

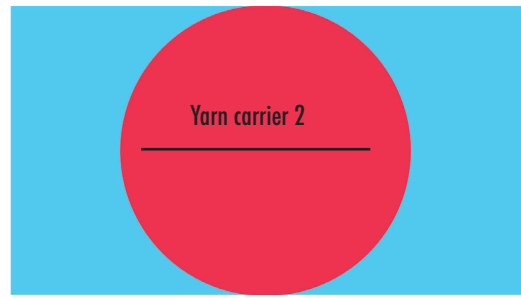
## 5. M1plus- Stoll pattern Software for knitwear : importing an image for Intarsia

-In Intarsia there is only one active yarn color and yarn carrier in each area, this means that the limitation of the number of color areas/carriers is 30 (2 are needed for the start).  
Your image needs to be suitable for intarsia, prepare it beforehand.

Example: Red dot on blue background

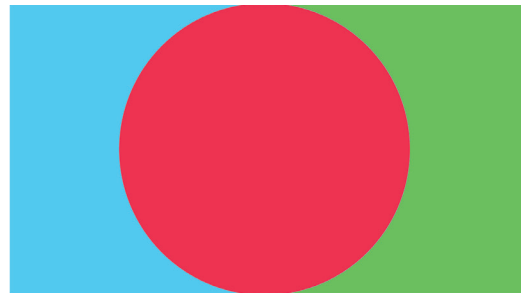
-If you would like to knit a red dot on blue ground, each area needs its own yarn carrier. Although areas 1&3 would be knitted with the same yarn, separate carriers need to be set.

-Another color should be added to the image, to section 3, in order to be able to set a different yarn carrier for that area.



Yarn carrier 1

Yarn carrier 3 with the same yarn than 1



### Example 5.1: Vertical Intarsia stripes with 6 colors, single knit

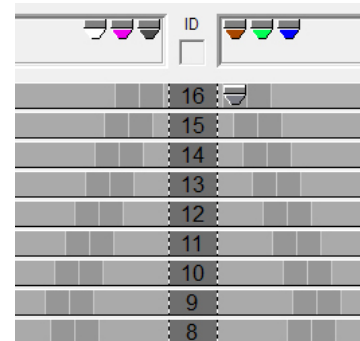
1. Open M1plus software and make a new pattern according to previous instructions. The pattern size should be identical to your picture. Select the desired start. Generate Design Pattern.

2. Go to File -> Import -> Picture as Pattern Element...  
"Step 1: Picture Selection" - window will open. Go to Load... -> select your picture file. The width, height and number of colors in your design will be displayed. Adjust the dimensions of the picture if needed. Select Presentation: All needles.

3. Next > to go to Step 2: Color Selection-window, and reduce the colors if needed by adding the number of colors you would like to have and selecting Color reduction. Under Pattern, select Structure/Intarsia. Select Complete.

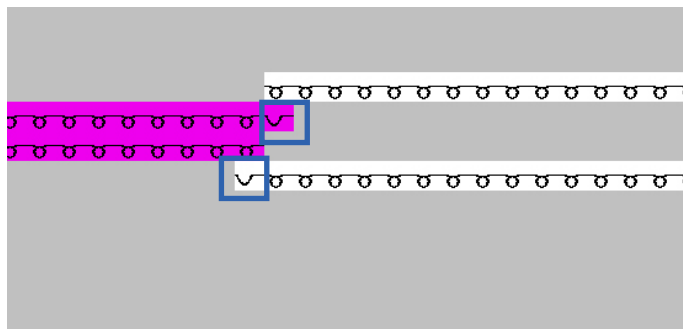
4. Your picture will now appear as selected item, place it to its correct place in left corner after the start with the left click of the mouse. Remove the selection with ESC.

5. Set the Yarn Field (optional step, can be also completed later). Drag the Yarn carriers to their places. In this case the machine has set 3 carriers to left and 3 to right, according to the colors closest to left edge and closest to right edge of the piece.

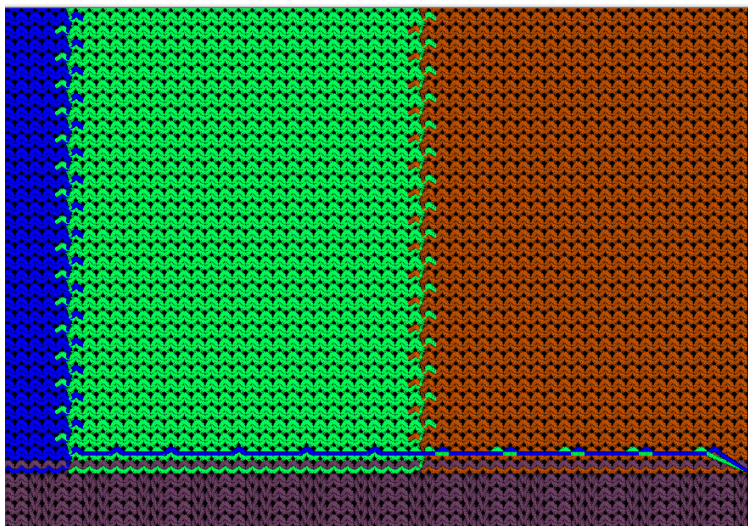


6. Select-> Expanding entire pattern. If you have too many yarn colors or impossible areas for intarsia, the program will show you an error.

On the left picture you can see the tuck stitches created in each boarder area, in order for the yarn areas to be linked to each other.



7. Check the fabric view. When you click with the right mouse click and select view from back, you can see how the yarns are transported across the design in the beginning. Close the fabric view.




8. Start processing. Save the pattern.

9. Run Sintral Check.

You could also add different structures to your intarsia pattern, by for example drawing with different stitch notations or adding some modules from the library or create your own modules.

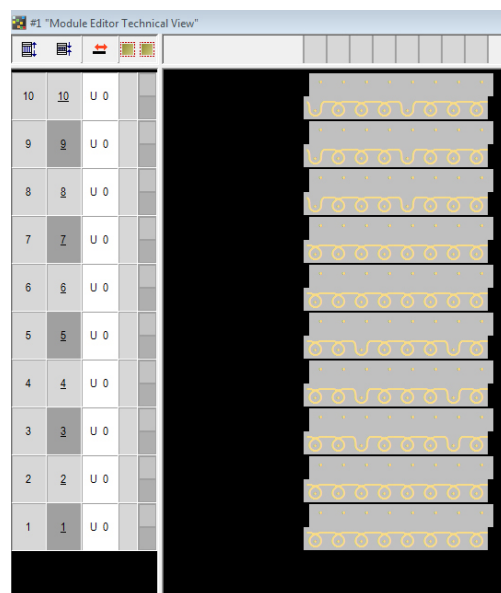
## 6. Saving your own modules:

1. Draw one repeat of pattern with desired stitch actions. Select a pattern area in the "Symbol View [Basic]".

2. Go to "Module" -> "Generate from Selection" -> "Module" menu. Or click on the  icon in the "Default" toolbar.



The "Module Editor" appears with the contents of the selection. Check fabric view from View- "Open new Fabric View". Close the fabric view.

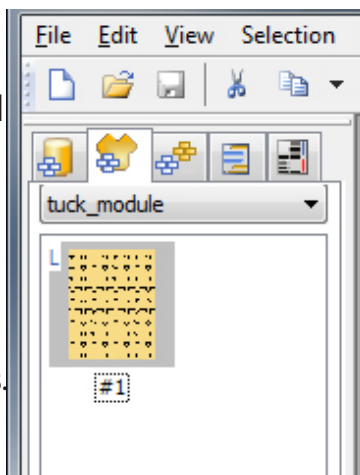


Module Editor, Technical View

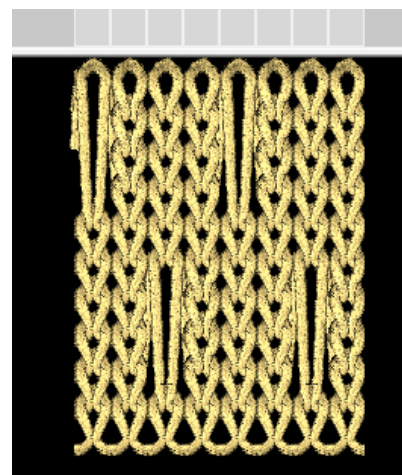
3. Close the Module Editor with the X. ->The new module will be saved as Local module in the "Modules" toolbar under "Local Modules".

4. To save a local module in the data base: Select a local module in the "Modules" toolbar under local modules. Go to context menu with the right mouse button and select "Save to database".

-> The module is saved to the "New Modules" module group of the "Module explorer of database". Modules saved in the data base are available for further patterns. The L marking (for local module) is no longer present.



Local Modules before saving



Module Editor, Fabric view

## 7. M1plus- Stoll pattern Software for knitwear : jacquard intarsia

It is possible to combine areas of jacquard and intarsia. If you want to have multicoloured motif surrounded by single colour with single yarn, use jacquard in the multicolored motif and intarsia around it.

1. Open M1plus software and make a new pattern according to previous instructions. Select the desired start. Generate Design Pattern.

2. Go to File -> Import -> Picture as Pattern Element...

"Step 1: Picture Selection"- window will open. Go to Load... -> select your picture file for jacquard intarsia. The width, height and number of colors in your design will be displayed. Adjust the dimensions of the picture if needed. Your image can be smaller than your file. Select Presentation: All needles.

3. Select Next > to go to Step2: Color Selection-window, and reduce the colors if needed by adding the number of colors you would like to have and selecting Color reduction. Under Pattern, select Structure/Intarsia.

4. Select Complete and place the image to the wanted place in your file. Remove unnecessary colours around your design by filling them with surrounding colour (for example with Magic Wand).

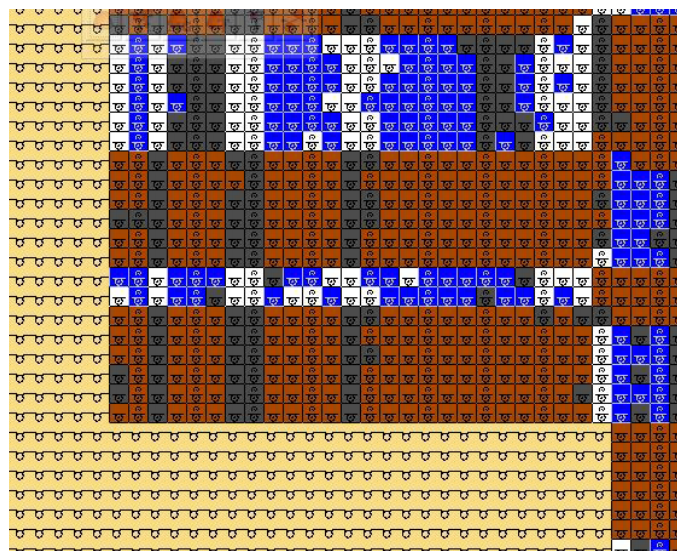
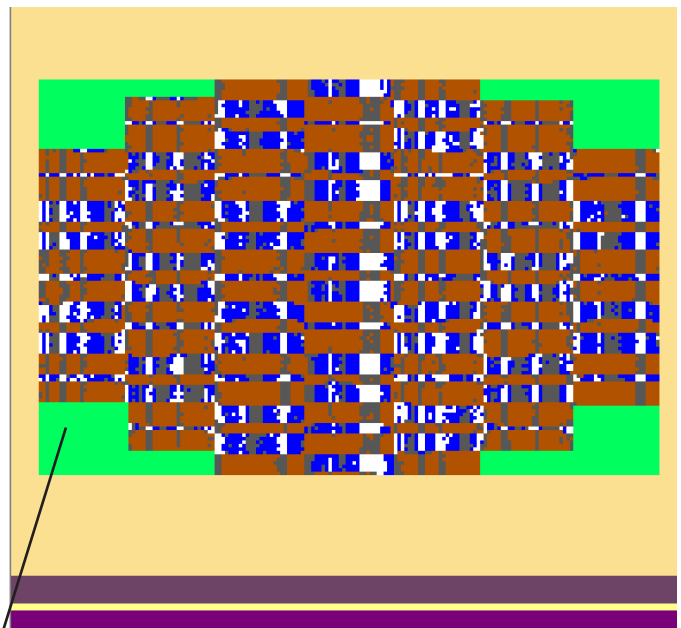
5. Select your placement design. You can do this for example by selecting the colors around the design and all the starting rows with magig wand. To select several colour areas keep ctrl-button pressed. Then go to Selection -> Invert Selection.

6. Go to Edit -> Generate or Edit Jacquard...

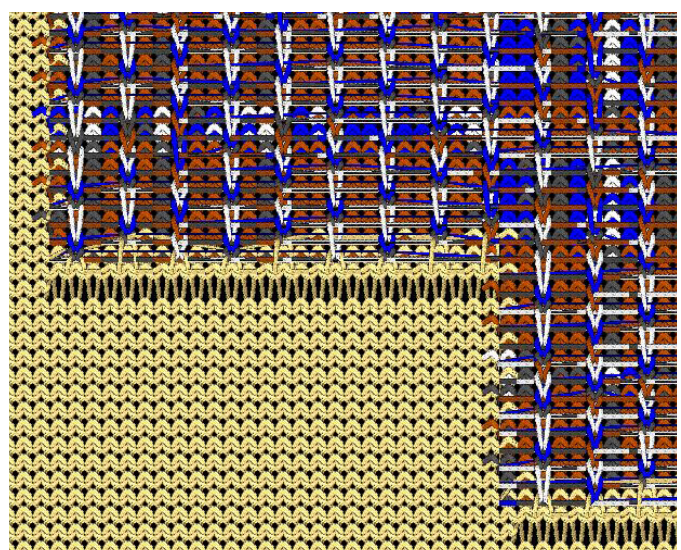
7. In the Jacquards-window, make the desired settings according to previous instructions. Select the desired back for the jacquard from the list under Stoll-file.

8. Select Apply. Select OK.

9. Finish the processing steps (optional Yarn Field, Expanding Pattern, Start Processing, save the pattern, Run Sintral Check.

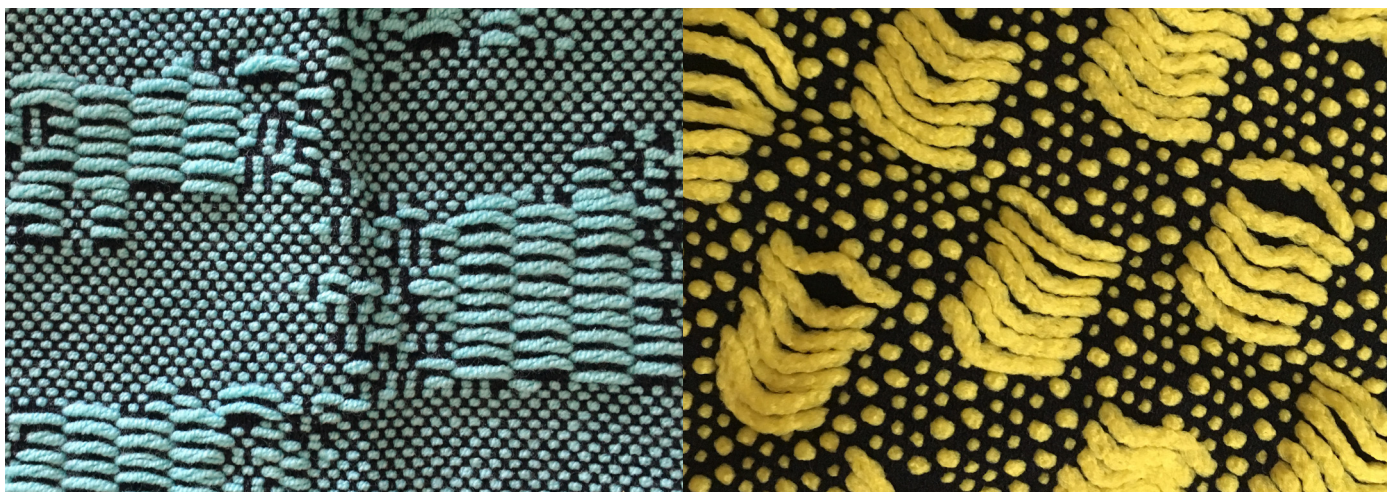


Jacquard and single knit around it



Fabric View from back, Net 1x2


## 8. Weft inlay with Colour arrangement: single knit with inlay



Stoll ADF machines has a weave-in-device, which is able to add yarns to the knit, without knitting them on the needles. The machine has 2 special inlay yarn carriers, which are able to accomodate also thicker yarns. The inlay may be used as a visual effect to obtain floats or a woven-fabric look, but also to add some functionality, for example reduce the stretch and increase the durability in some areas. Inlay may be added on top of different knit strcutures, both single and double bed structures.

1. For the inlay draw or import a picture with different colour areas. In this example each colour area will represent area where the inlay yarn behaves differently. The base structure (e.g. single knit) could also be different in each colour area).

In this example the picture has 3 colours. To import picture go to File-> Import picture as pattern element.

2. After the picture is imported, select all the rows with the image (not the start) from pattern rows and go to Module-> Generate from Selection-> Color Arrangement or click  icon.

3. Properties of: CA-window will open, just click ok. Color Arrangement Editor opens up. You can zoom in with + key. In the bottom of the window are the "searching colors", all the colors that are in the selected area of your design. On top of the searching colours different stitch types and functions can be added. The CA reads all the different colours automatically as intarsia, and for that reason all the colour are on different rows. Now this needs to be altered, as the example only has 1 yarn as base doing single knit, not 3 different yarns as intarsia.

4. Take a move-tool  and drag all the colors with number 1 to the same row, and all the colors with number 2 to the same row.

5. Select the rectangle-tool. Pick a new color and draw it in to the rows with 1 and 2. This is your yarn for the single knit background.

	1	2	3	4	5	6	7	8	9
5	>>	N ?							
5	>>	N ?							
5	>>	N ?							
4	<<	N ?							
4	<<	N ?							
4	<<	N ?							
3		N 0							
2		N 0							
1		N 0							

6. Pick front stitch with transfer needle action and draw it in the green lines.

If you leave the drawn-in green color squares empty, the program will take the needle action from the original image in the symbol view. If you draw needle actions in colour arrangement, those will overwrite the settings of the symbol view background.

7. Now the width of the different pattern areas need to be adjusted for the planned inlay structures. For the blue searching color there will be inlay structure which goes in and over 1 stitch and does the opposite on the next row (kind of plain weave structure). For this the width of the area needs to be 2 stitches. Select the vertical column 3 where the blue searching color is and press Insert-key in your keyboard.

8. Insert columns-window opens up. Click selection and set number:1 as we only need to add 1 more stitch. Click ok. Now you have 2 stitches in the blue area.

9. Now draw in the inlay yarn. Take a new color and draw it in the 3rd rows after the green yarn.

10. Open Color Arrangement-toolbar from View-> Toolbars-> Color Arrangement. Take a number 1 and set it next to the first brown inlay row. Take number 2 and set it next to the second brown inlay row.

After that take pink square "additional row"-tool from the CA-toolbar and paint the added numbers with the pink color.

This means that the inlay yarn is added always on top of the single knit row when knitting.

11. Now draw in the actions for the inlay yarn.

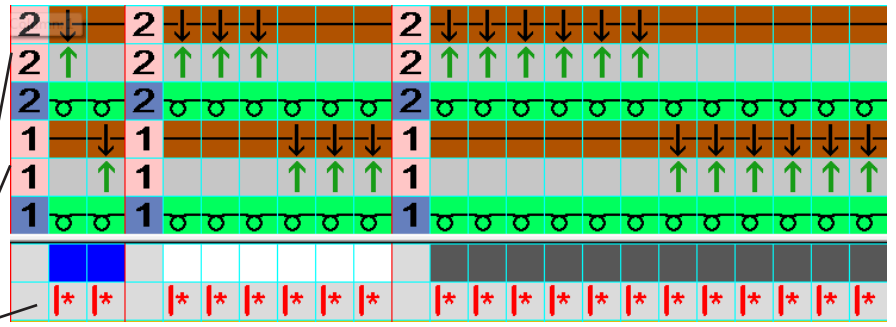
In the blue area it goes under 1 and over 1. When it's behind the single knit, pick a float-tool and place it on the left brown square in blue area. For the right square, pick a "Inlay thread/transfer to the front with float" tool. Pick a transfer to the rear green arrow-tool and place it under the Inlay Thread-transfer. This means that the front stitch will be temporarily transferred to the back and the inlay float in front of it. Do the same but in opposite order for the inlay row number 2.

12. Now draw the structures for the inlay yarn for the other colors. In the example in the white area the inlay yarn will go over and under 3 stitches. Select the column with white searching color, press insert-key and add 5 more stitches. Now as before, draw 3 stitches with float and 3 stitches with Inlay Thread-transfer and green transfer-arrow. Do the opposite for the second inlay row.

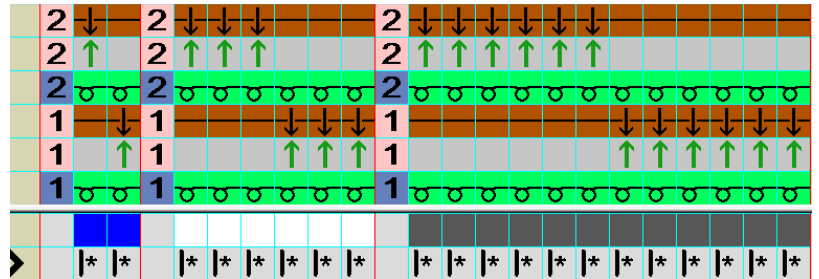
The image displays a sequence of screenshots from a knitting software interface, illustrating the step-by-step creation of a complex inlay pattern. The interface includes a grid with numbers and symbols, a 'Color Arrangement' toolbar, and a 'Symbol View' window.

- Initial Setup:** The grid shows a pattern with green and blue areas. The 'Color Arrangement' toolbar is visible, showing options for 'Color segment', 'Empty color column', 'Shape column', and 'Selection'. The 'Number' is set to 1.
- Adjusting Column Width:** A 'Column: 3' window is shown, indicating the selection of a column. The 'Number' is set to 1, and the 'From column' is set to 0.
- Color Arrangement:** The 'Color Arrangement' toolbar is used to set numbers 1 and 2 next to the first and second brown inlay rows, respectively. A pink square 'additional row' tool is used to paint the added numbers with the pink color.
- Symbol View:** The 'Symbol View' window shows the actions for the inlay yarn, including transfer and float tools. The actions are drawn in the grid, showing the inlay yarn going under 1 and over 1 in the blue area.
- Final Pattern:** The final grid shows the completed inlay pattern, with the inlay yarn going over and under 3 stitches in the white area. The 'Color Arrangement' toolbar is used to set the number of stitches for the inlay yarn.

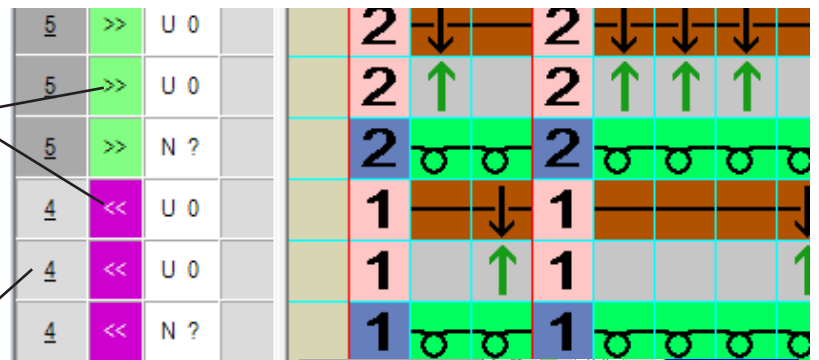
13. Draw in the structures for the inlay for the last color area in the design. In this example, in the grey area the inlay yarn will go over and under 6 stitches in the design. So as before, add columns with insert key, in this case add 11 columns. Draw in the structures like before. Add also reference row number 1 and 2 to the transfer rows in the CA, and add the pink "additional row"-color to those as well.



14. Change the red repeat marks to blue/black from the Color Arrangement toolbar. This means that the repeat will be counted from the edge of the whole design, and it will appear in order in the design. If you use the red repeat-mark, the repeat will start again from the edge of each color area in the design.



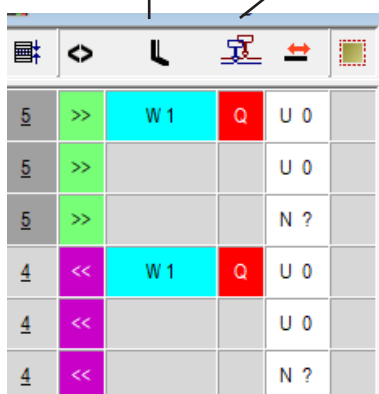
15. Check that the direction of the carriage is correct for each row of the design. The 3 first rows with reference row number need to go from right to left and the last three rows with reference row number 2, from right to left, as in the picture. If you need to change the directions, click on top of the carriage direction with right mouse click and select the right direction. Then click on top of the row where you would like to place it.



16. The first and last 3 rows, should also be grouped to get the correct fabric view. The rows should have the same pattern row number like in the picture. If this is not the case, select the first 3 rows and press F8, then select the last 3 rows and press F8.

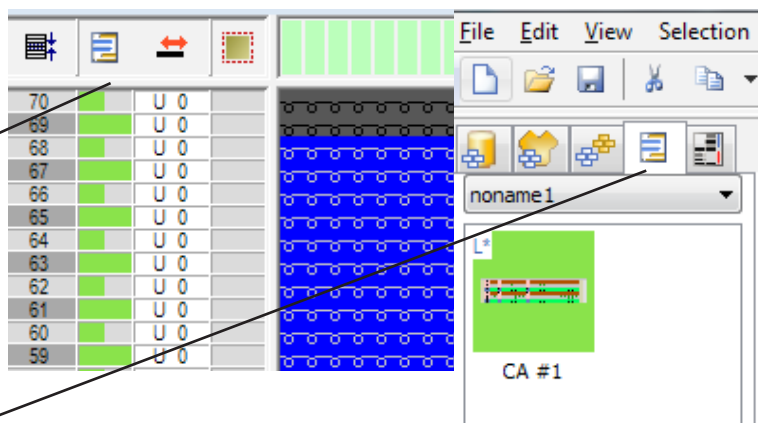
17. 2 more settings need to be done in CA. From the control column selection, open select columns, Presser foot-setting. Click with the right mouse underneath the presser foot rows and select "Weft Yarn presser foot ON" and click on the inlay rows. Press Esc.

18. From the same control column selection, select "plating-offset of yarn carrier (YPI). Next to the inlay rows, click with right mouse and select Q inlay Thread from the menu. Place the Q next to the inlay rows.



19. The CA is ready. Close the CA window, and click YES to apply the modifications.

20. Click on control column selection, and select Color Arrangement. Now you can see the color arrangement drawn in for all the rows you selected in the beginning. The wide and narrow green markings mean the size of the repeat, every wider marking is the beginning of 1 repeat, as in this example the repeat is only 2 rows.

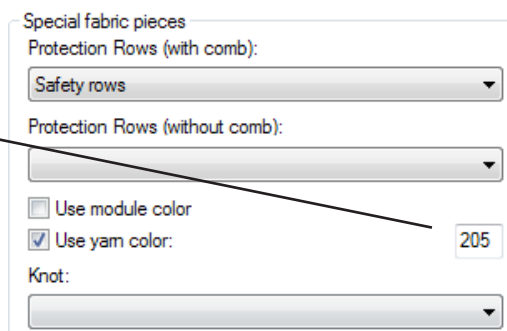


21. For modifications, the CA can be found Under local color arrangements menu, on the top left corner of the program.

22. Next you may set up the Yarn Field, or you can skip this and leave it to Anna in Otaniemi. If you set the Yarn Field, the inlay yarn needs to be placed either to yarn carrier 6 or 9, as those are the special inlay yarn carriers.



23. Go to Pattern Parameters-menu ->Configuration ->Knitting areas->Special Fabric Pieces, click Use yarn color: add 205. Click apply. Click OK. This prevents the last protection rows of the design to be knitted with the inlay yarn, which is usually thick and knitting it in may cause problems.



24. To finish the design, go to Expanding entire pattern. Now the technique setted with CA will appear in the design. Press F for the fabric view.

25. Close the fabric view and and go back to load basic pattern for modifications, or finish the pattern by clicking "start processing". Save the file. Run Sintral Check.

