Computerized Knitting Machine Pattern Design System of Raynen

Raynen 睿能®

福建睿能科技股份有限公司

FUJIAN RAYNEN TECHNOLOGY CO., LTD.

Contents

1 Introduction

Dear Customers,

Thanks for using the pattern design software of Raynen. If the software is used for the first time, we recommend you to read the help manual before use for proper installation and use of the pattern design software.

The software has the automatic programming function and is used for automatically generating control data of the lower computer of the computerized flat knitting machine. Its main functions include pattern design, image analysis, automatic compiling, data transmission, etc.

1.1 Software Overview

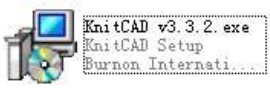
- This software is a pattern programming system designed for KMC series of computerized flat knitting machine. It enables you to design in a faster and more comfortable environment. It is easy to learn and understand.
- This pattern programming software adopts the standard “window” drawing file. You can apply its intuitive drawing tools to make the drawing freely and flexibly. Digital camera and scanner could be adopted to make photos or scan drawings to complete complicated designs simply.

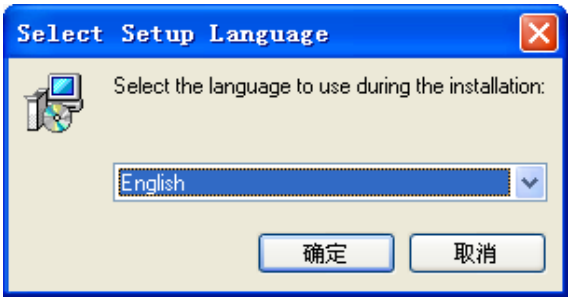
1.2 Operating Environment

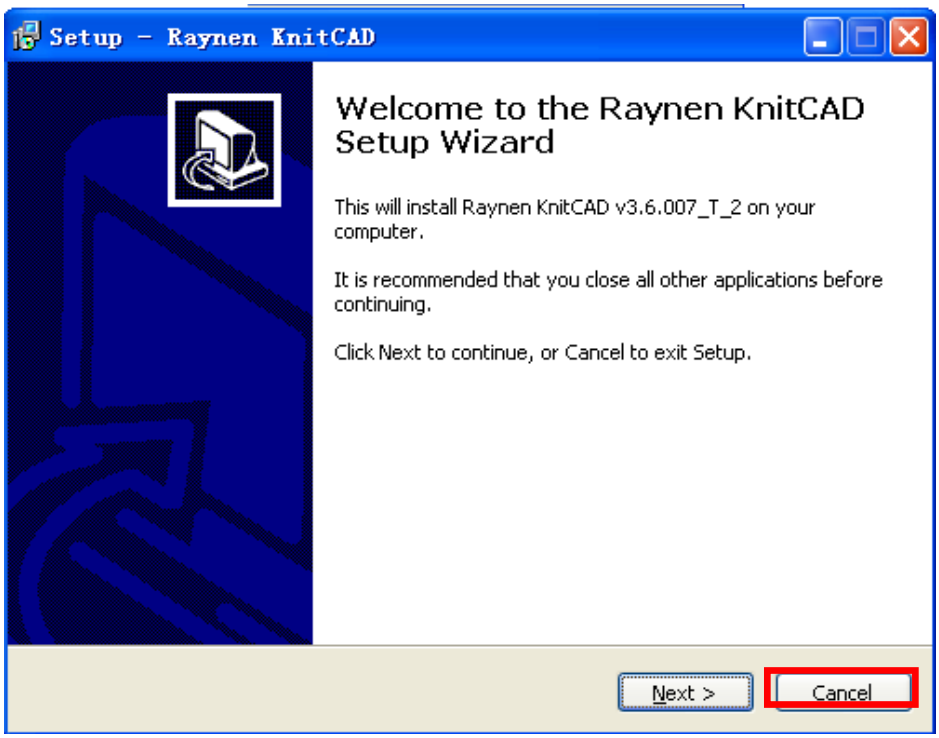
- Operating system: WINXP, WIN2000, VISTA, WIN7 Simplified Chinese Edition.
- CPU: Intel Pentium 500MHz or AMD Anthon 500 MHz above.
- Memory: 256Mb or above
- Display: 17 inches above (a resolution of 1024x768 or above is recommended)

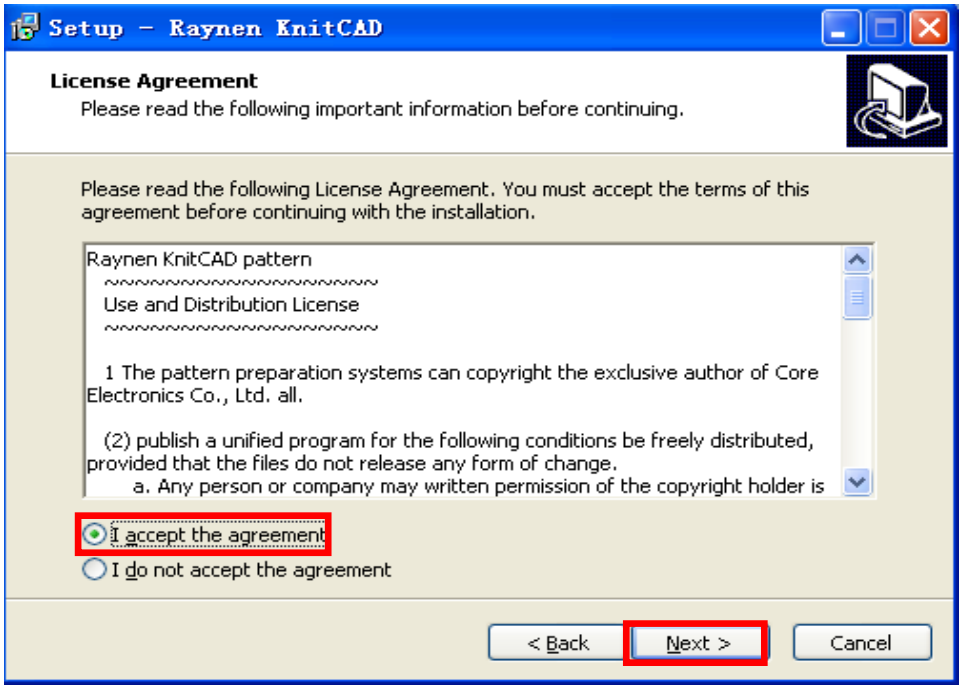
1.3 Installation and Start-up

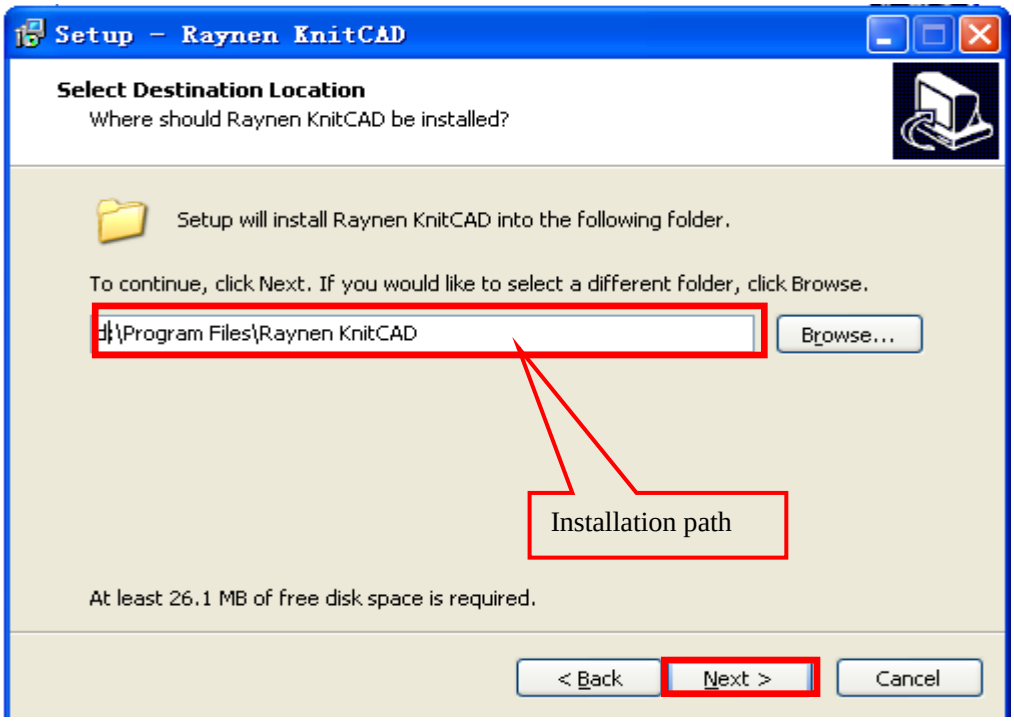
1.3.1 Installation of Pattern Programming Software

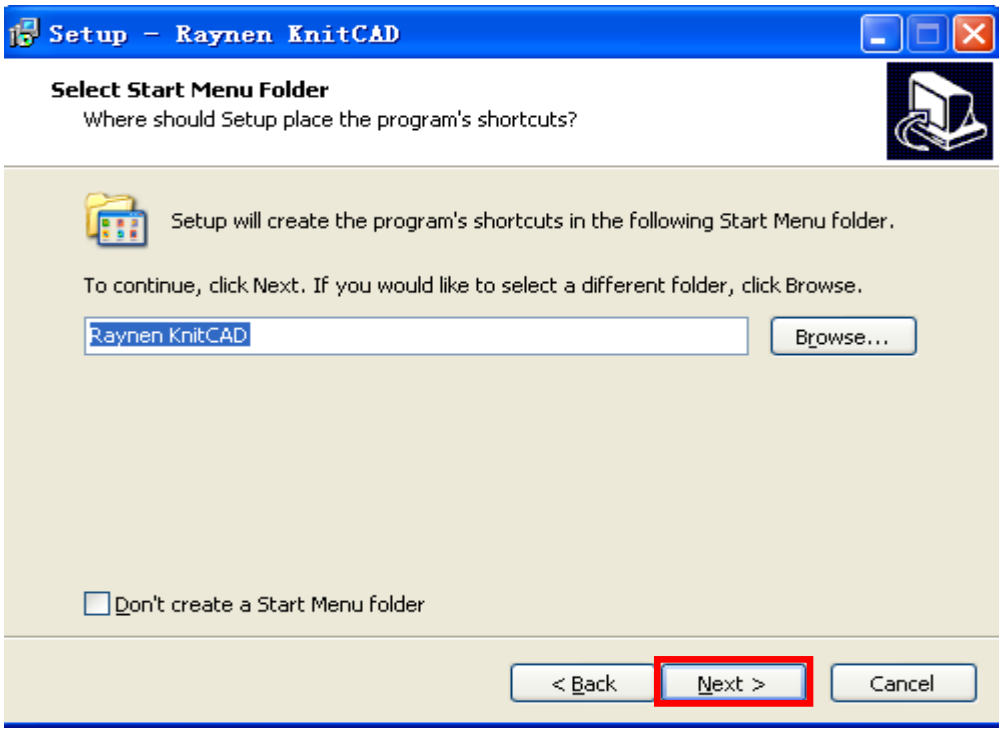
- Double-click the icon of software installation 

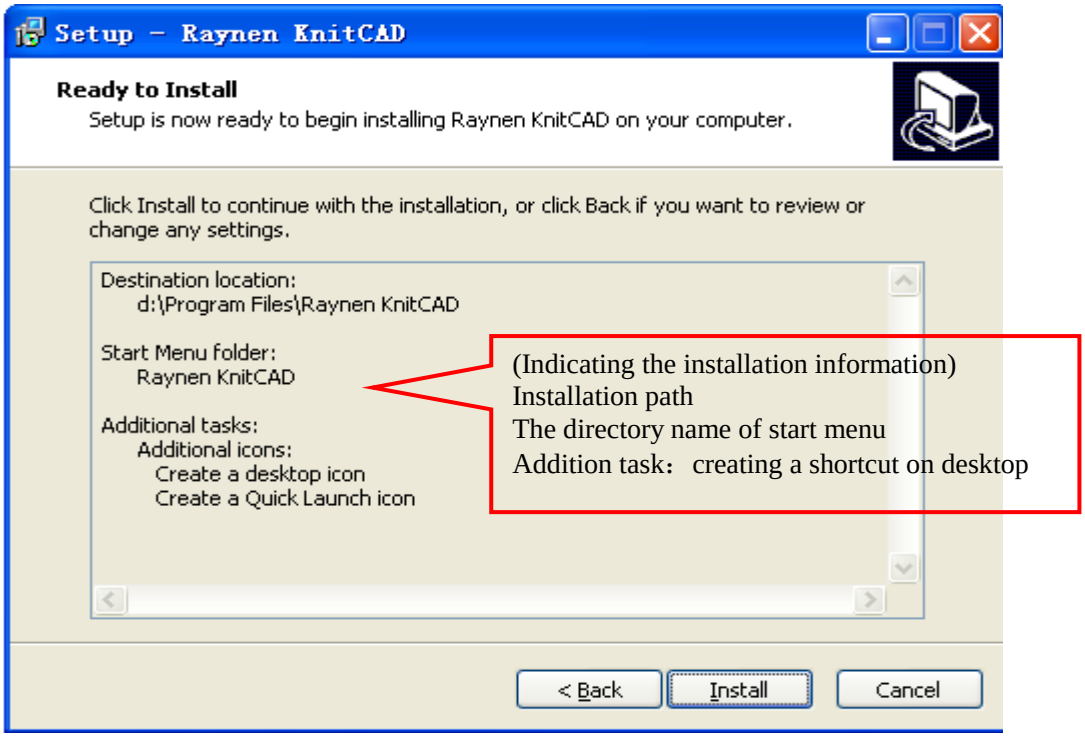

Select Setup Language
Select the language to use during the installation:
English
确定
取消


Setup - Raynen KnitCAD
Welcome to the Raynen KnitCAD Setup Wizard
This will install Raynen KnitCAD v3.6.007_T_2 on your computer.
It is recommended that you close all other applications before continuing.
Click Next to continue, or Cancel to exit Setup.
Next >
Cancel

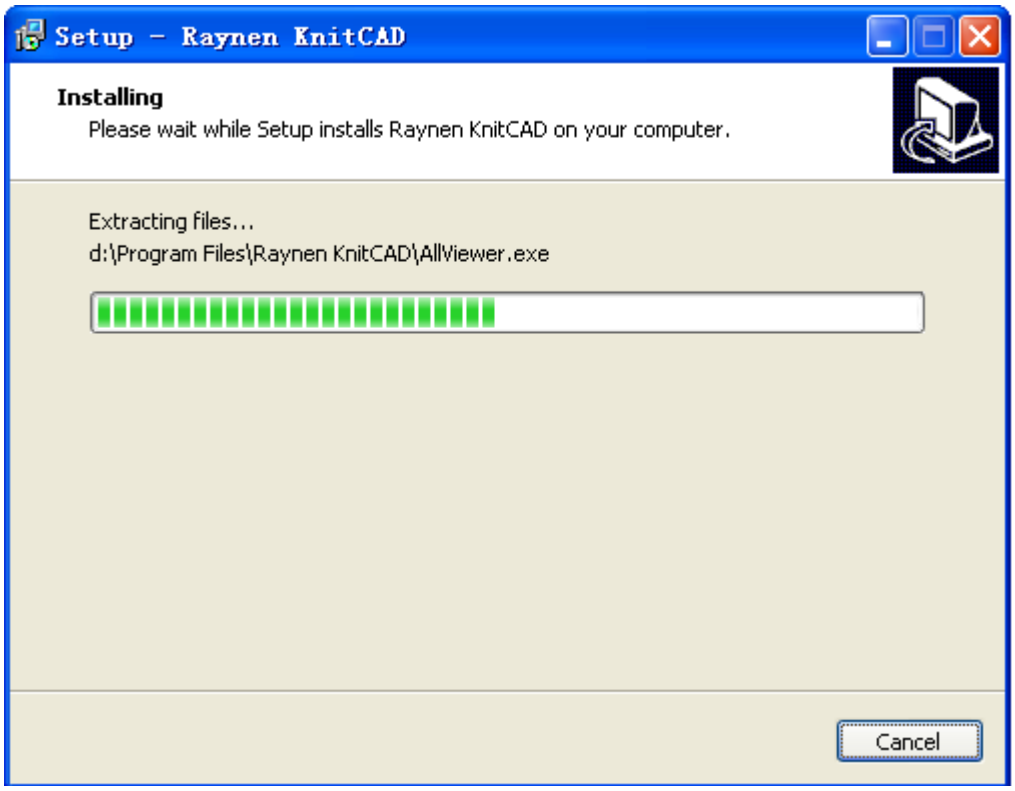

Setup - Raynen KnitCAD
License Agreement
Please read the following important information before continuing.
Please read the following License Agreement. You must accept the terms of this agreement before continuing with the installation.
Raynen KnitCAD pattern
Use and Distribution License
1 The pattern preparation systems can copyright the exclusive author of Core Electronics Co., Ltd. all.
(2) publish a unified program for the following conditions be freely distributed, provided that the files do not release any form of change.
a. Any person or company may written permission of the copyright holder is
I accept the agreement
I do not accept the agreement
< Back
Next >
Cancel

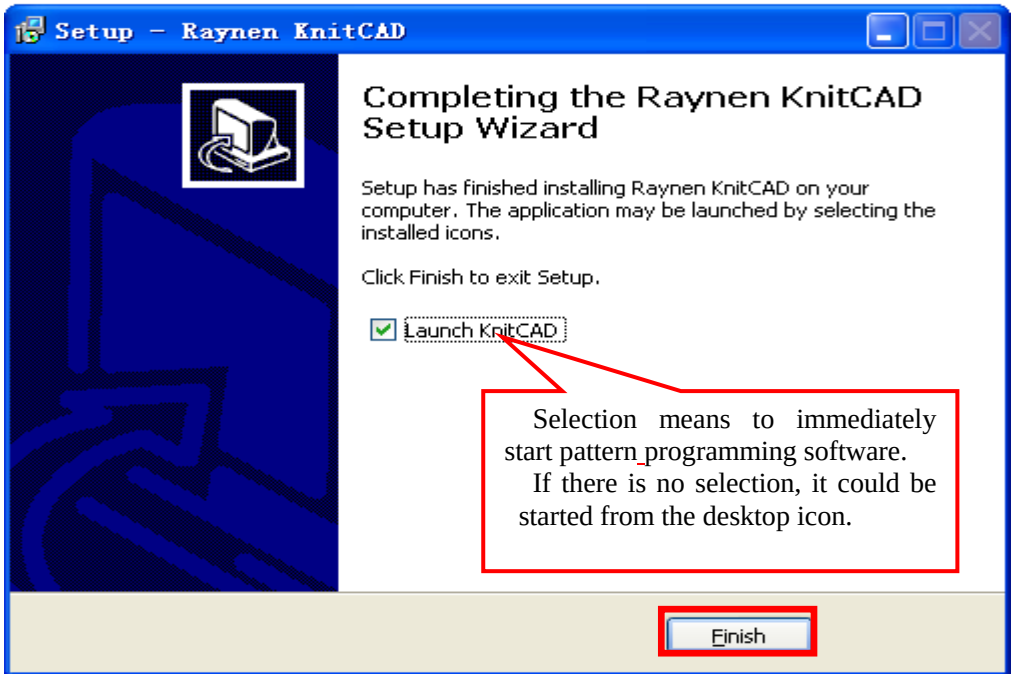

Setup - Raynen KnitCAD
Select Destination Location
Where should Raynen KnitCAD be installed?
Setup will install Raynen KnitCAD into the following folder.
To continue, click Next. If you would like to select a different folder, click Browse.
d:\Program Files\Raynen KnitCAD
Browse...
Installation path
At least 26.1 MB of free disk space is required.
< Back
Next >
Cancel


Setup - Raynen KnitCAD
Select Start Menu Folder
Where should Setup place the program's shortcuts?
Setup will create the program's shortcuts in the following Start Menu folder.
To continue, click Next. If you would like to select a different folder, click Browse.
Raynen KnitCAD
Browse...
Don't create a Start Menu folder
< Back
Next >
Cancel



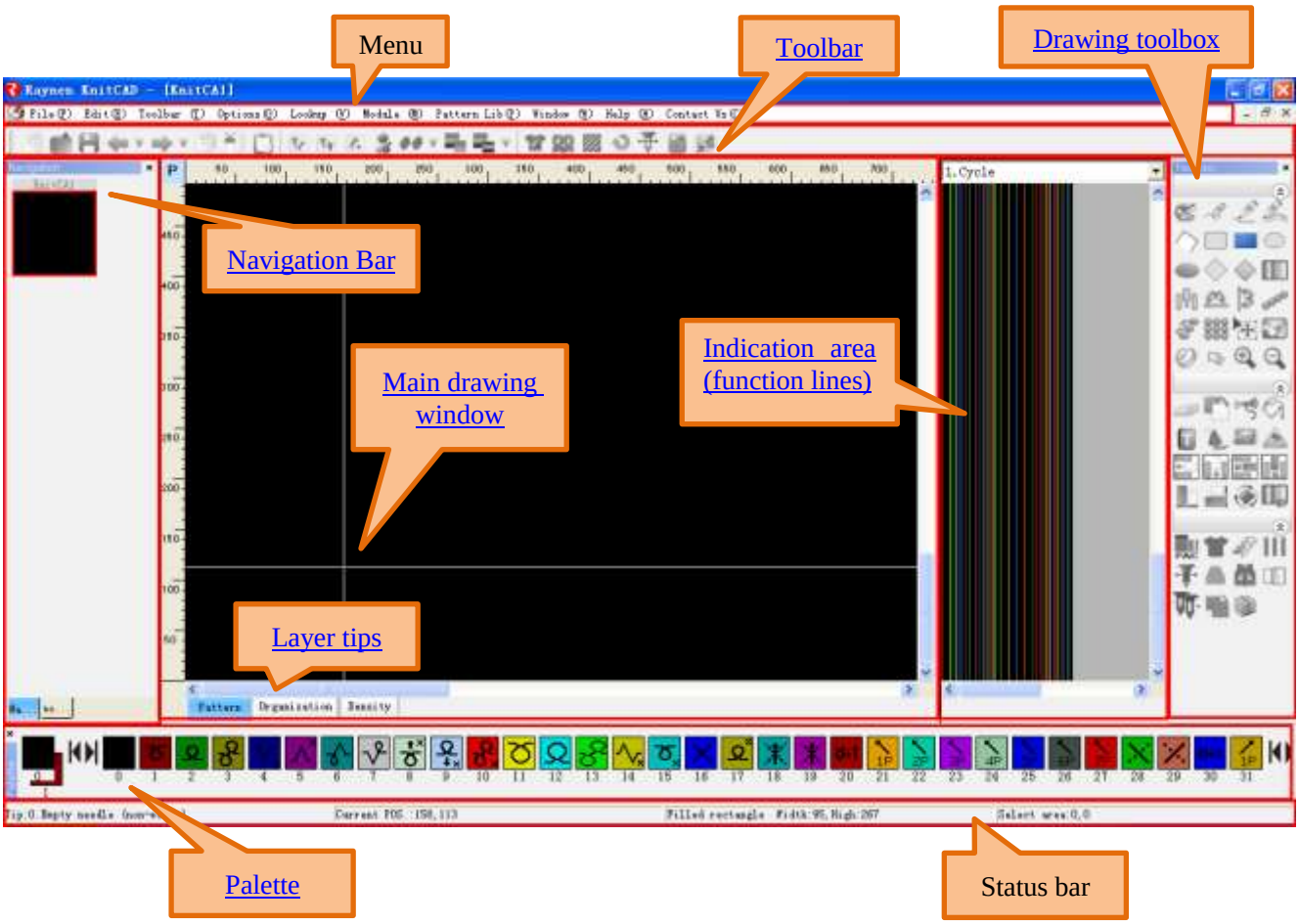
(Indicating the installation information)
Installation path
The directory name of start menu
Addition task：creating a shortcut on desktop





1.3.2 Start-up

- The main interface is as follow:



1.4 Introduction of Main Functional Modules

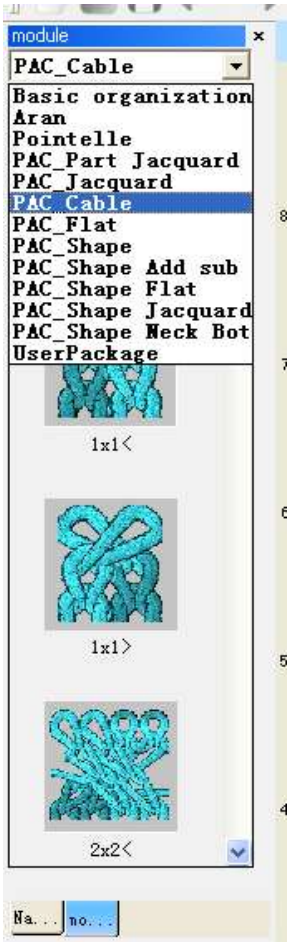
1.4.1 Graphic Design

➢ Select the drop-down menu, toolbar and toolbox icon, and then the pattern can be easily designed. Main graphic elements include the point, line, rectangle, Ellipse, diamond, polygon, etc. Main functions include color change, array copy, linear copy, multiple copy, mirror image copy, etc. Such operations as copy of circled areas, color filling, rotation, expansion, deletion, cutting and pasting can be conducted easily.

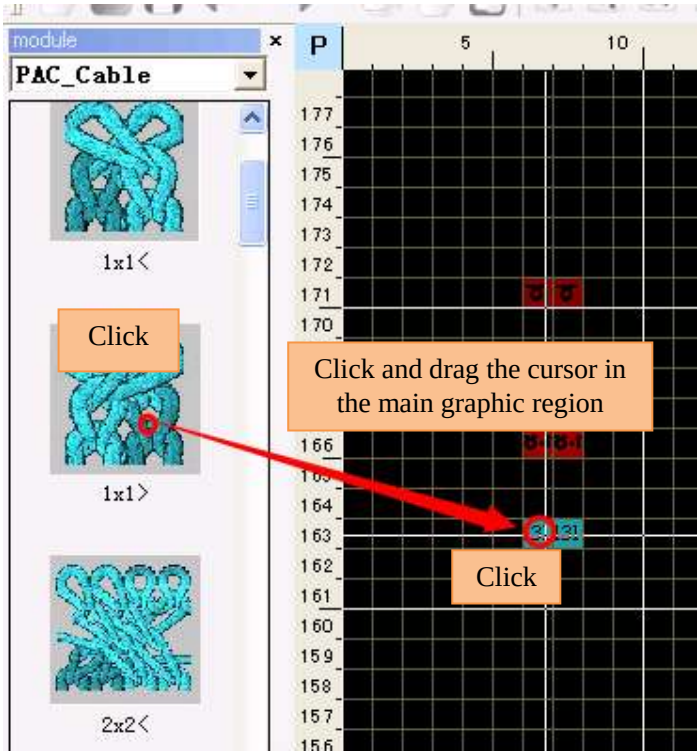
1.4.2 Module System

➢ The module system is divided into system modules and user modules.

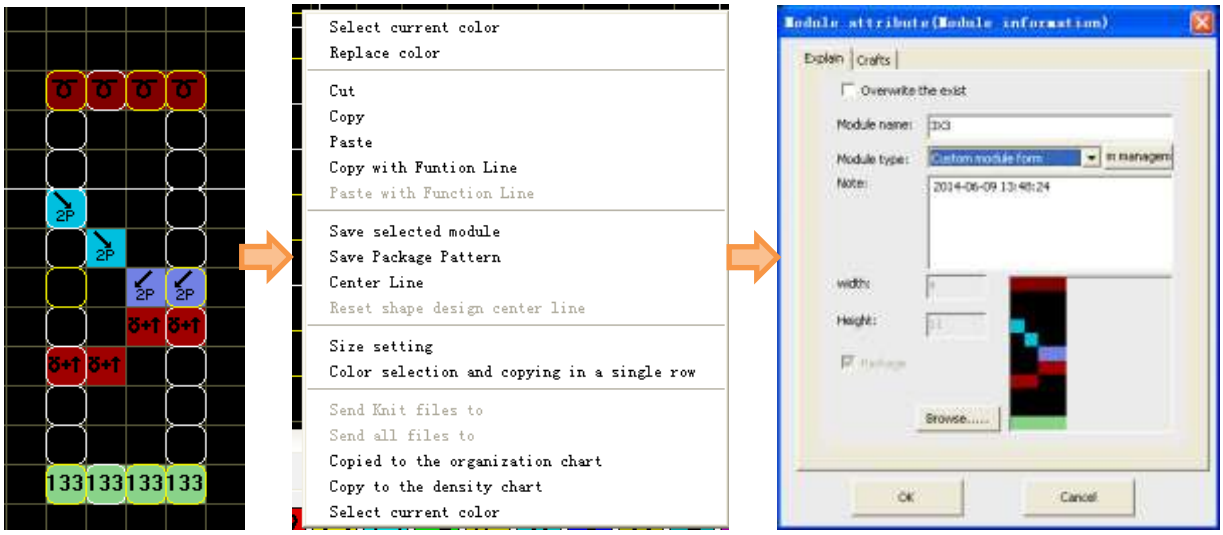
- System modules: with commonly pattern, narrowing, jacquard and other modules.
- User modules: the commonly used patterns or stitches can be saved as the user modules. User modules are saved in the database UserModDb.db at the path "KnitCAD\3.15 sp1\UserData\UserModDb.db".



➢ Use of modules: click the required module, move the cursor to the main graphic region, click, drag the module to the destination, and then click.



➢ Saving of modules: select the saving zone, and right-click.



1.4.3 File Types

KNI File

➢ This is the pattern file of the pattern design system of Raynen, and is generated automatically after being saved. It can be open directly by double click.

➢ The file includes pattern charts, stitch charts, density charts, functional lines, user macros and other information.

001 File

- This is the knitting file of the enhanced machine.

CNT, PAT, PRM, SET and YAR Files

- These files are the knitting files of the ordinary machine.
  - CNT: Consisting of knitting parameters of the machine. Therefore, it must be imported before knitting.
  - PAT: Consisting of needle action information, the needle will act according to it. Therefore, it must be imported before machine running.
  - PRM: Consisting of pattern cycle information, it must be imported before machine running.
  - SET: Pattern expansion file.
  - YAR: Consisting of the information of the yarn carrier, such as corresponding No. and knitting range of the yarn carrier.

1.4.4 Knitting specification input and Shape

- The user can use the Shape function in the software, and the required pattern can be generated automatically by entering parameters of the specification.

1.4.5 Compiler

- The system can automatically generate the 001 file required by the control system of the machine according to the information of the KNI file. In case of the KNI information is incomplete or ambiguous, error prompts will be generated, and the corresponding pattern row numbers and causes will be indicated. Meanwhile, the compiler can automatically detect collision of the needles of front and rear beds.
- The compiler has the powerful automatic processing functions, such as automatic yarn kicking, pleating, floating yarn treatment, etc.
- After compilation, the results of compilation can be viewed via the PAT Editor and De-compiler.

2 Update Description

2.1 V 3.10 Update Description

- The system layer is changed into the pattern layer and stitch layer. See details in Start (main interface).
- Jacquard and intarsia color codes are added. See details in the Description of Jacquard and Intarsia Function.

- The Ladder backing tool for local jacquard pattern is added in the toolbar.
- New parameters of Compile are added.
- The functional line 214 is changed into the System Lock mode.
- The V-neck Intarsia setting of the shape function only needs to be drawn in the pattern layer.
- The new Compression & Separation tool is added.

2.2 V 3.11 Update Description

- Add the Shape with Package Mode under shape.
- Add the Intarsia Link Effect setting.
- Add the V-neck return knitting option under shape.
- Add the Mark of Waste Yarn option under shape.

2.3 V 3.12 Update Description

- Add the automatic Pleating Function.
- Automatically lock the system during dual-system use single-port weaving.
- Add the Auto Take-down Comb Pressing Function in the shape design.
- Compiler automatically prompt errors if the cast-off line is set yarn carrier.
- Support Korean.
- The default needle position of racking is *-position (needle to needle)which removed automatically when the needles of the front and rear bed are used at the same time.
- Improve the point stitching knitting efficiency.
- The de-compiler cannot save pattern files automatically, and the user should selectively save pattern files.

2.4 V 3.13 Update Description

- Add the new intarsia link auto processing option. See the pattern expansion page under Compile.
- Transitional level of the starting process of local jacquard is set separately. See details in the Jacquard Setting on the pattern expansion page under Compile.
- Add the advance yarn option. See details in the Auto Process on the pattern expansion page under Compile.
- Add the 1x2 and 1x3 transfer separately options under narrowing and separation. Provide the option of transfer the middle or side needles at first for specific fabrics. See details in Narrowing & Separation.

- Automatic stopping levels of the yarn carrier. See details on the settings page under Compile.
- Cancel the default *-position（needle to needle） option, and change into the auto *-position function of the compiler. See details on the settings page under Compile.
- Support Package expansion on the stitch charts. See details in the Package Expansion on stitch Chart.
- Add model patterns under the installation file folder.

2.5 V 3.15 Update Description

- Provide the Jacquard option of the narrowing and widening tool.
- Add the Copy yarn carrier Data option in the insert and delete row of the drawing tool.
- Automatic narrowing supports rear stitch and rib.
- The first row of waste yarns in the shape design adopt No. 1 color with the connection for automatic connection to major woven parts.
- The take-down comb setting is provided in the shape design. When the rib adopts a tubular, set front and back knitting density levels by setting Birdseye front and back knitting levels in senior parameters.
- When the transition course in the shape design adopts “Double-sided Jacquard”, the narrowing color code is 191-198.
- The knitting with wide carrier in the shape design is processed in N turns.
- The new Take down Comb Cast-off mode is added for waste yarns in the shape design.
- Adjust the Back Range Mode of local jacquard.
- Add the Transition Mode split stitch and automatic cloth split stitch same color as ground in the local jacquard.
- Add such functions as no back stitch generate in case of one-row jacquard, treatment in case of no back stitch in one-row intarsia, filling gap height, local jacquard and single-side jacquard in the parameters of Special Treatment Range of local jacquard.
- Add the two back type for local jacquard
- Add adding and reducing needle treatment functions for local jacquard.
- Add the following back type for full jacquard: Mesh 1X1X2, Mesh 1X2X2, Mesh 1X3X2 and Mesh 1X5X2.
- Support setting the same carrier for the intarsia and jacquard color codes in the same row.
- Add the Cancel Tuck function for all the intarsia and jacquard color codes.
- Add the intarsia row split function of the Functional Line 217.
- Compile the package pattern which is larger than the canvas size (Compile without-extended).

- Support false stitches（tuck instead of sinker function） of other machines;
- Add the Intarsia Disconnect function.
- Prohibited Needles of move the carrier allow to set.
- When the automatic *position mode is selected and * bits are only generated automatically in one row, the system will automatically eliminate the auto * bits in the row.
- Utter the alarm when cast-off and knitting occur at the same row. If only cast-off occurs, no alarm will be uttered.
- PAT editor.
- Add the De-compile Button on the compilation information interface.
- Add the Send to U-disc Button on the compilation information interface.

2.6 V 3.15 sp1 Update Description

- Open Revision 3.8 intarsia and jacquard pattern of the old system, and conduct the preliminary conversion.
- Add “Recently Opened File” under the menu bar file operation.
- Combine the Circle, Drag and Copy functions.
- Add the Use Ruler to Circle Overall Row or Line function.
- Add the Specified Color Copy and Non-specified Color Copy.
- Display the circled size on the tip after circling.
- Shadow tool optimizing.
- The current position of Package Fill is the left lower beginning position of the package.
- Optimize such tools as “Insert Row”, “Insert column”, “Delete Row” and “Delete column” in operating tools.
- The expansion rate can be entered by the user in the Region Expansion Tool.
- The carrier Spacing Color Filling supports the input of 0.5 turn.
- Add the “Compressing V-neck Split Row in Circled Zone” option under Compression & Separation tool.
- SAVE (at function line 201) set 255 indicates 9999 cycles.
- The main yarns should be stitched at the final of the take-down comb pattern formed by the shape function.
- The pattern can be made directly on the outline when using keep pattern function of shape. Perform click shape icon again after the pattern is drawn.
- The centerline is displayed when using keep pattern function of shape..
- When tubular rib is knitted by the take-down comb, an extra turn rib will be knitted before set-up.
- When the edges are set in Narrowing of Shape Design, stepping type narrowing is not performed.

- The waste yarn turns can be set in the main interface of the shape, and it link to the waste yarn turns setting in senior settings.
- Two Lycra carriers and two Lycra densities are can be specified for V neck jacquard.
- "Staggered "mode for One Stroke adds the "Number of Tuck needles".
- Carrier identifier in Compilation Results is displayed by L1 L2 R1 R2.
- If required, provide prompts on the saved rows after Compilation.
- The PAT Edit can view the saved rows and the times of saving rows.
- Indicate Total Pattern Width after compilation.
- The direct selection needle supports intarsia.
- Add the Carrier Follow Mode: Weave 1, Weave 2, Tuck 1 and Tuck 2.
- Use the shortcut key F10 to change from Expansion to Maximum or Contraction to Minimum.
- Set "Special Removal of Vertical Pieces of Intarsia" under the functional line 217. No matter whether "One-row V-neck Intarsia" is selected, the function is effective.
- In the function line 210, Add the roller backward and forward rotation function, and electrical control is required for supporting.
- Add the Action Market and Narrowing Market row in Pleating.
- Press the key Delete to delete the data circled in the current layer. If the overall row and line are circled, delete the Overall rows/lines of three layers.
- Open the File interface of the shape, and add the shape outline preview.
- Import the image rate for manual input switching.
- If the head is not recovered at the end, insert an empty row automatically for resetting, and utter alarm at the same time for non-error disposal.
- Add the Lycra Type for one-turn weaving.
- Shorten the de-compiled file name.
- Add the single system optimization system for three-color jacquard of the modular Jacquard Package.
- Support simultaneous expansion of multi-layer packages (patter charts, organization charts and density charts).
- Set the horizontal and vertical density (supporting decimal input). Display the length and width on Tip during circling.
- Add the function of the right-key menu in the navigation bar window.
- Add the density layer, requiring electrical control support.
- Click the right key to rest the shape centerline within the circled range.
- Double-click the corresponding pattern in the navigation bar, and display the current pattern preview according to the set scale (horizontal and vertical density).
- The new Dat file can be directly opened and imported.

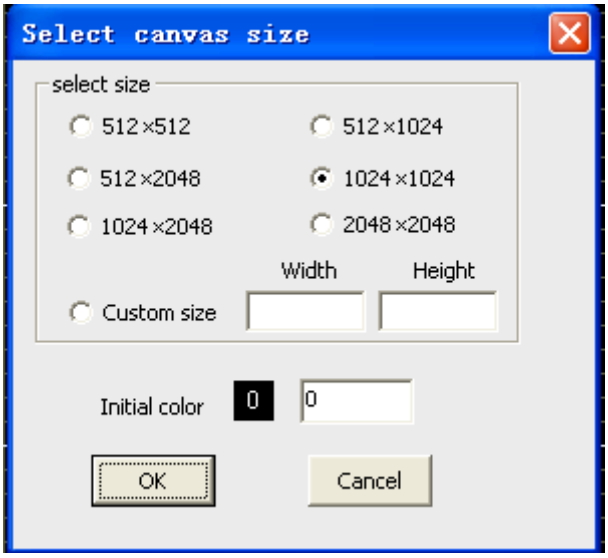
2.7 V3.16 Updata description

- Add "Keep function line" function in shaping.
- Shaping support pleating.
- Shaping support cycle the specification data.
- Add "Middle needle cancel" in shaping.
- Add "Shortcut" F4 for shaping.
- Add "Cancel color code" setting in shape->setting->other;
- After new shaping, reminder whether save the specification data will popup;
- Add sample file folder with some normal shaping file.
- Config file save, open, is added for color changing tool, and some samples are supplied;
- Text tool support multi-line input;
- Copy with function line, paste with function line are add in right-click menu;
- Add delete or insert row (coloumn) in circled area;
- Scaling was optimized;
- Add Encrypt patten and compiling result (if control system support) file function;
- Add "Picasso" type of compiling result files;
- Add "combining kick carrier action" for compiling;
- Support automatically spliping rows to realize variable density for the normal machine.
- Add jacquard and intarsia default carrier assigning function.
- Use color code 188 to design back structure in the front of the pattern;
- Add parameters level setting for carrier following row;
- Add carrier following type: knitting(2);
- Even carrier will not be used, the carrier following will still be performed.
- Add saving ladder backing (back structure description) parrameters to KNI file.
- Add default setting for ladder backing;
- Add new type for back structure description;
- Add more picture process for importing;
- Combine mirror to up,down,left,right tools into one tool; the mirror will generate according to cursor position;
- Add Multi-Pieces function;
- At the function line 208, support automatic transfer, racking action same as the previous row;
- Support Portuguese.

3 Toolbar

3.1 New pattern


New pattern



3.2 Open pattern


Open pattern

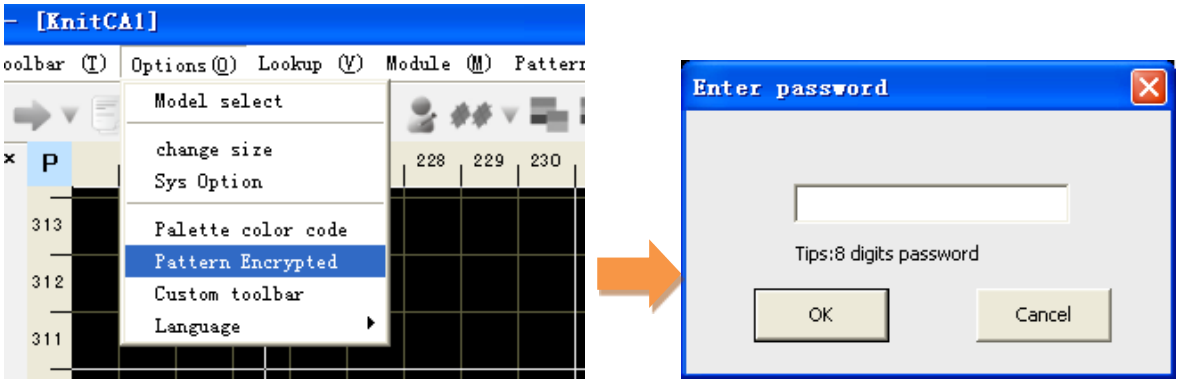
- The KNI, BMP and DAT pattern files can be opened.
- The software is compatible with 3.8 and Hengqiang jacquard and intarsia patterns, that is, when the old BMP file is opened, the intarsia and jacquard files can be directly converted into new jacquard and intarsia patterns, but the carriers of jacquard and intarsia should be reset.

3.3 Save pattern


Save pattern

- The saved file format is KNI.

- Password of the pattern could be set at settint→pattern encryption.



- If encrypted pattern is compiled while checking Encryption Enabled, the result file of compiling will be encrypted too, the pass word is the same as the pattern. Password is needed when the result file is opened by machine (if the control system support).

3.4 Cancel button in the drawing area


Cancel button in the drawing area

- Drop down the triangular symbol to list the historical steps.

3.5 Restoration button in the drawing area


Restoration button in the drawing area

- Drop down the triangular symbol to list the historical records of cancellation

3.6 Copy button in the circle area


Copy the pattern in the circle area.

3.7 Cut button in the circle area

 Cut the pattern in the circle area

3.8 Paste button

 Paste the copied or cut pattern.

3.9 Pattern layer→Structure layer

 Pattern layer→Structure layer

- All of the pattern layer content copy to the stitch layer.

3.10 Pattern layer→Density layer

 Pattern layer→Density layer

- All of the pattern layer content copy to the density layer.

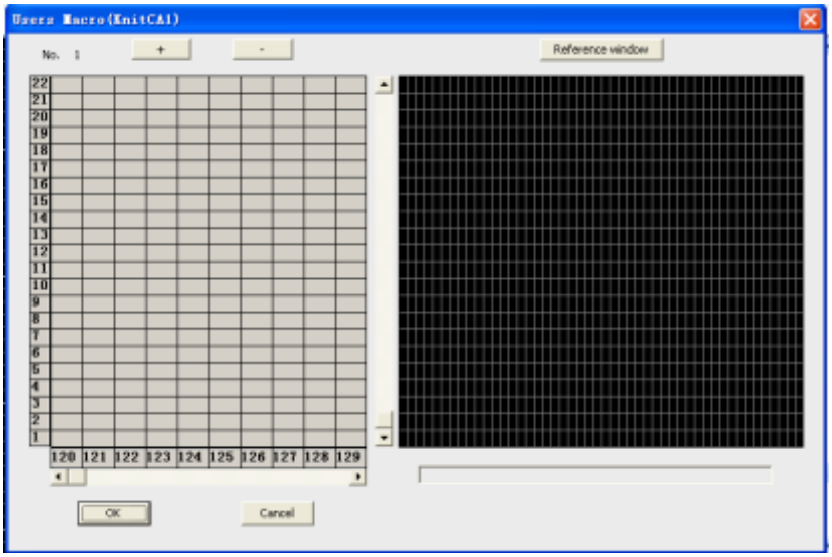
3.11 Display pattern and stitch in one layer

 Display pattern and stitch in one layer

- The used color code in the stitch layer is displayed in the pattern layer.

3.12 User macro

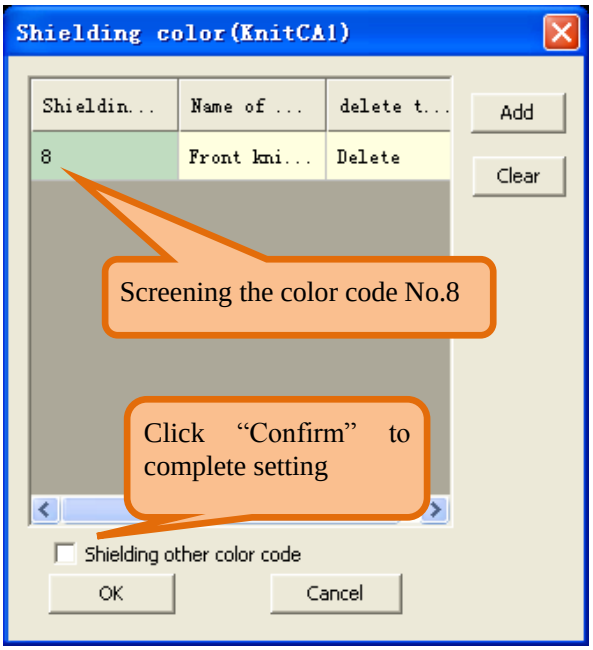
 User macro window

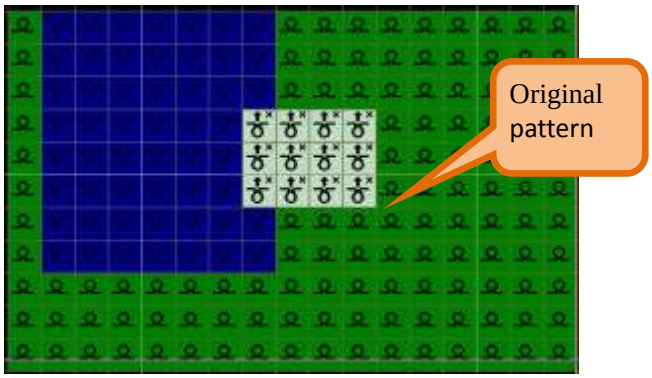


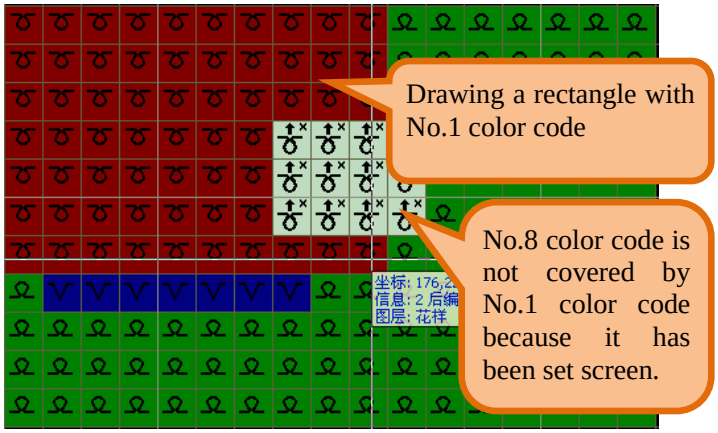
- For more details refer to Cases—user macro

3.13 Screening color switch

- Click the button  to open and close the function of the screening color switch.
-  : Set screening color







3.14 Color copy


Color copy

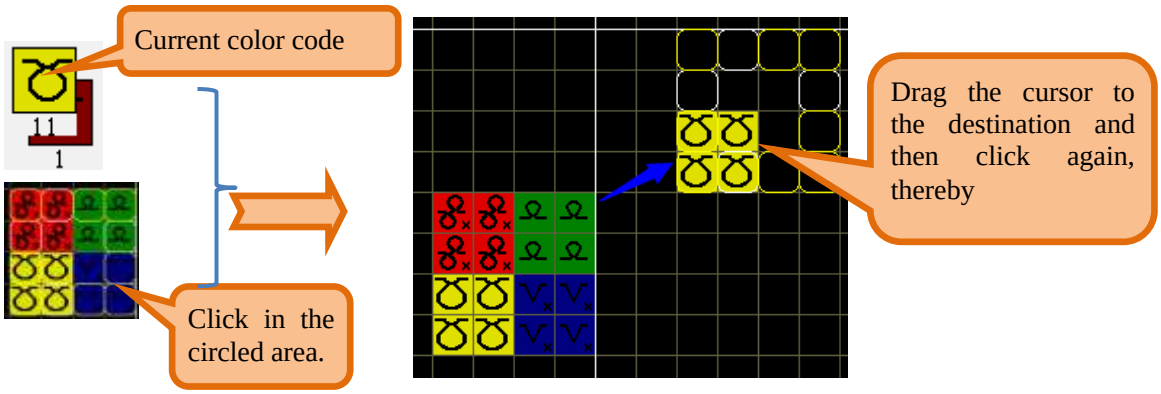
➢ Monochrome copying is superior to specified color copying and non-specified color copying.

➢ The color copying is effective only when the “Circle” in the drawing tool is selected and the area is circled.


Copy specified color

➢ Enable the specified color copying function. When the list of color boxes under Monochrome Copy is empty, the color corresponding to the current color code can be copied.

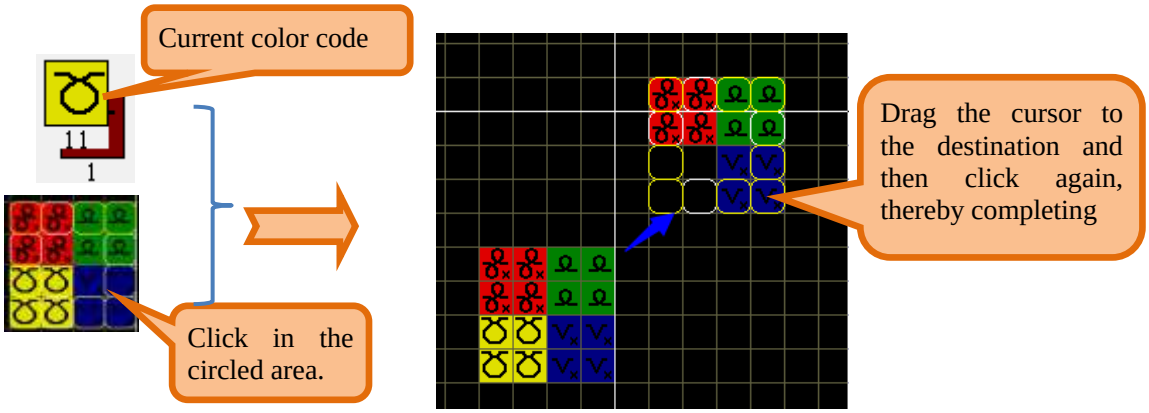
➢ Click in any position within the circled area, draw the pattern to the destination, and then click again.




Copy color except specified

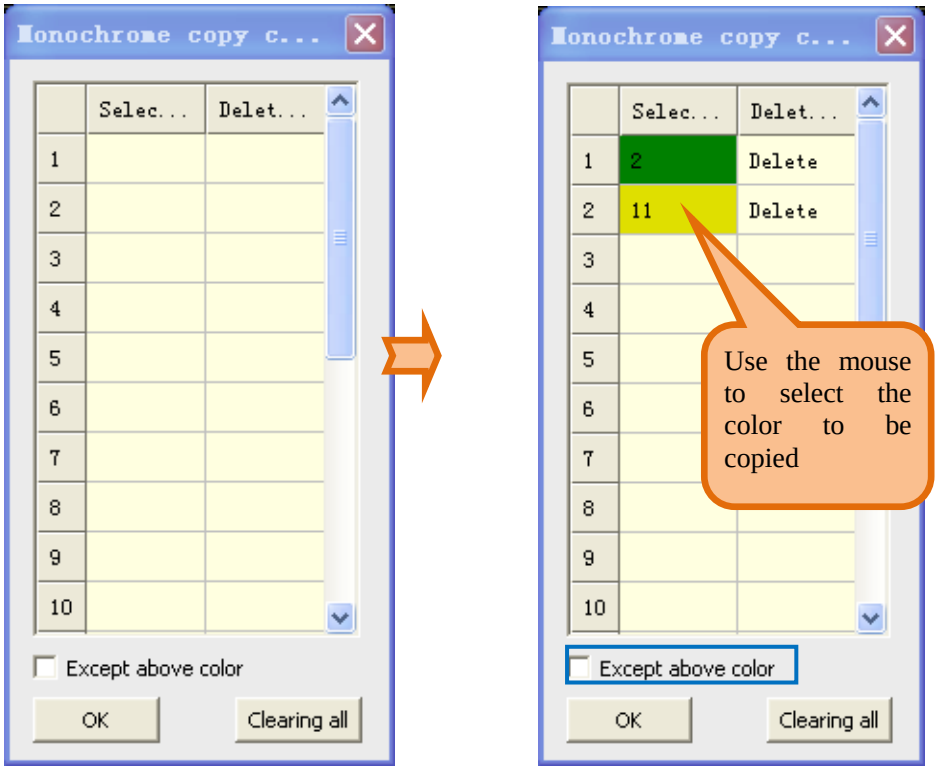
➢ Enable the non-specified color copying function. When the list of color boxes under Monochrome Copy is empty, all colors except that corresponding to the current color code can be copied.

➢ Click in any position within the circled area, draw the pattern to the destination, and then click again.

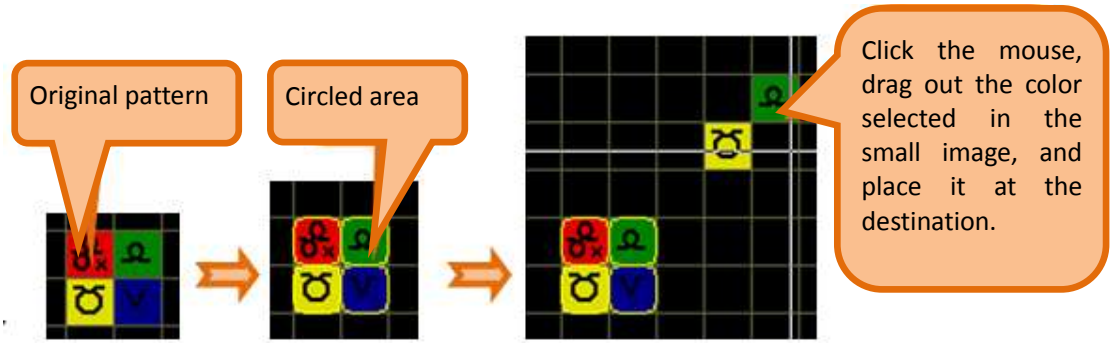


Specified color setting

- The "Specified Color Copy" or "Non-specified Color Copy" must be enabled.
- Select the color to be copied by the following means:
  - Click the color code in the graphic region.
  - Click the color code in the palette.
- Except above color: The non-specified colors will be copied.



- Click anywhere in the circled area, release the mouse, and drag the cursor to the destination.



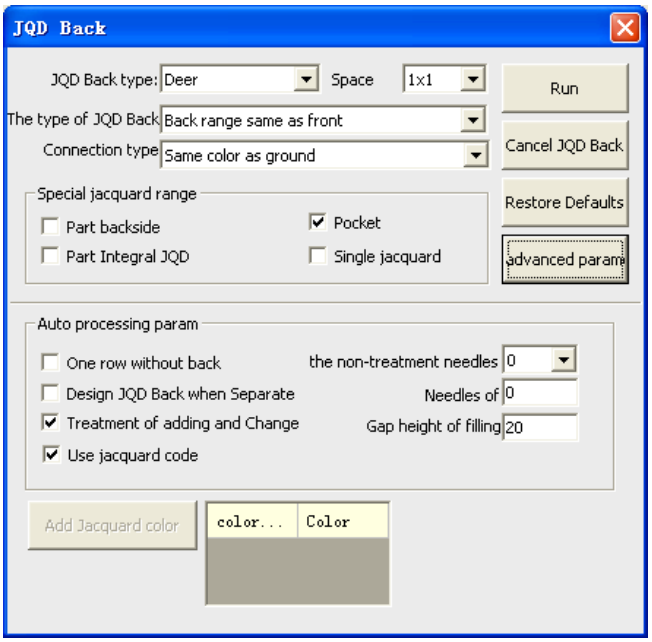
3.15 Shape design

Shape design

- Refer to the chapter of "Knitting specification and Shape" for more details.

3.16 Ladder backing

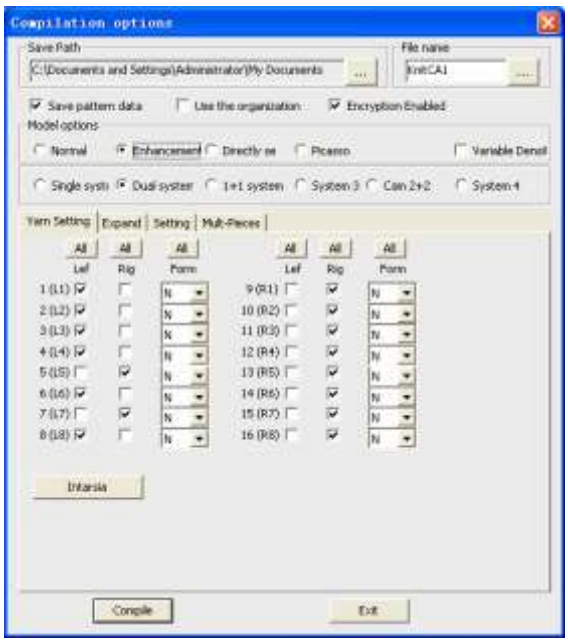
Ladder backing



- Refer to the chapter of "local jacquard" for more details.

3.17 Compilation

Compilation



- The details are in the "Compilation" pater.

3.18 De-compilation

 De-compilation

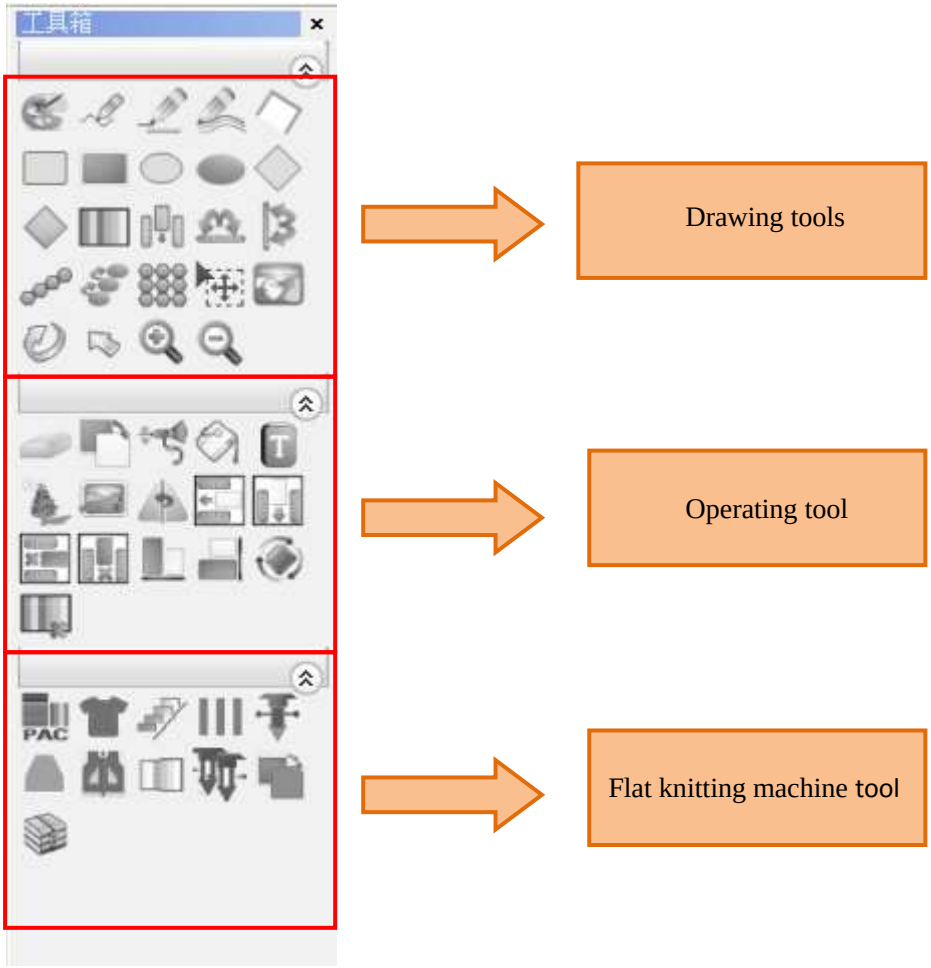
➢ De-compilation is based on the file of CNT, PAT, YAR, PRM or 001 generate the pattern file KNI.

3.19 Reset carrier direction

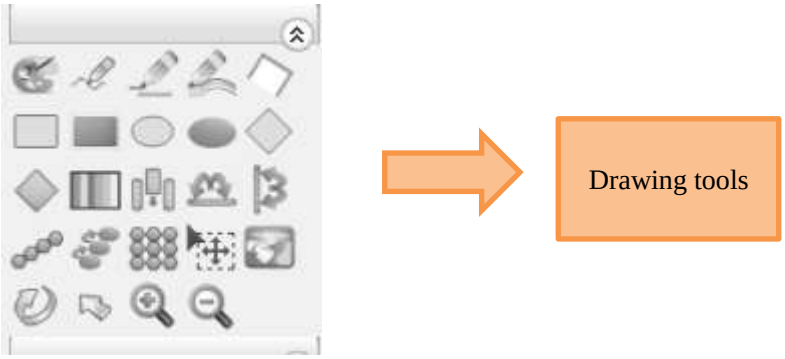
 Reset carrier direction

➢ After the inserted or deleted row of the pattern, the display of the yarn carrier direction is affected. Select the tool to obtain the correct yarn carrier direction again. For the cast-off row, the color code 255 will be filled at the first column of function line 215.

4 Toolbox



4.1 Drawing tools



4.1.1 Color extraction（P）

 Color extraction（P）

- Set the color code under the cursor as current using color code. After the color extraction, the current color code in the palette will change into the value of the extracted color code.

4.1.2 Draw dots (I)

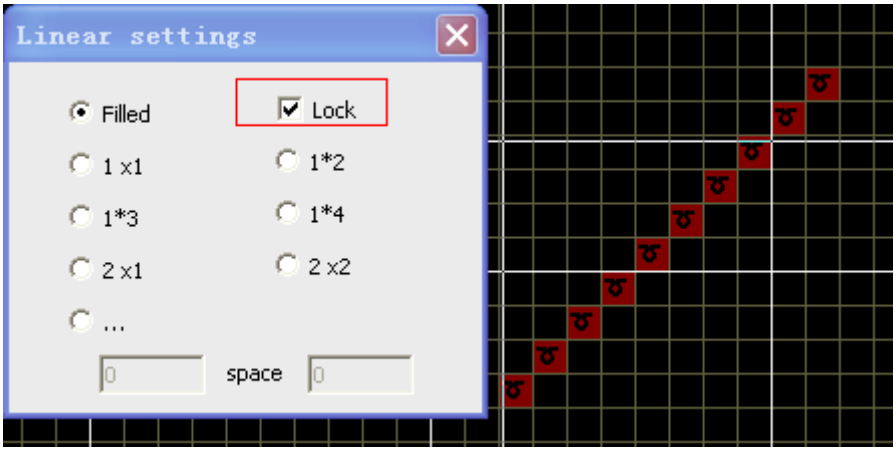
 Draw dots (I)

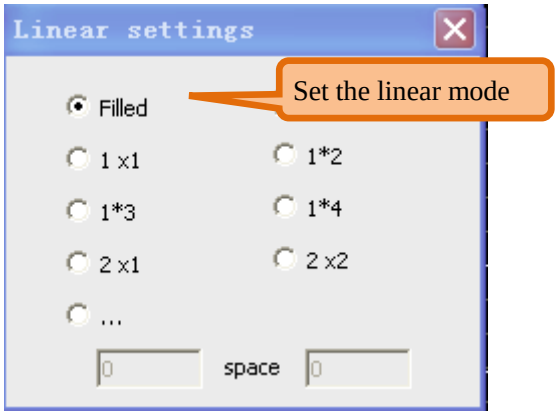
- Click once in the drawing area to draw a dot of the current color code.

4.1.3 Draw straight lines (L)

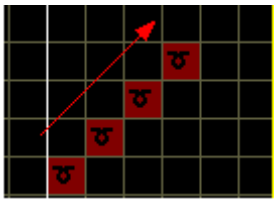
 Draw straight lines (L)

- After selecting, moving the mouse to initial position in the drawing area and drag the mouse with left single click until the end point. If you need to cancel the current operation, you can press the Esc key in the keyboard or click the right mouse button in the process of dragging the mouse.
- The line lock function is locking a point to draw a straight line in the process of beeline.
- Click icon  , Appear the dialog box of linear Settings.

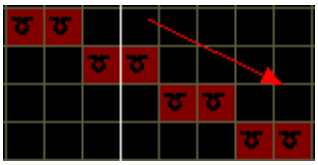




- The solid model can paint add and subtract needle.

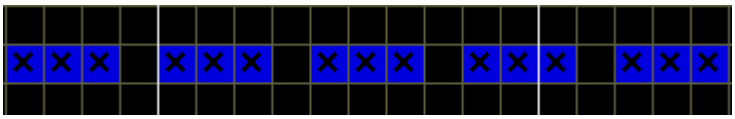


Add 1 needle

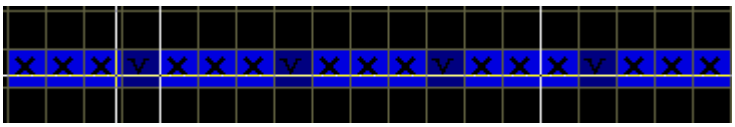


subtract 2 needle

- Interval needle model can be used to take yarn carrier. Such as choose 16 color code to Interval 2 free 1



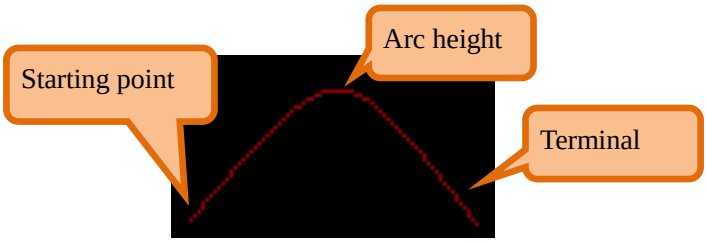
- The yarn carrier can be taken with filling in the 4 color code in the place of 3 free 1.



4.1.4 Draw arcs (C)

 Draw arcs (C)

➢ Make sure both ends of the curve, and then determine the intermediate point of the curve , can draw out a similar parabolic shape of the curve.

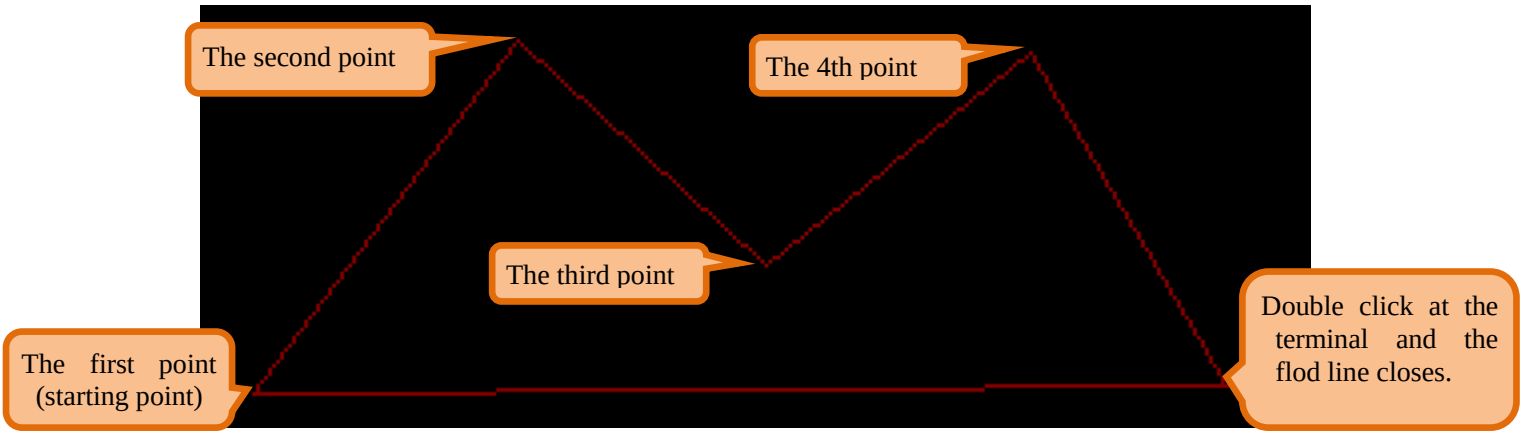


4.1.5 Fold line (closed) (S)

 Fold line (closed) (S)

➢ Move the cursor to the starting point and click and drag the cursor can draw a line.

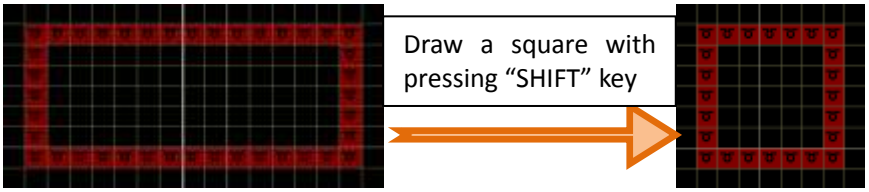
➢ Click left key once when new line appear every time, double click left key end.



4.1.6 Rectangular (J)

 Rectangular (J)

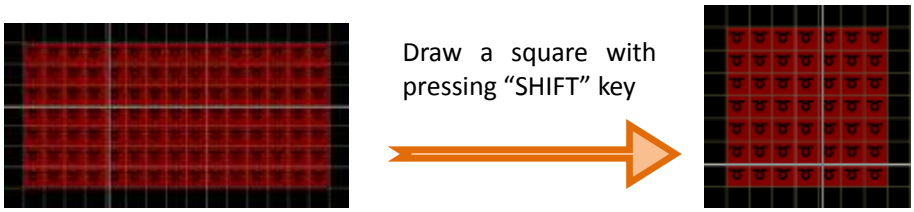
➢ Click once to make sure a rectangles vertex, then move the cursor along the rectangles diagonal direction and click again to finish the rectangles. Draw a square with pressing “SHIFT” key.



4.1.7 Rectangular (filling)（R）

 Rectangular (filling)（R）

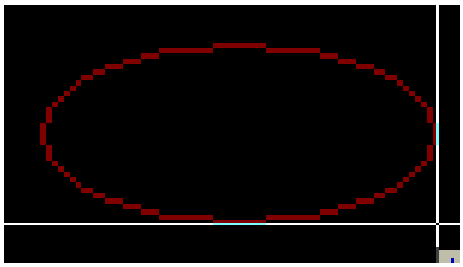
- Click once to make sure a rectangles vertex, then move the cursor along the rectangles diagonal direction and click again to finish the rectangles. Draw a square with pressing “SHIFT” key.



4.1.8 Round and ellipse (H)

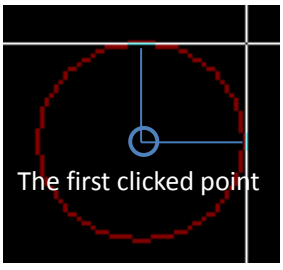
 Round and ellipse (H)

- Click once to make sure an ellipse vertex, then move the cursor along the ellipse diagonal direction, and click again to finish the ellipse.



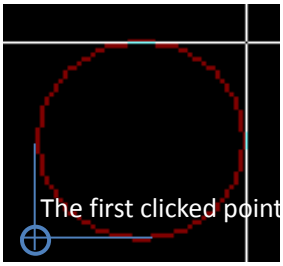
The horizontal and vertical coordinates have a tangent relation with the ellipse.

- At first time click the “SHIF” key to make sure a round center point, then move the cursor to the excepted radius of the round, and click again to finish the round.



The horizontal and vertical coordinates have a tangent relation with the round.

➢ The second time, click the “SHIF” key to make sure a round vertex, then move the cursor along the round diagonal direction, and click again to finish the round.



The horizontal and vertical coordinates have a tangent relation with the round

➢ The third time, click the “SHIF” key to return to the ellipse station.

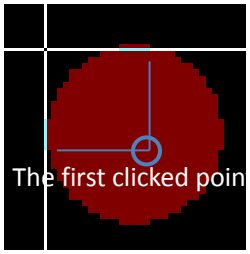
4.1.9 Round and ellipse (filling)(E)

 Round and ellipse (filling) (E)

➢ Click once to make sure an ellipse vertex, then move the cursor along the ellipse diagonal direction, and click again to finish the ellipse.

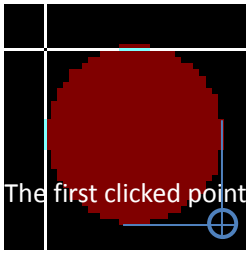
The horizontal and vertical coordinates have a tangent relation with the round.

➢ At first time click the “SHIF” key to make sure a round center point, then move the cursor to the excepted radius of the round, and click again to finish the round.



The horizontal and vertical coordinates have a tangent relation with the round

➢ The second time, click the “SHIF” key to make sure a round vertex, then move the cursor along the round diagonal direction, and click again to finish the round.

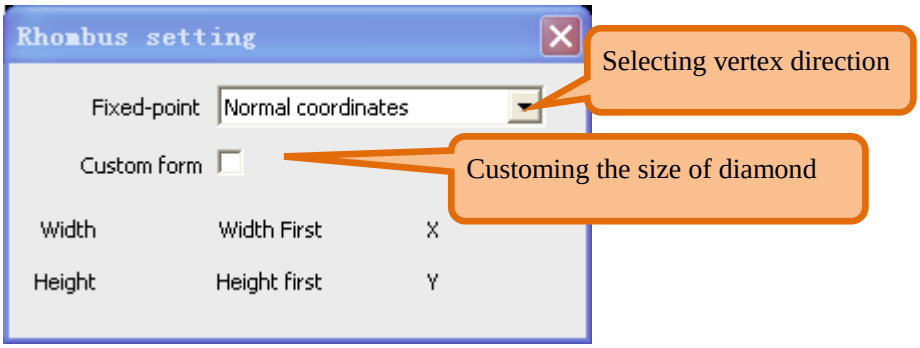


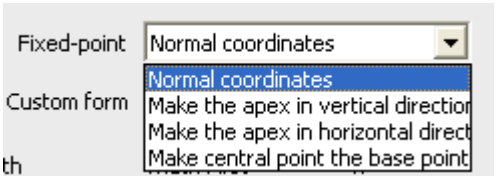
The horizontal and vertical coordinates have a tangent relation with the round.

- The third time, click the "SHIF" key to return to the ellipse station.

4.1.10 Diamond (G)

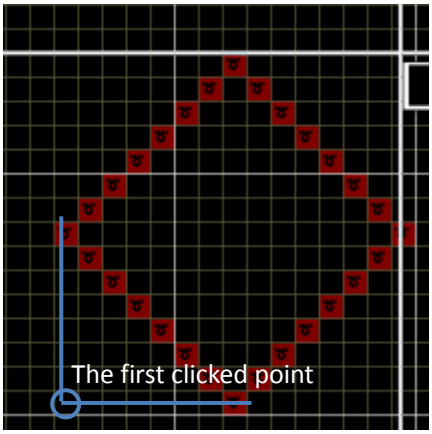
 Diamond (G)



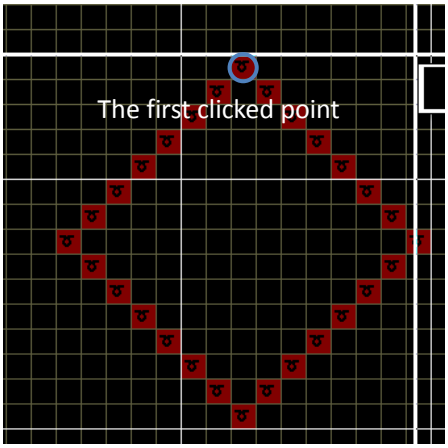


- Select the Fixed-point:
- Click to make sure the diamond vertex, then move the cursor along the diamond diagonal direction, and click again to finish the diamond. That press the "SHIFT" key can draw a diamond with four equal sides.

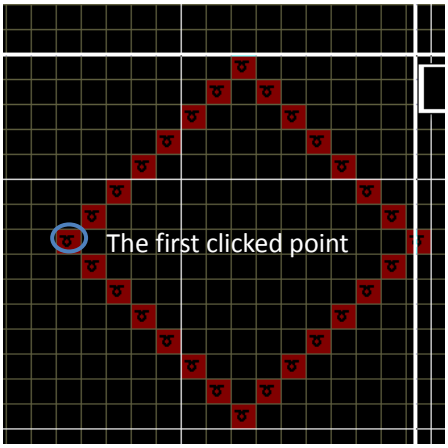
  - Normal coordinates



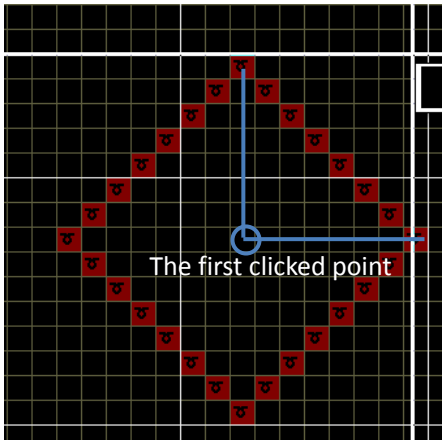
- Make the apex in vertical direction



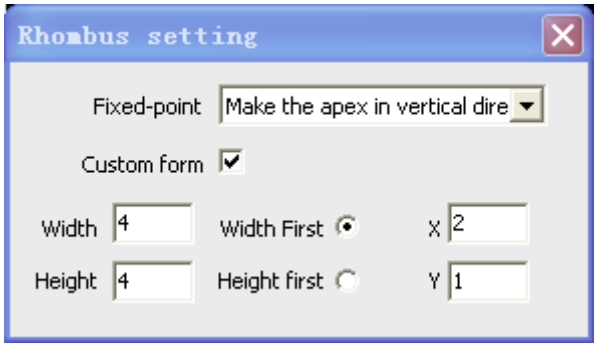
- Make the apex in horizontal direction

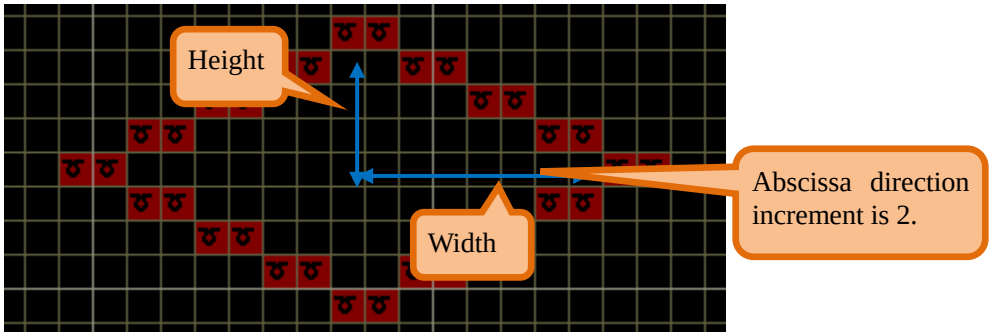


- Make Central point



➢ Custom form: Select the “Custom form” parameters input the height, width and increment of the diamond. Click in the main drawing area to show a diamond, then move the diamond to the destination and click again to finish the diamond.





4.1.11 Diamond (filling)(D)

 Diamond (filling)(D)

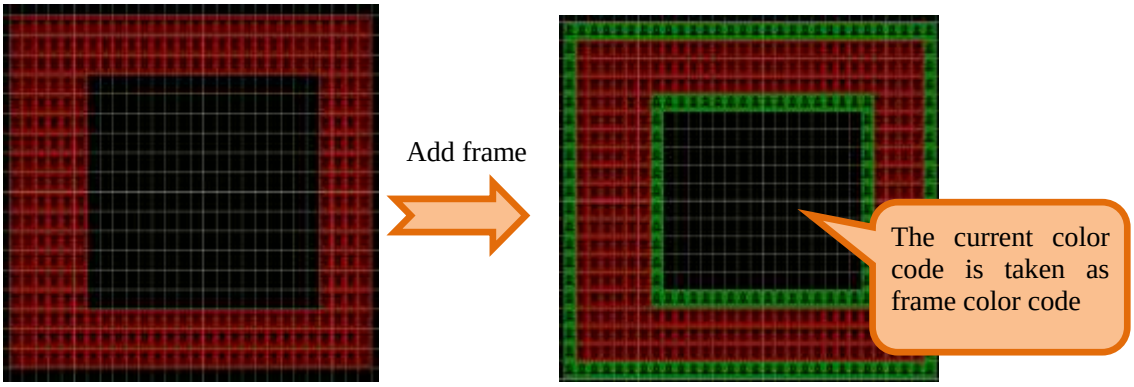
- The drawing steps are same as the diamond (G).

4.1.12 Frame (W)

 Frame (W)

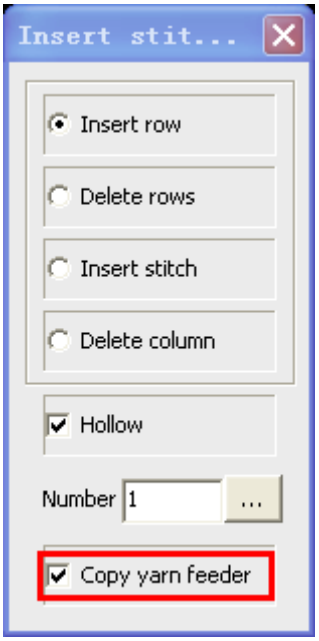
- Add the frame to the appointed color code. Select the frame type and color. As follow:

- Select the frame color (the current color, such as ), move the cursor to the pattern and click.

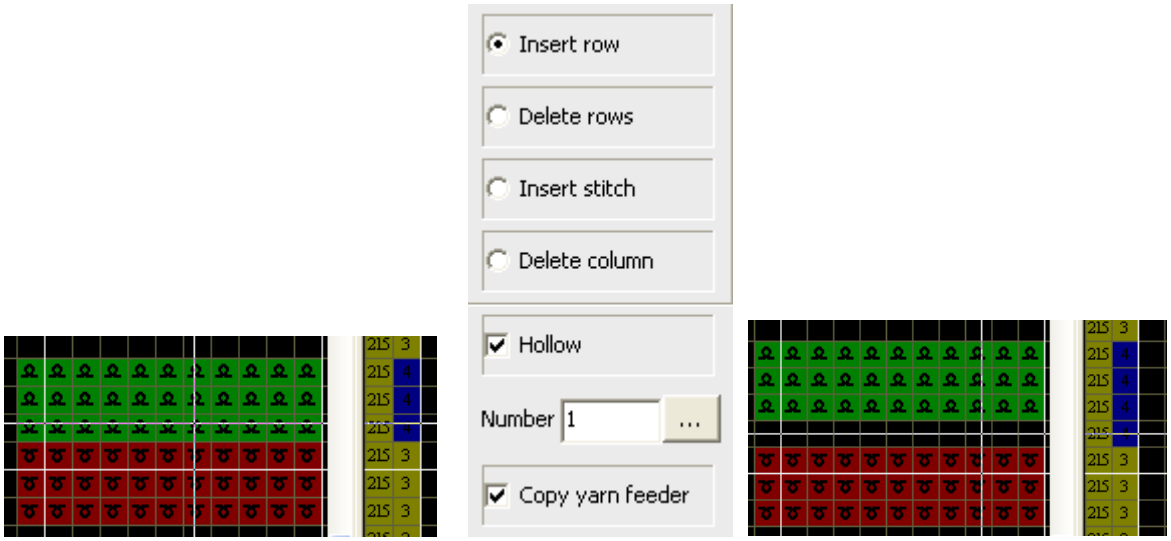


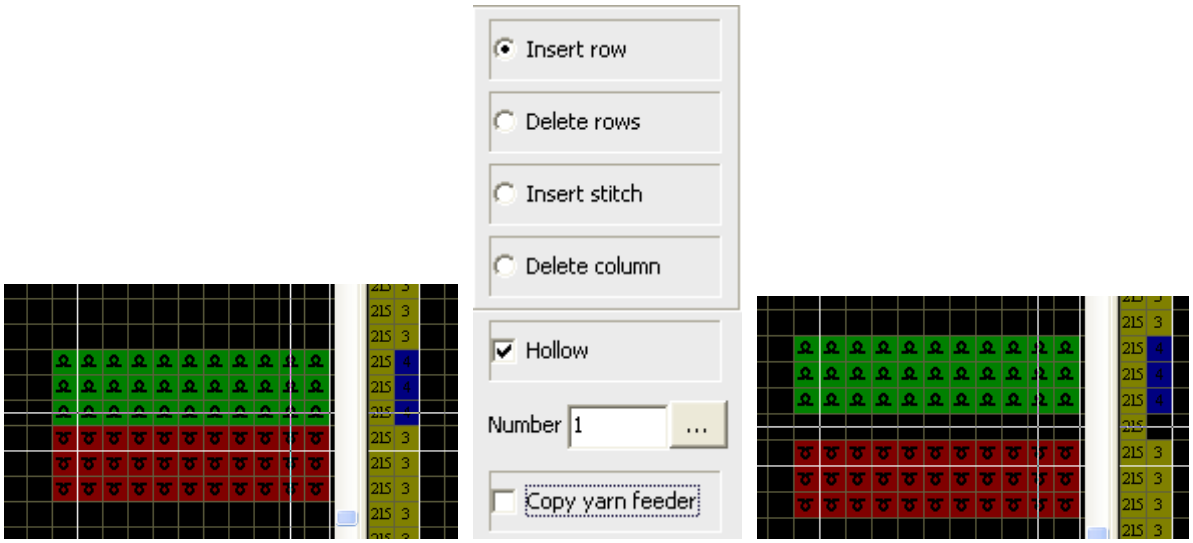
4.1.13 Insert column (row)\delete column (row) (U)

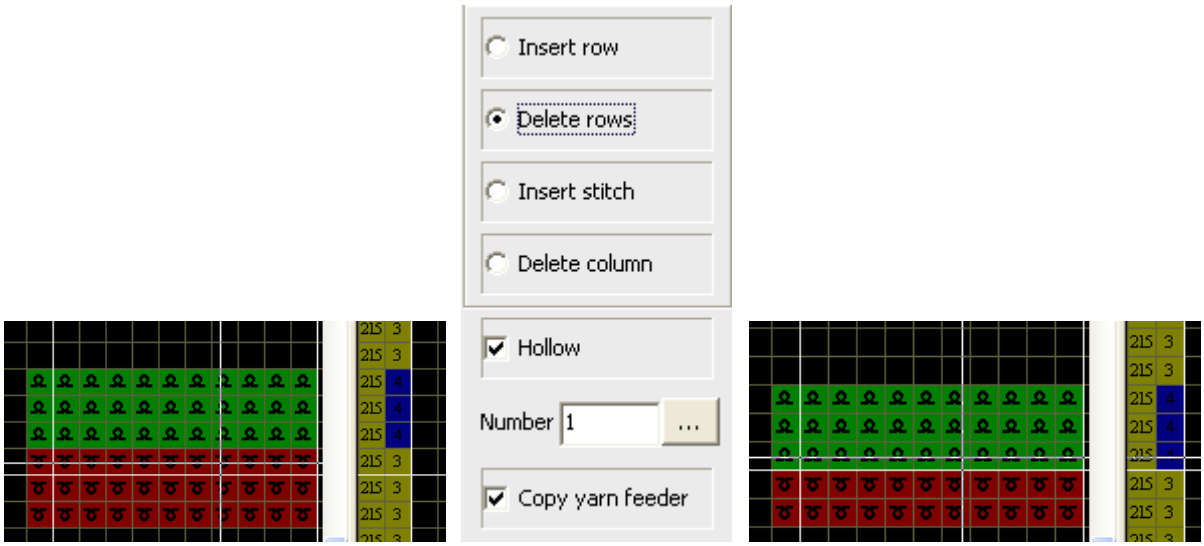
 Insert column (row)\delete column (row) (U)

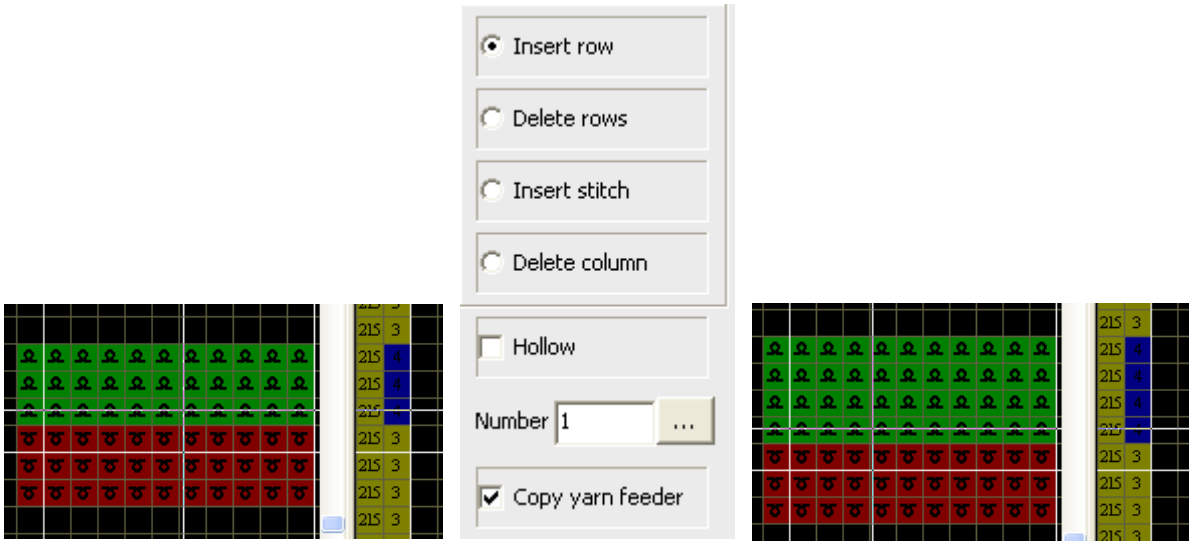


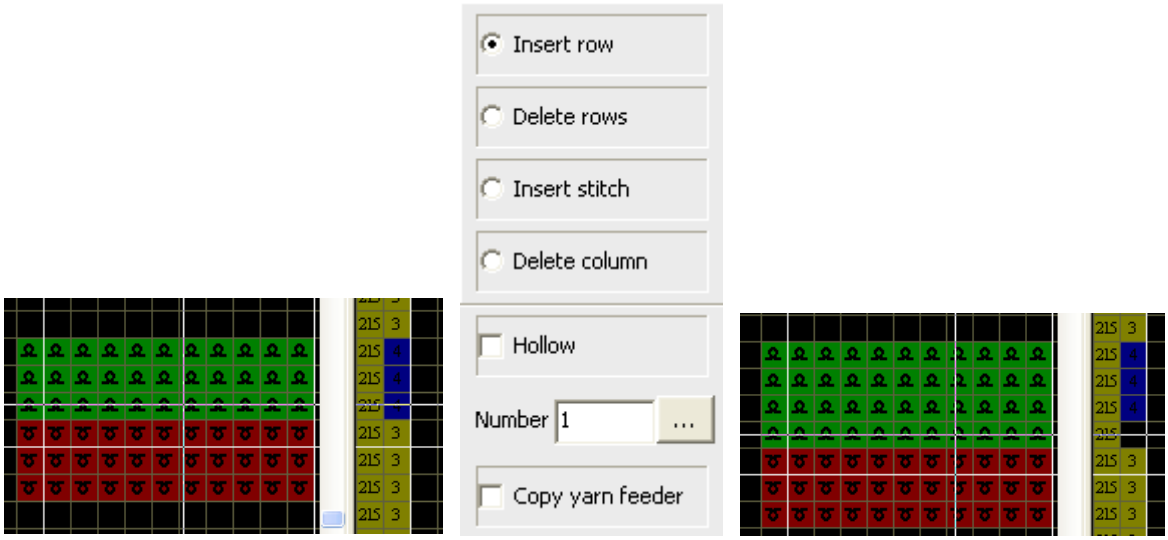
- Select the “space” parameters: The inserted row is space row. Otherwise the inserted row is same as the current row.
- Copy yarn carriers: When insert row (include space row), automatically copy the yarn carrier of the current row.
- There is not a circled area.
  - The whole column (row) which contains the cursor is inserted or deleted.


Insert row
Delete rows
Insert stitch
Delete column
Hollow
Number 1
...
Copy yarn feeder

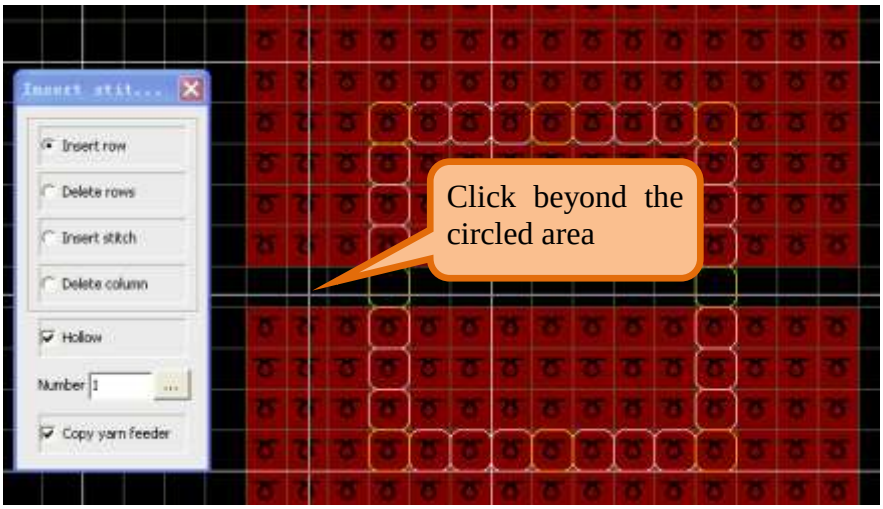

Insert row
Delete rows
Insert stitch
Delete column
Hollow
Number 1
...
Copy yarn feeder


Insert row
Delete rows
Insert stitch
Delete column
Hollow
Number 1
...
Copy yarn feeder

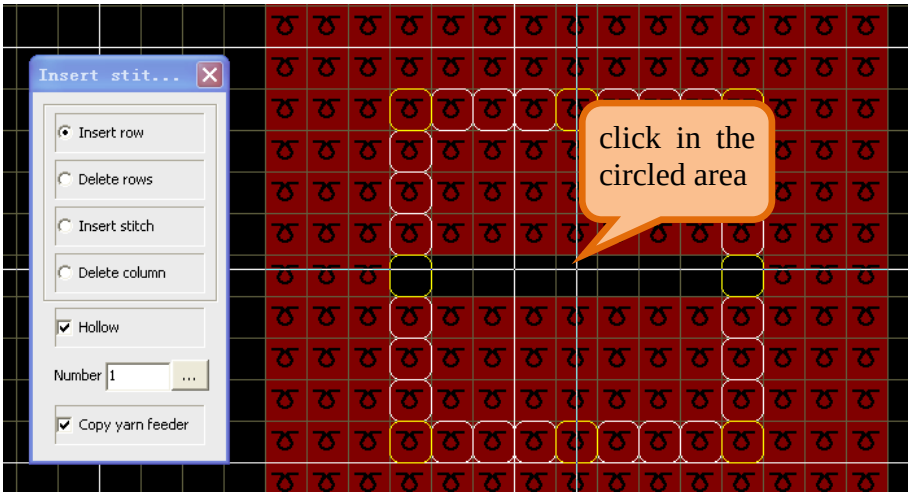




- There is a circled area.
  - When click beyond the circled area, the whole column (row) which contains the cursor is inserted or deleted.



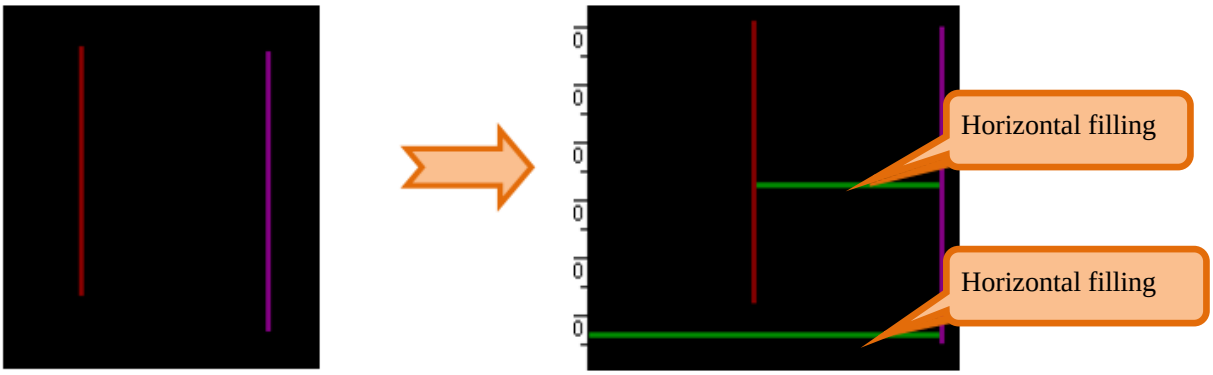
- When click in the circled area, the column (row) is inserted or deleted in the circled aire, the column (row) is affected outside the circled aire.



4.1.14 Horizontal filling

 Horizontal filling

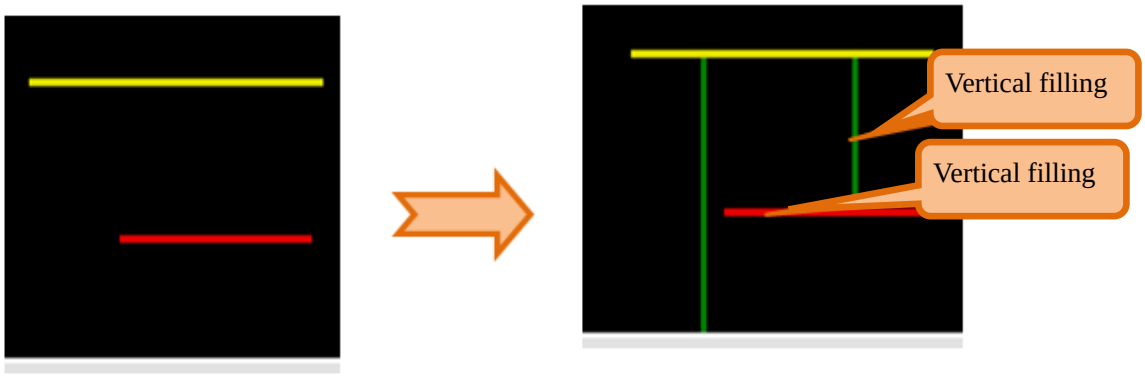
➢ Fill the current cursor row with the current color code until the color change.



4.1.15 Vertical filling

 Vertical filling

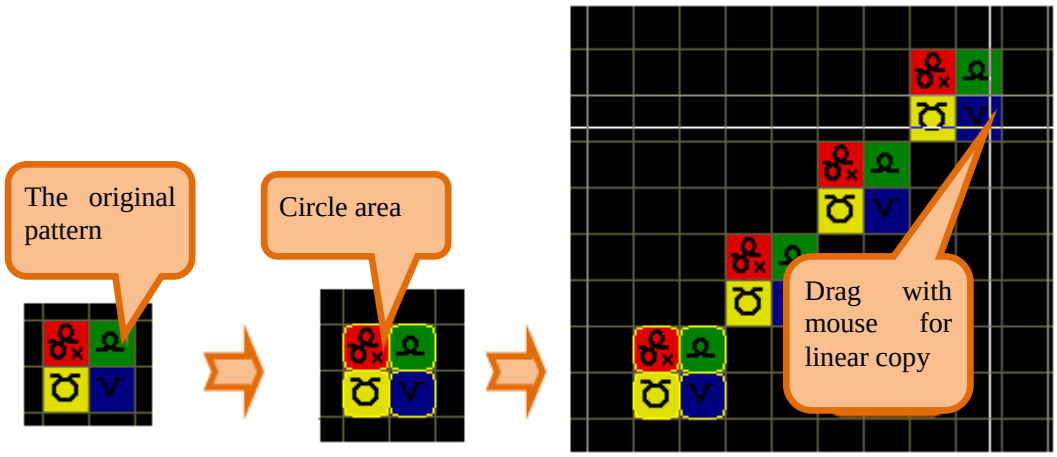
➢ Fill the current cursor column with the current color code until the color change.



4.1.16 Linear copy (B)

 Linear copy (B)

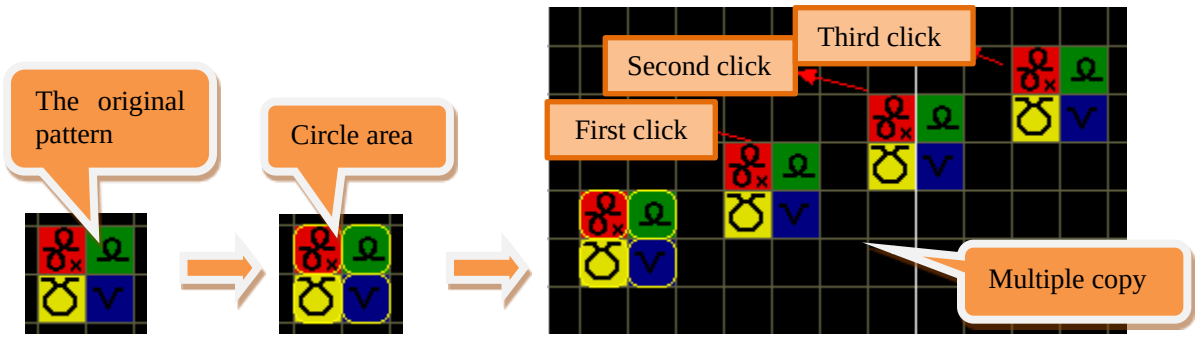
➢ At first circle the pattern which needs to be copied, click to the circle area, move the cursor to the line end and click again.



4.1.17 Multiple copy (N)

 Multiple copy (N)

➢ At first circle the pattern which needs to be copied. Drag pattern to the expected position and click to finish direction definition, and then click on any position in the canvas. The graphics will be copied by the way of the direction of definition. Once click and once graphic is copied.

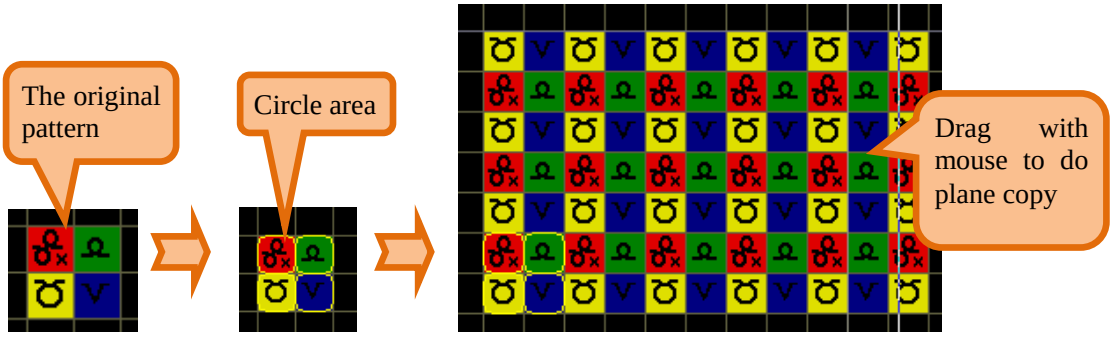


➢ This is used to drawing the regular special pattern.

4.1.18 Plane copy (K)

 Plane copy (K)

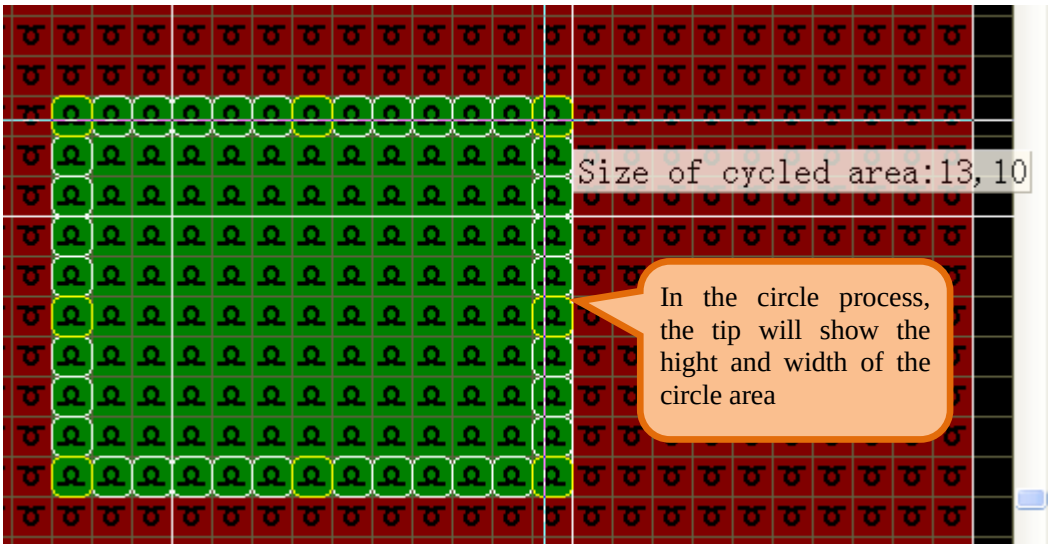
➢ At first circle the pattern which needs to be copied. Drag cursor to the expected position and click to finish copy.



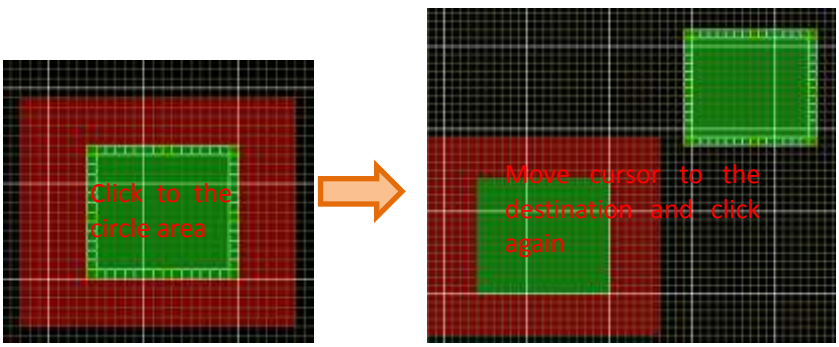
4.1.19 Circle(A)

 Circle (A)

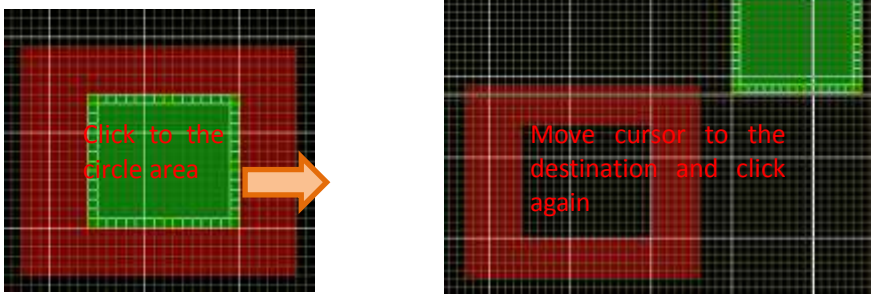
- Click once in start point, then move the cursor along the diagonal and click again in the finishing point.
- In the process of moving the cursor, the tip will show the size of the cycled area.



- Click to the circle area, move the cursor to the destination and click again, the circle pattern will be copied.

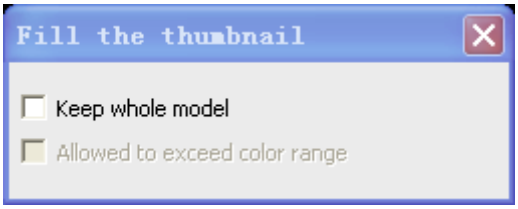


- Click the “Ctrl”, the fuction change into cutting

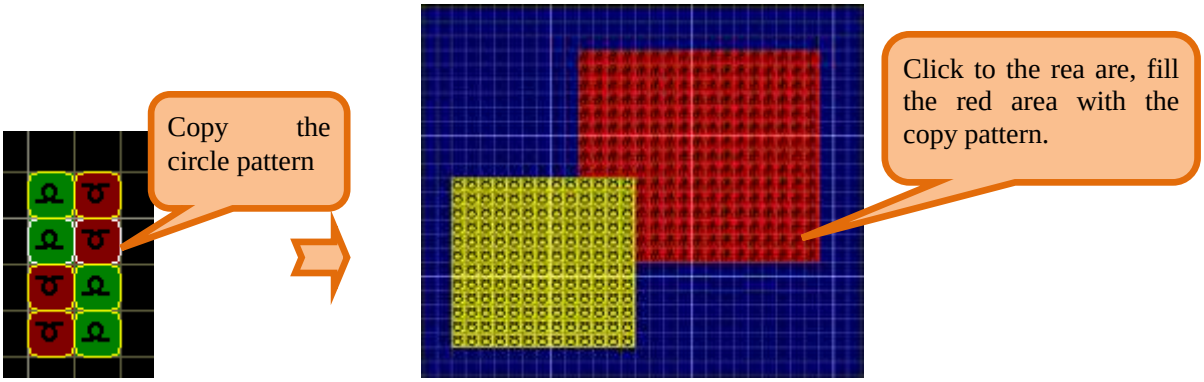


4.1.20 Small module fillin

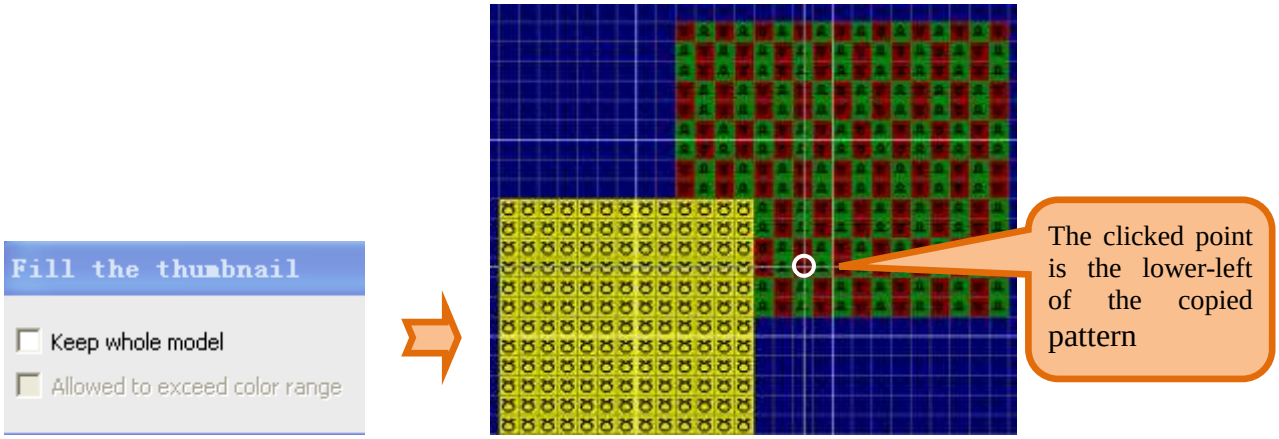
 Small module fillin



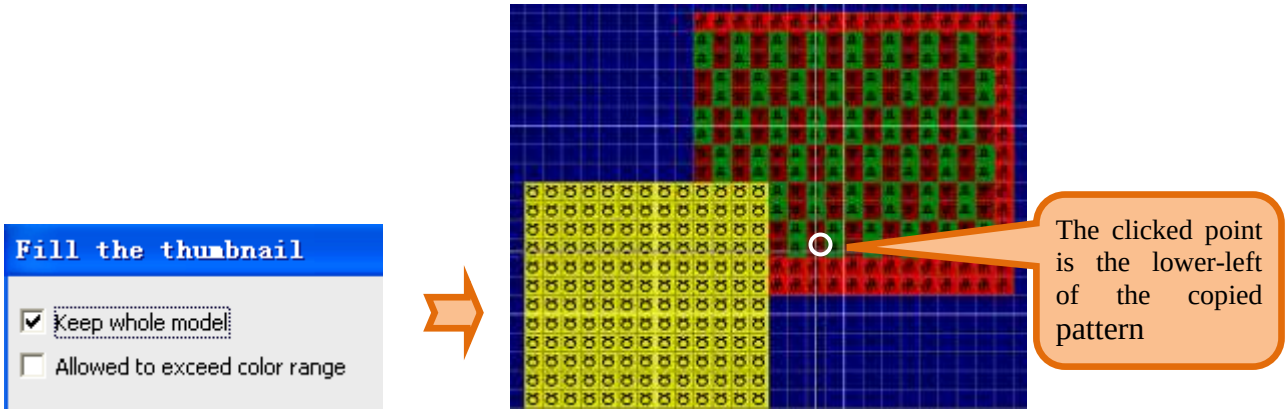
➢ Fill the same color area with the copy pattern.



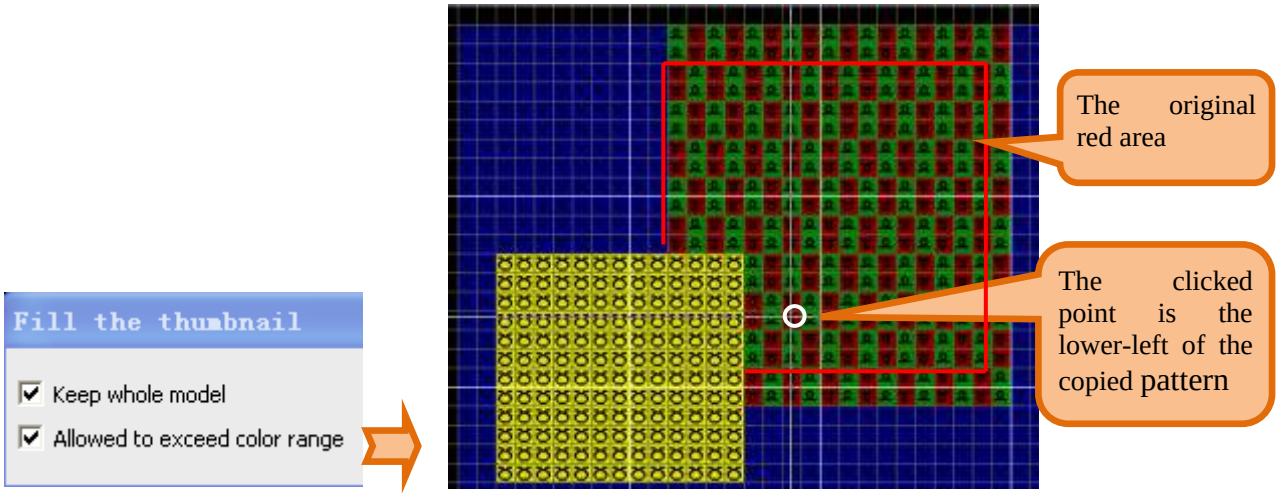
➢ When fill the same color area, the clicked point is the lower-left of the copied pattern, and this point is the starting point.



➢ Keep whole model: the click point is the starting point, fill the red area with whole copied pattern.



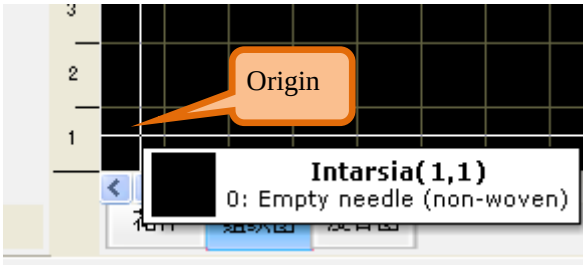
➢ Allowed to exceed color range: It is effective when selecting the “keep block whole” parameters. Allow to exceed red area for keeping the whole model.



4.1.21 Return to the origin (F2)

Return to the origin (F2)

➢ Canvas starts from the origin



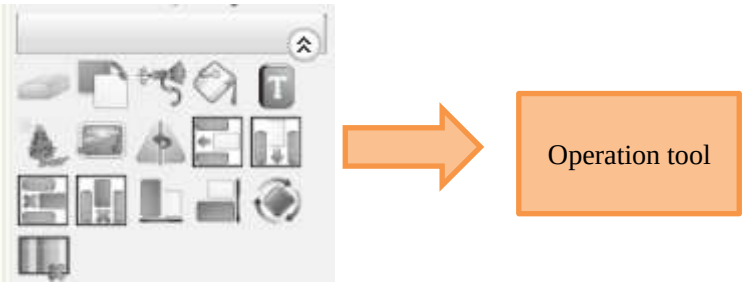
➢ Some operation needs to return the origin, such as drawing the set-up structure, check the pattern and so on.

4.1.22 Scroll (M)

 Scroll (M)

- The cursor changes into a hand cursor, which could move the canvas.

4.2 Operation tool



4.2.1 Erase (V)

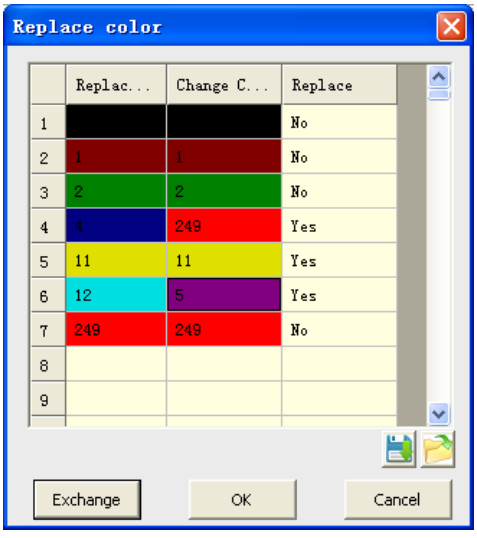
 Erase (V)

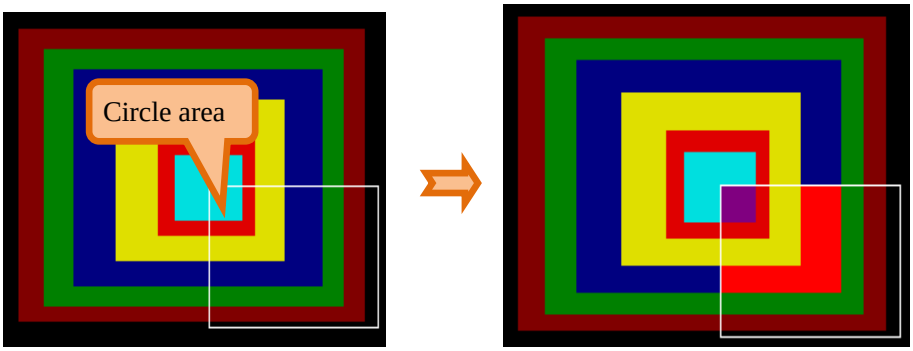
- Click to the circle area (or out of the circle area), erase the color in the circle area (or ou of the circle area). Default area is the all.

4.2.2 Changing color (Q)

 Changing color (Q)

- Replace the color code in the circle area (or out of circle area). Default area is the all.
- Click to the circle area (or out of circle area), the color code will list in the circle area (or out of circle area).
- Exchange: Only two color code can finish exchange. It is performed in the condition that replace list has only two "Yes" (double click change the state of "Yes" and "NO").



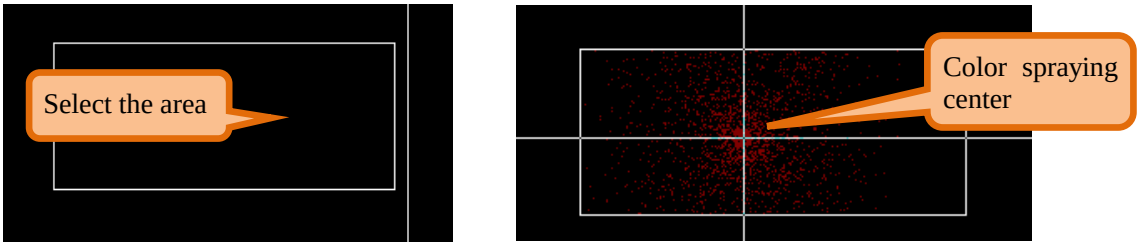


- Save: Save the file of color changed.the file name is .ccl.
- Open: Open the color changed file, file name is .ccl.

4.2.3 Sprayer

Sprayer

- Click to the circle area to spray with the current color code. Click again for ending the action.

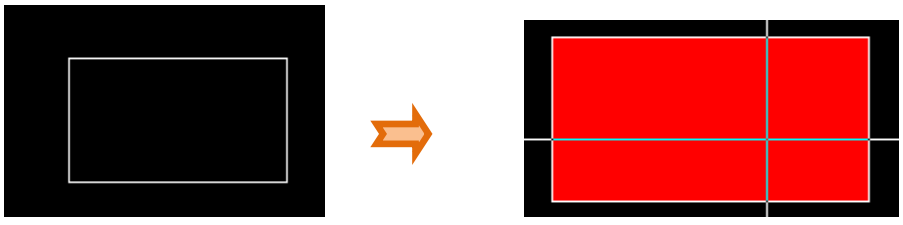


- Use sprayer to draw pattern effect.

4.2.4 Filling (F)

Filling (F)

- Fill the closed area with the current color code. The default area is all.

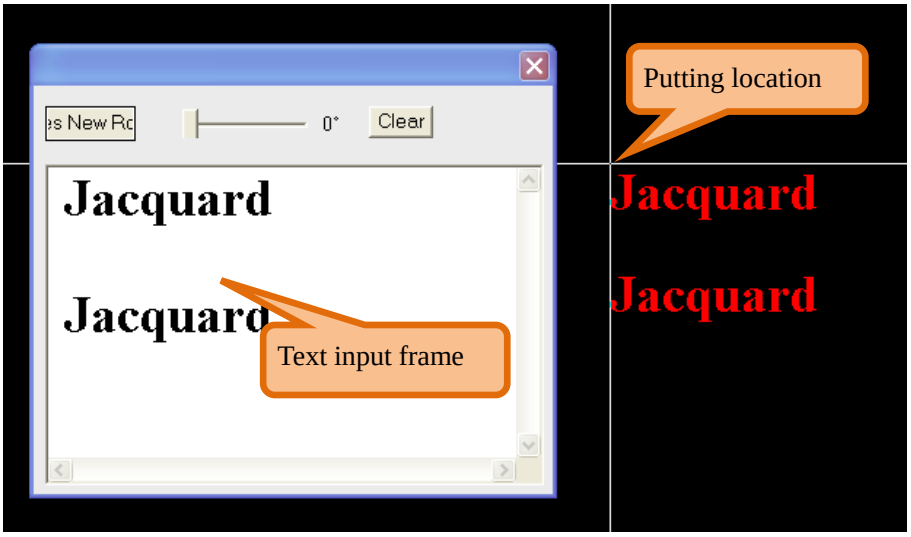


4.2.5 Text input

Text input

➢ After selecting the tool, click to any position in the main drawing area, the text input window will show.

➢ Input the text, move the text to the destination in the main drawing area and click again. The text color is the current color code.

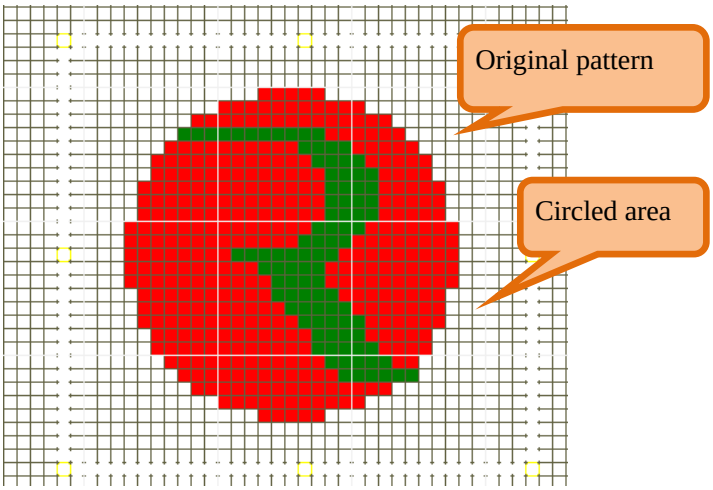


➢ Click to the font button, set the font, click to the “OK” button to save.

4.2.6 Shadow

 Shadow

➢ Circle the area which needs shadow.



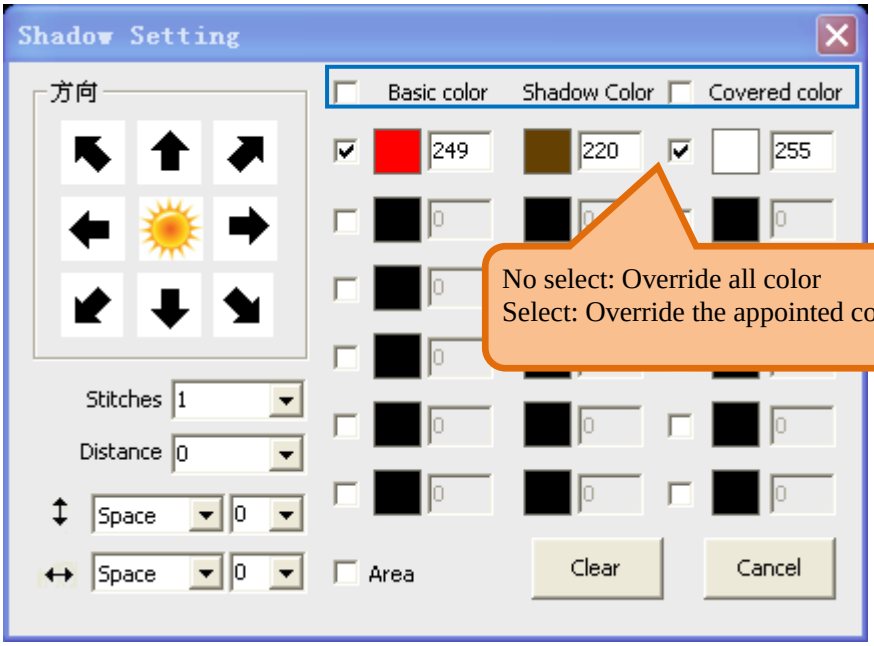
➢ Open the shadow interface. As follow:

➢ Base color: set the color to be shadowed.

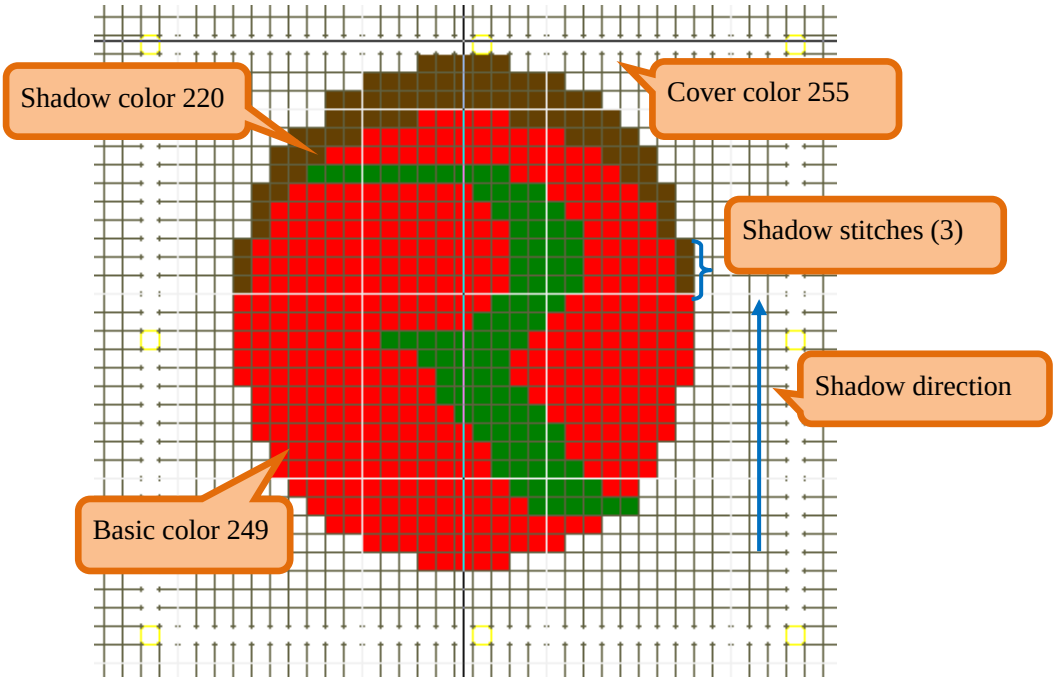
➢ Shadow color: set the final shadow color.

➢ Covered color: set the color to be covered.

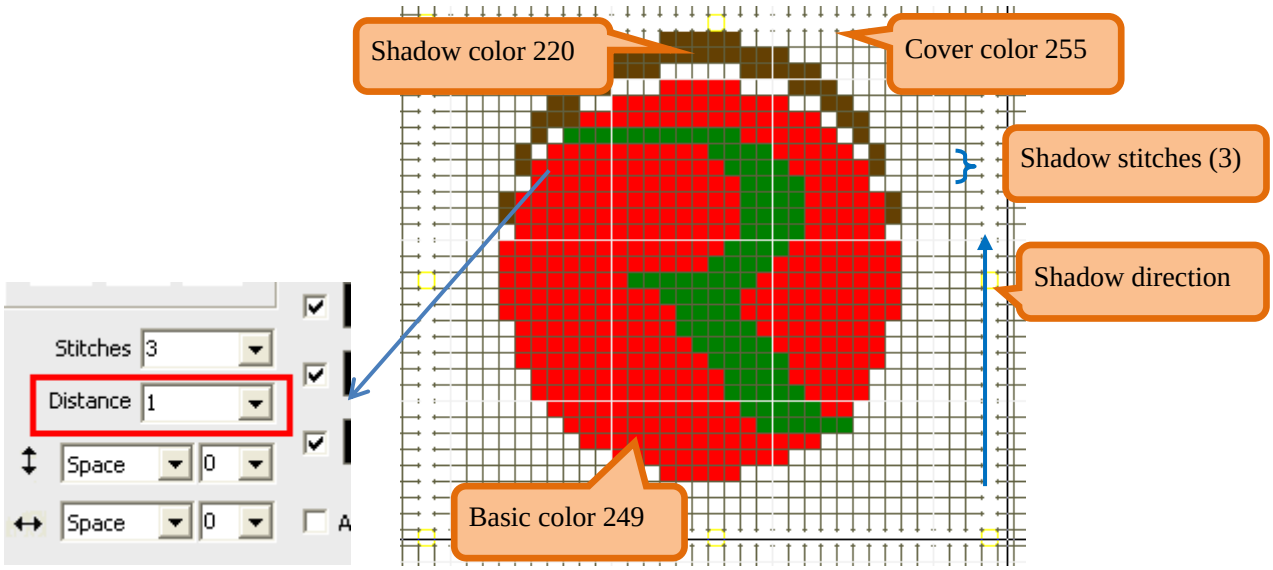
- The number of needles: set the number of shadowed needles.



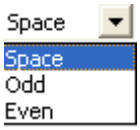
- Direction: shadow the circled area in the same direction of the pattern.



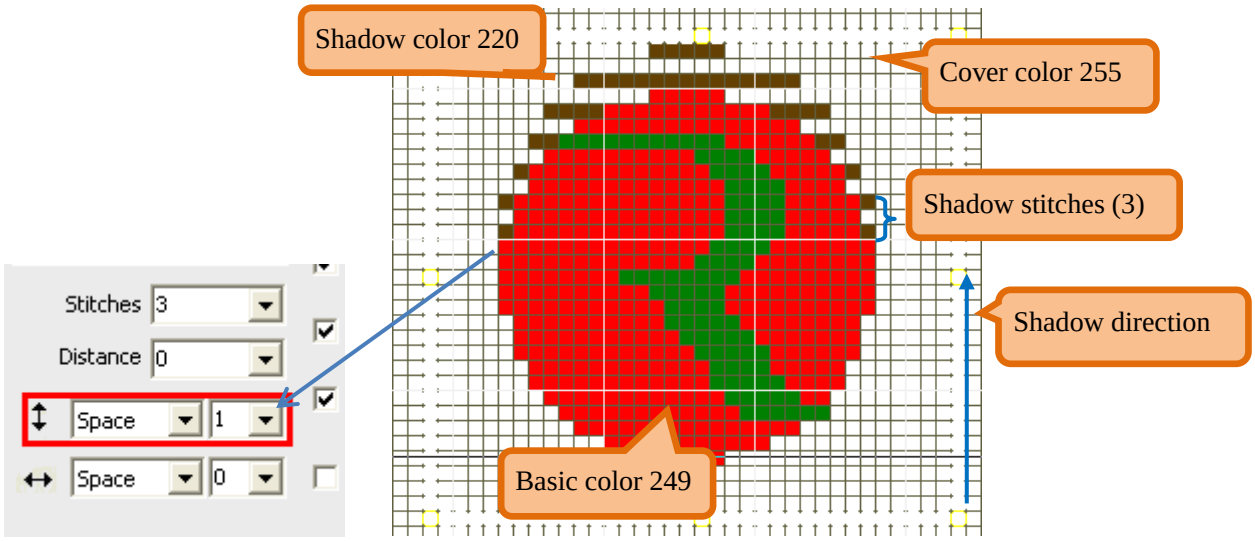
- Distance: The Number of needle adjacent to the original pattern has not shadow.

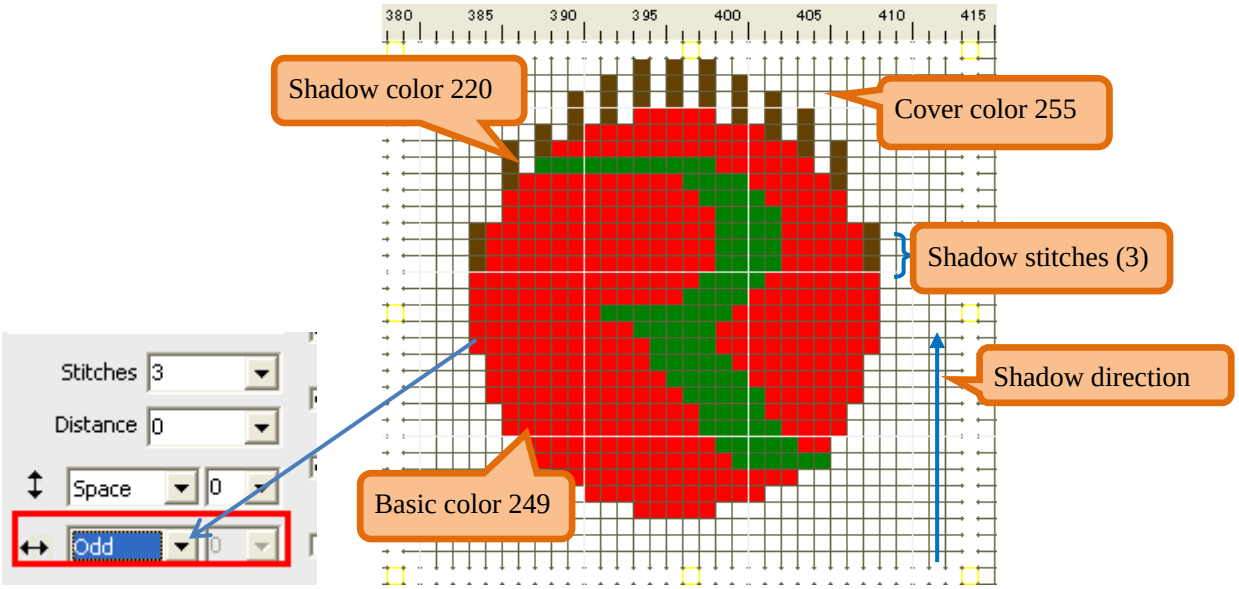


- ↕: Shadow type in the vertical direction.
- ↔: Shadow type in the horizontal direction.



- The shadow type has three in the vertical and horizontal direction
  - Space: Interval shadow according to the setting value (The example is zero);
  - Odd: The odd rows (or column) have shadow in circled aire.
  - Even: The Even rows (or column) have shadow in circled aire.

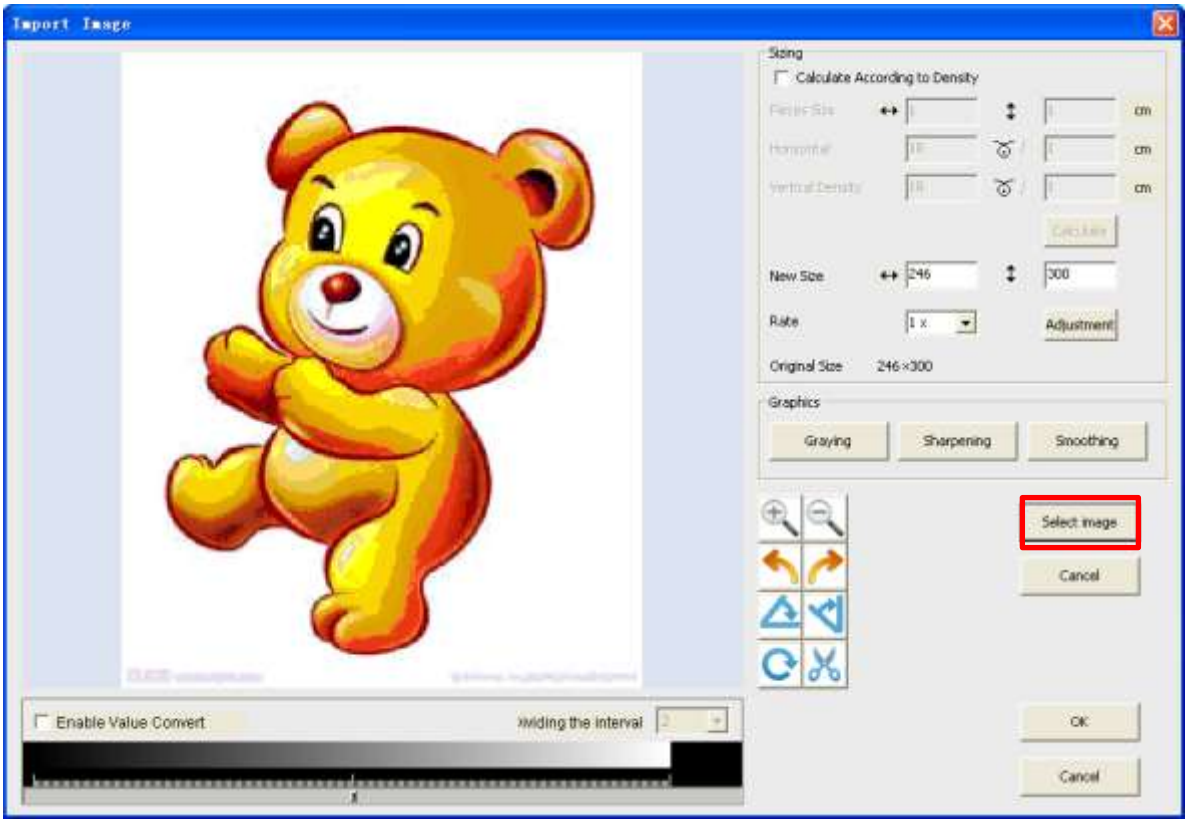




4.2.7 Importing image

Importing image

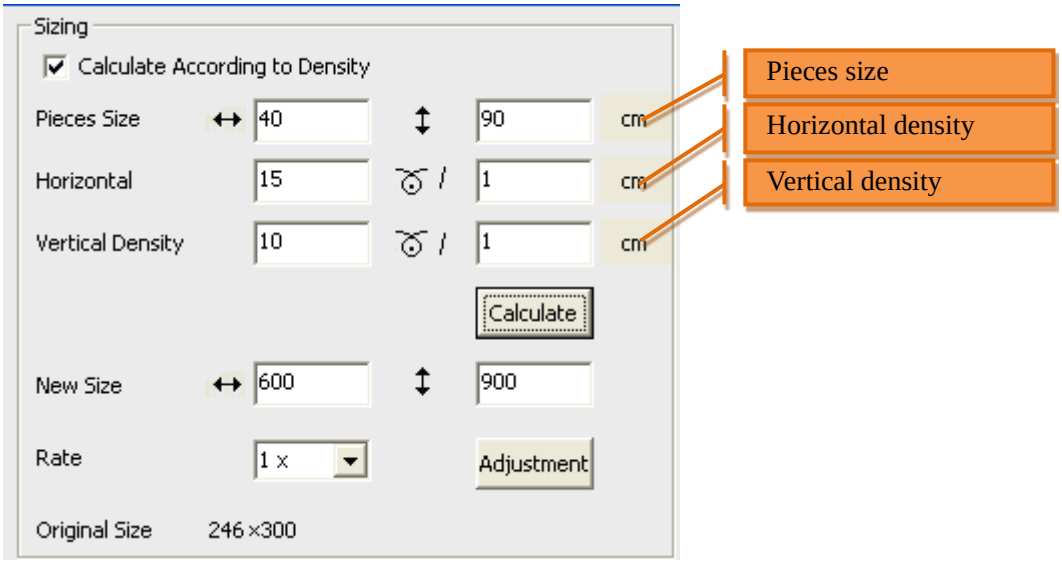
➢ Select the image, the image format could be BMP\JPG\PNG.



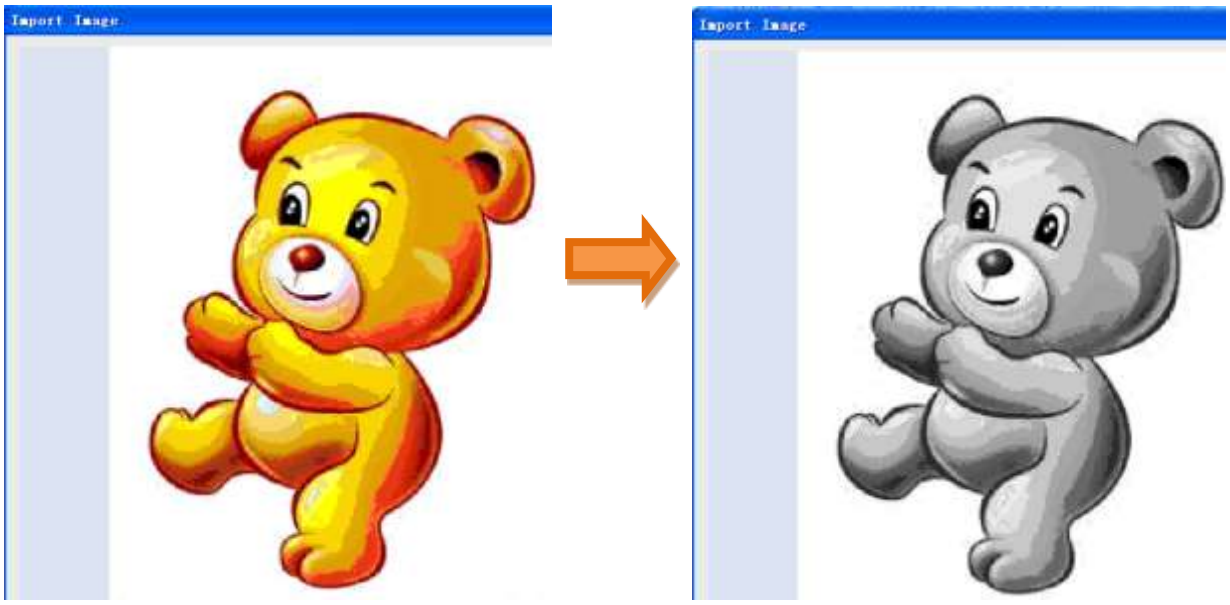
➢ Adjust size according to density: Input the real size , wale and course of the cloth, then click calculate to obtain the size of the pattern.

➢ New size: New width and height could be got by input, also could be got by calculate according to density. Then click adjust, picture size will be changed into new width and height.

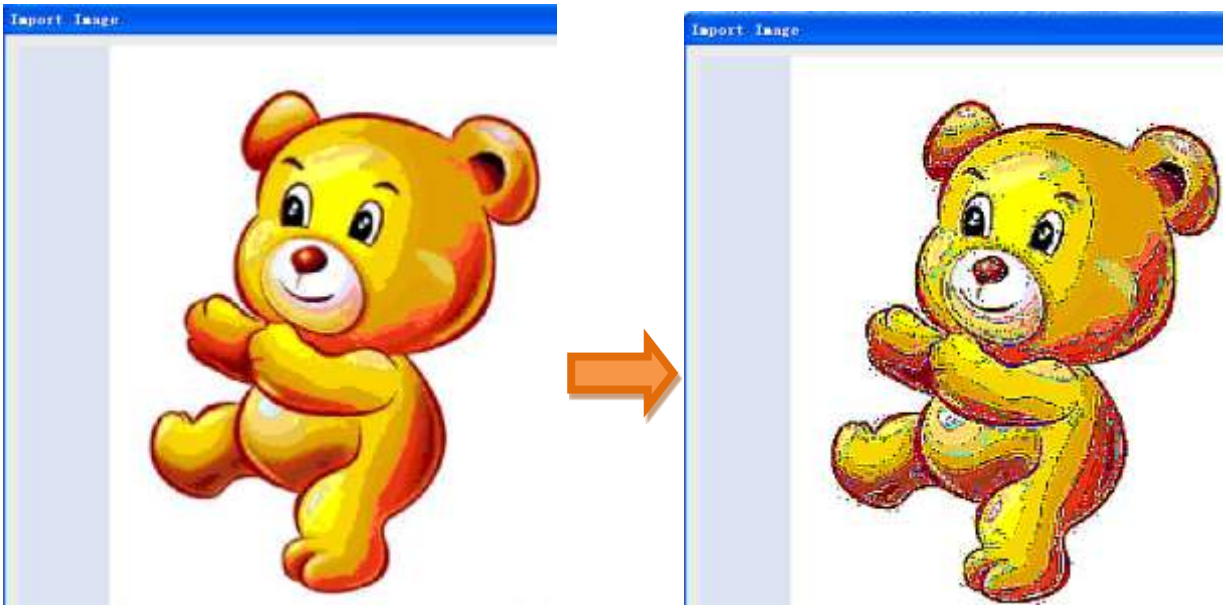
➢ Original size: The original width and height of the picture, corresponding to piex of the picture.



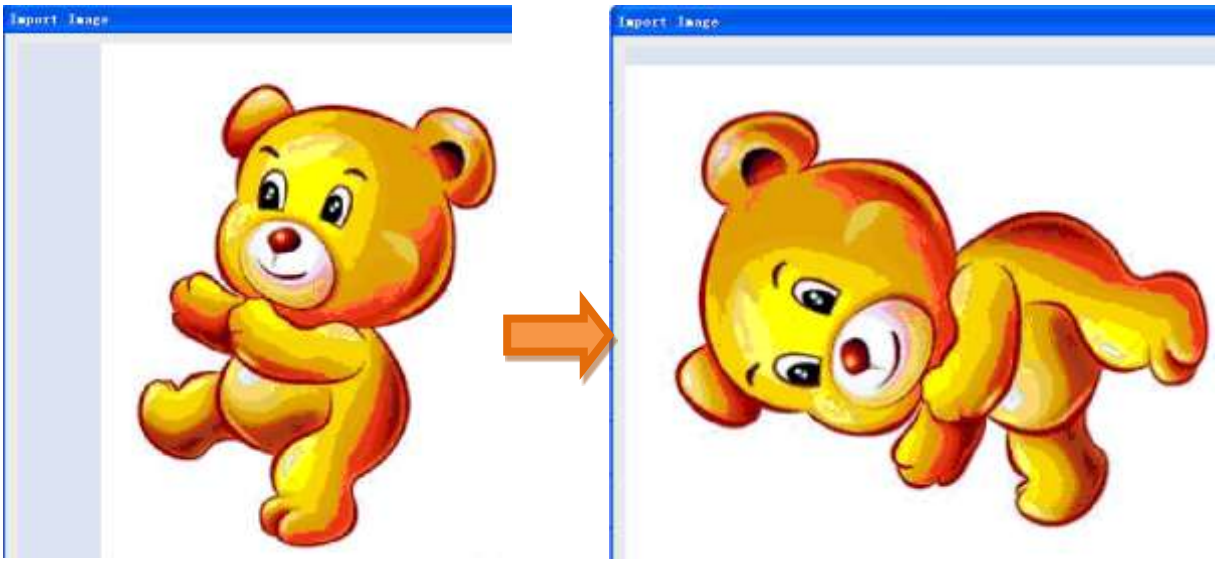
➢ Graying: Graying process for picture.



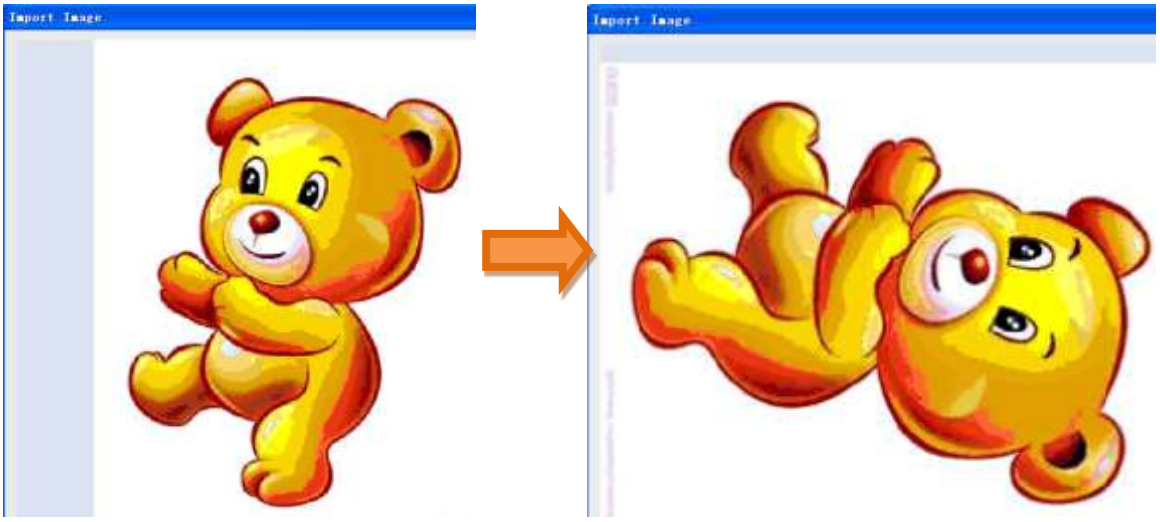
➢ Sharpness: Sharpness process for picture, make the contrast of the picture more stronger.



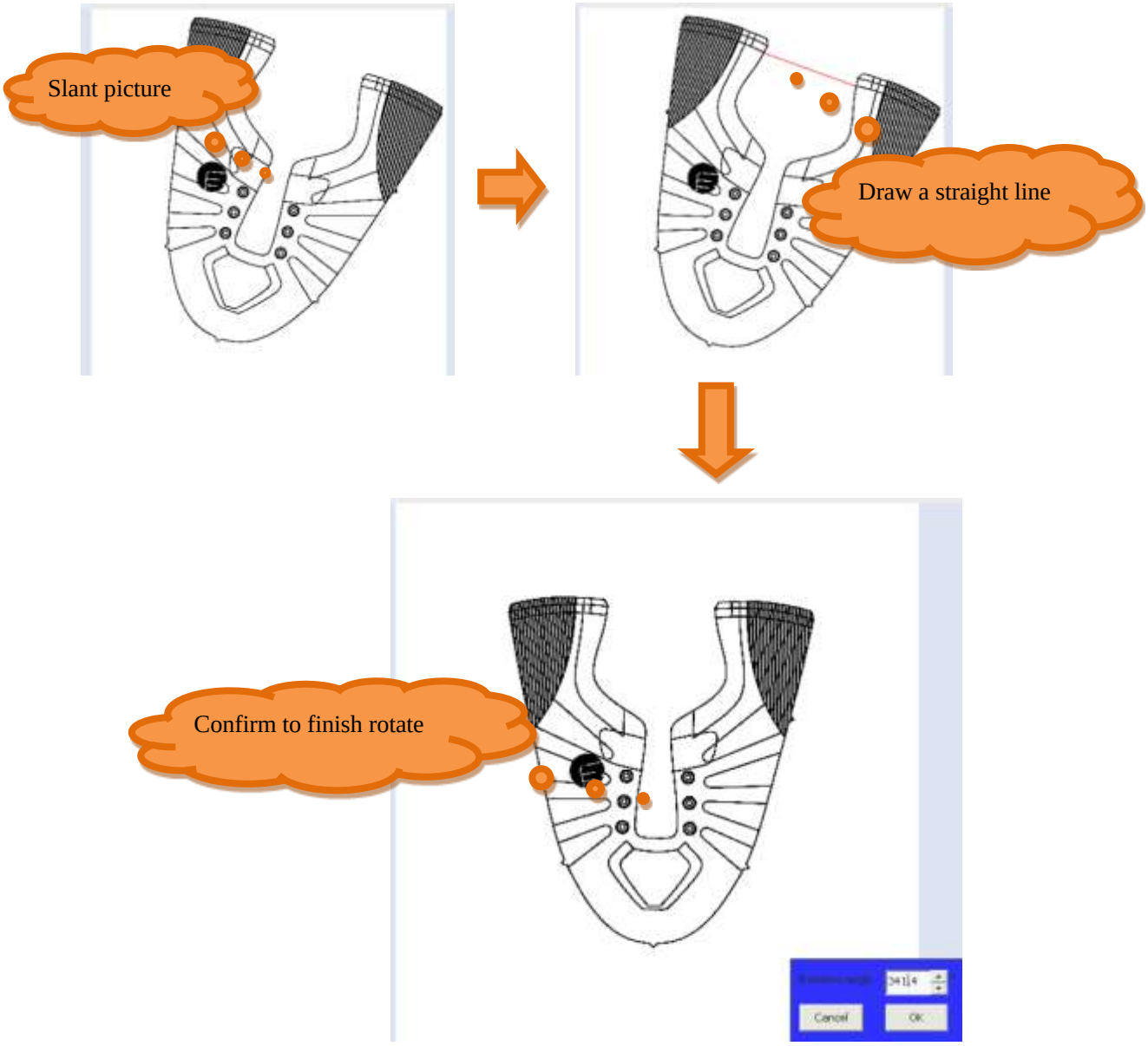
- Smothing: Smoothing the color transition of the picture.
-  : 90 degrees counterclockwise



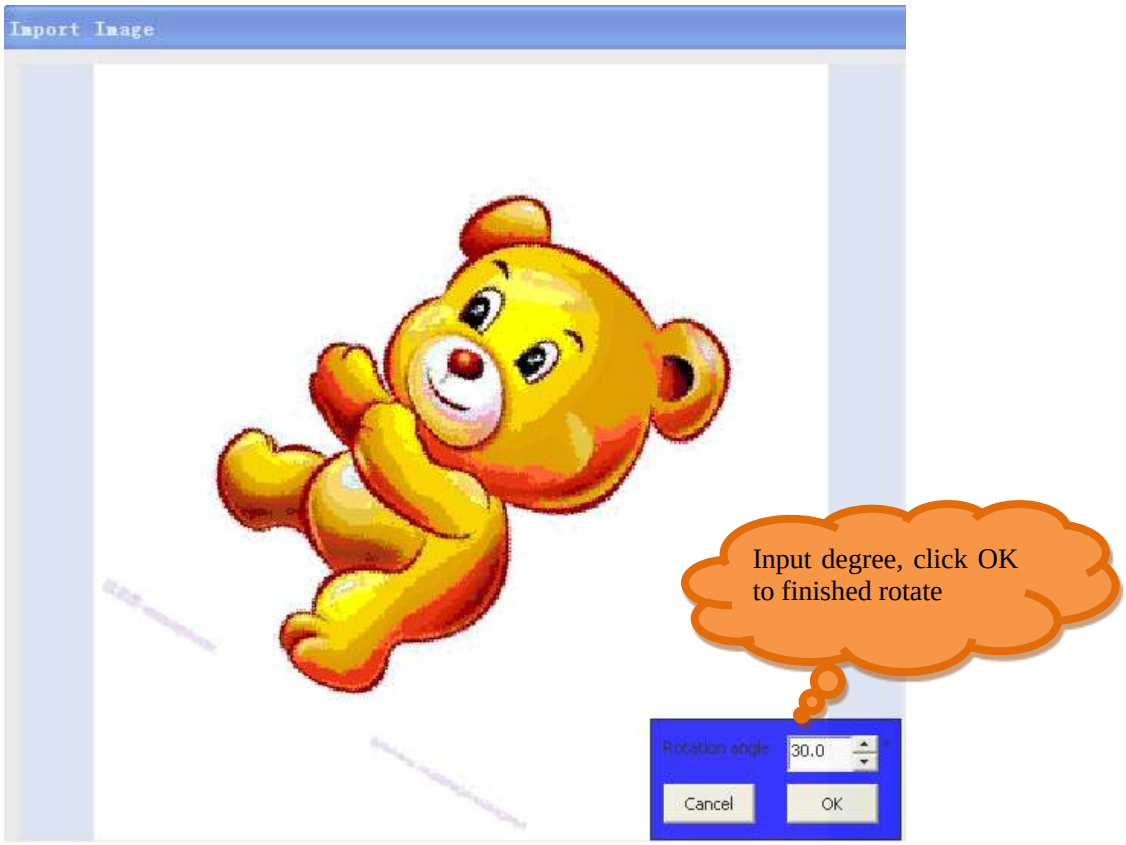
-  : 90 degrees clockwise



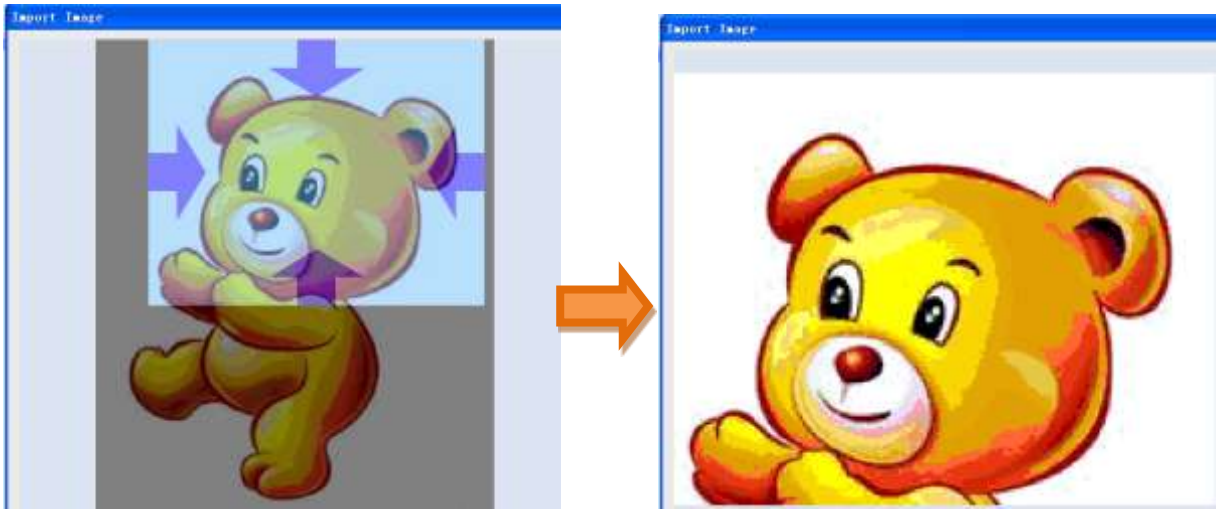
➢  : Draw a straigth lines, rotate the picture to horizontal base on the line.



-  : Draw a straight line, rotate the picture to vertical base on the straight;
-  : Rotate the picture to the designated degree.



-  : Adjust cutting area by moving the arrows of the picture, double click to finish cutting after adjusting.



➢ Enable value convert, select area numbers: Reduce the numbers of the picture color to the designated numbers.

➢ Color area scale: modify the color area contrast of the picture.

➢ Click OK, single click anywhere in drawing area, then drag it to designated position, single click again to finish.

4.2.8 Mirror

 Mirror

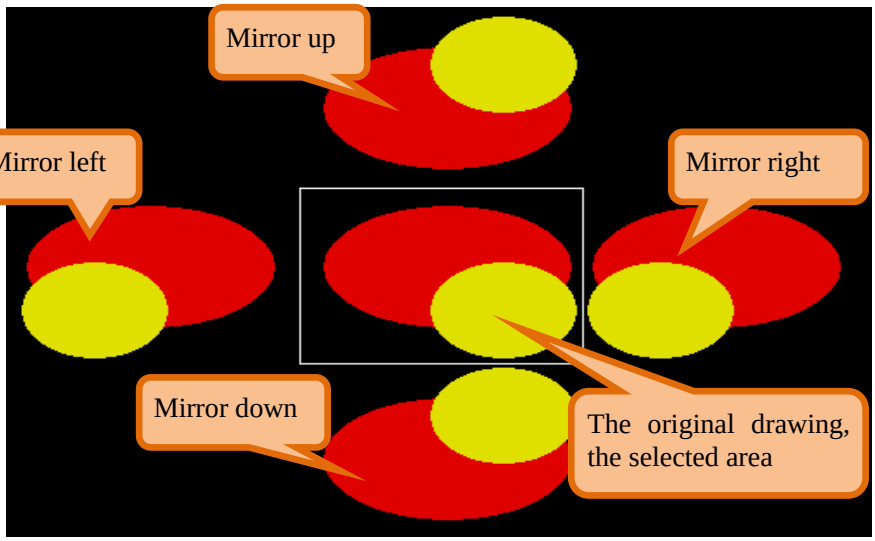
➢ Circle the image need to mirror.

➢ Click the mirror tools, the mirroring will appear beside the curssor.

➢ Move the cussor to the above(below) of orignal pattaten, the below (above) mirroring will be generated.

➢ Move the cussor to the left(right) of orignal pattaten, the right (left) mirroring will be generated.

➢ Right click the mouse will cancel the mirror operation.



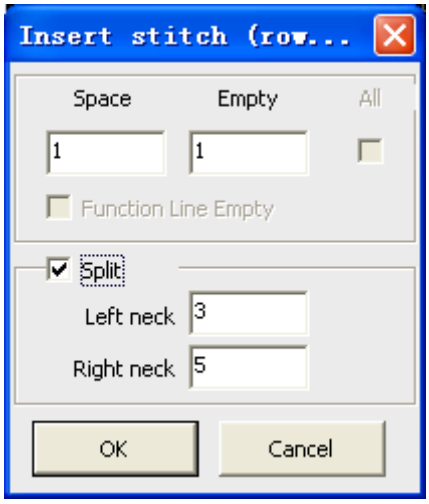
➢ Note: At first the mirrored pattern need to be circled

4.2.9 Insert line

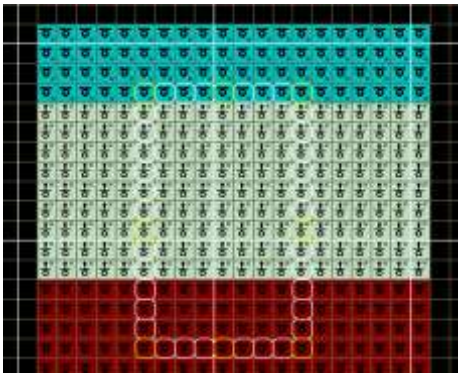
 Insert line

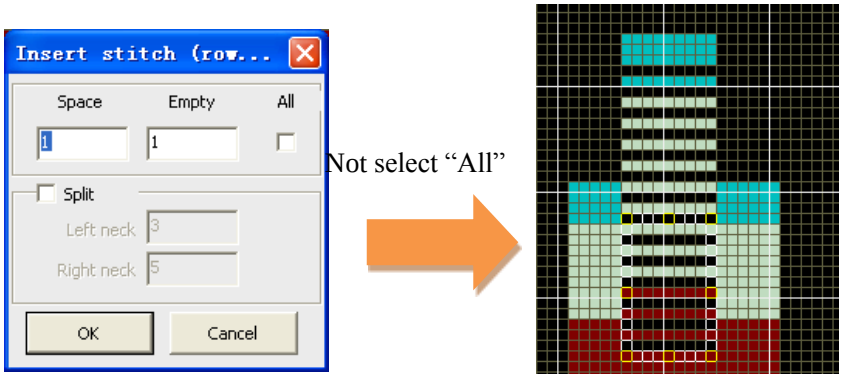
➢ The circle area must be existed

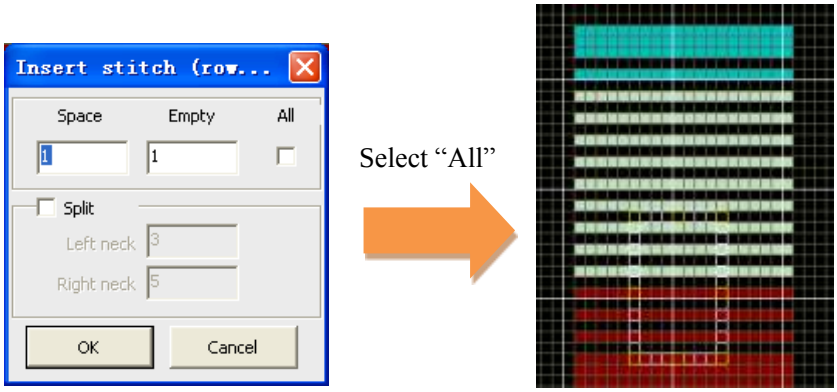
➢ In the following interface, “Space” is the original color code lines, “Empty” is the zero color code lines. The color code can be input by keyboard.



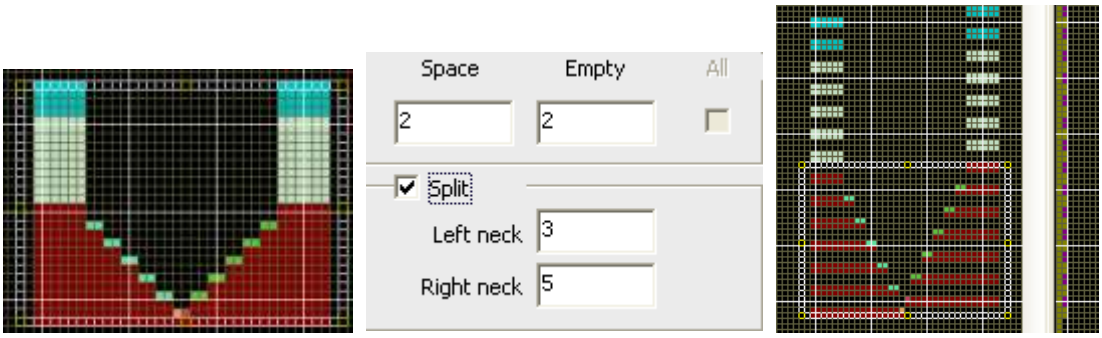
- All: All lines are effective on circle area.







- V-neck Split:
  - Select “V-neck Split”, “All” is invalid.
  - V neck split both sides according to the center line of the circle area, the left and right staggered split.
  - Left carrier, Right carrier: Set the yarn carriers of left and right

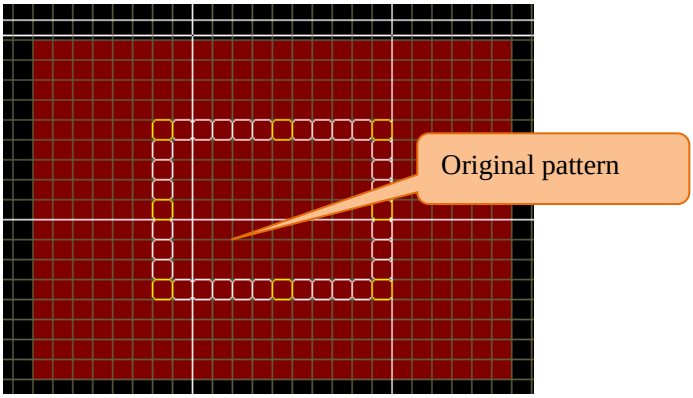


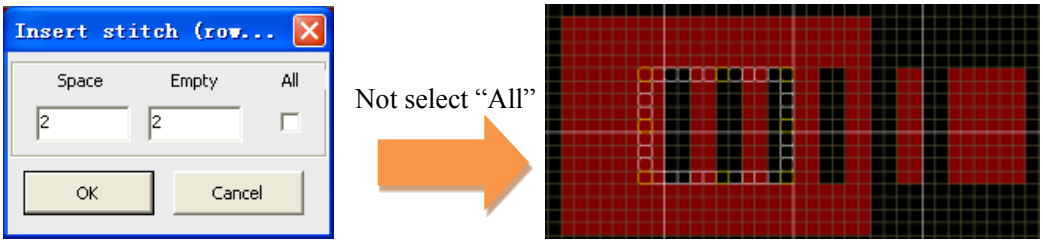
4.2.10 Insert column

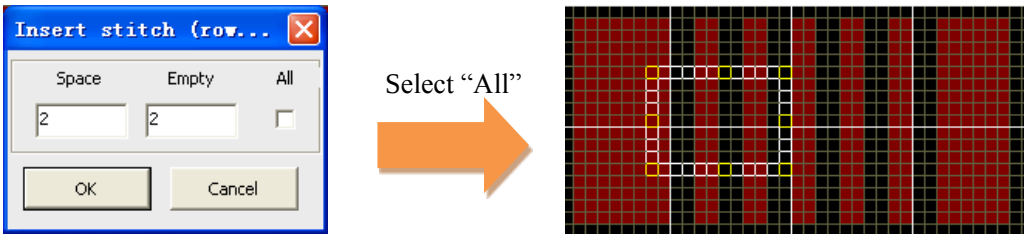
 Insert column

- The circle area must be existed.
- In the following interface, “Space” is the original color code lines, “Empty” is the zero color code lines. The color code can be input by keyboard.

- All: All lines are effective on circle area.



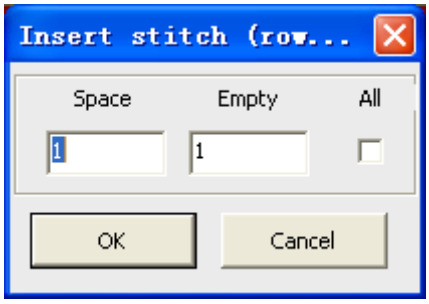




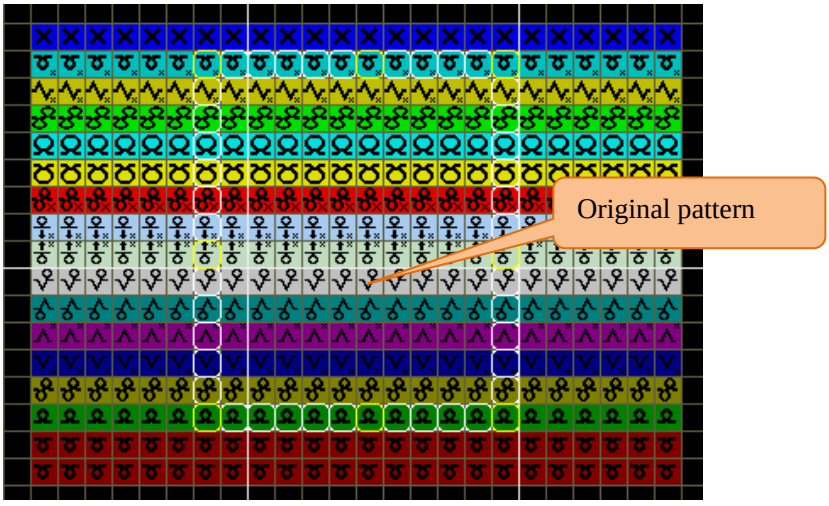
4.2.11 Delete Lines

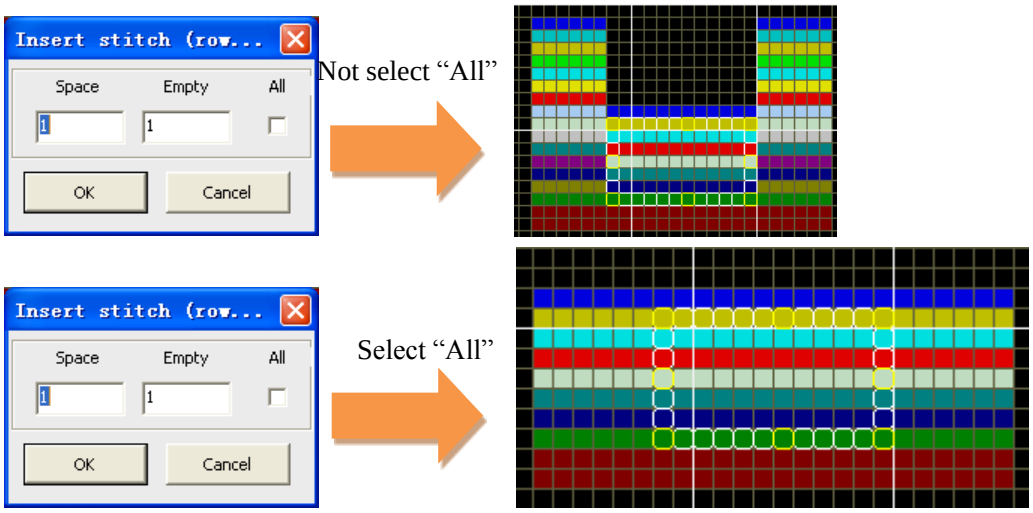
 Delete Lines

- The circle area must be existed.
- In the following interface, "Space" is the original color code lines, "Empty" is the zero color code lines. The color code can be input by keyboard.



- All: All lines are effective on circle area.



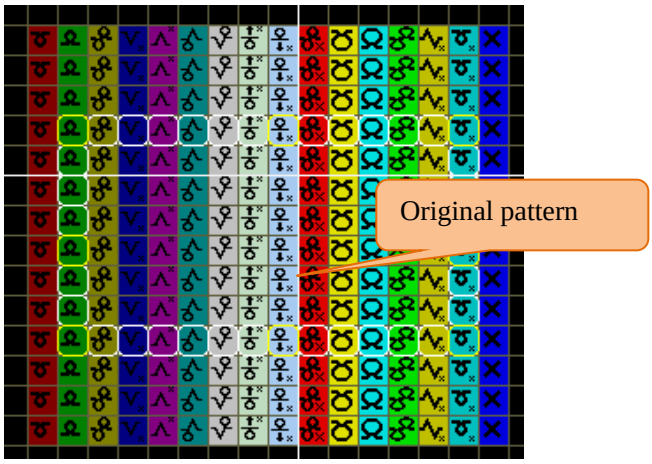


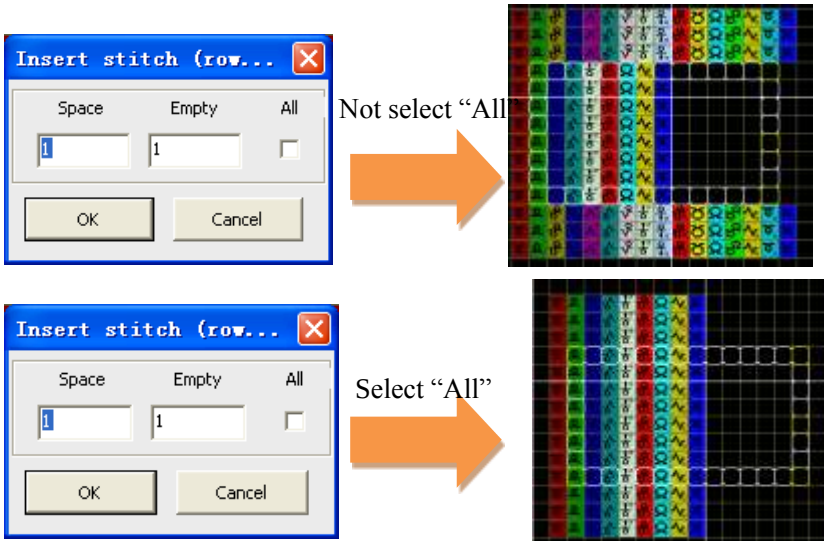
4.2.12 Delete column

 Delete column

- The circle area must be existed.
- In the following interface, "Space" is the original color code lines, "Empty" is the zero color code lines. The color code can be input by keyboard.

- All: All columns are effective on circle area.

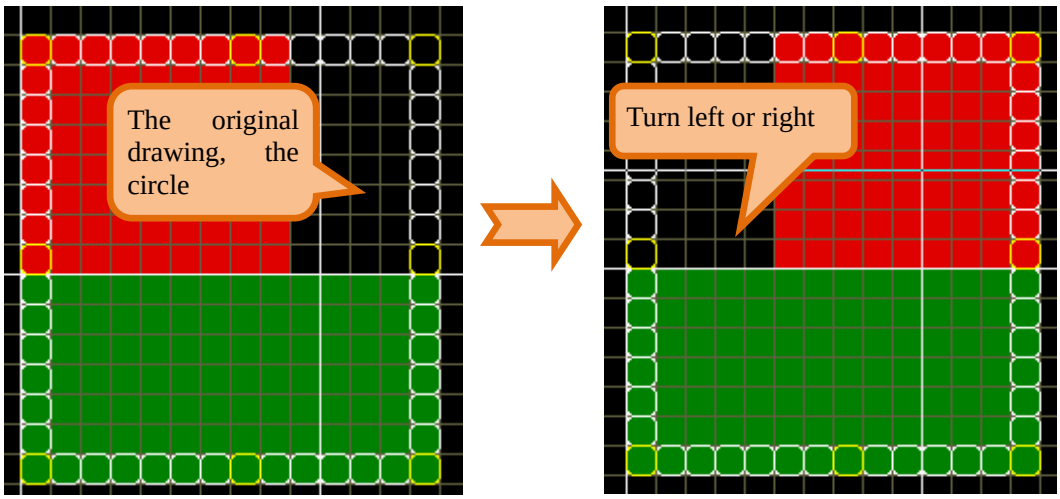




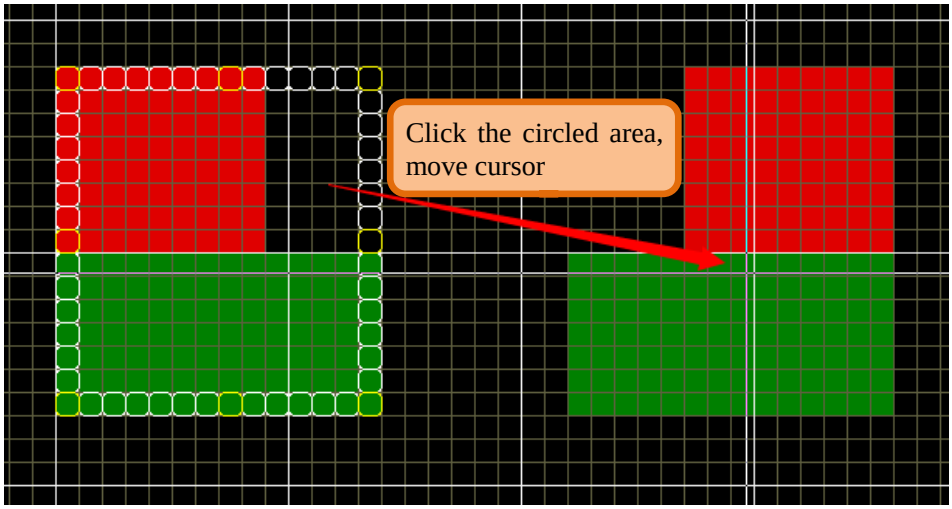
4.2.13 Turn up or down, left or right

 Turn up or down, left or right

- After selecting a region in the drawing area, single click the button of turn left and right. The graph following window is generated automatically, which flip around 180 degrees.
- "Turn up and down" is same as "turn left and right".



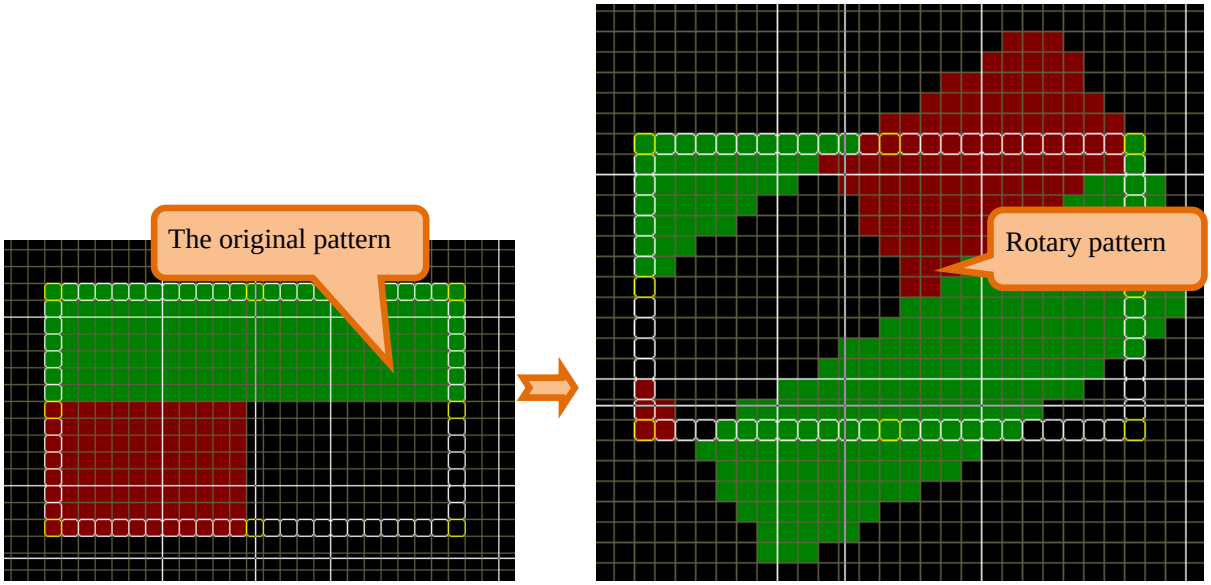
- Single click in the circled area, the fliped image could be draged to needed position, single click again finish the opeartion.
- The orignal pattern still in the circled area.



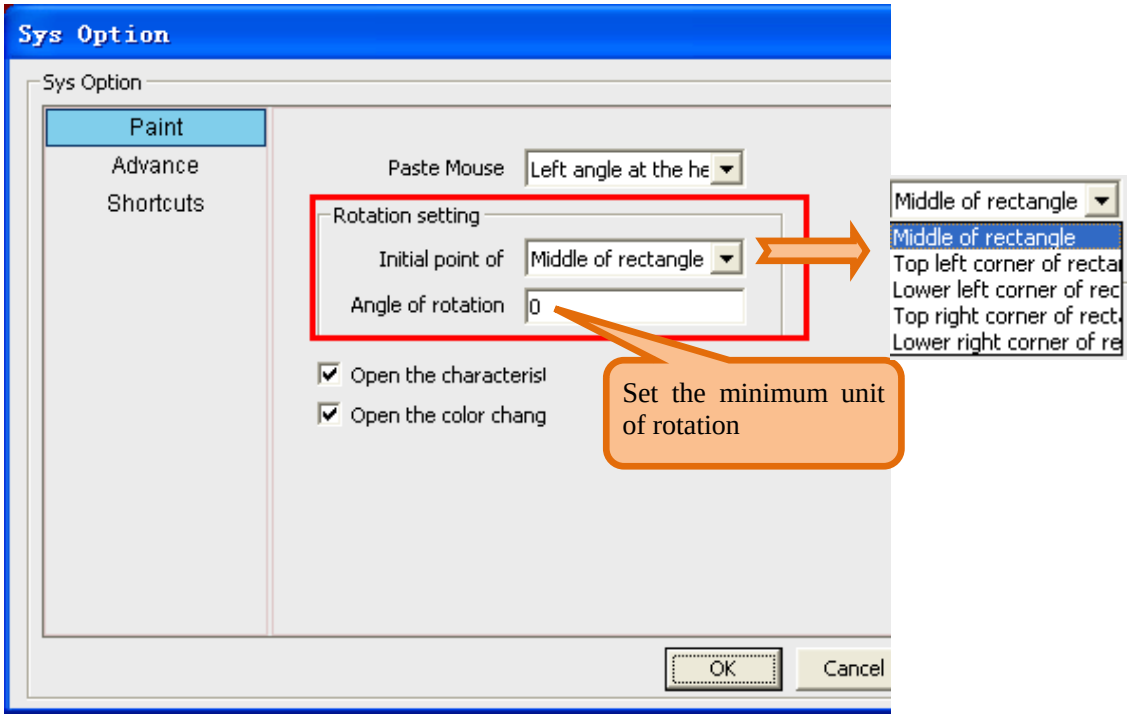
4.2.14 Rotation, data in selected region could rotate (X)

 Rotation, data in selected region could rotate (X)

➢ After selecting the tool, clicking in the drawing area can carry out direction, center, rotating diagram.



➢ Rotation settings: “Settings" - > "set in rotation" in the menu bar.

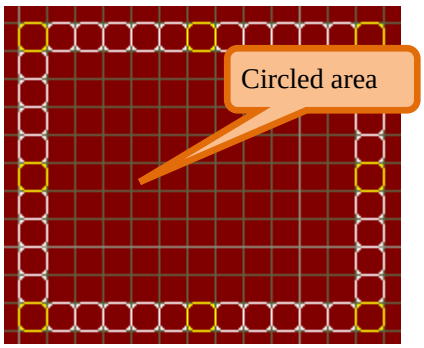


4.2.15 Clear side (Z)

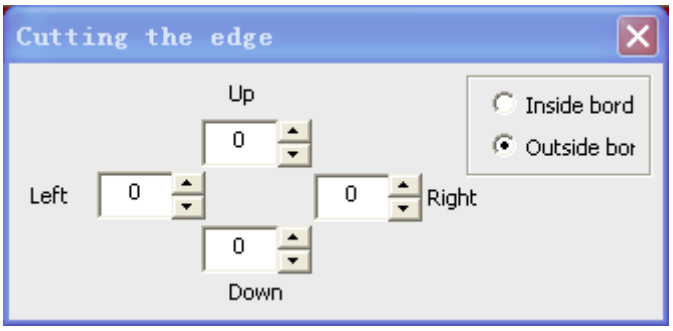
Clear side (Z)

- The clear side include inside border and outside border.

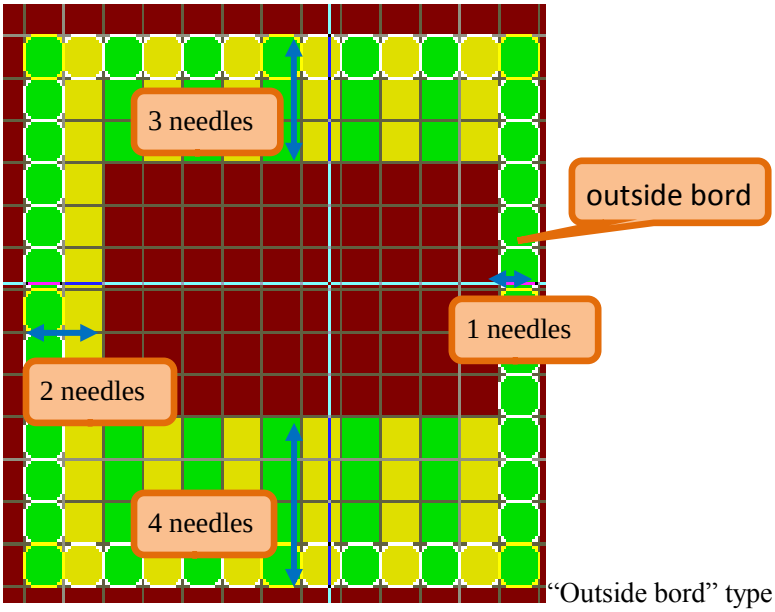
- Copy the pattern.
- Circle the area need to be cleared side.



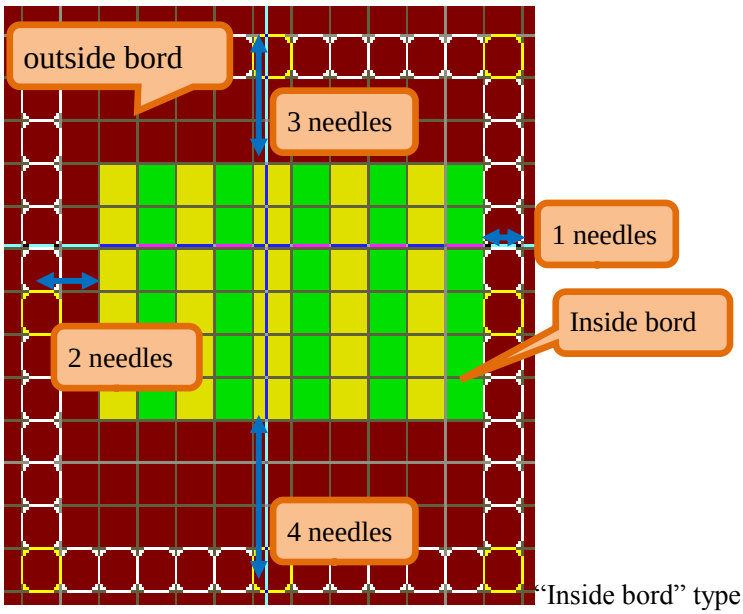
- Set parameters for clearing side. As shown in the following interface.



➢ Set parameters for clearing side. As shown in the following interface.

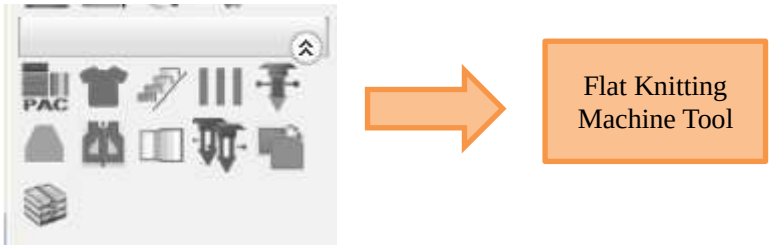


"Outside bord" type



"Inside bord" type

4.3 Flat Knitting Machine Tool



4.3.1 Package develop

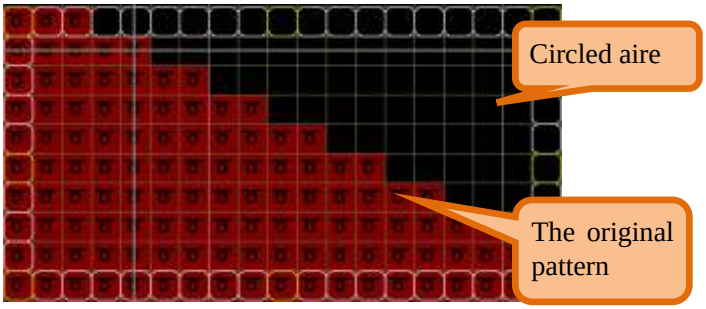
Package open

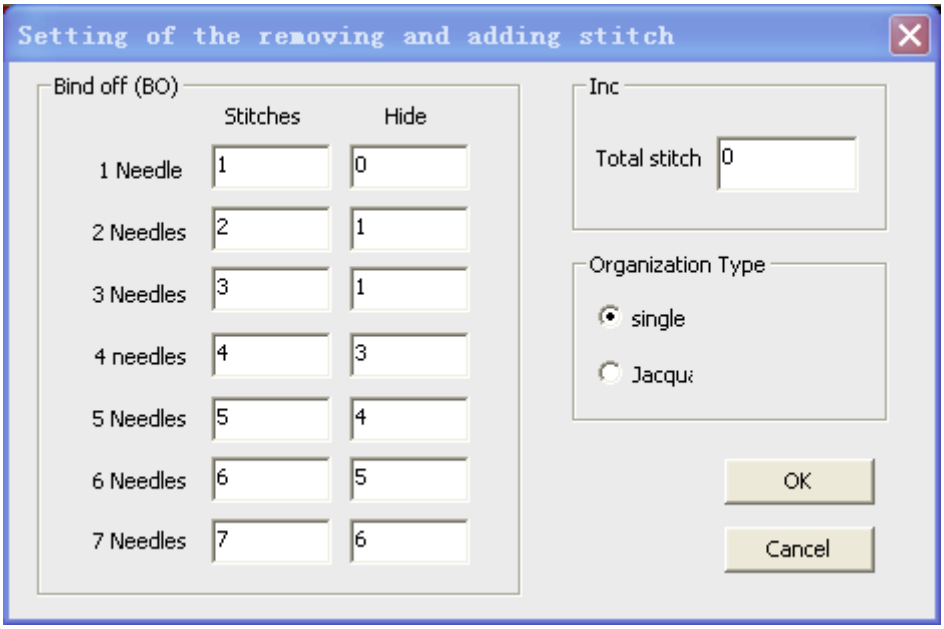
- More details are in the chapter of Package.

4.3.2 Automatic narrowing and widening

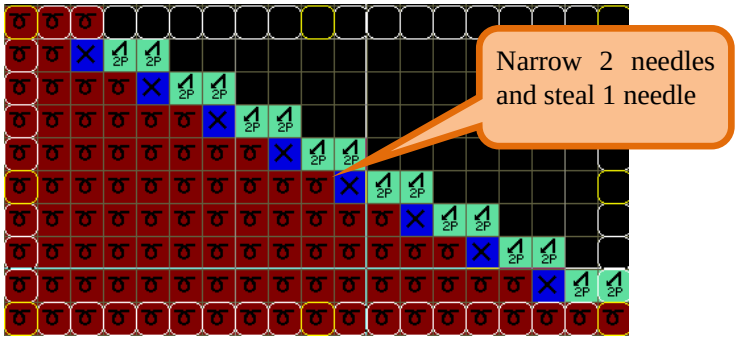
Automatic narrowing and widening

- Circle the destination area. And select this tool.

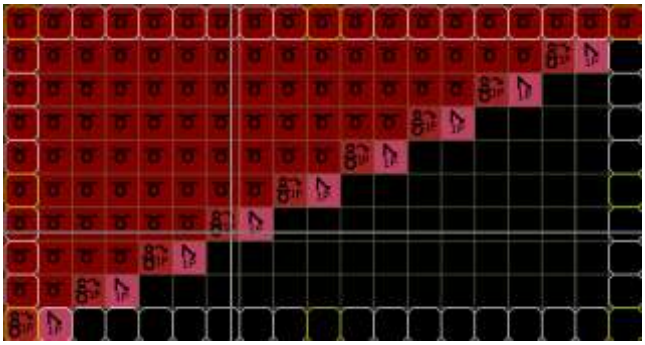




- Select the Jersey or Jacquard according to the pattern type. Take the Jersey for example.
- Fill in the needle number of narrowing and widening.
- Click “OK”.
- The narrowing mode



- The widening mode

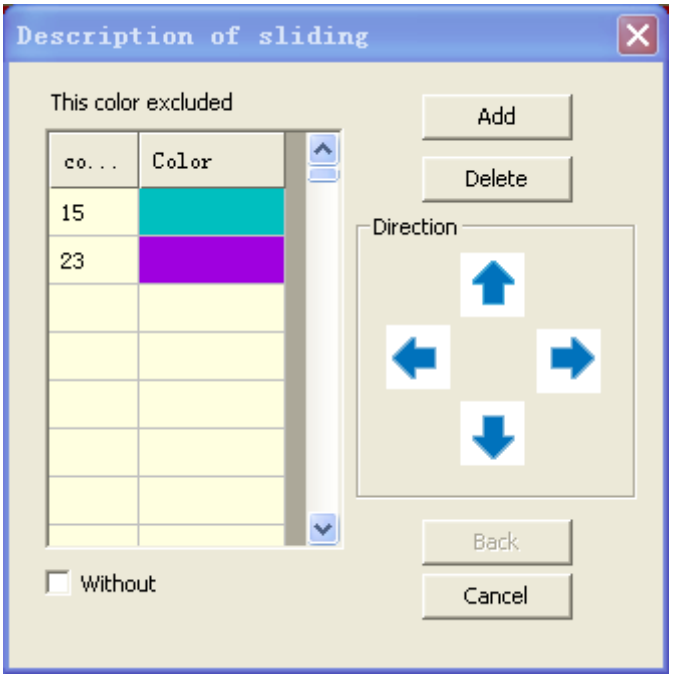


- This tool can rapidly and accurately fill in the color code of narrowing and widening.

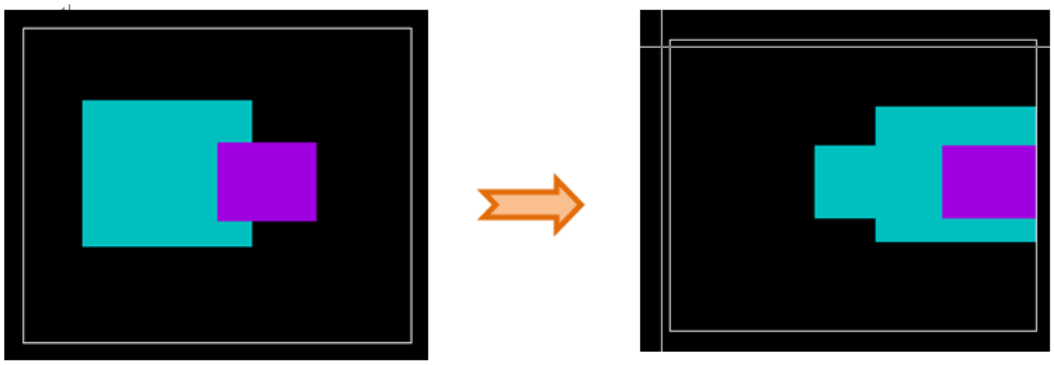
4.3.3 Slide and draw

 Slide and draw

- Circle the destination area.
- Select the tool, apoint the color code which needn't to slide.



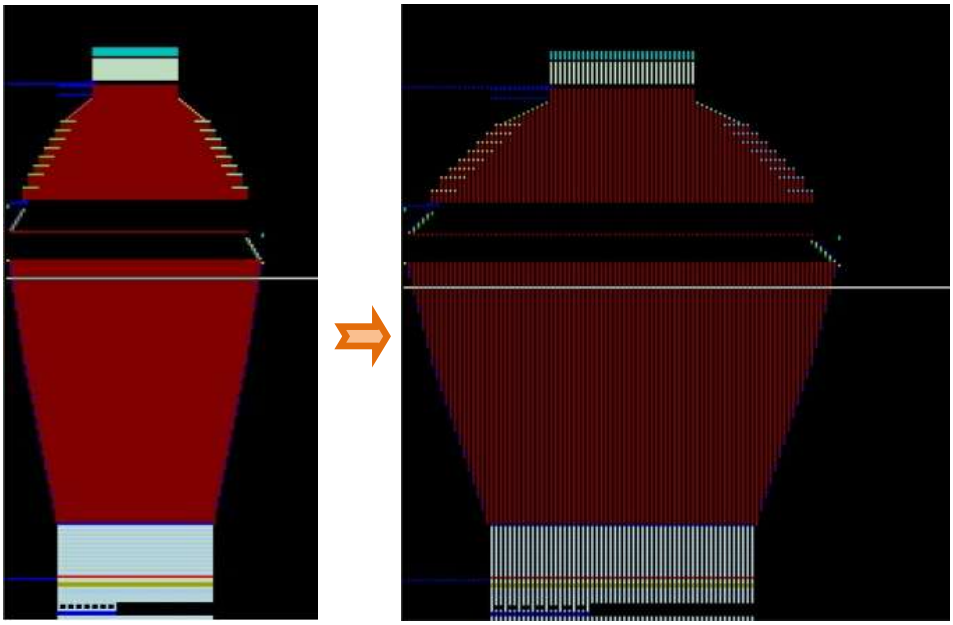
- Designate color code through click to the color code in the palette or main drawing area.
- Select the slide direction.



4.3.4 1X1 Conversion

 1X1 Conversion

- Deal with the whole pattern with 1*1 Conversion.
- The cable color stitch should be made by hands.

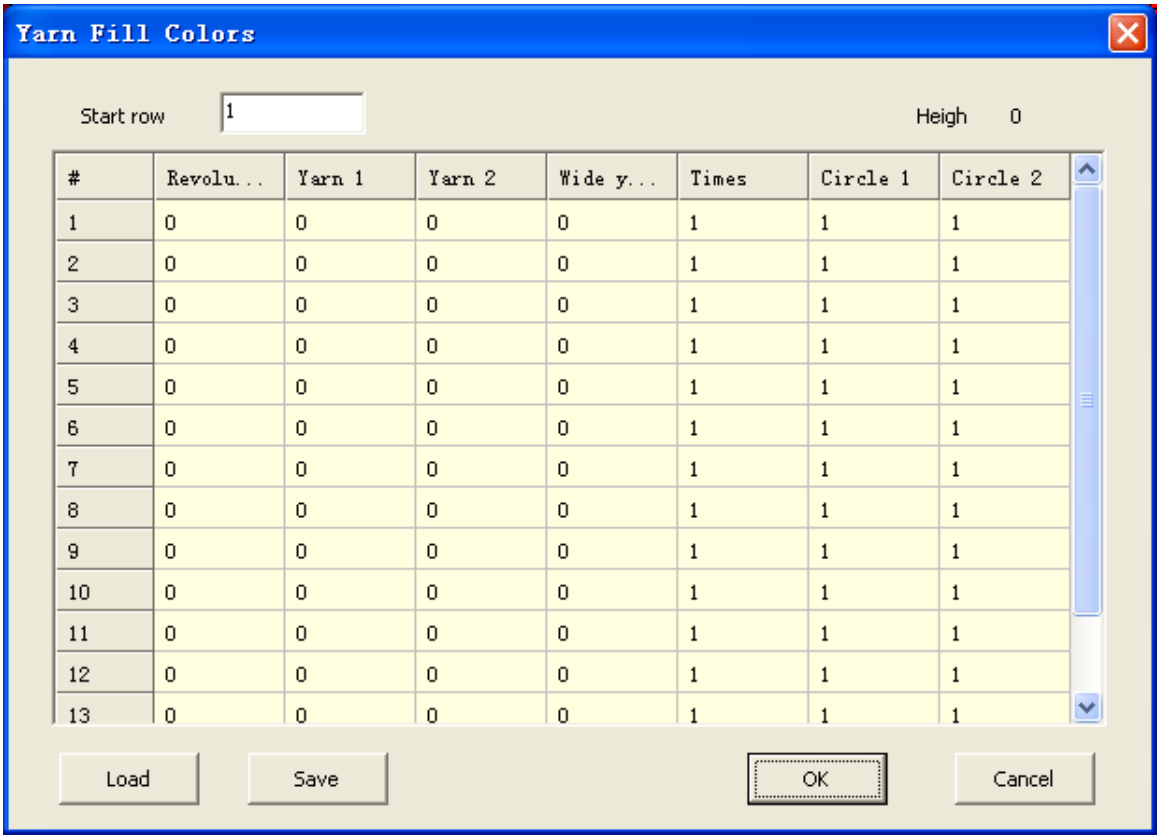


Before conversion After conversion

- After 1X1 conversion the cloth elastic, weight, feels, appearance will be changed.

4.3.5 Yarn carrier fill colors

 Yarn carrier fill colors



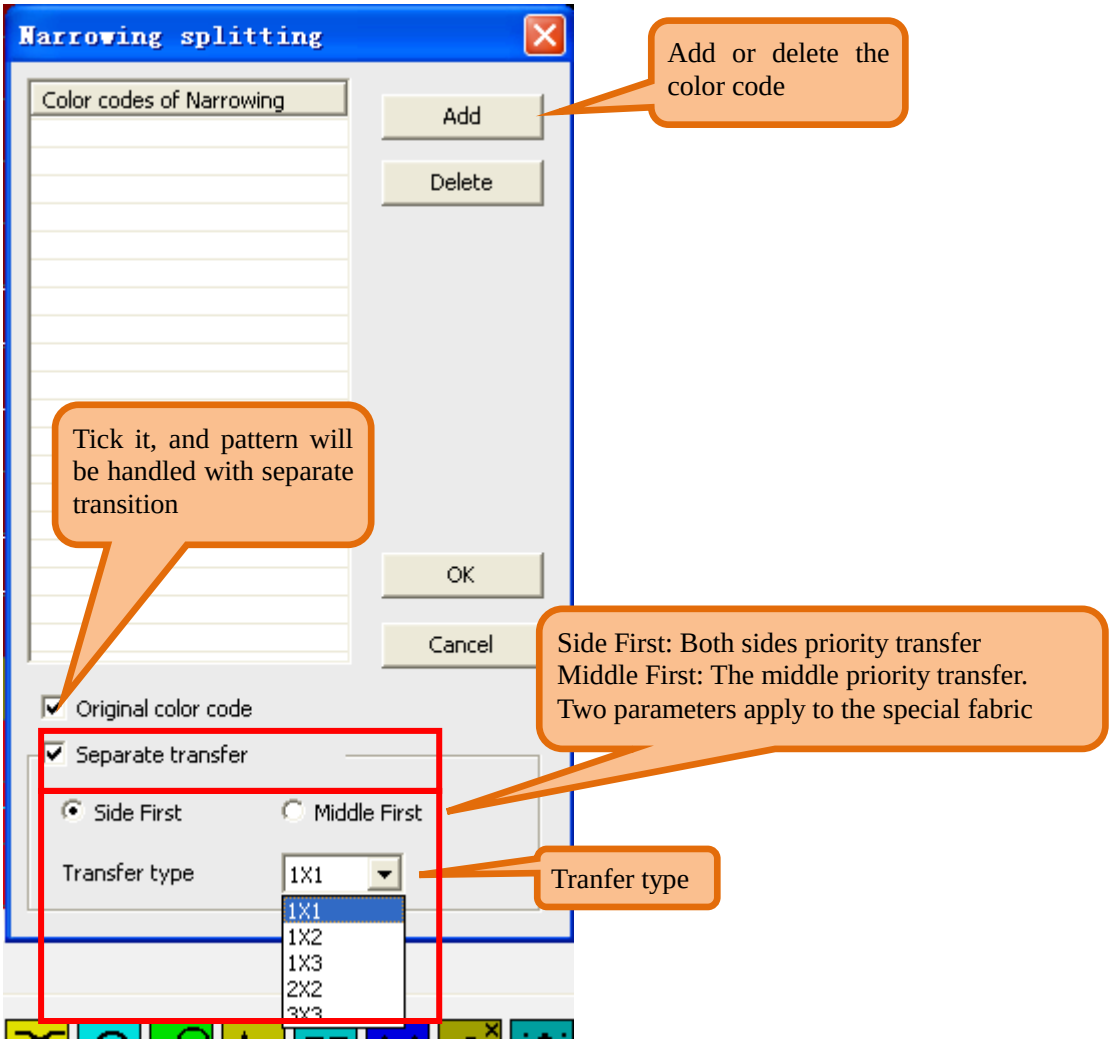
#	Revolu...	Yarn 1	Yarn 2	Wide y...	Times	Circle 1	Circle 2
1	0	0	0	0	1	1	1
2	0	0	0	0	1	1	1
3	0	0	0	0	1	1	1
4	0	0	0	0	1	1	1
5	0	0	0	0	1	1	1
6	0	0	0	0	1	1	1
7	0	0	0	0	1	1	1
8	0	0	0	0	1	1	1
9	0	0	0	0	1	1	1
10	0	0	0	0	1	1	1
11	0	0	0	0	1	1	1
12	0	0	0	0	1	1	1
13	0	0	0	0	1	1	1

- Set secondary yarn carrier in the completed patterns;
- Support that input 0.5;
- Yarn Carrier 1 is the yarn carrier with single system.
- Yarn Carrier 2 is the yarn carrier with two systems, but we suggest you not using it.
- Cycle 1 and Cycle 2 set the cycle information for the secondary color of yarn carrier separately, the methods of which is similar to the integral and external savings of function line.
- The operation of adding, deleting, modifying and clearing was including in context menu function.
- Save: save the current yarn carrier information to the specified files and the saved fill can be import.
- Append: import the saved filling files of yarn carrier secondary color.

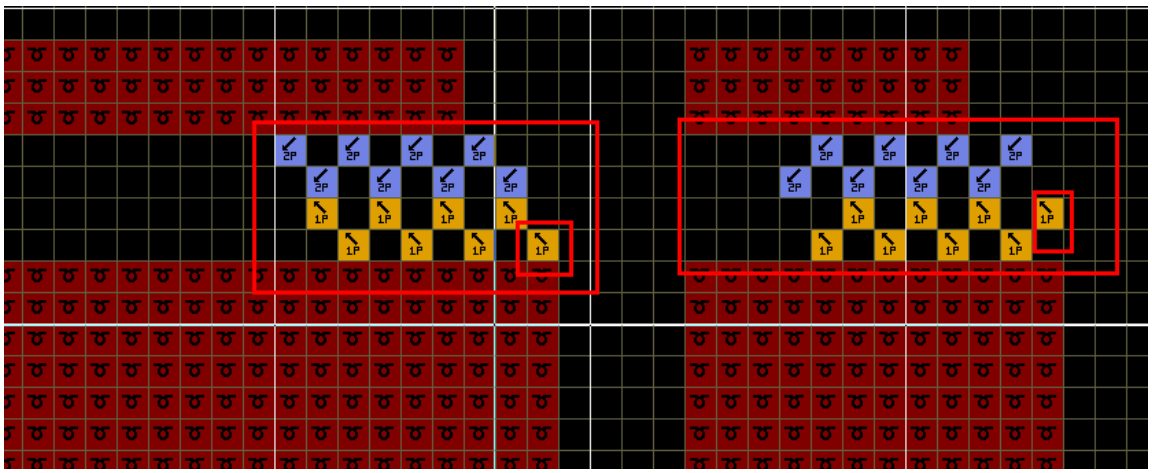
4.3.6 Narrowing split

 Narrowing split

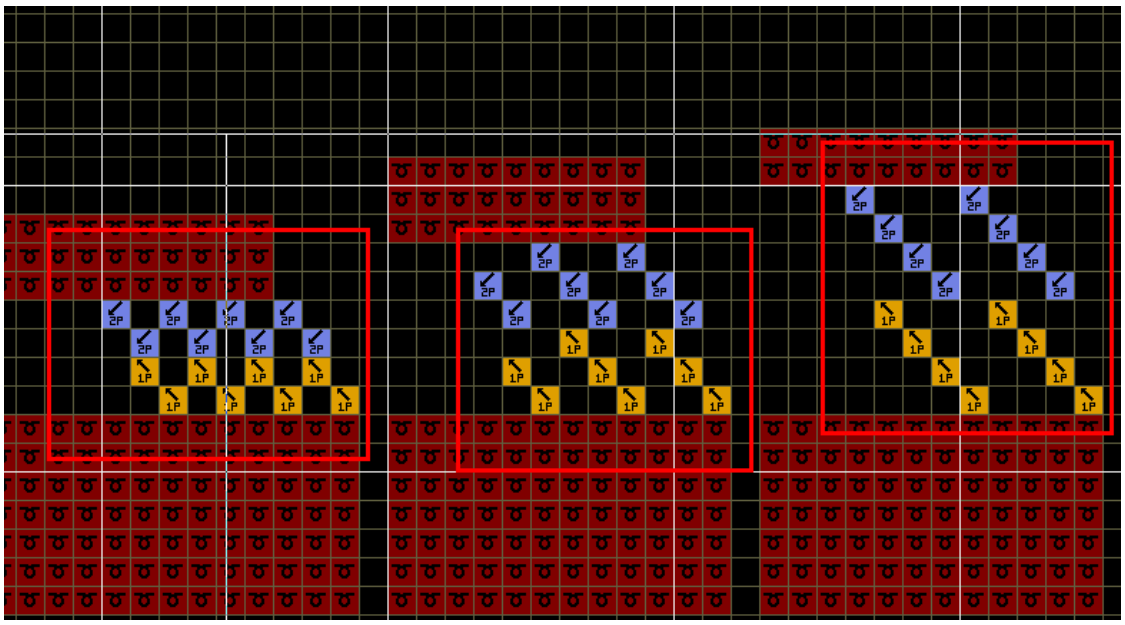
- Narrowing split for the circled area.
- Click to icon  , then the interface of narrowing split as follow.
- Select the parameters.



A)Side First and middle first



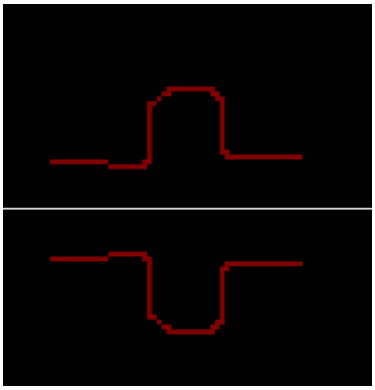
B)1x1;1x2;1x3;



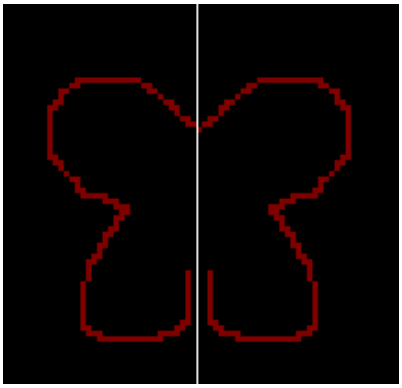
4.3.7 Symmetry line

 Symmetry line

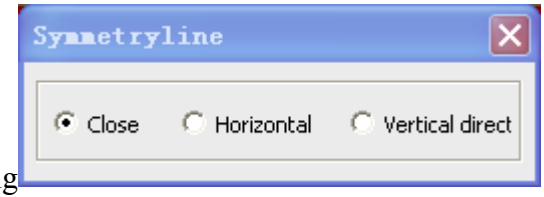
➢ In order to draw pattern symmetrically, symmetry line could be conducted in any row and column. As shown in the following illustration.



Horizontal direction



Vertical direction

➢ Click “close” to finish symmetry drawing 

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4.3.8 Automatically copy density level

 Automatically copy density level

➢ Copy the density level to function lines of speed, roller, sub roller and switch of sub roller.

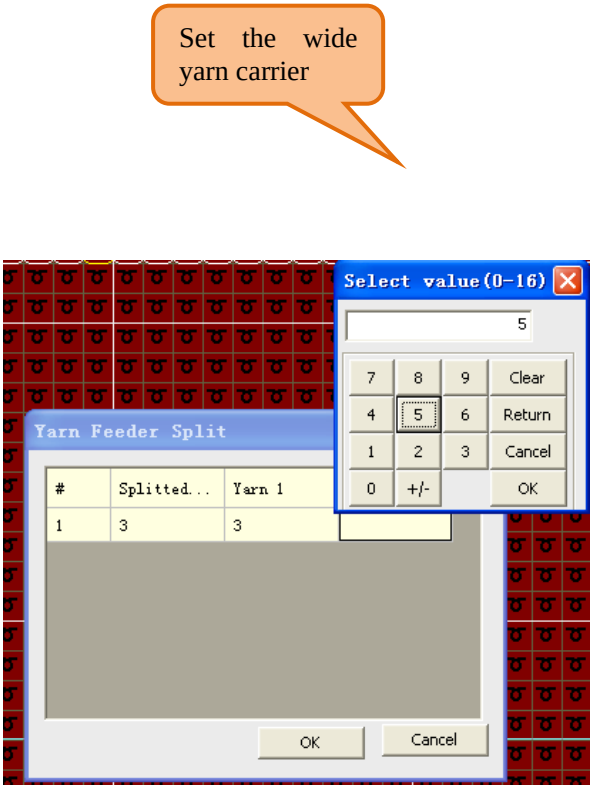
4.3.9 Yarn carrier split

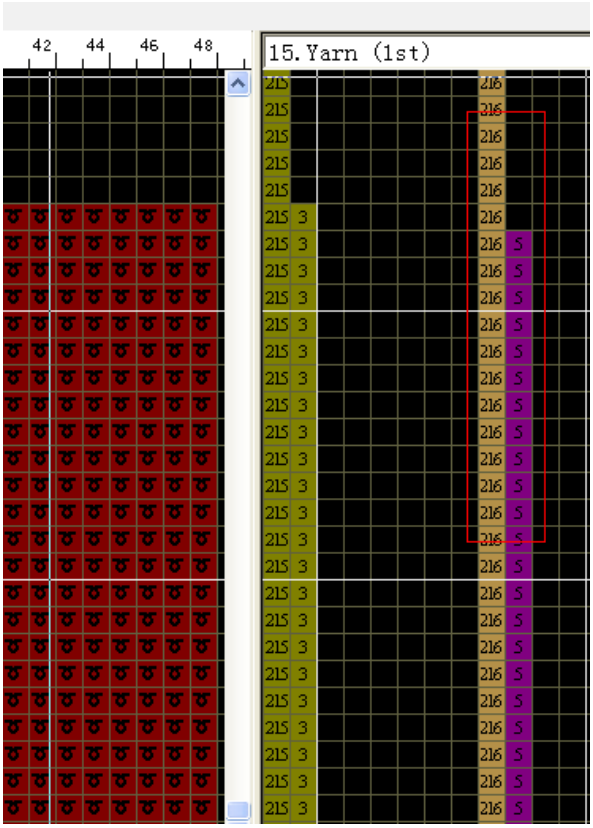
 Yarn carrier split

➢ Circle the destination area.

➢ Click the button  , set the auxiliary yarn carrier in the interface, click “OK”.

➢ The set auxiliary yarn carrier will be displayed in function line L216.





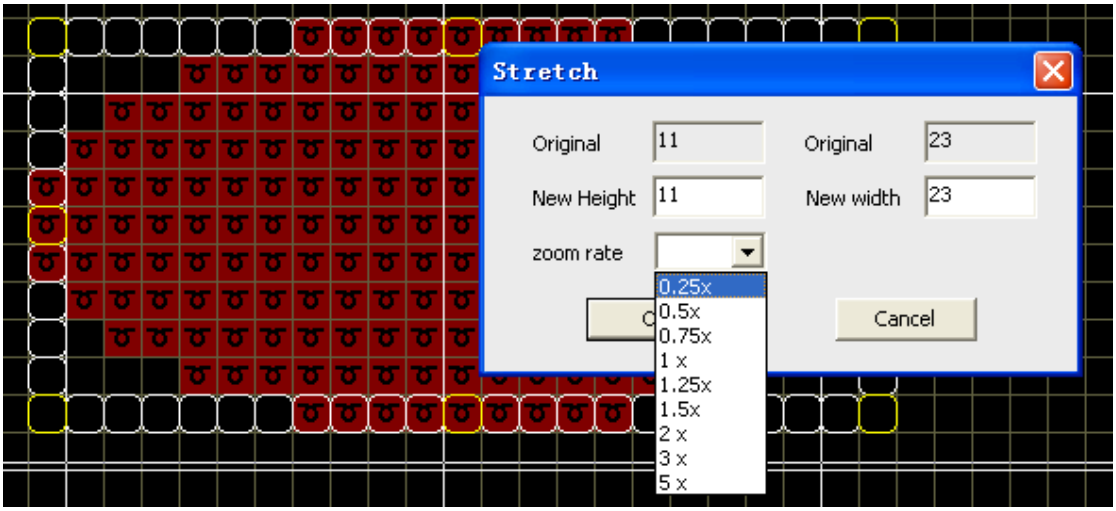
4.3.10 Stretching Drawing Area Function

 Stretching Drawing Area Function

➢ Circle the destination area.

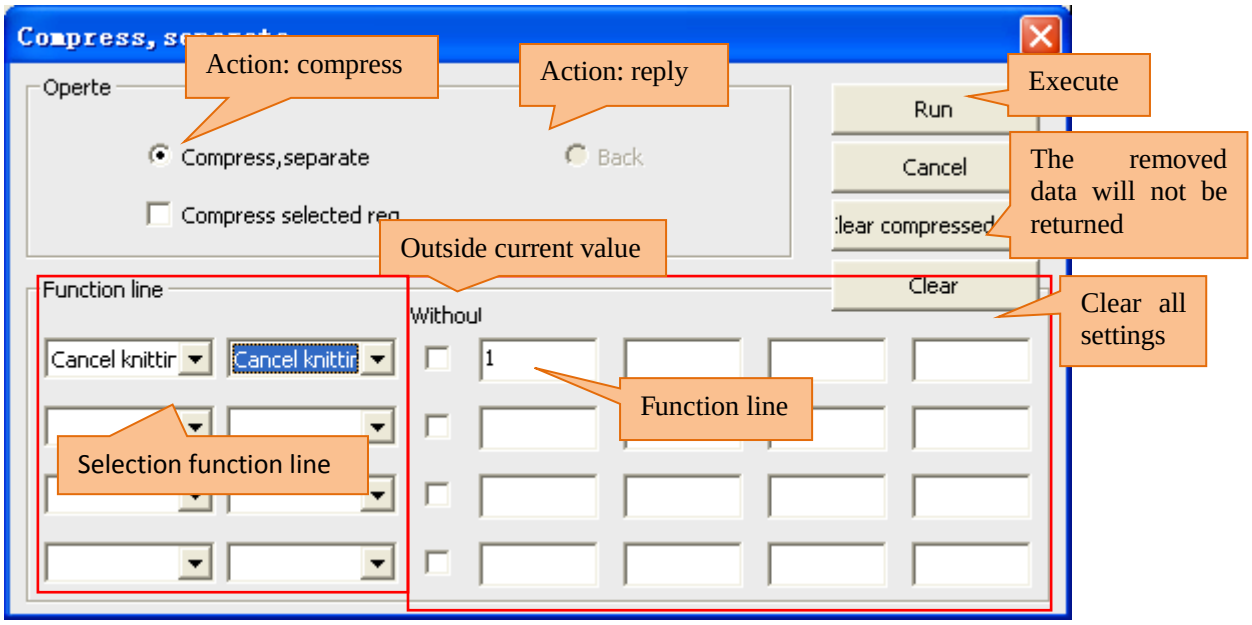
➢ Click the button  , Select (or input) the zoom rate in the interface, click “OK”.

➢ Move the new pattern to destination in the main drawing area.

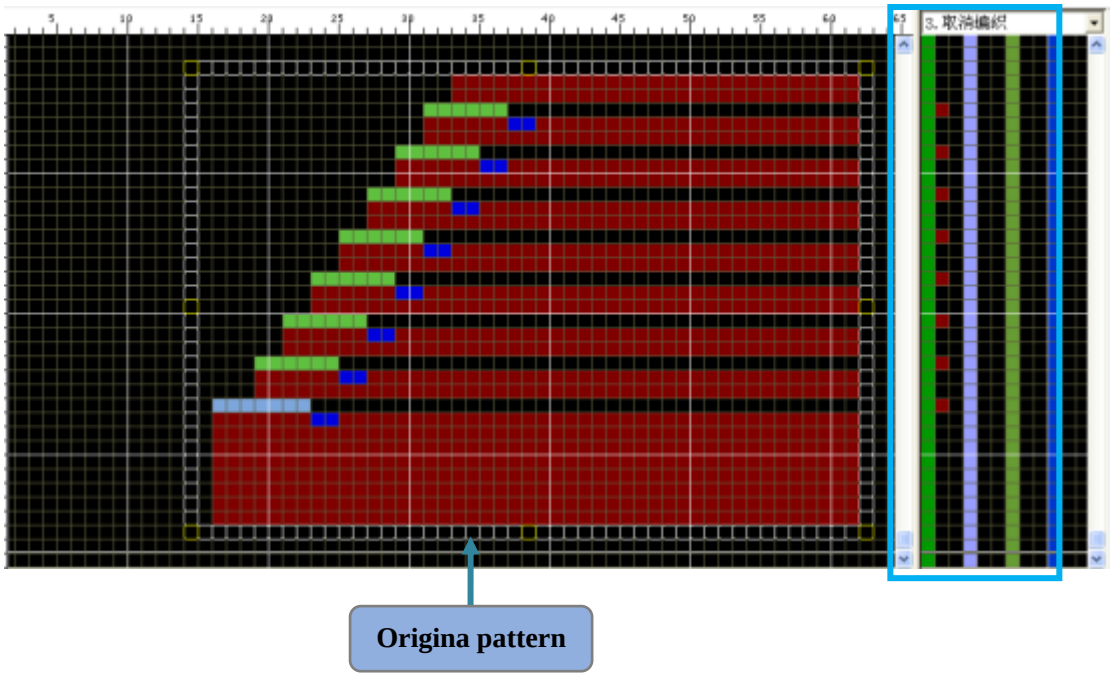


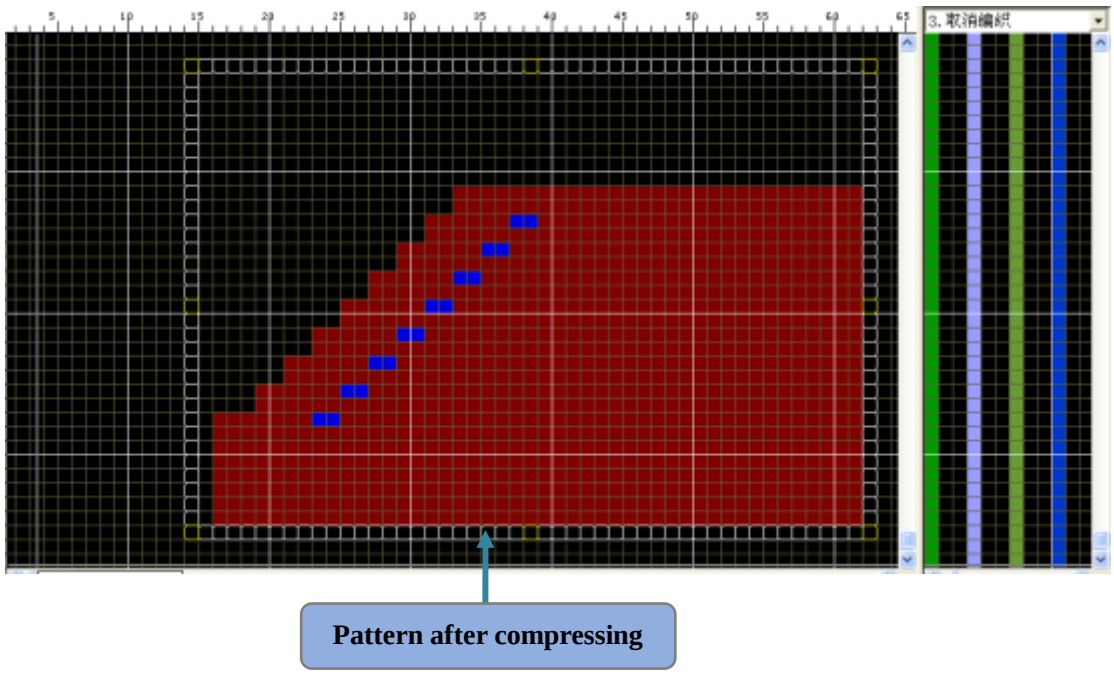
4.3.11 Compress and separate

Compress and separate

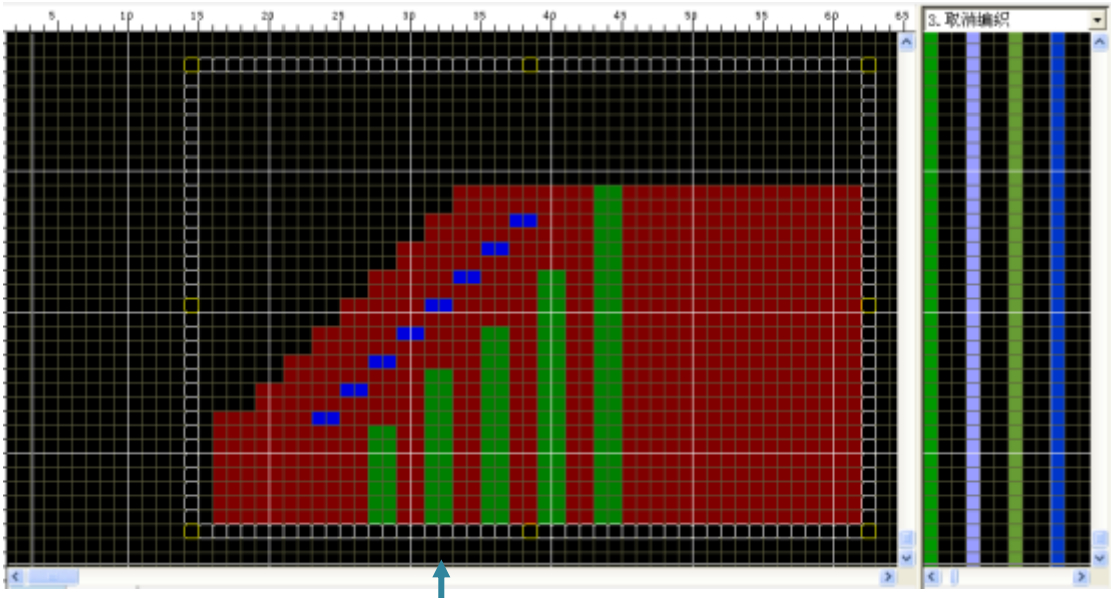


- Firstly, selecting a area for compressing and separating, otherwise, it will be the whole pattern.
- Only compress and separate the patterns under the finish line.
- You can select resume only after Compress and Separate.
- You can compress and separate it for several times.
- Every compress and separate can only resume once.
- Compress and Separate perform according to function lines and their values.

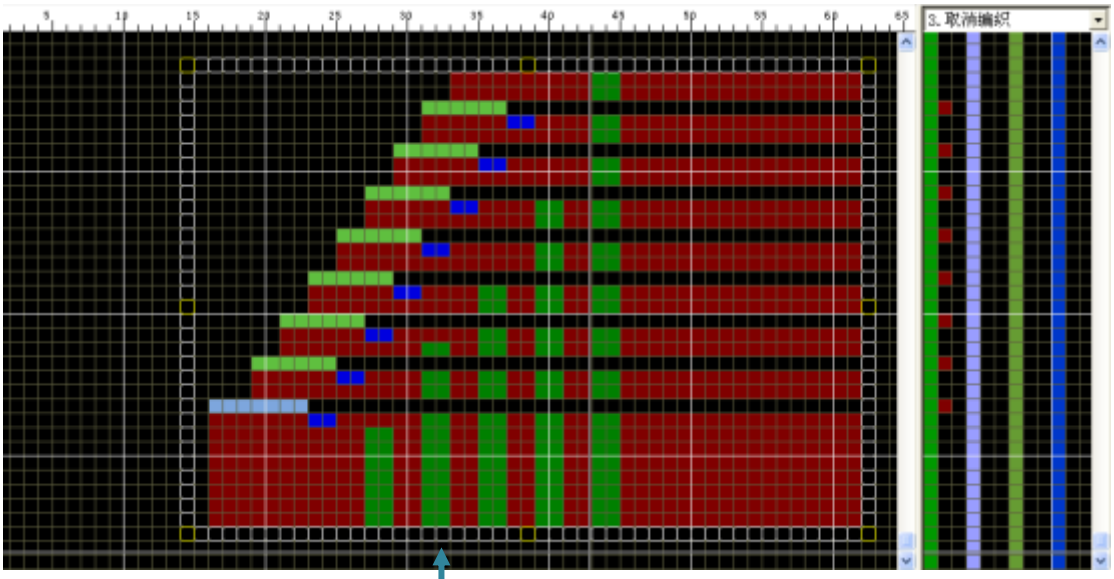




➢ You can continue drawing after compressing, but inserting rows (columns) and deleting rows (columns) are forbidden.

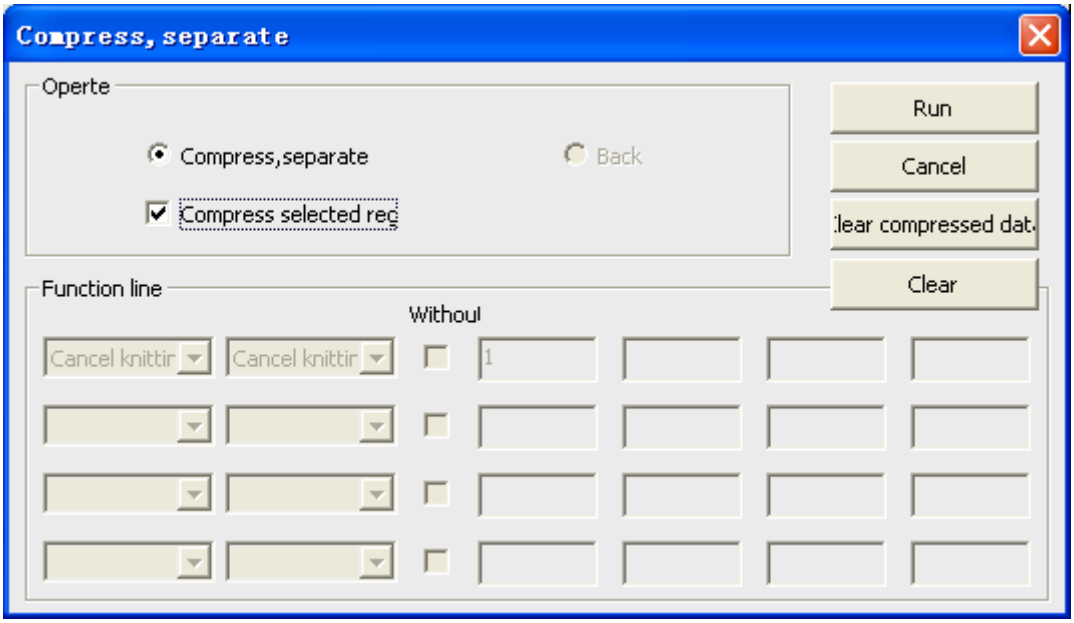


Pattern after drawing

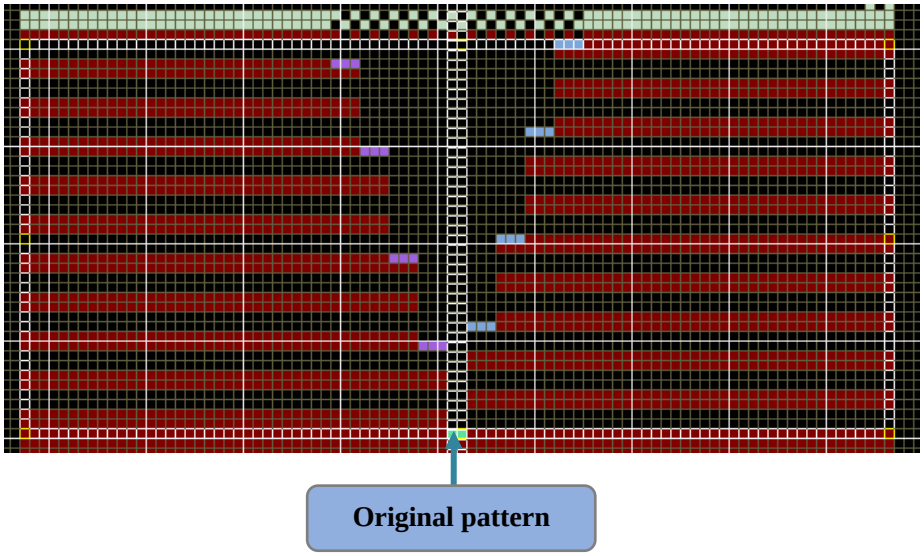


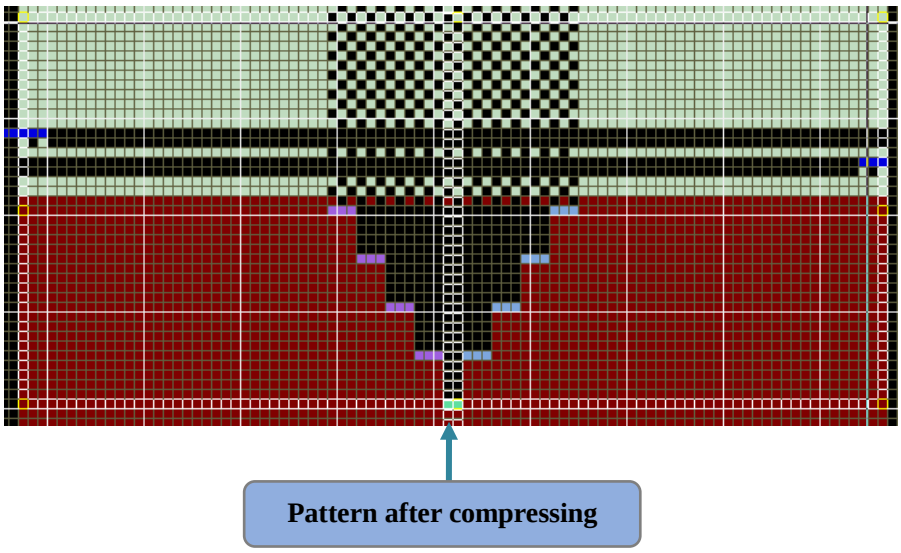
Pattern after replying

- Compress the V split rows in circle area: the function line can not be operated.



- Compress the V spited rows in circle area according to the center line of the circle area.



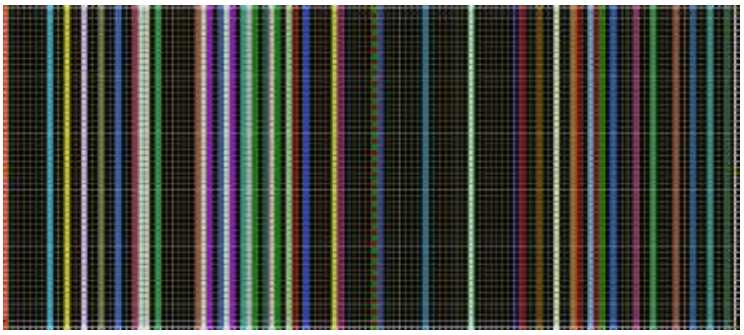


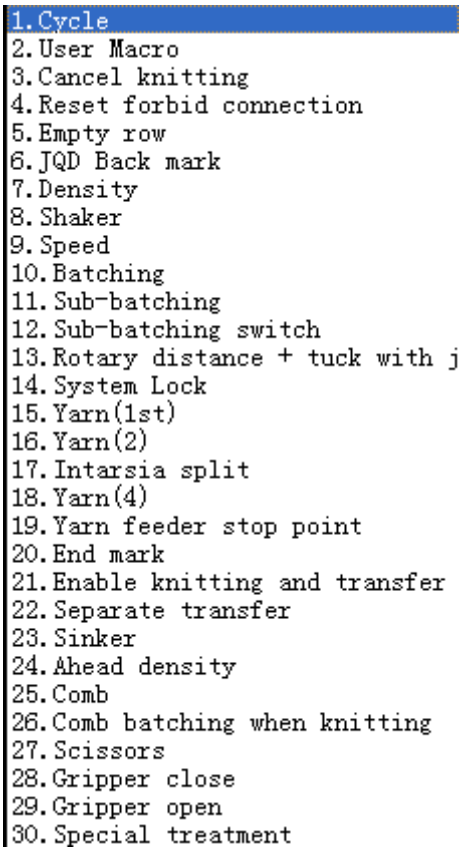
- After compressing the pattern can be compiled and saved. The compressed data dose not lost.
- Click the “clear compressed data” button, the compressed data will be delete. The “Back” operation can not be performed.

5 Function Line

➢ Function line area is used for describing auxiliary information of the main drawing area. It is used in pairs in accordance with lines. The compile system will not explain information of main drawing area if the required information is not defined in the function line.

➢ Choosing function in function line indicating window, the corresponding setting bar will be displayed at the left side of the function line area.

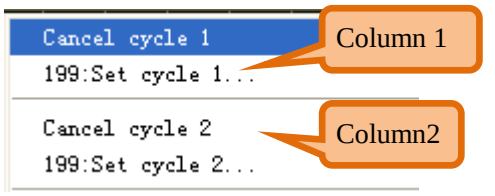




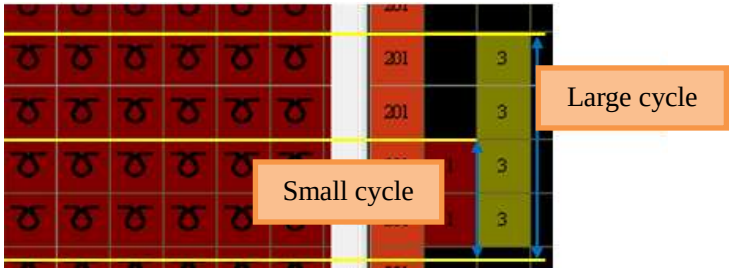
➢ As it is shown in the above picture, there are 30 function lines defined from 201 to 230 separately. Not every function lines need to be used when designing patterns. The function lines used regularly will be explained as follows.

5.1 Save (201)

➢ Save is cycle. When it need to execute repeatedly from current line to the certain line of the main drawing space, Directly set the repeat times at the first column of the function line 201.



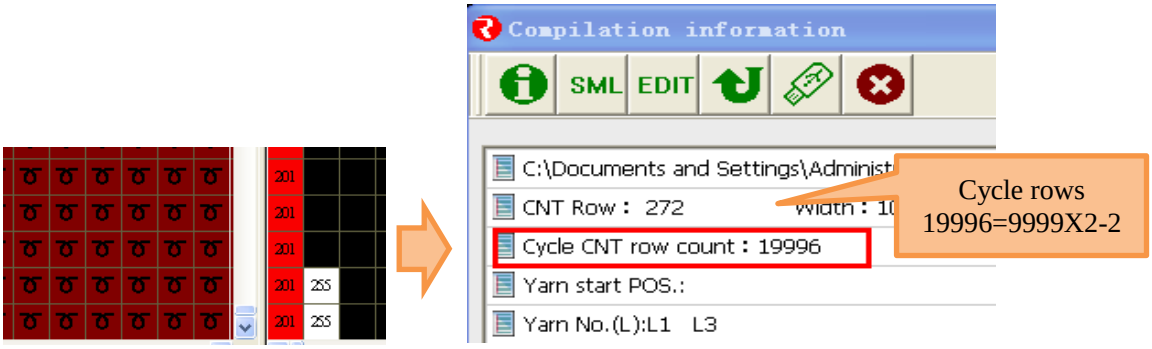
- The starting line of save must be odd line of CNT, and the ending line must be even line
- When two saves have the same times and connect, they should be set respectively.



➢ When the cycle (inside) is executed every once, "n" times cycles (inside) is executed. The cycle (inside) executed n*N times. As follow:

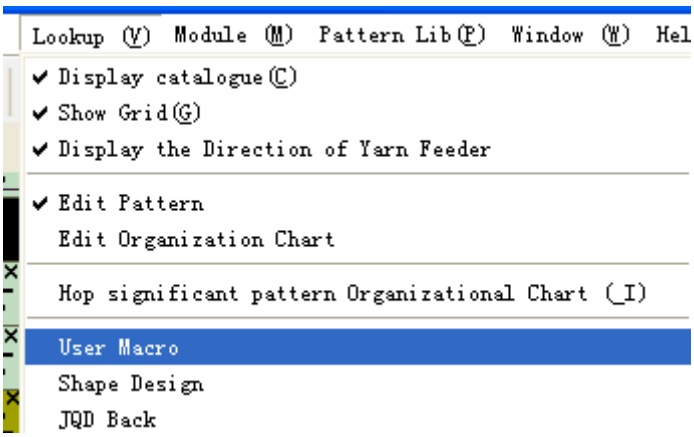
Large cycle	Small cycle
1	1
	……
	n
……	1
	……
	n
N	1
	……
	n

➢ Usually the number of the color code filled in cycle function line show the real cycle times, but the color code 255 mean cycle 9999 times

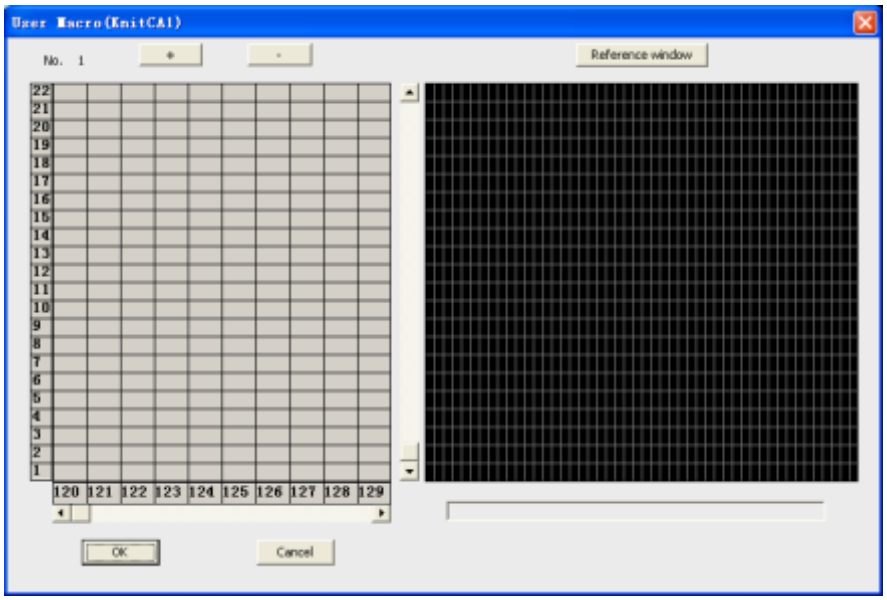


5.2 User Macro (202)

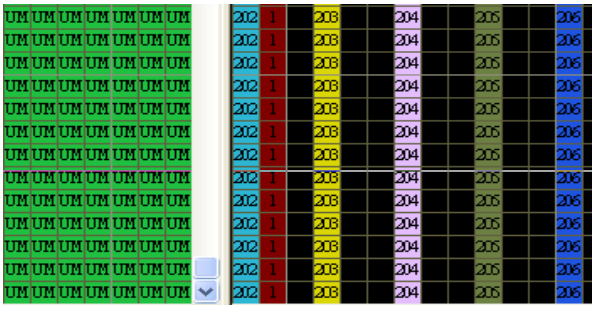
- Use user few macro color codes stands for complicate structure action, color code from 120 to 183 are user macro color codes
- It will generate action file automatically after defined User Macro, and the User Color Code will be compiled as split action automatically.
- Set user action, menu “view”—>“user macro”

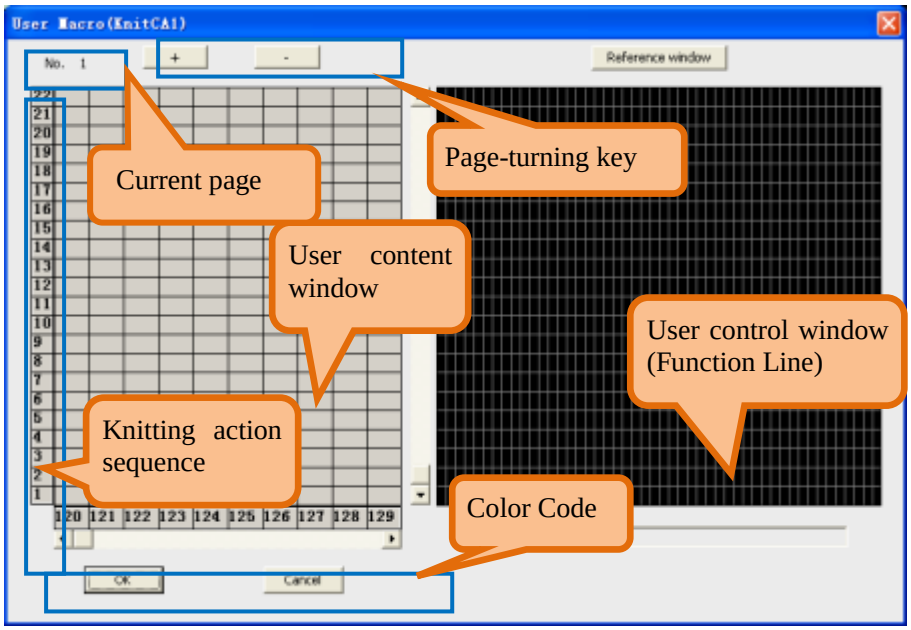


- Content edit



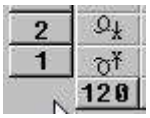
- Fill the "User Macro" page in correspond function line (202).



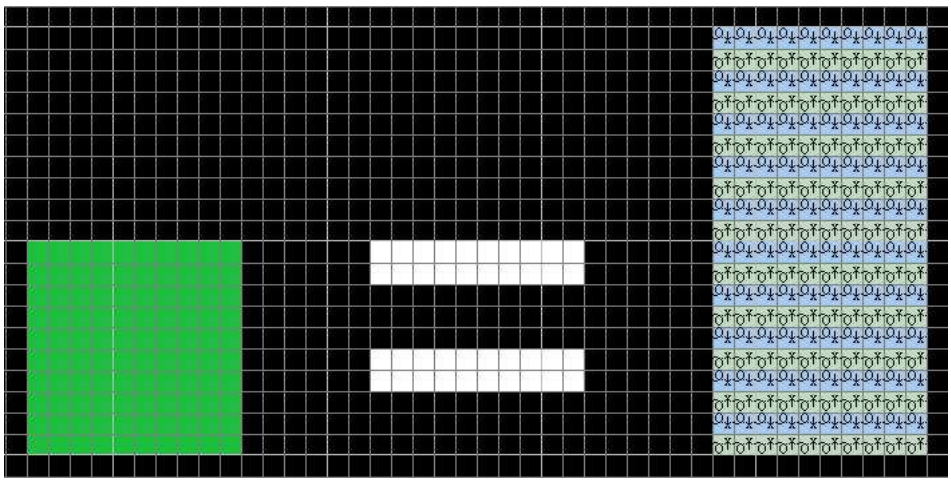


- User macro control line (or function line):

1 cancel knitting	17 auxiliary roller of transfer18 switch	33 yarn carrier in
2 prohibit links	of auxiliary roller of knitting	34 yarn carrier out
3 blank line	19 switch of auxiliary roller of transfer	35 yarn carrier 3 (1)
4 program resources	20 carriage return space	36 yarn carrier 3 (2)
5 knitting density	21 knitting form	37 yarn carrier 3 (3)
6 transferring density	22 jacquard back type	38 yarn carrier 3 (4)
7 racking (direction)	23 yarn carrier 1 (1)	39 yarn carrier in
8 racking (amount of needles)	24 yarn carrier 1 (2)	40 yarn carrier out
9 racking (position)	25 yarn carrier 1 (3)	41 yarn carrier 4 (1)
10 racking (exceeding)	26 yarn carrier 1 (4)	42 yarn carrier 4 (2)
11 racking (speed)	27 yarn carrier in	43 yarn carrier 4 (3)
12 s knitting speed	28 yarn carrier out	44 yarn carrier 4 (4)
13 transfer speed	29 yarn carrier 2 (1)	45yarn carrier in
14 Main roller of knitting	30 yarn carrier 2 (2)	46 yarn carrier out
15 Main roller of transfer	31 yarn carrier 2 (3)	47 end flag
16 auxiliary roller of knitting	32 yarn carrier 2 (4)	48 transfer+knitting of double sides

- If the parameters is set in the function line of user maco, comiling use the set value, else use the set in the function line of the pattern area.
- Select the color code and draw it at the left area, the action standing for the current color code will be developed at main drawnig area.
- The function line of the above action can be set at the right function line area.
- As shown below, if the user sets as 

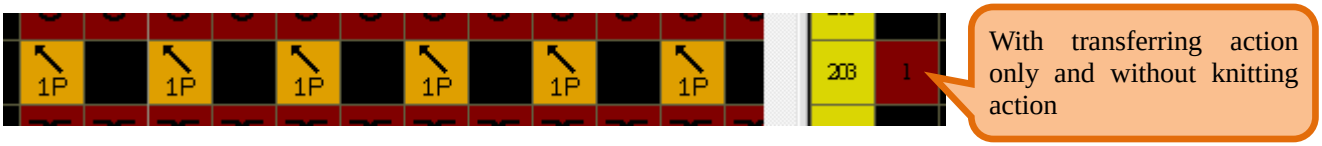
the color code 120 stands for  .
- The color code 8 and 9 integrate in color code 120 in user macro. 10 rows color code120stands for 10 turns composed by color code8 and color code 9.



- Page turning, click "+,-" to turn pages.
- Copy User customized data of current page to other page by Copy button in reference windows

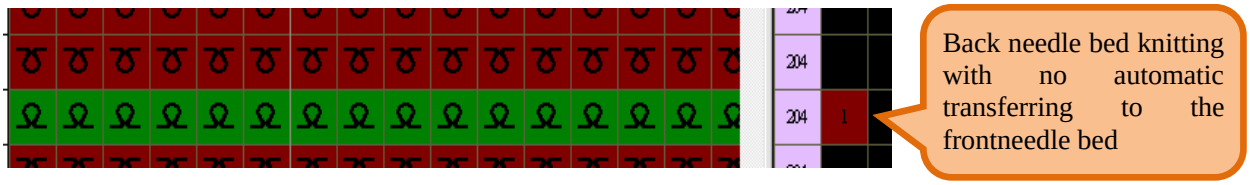
5.3 Cancel Knitting (203)

- Knitting action will not be performed



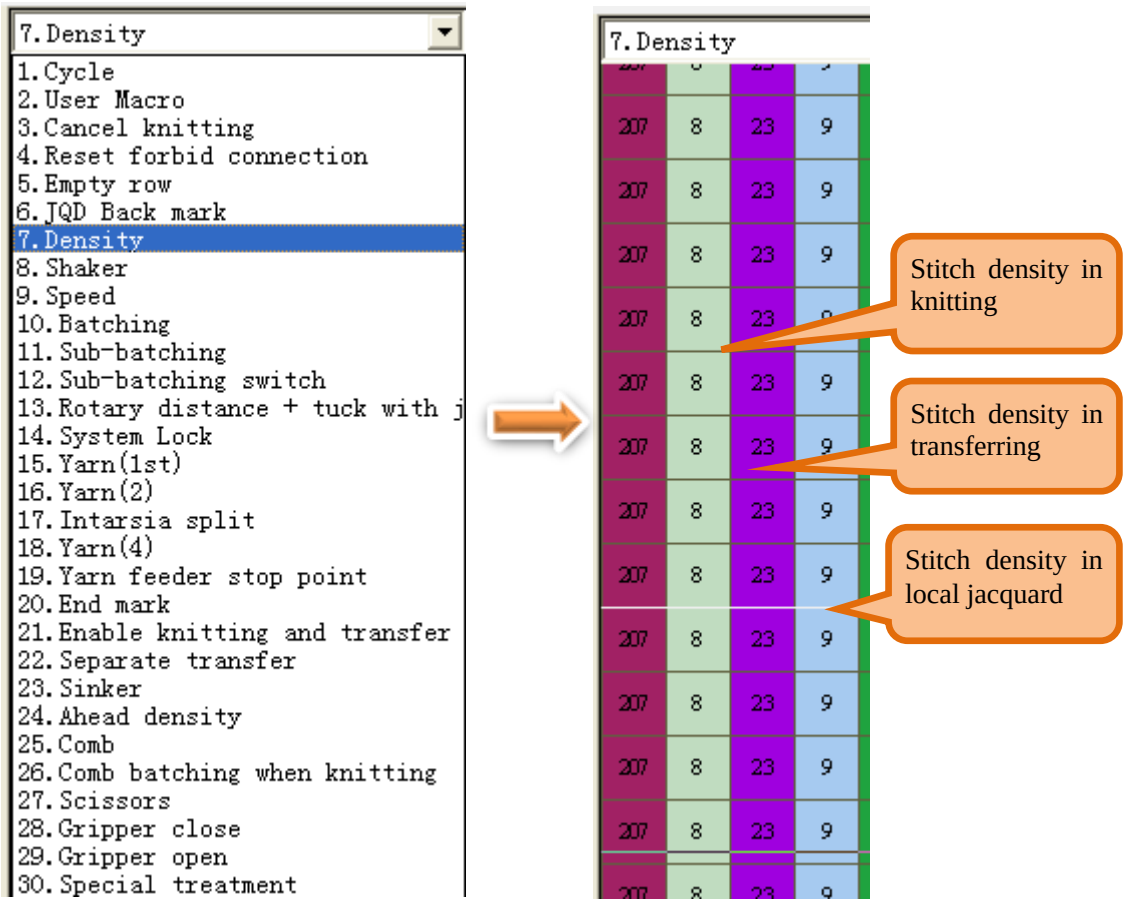
5.4 Prohibit joint (204)

- It indicates that current line has no linking relation with the next line.
- Two adjacent rows have automatically transfers and the 204 function line is “Prohibit joint”, the automatic transferring is not working in the current row.
- Prohibit current row from joining next row automatically, it means there are no automatic transfer between current row and next row.

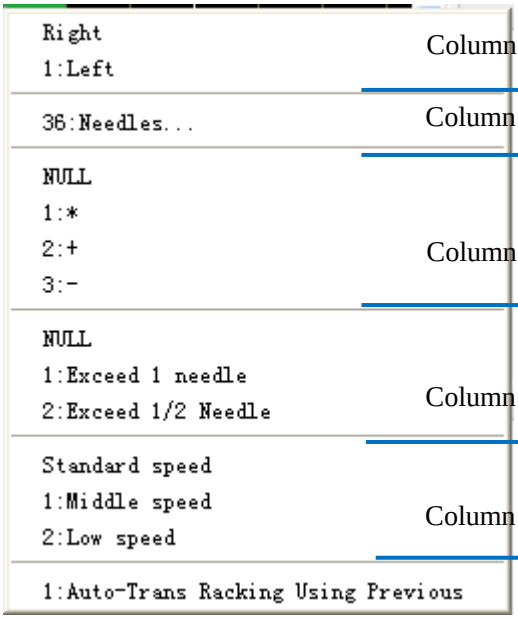


5.5 Stitch Density (207)

- Stitch density of knitting: Set the density level of knitting in the current line.
- Stitch density of transfer: Set the density level of transfer in the current line.
- Stitch density of local jacquard: Set the density section of local jacquard in the current line.



5.6 Racking (208)



Column 1, racking direction

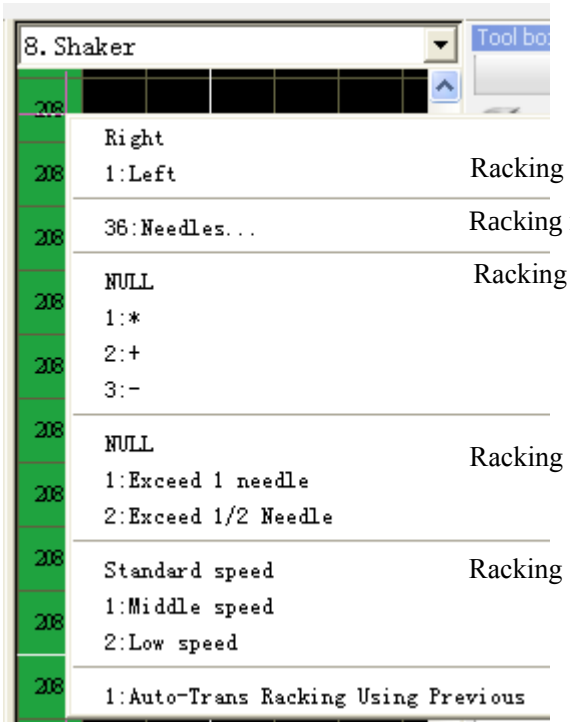
Column 2, racking needles

Column 3, racking control

Column 4, racking exceeding needles

Column 5, racking speed

As shown on the left, when it is1 needle racking to the left, "exceeding 1 needle" indicates that the bed racks 2 needles to the left and then returns to the position of 1 needle racking to the left. This function is applied when edge is longer or loops are more to lose the loop for the convenience of transferring stitches.



Racking direction: "0" Right; "1" is left

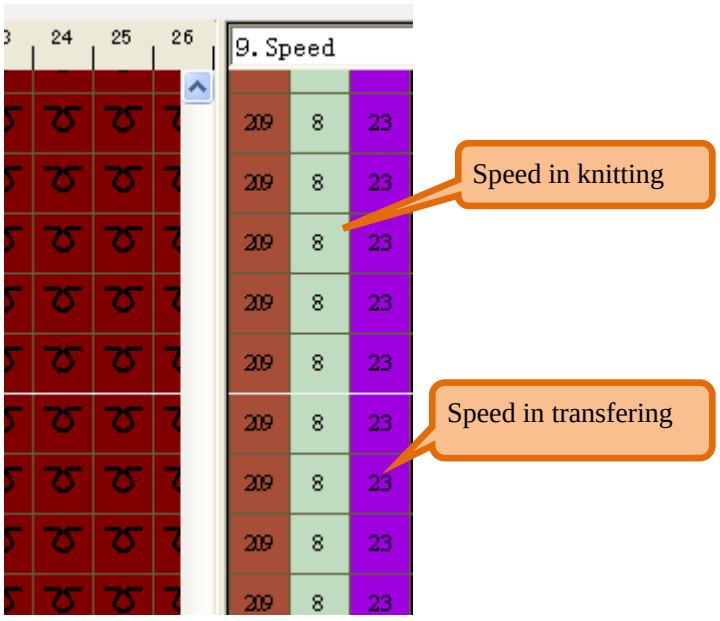
Racking needles

Racking control: "0" is that the front and back bed is stagger. Needle face needle slot
"*": The front and back bed is stagger. Needle face needle.
"+": he front and back bed close to the 3/4 "*" position
"-": he front and back bed close to the 1/4 "0" position

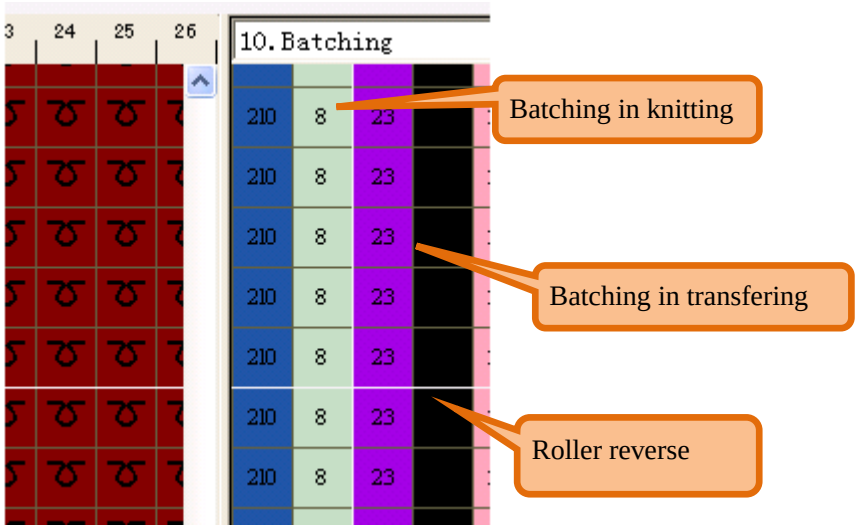
Racking exceeding needles:"1" is to exceed 1 needle
"2" is to exceed 1/2 needle

Racking speed: "0" is standard speed
"1" is middle speed
"2" is low speed

5.7 Speed (209)

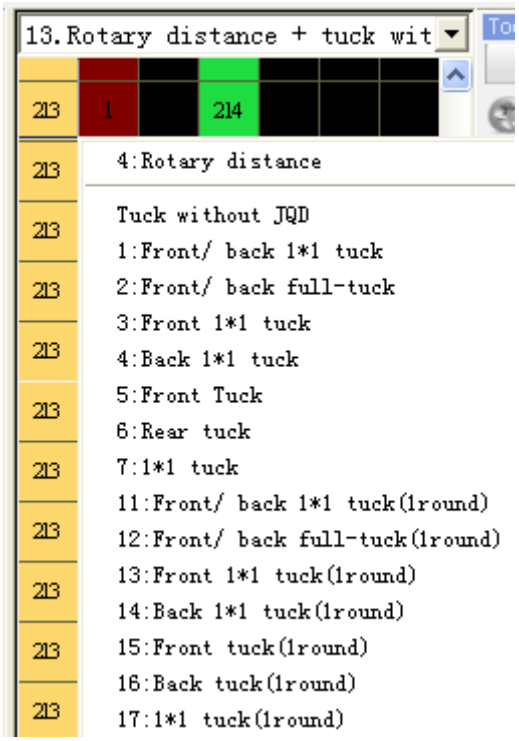


5.8 Main roller (210)



5.9 Return space + tuck of jacquard (213)

- The default return space level is “1” when create a new pattern (The first column in L213).
- The second column is used to set the Lycra tuck type of the Jacquard in the L213. This setting is working in the situation of using Jacquard color code. The setting step of the yarn carriers and density level is in the “Compilation/Jacquard Setting” chapter



5.10 System lock + Jacquard type (214)

- Summary of function line of knitting form:

Column 1	1: Lock left system knitting + transfer 2: Lock right system knitting +transfer 3: Lock center-left system knitting +transfer 4: Lock center-right system knitting + lock transfer 6: Lock left system knit 7: Lock right system knit 8: Lock center-left system knit 9: Lock center-right system knit
Column 2	2 colors jacquard 3 colors jacquard 4 colors jacquard 5 color jacquard 6 colors jacquard Intarsia split mode: 0: Local JQD after + Intarsia left-side first 1: Local JQD after + Intarsia left-side after 10: Local JQD first + Intarsia left-side first 11: Local JQD first + Intarsia left-side after Force the transfer direction: 0: NULL 1: ---> 2: <---

Column 3	16: Jacquard group Force the knitting direction: 0: NULL 1: --->; 2: <---
Column 4	255: Intarsia discontinue 16:Yarn carrier following

12:non-knitting
22:Select All
32:1x1A
42:1x1B
52:Deer
62:Pocket
72:Deer (bag)
82:Mesh 1x1
92:Mesh 1x2
102:Mesh 1x3
112:Mesh 1x4
122:Mesh 1x5
132:Mesh 1x1x2
142:Mesh 1x2x2
152:Mesh 1x3x2
162:Mesh 1x5x2

5.10.1 System lock

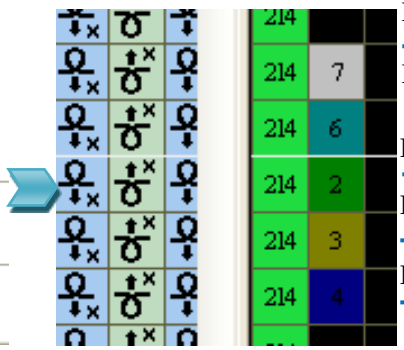
1:Left system knitting + transfer locking
2:R system knitting + transfer locking
3:Mid-left system knitting + transfer locking
4:Mid-right system knitting + transfer locking
6:L system knit locked
7:R system knitting locking
8:Mid-left system knitting locking
9:Mid-right system knitting locking

System Locked

2 color JQD
3 color JQD
4-color JQD
5 color JQD
6-color jacquard
Intarsia split mode
forced the transfer direction

16:Jacquard Group
forced the knitting direction

255:Intarsia discontinu
16:Yarn following



Lock right system to knit

Lock left system to knit

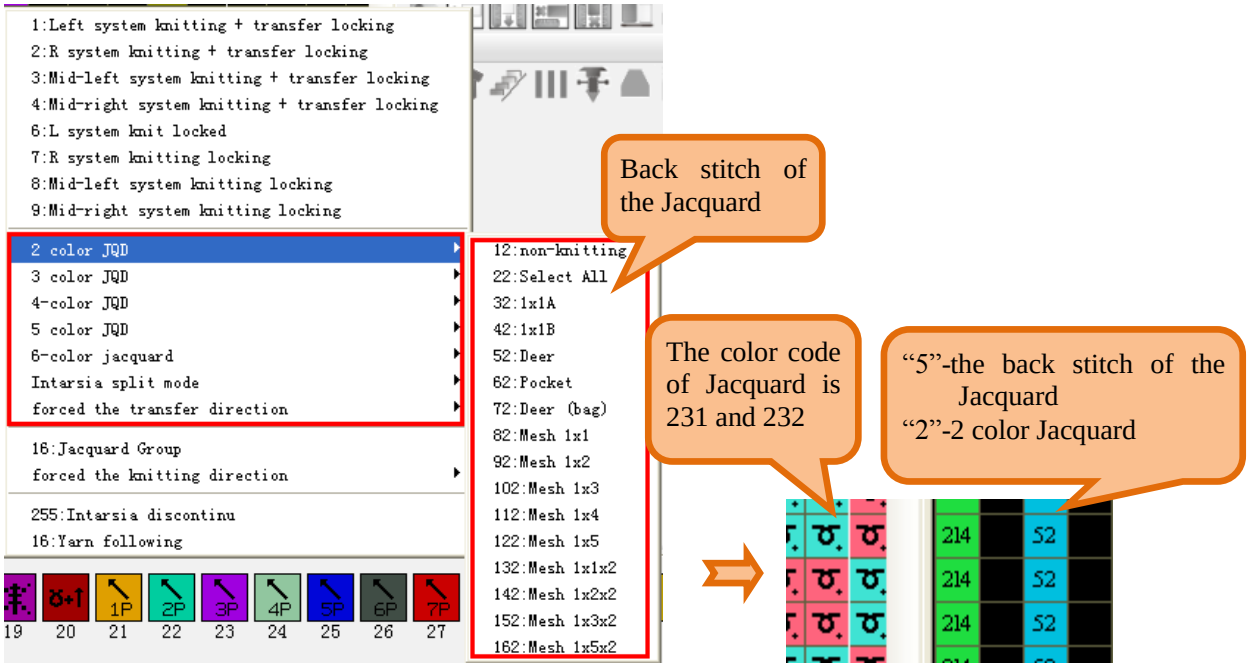
Lock right system to knit and transfer

Lock center-left system to knit and transfer

Lock center-right system to knit and transfer

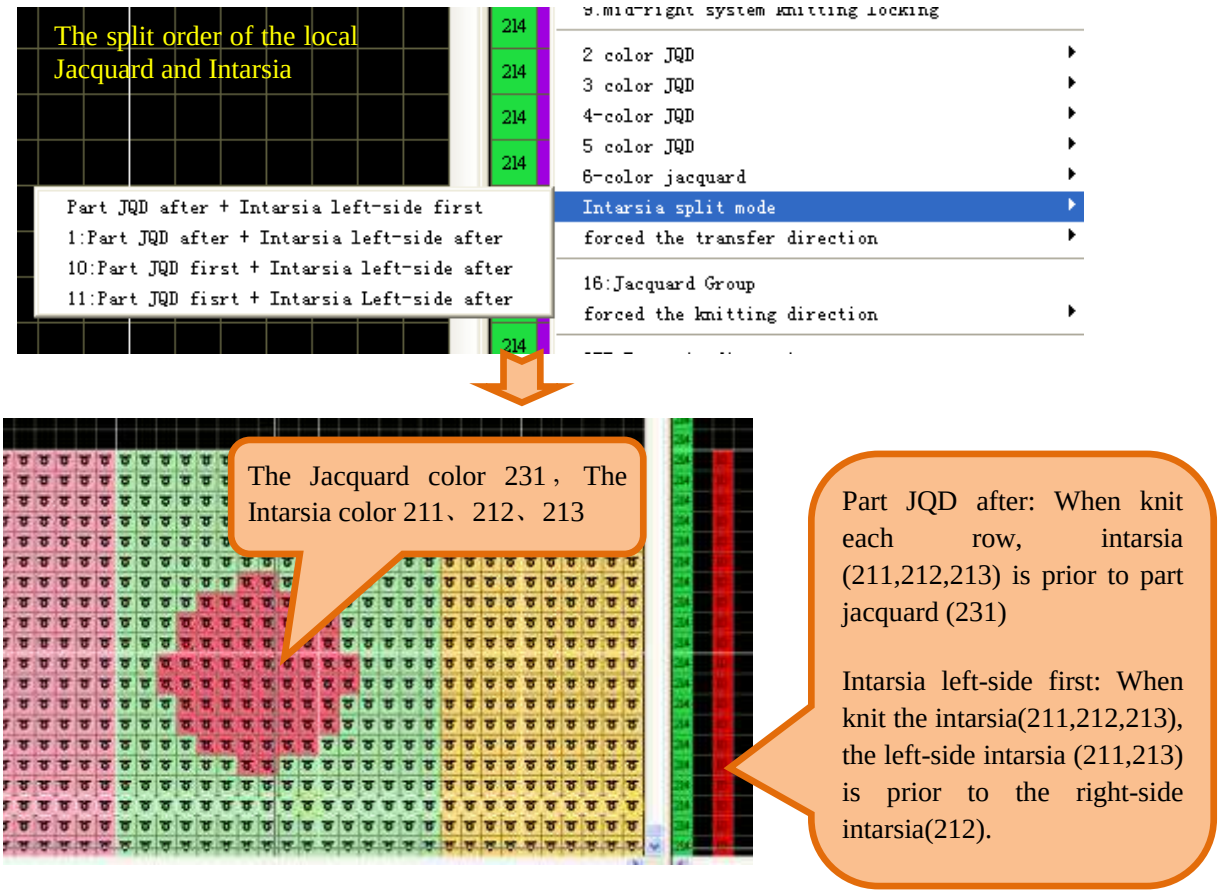
5.10.2 Set the Back structure type of Jacquard

- The details is in the "Jacquard and Intarsia Description" chapter

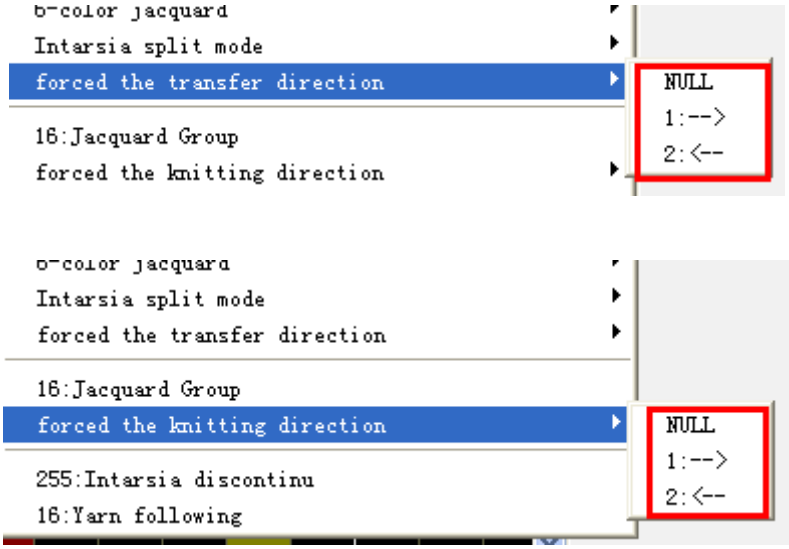


5.10.3 Split Order

- The split order of the Intarsia and Jacquard

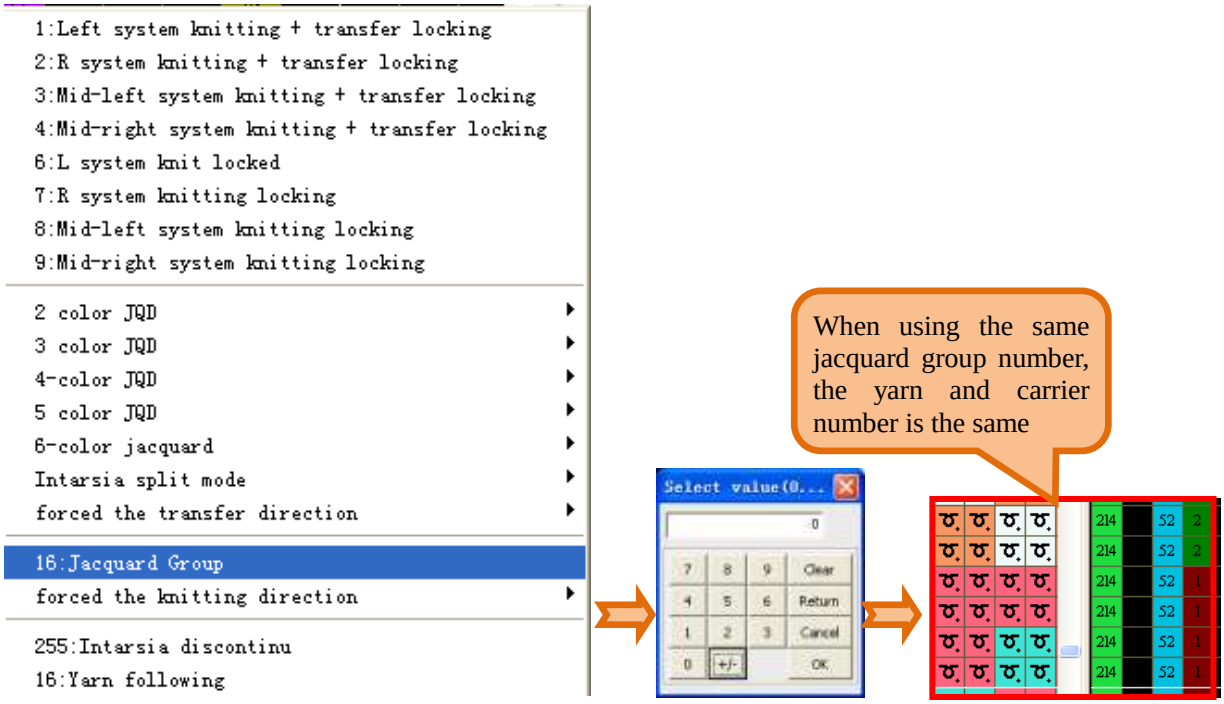


5.10.4 Force the knitting and transfer direction



5.10.5 Jacquard Grouped

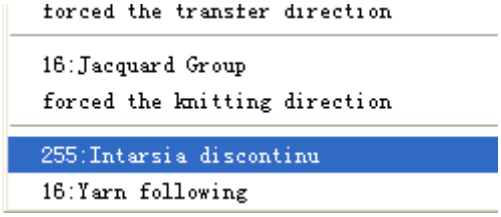
➢ Jacquard grouped: The same jacquard group with the same jacquard colors and the same yarn carriers. The color code 0 in the third column is a default group.

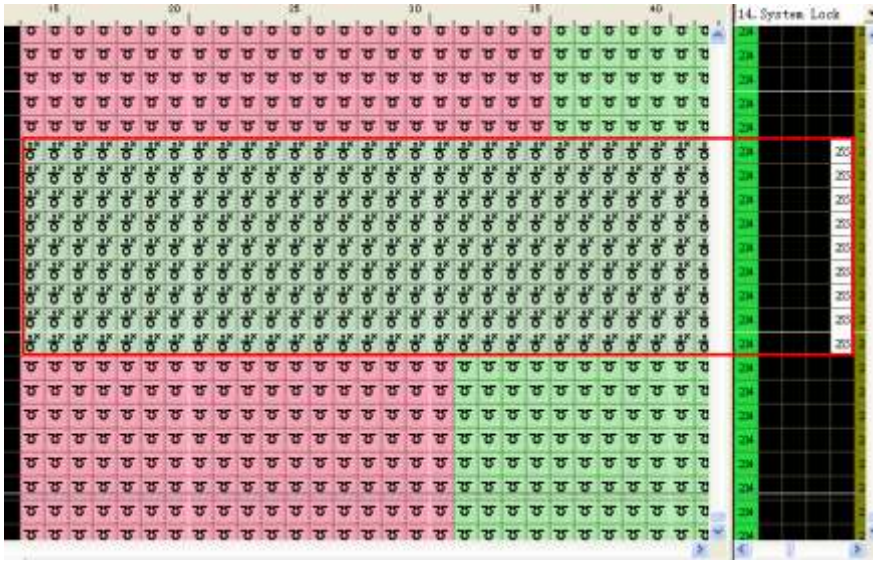


5.10.6 Intarsia discontinue

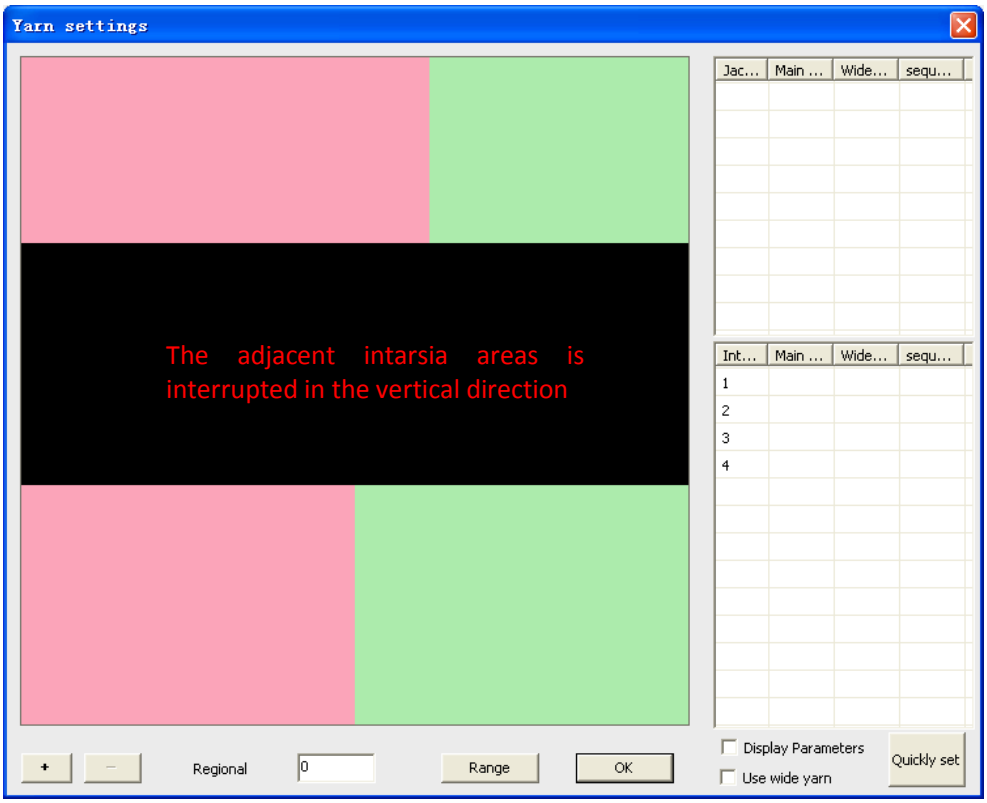
➢ By default, intarsia areas is continuous when the adjacent intarsia areas is interrupted by the normal color code in the vertical direction. It is that the yarn carriers of knitting intarsia is not taken out and stop in the knitting area.

➢ When the intarsia areas need to be interrupted, the 255 color is filled in the fourth column of L214.





➢ Set yarn carriers of knitting intarsia:

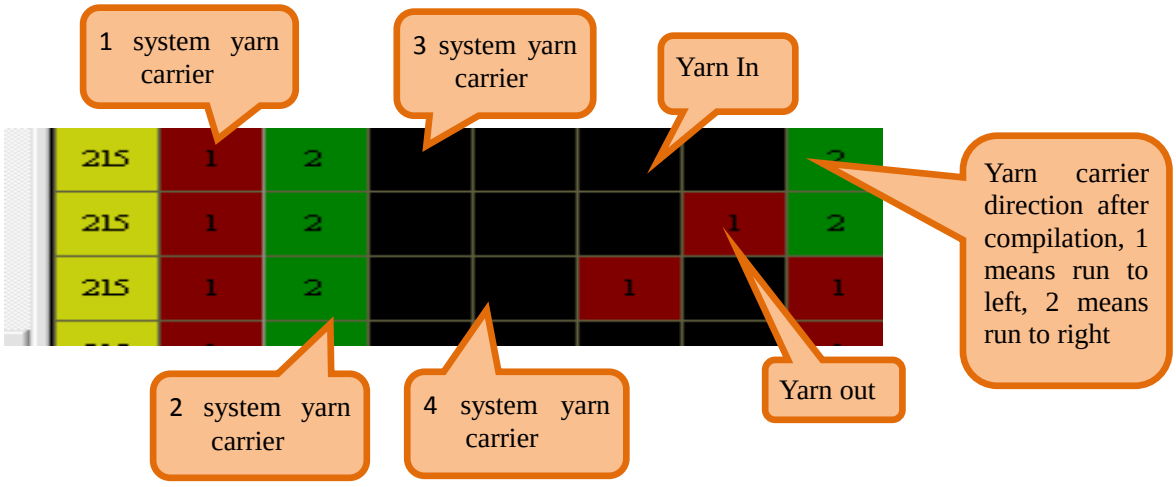


5.10.7 Yarn carrier following

➢ Fill in the number of excepted yarn carriers in the fourth column of the L214. The mode of following is in the "Compilation/pattern Expand/Automatic Processing" chapter.

5.11 Yarn carrier System (215、216、218)

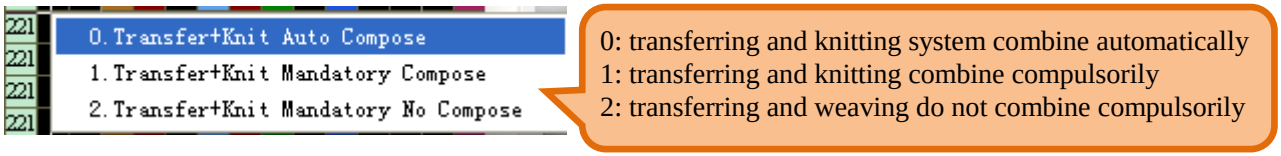
➢ The direction of yarn carriers: Automatically display after Successful compilation.



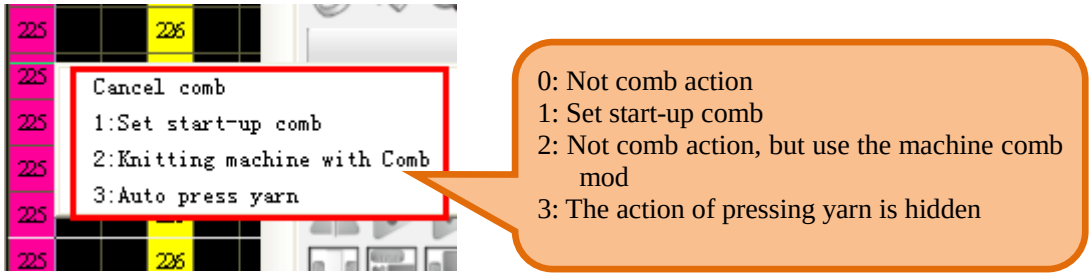
5.12 End flag (220)

➢ L220 end flag: Set the end row of pattern. Set "1" in the final row of the first column in function line 220

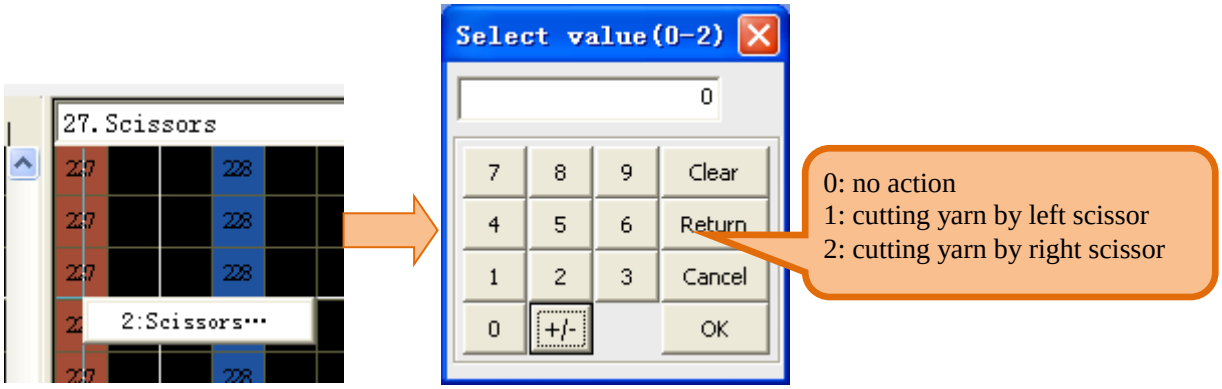
5.13 Two Side Start-up, Transfer+Knitting (221)



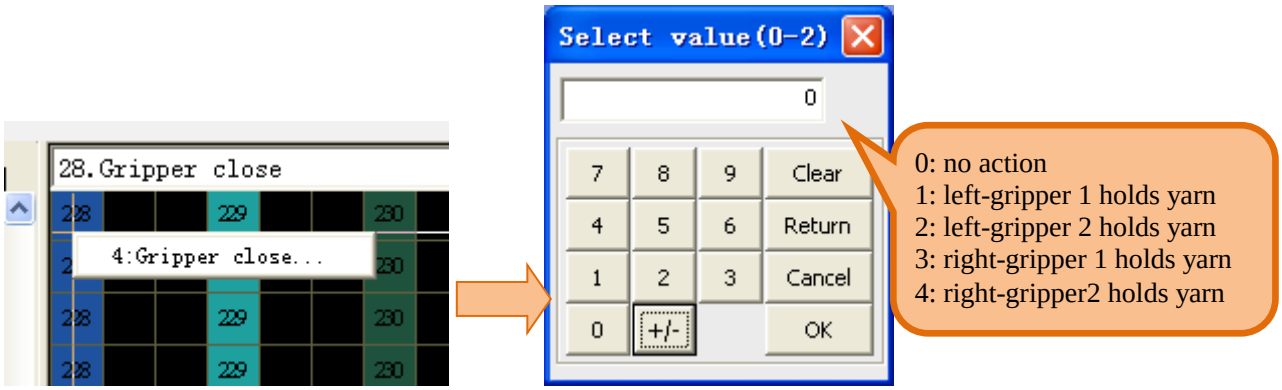
5.14 Take down Comb(225)



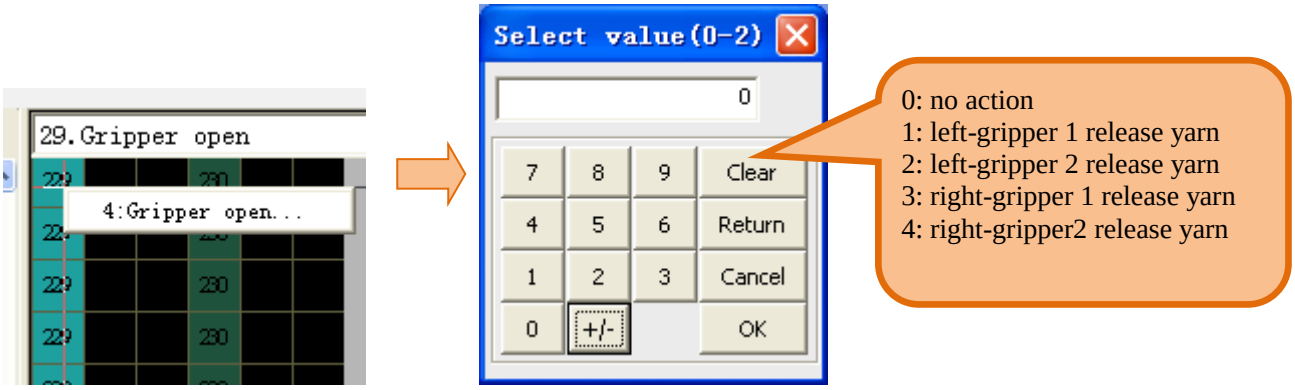
5.15 Cutter(227)



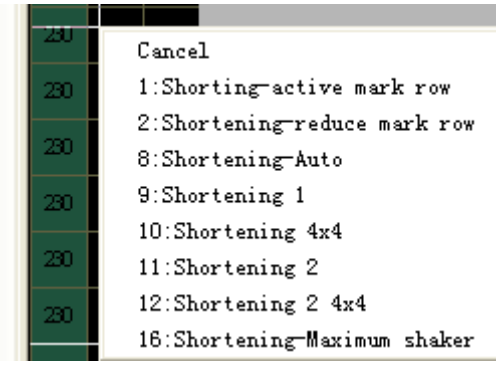
5.16 Gripper Close (228)



5.17 Gripper Open(229)



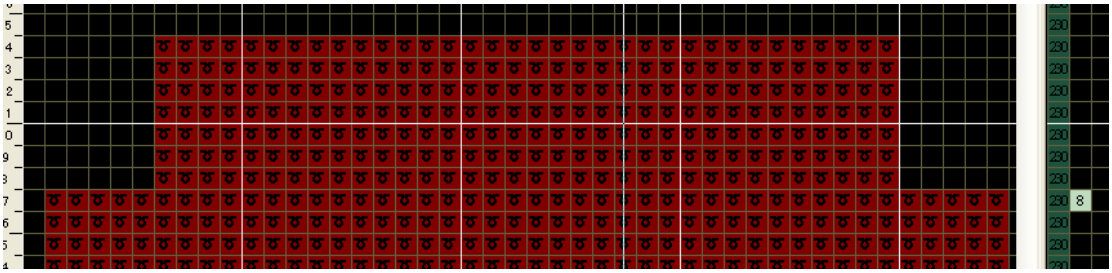
5.18 Special Treatment-Pleating (230)

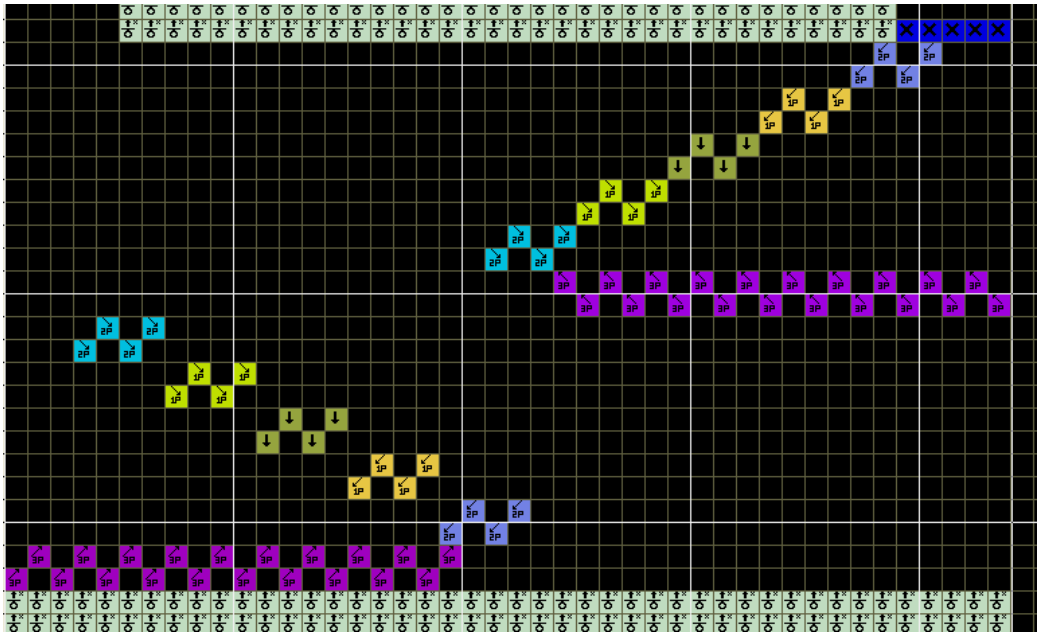


- Identify the pleating mode by the function line 230.
- The color codes 189 and 190 are used for left pleating, and the color codes 199 and 200 are used for right pleating. The specific realization is related to the selected pleating mode, and the color codes have different meanings in different pleating modes.

5.18.1 Pleating-Auto

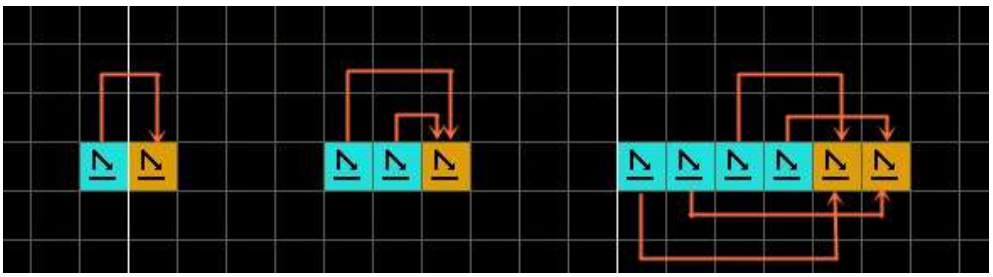
- When the functional line 230-1 is set as 8, it indicates automatic pleating, and the system will calculate the average pleating stitch according to the actual narrowing numbers.



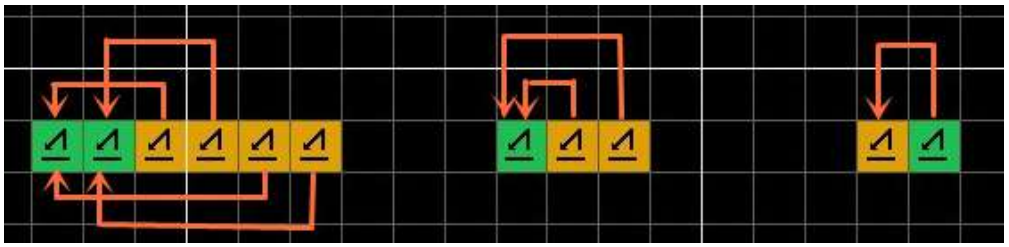


5.18.2 Pleating 1

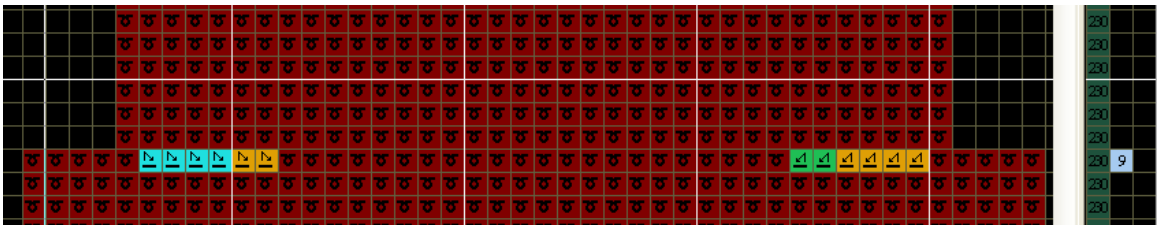
➢ Color code 189 and 190 are used at left, pleat to right. The pleat color codes of left and right must be used in pairs, in addition, the number of color code 189 must be the integral multiple of color code 190. Pleating rules are shown as below.

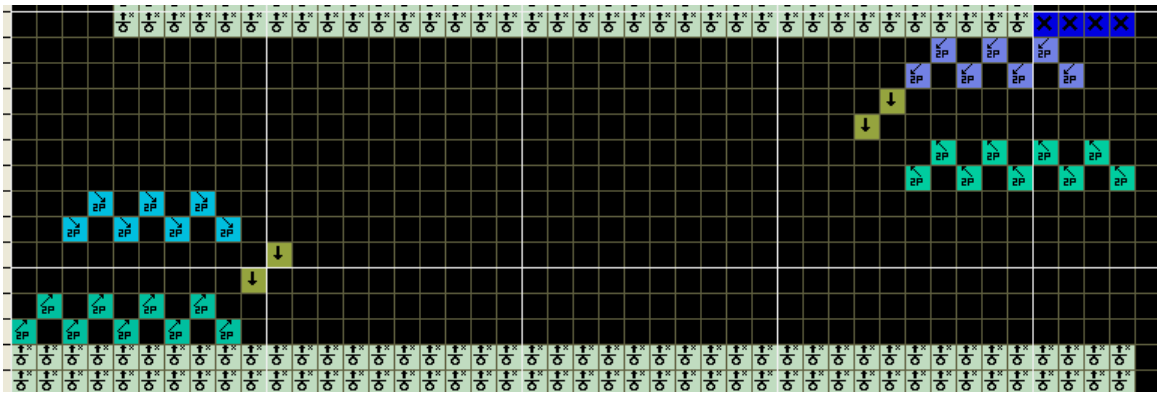


➢ Color code 199 and 200 are used at right, pleat to left.The pleat color codes of left and right must be used in pairs, in addition, the number of color code 200 must be the integral multiple of color code 199. Pleating rules are shown as below.



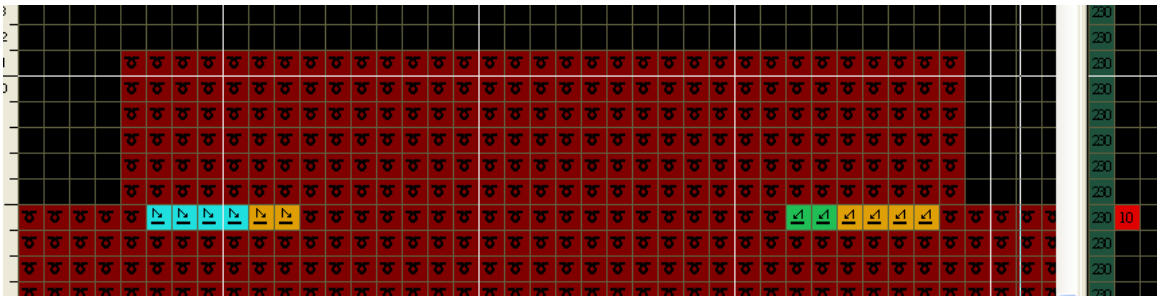
➢ The functional line 230-1 is set as 9 (transfer type according to the setting of respectively transfer).

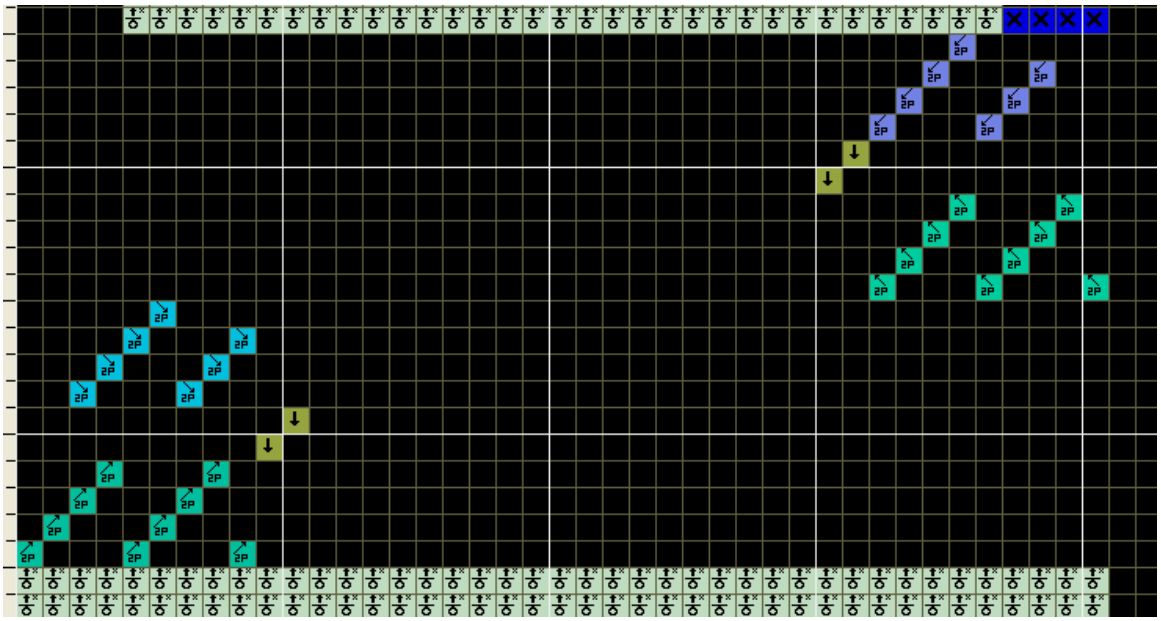




5.18.3 Pleating 1 4X4

➢ When the functional line 230-1 is set as 10: The effect of this method is the same as pleating 1.The only difference is this method transfer by 4 needles spacing 4 needles.





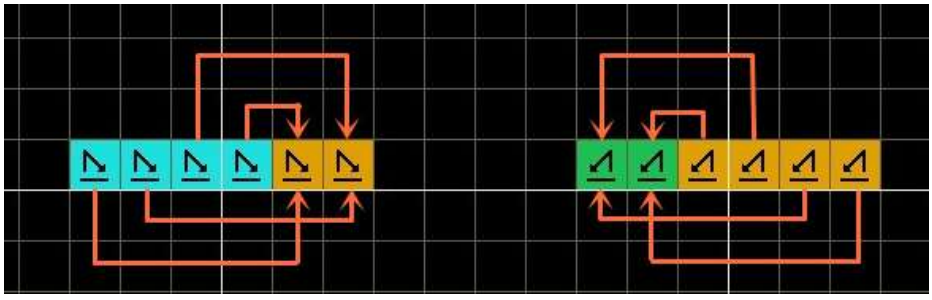
5.18.4 Pleating 2

➢ If you want to achieve the folding effect in Pleating 1, please use Pleating 2.

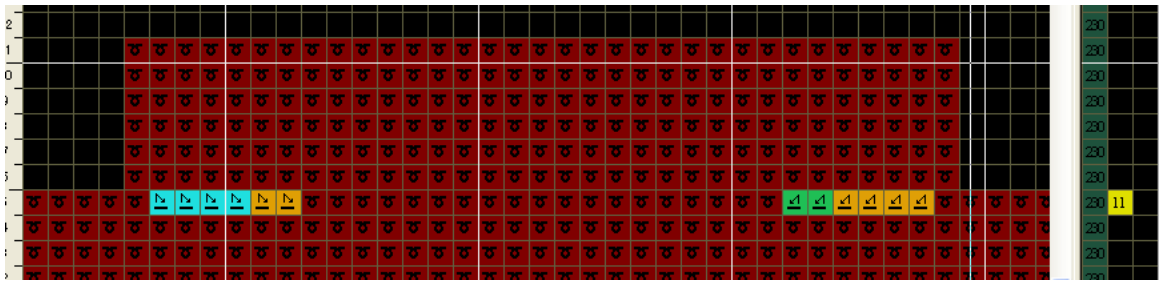
➢ Color code 189 and 190 are used at left, pleat to right. Color code 199 and 200 are used at right, pleat to left.

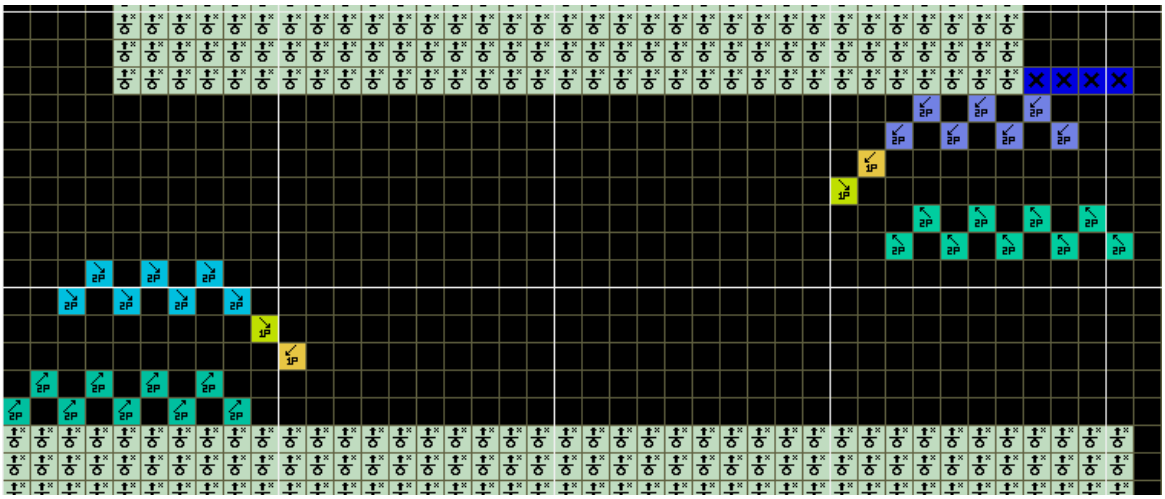
➢ The pleat color codes of left and right must be used in pairs, in addition, the number of color code 189(0r 200) must be the integral multiple of color code 190(or 199).

➢ Pleating rules are shown as below.



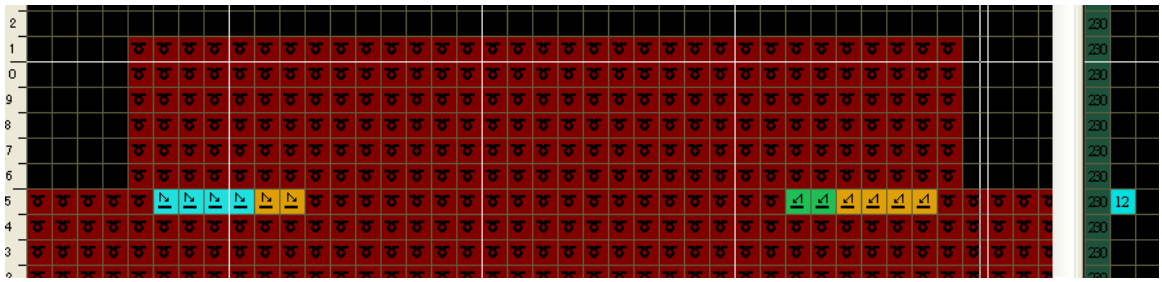
➢ The functional line 230-1 is set as 11 (transfer type according to the setting of respectively transfer).

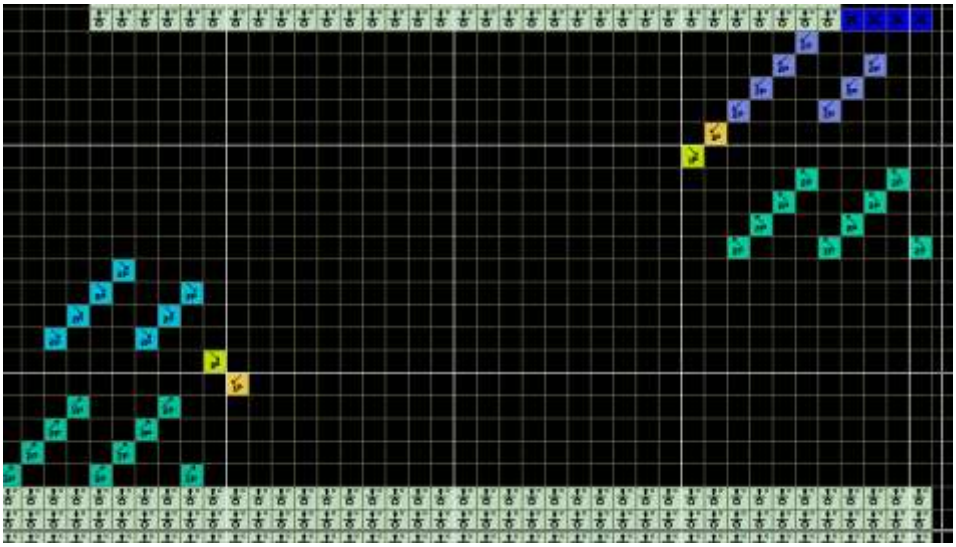




5.18.5 Pleating 2 4X4

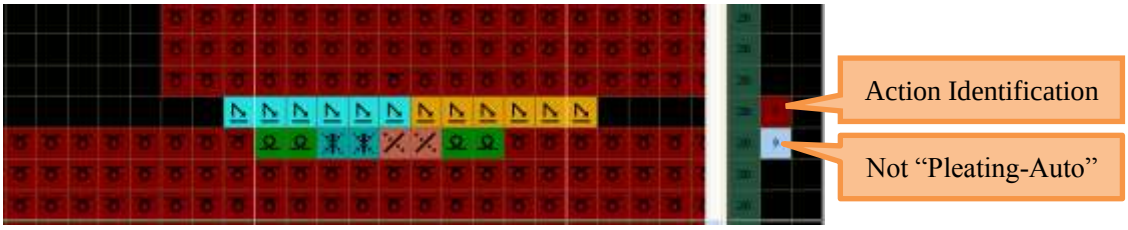
➢ When the functional line 230-1 is set as 12, the pleating effects are the same as Pleating 2, the only difference is this method transfer by 4 needles spacing 4 needles





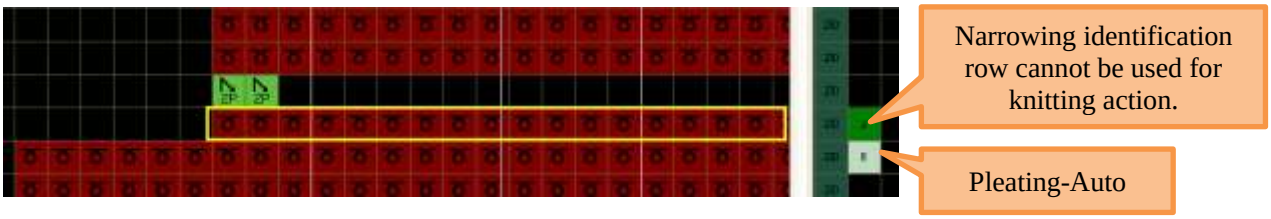
5.18.6 Pleating-Action Identification Row

- Not applicable to “8. Pleating-Auto”
- If non-front stitch color code(such as back stitch、cable color code etc.) is within destination row ， pleat color code could be filled in an independent row which should be identified as “pleat-action identify row “and filled with pleat color code only, as shown in the following diagram:



5.18.7 Pleating--Narrowing Identify Row

- It is generally used when narrowing row right behind “8: pleat-automatically” row.
- The line marked as the “Pleating-Narrowing identify Row” is only used for indicating the automatic pleating needles, and would not be used as knitting.



5.18.8 Pleating--Racking Limit

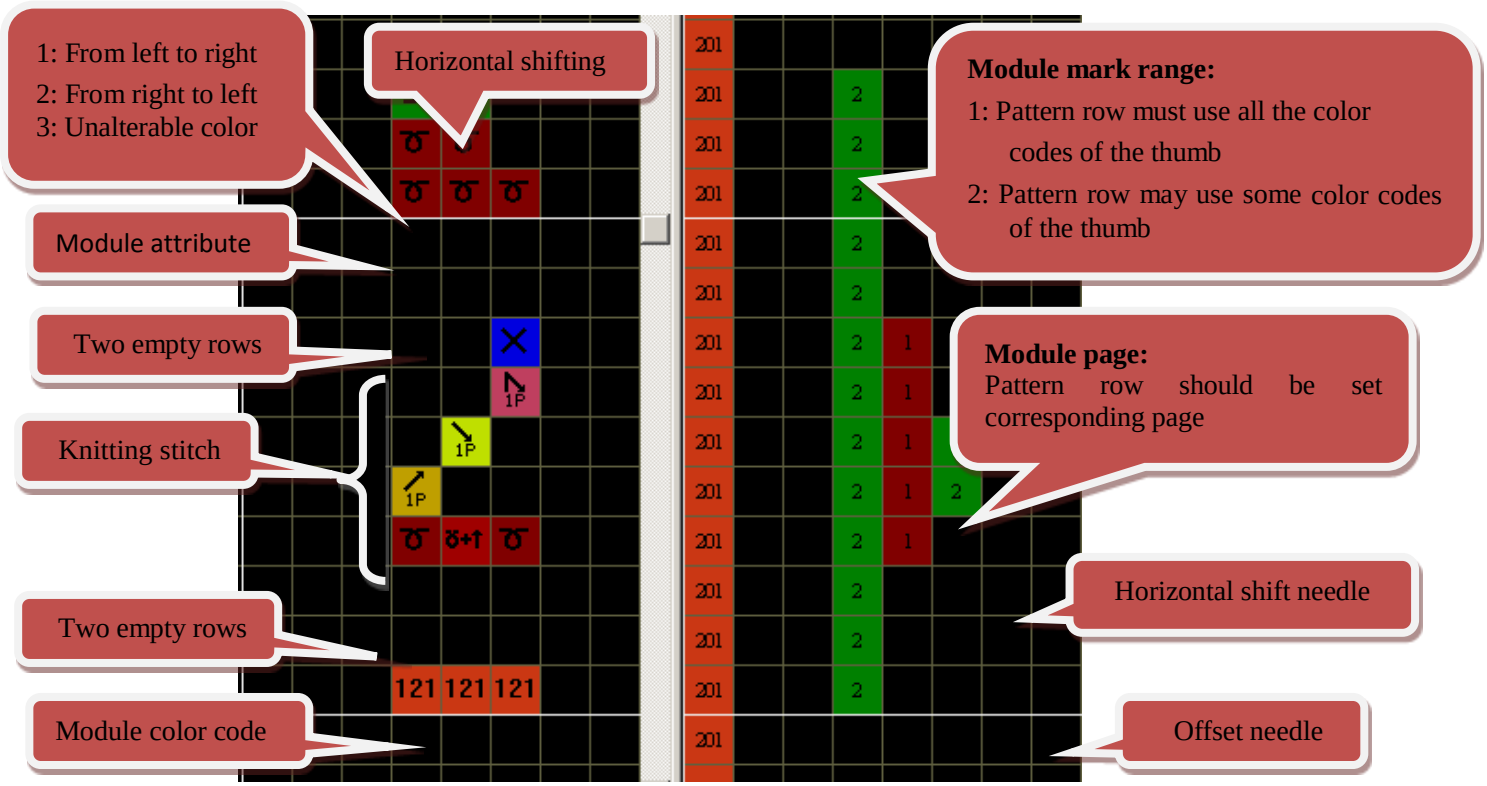
- According to the machine gauge, the maximum needles of racking can be set at the second column of function line 230.

6 Package

➢ This package software simplifies drawing of the original drawing. As the complex knitting structure can be compressed simply.

- Users package in pattern with following service regulations:
- Base pattern can be start at any row above the end row of the pattern. The first row of the base pattern is filled with registered colors (colors no. 120~183).
- Two rows above the registered row is the beginning of the package base pattern structure row.
- Two rows above the finishing row of the base pattern structure is registration option row 1.
  - ☞ Color no. less than 100(usually 1) represent normal package.
  - ☞ Color no. more than 100 and less than 200(usually 101) represent Jacquard package.
  - ☞ Color no. more than 200 and less than 255(usually 201) represent composite Jacquard package, it would perform automatic transfer between different Jacquard type.
- The row above the registration option row 1 is registration 2. It is used to assign repetition to the wale (horizontal) direction.
- Assignments of diagonal repetition :fill the vertical bias needles in the last row with the color No.. Set Package mark, page, horizontal shift direction and offset needles in L201.

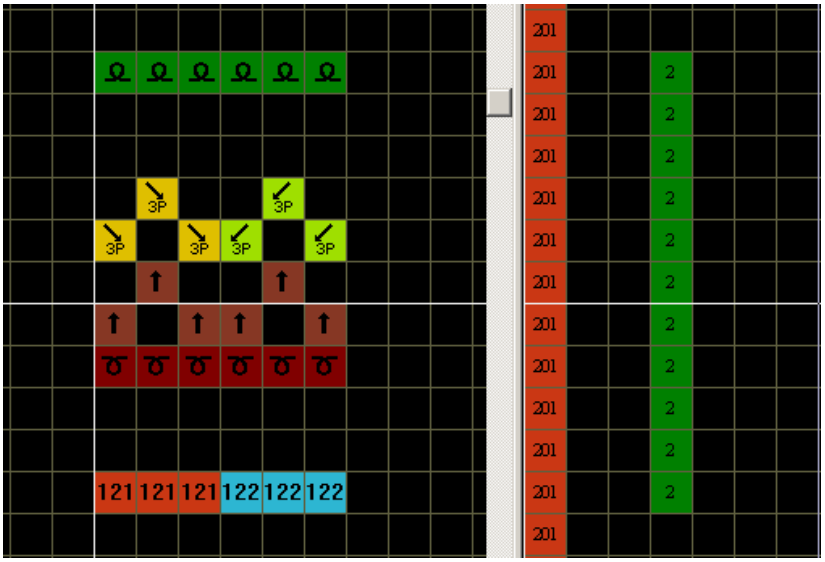
➢ Set other pattern parameters.

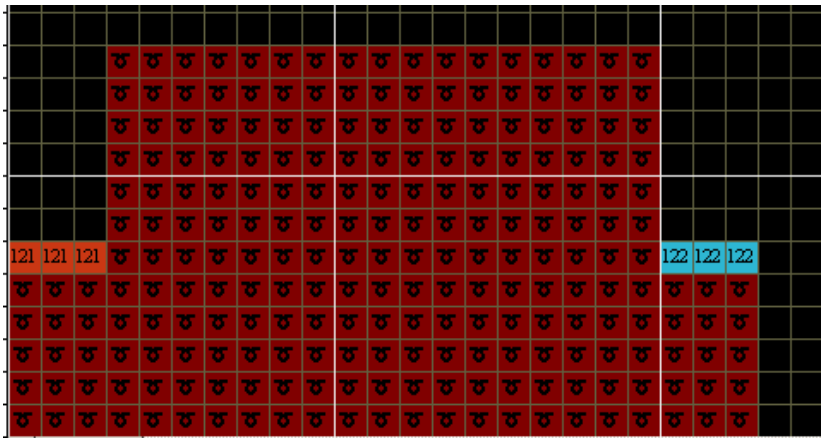


- Package pattern should at least contain four elements: registered row, Package base pattern structure, registration option line, Package function line mark.
- Vertical shift and horizontal repeat are usually applied to the bind package.
- User macro is a simple form of Package, thus it can be converted into Package.
- User macro and Package are not allowed to use in one row.
- If function line parameters are not set for Package, apply corresponding parameters of the compressed pattern
- Find out the rule of Package before creating it, which is the minimum cycle unit.
- No. 0 color code would not be developed.
- Offset needle combing with cycle marks (1 and 2) indicates shift to right or left.

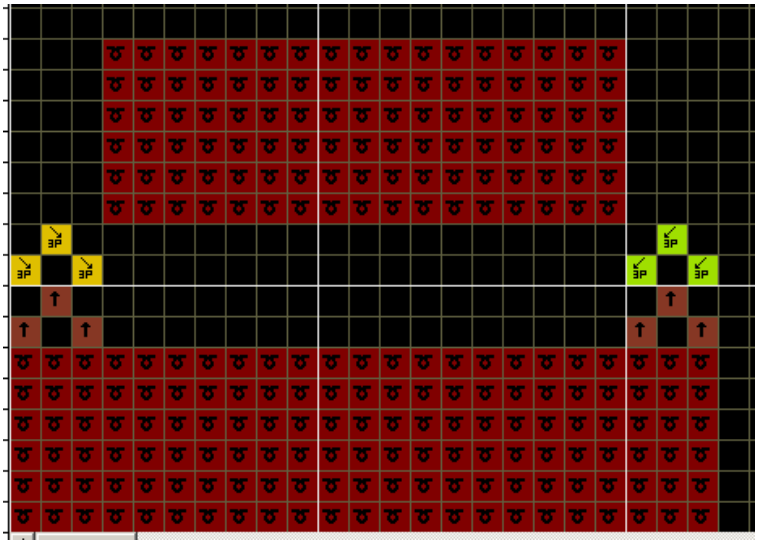
6.1 Package Base pattern

➢ The example for narrowing 3 needles is shown as below.



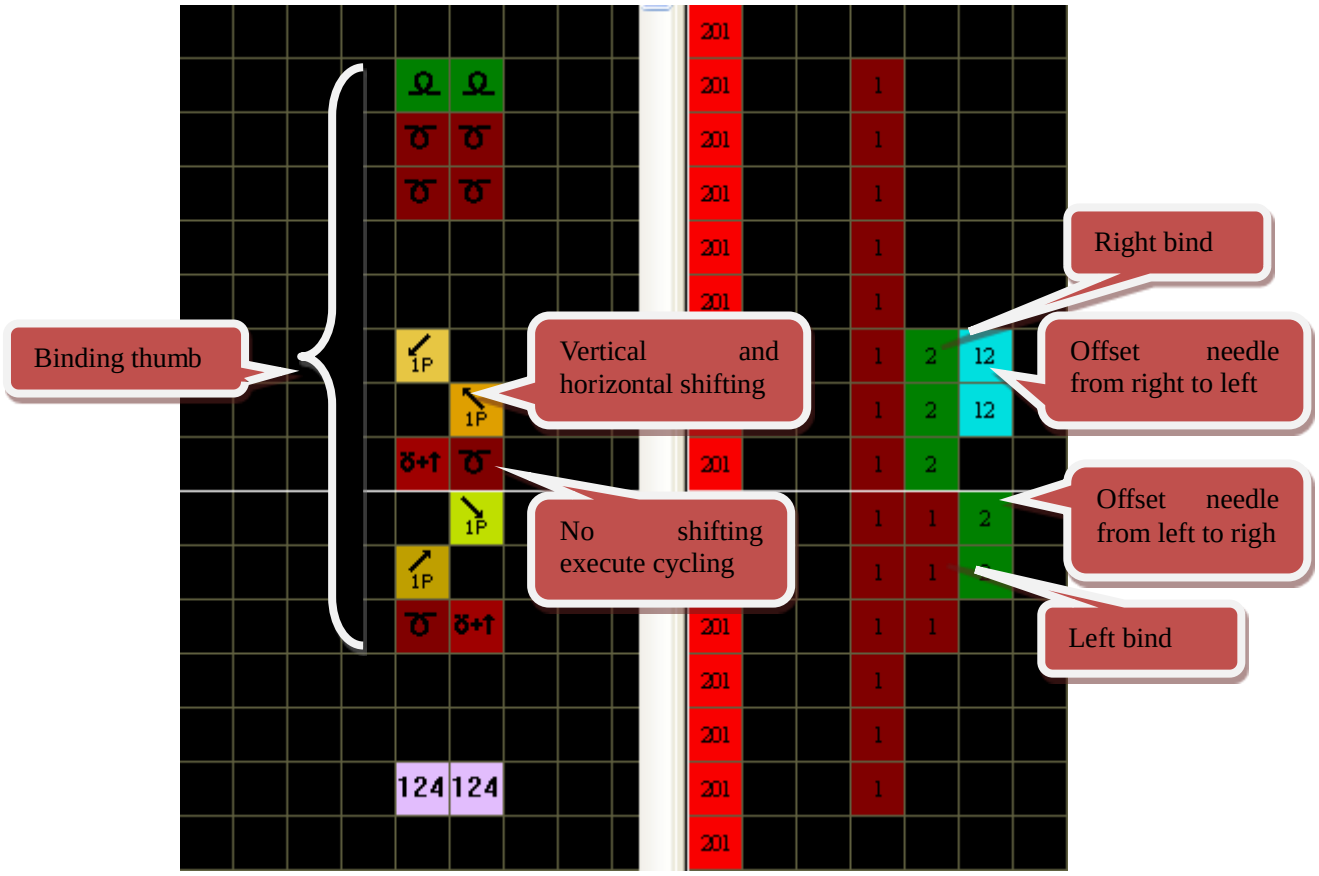


➢ Click the button “  develop Package” to develop the Package.



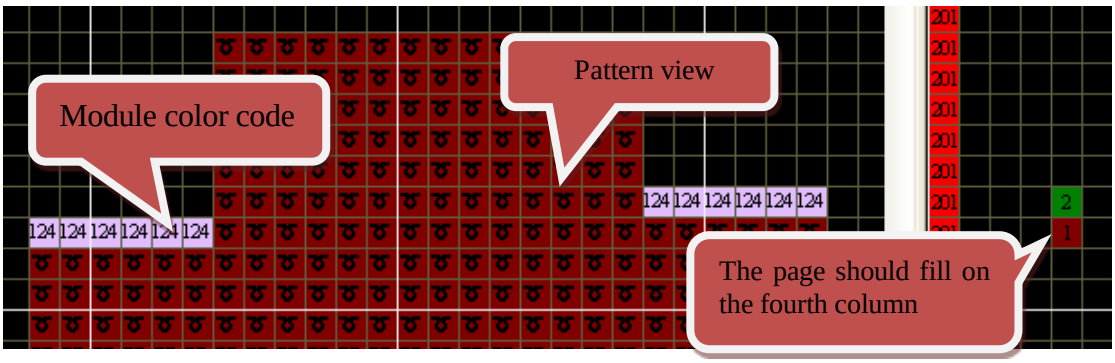
6.2 Binding Package (1)

➢ Drawing the binding Package according to the Package order, fill in the Package information on the L201.

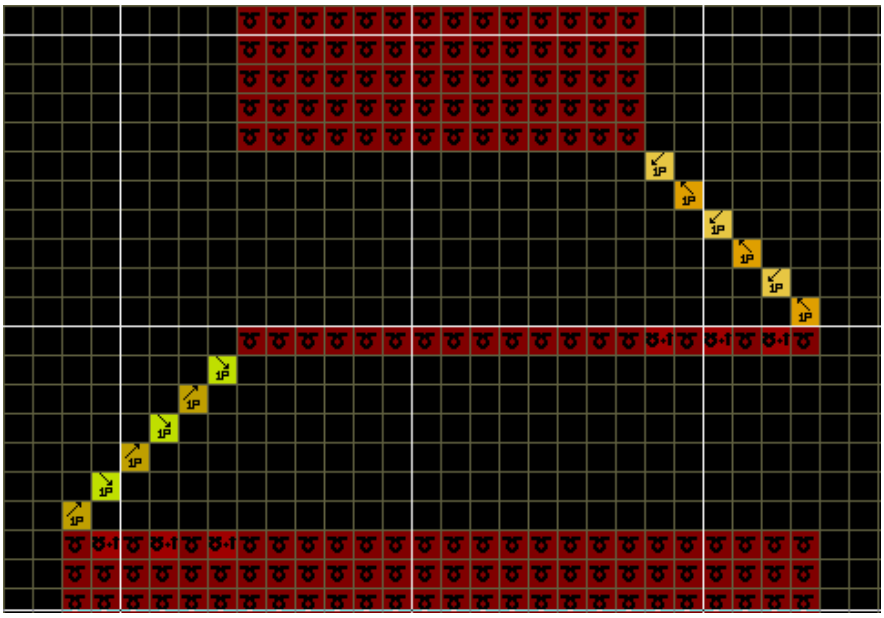


- If the horizontal shift function line is not set, in the vertical shift setting is invalid, and the development only executes cycling.

➢ Compressed pattern is show as below.

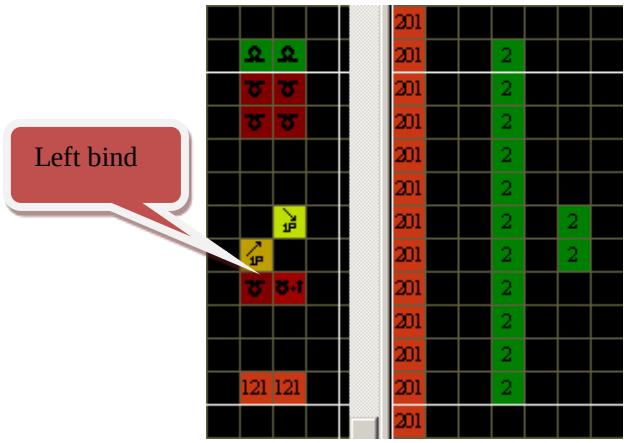


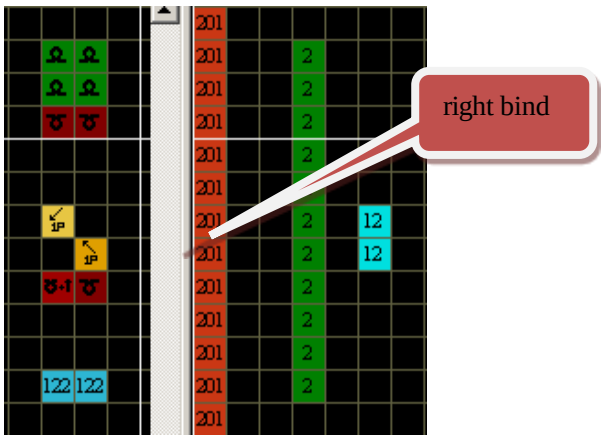
- The developing order (left first or right first) need to be specified.
- Development pattern is shown as below.

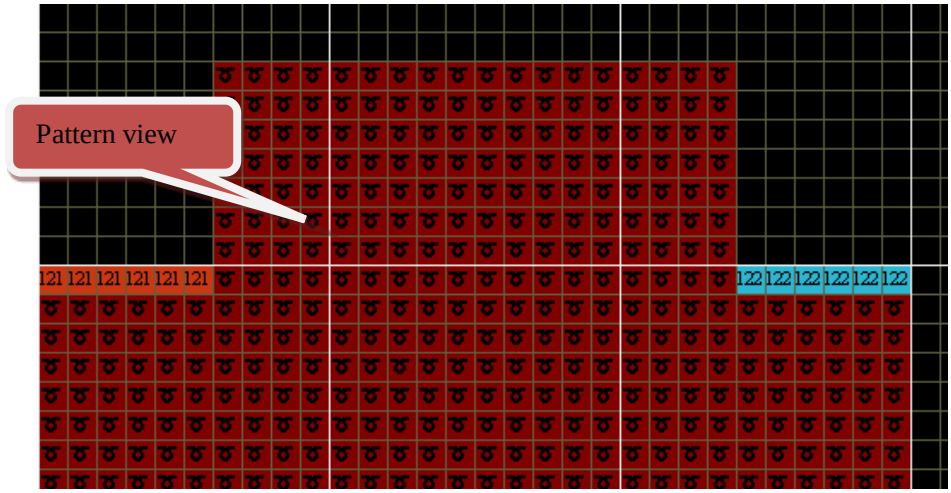


6.3 Binding Package (2)

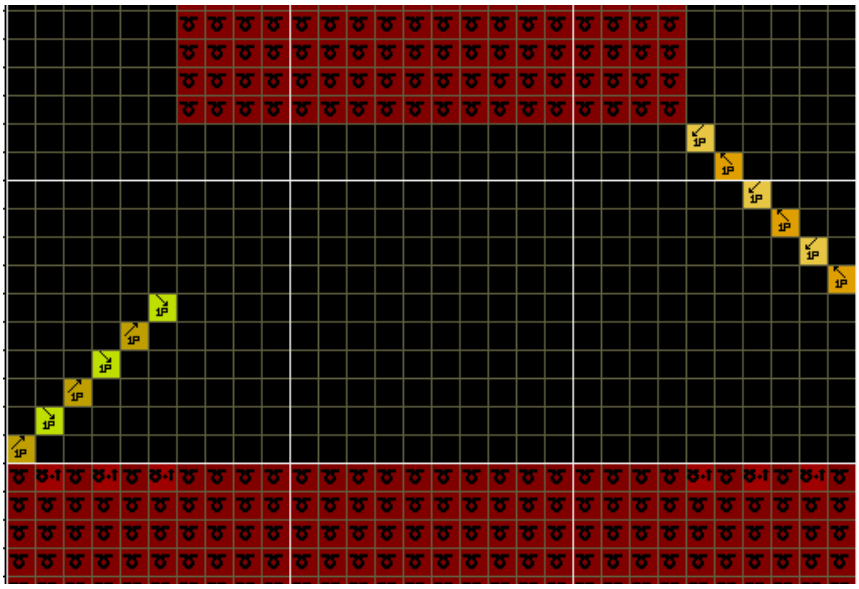
➢ The binding Package (1)is finished on different rows, the binding Package (2) is finished on the same row.







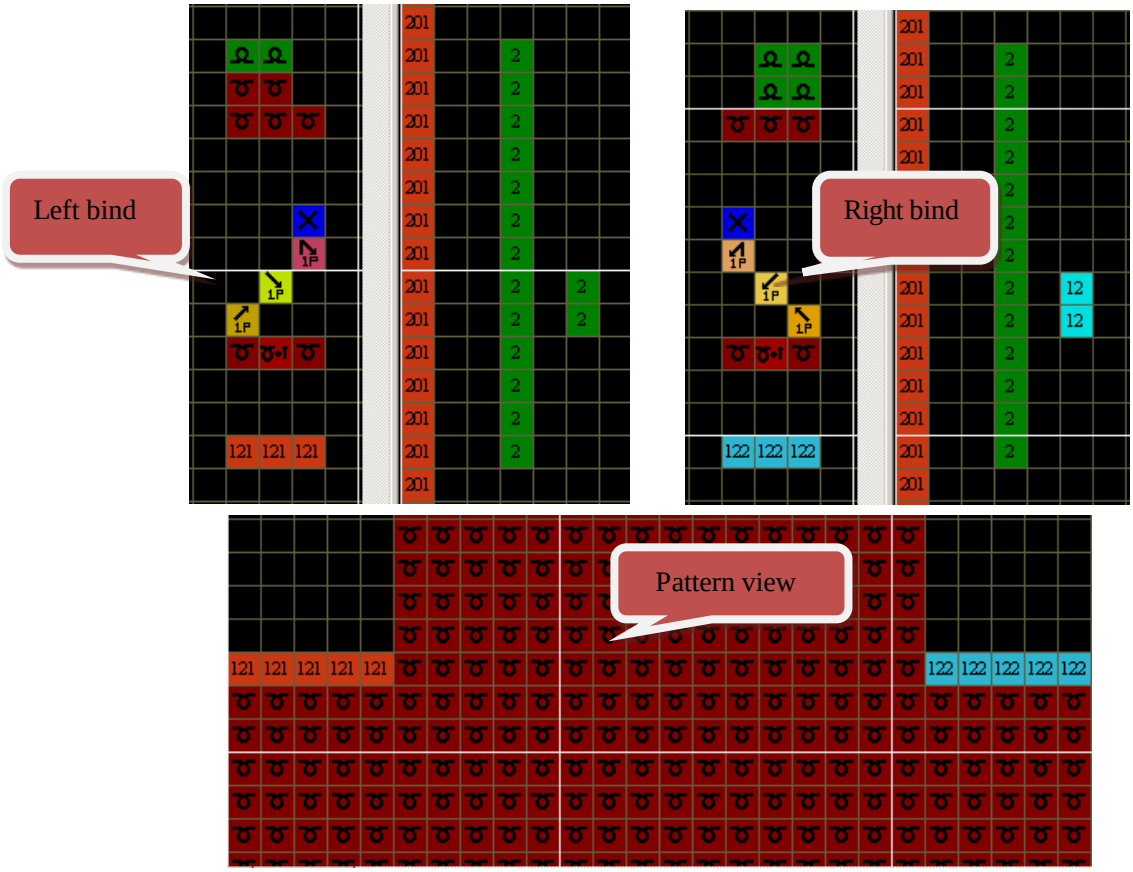
➢ Development pattern is shown as below.



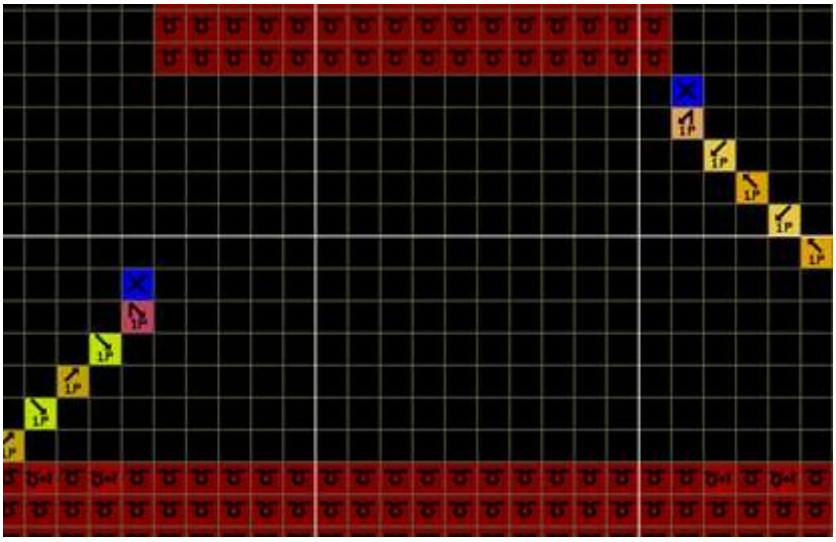
- The default developing order is left bind before right bind.

6.4 Bind-off Package (3)

➢ The number of Bind-off needle above example is even. If it is odd, there is a fixed method for the shifting needle. The fixed color code in Package will move the carriage to the correct direction. Please take following example as reference.

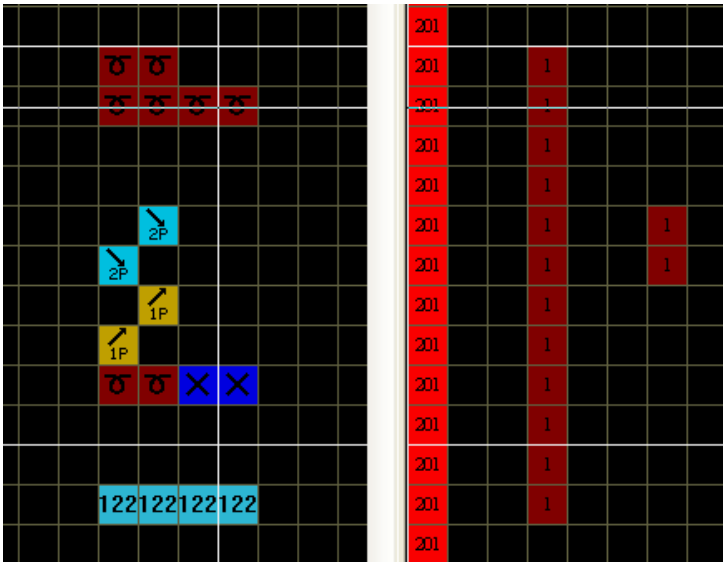


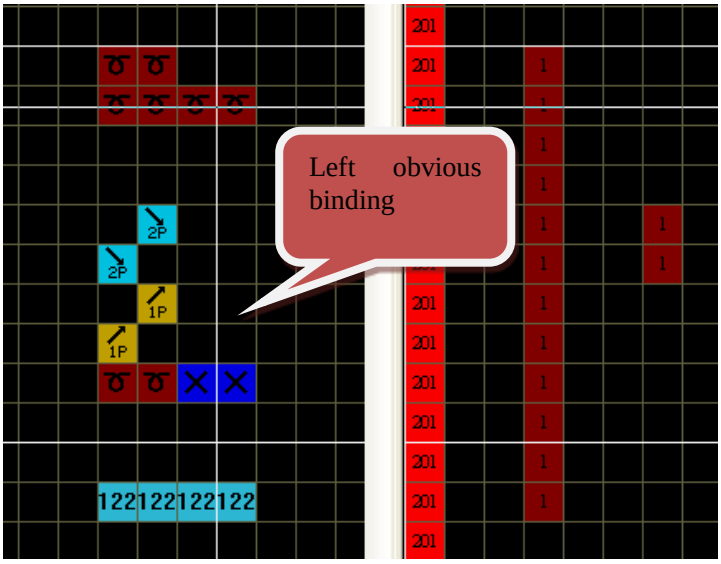
- Development pattern is shown as below.

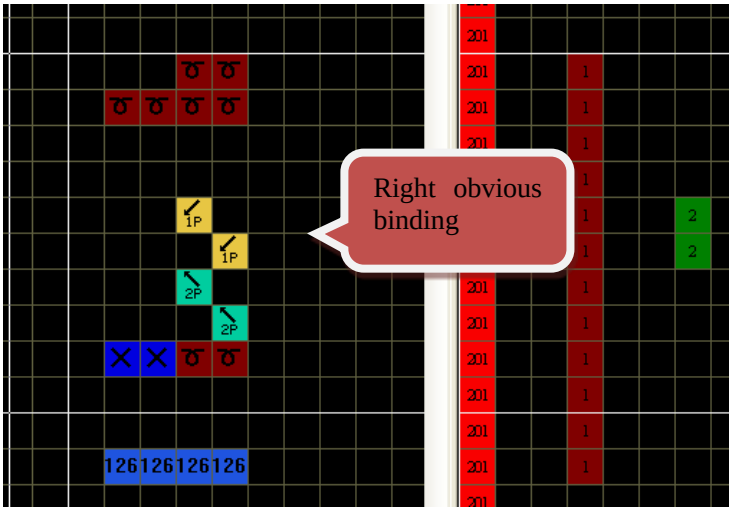


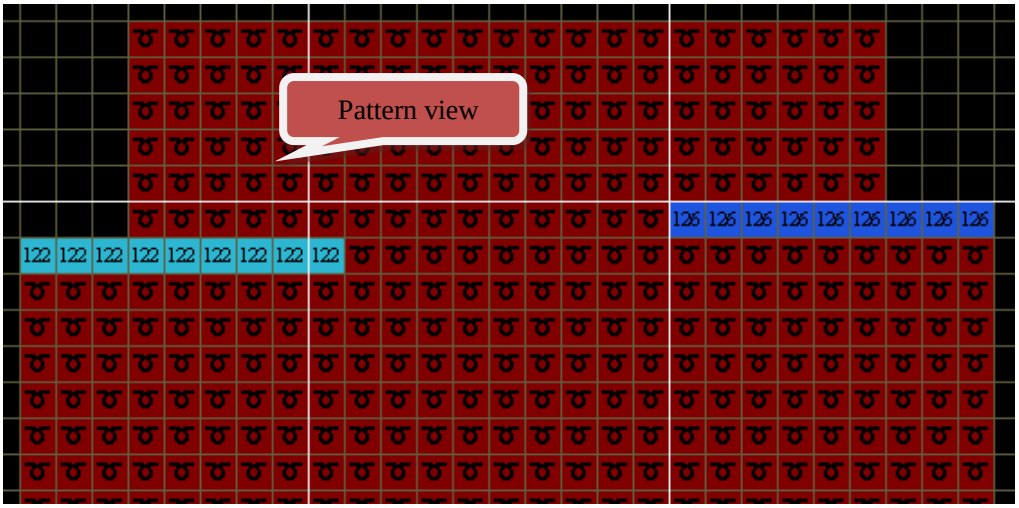
6.5 Package with Offset Needle

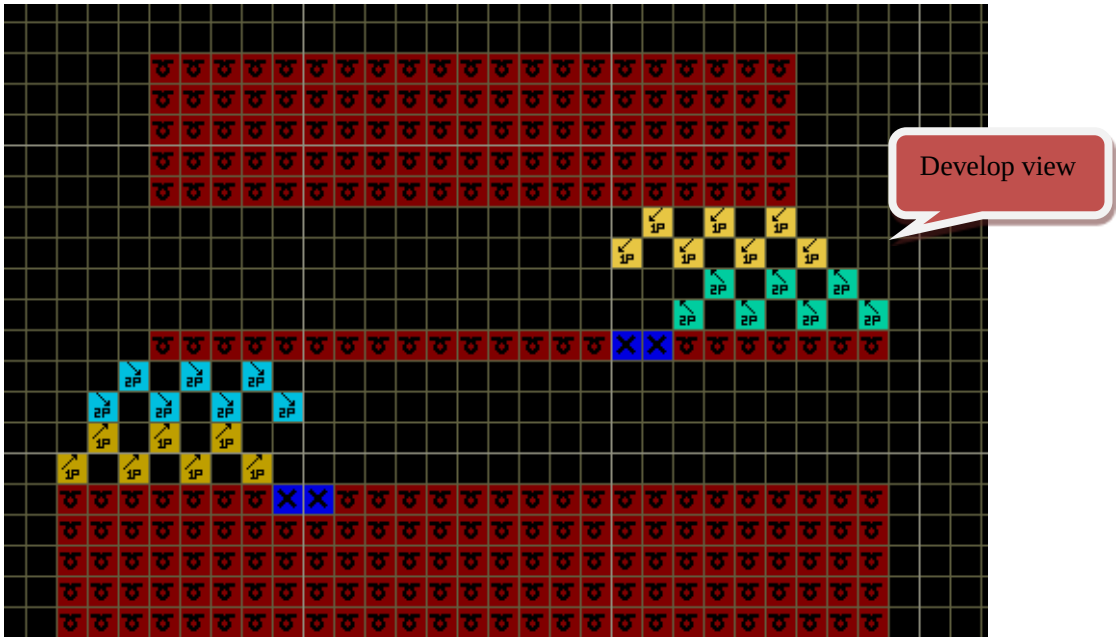
- Shift needles are usually applied in obvious binding by combining with cycle mark.
- It is setted in the sixth column on the L201, drawing pattern is more convenient and simple when use the Package with offset needles. But the offset needles need to be filled.


2P
2P
1P
1P
122122122122


Left obvious binding
2P
2P
1P
1P
122122122122


Right obvious binding
1P
1P
2P
2P
126126126126

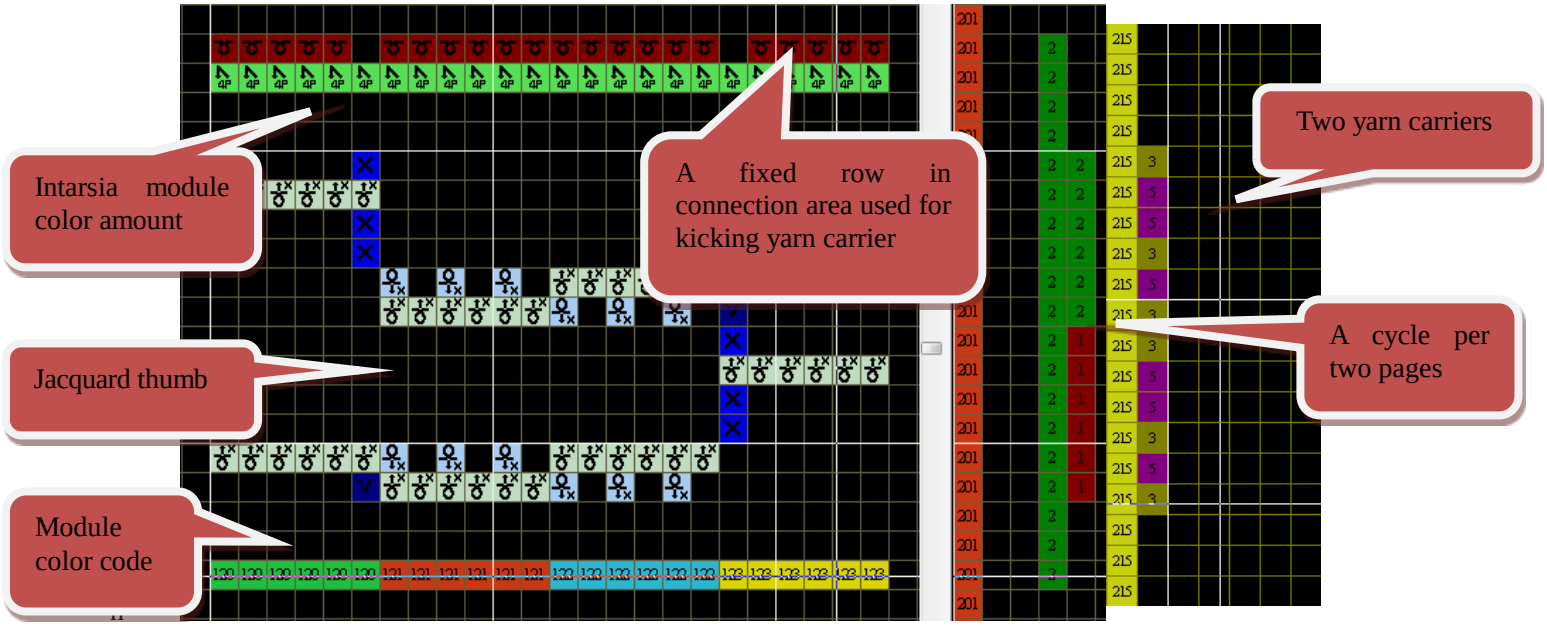


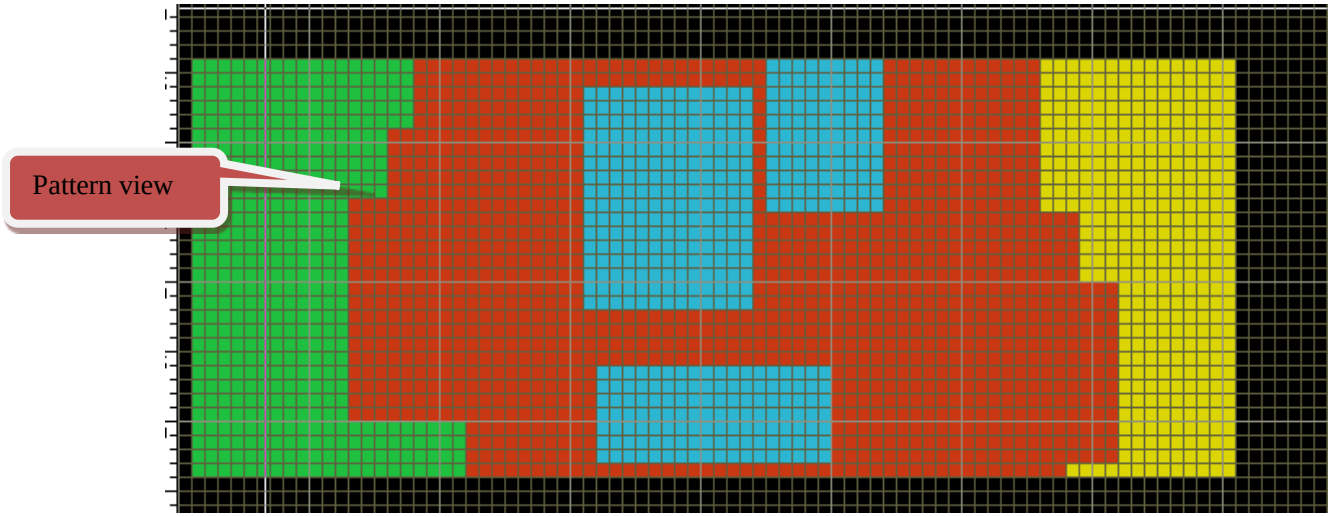


6.6 Local Jacquard Package

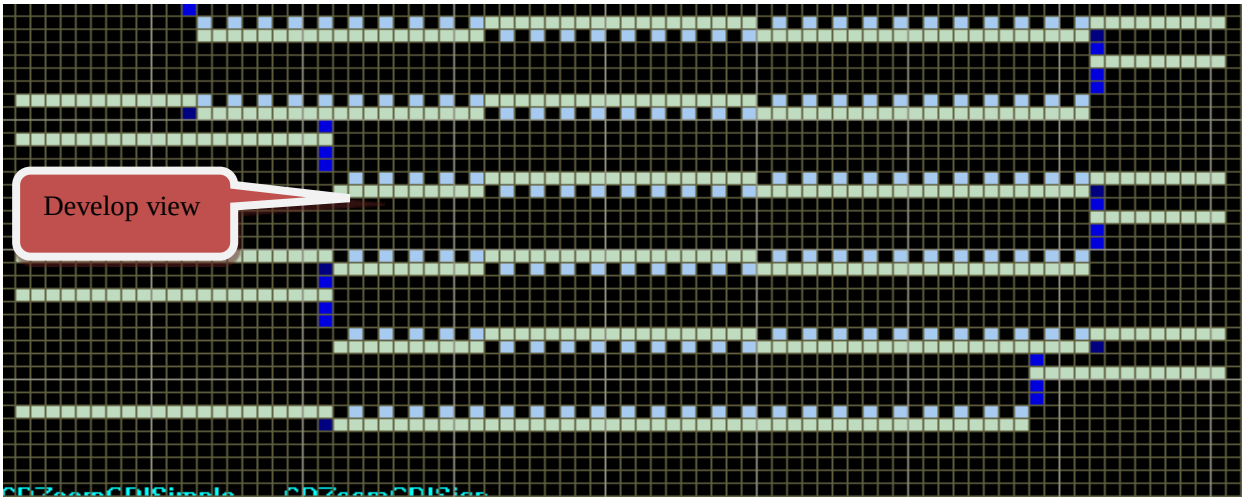
- Generally, the Package required that the up and down rows should be aligned is defined as Jacquard thumb.
- As for Jacquard Package, the color No. filled in registration option row is required to add 100, for example, if the Package has 4 color codes, the value should be 104.
- Each Package in Jacquard area should have equal color codes.
- Yarn carrier related to Jacquard should be kicked out of the Jacquard area.
- It is required to achieve a yarn carrier cycle in Package base pattern so as to ensure the yarn carrier and carriage return to the original positions after finishing the once Package base pattern structure.
- Pay attention to the kick yarn carrier between jersey area and Jacquard area.

- The front and back stitch in Jacquard part should follow the rules of Jacquard requirement.



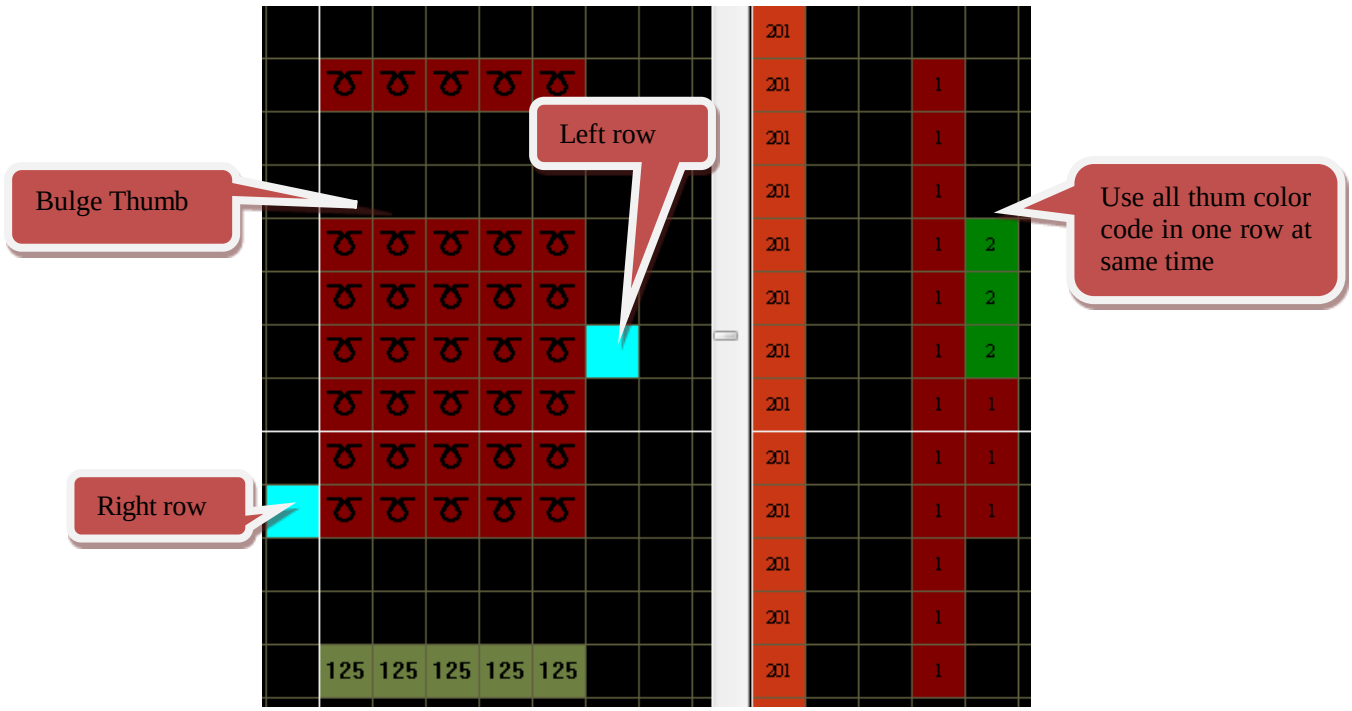


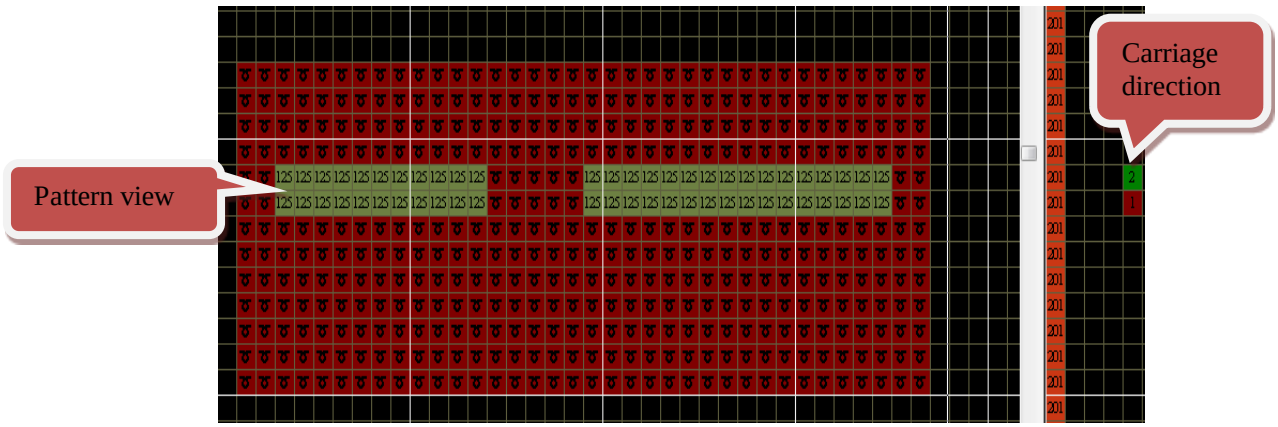
- The development pattern is shown as below.



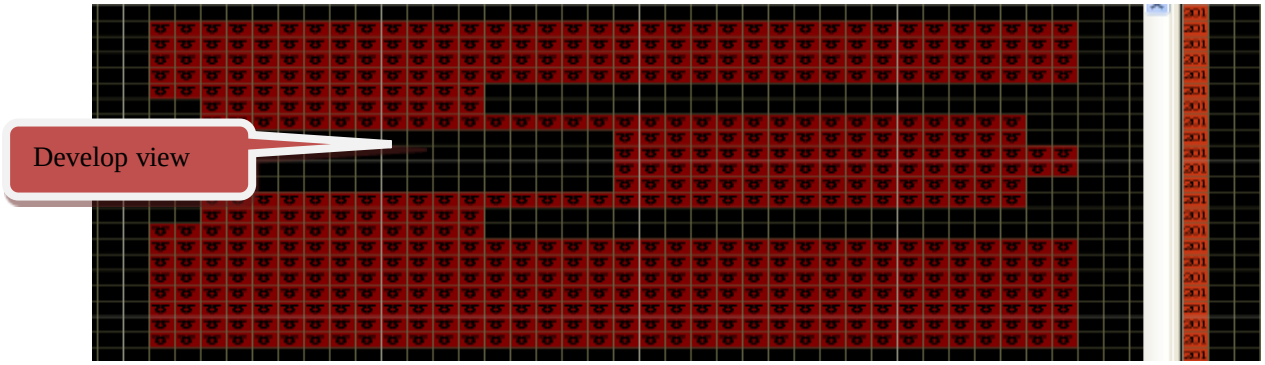
6.7 Bulge Package

- Add a No.254 color code outside the first row of the package base pattern structure for bulge Package.
- Adding at the left indicates the pattern will develop to right direction.
- Adding at the right indicates the pattern will develop to left direction.
- Usually, the first page is applied for the knit row at the right direction, while the second one for the left.
- It only supports the Package with one color code.



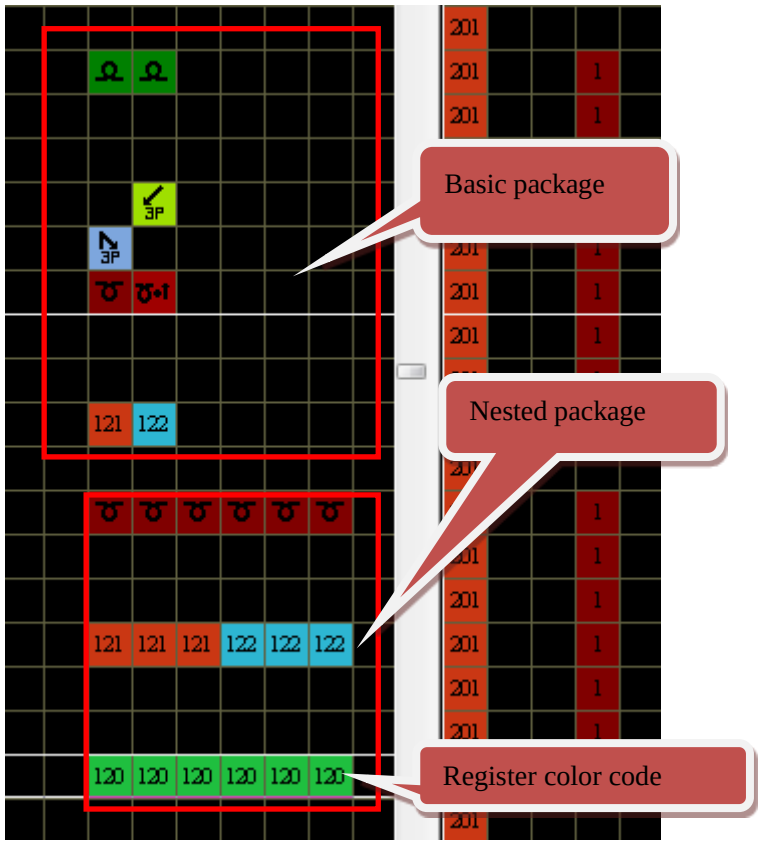


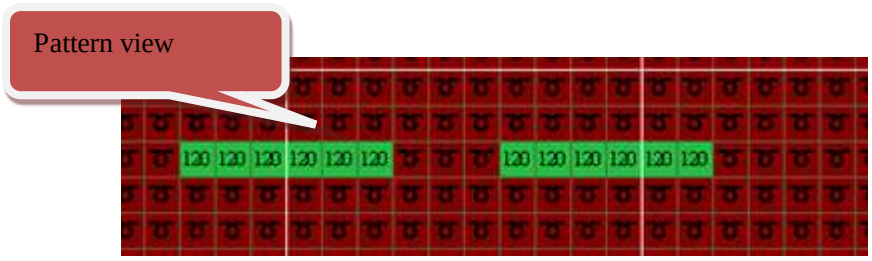
- Observe the real knit view through “Expand pattern”.



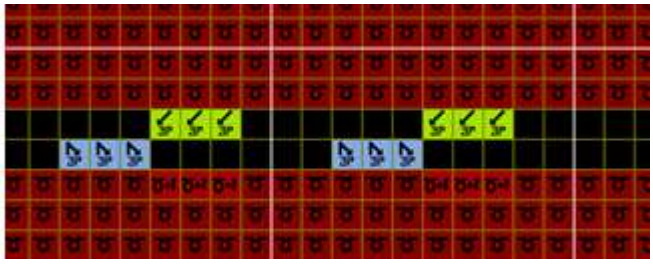
6.8 Package Nesting

- It is available to nested Package color code in Package.
- Nested times could not exceed 5 times.





➢ Development pattern is shown as below.



6.9 Automatic Pagination Function

➢ Pagination is introduced in the Blind Package (1). In case of no manual specifying pages, the system will recognize pages automatically. Automatic pagination can be divided into two parts:

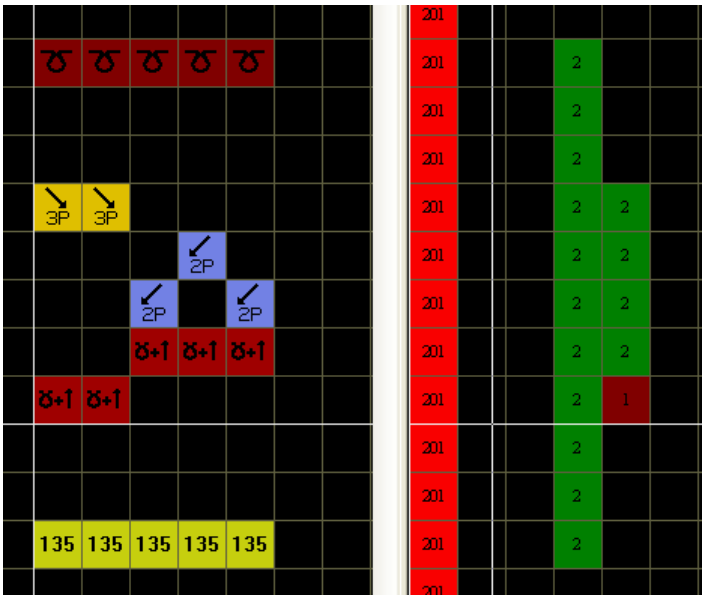
- One-row with multiple pages
- One package is interrupted by n rows, and the default pages of the packages are continuous.

6.9.1 One-row with multiple pages

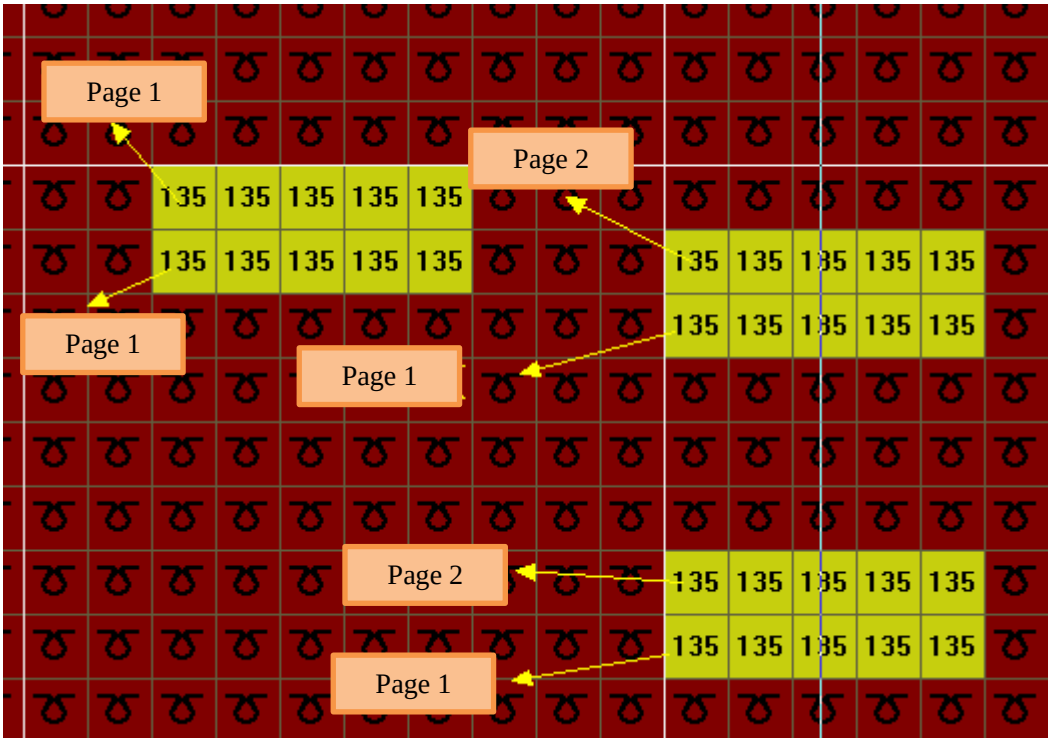
➢ In the default mode of the ordinary package, one row allows to set multiple pages. However, the jacquard package does not allow multiple pages within one row.

6.9.1.1 Ordinary Package

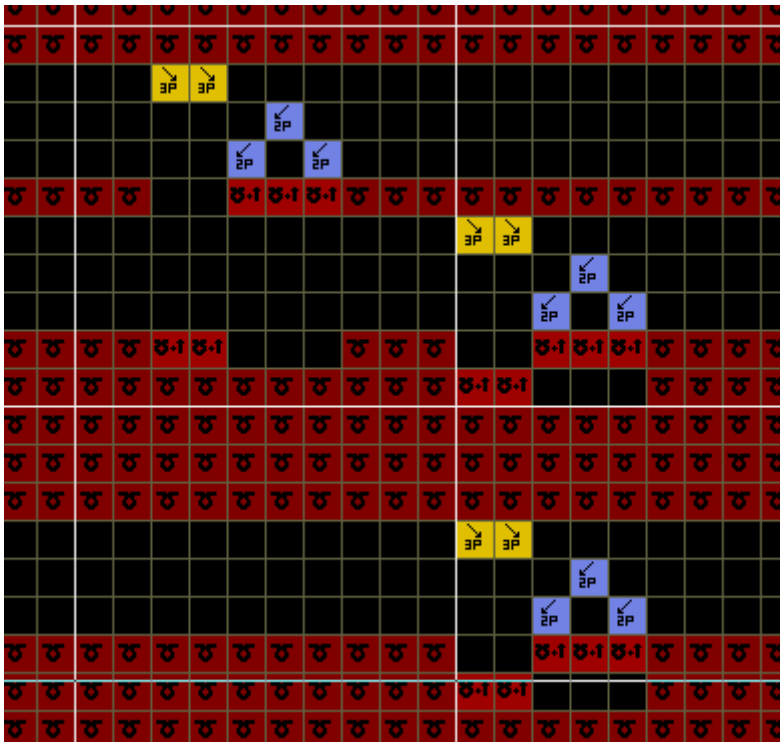
➢ Take the cable package as an example of the ordinary package, as shown below:



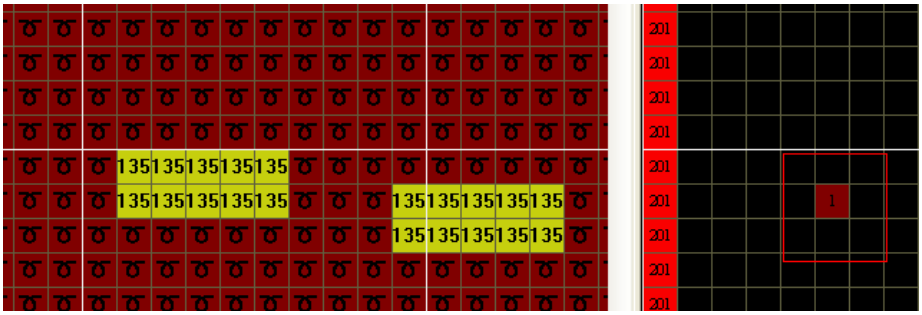
- Package base pattern



- Compressed pattern

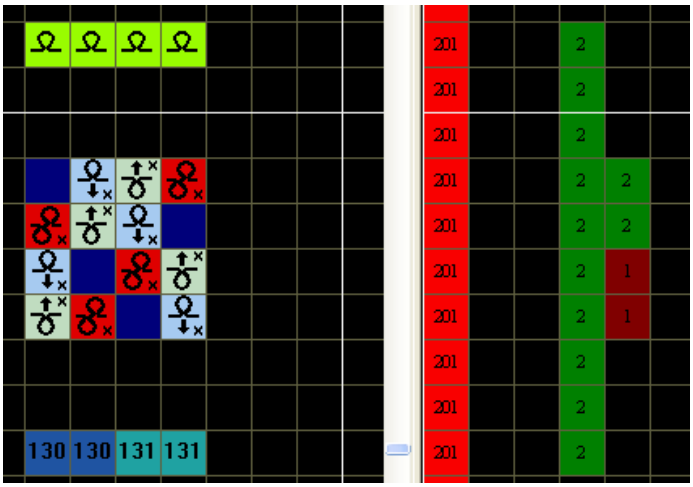


- If the ordinary package is within the pattern chart, fill 1 in the fifth line of the functional line 201. Then the corresponding row does not allow multiple pages, and there is only one page number, as shown below:



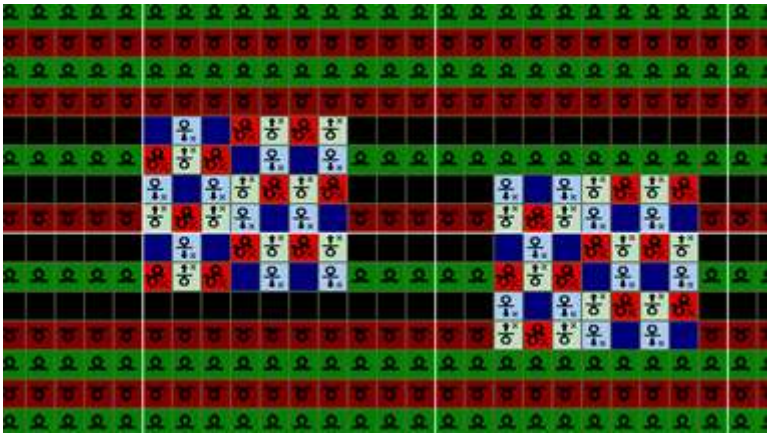
6.9.1.2 Jacquard Package

- The jacquard package includes the ordinary jacquard and the composite jacquard package.
- The jacquard package does not allow multiple pages of one row, that is, one row only corresponding to one page.
- Take the two-color deer jacquard as an example.



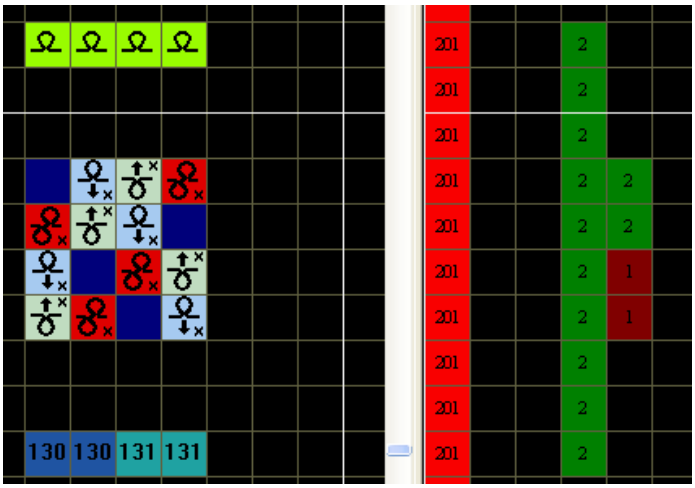
- Package base pattern

- Compressed pattern

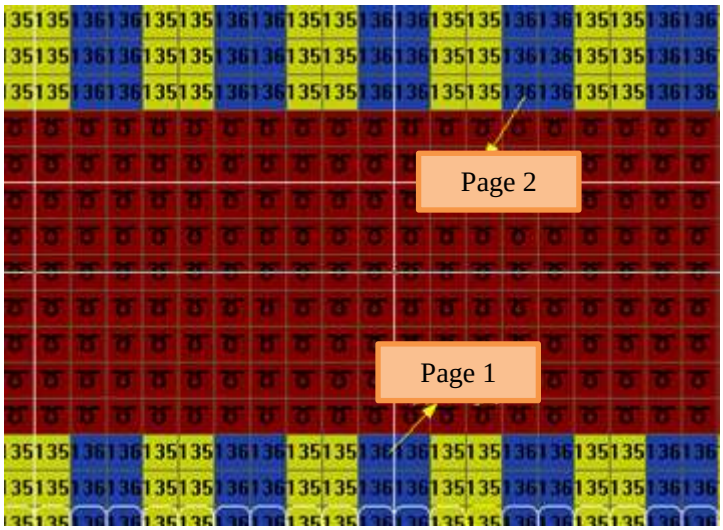


6.9.2 One package is interrupted by n rows:

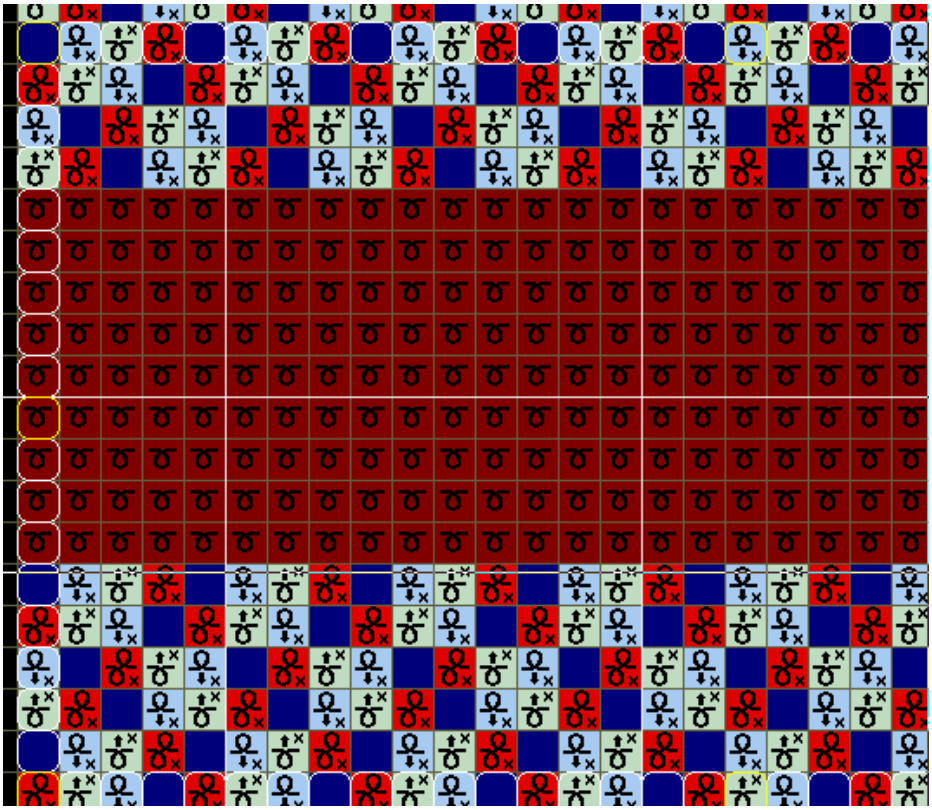
- Take the composite jacquard formed by the two-color deer jacquard as an example.



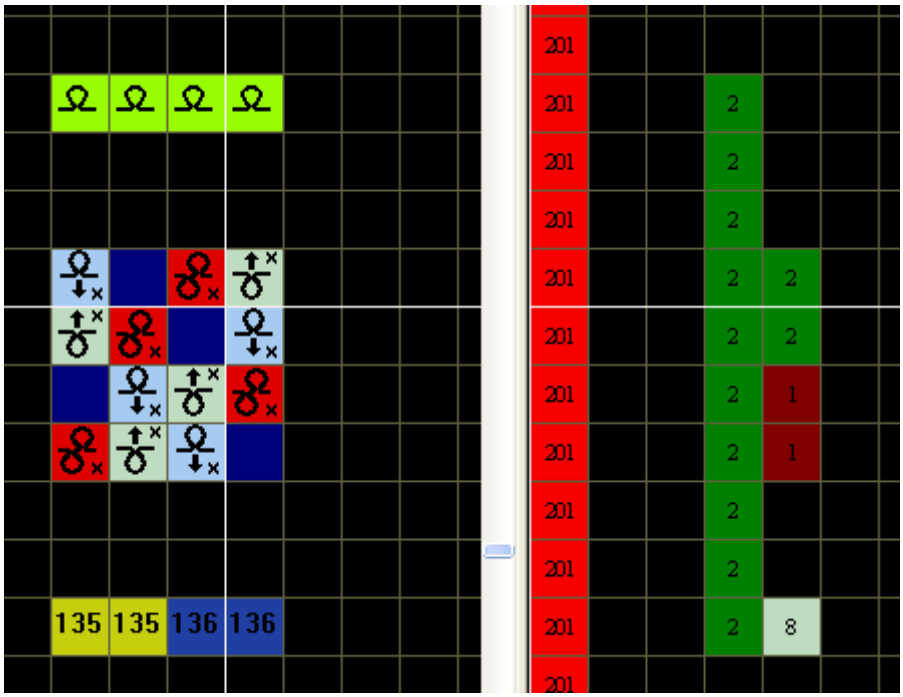
- Package base pattern



- After expansion:

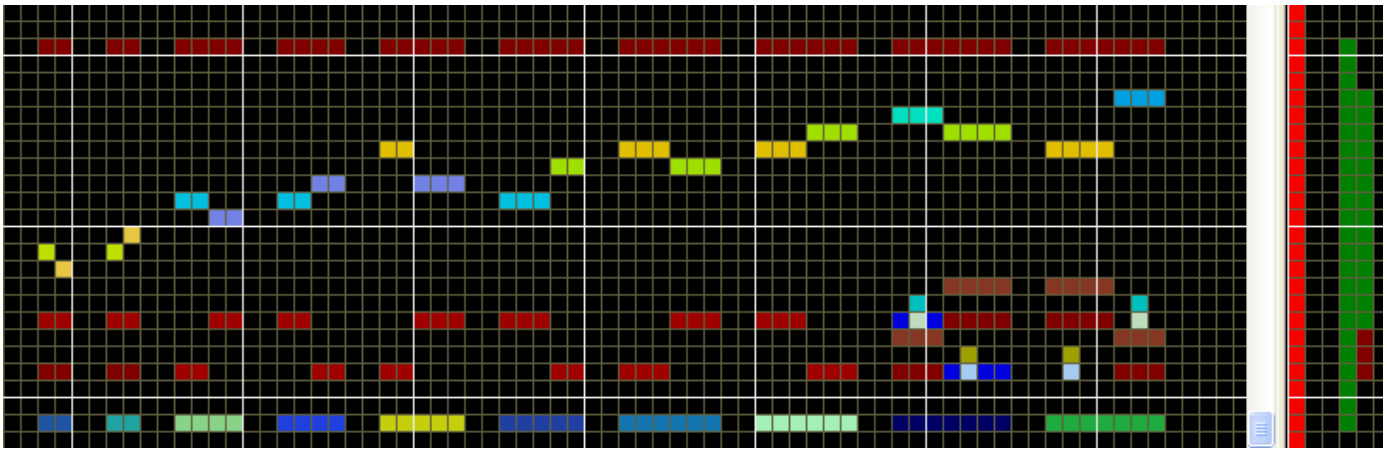


- When No. n is filled in the first row of the Package base pattern on the fourth line of the functional line 201, the number of spacing rows is more than n, and the pages of packages are not continuous, as shown below:



6.10 Blank Row squeezing (Blank Row Deletion)

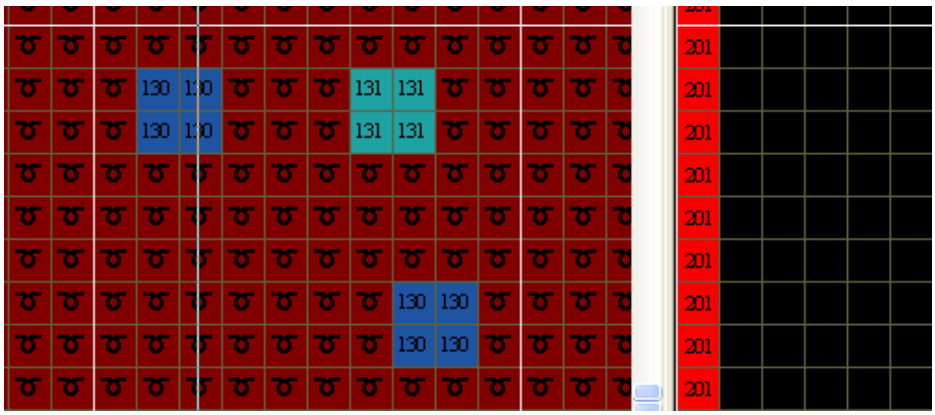
➢ If there is an empty row with no action in the package, the system can squeeze the empty row automatically. Therefore, it is recommended to make packages in parallel, which will not affect the independent use of packages. Moreover, in some conditions it could improve efficiency by action rows combined.



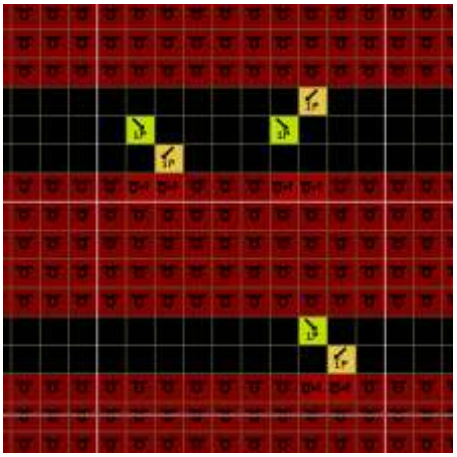
➢ The above figure shows a combined cable package.

- When used independently, the blank rows will be squeezed.
- When used in a combined manner, the turning action will be optimized according to the individual array.

➢ The pattern chart is as follows:



➢ Results after developed: develop Package base pattern structure of color No. 130 and 131, and delete the blank rows.

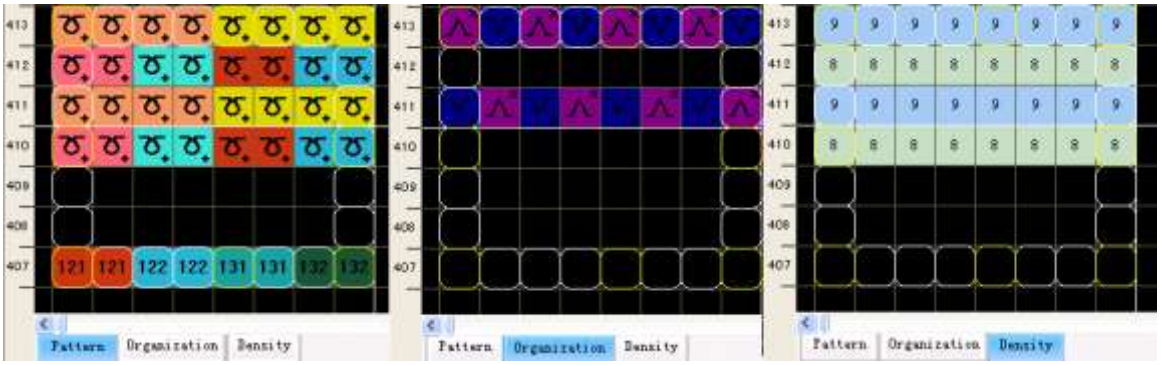


➢ It is recommended to draw similar packages in parallel, with the spacing of 1-2 stitches respectively to facilitate distinguishing.

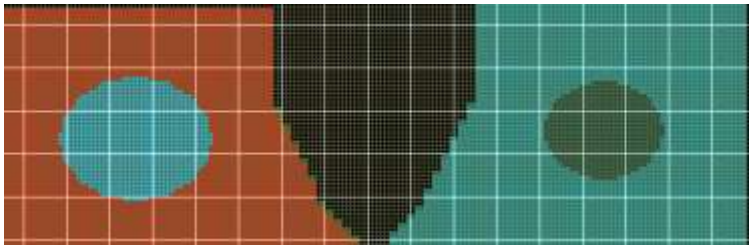
6.11 Multi-layer Package

➢ One package may include the information of multiple layers.

➢ Therefore, the “one-row V-neck jacquard” can be used for automatic optimization to improve the knitting efficiency.



➢ When the color codes of packages are applied, it is only required to draw the color codes of packages in the pattern chart.

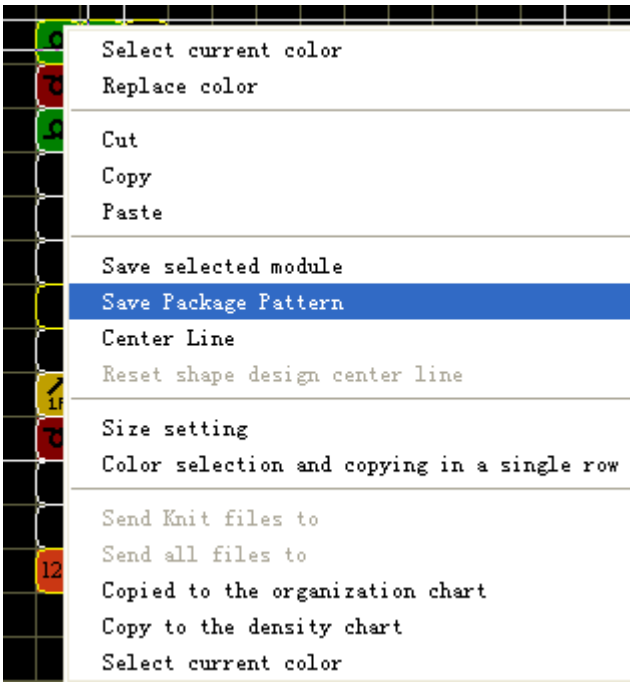


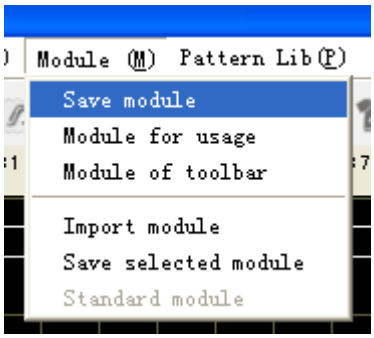
➢ After developed, the layers of the pattern chart, structure chart and density chart will be developed correspondingly according to the packages.

➢ Select the structure chart during compilation.

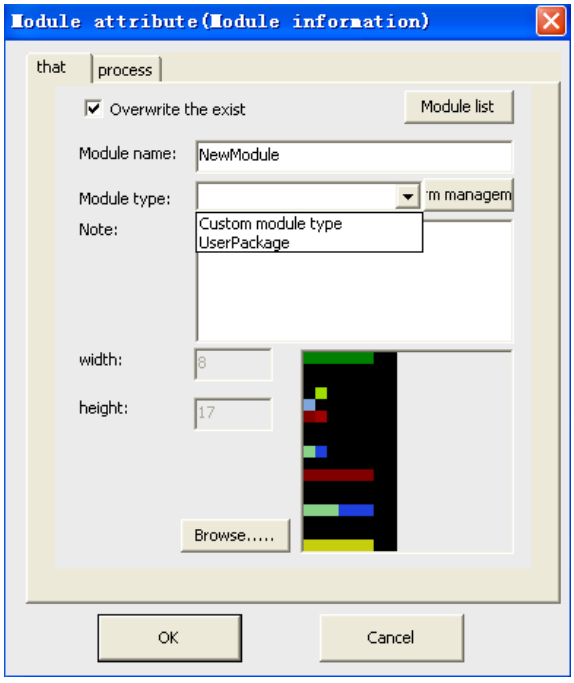
6.12 Package Saving

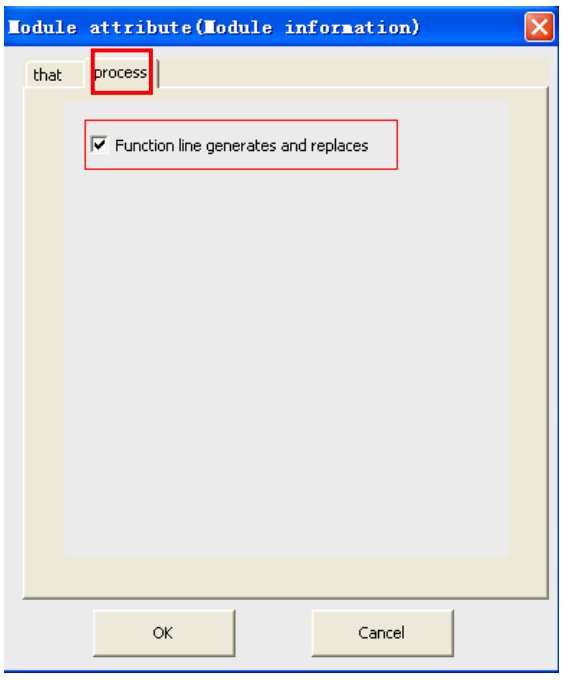
➢ Circle the completed package. Save package through “Save package pattern” in right-click menu. Or select “Template →Save template” in Menu bar.





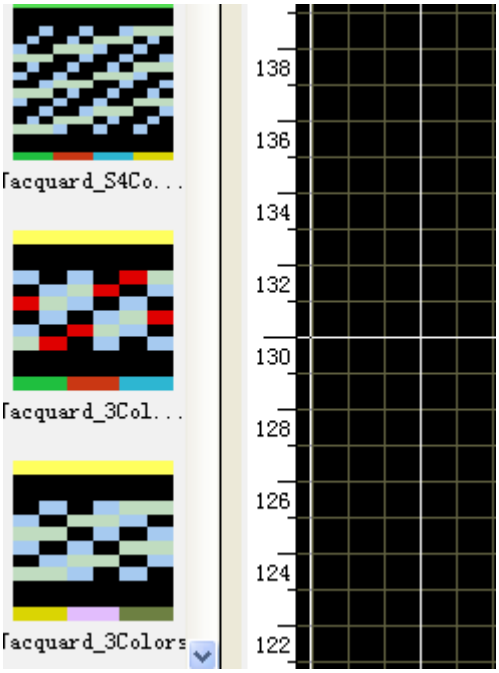
➢ Import the name of the package pattern and select the type. Notice to check “Include Option: function line” during saving.





➢ Click “OK” and complete preservation.

➢ You can use the saved package by call it



6.13 Package Compilation

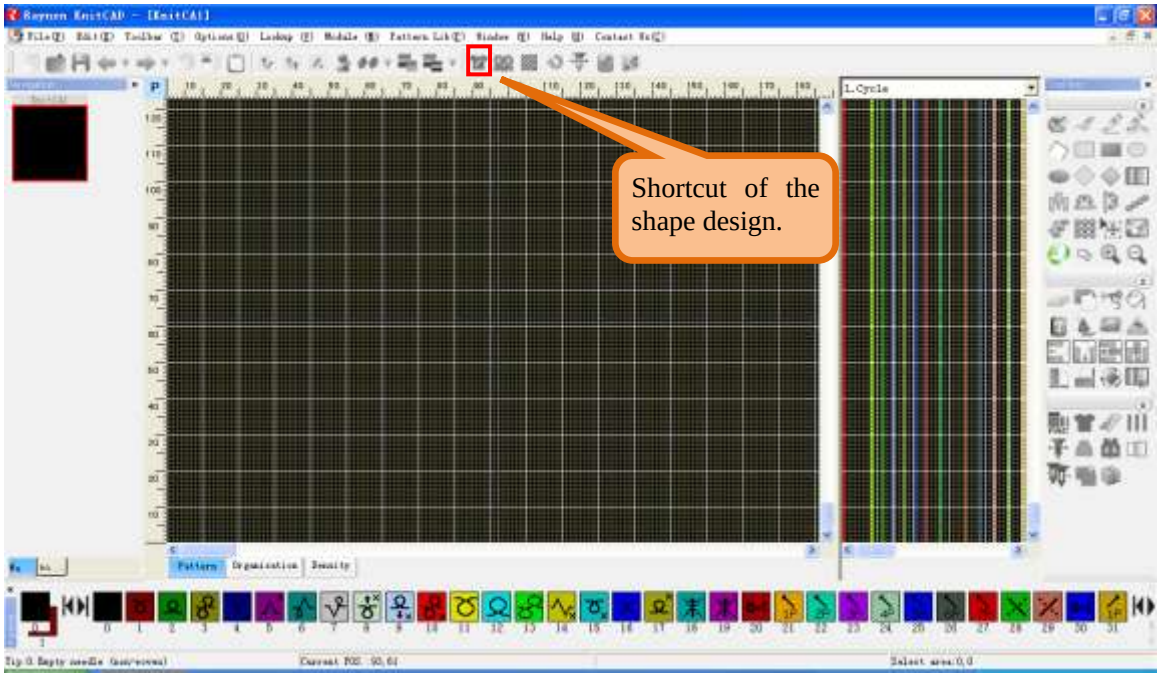
- The pattern which includes package can be compiled after developing or before developed.
- The rows after developing is too more, advise that compile before developing for protecting pattern data.

7 Shape design

- It is an important function added for the formation of knitting specification chart for the convenience of users. Users may input the specification data in row with the specification chart and the system will generate pattern view of garment pieces automatically. Meanwhile, the software will automatically provide basic function line setting for direct compilation.

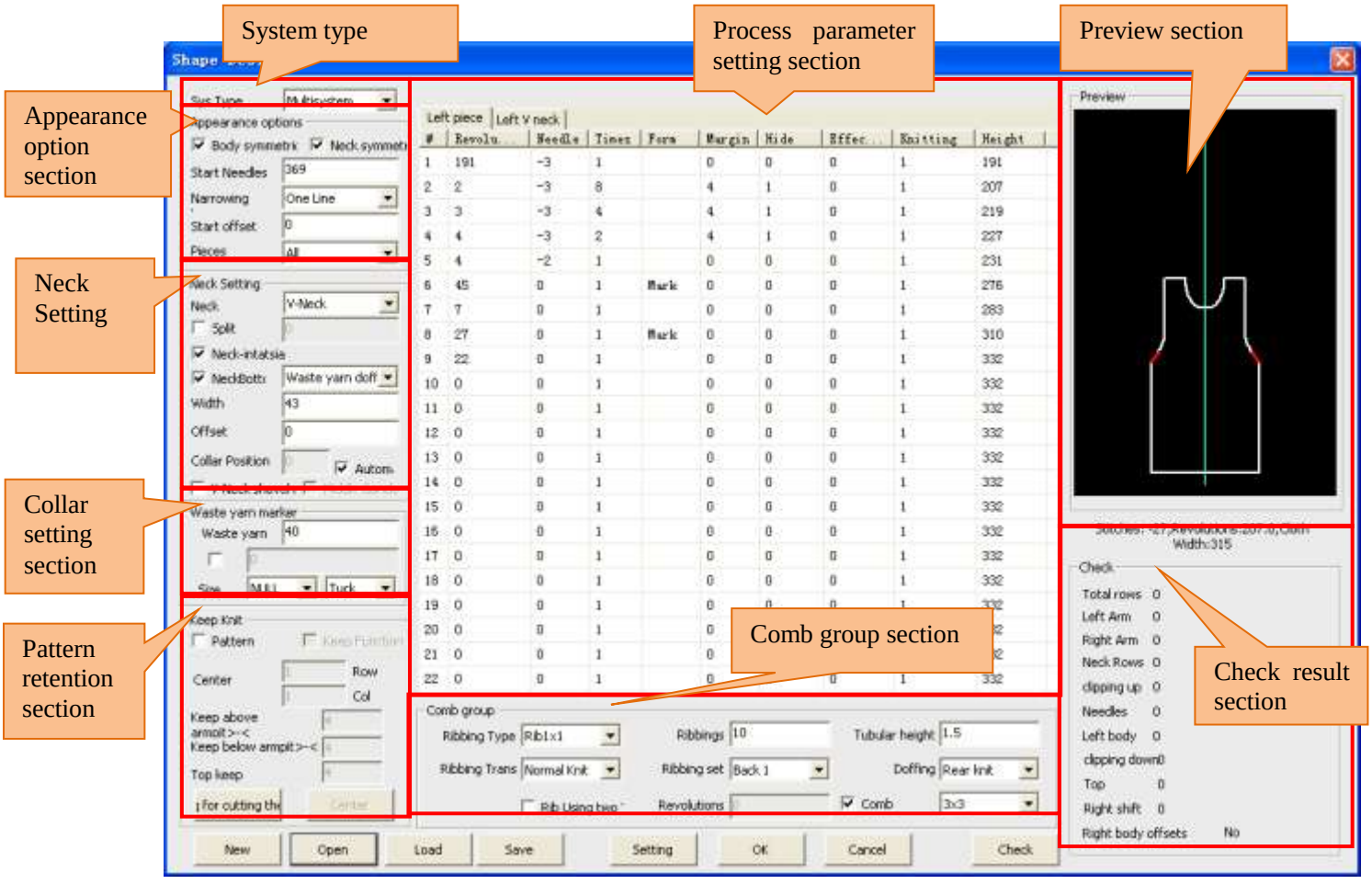
7.1 Access

- Creat a new pattern, click the Shape menu icon  . The shortcut key is “F4”.



7.2 Knitting Specification chart

- Click “Shape” and the Specification chart input table will pop up. Or use the “F4” key.

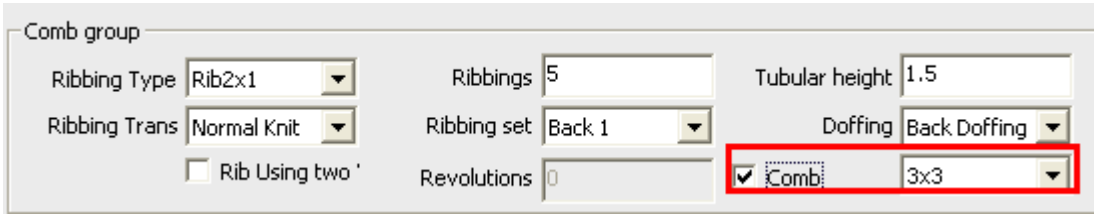


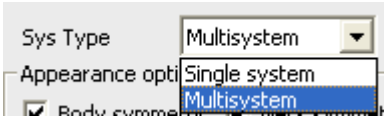
7.3 Knitting specification Parameters Descriptions

7.3.1 Machine type

➢ Types of machine include take down comb or non- take down comb type. Click "System" to select single system or multiple systems.

- If uses take down comb, the function lines for set up yarn carrier taking in and griper will be generated.
- Set single-port lock function line within yarn carrier (1) in single system.
- Take down comb machine waste yarns adopt the way of cast-off while the non-take down comb by knitting.
- Set-up setting will be displaced automatically after machine type selection.

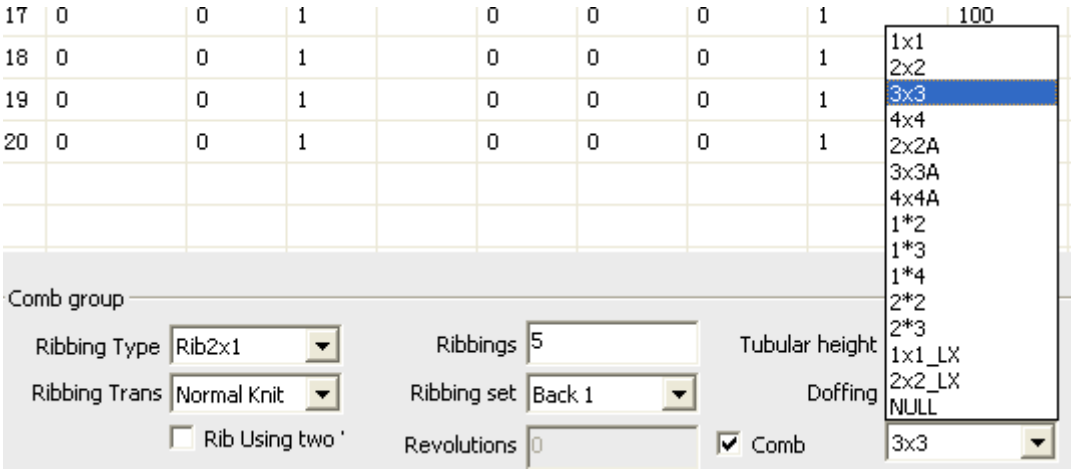




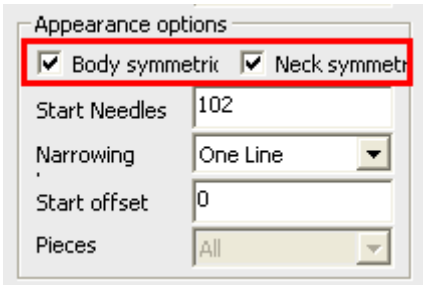
7.3.2 Set-up mode

➢ There are four type set-up mode for machine with take down comb. They are 1x1,2x2，3x3 and 4x4.

➢ In addition, the type turns arrangement, tubular height, trans and cast-off type of the set-up structure can be set.

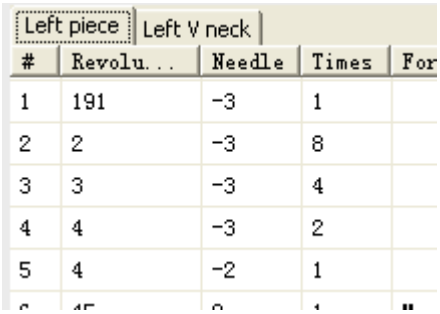


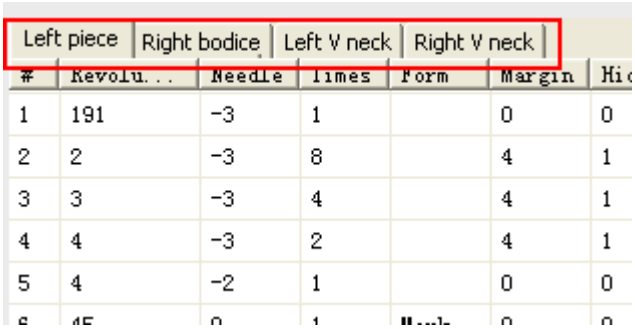
7.3.3 Symmetry of body and neck



➢ The body and neck are symmetrical as default. As for any asymmetries, un-checking the check box to enable the right body and neck data inputting list.

- It is required to fill in the right part of specification data in case of asymmetry.





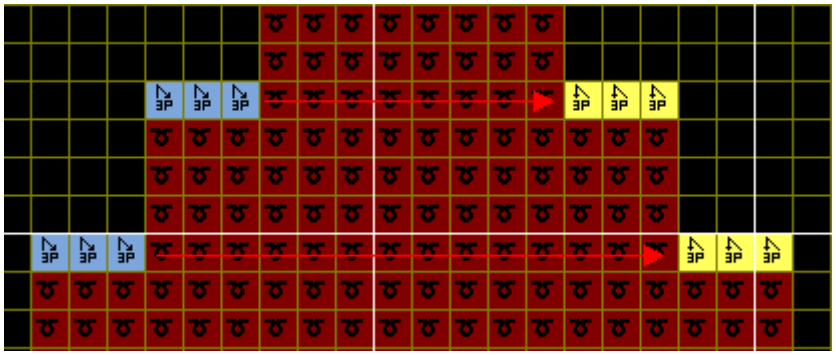
7.3.4 Start width

➢ Start width is the amount of needles at the bottom row of rib, indicating the initial width of the whole garment piece.

7.3.5 Narrowing mode

➢ Narrowing mode can be set in the appearance option.

➢ Same row status: while narrowing, the left and right narrowing are set in the same row.

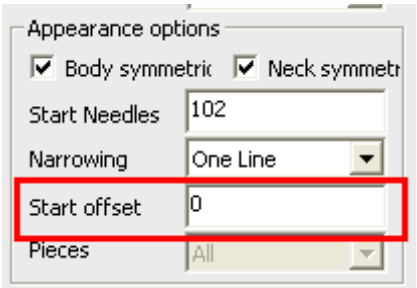


➢ Staggered row status: while narrowing, the right narrowing is set in a staggered row.

- In addition to these basic settings, as well as a more detailed set introduced，setting—>narrowing needle mode
- There are two types of narrowing , normal and ladder narrowing (setting—>narrowing needle mode).
- There are other parameters of narrowing and widening (setting—>narrowing needle mode).

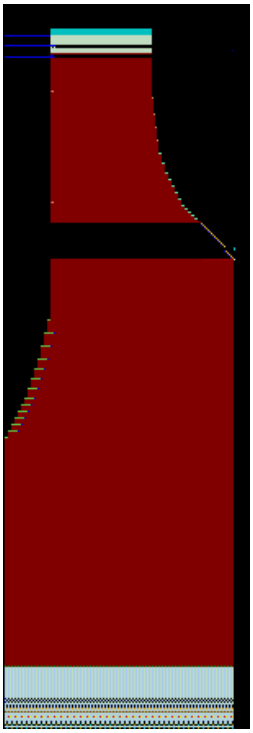
7.3.6 Start needle offset

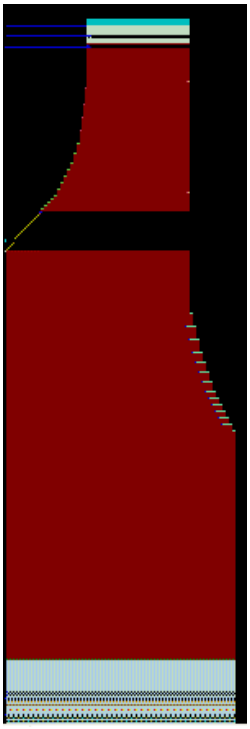
- The offset start needles of formed craft should be applied in the situations that the narrowing of left or right single piece cross the center lines.
  - When the center line is out of the pattern, it can be move into the pattern by setting the offset.
  - The specific offset value may be determined by checking the retained needles of the left and right arms. If the value is negative, shift to the left; if the value is positive, shift to the right.
- The parameter is in the appearance options.



7.3.7 Single piece

- Form the left and right single piece with V neck or U necks.
- Left piece and right piece are shown in the following picture separately.

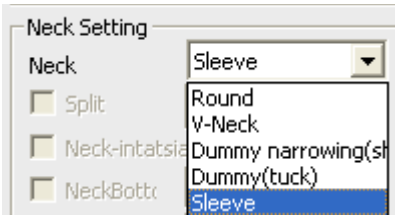




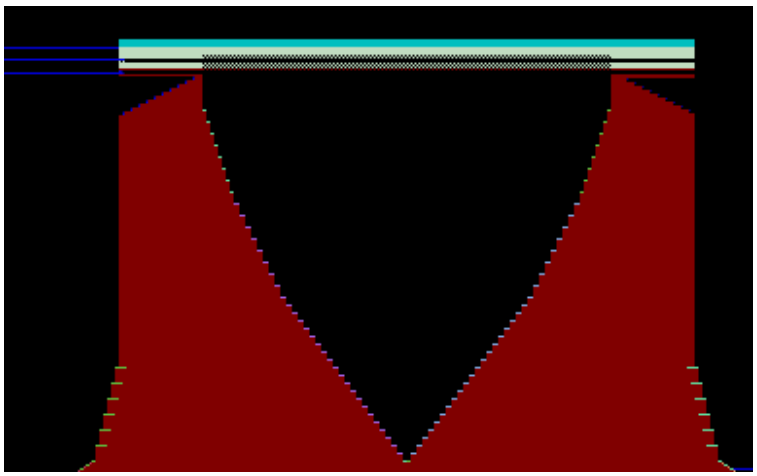
➢ When the neck bottom width is more than two needles it will be processed as binding.

7.3.8 Neck

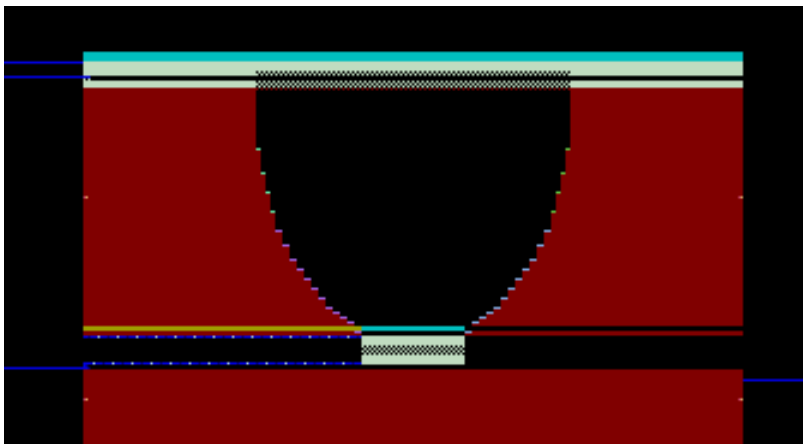
➢ Collars include: V-neck, tuck for cut, transfer for cut, U neck and sleeve.



- Blank refers to sleeve.
- V-neck and U neck are of the same processing.
  - ☞ V-neck: V-neck forming is shown in the following picture:

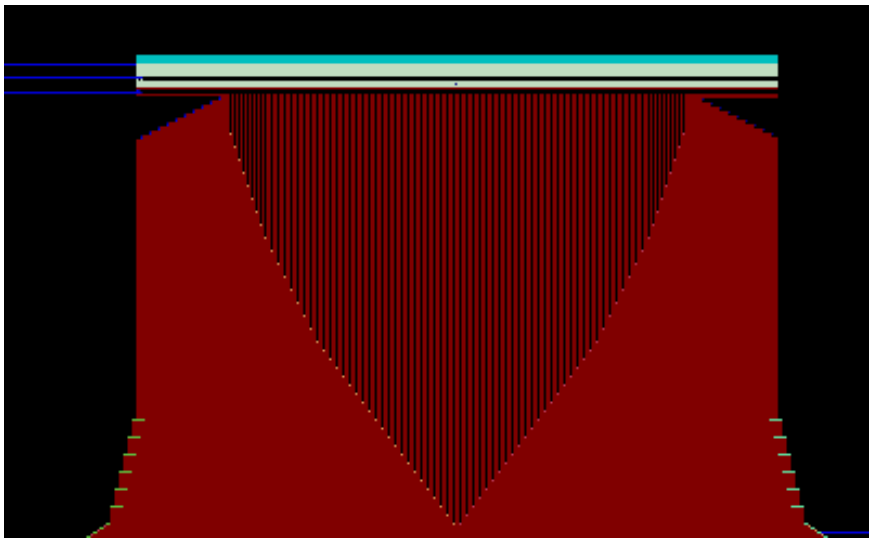


☞ U neck: ditto for V-neck.

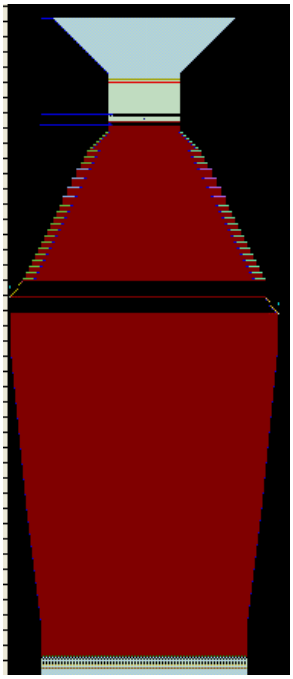


☞ tuck for cut: the forming is shown in the following picture:

☞ Transfer for cut: the forming is shown in the following picture:



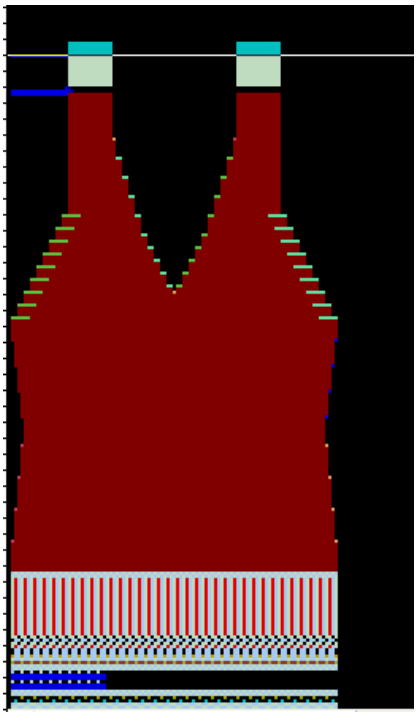
☞ Sleeve: the forming is shown as picture:



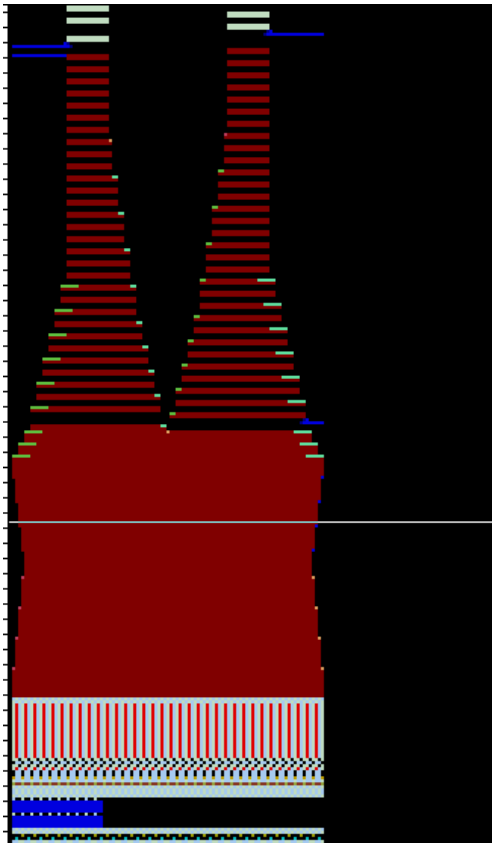
7.3.9 V-neck row-split and V-neck Intarsia

➢ Both single system and dual system would judge the direction of yarn carrier after the row-split of V-neck. Views of no row-split and row-split of V-neck as well as V-neck Intarsia show as below.

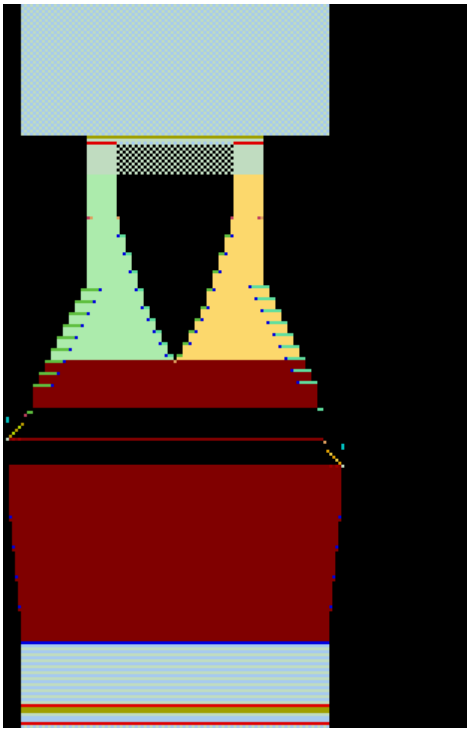
➢ If neither row-split nor Intarsia is adopted for the V-neck, generated pattern should be processed manually.



Neither row-split nor Intarsia for V-neck



V-neck row-split



V-neck Intarsia

7.3.10 Number of space rows for V-neck split

- The number of rows can be specified for row-split V-neck and the default value is 2 rows.

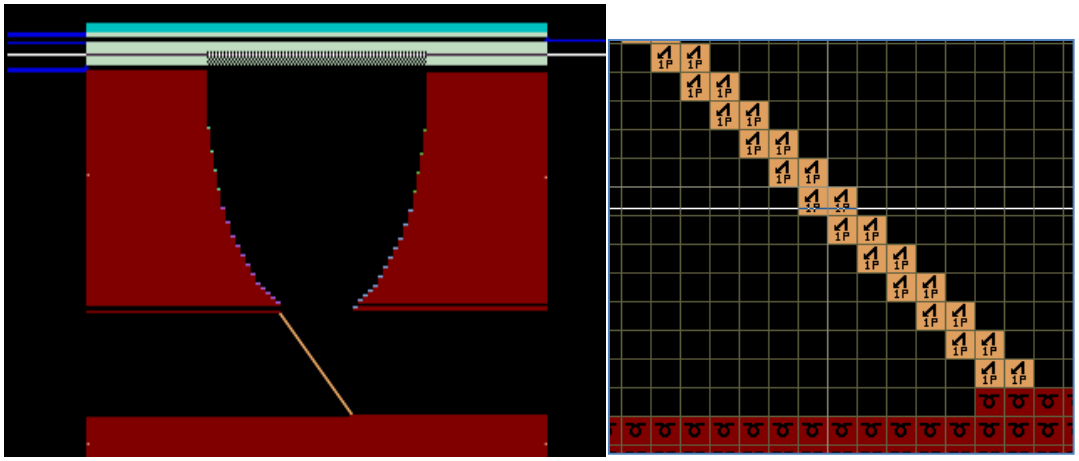
7.3.11 Row-split of U neck bottom

- When middle needles are more than three, processing for U neck bottom is required. Details refer to the "U neck mode" chapter.

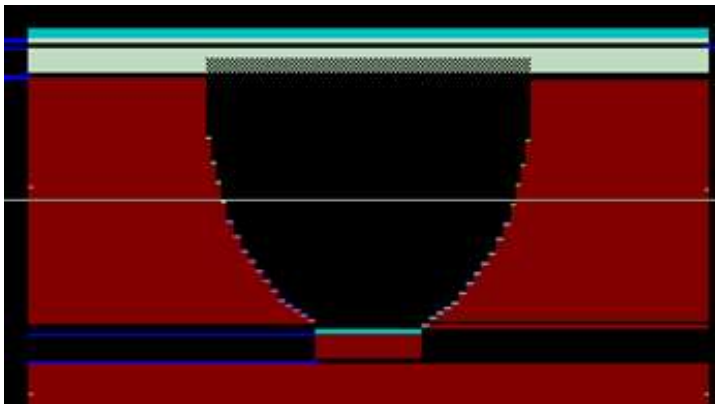
7.3.12 U neck mode

- U neck mode: Set U neck bottom processing.

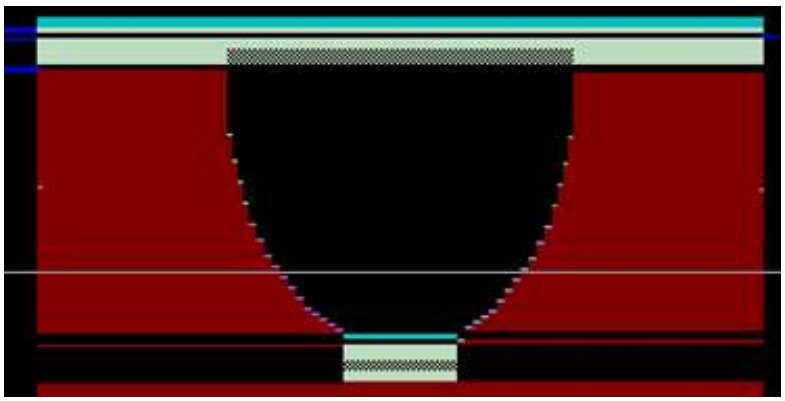
- Knitting



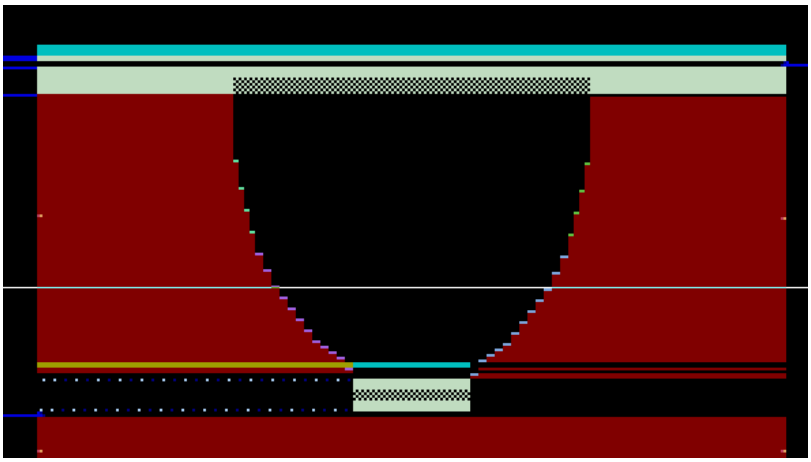
- Main yarn cast off 1



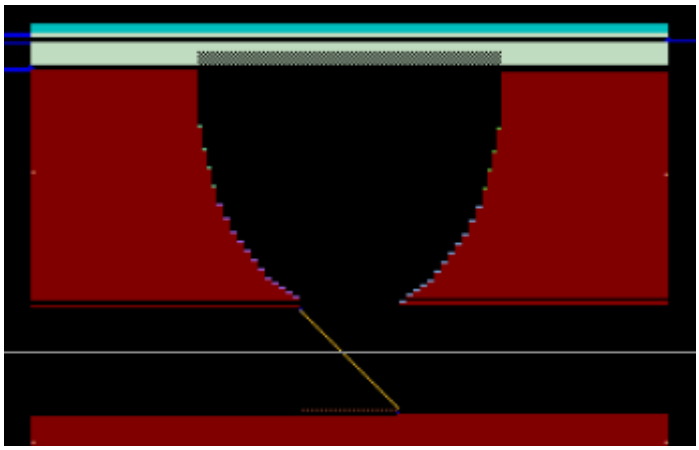
- Main yarn cast off 1

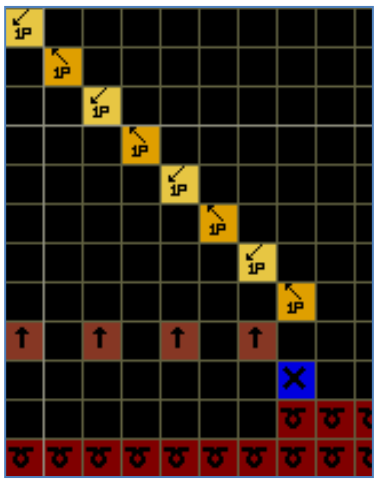


- Waste yarn cast off

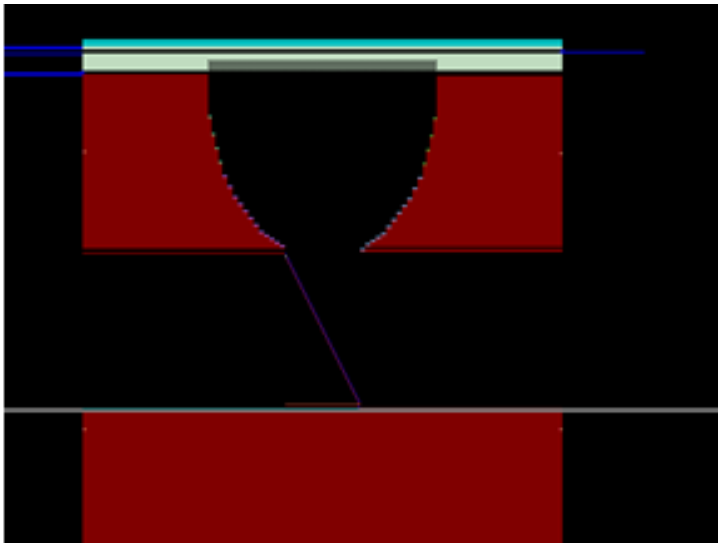


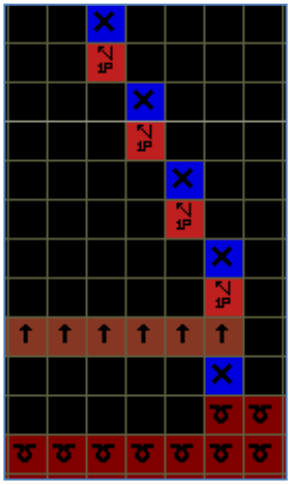
- Single needle (1)



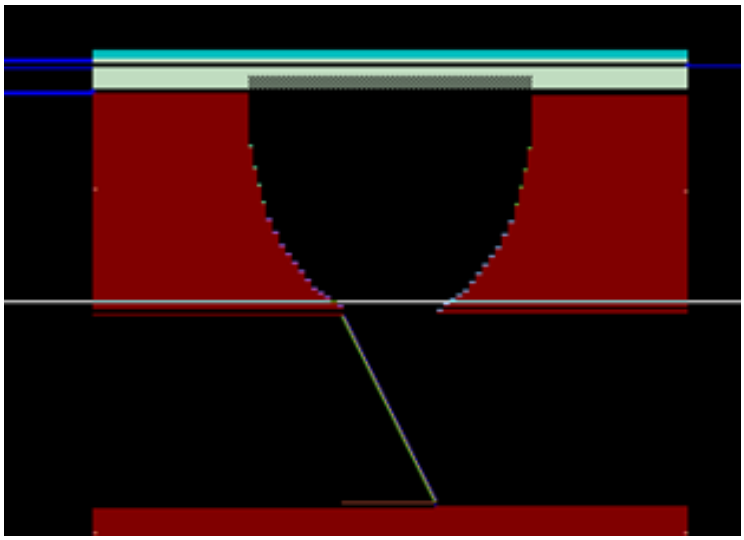


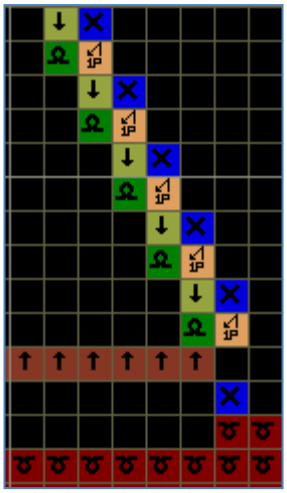
- Single needle (2)



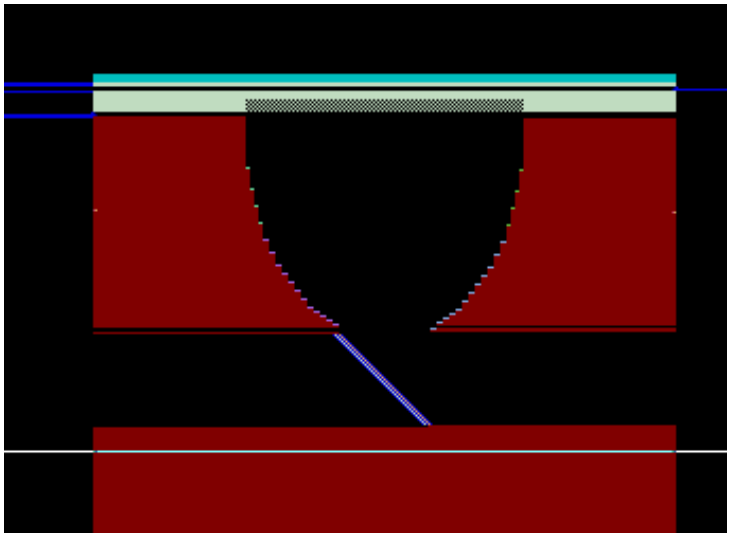


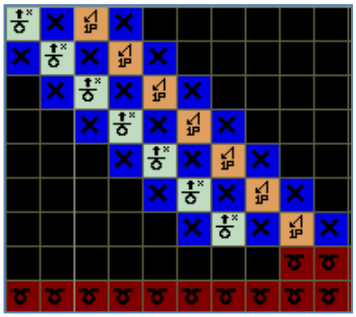
- Double needles 2(2)



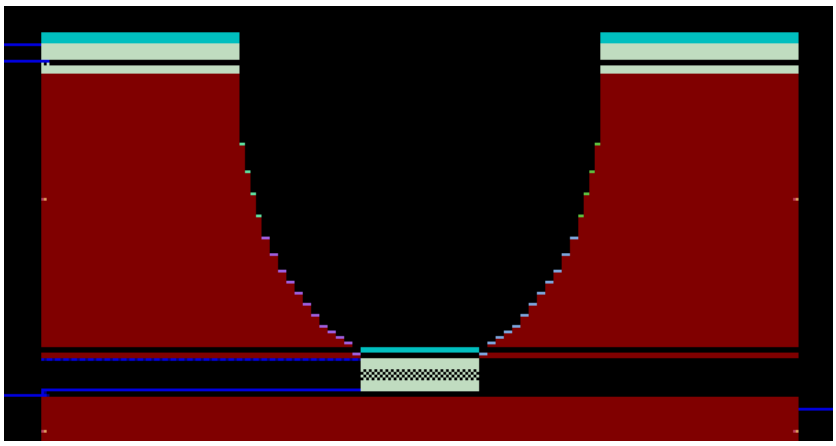


- Space needles



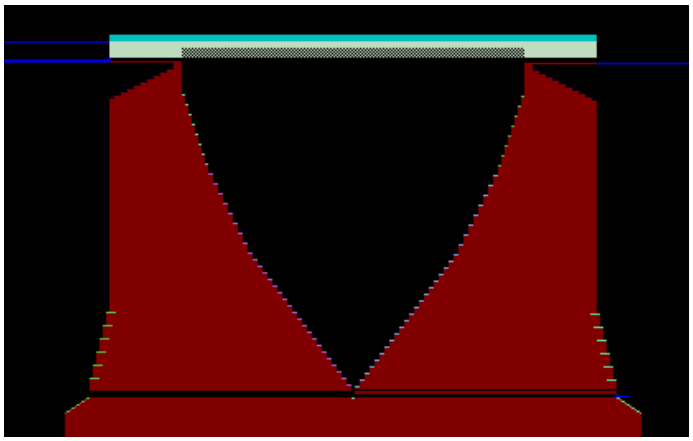


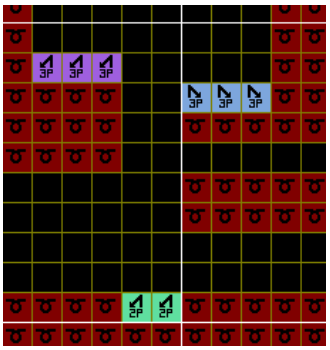
- Waste yarn cast off _LX



7.3.13 The bottom width of the neck

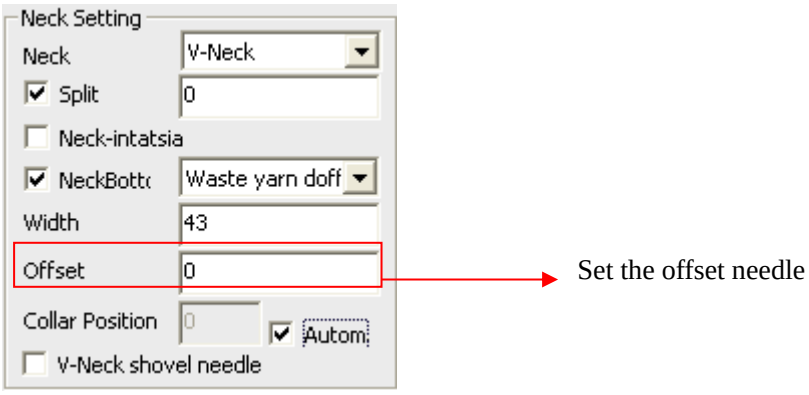
- The needles need to be reserved in the body middle. It is used to form neck.
- The example is 2 needles.

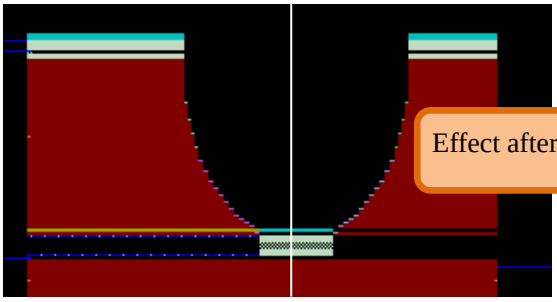




7.3.14 Offset of the neck

- The neck is default at the center，If the asymmetry，Please set in this parameter。Positive shift to the right while negative shift to the left, unit is one needle.
- Neck offset needles must no more than neck bottom width, if not will be error.

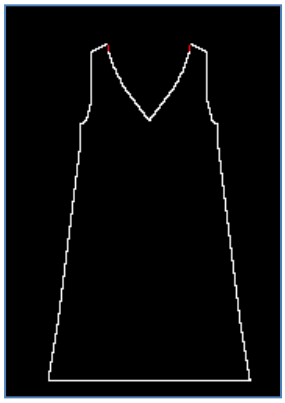




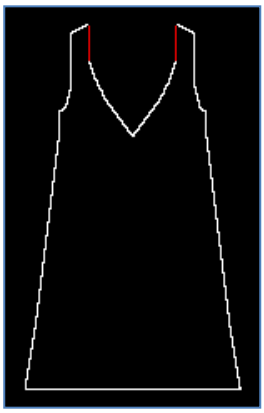
- Negative offset to the left, right offset positive.
- Offset needles must less than the half of center needles.

7.3.15 The neck starting position of the clothing

➢ If this automatic is checked，the neck height is equal to top height minus the neck height, else, the neck height is zero.

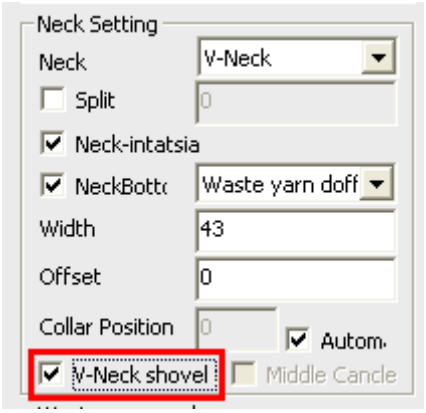


Outline of the auto open neck:

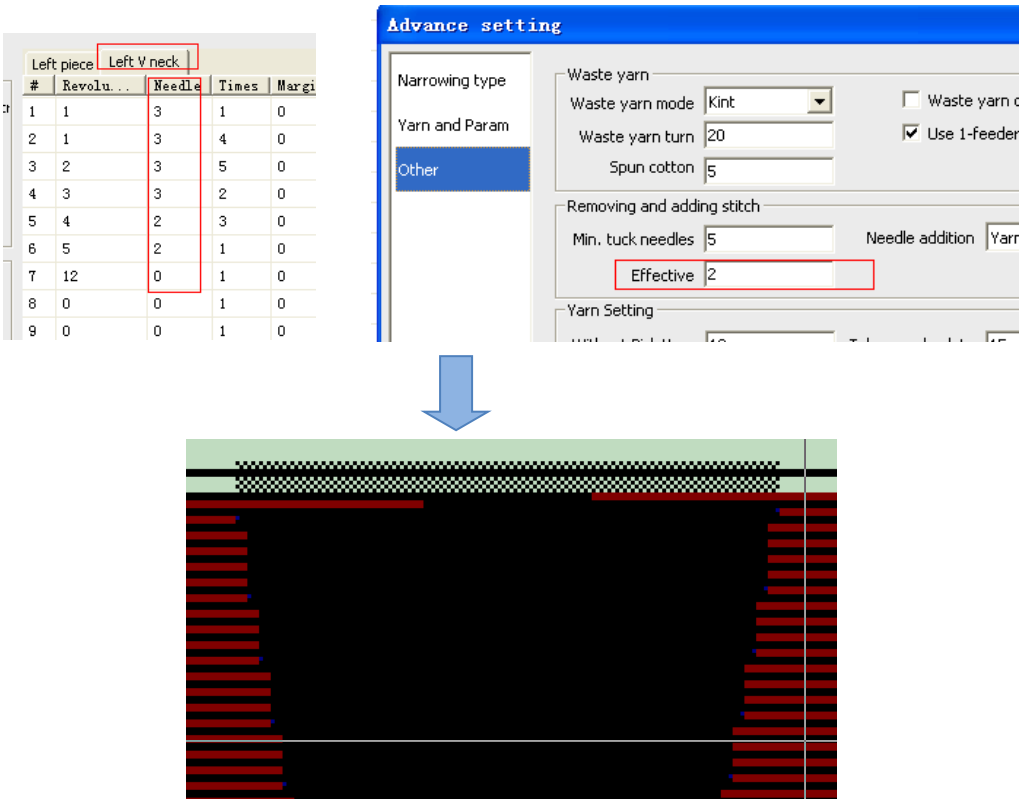


Open collar as per the neck position

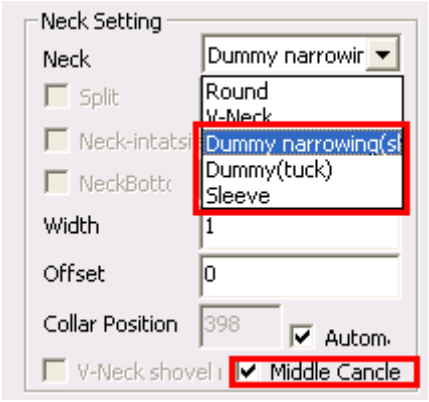
7.3.16 V-neck returning knitting



➢ If the "V-neck Shovel Pin" is checked, when the narrowing needles of the neck are more than the set effective needles, the neck narrowing will automatically change into returning knitting, as shown below:

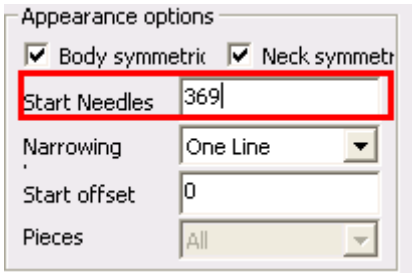


7.3.17 Middle cancel



➢ "Middle cancle" effective when dummy (narrowing) , dummy(tuck) and sleeve.

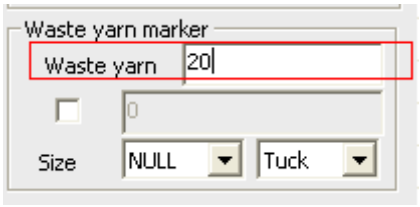
➢ Only when the start width is odd the cancel needle will be generated.



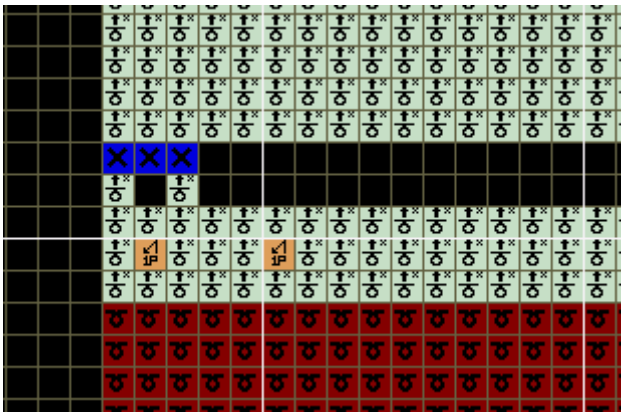
7.3.18 Waste Yarn Mark

➢ If the "Waste Yarn Mark" is selected, waste yarns can be marked according to the settings, as shown below:

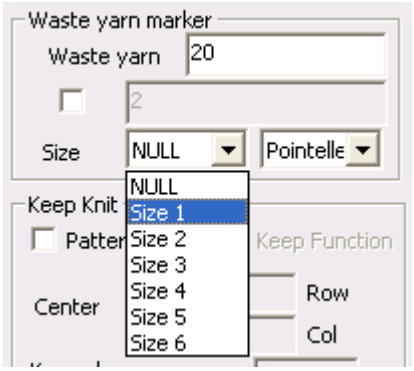
➢ The turns of waste yarns are associated with the Setting/Other/turns of Waste Yarn.

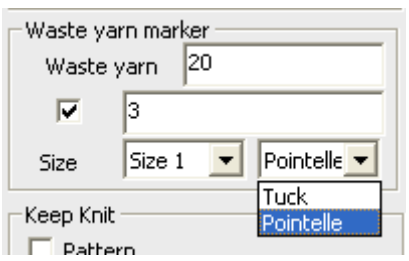


➢ The following pattern can be formed:



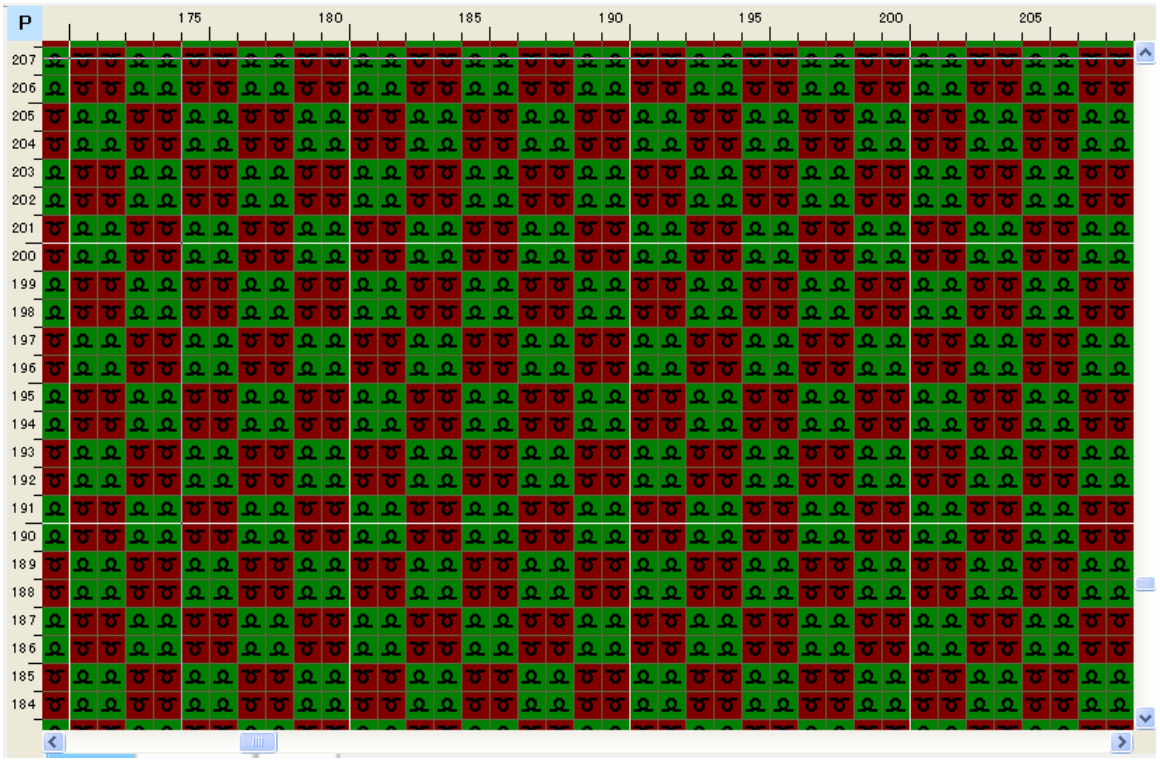
➢ The size, type and model of the waste yarn mark are shown below:





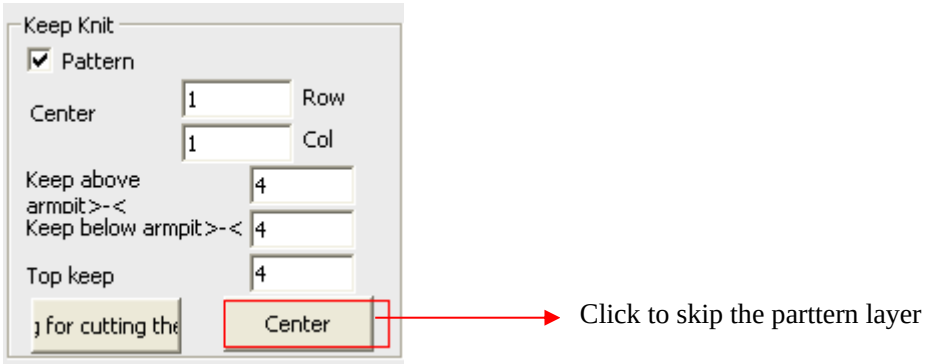
7.3.19 Keep pattern

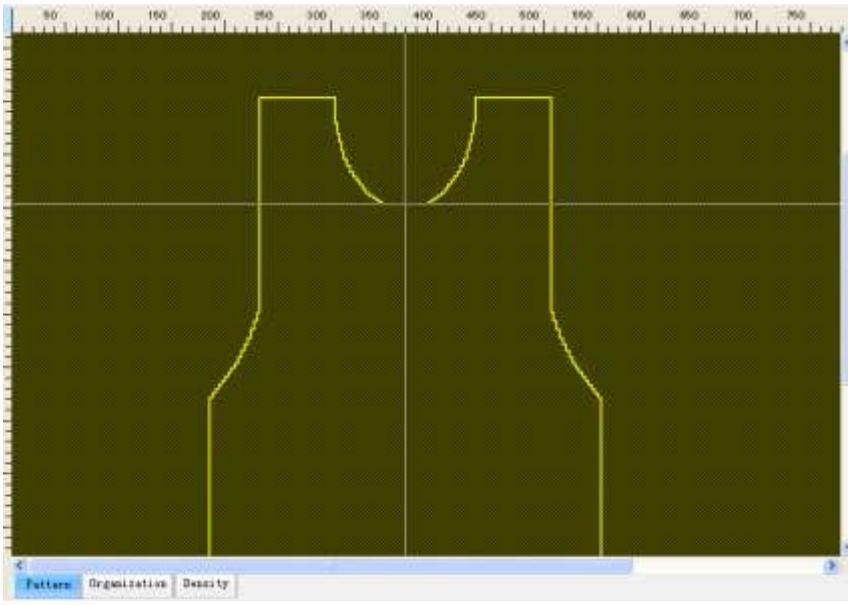
➢ Form the pattern based on kept origin pattern: for example, draw a pattern before shaping.



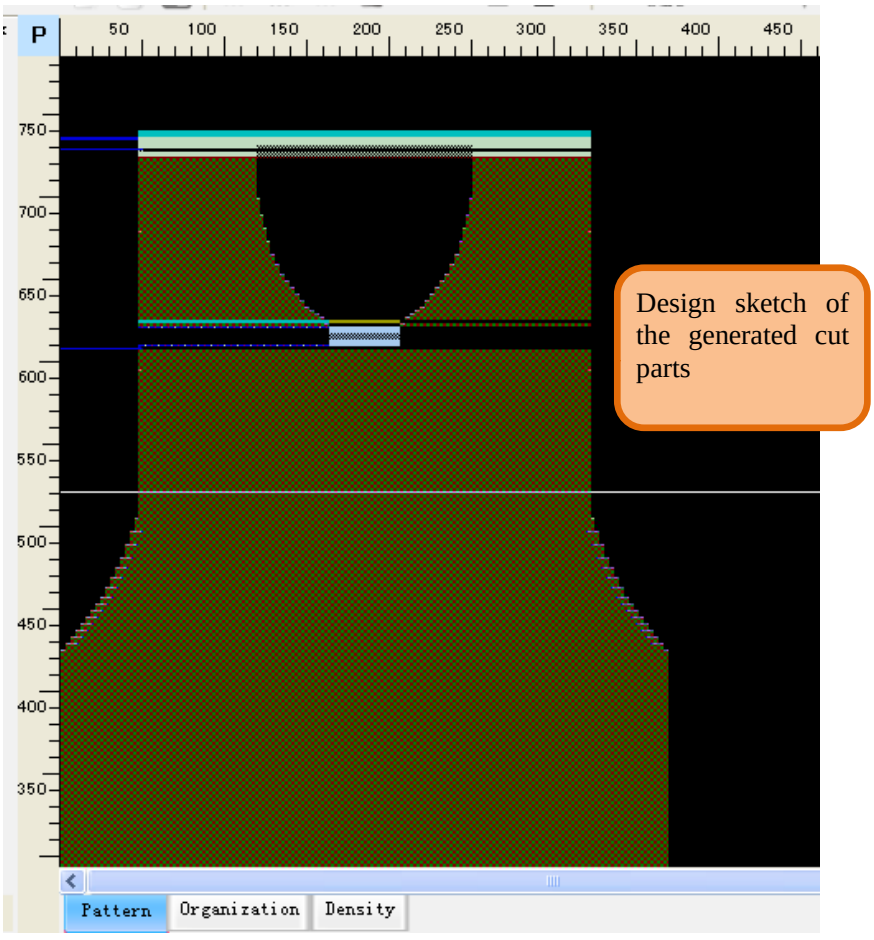
➢ Get center: (1) Input the expected pattern center coordinate into “Row” and “Col”; (2) Select the center coordinate in the pattern layer through the “Center” button.

- The center of sleeve and tuck-cut neck or transfer-cut neck is defaulted as the center of the body bottom.
- The center of V-neck and U-neck is defaulted as the center of the neck bottom and it can be modified in advanced parameters

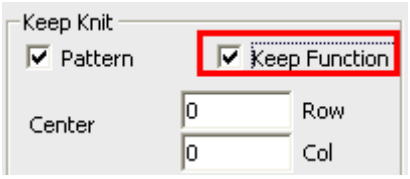


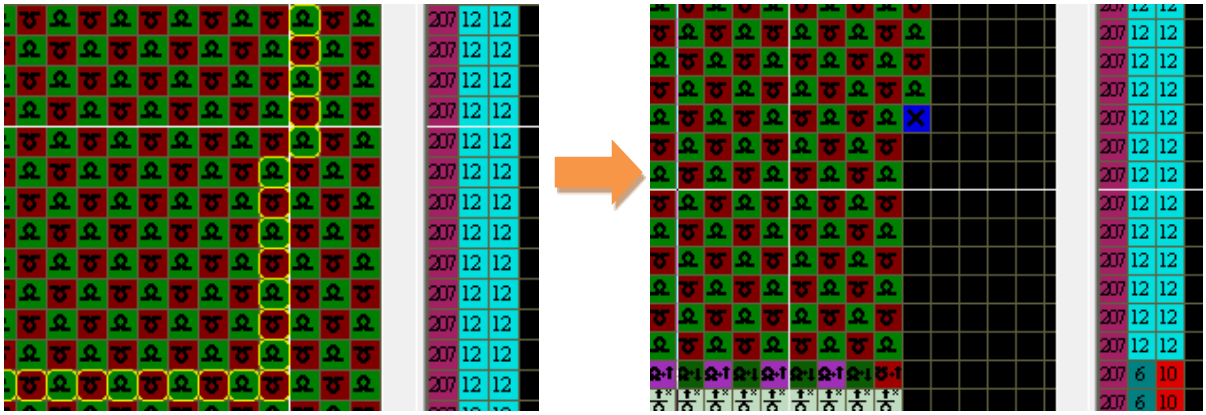


➢ Click to the any point to move the shape profile for selecting the pattern area, then click to the expected point. The expected area could be tuning by the direction key. At last click to the “Enter” key return to shaping interface.



➢ Check “Keep function line”, the function line of the original pattern will be keeped when shaping.



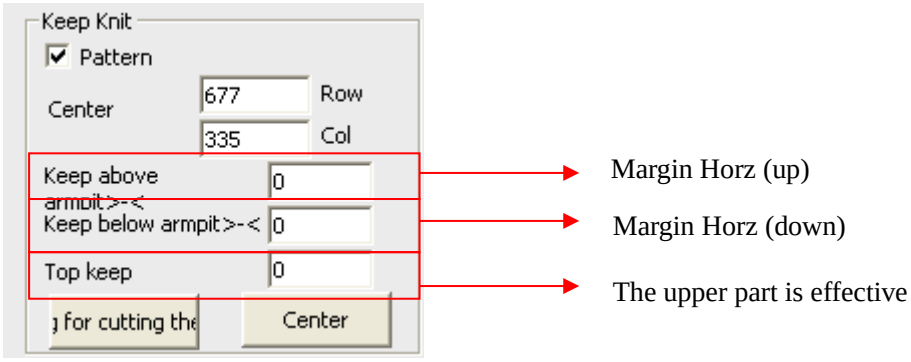


➢ Operations of “Keep Intarsia” are as the same as those of "Keep pattern

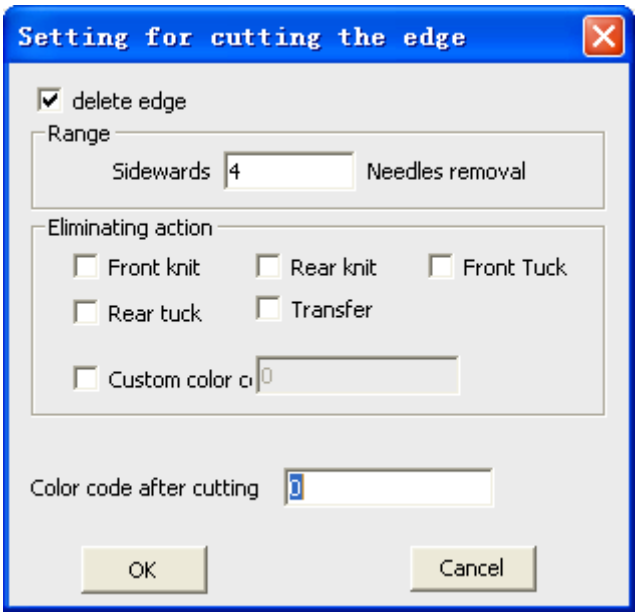
➢ Net: After determined the position of the shape profile, the pattern could be modified in the shape profile. Open the shape design interface again and click “OK”.

7.3.20 Horizontal margin and vertical margin

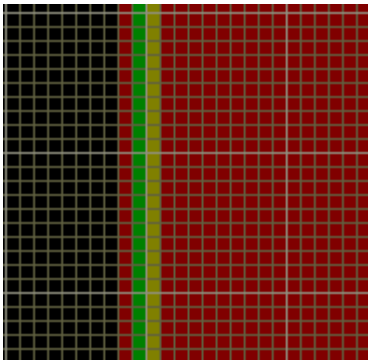
➢ Keeping edge based on kept pattern for the convenience of Jacquard drawing as shown bellows.



7.3.21 Setting for keeping the edge

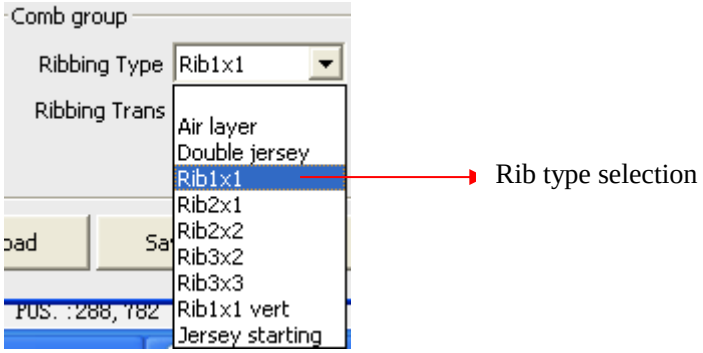


➢ Keeping edge can be conducted with in shaping process. Delete the specified actions of left and right side of the pattern, and use the specified color code to replace the action of deletion position, the keeping edge result of the above set shown as follows:



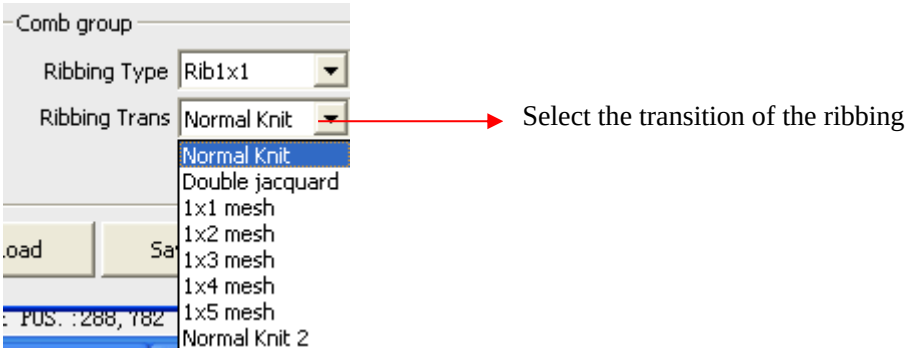
7.3.22 Rib

➢ Set the types of rib. The software presets 7 types rib: 1*12*1, 2*2, 3*2, 3*3, F, and 1*1vert. As required, the arrangements of ribbings are optional.



7.3.23 Transition row of rib

➢ It is used to set the transition row mode of rib. The transition modes will be altered based on whether the body is jersey double jacquard.



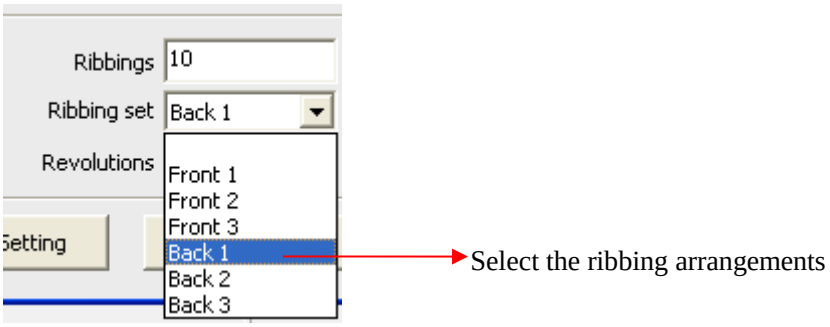
➢ The density level is the seventh at the row between rib and body.

➢ The “double jacquard” transition applys to Jacquard pattern, which have loops every needle in back bed of knitting area. If select it, the narrowing color code would use 191-198 after shape design.

➢ The “1X1 mesh” transition to the Jacquard pattern, the back Stitch is 1X1 net.

7.3.24 Arrangements of rib

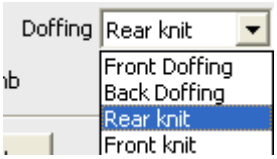
➢ The arrangements contain rib front 1, rib front 2, rib front 3, rib back 1, rib back 2 etc., the difference between them is the count of front needles and back needles.

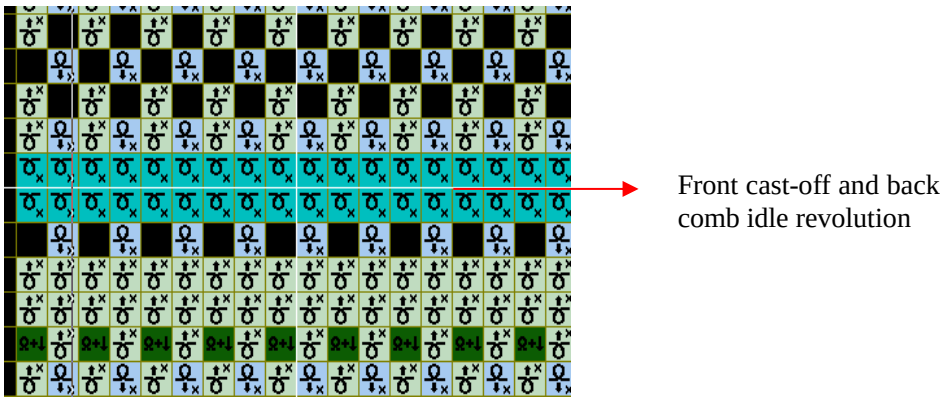


- No arrangement is required for rib F

7.3.25 Front cast-off and set-up tubular mode

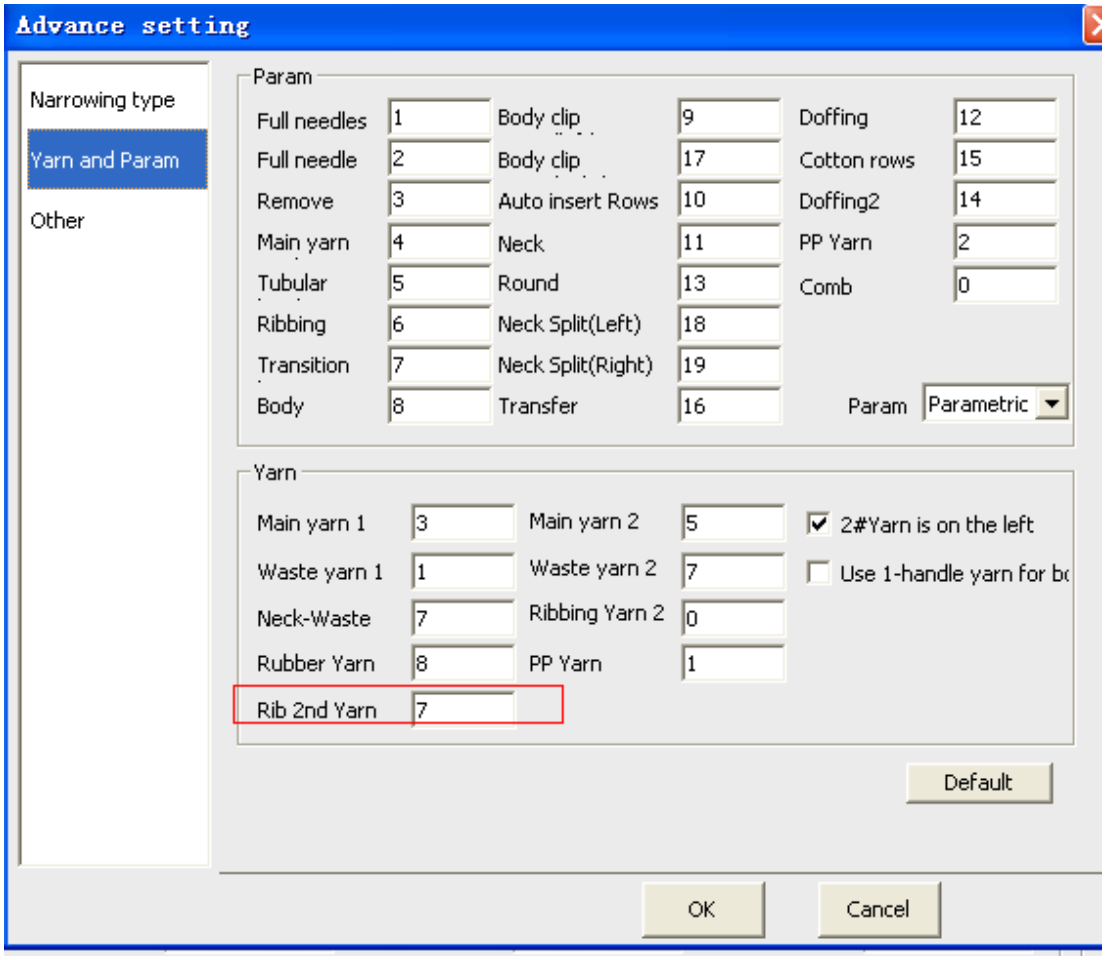
- Select cast-off mode and the set-up tubular mode for split waste yarns according to the specification requirements.



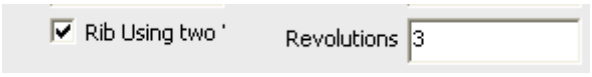


7.3.26 Rib with wide carrier

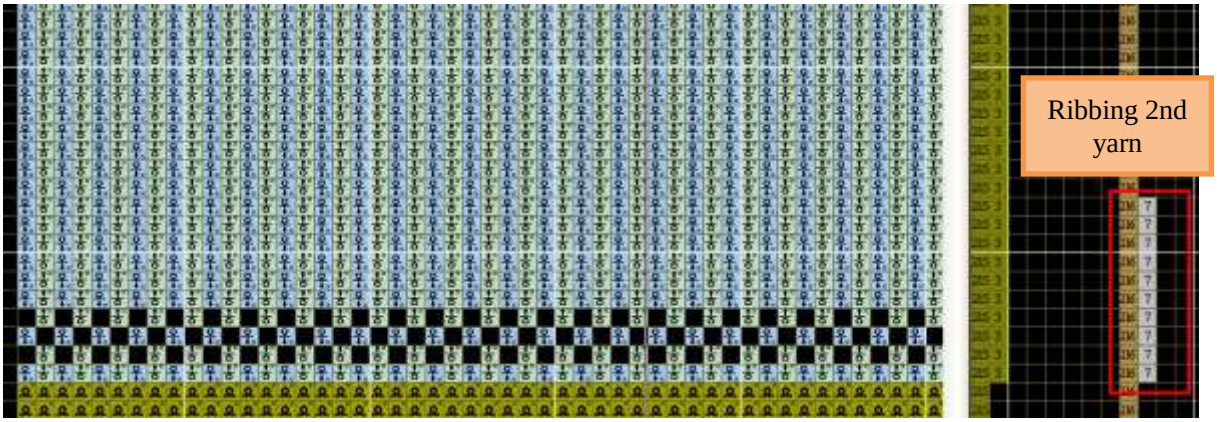
- Select Setting and then set the rib wide carrier no. on the carrier and level page.



➢ Select the “Rib Using Two” option and fill in the count of knitting turns (deducting the set-up and tubular turns).

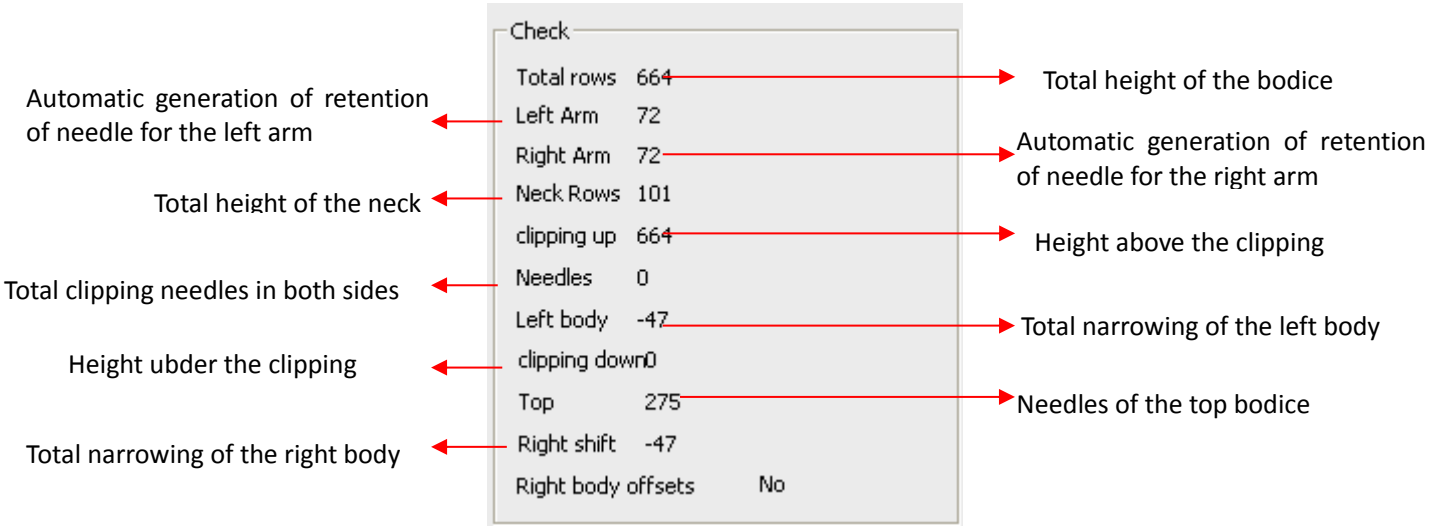


➢ Results of formation:



7.3.27 Check

➢ After inputting the specification data, click “Check" to check relevant parameters of current specification whether be proper processed.



➢ If the pattern is asymmetrical, the information of the total rows, above bind rows, below bind rows and neck rows will be displayed separately for both sides.

7.4 Input

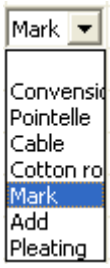
➢ Input the knitting specification data and basic operation.

7.4.1 Body specification

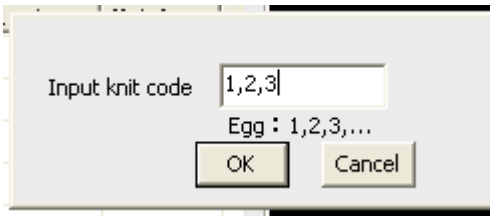
Left piece | Left V neck

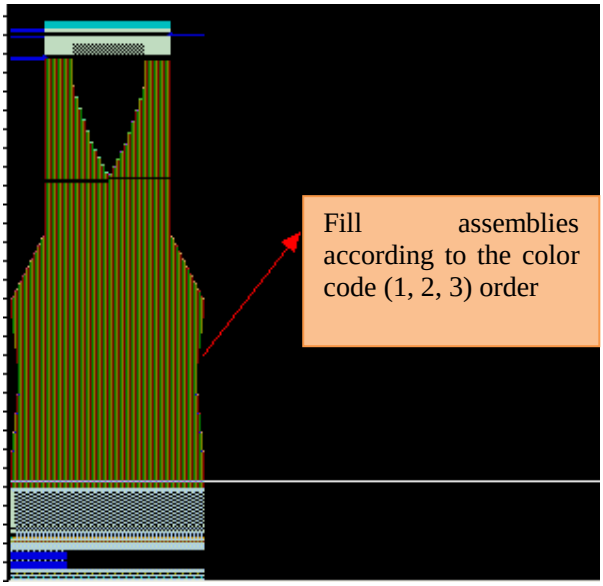
#	Revolu...	Needle	Times	Form	Margin	Hide	Effec...	Knitting	Height
1	191	-3	1		0	0	0	1	191
2	2	-3	8		4	1	0	1	207
3	3	-3	4		4	1	0	1	219
4	4	-3	2		4	1	0	1	227
5	4	-2	1		0	0	0	1	231
6	45	0	1	Mark	0	0	0	1	276
7	7	0	1		0	0	0	1	283
8	27	0	1	Mark	0	0	0	1	310
9	22	0	1		0	0	0	1	332
10	0	0	1		0	0	0	1	332
11	0	0	1		0	0	0	1	332
12	0	0	1		0	0	0	1	332
13	0	0	1		0	0	0	1	332
14	0	0	1		0	0	0	1	332

- Revolution: Knitting course for jersey two row is one course.
- Needles: Needles narrowing or widening. Narrowing is defaulted as minus while widening as plus.
- Times: Repeat times of current section of specification.
- Type: Special type identification, such as bind, pick-up, bracing wire, mark, cotton yarn and addition, shown as the following pull-down list:

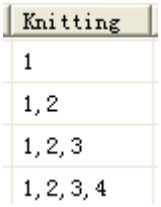


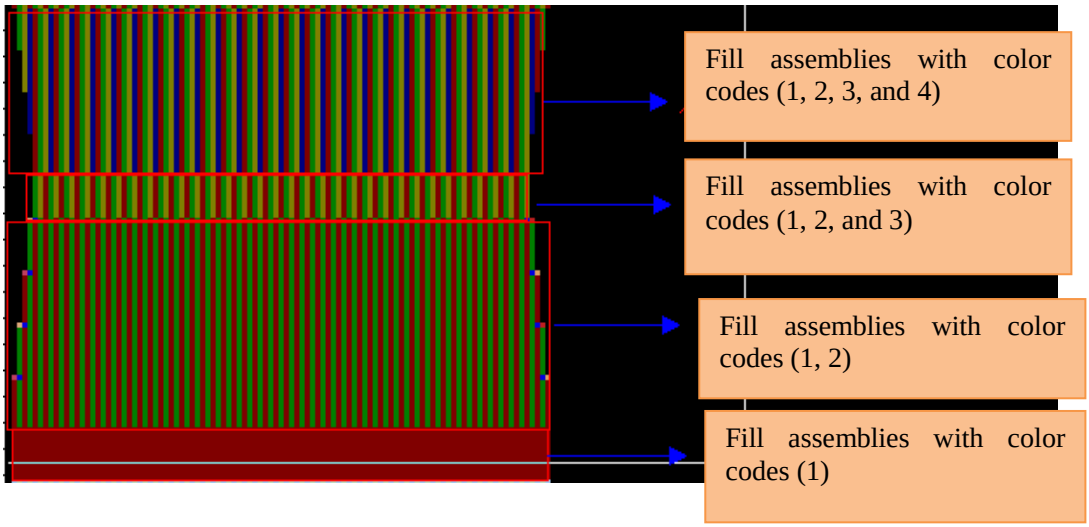
  - Convention: Bind-off narrow.
  - Pointer: One mark type, corresponding color code is 61, 71..
  - Cable: One mark type, corresponding color code is 2.
  - Mark: one mark type, corresponding color code is 61, 71.
  - Cotton yarn: Stop knitting ,Used for return knitting of shoulder
  - Add: Used when widening needles is too much (e.g. batwing coat), in which case the waste cotton will be knitted under the position of widening.
  - Pleating: the pleating flag will be added automatically at the function line after shaping.
- Margin: Narrow with fashion mark Margins retained during narrowing.
- Hide: Cancel needles after the margin retaining during narrowing.
- Effective: When narrowing needles are less than or equal to the effective value, apply decreasing color code in the pattern, otherwise, apply return knitting method to narrow. The valid value “0” refers to apply the default effective needles.
- Knit: Setting color code for this row knitting stitch. Click “knit” button to input the color code, then the whole shaping pattern formed with input color code, as the following chart:





- If color codes are accordingly filled in each row below the "knit" button, then corresponding color code is generated in the corresponding section, shown as the following chart:





- Height: to the present current specification turns.
- Density 1: It indicates the density of knitting used in this section of specification, which is only effective in the mode of customize parameters.

- Stitch 2: It indicates the density of transfer used in this section of specification, which is only effective in the mode of customize parameters.
- Speed1: It indicates the speed of knitting used in this section of specification, which is only effective in the mode of accustomed parameters.
- Speed 2: It indicates the speed of transfer used in this section of specification, which is only effective in the mode of customize parameters.
- Yarn carrier 1: It indicates the main yarn carrier used in this section of specification, which is only effective in the mode of customize parameters.
- Yarn carrier 2: It indicates the wide yarn carrier used in this section of specification, which is only effective in the mode of self-defined parameters.
- The focus of input box can be moved by using the up, down, left and right arrows.
- Double click to change the input focus, input specification data by keyboard.
- Type option can be set through shortcut keys.
- The process models knitting before narrowing.

7.4.2 Neck specification chart

Left piece | Left V neck

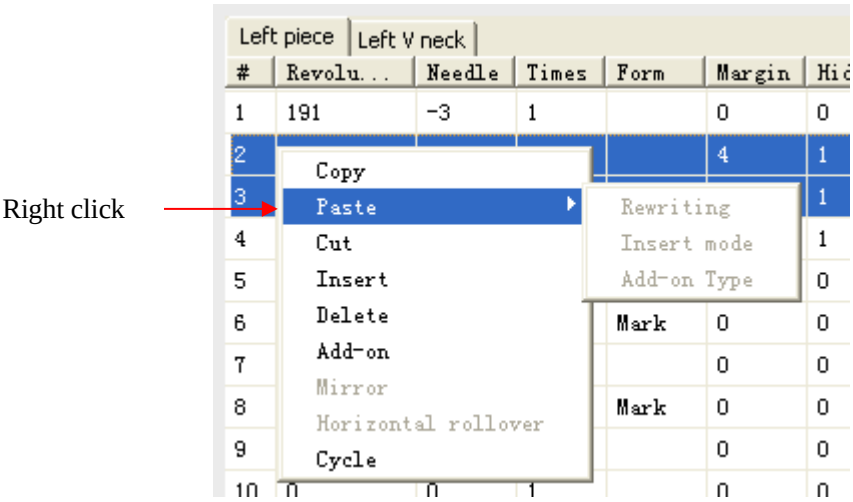
#	Revolu...	Needle	Times	Margin	Hide	Effec...	Height
1	1	3	1	0	0	0	1
2	1	3	4	0	0	0	5
3	2	3	5	0	0	0	15
4	3	3	2	0	0	0	21
5	4	2	3	0	0	0	33
6	5	2	1	0	0	0	38
7	12	0	1	0	0	0	50
8	0	0	1	0	0	0	50
9	0	0	1	0	0	0	50
10	0	0	1	0	0	0	50

- Revolutions: number of revolutions during such craft.
- Needles: Needles increased or decreased. Decreasing is defaulted as negative while increasing as positive.
- Times: cycle times during such craft.
- Margin: margins retained during narrowing.
- Hide: hide needles after the margin retaining during narrowing.
- Effective: when narrowing needles are less than or equal to the valid value, apply decreasing color code in the pattern, otherwise, apply binding color code. The valid value “0” refers to apply the default valid needles.

- Height: to the present total process revolution.

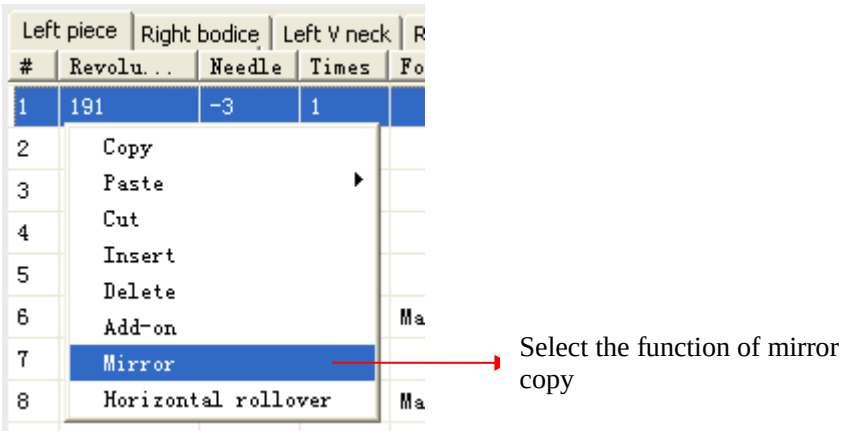
7.4.3 Right-click menu

- Right click the input bar of chart, and some options will display:



- Copy: copy the data of this row or multi-rows at one time.
- Paste: paste the copied data.
  - Insert mode: batch insert the copied rows at current row.
  - Adapt mode: batch replacing the chart with the copied rows from current row.
  - Append mode: batch append the copied rows to the last.
- Cut: cut the data of this row.
- Insert: insert a row at current row.
- Delete: delete current row.
- Append: insert 5 blank rows at the end.

7.4.4 Mirror copy

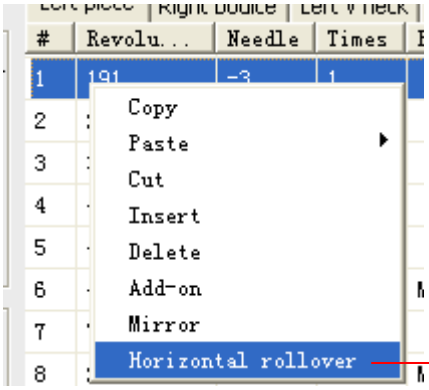


➢ When the chart is asymmetrical at the right and left, such function will copy the chart data the other piece.

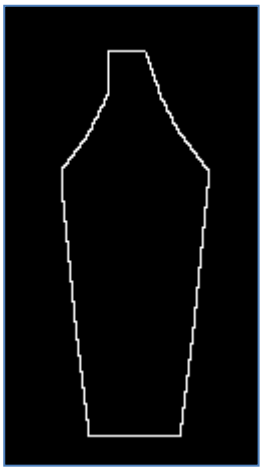
- copy the data of right body to the left body when at the left body;
- copy the data of left body to the right body when at the right body;
- copy the data of right neck to the left neck when at the left neck;
- copy the data of left neck to the right neck when at the right neck;
- Only when the chart is asymmetrical will the mirror copy be available.

7.4.5 Left-right flip

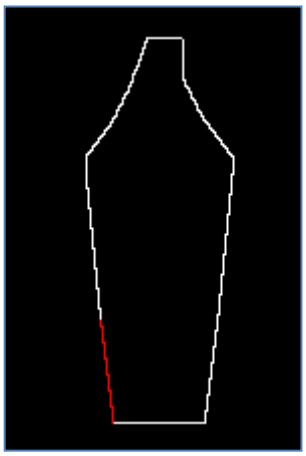
➢ It can be used in case of asymmetry between left and right, swap the process data of left and right bodice, and of left and right neck. While generating the asymmetric sleeve, input the specification data of left piece, and the process data of right piece can be obtained through flip.



Select the horizontal rollover



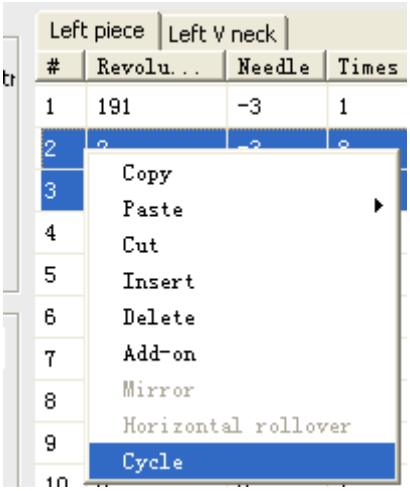
Sleeve outline before flip:



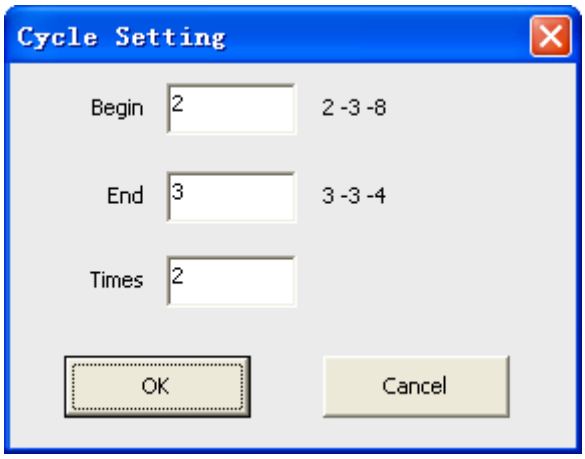
Left-right flip:

7.4.6 Cycle

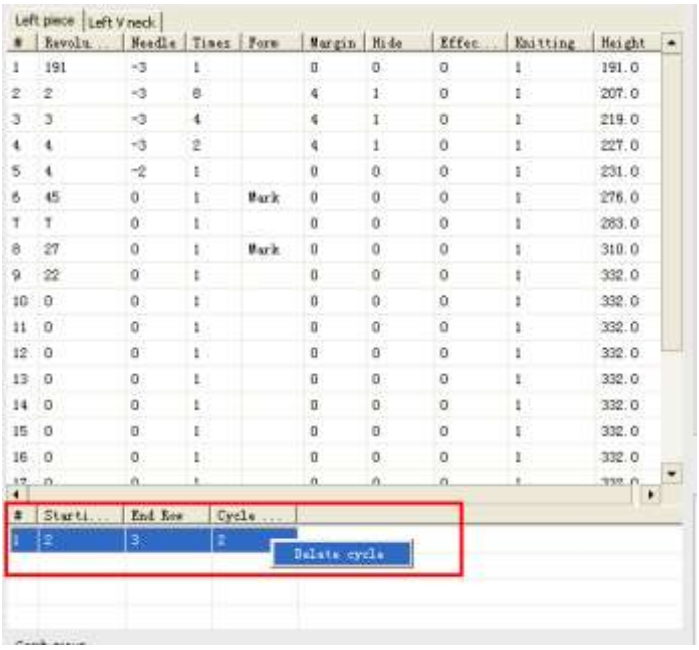
➢ Single click the row need to cycle with the ctrl key pressed, right click mouse and select cycle.



➢ The cycle start row, end row and cycle times can be set at the below interface.



➢ The cycle data is showed below the specication data list, it can be delete by right click the mouse.

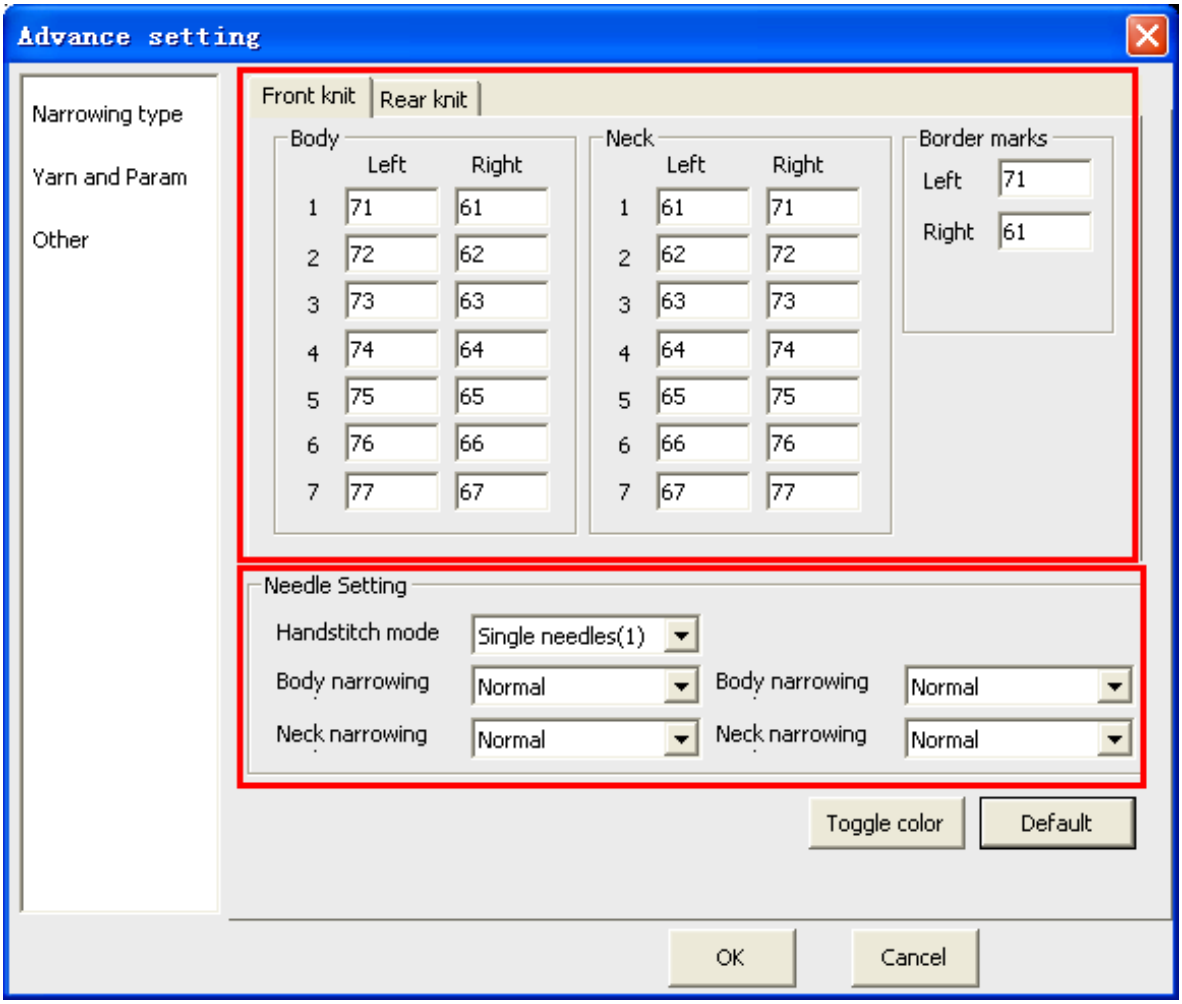


- Note: One row is cycled at different place is not allowed.

7.5 Advanced parameters

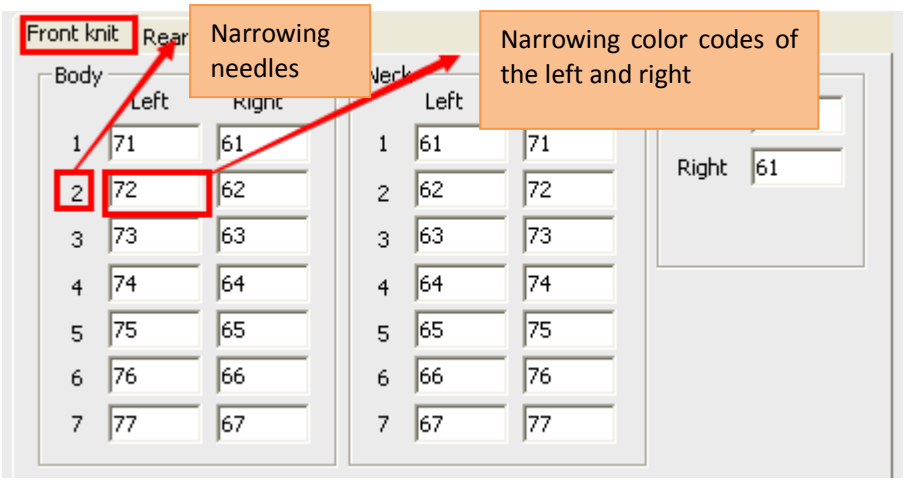
7.5.1 Narrowing mode

- Advanced parameters setting window: the setting interface is divided into the following areas as follows:

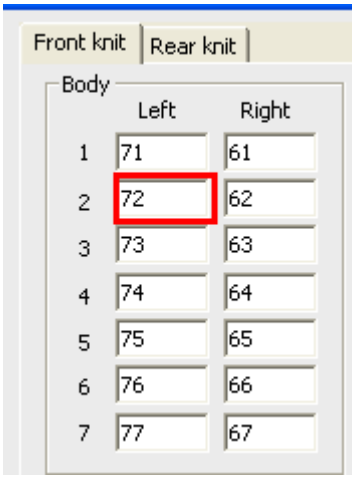


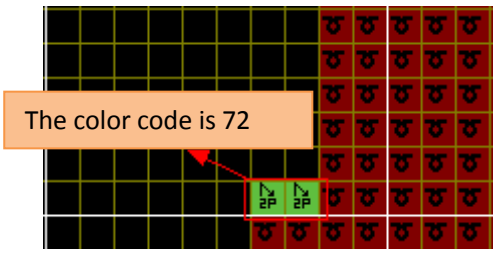
7.5.1.1 Front knit

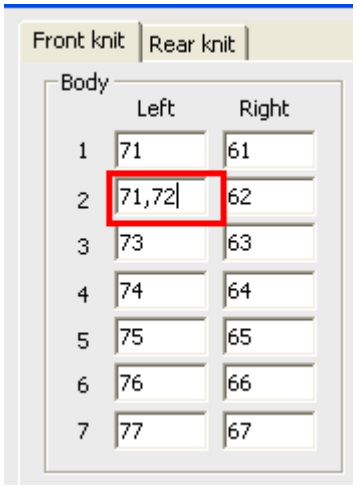
- Select the narrowing color code for front knit.
- Serial number under “body” is narrowing needles.
- Serial number under “Left” and “Right” is the narrowing color codes.
- “Border marks” is the mark color codes in the front knitting pattern.

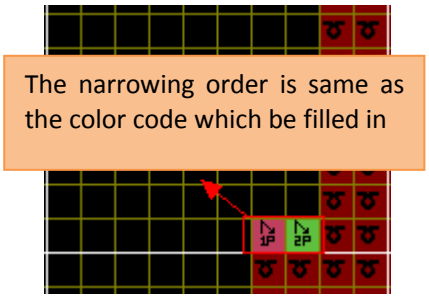


- Multiple narrowing color codes can be filled in, separated by commas.
- The switch color codes support the color code switched between 61-64 and 101-104.



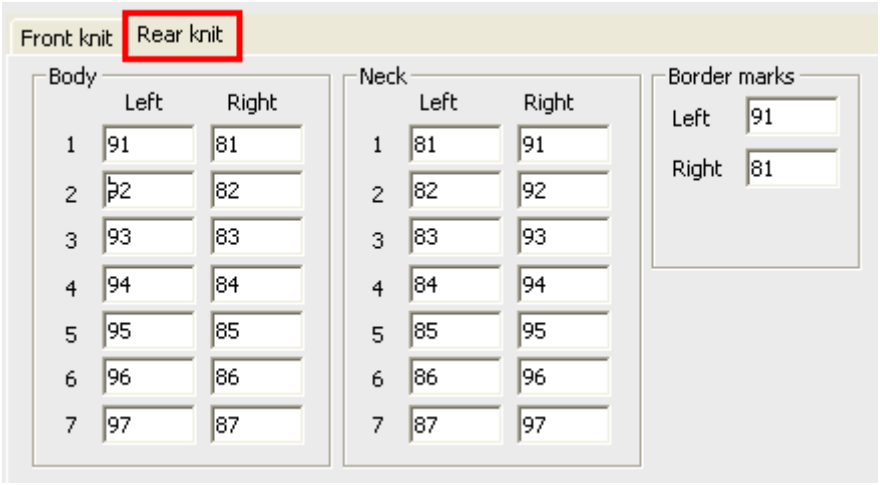






7.5.1.2 Back knit

- Select narrowing color code for back knit
- The operation can refer to the “Front knit”.



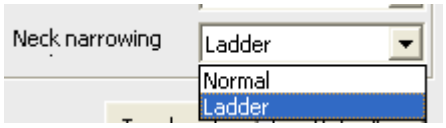
- Multiple narrowing color codes can be filled in, separated by commas.
- The switch color codes support the color code switched between 91-94 and 105-108.

7.5.1.3 Narrowing mode

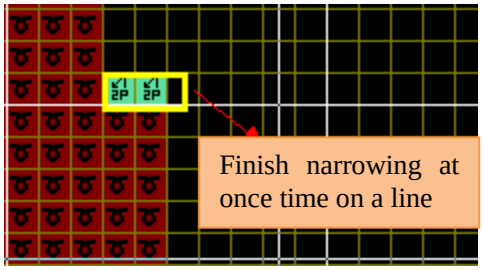
- Ladder: Split the color code of 3 needles narrowing into 2 rows like ladder shape.

First narrow one needle and then two needles.

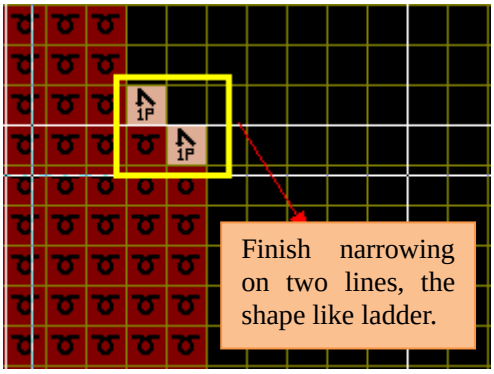
- The parameter of “Ladder” is working when the margin value is zero
  - The narrowing needles is two:



  - Normal: No matter how many needles, narrowing is finished at one time.

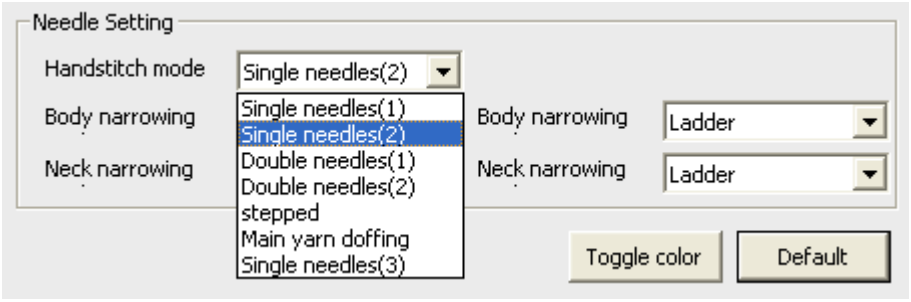


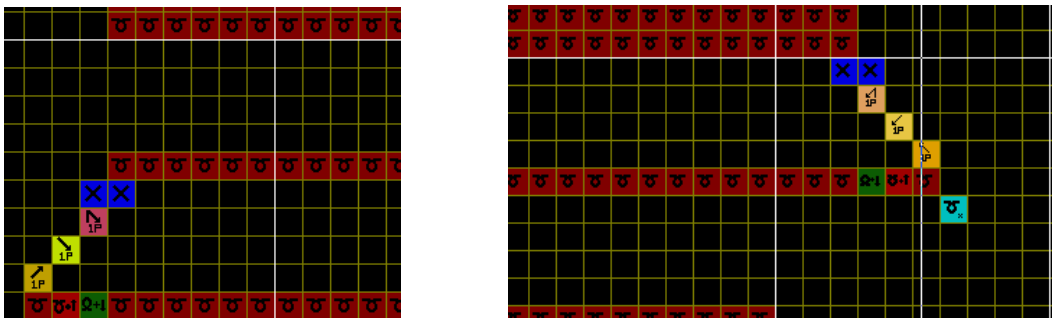
  - Ladder: Narrowing is finished on two rows.



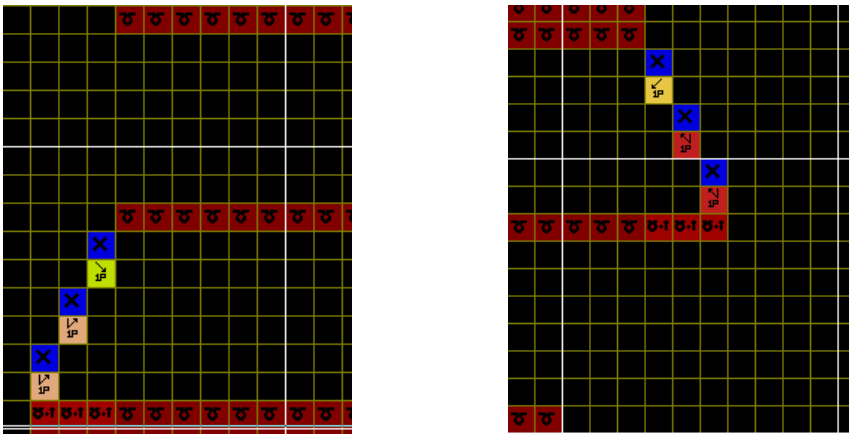
➢ When the narrowing needles is three, the function and operation is same as narrowing 2 needles.

➢ Bind-off mode: There are seven modes for binding shown as below.

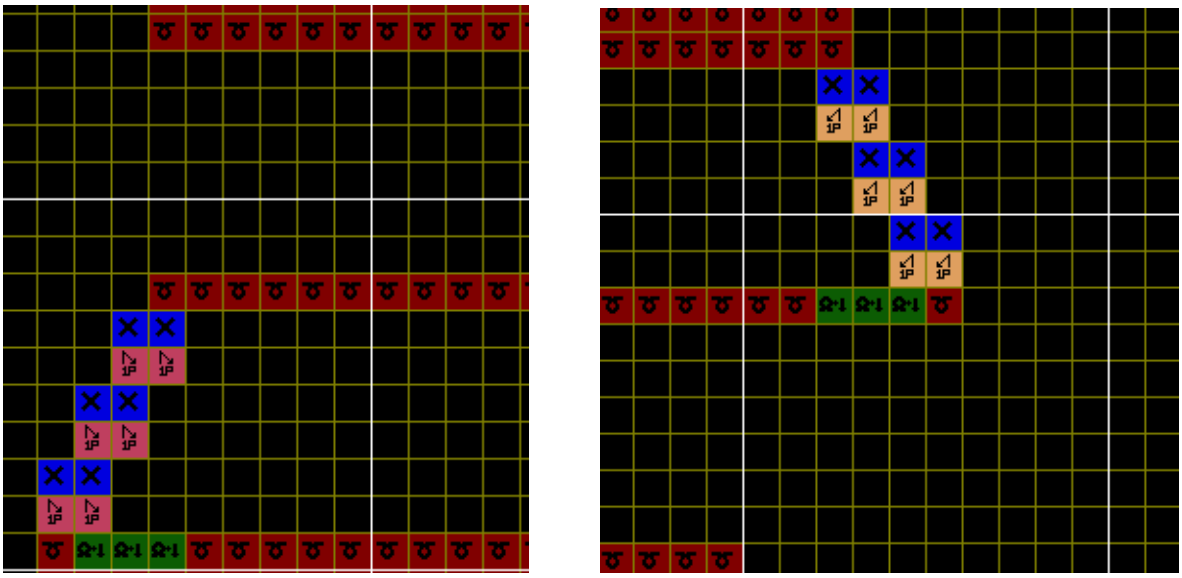




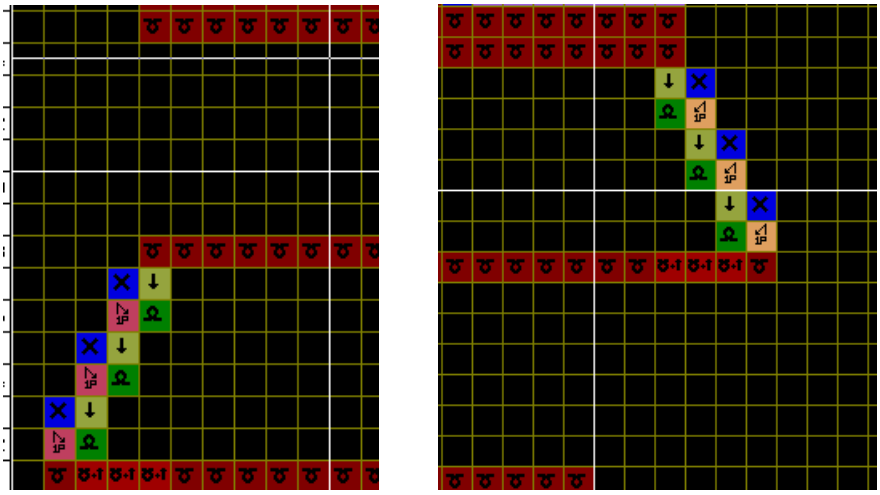
Single needles (1)



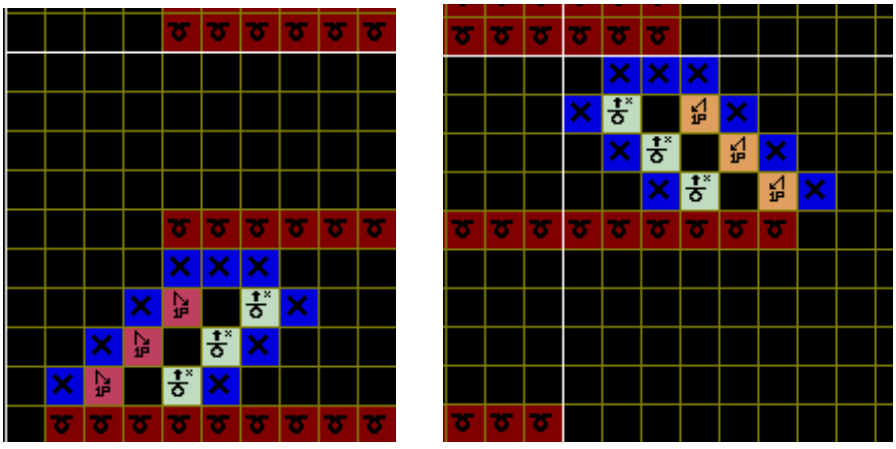
Single needles (2)



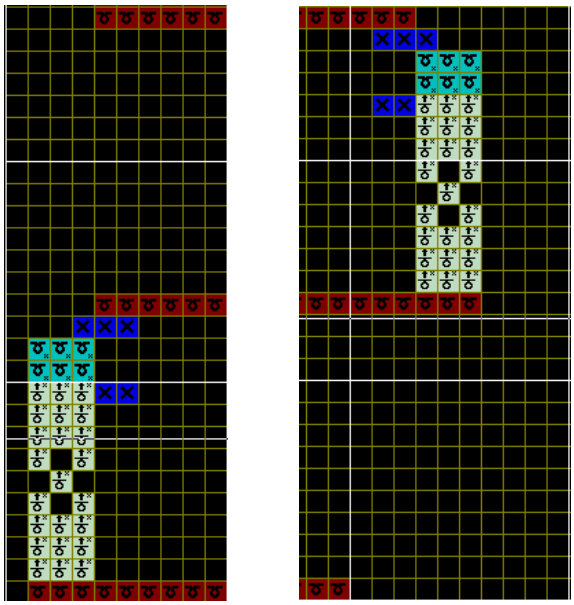
Double needles (1)



Double needles (2)



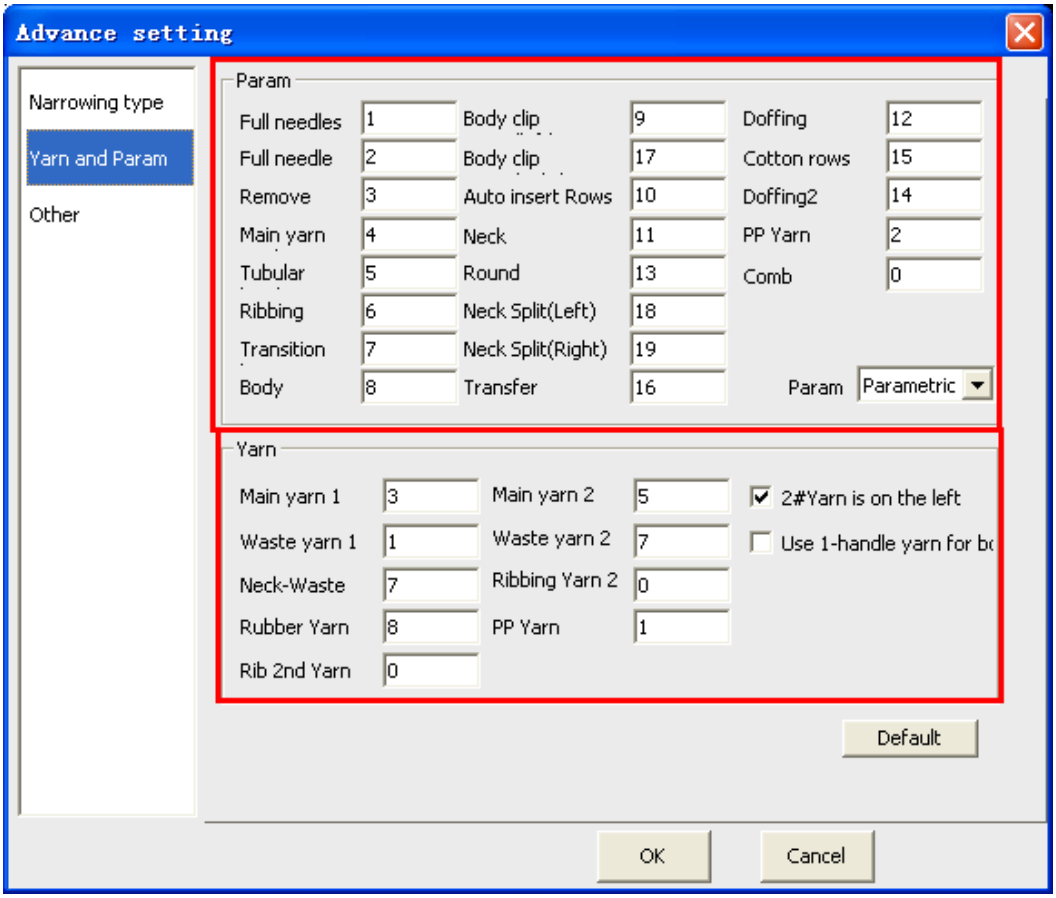
Stepped



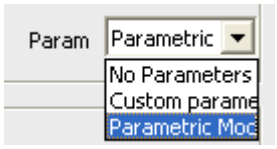
Main yarn doffing (Body yarn carrier knitting and cast-off)

7.5.2 Yarn carrier & level

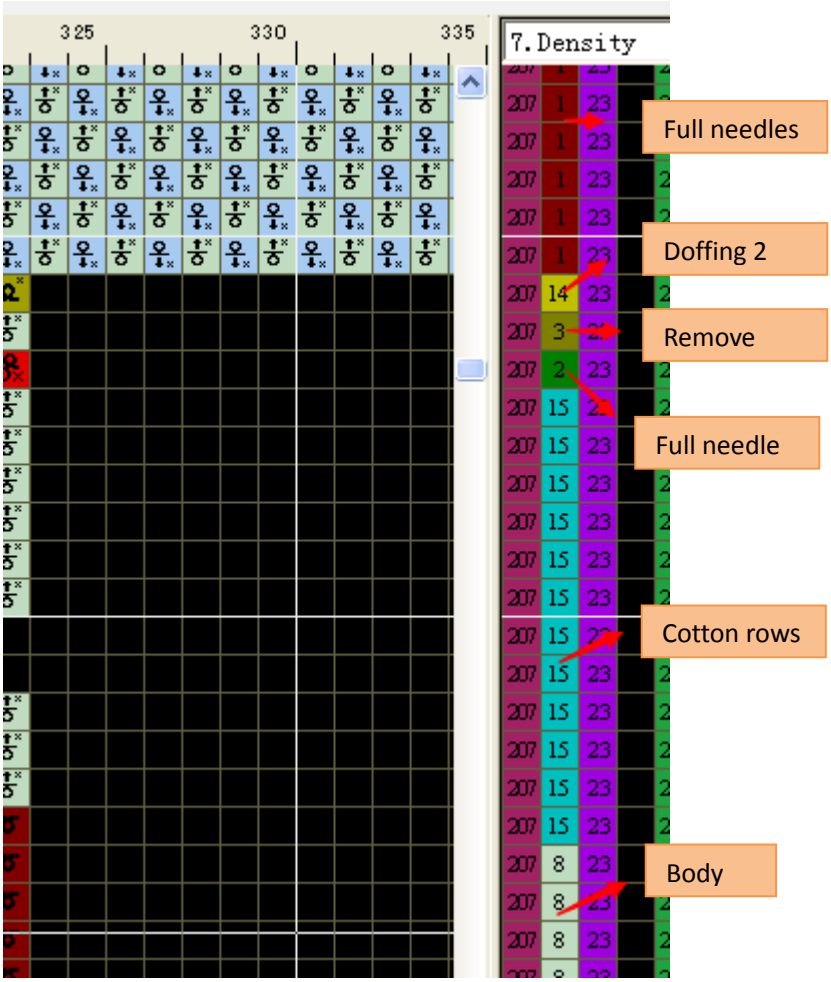
➢ Level and default yarn carrier numbers of main carrier and waste carriers of each section after the specification has been shaped. The default setting is as shown below and the users can modify the defaults according to their habits.



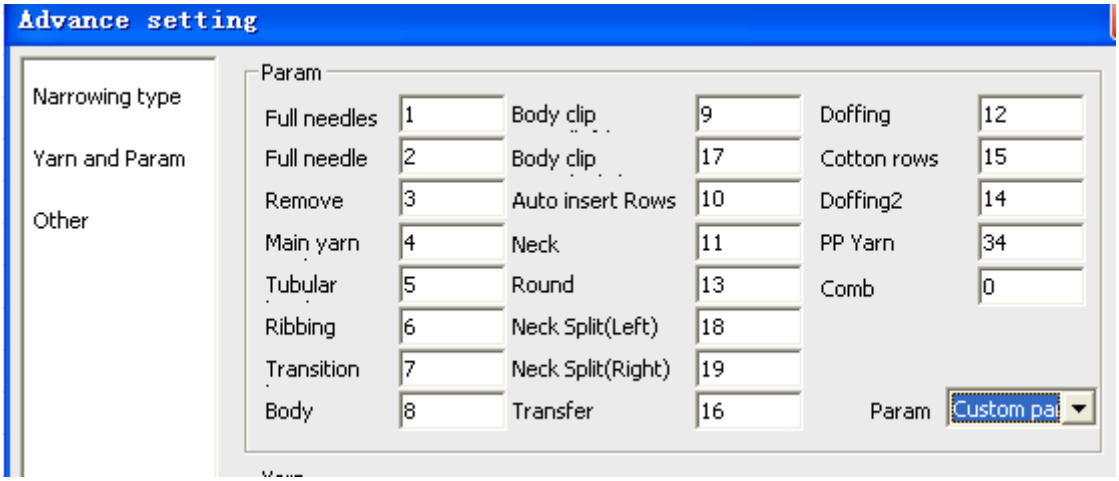
7.5.2.1 Level

➢ Parameters mode: 

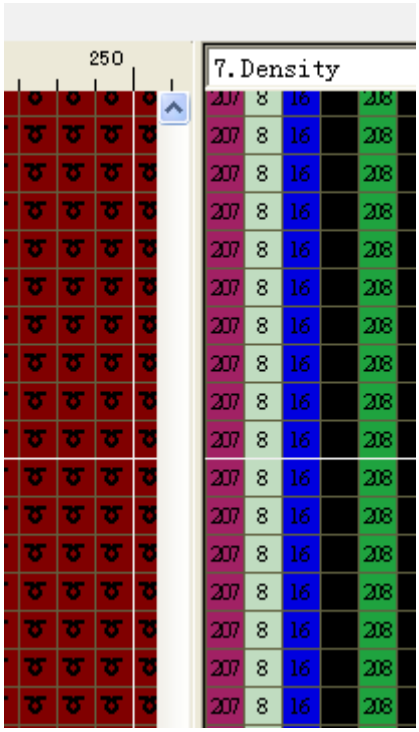
- When the “Parameters Mode 1” is selected, the parameters (such as density, speed, yarn carriers) will be filled in according to the default parameters in the system. As follow.



- The parameters (such as density, speed, yarn carriers) will be filled in according to custom. As follow.



- The density:



➢ When the “No Parameters” is selected, all function lines are null.

7.5.2.2 Yarn carriers

➢ Yarn carrier 2 is applicable to dual system knitting or V-neck pattern.

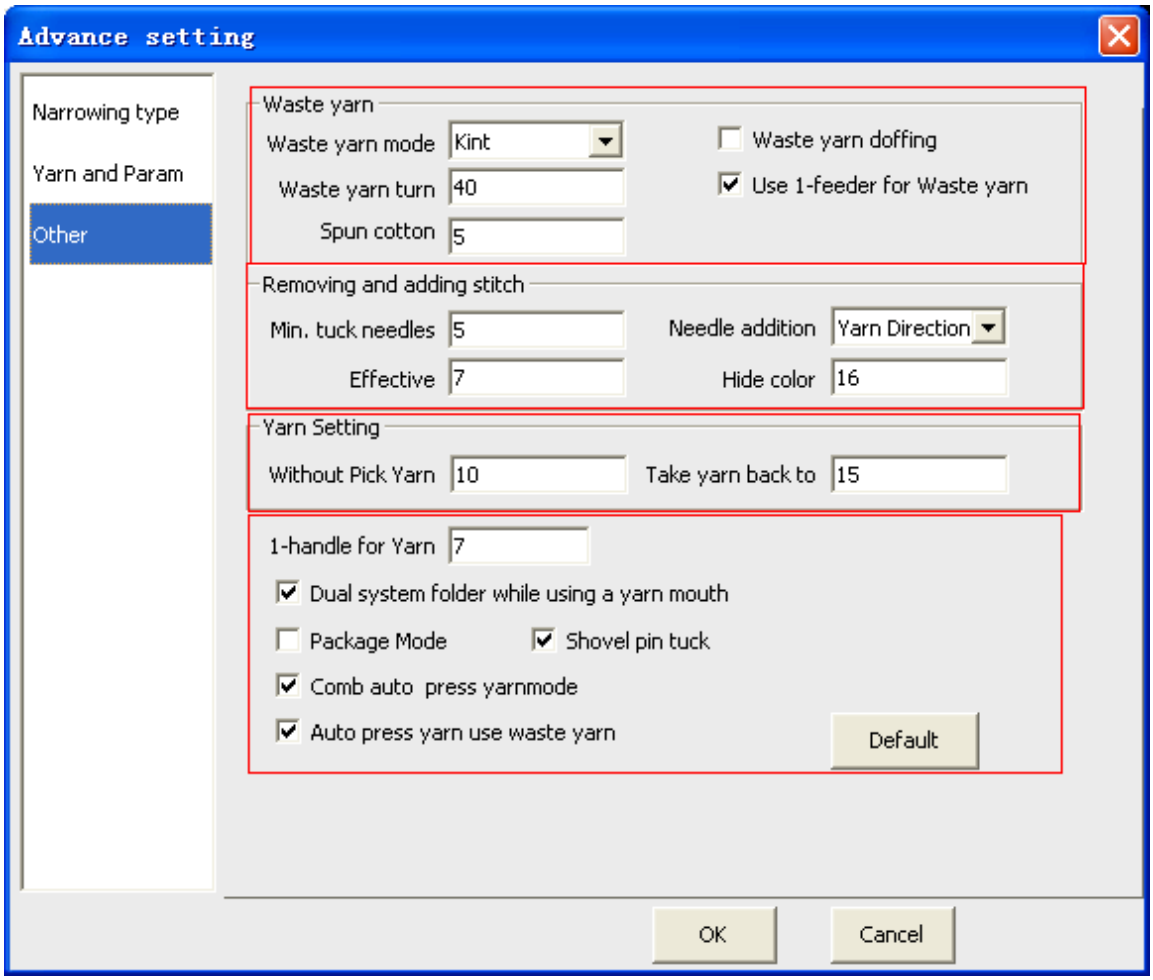
➢ V-neck waster yarn carrier refers to the number of yarn carrier used for the cotton yarn carrier of V-neck.

➢ Rib yarn carrier 2 means to adopt two yarn carrier for knitting rib and 0 means not to use the second rib yarn carrier.

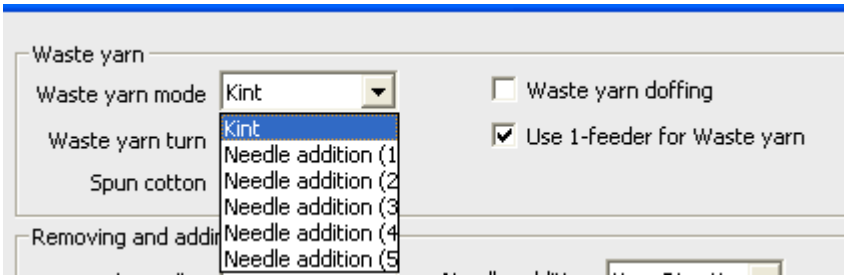
➢ In the default case, “carrier 1” on left, “carrier 2” on right. Both main carrier 2 and waste carrier 2 on left when the “2# Carrier is on the left” is checked.

- As for double system, the default adopts carrier 1 and 2 for alternative knitting. Select "One Yarn for Body" to set Yarn carrier 1 only be used for knitting.
- Rubber Yarn carrier: rubber yarn for set-up of knitting, usually #8 yarn carrier is used.
- PP Yarn carrier: PP yarn is separate yarn for dividing setup and rib.

7.5.3 Others

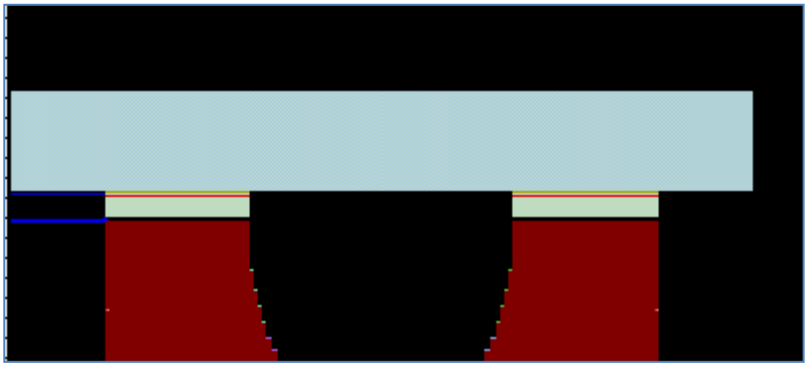


7.5.3.1 Waste yarn (Finish yarn)

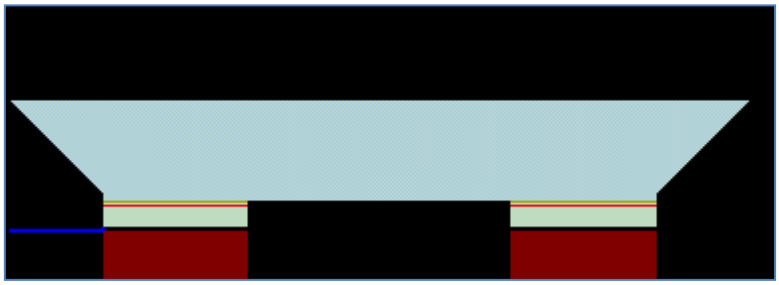


- Waste yarn mode: direction knit and increasing knit.

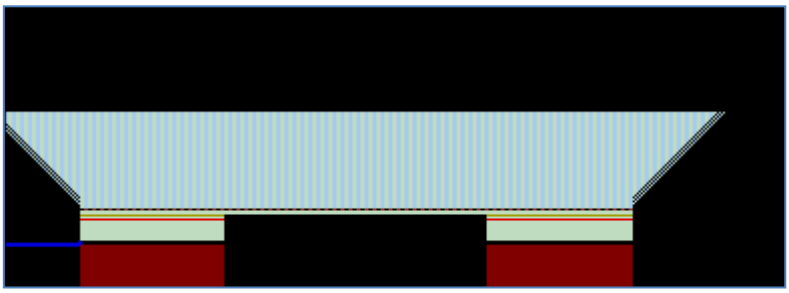
- Rection knit



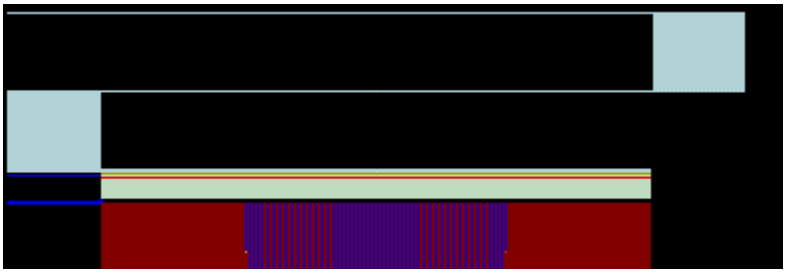
- Needle addition (1)



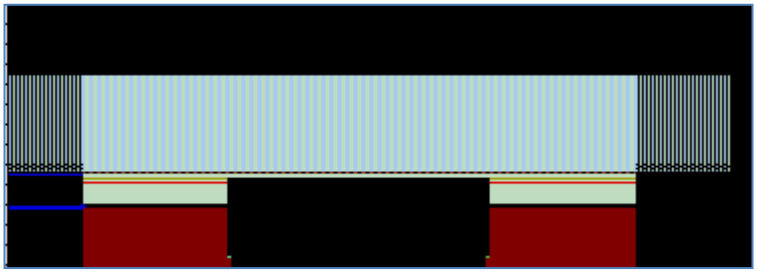
- Needle addition (2): this save yarn, so it is used commonly.



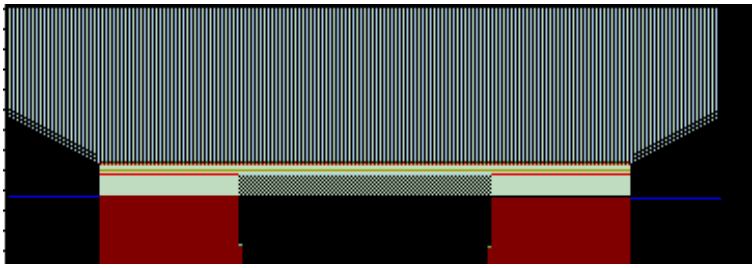
- Needle addition (3): It is apply dummy and sleeve



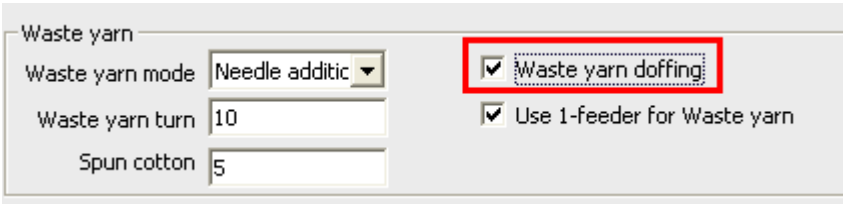
- Needle addition (4)

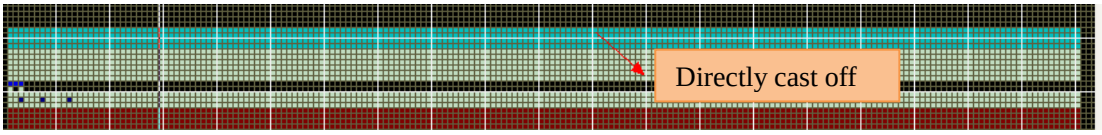


- Needle addition (5)



- Waste yarn cast off





- Waste yarn turns: It is the same parameter with the "Waste yarn mark" in the interface of shape design. Turns of waste yarn after the sealing cotton.
- Cotton yarn turns: refer to the turns of cotton yarns on the top of garment piece (i.e. the sealing cotton yarn) and its default is 10. If cotton yarns are not required, the default is 0.
- If one yarn carrier for the waste cotton is checked, then it means that the waste cotton will be knit with one yarn carrier.

7.5.3.2 Narrowing and widening mode.

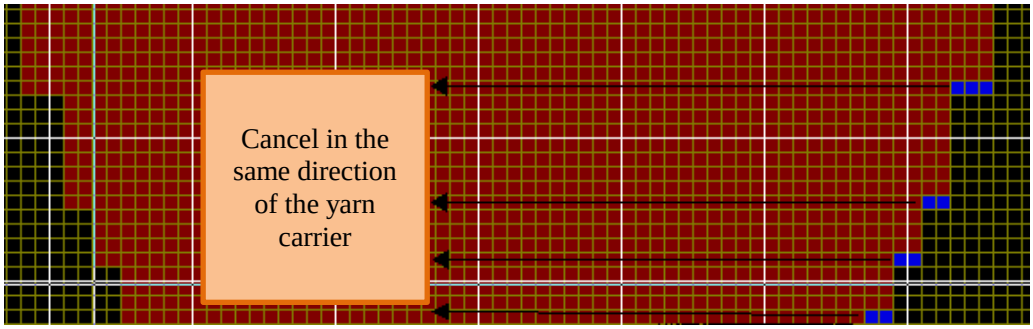
➢ Minimum needle number of the withdrawn needle: when the binding needle number is more than the minimum number, a needle on the edge should be withdrawn. When the binding

needle number is equal to or less than the minimum number, with drawn needle and casting off is not required.

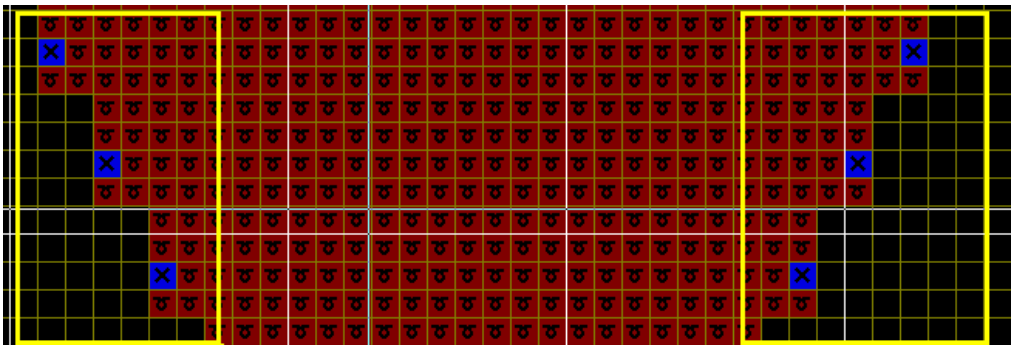
- Effective needle: the effective default value in specification chart.
- Widening mode: according to the yarn carrier move direction, side miss once per course .

This function is valid only in select single system. Canceling based on the yarn direction means to knit first and widen immediately.

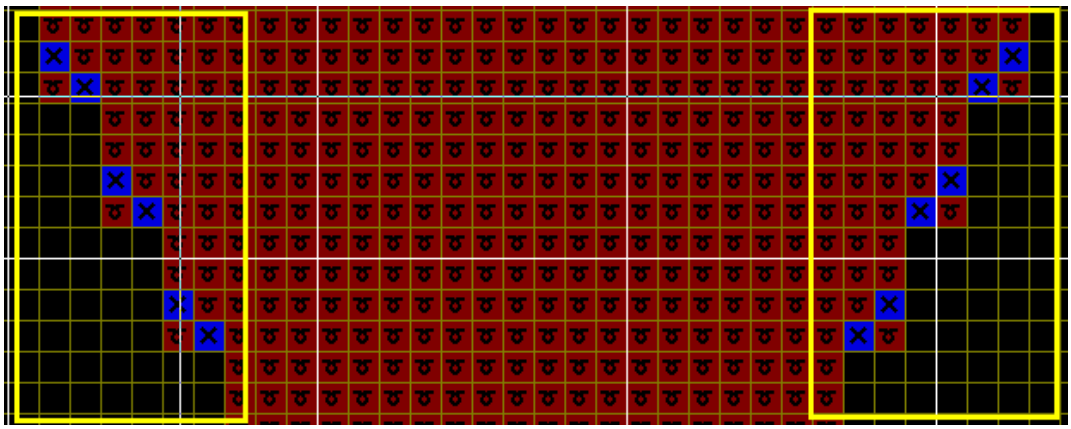
- Yarn direction



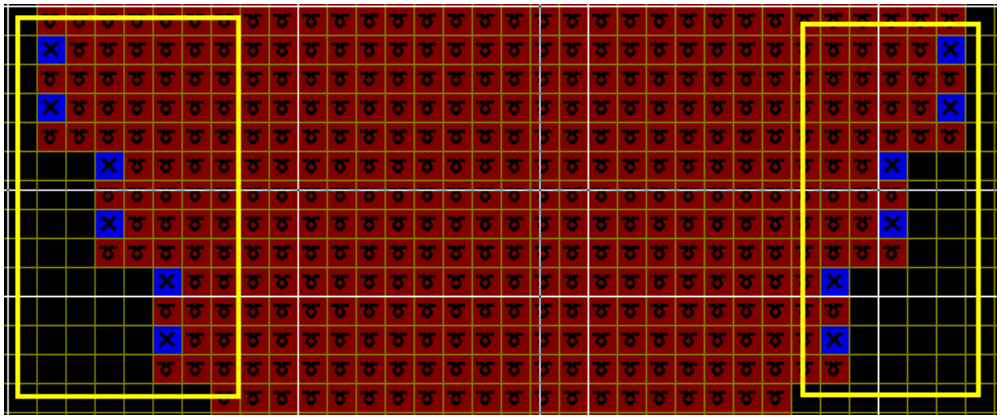
- Cancel once (1):



- Cancel once (2):



- Cancel twice:



➢ Cancel color code: the color code for hiding is defaulted as No.16 or 0. It can be modified according to user habits. The recommended color is No.16 for the correct operation when keeping Intarsia.

7.5.3.3 Taking yarn option

➢ No Process needles with taking yarn: when the taking yarn needle is less than or equal to the set values, the yarn will not be taken.

➢ Open neck depth with a single yarn carrier: when V-neck Intarsia and V-neck row-split are not used, and if the neck depth is less than set value, then open neck with one yarn carrier will be used, shown as the following chart:

➢ Kickback needle of the taking yarn: insert the taking yarn rows, and when the taking carrier needle number is more than set number, process it with kickback.

7.5.3.4 Package Mode

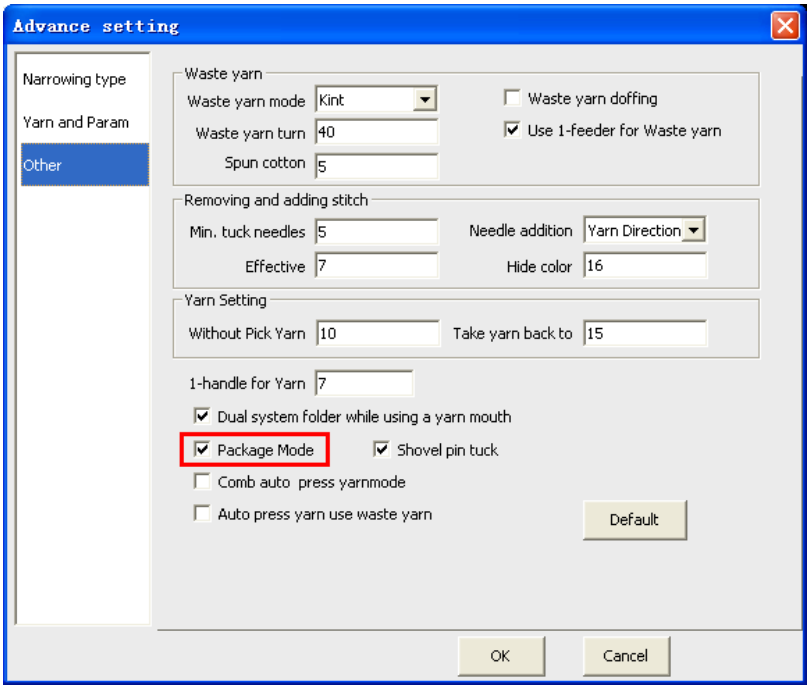
➢ In order to make the pattern more intuitive and form the pattern more convenient, we add the Package Mode in the shape design. The specific use is as follows:

➢ Select the Package Mode. The narrowing, cast off and other place in the shape will be filled with package color codes. Select the contents for the package during compilation or package developing.

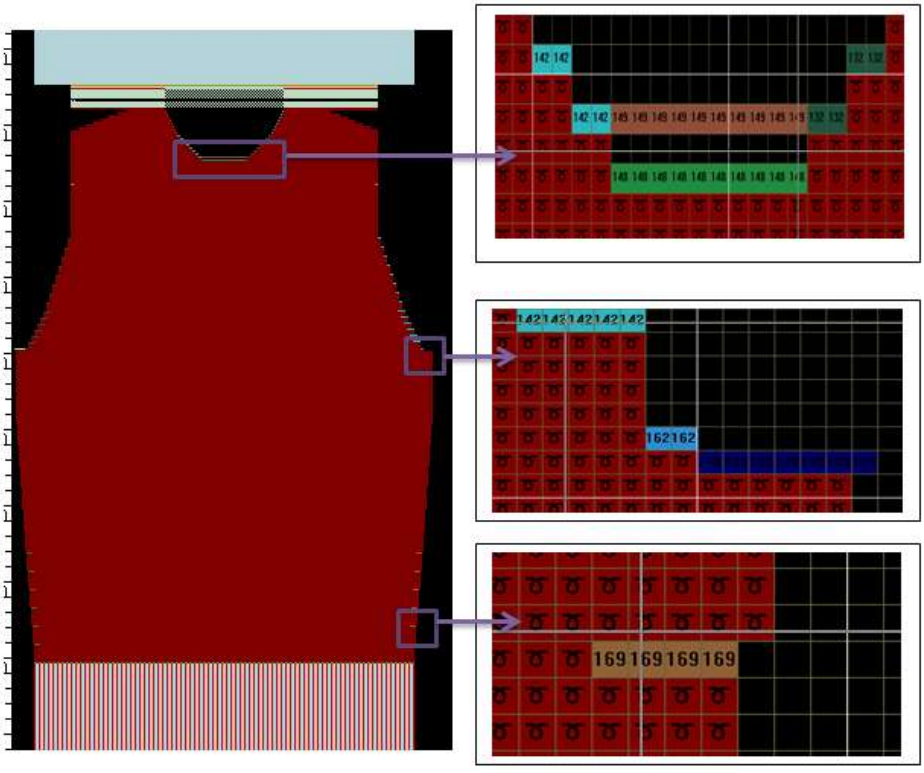
➢ Shape Package Mode:

- Enter the main interface of the shape design interface. Select “Setting” and “Other”, and

then check the package mode.

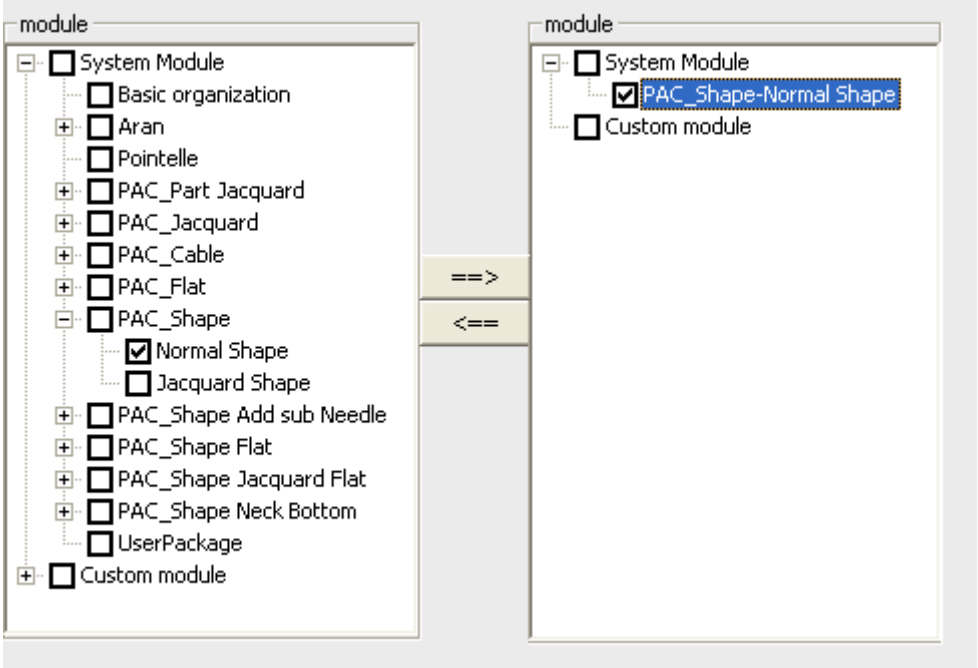


- After confirmation, the shape pattern is generated as below:
  - ☞ In the new pattern, neck bottoms, narrowing, binding, widening are shown by package color code.

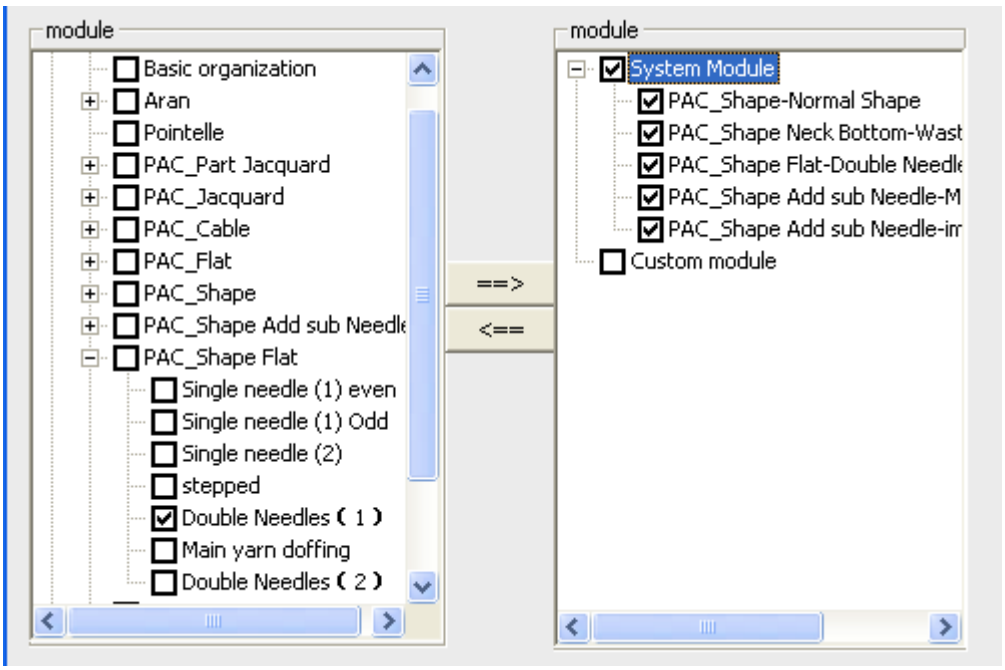


- If it is required to develop the package and select the mode of narrowing and neck bottom

treatment, the shape package module should be called. Click the  button to develop the package. Then the following dialogue box pops up.

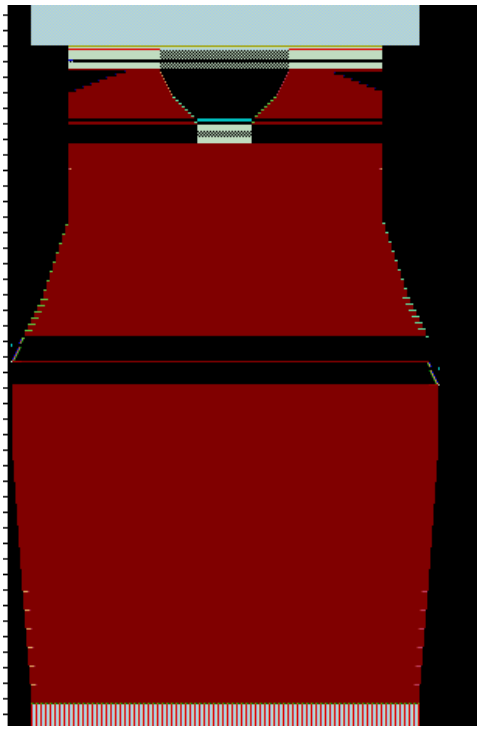


- Select the required narrowing and neck bottom treatment mode in the dialogue box. We have prepared the commonly used package modules for direct calling of users. The “Shape PAC module” provides a complete set for jacquard and jersy package modules. If required, the narrowing mode can be separately selected in the above categories, or the package drawn by the user is also could be used.
- As shown below:



➢ Note: only one package of each type can be selected; otherwise, the color codes of packages may collide.

- After selection, click the OK button, and thus the development pattern is formed.



➢ The required package module can be selected during compiling, by the same method as above.

➢ When the package mode is used, it should be noted that the package color code used in the package mode cannot be applied in other packages to avoid conflicts. Below is the use of the color codes of shape packages:

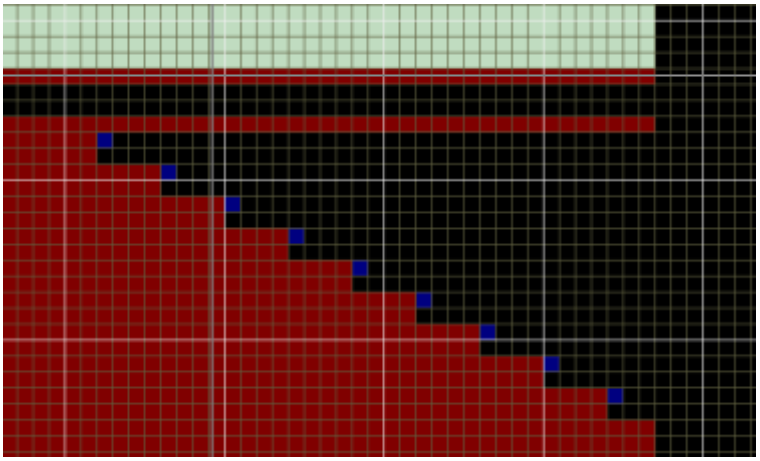
Narrowing from left: 131-137
Narrowing from right: 141-147
Binding from left: 138 (nesting: 170-174)
Binding from right: 139 (nesting: 175-179)
Neck bottom: 148 and 149 (cast off) (nesting 158, 159 and 180-182)
Left mark: 140
Right mark: 150
Immediate narrowing from left: 151-157
Immediate narrowing from right: 161-167
Left widening: 168
Right widening: 169

➢ Please use the color of 120-130 as the register color of the package. If the user modifies the above package, use the corresponding register color code in the compressed pattern.

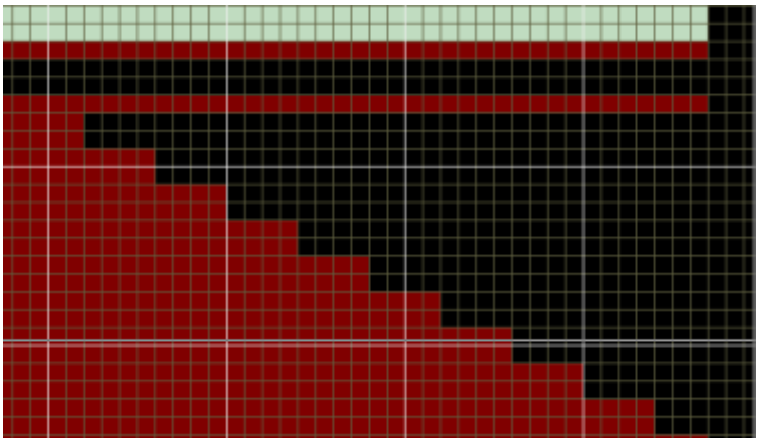
7.5.3.5 Return Knitting Tuck

➢ When the “Return Knitting Tuck” is selected, tucking can be performed during returning knit; otherwise, tucking will not be performed.

- When the “Return Knitting Tuck” is selected:

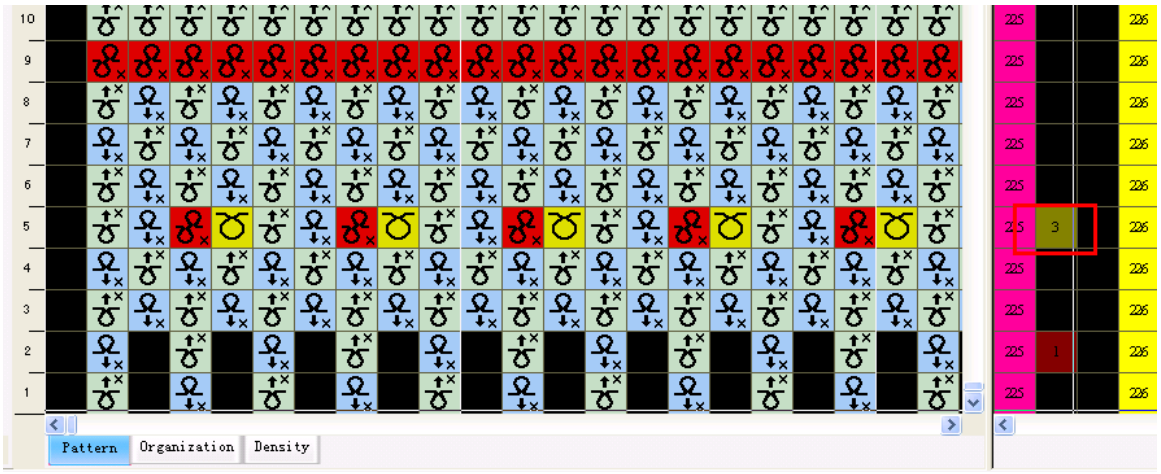


- When “Return Knitting Tuck” is not selected:

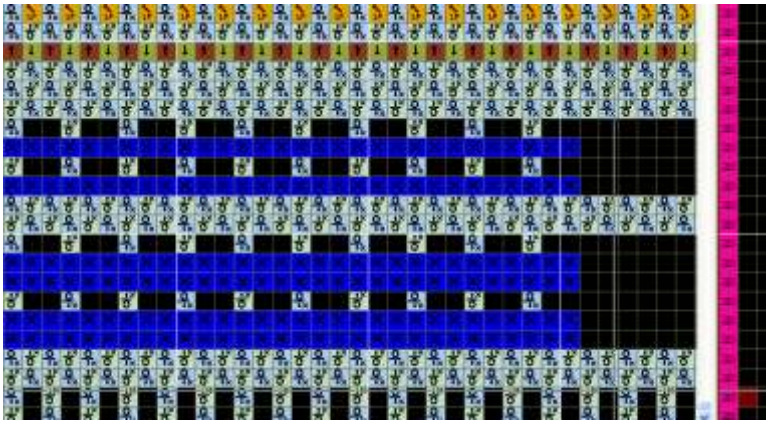


7.5.3.6 Automatic Take down Comb

➢ When the “Take Down Comb Auto Pressing” is selected:



- When the “Take down Comb Auto Pressing” is not selected:



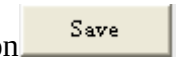
7.5.3.7 Use Waste Yarn for Take down Comb Auto Pressing

- “Use Waste Yarn for Take down Comb Auto Pressing”: waste yarns are used for pressing floating yarns. When this option is not selected, the floating yarns are pressed by rubber yarn.

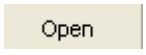
7.6 Load and save of specification chart

- The finished specification chart may be saved and loaded with the format * .gye.

7.6.1 Save the specification chart

- Left-click the button 

7.6.2 Open the specification chart

- Left-click the button 

- Select the expected specification chart.

7.6.3 Load the specification chart

- Left-click the button 

7.6.4 New specification chart

- Click "New" and new specification chart turns up.
- New a blank specification input list.
- All parameters are same as last modified.

8 Compiling

8.1 Compiling parameters

- Click to the button  in the Toolbar, compile dialog is shown as below (Fig. 1).

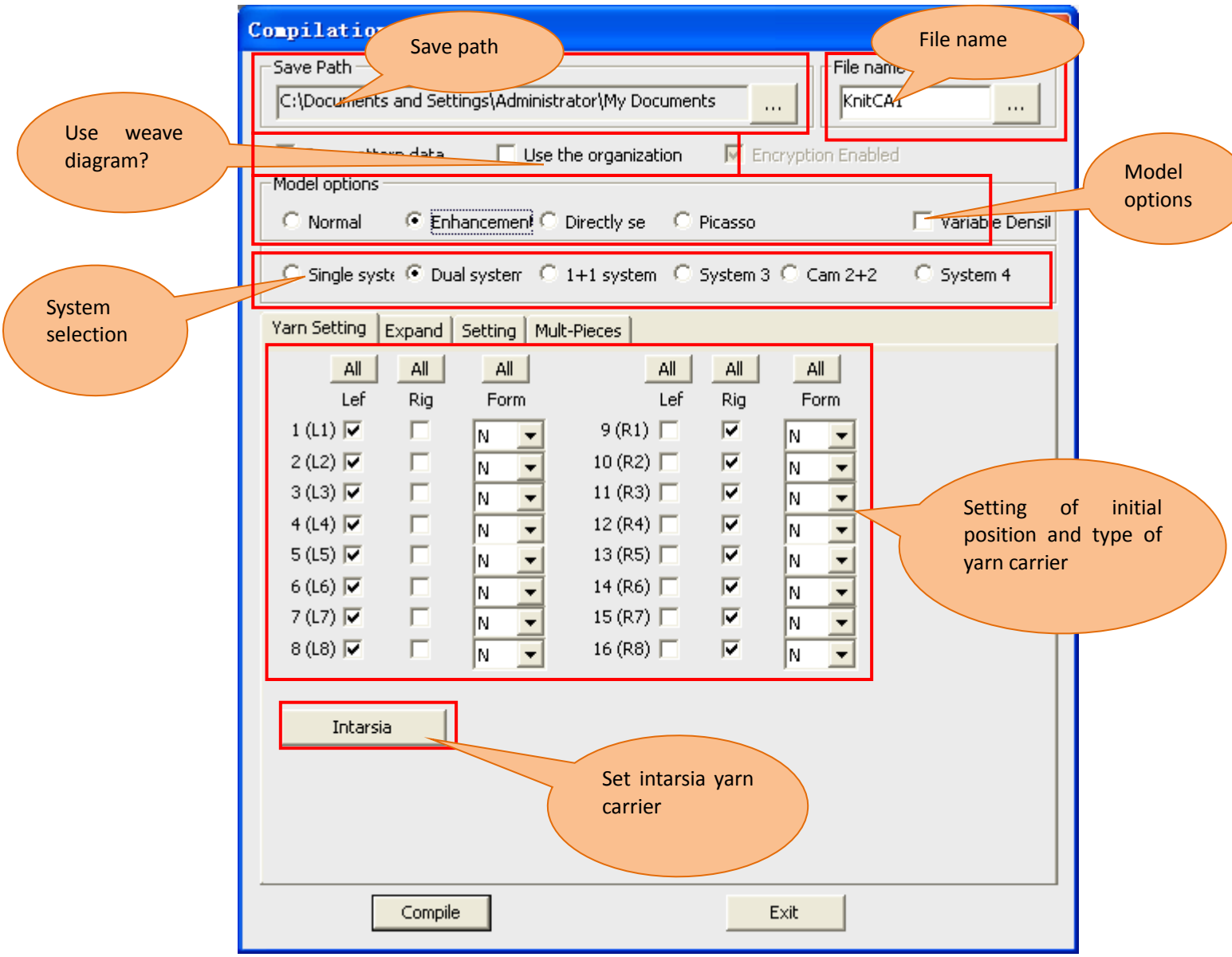
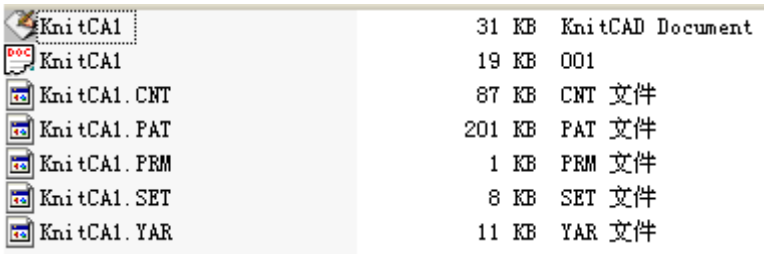


Fig. 1"Compile and Save" Dialog box

8.1.1 Carrier Setting Page

➢ Parameter description:

- Save pattern: save the modifications of the pattern after compilation.
- Use structure chart: select whether to use the structure in the organization chart.
- Encyption enabled: effective while pattern encrypted.
  - ☞ If check “Encryption enabled”, result file of compiling will be encrypted, password is the same as the pattern. The password is needed whent result file opend by machine (if the control system support decrypting).
  - ☞ If not check “Encryption enabled”, result file will not be encrypted even the pattern encrypted.
- Model option: select the type and system of the machine, with compilation subject to the items under the compiler. False actions (tuck action instead of sinker action) are added to the direct selection type knitting machine.
  - ☞ Normal: 6 files with same name will be generated after compiling,they are 001,CNT, PAT, PRM, SET, YAR, applied to machine with old version control system of Raynen.



  - ☞ Enhancement: Only generate 001 file.

  - ☞ Directly: Only generate 001 file, applied to directly selecting needle machine.
  - ☞ Picasso: Check it the 4 extra file for other chineses brand machine will be generated.

  - ☞ Variable density: applied to machine supportd variable density.
- Carrier setting: set the initial position and type of the carrier.
- Intarsia carrier setting: designating the carrier for the intarsia color code (jacquard or intarsia color code). See details in the Intarsia and Jacquard Drawing.

8.1.2 Pattern Expansion Page

➢ Click the Expand page in the window of Fig. 1, and then the dialogue window in Figure 2 appears.

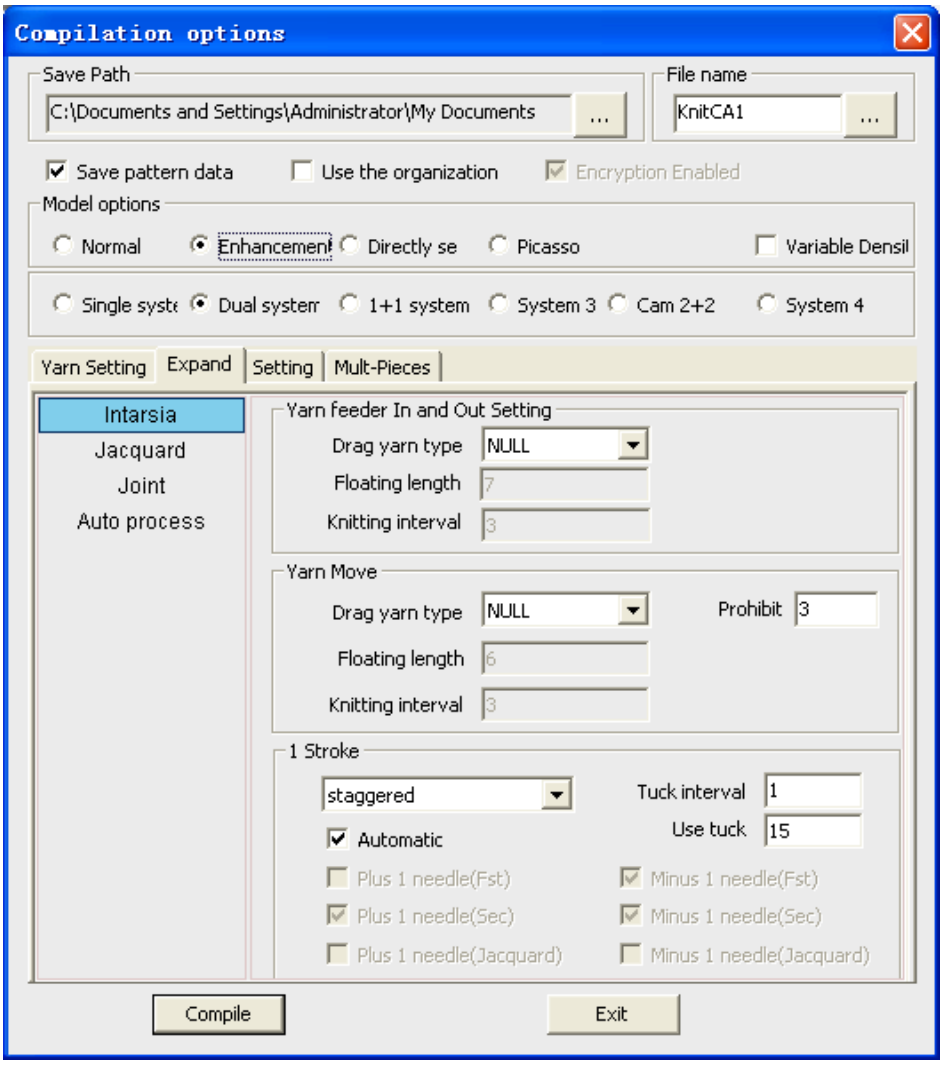
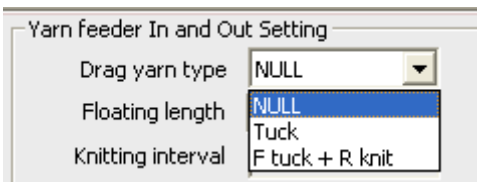


Figure 2 Pattern Expansion Parameter Selection Windows

8.1.2.1 Intarsia

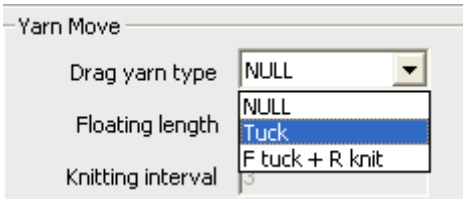
➢ Intarsia

- Yarn carrier taking In and Out Setting
  - ☞ The taking yarn type includes

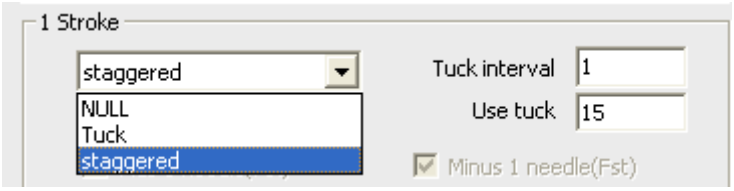


  - ☞ Floating length: the maximum floating length without yarn treatment for taking the yarn carrier.
  - ☞ Knitting interval: the number of spacing needles between tucks and tucks (or knits).

- Yarn Move:
  - ☞ The take yarn type include



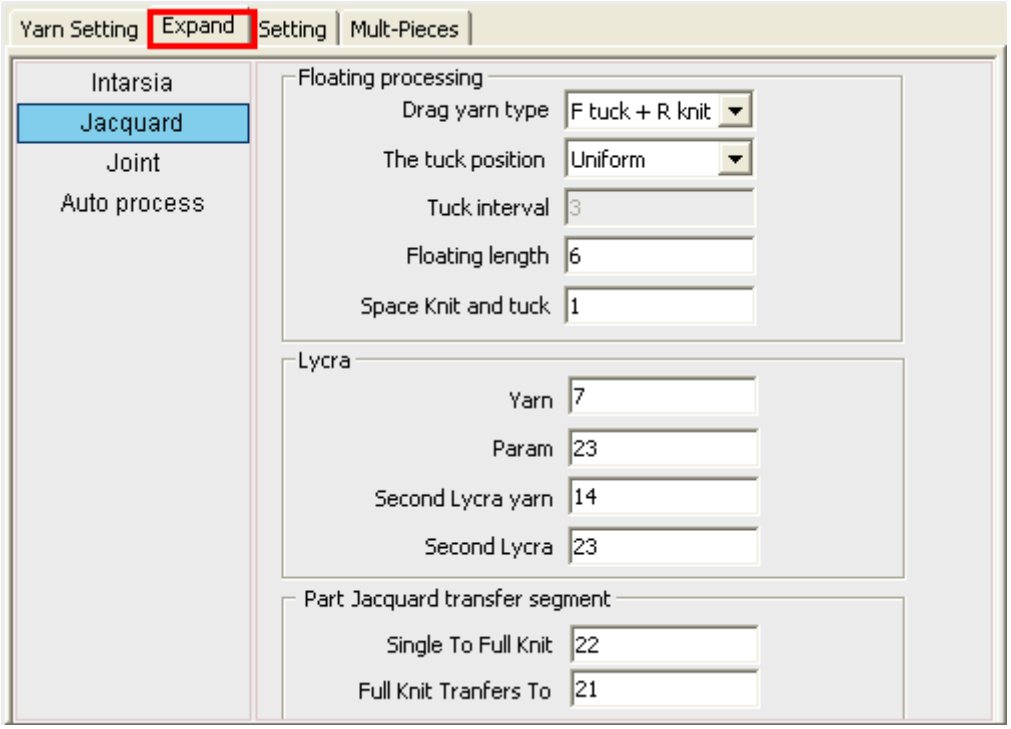
  - ☞ Prohibited needles: if the moving needles less than the prohibited needles would not move.
  - ☞ Floating length: the maximum floating length without yarn treatment for taking the yarn carrier.
  - ☞ Knitting interval: the number of spacing needles between tucks and tucks (or knits).
- One stroke:
  - ☞ If the distance between the current stop position and the next using position more than 1 needle, the movement of carrier will processed as 1 stroke.
    - ✧ Connection modes include



    - ✧ Tuck interval: the number of spacing needles of two adjacent tucks.
    - ✧ Use tuck: this is effective in the staggered mode. When the widening or narrowing distance is no more than 15 needles, use the staggered mode; otherwise, use the tuck for treatment.
  - ☞ When the number of deviation needles is 1 between the stopping point of the carrier and the position for next use, conduct treatment according to other options.
    - ✧ Auto: It is a treatment mode for intarsia (or local jacquard) to increase or decrease one needle, so as to improve the jointing effects.
    - ✧ Increase one needle (previous row/following row) and decrease one needle (previous row/following row): another treatment mode to increase or decrease one needle in intarsia, which can improve the jointing effects. This is effective when the Auto mode is not selected.
    - ✧ Increase one needle (jacquard) and decrease one needle (jacquard): another treatment mode to increase or decrease one needle in local jacquard, which can improve the jointing effects. This is effective when the Auto mode is not selected.
  - ☞ If the pattern is intarsia or partial jacquard, check automatic will get better joint effect.

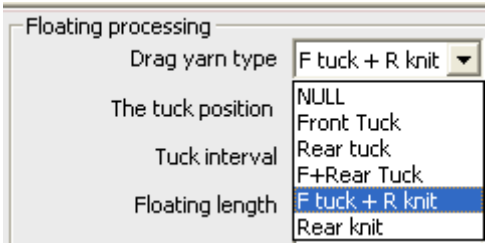
8.1.2.2 Jacquard Setting

➢ Jacquard Setting

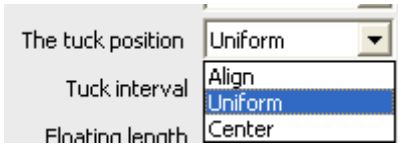


- Floating processing: refer to floating processing of jacquard, to avoid missing stitches as a result of over long floating yarns.

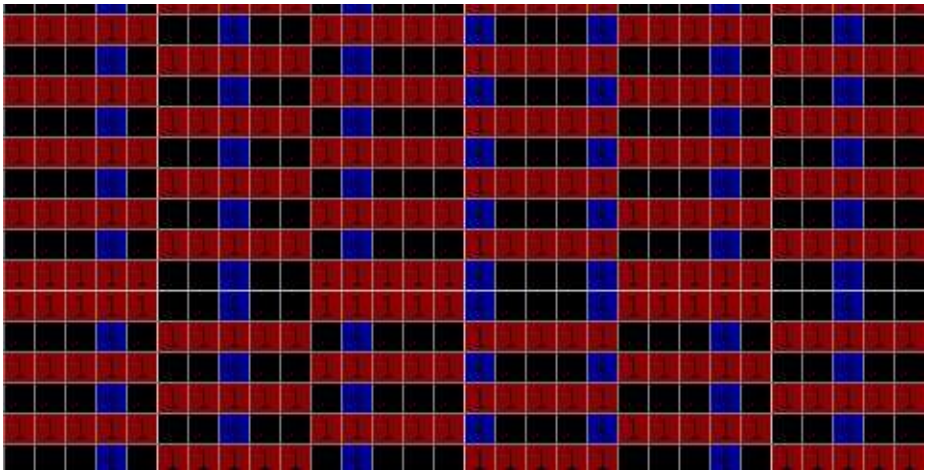
  ☞ The drag yarn type includes five types



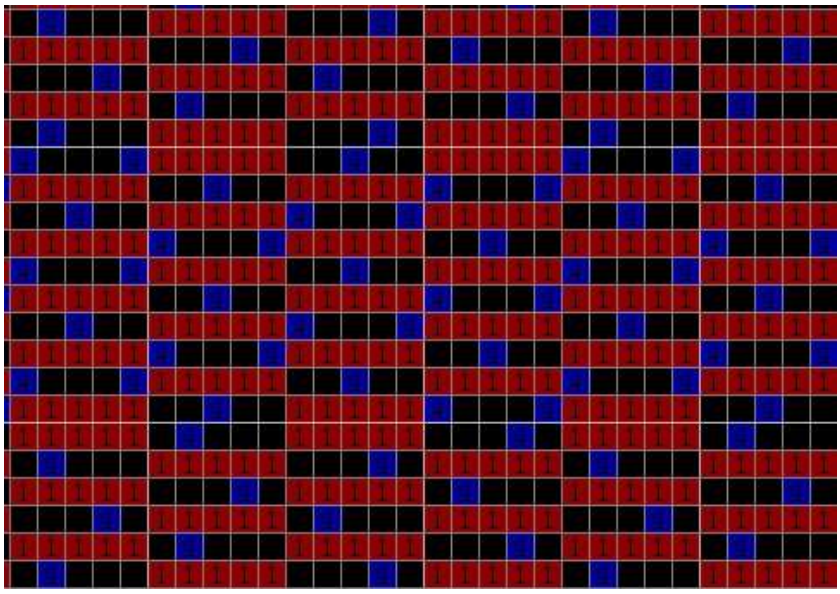
  ☞ Tuck position



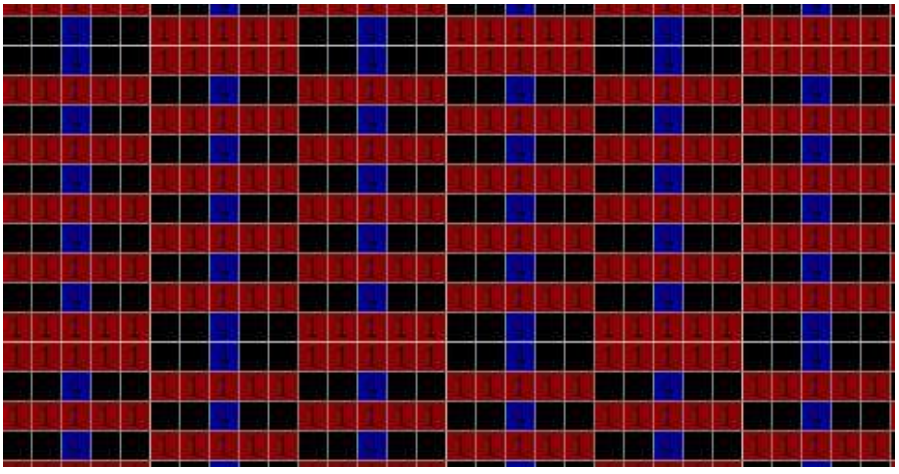
  ✧ Align



✧ Uniform



✧ Center



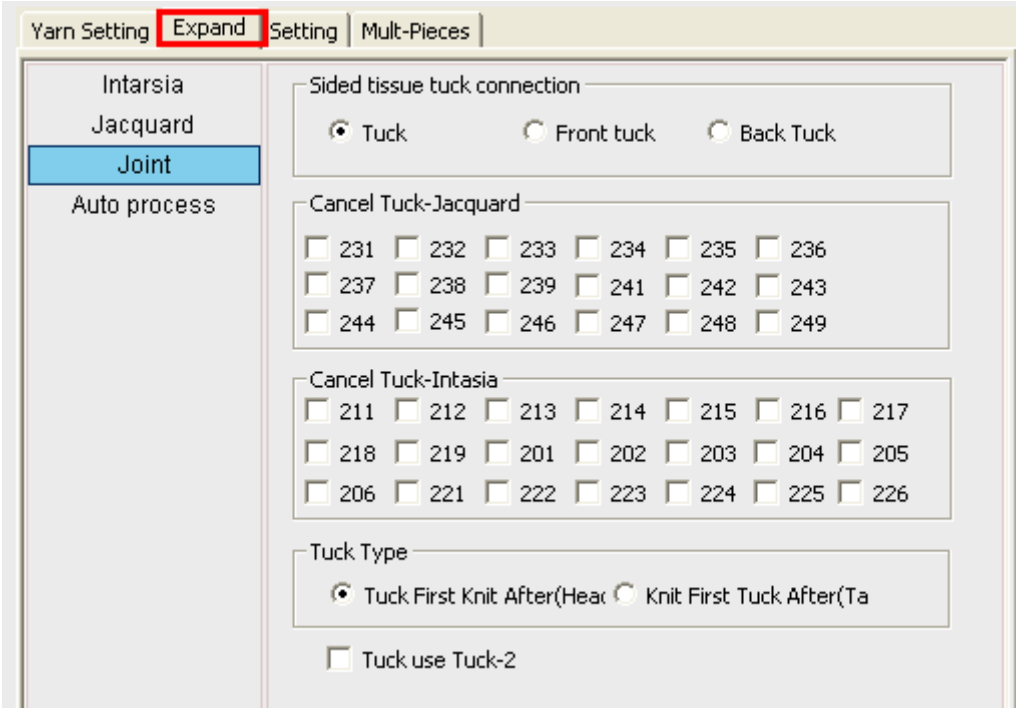
☞ Tuck interval: the number of spacing needles between every two adjacent tucks.

- ☞ Floating length: the maximum floating length in case of no treatment of back floating yarns of jacquard.
- ☞ The tuck and knit interval refers to the number of spacing needles between adjacent tucks and knits in the mode with front tucks and rear knits.

- Lycra
  - ☞ Specified carrier and specified levels: designating the carrier of the knitting Lycra row, and the corresponding levels of the density, speed, roller, and other parameters.
  - ☞ 2-level specified carrier and 2-segment specified levels: the carrier of the Lycra row of the right neck, and the corresponding level of the density, speed, roll, and other parameters of the jacquard V-neck.
- Same color segments of local jacquard and cloth body:
  - ☞ Single-sided to double-sided: the density level of the transitional row which trans single-side to double sides.
  - ☞ Double-sided to one-sided: the density level of the transitional row which trans double-sides to single-side.

8.1.2.3 Joint

➢ Joint



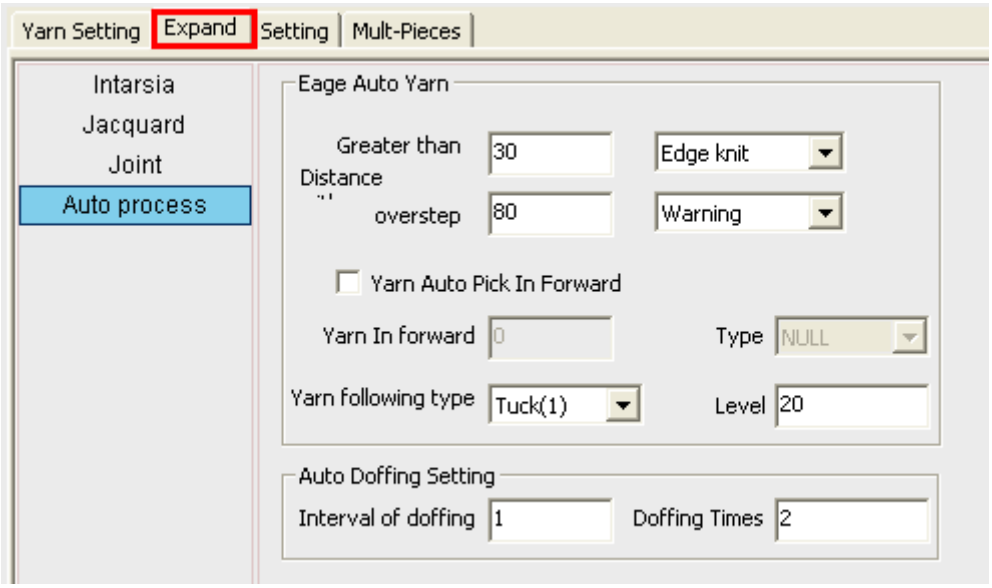
- Double side pattern tuck connection: an option of the double-sided pattern tuck connection.
- Cancel Tuck-jacquard color code: the selected jacquard color code would not tuck after

compilation.

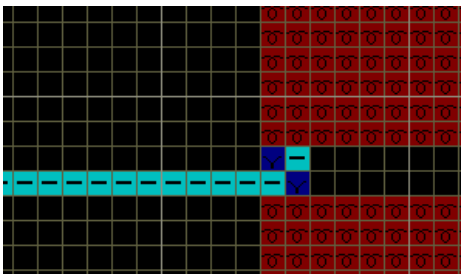
- Cancel Tuck-intarsia color code: the selected intarsia color code would not tuck after compilation.
- Tuck Type: select the tuck type.
- Tuck use Tuck 2: when there are both knits and tucks in one row, use the 2endlevel density tucks.

8.1.2.4 Auto Process

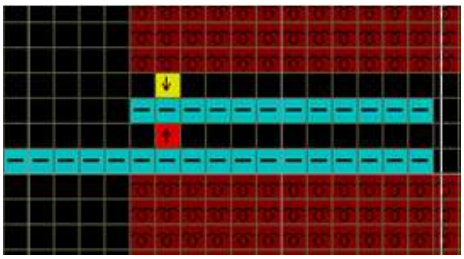
➢ Auto Process



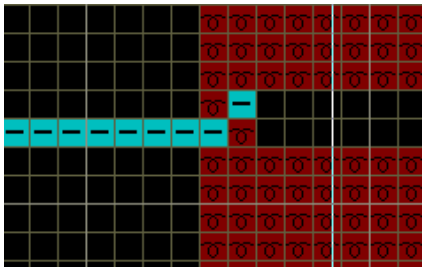
- Treatment of the carrier of the non-intarsia row: when the taking yarn distance of the non-intarsia pattern is less than 30would not be treated; when the taking yarn distance is more than 30 but less than 80, use the edge tuck; and when the yarn distance is more than 80, the warning prompts pop up.
- Advance Yarn: when the yarn distance is more than 30, the yarn is brought into the carrier according to the set value.
  - ☞ Edge tucks:



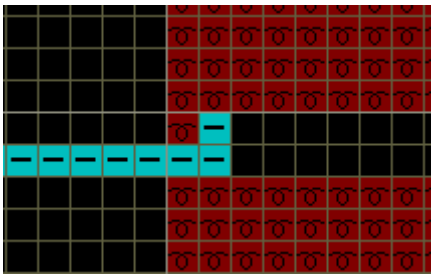
  - ☞ Edge transfer:



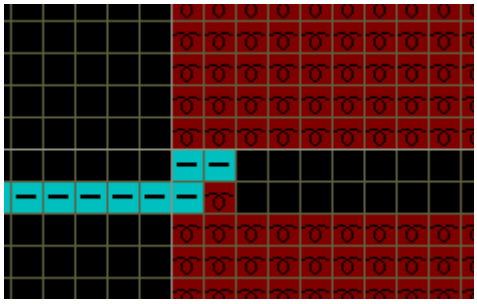
- Carrier following type: when carrier following is set on the fourth column of the functional line 214, the carrier following mode can be set.
  - ☞ Knitting



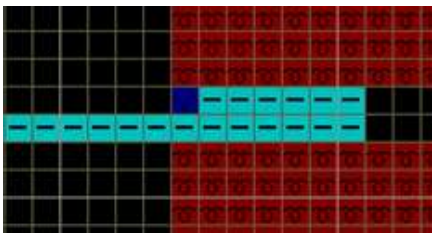
  - ☞ Knitting (1)



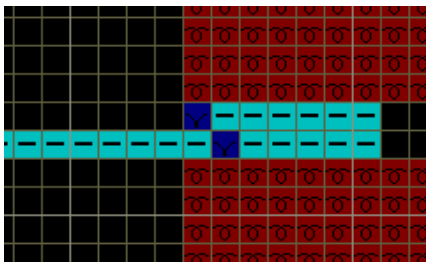
  - ☞ Knitting (2)



  - ☞ Tuck (1)



☞ Tuck (2)



- Level: the level of the taking carrier when carrier following and carrier picking in forward.
- Yarn Doffing Type: the number of spacing cast off rows and cast off times could be set.

8.1.3 Setting

➢ Click "Setting" in the window shown in Fig. 1, and then the dialogue box shown in Figure 3 appears.

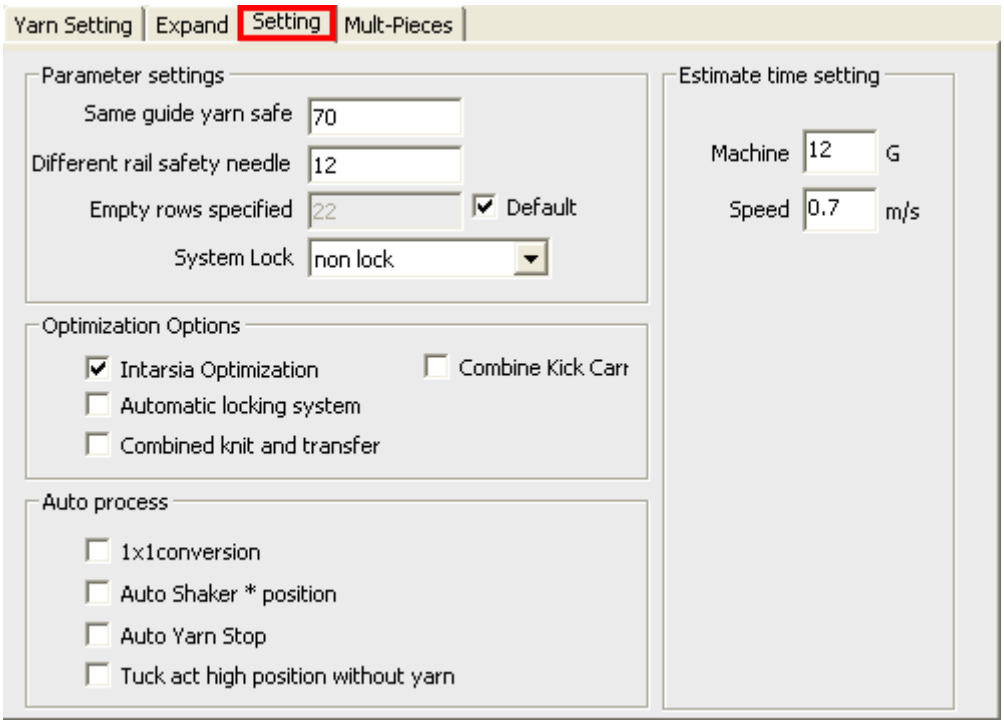
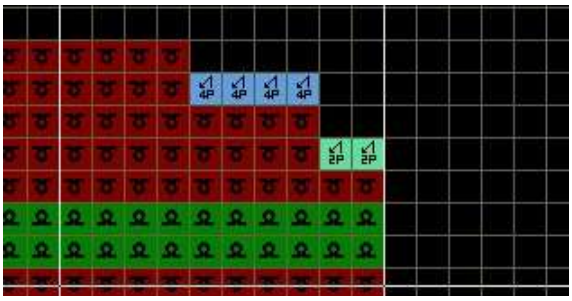


Figure 3 Parameter Setting Dialogue Box

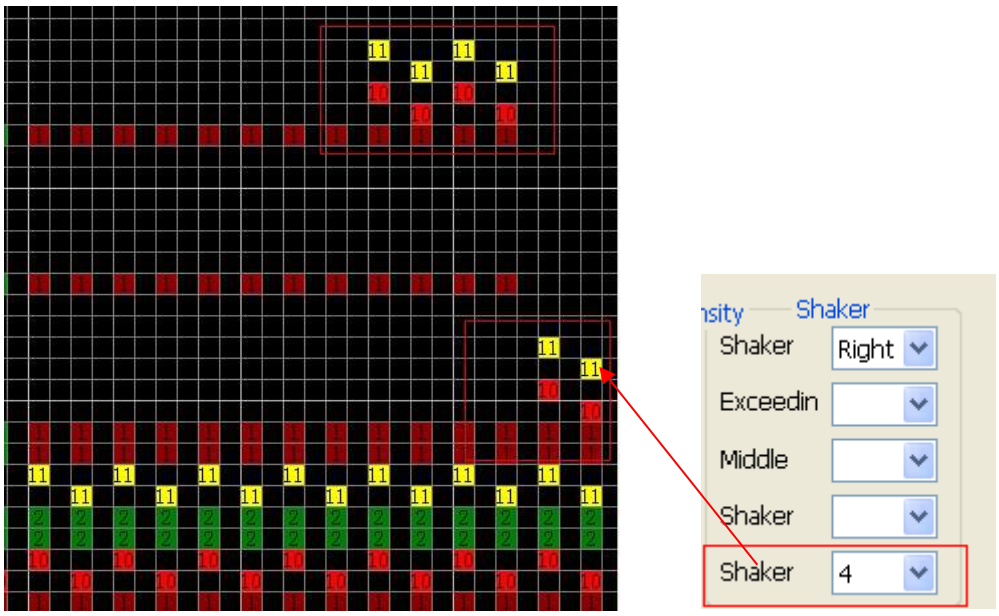
➢ Parameter Setting

- Same track carriers safety needles: the minimum number of spacing needles without treatment of the same guide track knitting carriers
- Different track safety needle: the maximum number of spacing needles without treatment of different guide track weaving carriers.
- Empty row specifications: specifications of the levels with empty rows as knitting parameters.

- Estimate Time Setting
  - Gauge: the number of needles per inch;
  - Speed: the carriage movement speed.
- Optimization Options
  - One-row V-neck Intarsia: Combine the non-collision intarsia parts into one knitting row.
  - Automatic locking system: Lock system automatically by most efficient way.
  - Combined knit and transfer: automatic combine single jersey row and transfer row,, with no requirement for manual configuration.
  - Combine kick carrier: Check it the action of kick carrier will be combined into one system.
- Auto Process
  - 1×1 conversion: the original organization chart is changed into 1×1, the racking needles times 2, and the carrier movement range changes correspondingly.
    - Three parts are mainly changed for 1×1 conversion: racking ×2, carrier range (YAR) conversion and stitch length ×2.
      - The original pattern layer is shown below:



      - When 1×1 conversion is selected during compilation, the results of compilation are as follows.

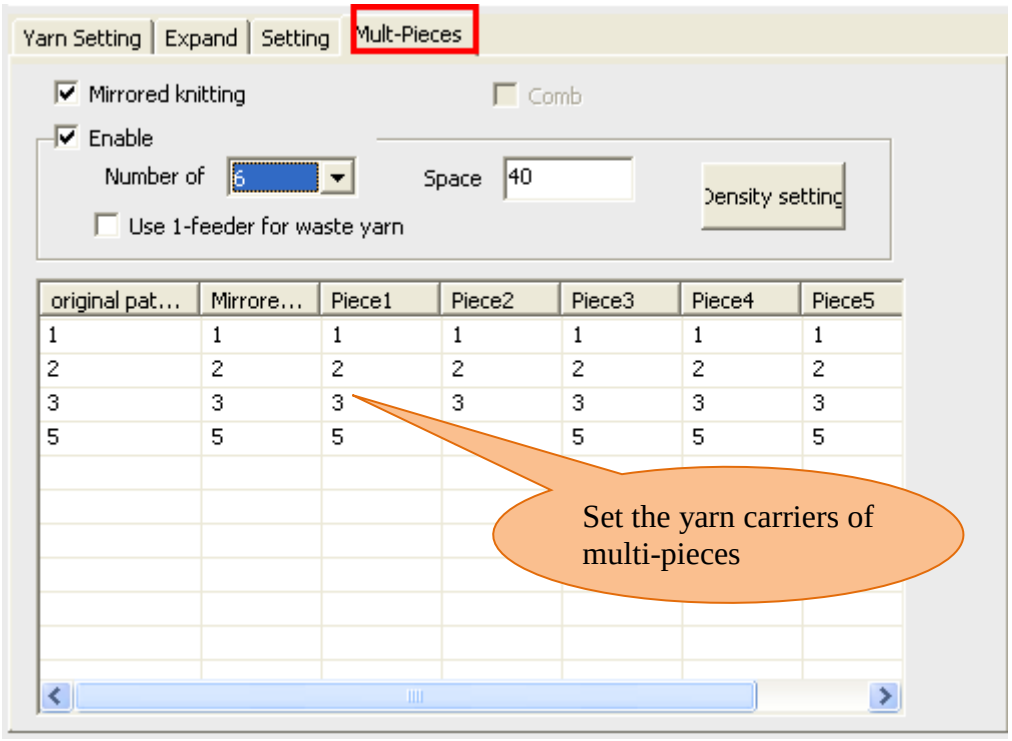


- Auto racking * Position: when it is selected, the default knitting position is needle to needle.
- Auto Yarn Stop: when it is selected, (1)Left carrier, stop point level of the first and the last using is default 7.(2)Right carrier, stop point level of the first and the last using is default 8.(3)Carrier of the intarsia row, stop point level is default 6.
- Tuck acts in high position without stitch: when there is no stitch on the front (rear) bed while the front (rear) tuck, the tuck acts in the high position so as to smoothly feed yarns.

8.1.4 Multi-Pieces

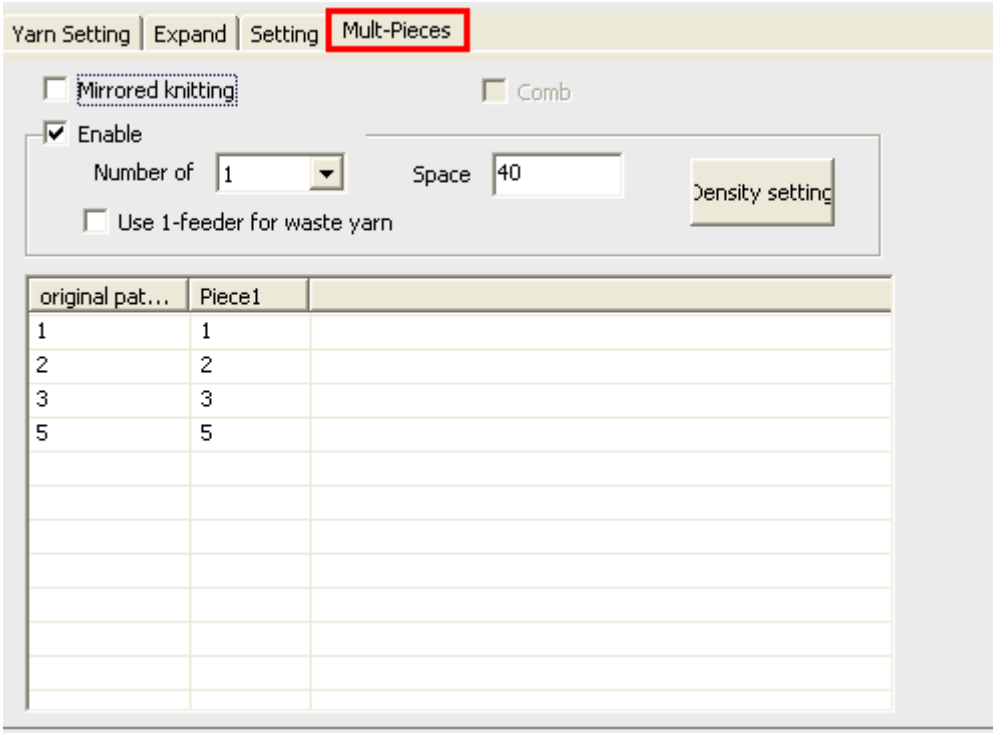
➢ Multi-pieces Setting for pattern without comb

- System will recognize the comb of the pattern automatically.
- Number of pieces, set the pieces of expansion, the number could not more than 8.
- The interval of pieces should be set to ensure the carriers will not conflict.
- If only one waste carrier, the carrier will knit as float between pieces.

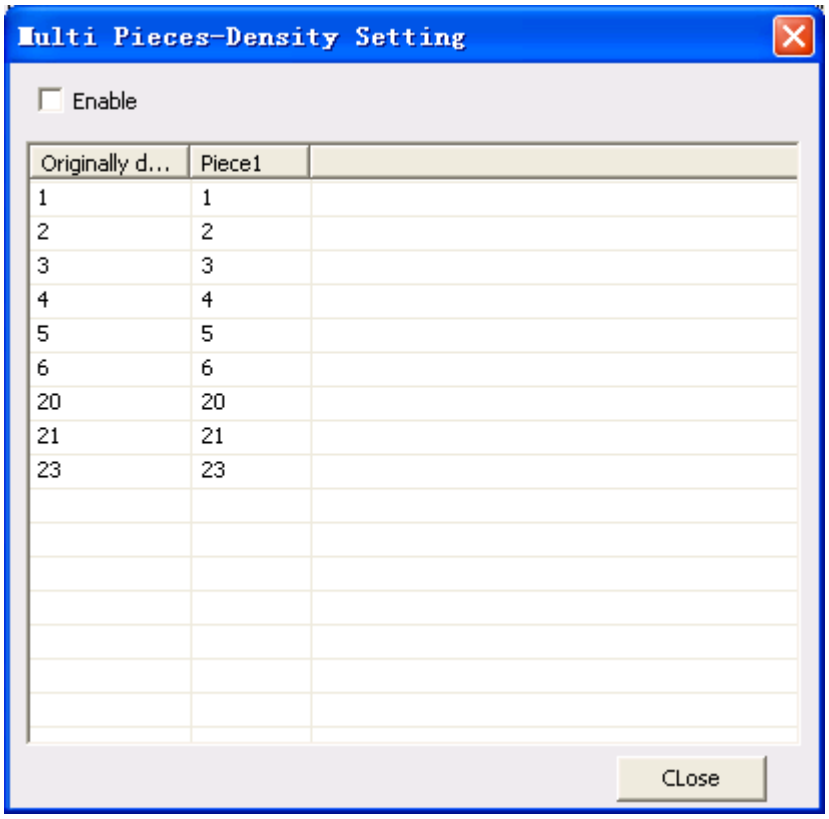


➢ Multi-pieces Setting for pattern with comb

- System will recognize the comb of the pattern automatically.
- The expanding pieces could not more than 1.
- The interval of pieces should be set to ensure the carriers will not conflict.
- The original piece is only allowed to use the left carrier while the expanding piece is only to use the right carrier.



- Different density could be set for different pieces if the machine supports variable density.
- Click “Density setting”, check enable, set the different density for different pieces.



8.2 View the compiling information

➢ Click “Compile” (Fig. 1). The system will automatically save the modified pattern after compilation (Fig. 4).

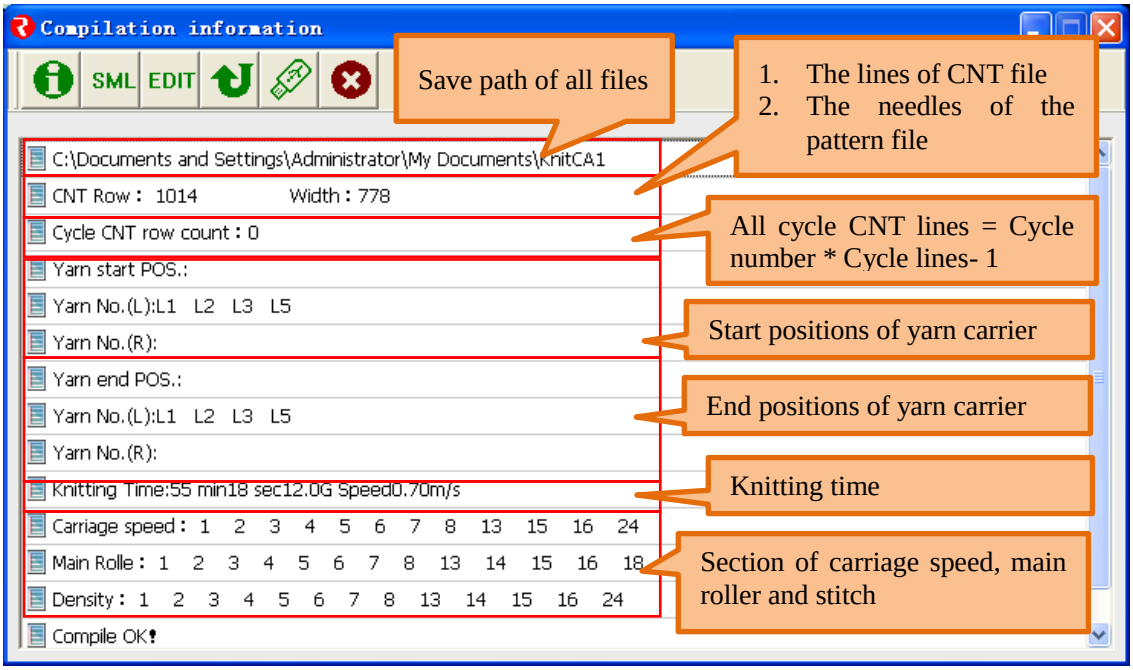


Fig. 4 “Compile” Window

➢ User can double-click the error prompt if there is a compiling error and the system would automatically locate the row of the error in a highlighted and flashing form as a reminder to users (See Fig. 5).

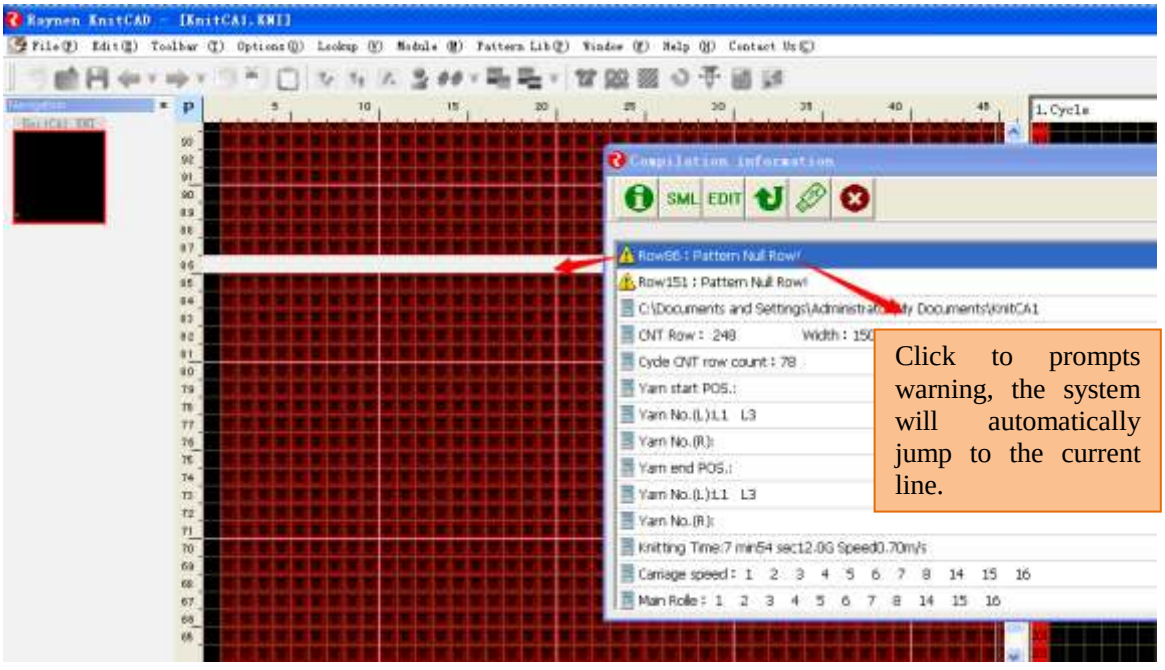


Fig. 5 “Compiling Error” Window

➢ After compilation, five files (CNT, PAT, PRM, SET and YAR) are generated in the folder (if enhanced machine is selected in Fig. 1, there will be another file, 001). These files have the meanings as follows:

- 001 file is knitting files for new machine and the CNT\PAT\YAR\SET\PRM is for older machine.
- CNT: Consisting of knitting parameters of the machine. Therefore, it must be imported before knitting.
- PAT: Consisting of needle action information, the needle will act according to it. Therefore, it must be imported before machine running.
- PRM: Consisting of pattern cycle information, it must be imported before machine running.
- SET: Pattern expansion file.
- YAR: Consisting of the information of the yarn carrier, such as corresponding No. and knitting range of the yarn carrier.

8.2.1 Knitting Simulation

➢ Click the icon 

in Fig. 4 and then knitting simulation window appears (see Fig. 6). Users can check the knitting action.

➢ Click the “Setting” button, and then a dialog box appears (seeFig. 7).

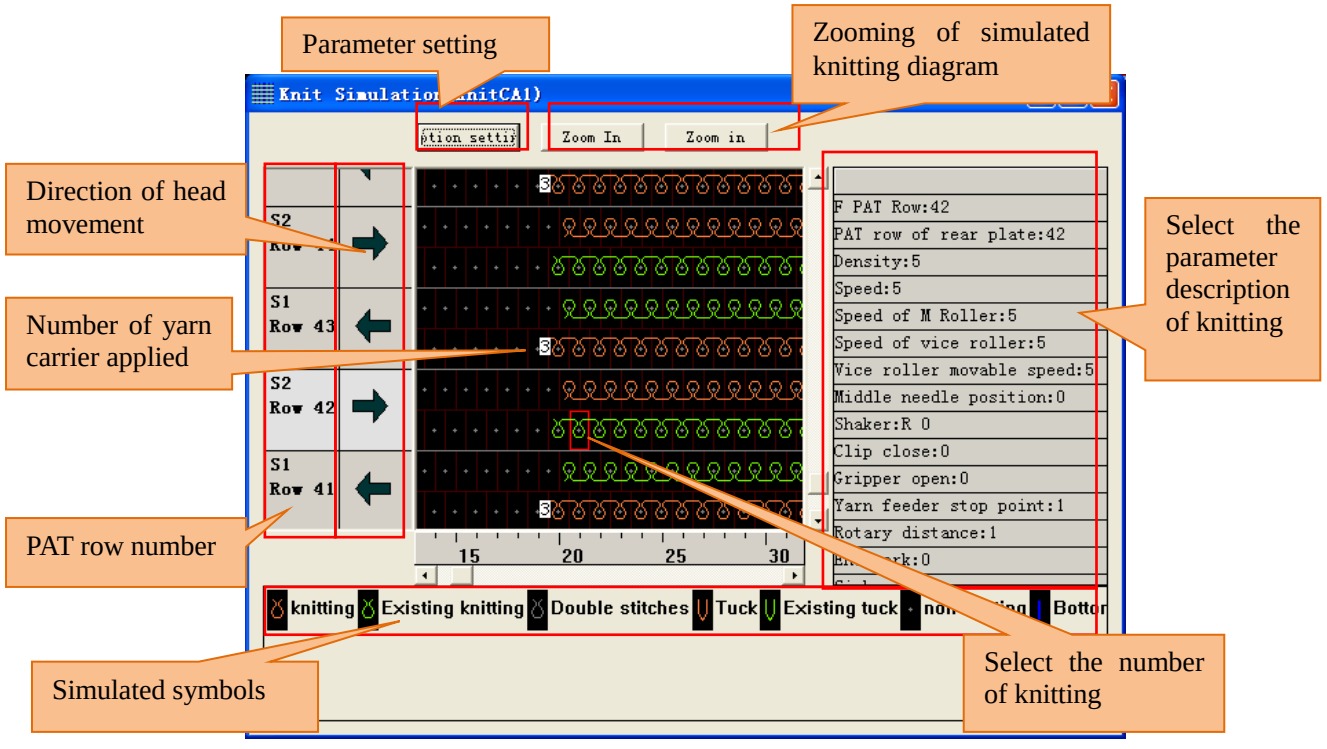


Fig. 6 “Knitting Simulation” Window

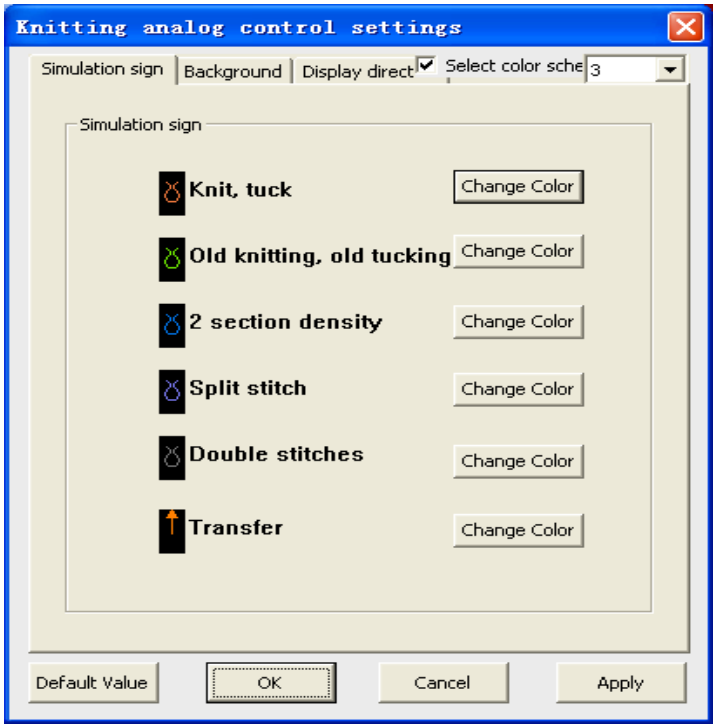


Fig. 7 "Knitting Simulation Control Setting" Dialog Box

8.2.2 All Viewer

- Click the icon 

in Fig. 4, and then a window appears (see Fig 8).

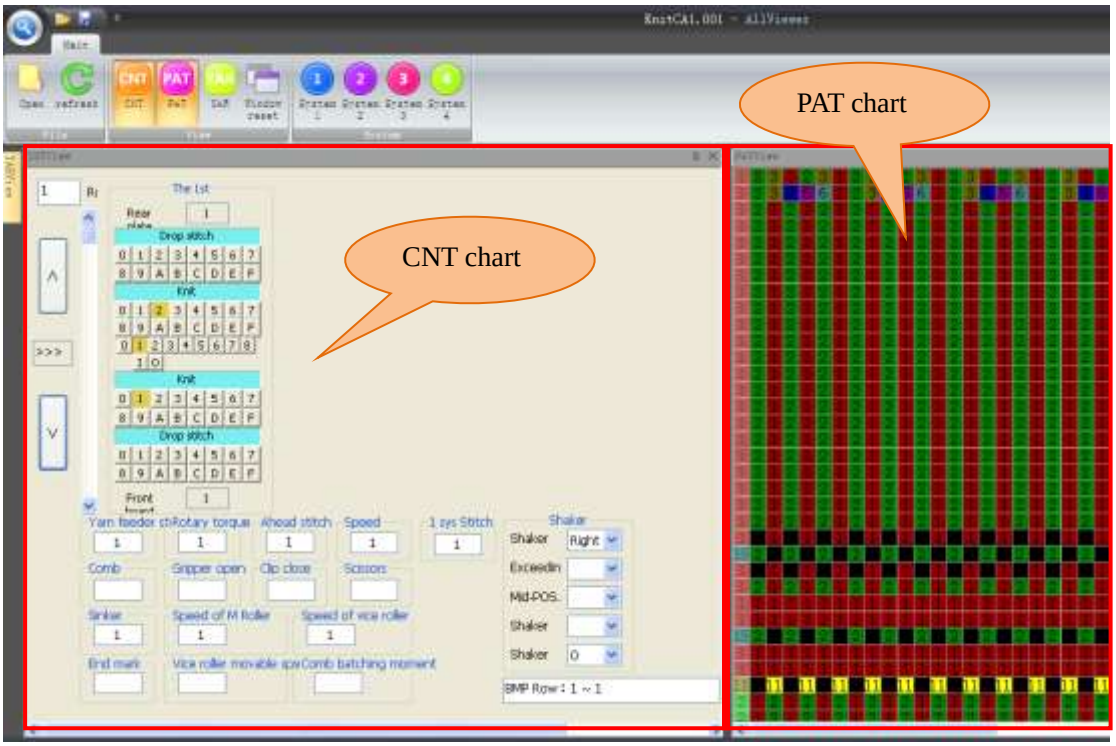


Fig 8 "PAT Edit" Window

➢ YAR

- Click the icon  (see Fig 8), and then a window appears (see Fig 9). YAR chart is used for recording the information of yarn carrier, such as corresponding stopping point.

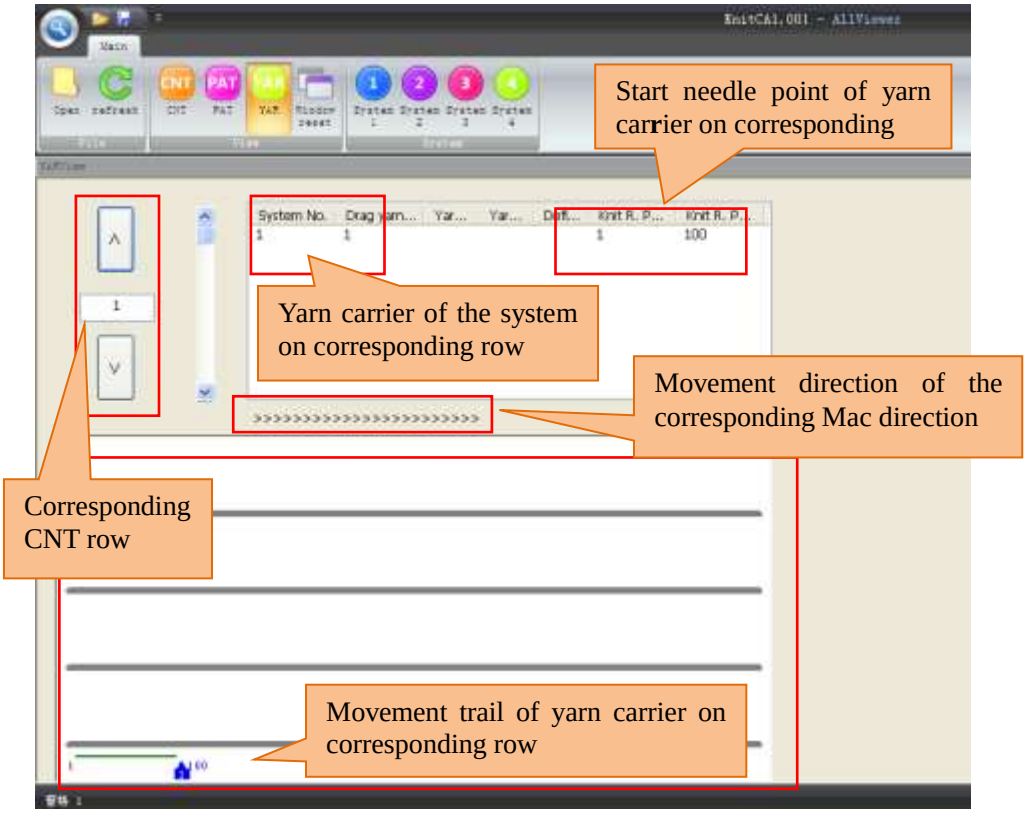


Fig 9 "YAR Chart" Window

➢ View CNT chart

- Click the icon  in Fig 8, and then a window appears (see Fig 10). CNT files are the action files of pattern after compilation and should be imported machine for knitting.

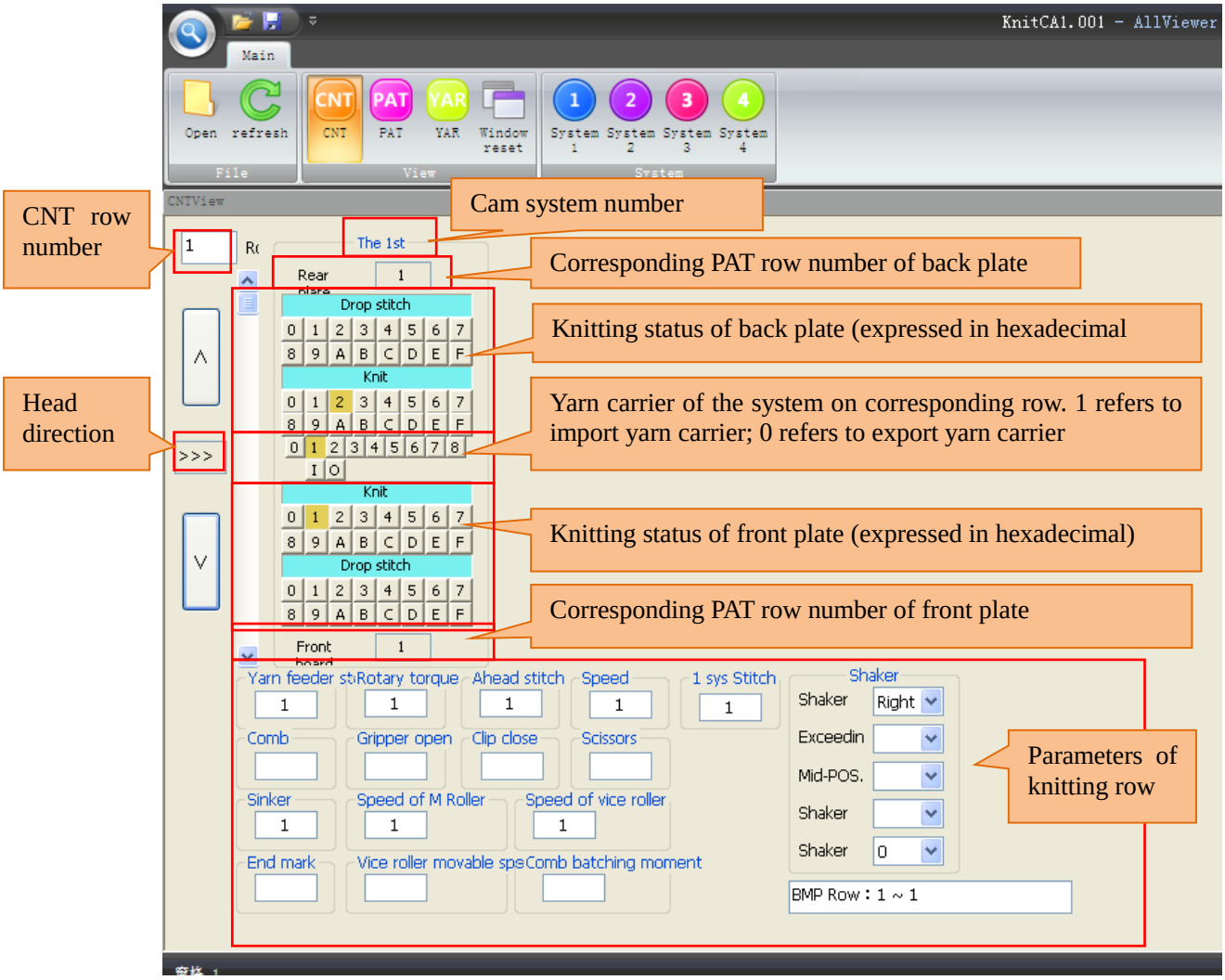


Fig 10 “CNT Chart” Window

- Refer “Function Line” section of the Operating Instructions for relevant parameters.
- View PAT chart

  - Click the icon  in Fig 8 and then a window appears (see Fig 11).
  - PAT is needle action chart.

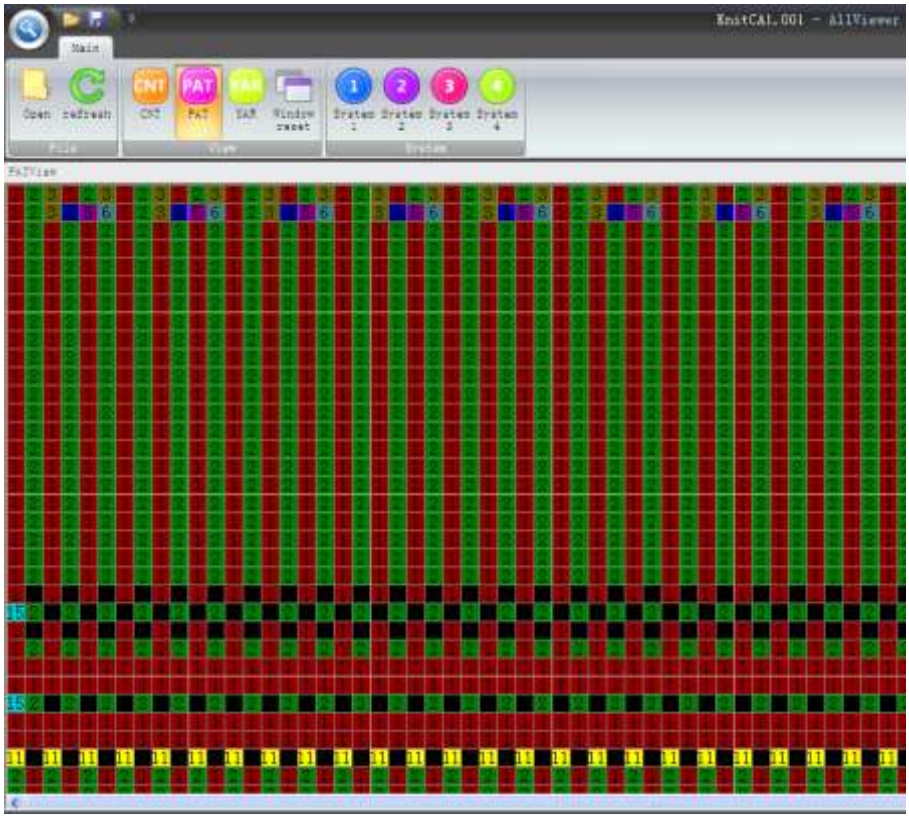


Fig 11 “PAT Chart” Window

8.2.3 PAT Edit

- Click the icon 

in Fig. 4, and then a window appears (see Fig. 12).

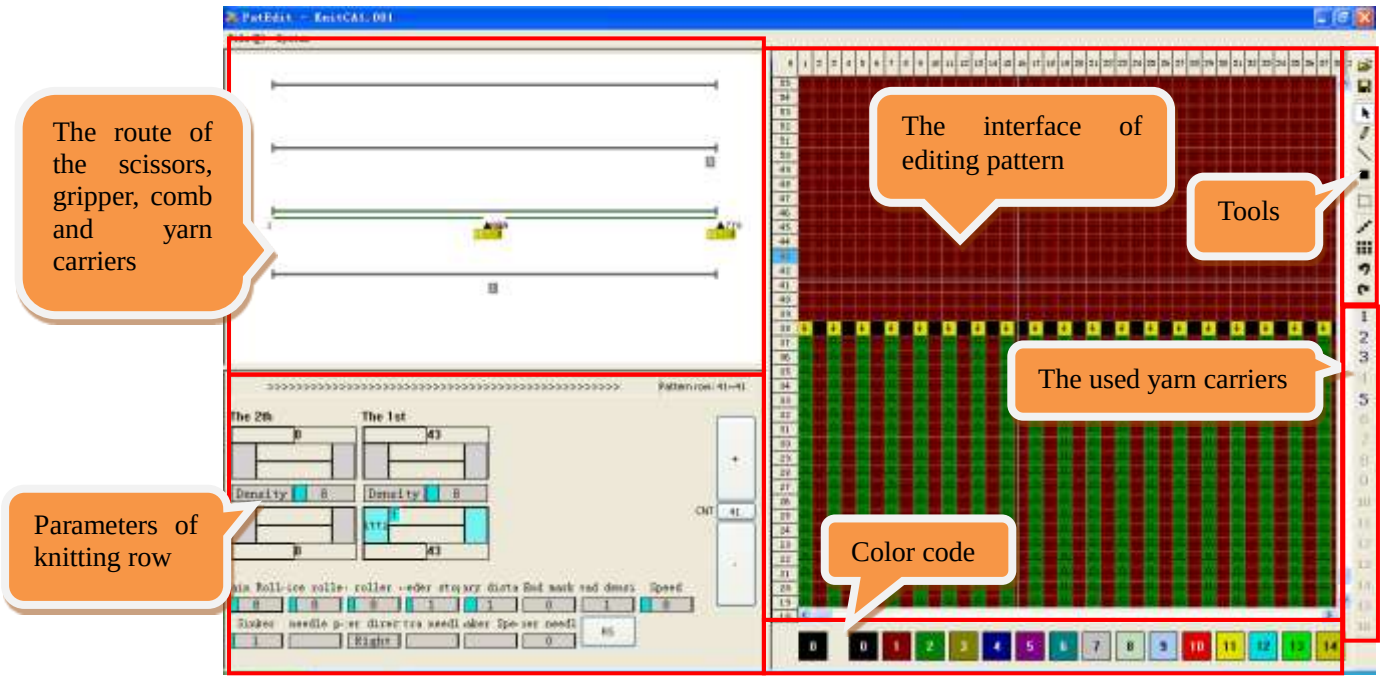


Fig. 12 “PAT Edit” Window

➢ Click the button RS, the cycle numbers and rows could be viewed(see Fig 13)

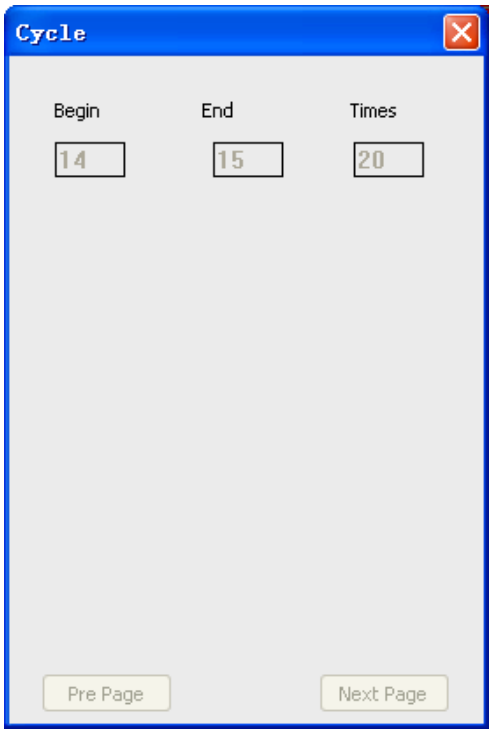
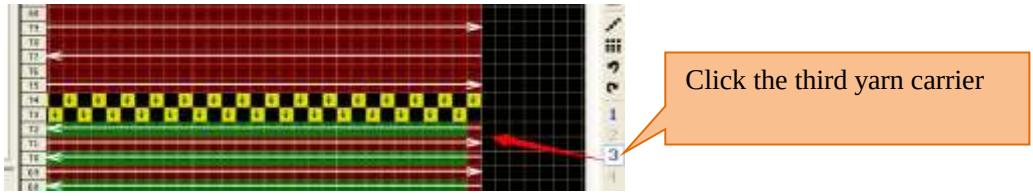


Fig 13 "Cycle" Window

➢ Net: "PAT Edit" Apply to change knitting stitch in the small range. Can't insert or delete rows

➢ Click the carrier NO, at right side of the view(only used carrier can be clicked), the knitting track will be showed in the view.



Toolbar:

➢ The operation tools are same as pattern design system tools in "PAT Edit" interface. There is introduction in tip when the cursor stops on a tool.

Shortcut Keys: F2-return to the origin

8.2.4 De-compilation

➢ Click the icon  in Fig. 4, the current pattern will be decompiled. The function is same as the decompilation on the toolbar of the main interface.

8.3 Send knitting file to the U disk

➢ Click the icon  in Fig. 4, the current 001 (or SET, PRM, CNT, PAT, YAR files) file is sent to U disk.

8.4 Save to knit

➢ Enhancement machine: save 001 file to knit.

➢ Normal machine: save SET\PRM\CNT\YAR\PAT files to knit.

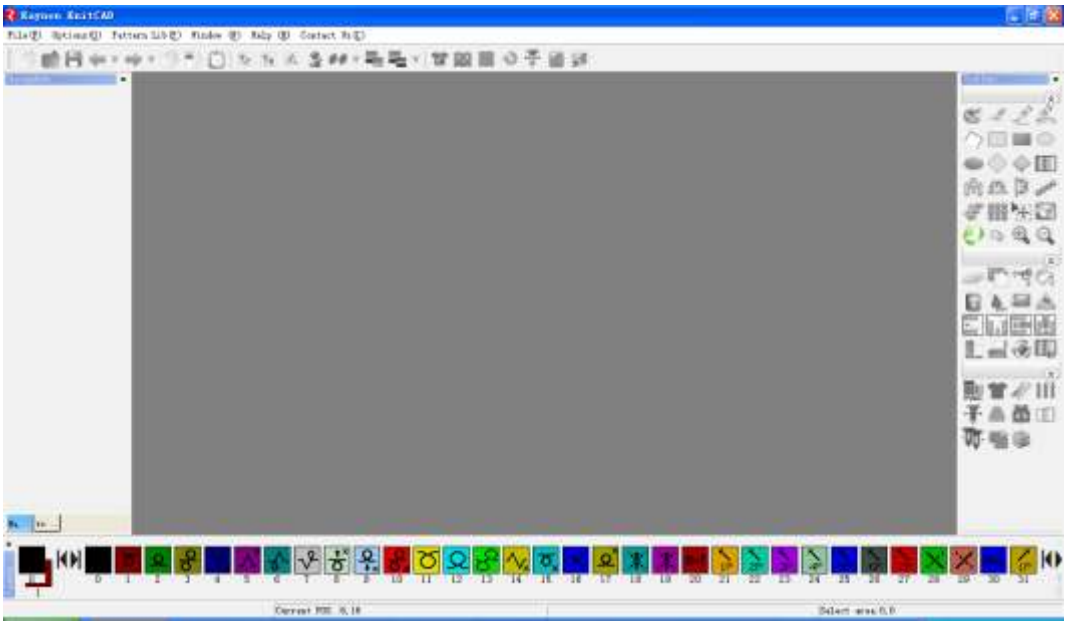
9 Simple Process of Pattern Program

Procedure of drawing pattern-------Usually eight steps.

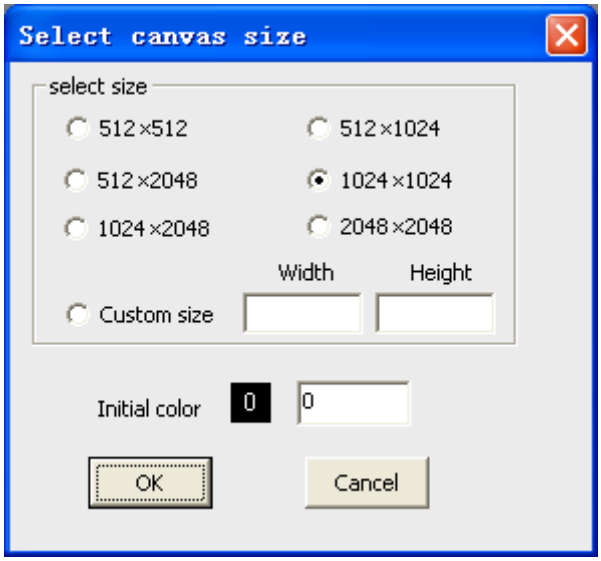
New pattern→Drawing pattern→Set the yarn carrier→Set and modify the Parameter of knitting specification→Automatic process→Check program→Save to knit

9.1 New Pattern

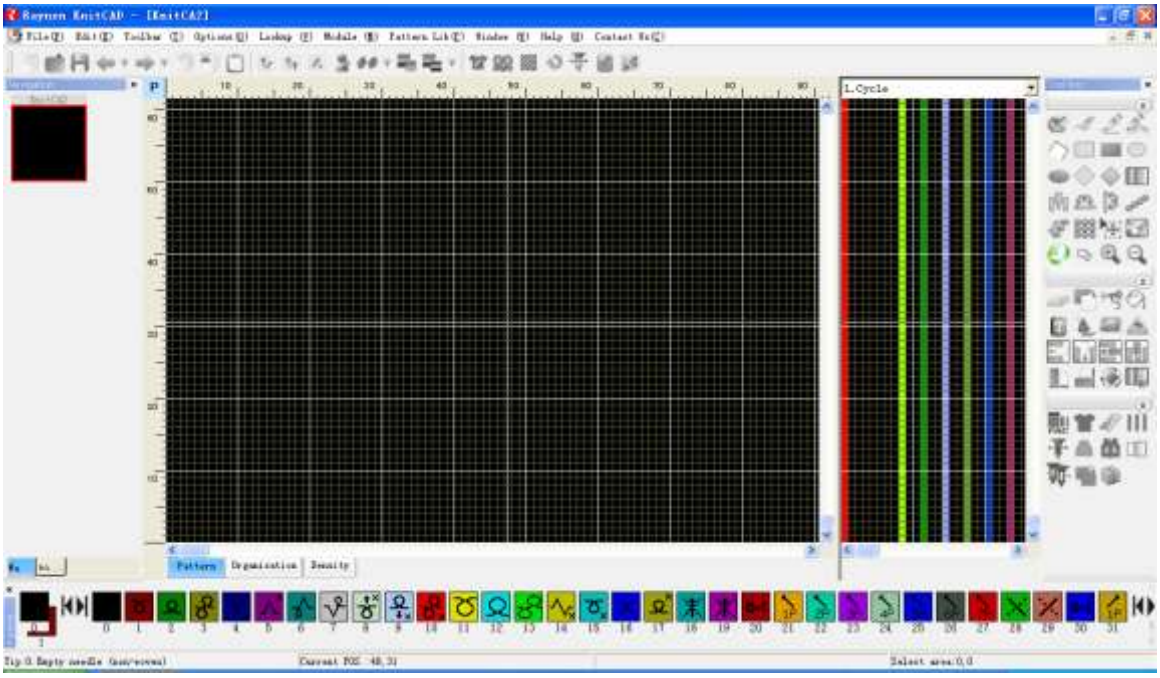
➢ Activate “Raynen KnitCAD” in “Program” of “Start” Menu or double-click desktop shortcut icon to enter the main interface, as follow:



➢ Click “Create” in the pull-down menu or click the shortcut button , and then the dialog box will pop up. Enter the width and height and select initial color code (usually No. 0 color).



➢ Click needed options in “Select Size” of the “Select Canvas Size” Window to select the size of drawing area.

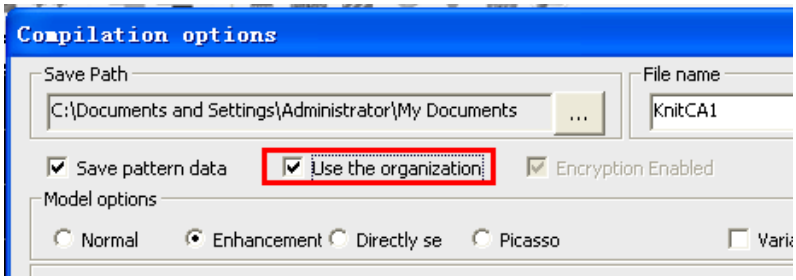


9.2 Interface Introduction

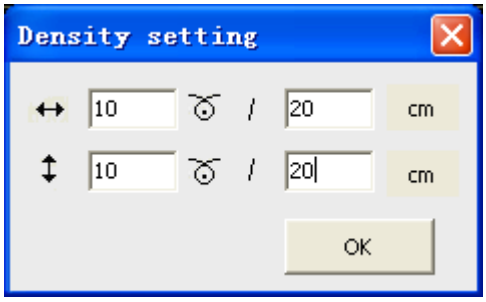
➢ The drawing area is divided into three related layers:

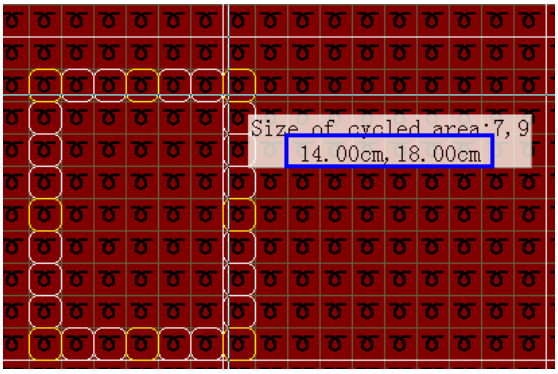
- Pattern chart: used for drawing the knitting and intarsia color codes. The majority of patterns can be drawn based on the pattern layer.
- Structure chart: specify the action of certain needles and generally used when the intarsia

color codes are drawn on the pattern layer. Effective when the "Use structure chart" IS selected.



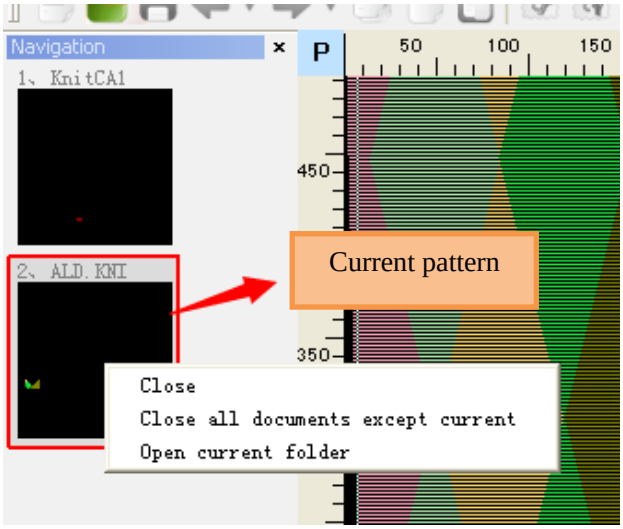
- Density chart: for setting the density levels of the corresponding rows of the pattern layer.
- Click P in the top left corner of the main graphic region, and the horizontal and vertical density can be input (as shown below). The length and width of the circled area can be displayed during circling.



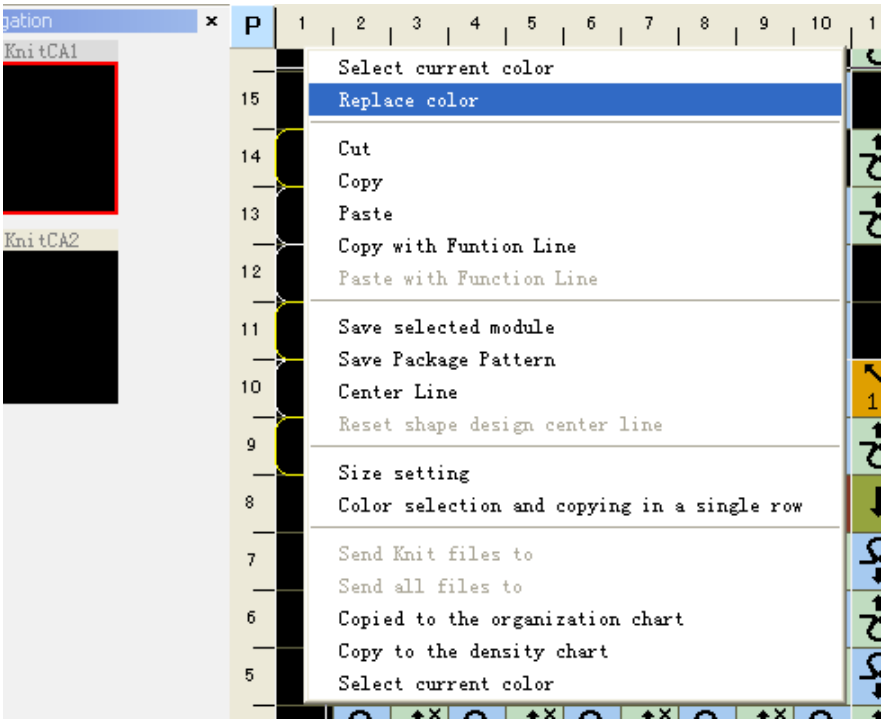


➢ Right-click one window of the navigation bar, and then the right-key menu will appear, as shown below:

- Close: close the current pattern.
- Close all documents except current: close all the other patterns except the current pattern.
- Open current folder: open the folder with the current pattern.

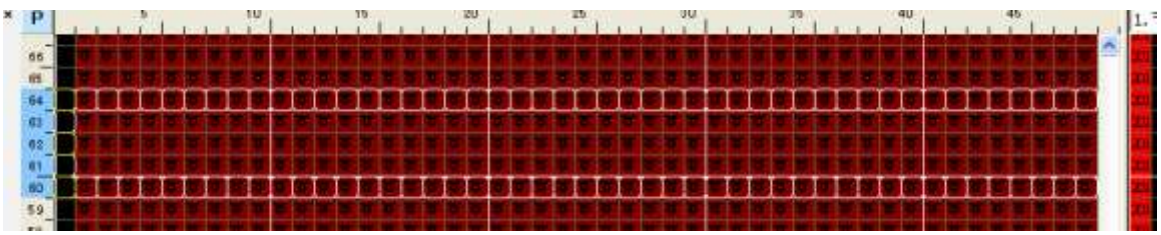


➢ Right-click anywhere in the main graphic region, and then the drop-down menu of the right key appears, as shown below:

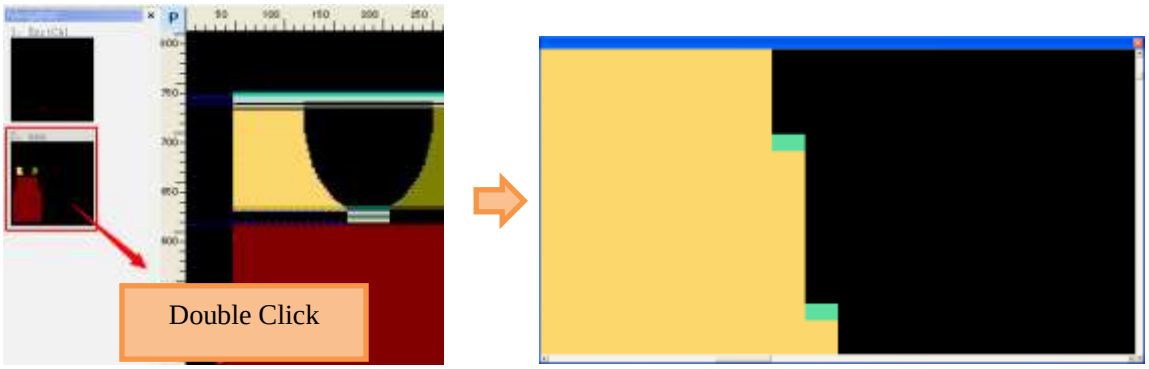


- Cut, copy, save selected module, save package pattern are effective while certain area be circled.
- Copy with function line, paste with function line: the pattern row will be copy or paste with the function line.
- The “Reset shape design center line” is effective when the “Display shape design center line” is selected.
- Size setting: Resize the pattern by calling setting interface.
- The “Send knit files to” and “Send all files to” are effective when there are 001 files.
- Copy to structure and density chart: copy the circled pattern to the structure or density chart.
- Using current color: Change pen color code into current color code.

➢ Move the cursor to the vertical (or horizontal) rule, keep the mouse being down move the cursor to the destination and then release the mouse. Thus, the whole row (or the whole line) is circled, as shown below:



➢ Double-click one pattern window of the navigation bar, and then the pattern preview can be displayed, as shown below:

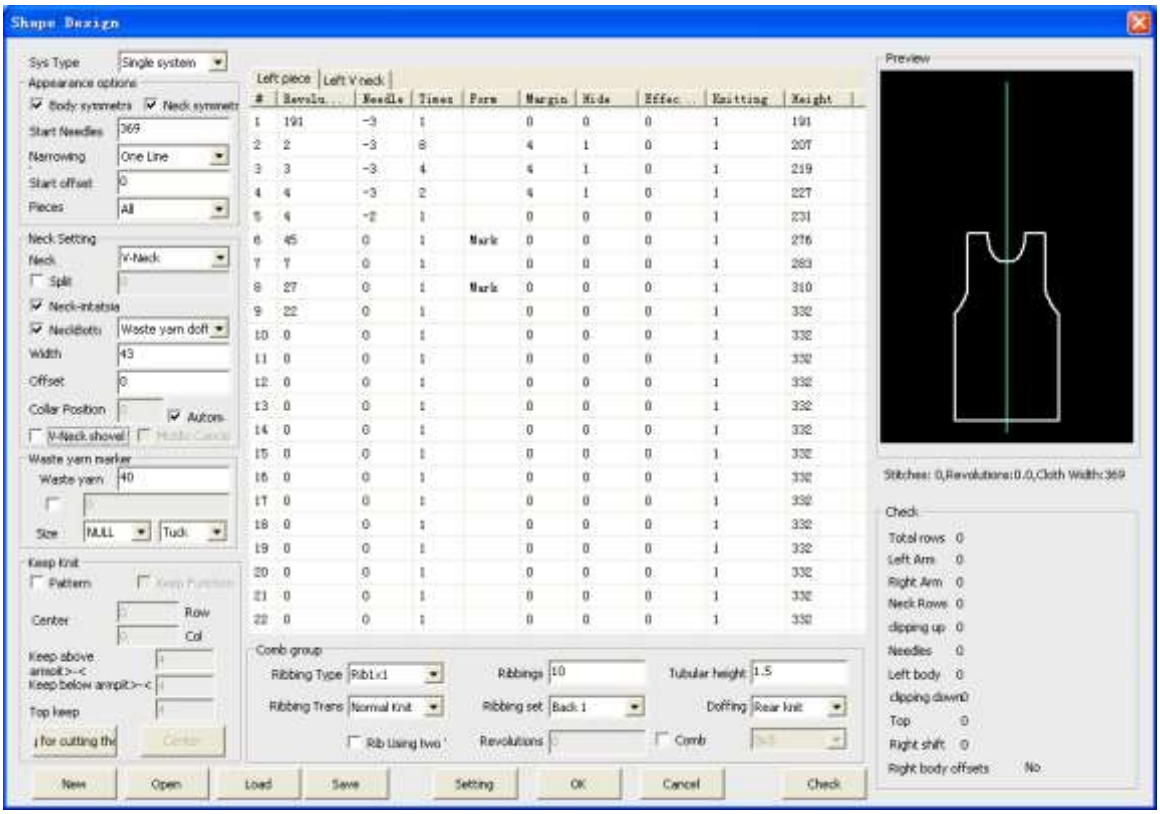


9.3 Drawing pattern

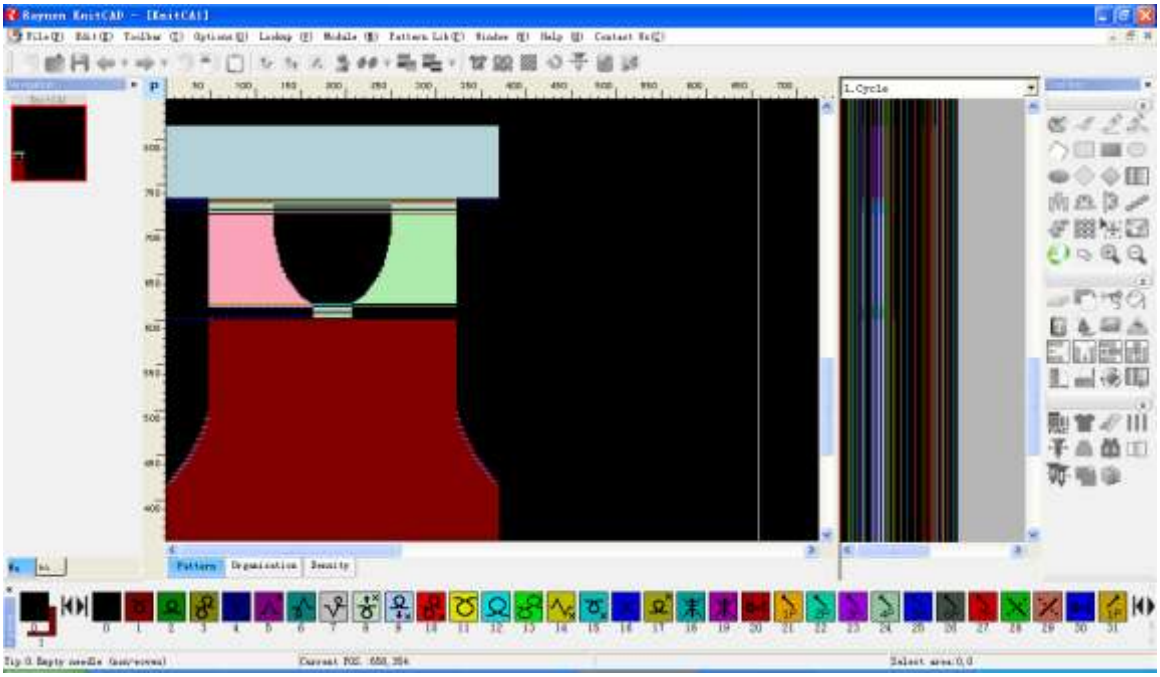
➢ Before drawing, it is suggested to make the graph zoom in through function key F12 on the keyboard or the mouse wheel (maximum scale 20:1). It is easy for drawing with grids.

➢ Draw the rib and contour of the pattern through the shape design.

- Click to the button  on the toolbar. The shape window ia as follow, input the knitting specification and parameters. Operations refer to shape design.



- Click “OK”, the rib and contour of the pattern is shaped as follow.



- Design pattern
  - The color code in “Palette” (current color) is used as the tool for pattern drawing in the drawing area. Color codes are knitting action of the flat machine. It is the knitting, transferring, tuck and so on. The introduction of the color codes refer to the “Color code” chapter.
  - The toolbox has tools for designing pattern and pattern operation.
  - Use different symbol to stand for different structure in the drawing area.
- Firstly, be sure that what kind of pattern you want. Single Jersey, V neck, Jacquard, Intarsia and so on. You can select the design tools on the toolbar and toolbox to assist operation. Such as pixel tool, line tool, ellipse tool.
- The main drawing window has two layer tips: Pattern layer and structure layer.
  - Color code in pattern chart stands for action imformation. So the structure is usually designed in pattern chart.
  - Intarsia patten and jacquard pattern need to design by drawing intarsia and jacquard color code in pattern chart.

9.4 Set the yarn carriers and Knitting Specification Parameters

- After graphing, the following process parameters can be set in the corresponding positions in the function line drawing area: cycle, knitting density, racking, speed, roller, knitting mode, yarn carrier and end mark (See “Function Line” for details) to complete the whole process.

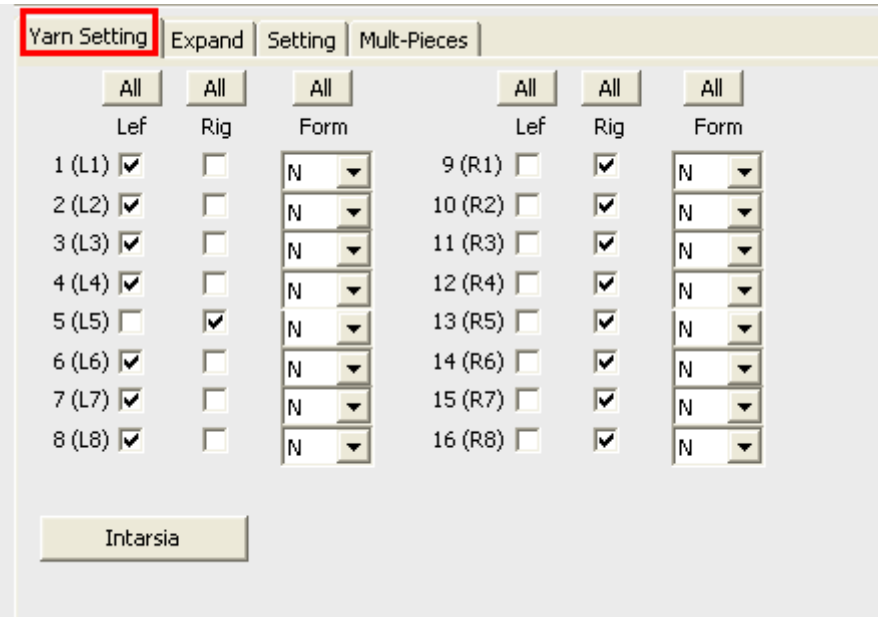
- Different specification parameters are expressed by different colors. The colors indicate the level value. Different knitting parts have different levels. The section is a range in the function lines, the corresponding value should beset in machine before knitting.
- The yarn carrier is also set in the function zone (See Section II of this Chapter for details of function line).
- Besides, No. 1 color should be added into the Function Line L20 at the last row to indicate the end of pattern.

9.5 Save Pattern File

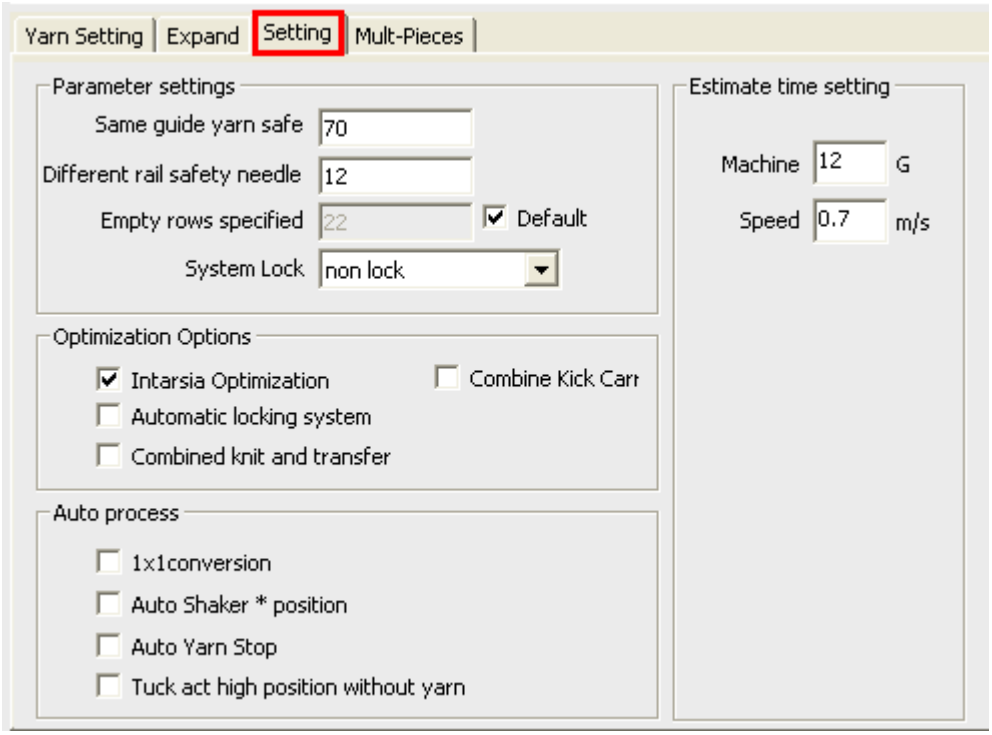
- Select the pull-down menu: click Document- Save (S) or Save As (A) or click the icon  .

9.6 Compiling

- Click  button in the Toolbar. Set compiling parameters.
- Select the machine model according to the actual situation.
- Set the start positions of yarn carrier in the "yarn settings" page.



- Set the optimization options and automatic process in the "Setting" page.



9.7 View the compiled file and knit

- Check the knitting file through "All View", "PAT Edit", "Knitting Simulation", and "De-compilation"
- Send knitting file to the U disk

9.8 Summing-up

- In the process of design pattern, the important processes are the second step (Drawing pattern) and the third step (Set the yarn carriers and knitting craft Parameters).

10 Jacquard and Intarsia

- Changes of jacquard and intarsia made in Version 3.10 compared to previous versions are as follows:
  - 3 group intarsia color codes (211~219), jacquard color code (231~239) and jacquard color code for collar (241~249) are added.
  - Full-jacquard drawing method is changed and back stitch set in 214 function line. The function of jacquard grouping is added so that different back stitch effect can be set within one jacquard pattern.
  - The special effect of intarsia carrier setting is modified as gridding display.

- Parameters are adjusted.
- Description of backside can only be used in local jacquard after which back knit color code can be added.

10.1 Color code for intarsia and jacquard

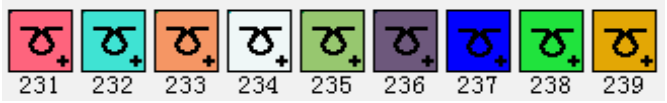
➢ Intarsia color codes:

- 201~206 (Back knitting): 

- 211~219 (Front knitting): 

- 221~226 (Front and back kitting) 

➢ Jacquard color codes:

- 231~239 (Front knitting): 

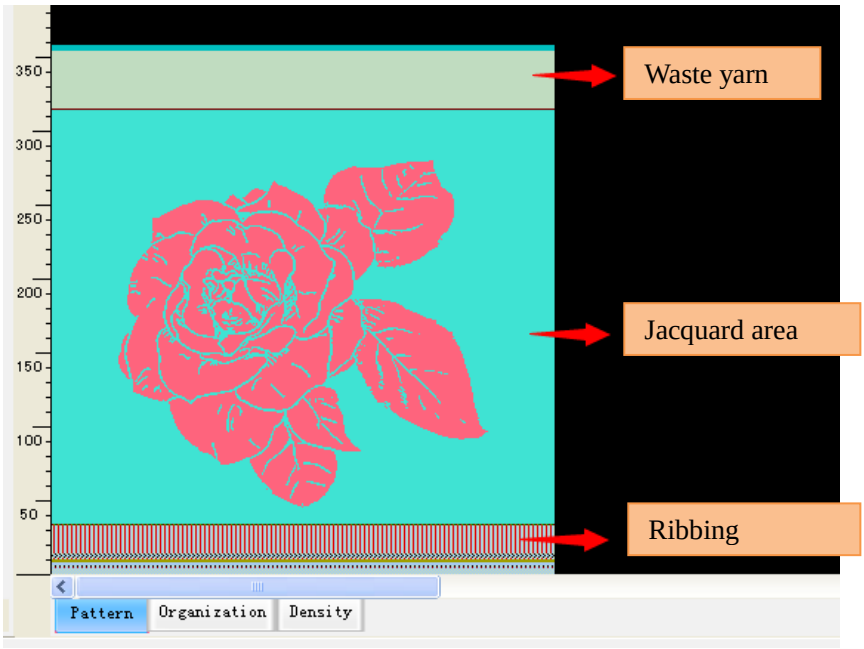
- 241~249 (Neck jacquard): 

10.2 Jacquard

➢ Steps of Jacquard Drawing:

- Draw jacquard knitting pattern on pattern layer through Jacquard color code (231-239 and 241-249);
- Set the Jacquard back stitch in the function line 214. Set the Lycra stitch in function line 213.
- Process yarn carriers setting and parameter;
- Set the Knitting parameter in the function line;
- Check, compilation, save and knit on machine.

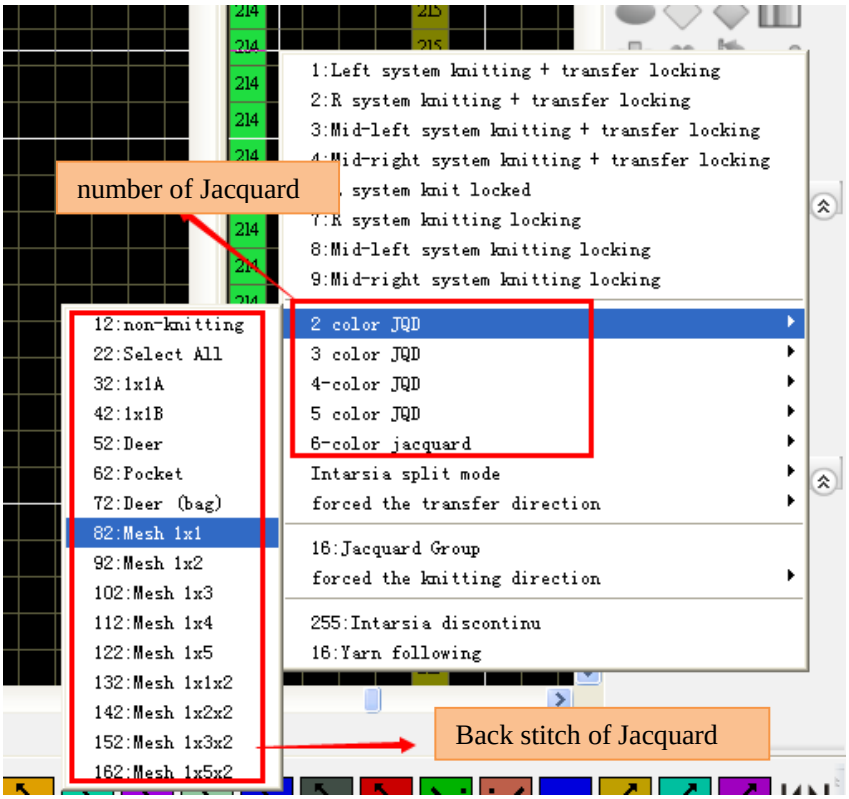
10.2.1 Select jacquard color code to draw pattern on pattern page

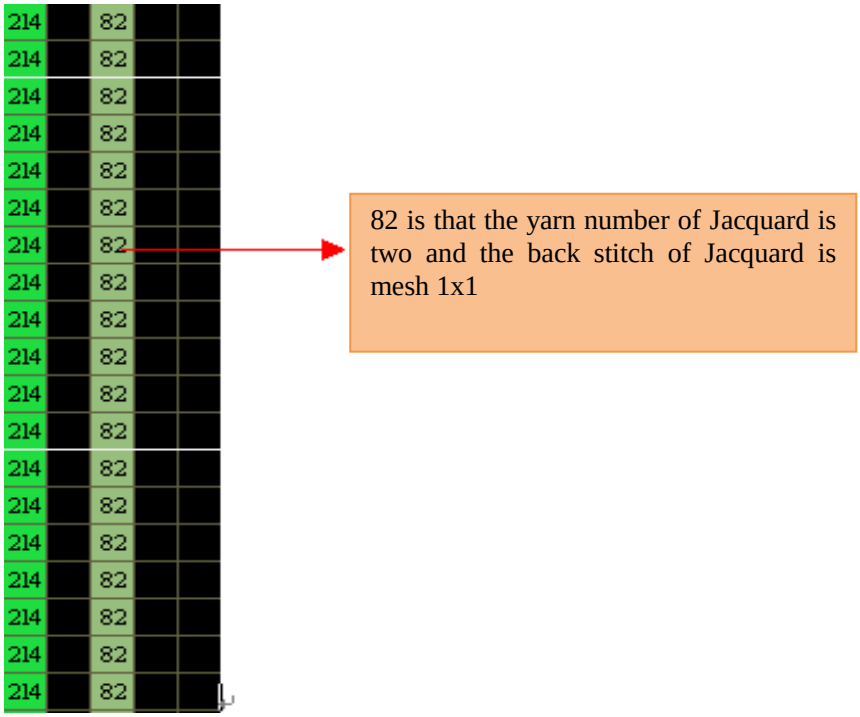


- There are two methods to draw jacquard pattern:
  - Draw the pattern manually with draw tool.
  - Convert original color into jacquard color code through image import.

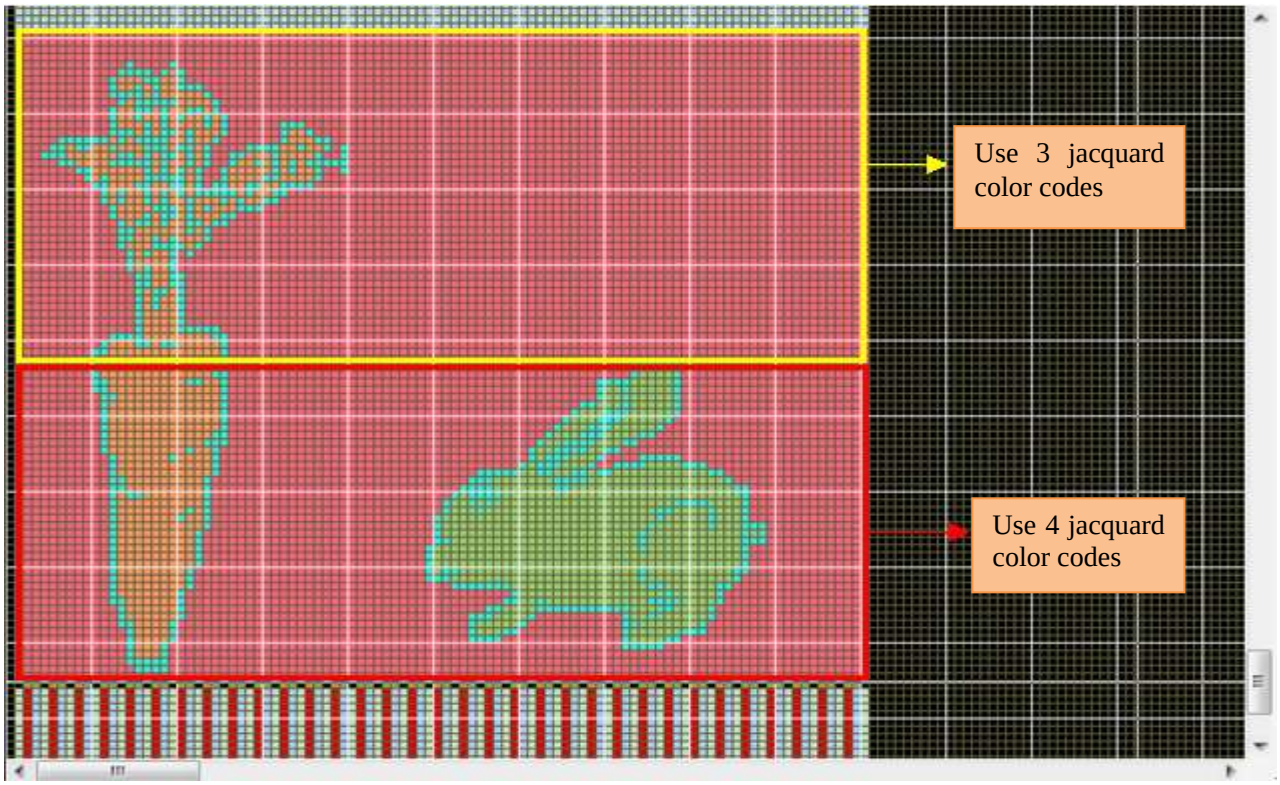
10.2.2 Set back stitch of jacquard (function line 214)

- Set back stitch in Function Line 214 for full-jacquard:

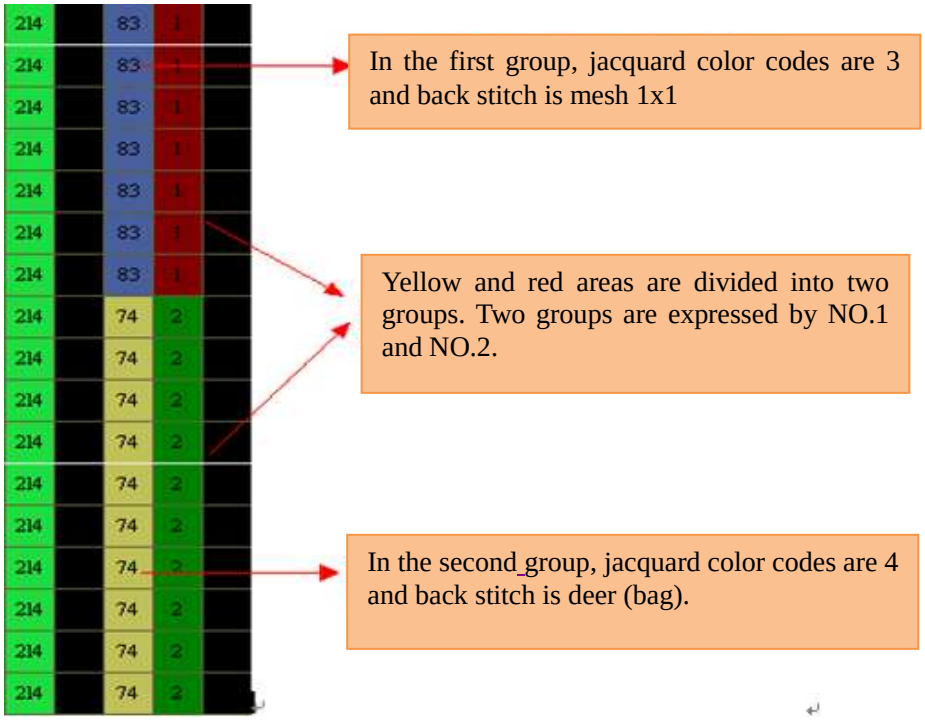




- Add the function of jacquard grouping to Function Line 214 during drawing of full-jacquard.
- If number of colors used in different areas of jacquard is different (see following figure):

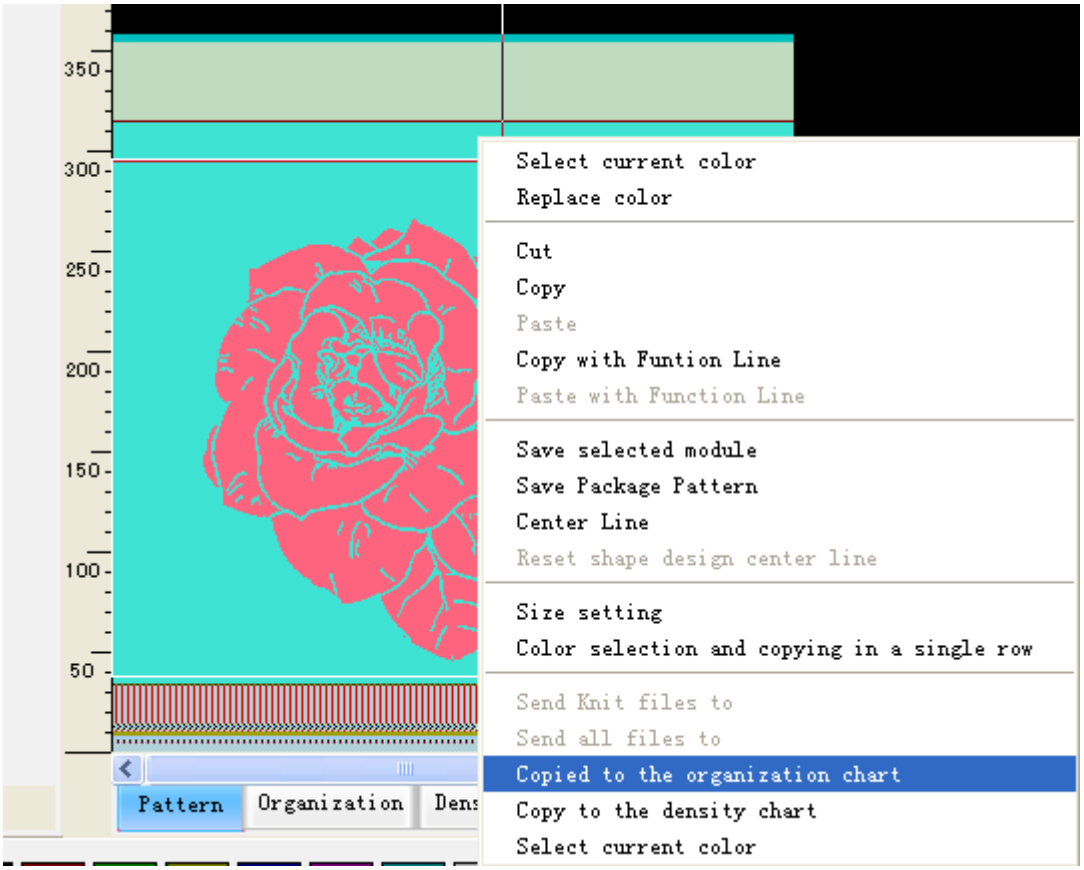


- Set Function Line 214



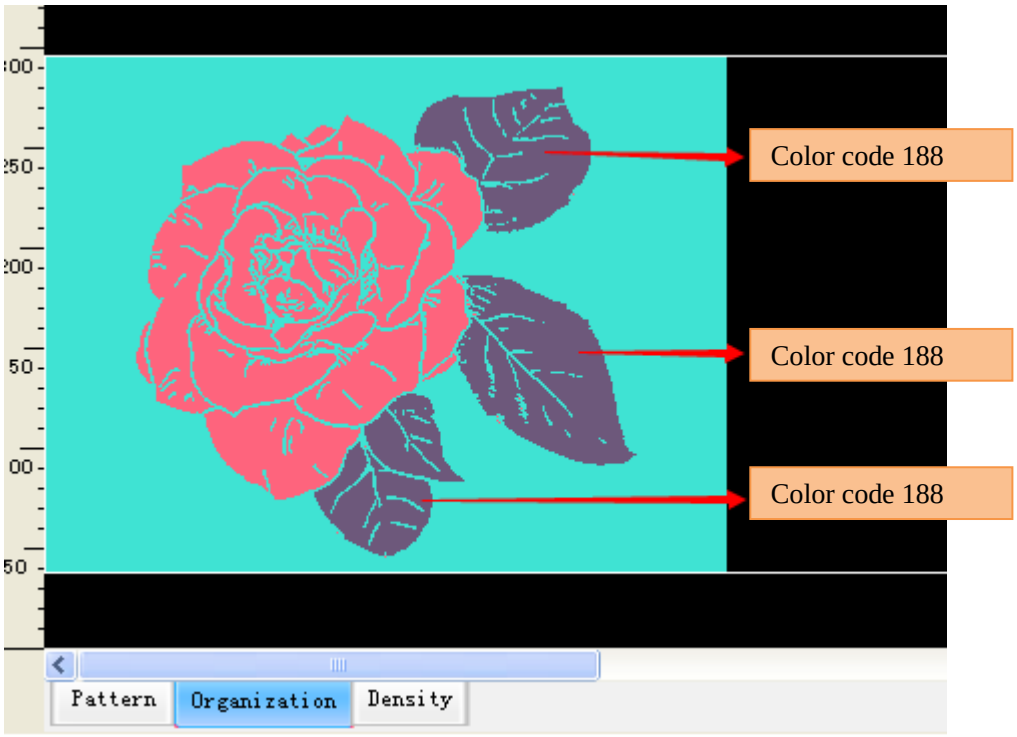
10.2.3 Back structure knit in front bed

- Circle the jacquard part, right click the mouse to copy it to structure (organization) chart.

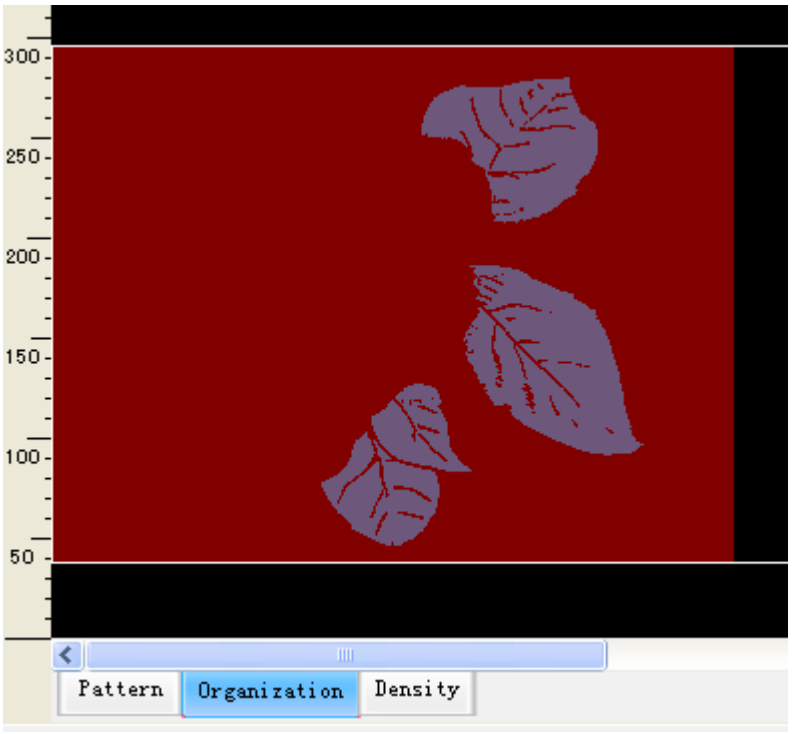


➢ Switch to structure chart and use color code 188 

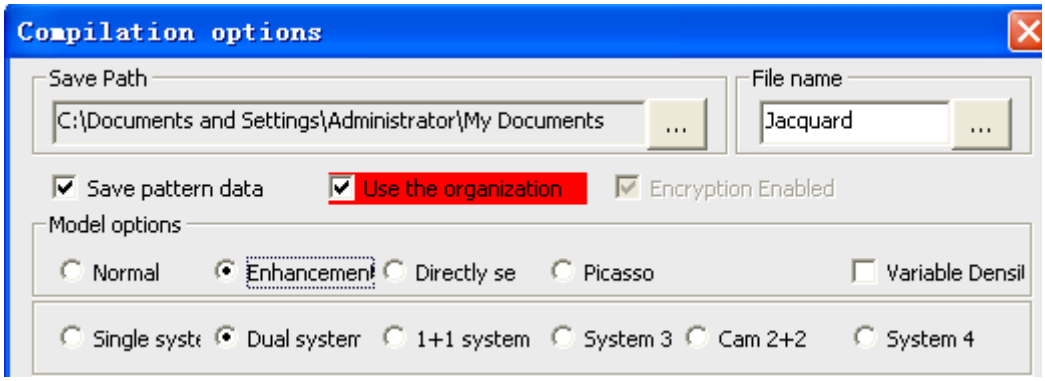
to draw the area need to be knitted in front.



➢ Replace the jacquard color code 231 and 232 by color code 1.

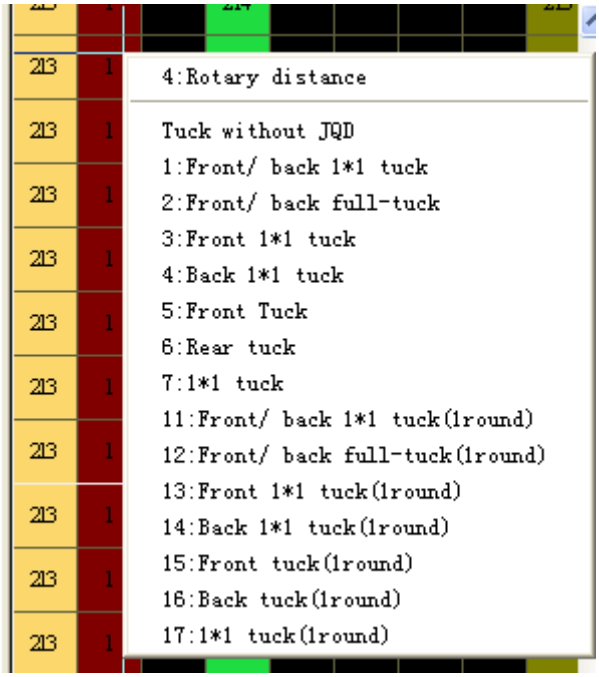


- Note: Use the organization should be checked when compiling.

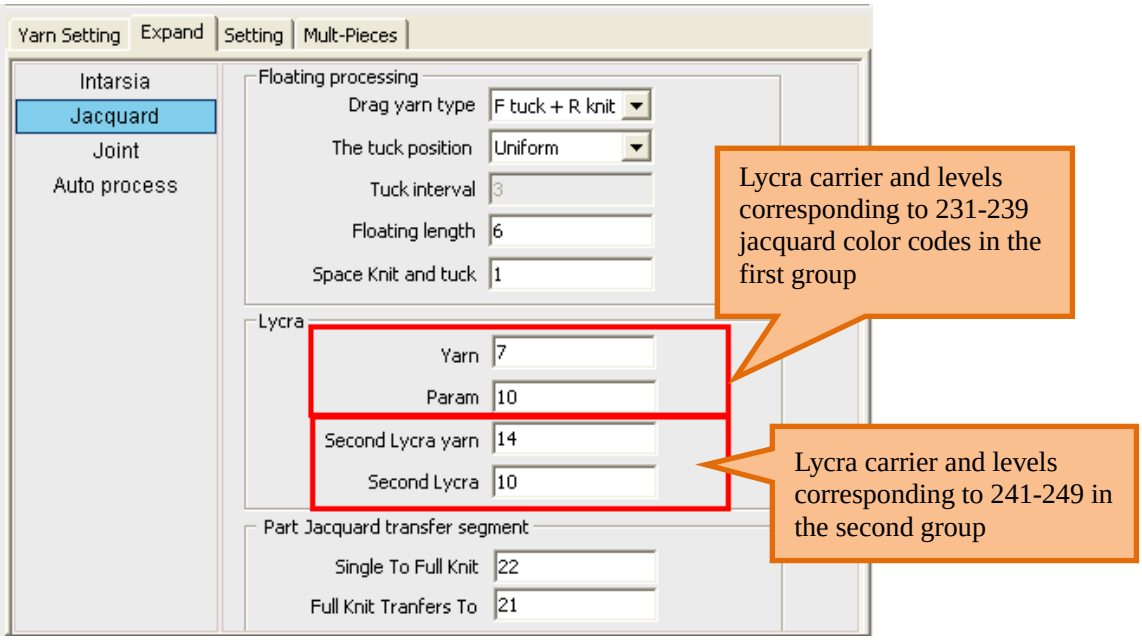


10.2.4 Lycra Type Setting (L 213)

- Set the Lycra type according to the demands.



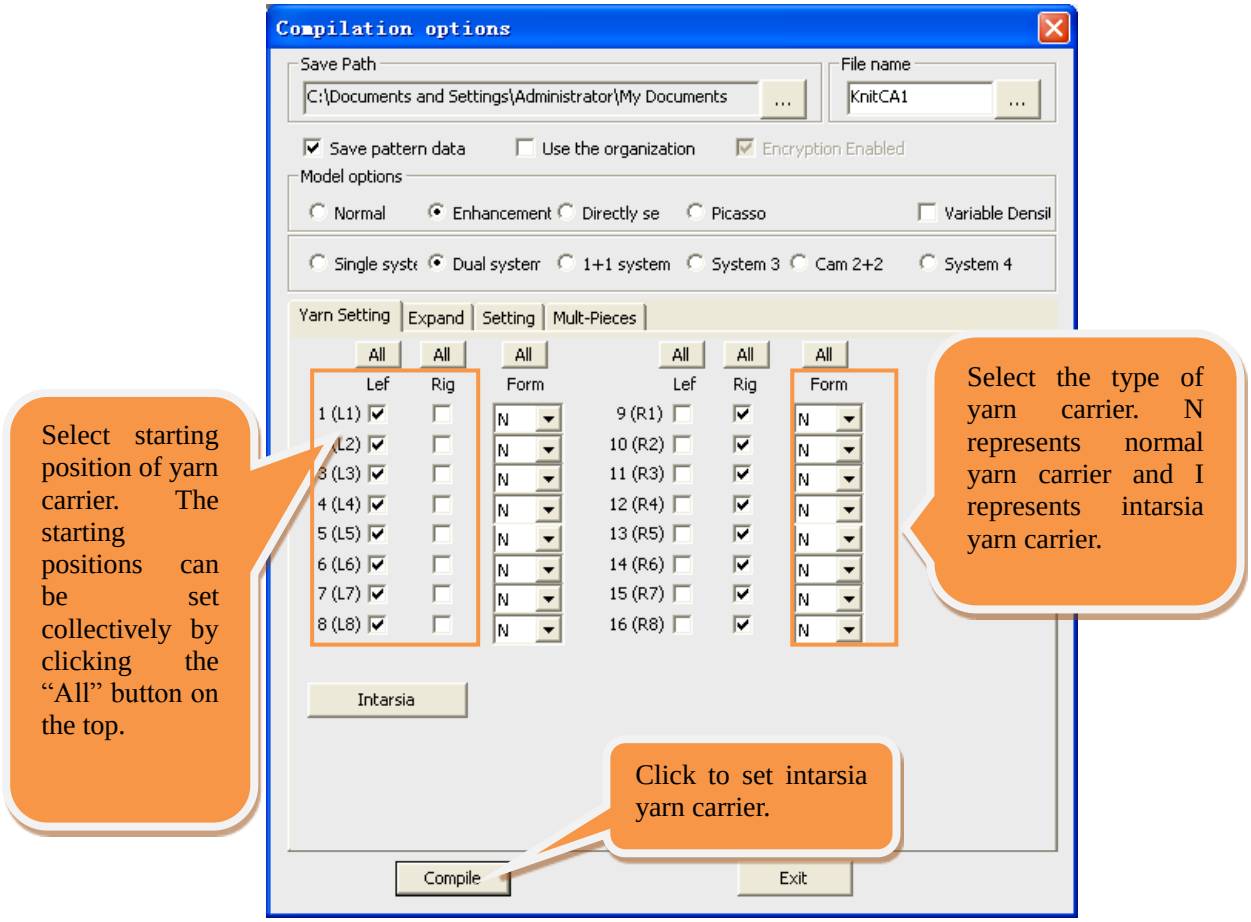
- The Lycra carrier and levels are set under Compile/Expand/Jacquard.



10.2.5 Set yarn carriers and various process parameters

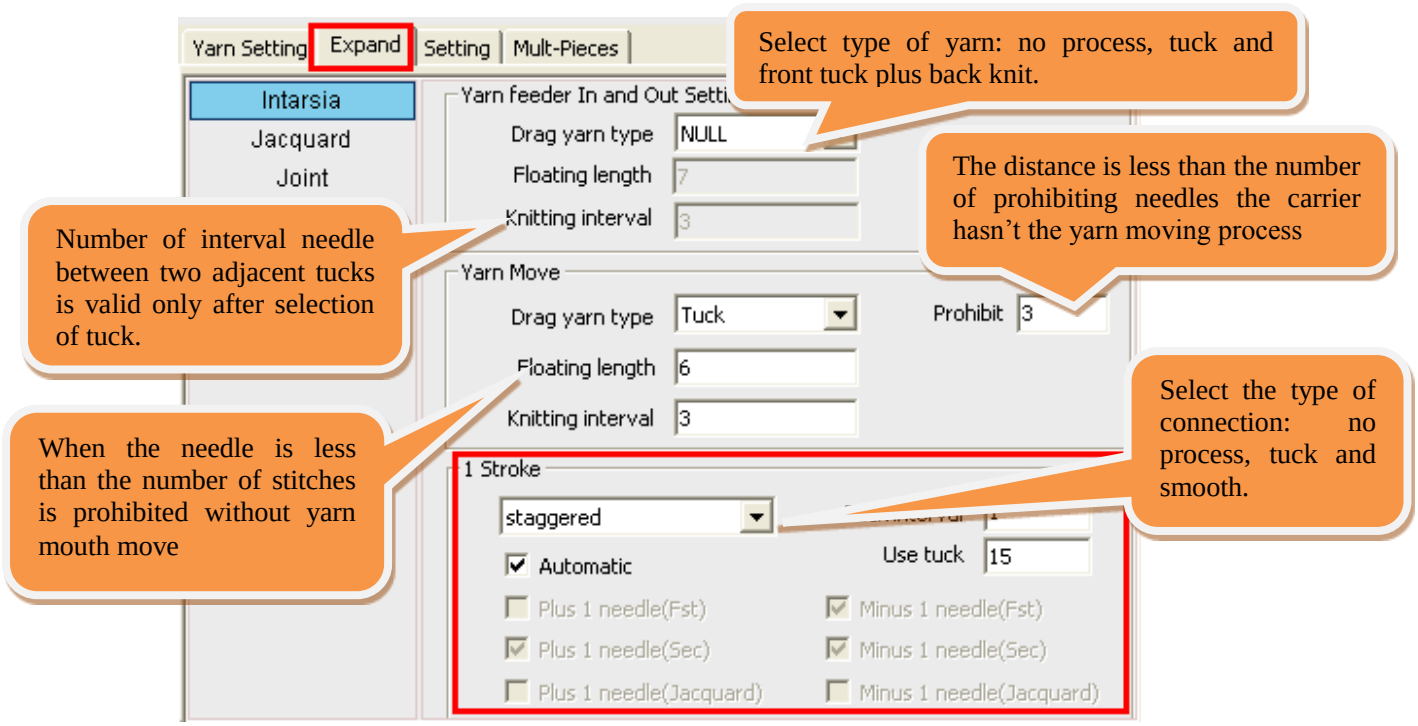
➢ Set up corresponding yarn carrier and various process parameters in Compilation option.

➢ Set initial position and type of yarn carriers in “Yarn carrier Settings”.

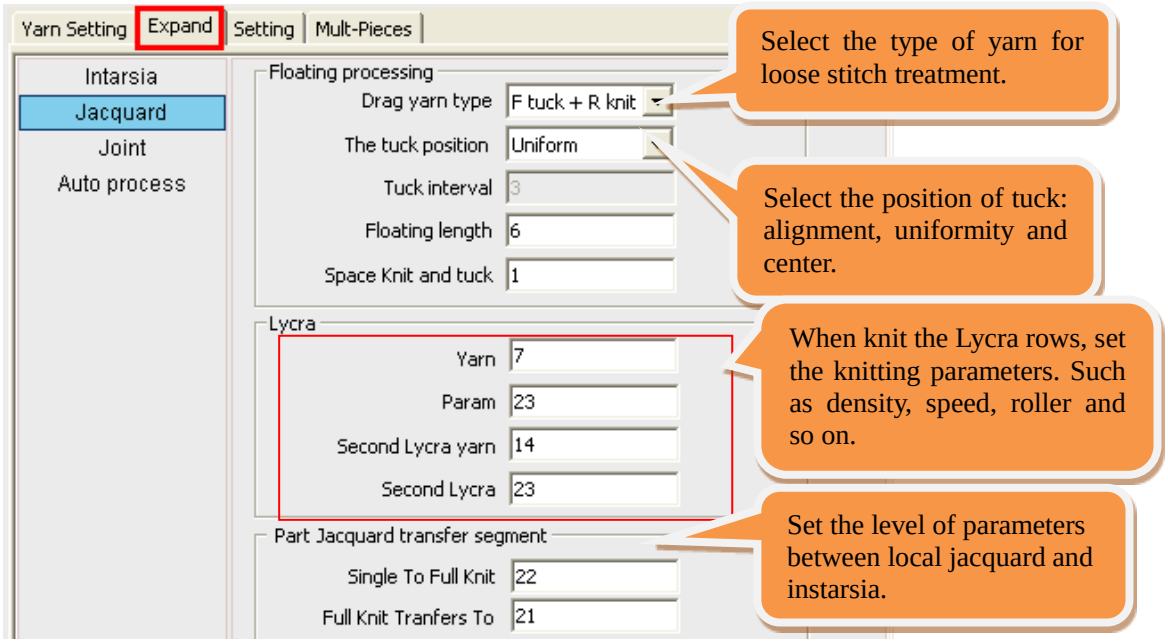


➢ Set “Intarsia”, “Jacquard Settings”, “Connection” and “Automatic Processing” in “Pattern Expansion” according to actual requirements.

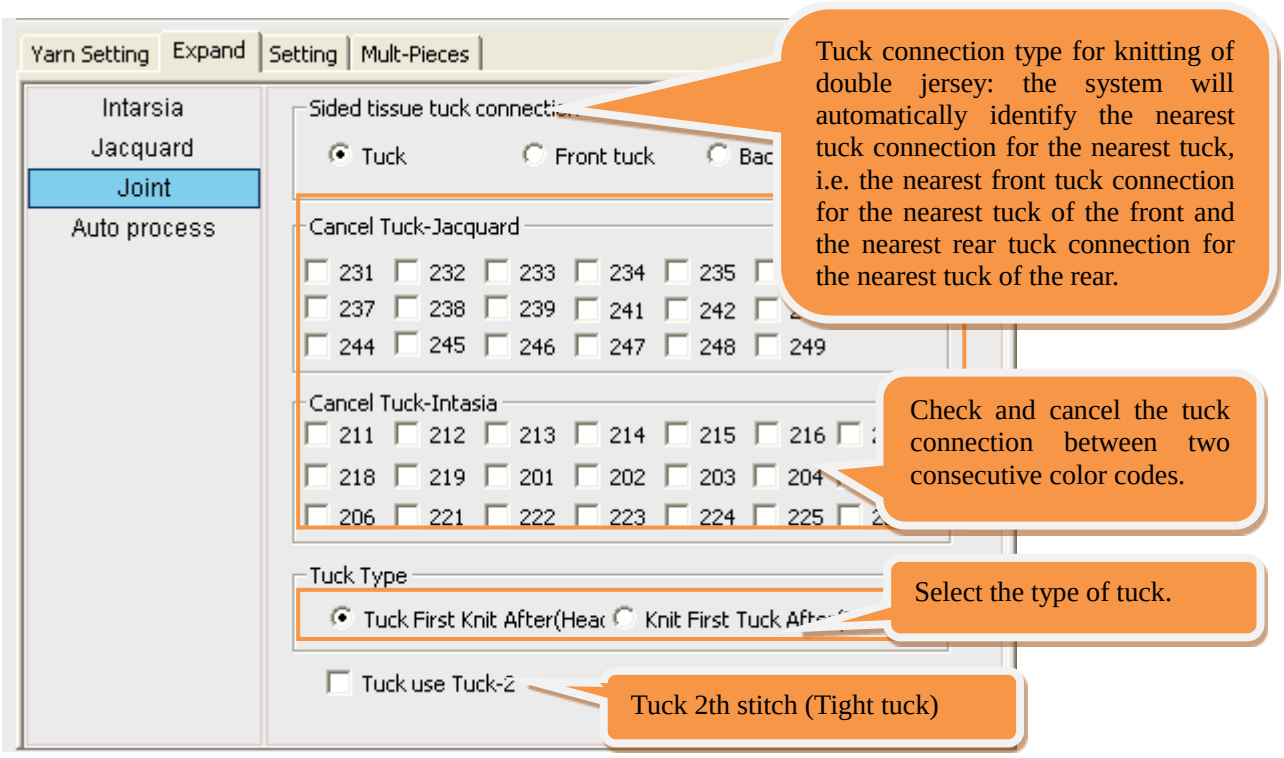
- Intarsia: set the method for take-in and take-out of yarn carrier, processing method in case of widening and narrowing; method of movement and connection of yarn carrier during intarsia knitting.



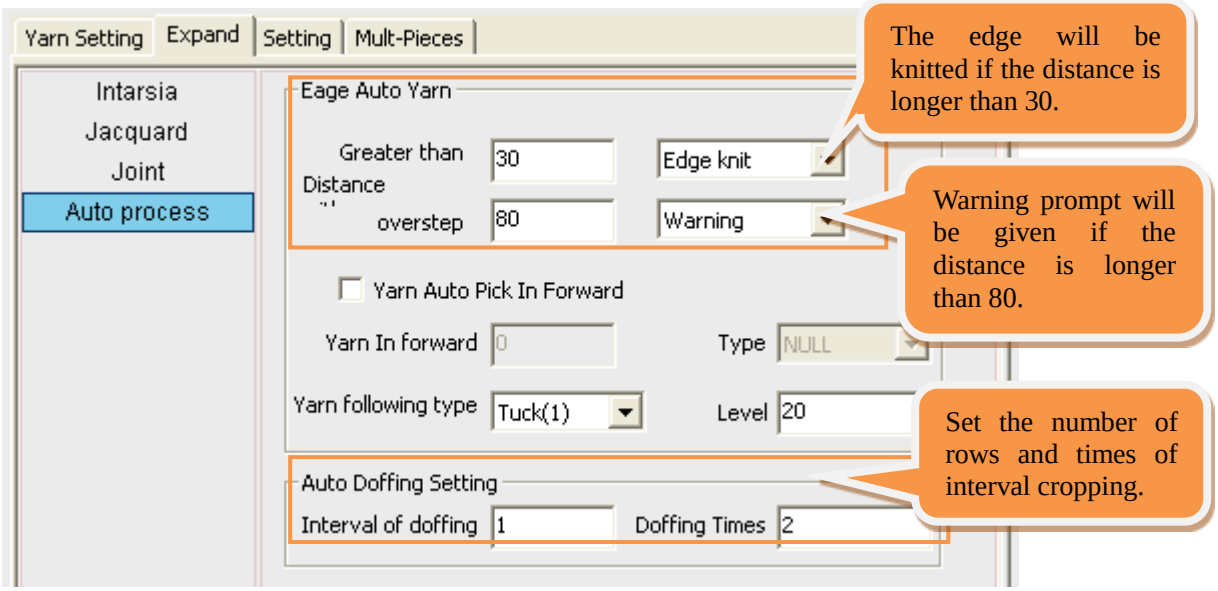
- Jacquard settings: the function is used during knitting jacquard; the process for the stitch number of float stitches exceeds certain value.



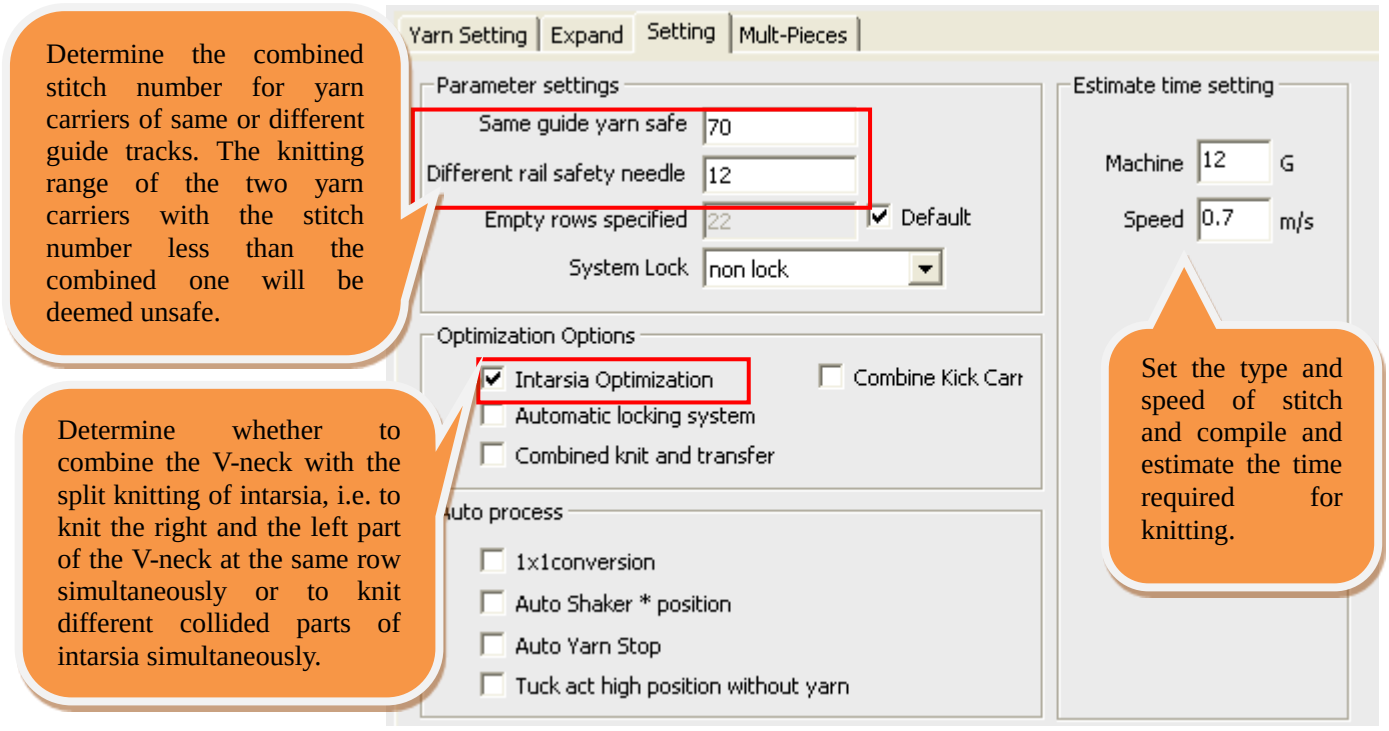
- Connection:



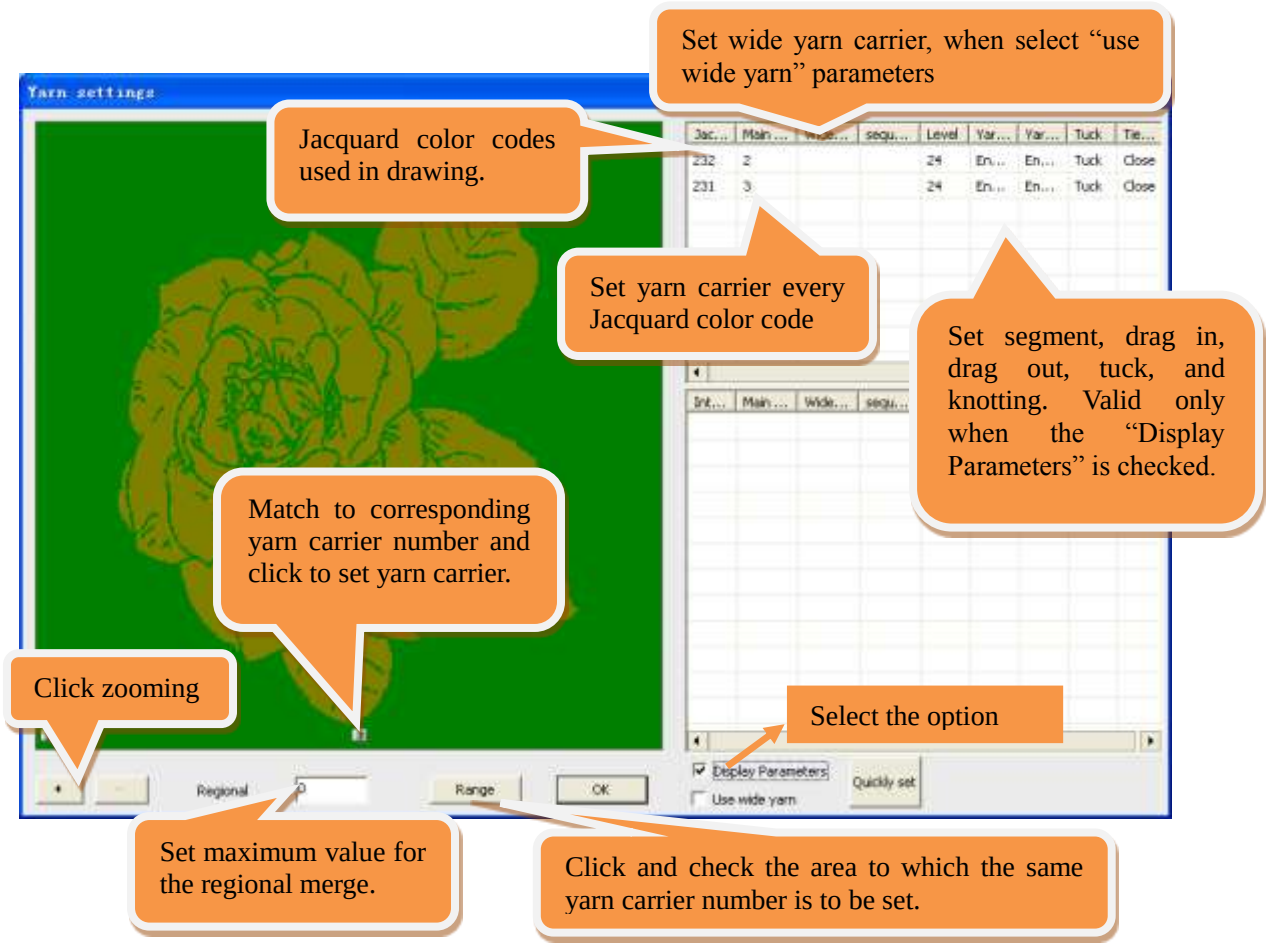
- Automatic process settings:Set the needles and the type of taking yarn carrier, set the rows of cast-off .



- Setting:



➢ Click Intarsia Yarn carrier Settings and following interface will be displayed:



- Note: the carrier will be automatically assigned if they not be set.

Color code 231—— carrier 1　　Color code 232——carrier 2

Color code 233——carrier 3　　Color code 234——carrier 4

Color code 235——carrier 5　　Color code 236——carrier 6

Color code 237——carrier 7　　Color code 238——carrier 8

Color code 241——carrier 9　　Color code 242——carrier 10

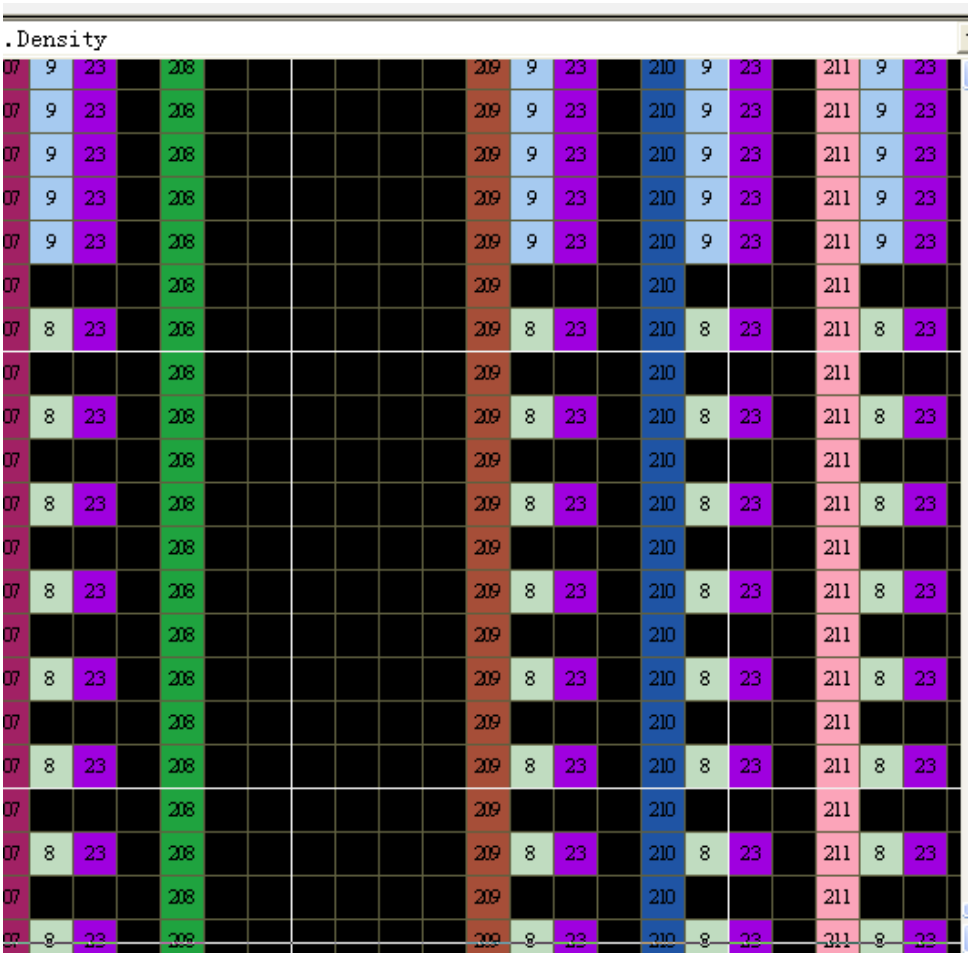
Color code 243——carrier 11　　Color code 244——carrier 12

Color code 245——carrier 13　　Color code 246——carrier 14

Color code 247——carrier 15　　Color code 248——carrier 16

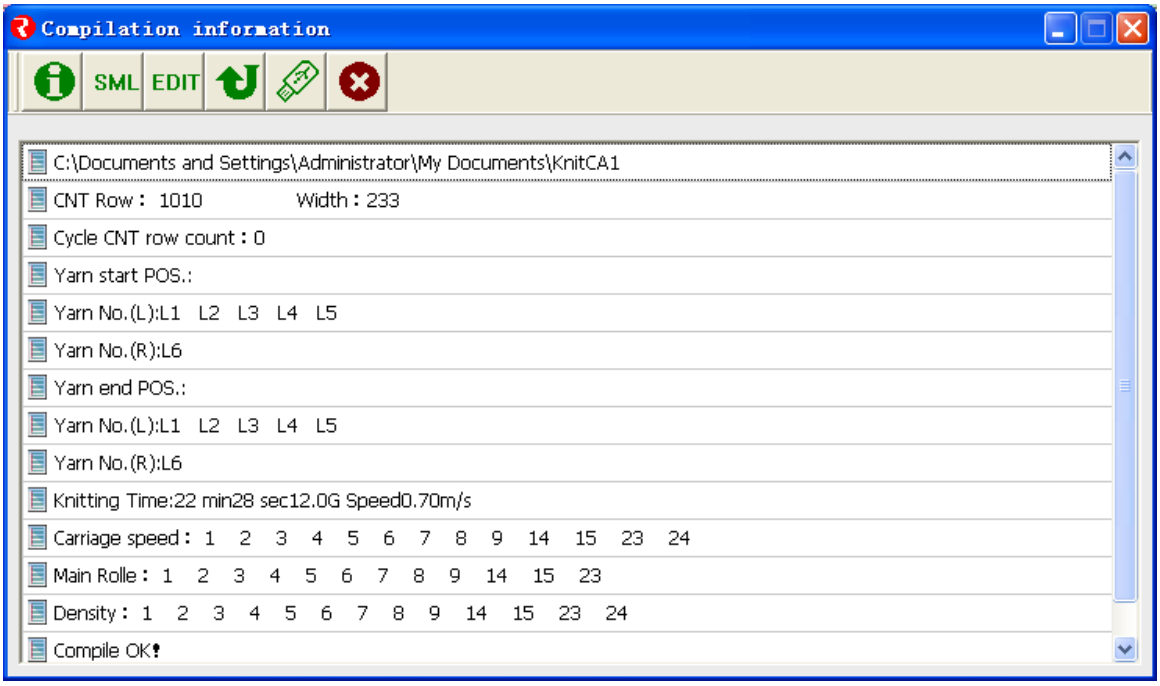
10.2.6 Complete function line

- The system will generate an imperfect function line automatically. Such function line need to be modified based on specific pattern. Parameters like density, speed, batching (roller), sub-batching, comb and yarn carrier for waste yarns should be corrected.



10.2.7 Check, compilation, save and knit on machine

➢ If warning or error is prompted during compilation, find the error based on prompt information and carry out correction accordingly. Make sure there is no error before save and knit on machine.

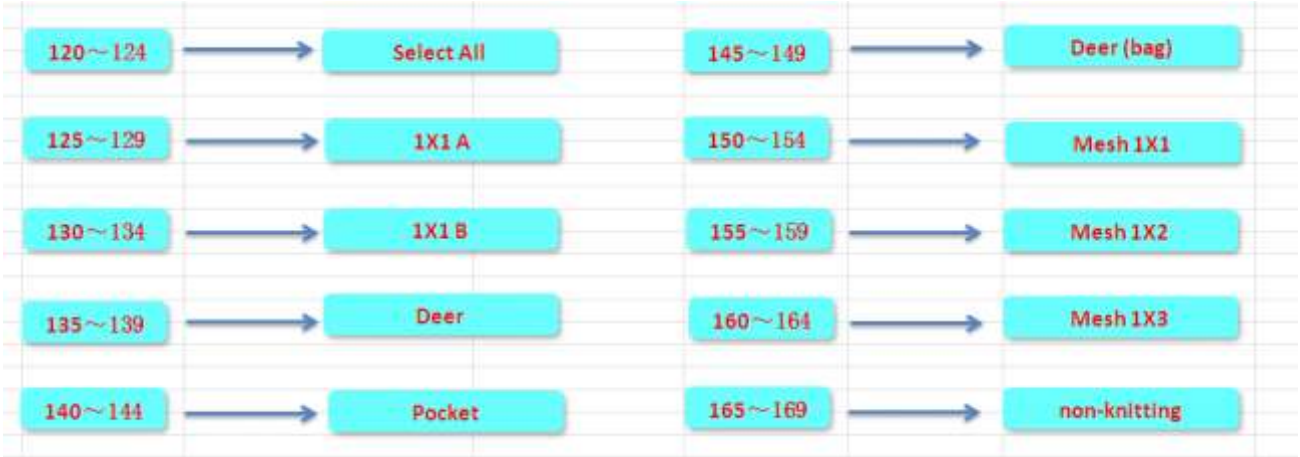


10.3 Composite Jacquard Package

10.3.1 Relationship of Jacquard and Package Color Code

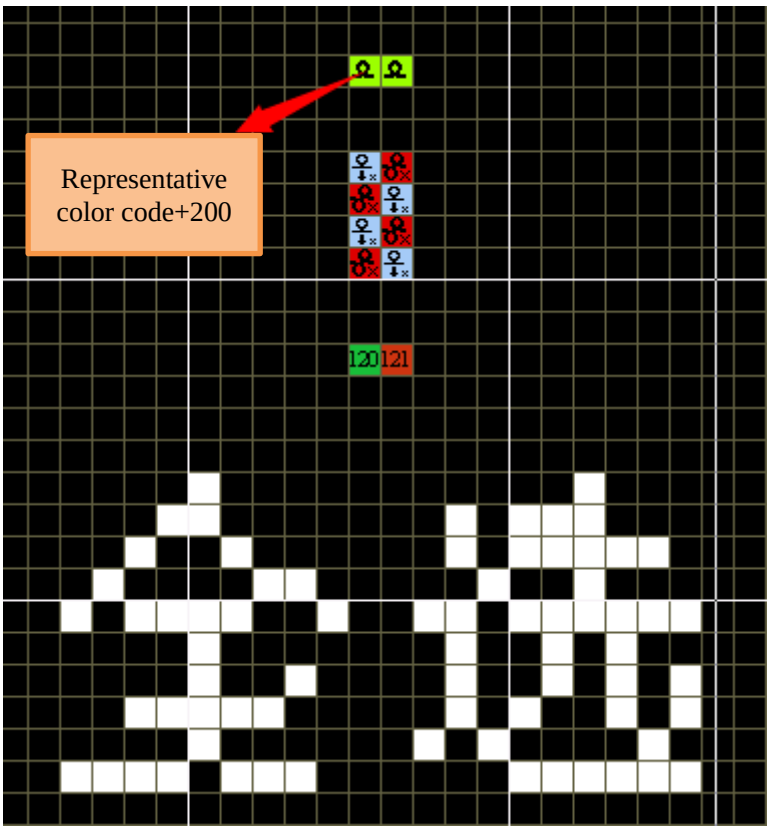
➢ Structure represented by package color codes: 120, 125, 130, 135…180 represent the first jacquard color, the 121, 126, 131, 136…181 represent the second jacquard color, etc.

➢ Every jacquard back type has the corresponding package color code range. See the following chart for the specific relationships:

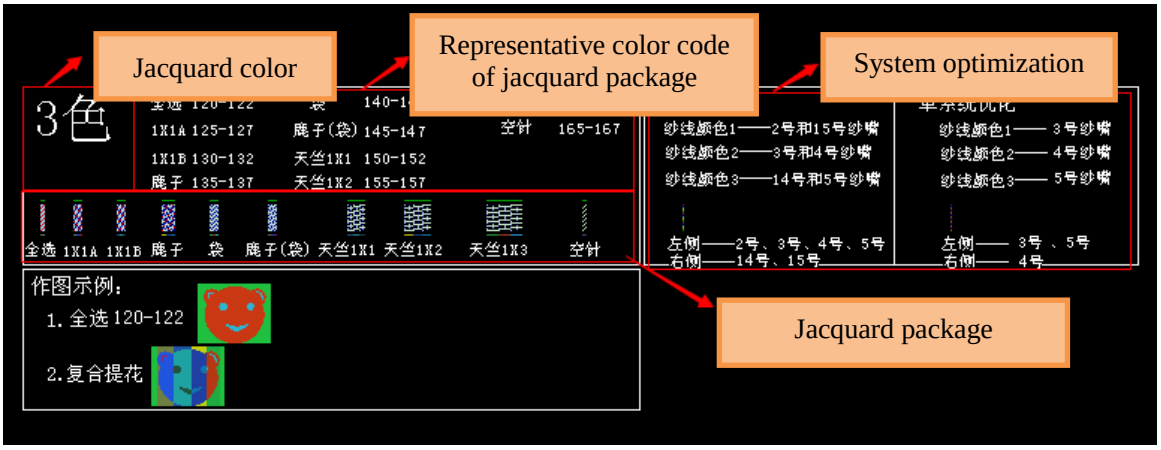


10.3.2 Introduction of Composite Jacquard Package Module

➢ Composite jacquard package auto-transfer function: full stitches and spacing stitches need to be transferred in some area of composite jacquard. The registration option line filled200, which indicates the features of jacquard package (representative color code of +100) and the auto transfer features. Below is full selection back type of two-color jacquard:



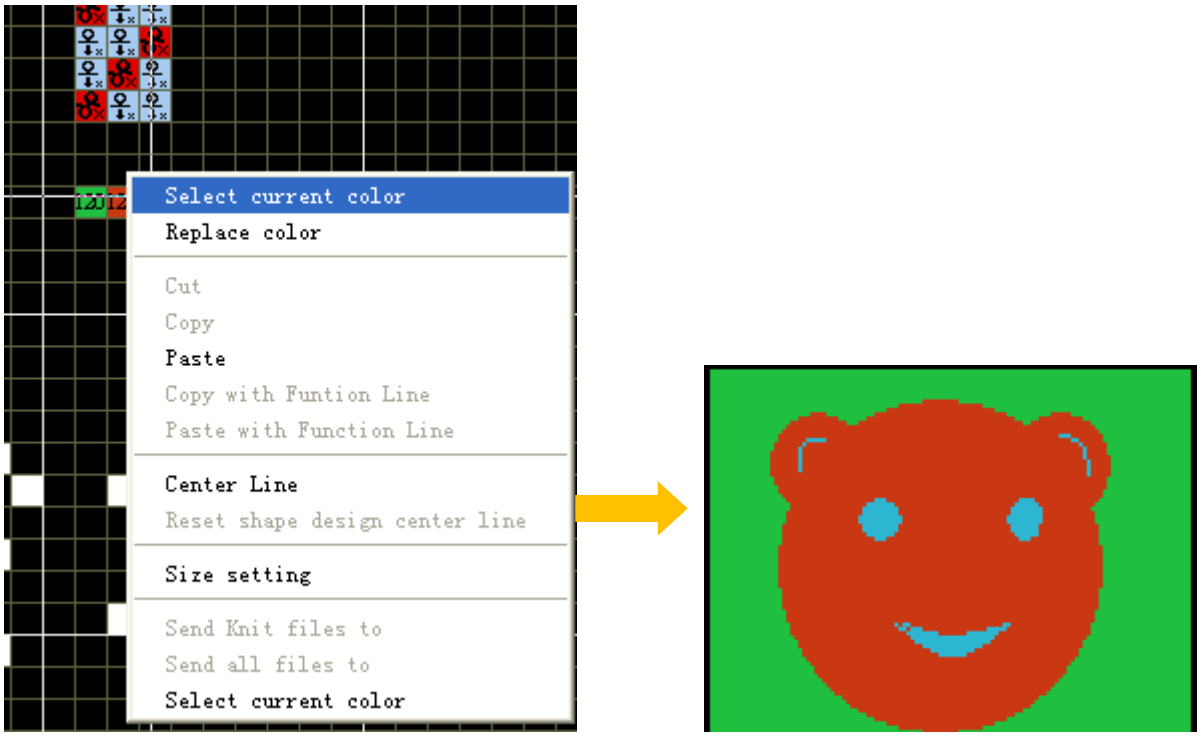
➢ The composite jacquard module refers to the jacquard package formed by all back type. Take the 3-color jacquard as an example, as shown below:



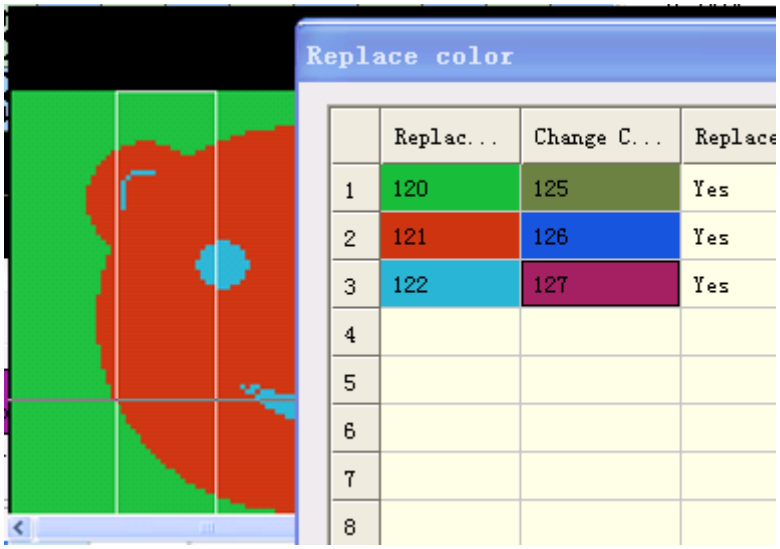
10.3.2.1 Composite Jacquard Drawing Steps

➢ Take the above 3-color jacquard as an example.

- Determine the backside elements of the required composite jacquard, such as composite jacquard of Full Selection, 1X1A, 1X1B, Deer, Bag, Roller (bag) and mesh 1X1.
- In the composite jacquard module, select the 3-color jacquard module and place it into the pattern layer.
- Select the package color code of one back type, and draw the required pattern. The full selection type package color code is selected in the example.



- Circling range: change colors between 120 and 123. Note that color codes should be selected correspondingly (for example, 120 correspond to 125, 130, 135, etc., 121 corresponds to 126, 131, 136, etc., and 122 corresponds to 127, 132, 137, etc.)



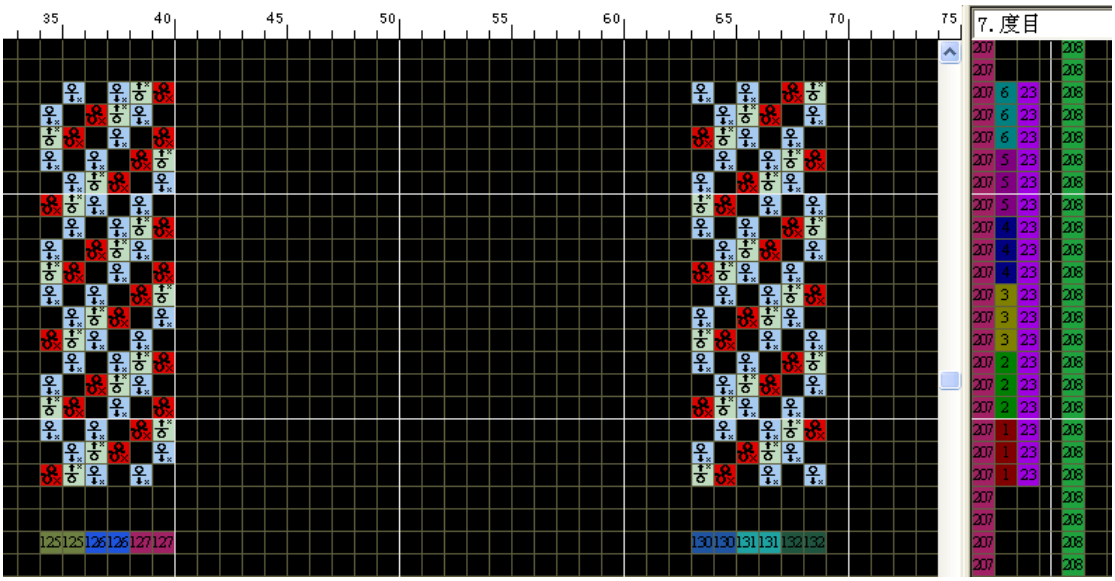
- After color changes, set the ending point. Then the composite jacquard is completed.

- Click the Package to develop the package.

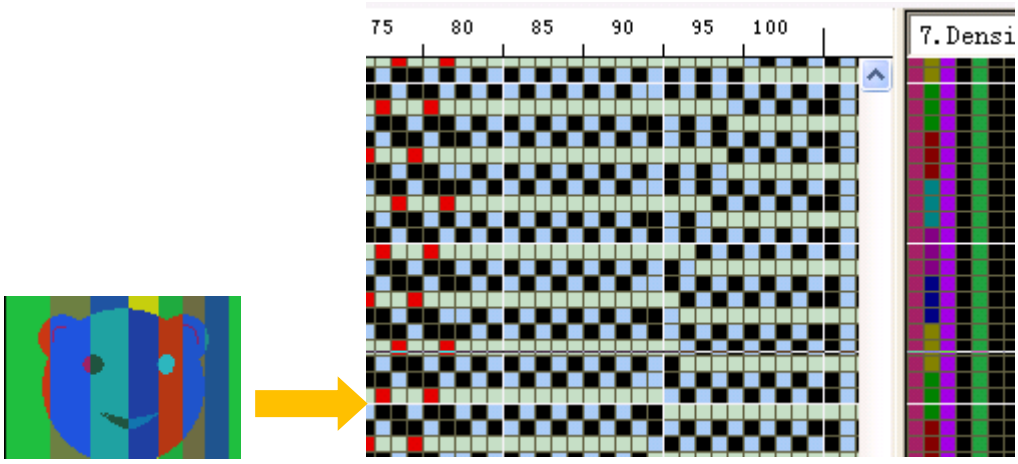
10.3.2.2 Setting and Modification of Jacquard Package Knitting Parameters

➢ All the jacquard packages are drawn in one row to facilitate unified setting of the carrier, density, roller and other knitting parameters of the jacquard package. Take the setting of the density of the jacquard package as an example.

- Select the functional line 207, and set the density of the package, as shown below:



- Develop the composite jacquard pattern, and ensure that the density is the same as that of the package, as shown below:



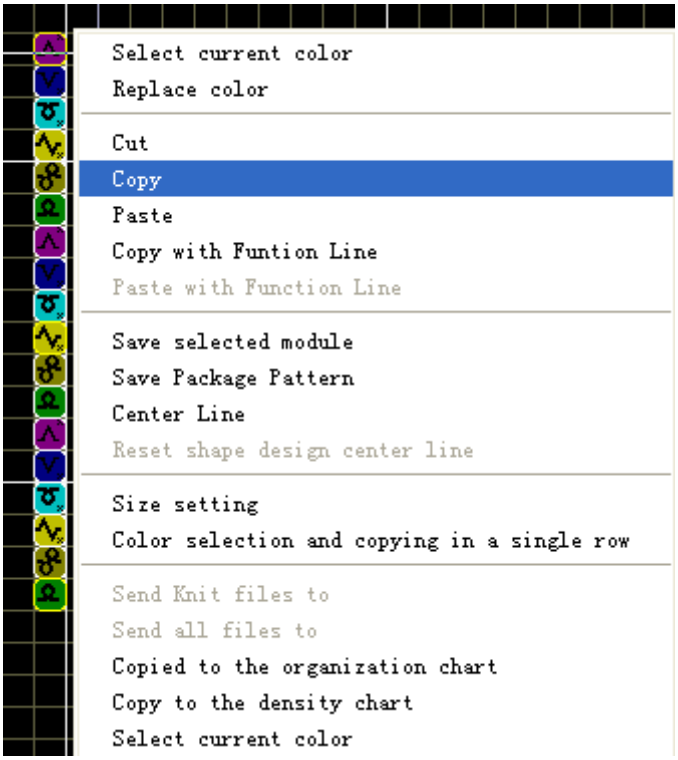
- The Carrier of 3-color jacquard in the module have been set, i.e. No 3, 4 and 5. When it is required to modify the carriers, circle the set carriers, and change the jacquard carrier numbers via the color change tool.

10.3.3 The optimization of the jacquard knitting efficiency

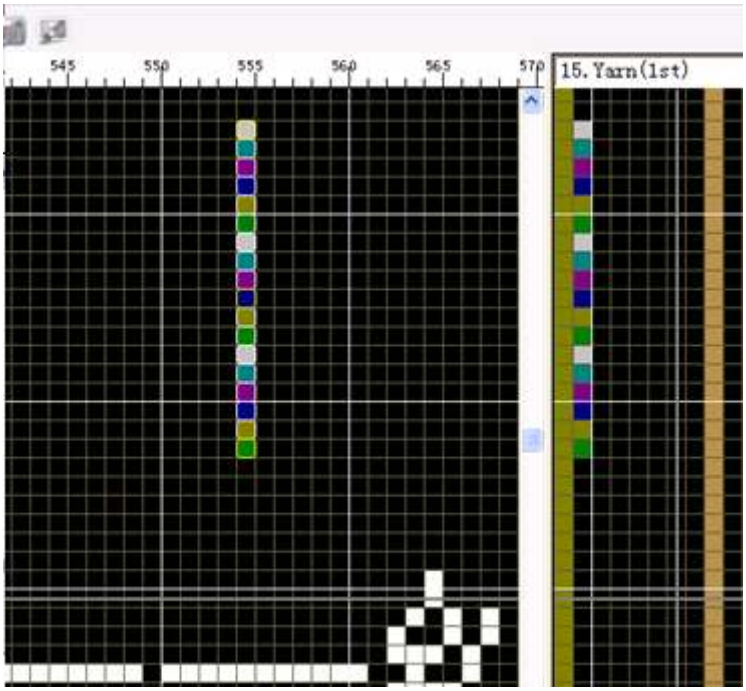
➢ It mainly means avoiding spacing running of the carriage by means of reasonable carrier arrangement, and maximizing the use of the carriage system. Information of the optimization of the knitting efficiency of the composite jacquard package: 1, system number; 2, carriers threading yarns with the same color; and 3, initial positions of the carriers.

➢ Take the 3-color jacquard as an example. Operating steps are demonstrated below:

- Carrier layout for optimization of the circled pattern:



- Copy the carrier layout (Ctrl+C), paste it to the functional line 215, and cover the original carriers.



➢ The carrier arrangement after develop of the composite jacquard package can help to achieve the highest knitting efficiency.

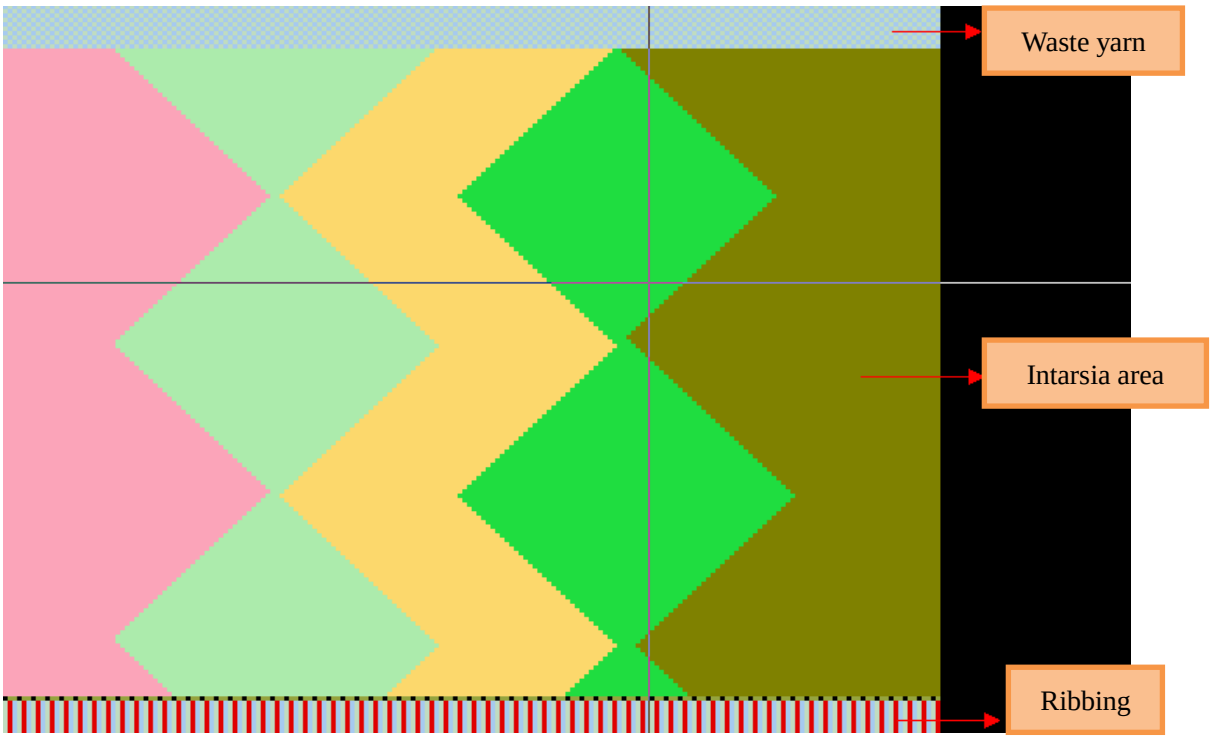
10.4 Intarsia

➢ Steps of Intarsia Drawing:

- Draw intarsia pattern with intarsia color code (211-219) on pattern chart;
- Set intarsia yarn carrier and process parameters;
- Set parameter in function line;
- Check, compilation, save and knit on machine.

10.4.1 Draw intarsia pattern with intarsia color code on pattern chart

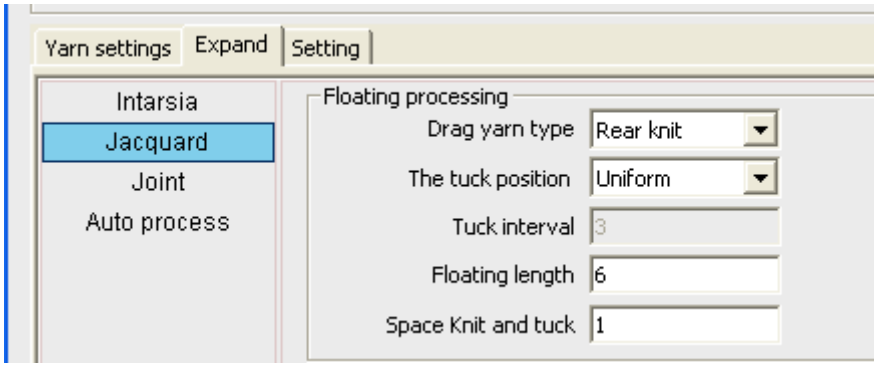
➢ A total of 5 intarsia color codes (211 to 215) are used in following intarsia pattern.



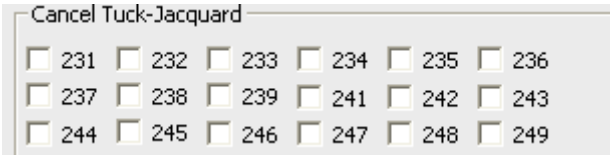
10.4.2 Set yarn carrier and parameters in compilation option

➢ The setting of process parameter is similar to jacquard. For example, parameters like take-in and take-out of yarn carrier, movement of yarn carrier, etc. The differences between intarsia and jacquard option of process parameter are:

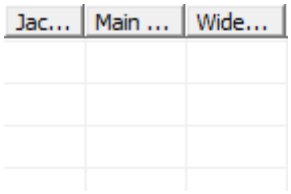
- Intarsia patterns no need to set.



- There is no connection between cancellation of tuck and jacquard color code.

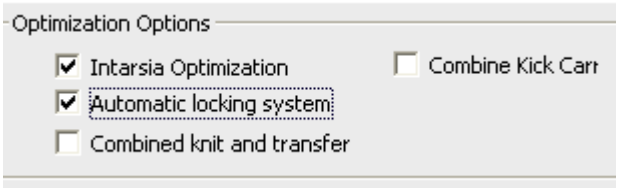


- There is no need to set for jacquard yarn carrier.

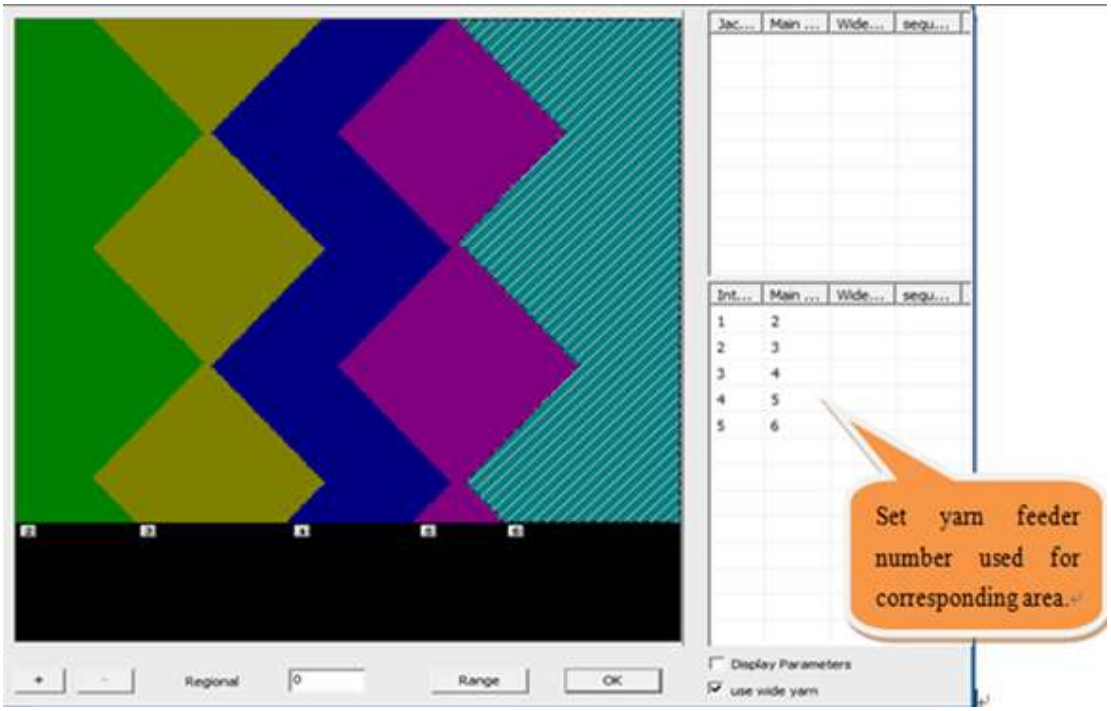


➢ The parameters for intarsia pattern are shown as follows:

- Check below option may improve knitting efficiency.



➢ Setting of yarn carrier is shown as follows:



➢ Note: the carrier will be automatically assigned if they not be set.

Color code 211——carrier 1　　Color code 212——carrier 2

Color code 213——carrier 3　　Color code 214——carrier 4

Color code 215——carrier 5　　Color code 216——carrier 6

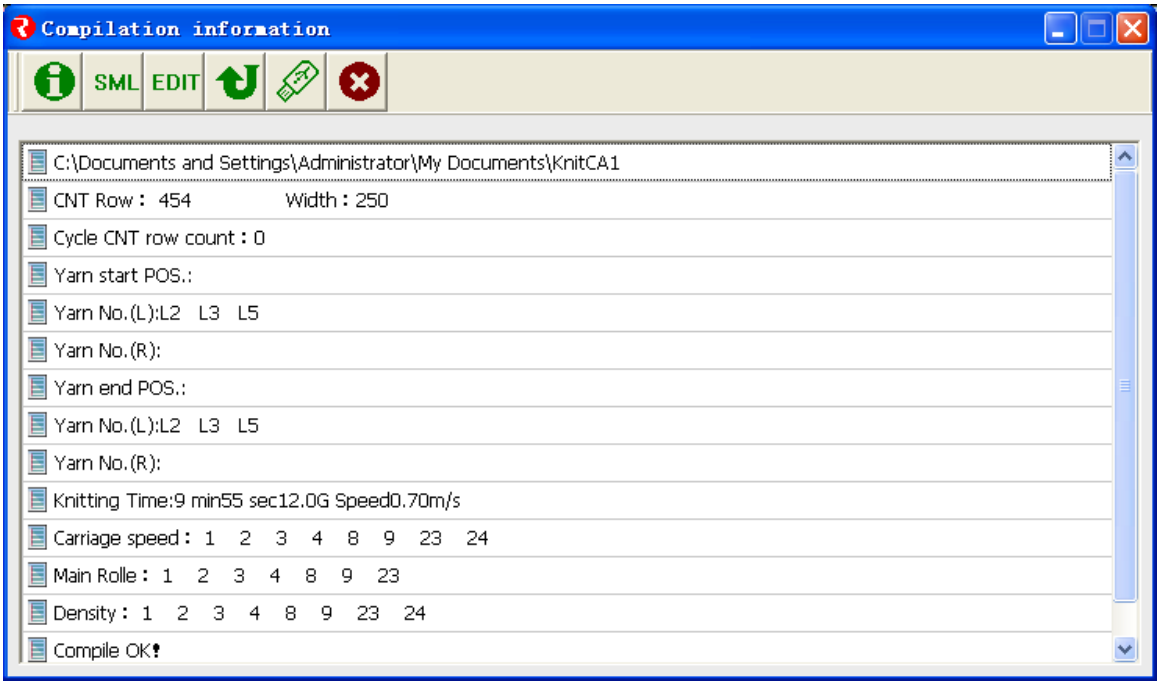
Color code 217——carrier 7　　Color code 218——carrier 8

Color code 219——carrier 9

10.4.3 Set parameter of function line

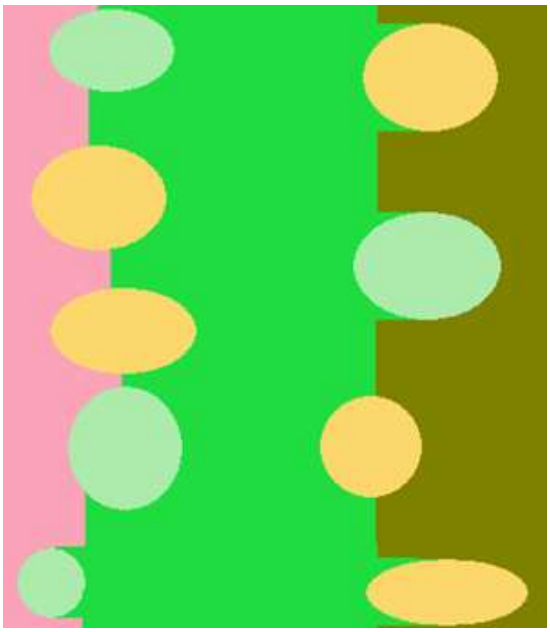
➢ The setting of parameter in function line of intarsia is similar to that of jacquard. Parameter like density, speed, batching, sub-batching and yarn carrier for comb and waster yarns are required to be set.

10.4.4 Check, compilation, save and knit on machine



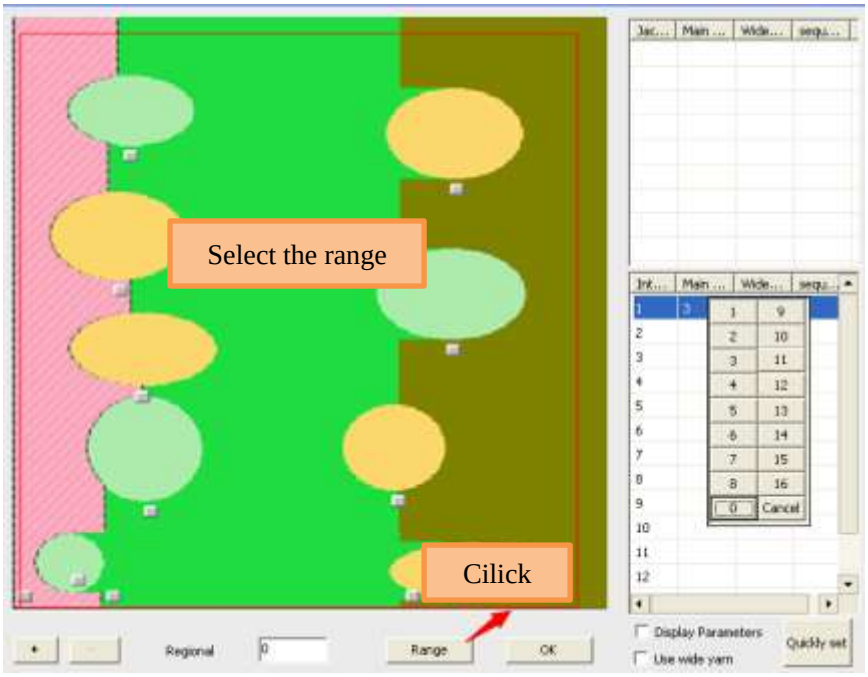
10.4.5 Function Examples of Range

➢ Intarsia pattern shown below:

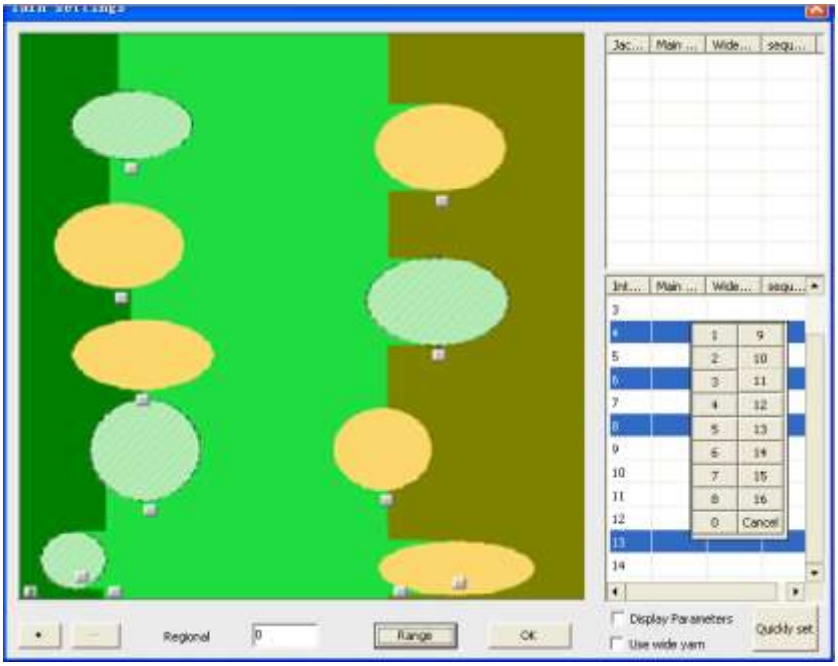


➢ Enter the intarsia carriers setting interface. This interface includes multiple groups of intarsias. When there are a lot of intarsia groups, it is troublesome to set carriers. In this case, the combine can be applied to set one carrier for the intarsias of the same color in a one-time manner.

- Select one intarsia block to make the carrier setting zone flashes, click the "Range" button in the interface, circle the range of all carrier via the mouse, and then click "OK", as shown below:

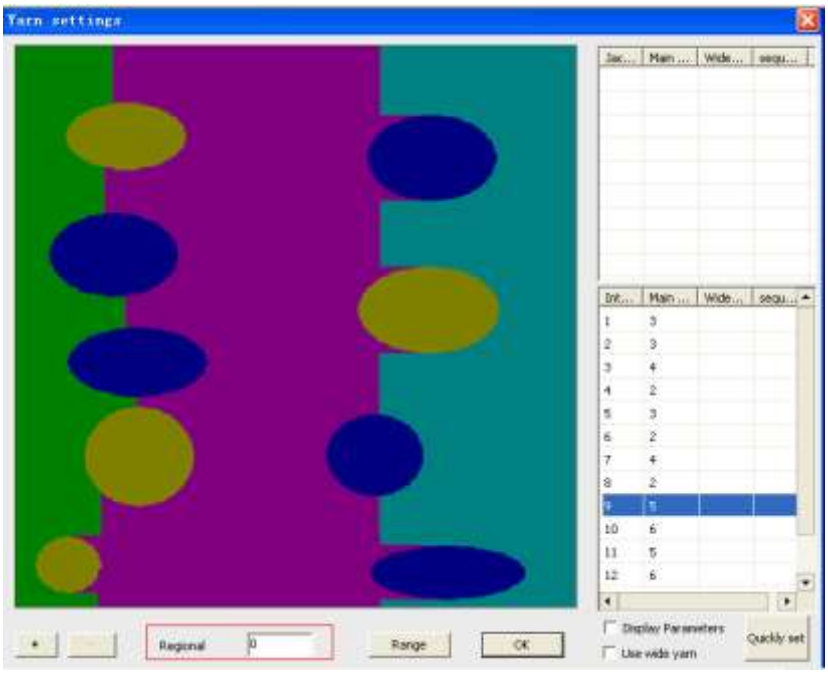


- After the range is determined, the carrier of the same intarsia color code can be set in sequence, as shown below:



10.4.6 Example of Regional Combination Function

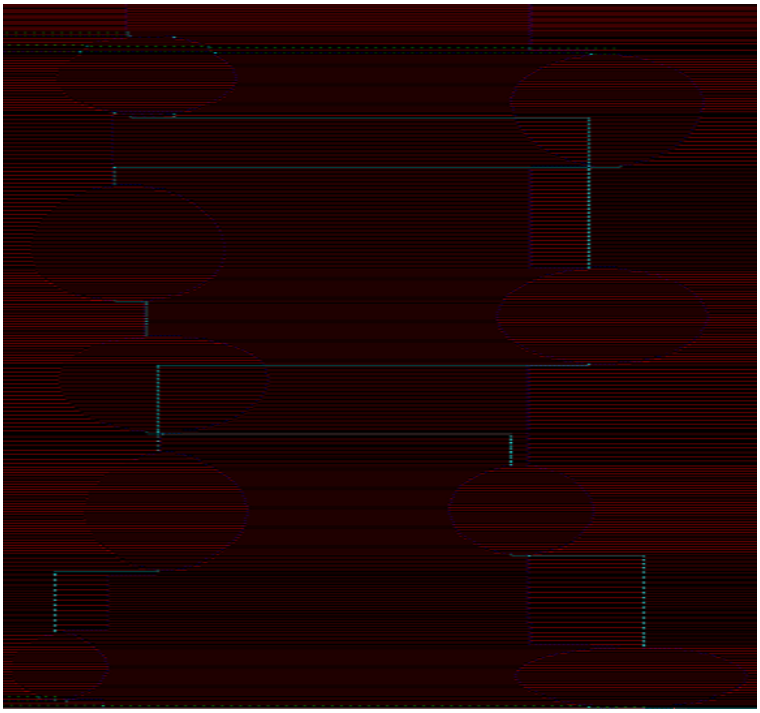
- First introduce the automatic yarn in and out rule of intarsia. The automatic yarn in and out mode for intarsia is based on the unit of carrier group. The carrier blocks without any link (regions continuously knitted by one carrier) form an individual carrier group.
- Regional combination: when the carrier combination distance is no more than the spacing number of combined region groups, one carrier group is formed. The carrier cannot be brought out until one group of intarsias have been knit by the carrier.
- Take the range as an example for illustration. When the number of regional combination is 0, results are as shown below:



- The PAT chart is as follows. The carriers can be brought in and out when one circle is not completed

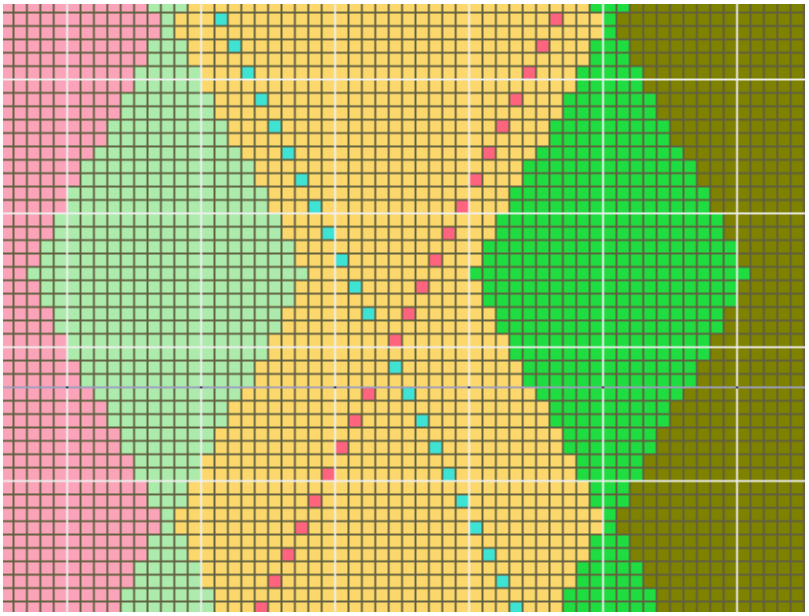
➢ After the regional interval group is set like 

, the PAT chart below appears. The carriers can be brought in and out only at the beginning and ending parts of the circle.

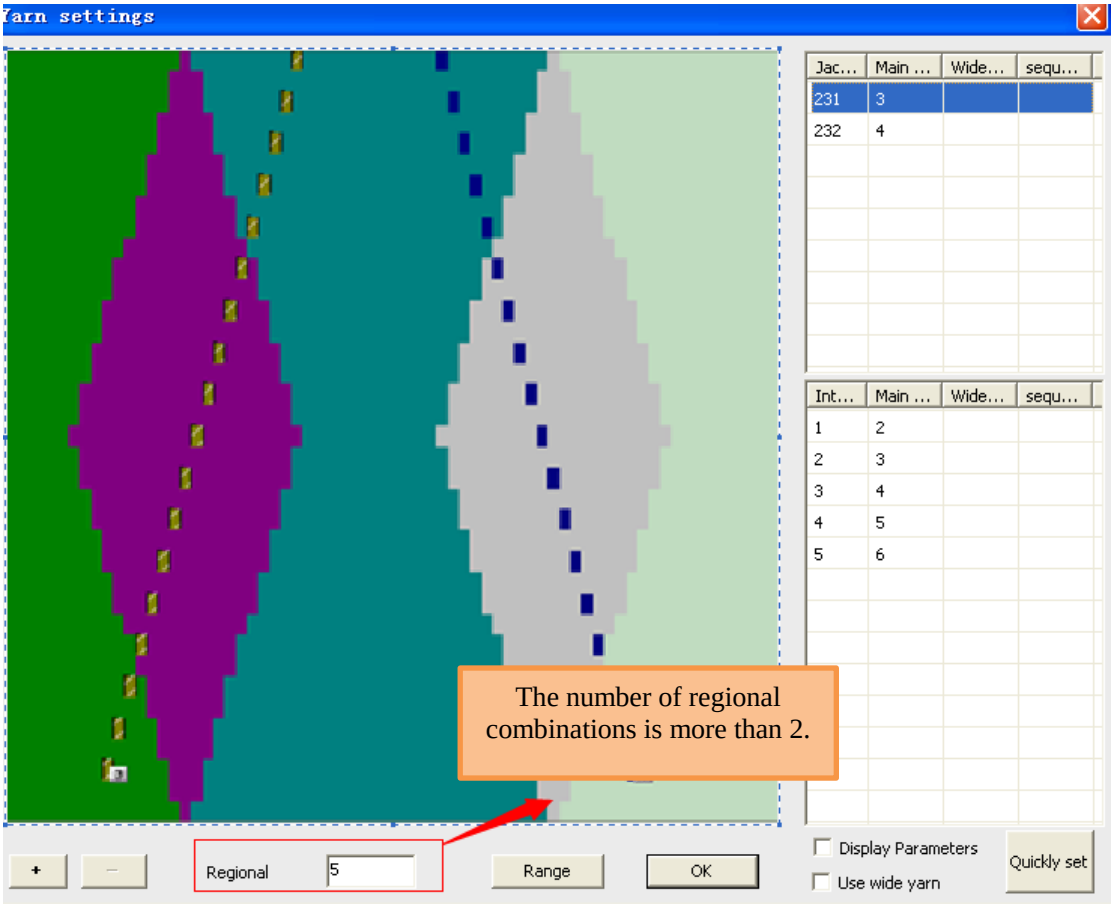


10.4.7 Intarsia Ornament Stitch

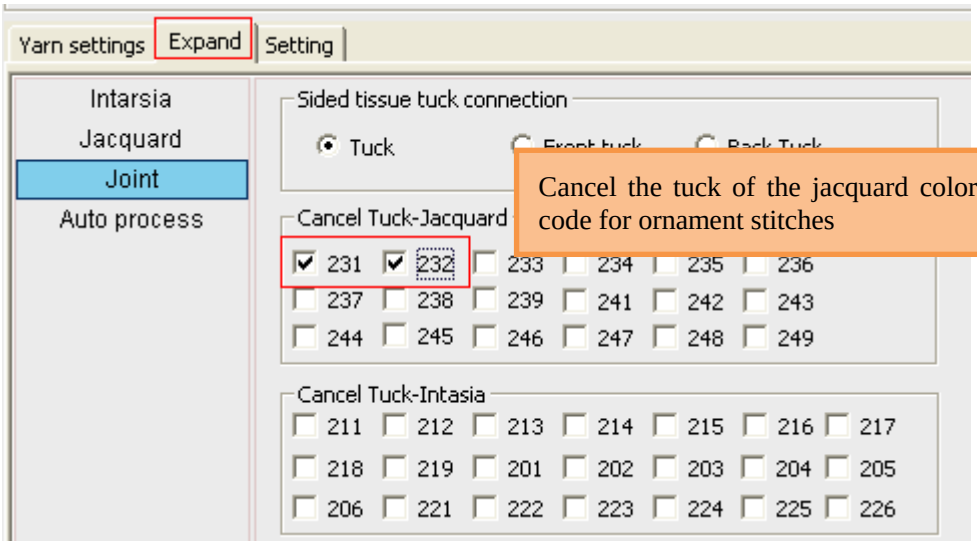
➢ Draw ornament stitches with the jacquard color code 231-239. Then there will be some ornaments on the cloth. However, if ornament stitches are not set, they will be tucked, and the carrier will be brought in and out during knitting every stitch



➢ Complete grouping and combination in the “Intarsia carrier Setting”, and prevent the carrier from being brought in and out once every a stitch, as shown below:



➢ Compile option



➢ Set the intarsia parameters as above introduction, and finally click Compile.

11 Local Jacquard

- Cloth with jacquard and single-jersey intarsia in one row is local jacquard.
- Such cloth not only meets customer's need for complex pattern but also reduce usage of yarn, which brings a perfect combination in terms of gram weight, feel and appearance.
- Steps of drawing of 1-row intarsia and jacquard:
  - Use jacquard color code and intarsia color code to draw jacquard and intarsia respectively;
  - Set back type for ladder backing;
  - Set yarn carrier and process parameter for jacquard and intarsia;
  - Set parameter in function line;
  - Check, compilation, save and knit on machine.

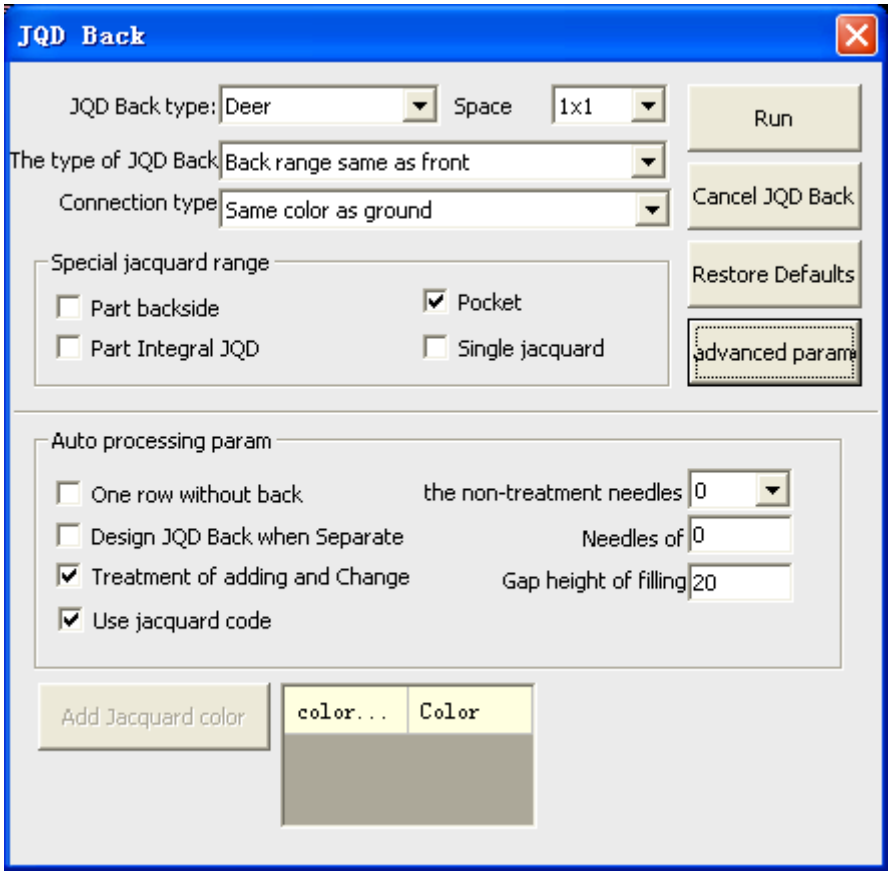
11.1 Draw local jacquard

- In below figure, use intarsia color code (such as 211) to draw the single-jersey part, and use jacquard color code (such as 231,233,234,242,244.etc) to draw jacquard part.

- Note: Only one carrier can be set for one jacquard color code.

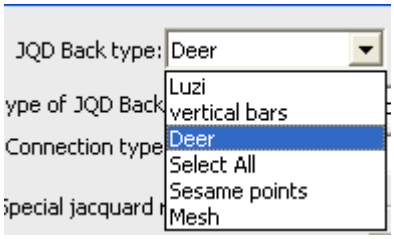
11.2 Set back type for ladder backing

- Click the icon  in the toolbar.
- Restore default: To set the parameters for ladder backing as default value.
- Show/Hide advanced parameter: To Show or hide advanced parameter setting option.

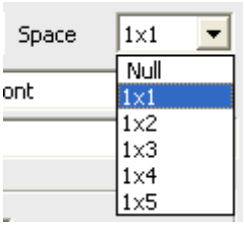


11.2.1 Back structure

- Back type



- Interval: Used with back type.

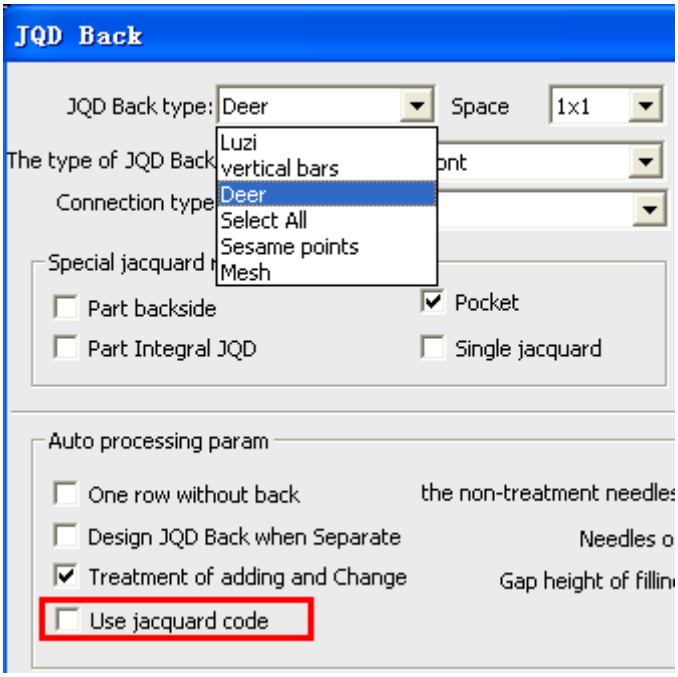


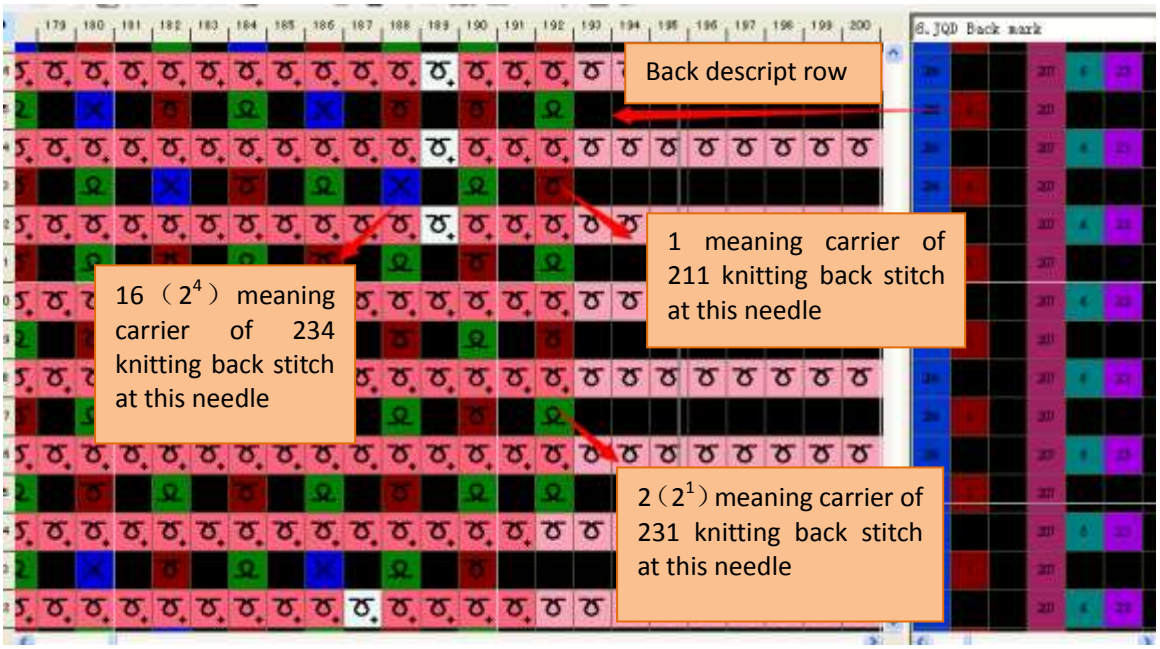
11.2.2 Back Flag and back color code description

➢ Back flag: At the first column of function line of 206, the rows which are marked with color code 1 are back description row.

➢ Color codes in pattern's back description row means there are back stitches in that position.

- If "use jacquard color code" to descript is not checked, the Jacquard color code is in the range of 231-236, else jacquard code which is not in the range could not be descripted.





☞ **Color code in back description row stand for intarsia color code and jacquard color code 231-236 knitting at back bed**

1——Intarsia color code

2^1——Jacquard color 231　　2^2——Jacquard color 232

2^3——Jacquard color 233　　2^4——Jacquard color 234

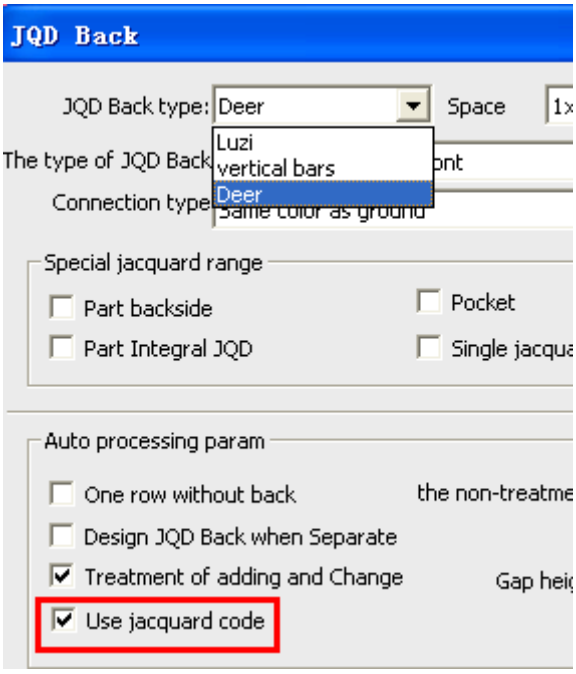
2^5——Jacquard color 235　　2^6——Jacquard color 236

☞ **Other back description color are combined by above color code, for example:**

3=1+21——combined by 1 and 21 , so it stands for the carrier of intarsia color and color 231 knitting at back bed at that position.

5=1+22——combined by 1 and 22 , so it stands for the carrier of intarsia color and color 232 knitting at back bed at that position.

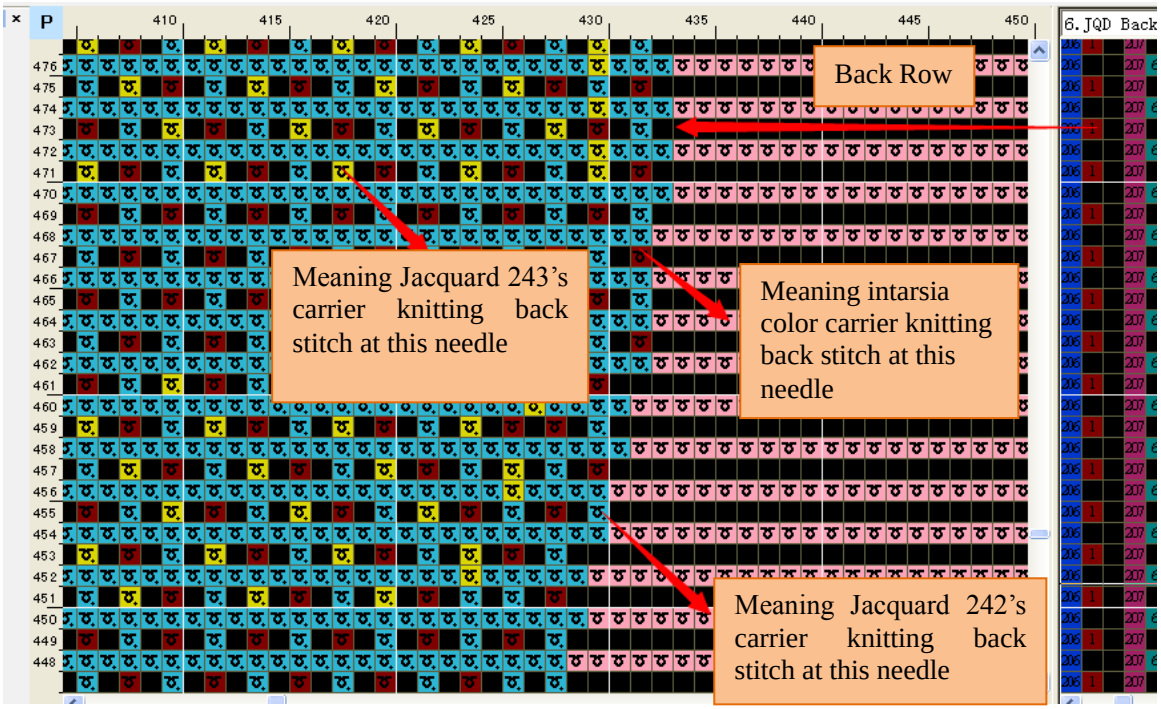
- If "use jacquard color code" to descript is checked, User is allowed to use all jacquard color code to draw pattern.



☞ **The color standing for carrier of intarsia and jacquard at show as below.**

1 color code --carrier of intarsia knitting at back bed

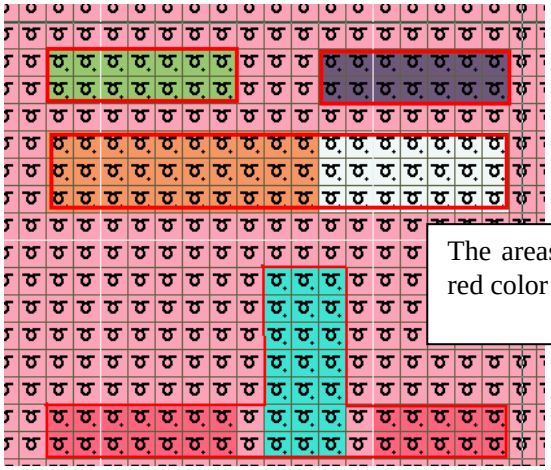
Jacquard color code—corresponding Carrier Knitting at back bed



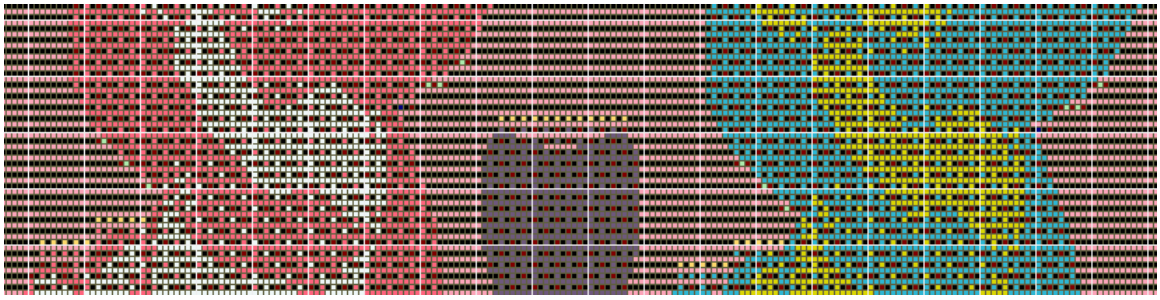
11.2.3 Back Range Mode

➢ **Segment: The range between one row one Jacquard color code's left and right (include left and right) is defined as a segment.**

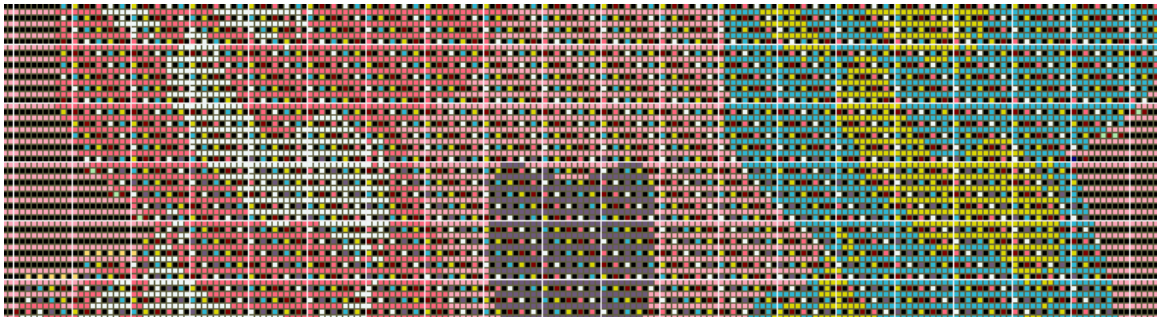
➢ **Block: The segments in two adjacent rows with crossing range will be combined to block.**



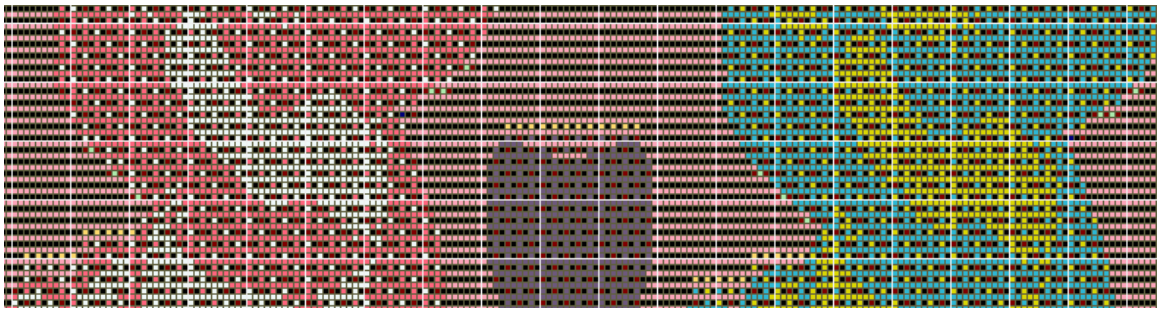
- Back range same as front: In every row the back range of every jacquard color is same as its front range.



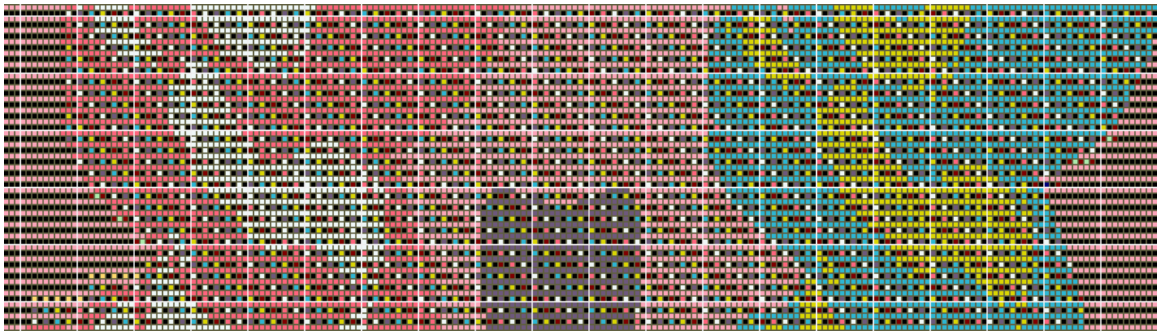
- All yarn knit back in a row: In every row, the back range of every jacquard color is all the same, this range contains all jacquard segments' range in the row.



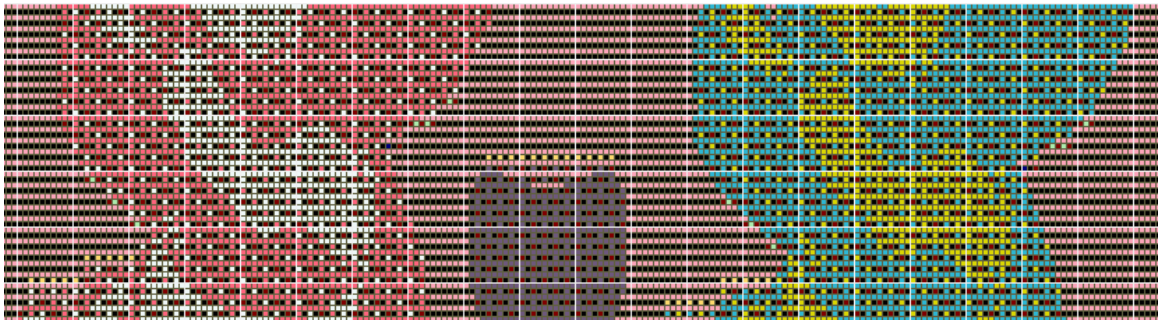
- All yarn knit back in a row (sperate):



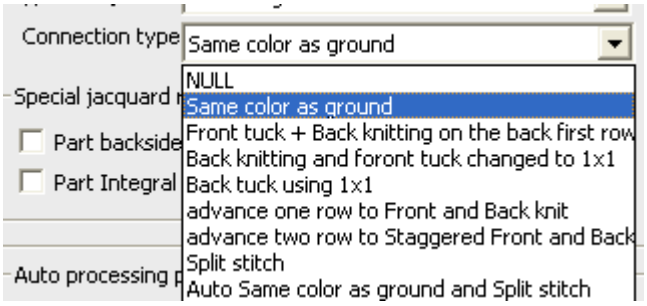
- All yarn knit back: every jacquard yarn knit the same whole jacquard area.



- All yarn knit back (separate): every jacquard yarn knit the same whole jacquard area.

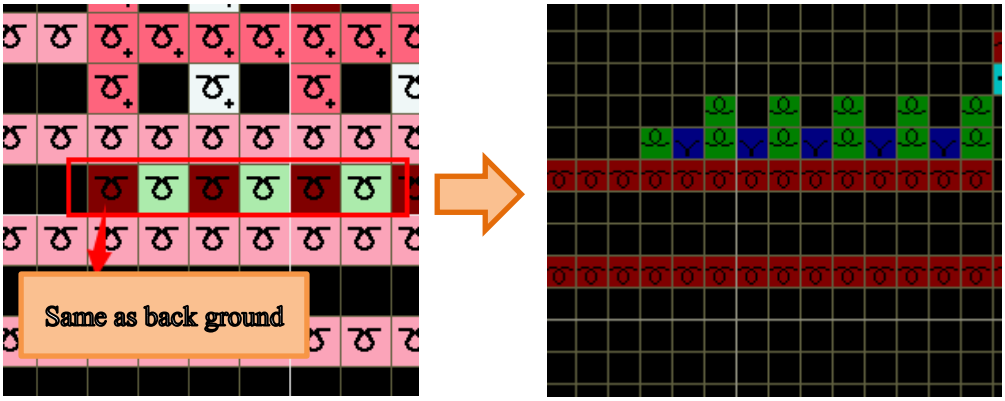


11.2.4 Connection type

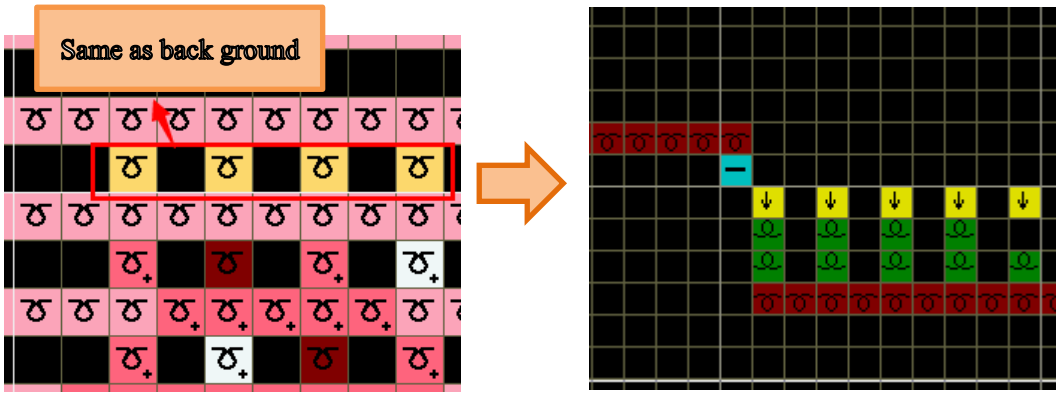


➢ The modes process the connection between single jersey and double jersey; take the common modes for example.

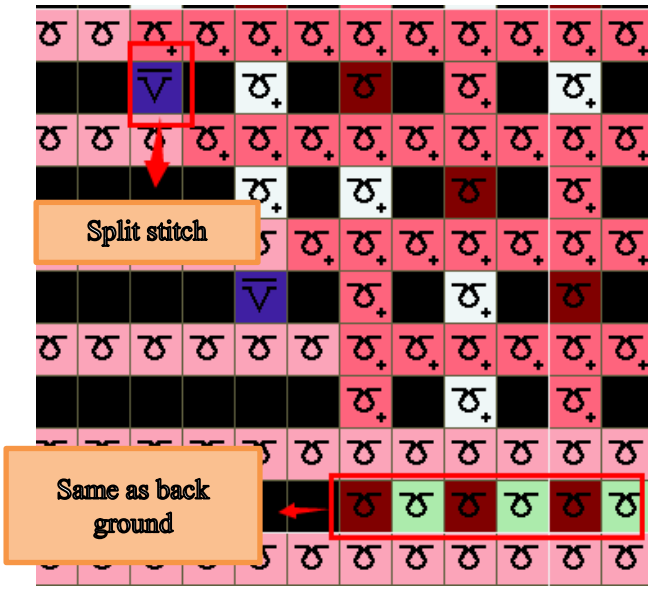
- NULL: No process.
- Same color as ground
  - ☞ single jersey to double jersey



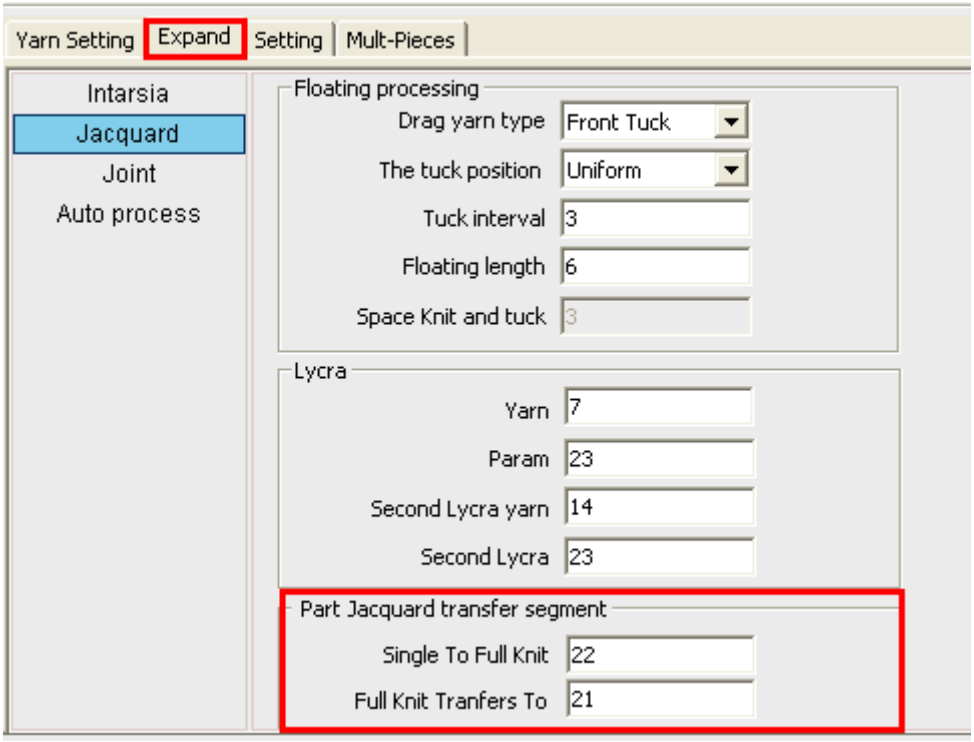
☞ double jersey to single jersey



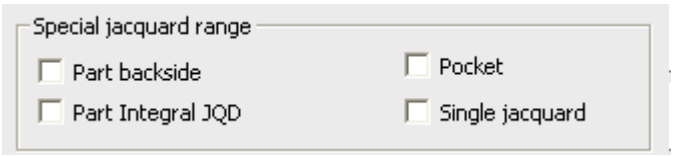
- Auto same color as ground and split stitch: When jacquard area widens 1 needle using split stitch, the other using same color as ground.



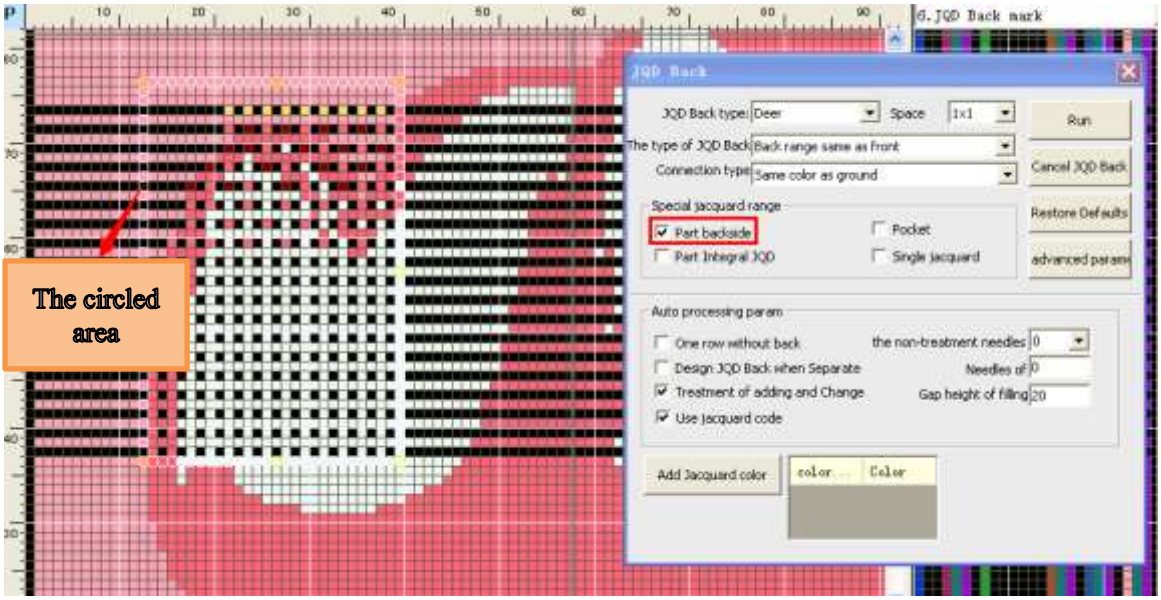
- Note：If use the type same color as ground, the level of density for it should be set.



11.2.5 Special jacquard range

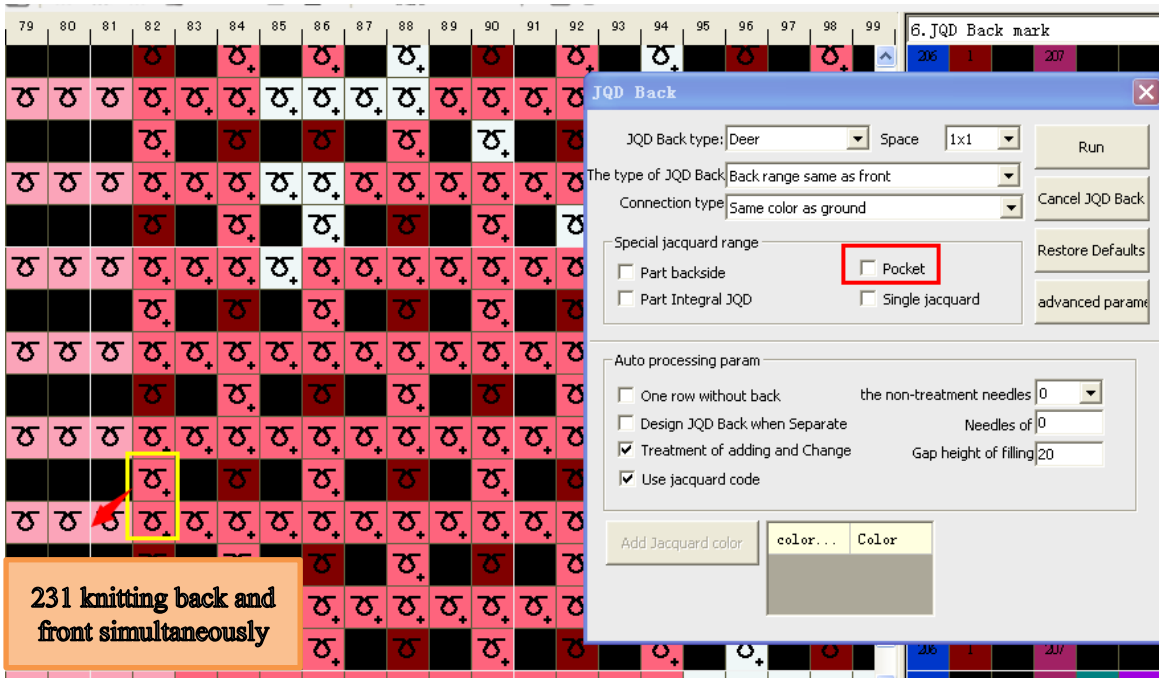


- Part backside: Only effective for selected area.

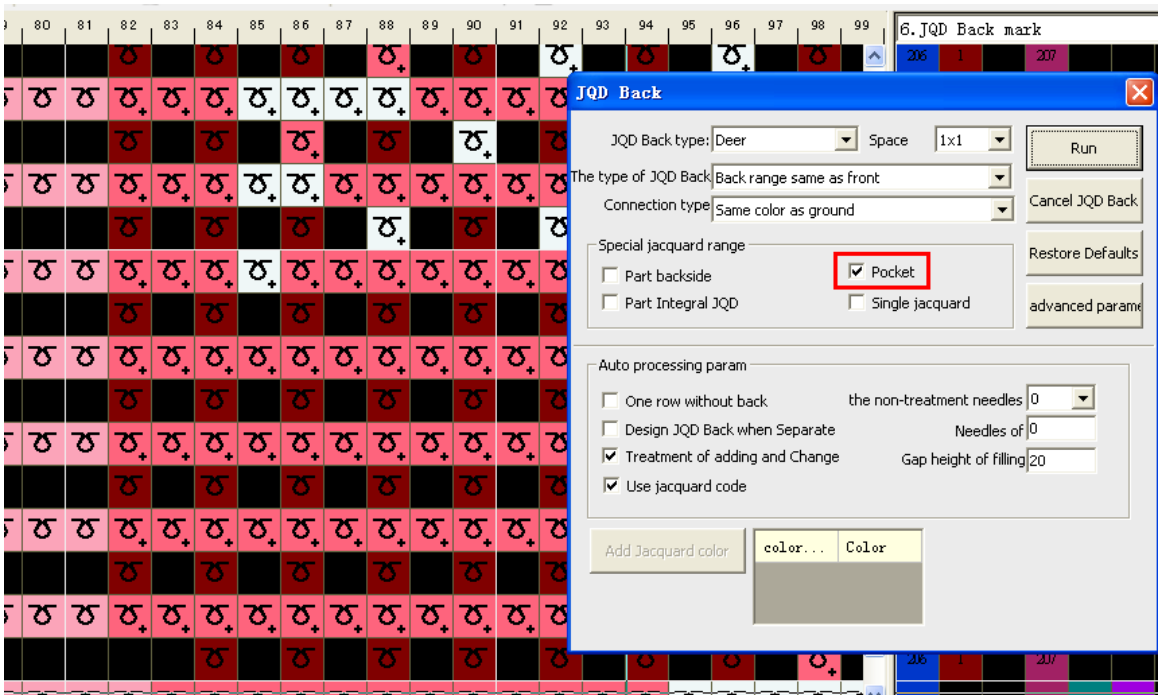


➢ Pocket effect: the jacquard color code will not knit in its front range.

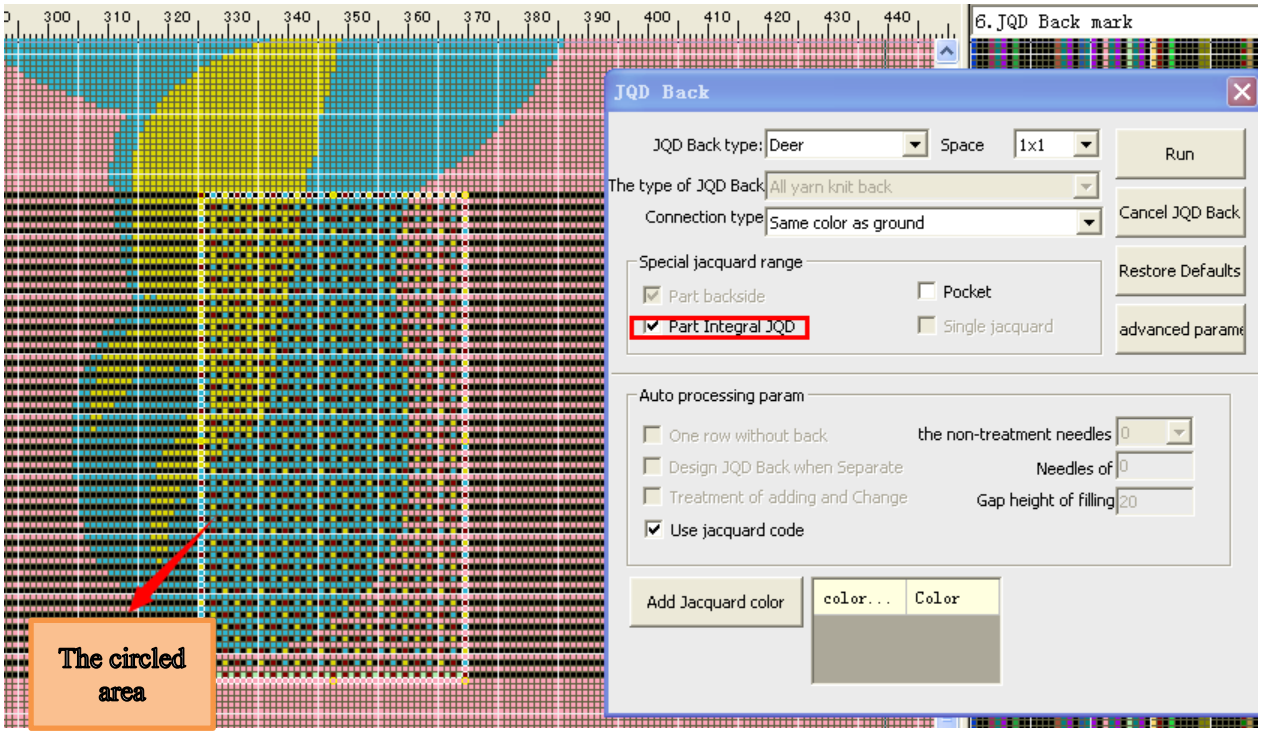
- The deer back type effect unchecking pocket show as below.



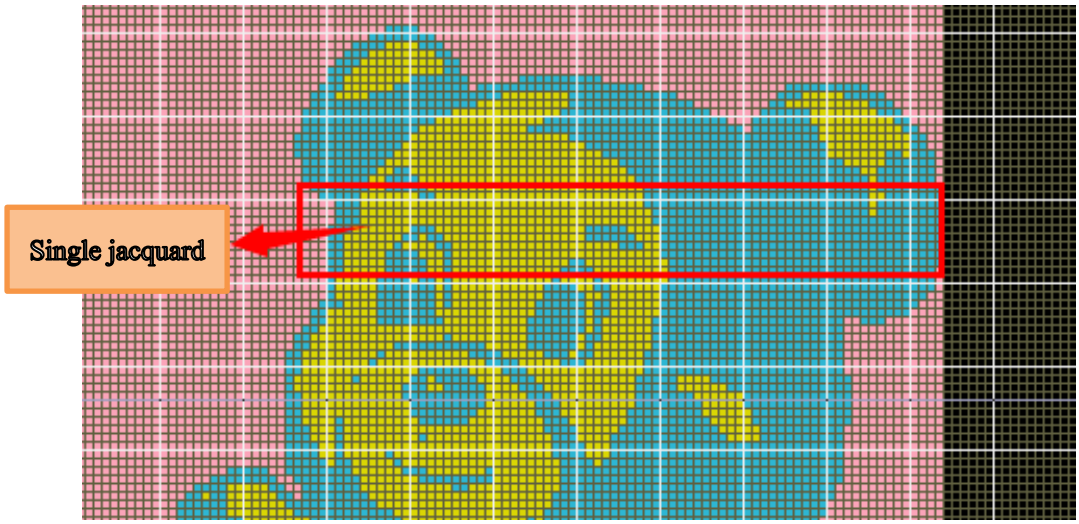
- The deer back type effect checking pocket show as below.



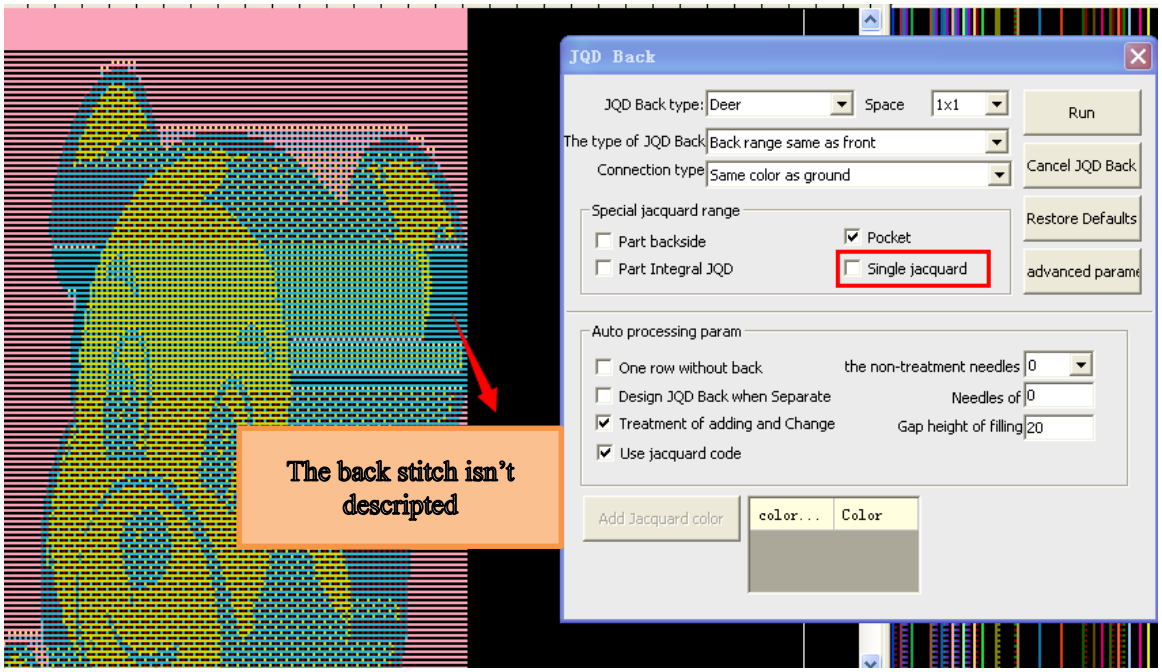
➢ Part integral JQD: Descript back for whole selected area(include intarsia color code).



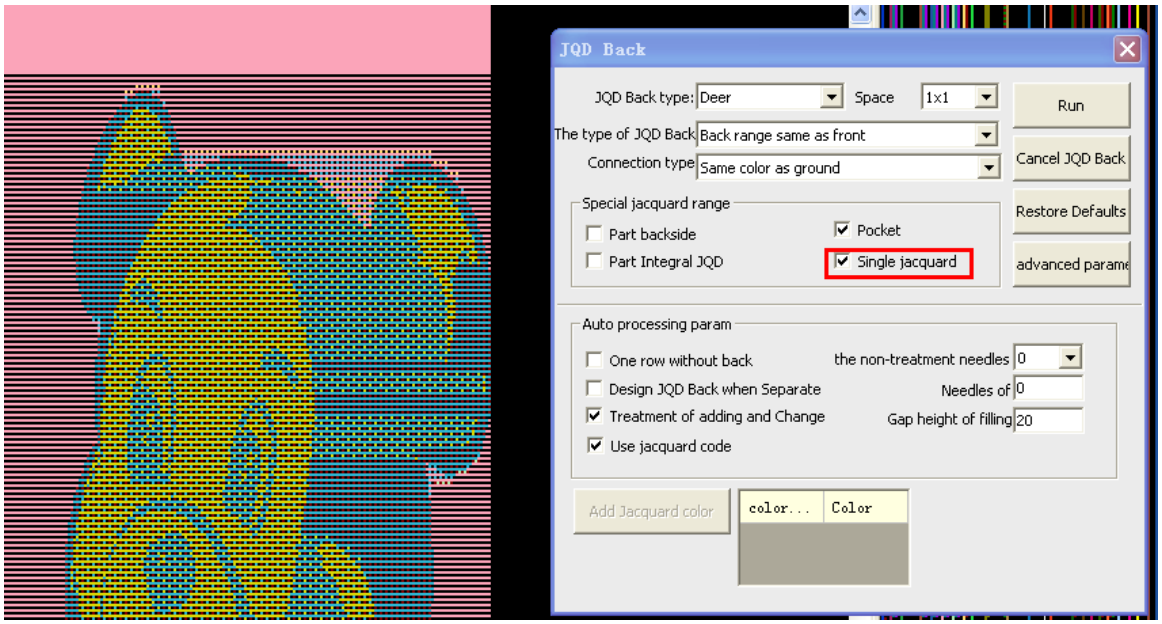
➢ Single jacquard: when there is intarsia color code on one side of the jacquard area, checking this option, intarsia yarn will knitting back in the jacquard area.



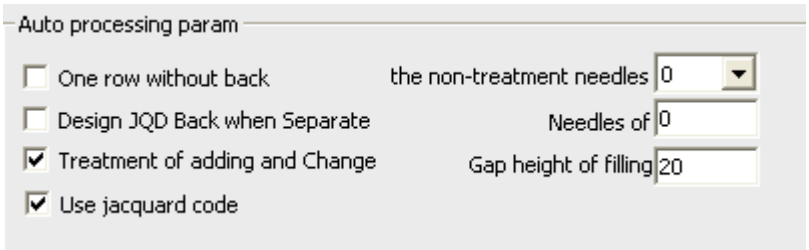
- If unchecking “Single jacquard” the back description is error.



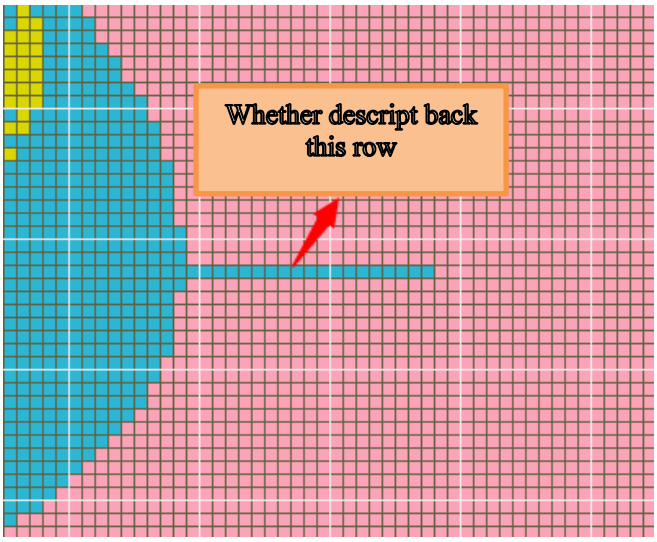
- Check it to descript in correct way.



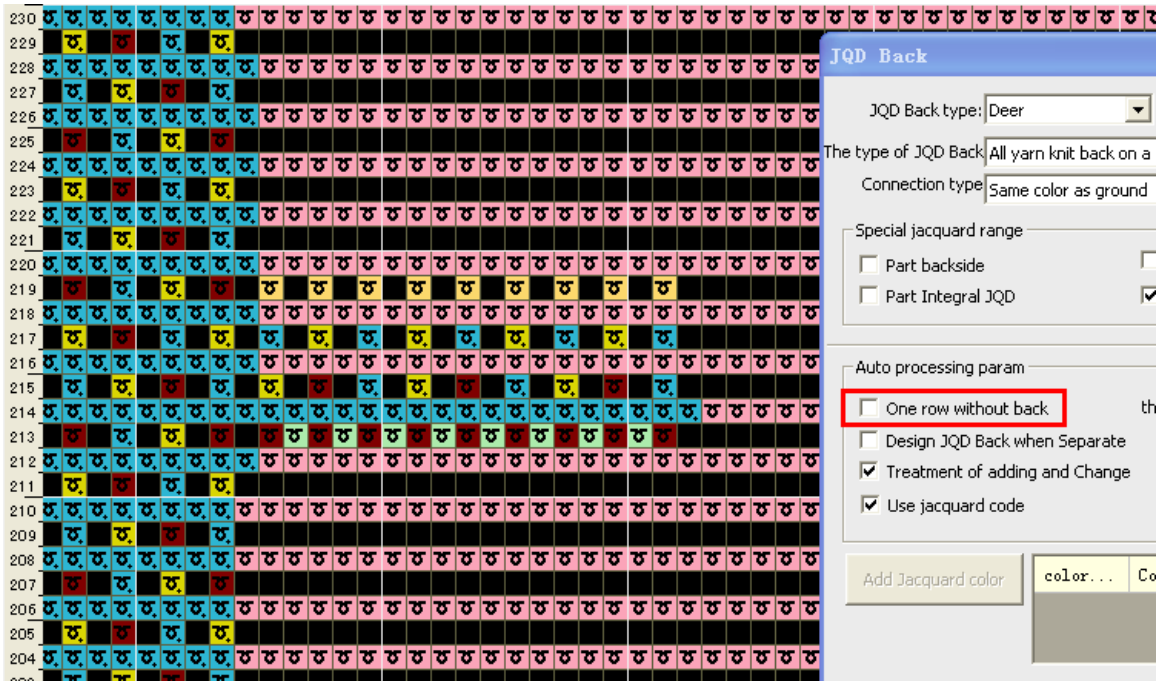
11.2.6 Auto processing parameters



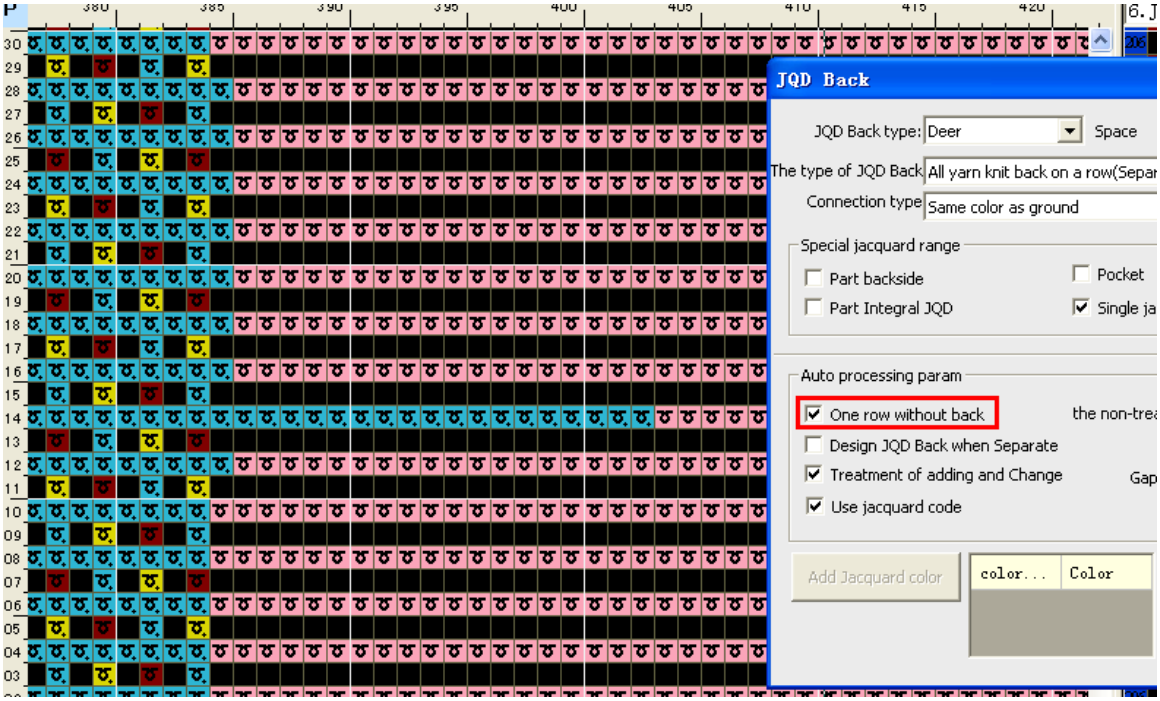
➢ One row without back: One Jacquard row between two intarsia rows will not be descripted.



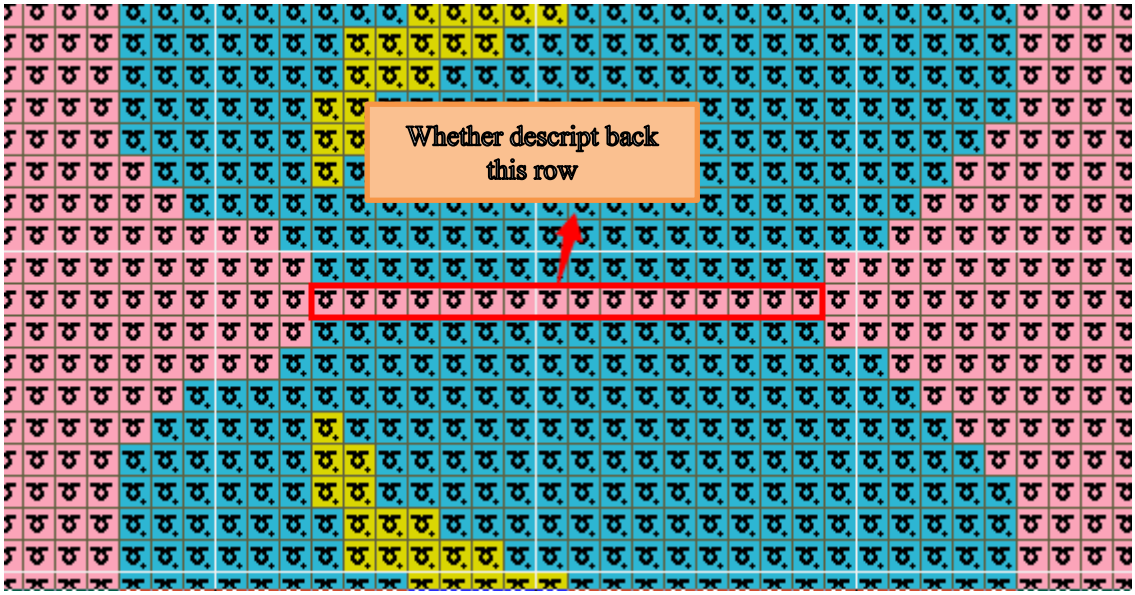
- The effect of unchecking it.



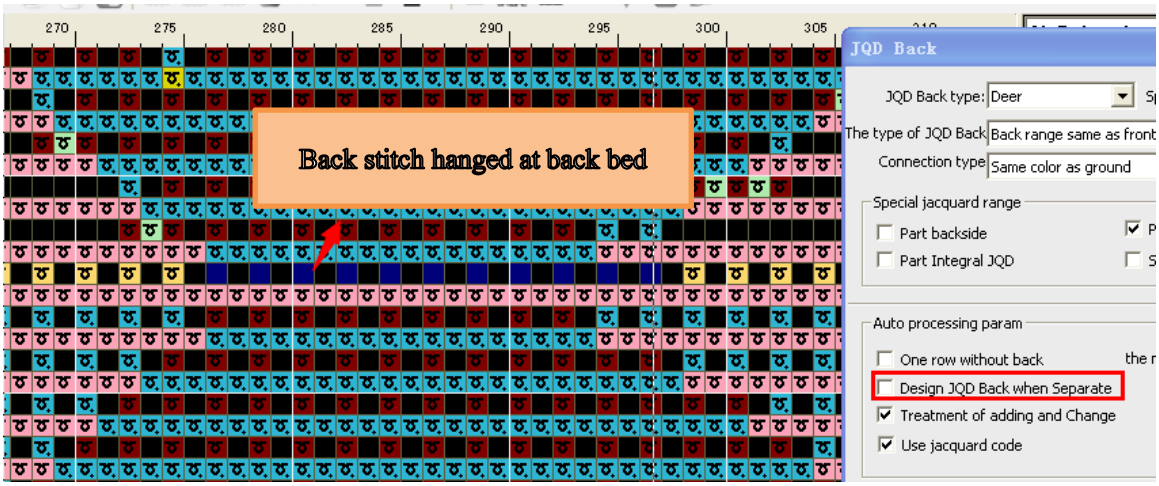
- The effect of checking it.



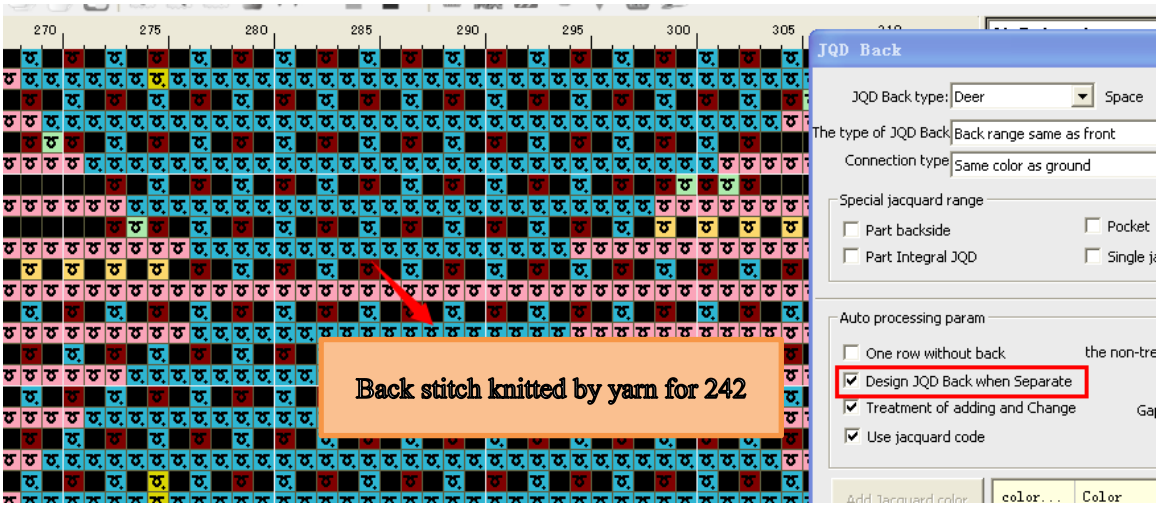
➢ Descript JQD back when separate: one intarsia row between two JQD rows will be descripted.



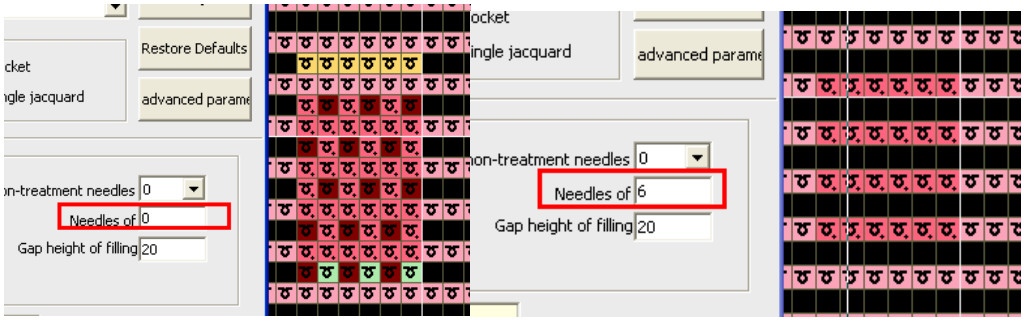
- The effect of unchecking it.



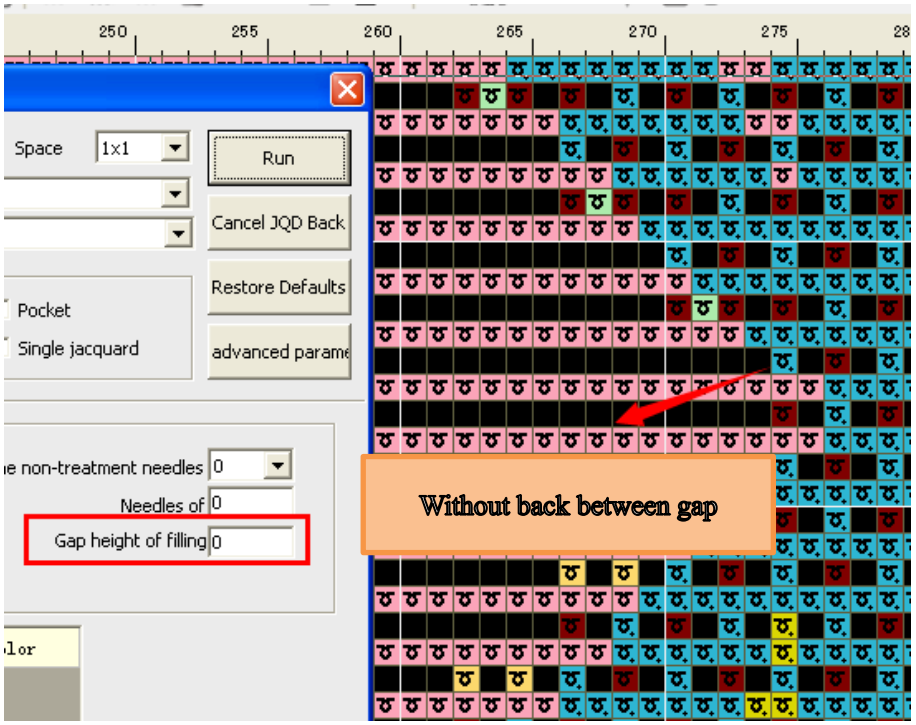
- The effect of checking it.

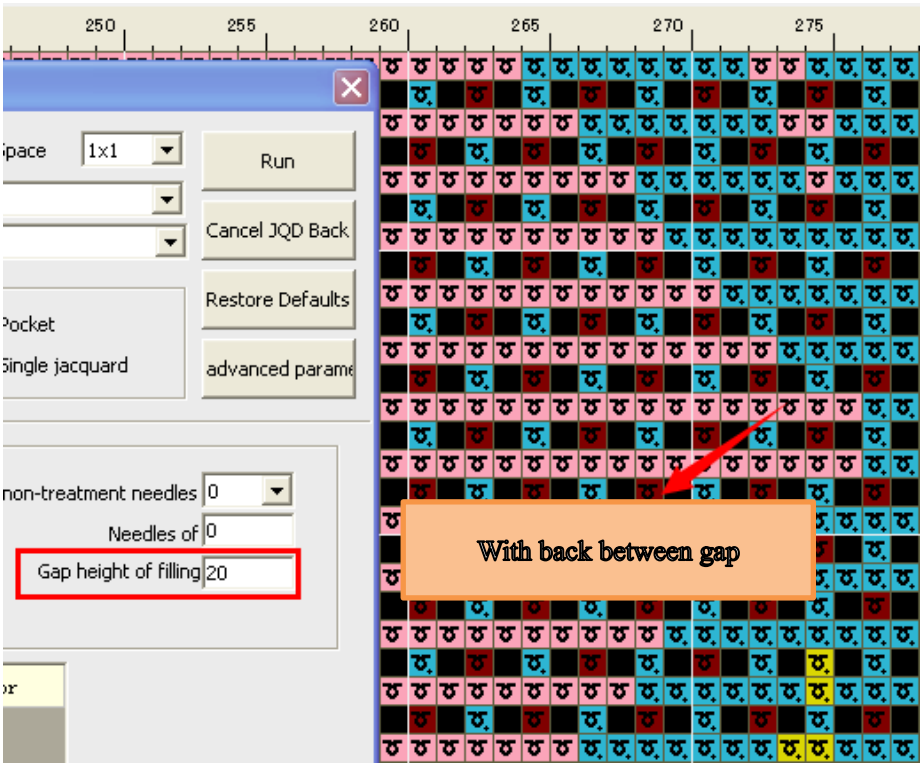


- Treatment of range change: The process for back range is changed more than 1 needle
- Use jacquard code: using jacquard color code to descript back stitch. Details reference to [Back Flag and back color code description]
- The non-treatment edge: the needles of the jacquard area edge will not be descripted.
- The non-treatment needles：the jacquard range less than the needles will not be descript.



- Gap height of filling: when the gap rows less than the set height the gap will be descripted.

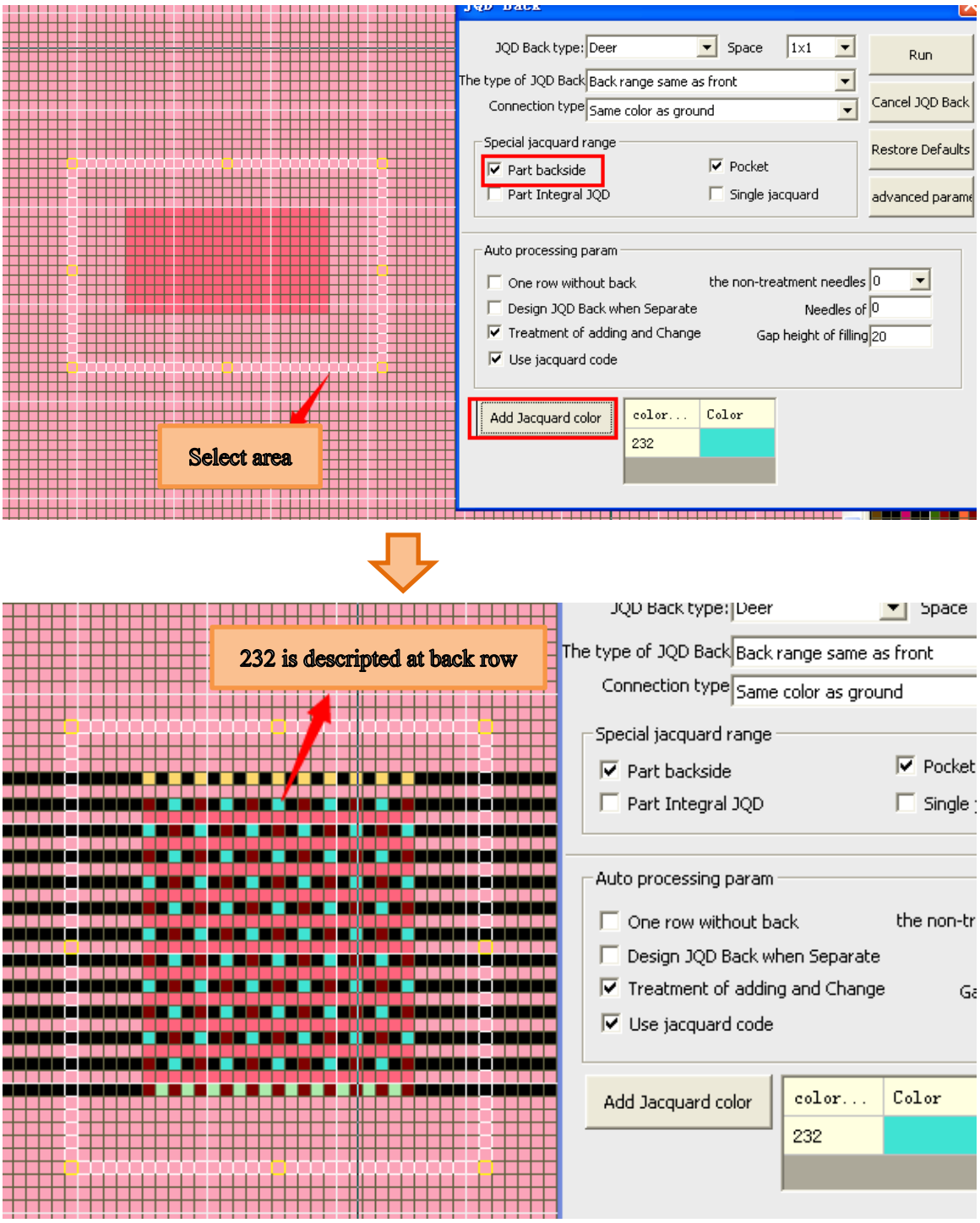




11.2.7 Add jacquard color code

- Add jacquard color code: add the extra jacquard color code to only knit at the back bed.

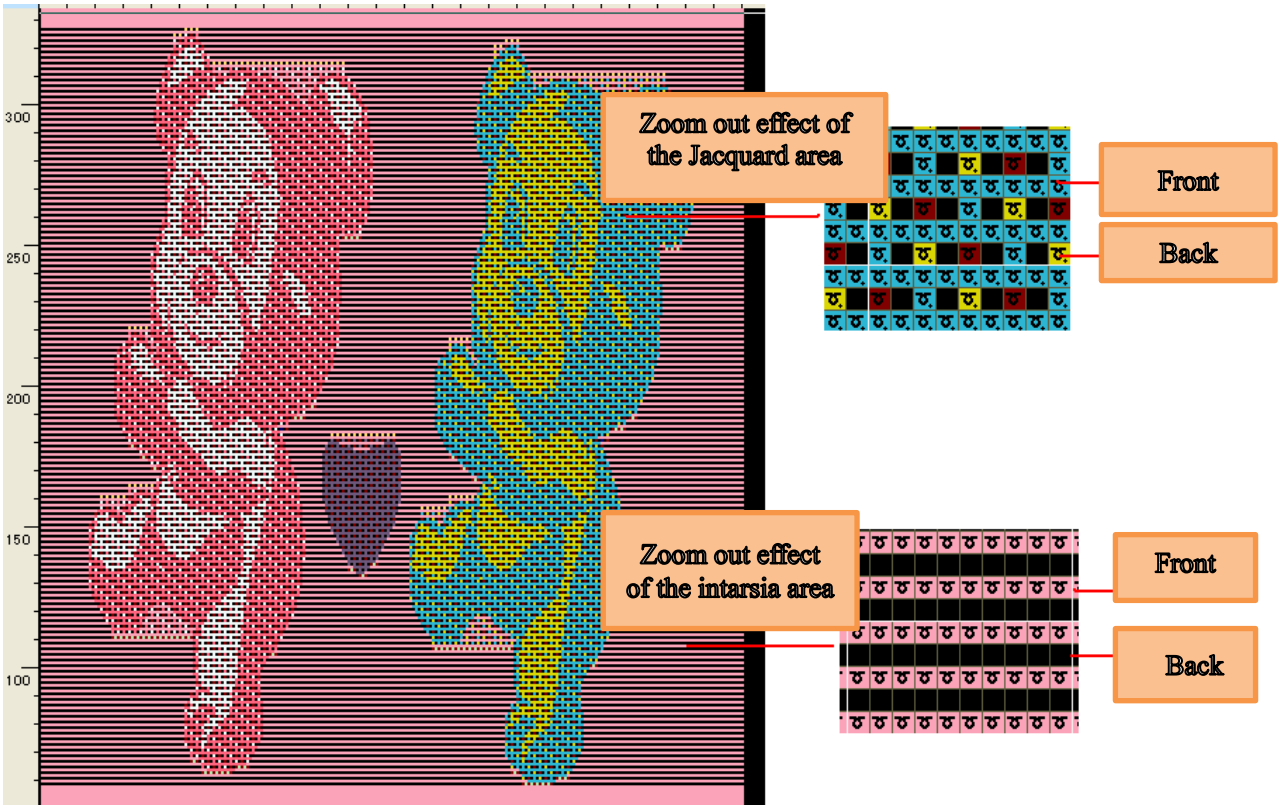
- Only effective when part jacquard or part integral JQD is checked.



11.3 Descript back row

- Select needed setting.
- Then chick perform button
  - Jacquard part will be descripted as setting.
  - Intarsia part isn't back stitch, it is empty needle.

➢ The set parameters will be saved within KNI, when the pattern opened next time the settings are reserved.



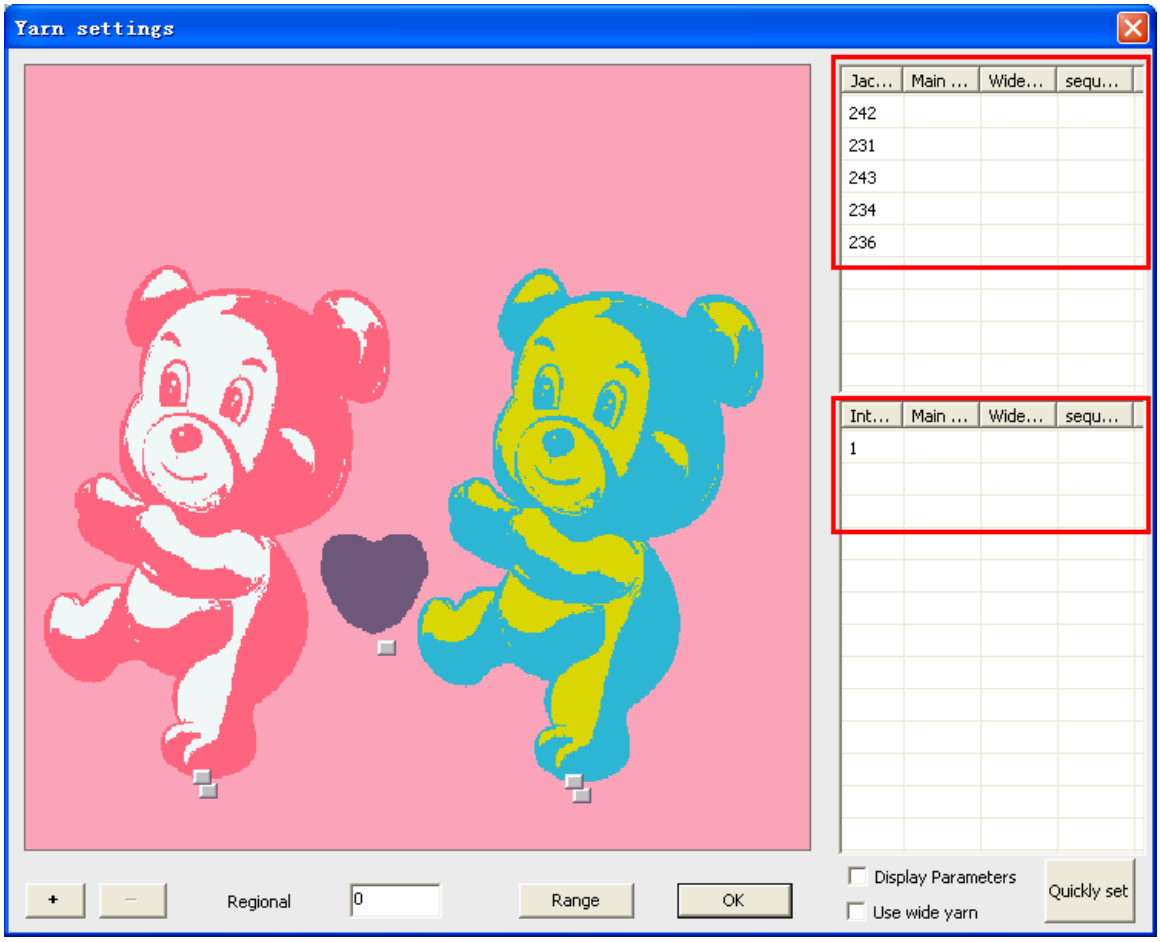
11.4 Set the carrier and parameters

➢ Processing of knitting in, knitting out，movement of carrier，float and safety needles are set same as intarsia and jacquard pattern.

➢ Connection process is very important for the cloth effect, the knitting in and out mode at the connection place is common use front tuck and back knitting.

➢ Click intarsia carrier setting, the carriers of intarsia color code and jacquard color code are need be set show as below area.

➢ Effect of region and range setting are same as above intarsia charpter.



➢ Note: the carrier will be automatically assigned if they not be set.

Color code 231—— carrier 1　　Color code 232——carrier 2

Color code 233——carrier 3　　Color code 234——carrier 4

Color code 235——carrier 5　　Color code 236——carrier 6

Color code 237——carrier 7　　Color code 238——carrier 8

Color code 241——carrier 9　　Color code 242——carrier 10

Color code 243——carrier 11　　Color code 244——carrier 12

Color code 245——carrier 13　　Color code 246——carrier 14

Color code 247——carrier 15　　Color code 248——carrier 16

Color code 211——carrier 1　　Color code 212——carrier 2

Color code 213——carrier 3　　Color code 214——carrier 4

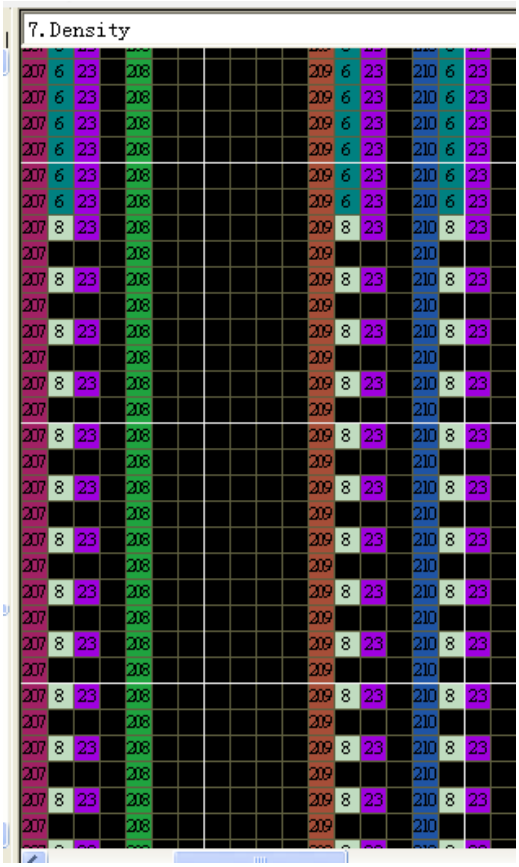
Color code 215——carrier 5　　Color code 216——carrier 6

Color code 217——carrier 7　　Color code 218——carrier 8

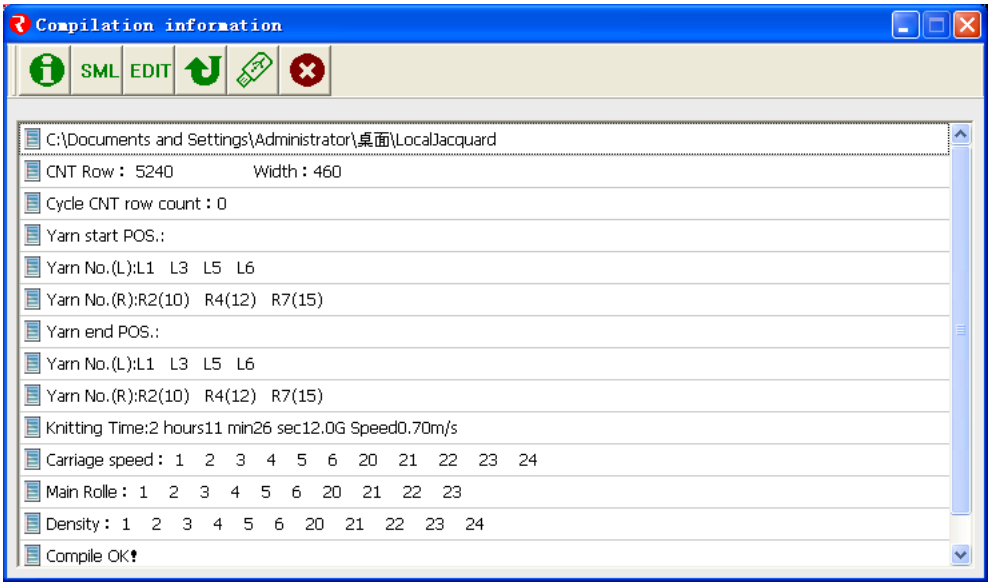
Color code 219——carrier 9

11.5 Set the function line parameters

- In order to make sure better cloth effect, density of the back stitch should tight than front (set in machine).



11.6 Check, compile and save to knit

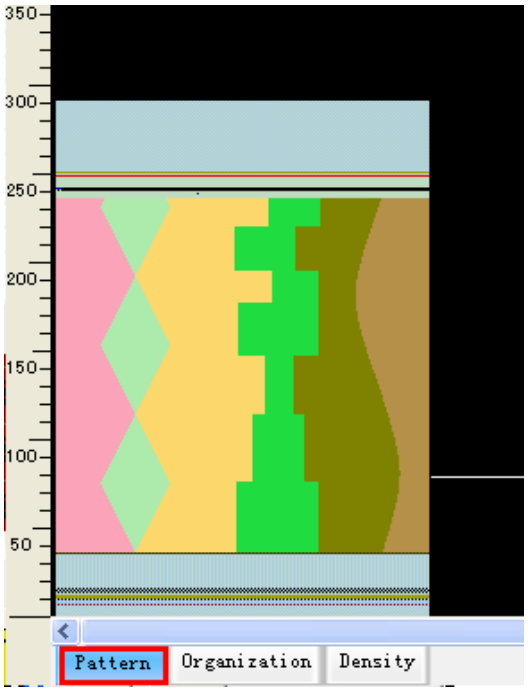


12 Jacquard and Intarsia Parameter Settings

➢ The intarsia and local jacquard are different from those ordinary patterns. There are a lot of special parameters for processing intarsia, jacquard and local jacquard. Refer to the description of the jacquard and intarsia functions for specific drawing methods. Here are mainly the row split and jointing parameters. The intarsia, jacquard and local jacquard can be set in a similar manner. Take the intarsia as an example.

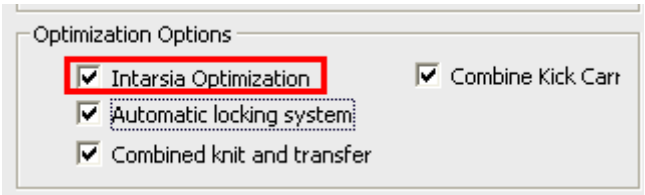
12.1 Drawing of Intarsia Pattern

➢ Draw the intarsia with the intarsia color code in the pattern page. Below is an example of 6-color intarsia (211-216).

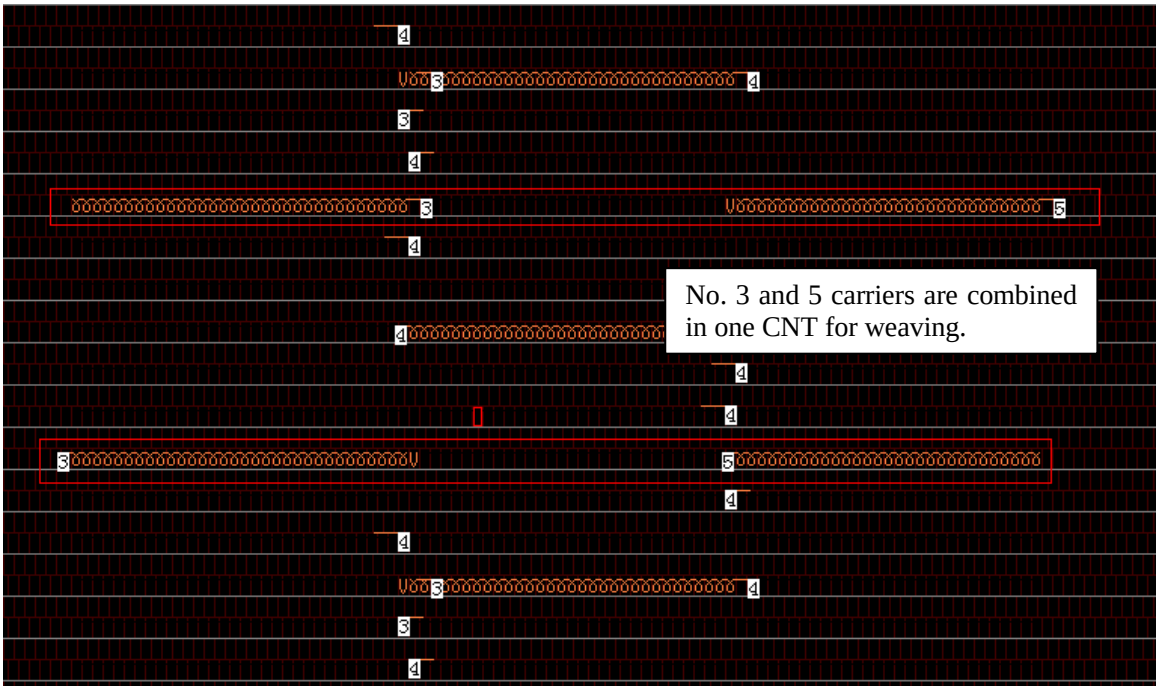


12.2 Row Split and Sequence Setting

➢ The conventional row split mode can be set under Compile.

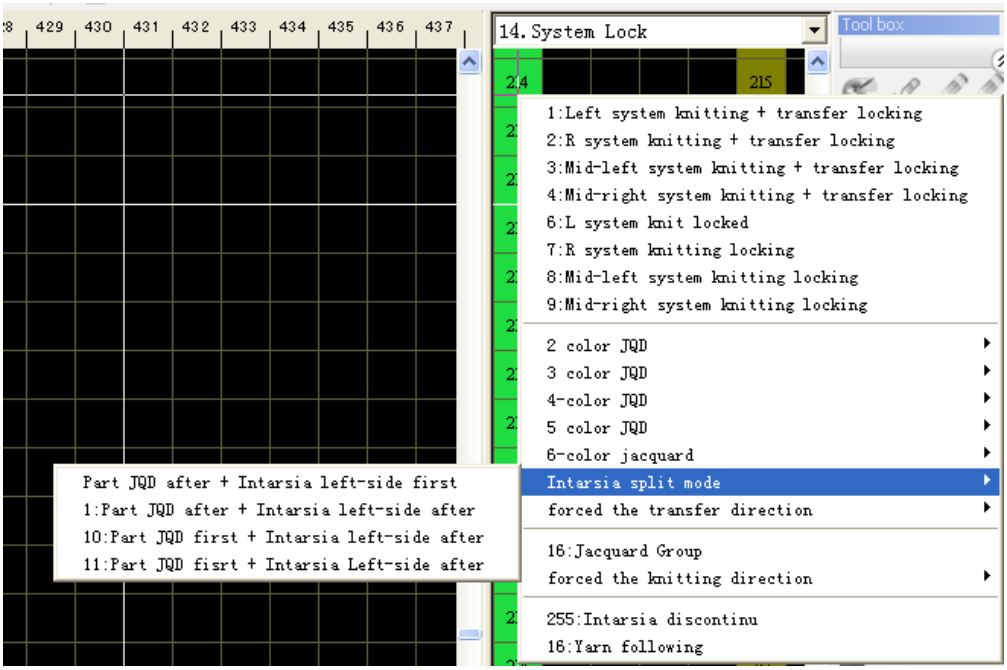


➢ Intarsia Optimization: after the row of the intarsia (or local jacquard) of one pattern is split, the spacing needles is of the row is more than the safety number will be combined into one system to knit.



- When the color is more than five, Intarsia Optimization will improve knit efficiency.
- Set the intarsia split mode in the functional line 217. Set the intarsia split order and direction in the functional line 214.

  - the functional line 217



214 Intarsia split order and direction

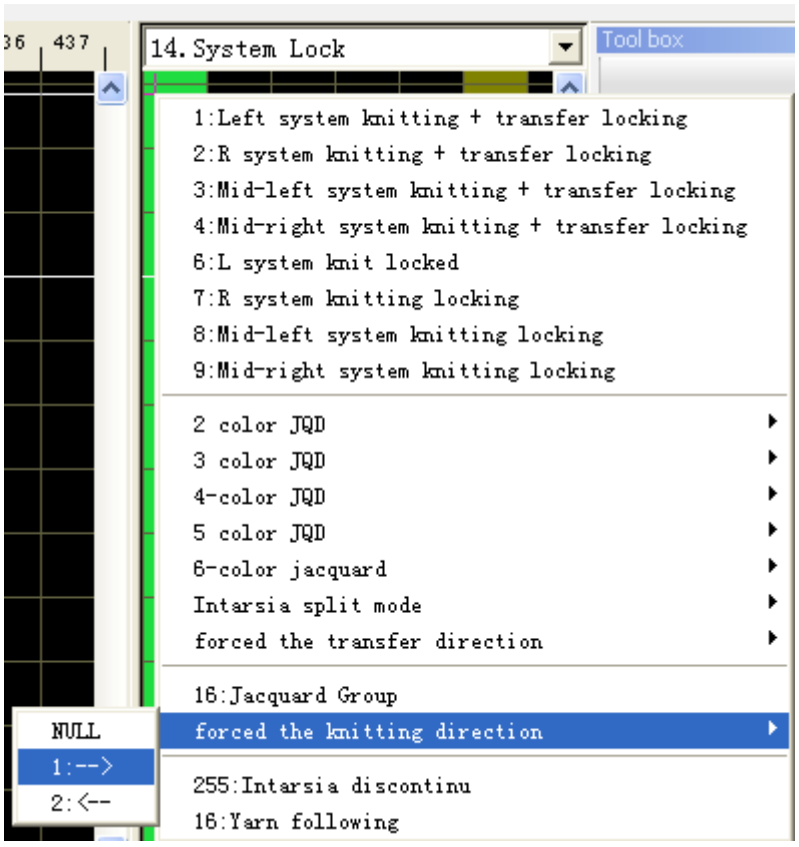
☞ After split of one pattern row, determine the knitting sequence of local jacquard and intarsia.

Part JQD after
1:Part JQD after
10:Part JQD first
11:Part JQD fisrt

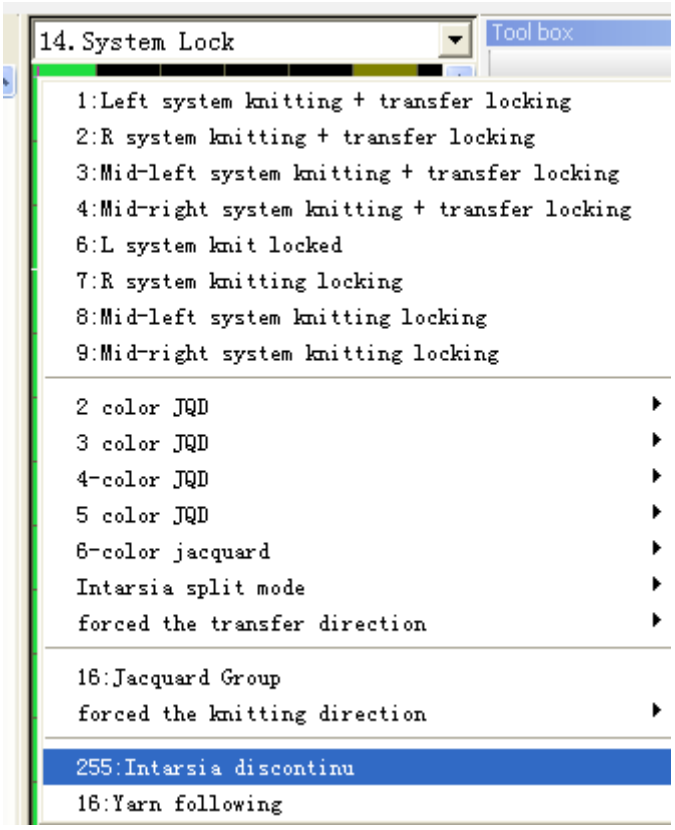
☞ The kintting sequence of the left intarsia segment in one pattern row which consit of intarsia segment or intarsia segment and jacquard segment.

Intarsia left-side first
Intarsia left-side after
Intarsia left-side after
Intarsia Left-side after

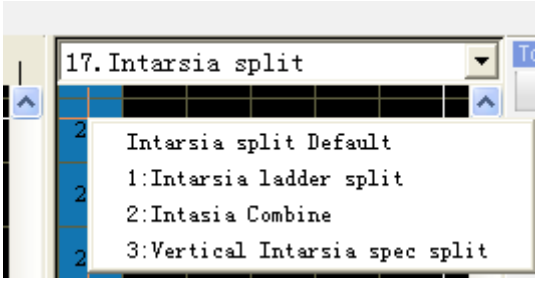
☞ Control the direction of the starting row of intarsia, from the left or from the right.



☞ determine whether the knitting of the intarsia color code can be discontinued by the ordinary color code (in case of continuity, the intarsia carrier cannot be brought out but kick back during ordinary knitting ; in case of discontinuity, the intarsia carrier can be brought out during ordinary knitting before the next use).



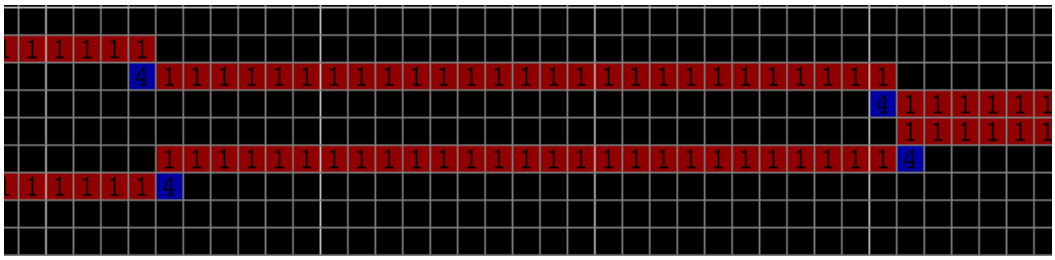
- the functional line 217: control the intarsia split mode, as shown below:



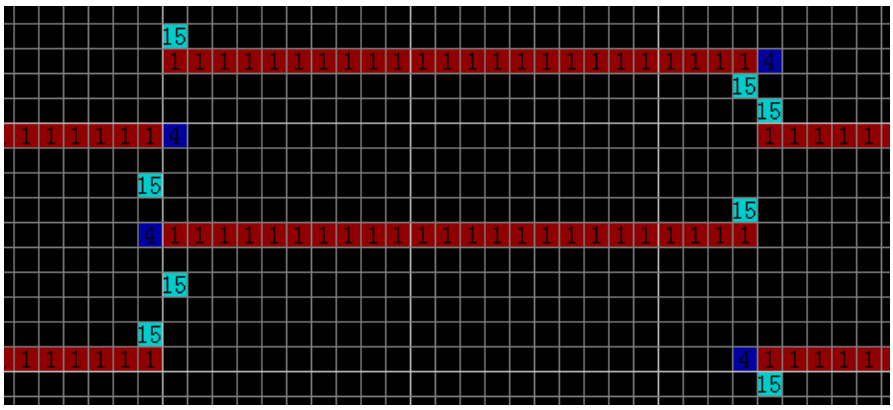
217 Intarsia split

☞ Defualt mode according to the compile option Inatarsia Optmization whether be checked

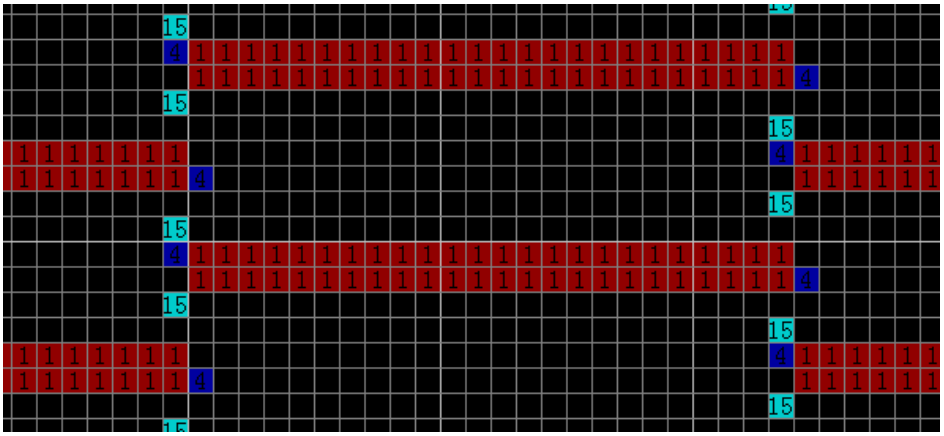
☞ Intarsia ladder split:



☞ Intarsia combination:



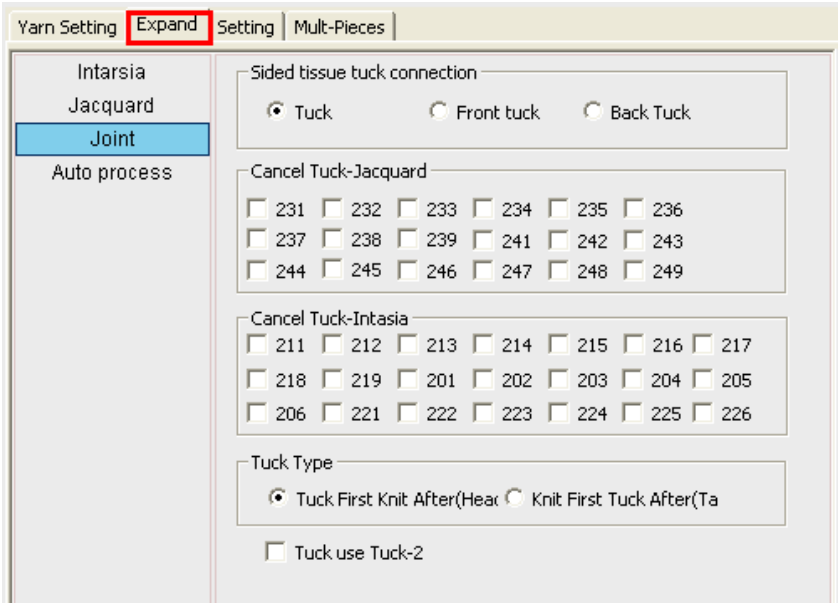
☞ Vertical intarsia spec split: no increase or decrease of stitches in the intarsia pattern, which can improve the efficiency.



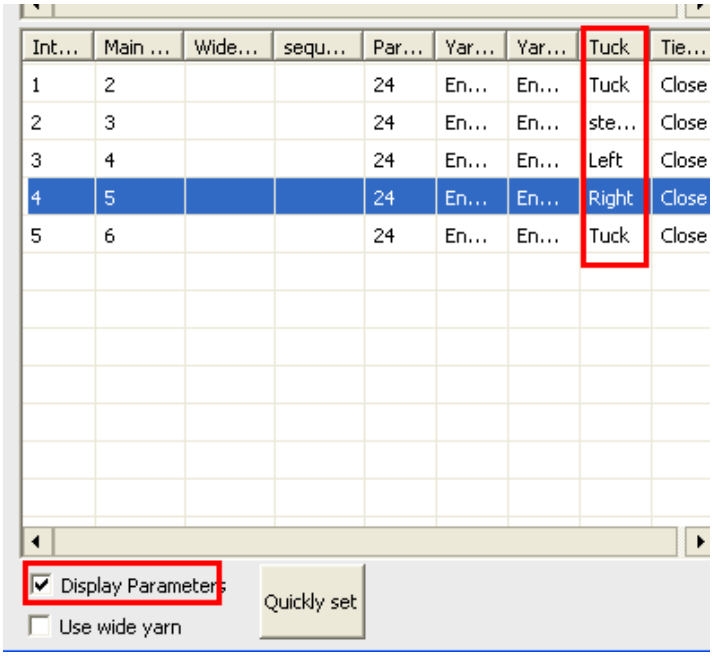
12.3 Tuck Setting

➢ The tuck can be set in two methods.

- Under the Joint of Compile, select the tuck type, the use of 2-level tuck and whether use of tuck according to the intarsia or jacquard color code.



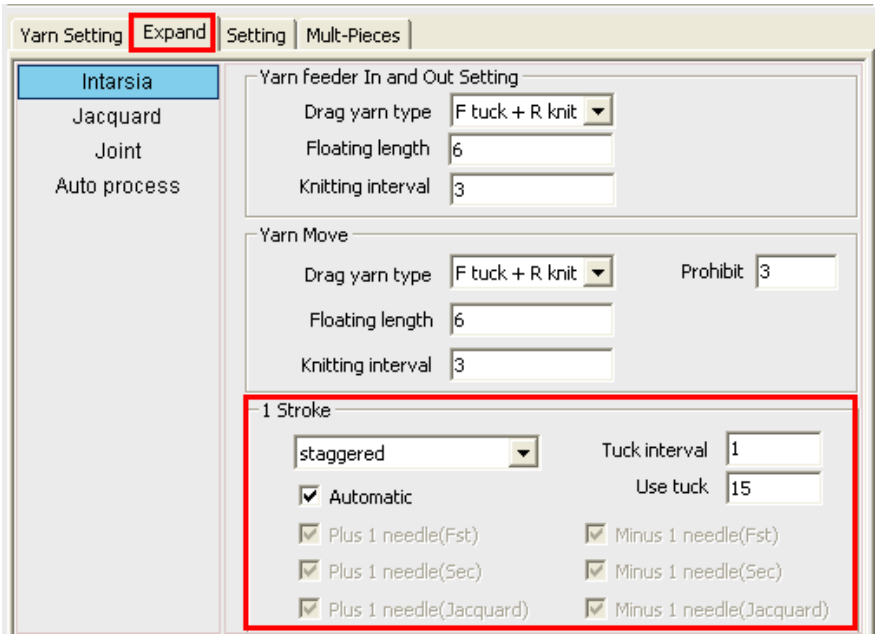
- Set the tuck type of each carrier under the Intarsia Carrier Setting of Compile: left spacing, right spacing, spacing stitch and tuck. The default setting is "Tuck" (without spacing stitch). The jacquard and local jacquard can be set in a similar manner.



12.4 Joint Setting

➢ For processing of intarsia and local jacquard joints, ensure that two color blocks are connected more smoothly.

➢ Joints of intarsia and local jacquard are mainly set under Setting of Compile.



- There are three options for stitch increase or decrease of intarsia:

- Null: no treatment is performed for the stitch increase or decrease of the intarsia joint. This mode can be used when the number of stitches to be increased or decreased is small and the knitting efficiency is more important than the cloth effects. It is recommended not to use this mode.
- Tuck: tuck treatment is performed for stitch increase or decrease of the intarsia joint. This is applicable when the number of stitches to be increased or decreased is small and there are no high requirements for cloth backside effects.
- Staggered: this is used for accurate knitting, the backside of cloth is smooth, and the mode is applicable to patterns with large numbers of stitch increase or decrease and has significant effects.

- The above three options are used for increasing or decreasing multiple stitches.

One-stitch increase or decrease is handled as follows:

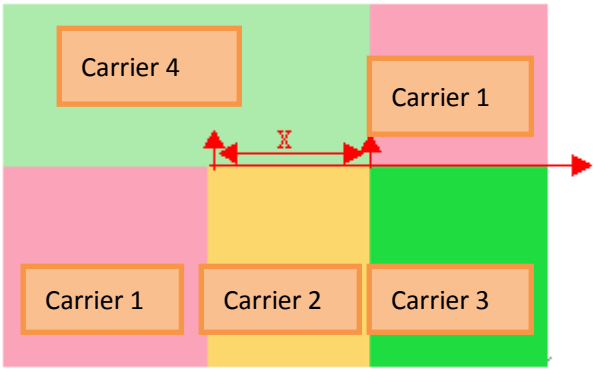
- Auto
- When Auto is not selected, the following modes are effective: increase one stitch (in the previous row), increase one stitch (in the following row), decrease one stitch (in the previous row), decrease one stitch (in the following row), increase one stitch (jacquard) and decrease one stitch (jacquard).

- For the intarsia (or local jacquard) pattern, it is recommended to select “Auto”.

12.5 Jacquard and Intarsia Yarn and Floating Treatment

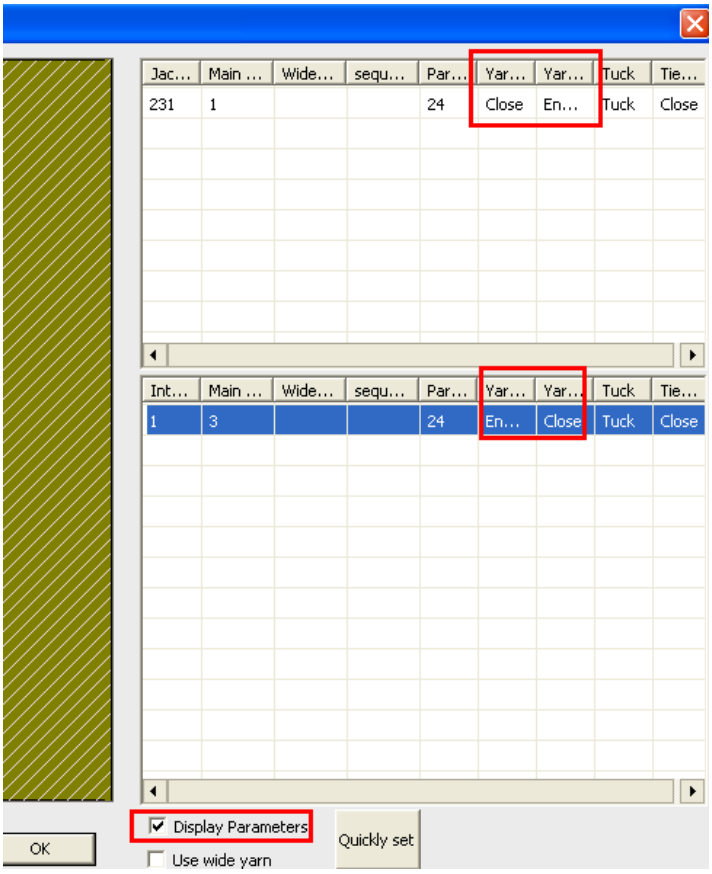
➢ The intarsia setting includes settings of three parameters: Yarn In and Out, Yarn Movement Treatment and Jacquard Floating Treatment. See the description of the jacquard and intarsia function for detailed setting parameters.

➢ Yarn movement refers to the process method of one intarsia carrier knitting from the last row of Region A to the region B.



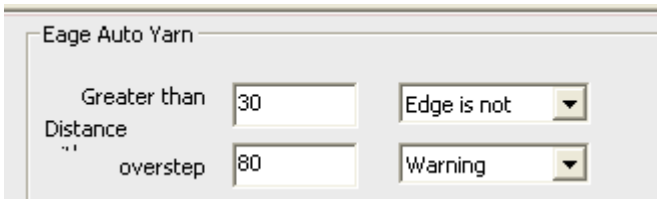
The carrier 1 enters Region B for weaving after weaving the last row of Region A. The treatment of the distance X is the yarn movement treatment.

➢ The default mode of the system is Auto In and Out of the jacquard and intarsia carrier, which is set in the above figure. If not required, close the In or Out setting of the specified carrier in the intarsia setting interface, as shown below:



12.6 Setting of Yarn Taken Distance for Warning Prompts

- The option is used for treatment of the non-intarsia carrier.



- When the parking distance between the non-intarsia carriers is less than 30 stitches, yarn carriers are taken directly without treatment.
- When the stopping distance of the carriers is more than 30 stitches but less than 80 stitches, the yarn carrier brought in are treated by the system according to the settings (edge tuck, tuck or non-treatment).
- When the stopping distance is more than 80 stitches, the compiler sends a warning.

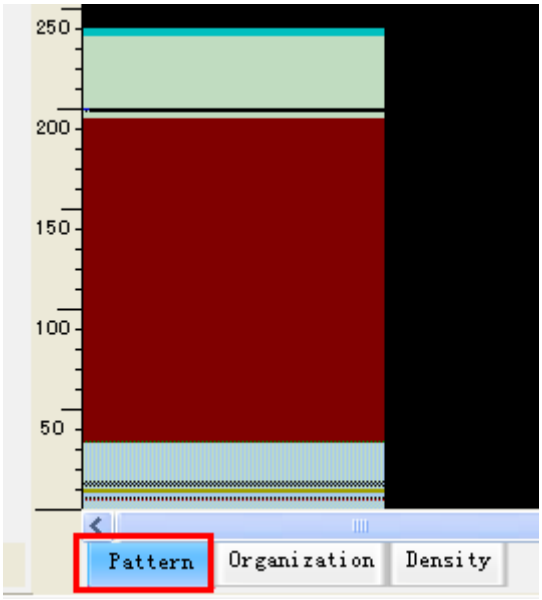
12.7 Check of Other Parameters

- Check the safety needles, cast off setting, etc., then compile and send the knitting files into the disk and import them into the machine.

13 Variable density

- Variable density pattern is means one row has 2 sections density or more; it is designed in the density zoom.
- Variable density is applicable to the all pattern.
- Variable density is designed by the following steps
  - In the pattern zoom design the action codes, like these colors 1、2、3、211、231…
  - Setting the density sections in density zoom,
  - Setting the variable interval.
  - Setting the function line parameter
  - Compile and check the file
  - Save the file to U disk

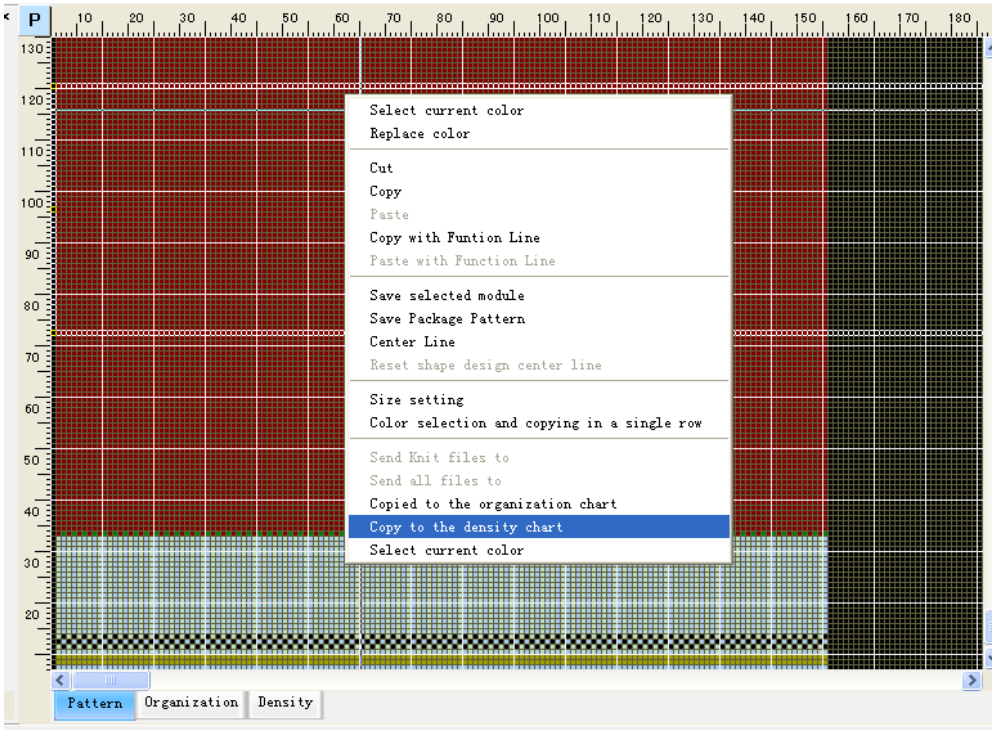
13.1 In the pattern zoom design the action codes



- The steps of structure designed refer to the pattern design process.

13.2 Setting the density sections in density zoom

- Circle the zoom need variable density and right click then copy it to the density zoom.



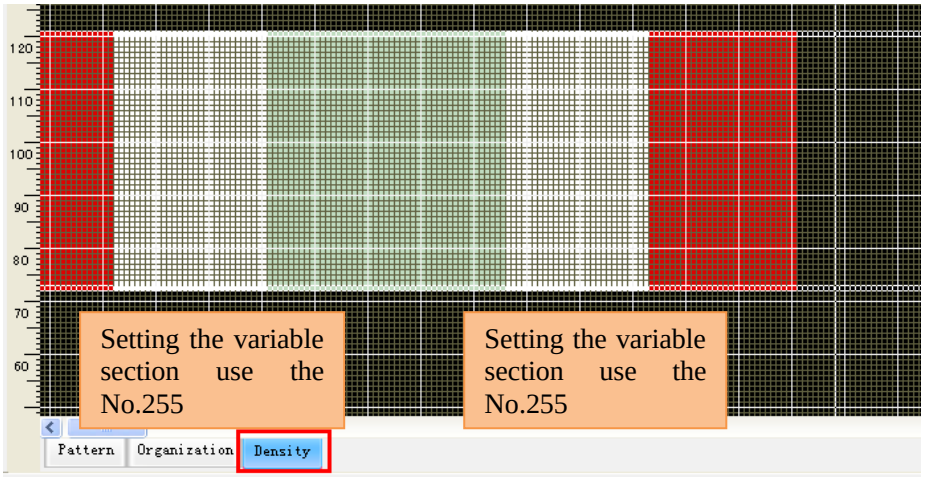
➢ Switch to the density zoom and set density sections. If the same row use section 7 and 8, please change the NO.1(action code) color to NO.7(density code) and NO.8(density code)

➢ Note: the rows using variable density should be copy totally from pattern zoon to density zoom; if not, it will be compiled error.

13.3 Setting the variable interval

➢ Setting the variable section use the No.255. It is means needles for the density change from one level to another.

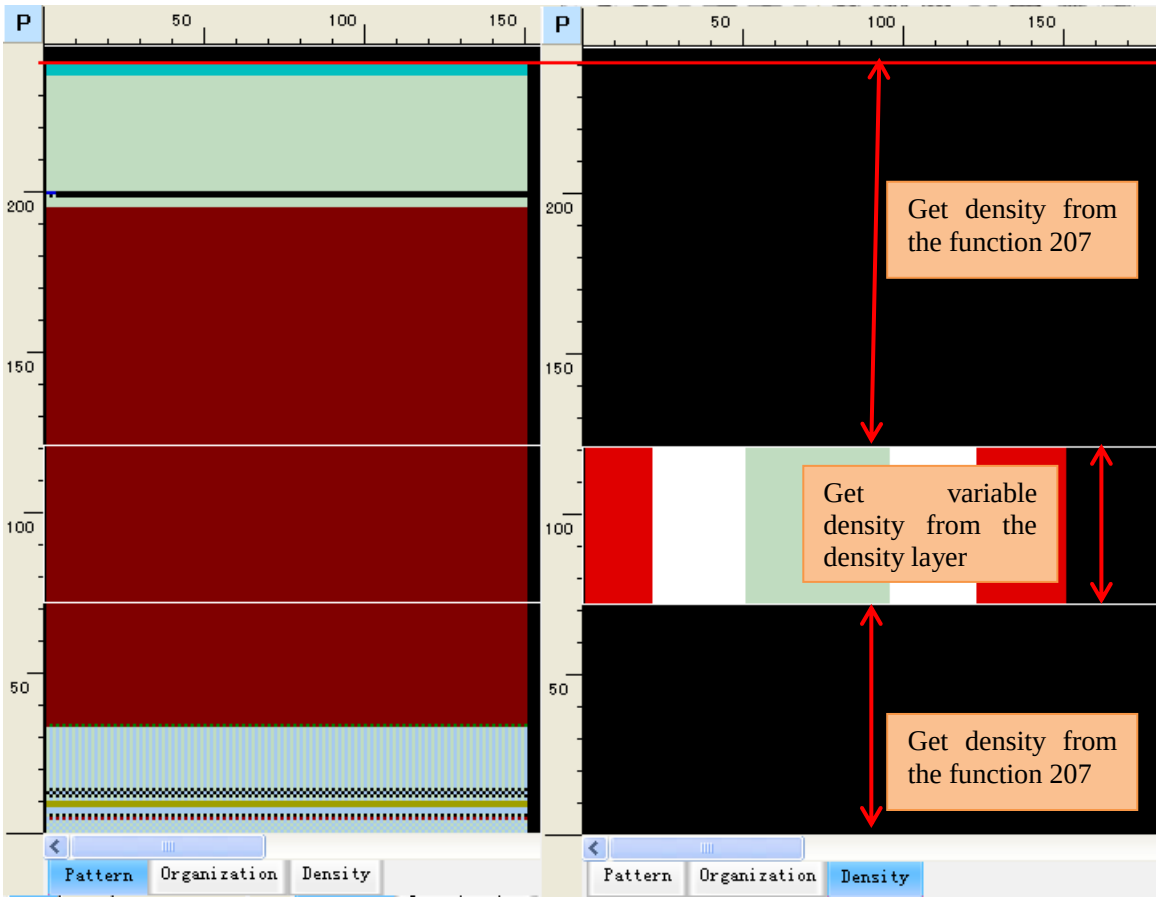
➢ The least variable interval is 1 inch.



➢ Note: if variable interval is not be set, system will automatically assign it as 1 inch.

13.4 Setting the function line parameter

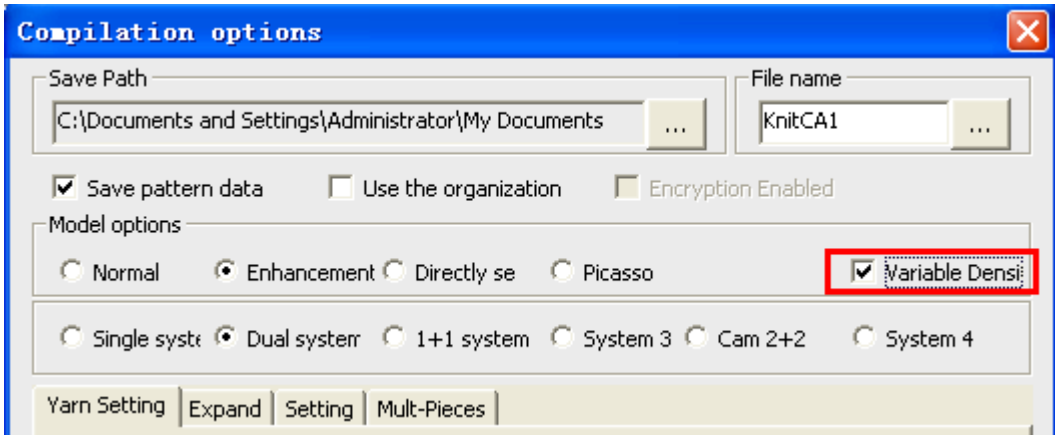
- If the variable density is set in rows, the density of these rows will use variable density while compiling.
- If the rows without variable density, the density will get from the function line 207 while compiling.

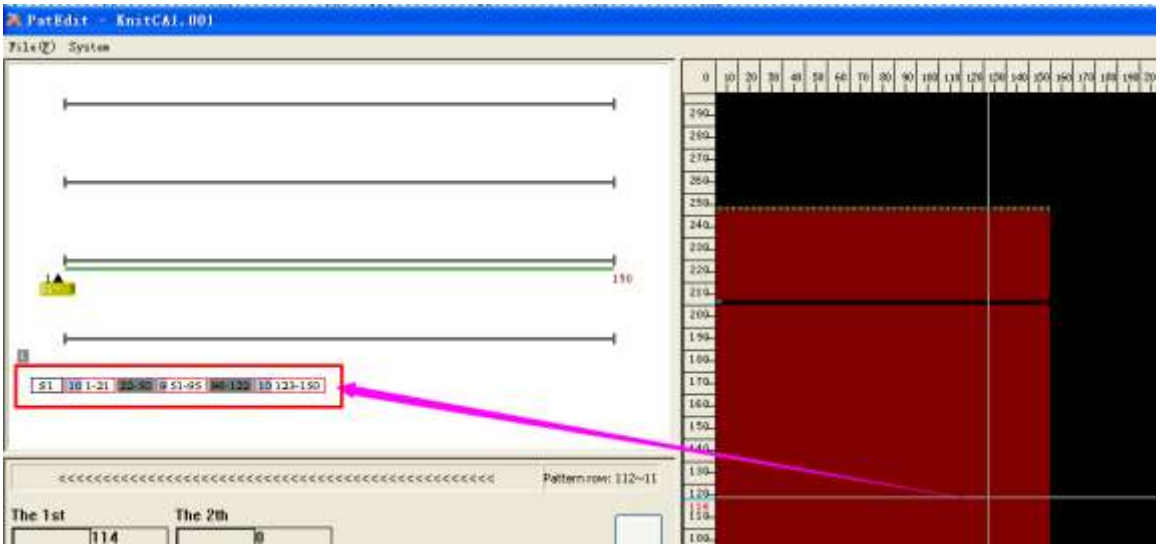


- Set the knitting parameters (yarn carrier, cancel knitting .etc) in the function lines.

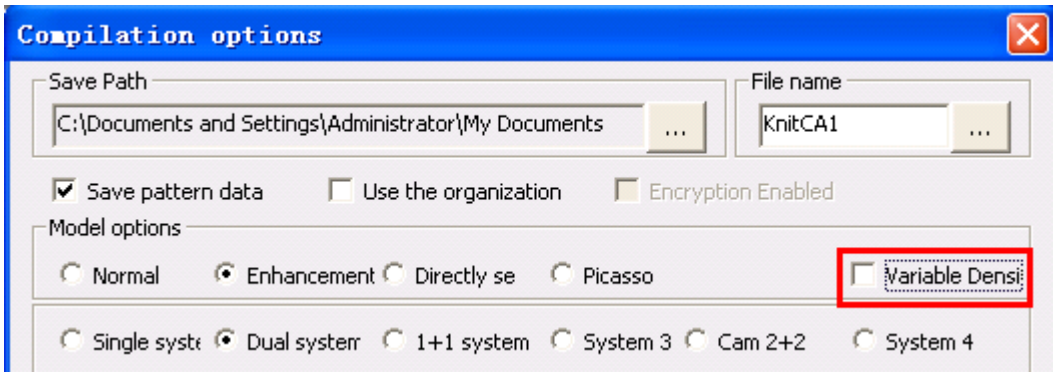
13.5 Compiling and checking the file

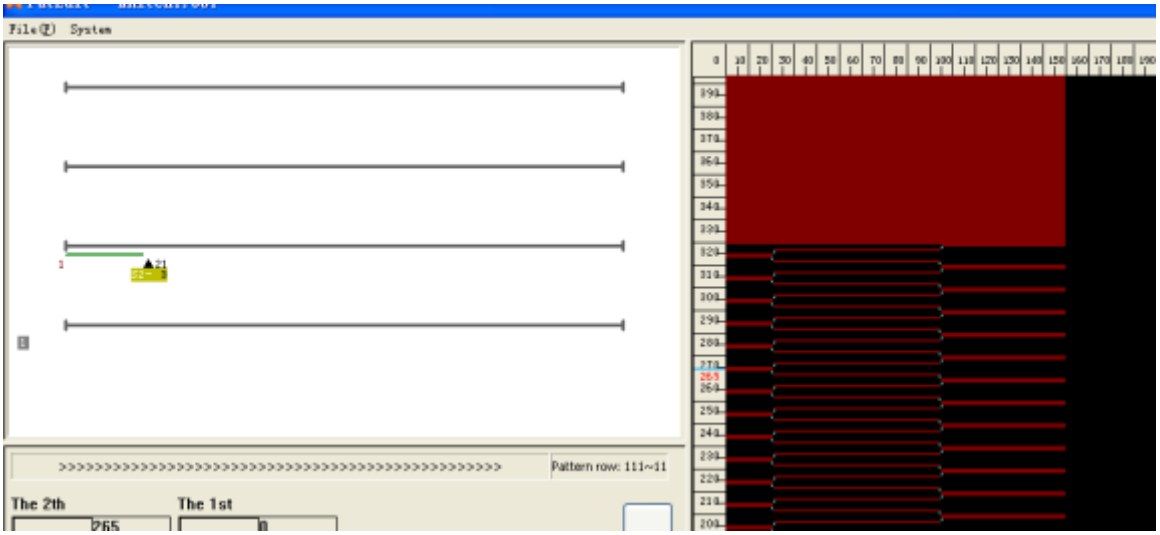
- If the machine supports the variable density, please check the variable density button option before compiling.
- The variable density levels could be checked in the PAT edition window.





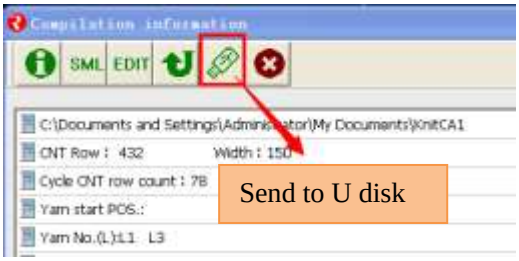
- If the machine doesn't support the variable density, please don't check the variable density option.
- The system automatically spilt one row into more rows which including the knitting rows and kicking back rows after compiling; so variable density pattern also could be knitted by these machines.

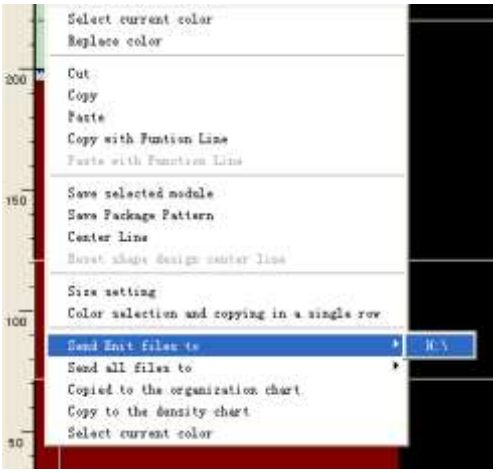




13.6 save and knit on machine

- After compiling success, result file 001 could be sent to U disk directly by click below U disk icon or by right-click at main drawing zoom.



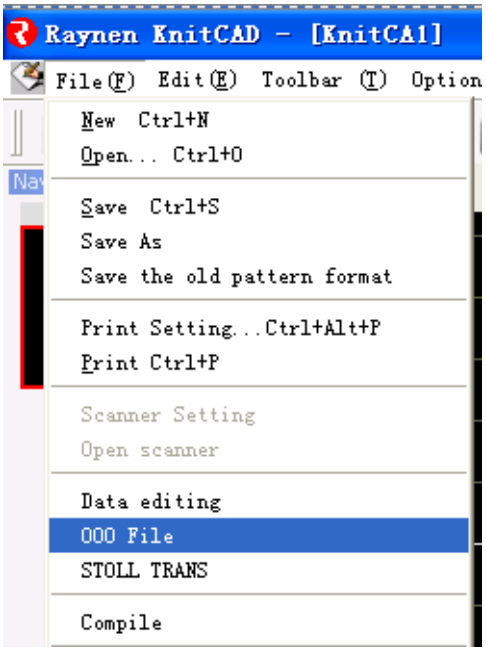


14 Compatibility

14.1 SHIMADZU 000 file conversion

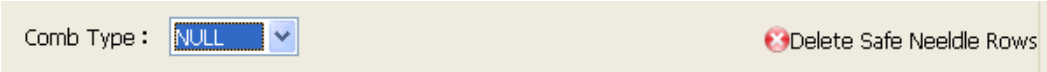
- File conversion instructions
  - The system convert the 000 file of ShiMa to PICASSO file, the CNT file、PAT file、PRM file. Then the PICASSO machine can recognie the ShiMa file
  - Note: (1) The origin file must be design use ShiMa system. (2) The conversion only support the SHIMA compiling result file (000) but not the pattern file (DAT);

- ShiMa system pattern design instructions
  - Recommended ShiMa system use the A51 version
  - Please select the machine model SES 2CAM when design.
  - Please select the models when you compile ,don't execute compression
  - Select the "No Waste" model for carrier taking in.
  - Single system: whencompiling by ShiMa system select the "Single system" model.
  - Dual system: when compiling by ShiMa system cancel select the "Single system" model.
- Operating instructions
  - In the "File"window select the "000file" conversion button



  - It will pop the "000 file" conversion interface

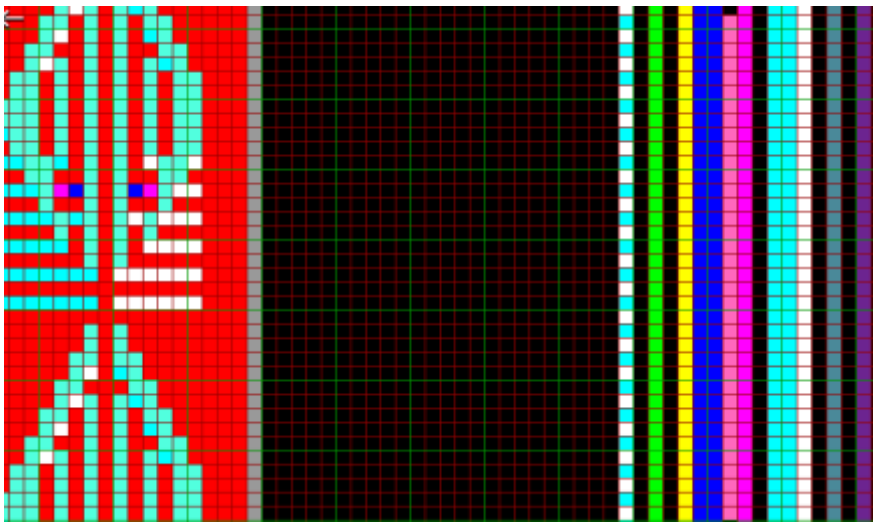
- Click the “select 000” button and select the 000 file
- Parameter details
  - ☞ Single system: The result file of conversion could be knit by single system.
  - ☞ Dual system: The result file of conversion could be knit by dual system.
  - ☞ Lock system: if you select the dual system and lock system ,it will lock the system knitting.
  - ☞ Maximum domain level: the maximum density level of the conversion result file
  - ☞ Maximum roller level: the maximum roller level of the conversion file
  - ☞ Maximum speed level: setting the high speed level, if you setting 21 that mean the 21 is high speed level.
  - ☞ Middle speed level: setting the middle speed level, if you setting 22 that mean the 22 is middle speed level.
  - ☞ Low speed level: setting the low speed level, if you setting 22 that mean the 22 is low speed level.
  - ☞ Comb type: select the comb knitting mode.



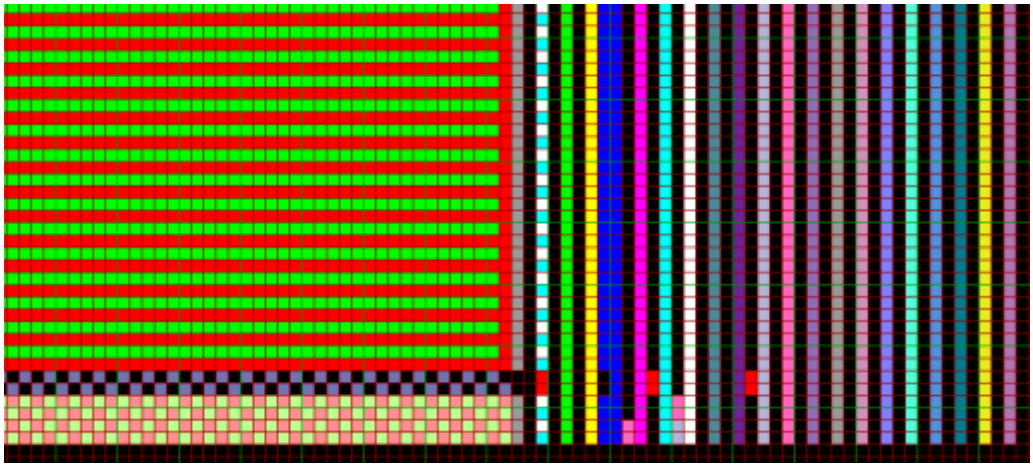
  - ☞ When select the NULL mode:
  - ☞ Remove the doffing protection needle: remove the action of comb when the carrier is taken out of the knitting zoom.

  - ☞ The comb add the rubber tubular height and guage convertion option if you select the 1x1、1x2、1x3 model,
  - ☞ Rubber tubular height: click the button then the rubber band yarn tubular height
  - ☞ Guage convertion: click the button then the design pattern will become the 1x1 conversion pattern
  - ☞ Lx1x1 and Lx1x2 model are just supported by the LongXing knitting machine.
  - ☞ It will pop the wast yarn feader and one time press yarn number button when select Lx1x1 and Lx1x2 model
  - ☞ Comb use the waste yarn carrier: it use the waste yarn replace the rubber yarn
  - ☞ One time press yarn: rubber yarn or waste yarn press the take-in or take-out carrier’s numbers.

- Select the single system or dual system according to the user's machine the after the parameters setting
  - ☞ If the user's machine is the directly system, function line R4 setting 11 No and clock the left system knitting, tuck and knitting must not in one row when pattern design in the directly system. Select single system when converting.



  - ☞ If the dual system, please according to the word first type to select dual system to compile
  - ☞ If the single system, please according to the word first type to select single system to compile.
  - ☞ If the machine without comb, please select “non use” function when design pattern in SHIMA



- Check the conversion result: you can check the conversion result by the PAT edit tool or decompile tool.
- conversion instruction
  - conversion parameters instruction

End mark	Direct correspondence
Speed	Rule: ShiMa1-7 corresponding to the PICASSO1-7, high speed, middle speed, low speed corresponding to the 31,32,33.
Clip open	It is corresponding to the 1-4, due to mechanical causes, swap the 1 and 2
Clip close	It is corresponding to the 1-4, due to mechanical causes, swap the 1 and 2
Carrier knitting in and knitting out	Taking SHIMA system of yarn options and each yarn action option combination judgment
Yarn carrier	Direct correspondence
Head torque adjustment (rotary distance)	Change to 1
Density	SHIMA 0-36 corresponding to the PICASSO0-36
Shake	The raking direction of SHIMA is opposite to PICASSO, SHIMA“1/2”,“1/4” corresponding to the PICASSO0 “* position”. Shake speed: SHIMA 0-2 corresponding to the PICASSO “high”, “middle” , “ low”
cut	SHIMA “left”, “right” corresponding to the PICASSO0 “* 1” “2”
Ahead density	It is same as the density conversion.
Roller	SHIMA 0-31 corresponding to the PICASSO 0-31(main roller auxiliary roller, comb batching)
Yarn carrier park position	SHIMA 1-8 corresponding to the PICASSO 1-8
Sinker	Knitting is 1 and transfer is 2 in the PICASSO system.
Comb	SHIMA enable while PICASSO 1 and SHIMA disable while PICASSO disable. The value of comb is 1,0

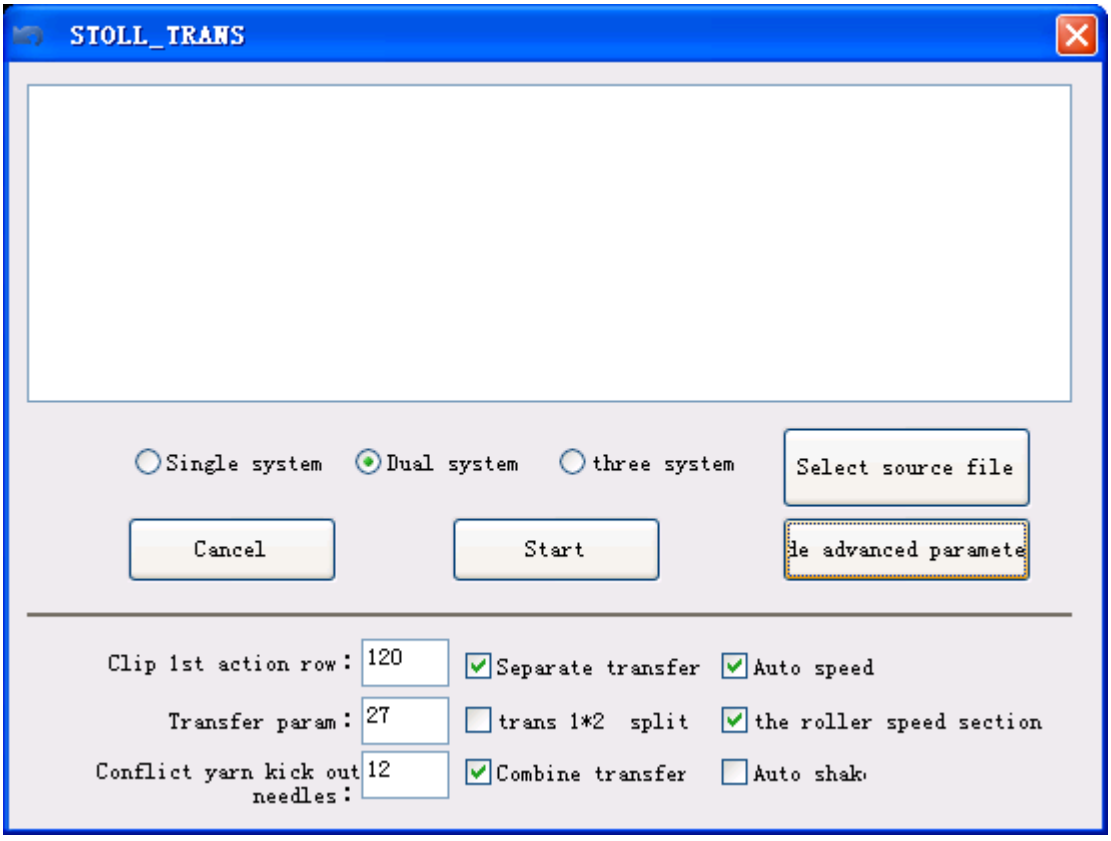
- Special instructions
  - ☞ . If the default set-up action of SHIMA could not be used, these rows could be replaced by customized set-up.
  - ☞ Default level of speed is 2 and level of main roller, sub-roller, sub-roller switch, comb is 1 when transfer with single system.
  - ☞ The single system speed section is 2 and main roller(auxiliary roller,comb batching) is 1 when transfer
- If the result file of conversion could not be used, please make sure the parameters are set as default. They could be used

14.2 STOLL conversion

➢ File description: STOLL conversion must have these 3 same name files (SET (SETX), SIN, and JAC),, or the compressed file including with these three files also could be converted into 001 file.

➢ Double click (right click) the conversion button 

.



➢ Explanation of parameters

- System : the system of the 001 file

- First time gripper action row: the gripper first time action row, this row according to STOLL program instruction row.
- Transfer level: all 001 files transfer level is 27
- Conflict carrier needles: the allowable needles between 2 carrier in one same track .
- Separate transfer: the transfer change into 1x1 .
- 1x2 transfer: the transfer change into 1x2
- Combine knitting and transfer: combine the knitting and transfer into one row action.
- Double knitting deceleration: setting the knitting speed another level when have the double knitting.
- Roller and speed level: roller and speed whether use the same level with density
- Auto * position: needle at * position without double knitting.

➢ Next time open the converter it will save the last time parameter.
➢ Click the file you want to convert and open(Multi-files could be select once).
➢ Click “Start” button, it will pop the save path interface.
➢ Select the 001 file save path and rename.
➢ It will pop the success window after convertion, if failure it pop the reason for failure.
➢ Check the 001 file in the save path.
➢ Note:

- The take-in carrier setting need to use the Standard mode
- It must be use the left yarn carrier if use the single system machine.
- If some pattern after conversion is hard to knit, the conversion result file could be decompiled and modified.

15 Shortcut Keys

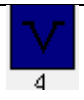
- The use of shortcut keys can improve the drawing efficiency. The shortcut keys F1 to F12 are defined as follows:

F1	Help file
F2	Quick to the origin of the main graphic region (lower left corner: 1, 1)
F3	Interchange between the pattern layer and organization layer
F4	Shape design
F5	Gradually decrease the current color code. No. 5 Color Code is changed into No. 4 Color Code when this key is pressed once.
F6	Gradually increase the current color code. No. 5 Color Code is changed into No. 6 Color Code when this key is pressed once.
F7	Compile
F8	Select the current color.
F9	Grid display switch
F10	Amplification rate switching between 16 and 1, 16<--->1
F11	Gradually decrease the amplification rate of the graphic region: -1
F12	Gradually increase the amplification rate of the graphic region: +1
Arrow keys:	Control the upward, downward, leftward and rightward rolling of the currently selected view.
CTRL+O	Open
CTRL+A	Select the whole layer area.
CTRL+S	Save (when “Save as” is not set, the optional path window pops up)
CTRL+N	New
CTRL+C	Copy the circled area of the main graphic region
CTRL+X	Cut the circled area of the main graphic region
CTRL+V	Paste the current content in clipboard.
CTRL+Z	Undo
CTRL+Y	Redo
CTRL+P	Print
Delete	Delete the contents in the circled area of the current layer. If the whole row/line is selected, delete the rows/lines of three layers.

16 Color Code Bar

- There are total 256 color codes; they have different function while they are used in the different area. First we will introduce how to use them in main drawing area.
- Color code which is drawn in main drawing area stands for knitting action.
  - 256 color codes can be divided into three kinds: 0-119, 184-187, 189-200,207-209,227-229,250-254 are used for design.
  - 120-183 codes are used for package.
  - 201-206,211-219,221-226 codes are used for intarsia pattern.
  - 231-239,241-249 codes are used for Jacquard pattern.
  - Other color codes are not defined.
- The special color codes among the design are cable color codes and should be paired in use, as shown below.
  - Loop transfer cross knitting is mainly used for two patterns: cable and aran.
  - Color codes of loop transfer cross knit in the system are divided into two groups. Cable and aran are generally formed by combining several color codes of the same group. When continuously using several groups of cable color codes, color codes of different groups are needed for the system to automatically identify independent cable color codes of each group.
  - Group one: No. 18 color (cable below, no knitting), No. 28 color (front knit, cable below), No. 29 color (front kit, cable above), No. 38 color (back knit, cable below), No. 39 color (upper cable, no knitting).
  - Group two: No. 19 color (cable below, no knitting), No. 48 color (front knit, cable below), No. 49 color (front knit, cable above), No. 58 color (back knit, cable below), and No. 59 color (cable above, no knitting).
  - Note: use different color codes from the same group together rather than from different groups. No. 18 color and No. 39 color, No. 19 color and No. 59 color are cancel-knit color codes and can't be used together.

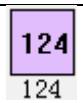
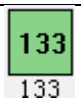
Color code table

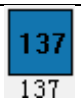
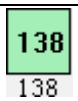
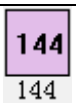
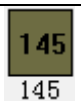
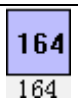
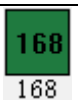
Color number	Color lump	Knitting description	Color number	Color lump	Knitting description
0		Empty stitch (no knitting)	1		Front knitting (linking)
2		Back knitting (linking)	3		Front and back knitting (linking)
4		Front tuck (no linking)	5		Back tuck (no linking)

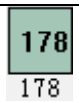
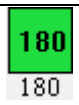
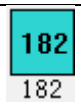
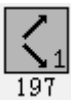
6		Front knitting and back tuck (linking)	7		Back knitting and front tuck (linking)
8		Front knitting (no linking)	9		Back knitting (no linking)
10		Front and back knitting (no linking)	11		Front coarse stitch density
12		Back coarse stitch density	13		Front and back coarse stitch density
14		Front and back tuck	15		Front press-off
16		No needle selection	17		Back press-off
18		Low cable unit (1)	19		Low cable unit (2)
20		Front knitting, stitch transfer to back (no linking)	21		Front knitting, stitch transfer to back (racking 1 needles to left)
22		Front knitting, stitch transfer to back(racking 2 needles to left)	23		Front knitting, stitch transfer to back(racking 3 needles to left)
24		Front knitting, stitch transfer to back (racking 4 needles to left)	25		Front knitting, stitch transfer to back (racking 5 needles to left)
26		Front knitting, stitch transfer to back (racking 6 needles to left)	27		Front knitting, stitch transfer to back (racking 7 needles to left)
28		Front knitting, low cable unit (1)	29		Front knitting, up cable unit (1)
30		Front knitting, stitch transfer to front (no linking)	31		Front knitting, stitch transfer to back (racking 1 needles to right)
32		Front knitting, stitch transfer to back (racking 2 needles to right)	33		Front knitting, stitch transfer to back (racking 3 needles to right)
34		Front knitting, stitch transfer to back (racking 4 needles to right)	35		Front knitting, stitch transfer to back (racking 5 needles to right)
36		Front knitting, stitch transfer to back (racking 6 needles to right)	37		Front knitting, stitch transfer to back (racking 7 needles to right)
38		Back knitting, low cable unit (1)	39		Up cable unit (1)
40		Back knitting, stitch transfer to front (no linking)	41		Back knitting, stitch transfer to front (racking 1 needle to left)
42		Back knitting, stitch transfer to front (racking 2 needles to left)	43		Back knitting, stitch transfer to front (racking 3 needles to left)

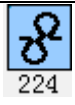
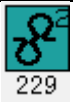
44		Back knitting, stitch transfer to front (racking 4 needles to left)	45		Back knitting, stitch transfer to front (racking 5 needles to left)
46		Back knitting, stitch transfer to front (racking 6 needles to left)	47		Back knitting, stitch transfer to front (racking 7 needles to left)
48		Front knitting, low cable unit (2)	49		Front knitting, up cable unit (2)
50		Back knitting, stitch transfer to back (no linking)	51		Back knitting, stitch transfer to front (racking 1 needle to right)
52		Back knitting, stitch transfer to front (racking 2 needle to right)	53		Back knitting, stitch transfer to front (racking 3 needle to right)
54		Back knitting, stitch transfer to front (racking 4 needle to right)	55		Back knitting, stitch transfer to front (racking 5 needle to right)
56		Back knitting, stitch transfer to front (racking 6 needle to right)	57		Back knitting, stitch transfer to front (racking 7 needle to right)
58		Back knitting, low cable unit (2)	59		Up cable unit (2)
60		Front knitting, stitch transfer to back, then transfer to front	61		Front knitting, stitch transfer to back, then transfer to front (racking 1 needle to left)
62		Front knitting, stitch transfer to back, then transfer to front (racking 2 needle to left)	63		Front knitting, stitch transfer to back, then transfer to front (racking 3 needle to left)
64		Front knitting, stitch transfer to back, then transfer to front (racking 4 needle to left)	65		Front knitting, stitch transfer to back, then transfer to front (racking 5 needle to left)
66		Front knitting, stitch transfer to back, then transfer to front (racking 6 needle to left)	67		Front knitting, stitch transfer to back, then transfer to front (racking 7 needle to left)
68		Front and back knitting (double sides), and stitch transfer to back	69		Front and back knitting(double sides), and stitch transfer to front
70		Stitch transfer to front, and front knitting (linking)	71		Front knitting, stitch transfer to back, then transfer to front (racking 1 needle to right)
72		Front knitting, stitch transfer to back, then transfer to front (racking 2 needle to right)	73		Front knitting, stitch transfer to back, then transfer to front (racking 3 needle to right)
74		Front knitting, stitch transfer to back, then transfer to front (racking 4 needle to right)	75		Front knitting, stitch transfer to back, then transfer to front (racking 5 needle to right)

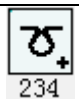
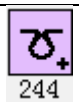
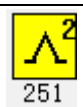
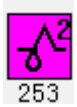
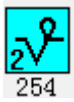
76		Front knitting, stitch transfer to back, then transfer to front (racking 6 needle to right)	77		Front knitting, stitch transfer to back, then transfer to front (racking 7 needle to right)
78		titch transfer to back, then front and back knitting (double sides)	79		Stitch transfer to front, then front and back knitting(double sides)
80		Back knitting,stitch transfer to front, then transfer to back	81		Back knitting, stitch transfer to front, then transfer to back (racking 1 needle to left)
82		Back knitting, stitch transfer to front, then transfer to back (racking 2 needle to left)	83		Back knitting, stitch transfer to front, then transfer to back (racking 2 needle to left)
84		Back knitting, stitch transfer to front, then transfer to back (racking 3 needle to left)	85		Back knitting, stitch transfer to front, then transfer to back (racking 5 needle to left)
86		Back knitting, stitch transfer to front, then transfer to back (racking 61 needle to left)	87		Back knitting, stitch transfer to front, then transfer to back (racking 7 needle to left)
88		Front knitting, stitch transfer to back (racking 1 needle to right), then transfer to front	89		Front knitting, stitch transfer to back (racking 2 needles to right), then transfer to front
90		Stitch transfer to back, and back knitting (linking)	91		Back knitting, stitch transfer to front, then transfer to back (racking 1 needle to right)
92		Back knitting, stitch transfer to front, then transfer to back (racking 2 needle to right)	93		Back knitting, stitch transfer to front, then transfer to back (racking 3 needle to right)
94		Back knitting, stitch transfer to front, then transfer to back (racking 4 needle to right)	95		Back knitting, stitch transfer to front, then transfer to back (racking 5 needle to right)
96		Back knitting, stitch transfer to front, then transfer to back (racking 6 needle to right)	97		Back knitting, stitch transfer to front, then transfer to back (racking 7 needle to right)
98		Front knitting, stitch transfer to back (racking 3 needles to right), then transfer to front	99		Front knitting, stitch transfer to back (racking 4 needles to right), then transfer to front
100		Stitch transfer to back (no knitting)	101		Front knitting, stitch transfer to back (racking 1 needle to left), then transfer to front
102		Front knitting, stitch transfer to back (racking 2 needle to left), then transfer to front	103		Front knitting, stitch transfer to back (racking 3 needle to left), then transfer to front

104		Front knitting, stitch transfer to back (racking 4 needle to left), then transfer to front	105		Back knitting, stitch transfer to front (racking 1 needle to right), then transfer to back
106		Back knitting, stitch transfer to front (racking 2 needle to right), then transfer to back	107		Back knitting, stitch transfer to front (racking 3 needle to right), then transfer to back
108		Back knitting, stitch transfer to front (racking 4 needle to right), then transfer to back	109		Back knitting, stitch transfer to front (racking 1needle to left), then transfer to back
110		Stitch transfer to front (no knitting)	111		Front stitch density increase
112		Back stitch density increase	113		Back knitting, stitch transfer to front (racking 2 needles to left), then transfer to back
114		Back knitting, stitch transfer to front (racking 3 needles to left), then transfer to back	115		Back knitting, stitch transfer to front (racking 4needles to left), then transfer to back
116		Front stitch density increase (racking 1 needle to right)	117		Front stitch density increase (racking 1 needle to left)
118		Back stitch density increase (racking 1 needle to right)	119		Back stitch density increase (racking 1 needle to left)
120		User macro	121		User macro
122		User macro	123		User macro
124		User macro	125		User macro
126		User macro	127		User macro
128		User macro	129		User macro
130		User macro	131		User macro
132		User macro	133		User macro
134		User macro	135		User macro

136		User macro	137		User macro
138		User macro	139		User macro
140		User macro	141		User macro
142		User macro	143		User macro
144		User macro	145		User macro
146		User macro	147		User macro
148		User macro	149		User macro
150		User macro	151		User macro
152		User macro	153		User macro
154		User macro	155		User macro
156		User macro	157		User macro
158		User macro	159		User macro
160		User macro	161		User macro
162		User macro	163		User macro
164		User macro	165		User macro
166		User macro	167		User macro
168		User macro	169		User macro

170		User macro	171		User macro
172		User macro	173		User macro
174		User macro	175		User macro
176		User macro	177		User macro
178		User macro	179		User macro
180		User macro	181		User macro
182		User macro	183		User macro
184		Front knitting, back dummy needle	185		Front dummy needle, back knitting
186		Front tuck, back dummy needle	187		Front dummy needle, back tuck
188		Back structure knit in front bed	189		Shortening-Left 1
190		Shortening-Left 1	191		Front knitting, front stitch transfer to back and back stitch transfer to front (racking 1 needle to left)
192		Front knitting, front stitch transfer to back and back stitch transfer to front (racking 2 needle to left)	193		Front knitting, back stitch transfer to front and front stitch transfer to back (racking 1 needle to left)
194		Front knitting, back stitch transfer to front and front stitch transfer to back (racking 2 needle to left)	195		Front knitting, front stitch transfer to back and back stitch transfer to front (racking 1 needle to right)
196		Front knitting, front stitch transfer to back and back stitch transfer to front (racking 2 needle to left)	197		Front knitting, back stitch transfer to front and front stitch transfer to back (racking 1 needle to left)
198		Front knitting, back stitch transfer to front and front stitch	199		Shortening-Right 1

		transfer to back (racking 2 needle to left)			
200		Shortening-Right 2	201		Intarsia(back knitting)
202		Intarsia(back knitting)	203		Intarsia(back knitting)
204		Intarsia(back knitting)	205		Intarsia(back knitting)
206		Intarsia(back knitting)	207		Front and Back Tuck (linking)
208		Front Tuck (linking)	209		Back Tuck (linking)
210		Undefined	211		Intarsia(front knitting)
212		Intarsia(front knitting)	213		Intarsia(front knitting)
214		Intarsia(front knitting)	215		Intarsia(front knitting)
216		Intarsia(front knitting)	217		Intarsia(front knitting)
218		Intarsia(front knitting)	219		Intarsia(front knitting)
220		Undefined	221		Intarsia(Front and back knitting)
222		Intarsia(Front and back knitting)	223		Intarsia(Front and back knitting)
224		Intarsia(Front and back knitting)	225		Intarsia(Front and back knitting)
226		Intarsia(Front and back knitting)	227		Front knitting 2th stitch (Tight)
228		Back knitting 2th stitch (Tight)	229		Front and back knitting 2th stitch (Tight)
230		Undefined	231		Jacquard(front knitting)

232		Jacquard(front knitting)	233		Jacquard(front knitting)
234		Jacquard(front knitting)	235		Jacquard(front knitting)
236		Jacquard(front knitting)	237		Jacquard(front knitting)
238		Jacquard(front knitting)	239		Jacquard(front knitting)
240		Undefined	241		Jacquard(front knitting)
242		Jacquard(front knitting)	243		Jacquard(front knitting)
244		Jacquard(front knitting)	245		Jacquard(front knitting)
246		Jacquard(front knitting)	247		Jacquard(front knitting)
248		Jacquard(front knitting)	249		Jacquard(front knitting)
250		Front tuck 2th stitch (Tight)	251		back tuck 2th stitch (Tight)
252		Front and back tuck 2th stitch (Tight)	253		Front knitting and back tuck 2th stitch (Tight)
254		Front tuck and back knitting 2th stitch (Tight)	255		Undefined

Raynen 睿能®

福建睿能科技股份有限公司

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