

# Tips & Techniques!

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## Tips & Techniques #18

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### PE-1 TIPS & TECHNIQUES THINGS YOUR MANUAL DOESN'T TELL YOU!

The right indicator must always be on 60. If it is not, it will be read as a vertical line in the pattern.

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The maximum width design that the PE-1 can read is 240 stitches. If you are knitting on the SK-830, which has 250 needles, you will have five repeating stitches at each edge.

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The left width indicator may be placed on any number to indicate the first stitch of a pattern ONLY when reading complete patterns from a single design sheet. That is, patterns less than 60 stitches wide. Designs wider than 60 stitches require more than one mylar sheet and the left indicator MUST be on 0. If for example, you want to read a pattern that is 80 stitches wide, the PE-1 will always read 60 stitches in width off the first design sheet and 20 off the next. If the left indicator is placed at 20, the PE-1 will read stitches 21-60 first and then follow them with the first 20 stitches to satisfy the 60 stitches it needs to find on the first card. Then it will read the 1st 20 stitches of the second mylar. Your resulting pattern will be scrambled with 40 pattern stitches, 20 blank stitches, 20 pattern stitches. With this in mind, always begin designs that are more than one mylar wide with the pattern starting at the extreme left of mylar #1.

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**MEMORY CARD CAPACITY:** While each memory card is capable of holding up to 250

small patterns, it is easier to visualize a card's capacity as being equivalent to approximately 27 full design cards. Regardless of a pattern's width, patterns are stored as entire rows. In other words, if you store a pattern that is 6 rows by 4 stitches, 60 spaces on each of those 6 rows will be used on the memory card. The remaining 56 squares cannot be used because the PE-1 does not store patterns side by side, so they are wasted. Multi colored designs use up a lot of memory because the final pattern equals pattern rows times the number of colors. A multi colored pattern that is several design cards wide and high could use up most of the storage space on a single card.

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**STORING DESIGNS THAT READ IN BOTH DIRECTIONS:** When designs like the snowflake stars in figure #1 (see last page for figure #1) are knitted from a design card, the markings in the card movement columns insure that the pattern is continuously read from bottom to top and then from top to bottom, without repeating either the first or the last rows. In order to store a design like this on a PE-1 Memory Card, you must read the pattern in two steps:

1) Align row #1 of the design card with the card reader slot and make sure that the DOWN arrow on the EC-1 is lit so that the card feeds down. Read this pattern in the usual way [Read/27/F4/27/=] and then save it on a Memory Card [Save/=]. Make a note of the pattern number (P#) as shown on the

display.

2) Align row #26 of the design card with the card reader slot and make sure that the UP arrow on the EC-1 is lit so that the card feeds up. Read this pattern as follows: [Read/25/F4/27/=]. Reading 25 rows, instead of 27, insures that the first and last rows are not repeated when the designs connect.

3) Once the second half of the pattern (25 rows, top to bottom) is in the PE-1, you can recall the first part of the pattern from the memory card so the two can be combined. Do this as follows: [Load/F2/P#/=].

4) The combined pattern is the one that you want to save on a memory card, and you can simply save it now. However, the first half of the pattern is taking up unnecessary space on the card and should be eliminated first. Remember that the PE-1 retains in memory the last pattern that it reads. This means that regardless of what else you do, the combined pattern is still in the PE-1. Therefore, you can erase the last pattern on the card (i.e. the first half of the pattern) [Save/F2/=] and then save the full pattern [Save =]. If you have an extra memory card, you can use one to "build" patterns and the other to save final designs. The final pattern will be stored as 52 rows by 27 stitches. Use the #5 (chevron) button when you knit to mirror the pattern horizontally as well.

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**STACKING SEVERAL DESIGNS:** The collection of snowflakes shown in figure 2 (see last page) is displayed horizontally so you can knit 1,2,3 or all 4 of them side by side by using the width indicators on the EC-1. However, if you want to knit an entire row of one, followed by a row of the next (figure 3, see last page), you have two choices. You can reset the width indicator after every repeat and work from the design card, or you can stack the designs on a memory card. This will require reading and saving the designs in several steps, but will save you lots of knitting time and mistakes. Whenever you stack

designs, make sure that all designs are the same number of stitches wide the height of each design is unimportant.

1) Read the first snowflake, including two plain rows to space this design from the next:[Read/15/F4/13/=]. Save this design [Save/=] and make a note of the pattern number (P#).

2) Read the second snowflake and then combine it with the first one: [Load/F2/P#/=]. Save this design [Save/=] and make a note of the new pattern number.

3) Read the third snowflake and then combine it with the combination created in step 2 above: [Load/F2/P#/=]. Save this design [Save/=] and make a note of the pattern number.

4) You can continue reading and combining patterns in this manner until all of your designs have been combined. If you are working with one PE-1 Memory Card, do not save the final combined design until you have erased each of the partial designs you used as building blocks. The final, combined design will be safely retained in the resident memory of the PE-1. Erase the partial designs one at a time [Save/F2/=] then save the final design [Save/=]. If you leave all of the partial designs on the card, you are wasting valuable space. The alternative, of course, is to use one card just for combining and building patterns and a second card for storing final designs. Then, you can erase the entire first card in one step. Please note that as you stack designs in this fashion, that you are actually combining them in reverse order. As you add patterns, they are added below the previous ones in the display. Therefore, when order is important, begin by reading the last pattern first and read the remaining patterns in descending order.

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**READING MULTI-COLOR CARDS:** With the introduction of the AG-50, the ability of the PE-1 to read multi-color patterns is even more important. The PE-1 will accept up to 5 colors,

with each color individually drawn and inserted on a separate design sheet. Make sure that each square of the design is only filled in for one color. If you make a mistake and fill in the same square on two cards, both colors will knit, forming two rows on that stitch instead of one. A blank design card is always used for the last color because the PE-1 will assign any unused squares to the last card. This is a real time saver!

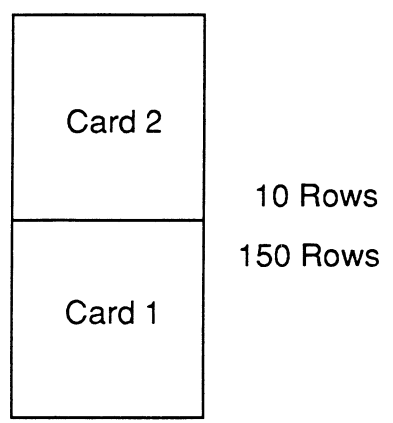
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 When reading multiple design sheets for multi-color knitting there are several rules you must observe:

**RULE #1:** The PE-1 thinks from left to right and always wants to finish all the colors in the left column completely before proceeding to the right.

**RULE #2:** The PE-1 must always read a complete column of each color from bottom to top before accepting the next color.

**RULE #3:** The markings in the color column are only read from the last, right hand column of cards. The last card(s) for each color must be marked.

**RULE #4:** If a portion of the design area is totally blank, you must read in a blank card to retain the correct placement and order of the following cards.



**Figure #4**

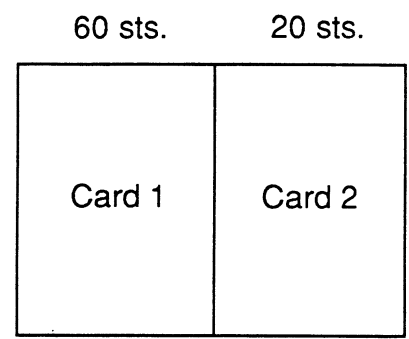
**EXAMPLE #1:** To read a 3 color design that is 160 rows and 60 stitches wide (i.e. two cards high, but only one card wide). [Read/160/F4/60/F3/3/=]. All six of these cards should have the color code columns filled in.

PE-1 "150 rs set"    Read card 1, color 1  
 PE-1 "10 rs set"    Read card 2, color 1

The PE-1 will always request additional rows until you have satisfied the height of the programmed design. Once the PE-1 has read all 160 rows of color #1, it is ready to accept all 160 rows of color #2 and then color #3.

PE-1 "150 rs set"    Read card 1, color 2  
 PE-1 "10 rs set"    Read card 2, color 2  
 PE-1 "150 rs set"    Read card 1, color 3  
                                   (blank)  
 PE-1 "10 rs set"    Read card 2, color 3  
                                   (blank)

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**EXAMPLE #2:** To knit a 4 color design that is 100 rows and 80 stitches (i.e. one card high, but two cards wide). [Read/100/F4/80/F3/4/=]. The PE-1 will say "100 rs set" for every card; it does not indicate that only 20 stitches are needed off the second column of cards because it thinks in terms of rows. The color code columns only need to be filled in on the #2 cards for each color.



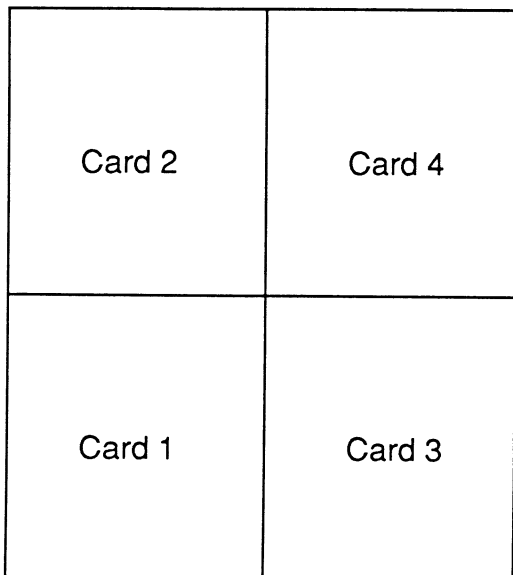
**Figure #5**

Read card 1, color 1  
                                   color 2  
                                   color 3  
                                   color 4 (blank)

This completes the first column on the left.

Then Read card 2, color 1  
 color 2  
 color 3  
 color 4 (blank)

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**EXAMPLE #3:** It gets a little trickier and uses more cards when designs exceed one card high AND one card wide. For example, a three color design that is 160 rows by 80 stitches (two cards high and two cards wide), will require 9 design cards: 4 cards for color 1, 4 cards for color 2, and a blank card for color 3 (that will be read four times). The PE-1 will read the design from bottom to top and left to right.



**Figure #6**

[Read/160/F4/80/F3/3/=]

PE-1 "150 rs set" Card #1, color 1  
 PE-1 "10 rs set" Card #2, color 1

This completes the left most column of color #1.

PE-1 "150 rs set" Card #1, color 2  
 PE-1 "10 rs set" Card #2, color 2

This completes the left most column of color #2.

PE-1 "150 rs set" Card #1, color 3  
 (blank card)  
 PE-1 "10 rs set" Card #2, color 3  
 (reinsert the same blank card.)

Cards #1 and #2 have been read in all three colors and the left most column of the design is complete. Now the PE-1 wants to read the next column to the right for the additional 20 stitches it needs to satisfy this 80 stitch design. Remember, the color column should be marked on each of these next cards.

PE-1 "150 rs set" Card #3, color 1  
 PE-1 "10 rs set" Card #4, color 1  
 PE-1 "150 rs set" Card #3, color 2  
 PE-1 "10 rs set" Card #4, color 2  
 PE-1 "150 rs set" Card #3, color 3  
 (blank card)  
 PE-1 "10 rs set" Card #4, color 3  
 (reinsert same blank card)

After reading the last card, the PE-1 will quickly say "Completed" and "OK". Simply press Knit/= and you're ready to go!

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**ISOLATION OF MULTI-COLOR SLIP STITCH AND JACQUARD DESIGNS:**

The point cams tell the carriage where to begin and end stitch patterning for each row. When you set your cam lever to "Slip", you are actually telling the carriage to slip every needle on the bed except those indicated as pattern (knit) stitches by the design card. You must keep this in mind when knitting multi colored slip stitch (single bed) or jacquard (double bed) patterns. If the point cams are located inside of the edges of your knitting in order to isolate a motif, the needles outside of the point cams will never be selected to knit in any color. Therefore when reading a multi-color slip stitch design for isolation, you need to read in extra blank (background) stitches to accommodate the full width of the garment or the needle bed. The blank spaces must be part of the design.

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**EXAMPLE #4:** Lets isolate and center a 40 stitch, 3 color design, on 200 needles. 200 stitches - 40 for the isolated design = a total of 160 plain background needles. In order to center the design, there must be 80 back-

ground stitches to the left and right of the motif. The cards could be designed with 80 blank stitches, 40 design stitches, then 80 blank stitches.

However, a much easier and more versatile way is to use the N1 cam to place the design. Remember, the N1 cam coordinates the placement of the 1st stitch of your design with a corresponding needle on the bed of the machine. If the left light of button #2 is lit, the 1st stitch of your design will be knitted on the first needle to the right (of the center line) of the N1 cam. The last stitch of your design will be knitted on the first needle to the left of the N1 cam. Therefore, you can design your card with all the blank, background stitches at the end and place the N1 cam where you want the actual design to start.

Begin drawing your design on the extreme left of card #1. The design is 40 stitches so you'll need to follow it by at least 80 blank stitches: the remaining 20 on card #1 and 60 on card #2. Read the finished design into the PE-1 as for any multi color design. Remember that card #2 for all colors will be blank. To center the design: Place the point cams at the edges of the knitting and place the N1 cam between needles 20 and 21 (to the left of center zero). With the left #2 light lit, the design will knit between needles 20 left and 20 right. The background will knit all the way to the edges (i.e. needle 100). The 80 blank spaces that were read after the motif itself will knit to the right of the design and they will also be repeated to the left of the N1 cam as the last stitches of the design.

If you don't know the actual number of needles you will be working with or the exact placement, it is easiest to always design patterns of this type for 200 needle width. Your N1 cam will always determine where the design will start and you can work narrower than 200. One last tip, remember that the last

(column of) cards you read are the ones that need to be coded for the color numbers. Even though these cards will be blank for isolated designs, they still need to be coded.



### **CHANGING THE BATTERY IN A PE-1**

**MEMORY CARD:** The display screen will tell you when your battery is low. Purchase a new battery wherever they sell watch batteries. The PE-1 cards are initially supplied with Toshiba 3V Lithium batteries (#CR2016). Do not remove the battery from the memory card or you will erase all of the patterns you have stored! Instead, proceed as if to make a "Master Card" copy:

Press [LOAD - SAVE = ]  
Insert your card when the display asks for the Master Card  
Press [=]

The display will tell you to change cards. Instead, remove the card, change the battery and then re-insert the same card. When you press [=] the card will be automatically formatted and all of the patterns will be returned to the original card.

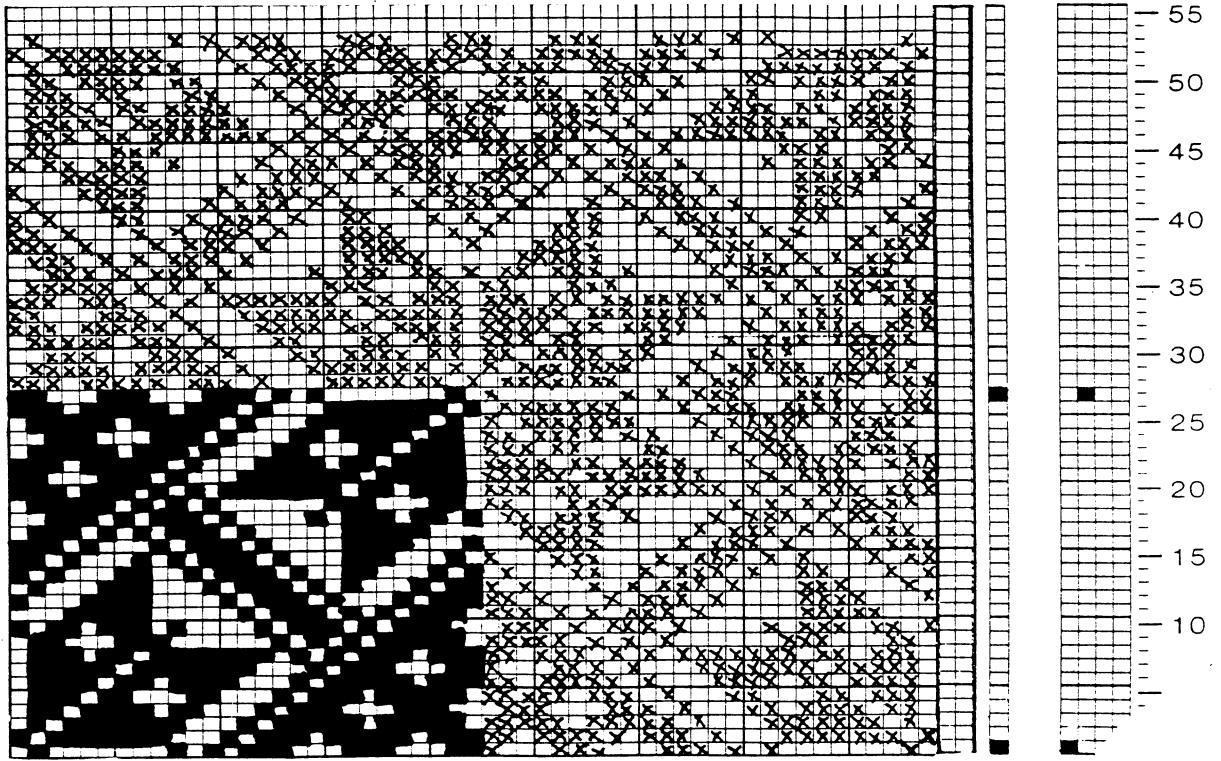


Figure #1

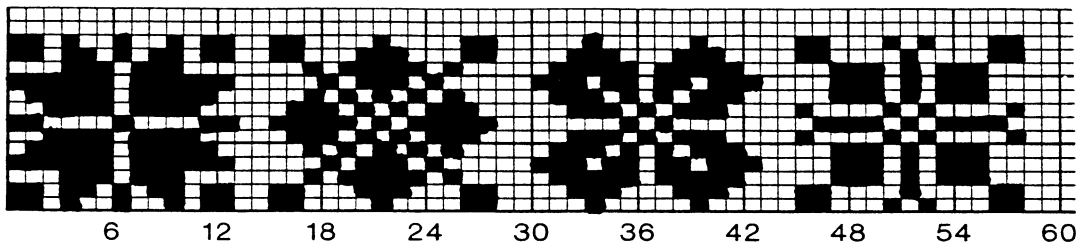


Figure #2

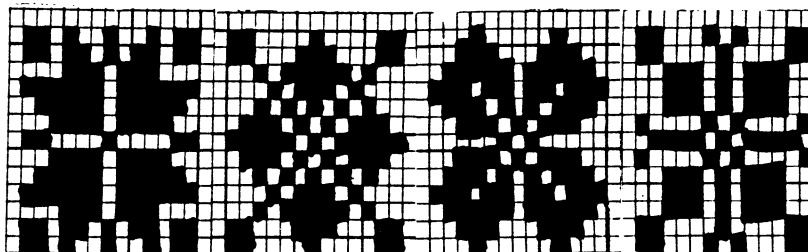


Figure #3