## **Computerized Knitting Machine Pattern Design System of Raynen**

# **Raynen** 睿能<sup>®</sup>

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## **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

 $\geq$ 

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







🔂 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	~
1 The pattern preparation systems can copyright the exclusive author of Core Electronics Co., Ltd. all.	9
<ul> <li>(2) publish a unified program for the following conditions be freely distributed, provided that the files do not release any form of change.</li> <li>a. Any person or company may written permission of the copyright holder</li> </ul>	is 💌
< <u>B</u> ack <u>N</u> ext >	Cancel

📴 Setup - Raynen KnitCAD				
Select Destination Location Where should Raynen KnitCAD be installed				
Setup will install Raynen KnitCAD i	nto 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 requir	ed.			
	< Back Next > Cancel			
🖥 Setup - Raynen KnitCAD				
Select Start Menu Folder Where should Setup place the program's shortcuts?				
Setup will create the program's sho	rtcuts 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				

🔂 Setup - Raynen KnitCAD	
<b>Ready to Install</b> Setup is now ready to begin installing Rayne	en KnitCAD on your computer.
Click Install to continue with the installation, change any settings. Destination location:	, or click Back if you want to review or
d:\Program Files\Raynen KnitCAD Start Menu folder:	
Raynen KnitCAD	(Indicating the installation information) Installation path The directory name of start menu
Additional icons: Create a desktop icon Create a Quick Launch icon	Addition task: creating a shortcut on desktop
<	
	< Back Install Cancel

🔂 Setup - Raynen KnitCAD	
<b>Installing</b> Please wait while Setup installs Raynen KnitCAD on your computer.	
Extracting files d:\Program Files\Raynen KnitCAD\AllViewer.exe	
	]
	Cancel



#### 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 <u>Shape</u> 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 <u>PAT Editor</u> and <u>De-compiler</u>.

## 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 <u>Start</u> (main interface).

> Jacquard and intarsia color codes are added. See details in <u>the Description of Jacquard</u> and Intarsia Function.

- > The <u>Ladder backing tool</u> for local jacquard pattern is added in the toolbar.
- ▶ New parameters of <u>Compile</u> are added.
- The functional line 214 is changed into the <u>System Lock</u> mode.
- > The <u>V-neck Intarsia</u> setting of the shape function only needs to be drawn in the pattern

#### layer.

> The new <u>Compression & Separation</u> tool is added.

## 2.2 V 3.11 Update Description

- > Add the Shape with <u>Package Mode under shap</u>e.
- Add the <u>Intarsia Link Effect</u> setting.
- Add the <u>V-neck return knitting option</u> under shape.
- Add the Mark of <u>Waste Yarn option</u> under shape.

## 2.3 V 3.12 Update Description

- Add the automatic <u>Pleating</u> Function.
- > Automatically lock the system during dual-system use single-port weaving.
- > Add the <u>Auto Take-down Comb Pressing</u> Function in the shape design.
- > Compiler automatically prompt errors if the cast-off line is set yarn carrier.
- Support Korean.
- $\succ$  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 <u>Compile</u>.

Transitional level of the starting process of local jacquard is set separately. See details in the <u>Jacquard Setting</u> on the pattern expansion page under Compile.

Add the advance yarn option. See details in the <u>Auto Process</u> 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 <u>Narrowing</u> <u>& Separation</u>. Automatic stopping levels of the yarn carrier. See details on the <u>settings page</u> under Compile.

Cancel the default \*-position (needle to needle) option, and change into the auto
 \*-position function of the compiler. See details on the <u>settings page</u> under Compile.

Support Package expansion on the stitch charts. See details in <u>the Package Expansion</u> on stitch Chart.

> Add model patterns under the installation file folder.

## 2.5 V 3.15 Update Description

> Provide the Jacquard option of the <u>narrowing and widening</u> 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 <u>senior parameters</u>.

➤ When the <u>transition course</u> in the shape design adopts "Double-sided Jacquard", the narrowing color code is 191-198.

> The knitting with <u>wide carrier</u> in the shape design is processed in N turns.

The new <u>Take down Comb Cast-off mode</u> is added for waste yarns in the shape design.

Adjust the <u>Back Range Mode</u> of local jacquard.

> Add the <u>Transition Mode</u> 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 <u>Special Treatment Range</u> of local jacquard.

Add the two<u>back type</u> for local jacquard

> Add<u>adding and reducing needle treatment functions</u> 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 <u>Cancel Tuck</u> function for all the intarsia and jacquard color codes.

> Add the <u>intarsia row split</u> 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 <u>Intarsia Disconnect</u> function.
- > <u>Prohibited Needles</u> 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.

- > <u>PAT editor</u>.
- > Add the <u>De-compile</u> Button on the compilation information interface.
- > Add the <u>Send to U-disc Button</u> 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<u>the Circle</u>, Drag and Copy functions.
- Add the <u>Use Ruler to Circle Overall Row</u> or Line function.
- Add the <u>Specified Color Copy and Non-specified Color Copy</u>.
- > Display the circled size on the tip after  $\underline{\text{circling}}$ .
- Shadow tool optimizing.
- > The current position of <u>Package Fill</u> is the left lower beginning position of the package.
- > Optimize such tools as "<u>Insert Row</u>", "<u>Insert column</u>", "<u>Delete Row</u>" and "<u>Delete column</u>" in operating tools.
  - > The expansion rate can be entered by the user in the <u>Region Expansion</u> Tool.
  - > The carrier <u>Spacing Color Filling</u> supports the input of 0.5 turn.

Add the "Compressing V-neck Split Row in Circled Zone" option under <u>Compression &</u> <u>Separation</u> 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 <u>keep pattern</u> 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 <u>Narrowing</u> of Shape Design, stepping type narrowing is not performed.

The <u>waste yarn turns</u> can be set in the main interface of the shape, and it link to the waste yarn turns setting in senior settings.

- > <u>Two Lycra carriers and two Lycra</u> densities are can be specified for V neck jacquard.
- Staggered "mode for <u>One Stroke</u> adds the "Number of Tuck needles".
- Carrier identifier in <u>Compilation Results</u> is displayed by L1 L2 R1 R2.
- > If required, provide prompts on the saved rows <u>after Compilation</u>.
- > The <u>PAT Edit</u> can view the saved rows and the times of saving rows.
- Indicate Total Pattern Width <u>after compilation</u>.
- > The direct selection needle supports intarsia.
- Add the <u>Carrier Follow</u> 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 <u>the function line 210</u>, Add the roller backward and forward rotation function, and electrical control is required for supporting.

> Add the <u>Action Market</u> and <u>Narrowing Market</u> row in Pleating.

> Press the key <u>Delete</u> 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 <u>Jacquard Package</u>.

Support simultaneous expansion of <u>multi-layer packages</u> (patter charts, organization charts and density charts).

Set <u>the horizontal and vertical density</u> (supporting decimal input). Display the length and width on Tip during circling.

- Add the function of <u>the right-key menu in the navigation bar window</u>.
- > Add the density layer, requiring electrical control support.
- Click the right key to <u>rest the shape centerline</u> within the circled range.

> Double-click the corresponding pattern in the navigation bar, and display the current <u>pattern preview</u> 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 "<u>Keep function line</u>" function in shaping.
- Shaping support <u>pleating</u>.
- Shaping support <u>cycle</u> the specification data.
- Add "<u>Middle needle cancel</u>" in shaping.
- Add "<u>Shortcut</u>" F4 for shaping.
- > Add "Cancel color code" setting in shape->setting-><u>other</u>;
- > 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 <u>color changing</u> tool, and some samples are supplied;
- Text tool support multi-line input;
- Copy with function line, paste with function line are add in <u>right-click menu</u>;
- Add <u>delete or insert row (coloumn)</u> in circled area;
- Scaling was optimized;
- Add <u>Encrypt patten</u> and <u>compiling result (if control system support) file</u> function;
- > Add "<u>Picasso</u>" type of compiling result files;
- Add "<u>combining kick carrier action</u>" 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 <u>back structure in the front of the pattern;</u>
- Add parameters level setting for <u>carrier following</u> row;
- Add<u>carrier following</u> type: knitting(2);
- > Even carrier will not be used, the carrier following will still be performed.
- > Add saving ladder backing (back structure description) parameters to KNI file.
- > Add default setting for <u>ladder backing;</u>
- > Add <u>new type for back structure description;</u>
- Add more picture process for <u>importing;</u>
- Combine <u>mirror</u> to up,down,left,right tools into one tool; the mirror will generate according

to curssor position;

- Add <u>Multi-Pieces</u> function;
- $\blacktriangleright$  At the <u>function line 208</u>, support automatic transfer, racking action same as the previous

row;

Support Portuguese.

## 3 Toolbar

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12 BS 10 V	Ŧ 🖩 🛃	

### 3.1 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

B Save pattern

The saved file format is KNI.

> Password of the pattern could be set at settint  $\rightarrow$  pattern encryption.

_	[KnitC	A1]	
00	lbar ( <u>T</u> )	Options() Lookup (V)	Module (M) Patterr
1	è v ⊟	Model select	2 ## V == 1
×	Р	change size Sys Option	228 229 230
	313	Palette color code	
	312	Custom toolbar Language	
	311		

> 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).

Compilation options	
Save Path	e
C:\Documents and Settings\Administrator\My Documents KnitCA:	1
Save pattern data Use the organization Final Encryption Enabled	
○ Normal	🔲 Variable Densil
C Single syst∉	C System 4

## 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

Ð

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

- Mattern layer $\rightarrow$ 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





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

 $\triangleright$ 







### 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 "<u>Knitting specification and Shape</u>" for more details.

### 3.16 Ladder backing



Ladder backing

JQD Back	X
JQD Back type: Deer Space 1x1 💌	Run
Connection type Same color as ground	Cancel JQD Back
Special jacquard range Part backside  Pocket Part Integral JQD Single jacquard	Restore Defaults
Auto processing param One row without back the non-treatment needles Design JQD Back when Separate Needles of	; 0 <b>•</b>
Treatment of adding and Change Gap height of filling     Use jacquard code	320
Add Jacquard color Color	

> Refer to the chapter of "<u>local jacquard</u>" for more details.

#### 3.17 Compilation

Compilation

///



> The details are in the "<u>Compilation</u>" 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)

Interpreter Int

> 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.

#### Computerized Knitting Machine Pattern Design System of Raynen





• The solid model can paint add and subtract needle.

<b>उ</b>	<u>ठ</u> ठ
	<u> </u>
	<u> </u>
	<u>ප ප ප ප ප </u>

• 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.

х	x	×	v	×	×	×	v	×	×	×	v	×	x	×	v	х	х	x

#### 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	<b>'</b> ,			
Diamond (G)				
F	Rhombus sett	ing	×	Selecting vertex direction
	Fixed-point	Normal coordinates	-	Selecting forten uncerton
	Custom form		Customing	the size of diamond
	Width	Width First	X	
	Height	Height first	Y	
	Fixed-	point Normal coordin	nates 💌	
	Custom	form Make the ape Make the ape	nates < in vertical directio < in horizontal direc	r t
Select the Fixed	-point: th	Make central p	point the base point	<u>-</u>

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).  $\geq$ 

#### 4.1.12 Frame (W)

Frame (W)

 $\triangleright$ 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 *1*), move the cursor to the pattern and  $\triangleright$ 



click.



Select the "space" parameters: The inserted row is space row. Otherwise the inserted row is same as the current row.

Delete column

🔽 Copy yarn feeder

...

🔽 Hollow

Number 1

> 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.





- 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.

	2	স	ত	Σ	Σ	স	Σ	7	<del>ک</del> 1	ত	Σ	স	ত	Σ	ত
Insert stit 🗙	Σ	ন্থ	ত	Σ	স	ন্থ	স	7	<u>ठ</u>	ত	স	Σ	ত	Σ	ত
	2	স	ত		T		C		E				75	Σ	ত
(     Insert row	Σ	2	ठ		ত	ত	ত		clio	ck i	in 1	the	5	Σ	ত
C Delete rows	σ	স	ত		ত	স	ত	7	C1r	clec	i ar	ea	5	ত	Σ
C Insert stitch	σ	স	স	6	ন্থ	স	স	7	V	5	σ	σ	ত	স	Σ
C Delete column	σ	5	σ					H				Ē	5	σ	σ
✓ Hollow	δ	স	স	ि	ন্থ	স	স	7	<u>ठ</u>	ন্থ	স	5	ত	স	Σ
Number 1	δ	Σ	Σ	T	ত	Σ	স	7	5	Σ	স	T	ठ	ত	Σ
	σ	ন্থ	ত	5	ত	ন্থ	σ	2	<u>ठ</u>	ত	σ	5	ठ	σ	ন্থ
Copy yarn feeder	δ	ন্থ	ত	T	ত	ত	ত	Π	10	T	8	5	ত	δ	Σ
	$\mathbf{x}$	75	75	75	75	7	75			75	75	75	75	75	75

## 4.1.14 Horizontal filling

0

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)

 $\succ$  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



▶ 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").

R	epla	ace color								
		Replac	Change C	Replace	>					
	1			No						
	2	1	1	No						
	з	2	2	No						
	4	4	249	Yes						
	5	11	11	Yes						
	6	12	5	Yes						
	7	249	249	No						
	8									
	9				~					
	E>	(change	ОК	Car						



- Save: Save the file of color changed.the file name is .ccl.  $\triangleright$
- Open<sup>[2]</sup>: Open the color changed file, file name is .ccl.  $\triangleright$

#### 4.2.3 Sprayer

Sprayer

Click to the circle area to spray with the current color code. Click again for ending the  $\triangleright$ action.



 $\triangleright$ 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.  $\triangleright$ 



#### 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.

	Putting lo	cation
≥s New Rc   0* Clear		
Jacquard	Jacqua	ırd
Jacquaro Text input frame	Jacqua	ırd
<	×	

Click to the font button, set the font, click to the "OK" button to save.

### 4.2.6 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.

- 方向 Basic color Shadow Color 🛽 Covered color 249 220 255  $\overline{\phantom{a}}$ ☑ No select: Override all color Select: Override the appointed color Stitches 1 • Distance 0 • 1 Space **v** 0 Ŧ Clear Cancel Space **-** 0 • 🔲 Area
- > 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.



- $\succ$  : Shadow type in the vertical direction.
- ➤ ➡: Shadow type in the horizontal direction.



- The shadow type has three in the vertical and horizontal direction Even
  - 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.

aport lasgo					×
	Calculate Ac	cording to Density			
	Figure State	•	:	F	cm
	Hampital	10	8	T.	cm
	Within Density	10.	8	-	cm
		1		Surger 1	
				Personal	
	New Size	++ 246	:	200	
	Rate	1 x 💌		Adjustment	
	Original Size	246×300			
	Graphics				
	Graving	Sharpeni	na.	Smoothing	
			_	Contraction of the	
	⊕  ⊖		1		
	11			Select mage	
	50			Cancel	
	24				-
D.C.S. waterplane with the state of the second seco	0.90				
T Enable Value Convert				OK	
				20.00	1
1			-	Cancel	

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.

Sizing					
🔽 Calculate A	ccording to Density				Pieces size
Pieces Size	↔ 40	<b>‡</b>	90	cm	Horizontal density
Horizontal	15	<u>ک</u> ا	1	CTR	Vertical density
Vertical Density	10	<u>ک</u> ا	1	cm	
			Calculate		
New Size	↔ 600	\$	900		
Rate	1 × 🔻		Adjustment		
Original Size	246×300				

> 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.







> Craw a straigth lines, rotate the picture to horizontal base on the line.



> Craw a straight line, rotate the picture to vertical base on the straight;

E Rotate the picture to the designated degree.

 $\triangleright$ 



> 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



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



> 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.

Insert st:	itch (rov	🗵					
Space	Empty	All					
1	1	Γ					
Function Line Empty							
Split							
Left neck	ς 3						
Right necł	< 5						
ОК	Cano	el					

> All: All lines are effective on circle area.

8	5	8	σ	8	0	٥,	T,	ŧ,	8	8	8	8	8	8	σ	σ	8	8	8
Ø,	Ŧ	Ø,	Ø,	Ø,	۵,	ð,	8	U	₫	ø	Ø,	Ø,	ø	₹	σ	۳,	Ŧ,	₹	н
Ø,	Ψ	۳	U,	Ø,	Π.	Ψ,	۵,	π	Ψ.	Ξ.	Ø,	U,	Ψ	Ψ.	π	Π,	Q,	۳	π
σ	σ	σ	Ψ	Ψ,	σ	τ		σ	σ		τ	σ		τ	Π.	T,	Ψ	۳	τ
5	*	-	몸	5	-	-	÷	÷.	÷	-	÷	8	흉	<b>a</b>	늡	3	5	4	금
đ	\$	÷	÷	\$	8	-	ł	\$	£	¥	\$	\$	\$	\$	\$	\$	÷.	Ł	4
*	*	Ł	붛	*	Ŧ	÷	÷	*	*	8	농	Ŧ	Ŧ	£	卡	Ŧ	*	£	*
븅	통	1.	동	붕	븅	Ŧ	吉	害	동	古	문	옾	÷	÷	£	동	붕	동	古
눙	-	동	금	븡	*	÷	÷	븅	동	놑	Ŧ	붛	븅	÷	÷	콩	흉	÷	占
8	÷	8	÷	븅	÷	÷	ť	공	¥.	÷	¥.	븅	*	÷	\$	\$	£,	÷	*
÷.	*	놓	£.	*	Ť	ť	동	Ŧ	¥	8	농	害	Ŧ	£	농	\$	Ŧ	£	븡
5	공	붐	卡	븅	÷	풍	害	붕	봉	吉	품	占	눙	품	붐	書	占	卡	古
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													17						

Insert stit	ch (rov.	🗵
Space	Empty	All
1	1	
- Split -		
Left neck	3	
Right neck	5	
ОК	Cance	el
Insert stit	ch (rov.	
Space	Empty	All
1	1	
Solit -	1	
Split -	3	
<b>Split</b> - Left neck Right neck	3	1
Split - Left neck Right neck	3	. 1

- ➢ 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

Space	Empty	All		
2	2			
Solit				
Left neck	3		-	
Right neck	5			
	,			

### 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.

Insert sti	tch (rou	🔀
Space	Empty	All
1	1	
	-	
ОК	Car	icel

> All: All lines are effective on circle area.



Insert stitch (rov     X       Space     Empty     All       2     2     Image: Cancel	Not select "All"	
Insert stitch (row X Space Empty All 2 2 2 1	Select "All"	

### 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.

Insert st	itch (row	🔀
Space	Empty	All
1	1	
ок	Can	el

> 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.

Insert sti	itch (row.	🔀
Space	Empty	All
1	1	
ок	Cano	el

> 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.

Sys Option		
Sys Option Sys Option Paint Advance Shortcuts	Paste Mouse Left angle at the he ▼ Rotation setting Initial point of Middle of rectangle ▼ Angle of rotation Open the characterisl ✓ Open the color chang Set the minimum unit of rotation	Middle of rectangle <u>Middle of rectangle</u> Top left corner of recta Lower left corner of rect Lower right corner of rect Lower right corner of re
	Cancel	

## 4.2.15 Clear side (Z)

Llear 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.

# 4.3 Flat Knitting Machine Tool



#### 4.3.1 Package develop

Package open

More details are in the chapter of <u>Package</u>.

## 4.3.2 Automatic narrowing and widening

Automatic narrowing and widening

> Circle the destination area. And select this tool.



Setting of	the remov	ving and	adding	stitch 🔀
Bind off (BO)	Stitches	Hide	_	
1 Needle	1	0		Total stitch
2 Needles	2	1		
3 Needles	3	1		<ul> <li>single</li> </ul>
4 needles	4	3		C Jacqua
5 Needles	5	4		
6 Needles	6	5		ОК
7 Needles	7	6		Cancel

- 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

σ	0		$\square$	$\square$	$\square$	$\square$	$\square$	$\square$		$\square$	$\square$	$\square$	$\square$		$\square$	$\square$	$\square$		
	T	×	<b>∕</b> 2₽	<b>∕</b> 2₽										Ĩ	Na	rro	w	2	needles
T	σ	σ	σ	×	<b>№</b> 2P	<b>№</b> 2P									anc	l st	eal	11	needle
<u> </u>	σ	σ	σ	σ	σ	×	<b>∠</b> 2P	<b>₽</b>											
σ	σ	σ	σ	σ	σ	σ	σ	×	<b>∑</b> 2P	<b>∑</b> ₽									
5	σ	σ	σ	σ	σ	σ	σ	σ	σ	X	<b>№</b> 2P	<b>№</b> 2P							
σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	$\times$	<b>№</b> 2P	<b>№</b> 2P					
σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	×	<b>№</b> 2P	<b>№</b> 2P			
Ξ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	×	<b>∧</b> 2P	<b>₽</b>	
σ	σ	0			σ	[T		σ	σ		σ	[T	[T		6	6	σ	σ	

> The widening mode

							Γ					I I						T
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		π.							×.					87	ħ			
		10				10	T		U			윩규	\$					
	a.					1				80	1							
	T							승규	3									
		T.	Т	Т		\$	1											
	T.			87	1													
		8	\$															
80	1					ĺ						Γ		1				

> 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

- III 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

a <b>rn Fil</b> Start r	l Colors					He	eigh O	
#	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	Ξ
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	~
Loa	d	Save				OK	Cancel	

- > 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.

Narrowing splitting		Add or delete the
Color codes of Narrowing	Add	color code
	Delete	
Tick it, and pattern will		
be handled with separate transition		
	ОК	1
	Cancel	Side First: Both sides priority transfer
Original color code		Two parameters apply to the special fabric
Separate transfer —		
Side First C Middle	First	
Transfer type 1X1		Tranfer type
1X2 1X3 2X2		
323		

A)Side First and middle first

	· 7	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ						σ	σ	σ	σ	σ	σ	σ	σ	σ				
	· 🐨	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ						σ	σ	σ	σ	σ	σ	σ	σ	σ				
	· 7	σ	σ	σ	σ	σ	σ		75			77	77	77					_				-									
I									2		<b>/</b> 2P		<b>/</b> 2P		<b>/</b> 2P									<b>/</b> 2P		<b>/</b> 2P		<b>/</b> 2P		<b>/</b> 2P		<u> ا ا</u>
I										<b>Z</b> P		<b>Z</b> P		<b>Z</b> P		<b>/</b> 2P							28		<b>K</b> ZP		<b>K</b>		<b>Z</b> P			
										1P		Тр 1Р		1P		18									1P		1P		1P		10	
I											1P		1P		1P		1P							1P		1P		1P		18		
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	<del>ا</del> ک	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ			σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	
	· 🛛	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ			σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	
	1	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ			σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	
	· 7	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ			σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	
	- 75		75			75	75	75	75	75	75				75	77				75		75	75			75	75		75	75	77	


#### 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

### 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.

																												_
					a												42		44	4	16 	48		15.	Yarn	(1st	)	
					Se	et	th	ne	W	ide	•												^	215				2
					ya	rn	ca	rri	er															215				2
					-					-														215				2
																								215				Z
																								215				Z
												Ì				σ	σ	σ	σ	τ	5 2	7		215 3				Z
																$\mathbf{z}$	σ	σ	σ	σ	7	5		215 3				Z
																$\mathbf{z}$	3	σ	σ	σ	5 Z	5		215 3				Z
	-			_	_	_				-						$\mathbf{z}$	8	σ	σ	τ	5 2	5		215 3				Z
2	_	0 0	•	<u> </u>	0	0	<u> </u>	0	0	S	ele	ct v	alue	(0-16)	×	σ	σ	σ	σ	τ	5 7	5		215 3				Z
		5 5		σ	σ	σ			σ	ſ				5		ъ.	σ	σ	σ	τ	5 2	5		215 3				Z
5	σ.	σσ	σ	σ	σ	σ	σ	σ	σ							σ	σ	σ	σ	τ	7			215 3				Z
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5	5	ਰ ਰ	σ	σ	σ	σ	σ	σ	σ		· _		-			$\mathbf{z}$	σ	σ	σ	σ	7	5		215 3				Z
5 1	Ya	rn Fe	ede		Sn 1	i+			_	1.	4	5	6	Return		$\mathbf{z}$	σ	σ	σ	σ	7	5		215 3				Z
5	1				opi						1	2	3	Cancel		$\mathbf{z}$	3	σ	σ	σ	5 7	5		215 3				Z
			8-14				v	- 1			0					σ	ъ	σ	σ	τ	5 Z	5		215 3				Z
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	1		3				3								_	$\mathbf{T}$	3	σ	σ	τ,	5   Z	r <b>T</b>		215 3				Z
														00	•	ъ	σ	σ	σ	τ	5 2	7		215 3				Z
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5														ਰ ਰ	σ	σ	σ	σ	σ	Τ	5	T (		215 3				Z
5														σσ	σ	σ	8	σ	σ	σ	5 Z			215 3				2
5														σσ	σ	σ	0	σ	σ	σ				215 3				2
5														00	σ	σ	3	σ	τ,	7	7			215 3				2
									OK			Car	ncel	8 8	77	σ	3	Τ.	T.					215 3				2
											_																	

### 4.3.10 Stretching Drawing Area Function

- Stretching Drawing Area Function
- Circle the destination area.

 $\triangleright$ 

- 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.

(			$\square$	$\square$	$\square$	$\square$		0				σ	
					σ	σ	σ	σ		T		σ	Stretch 🔀
			σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	
		σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	Original 11 Original 23
	Ξ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	New Height 11 New width 23
	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	
(	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	zoom rate
		σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	0.25x
			σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	0.75x
					σ	σ	σ	σ	σ	σ	σ	σ	1 × 1.25×
(			$\square$	$\square$	$\square$	$\square$	$\square$		$\square$				<b>ए ए ए ए</b> 1.5x
													5×

#### 4.3.11 Compress and separate

Compress and separate								
Compress, scarate								
Operte Action: compres	Action: reply	Execute						
		Kuli						
<ul> <li>Compress, separate</li> </ul>	C Back	Cancel The removed						
Compress selected re	a	lear compressed returned						
	Outside current value	iour compresses						
Function line		Clear Clear all						
	Withoul	settings						
Cancel knittir 💌 Cancel knittir 💌		settings						
	Function line							
Selection function line								

 $\triangleright$ 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.
- $\triangleright$ You can select resume only after Compress and Separate.
- $\triangleright$ You can compress and separate it for several times.
- Every compress and separate can only resume once.  $\triangleright$
- Compress and Separate perform according to function lines and their values.

Computerized Knitting Machine Pattern Design System of Raynen



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



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

Compress, separate 🗙							
Operte		Run					
Compress, separate	C Back	Cancel					
Compress selected reg		lear compressed dat.					
Function line	Withoul	Clear					
Cancel knittir 💌 Cancel knittir 💌							
Y Y							

• 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.



 $\succ$  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.

Cancel cycle 1	Column 1	
199:Set cycle 1		•
Cancel cycle 2 199:Set cycle 2	Column2	•

- 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
	1
Ν	••••
	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).

UM UM UM UM UM UM	202 1	208	204	205	206
UM UM UM UM UM UM	202 1	203	204	205	206
UM UM UM UM UM UM UM	202 1	203	204	205	206
MUMUM UM UM UM UM	202 1	203	204	205	206
UM UM UM UM UM UM UM	202 1	203	204	205	206
UN UN UN UN UN UN	202 1	203	204	205	206
NU NU NU NU NU NU NU	202 1	<mark>208</mark>	204	205	206
UM UM UM UM UM UM UM	202	203	204	205	206
UM UM UM UM UM UM UM	202 1	<mark>208</mark>	204	205	206
UM UM UM UM UM UM UM	202 1	<b>203</b>	204	205	206
UM UM UM UM UM UM	202 1	<b>208</b>	204	205	206
UM UM UM UM UM UM UM 🔙	202 1	203	204	205	206
UM UM UM UM UM UM 🗸	202	203	204 204	205	206



#### 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  $10^{1}$  the color code 120 stands for  $0^{1}0^{1}0^{1}0^{1}0^{1}$ .

Qt

> 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 down

#### windows

Jser Macro()	KnitCA1)		
No. 1	+	-	Reference window
22 21			

## 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)

Right 1:Left	Colum	1, racking direction	As shown on the left, when			
36:Needles	Colum	12, racking needles	left, "exceeding 1 needle"			
NULL 1:* 2:+ 3:-	Colum	n 3, racking control	2 needles to the left and then returns to the position of 1 needle racking to the left. This function is			
NULL 1:Exceed 1 needle 2:Exceed 1/2 Needle	Colum	14, racking exceeding needles	applied when edge is longer or loops are more to lose the loop for the convenience of transferring			
Standard speed 1:Middle speed 2:Low speed	Colum	15, racking speed	stitches.			
1:Auto-Trans Racking Using	Previous					

8. Sł	naker	Tool bo
208		
	Right	
208	1:Left	Racking direction: "0" Right; "1" is left
208	36:Needles	Racking needles
	NULL	Racking control: "0" is that the front and back bed is stagger. Needle face
208	1:*	needle slot
208	2:+	"+" he front and back bed close to the $3/4$ "*" position
	3:-	"-": he front and back bed close to the 1/4 "0" position
208	NULL	Racking exceeding needles:"1" is to exceed 1 needle
208	1:Exceed 1 needle	"2" is to exceed 1/2 needle
	2:Exceed 1/2 Needle	
208	Standard speed	Racking speed: "0" is standard speed
208	1:Middle speed	"1" is middle speed
	2:Low speed	"2" is low speed
208	1:Auto-Trans Racking Using P	revious

## 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 "<u>Compilation/Jacquard Setting</u>" chapter

13.R	13.Rotary distance + tuck wit 🗾 🍱							
		<u> </u>						
213	1 214	e						
213	4:Rotary dista	ace						
213	Tuck without JU	QD						
	1:Front/ back 1	l*1 tuck						
213	2:Front/ back :	2:Front/ back full-tuck						
3:Front 1*1 tuck								
213	4:Back 1*1 tuck							
213	5:Front Tuck							
	6:Rear tuck							
213	7:1*1 tuck							
	11:Front/ back	1*1 tuck(1round)						
213	12:Front/ back	full-tuck(1round)						
213	13:Front 1*1 to	ick (1 round)						
	14:Back 1*1 tu	ck (1round)						
213	15:Front_tuck()	lround)						
	16:Back tuck(1round)							
213	17:1*1 tuck(1r)	ound)						

## 5.10 System lock + Jacquard type (214)

> Summary of function line of knitting form:

	1. Lock left system knitting + transfer				
	2. Look right system knitting   transfer				
	2: Lock right system knitting +transfer				
	3: Lock center-left system knitting +transfer				
Column 1	4: Lock center-right system knitting + lock transfer				
Column 1	6: Lock left system knit				
	7: Lock right system knit				
	8: Lock center-left system knit				
	9: Lock center-right system knit				
	2 colors jacquard				
	3 colors jacquard				
	4 colors jacquard				
	5 color jacquard				
	6 colors jacquard				
Calumn 2	Intarsia split mode: 0: Local JQD after + Intarsia left-side first				
Column 2	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	System Locked
6:L system knit locked	
7:R system knitting locking	
8:Mid-left system knitting locking	
9:Mid-right system knitting locking	
2 color JQD	•
3 color JQD	
4-color JQD	T <sub>x</sub> T T 214 Lock right system to knit
5 color JQD	$Q \pm X Q$ 214 7 Look left system to knitt
6-color jacquard	<b>Tx O T D C K I C C K I C C K I C C K I C C K I C C K I C C K I C C K I C C K I C C K I C C K I C C K I C C K I C C K I C C K I C C K I C C K C C K I C C K I C C K I C C K I C C K I C C K I C C K C C K C C K C C K C C K C C C K C C C K C C C C K C C C C C C C C C C</b>
Intarsia split mode	
forced the transfer direction	Lock right system to knit and transfer
16: Tecquerd Group	$2^{4}$ $\overline{0}$ $\overline{1}$ $2^{14}$ $2^{14}$ Lock center-left system to knit and transfer
forced the writting direction	
Torcea the American arection	<b>I</b> ock center-right system to knit and transfer
255:Intarsia discontinu	
16:Yarn following	

### 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

b-color jacquard / Intarsia split mode /	
forced the transfer direction	NULL
16:Jacquard Group forced the knitting direction	1:> 2:<
D-COLOT Jacquara . Intarsia split mode . forced the transfer direction .	
16:Jacquard Group	
forced the knitting direction 🔶	NULL
255:Intarsia discontinu 16:Yarn following	1:> 2:<

#### 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

 $\blacktriangleright$  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.

forced the transfer direction
16:Jacquard Group
forced the knitting direction
255:Intarsia discontinu
16:Yarn following



> 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/<u>Automatic Processing</u>" 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)



0: transferring and knitting system combine automatically 1: transferring and knitting combine compulsorily

2: transferring and weaving do not combine compulsorily

## 5.14 Take down Comb(225)



## 5.15 Cutter(227)





### 0: no action

1: cutting yarn by left scissor 2: cutting yarn by right scissor

## 5.16 Gripper Close (228)



Sele	ct va	lue (	(0-2) 🔀	
			0	
7	8	9	Clear	0: no action
4	5	6	Return	2: left-gripper 2 holds yarn
1	2	3	Cancel	3: right-gripper 1 holds yarn 4: right-gripper2 holds yarn
0	[+/-]		ок	

## 5.17 Gripper Open(229)



Select value(0-2) 🔀					
0					
	8	9	Clear		
4	5	6	Return		
1	2	3	Cancel		
0	+/- OK				
				-	

- 0: no action
- left-gripper 1 release yarn
   left-gripper 2 release yarn
   right-gripper 1 release yarn
   right-gripper2 release yarn

## 5.18 Special Treatment-Pleating (230)

230	Cancel				
230	1:Shorting-active mark row				
230	2:Shortening-reduce mark row				
	8:Shortening-Auto				
230	9:Shortening 1				
	10:Shortening 4x4				
230	11:Shortening 2				
230	12:Shortening 2 4x4				
	16:Shortening-Maximum shaker				

> 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.

σσ

ত ত ত ত ত



122 122 122

σσ

σσ

σ

ত ত ত

ত ত ত ত

- σ σ 8 8 8 8 8 ত ত ত ত ত ত ত ত ত ত σ σ 5 σ σ σ σ σ σ σ σ σ ਠ ਠ σ σ σ σ σ σ σ σ σ σ σ σ σ σ σ σ σ σ δ σ σ σ σ σ σ σ σ ত ত ত ত ত ত ত ত ত 8 5 5 ত ত ত ত ত ত ত σ 75 σ **ʊ ʊ ʊ ʊ ʊ ʊ ʊ ʊ ʊ ʊ ʊ ʊ ʊ ʊ ʊ ʊ** ʊ **ʊ** σ ত ত σ ত ত ত σ
- 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.







105



## 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".
|                     |      |      |     |          |          |    |    |    |          |    |    |      |    |    |    |    |    |    |    |    |    |    |    |    |    |     |          |          |    |     |    |   |          | ~ | 20  | 1  |  |
|---------------------|------|------|-----|----------|----------|----|----|----|----------|----|----|------|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|----------|----------|----|-----|----|---|----------|---|-----|----|--|
| 5 5 5 5             | 75 7 | 5 75 | 175 | 75       | 75       | 75 | 75 | 75 | 75       | 75 | 75 | 75   | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75  | 75       | 75       | 75 | 75  | 75 |   |          |   |     | 1  |  |
| <b>5 3 3 3</b>      |      | 5 75 | 1.0 | 10       | <b>T</b> | 75 | 75 | 75 | 75       | 75 | 75 | 75   | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75  | 75       | 75       | 75 | 75  | 75 |   |          |   |     | 11 |  |
| 10, 10, 10, 10, 10, |      | 5 75 |     |          |          | 75 | 77 | 77 | 77       | 15 | 75 | 75   | 77 | 75 |    | 77 | 15 | 75 | 77 | 15 | 75 | 75 | 75 | 15 | 15 | 10  | τ.       | 757      | 15 | 7.7 | 15 |   |          |   | 2   | 1  |  |
| <u> </u>            |      | 5 75 | 1.0 | 75       | 1        | 77 | 77 | 77 | 77       | 77 | 77 | 75   | 75 | 77 | 75 | 75 | 77 | 77 | 77 | 77 | 77 | 75 | 75 | 15 | 75 | 75  | 75       | 75       | 77 | 77  | 75 |   |          |   |     | 1  |  |
| <u> </u>            |      | 5 75 | 1.0 | 75       | 15       | 75 | 75 | 75 |          |    |    |      |    |    |    |    |    |    |    |    |    |    |    |    |    |     |          |          |    |     |    |   |          |   | 1.0 | 11 |  |
|                     |      |      |     |          |          | 75 | 75 | 75 |          |    |    |      |    |    |    |    |    |    |    |    |    |    |    |    |    |     |          |          |    |     |    |   |          |   |     | 1  |  |
|                     |      | 5 75 |     | 11       | 1        | 75 | 75 | 77 | 75       | 75 | 75 | 75   | 75 | 10 |    | 11 | 15 | 15 | 77 | 75 | 77 | 75 | 1  | 15 | 15 | 15  | 75       | 75       | 25 |     |    |   |          |   |     | 1  |  |
|                     |      |      |     |          |          |    |    |    |          |    |    |      |    | 1  | 1  | 75 | 15 | 1  | 75 | 75 | 75 | 75 | -  | 75 | 75 | - 1 | 75       | 75       | 75 |     |    |   |          |   |     | 1  |  |
| Develop view        |      |      |     |          |          |    |    |    |          |    |    |      |    | -  |    | 75 | 75 | 15 | 75 | 75 | 75 | 75 | -  | -  | -  |     | -        | 75       | 75 | 15  | 75 |   |          |   |     | 11 |  |
| Develop new         |      |      |     |          |          |    |    |    |          |    |    |      |    |    |    |    |    |    |    |    |    |    |    |    |    |     |          | <b>1</b> |    |     |    |   |          |   |     | n  |  |
|                     |      |      |     |          |          |    |    |    |          |    |    |      |    |    |    |    |    |    |    | 1  |    |    |    |    |    |     |          | 10       |    |     |    |   |          |   |     | 11 |  |
|                     |      | 5 5  |     | <u> </u> |          |    | -  | -  | 1        | 10 | 15 | - 25 |    | 1  | 10 | 75 |    |    | 15 | 15 | 1  | 15 |    | 1  | 5  | 5   | 5        | 757      | -  |     |    |   |          |   |     | 1  |  |
|                     |      |      |     |          |          |    | _  | -  |          |    |    |      |    |    |    |    |    |    |    |    |    | _  |    |    |    |     | _        | _        |    |     | -  |   |          |   |     |    |  |
|                     |      |      |     |          |          | _  | _  | _  | _        | _  | _  | -    |    | _  |    | -  | _  | -  | _  |    | -  |    |    |    |    | _   | _        | _        | -  | -   | -  |   |          |   |     |    |  |
|                     |      |      |     |          |          | _  | _  | _  | -        |    | -  | -    | -  |    |    |    |    |    |    | -  | _  | -  | _  | -  | -  | _   | -        | -        | -  |     |    | - |          |   |     |    |  |
|                     |      |      |     |          |          | -  | -  | -  | -        |    | -  | -    | -  |    |    |    |    |    |    | -  | -  | -  | -  | -  | -  |     | -        | 2        | -  |     | -  |   |          |   |     |    |  |
|                     |      |      | -   |          |          | -  | -  | -  | -        |    |    |      |    |    |    |    |    |    |    |    | -  | -  | _  | -  | -  | _   | -        | -        | -  |     | -  | - |          |   |     |    |  |
|                     |      |      | -   |          |          | -  | -  | -  | -        |    | -  |      |    |    |    |    |    |    |    |    | -  | -  | -  | -  | -  | -   | -        | -        | -  |     | -  | - |          |   |     |    |  |
|                     |      |      | +   | -        |          | -  | -  | -  | -        |    | -  |      |    |    |    |    |    |    |    | -  | -  | -  | -  | -  | -  | -   | -        | -        | -  |     |    | - | $\vdash$ |   |     |    |  |
|                     |      |      | -   |          |          | -  | -  | -  |          |    | -  | -    |    |    |    |    |    |    |    | -  | -  | -  | -  | -  | -  | -   | -        | ÷        | -  |     | -  |   |          |   |     | 1  |  |
|                     |      |      |     |          |          |    | -  |    | <u> </u> |    |    | -    |    |    |    | -  |    |    |    | _  |    | -  |    |    | -  |     | <u> </u> | -        |    |     |    |   |          |   |     |    |  |

# 6.8 Package Nesting

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



Pattern view						_	_							_		_	
5 3																	
5 25	120	120	120	120	120	120			120	120	120	120	120	120			
<b>T</b>																	
5 5																	

> Development pattern is shown as below.



### **6.9 Automatic Pagination Function**

> Pagination is introduced in the <u>Blind Package (1)</u>. 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

 $\blacktriangleright$  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

		Page	1	ত	ত	স	22	ত	ত	22	2	22	7	5	ठ	22	Σ
	o			ত	ত	ত	ন্থ	P		7	ত	ন্থ	7	5	স	স	σ
-	স	স	135	135	135	135	135	0		5	স	ন্থ	7	5	ਠ	2	δ
	2	ठ	135	135	135	135	135	ত	ত	ठ	i 35	135	1	35	135	135	Σ
	Pa	age 1	7	Σ	3	γ	3	Σ	Σ	3	135	135	1	35	135	135	Σ
	σ	σ	<b>o</b>	ত		Page	1	ত	5	স	ন্থ	ন্থ	7	5	ਠ	স	σ
-	2	স	ত	ত	ত	স	2	ত	ত	2	2	3	7	5	ত	2	2
-	2	ত	ত	ত	ত	3	22	ত	স	2	2	স		5	স	2	δ
	2	ত	ত	ত	ত	P	age 2		5	-25-	135	135	1	35	135	135	δ
	ত	σ	ত	ত	ত	75	75	75	75	75_	135	135	1	35	135	135	σ
-	75	25	Σ	Σ	75	Pa	ge 1	5	3	ন্ত	ъ	3	-	5	Σ	3	3

#### 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:

· 5	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	201				
· T	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	201				
<del>ا</del> ک	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	201				
· 7	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	201				
<del>ا</del> ک	σ	σ	135	135	135	135	135	σ	σ	σ	σ	σ	σ	σ	σ	σ	201				
<del>ا</del> ک	σ	σ	135	135	135	135	135	σ	σ	σ	135	135	135	135	135	σ	201			1	
· ک	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	135	135	135	135	135	σ	201				
· ک	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	201				
175	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	201				

#### 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.

ম	হ	হ	হ				201		2		
							201		2		
							201		2		
	<b>∱</b> ×	₹	<del>ર</del> ્ટ,				201		2	2	
<mark>ಕ</mark> ್≁	₹	₽,×					201		2	2	
<u>우</u>		<del>ક</del> ્ર	ᢐ				201		2	1	
₺	<del>ર</del> ્ટ,		<b>♀</b> .				201		2	1	
							201		2		
							201		2		
130	130	131	131			-	201		2		

Package base pattern

35	135	136	136	135	135	136	136	135	135	136	196	135	135	136	136	135	135	136	136
35	135	136	136	135	135	1 36	136	135	135	136	136	135	135	136	136	135	135	136	136
35	135	136	136	135	135	136	136	135	135	136	136	135	135	136	136	135	135	136	136
T.	T.	T	15	T	T		π	σ	T		π	π		1	107	T.	T		T
	Τ		π	π	1		τ						Dog	·~ )			T	T	
	ð,	T	Π	T	đ,	t	Τ	T	đ	Τ			Pag	,e z			đ	Τ	T
T.	T.							Τ		T	π								
÷	-	Ŧ	4	-25	*	Ŧ	÷	Ŧ	-	Ŧ	-	-	-	÷	-	÷	Ŧ	*	÷
T	ж										Ŧ.			T				T	
U,	T	T				T	π	۲		r						τ	T	Т	Ш.
Ø,	a.		π		T)	U.	Т				ł	Pag	e 1				τ	a.	
UT.	Т	π				U			Т	T	2	1	T	Б	107	T.	Т	T	
35	135	136	136	135	135	136	136	135	135	136	136	135	135	136	136	135	135	136	136
35	135	136	136	135	135	1 36	136	135	135	136	136	135	135	136	136	135	135	136	136
35	135			135	1 35	110		135	135	6	1.16	135	135	1.76	$\mathbf{n}$	135	135	1.10	far

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.

																201			
σ	σ	σ	σ		5	σ	σ	σ	σ	σ	σ	σ	σ	σ	7	201			
σ	σ	σ	130	Ľ	D	σ	σ	σ	131	131	σ	σ	σ	σ	7	201			
σ	σ	σ	130	1:	D	σ	σ	σ	131	131	σ	σ	σ	σ	7	201			
σ	σ	σ	σ	٦	5	σ	σ	σ	σ	σ	σ	σ	σ	σ	С	201			
σ	σ	σ	σ	٦	5	σ	σ	σ	σ	σ	σ	σ	σ	σ	τ	201			
σ	σ	σ	σ	٦	5	σ	σ	σ	σ	σ	σ	σ	σ	σ	2	201			
σ	σ	σ	σ		5	σ	σ	σ	σ	130	130	σ	σ	σ	7	201			
σ	σ	σ	σ		5	σ	σ	σ	σ	130	130	σ	σ	σ	2	201			
σ	σ	σ	σ		5	σ	σ	σ	σ	σ	σ	σ	σ	σ		201			

> 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

 $\blacktriangleright$  Circle the completed package. Save package through "Save package pattern" in right-click menu. Or select "Template  $\rightarrow$  Save template" in Menu bar.

Select current color		
🔽 Replace color		
🛫 Cut		
Сору		
Paste		
Save selected module		
Save Package Pattern		
Center Line		
Reset shape design center line		
1	) Module (M) Pattern J	Lil
C Size setting	Save module	
Color selection and copying in	a single row 🖉 Modulo for usage	
Sand Knit files to	1 Heldle of usage	
Send Milt Hiles to	module of toolbar	
12 Send all files to	Import module	
Copied to the organization char	t Sove polected podu	1.
Copy to the density chart	Save selected modu	те
Select current color	Standard module	

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

that process	e(Module information) 🛛 👂	<b>Lodule</b>	attribute (Lodule in	formation)	X
Coverwrite Module name: Module type: Note:	the exist Module list NewModule Image: mmanagem Custom module type UserPackage		Function line generates and	replaces	
width: height:	8 17 Browse				
ок	Cancel		ок	Cancel	

- Click "OK" and complete preservation.
- > You can use the saved package by call it

7



### 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 iconThe 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.

	ihape							set	ting se	ction			Fleview sec	
Appearance	Sus Tupe Appearance op	Mittysten 🗶	Le	ft piece Lof	t V neck	171000	Firm	1 Parei		1 255.0	Enisting	Huida I	Preview	
ption	Body symmetry	etric 🔽 Neck symm	1	191	-3	I	1 7 44 10	0	0	0	1	191		
ection	Start Needles	369	2	2	-3	8		4	1	Ŭ.	1	207	· · · · ·	
	Narrowing	One Line 💌	3	3	-3	4		4	1	0	1	219		
	Start offset	0	4	4	-3	2		4	1	0	1	227		
	Pieces	AI +	5	4	-2	1		0	0	0	t.	231		
Neck	Neck Setting		6	45	Ð	1	Bark	0	a	0	1	276		<b>1</b>
Setting	Neck.	V-Neck .	7	7	0	1		0	0	0	1	283		$\nu$
Setting	F 5pR	0	8	27	0	1	flark	0	0	0	1	310		
	Veck-intets	ia .	9	22	Ð	1		0	0	O	1	332		
	VeckBotts	Waste yarn doff 💌	10	0	0	1		0	0	0	1	332		
	Width	43	11	0	0	1		0	0	0	1	332		
	Offset	0	12	0	0	1		0	0	Q	1	332		
	Collar Position		13	0	0	1		0	0	0	1	332		
	-	Autom	14	0	0	1		0	0	0	1	332		
ollar	Waste van ne	river -	15	0	Ð	1		0	6	ũ	1	332		
etting	Waste varn	40	15	0	0	1		0	0	0	1	332	30001851-27,8890	NICK 8-207-0, OUT
action	E 6	1	17	0	D	1		0	σ	0	1	332	Widt	h:315
ection	-	al furth and	18	0	0	1		0	0	0	1	332	Check	
	1		- 19	0	0	1		0	0	0	1.	332	Total rows 0	
	Keep Knit	-	20	0	Ð	1		0	Comb	oroun	section	2	Left Arm 0	
attern	1 Pattern	J- Keep rooma	21	0	0	1		0	Com	group	section	2	Neck Rowr, O	<u> </u>
etention	Center	Row	22	0	0	1		0		0	1	332	depending 0	Check re
ection	Keep above armoit><		- Cc	mb group Ribbing Typr	RIb1×1		Ri	obings 10	1	Tubu	ar height 1.5		Needles 0 Left body 0	section
	Top keep	(4) (4)		Ribbing Trans	s Normal Kni	k 💌	Ribbi	ng set B	sk1	•	Doffing Rear	knit 💌	clipping down0	
	) for outting th	Conter			E Rb Usr	na tixo "	Revol	utions		- I₹ Con	nb 3x3	•	Right shift 0	

# 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.

	Comb group									
	Ribbing Type	Rib2x1	-	Ribbings	5		Tubular height	1.5		
	Ribbing Trans	Normal Knit	-	Ribbing set	Back 1 📃 💌	_	Doffing	Back Doffing	•	
		🔲 Rib Using	two '	Revolutions	0		Comb	3x3	•	
Ì										

Sys Type	Multisystem	•
-Appearance opti	Single system	
🔽 Body symme	Multisystem	

#### 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.

17	0	0	1		0	0	0	1	100
18	0	0	1		0	0	0	1	1×1 2×2
19	0	0	1		0	0	0	1	3x3
20	0	0	1		0	0	0	1	2x2A
									3х3А 4х44
									1*2
									1*3
Corr	nb group ——						_		2*2
F	libbing Type 🖡	Rib2×1	-	Ribb	ings 5		Tubular	<sup>,</sup> height	2*3 1×1_LX
R	ibbing Trans 🗗	Vormal Knit	-	Ribbing	) set Back	.1 🔽		Doffing	2x2_LX NULL
	Γ	Rib Using	g two '	Revolut	ions 0		Comb		3x3 💌

#### 7.3.3 Symmetry of body and neck

Appearance options								
🔽 Body symmetric 🔽 Neck symme								
Start Needles	102							
Narrowing	One Line 💌							
Start offset	0							
Pieces	All							

> 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.

Left	t piece Left V	neck			Left	t piece Right	bodice 🛛 Le	eft V neck	Right V	neck	
#	Revolu	Needle	Times	For	#	Kevolu	Needle	limes	Form	Margin	Hie
1	191	-3	1		1	191	-3	1		0	0
2	2	-3	8		2	2	-3	8		4	1
3	3	-3	4		3	3	-3	4		4	1
4	4	-3	2		4	4	-3	2		4	1
5	4	-2	1		5	4	-2	1		0	0
c.	45	<u> </u>			c	45	0	1	II1-	0	0

#### 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.

						σ	τ	τ	Τ	τ	σ	σ	σ							
						σ	σ	σ	σ	σ	σ	σ	σ							
			₽ P	₽ ₽	ħ	÷	÷	÷	÷	÷	÷	÷	₽	수 문	사 태	사 태				
			σ	σ	σ	σ	τ	τ	σ	σ	σ	σ	σ	τ	σ	σ				
			σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ				
			σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ				
₽	Ņ	₽	τ.	ŢŢ.	ŢŢ.	ŢŢ.	-	-	÷.	Ţ.	Ţ,	Ţ,	Ţ	7	ŢŢ.			A 문	4 <u>₽</u>	
τ	σ	σ	τ	σ	σ	σ	τ	τ	σ	σ	σ	σ	σ	τ	σ	σ	σ	σ	σ	
τ	σ	2	σ	2	2	σ	σ	σ	σ	σ	σ	σ	σ	σ	2	2	σ	σ	σ	

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

									× .											
						σ	σ	σ	σ	σ	σ	σ	σ							
						σ	σ	σ	σ	σ	σ	σ	σ	<b>₽</b>	₽ ₽					
			퉒	₽	₽	Υ.	75	75	75	75	75	75	•	σ	σ	σ				
			τ,	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ				
			τ,	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ				
			$\mathbf{T}_{\mathbf{r}}$	σ	σ	τ	σ	σ	σ	τ	σ	σ	σ	σ	σ	τ	퉒			
	퉒	퉒	-	÷	ЗŢ.	÷	-	-	÷	÷	÷	-	÷	ЗŢ.	ЗŢ.	۶	σ	σ	σ	
σ	σ	σ	σ	σ	σ	τ	σ	σ	σ	σ	τ	σ	σ	σ	σ	τ	σ	σ	σ	
-	-	-		-	-	-			-	-			-	-	-	-	-	-	-	

> 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—><u>narrowing</u> <u>needle mode</u>).

There are other parameters of narrowing and widening (setting—><u>narrowing needle</u> <u>mode</u>).

#### 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.

Appearance op	tions
🔽 Body symm	etric 🔽 Neck symmetr
Start Needles	102
Narrowing	One Line 📃 💌
Start offset	0
Pieces	All 🔽

#### 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.



*<sup>conservent</sup>* 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)



		×				
			×			
				×		
				12 12		
					×	
					1P	
Ť	t	t	Ť	Ť	t	
					×	
					σ	σ
σ	σ	σ	σ	σ	σ	σ

• 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.
- $\blacktriangleright$  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.

Neck Setting —			
Neck	V-Neck 🗾		
🔽 Split	0		
🔲 Neck-intatsia	3		
💌 NeckBotta	Waste yarn doff 💌		
Width	43		
Offset	0	<b></b>	Set the offset needle
Collar Position	Autom		
V-Neck show	el needle		



- 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

Neck Setting —	
Neck	V-Neck 🗾
🔲 Split	0
🔽 Neck-intatsi	a
🔽 NeckBotta	Waste yarn doff 💌
Width	43
Offset	0
Collar Position	O Autom
V-Neck show	<b>/el 🥅</b> Middle Cancle

➤ 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:

					-	Advance sett	ing
Lef	t piece Left V	neck	( m :		-	Narrowing type	⊂ Waste yarn
#*1	nevolu	лееате	1	j margi		indirecting (,po	Waste yarn mode Kint 🔽 🔽 Waste yarr
2	1	3	1	0		Yarn and Param	Waste varo turo 20
-	2	3	5	0	-	Other	
1	3	3	2	n	-	Other	Span cotton 15
:	4	2	3	0	-		Removing and adding stitch
5	5	2	1	0	-		Min. tuck needles 5 Needle addition Ya
r	12	0	1	0	-		Effective 2
3	0	0	1	0	-		- Yaya Cabbian
9	0	0	1	0	-		

#### 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.

-Appearance op	tions								
🔽 Body symmetric 🔽 Neck symmetri									
Start Needles	369								
Narrowing	One Line 👤								
Start offset	0								
Pieces	All								

#### 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.

-\	Naste ya	rn marl	rker	
	Waste	yarn	20	
		0		
	Size	NULL	Tuck 💌	

> The following pattern can be formed:



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

-Waste ya	rn mark <u>er —</u>		
Waste y	arn 20		
	2		
Size	NULL 💌	Pointelle	Waste varn marker
Kana Kaib	NULL		waste yan jeo
- Keep Knit	Size 1		
📃 🔲 Patter	Size 2	Keep Function	
	Size 3		Size Size 1 🔻 Pointelle 🔻
Carlan	Size 4	Row	
Center	Size 5		- Keen Knit
	Size 6	Col	Pointelle
12 1			Pattern

#### 7.3.19 Keep pattern

Keep Knit		
Center	1	Row
	1	Col

➢ 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

-Keep Knit					
Cepter	1	Row			
Contor	1	Col			
Keep above armoit>-< Keep below	armpit>-< 4				
Top keep	4				
; for cutting	; the Ce	enter	]	•	Click to skip the part



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.

	Keep Knit —		
	🔽 Pattern	🔽 Keep Function	
	Center	0 Row 0 Col	
		,	
. <u> </u>	207 12 12		207 12 12
2 7 2 7 2 7 2 7 2 7 2 7 2 7 2 7 2 7 2 7	207 12 12		20/12/12
. 5 2 5 2 5 2 5 2 5 2 5 2 5 2	207 12 12		207 12 12
2 7 2 7 2 7 2 7 2 7 2 7 2 7 2 7	207 12 12		207 12 12
. <u> </u>	207 12 12		207 12 12
2 7 2 7 2 7 2 7 2 7 2 7 2 7 2 7	207 12 12	2 5 2 5 2 5 2 5 2 5 2 5 <b>2</b> 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	207 12 12
. <u> </u>	207 12 12	<b>5 2 5 2 5 2 5 2 5</b>	207 12 12
	207 12 12	2 <b>7</b>	207 12 12
	207 12 12	5 2 5 2 5 2 5 2 5 2 5 <b>5 5 5 5 5 5 5 5 5 </b>	207 12 12
<u> </u>	207 12 12	a <mark>a a a a a a a a a a a a a a a</mark>	207 12 12
	217 12 12	5 a 5 a 5 a 5 a 5 a 5 a 5 a 5 a 5 a 5 a	207 12 12
	207 12 12	a <mark>a a a a a a a a a a a a a a a</mark>	207 12 12
	207 12 12	요리 <mark>요리 요리 요리 요리 요리 요리 요리 <mark>요리 요리</mark></mark>	207 6 10
		<u> </u>	207 6 10

> 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

Setting for cutting the edge 🛛 🔀
✓ delete edge Range Sidewards 4 Needles removal
Eliminating action Front knit Rear knit Front Tuck Rear tuck Transfer
Custom color o
Color code after cutting
OK

➤ 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.

			_			
Commutaning	Vaitting	Machina	Dottom	Dagian	Cristana	of Dormon
Complienzea	Kniinny	wachine	Panern	Design	System	or <b>k</b> avnen
compaterized	1 million B	machine	I accorn	Design	Sjotem	or reagine

Advance settin	g					
Newsening hung	Param					
Narrowing type	Full needles	1	Body clip	9	Doffing	12
Yarn and Param	Full needle	2	Body clip	17	Cotton rows	15
Other	Remove	3	Auto insert Rows	10	Doffing2	14
Oulei	Main yarn	4	Neck	11	PP Yarn	2
	Tubular	5	Round	13	Comb	0
	Ribbing	6	Neck Split(Left)	18		
	Transition	7	Neck Split(Right)	19	_	
	Body	8	Transfer	16 Param		Parametric 🔽
	-Yarn					
	Main yarn 1	3	Main yarn 2	5	☑ 2#Yarn is	on the left
	Waste yarn 1	1	Waste yarn 2	7	Use 1-har	idle yarn for bo
	Neck-Waste	7	Ribbing Yarn 2	0		
	Rubber Yarn	8	PP Yarn	1		
[	Rib 2nd Yarn	7				
						Default
_				ок	Cancel	

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

	Rib Using two	Revolutions 3	
> Pecults of formatic	<b>.</b>		
			2013 2014 2014 2014 2014 2014 2014 2014 2014
			Ribbing 2nd
			yarn

### 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.

Lef	Left piece Left V neck								
#	Revolu	Needle	Times	Form	Margin	Hi de	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
· -	-	-			_	_	_		

#### 7.4.1 Body specification

> 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:

Input knit code	1,2,3	
_	Egg :	1,2,3,
	ОК	Cancel



• 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:

Knitting
1
1,2
1, 2, 3
1, 2, 3, 4



> 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.

Left	Left piece Left V neck								
#	Revolu	Needle	Times	Margin	Hi de	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		

### 7.4.2 Neck specification chart

> 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:

	Lef	t piece Left V	neck				
	#	Revolu	Needle	Times	Form	Margin	Hid
	1	191	-3	1		0	0
	2	Сору				4	1
Right click —	3	Paste		•	Rewriti	ng	1
C	4	Cut			Insert	mode	1
	5	Insert			Add-on	Type	0
	6	Delete		T	Mark	0	0
	7	Add-on			0	0	
	8	Mirror	ol rollor	yoy [	Mark	0	0
	9	Cvcle	ar rottov	, er		0	0
	10	0	Π	1		n	Π

- 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.



### 7.4.6 Cycle

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

_	Left	: piece Left V	neck							
te	#	Revolu	Needle	Times						
	1	191	-3	1						
	2	<u>.</u>	-2	· ·						
	3	Copy Posto								
	4	Cut		·						
	5	Insert	Insert							
	6	Delete								
	7	Add-on								
	8	Mirror								
	9	Horizont	al rollov	rer						
	10	Cycle								

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

Cycle Setting 🛛 🔀								
Begin 2	2 -3 -8							
End 3	3 -3 -4							
Times 2								
OK	Cancel							

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

	Revolu	Needle	Tines	Form	Margin	Hide	Effec	Knitting	Height	1
1	191	-3	1		Ø	0	0	1	191.0	
2	2	-3	8		4	1	0	1	207.0	
3	3	-3	4		4	1	0	1	219.0	
٤.	4	-3	2		4	1	0	1	227.0	
5	4	-2	1		0	0	0	1	231.0	
5	45	0	1	Park	0	0	0	1	276.0	
t	T	0	1		0	0	0	1	283.0	
	27	0	1	Varit	0	0	0	\$	310.0	1
2	22	0	1		0	0	0	1	332.0	
0	0	0	1		0	0	0	1	332.0	
1	0	0	1		0	0	0	1	332.0	1
2	0	0	1		0	0	0	1	332.0	1
3	0	0	1		0	0	0	1.	332.0	
4	0	0	1		Π	0	0	£3	332.0	
5	0	0	E.		0	0	0	1	332.0	
6	0	0	1		a	0	0	1	332.0	
2	n	a	1		0.	ń	0		332.0	ł
÷	Starti	End Los	Cy	:le	1					2
	2	3:	2	-	1					
					Delate cy	els				

> 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:

Advance settin	ng 🛛 🔀
Narrowing type Yarn and Param Other	Front knit         Rear knit           Body         Left         Right           1         71         61           2         72         62           3         73         63           4         74         64           5         75         65           6         76         66           7         77         67
	Needle Setting         Handstitch mode       Single needles(1)         Body narrowing       Normal         Neck narrowing       Normal         Neck narrowing       Normal         Toggle color       Default
	OK Cancel

### 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.

Front knit Rear	Narrowing	Verk	Narrowing coltright the left and right the left and	lor codes of
Body	needles	Left		ght
1 71	61	1 61	71	Right 61
2 72	62	2 62	72	
3 73	63	3 63	73	
4 74	64	4 64	74	
5 75	65	5 65	75	
6 76	66	6 66	76	
7 77	67	7 67	77	

- > 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.

F	Front knit Rear knit								
	Body	Left	Right						
	1	71	61						
	2	72	62						
	3	73	63						
	4	74	64						
	5	75	65						
	6	76	66						
	7	77	67						

									σ	σ	σ	σ	
									σ	σ	σ	σ	σ
						_			σ	σ	σ	σ	σ
T	ne d	colo	or c	od	e is	72			σ	σ	σ	σ	σ
						<b>_</b>			σ	σ	σ	σ	σ
							퉕	퉕		σ	σ	σ	σ
							σ	σ	σ	σ	σ	σ	σ

Front kr	nit Rear	knit
Body	Left	Right
1	71	61
2	71,72	62
3	73	63
4	74	64
5	75	65
6	76	66
7	77	67

									τ	σ	
Th th	ne e c	nar :olo	rov or co	vin ode	g c e w	orde hicl	eri hb	is s e fi	am lleo	ie a d in	IS
									σ	σ	
							下で	N₽	5	7 7	

### 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.

Needle Setting			
Handstitch mode	Single needles(2)		
Body narrowing	Single needles(1) Single needles(2)	Body narrowing Ladder	•
Neck narrowing	Double needles(1) Double needles(2)	Neck narrowing Ladder	•
	stepped Main yarn doffing Single needles(3)	Toggle color	Default





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

 $\succ$  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.

Advance setti	ng						X
Narrowing type	-Param	1	Body clip	9	Doffing	12	
Yarn and Param	Full needles	2	Body clip	17	Cotton rows	15	
Other	Remove Main yarn	3 4	Auto insert Rows Neck	10	Doffing2 PP Yarn	2	
	Tubular Ribbing	5 6	Round Neck Split(Left)	13 18	Comb	0	
	Transition	7	Neck Split(Right)	19	Param	Parametric 💌	
	- Yarn	lo		10	Faran		
	Main yarn 1	3	Main yarn 2	5	🔽 2#Yarn is	s on the left	
	Waste yarn 1	1	Waste yarn 2	7	🔲 Use 1-ha	ndle yarn for bo	
	Rubber Yarn	8	PP Yarn	1			
	Rib 2nd Yarn	0					
						Default	
						1	
				ОК	Cancel		

### 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.

Computerized Knitting Machine Pattern Design System of Raynen

Advance setti	ng					
	Param					
Narrowing type	Full needles	1	Body clip	9	Doffing	12
Yarn and Param	Full needle	2	Body clip	17	Cotton rows	15
Other	Remove	3	Auto insert Rows	10	Doffing2	14
Other	Main yarn	4	Neck	11	PP Yarn	34
	Tubular	5	Round	13	Comb	0
	Ribbing	6	Neck Split(Left)	18		
	Transition	7	Neck Split(Right)	19	_	
	Body	8	Transfer	16	Param	Custom pai 🔻
	V					

• 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

Advance setting	3	×
Advance setting Narrowing type Yarn and Param Other	Waste yarn   Waste yarn mode   Kint   Waste yarn node   Kint   Waste yarn node   Spun cotton   5   Removing and adding stitch   Min. tuck needles   5   Effective   7   Hide color   16     Yarn Setting   Without Pick Yarn   10   Take yarn back to   15     1-handle for Yarn   7   Dual system folder while using a yarn mouth   Package Mode   Shovel pin tuck   Comb auto press yarn use waste yarn   Default	
	OK Cancel	

### 7.5.3.1 Waste yarn (Finish yarn)

Kint 🗾	🔲 Waste yarn doffing
Kint Needle addition (1	🔽 Use 1-feeder for Waste yarn
Needle addition (2	
Needle addition (3	
Needle addition (4	
Needle addition (5	
	Kint Cint Veedle addition (1 Veedle addition (2 Veedle addition (3 Veedle addition (4 Veedle addition (5

> 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 Waste yarn mode Waste yarn turn	Needle additic 💌	IV Wast	e yarn doffing -feeder for Was	te yarn	
Spun cotton	5				
			Directly cast	off	

- Waste yarn turns: It is the same parameter with the "<u>Waste yarn mark</u>" 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 in the same direction of the yarn carrier		

• Cancel once (1):

σ	σ	τ	τ	τ	σ	Π	7	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	Г	τ	σ	σ	σ	σ			Ī
×	τ	σ	σ	σ	σ	Π		5	σ	σ	σ	τ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ		Г	5	σ	σ	σ	σ	×		I
σ	σ	σ	σ	75	3		1	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ		σ	σ	σ	σ	σ	75		
		σ	σ	σ	σ		10	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ		σ	σ	σ	σ				
		σ	σ	σ	σ		10	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ		σ	σ	σ	σ				
		×	σ	σ	σ		10	σ	$\boldsymbol{\nabla}$	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ		σ	σ	σ	×				
		σ	σ	σ	σ		10	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ		σ	σ	σ	σ				
				75	0			5	5	σ	0		5	σ	0	σ	σ	σ		7	0	75	5		Γ		5						
				σ	σ		1	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ		σ	σ						
				×	σ		T	σ	$\boldsymbol{\Sigma}$	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ		σ	×						
				σ	75			σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ		σ	σ						
							10	σ	σ	σ	σ	$\overline{\mathbf{v}}$	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	75	75	F								

• Cancel once (2):

Г	σ	σ	τ	σ	٦		σ	7		1	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	
	×	σ	σ	σ			σ		2		σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	×	
	σ	×	75	75			τ				75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	X	75	
			σ	σ	7		σ		7	1	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ			
			σ	σ			σ	7	7		σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ			
			×	σ			σ	7			σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	75	×			
			σ	×			σ				σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	75	σ	σ	×	σ			
					R		σ				σ	σ	σ	σ	σ	σ	σ	σ	σ	2	2	σ	σ	σ	σ	σ	σ	σ	σ	σ					
					7		σ	7	2		σ	σ	σ	2	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	2	σ					
					>	:	σ	7	7		σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	×					
					R		×				σ	σ	σ	σ	σ	σ	σ	σ	σ	2	2	3	σ	σ	σ	σ	σ	σ	×	σ					
								7			σ	σ	σ	σ	σ	σ	3	σ	σ	σ	σ	σ	σ	75	σ	σ	σ	37							
								7			σ	σ	σ	37	σ	σ	3	σ	σ	σ	σ	3	3	σ	σ	σ	σ	σ							

#### • 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.

Advance sett	ing	×
Narrowing type Yarn and Param Other	Waste yarn         Waste yarn mode         Spun cotton         Spun cotton         Removing and adding stitch         Min. tuck needles         Effective         7         Hide color         16         Yarn Setting         Without Pick Yarn         10         Take yarn back to         1-handle for Yarn         7         Dual system folder while using a yarn mouth         Package Mode         Shovel pin tuck         Comb auto press yarnmode         Auto press yarn use waste yarn	
	OK Cancel	

- 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:

10	<u> </u>	ਿਠਿੰ	ठि	ठि	ठि	ठे	ठें	ठें	ਠਿੰ	ਠੰ	ठें	ठि	ठें	ਠੰ	ਠੰ	ਠੰ	ਠੰ	ਠੰ	ਠੰ	ਠੰ	ਠੰ		225		226
9	<u></u> ਨ	2 <del>8</del> ,	, <mark>ઝ</mark> ્ર	୫ <sub>×</sub>	୫ <sub>×</sub>	ಕ್×	δ× <sub>×</sub>	ಕ್×	ર° ૪×	$\mathcal{S}_{\times}^{2}$	୫ <sub>×</sub>	୫ <sub>×</sub>	ಕ್ಕೆ	$\mathcal{S}_{\times}^{2}$	<mark>ઝ</mark> ×	ಕ್×	୫ <sub>×</sub>	ಕ್×	୫ <sub>×</sub>	δ× γ	ಕ್×		225		226
8	đ	* <mark>우</mark>	ਠੱ	₽,×	ठँ	₽,	ठँ	<b>♀</b> <b>↓</b> ×	ť	₽,×	ť	₽,	ठँ	₽,	ъ,	₽×	Ť	₽×	ᢆᢐ	₽,×	ъ×́		225		226
7	<del>ب</del>	, <del>ਨ</del> ੱ	<b>₽</b> •×	<del>ਨ</del> ੱ	₽,	ठँ	₽,×	ठँ	₽×	₹	₽×	ठँ	₽,×	ᢆᡷ	<b>♀</b> ×	₹	<b>♀</b> ×	₹	₽×	ᡷ	<b>♀</b> ×		225		226
6	đ	<u>*</u> 우	ठँ	₽,	ठँ	₽,	ठँ	<b>♀</b>	ť	<b>Q</b>	<del>र</del> ्ट	₽,	ठँ	₽,	₹	₽,×	ᡷ	₽,×	ᡷ	₽,×	₹		225		226
5	đ	× P	ಕ್×	ъ	र् <del>डें</del>	<b>♀</b>	$\mathcal{S}_{\times}^{2}$	R	₹	₽×	ಕ್ಕೆ	R	<del>र्</del> ट	₽×	$\mathcal{S}_{\star}$	ъ	<del>र्</del> ट	₽×	ಕ್×	Σ	<del>र्</del> ट		25	3	226
4	<del>ک</del>	, <del>ਨ</del> ੱ	<b>₽</b> •×	₽ ₽	₽,	ठँ	₽,	ठेँ	₽,×	ठँ	₽,×	ठँ	₽,	ठॅं	<b>₽</b> ×	ਠੈੱ	₽,×	ठँ	₽,×	ᡷ	₽×		225		226
3	đ	× P	Ъ	₽× ₽×	र् <del>डें</del>	<b>♀</b>	रुँ	<b>♀</b> •×	₹	₽×	₹×	<b>우</b>	र् <del>ट</del>	₽×	₹	₽×	<del>र्</del> ट	₽×	<del>र्</del> ठ	<del>ç</del>	<del>र्</del> ट		225		226
2	<del>ک</del>	×	₽₹		<u>ନ</u> ୍×		₽₹		<b>우</b>		₽×		<b>₽</b> ×		ъ́х		₽×		ᡱ		₽,×		225	1	226
1	<u> </u>	×-	₽.		<u>ਤਿੱ</u>		₽.		<del>ਨ</del> ੇ		<b>₽</b> *		<del>ਤ</del> ੱ		<b>우</b> *		ᡃᢋ		₽.		ठॅं	-	225		226
	<									_											>		<		
	Pattern	Org	anizat	ion	Densi	ty																			

- > 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 Open
- > Select the expected specification chart.

# 7.6.3 Load the specification chart

Left-click the button

	Load
5	*. hqf *. rnf

# 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).

Use weave diagram?	Compilation       Save path         Save Path       File name         C:\Documents and Settings\Administrator\My Documents       KnitCA1         Model options       Encryption Enabled         Model options       Variable Densil         Single syste       Dual syster       1+1 system         System 3       Cam 2+2       System 4
selection	Yarn SettingExpandSettingMult-PiecesAllAllAllAllAllAllLefRigFormLefRigForm1 (L1) $\checkmark$ N9 (R1) $\checkmark$ N2 (L2) $\checkmark$ N10 (R2) $\checkmark$ N3 (L3) $\checkmark$ N11 (R3) $\checkmark$ N4 (L4) $\checkmark$ N12 (R4) $\checkmark$ N5 (L5) $\checkmark$ N13 (R5) $\checkmark$ N6 (L6) $\checkmark$ N15 (R7) $\checkmark$ N8 (L8) $\checkmark$ N16 (R8) $\checkmark$ N
	Intarsia Set intarsia yarn carrier Compile Exit

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 <u>pattern encrypted</u>.
    - 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.

Kni tCA1	31 KB	KnitCAD Document
📴 Kni tCA1	19 KB	001
📷 Kni tCA1. CNT	87 KB	CNT 文件
📷 Kni tCA1. PAT	201 KB	PAT 文件
📷 Kni tCA1. PRM	1 KB	PRM 文件
📷 Kni tCA1. SET	8 KB	SET 文件
📷 Kni tCA1. YAR	11 KB	YAR 文件

*Enhancement: Only generate 001 file.* 

Kni tCA1	31 KB	KnitCAD Document
🦳 Kni tCA1	19 KB	001

- Tirectly: 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.

Kni (CAI	31 KB	KnitCAD Document
Kni tCA1	19 KB	001
🗐 Kni tCA1HQ. CNT	85 KB	CNT 文件
🚍 Eni (CA1HQ, PAT	201 KB	PAT 文件
🖬 Kni tCA1HQ. PRM	1 KB	PBM 文件
🖬 Kni (CA1HQ. SET	8 KB	SET 文件

- Transformation of the support of the
- 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 <u>Intarsia and Jacquard Drawing</u>.

# 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.

Compilation option	ns
Save Path	File name
C:\Documents and Settin	ngs\Administrator\My Documents KnitCA1
Save pattern data	Use the organization     Encryption Enabled
C Normal 🤄 Enha	ncemeni C Directly se C Picasso 🔲 Variable Densil
C Single syste 🖲 Dual	system C 1+1 system C System 3 C Cam 2+2 C System 4
Yarn Setting Expand	Setting   Mult-Pieces
Intarsia	Yarn feeder In and Out Setting
Jacquard	Drag yarn type NULL
Joint	Floating length 7
Auto process	Knitting interval 3
	Yarn Move
	Drag yarn type NULL 💌 Prohibit 3
	Floating length 6
	Knitting interval
	1 Stroke
	staggered Tuck interval 1
	✓ Automatic Use tuck 15
	Plus 1 needle(Fst)
	▼ Plus 1 needle(Sec) ▼ Minus 1 needle(Sec)
	Plus 1 needle(Jacquard)
Compile	Exit

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

Yarn feeder In and Out Setting				
Drag yarn type	Drag yarn type 🛛 NULL 📃			
Floating length	NULL			
Knitting interval	F tuck + R knit			

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

- Yarn Move:
  - The take yarn type include

Varn Mova	
Tarrinove	
Drag yarn type	NULL 🔽
	NULL
Floating length	Tuck
	F tuck + R knit
Knitting interval	3

- 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.
- F 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.
    - $\diamond$  Connection modes include



- $\diamond$  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.
- The pattern is intarsia or partial jacquard, check automatic will get better joint effect.

### 8.1.2.2 Jacquard Setting

Jacquard Setting

Yarn Setting Expand	Setting Mult-Pieces
Intarsia	Floating processing
Jacquard	Drag yarn type 🛛 F tuck + R knit 💌
Joint	The tuck position Uniform 🗾
Auto process	Tuck interval 3
	Floating length 6
	Space Knit and tuck 1
	Lycra
	Yarn 7
	Param 23
	Second Lycra yarn 14
	Second Lycra 23
	Part Jacquard transfer segment
	Single To Full Knit 22
	Full Knit Tranfers To 21

- 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

The tuck position	Uniform 📃
Tuck interval	Align Uniform
Eloating length	Center

♦ 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

Intarsia	Sided tissue tuck connection			
Jacquard	Tuck C Front tuck C Back Tuck			
Joint				
Auto process	Cancel Tuck-Jacquard			
	□ 231 □ 232 □ 233 □ 234 □ 235 □ 236			
	237 238 239 241 242 243			
	🗖 244 🗖 245 🗖 246 🗖 247 🗖 248 🗖 249			
	- Cancel Tuck-Intasia			
	Tuck Type			
	Tuck First Knit After(Heat C Knit First Tuck After(Ta			
	Tuck use Tuck 2			

- 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

Yarn Setting Expand	Setting Mult-Pieces
Intarsia Jacquard Joint Auto process	Eage Auto Yarn Greater than 30 Edge knit Distance verstep 80 Warning
	Yarn Auto Pick In Forward
	Yarn In forward 0 Type NULL
	Yarn following type     Tuck(1)     Level     20
	Auto Doffing Setting Interval of doffing 1 Doffing Times 2

- 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 transfer:

Edge tucks:



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



F Knitting (1)



F 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.

Yarn Setting Expand Setting Mult-Pieces	
Parameter settings Same guide yarn safe 70 Different rail safety needle 12 Empty rows specified 22 I Default System Lock non lock I	Estimate time setting Machine 12 G Speed 0.7 m/s
Optimization Options  Intarsia Optimization  Combine Kick Carr  Automatic locking system  Combined knit and transfer	
Auto process 1×1conversion Auto Shaker * position Auto Yarn Stop Tuck act high position without yarn	

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  $1 \times 1$  conversion: racking  $\times 2$ , carrier range (YAR) conversion and stitch length  $\times 2$ .
      - $\diamond$  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.

arn Setting   Exp	and Settin	g Mult-Piec	es			
<ul> <li>Mirrored kn</li> <li>Enable</li> <li>Number o</li> <li>Use 1-f</li> </ul>	itting f <mark>6</mark>	➡ Sj aste yarn	Cor	nb	<mark>Density se</mark>	tting
original pat	Mirrore	Piece1	Piece2	Piece3	Piece4	Piece5
1	1	1	1	1	1	1
2	2	2	2	2	2	2
3	3	3	3	3	3	3
5	5	5		5	5	5
<				Set the multi-p	yarn carri ieces	ers of

- 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.

Yarn Setting Expand Setting Mult-Pieces							
✓ Mirrored kn ✓ Enable Number o ✓ Use 1-f	itting f 1 eeder for wa	▼ aste yarn	Space	Comb		<mark>Density setting</mark>	:
original pat	Piece1						
1	1						
2	2						
3	3						
5	5						
1							

> 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.

<b>Lulti Piece</b>	es-Densi	ty Setting	×
🗖 Enable			
Originally d	Piece1		
1	1		
2	2		
3	3		
4	4		
5	5		
6	6		
20	20		
21	21		
23	23		
1			
		CLose	

# 8.2 View the compiling information

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

Compilation information					
<b>SML EDIT U Save path of all files</b>	1. The lines of CNT file 2. The needles of the pattern file				
C:\Documents and Settings\Administrator\My Documents\KnitCA1					
CNT Row: 1014 Width: 778					
Cycle CNT row count : 0	All cycle CNT lines = Cycle				
Tam start POS.:	number * Cycle lines- 1				
Yam No. (L):L1 L2 L3 L5	Start positions of yarn carrier				
Tam No.(R):					
Yarn end POS.:	End positions of yarn carrier				
📕 Yarn No.(L):L1 L2 L3 L5 🛛 🚽					
Yarn No.(R):					
Knitting Time:55 min18 sec12.0G Speed0.70m/s	Knitting time				
Carriage speed: 1 2 3 4 5 6 7 8 13 15 16 24					
🗏 Main Rolle: 1 2 3 4 5 6 7 8 13 14 15 16 18	Section of carriage speed, main				
Density: 1 2 3 4 5 6 7 8 13 14 15 16 24 roller and stitch					
E Compile OK	· · · · · · · · · · · · · · · · · · ·				

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).

C Raynen KnitCAD	IKnitCAL.R	HEI					
🚰 Fil+(2) #4it(2) To	calbar (I) Opti	ons(0) Lookup (0) 4	ladals 🕐 Fattern Lib 🕐	Window (2) Help (3) Contact Us (2)			
「鹿田中」	+vill H	0 4 4 1	2001年間	「「「「」」の「「」」の「」」の「」」の「」」の「」」の「」」の「」」の「」			
Tauca on	so so			A N A A	40 48 1. Cycla		
	90			🚯 SML EDIT 🔂 🖉 🕄			
	96 95 94 93	Car RevSG 1 Pattorn Null Row/     Car RevSG 1 Pattorn Null Row/     Car Row151 1 Pattorn Null Row/     Car Row151 1 Pattorn Null Row/     Car Row151 2 Pattorn Null Row151 2 Pat					
				Cyde OVT row count : 78 Cyde OVT row count : 78 Yam start PO5.:	Click to prompts warning, the system		
	77 76 76 74			Yam No.(I) / L LS	iump to the current line.		
	72 71 70			Yan No.(R): Kritting Time/7 min54 sect2.06 Speed	0.70m/s		
	67 67			Carriage speed: 1 2 3 4 5 6	7 8 14 15 16 8 14 15 16		
	(6 _						

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

#### SML

> 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
Kni	tting analog control setting	s 🔀
Si	mulation sign   Background   Display direct 🔽	Select color sche 3
	Simulation sign	
	<mark>8</mark> Knit, tuck	Change Color
	old knitting, old tucking	Change Color
	ک <mark>2 section density</mark>	Change Color
	Split stitch	Change Color
	ODouble stitches	Change Color
	Transfer	Change Color
De	fault Value OK Can	cel Apply

Fig. 7 "Knitting Simulation Control Setting" Dialog Box

#### 8.2.2 All Viewer

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

	KnatCAL.001	- #1)920000	
Les vertrage Det 101 101 101 100 1000 2010 2010 2010		PAT chart	
None         The List         The List         CNT           Image: strain strai	chart Shaker Bhaker Bhaker Bhaker Bhaker Bhaker Shaker Shaker Shaker Shaker Shaker Shaker Shaker Shaker		

Fig 8 "PAT Edit" Window

- > YAR
- Click the icon **TAR** (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.

Same -	Keit%CA1,001 - AllViewer
Des serves Crites Crites Crites	Start needle point of yarn car <b>r</b> ier on corresponding
A System No. Drag pr Yar Diff Yarn carrier of the system on corresponding row	87tt R. P Writ R. P 1 100
	Movement direction of the corresponding Mac direction
Corresponding CNT row	
Movement trail of yarr corresponding row	n carrier on

Fig 9 "YAR Chart" Window

- ➢ View CNT chart
  - Click the icon<sup>[67]</sup> 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 "<u>Function Line</u>" 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. 12 "PAT Edit" Window

45

CHIT III

Color code

0 1

B

Dinul ty

needle p. et diret tas

nin Roll-ice rolle: veder stoparz diota Bud annih rad dmess Speed

ra needl oker Sp

ΞĒ

utty

il vites

1 1

Parameters of

knitting row

100

•

10 M

5

The used yarn carriers

3

8

11

7

Click the button	, the cycle nu	mbers and r	rows could b	e viewed(see Fig 13)
	Cycle			
	Begin 14	End 15	Times 20	
	Pre Page		Next Page	

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  $\rightarrow$  Drawing pattern  $\rightarrow$  Set the yarn carrier  $\rightarrow$  Set and

modify the Parameter of knitting specification  $\rightarrow$  Automatic

process  $\rightarrow$  Check program  $\rightarrow$  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).

Select canvas	size	×
select size		
○ 512×512	C 512×1024	
C 512×2048	1024×1024	
C 1024×2048	C 2048×2048	
	Width Height	
C Custom size		
Initial color	0	
ОК	Cancel	

➢ 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.

Compilation options	
Save Path	File name
C:\Documents and Settings\Administrator\My Documents	KnitCA1
✓ Save pattern data ✓ Use the organization ✓ Encry ✓ Model options	ption Enabled
○ Normal ⓒ Enhancement ○ Directly se ○ Picasso	🔲 Varia

- 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.

Dens	ity se		×		
÷	10	õ	1	20	cm
ţ.	10	5	1	20	cm
				ОК	

σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	
σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	σ	
σ								75	σ	σ	σ	σ	σ	σ	σ	σ	ļ
σ		σ	σ	σ	σ	σ		Siz	e r	f	ove	lec	la	rea	. 7.	9	
σ		σ	σ	σ	σ	σ		σ	14	. 00	Ocm	, 18	3. 00	Ocm	5	3	
σ	( T )	σ	σ	σ	σ	σ	6	5	σ	σ	σ	σ	σ	σ	σ	σ	
σ		σ	σ	σ	σ	σ		σ	σ	σ	σ	σ	σ	σ	σ	σ	
σ		σ	σ	σ	σ	σ		5	σ	σ	σ	σ	σ	σ	σ	σ	
σ		σ	σ	σ	σ	σ		5	σ	σ	σ	σ	σ	σ	σ	σ	
σ		σ	σ	σ	σ	σ		0	σ	σ	σ	σ	σ	σ	σ	σ	
σ								σ	σ	σ	σ	σ	σ	σ	σ	σ	

➤ 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:

gation	×	Р	1 2 3 4 5 6 7 8 9 10 1
Kni tCA1			Select current color
		15	Replace color
		_	- Cut
		14	Conv. Z
		13	Paste
Kni tCA2		_	Copy with Funtion Line
		12	Paste with Function Line
		11	Save selected module
		10	Center Line
		_	Reset shape design center line
		9 	Size setting
		8	Color selection and copying in a single row
		7	Send Knit files to
		_	Send all files to
		б	Copied to the organization chart 7
		_	Copy to the density chart
		5	Select current color

- 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 in the toolbar. The shape window is as follow, input the knitting specification and parameters. Operations refer to <u>shape design</u>.

уз Туре	Single system 💌	Tel		usae1								Preview
Z Rody symp	ates V Nack strength		Hevelu	Fordle	Tines	Form	Hargin	Hids	Effec.	Raitting	Xeight	
and Manufaci	169	1	191	-3	1		0	û.	0	1	195	
	Constant and	2	2	-3	8		4	1	0	1	207	
Renowing	lone Line	9	3	-3	4		4	1	0	1	219	
lart offset	0	4	4	-3	2		4	1	0	1	227	
leces	Al •	5	4	-2	1		0	0	0	1	231	
eck Setting		6	45	0	1	Nork	0	α	0	1	276	EN 17
eck.	V-Neck •	7	7	0	1		0	0	0	1	283	$  \downarrow \downarrow \downarrow$
" Split	1	8	27	0	1	Varia	0	0	0	1	310	
Veck-Intels	ska	9	22	0	1		0	0	0	1	332	
P Neckbotti	Waste varn doft 💌	10	0	0	1		0	0	0	1	332	
idth	43	11	0	0	1		0	0	Ú.	1	332	
ffset	0	12	0	0	1		0	0	0	1	332	
oller Position	1 martin	13	0	0	1.		0	0	0	1	332	
Without about	Autom-	14	0	6	1		0	0	0	1	332	
ante vern me	and a second	15	0	.0	1		0	0	0	1	332	
Waste varn	40	16	0	0	1		0	α	0	1	332	Stitches: 0,Revolutions:0.0,Cloth Walth:3
F		ŝΤ.	0	8	1		0	0	0	1	332	
201 100		18	0	0	1		0	0	0	1	332	Chedk
sta lunn	1 100. •1	19	0	0	1		0	0	0	1	332	Total rows 0
rep Knit	120	20	0	0	1		0	0	0	1	332	Left Arra 0
Pattern	To Keep Parents	21	0	0	1		0	0	0	1	332	Right Arm 0
enter	Row	22	0	0	1		0	0	0	1	330	Neck Rows 0
rep above ttoX>-< sep below an ap kwep		Con F	nb group Ribbing Type Ribbing Trans	Rib1×1 Normal Kni	•	Ri Ribbi	bbings 10 ng set Bad	1	Tuba	dar height 1.5 Doffing Rea	hat 💽	Needles 0 Left body 0 clipping dawn0 Top 0

• 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 "<u>Color code</u>" 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 "<u>Function Line</u>" 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 "<u>yarn settings</u>" page.

Yarn Setting	Expand	Setting Mu	lt-Pieces		
All Lef 1 (L1) 🔽	All Rig	All Form	All Lef 9 (R1)	All Rig	All Form
2 (L2) 🔽 3 (L3) 🔽 4 (L4) 🔽			10 (R2) 11 (R3) 12 (R4)	ব্ব	
5 (L5) 🔽 6 (L6) 🔽 7 (L7) 🔽			13 (R5) 14 (R6) 15 (R7)	<u>र</u> द द	
8 (L8) 🔽	-in (	N	16 (R8) 🥅	•	N
	sid				

Set the optimization options and automatic process in the "<u>Setting</u>" page.

Yarn Setting Expand Setting Mult-Pieces	
Parameter settings	Estimate time setting
Same guide yarn safe 70	Machine 12 G
Empty rows specified 22	Speed 0.7 m/s
System Lock non lock	
Optimization Options	
✓ Intarsia Optimization Combine Kick Carr	
Combined knit and transfer	
Auto process	
1×1conversion	
Auto Shaker * position	
🔲 Auto Yarn Stop	
Tuck act high position without yarn	

#### 9.7 View the compiled file and knit

➤ Check the knitting file through "<u>All View</u>", "<u>PAT Edit</u>", "<u>Knitting Simulation</u>", and "<u>De-compilation</u>"

Send knitting file to the U disk

# 9.8 Summing-up

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

# **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);

243

244

242

241

- 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.







245

246

247

249

248

# Waste yarn Waste yarn Jacquard area Nibbing

#### 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<sup>188</sup> 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.

Compilation options	
Save Path       File na         C:\Documents and Settings\Administrator\My Documents       Jacq	uard
✓         Save pattern data         ✓         Use the organization         ✓         Encryption Enable           Model options	ed
C Normal C Enhancement C Directly se C Picasso	🔲 Variable Densil
C Single syst∉	C System 4

#### 10.2.4 Lycra Type Setting (L 213)

Set the Lycra type according to the demands.

20		
213	1	4:Rotary distance
213	1	Tuck without JQD
213	1	1:Front/ back 1*1 tuck 2:Front/ back full-tuck
213	1	3:Front 1*1 tuck 4:Back 1*1 tuck
213	1	5:Front Tuck 6:Rear tuck
213	1	7:1*1 tuck
213	1	11:Front/ back 1*1 tuck(1round) 12:Front/ back full-tuck(1round)
213	1	13:Front 1*1 tuck(1round) 14:Back 1*1 tuck(1round)
213	1	15:Front tuck(1round) 16:Back tuck(1round)
213	1	17:1*1 tuck(1round)

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

Yarn Setting Expand	Setting Mult-Pieces			
Intarsia	Intarsia Floating processing			
Jacquard	Drag yarn type F tuck + R knit 🔽			
Joint	The tuck position Uniform 💌			
Auto process	Tuck interval 3	Lycra carrier and levels		
	Floating length 6	jacquard color codes in the		
	Space Knit and tuck 1	first group		
	_Lycra			
	Yarn 7			
	Param 10			
	Second Lycra yarn 14	T		
	Second Lycra 10	corresponding to 241-249 in		
	Part Jacquard transfer segment	the second group		
	Single To Full Knit 22			
	Full Knit Tranfers To 21			

#### 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.

Yarn Setting E	xpand Setting Mult-Pieces	Select type of yarn: no process, tuck and front tuck plus back knit	
Intarsia	Varn feeder In and Out Se	etti	
Jacquard	d Drag yarn type NL	ILL	
Joint	Floating length 7	The distance is less than the num	nber
Number of interval need	dle Knitting interval 3	hasn't the yarn moving process	rner
between two adjacent tuo	cks Yarn Move		
is valid only after selection	Drag yarn type Tu	ick 🔽 Prohibit 🛛 🗹	
of tack.	Floating length 6	Select the tw	na of
· · · · · · · · · · · · · · · · · · ·	Knitting interval 3	connection:	no
than the number of stitche	1 Stroke	process, tuck	and
is prohibited without yar	n staggered		
mouth move	Automatic	Use tuck 15	
	Plus 1 needle(Fst)	) Minus 1 needle(Est)	
	Plus 1 needle(Sec	) 🔽 Minus 1 needle(Sec)	
	📕 Plus 1 needle(Jaco	quard) 📃 Minus 1 needle(Jacquard)	

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

Yarn Setting Expand	Setting   Mult-Pieces	Select the type of yarn for	
Intarsia	Floating processing	loose stitch treatment.	
Jacquard	Drag yarn type F tuck + R knit		
Joint	The tuck position Uniform		
Auto process	Tuck interval 3	Select the position of tuck:	
	Floating length 6	alignment, uniformity and	
	Space Knit and tuck 1	center.	
	Lycra	Will an Inside the Language state	
	Yarn 7	the knitting parameters. Such	
	Param 23	as density, speed, roller and	
	Second Lycra yarn 14	so on.	
	Second Lycra 23		
	Part Jacquard transfer segment	Set the level of parameters	
	Single To Full Knit 22	instarsia.	
	Full Knit Tranfers To 21		

• Connection:

Yarn Setting Expand Intarsia Jacquard	Setting       Mult-Pieces         Sided tissue tuck connection       Tuck         Tuck       Front tuck         Front tuck       Bac
Auto process	Cancel Tuck-Jacquard       for the nearest tuck of the front and the nearest rear tuck connection for the nearest tuck of the rear.         231       232       233       234       235       for the nearest tuck of the rear.         237       238       239       241       242       244       245       246       247       248       249
	Cancel Tuck-Intasia
	Tuck Type       Select the type of tuck.         Image: Tuck First Knit After(Heat Image: Knit First Tuck After for the type of tuck.
	Tuck use Tuck-2 Tuck 2th stitch (Tight tuck)

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

Yarn Setting Expand	Setting Mult-Pieces	The edge will be knitted if the distance is
Intarsia	Eage Auto Yarn	longer than 30.
Jacquard Joint Auto process	Greater than 30 Edge knit	Warning prompt will be given if the
	Yarn Auto Pick In Forward Yarn In forward	distance is longer than 80.
	Yarn following type Tuck(1)  Level 20	Set the number of rows and times of
	Auto Doffing Setting Interval of doffing 1 Doffing Times 2	interval cropping.

• Setting:

Determine the combined Yarr	n Setting Expand Setting Mult-Pieces	
stitch number for yarn	Parameter settings	Estimate time setting
stitch number for yarn carriers of same or different guide tracks. The knitting range of the two yarn carriers with the stitch number less than the combined one will be deemed unsafe. Determine whether to combine the V-neck with the split knitting of intarsia, i.e. to knit the right and the left part of the V-neck at the same row simultaneously or to knit different collided parts of intarsia simultaneously.	Parameter settings         Same guide yarn safe       70         Ifferent rail safety needle       12         Empty rows specified       22         System Lock       non lock         Optimization Options       ✓         Intarsia Optimization       Combine Kick Carr         Automatic locking system       Combined knit and transfer         uto process       1×1conversion         Auto Shaker * position       Auto Yarn Stop	Estimate time setting Machine 12 G Speed 0.7 m/s Set the type and speed of stitch and compile and estimate the time required for knitting.
	I uck act high position without yarn	

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.

Compilation information	X			
C:\Documents and Settings\Administrator\My Documents\KnitCA1				
CNT Row: 1010 Width: 233				
Cycle CNT row count : 0				
E Yarn start POS.:				
E Yarn No. (L):L1 L2 L3 L4 L5				
Yam No. (R):L6				
E Yam end POS.:	≣			
Tarn No.(L):L1 L2 L3 L4 L5				
I Yam No. (R):L6				
Knitting Time:22 min28 sec12.0G Speed0.70m/s				
E Carriage speed: 1 2 3 4 5 6 7 8 9 14 15 23 24				
🗏 Main Rolle: 1 2 3 4 5 6 7 8 9 14 15 23				
📃 Density: 1 2 3 4 5 6 7 8 9 14 15 23 24				
Compile OK!	~			

# **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**

 $\succ$  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.

Yarn settings Expand	Setting	
Intarsia	Floating processing	
Jacquard	Drag yarn type 🛛 Rear knit 📃 🔽	
Joint	The tuck position Uniform	
Auto process	Tuck interval 3	
	Floating length 6	
	Space Knit and tuck 1	

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

Cancel Tuck-Jacquard						
231	232	233	234	235	236	
237	238	239	241	242	243	
244	<u> </u>	246	247	248	249	

• 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 219—carrier 9

Color code 211—carrier 1Color code 212—carrier 2Color code 213—carrier 3Color code 214—carrier 4Color code 215—carrier 5Color code 216—carrier 6Color code 217—carrier 7Color code 218—carrier 8

#### **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

Compilation information	×
C:\Documents and Settings\Administrator\My Documents\KnitCA1	J
CNT Row: 454 Width: 250	
Cycle CNT row count : 0	
Yarn start POS.:	
E Yarn No.(L):L2 L3 L5	
E Yarn No.(R):	
Tarn end POS.:	
E Yam No.(L):L2 L3 L5	
Yarn No.(R):	
E Knitting Time:9 min55 sec12.0G Speed0.70m/s	
E Carriage speed: 1 2 3 4 8 9 23 24	
🗏 Main Rolle: 1 2 3 4 8 9 23	
E Density: 1 2 3 4 8 9 23 24	"
E Compile OK	

#### **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

100

, 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

 $\triangleright$ 

> 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

Yarn settings Expand	Setting
Intarsia	Sided tissue tuck connection
Jacquard	Tuck     C Example C Back Tuck
Joint	Cancel the tuck of the jacquard color
Auto process	Cancel Tuck-Jacquard code for ornament stitches
	✓     231     ✓     232     ✓     233     ✓     234     ✓     235     ✓     236       ✓     237     ✓     238     ✓     239     ✓     241     ✓     243
	244 245 246 247 248 249
	Cancel Tuck-Intasia
	□ 218 □ 219 □ 201 □ 202 □ 203 □ 204 □ 205
	□ 206 □ 221 □ 222 □ 223 □ 224 □ 225 □ 226

> 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 intersia 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

- $\succ$  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.

#### Computerized Knitting Machine Pattern Design System of Raynen

JQD Back		
JQD Back type: Deer	Space 1×1  Space 1×1  Pocket Single jacquard	Run Cancel JQD Back Restore Defaults advanced parame
Auto processing param          One row without back         Design JQD Back when Separate         Treatment of adding and Change         Use jacquard code	the non-treatment needles Needles of Gap height of filling	; 0 <b>•</b> f 0 a 20

#### **11.2.1 Back structure**

Back type

JQD Back type:	Deer	•
ype of JQD Back	Luzi vertical bars	
Connection type	Deer	
connoccion cypo	Select All	
· · · · · · · · · · · · · · · · · · ·	Sesame points	
pecial jacquard i	Mesh	

➢ Interval: Used with back type.

Space	1×1	-
	Null	
ont	1×1	
	1x2	
	1x3	
	1x4	
	1×5	

#### 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.

JQD Back		
JQD Back type: The type of JQD Back Connection type Special jacquard r Part backside Part Integral	Deer Luzi vertical bars Deer Select All Sesame points Mesh	Space 1×1  ont  Pocket Single jacquard
Auto processing p One row with Design JQD B Treatment of Use jacquard	oaram out back ack when Separate adding and Change code	the non-treatment needle Needles o Gap height of fillir



- 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
- *The second of the second of t* 
  - 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.

JQD Back	
JQD Back type: Dee The type of JQD Back ver Connection type Dee Special jacquard range	x Space 1× tical bars ont tice color as ground
Part backside	e 🗌 Pocket
Auto processing para	m back the non-treatme when Separate
✓ Treatment of add ✓ Use jacquard cod	ing and Change Gap hei¢ e

**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.

σ	σ	σ	σ	σ	σ	σ	σ	σ	ফ	σ	σ	σ	σ	σ	σ	σ	σ	σ	8
σ	σ	σ	σ	σ	σ	σ	σ	σ	ফ	σ	σ	σ	σ	σ	σ	σ	σ	σ	<u>ठ</u>
σ	σ	σ	σ	σ	σ	σ	σ	σ	ফ	σ	σ	σ	σ	σ	σ	σ	σ	۲	The Jacquard ranges
σ	ਰ,	ত	ਨ	σ.	<u>σ</u>	<u>σ</u>	σ.	σ.	<b>क</b>	ত্	σ.	ठ.	ਹ,	σ.	σ.	छ.	छ.	٦	selected by vellow
σ	σ	σ	σ	σ	চ	σ	σ	σ	ফ	σ	σ	σ	σ	σ	σ	σ	σ	٦	selected by yellow
σ	ত্	<u>छ</u>	ਰ	ਹੁ	ত্	छ.	ਹੁ	চ	ফ	ত	ਹੁ	ਲ	σ,	ਹੁ	ਹੁ	ਲ_	ত	٦	color are segments.
σ	σ	σ	σ	σ	ত	σ	σ	σ	ফ	σ	σ	σ	σ	σ	σ	σ	σ	σ	<u>ठ</u>

> 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**

Connection type	Same color as ground 📃
-Special jacquard r	NULL Same color as ground
Dart backside	Front tuck + Back knitting on the back first row
	Back knitting and foront tuck changed to 1×1
Part Integral	Back tuck using 1×1 advance one row to Front and Back knit
	advance two row to Staggered Front and Back
-Auto processing p	Split stitch
	Auto Same color as ground and Split stitch

> 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.

Yarn Setting Expand	Setting Mult-Pieces
Intarsia	Floating processing
Jacquard	Drag yarn type Front Tuck
Joint	The tuck position Uniform
Auto process	Tuck interval 3
	Floating length 6
	Space Knit and tuck 3
	Lycra
	Yarn 7
	Param 23
	Second Lycra yarn 14
	Second Lycra 23
	Part Jacquard transfer segment
	Single To Full Knit 22
	Full Knit Tranfers To 21

#### 11.2.5 Special jacquard range

Special jacquard range	
🔲 Part backside	Pocket
Part Integral JQD	Single jacquard

> Part backside: Only effective for selected area.

P	 June 10 10 10 10 10 10 10 10 10 10 10 10 10
10	JOD Back
-	JQD Back type: Deer 💌 Space 1x1 💌 Run
2	The type of 3QD Back Back range same as front
	Scelal tacquard range
	Part backside Pocket
	Part Integral JQ0     Single Jacquard     advanced parameter
The circled	Auto processing peren
area	Cone row without back the non-breatment needles 0
	Trestment of adding and Change Gap height of filling 20
	P Use lacquard code
	Add Jacquard color color Color
30	

- > 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.

,	80	81	82	83	84	85	86	87	88	89	90	91	92	93 94 95 96 97 98 99 6. JQD Back mark
			δ		δ		δ		\Q <sup>±</sup>		δ		3	, ठ ठ, ठ <u>८</u> 206 1 207
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			2		Σ		Ծ_		Σ		ফ_		2	JQD Back type: Deer Space Ix1 Run
5	ত	ত	য,	ত_	ত,	ত_	ত_	ক	ত_	ত_	ক	ক	স্থ	The type of JQD Back Back range same as front
			2		3		Σ		হ		3		ъ	Connection type Same color as ground
5	ত	σ	ত্	হ	ত্	হ	ত	ত	ত	ত	ত	ত	স্থ	Special Jacquard range         Restore Defaults           □ Part backside         ☑ Pocket
			ত		σ		ਠ		ত		ਠ		70	Part Integral JQD     Single jacquard     advanced parame
5	ত	Σ	ক	Ծ	ᢧ	Ծ	ক্	তৃ	<b>ত</b> ়	ফ_	ক্	ফ_	স্থ	Auto processing param
			σ		2		ত	_	Σ	_	Σ		70	One row without back     the non-treatment needles
5	ত	Σ	ক	Ծ,	ক	ক্	ক	তৃ	তৃ	তৃ	ত_	ক	স্থ	Design JQD Back when Separate     Needles of 0      Treatment of adding and Change     Gan beinht of filling 20
			Σ		2		ত		Σ		ত		7	✓ Use jacquard code
5	ত	ত	ক	Ծ,	ক	ক	ক	ফ্	<b>ফ</b> ্	তৃ	ক্	ত_	স্থ	tid langed also falar falar
			Σ		σ		σ		Σ		σ		7	Add Jacquard color
5	ত	ত	Ծ,	Ծ,	Ծ,	ক	ক	ফ্	<b>ফ</b> ্	ফ্	ক	Ծ₊	70	
					δ		Σ		Σ		δ		75	
1>	ত	ত	ত কৃ	ক	ਹ ਨ੍ ਨ	হ	ੇ ਨ੍ ਨ	ন্	ੇ ਨੂ	হ	ੇ ਨ੍ ਨ	হ	ठ ठ ठ	

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

0 300 310 320 330 340 350 360 370 380	390 400 410 420 430 440 6. JQD Back mark
	JAN Pack
	JQD Back type: Deer  Space 1x1 Run
	The type of IOD Back All warp knit back
	Connection type Same color as ground
	- Special incruent range
	Restore Defaults
	Part backside
	Advanced parameters advanc
	Auto processing param
	Design JQD Back when Separate Needles of O
	Treatment of adding and Change Gap height of filling 20
	Add Jacquard color color Color
I he circled	
area 🔤 🔤 🔤	

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.

JQD Back       JQD Back       JQD Back       JQD Back type: Deer       Space       Ix1       Run         The type of JQD Back Back range same as front        Cancel JQD Back       Cancel JQD Back         Special jacquard range       Part backside       ✓       Pocket       Restore Defaults         Part Integral JQD       ✓       Single jacquard       Single jacquard       Single jacquard		الالالالا والمركبة والالالالي الألف تشمن منصف ففصف فنعف ف
JQD Back type: Deer Space 1x1 The type of JQD Back Back range same as front Connection type Same color as ground Special jacquard range Part backside Part backside Part Integral JQD Single jacquard advanced param		JQD Back 🗙
Auto processing param   Auto processing param		JQD Back type: Deer Space Ix1 Run The type of JQD Back Back range same as front Connection type Same color as ground Special jacquard range Part backside Part Integral JQD Single jacquard Auto processing param One row without back the non-treatment needles Design JQD Back when Separate Needles of D
The back stitch isn't descripted     Add Jacquard color     Color   Color	The back stitch isn't descripted	Treatment of adding and Change Gap height of filling

• Check it to descript in correct way.

JQD Back
JQD Back type: Deer Space 1×1 Run
The type of JQD Back Back range same as front  Connection type Same color as ground  Cancel JQD Back
Special jacquard range
Part Integral JQD     Single jacquard     advanced parame
Auto processing param
Design JQD Back when Separate Needles of      Treatment of adding and Change Gap height of filling  20
Use jacquard code
Add Jacquard color Color

## **11.2.6** Auto processing parameters

Auto processing param	
Auto processing param	
🔲 One row without back	the non-treatment needles 0
🔲 Design JQD Back when Separate	Needles of 0
🔽 Treatment of adding and Change	Gap height of filling 20
🔽 Use jacquard code	

> 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.

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• The effect of checking it.

270         275         280         285         290         295         300         305         JOD Back           5         5         5         5         5         5         5         5         5         5         5         100         305         JOD Back           5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         6         7         7         8         7 <th7< th=""> <th7< th=""> <th7< th="">         &lt;</th7<></th7<></th7<>	I
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<b>5 5 5 5 5 5 5 5 5 5</b>	
5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	Deer 🗾 Space
The lune of 100 Deals D	
	Back range same as front
<b>5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 </b>	Same color as ground
	-
<b>x x x x x x x x x x x x x x x x x x x </b>	ange
	Pocket
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	aram
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	out back the non-tre
TO T	ack when Separate
Treatment of ad	adding and Change Gai
<u>x x x x x x x x x x x x x x x x x x x </u>	,
	code
<u> </u>	

> 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.

•		Ĩ		-		-				ocket													
	Restore Defaults	<del>ا</del> ک	ত	σ	<u>ہ</u>	<u>ہ</u>	8 8	5 2	ত ত	ingle isr	auard			σ	ত	Ż	σ	σ	σ	σ	ত	ত	7
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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.

	JAD DACK
	10D Back type: Deer Space 1x1
	Run
	The type of 10D Back Back range same as front
	Carcel 10D Red
	Connection type Same color as ground
	Special jacquard range Restore Default:
	Pocket
	- I Part Integral JQD I Single jacquard advanced param
	Auto processing param
	One row without back the non-treatment needles U
	Design JQD Back when Separate Needles of 0
	Transmark of adding and Change and Links Colling
	Gap height of hilling 20
	Use jacquard code
	Add Jacquard color Color Color
	232
	JQD Back type: Deer Space
232 is descripte	JQD Back type: Deer Space
232 is descripte	JQD Back type:     Deer     Space       ted at back row     The type of JQD Back Back range same as front       Connection type     Same color as ground
232 is descripte	JQD Back type:       Deer       Space         ted at back row       The type of JQD Back Back range same as front         Connection type       Same color as ground
232 is descripte	JQD Back type:
232 is descripte	JQD Back type:       Deer       Space         ted at back row       The type of JQD Back Back range same as front         Connection type       Same color as ground         Special jacquard range       Image         Image       Image         Image       Image
232 is descripte	JQD Back type:
232 is descripte	JQD Back type:
232 is descripte	JQD Back type:       Space         ted at back row       The type of JQD Back Back range same as front         Connection type       Same color as ground         Special jacquard range       Image         Image       Im
232 is descripte	JQD Back type:       Deer       Space         ted at back row       The type of JQD Back Back range same as front         Connection type       Same color as ground         Special jacquard range       Part backside       Pocke         Part Integral JQD       Single
232 is descripte	JQD Back type: Deer       ✓       Space         ted at back row       The type of JQD Back Back range same as front       Connection type Same color as ground         Special jacquard range       ✓       Part backside       ✓       Pocket         Part Integral JQD       Single         Auto processing param       ✓
232 is descripte	JQD Back type: Deer       ✓       Space         ted at back row       The type of JQD Back Back range same as front       Connection type Same color as ground         Special jacquard range       ✓       Part backside       ✓       Pocket         Part Integral JQD       Single         Auto processing param       ✓       One row without back       the non-type
	JQD Back type:
	JQD Back type: Deer       ✓       Space         ted at back row       The type of JQD Back Back range same as front       Connection type       Same color as ground         Special jacquard range       ✓       Part backside       ✓       Pocket         Part Integral JQD       ✓       Single         Auto processing param       ✓       One row without back       the non-the poster         Design JQD Back when Separate       ✓       Treatment of adding and Change       ✓
	JQD Back type: Deer       Space         ted at back row       The type of JQD Back Back range same as front         Connection type       Same color as ground         Special jacquard range       ✓ Pocket         Part Integral JQD       Single         Auto processing param       One row without back       the non-the post of adding and Change         ✓ Treatment of adding and Change       ✓ treatment of adding and Change       ✓ treatment of adding and Change
	JQD Back type:       Space         ted at back row       The type of JQD Back Back range same as front         Connection type       Same color as ground         Special jacquard range       Part backside         Part Integral JQD       Single         Auto processing param       One row without back       the non-topological pack when Separate         Design JQD Back when Separate       Treatment of adding and Change       Consection code
	JQD Back type: Space   ted at back row The type of JQD Back Back range same as front   Connection type Same color as ground   Special jacquard range Part backside   Part Integral JQD Single   Auto processing param   One row without back the non-the parate   Design JQD Back when Separate Treatment of adding and Change   Use jacquard code
	JQD Back type: Deer       Space         ted at back row       The type of JQD Back Back range same as front         Connection type       Same color as ground         Special jacquard range       ✓ Port backside         Part Integral JQD       Single         Auto processing param       One row without back       the non-the
	JQD Back type: Deer       Space         ted at back row       The type of JQD Back Back range same as front         Connection type       Same color as ground         Special jacquard range       ✓ Pocket         Part backside       ✓ Pocket         Part Integral JQD       Single         Auto processing param       ✓ One row without back       the non-the poster of adding and Change         ✓ Use jacquard code       ✓ Use jacquard code
	JQD Back type: Deer       Space         ted at back row       The type of JQD Back Back range same as front         Connection type       Same color as ground         Special jacquard range       ✓ Port backside         ✓ Part backside       ✓ Port color         ✓ Part Integral JQD       Single         ✓ One row without back       the non-top color         ✓ Treatment of adding and Change       ✓ Use jacquard color         ✓ Use jacquard color       Color         Color       Color
	JQD Back type: Space   ted at back row The type of JQD Back Back range same as front   Connection type Same color as ground   Special jacquard range Image   Image </th
	JQD Back type: Space   ted at back row The type of JQD Back Back range same as front   Connection type Same color as ground   Special jacquard range Image   Image </th
	JQD Back type: Space   ted at back row The type of JQD Back Back range same as front   Connection type Same color as ground   Special jacquard range Part backside   Part Integral JQD Single   Auto processing param   One row without back the non-the parate   Design JQD Back when Separate Treatment of adding and Change   V Use jacquard color Color   Color Color
	JQD Back type: Space   bed at back row The type of JQD Back Back range same as front   Connection type Same color as ground   Special jacquard range Part backside   Part Integral JQD Single   Auto processing param   One row without back the non-the no

### **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

Compilation information	×
I C:\Documents and Settings\Administrator\桌面\LocalJacquard	^
CNT Row: 5240 Width: 460	
Cycle CNT row count : 0	
I Yarn start POS.:	
I Yam No.(L):L1 L3 L5 L6	
Yarn No.(R):R2(10) R4(12) R7(15)	
I Yarn end POS.:	Ξ
I Yam No.(L):L1 L3 L5 L6	
Yarn No.(R):R2(10) R4(12) R7(15)	
Knitting Time:2 hours11 min26 sec12.0G Speed0.70m/s	
Carriage speed: 1 2 3 4 5 6 20 21 22 23 24	
🗏 Main Rolle : 1 2 3 4 5 6 20 21 22 23	
Density: 1 2 3 4 5 6 20 21 22 23 24	
Compile OK!	~

# 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\_ <u>description of the jacquard and intarsia</u> 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 first

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).

14. System Lock 🗾 Tool box	
1 Left system knitting t 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	
2 color JQD	Þ
3 color JQD	۲
4-color JQD	۲
5 color JQD	۲
6-color jacquard	۲
Intarsia split mode	۲
forced the transfer direction	۲
16:Jacquard Group	
forced the knitting direction	۲
255:Intarsia discontinu	
16:Yarn following	

• 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:

ŀ



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.

Yarn Setting Expand	Setting   Mult-Pieces					
Intarsia	Sided tissue tuck connection					
Jacquard	Tuck     C Front tuck     C Back Tuck					
Joint						
Auto process	Cancel Tuck-Jacquard					
	□ 231 □ 232 □ 233 □ 234 □ 235 □ 236					
	🗖 237 🗖 238 🗖 239 🗖 241 🗖 242 🗖 243					
	244 245 246 247 248 249					
	Cancel Tuck-Intasia					
	□ 211 □ 212 □ 213 □ 214 □ 215 □ 216 □ 217					
	218 219 201 202 203 204 205					
	□ 206 □ 221 □ 222 □ 223 □ 224 □ 225 □ 226					
	Tuck Type					
	Tuck use Tuck-2					

• 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.

<u> </u>								
Int	Main	Wide	sequ	Par	Yar	Yar	Tuck	Tie
1	2			24	En	En	Tuck	Close
2	3			24	En	En	ste	Close
3	4			24	En	En	Left	Close
4	5			24	En	En	Right	Close
5	6			24	En	En	Tuck	Close
•								
🔽 Disp	V Display Parameter;							
🗌 Use	Use wide yarn							

### **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.

Yarn Setting Expand	etting Mult-Pieces			
Intarsia	Yarn feeder In and Out Setting			
Jacquard	Drag yarn type 🛛 F tuck + R knit 💌			
Joint	Floating length 6			
Auto process	Knitting interval 3			
	Yarn Move			
	Drag yarn type 🛛 F tuck + R knit 💌 Prohibit 3			
	Floating length 6			
	Knitting interval 3			
	-1 Stroke			
	staggered Tuck interval 1			
	✓ Automatic Use tuck 15			
	♥ Plus 1 needle(Fst) ♥ Minus 1 needle(Fst)			
	✓ Plus 1 needle(Sec) ✓ Minus 1 needle(Sec)			
	Plus 1 needle(Jacquard) 🛛 🔽 Minus 1 needle(Jacquard)			

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

staggered	-
NULL Tuck	
staggered	

- 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 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 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:

								X
Jac	Main	Wide	segu	Par	Yar	Yar	Tuck	Tie
231	1			24	Close	En	Tuck	Close
•								
Int	Main	Wide	sequ	Par	Yar	Yar	Tuck	Tie
1	3			24	En	Close	Tuck	Close
•								
🔽 Dis	play Param	eters	Duickly cot					
🗌 Use	e wide yarn		ZUICNY SEC					

## 12.6 Setting of Yarn Taken Distance for Warning Prompts

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

Eage Auto Yarn			
Greater than Distance	30	Edge is not	•
overstep	80	Warning	•

- 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  $1_{2} 2_{3} 211_{2} 231...$
  - 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 <u>the pattern design process</u>.

## 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 <u>function line 207</u> 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.

compliation options		
Save Path	File nam	e
C:\Documents and Settings\Administrator\My Docu	ments KnitCA	ı
✓ Save pattern data	n 🔲 Encryption Enabled	
○ Normal	C Picasso	🔽 Variable Densij
C Single syste 💿 Dual system C 1+1 system	C System 3 C Cam 2+2	C System 4
Yarn Setting Expand Setting Mult-Pieces		

(E) System			
	8	0 10 20 30 40 50 66 70 30 90 100 130 12	e 150 140 150 150 170 180
1	25	90	
	2)	10	
	23	0- 13.	
	24	40.	
	190 23	20.	
	25	0	
-	11	50- 10-	
81 101-21 20-80 9 51-85 90 100 10 123-150	11	TO	
	1	50	
***************************************	Pattern row: 112~11	-	
Test The Set			

- 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.

Compilation options	
Save Path C:\Documents and Settings\Administrator\My Documents	File name
✓ Save pattern data         ✓ Use the organization         ✓ Encryption           Model options         ✓	Enabled
○ Normal	🗖 Variable Densi
⊂ Single syst∉ ⊙ Dual system ⊂ 1+1 system ⊂ System 3 ⊂ Cam	1 2+2 C System 4



#### 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 "000 file" conversion button



• It will pop the "000 file" conversion interface

Setting       Select 000       Single system       0       Lock: System         Max stitch       24       High speed param:       21       Low-speed param:       23         Max roller       24       Middle speed param:       22       Opelete Safe Neeldle Rows         Comb Type :       1/2       Comb Add Kint       0       Multi-gauge	Convert000					
Setting       Select 000       Single system       0       Lock System         Max stitch       24       High speed param:       21       Low-speed param:       23         Max roller       24       Middle speed param:       22       Opelete Safe Neeldle Rows         Comb Type :       1/2       Comb Add Kint       0       Multi-gauge						
Setting Select 000 Single system 21 Look System 1.5 Max stitch 24 High speed param: 21 Low-speed param: 23 Max roller 24 Middle speed param: 22 Comb Type : 11/2 Comb Type : 11/2 Comb Add Knit O Multi-gauge						
Setting Select 000 Single system Cual system 1.5 Max stitch 24 High speed param: 21 Low-speed param: 23 Max roller 24 Middle speed param: 22 Comb Type : 11/2 Comb Add Knit O Multi-gauge						
Setting       Select 000       Single system       0       Lock System       1.5         Max stitch       24       High speed param:       21       Low-speed param:       23         Max roller       24       Middle speed param:       22       Opelete Safe Neelide Rows         Comb Type :       1x2       Comb Add Kint       0       Multi-gauge						
Setting       Select 000       Single system       Q       • Lock System         Max stitch       24       High speed param:       21       Low-speed param:       23         Max roller       24       Middle speed param:       22       Comb Type :       1.2         Comb Type :       1.2       Comb Add Knit       • Mudtl-gauge						
Setting       Select 000       Single system       Q2          • Lock System          Max stitch       24       High speed param:       21       Low-speed param:       23         Max roller       24       High speed param:       22          • Opelete Safe Neeldle Rows          Comb Type :       1/2          • Opelete Safe Neeldle Rows           • Opelete Safe Neeldle Rows						
Setting       Select 000       Single system       Coul system       1.5         Max stitch       24       High speed param:       21       Low-speed param:       23         Max roller       24       Middle speed param:       22       Comb Type :       1.5         Comb Type :       1x2       Comb Add Knit       0       Multi-gauge						
Setting Select 000 Single system 20 Dual system 1.5 Max stitch 24 High speed param: 21 Low-speed param: 23 Max roller 24 Middle speed param: 22 Comb Type : 1x2 Comb Add Kint O Multi-gauge	-		-			Contraction
Setting     Select 000     Single system     Dual system     1.5       Max stitch     24     High speed param:     21     Low-speed param:     23       Max roller     24     Middle speed param:     22     23       Comb Type :     1x2     Gomb Add Knit     Gomb Multi-gauge			6		2	COCK System
Setting Select 000 Single system Dual system 1.3 Max stitch 24 High speed param: 21 Low-speed param: 23 Max roller 24 Middle speed param: 22 Comb Type : 1x2  Comb Type : 1x2  Comb Add Knit O Multi-gauge					-	
Max stitch 24 High speed param: 21 Low-speed param: 23 Max roller 24 Middle speed param: 22 Comb Type : 1x2   Comb Type : 1x2   Comb Add Knit 0 Multi-gauge	Setting Select	000	Single s	ystem	Dual system	1.5
Max roller 24 Middle speed param: 22 Comb Type : 1x2  Comb Type : 1x2  Comb Add Knit O Multi-gauge	Max stitch	24	High speed param:	21	Low-speed param	23
Comb Type : 1×2	Max roller	24	Middle speed param:	22		
Comb Type : 1x2						
😲 Comb Add Knit 😲 Multi-gauge	Comb Type :	1x2 👻			ODe	lete Safe Neeldle Rows
			0	Comb Add K	nit 0	Multi-gauge
- 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.
  - The result file of conversion could be knit by dual system.
  - Cock system: if you select the dual system and lock system ,it will lock the system knitting.
  - The Maximum domain level: the maximum density level of the conversion result file
  - The 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.
  - Compared 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.

Comb Type :	NULL 🔽	🕴 Delete Safe Neeldle Row
-------------	--------	---------------------------

- The 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.

Comb Type :	1×1	*			😢 Delet	te Safe Neeldle Rows
			Ø	Comb Add Knit	0	Multi-gauge

- The comb add the rubber tubular height and guage convertion option if you select the 1x1, 1x2, 1x3 model,
- Transformed and the set of the se
- Guage convertion: click the button then the design pattern will become the 1x1 conversion pattern
- C 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.

Comb Type :	New1x1	*	•	Waste yarn feeder is used in start-up comb
The number in a	2		0	Comb Add Knit

- 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 PICASSOO "* 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

MidDataTra

TODO:

TODO

〈文件说明〉

• 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
CIKL+A	Select the whole layer area.
CTRL+A CTRL+S	Select the whole layer area.      Save (when "Save as" is not set, the optional path window pops up)
CTRL+A CTRL+S CTRL+N	Select the whole layer area.      Save (when "Save as" is not set, the optional path window pops up)      New
CTRL+A CTRL+S CTRL+N CTRL+C	Select the whole layer area.      Save (when "Save as" is not set, the optional path window pops up)      New      Copy the circled area of the main graphic region
CTRL+A CTRL+S CTRL+N CTRL+C CTRL+X	Select the whole layer area.      Save (when "Save as" is not set, the optional path window pops up)      New      Copy the circled area of the main graphic region      Cut the circled area of the main graphic region
CTRL+A CTRL+S CTRL+N CTRL+C CTRL+X CTRL+V	Select the whole layer area.Save (when "Save as" is not set, the optional path window pops up)NewCopy the circled area of the main graphic regionCut the circled area of the main graphic regionPaste the current content in clipboard.
CTRL+A CTRL+S CTRL+N CTRL+C CTRL+Z CTRL+Z	Select the whole layer area.Save (when "Save as" is not set, the optional path window pops up)NewCopy the circled area of the main graphic regionCut the circled area of the main graphic regionPaste the current content in clipboard.Undo
CTRL+A CTRL+S CTRL+N CTRL+C CTRL+X CTRL+X CTRL+V CTRL+Z CTRL+Y	Select the whole layer area.Save (when "Save as" is not set, the optional path window pops up)NewCopy the circled area of the main graphic regionCut the circled area of the main graphic regionPaste the current content in clipboard.UndoRedo
CTRL+A CTRL+S CTRL+N CTRL+C CTRL+X CTRL+X CTRL+V CTRL+Z CTRL+Y CTRL+P	Select the whole layer area.Save (when "Save as" is not set, the optional path window pops up)NewCopy the circled area of the main graphic regionCut the circled area of the main graphic regionPaste the current content in clipboard.UndoRedoPrint
CTRL+A CTRL+S CTRL+N CTRL+C CTRL+X CTRL+X CTRL+V CTRL+Z CTRL+Y CTRL+P Delete	Select the whole layer area.Save (when "Save as" is not set, the optional path window pops up)NewCopy the circled area of the main graphic regionCut the circled area of the main graphic regionPaste the current content in clipboard.UndoRedoPrintDelete the contents in the circled area of the current layer. If the whole row/line is

## 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 number	Color lump	Knitting description	Color number	Color lump	Knitting description
0	Π	Empty stitch ( no knitting)	1	1	Front knitting (linking)
2	2	Back knitting (linking)	3	<b>8</b>	Front and back knitting (linking)
4		Front tuck (no linking)	5	<u>_</u> 5	Back tuck (no linking)

Color code table

6	<mark>-6</mark> -	Front knitting and back tuck (linking)	7	$\frac{\sqrt{2}}{7}$	Back knitting and front tuck (linking)
8	<b>5</b>	Front knitting (no linking)	9	<b>9</b>	Back knitting (no linking)
10	8×	Front and back knitting (no linking)	11		Front coarse stitch density
12	<b>Q</b> 12	Back coarse stitch density	13	2 13	Front and back coarse stitch density
14	14	Front and back tuck	15	<b>ठ</b> × 15	Front press-off
16	16	No needle selection	17	<b>£</b>	Back press-off
18	18	Low cable unit (1)	19	19	Low cable unit (2)
20	<mark>8+1</mark> 20	Front knitting, stitch transfer to back (no linking)	21	1P 21	Front knitting, stitch transfer to back (racking 1 needles to left)
22	2P 22	Front knitting, stitch transfer to back(racking 2 needles to left)	23	3P 23	Front knitting, stitch transfer to back(racking 3 needles to left)
24	4P 24	Front knitting, stitch transfer to back (racking 4 needles to left)	25	5P 25	Front knitting, stitch transfer to back (racking 5 needles to left)
26	6P 26	Front knitting, stitch transfer to back (racking 6 needles to left)	27	7P 27	Front knitting, stitch transfer to back (racking 7 needles to left)
28	28	Front knitting, low cable unit (1)	29	29	Front knitting, up cable unit (1)
30	<b>8+↓</b> 30	Front knitting, stitch transfer to front (no linking)	31	1P 31	Front knitting, stitch transfer to back (racking 1 needles to right)
32	2P 32	Front knitting, stitch transfer to back (racking 2 needles to right)	33	3P 33	Front knitting, stitch transfer to back (racking 3 needles to right)
34	4P 34	Front knitting, stitch transfer to back (racking 4 needles to right)	35	<b>5</b> P 35	Front knitting, stitch transfer to back (racking 5 needles to right)
36	6P 36	Front knitting, stitch transfer to back (racking 6 needles to right)	37	7P 37	Front knitting, stitch transfer to back (racking 7 needles to right)
38		Back knitting, low cable unit (1)	39	<b>*</b> 39	Up cable unit (1)
40	<b>Ω+↓</b> 40	Back knitting, stitch transfer to front (no linking)	41	1P 41	Back knitting, stitch transfer to front (racking 1 needle to left)
42	2P 42	Back knitting, stitch transfer to front (racking 2 needles to left)	43	<b>3</b> P 43	Back knitting, stitch transfer to front (racking 3 needles to left)

44	4P 44	Back knitting, stitch transfer to front (racking 4 needles to left)	45	5P 45	Back knitting, stitch transfer to front (racking 5 needles to left)
46	6P 46	Back knitting, stitch transfer to front (racking 6 needles to left)	47	7P 47	Back knitting, stitch transfer to front (racking 7 needles to left)
48	48	Front knitting, low cable unit (2)	49	49	Front knitting, up cable unit (2)
50	<b>Q+1</b> 50	Back knitting, stitch transfer to back (no linking)	51	1P 51	Back knitting, stitch transfer to front (racking 1 needle to right)
52	2P 52	Back knitting, stitch transfer to front (racking 2 needle to right)	53	3P 53	Back knitting, stitch transfer to front (racking 3 needle to right)
54	4P 54	Back knitting, stitch transfer to front (racking 4 needle to right)	55	5P 55	Back knitting, stitch transfer to front (racking 5 needle to right)
56	6P 56	Back knitting, stitch transfer to front (racking 6 needle to right)	57	7P 57	Back knitting, stitch transfer to front (racking 7 needle to right)
58	58	Back knitting, low cable unit (2)	59	<b>X</b> 59	Up cable unit (2)
60	<mark>8+11</mark> 60	Front knitting, stitch transfer to back, then transfer to front	61	1P 61	Front knitting, stitch transfer to back, then transfer to front (racking 1 needle to left)
62	2P 62	Front knitting, stitch transfer to back, then transfer to front (racking 2 needle to left)	63	SP 63	Front knitting, stitch transfer to back, then transfer to front (racking 3 needle to left)
64	4P 64	Front knitting, stitch transfer to back, then transfer to front (racking 4 needle to left)	65	5P 65	Front knitting, stitch transfer to back, then transfer to front (racking 5 needle to left)
66	6P	Front knitting, stitch transfer to back, then transfer to front (racking 6 needle to left)	67	7P 67	Front knitting, stitch transfer to back, then transfer to front (racking 7 needle to left)
68	8	Front and back knitting (double sides), and stitch transfer to back	69	<b>8</b> 69	Front and back knitting(double sides), and stitch transfer to front
70	<b>↓+8</b> 70	Stitch transfer to front, and front knitting (linking)	71	1P 71	Front knitting, stitch transfer to back, then transfer to front (racking 1 needle to right)
72	2P 72	Front knitting, stitch transfer to back, then transfer to front (racking 2 needle to right)	73	SP 73	Front knitting, stitch transfer to back, then transfer to front (racking 3 needle to right)
74	4P 74	Front knitting, stitch transfer to back, then transfer to front (racking 4 needle to right)	75	5P 75	Front knitting, stitch transfer to back, then transfer to front (racking 5 needle to right)

76	<b>N</b> 6P 76	Front knitting, stitch transfer to back, then transfer to front (racking 6 needle to right)	77	<b>N</b> 7P 77	Front knitting, stitch transfer to back, then transfer to front (racking 7 needle to right)
78	<b>18</b>	titch transfer to back, then front and back knitting (double sides)	79	18 79	Stitch transfer to front, then front and back knitting(double sides)
80	<b>Q+J1</b> 80	Back knitting,stitch transfer to front, then transfer to back	81	<b>N</b> 1P 81	Back knitting, stitch transfer to front, then transfer to back (racking 1 needle to left)
82	2P 82	Back knitting, stitch transfer to front, then transfer to back (racking 2 needle to left)	83	<b>7</b> 3P 83	Back knitting, stitch transfer to front, then transfer to back (racking 2 needle to left)
84	4P 84	Back knitting, stitch transfer to front, then transfer to back (racking 3 needle to left)	85	<b>7</b> 5P 85	Back knitting, stitch transfer to front, then transfer to back (racking 5 needle to left)
86	<b>P</b> 86	Back knitting, stitch transfer to front, then transfer to back (racking 61 needle to left)	87	7P 87	Back knitting, stitch transfer to front, then transfer to back (racking 7 needle to left)
88	1P 88	Front knitting, stitch transfer to back (racking 1 needle to right), then transfer to front	89	2P 89	Front knitting, stitch transfer to back (racking 2 needles to right), then transfer to front
90	<b>1+오</b> 90	Stitch transfer to back, and back knitting (linking)	91	1P 91	Back knitting, stitch transfer to front, then transfer to back (racking 1 needle to right)
92	2P 92	Back knitting, stitch transfer to front, then transfer to back (racking 2 needle to right)	93	<b>P</b> 3P 93	Back knitting, stitch transfer to front, then transfer to back (racking 3 needle to right)
94	4P 94	Back knitting, stitch transfer to front, then transfer to back (racking 4 needle to right)	95	5P 95	Back knitting, stitch transfer to front, then transfer to back (racking 5 needle to right)
96	6P 96	Back knitting, stitch transfer to front, then transfer to back (racking 6 needle to right)	97	7P 97	Back knitting, stitch transfer to front, then transfer to back (racking 7 needle to right)
98	<b>▲</b> 3₽ 98	Front knitting, stitch transfer to back (racking 3 needles to right), then transfer to front	99	<b>4</b> P 99	Front knitting, stitch transfer to back (racking 4 needles to right), then transfer to front
100	100	Stitch transfer to back (no knitting)	101	1P 101	Front knitting, stitch transfer to back (racking 1 needle to left), then transfer to front
102	2P 102	Front knitting, stitch transfer to back (racking 2 needle to left), then transfer to front	103	<mark>3₽</mark> 103	Front knitting, stitch transfer to back (racking 3 needle to left), then transfer to front

104	4P 104	Front knitting, stitch transfer to back (racking 4 needle to left), then transfer to front	105	1P 105	Back knitting, stitch transfer to front (racking 1 needle to right), then transfer to back
106	2P 106	Back knitting, stitch transfer to front (racking 2 needle to right), then transfer to back	107	<b>7</b> 3P	Back knitting, stitch transfer to front (racking 3 needle to right), then transfer to back
108	4P 108	Back knitting, stitch transfer to front (racking 4 needle to right), then transfer to back	109	1P 109	Back knitting, stitch transfer to front (racking 1needle to left), then transfer to back
110	<b>↓</b> 110	Stitch transfer to front (no knitting)	111	2 7 111	Front stitch density increase
112	<b>오</b> 8	Back stitch density increase	113	2P 113	Back knitting, stitch transfer to front (racking 2 needles to left), then transfer to back
114	<b>P</b> 3P 114	Back knitting, stitch transfer to front (racking 3 needles to left), then transfer to back	115	<b>1</b> 15	Back knitting, stitch transfer to front (racking 4needles to left), then transfer to back
116	201₽ 116	Front stitch density increase (racking 1 needle to right)	117	2 <sup>+</sup> 2 <sup>1</sup>	Front stitch density increase (racking 1 needle to left)
118	<b>Q</b> <sub>1P</sub> <b>0+</b>	Back stitch density increase (racking 1 needle to right)	119	<b>Q</b> <sub>1P</sub> <b>0+</b> / 119	Back stitch density increase (racking 1 needle to left)
120	<b>120</b> 120	User macro	121	<b>121</b> 121	User macro
122	<b>122</b>	User macro	123	123	User macro
124	<b>124</b> 124	User macro	125	<b>125</b>	User macro
126	<b>126</b> 126	User macro	127	<b>127</b>	User macro
128	<b>128</b>	User macro	129	<b>129</b> 129	User macro
130	<b>130</b> 130	User macro	131	<b>131</b> 131	User macro
132	<b>132</b> 132	User macro	133	<b>133</b> 133	User macro
134	<b>134</b> 134	User macro	135	135 135	User macro

136	<b>136</b>	User macro	137	<b>137</b> 137	User macro
138	<b>138</b> 138	User macro	139	<b>139</b> 139	User macro
140	<b>140</b>	User macro	141	<b>141</b> 141	User macro
142	<b>142</b> 142	User macro	143	<b>143</b> 143	User macro
144	<b>144</b> 144	User macro	145	<b>145</b> 145	User macro
146	<b>146</b> 146	User macro	147	<b>147</b> 147	User macro
148	<b>148</b> 148	User macro	149	<b>149</b> 149	User macro
150	<b>150</b> 150	User macro	151	<b>151</b> 151	User macro
152	<b>152</b> 152	User macro	153	<b>153</b>	User macro
154	<b>154</b> 154	User macro	155	<b>155</b> 155	User macro
156	<b>156</b>	User macro	157	<b>157</b> 157	User macro
158	<b>158</b> 158	User macro	159	1 <b>59</b>	User macro
160	<b>160</b> 160	User macro	161	<b>161</b> 161	User macro
162	<b>162</b> 162	User macro	163	163 163	User macro
164	<b>164</b> 164	User macro	165	<b>165</b>	User macro
166	<b>165</b>	User macro	167	<b>167</b> 167	User macro
168	<b>168</b> 168	User macro	169	<b>169</b> 169	User macro

170	<b>170</b> 170	User macro	171	<b>171</b> 171	User macro
172	<b>172</b> 172	User macro	173	<b>173</b> 173	User macro
174	<b>174</b> 174	User macro	175	175	User macro
176	<b>176</b> 176	User macro	177	<b>177</b> 177	User macro
178	<b>178</b> 178	User macro	179	<b>179</b> 179	User macro
180	<b>180</b> 180	User macro	181	<b>181</b> 181	User macro
182	<b>182</b> 182	User macro	183	183 183	User macro
184	<b>75</b> 184	Front knitting, back dummy needle	185	185	Front dummy needle, back knitting
186		Front tuck, back dummy needle	187	187	Front dummy needle, back tuck
188	188	Back structure knit in front bed	189	<b>N</b> 189	Shortening-Left 1
190	▶ 190	Shortening-Left 1	191	<u>}</u> 191	Front knitting, front stitch transfer to back and back stitch transfer to front (racking 1 needle to left)
192	<b>&gt;</b> 2 192	Front knitting, front stitch transfer to back and back stitch transfer to front (racking 2 needle to left)	193	193	Front knitting, back stitch transfer to front and front stitch transfer to back (racking 1 needle to left)
194	<b>×</b> 2 194	Front knitting, back stitch transfer to front and front stitch transfer to back (racking 2 needle to left)	195	195	Front knitting, front stitch transfer to back and back stitch transfer to front (racking 1 needle to right)
196	)2 196	Front knitting, front stitch transfer to back and back stitch transfer to front (racking 2 needle to left)	197	<u>_1</u> 197	Front knitting, back stitch transfer to front and front stitch transfer to back (racking 1 needle to left)
198	2 198	Front knitting, back stitch transfer to front and front stitch	199	<b>⊿</b> 199	Shortening-Right 1

		transfer to back (racking 2 needle to left)			
200	200	Shortening-Right 2	201	<b>오</b> 201	Intarsia(back knitting)
202	<b>오</b> 202	Intarsia(back knitting)	203	<b>오</b> 203	Intarsia(back knitting)
204	<b>오</b> 204	Intarsia(back knitting)	205	<b>오</b> 205	Intarsia(back knitting)
206	<b>오</b> 206	Intarsia(back knitting)	207	207	Front and Back Tuck (linking)
208	208	Front Tuck (linking)	209	209	Back Tuck (linking)
210	<b>←</b> 210	Undefined	211	<b>7</b>	Intarsia(front knitting)
212	<b>2</b> 12	Intarsia(front knitting)	213	<b>7</b>	Intarsia(front knitting)
214	<b>ठ</b> 214	Intarsia(front knitting)	215	<b>ठ</b> 215	Intarsia(front knitting)
216	<b>7</b>	Intarsia(front knitting)	217	<b>ठ</b> 217	Intarsia(front knitting)
218	<b>ठ</b> 218	Intarsia(front knitting)	219	<b>ठ</b> 219	Intarsia(front knitting)
220	→ 220	Undefined	221	<b>8</b> 221	Intarsia(Front and back knitting)
222	<b>8</b> 222	Intarsia(Front and back knitting)	223	<b>8</b> 223	Intarsia(Front and back knitting)
224	<b>8</b> 224	Intarsia(Front and back knitting)	225	<b>8</b> 225	Intarsia(Front and back knitting)
226	226	Intarsia(Front and back knitting)	227	227 227	Front knitting 2th stitch (Tight)
228	<b>2</b> 28	Back knitting 2th stitch (Tight)	229	<b>8</b> 2 229	Front and back knitting 2th stitch (Tight)
230	230	Undefined	231	<b>ठ</b>	Jacquard(front knitting)

232	<b>2</b> 32	Jacquard(front knitting)	233	233	Jacquard(front knitting)
234	<b>2</b> 34	Jacquard(front knitting)	235	235	Jacquard(front knitting)
236	236	Jacquard(front knitting)	237	237	Jacquard(front knitting)
238	<b>2</b> 38	Jacquard(front knitting)	239	239	Jacquard(front knitting)
240	240	Undefined	241	<b>ठ</b> ₊ 241	Jacquard(front knitting)
242	<b>75.</b> 242	Jacquard(front knitting)	243	243	Jacquard(front knitting)
244	<b>ठ</b> , 244	Jacquard(front knitting)	245	245	Jacquard(front knitting)
246	246	Jacquard(front knitting)	247	247	Jacquard(front knitting)
248	<b>ठ.</b> 248	Jacquard(front knitting)	249	<mark>で</mark> 249	Jacquard(front knitting)
250	250	Front tuck 2th stitch (Tight)	251	<mark>_∧²</mark> 251	back tuck 2th stitch (Tight)
252	252	Front and back tuck 2th stitch (Tight)	253	253	Front knitting and back tuck 2th stitch (Tight)
254	254	Front tuck and back knitting 2th stitch (Tight)	255	255	Undefined

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