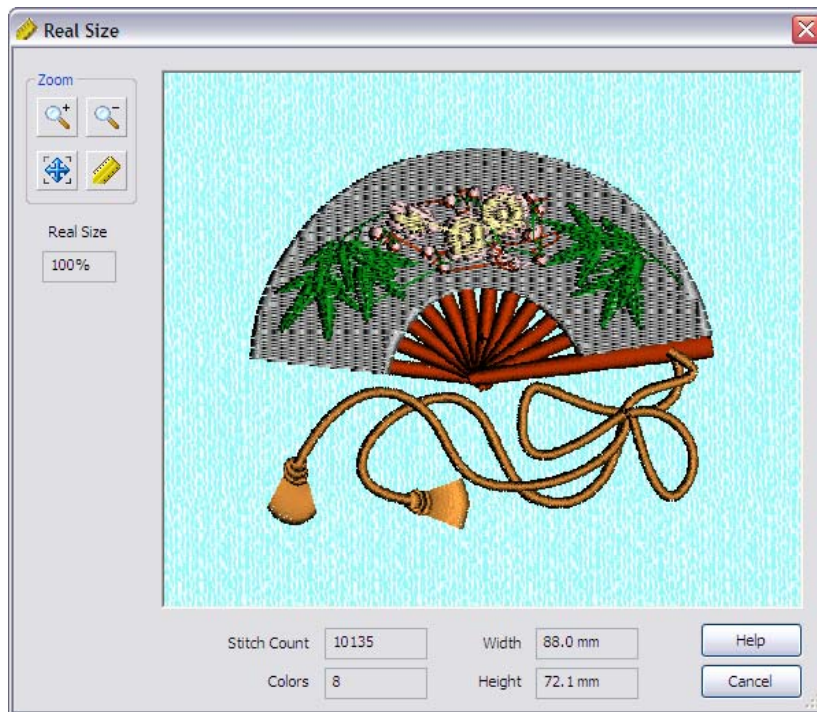
You can use the **Zoom** tools to examine the design more closely and see the size and number of stitches and colors in the design. When you finish looking at the design, **left click** on the **Cancel** button to close the dialog. Now that we are sure that this is the design we want to load into *4D Embroidery*, we are ready to copy the file into that software.

15. Once the **Real Size** dialog closes you can again see all of the designs in this folder in the **right pane** of *4D Organizer*. **Right click** on the **Fan.vp3** thumbnail and the following menu will appear:
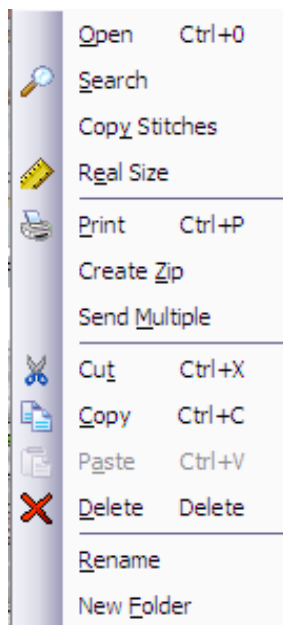

The third option from the top is **Copy Stitches**. **Left click** on that option. As soon as you **left click** on the **Copy Stitches** option, the menu will disappear. Here is what happened. The selected design, **Fan.vp3**, was copied and placed onto the **Windows Clipboard**. This is a special area of memory in your computer that you can use to transfer information from one program (*4D Organizer*) to another program (*4D Embroidery*). Let's switch to *4D Embroidery* and see what happened.

16. Look at the bottom of your screen and you will see several buttons on the same line as the **Start** button. Here is what you will see:

Left click on the button labeled *4D Embroidery.*

17.   Your computer will immediately switch to *4D Embroidery*. Your screen should look like this:
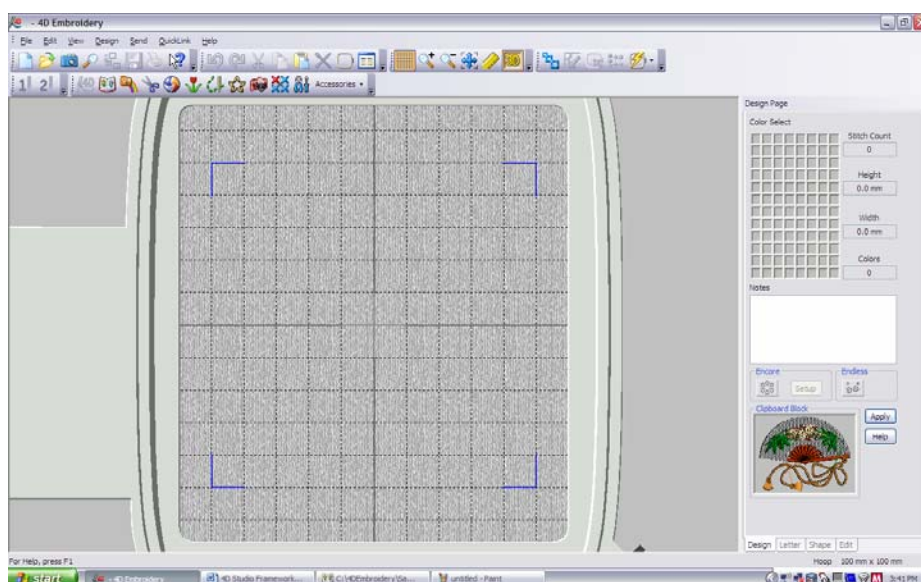
There in the lower right corner of the screen is a depiction of the contents of the **Clipboard Block**. Sure enough, there is **Fan.vp3**. All you have to do now is **left click** on the **Paste** tool on the toolbar to place the design onto the **Stitch Area.**

That's all there is to loading designs into *4D Embroidery* using the *4D Organizer* software.

<u>Notes</u>