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### *Abbreviations*

*DW=Dictionary of Weaves*

*WMC=WeaveMaker Cornucopia*

*SE&W=Summer & Winter*

*WC=Weaving Patterns in Color*

*Shadow=Shadows 4, 6, & 8*

*PW=Patterns for Weaving I*

# *Computers and Weaving for Weaving Indiana 2005*

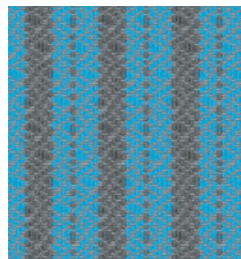
*prepared by Eleanor Best*

## **You are the weaver—it's your weaving!**

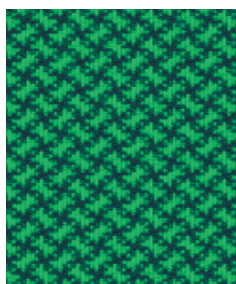
What do you want a weaving program to do for you? What should a good weaving program do for you?

It should be **simple to learn**. A **good manual** should be available to be used for reference only. **Online help files** should be concise and explicit. The manual is usually available as a pdf file on CD. It may be printed out or read on screen.

**Ease and versatility of entry** should be a major concern. Default options should be available to customize basic information. This would include choice of **number of shafts**, **size of grids**, **number of warp threads**, **number of weft threads** or whatever the weaver would want to appear on the screen initially. If these choices are not available, can they be accessed on the screen by clicking, dragging or some similar method.



DW1711



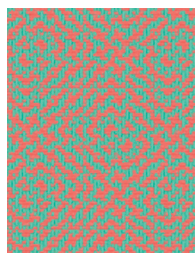
DW1575

Built in short cuts such as automatic straight draw, point draw etc. are a real time saver.

Can the **width of the threads** be adjusted? Does this width apply to all of the threads or can each thread be adjusted individually?

Color choices should be readily available and easily interchangeable.

Functions such as repeat, reflect etc. should be handy. Interchange of threadings, treadlings and other elements should be easily available through cut and paste or an equally effective method. **Block substitution** and **profile drafts** may be essential to some weavers.



WMC

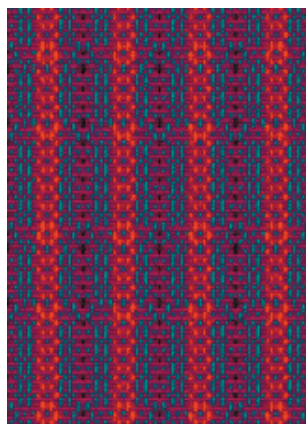
Can different weaves be superimposed on base weaves? Can the pattern analysis be done with a fixed number of shafts so the finished drawdown is practical?

### Extra Features?

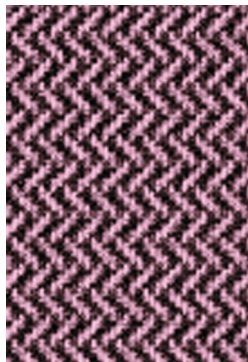
What would you like? Some of the programs today offer special features that are designed to make life easier and more interesting for you. What is important to you?

Cornucopia tool for generating patterns.  
(see WMC views)

Special pattern effects like draping and miniature views.



4 shaft S&W adapt.



4 shaft DW64 p3

How easy is it to change the size of a drawdown?

Does the program have a miniature view of the fabric always viewable when the larger area is being designed?

Can the program read WIF files which have multiple uses such as sending patterns on the internet, transferring and reading programs from PC to Mac/Mac to PC?

Are loom drivers included with the program or do they have to be purchased separately?

Does this raise the

price of the program significantly?

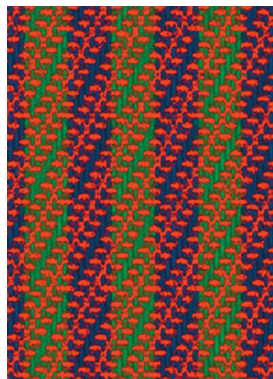
Can multiple drawdowns be viewed on screen at one time?

How versatile are the tools for generating new drawdowns?

Is there a library of patterns available?

Are there tables for estimating the number of heddles needed, conversion of thread sizes and quantities, float counts, and other aids to weaving?

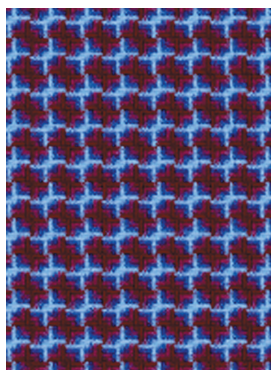
Does the program have an interlacement feature?



8 shaft DW1362 p74

Are the printer drivers adequate for your own equipment?

Will the program run on your existing computer or do you have to put more memory in or upgrade to a new computer?



8 shaft WC

## Major Programs available on today's market

### PC

Fiberworks (Bronze)

Fiberworks (Silver)

Patternland

WeaveIt Pro

WeaveMaker 8 (PC Version)

WeavePoint

WeaveDesign

### Macintosh

ProWeave

SwiftWeave

WeaveMaker 8 (for OS10)

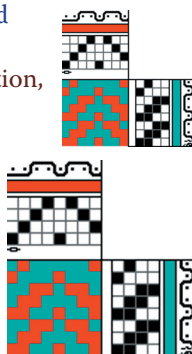
WeaveMaker 8 (for OS 9)

## Publication and Printing

Each program has to be studied to see if a [good printout can be made to specifications](#). SwiftWeave allows any size to be adjusted in a page layout program and will automatically adjust the width of the grid lines to match the drawdown size. The smaller the size of the drawdown, though, the smaller the numerals or squares are, with the result that they can become difficult to see.

Some programs need to have the [drawdowns cut and pasted](#) into a paint program first before putting the diagrams into the page layout. This can cause distortion, rough edges and unclear numbers.

WeaveMaker has a good clear diagram of individual elements of a drawdown which can make it easier to see but need to be set up in a print options menu. The Macintosh has a feature Shift Command 4 which will let you take a picture of an area by drawing a diagonal across the area using the selection tool (diagrams to the right show results



of size reduction. The Mac also has the Shift Command 3 which will take a picture of the selected screen area. Alt PrtSc on the PC will make a picture of the Screen which may be cropped in a paint program.

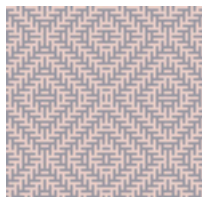
There are programs that [have their own page layout](#) which may or may not allow for freedom in placement or titling individually.

## Color entry

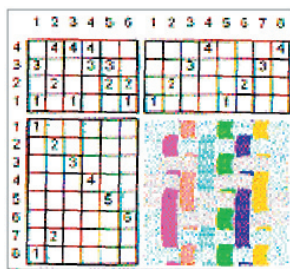
Each program has a different method for [entering and choosing color](#). The Macintosh system has several color “categories” which range from, the color wheel where the density of the hue may be altered or the hue itself may be changed by moving the cursor around on the wheel, to bars, boxes and crayons. The PC shows a box(es) which can be used for choosing colors. Most have the shade changer to lighten and darken the colors. New programs have been adapted for the 16 bit colors or millions of colors.

## Updating old files

It is recommended that [old files be updated with every new program](#) update as the programmers will often change a small feature and it is sometimes impossible to jump from say, version 1 to version 2 without having worked up using version 1.5. There have been instances where updates just don't work at all and this is a problem to watch out for when choosing a particular program. New operating systems can present a problem in compatibility of one version of a program to another. An update for programs that have already been purchased should not cost as much as the original program unless the purchaser has been informed that the new program is just that—a brand new program! It would be a great advantage if the program vendors would send an e-mail notifying the purchasers of updates. The other alternative is to constantly monitor the vendor's web site to check on and download updates.



Shadow4 p22 153



Patternland cut & paste



Crayons

## Weaving Digests

Several of the [weaving programs](#) have had digests set up to assist the [users](#). These would also be a good source to check on how programs are used and decide on the best choice for you. Some of the digests are independent of the vendors and some are sponsored by the vendors. The independent digest can carry frank assessments but there is the problem that disgruntled people may malign features of a program when actually they have not understood (read the manual!) or are not able to relate the program methods to their needs. A good digest will strive to give hints and share solutions, answer problems for users and convey “wishes” for additions to enhance programs. Many of the digest addresses can be accessed through the program web sites. Often some of the digests have been invaded by people “airing their personal complaints” which may lower the standards of the site.

Please consult: <http://home.netinc.ca/~rstowe/weave.html> for further sites. This is a resource site, entitled Ruthe's Collection of Weaving Resources that has about twenty-two pages of references to not only weaving but covers fibers, spinning, museums, artists, shopping, tours, guilds, suppliers, software, books, miscellaneous items, projects and exchanges. All you have to do is click on your choice and it should take you to the correct web site worldwide.

This is a partial list which was updated March 2005

SwiftWeave (Mac)

[www.swiftweave.com](http://www.swiftweave.com)

WeaveMaker (PC & Mac)

[www.weavemaker.com](http://www.weavemaker.com)

ProWeave (PC & Mac)

[www.proweave.com](http://www.proweave.com)

WeavePoint (PC)

[www.weavepoint.com](http://www.weavepoint.com)

Patternland (PC)

[www.patternland.com](http://www.patternland.com)

Fiberworks PCW (PC)

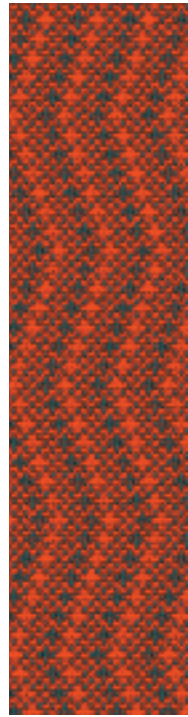
[www.fiberworks-pcw.com](http://www.fiberworks-pcw.com)



PW8 288



Weave\_lec (PC)  
[www.leclerclooms.com](http://www.leclerclooms.com)  
 WeaveIt Basic (PC)  
 WeaveIt Pro (PC)  
[www.weaveit.com](http://www.weaveit.com)  
 DB-Weave (PC)  
[www.brunoldsoftware.ch/dbw.html](http://www.brunoldsoftware.ch/dbw.html)  
 Weave for Windows (PC)  
 Google: weave for windows  
 Two versions: American and Norwegian  
 WeaveDesign  
<http://www.pikespeakweavers.org/>  
 WeaveDraft (PC & Mac)  
[www.gammon.com.au/weavedraft/weavedraft.htm](http://www.gammon.com.au/weavedraft/weavedraft.htm)  
 WinWeave  
 Google: winweave  
 convert to wif utility: <http://gac.edu/~max/weaving/ptn2wif>  
 (should not be needed now as most good programs support wif files)



PW8 301

Some manufacturers of computerized looms in the USA:  
 (some unlisted do not have websites)

[www.louet.com](http://www.louet.com)  
[www.leclerclooms.com](http://www.leclerclooms.com)  
[www.](http://www.)

Leclerc



AVL



Louët



## Costs of programs

The prices listed here may vary so it would be wise to consult the individual web sites for the latest prices and versions.

SwiftWeave distributed by AVL	\$300.00
WeaveMaker distributed by AVL (local distributor Tabby Tree Weaver offers member discount)	\$350.00
ProWeave directly from Cameron Fibrearts	\$245.00
WeavePoint distributed by AVL	\$350.00
Fiberworks PCW directly from Fiberworks PCW	\$180-\$270
WeaveIt Pro (WIF files not fully supported)	\$140.00
WeaveDesign (freeware but donation to Pikes Peak Guild welcomed for users, WIF files but no loom drivers)	

Note that all of the above have loom drivers\* for various looms. All except WeaveMaker charge extra for each loom driver. The charge can vary from \$50 to \$90 for each driver and sometimes the cost of the driver is included with the program. This is an important factor if you are planning to have a computer assisted loom(s.) In addition to the loom driver costs, there is a shipping charge on most of the programs, except the ones that can be downloaded. Some suppliers also provide a demo disk (usually will not allow saving or printing), free or usually for an additional fee which is sometimes deducted from the purchase of the program. Most of the suppliers offer a downloadable demo version of their program which usually does not support printing or saving. Many offer a 30 day trial period during which the fully functional program may be purchased.

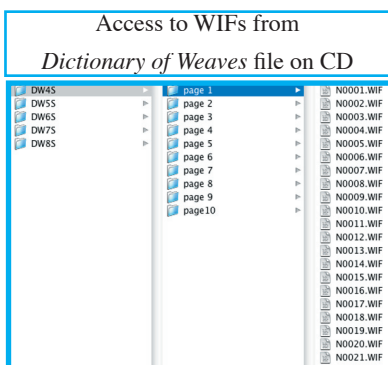
\* Leclerc (do not pronounce the final “c”) have their own software to run their looms.

Some suppliers offer downloadable upgrades. Manuals can be downloaded in some cases or printed out from the Help files within the program. Using this method, costs are not as great and the program can be offered for less money than the printing, binding and shipping costs of a hard copy version of the manual. Acrobat Reader is sometimes included to view or printout the manuals. It is a free program.



## Some Points to Check Before Making a Purchase

1. Is the [program returnable](#) if it does not meet your specifications?
2. [How long](#) can you have it before returning it and will you get your [money back](#)? It is not wise to pay for a program before it is deliverable.
3. Do not purchase “[vapor ware](#)” (promised or proposed software that is not yet available.) If a program is good enough, you do not need to be on a waiting list or put money down to reserve it.
4. Does the [program fulfill all of your needs](#)? Support the number of shafts you have? Support color fully? Does it support WIF files adequately? Has a good screen appearance when using a computerized loom?
5. If you are depending on a [recommendation from another weaver](#), what type of requirements does that weaver have that might differ from your own? Has the weaver tried several programs or only one?
6. [Try a demo first](#). Not all programs will suit your style or be efficient for you.



## WIF Files

A WIF (Weaving Information Format) file is a format that has been devised to save individual components of a weaving file to be used as a means of “transporting” the information to another destination.

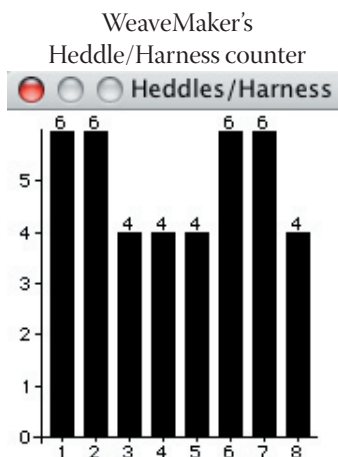
Major uses of the WIF file are to mix components of a weaving or save in a format that will be compatible with other computers and weaving programs such as cross platform from Macintosh to PC or PC to Macintosh. This is especially useful when using an on-line service to exchange weaving patterns with other weavers.

A CD, [Books and WIFS](#) has been made using the thousands of drawdowns from my books. These include the WIFs from [New Weaves](#)•Color and Design, Patterns for Weaving Parts I and II, Weav-

ing Patterns for Color, Dictionary of Weaves, Combo 16 and Combo 24 and Shadows. Other CDs from different sources have surfaced recently.

The CD can be used to access drawdowns in color using from 2 to 32 shafts. The drawdowns can be used “as is” or can be modified to suit design needs. They can be saved in the weaving program that is being used for immediate use or placed in a library for later referral. If they are printed out in color, or grey tones if a color printer is not available, they can become a visual library to used for ideas.

The ultimate use is to insert the CD into the CD drive in the computer and use the loom interface to weave any selection at any time.



## Calculations

Do you ever have trouble with the number of threads and colors and where they should be put on the heddles? Try designing a simple point twill where you will need 360 threads @ 30 ends per inch and 12" wide in the loom. Where is the center? The mathematicians will have no trouble doing this in their heads. The rest of us may be prone to making a mistake in counting the number of threads in one of the point returns. There are 24 ascending, then 23 or is it 22 coming back down? Then there will be a certain number on each end to balance the pattern. This is so easy if you put it on WeaveMaker and use the “oval arrow” found in the Tools box. Just work with the complete point threading by moving it back and forth. The first thing you will find out is that by starting on shaft number 19 that you will also end on 19 at the other end of the threading. Visually this looks good. Assuming that you are going to do a shadow weave where every other thread is dark coupled with a light beside it, you can put these colors in only once and then repeat the sequence across the whole warp. Print it out. You can then go to the loom and verify your threading as you go along to see if you have the correct dark and light threads on the correct shafts. If you change the black squares on the threading grid to digits you can easily check your threading as well. The chart above shows the number of heddles on each shaft needed for an entire threading.

## How to Test a Program to See If It Would Suit You

Open the [program](#) after it is [installed on your hard disk](#). There should be directions telling you how to do this. Look at the program window.

What does it contain? Does it have a [grid ready for entering data](#)? Can you easily start putting in data?

Does the cursor allow you to draw straight threadings or do you have to click on the individual squares? Does a key need to be depressed to allow this? Can the cursor “draw” a threading as you drag it back and forth? A [pencil icon](#) is a sure sign that you can start entering data. It is rather inconvenient to have to go to a special menu to choose the individual grids such as threading, treadling etc.

Many programs have [preferences or options that allow you to set the parameters of your default opening screen](#). For example, if you are always using only 8 shafts, then it is more convenient to have an 8 shaft grid appear rather than have to change from 16 shafts. You may not want to work with 300 threads at first but would like to test your drawdown and expand it later to look at repeats side by side.

Does the program use basic [terminology and conventions](#)? It is very frustrating to look for the word threading and not find it in the help files. What else could it be called? Warp, of course!

Can you find [special tasks](#) when you want them? Change from a tieup and treadling to a pegplan, or back again. Look at the reverse side of the fabric. Treadle as drawn in or threaded—that’s “tromp as writ” to many weavers.

How do you [repeat, reverse or mirror](#)? Can you [adjust the set](#) of your weaving so you can view the pattern as boundweave, warp faced or weft faced?

In preparing the manual, Patternland for the Computer Illiterate Weaver, I showed how to [create templates](#) that could be opened for the individual weaver’s specifications. The templates should be retained for further use, so each file should be given a name to signify or remind the weaver of its character. They could then be altered to fit the size of threading or treadling if there were a need to expand the drawdown. The advantage to having the [WIF files is that the parameters have already been chosen](#) and the program that is using them should bring them up in exactly that format, including the color.

## Some Special Features are Gimmicks

Did you ever just have to have a popular item that has come on the market? You spend days tracking it down and probably spend too much for it. Did you even try using it once? Has it been on your shelf for years gathering dust? This is the failing of some weavers—especially those who collect yarn or books. Again you must sit down and meditate—asking yourself what do I really like doing with my weaving?

If you like [experimenting and planning a project](#) but are bored after you weave the first inch, you will probably like having as many different ways to design a weave as you can get your hands on. If you like to put on one warp and weave a hundred different patterns with different colors of thread, you probably do not need many of the specials added to programs today.

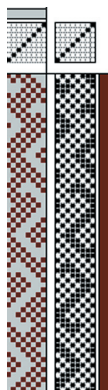
The [challenge is to get the most versatility out of a single warp](#) rather than spend hours rethreading intricate patterns and spending hours for each project. You choose! Most people are impressed with the appearance of the finished article rather than with how much time and exotic threads you have poured into the project.

One of the most useful features that I have found in a program is the ability to make a [base weave of about four wefts, select them and have the group repeated but moved over by a given amount of threads to produce a diagonal pattern](#). This was the basis of many of the old patterns done by commercial or production weavers prior to 1900.

## Speed

Is speed a factor in your weaving? There are those who pride themselves on the speed in which they can thread a loom or weave a yard. There are the other weavers who do not care about speed but check every few threads to see if they are accurately threaded and place every shot so meticulously that they produce a work of art.

Some programs will accommodate both these types but they should be examined to find out which one is the best for you. In producing my books and CD, I had to have a program that would be fast, efficient and printout well. I found that WeaveMaker's cornucopia tool was an excellent way to create new patterns...fast. [Some patterns had to be edited, reflected, inverted and adjusted](#) to produce better



drawdowns, but the ideas were there making it easier to create new and varied designs. Often I would expand a group of threads equal to the number of shafts to produce a pegplan of much greater dimensions in length.

### Complicated threadings

Does the program give you the latitude of creating [complicated threadings](#)?

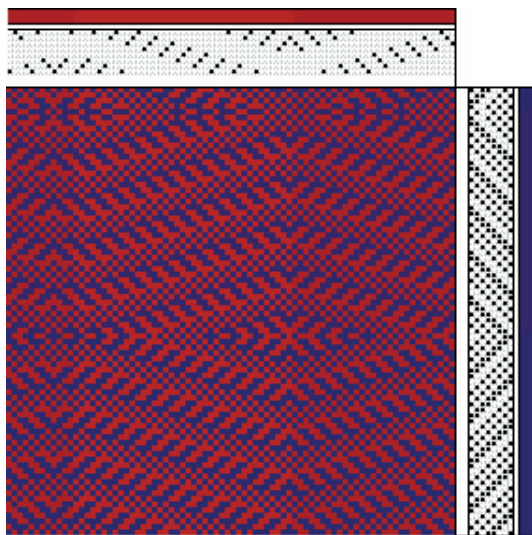
Although the industry does not use complicated threadings, the handweaver of today thinks of them as a way of expanding the future of handweaving to create [unique patterning](#). When you create a complicated threading, the tendency is to try to make the treadling complicated as well. Watch out! There is a danger of the fabric getting out of control. The skips may be too long...the pattern may be too “busy”...the yarn may compound the “busy” effect...the fabric does not have the best quality.

A new feature in WeaveMaker is the color mixer which gives multiple gradations of single color chips which makes subtle blending much easier and more accurate. The drawdown to the right actually has two shades of red in the warp and two of blue in the weft...an advancing twill on 8 shafts in both threading and treadling.

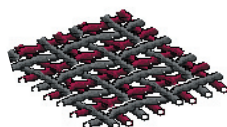
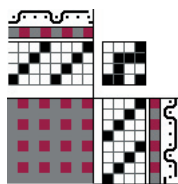
### Block Substitution

If you use [profile drafts](#) and wish to convert them to long drafts with [groups](#) of threads substituted for each square of the profile draft, you will be interested in how some programs deal with this subject.

In Weaves•A Design Handbook published in 1987 and still being purchased by textile mill designers, colleges and handweavers, the subject of block weaves has been condensed to show how block substitution works.



There are two methods of substitution: the actual substitution of the blocks with a complete set of threads or through the use of “tiedown” threads which have accompanying pattern threads to provide the design of the weave. A program should provide the resource of being able to enter your choice of combinations. You may even wish to [invent your own system](#) instead of doing well known weaves such as Summer & Winter or Double Weave.



One of the most versatile methods of block substitution is used by WeaveMaker—[algebraic expressions](#). For example, 3(1323) 4(1424) 1323 4(1424) 3(1323) etc. OR, you can lock certain threads and put in others around the locked threads.

Weavers who have studied blocks using the alphabetic system of designating blocks (A, B, C, D etc.) may find it easier to set up a [profile draft and assign the blocks through substitution](#). For example, ProWeave has a long list of block substitution weaves and can also handle manual insertion.

Viewing a [double weave drawdown](#) in a flat view it is almost impossible to visualize what the actual woven fabric will look like. This is apparent when viewing a real sample as there are two distinct sides. If the fabric is woven on a computerized loom, each of

1	2	3	3	3	1
1	1	1	2	2	1
4	4	8	12		

Sample of WeaveMaker threading printout

the weft shots will appear as a separate entity and therefore have the correct lifts selected for a perfect double woven piece. Unless you are using sticky threads that do not allow perfect sheds! The cross section shown here shows the interlacement of both sets of warps and wefts as depicted in the drawdown above right.

## Printing

A word about printing. If you are a meticulous note keeper, there are more options for keeping [details about your weaving](#) and being able to print out aids for warping, records of precise yarn colors and other detailed data, then [WeaveMaker](#) has been designed for you.

You can print out color swatches which can be coordinated with the screen color and record their values for future reference. These colors may be sorted in palettes which also may be called up for use in any other drawdown. The [small fabric swatches](#) shown throughout this booklet are print outs from this program. The [drawdowns](#) have been produced from [SwiftWeave](#).



A [preview window](#) is handy to see what and how the information will be printed. Each program has printing options which may be selected, but not all programs allow for repositioning, sizing or a selection of individual components in a page layout program.

## Loom Control

Each program has a different way to [interface with the loom](#) and a different appearance on the screen. If the computer screen is not placed within easy view of the weaver, it can be very difficult to track exactly where you are in the progression, up or down, of the cursor or marker. Patternland has a neat little marker in the shape of a shuttle which is like shifting gears...up, neutral or down...reverse, neutral or forward. Check first. **Don't take this for granted.**

Be sure to check to see if the program you choose has a loom driver for your loom. Make sure you have the right cable to connect your loom box to your computer. You might also want to check on the extra cost for the loom driver. Louët looms can be operated using a Palm hand held computer as well as directly from the computer to the box.

## Memory, System and Peripheral Requirements

Some older computers and CD drives will not run the programs successfully. It's a sad fact that the minute you take a new computer home, it's probably obsolete. New technology is always being introduced so don't be surprised if you "just have to have the latest."

[USB connections](#) are a great advantage, especially for laptop users as you can plug and unplug without turning off your computer and do not have to worry about losing all your work. The problem is that the



**WM User's Manual.PDF**

old technology has not caught up with the new and, as usual, there may be a [compatibility problem](#). Most computers come with a CD drive that can write and well as read CD contents which can be read by either PCs or Macs but do the weaving programs have this capacity?

Most of the weaving programs do not need an excessive amount of memory and will run a loom as well. If you plan to store many large drawdowns you may have to consider expanding your storage space. This can mean a larger hard drive or the small palm size hard drives that are capable of holding an amazing amount of information. CDs can also be used for storage.

## Documentation

Methods are varied from program to program as to how documen-

tation is handled. You will have a choice of downloading a manual, purchasing a manual, reading the help files on screen or printing out the help files. Depending on how you like to have the documentation, one of these methods may be more advantageous to you than another. Check what method is being used by the program you are interested in and check also to see if you can readily [understand the content](#) or it is [adequate for your needs](#).

## Computerized Looms

Weaving on a computerized loom has its advantages which may be very important to some weavers. If the loom is working well, accuracy can be the payoff. This leads to speed and versatility in designing. On the market today are looms for the handweaver that can handle from two to forty shafts. As each weaver has favorite looms, it would be unfair to say that one loom is better than another.

[Consider these factors](#): is it easy to warp the loom, is the treadle action light, is the beating action consistent, does the loom have aids for lifting the shafts, beating evenly, throwing the shuttle(s)? Does the loom fit comfortably into your weaving space? What sort of weaving do you do which would require a wide warp or would a small table (16" loom do)? Is the loom sturdy enough for your requirements? Cost? How easy would it be to trade up? down? Is there good support from the manufacturer?

Visit the web sites for the loom manufacturers to find out what is new. Better still, try to find a weaver friend who would let you try out a loom. It is not a good idea to "take someone's word for it" that they have the best loom on the market. It is not a good idea to have a "non weaver" pick out such a major purchase as a large floor loom...or any loom as a matter of fact. A loom made of exotic wood which will look wonderful in your living room may not be a comfortable loom to use for serious weaving.

## Computerized Loom Control Boxes

Each loom manufacturer has designed his own loom control box with the result that there are several on the market. Unless a programmer provides a loom driver for that loom, his software simply will not make the loom function.

The level of noise generated by the different boxes varies greatly. Try to check one out before ordering it as it may influence your choice. All the systems use solenoids controlled by the data from the computer, but differ substantially in how the solenoids activate the loom shafts.