STOLL

M1plus Handling and Programming

CE

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03/2018

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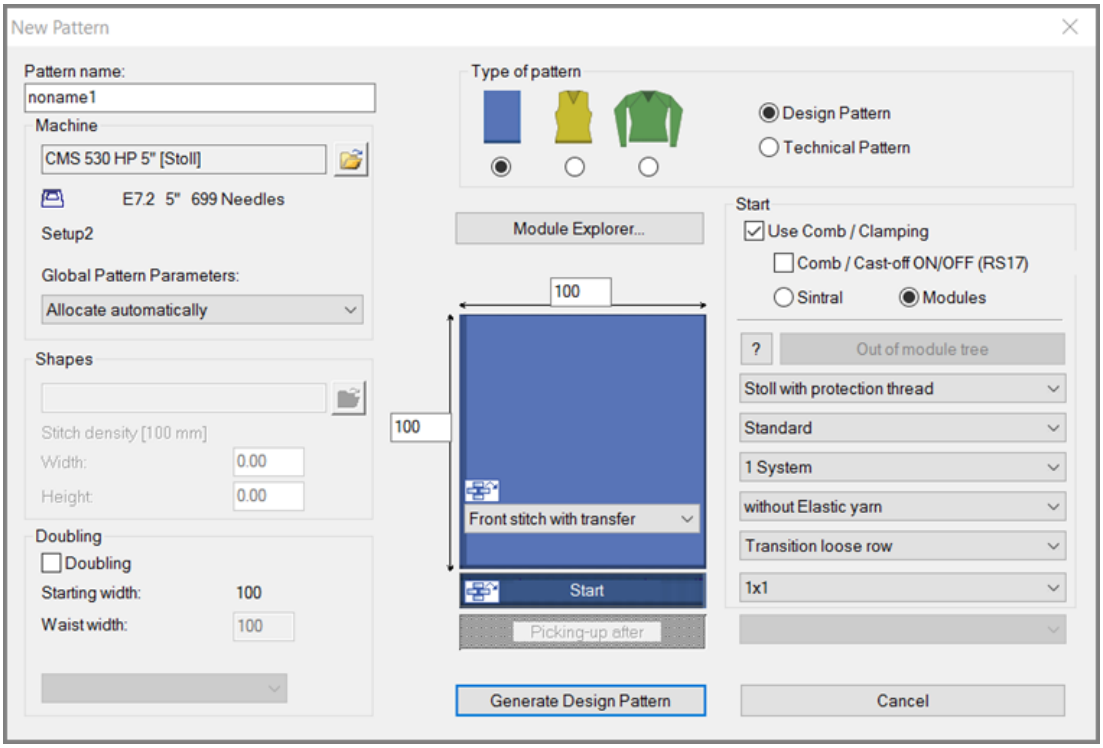
1 Steps of Pattern Programming



Setting	Meaning
Design Pattern	Pattern programming on the M1plus with the new functions
Technical Pattern	Pattern editing on the M1plus similar to the M1

Steps of Pattern Programming

Pattern without shape	Fully Fashion pattern	
		
		
Generate new pattern: ◆ Machine ◆ Type of pattern: **Basic pattern** ◆ **Design Pattern (Design Mode)** Basic Pattern and Start		**Generate new pattern:** ◆ Machine ◆ Type of pattern: **Shaped Pattern** ◆ **Design Pattern (Design Mode)** ◆ Basic Pattern and Start ◆ Shape

Pattern without shape	Fully Fashion pattern	
↓		↓
Drawing the Pattern (Basic) in the Design Mode ◆ Drawing Tools ◆ Yarn Color or Yarn Carrier Color ◆ Module Arrangements ◆ Color Arrangements ◆ Pattern Parameters ◆ Yarn Field Allocation		**Drawing the Pattern (Basic) with the shape laid on in the Design Mode** ◆ Drawing Tools ◆ Yarn Color or Yarn Carrier Color ◆ Module Arrangements ◆ Color Arrangements ◆ Pattern Parameters ◆ Yarn Field Allocation
↓	↘	↓
	Menu "Shape" / "Open and Position Shape..."	
	↓	↓
	Edit shape in the Symbol View [Basic].	
	↓	
	Cut-out shape Shaped Pattern will be saved as	
↘	↓	
Expand pattern Expanded Pattern will be saved as or as		
↓		
Start the technical processing Processed Pattern will be saved as or as		
↓		

Pattern without shape	Fully Fashion pattern
Generate MC Program Sintral Jacquard Setup1 or Setup2	
↓	
Run the Sintral Check	
↓	
Save the knitting program and load data into the machine	

i You can pass over steps of processing.
If a step of processing is skipped, the corresponding pattern state will not be saved.

i Set a **Blocking notice !**

Pattern changes will get lost, when returning to a previous processing step.
With a blocking notice it is possible to point out the performed modification.

2 Getting started with the M1plus

Start the M1plus program and generate a new pattern:

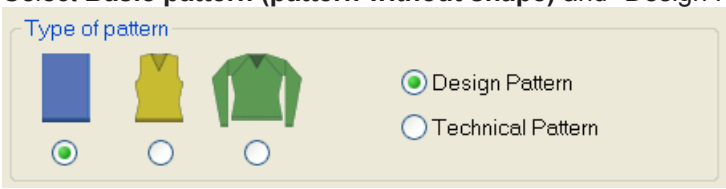
1. Click the  icon on the desktop.
2. Select the "File" / "New" menu.
   - or -
   Click the  icon.

▶ The "New Pattern" dialog box appears.

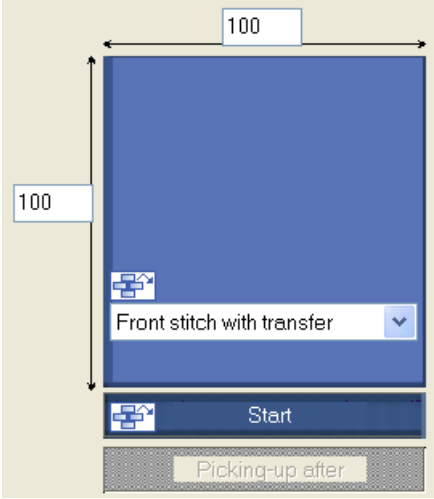
3. Enter the desired name at **Pattern name**.
4. Under **Machine** use  to open the "Select machine" dialog box:
5. Select the tab "Stoll machines" or "My machines".
6. Make the desired settings:

- Machine type
- Gauge / Needle hook gauge
- Setup Type
  - **Setup1**
    Use for ST 711-811, ST 168-468, OKC machines.
  - **Setup2**
    Use for OKC machines starting with the operating system V_OKC_002.001.000_STOLL.
- With tandem operating mode: Enter the specifications under "Settings for Tandem mode"

7. Select **Basic pattern (pattern without shape)** and "Design Pattern".



8. Define the pattern size and the basic knitting mode.

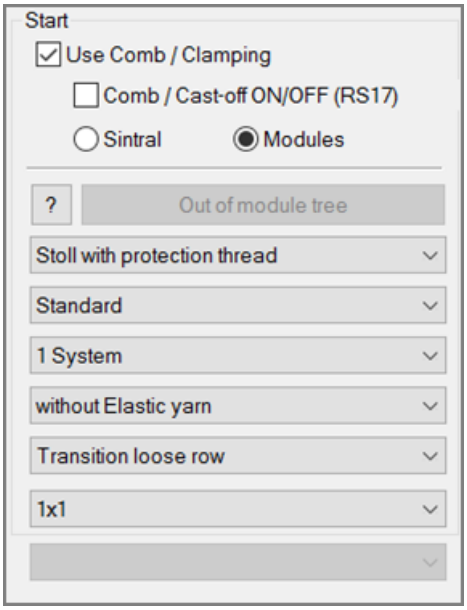


Selection options:

- "Front Stitch with Transfer"
- "Rear Stitch with Transfer"
- "Front stitch – Rear stitch."
- "No needle action"
- "1x1 Stitch v with Transfer"
- "1x1 Stitch ^ with Transfer"
- "MG_Stitch v with transfer"
- "MG Stitch ^ with Transfer"
- "Tubular"
- "1x1 tubular"

> **i** You can add modules from the Module Explorer or from the "Modules" toolbar to the  picklist by drag-and-drop.

9. Select a start.



Selection options:

- " Stoll with protection yarn"
- "Stoll coarse gauge with protection yarn"
- "Private"

> **i** Module Support
>
> Get information and pictures about the selected start by the  icon.

10. Confirm the dialog box with the "Generate Design Pattern" button.

▶ The new pattern appears in the symbol view.

2.1 Adapt the M1plus user interface

You can arrange the displayed windows as desired and hide or display the desired toolbars via the "View" / "Toolbars" menu.

Save settings:

- Via the "View" / "Toolbars" / "Save arrangement" menu you can save the arrangement of the toolbars.
- Save the changes via the context menu selecting "Save Settings"
  - Display of the windows: Control columns, zoom level, cursor setting, etc.
  - Window positions

Load settings:

1. Load the saved arrangement of the toolbars and the window positions via the "View" / "Toolbars" / "Load arrangement" menu.

---

i You can create different M1plus profiles.

---

3 Keypad

Use the Stoll default assignment:

\DVD_M1plus_5.5.033\5.5.033_MAIN_BL001\util\Keypad

Stoll default key assignment:

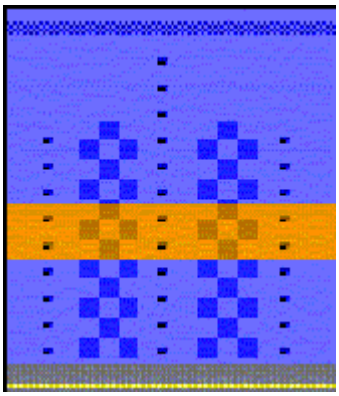
Key combinations at the keypad		Function	Key combination of the keyboard
M key	G key		
"M1"	"G1"	"ESC"	"ESC"
	"G2"	Display shape symbols and shape edges	"F2"
	"G3"	Module / Module Explorer of Database	"F3"
	"G4"	Open the "Yarn Field View" dialog box	"F4"
	"G5"	Steps of processing / Load basic pattern	"Ctrl"+"↑"+"F10"
	"G6"	Steps of Processing / Expanding entire pattern	"F9"
	"G7"	Steps of Processing / Start Technical Processing	"F10"
	"G8"	Selection / Cancel Selection	"Ctrl"+"D"
	"G9"	Module / Module Explorer of Pattern	"Ctrl"+"F3"
	"G10"	Toolbar Drawing Tools / Apply module	"F5"
	"G11"	Toolbar Drawing Tools / Apply color	"F6"
	"G12"	Drawing Tools toolbar / Apply shape attributes	"F7"
	"G13"	Paste	"Insert"
	"G14"	Remove	"Del"
	"G15"	Shift ("↑")	"↑"
	"G16"	"Alt" key	"Alt"
	"G17"	Copy	"Ctrl"+"C"
	"G18"	Display Module Limits	"Ctrl"+"Alt"+"M"
	"G19"	Return □	"□"
	"G20"	"Ctrl" (key)	"Ctrl"
	"G21"	Multi Copy	"C"
	"G22"	Zoom to Overview	"Z"
	"G23"	Update control view	"E"
	"G24"	Synchronize the views. **i**: Does not affect divided windows of the same view.	"X"

Key combinations at the keypad		Function	Key combination of the keyboard
	Press "G25" ("Joy-stick") down	File / Save	"Ctrl"+"S"
	"G26" ("Joy-stick") ↑	Large zoom step	"+" (keypad)
	"G27" ("Joy-stick") ↓	Smaller zoom step	"-" (keypad)
	"G28" ("Joy-stick") ←	Hide Control Columns	"/" (keypad)
	"G29" ("Joy-stick") →	Show Control Columns	"*" (keypad)

Key combinations at the keypad		Function	Key combination of the keyboard
M key	G key		
"M2"	"G1"	Setup2...	"Ctrl"+"2"
	"G2"	Pattern Parameters / Fabric Take-Down...	"Ctrl"+"W"
	"G3"	Pattern Parameters / Carriage Speed...	"Ctrl"+"Alt"+"V"
	"G4"	Pattern Parameters / Stitch Length...	"Ctrl"+"L"
	"G5"	Pattern Parameters / Cycle...	"Ctrl"+"R"
	"G6"	Pattern Parameters / Technical Row Data	"Ctrl"+"F9"
	"G7"	Pattern Parameters / Configura-tion	"Shift"+"F9"
	"G8"	Shape / Shape editor (Generate/ edit shapes)...	"Shift"+"F11"
	"G9"	Shape / Open and Position Shape	"Alt"+"F2"
	"G10"	Shape Attributes	--
	"G11"	Shape / Edit Shape	--

Key combinations at the keypad		Function	Key combination of the keyboard
	"G12"	Reload Shape (local modules)	--
	"G13"	Reload Shape (modules of database)	--
	"G14"	Find & replace	"Ctrl"+"H"
	"G15"	Edit / Generate or edit Jacquard	"Ctrl"+"F4"
	"G16"	Generate MC Program. Sintral, Jacquard, **Setup**	"F11"
	"G17"	MC Program / Run the Sintral Check	"Ctrl"+"F11"
	"G18"	MC Program / Import MC Setup / Setup File...	"Alt"+"F12"
	"G19"	Sintral / Show Sintral	"Alt"+"F10"
	"G20"	View / Open New Technical View	"Ctrl"+"T"
	"G21"	Change the view	"Ctrl"+"Tab"
	"G22"	Zoom to Overview	"Z"
	"G23"	Update control view	"E"
	"G24"	Synchronize the views. **i**: Does not affect divided windows of the same view.	"X"
	Press "G25" ("Joystick") down	File / Save	"Ctrl"+"S"
	"G25" ("Joystick") ↑	Large zoom step	"+" (keypad)
	"G26" ("Joystick") ↓	Smaller zoom step	"-" (keypad)
	"G27" ("Joystick") ←	Hide Control Columns	"/" (keypad)
	"G25" ("Joystick") →	Show Control Columns	"*" (keypad)

4 Structure Pattern



Pattern name	01_Struktur.mdv		
Pattern size	**Gauge**	E 3,5.2	E 7.2
	Width:	100	200
	Height:	100	200
Machine type	◆ CMS 530 HP 5'' ◆ CMS 530 HP 6''		
Setup Type	Setup2		
Start	1X1 Rib		
Basic Pattern	Front Stitch with Transfer		
Knitting Technique	Structure pattern with ◆ Single jersey structure ◆ Cable 3x3 ◆ Colored Stripe		

4.1 Create Pattern

Create a new pattern:

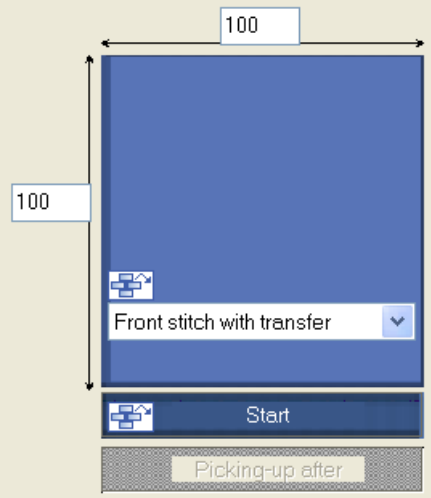
1. Select the "File" / "New" menu.
   - or -
   Click the  icon.

▶ The "New Pattern" dialog box appears.

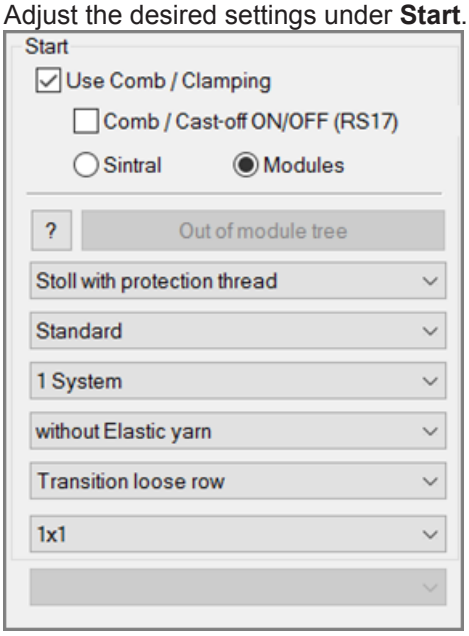
2. Enter a **Pattern name**.
3. Select the **Machine type** and the desired **Setup type**.

4. Select **Basic pattern (pattern without shape)** and "Design Pattern".

5. Define the pattern size and the basic knitting mode.



6. Adjust the desired settings under **Start**.



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i You can insert the start after drawing the basic pattern as well.

---

7. Confirm the settings with "Generate Design Pattern".

▶ The pattern will be opened in the Symbol View [Basic].

4.2 Draw the structure

Draw a single jersey structure and a cable:

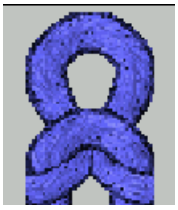
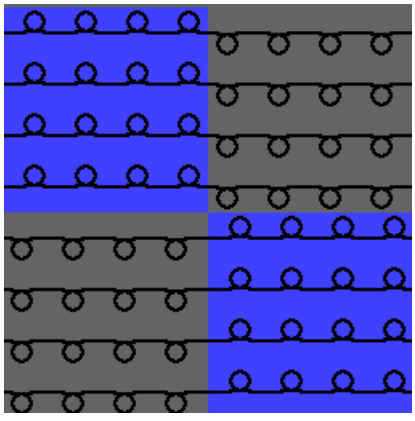
1. Select the "Yarn or Yarn Carrier Color as Background" in the "Pattern Presentations" toolbar.

- or -
The "Module color as Background" setting.

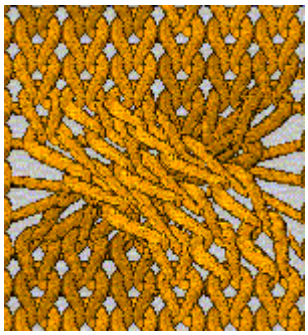
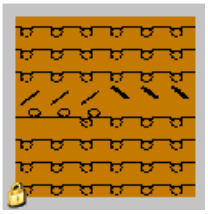
2. Draw the motif for example with the following drawing tools.

-  Pencil
-  Line
-  Rectangle / Square

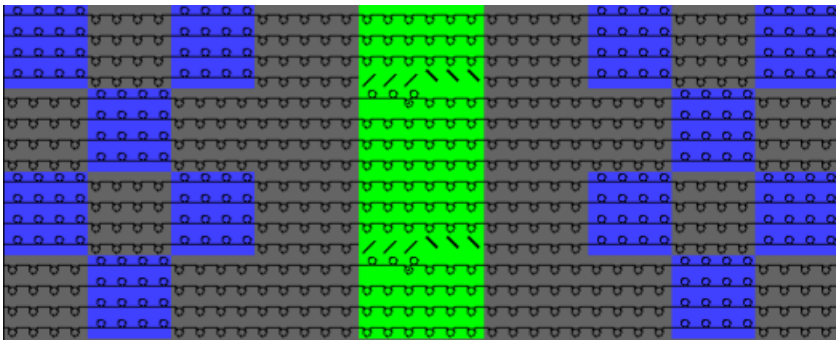
3. Select the desired needle action in the "Needle Actions" toolbar and draw it in the pattern.

Needle actions in use		
Basic pattern:		
	 Front stitch with transfer	 Rear stitch with transfer
Structured single jersey		

4. Select the "Cable 3X3<" module from the "Module bar" and draw it in.

Module in use	
Cable 3x3<	
	

Result:



i	The transfer actions of the modules with a "Design Pattern" will not be displayed in the "Symbol View" at first.

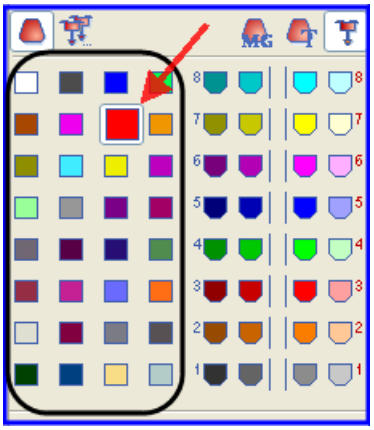
4.3 Draw color

Draw-in colored stripes:

1. Set the "Yarn or Yarn Carrier Color as Background" in the "Pattern Presentations" toolbar.

▶ The yarn colors are displayed.

2. Select the desired yarn color in the "Pattern Colors" toolbar.



3. Enter the color for the colored stripe via the "Pattern row" control column of the "Symbol View".

i	A new yarn carrier is defined for each color drawn-in.

	If possible, draw-in an even number of rows of one color into the pattern.

4.4 Expand pattern

I. Make settings before expanding:

1. Specify the racking priority of the modules via the "Module" / "Insert Modules (Settings)" menu.

- Large before Small Racking
- Small before Large Racking
- Left before Right Racking
- Right before Left Racking

i	The settings will be displayed after expanding.

II. How to expand

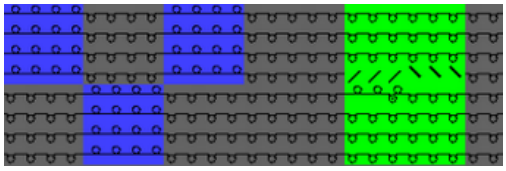
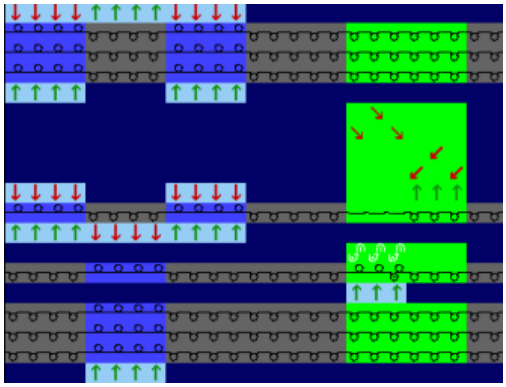
Selection			Meaning
"Steps of Processing" toolbar			
		"Complete expanding"	The entire pattern will be expanded and the technical processing may follow then.
"Control Views" toolbar			
		" Visible detail (control view)"	The area shown in the Symbol View will be expanded in the entire width of pattern as preview.

Selection		Meaning
	" Selection (control)"	The selection of the Symbol View will be expanded in the entire width of pattern as preview.
	" Pattern (control)"	The entire pattern will be expanded as preview.

i	The Control View can be displayed as Symbol, Fabric or Technical View. Make the desired setting under "Tools" / "Program Settings…" in the "Load" tab. Control Views are write-protected!

Processing Step: Complete expanding

1. Get the entire pattern expanded for further processing with of the "Steps of Processing" toolbar.

State of pattern	Presentation	Description
Basic pattern		**Before expanding:** Only knitting rows will be displayed in the symbol view.
Expanded Pattern		**After the expanding:** The knitting rows and the transfer rows will be displayed in the symbol view. The data contained in the modules such as racking instructions, fabric take-down, carriage direction, etc. will be entered in the corresponding control columns.

Presentation options of the Control View

i	**Presentation in the Control View** Modules, Color Arrangements and Module Arrangements only will be displayed in expanded mode in the control view. You cannot see information of Configuration and Yarn Field Allocation! No technical rule will be processed.

■ **Visible detail (control view)**

1. Set the zoom to match the desired part of the pattern in the Symbol View [Basic].

2. Expand the visible detail with  in "Control Views" toolbar in order to check it.

▶ The expanded detail will be displayed with the corresponding specifications in the "Symbol View [Control View]".

3. Close the preview with  .

■ **Selection (control)**

1. Select the desired pattern rows.
2. Expand the selection with  in "Control Views" toolbar in order to check it.

▶ The expanded selection will be displayed with the corresponding specifications in the "Symbol View [Control View]".

3. Close the preview with  .

■ **Pattern (control)**

1. Expand the entire pattern with  in "Control Views" toolbar in order to check it.

▶ The entire pattern will be displayed with the corresponding specifications in the "Symbol View [Control View]".

2. Close the preview with  .

---

i Changes in the Basic Pattern

Control View will not be updated automatically after changes in the basic pattern!
(Marked by red font of the window title).

Press the "E" key to get the Control View updated. The font of the window title will change to green then.

4.5 Complete, save and knit the pattern

Complete the pattern:

1. Start the technical processing via the "Steps of Processing" toolbar with the  button.

▶ The query "Generate MC Program" appears.

2. Confirm the query with "OK".

▶ The "Save pattern as" dialog box appears.

3. Enter the "File name" and specify the path.
4. Close the dialog box with "Save".
5. Call up the "Sintral Check" by  .
   - or -
   Call-up "Sintral Check" via the "MC Program / Conduct Sintral Check..." menu.
6. Call up the Sintral Check with the  button.

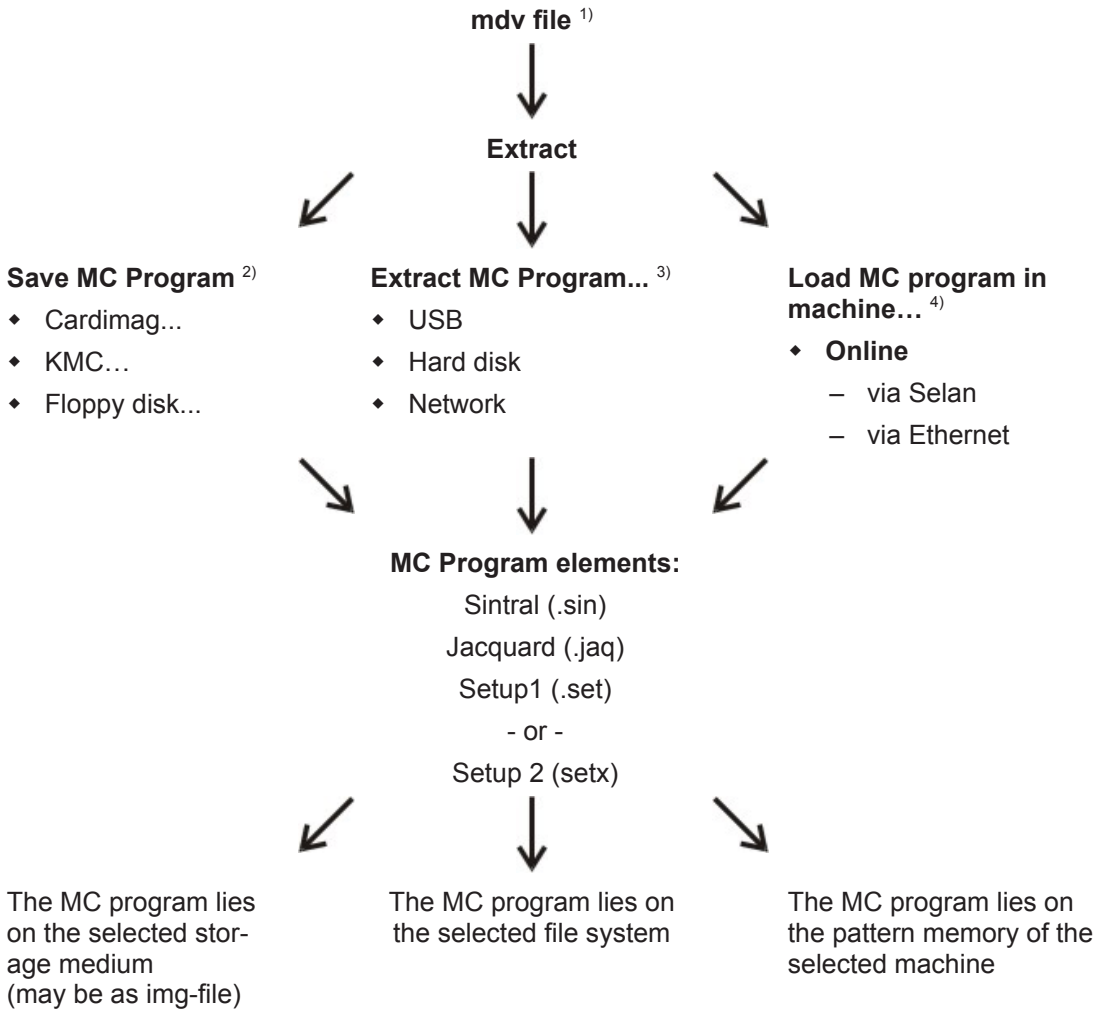
7. Save the pattern to the USB Memory Stick.

- or -
Save the pattern to the floppy disk via the "MC Program" / "Save MC Program" / "Floppy Disk…" menu.

8. Knit the pattern on the machine.

5 Data structure and storage media

Data structure of the M1plus



1) The **mdv file:**

All pattern relevant data will be saved in the mdv file (pattern file):

- modules used in the pattern (local modules)
- Pattern Parameters
- Machine attributes
- pattern related settings in the "Configuration" dialog box
- after generating the MC Program also the sin / jac / set (setx) files

i	You **cannot** transfer a **mdv file** to the machine. The MC Program (sin/jac/set) must be extracted from the mdv file.

2) Save MC Program

The MC Program elements will be extracted and saved to the selected storage medium.

- Cardimag
- KMC (Knit Memory Card)
- Disk

3) Extract MC Program...

The MC Program elements will be extracted and saved to the selected file system:

- Hard disk
- USB
- Network

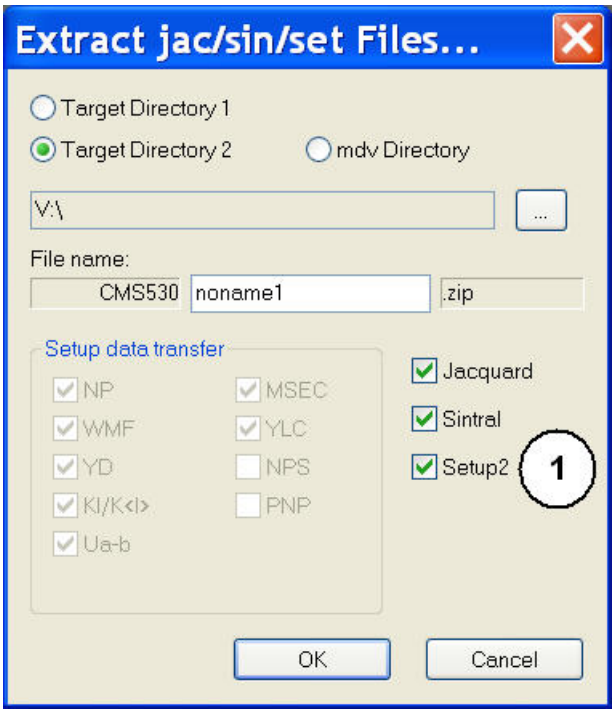
4) Load MC program in machine…

The MC Program elements will be extracted and transferred via the online connection to the machine.

5.1 File system

I. Save the data to the USB Memory Stick:

1. Call up the "Extract jac/sin/set files…" dialog box via the "MC Program" / "Extract MC Program…" menu.



No.	Entry	Meaning
1	Setup1	The **Setup type 1** was selected when generating the program. Under **Setup data transfer** select the data to be extracted which are to be saved in the setup file. **Result:** The data will be extracted to sin / jac / set files and saved.
	Setup2	The **Setup type 2** was selected when generating the program. **i**: No selection possible under Setup transfer. **Result:** The data will be extracted to sin / jac / setx files and saved as a zip file.

2. Select "Target Directory 2".
3. With the "…" button, specify the drive and the path, to which the USB Memory Stick is connected in the file system.
4. Activate the checkbox for the files to be extracted:
   ☑ "Jacquard"
   ☑ "Sintral"
   ☑ "Setup1" or ☑ "Setup2"
5. Under "Setup data transfer:"

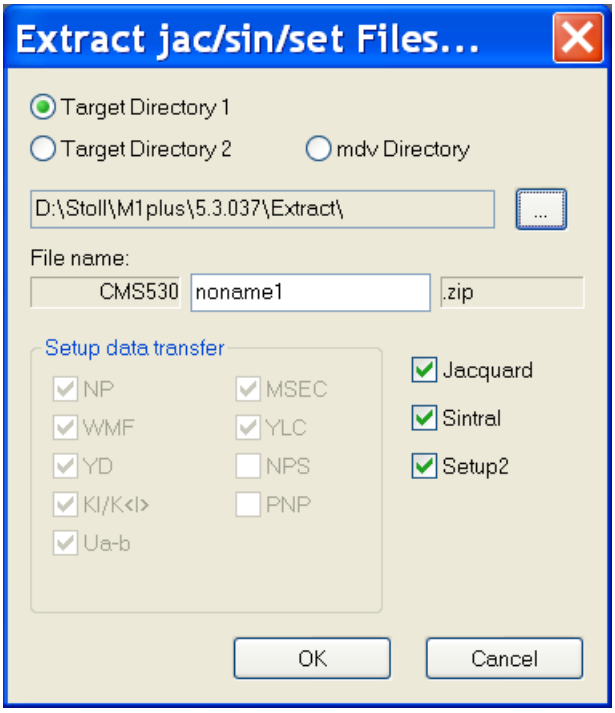
- Pattern with Setup1: Select the data to be extracted
- Pattern with Setup2: no selection possible

6. Close the dialog box with "OK".

▶ The Sin/Jac/Set files or the zip file will be generated and saved to the USB Memory Stick.

II. Save data to the hard disk:

1. Call up the "Extract jac/sin/set files…" dialog box via the "MC Program" / "Extract MC Program…" menu.



2. Select "Target Directory 1".

i	D:/Stoll/M1plus/<Version>/Extract is the default setting for this target directory

3. If necessary, change the drive and path with the "..." button.
   Example: D:/Stoll/M1/KnitLan.

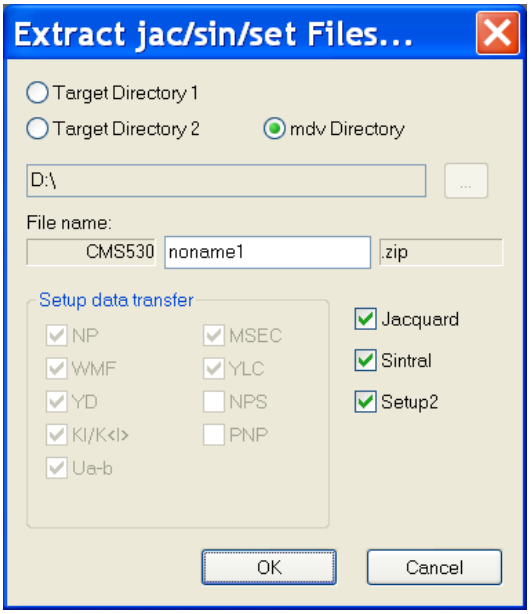
i	If a network exists between the OKC machine and the M1plus Pattern Workstation, the KnitLan folder is automatically shared for data transfer.

4. Close the dialog box with "OK".

▶ The Sin/Jac/Set files or the zip file will be generated and saved in the specified folder.

III. Save the data to the mdv directory:

1. Call up the "Extract jac/sin/set files…" dialog box via the "MC Program" / "Extract MC Program…" menu.



2. Select the "mdv directory".

---

i The path of the mdv file (pattern) appears as default.

---

3. Close the dialog box with "OK".

▶ The Sin/Jac/Set or the zip file will be generated and saved in the same folder with the mdv file.

6 Setup2

SETUP2 (*.setx)

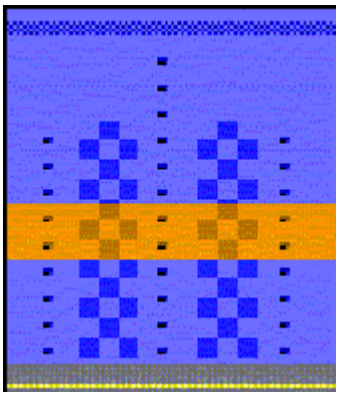
i	For OKC machines starting with the operating system V_OKC_002.001.000_STOLL.

Data of Setup2	Command
Stitch Length	NP NPS PNP
Fabric take-down menu	WMF
Staggering the yarn carriers at the fabric selvedge	YD
Machine speed	MSEC
Configuration of the Measuring Wheels	
Additionally in SETUP2	
Auxiliary Take-down	W+F
Indirect staggerings of the yarn carriers	YDI
Corrections of yarn carriers	YCI
Correction value for loop sinking depth depending on yarn carrier	NCC
Cycle Counters	RS
Racking corrections	VCI
Stitch length corrections	NPK, NPR
Yarn length control at the right and left side	YLC
Comments	

	Setup2
Fabric take-down functions (WMF**)**	50 fabric take-down functions (WMF)
	50 Auxiliary take-down functions (W+F) Switching auxiliary take-down on and off (W +1, W+0)
	Tab for WM% and WMK%
Yarn carrier staggering YD	20 staggerings (YD, YDI1-YDI20)
Yarn carrier corrections	20 indirect corrections (YCI1-YCI20)

	Setup2
	i: Some corrections for all 32 yarn carriers can be defined with each function.
	All normal and intarsia yarn carrier corrections are contained in the YCI tab
	with tandem mode: the correction values for the right carriage are part of the Y:Oa-b tab
Specifications for the stitch cam positions (NP**)**	100 specifications available
Specifications for the carriage speed (MSEC**)**	20 specifications available
Correction value for clamping depth depending on the yarn carrier (NCC**)**	One correction value per yarn carrier is possible
Yarn length	Indications for yarn length control on the right and left
Cycle Counters	39 cycle counters
Racking Corrections	50 Indices for racking corrections (VCI)
Comments	for each indication possible
Correction of the stitch length for the right carriage with tandem mode (NPR**)**	possible
Additional information	◆ Machine Number ◆ Online Number ◆ Host Name
File Extension	.setx (XML file)
File extensions for extracted patterns	**Files compressed in one folder** *.zip**:**  ◆ *.sin ◆ *.jac ◆ *.setx

7 Modify the pattern parameters of the structured pattern



Pattern name	01_Struktur.mdv
Start	1x1
Basic Pattern	Front Stitch with Transfer
Knitting Technique	Structure pattern with ◆ Single jersey structure ◆ Cable 3x3 ◆ Colored Stripe

Modify the following pattern parameters:

- **Stitch Length**
  - The stitch length settings are already shown before the expanding.
  - You can modify them already before expanding.
  - The stitch lengths are system-related data.
- **Fabric Take-down**
- **Auxiliary Take-down**
- **Carriage Speed**
  - The fabric take-down and the carriage speed is changed before expanding.
  - The data regarding the carriage strokes will be calculated during the technical processing.
  - Fabric take-down and carriage speed is stroke related data.
- **Racking Correction**
- Change the default settings for the fabric take-down [🗋 45]
- Change the default settings of the carriage speed [🗋 50]

7.1 The Control Columns

The display of the control columns can be shown or hidden in the different views and it can be saved for each view via the context menu "Save settings".

Selection menu of the control columns

➔ Position the cursor in the header of the control columns and press the right mouse button.

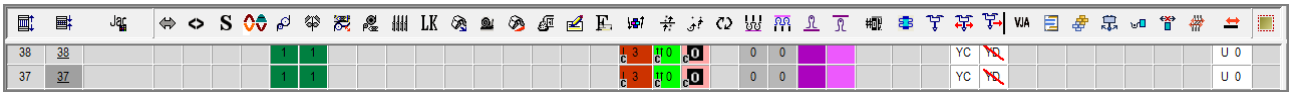
▶ The selection menu appears.

➔ Select the desired control columns in the pick list of the menu.

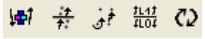
Further Possibilities:

	Meaning
Hide column	Click the column to hide with the right mouse button.
Show All Columns	According to the selected machine, all control columns will be displayed
Select Columns...	The "Select Columns" dialog box appears in order to select several control columns.

7.1.1 Icons of the Control Columns



Symbols	Designation	Function
	Technical row	Display the consecutive numbering of the technical rows.
	Pattern Row	Display the consecutive numbering of the pattern rows. If a pattern row consists of several technical rows, the pattern row number is visible multiple times.
Jac Sin	**Jacquard**	Display the Jacquard line number. i: Available after generating Sintral / Jacquard / Setup.
	Stroke	Specifications for defining the carriage stroke
L	**Knitting Layer**	Specification on the knitting layer with k&w (only active in the k&w mode)
<>	**Carriage Direction**	Specifications for the carriage direction
S	**System**	Specifications for the knitting systems
	Fabric Take-down	Settings for the fabric take-down, main take-down, auxiliary take-down, fabric sensor
	Auxiliary Take-down	

Symbols	Designation	Function
	**Open/close main take-down**	
	**Fabric sensor**	
	**Belt take-down**	Specifications for belt take-down (machines with belt take-down only)
	**Comb**	Settings for the comb
	**Control of collecting area**	
	**Carriage Speed**	Specifications for the carriage speed
	**Machine Slow**	
	**Machine Stop**	
	**Yarn LengthControl**	Settings for Ascon
	**Instructions**	Settings for the PRINT command
	**Function Call**	Settings for function calls and additional commands
	**Transfer surrounding**	Settings for transferring in defined areas
	Multi-system Transfer-ring	
	Combine casting-off / transfer	
	Transfer - distribute depending on layer (only active in the k&w mode)	
	Sorting of technical rows	
	**Holding-down at Front**	Settings for the holding-down jacks (only TC4 + TCR)
	Holding-down at Rear	
	**Stitch length at the front**	Settings for the stitch length
	Stitch length at the rear	
	**Cycles**	Specifications for cycles for length control
	**Border Fixation**	Block the border fixation by areas (switch-off)
	**Yarn Carriers**	Specifications for yarn carriers
	**Yarn carrier correction (YCI)**	Settings for yarn carrier corrections (only Setup2)

Symbols	Designation	Function
	**Yarn Carrier Distance to Fabric Selvedge (YDI)**	Settings for yarn carrier staggering processes on the fabric selvedge (only Setup2)
	**Rear Jacquard Selection**	Specifications for jacquard selection at the rear needle bed
	**Color Arrangement**	Color entry for Color Arrangements in use
	**Module Arrangement**	Color entry for Module Arrangements in use
	**Swiveling Yarn Carriers**	Settings for the behavior of the intarsia yarn carriers
	**Intarsia Binding**	Settings for the binding with intarsia / gore
	**No knitting-out**	Settings for knitting-out the yarn carriers
	**Racking Correction (VCI)**	Settings for racking corrections
	**Front additional needle bed racking**	Specification of the racking step for the front additional bed (with divided additional beds)
	**Front racking**	Specification of the racking step and the racking type for the front needle bed (only TC4) i: Additional beds without racking
	**Rear racking**	Specification of the racking step and the racking type for the rear needle bed (all the CMS)
	**Racking rear additional beds**	Specification of the racking step for the rear additional bed (with divided additional beds)
	**Additional needle bed racking front + back**	Specification of the racking step for the front and rear additional bed (only TC-R and 530T)
	**Selection**	Control column for generating a row selection
Additional control columns of CMS 730 S		
	**Presser foot**	Activating and deactivating the presser foot
	**Stitch Length (second stitch tension) in front**	Specification for the 2nd stitch tension (stitch length) of the front needle bed
	**Stitch Length (second stitch tension) at rear**	Specification for the 2nd stitch tension (stitch length) of the rear needle bed
	**Reclaiming in front**	Specifications for reclaiming at the front needle bed
	**Reclaiming at rear**	Specifications for reclaiming at the rear needle bed

Symbols	Designation	Function
Additional control columns of CMS 5xxHP B, ADF-3 B		
	Belt take-down	Specifications for switching on or off the belt take-down

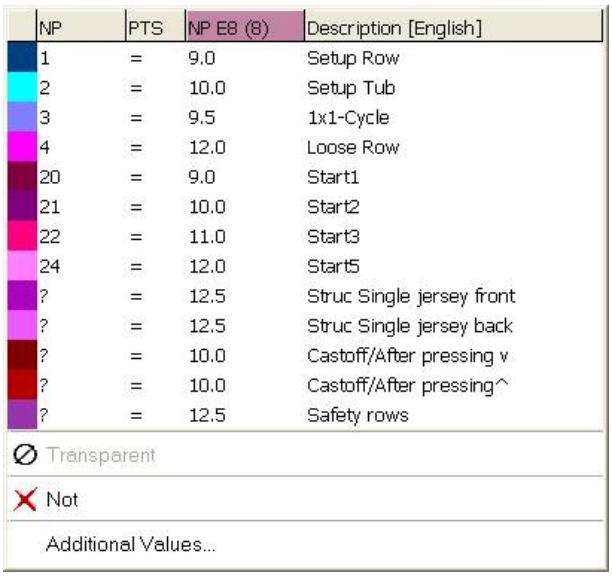
7.2 Change the default settings for the stitch length

Change the specifications for the stitch lengths in the pattern:

✓ See and modify specifications for the stitch lengths in the **Basic Pattern** pattern state.

1. Open the existing pattern and save it with a new name via the "File" / "Save as…" menu.
   - or -
   Generate a new pattern.
2. Place the cursor on the control column for the front or rear stitch length in the "Symbol View [Basic]" and press the right mouse button.
   - or -
   Call up the context menu with in the "Needle Actions - Stitch Lengths" toolbar.

▶ The Stitch lengths context menu appears.



- The stitch lengths used in the pattern will be displayed.
- The entries selected and used as favorites in the "Stitch length table" are displayed.
- An allocated stitch length can be set to "Undefined".

3. Select the desired stitch length in the display and enter it in the control column.
   - or -
   Fill a selection.

7.2.1 Working with the stitch length table

I. Call up the stitch length table and change the entry:

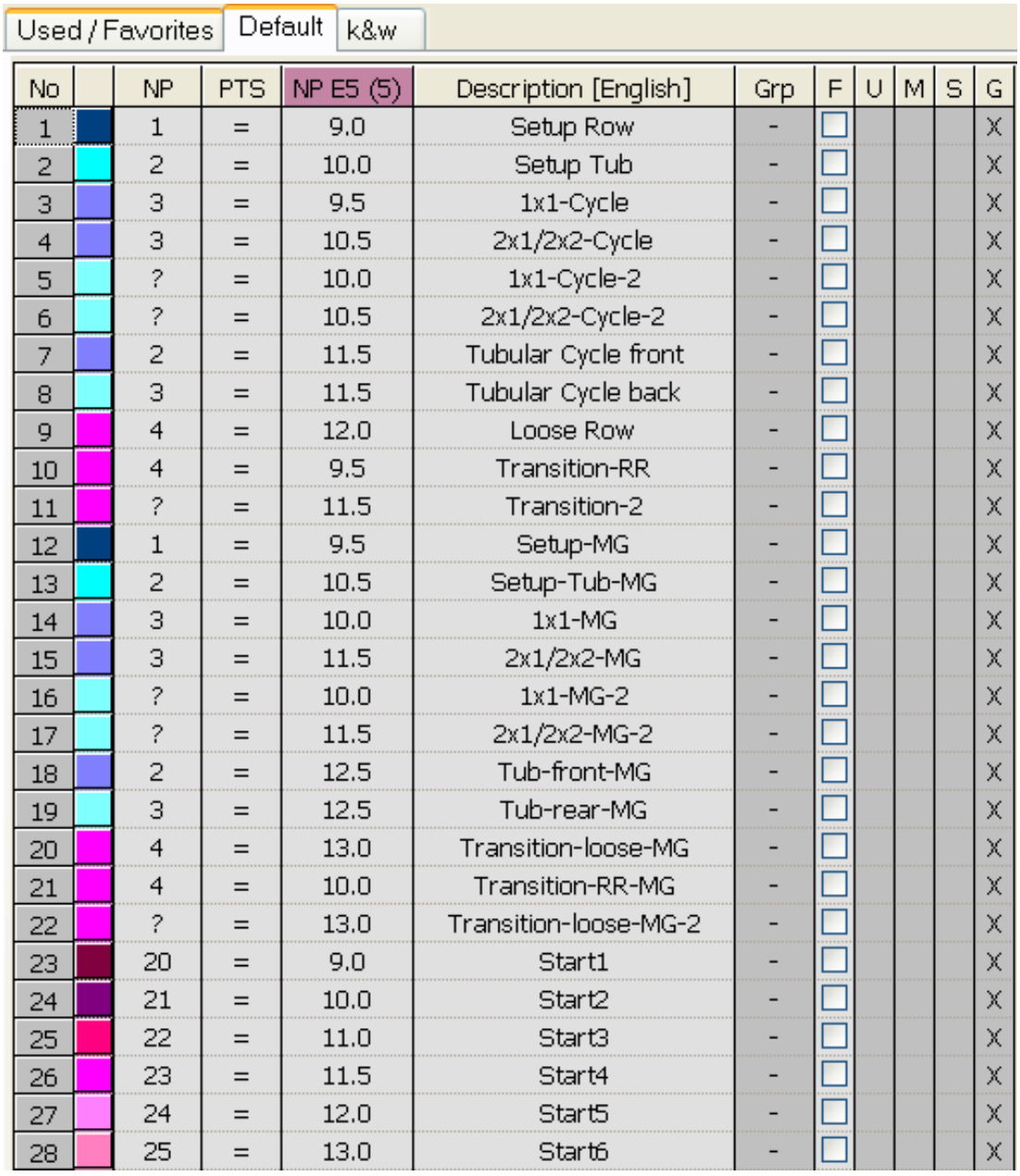
✓ Pattern is loaded into the **Basic Pattern** state of pattern.

1. Place the cursor on the control column for the front or rear stitch length in the "Symbol View" and press the right mouse button.
   - or -
   Open the Stitch Length context menu with next to or in the "Needle Actions - Stitch Lengths" toolbar.

▶ The Stitch Lengths context menu with the stitch lengths in use and the favorites appears.

2. Place the cursor on the changed entry and press the right mouse button.
3. Click "Edit entry" in the context menu.
   - or -
   Click "Additional Values..." in the stitch length context menu.

▶ The "Stitch length table" appears.



Used / Favorites | Default | k&w

No		NP	PTS	NP E5 (5)	Description [English]	Grp	F	U	M	S	G
1		1	=	9.0	Setup Row	-	☐				X
2		2	=	10.0	Setup Tub	-	☐				X
3		3	=	9.5	1x1-Cycle	-	☐				X
4		3	=	10.5	2x1/2x2-Cycle	-	☐				X
5		?	=	10.0	1x1-Cycle-2	-	☐				X
6		?	=	10.5	2x1/2x2-Cycle-2	-	☐				X
7		2	=	11.5	Tubular Cycle front	-	☐				X
8		3	=	11.5	Tubular Cycle back	-	☐				X
9		4	=	12.0	Loose Row	-	☐				X
10		4	=	9.5	Transition-RR	-	☐				X
11		?	=	11.5	Transition-2	-	☐				X
12		1	=	9.5	Setup-MG	-	☐				X
13		2	=	10.5	Setup-Tub-MG	-	☐				X
14		3	=	10.0	1x1-MG	-	☐				X
15		3	=	11.5	2x1/2x2-MG	-	☐				X
16		?	=	10.0	1x1-MG-2	-	☐				X
17		?	=	11.5	2x1/2x2-MG-2	-	☐				X
18		2	=	12.5	Tub-front-MG	-	☐				X
19		3	=	12.5	Tub-rear-MG	-	☐				X
20		4	=	13.0	Transition-loose-MG	-	☐				X
21		4	=	10.0	Transition-RR-MG	-	☐				X
22		?	=	13.0	Transition-loose-MG-2	-	☐				X
23		20	=	9.0	Start1	-	☐				X
24		21	=	10.0	Start2	-	☐				X
25		22	=	11.0	Start3	-	☐				X
26		23	=	11.5	Start4	-	☐				X
27		24	=	12.0	Start5	-	☐				X
28		25	=	13.0	Start6	-	☐				X

You can call up the "Stitch length table" via "Pattern Parameters / Stitch Lengths…" as well.

Designations in the stitch length table

Column	Display
No.	Consecutive numbering of the entries
Color	Color of the entry in the control columns
NP	Display of the index for the indirect / direct stitch length allocation

Column	Display
PTS	Specification for NPJ or PTS (Power Tension Setting).
Stitch tension value for gauge E	Stitch tension value in use depending on the machine gauge
Description	Comments for the entry
Group (Grp)	The grouping of stitch tension values will be displayed.
Status columns	Display the status of the entry

The status columns

Column	Designation	Use
F	**F**avorites	The selected entries will be displayed in the selection dialog of the control column.
U	Used (**U**sed)	The entries marked with an **x** are used in the pattern.
M	**M**odified	The entries marked with an **x** have been changed in relation to the global pattern data. Entries newly added or set to favorites will also be marked with an X. This can be reset with the "Reset modified status" function in the context menu of the table.
S	**S**intral	A **x** appears here if the value has been copied from the Sintral function.
	Setup2	The entries marked with an **x** will be applied to the file (.setx). **Example:** Generating a sequence in which only one setup2 file is used for all the sequence elements.
E	**G**lobal	An **x** appears here when the value has been applied from the global stitch length table.

II. Specify favorites in the stitch length table:

1. Call up the "Stitch length table".
2. Click the desired entry in the status column "F".
3. Close the table with  .

▶ The selected entry will be displayed in the selection menu and can be inserted in the pattern.

i	In the process, the entry is automatically set to "Modified". The status can be reset in the context menu of the "Stitch length table" with "Reset modified status".

III. Add a new entry in the stitch length table:

1. Call up the "Stitch length table".
2. Open the context menu.
3. Select "Insert new entry" in the context menu.

▶ A new entry will be added at the end of the table.

4. Define specifications in the columns of the new entry.
5. Close the table with  .

▶ The changes will be saved in the table.

> **i** The changes will be saved in the mdv file when saving the pattern.

IV. Apply entry from stitch length table in pattern:

✓ Pattern is loaded into the **Basic Pattern**  state of pattern.

1. Call up the "Stitch length table".
2. Select an entry in the table via the column number or the color.
3. Click on the corresponding control column and row of the "Symbol view [Basic]".

▶ The stitch length will be entered in the control column.

> **i** **Change of stitch length in a local module**
>
> You can change the stitch length of a local module.
> In case of a following data transfer into the pattern, then there will be different stitch lengths in one pattern row.

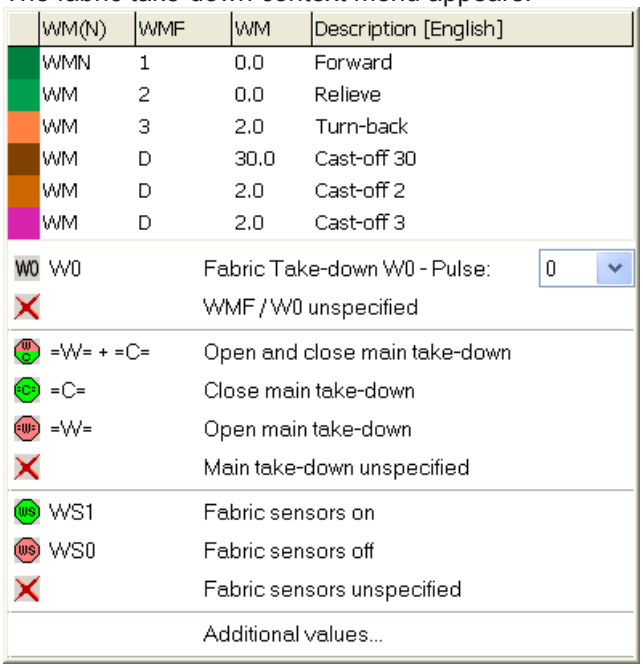
7.3 Change the default settings for the fabric take-down

Change the specifications for the fabric take-down in the pattern:

✓ You can see and modify the specifications for the fabric take-down referred to knitting rows in the **Basic Pattern**  pattern state.

1. Open the existing pattern and save it with a new name via the "File" / "Save as…" menu.
   - or -
   Generate a new pattern.
2. In the "Symbol View Basic" place the cursor in the control column for the fabric take-down  or in the control column  and press the right mouse button.

▶ The fabric take-down context menu appears.



- The fabric take-down values used in the pattern will be displayed.
- The entries selected as favorites in the "Fabric take-down table" are displayed.
- An allocated fabric take-down value can be set to "Undefined".

3. Select the desired value for fabric take-down and enter it in the control column of the basic pattern.
   - or -
   Fill a selection.

Additional selection options in the selection window:

- Set the specifications for the main take-down.
- Set the specifications for the fabric sensors.

7.3.1 Working with the Fabric Take-down Table

I. Call up the fabric take-down table and change the entry:

✓ Carry out changes in the **Basic Pattern** state of pattern.

1. Place the cursor on the control column for the fabric take-down in the "Symbol View" and press the right mouse button.

▶ The context menu for fabric take down with the fabric take-down values in use and the favorites appears.

2. Place the cursor on the changed entry and press the right mouse button.
3. Click "Edit entry" in the context menu.
   - or -
   Click "Additional Values..." in the Fabric Take-down context menu.

▶ The "Fabric take-down table" appears.

File Edit View Tools ?

No		WM(N)	WMF	WM	WMmin	WMmax	N min	N max	WMI	WM^	WMC	WM+C	WMK+C	Description [English]	F	U	M	S	G
1		WMN	1	0.0	2.0	4.3	0	100	3	0	10	20	50	Forward	☐	X	X		X
2		WM	2	0.0	0.0	0.0	0	0	0	0	10	10	10	Relieve	☐	X			X
3		WM	3	2.0	0.0	0.0	0	0	0	20	10	10	10	Turn-back	☐	X			X
5		WM	D	30.0	0.0	0.0	0	0	3	0	0	10	10	Cast-off 30	☐	X			X
6		WM	D	2.0	0.0	0.0	0	0	0	0	0	10	10	Cast-off 2	☐	X	X		X
19		WM	D	2.0	0.0	0.0	0	0	0	20	0	10	10	Cast-off 3	☐	X	X		X
4		WM	D	2.0	0.0	0.0	0	0	7	0	0	0	0	Picking-up	☐		X		X
7		WM	?	0.0	0.0	0.0	0	0	0	0	0	0	0	Link-off	☐		X		X
8		WMN	2	0.0	2.0	4.0	0	0	3	0	10	20	20	Relieve k&w	☐		X		X
9		WMN	3	0.0	2.0	4.0	0	0	3	10	10	20	20	Turn-back k&w	☐		X		X
10		WM	?	0.0	0.0	0.0	0	0	0	0	0	0	0	Link-off k&w	☐		X		X
11		WM	?	0.0	0.0	0.0	0	0	0	0	0	0	0	Ending Link-off k&w	☐		X		X
12		WMN	5	0.0	0.0	0.0	0	0	3	0	10	10	10	Remaining Narrowing k&w	☐		X		X
13		WM	4	0.0	0.0	0.0	0	0	0	30	10	10	10	Combine Sleeves k&w	☐		X		X
14		WM	6	4.0	0.0	0.0	0	0	3	0	10	10	50	Setup Row 2x2 k&w	☐		X		X
15		WMN	2	5.0	0.5	5.0	0	0	2	0	10	10	10	Relieve TC-T k&w	☐		X		X
16		WMN	4	5.0	0.5	5.0	0	0	2	0	10	10	10	Combine Sleeves TC-T k&w	☐		X		X
17		WMN	?	0.0	2.0	2.0	0	0	3	0	0	0	0	Link-off Shoulder TC-T k&w	☐		X		X
18		WMN	?	0.0	1.0	1.0	0	0	3	0	0	0	0	Link-off Collars/Knot TC-T k&w	☐		X		X

You can call up the "Fabric take-down table" via "Pattern Parameters / Fabric take-down…" as well.

Designations in the fabric take-down table

Column	Display	
No.	Consecutive numbering of the entries	
Color	Color of entry	
WM(N)	WM	Fabric take-down value when this is not changed in accordance with the number of needles.
	WMN	Fabric take-down value when this is changed in accordance with the number of needles (fabric width).
WMF	Index for indirect allocation of the fabric take-down value (Fabric take-down menu)	
WM	Fabric take-down value when this is not changed in accordance with the number of needles.	
WM min	Fabric take-down value for minimum fabric width	
WM max	Fabric take-down value for maximum fabric width	
N min	Number of needles for minimum fabric width	
N max	Number of needles for maximum fabric width	
WMI	Fabric take-down impulse value	
WM^	Specification of a number of degrees for the reverse rotation of the take-down	
WMC	Value for the sensitivity of the stop motion control of the main take-down	

Column	Display
WM+C	Specification of the system number for the fabric take-down control
WMK+C	Specification of the system number for comb monitoring
Description	Comments referring the entry
Status columns	Display the status of the entry

II. Specify favorites in the fabric take-down table:

1. Open the "Fabric take-down table".
2. Activate the desired entry in the status column "F" .

▶ The selected entry is displayed in the selection menu.

i	The status "Modified" can be canceled in the context menu of the "Fabric take-down table" with "Reset modified status".

7.4 Set the specifications for the auxiliary take-down

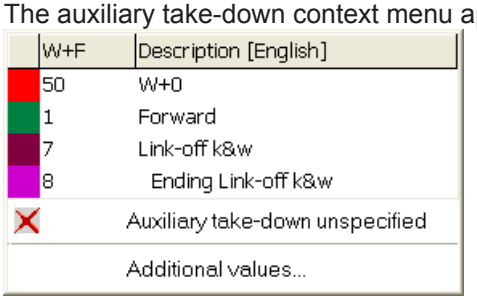
i	An additional control column is inserted for controlling the auxiliary take-down. No specifications are set by default.

Enter specifications for the auxiliary take-down in the pattern:

✓ You insert the settings for the auxiliary take-down referred to knitting rows in the pattern state **Basic pattern** .

1. Open the existing pattern and save it with a new name via the "File" / "Save as…" menu.
   - or -
   Generate a new pattern.
2. In the "Symbol View Basic" place the cursor in the control column for the auxiliary take-down and press the right mouse button.

▶ The auxiliary take-down context menu appears.



- The entries selected as favorites in the "Auxiliary take-down table" are displayed.
- An allocated auxiliary take-down value can be set to "Undefined".

3. Select the desired value for auxiliary take-down and enter it in the control column of the basic pattern.
   - or -
   Fill a selection.

> **i** With SETUP1 observe:
>
> When creating patterns with the setup type 1 you need to watch out that in the control column auxiliary take-down and in the control column fabric take-down are used the same indices.
> **Example:** Fabric take-down WMF**1** and auxiliary take-down W+F**1**

■ Working with the Fabric Take-down Table [🗋 46]

7.4.1 Working with the Auxiliary Take-down Table

Call up the auxiliary take-down table and change the entry:

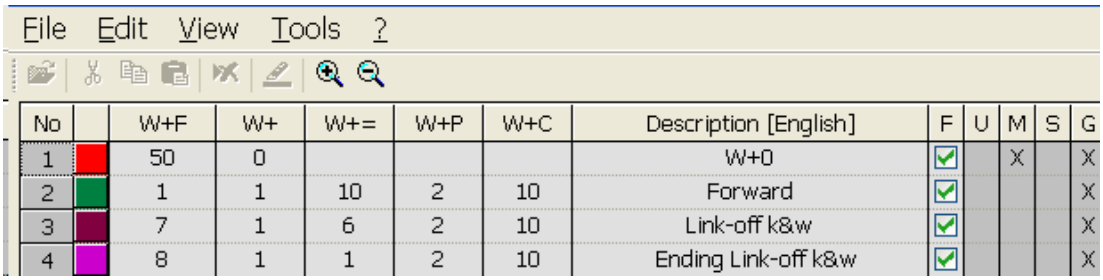
✓ Carry out changes in the **Basic Pattern** state of pattern.

1. In the "Symbol view" place the cursor on the control column for auxiliary take-down and press the right mouse button.

▶ The auxiliary take-down context menu with the favorites from the "Auxiliary take-down table" appears.

2. Place the cursor on the changed entry and press the right mouse button.
3. Click "Edit entry" in the context menu.
   - or -
   Select "Additional values..." in the context menu of the Auxiliary take-down control column.

▶ The "Auxiliary take-down table" appears.



No		W+F	W+	W+=	W+P	W+C	Description [English]	F	U	M	S	G
1		50	0				W+0	☑		X		X
2		1	1	10	2	10	Forward	☑				X
3		7	1	6	2	10	Link-off k&w	☑				X
4		8	1	1	2	10	Ending Link-off k&w	☑				X

> You can call up the "Auxiliary take-down table" via the "Pattern Parameters / Auxiliary take down…" menu as well.

Designations in the auxiliary take-down table

Column	Meaning
No.	Consecutive numbering of the entries

Column	Meaning
Color	Color of entry
W+F	Index for the indirect allocation of the auxiliary take-down value (Auxiliary take-down menu)
W+	Open or close the auxiliary take-down
W+=	Speed of auxiliary take-down
W+P	Value for the contact pressure of the auxiliary take-down
W+C	Specification of the system number for the auxiliary take-down control
Description	Comments referring the entry
Status columns	Display the status of the entry

7.5 Change the default settings of the carriage speed

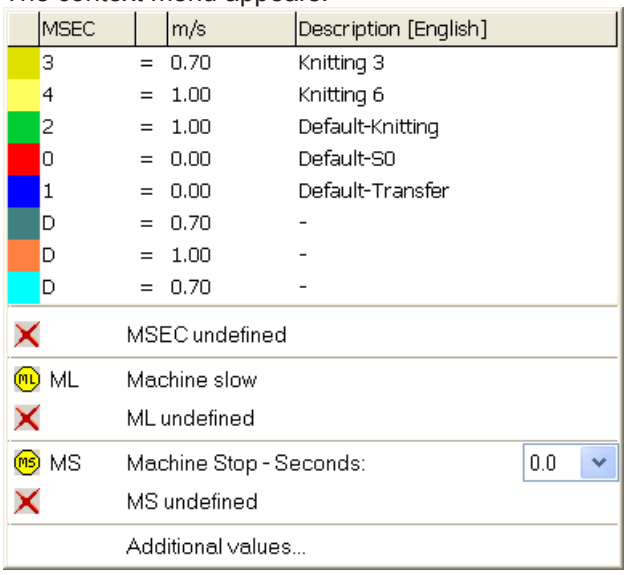
Change the specifications for the carriage speed:

> **i** Default Settings
>
> The default settings will be loaded from the "Global Pattern Parameters" into the pattern (.mdv).

✓ You can see and change the presettings for carriage speed, machine slow and machine stop referred to knitting rows in the "Basic Pattern" pattern state.

1. Open the existing pattern and save it with a new name via the "File" / "Save as…" menu.
   - or -
   Generate a new pattern.
2. Place the cursor in the control column for carriage speed . machine slow or machine stop and press the right mouse button.

▶ The context menu appears.



- The carriage speed values used in the pattern will be displayed.
- The entries selected as favorites in the "Carriage Speed table" are displayed.
- An allocated value can be set to "Undefined".

3. Select the desired carriage speed value and enter it in the control column.
   - or -
   Fill a selection.

Additional selection options in the selection window:

- Set the specifications for "Machine slow".
- Set the specifications for "Machine stop".

7.5.1 Working with the Carriage Speed Table

I. Call up the carriage speed table and change the entry:

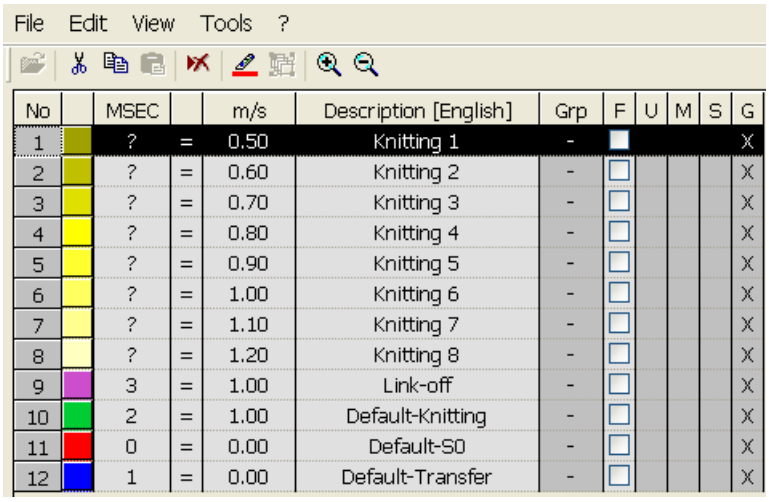
✓ Carry out changes in the **Basic Pattern** state of pattern.

1. Place the cursor on the control column for the carriage speed in the Symbol View and press the right mouse button.

▶ The Carriage Speed context menu with the used carriage speeds and the favorites appears.

2. Place the cursor on the changed entry and press the right mouse button.
3. Click "Edit entry" in the context menu.
   - or -
   Click "Additional Values..." in the context menu.

▶ The "Carriage speed table" appears.



No		MSEC		m/s	Description [English]	Grp	F	U	M	S	G
1		?	=	0.50	Knitting 1	-					X
2		?	=	0.60	Knitting 2	-					X
3		?	=	0.70	Knitting 3	-					X
4		?	=	0.80	Knitting 4	-					X
5		?	=	0.90	Knitting 5	-					X
6		?	=	1.00	Knitting 6	-					X
7		?	=	1.10	Knitting 7	-					X
8		?	=	1.20	Knitting 8	-					X
9		3	=	1.00	Link-off	-					X
10		2	=	1.00	Default-Knitting	-					X
11		0	=	0.00	Default-S0	-					X
12		1	=	0.00	Default-Transfer	-					X

Designations in the Carriage Speed table

Column	Display
No.	Consecutive numbering of the entries
Color	Color of entry
MSEC	Index for indirect allocation of the carriage speed
m/s	Carriage speed value in use
Description	Name for the entry
Group (Grp)	Entries that are combined to form a group
Status column	Display the status of the entry

7.6 Make settings for racking corrections

i	Racking corrections (VCI) are used in Stoll modules by default.

Enter settings for a racking correction in a local module:

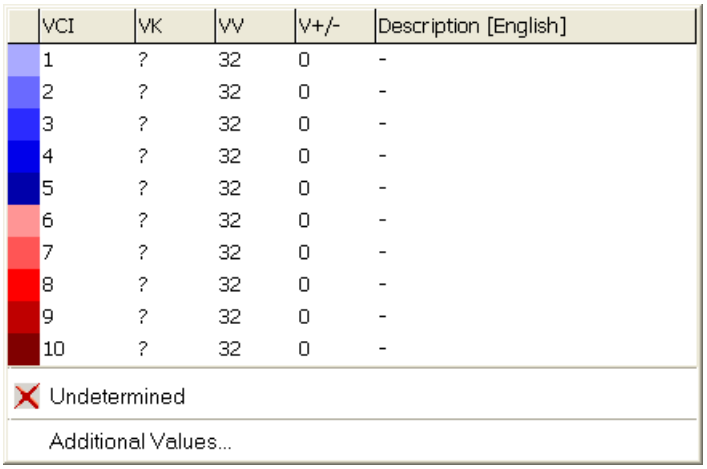
i	All modules from the "Module Explorer of Database" used in the pattern will be saved as local modules with the pattern.

✓ The settings for a racking correction referred to transfer rows are to be entered into a **local module** in the **Basic pattern** pattern state.

1. Open the existing pattern and save it with a new name via the "File" / "Save as…" menu.
   - or -
   Generate a new pattern.
2. Select local module.
3. Call up the context menu with the right mouse button.

4. Call up "Edit Module".
   - or -
   Open the module double clicking.
5. Display the control columns for racking correction in the "Module Editor"
6. Place the cursor on the corresponding control column for the racking correction and press the right mouse button.

▶ The context menu Racking corrections (VCI) appears.



- The entries selected as favorites in the "Racking correction table" are displayed.
- An allocated racking correction can be set to "Undefined".

7. Select the desired racking correction from the display and enter it in the control column.
   - or -
   Select a racking correction value under "Additional Values…" and enter it.
8. Close the Module Editor with .

▶ The "Module: XXX" dialog box for applying the changes appears.

9. Select the desired settings under "Apply" for the data transfer.
10. Close the dialog box with "Yes".

▶ The settings are saved in the local module.

i	The entries in the transferring rows are only visible after the expand pattern step of processing.

7.6.1 Working with the Racking Correction Table

I. Call up the racking correction table and change the entry:

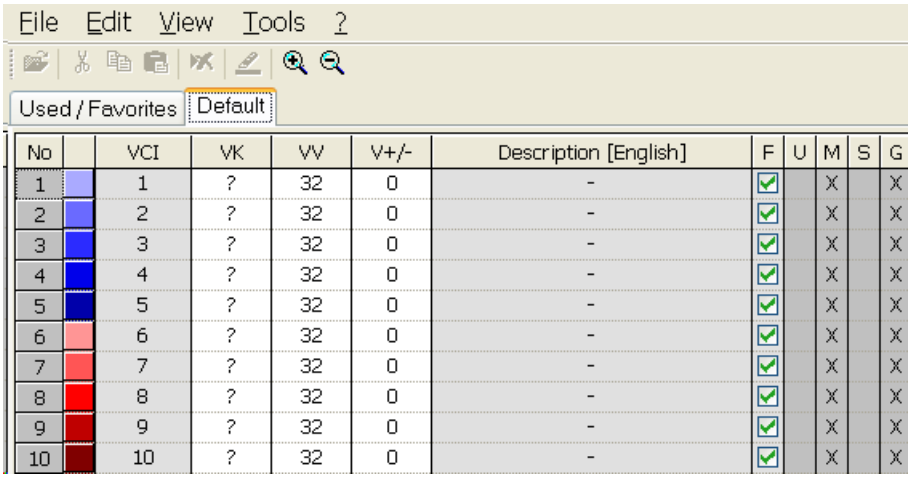
✓ The **Basic Pattern** state of pattern is loaded.

1. Place the cursor on the control column for racking correction in the Symbol View and press the right mouse button.

▶ The context menu with the favorites from the "Racking Correction Table" appears.

2. Place the cursor on the changed entry and press the right mouse button.
3. Click "Edit entry" in the context menu.
   - or -
   Select "Additional values..." in the context menu of the control column Racking Correction (VCI).

▶ The "Racking Correction Table" appears.



No		VCI	VK	VV	V+/-	Description [English]	F	U	M	S	G
1		1	?	32	0	-	☑		X		X
2		2	?	32	0	-	☑		X		X
3		3	?	32	0	-	☑		X		X
4		4	?	32	0	-	☑		X		X
5		5	?	32	0	-	☑		X		X
6		6	?	32	0	-	☑		X		X
7		7	?	32	0	-	☑		X		X
8		8	?	32	0	-	☑		X		X
9		9	?	32	0	-	☑		X		X
10		10	?	32	0	-	☑		X		X

You can call up the "Racking Correction Table" also via the "Pattern Parameters / Racking correction…" menu.

Designations in the Racking Correction Table

Column	Function	Specification	Setting range
VCI	Racking correction functions	Index	1-50
VK	Racking Correction		A (-Z)
	Direction of correction	Correction to the left	<
		Correction to the right	>
	Correction value		0-10
		Value undefined	?
VV	Racking speed		32-1
V+/-	Overracking		1-24

Additional racking commands will be displayed according to the used machine type.

8 Modifying the 'Global Pattern Parameters' File

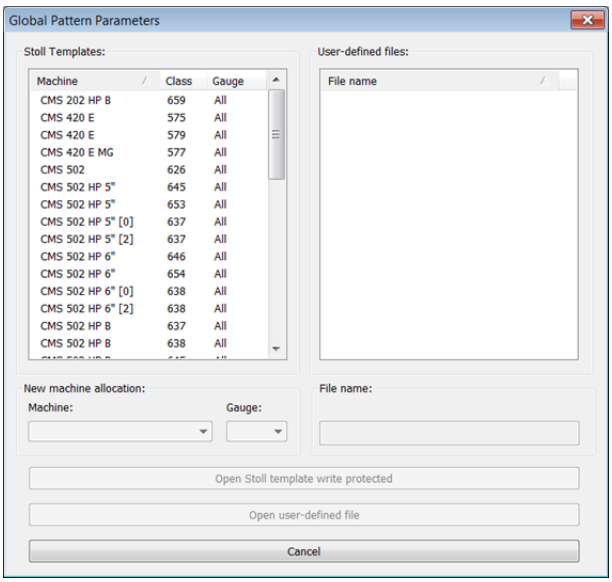
Important pattern data are saved as Stoll default in these files.

- globalparameters.mdv
  File for all machines that do not need any specific parameters.
- globalparameters_B.mdv
  File for all machines with belt take-down that do not need any specific parameters.
- globalparameters_xxx.mdv / globalparameters_xxx_B.mdv
  Files for special machine types (classification number) that need machine specific parameters.

I. Create a private file for global pattern parameters:

1. With  open the M1plus.
2. Call up the "Pattern Parameters" / "Global Pattern Parameters..." menu.

▶ The "Global Pattern Parameters" dialog is displayed.



New machine allocation:	Machine	Selection of the machine type (classification) for the (private) file to be newly created with your own specifications
	Gauge	Selection of the machine gauge for gauge dependent files
File name	Enter the name for the Private file	
Key "Open Stoll template write protected"	Open the selected Stoll template as write-protected file.	

Key "Create New File"	Creating a copy of the selected Stoll template with a new file name i: The copy is saved with the specified file name in the Private folder under the D:/Stoll/M1plus/<Version>/ConfigData/Private … path.
"Open user-defined file" **button**	Opening a selected file from the list under "User-defined Files"

3. Select the desired template for creating your one file under "Stoll templates".
4. Select another machine type and / or gauge if necessary.
5. Enter new file name.
6. Press the "Create New File" key.

▶ The Stoll template is copied and saved under the new file name in the Private folder under D:/Stoll/M1plus/<Version>/ConfigData/Private.

7. Select the private file in the "User-defined Files" section.
8. Click the "Open user-defined file" button.

▶ The dialog box with the file name is opened.

GlobalParameters		
Configuration	"Default"	Sintral
		Knitting Areas
		Transfer
		Intarsia
		Comb, Clamping
		More Settings
	"k&w"	Settings in Configuration for the **knit and wear** mode
	"Stitch length table"	The corresponding tables are displayed.
	"Fabric take-down table"	
	"Auxiliary Take-down Table"	
	"Belt take-down"	
	"Carriage speed table"	
	"Racking Correction Table"	
	"Sintral Functions"	
	"NPS Table"	
	"PNP Table"	
	"YPI Table"	

II. Carry out changes in "Configuration":

1. In the dialog box open the "Configuration" dialog with the "Standard" button.
2. Select the desired tab and make changes.
3. Save the changed settings in the private file underD:/Stoll/M1plus/<Version>/ConfigData/ Private by clicking "Apply" or "OK".

- The private files with the changes are retained in the Private folder in case of software installation.
- The files in the Private folder are directly selected and used during the pattern creation.
- During the software installation, a backup of the Private folder will be generated: D:/Stoll/M1plus/<Version>/ConfigDataBackup/ Private.

III. Changing the values in the tables of the different Pattern Parameters:

1. Open the desired table and carry out the changes.
2. Close the table with  .

IV. Add a new entry in the tables of the different Pattern Parameters:

1. Open the desired table.
2. Select "Insert new entry" via the context menu of the tables.

▶ A new entry is added.

3. Allocate values and descriptions to the new entries.
4. Close the table with  .

V. Save the changes in the file:

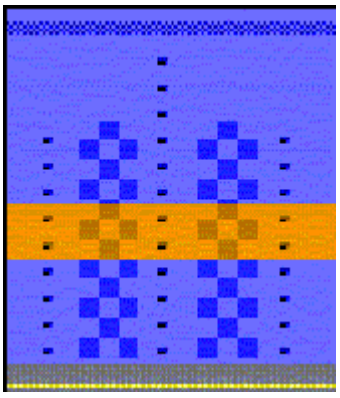
1. Close the dialog box with  .

▶ The query "Save changes as..." appears.

2. Confirm the query with "Yes".

▶ The changes will be saved under the D:/Stoll/M1plus/<Versionnummer>/ConfigData/ Private/xxx.mdv path.

9 Structure pattern with changed transfer settings



Pattern name	02_ein-mehrsystemiges-Strick.mdv		
Pattern size	**Gauge**	E 3,5.2	E 7.2
	Width:	100	200
	Height:	100	200
Machine type	◆ CMS 530 HP 5'' ◆ CMS 530 HP 6''		
Setup Type	Setup2		
Start	1X1 Rib		
Basic Pattern	Front Stitch with Transfer		
Knitting Technique	Structure		
Pattern description	Change adjustments in the structure pattern with right, left, cable and horizontally running colored stripe. ◆ **In the entire pattern** ◆ **in selected pattern rows**		

9.1 The Transfer tab of the Configuration Dialog Box

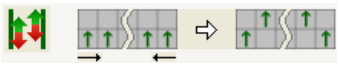
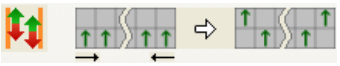
How to influence the transfer cycle:

- In the entire pattern
- in the areas of the pattern

I. Use multi-system transferring within the whole pattern:

1. Save the pattern under a new name.
   - or -
   Generate new pattern.

2. Open the "Configuration" dialog box via the "Pattern Parameters" / "Configuration..." menu.
3. Set the specifications in the "Transfer" tab under "Multi-system Transferring".

Option field	Function	Meaning
OFF	Switch off transferring in several technical rows (systems).	Transfer processes will not be separated into several technical rows.
	Two neighboring transfer processes will be divided up into two technical rows.	The first needle coming from the left will be transferred in the **first technical row**.
		The first needle coming from the left will be transferred in the **second technical row**.
		The first needle coming from the left or right will be transferred in the **first technical row**.
		The first needle coming from the left or right will be transferred in the **second technical row**.
Edit box "Freely definable" 	Freely definable order coming from the left or from the right.	Neighboring transfer processes will be divided-up into up to six technical rows. ◆ The numbers **1 - 6** are allowed. (corresponds to 1-6 technical rows) ◆ A maximum of eight numbers can be entered ◆ The numerical sequence has to be complete ◆ The order is also applied, if the transfer processes are contained only partly in the pattern ◆ The order will be repeated.

4. Make settings under "Settings for Transfer Sequence".

Option field	Function	Meaning
Max. Distance	Specification of the distance for transferring in several technical rows.	Number of needles between two neighboring transfer processes in order to separate them on two technical rows (systems).
From racking	Specification of the racking step for transferring in several technical rows.	Transferring will be separated on several technical rows from the specified racking on only.
	Transfer to the front and to the rear	Transfer specifications for both directions will be separated to several technical rows.

Option field	Function	Meaning
	Transfer to front only	Only transfer specifications from rear to front will be separated to several technical rows.
	Transfer to rear only	Only transfer specifications from front to back will be separated to several technical rows.

5. Confirm setting with "Apply" or "OK".

▶ These settings are taken into account during the **Technical Processing**.

II. Transfer surrounding in the entire pattern:

1. Open the "Configuration" dialog box via the "Pattern Parameters"/"Configuration..." menu.
2. Make the settings in the "Transfer" tab under "Transfer surrounding".

Option field	Function	Meaning
"Off"	Surrounding will not be transferred.	
	Transfer surrounding to front	The reverse stitches will be transferred to the front needle bed.
	Transfer surrounding to rear	The jersey stitches will be transferred to the rear needle bed.
"From racking"	Specification of the racking step for transfer surrounding.	Transfer surrounding will be carried out only from the specified racking on.

3. Confirm setting with "OK".

▶ The setting is taken into account during **Technical Processing**.

III. Group transfer and cast-off in the entire pattern:

1. Open the "Configuration" dialog box via the "Pattern Parameters"/"Configuration..." menu.
2. Make the settings in the "Transfer" tab under "Group cast-offs/transfers".

Option field	Function	Meaning
 "Off"	Do not group cast-off and transfer	Cast-off and transfer will not be carried out together in the same technical row (system).
 "On" 	Group cast-off and transfer.	Cast-off and transfer will be grouped in a technical row.

i	Grouping cast-off and transfer is possible only in subsequent technical rows, which contain the same racking specifications.

3. Confirm setting with "OK".

▶ The setting is taken into account during "Technical Processing".

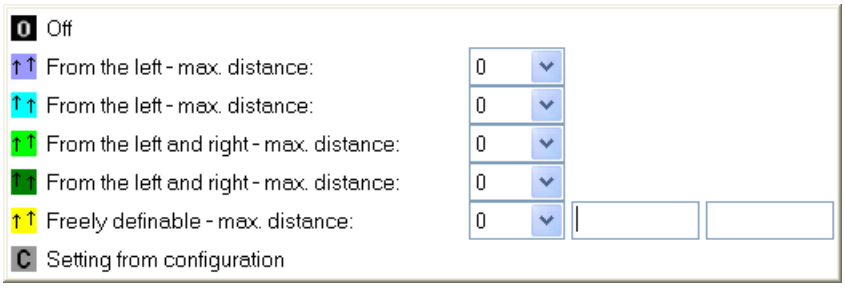
IV.IV. Specify multi-system transferring in individual rows (areas):

i	You can make the settings shown above on single pattern rows or areas as well.

1. Back to the basic pattern clicking on .

i	The specifications are not contained in the basic pattern.

2. Activate the technical row presentation .
3. Switch-on the control column for **Multi-System Transferring** .
4. Activate the "Multi-System Transferring" selection menu with the right mouse button in the control column.



5. Select the desired transferring sequence and draw it at the corresponding place into the control column.
   - or -
   Create one or more selections and fill the selection / selections with .

Function		Meaning
0	"Off"	Switch off transferring in several technical rows (systems).
↑↑	"From the left - max. distance"	The first needle coming from the left will be transferred in the **first technical row**.
↑↑	"From the left - max. distance"	The first needle coming from the left will be transferred in the **second technical row**.
↑↑	"From the left and right - max. distance"	The first needle coming from the left or right will be transferred in the **first technical row**.
↑↑	"From the left and right - max. distance"	The first needle coming from the left or right will be transferred in the **second technical row**.

Function		Meaning
↑↑	"Freely definable - max. distance"	Freely definable order coming from the left or from the right.
C	"Settings from configuration"	The setting of Configuration will be applied

i	The settings will be taken into account during the step of processing **Technical Processing** for the selected areas only.

V. Make further specifications in the same way:

- Transfer surrounding 
- Group cast-offs / transfers 

9.2 Complete the Pattern

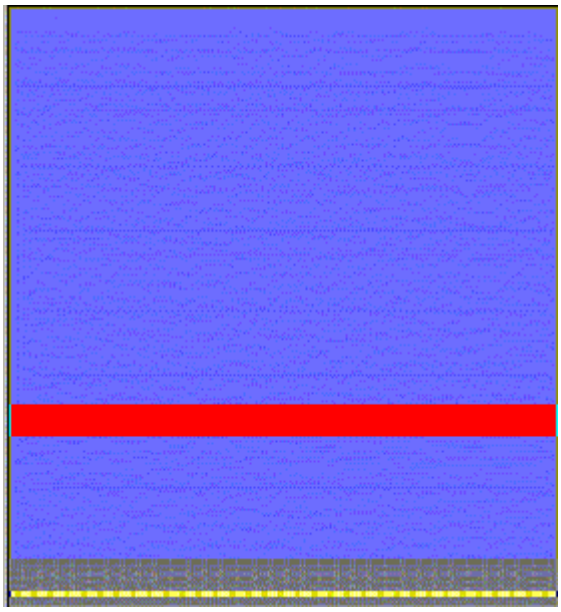
Complete the pattern:

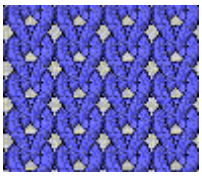
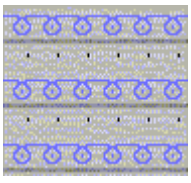
1. Start the technical processing directly via the "Steps of Processing" toolbar with the  button.

▶ The query "Generate MC Program" appears.

2. Confirm the query with "OK".
3. Call up the "Sintral Check" by  .
   - or -
   Call-up "Sintral Check" via the "MC Program / Conduct Sintral Check..." menu.
4. Save pattern.

10 Use of yarn colors



Pattern name	Ein-zweisystem.mdv		
Pattern size	**Gauge**	E 3,5.2	E 7.2
	Width:	100	200
	Height:	100	200
Machine type	◆ CMS 530 HP 5'' ◆ CMS 530 HP 6''		
Setup Type	Setup2		
Start	2x1 rib		
Basic Pattern	Front Stitch with Transfer		
Knitting Technique	 Single Jersey		
Pattern description	Single jersey with colored stripe		

10.1 Create Pattern

Create a new pattern:

1. Call up the "File" / "New" menu.
   - or -
   Click the  icon.

2. Enter a pattern name.
3. Select the machine type and the desired setup type.
4. Select **Basic pattern (pattern without shape)** and "Design Pattern".

5. Define the pattern size and the basic knitting mode.
6. Select a start.

> You can insert a start after drawing the basic pattern as well.

7. Confirm the settings with "Generate Design Pattern".

▶ The "Symbol view [Basic]" will be opened.

10.2 Draw structure with yarn colors

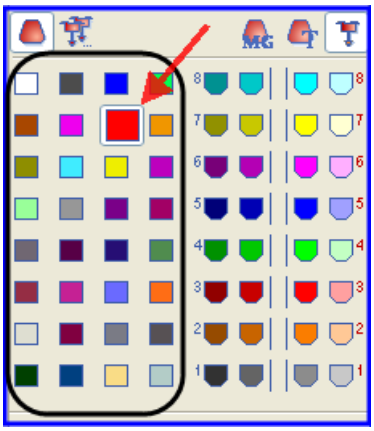
> Draw the whole pattern with **yarn colors** only.
> It is **not** recommended to use yarn colors and yarn carrier colors in one pattern.

I. Draw the single jersey structure with colored stripes:

1. Set the "Yarn or Yarn Carrier Color as Background" in the "Pattern Presentations" toolbar.

▷ The yarn colors drawn-in are displayed.

2. Select the desired **Yarn color** in the "Symbol View [Basic]" via the "Pattern Colors" toolbar.



i	By default, the M1plus defines a yarn carrier for each color drawn-in.

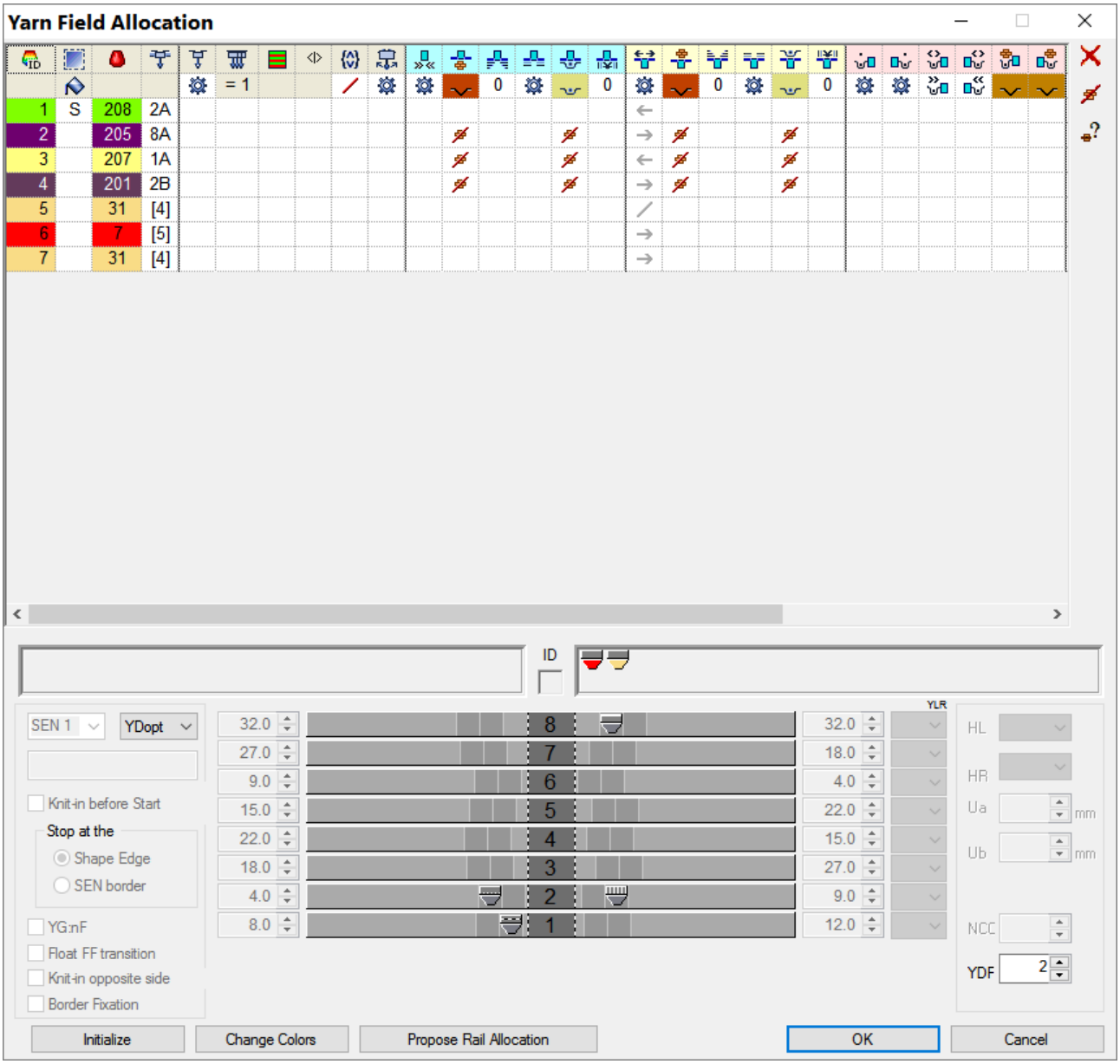
3. Enter the yarn color for the colored stripes via the control columns "Pattern rows" or "Technical rows" of the symbol view.
   - or -
   Create a row selection via the control columns and fill the selection with the drawing tool .

i	Recommendation: Draw-in only an even number of rows of the color into the pattern.

II. Call up the "Yarn Field Allocation" dialog box.

➔ In the "Pattern Presentations" toolbar click on the key.

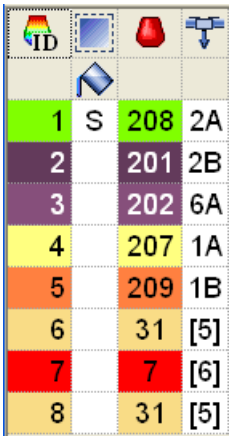
▶ The "Yarn field allocation" dialog box and the "Yarn field view" with all the yarn fields existing in the pattern will be opened.



III. Default columns in the "Yarn Field Allocation" dialog box:

Table header:

- 1st row:
  all the symbols for identification of the table columns
- 2nd row:
  Default settings for the respective column (settings from globalparameters.mdv)



1	S	208	2A	
2		201	2B	
3		202	6A	
4		207	1A	
5		209	1B	
6		31	[5]	
7		7	[6]	
8		31	[5]	

<table>
<tr><td colspan="2">Column</td><td colspan="3">Meaning</td></tr>
<tr><td></td><td>Yarn Field ID</td><td colspan="3">Show all yarn fields with number and color
: Lost & Found yarn fields
Display of all the yarn fields that are deleted or which can no longer be allocated.</td></tr>
<tr><td rowspan="5"></td><td rowspan="5">Select Yarn Fields</td><td colspan="3">Select individual or several yarn fields
Multiple selection:
◆ "Ctrl" + "LMB"
Select contiguous yarn fields (additive)
◆ "Shift "+"LMB"
Select contiguous yarn fields:</td></tr>
<tr><td>*</td><td colspan="2">Identification for new yarn fields which result from changing the basic pattern.</td></tr>
<tr><td>/</td><td colspan="2">Separator character</td></tr>
<tr><td>S</td><td colspan="2">Identification for yarn fields which are not yet visible
Example: Yarn carrier used in a Sintral function or in modules</td></tr>
<tr><td colspan="3">Filling a selection with the selected value</td></tr>
<tr><td></td><td>Yarn Color</td><td colspan="3">List of the yarn or yarn carrier colors with the corresponding color number which are in use in the pattern
: Plating colors are displayed with background and foreground colors.</td></tr>
<tr><td rowspan="3"></td><td rowspan="3">Yarn carrier number</td><td colspan="3">Designation of the yarn carrier or allocated yarn carrier number (ID)</td></tr>
<tr><td>Designation of the yarn carrier</td><td>1A, 2A,..</td><td>The yarn carriers are allocated to a rail</td></tr>
<tr><td>Undefined</td><td>[n]</td><td>The yarn carriers are not allocated to any rail.
n = Display of the yarn carrier number (ID)</td></tr>
</table>

All further columns can be displayed or hidden.

IV. Use of more than one yarn carrier per yarn field:

Column	Meaning	Function
	**Multi-system Knitting**	Define the number of yarn carriers per yarn field

1. Select the yarn carrier.
   - or -
   select the desired yarn field in the  column of the table.

▶ The selected row will be shown on a light blue background (= selection).

i	In the yarn field view you can identify a selected yarn field by a circulatory frame and the double hatch lines. All simply hatched yarn fields are allocated to the same yarn carrier number.

2. Place the cursor in the selected row of the  column and call up the context menu.
3. Select the desired number of yarn carriers in the pick list.
   Example: Set the number  .
4. Click with the cursor on the menu item **Value** and then on the desired cell.

▶ The selected number is inserted in the cell and a new yarn carrier field is created for the second yarn carrier.

5. Confirm the "Yarn Field Allocation" dialog box with "OK".

▶ The settings are applied.

V. Change the yarn carrier allocation:

Possibilities:

- Allocate a yarn carrier to an existing yarn carrier number
- Generate a new yarn carrier number (ID)

Example: Allocate a yarn carrier from the pattern to a rib yarn carrier.

Column	Meaning	Function
	**Yarn carrier number**	Change a yarn carrier number of a yarn field or generate a new one.

i	Position the cursor on a yarn carrier symbol and the yarn carrier number (ID) will be displayed in the ID display field.

1. Select the yarn carrier.

▶ The row is shown on a light blue background

2. Position the cursor in the  column and call up the context menu with the right mouse button.

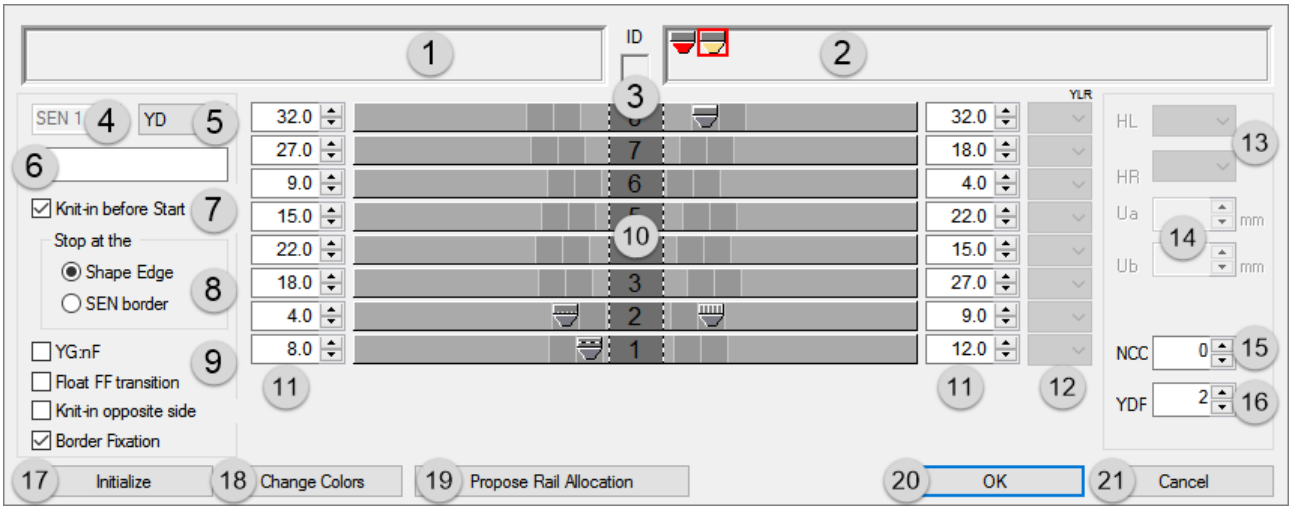
▶ A pick list with all the existing yarn carrier numbers (ID) is displayed.

Selection	Meaning
[n]	◆ n = Display of the yarn carrier number ID ◆ no designation of a yarn carrier
[n] Designation of the yarn carrier	◆ n = Display of the yarn carrier number ID ◆ with designation of a yarn carrier
New	Generate a new yarn carrier number (ID)

3. Select the desired rib yarn carrier (2B or 6A).
4. Confirm the "Yarn Field Allocation" dialog box with "OK".

▶ The settings are applied.

VI. The yarn carrier allocation in the Yarn Field Allocation dialog box:



No.	Meaning	
1		Display of the needed but undefined yarn carriers on the left fabric selvedge
2		Display of the needed but undefined yarn carriers on the right fabric selvedge
3	**ID**	Display of the yarn carrier number ID with the cursor positioned on the yarn carrier symbol
4	**SEN**	Yarn carrier home position in the SEN areas
5	**YD**	Display of the different yarn carrier staggerings ◆ For Setup1: only one YD possible ◆ For Setup2: YDn: n = 1 – 20 ◆ YDopt: Activation in configuration
6	**Comment**	Allocate a comment (label) to a selected yarn carrier
7	**Knit-in before the Start**	☐ Yarn carriers will not be knitted-in before the draw thread
		☑ Yarn carriers will be knitted-in before the draw thread

No.	Meaning			
8	**Stop at**	Only possible with ☑ Knitting-in before the start activated		
		◉	Shape Edge	Yarn carriers will be knitted-in before the draw thread and positioned at the (#L / #R) shape edge.
		◉	SEN edge	Yarn carriers will be knitted-in before the draw thread and positioned at the SEN edge.
9	**YG:nF**	☐	The yarn carrier will not be positioned at the counters #L and #R.	
		☑	The yarn carrier will be positioned at the counters #L and #R and follows the shape.	
	Float FF transition	☐	At the end a yarn carrier is moved to the home position according to the setting in the Yarn Field Allocation.	
		☑	At the end a yarn carrier is moved to its home position without knitting. **i**: Use: For technical fabrics with weft yarn.	
	Knit-in opposite side	☐	A yarn carrier remains on the corresponding side based on its home position.	
		☑	A yarn carrier is knitted before the start to the opposite side of its home position. **i**: Use: With MC with single-sided clamping / cutting.	
	Border Fixation	☑	Default setting: The border fixation is active for all yarn carriers in the pattern **i**: In "globalparameters.mdv", in the "Further Settings" tab, the border fixation with a distance of 10 rows is activated for all yarn carriers.	
		☐	Border fixation disabled for selected yarn carrier.	
10	**Graphic presentation of the yarn carrier rails**	Rail allocation of yarn carriers of the left and right fabric selvedge (YG)		
11		Tables for the definition of the yarn carrier distances at the left / right fabric selvedge **i**: Select the desired YDn in the YD pick list.		
12	**YLR**	Interchange of the yarn carriers of the left and right carriage (tandem)		
13	**Parking position of the yarn carriers**	HL	Specification for the left home position	The displayed value range is dependent on the available home positions for this yarn carrier.
		HR	Specification for the right home position	

No.	Meaning			
14	**Engaging Value**	Ua	Engaging value from the center of the yarn carrier sliding block up to the stop point of the yarn carrier plunger on the **left** side	Enter values for the variable engaging width of the **Plating yarn carrier type** U+/-. Minimum value 11.5 mm Maximum value 23.0 mm **i**: The engaging value can be asymmetric depending on the direction.
		Ub	Engaging value from the center of the yarn carrier sliding block up to the stop point of the yarn carrier plunger on the **right**-hand side	
15	**NCC**	Enter the clamping depth of the clamping / cutting needle for the selected yarn carrier		
16	**YDF**	Additional yarn carrier distance for fully fashion knitting		
17	"Initialize"	Restore default setting **i**: The lost&found yarn fields can be maintained or rejected.		
18	"Change Colors"	Yarn colors of yarn carriers, which have been positioned on bars will be replaced by yarn carrier colors and displayed in the yarn field view		
19	"Propose Rail Allocation"	Open the dialog box for the calculation of the yarn carrier allocation **i**: Recommended when using more than 16 yarn carriers.		
20	" OK"	Close the dialog box with saving		
21	"Cancel"	Close dialog box without saving.		

1. Let the Technical Processing allocate automatically the yarn carriers to the yarn carrier rails and define the yarn carrier type.
   - or -
   Allocate manually the yarn carriers to the yarn carrier rails.

VII. Use of automatic yarn carrier staggering YDopt:

i YDopt only possible on OKC machines from V 2.5 on.
The technical processing determines optimized stopping positions at the fabric selvedge. Frequently used yarn carriers are positioned as close as possible to the fabric selvedge less used somewhat distant.

1. Via the "Pattern Parameters" / "Configuration..." open the "Configuration" dialog box.
2. Make settings in the "Further Settings" tab under "YD yarn carrier distance from the fabric selvedge".

YD Yarn Carrier Distance from the Fabric Selvedge
Optimize YD per row (YDopt)

YD Yarn Carrier Distance from the Fabric Selvedge			
☐	No automatic yarn carrier staggering		
☑	Automatic yarn carrier staggering activated		
	Input field	1/16" distance of first yarn carrier	Adjust the distance between parked yarn carriers and the fabric selvedge. Range 0-20 1/16 inch (NIC) Default setting: 4
		1/16" distance of staggering	Adjust the distance between the stopped yarn carriers. Value range 1-20 1/16 inch (NIC) Default setting: 6

3. Confirm setting with "OK".

▶ The setting is displayed in the Yarn Field Allocation dialog box.

10.3 Complete the Pattern

Complete the pattern:

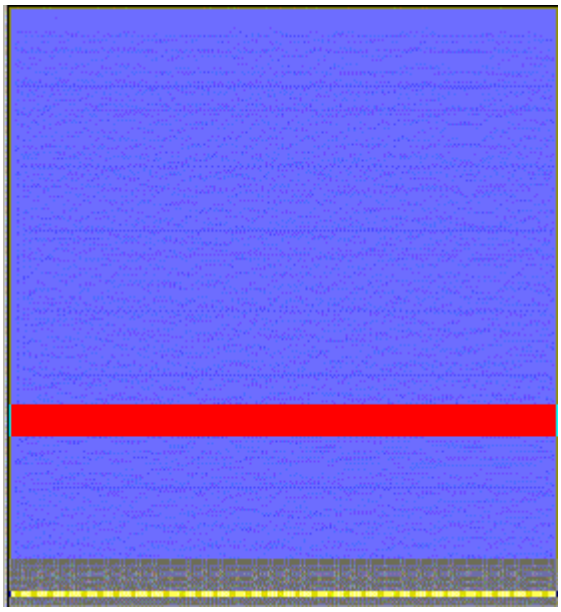
1. Start the technical processing with .

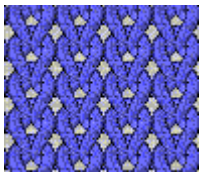
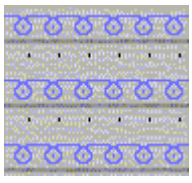
▶ The query "Generate MC Program" appears.

2. Confirm the query with "OK".

3. Call up the "Sintral Check" by .
   - or -
   Call-up "Sintral Check" via the "MC Program / Conduct Sintral Check..." menu.

11 Use of yarn carrier colors



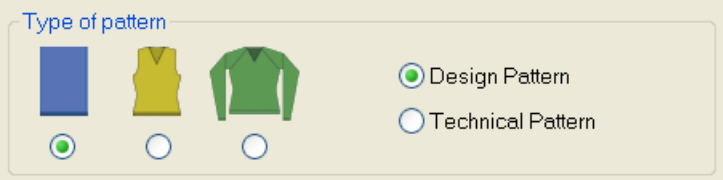
Pattern name	Ein-zweisystem.mdv		
Pattern size	**Gauge**	E 3,5.2	E 7.2
	Width:	100	200
	Height:	100	200
Machine type	◆ CMS 530 HP 5'' ◆ CMS 530 HP 6''		
Setup Type	Setup2		
Start	2x1 rib		
Basic Pattern	Front Stitch with Transfer		
Knitting Technique			
Pattern description	Single jersey with colored stripe		

11.1 Create Pattern

Create a new pattern:

1. Call up "File" / "New" menu.
   - or -
   Click the  icon.
2. Enter a pattern name.

3. Select the machine type and the desired setup type.
4. Select **Basic pattern (pattern without shape)** and "Design Pattern".



5. Define the pattern size and the basic knitting mode.
6. Select a start.

	You can insert a start after drawing the basic pattern as well.

7. Confirm the settings with "Generate Design Pattern".

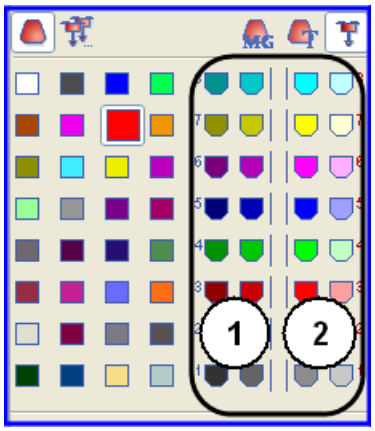
▶ The "Symbol view [Basic]" will be opened.

i	The basic pattern is presented in the yarn color (# 31).

11.2 Draw structure with yarn carrier colors

	Draw the whole pattern with **yarn carrier colors** only. It is **not** recommended to use yarn colors and yarn carrier colors in one pattern.

Table with the yarn carrier colors



The numbering of the colors in the table matches the yarn carrier bar numbering 1 - 8

No.	Meaning
1	The yarn carrier (yarn carrier colors) are positioned at the left fabric selvedge
2	The yarn carriers (yarn carrier colors) are positioned at the right fabric selvedge

i	If colors (=yarn carriers) are drawn in, which cannot be used according to the machine type, they will be changed automatically.

I. Draw the single jersey structure with colored stripes:

1. Set the "Yarn or Yarn Carrier Color as Background" in the "Pattern Presentations" toolbar.

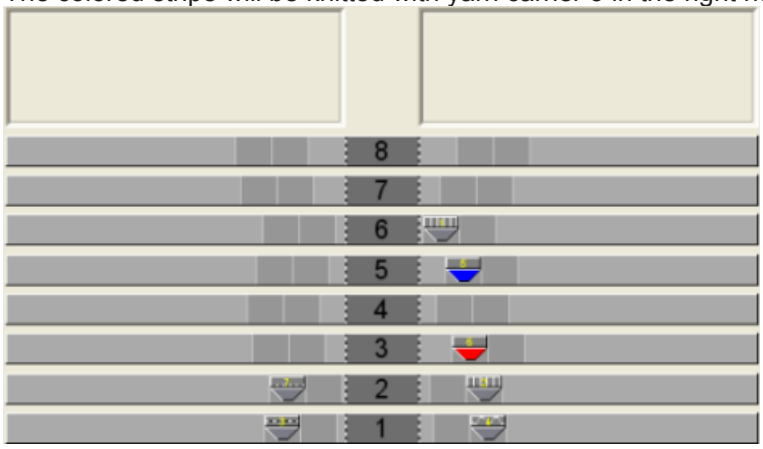
2. Select the **yarn carrier color** (1) for the basic pattern in the "Pattern colors" toolbar.

3. Fill the basic pattern with the selected yarn carrier color with the drawing tool.

▶ The basic pattern will be knitted with yarn carrier 5 in the right home position

4. Select the **yarn carrier color** (2) for the colored stripe in the "Pattern colors" toolbar.
5. Enter the yarn carrier color for the colored stripes via the control columns "Pattern rows" or "Technical rows" of the symbol view.
   - or -
   Create a row selection via the control columns and fill the selection with the drawing tool.

▶ The colored stripe will be knitted with yarn carrier 3 in the right home position



The **yarn carrier (yarn carrier colors)** in use are positioned on yarn carrier bars.

Draw-in an even number of rows of a color into the pattern.

II. Use of more than one yarn carrier per yarn field:

1. Select the yarn carrier.
   - or -
   select the desired yarn field in the  column of the table.

▶ The selected row will be shown on a light blue background (= selection).

2. Place the cursor in the selected row of the  column and call up the context menu.
3. Select the desired number of yarn carriers in the pick list.

   Example: Set the number  .
4. Click with the cursor on the menu item **Value** and then on the desired cell.

▶ The selected number is inserted in the cell and a new yarn carrier field is created for the second yarn carrier.

▶ One yarn carrier is positioned on the yarn carrier rail and the second yarn carrier stands in the **Undefined** field.

5. Position the undefined yarn carrier on the desired yarn carrier rail.
6. Press the "Change Colors" key.

▶ According to the bar position, the yarn carrier colors will be adapted in the "Yarn field allocation" and the "Yarn field view" dialog box.

Initialize is **no** longer available after "Exchange Color".

7. Confirm the "Yarn Field Allocation" dialog box with "OK".

▶ The settings are applied.

III. Change the yarn carrier allocation:

Possibilities:

- Allocate a yarn carrier to an existing yarn carrier number
- Generate a new yarn carrier number (ID)

Example: Allocate a yarn carrier from the pattern to a rib yarn carrier.

Position the cursor on a yarn carrier symbol and the yarn carrier number (ID) will be displayed in the ID display field.

1. Select the yarn carriers.

▶ The row is shown on a light blue background

2. Position the cursor in the  column and call up the context menu with the right mouse button.

▶ A pick list with all the existing yarn carrier numbers (ID) is displayed.

3. Select the desired rib yarn carrier (2B or 6A) in the pick list.

4. Confirm the "Yarn Field Allocation" dialog box with "OK".

▶ The settings are applied.

IV. The yarn carrier allocation in the Yarn Field Allocation dialog box:

By using yarn carrier colors when creating the motif, the yarn carrier home position will be defined **manually**.
The Technical Processing can and will **not** make any changes.

---

i You have to check the yarn carrier home position.

11.3 Complete the Pattern

Complete the pattern:

1. Start the technical processing with  .

▶ The query "Generate MC Program" appears.

2. Confirm the query with "OK".
3. Call up the "Sintral Check" by  .
   - or -
   Call-up "Sintral Check" via the "MC Program / Conduct Sintral Check..." menu.

12 Possibilities in the Yarn field allocation dialog box

Call up the Yarn Field Allocation dialog box with Yarn field view:

- Click on the  icon of the "Pattern Presentation k&w" toolbar
- Via the "View" / "Open Yarn Field View..." menu

> **i** When opening the dialog box, the yarn fields and the yarn carrier numbers are automatically determined.
> The specifications from the global pattern parameters (globalparameters.mdv) and the settings in the "Configuration" dialog box are taken into account.

12.1 Yarn field table in the Yarn Field Allocation dialog box

Structure and columns of the yarn field table

Table header:

- 1st row: all the symbols for identification of the table columns
- 2nd row: Default settings for the respective column (settings from machine related file globalparameters.mdv / globalparameters_B.mdv / globalparameters_xxx.mdv))

> **i** The **default settings** are used for all **Yarn fields without specifications**.

- Zooming the tables with the "/" (divided) and "x" (times) keys of the numeric keypad
- Via a selection menu in the 1st line of the table header, the columns can be displayed / hidden.

No.	Sym-bol	Function	Meaning
1			Default columns of the yarn field table **i**: These columns cannot be hidden.

No.	Symbol	Function	Meaning
Yarn carrier section			
2		**Yarn Carrier Type**	Define the type of the yarn carrier to be used
		**Multi-system Knitting**	Define the number of yarn carriers and the knitting sequence per yarn field **i**: One yarn field is generated for each yarn carrier field **Knitting process:** ◆ **even (=)**: The yarn carriers, and with it the bobbins, will be used as evenly as possible. **i**: Empty strokes may result! ◆ **optimized (~)**: The yarn carriers will be used unequally but with carriage strokes as less as possible. **i**: The system allocation will be calculated for each stroke. This results in an optimized running time. **This setting does not take effect with:** ◆ Knitting areas within or before the start, e.g. knitting-in before start ◆ Areas with CA's ◆ Areas with Jacquard Generators ◆ k&w pattern
		**System sequence**	Allocate an existing system sequence with the desired number of yarn carriers to a jacquard area. **i**: Select the system sequence according to the number of systems (type of machine) and to the number of colors in the jacquard area.
		**Mirrored system sequence**	Use the allocated system sequence in mirrored manner. **i**: The home position of the yarn carriers and the carriage direction will be mirrored.
		**Plating**	Define the number of plating yarn carriers per yarn field **i**: 4 plating yarn carriers at the maximum are allowed per yarn field.
		**Combine Yarn Carriers**	Combine the yarn carriers of different yarn fields according to the setting **i**: Not possible when using CAs or knitting sequences.
		**Swivel**	Definition for the behavior of the intarsia yarn carriers at the color field border
Miscellaneous section			
3		**Clamp Yarn Carrier**	Specification for the yarn carrier, when it is to be clamped and cut after knitting its yarn field.

No.	Sym-bol	Function	Meaning
		**Open clamp after ...**	Specification for the yarn carrier, after how many pattern rows the yarn can be released from the clamp.
		**SEN Edge and Waiting Position**	Specifications for positioning the yarn carrier during the knitting ◆ Stop at the SEN edge ◆ Parking (waiting position) at the fabric selvedge with an additional distance (needles).
		**Allocate Yarn Carrier to one System**	Selection of a knitting system for the selected yarn field **i**: The yarn carrier is knitted always in the same system, i.e. the system specification changes depending on the carriage stroke direction.

i Change the sorting of the columns:

You can change the sorting of all columns.
In the table header of the desired column click on the symbol for the identification of the column and the arrangement will be changed. The arrangement will be changed again by clicking once more.

12.1.1 Selecting in the Yarn Field Allocation dialog box

Select several yarn fields with the "Ctrl" key:

1. Select a yarn field in the yarn field view.
   - or -
   Select a yarn field via the  column in the yarn field table.

i In the yarn field view you can identify a selected yarn field by a circulatory frame and the double hatch lines.
All yarn fields marked by simple diagonal hatch lines are allocated to the same yarn carrier number.

2. Select additional yarn fields with the "Ctrl" key pressed.

▶ All the selected rows are marked with light blue.

3. Make changes via the context menu of the desired column.
4. Allocate the change with  .
   - or -
   Click the cell of the desired column.

Select several yarn fields with the "Ctrl" + "Shift" key:

1. Double-click a yarn field of the yarn field view with the "Ctrl" + "Shift" keys pressed.
   - or -
   Double-click on a yarn carrier symbol with the "Ctrl" + "Shift" keys pressed.

▶ All yarn fields with the same settings or specifications will be selected in the yarn field list.

2. Make changes via the context menu of the desired column.
3. Allocate the change with  .
   - or -
   Click the cell of the desired column.

---

i With the "Esc" key you can cancel the selections.

12.2 Change the Direction of Knitting-in and out

---

i The knitting-in of a yarn carrier is carried out **always from last position**.

---

1. Select the yarn field in the yarn field view.
   - or -
   Select the yarn field in the  column of the yarn field table.
2. Place the cursor in the selected row in the cell of the  column.
3. Call up the context menu and select the desired direction for knitting-out.

Symbol	Function	Meaning
←	**Left**	Knitting-out to the left the yarn carrier at the end of the selected yarn field
→	**Right**	Knitting-out to the right the yarn carrier at the end of the selected yarn field
	Up to position 	Knitting the yarn carrier at the end of the selected yarn field up to a specific position **i**: The entered value determines the needle position in the pattern.
/	**No Knitting-out**	The yarn carrier stops at the end of the yarn field. **i**: The yarn carrier is knitted out with YG Home at the end of the fabric.
	**automatic**	Knitting-out of the yarn carrier is calculated automatically
	**Undetermined**	Delete the manual change

4. Insert the selection in the cell.

12.3 Change the Module for Knitting-in and Knitting-out:

1. Select the yarn field in the yarn field view.
   - or -
   Select the yarn field in the  column of the yarn field table.
2. Place the cursor in the selected row in the cell of the  column.
3. Call up the context menu and select the desired **Module for knitting-in**
4. Insert the selection in the cell.

i In the same way carry out the change for **Knitting-out** in the  column.

12.4 Change Binding or Knot at Start or End:

Select the binding module.

1. Select the yarn field in the yarn field view.
   - or -
   Select the yarn field in the  column of the yarn field table.
2. Place the cursor in the selected row in the cell of the  column.
3. Call up the context menu and select the desired type of **Binding or knot at the start**.
4. Insert the selection in the cell.

i Change the **Binding or knot at the end** in the  column in the same way.

12.5 Apply the Yarn Carrier Specifications for Several Yarn Fields:

✓ Several yarn carriers are allocated to one yarn field (multi-system knitting).

1. Select the modified yarn field in the yarn field view.
   - or -
   Select the modified yarn field in the yarn field table.
2. Call up the context menu in the yarn field view and select "Apply yarn carrier".
   - or -
   Press the "F6" key.
3. Click the modified yarn field.
   ▷ The specifications are applied and the yarn carrier symbol is displayed at the cursor.
4. Click in another yarn field with the cursor.

▶ The settings of the first yarn field are applied to this yarn field.

i You can reset the changes via  Undo.

12.6 Group yarn fields

I. Combine Yarn Fields in the Yarn Field View:

1. Place the cursor in the yarn field to be applied.
2. Call up the context menu and select "Apply Yarn Field".
   - or -
   Press the "F5" key.
3. Click in the yarn field with the cursor.

   ▷ The specifications are applied and the  symbol is displayed at the cursor.
4. Click in another yarn field with the cursor.

▶ The settings of the first yarn field are applied to this yarn field and combined to one yarn field.

II. Combine yarn fields in the yarn field table.

1. Select the desired yarn fields with "Ctrl" + "LMB" in the yarn field view.
   - or -
   Select the desired yarn fields in the  column of the yarn field table with "Ctrl" + "LMB".
2. Place the cursor in one of the selected rows of the  column.
3. Call up the context menu and select "Combine the selected yarn fields to yarn field" x.

▶ The settings of the yarn field x are applied to all the other yarn fields and combined to the yarn field x.

12.7 Add a New Yarn Carrier:

I. Allocate a new yarn carrier in the yarn field view:

✓ Different yarn fields have allocated the same yarn carrier number.

1. Select the yarn field to be changed in the yarn field view.
2. Call up the context menu and select "New yarn carrier".

▶ A new yarn carrier number with the corresponding yarn carrier will be generated.

II. Add a new yarn carrier in the yarn field table:

1. Select the desired yarn field in the  column.
2. Place the cursor in the  column of the selected row.
3. Call up the context menu and select "New".

▶ A new yarn carrier number with the corresponding yarn carrier will be generated.

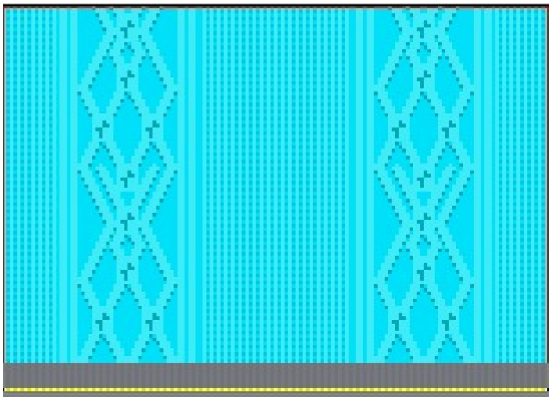
12.8 Generate New Yarn Field

1. Select the yarn field to be divided in the **yarn field view**.
2. Select the rows for the new yarn field via the  control column.
3. Call up the context menu and select "New yarn field".

▶ A new yarn field will be created.

4. Make the desired changes.

13 PTS - Different Stitch Lengths in a Single Technical Row



Pattern name	03_Struktur-Muster-NPJ.mdv		
Pattern size	**Gauge**	E 3,5.2	E 7.2
	Width:	150	250
	Height:	200	300
Machine type	◆ CMS 530 HP 5'' ◆ CMS 530 HP 6''		
Setup Type	Setup2		
Start	1X1 Rib		
Basic Pattern	Front Stitch with Transfer		
Knitting Technique	Structure with Aran and 1X1 half cardigan		
Pattern description	Different structures with different stitch lengths within one stitch row.		

13.1 Create and draw a pattern

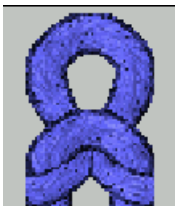
Generate pattern (overview):

1. Generate new pattern.
2. Draw the motif with different drawing tools.

3. Select modules from the "Modules" toolbar.
   - or -
   Select the modules in the "Module Explorer of Database".
   - or -
   Select needle actions from the "Needle Actions - Stitch Lengths" toolbar.
4. Draw modules into the pattern.

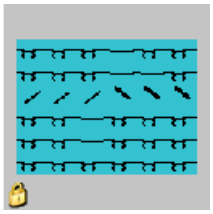
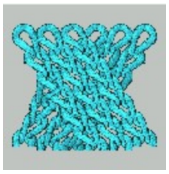
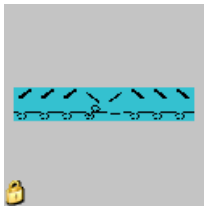
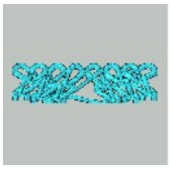
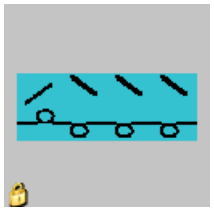
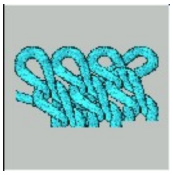
I. Use needle actions of the "Needle Actions - Stitch Lengths" toolbar:

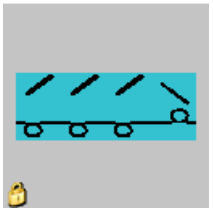
1. Select the desired needle action in the "Needle Actions - Stitch Lengths" toolbar.

Module group	Module Symbol View	Module Fabric View	Label
" Needle Actions"			"Front stitch"
			"Back stitches"

II. Use modules from the "Modules" toolbar:

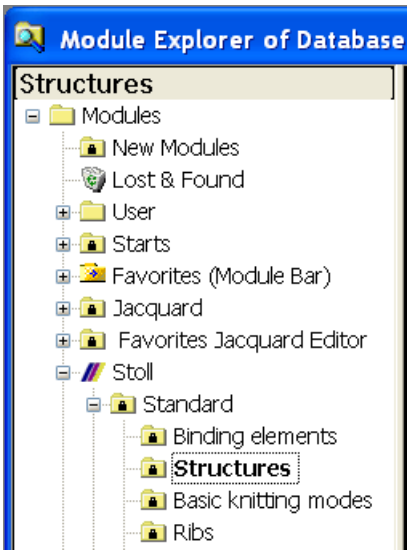
1. Activate the  "Modules of Database" module group in the "Modules" toolbar.
2. Select the desired module group in the selection list.

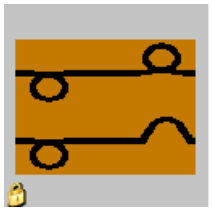
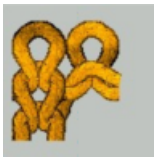
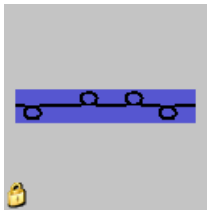
Module group	Module Symbol View	Module Fabric View	Label
"Aran"			"Aran 3x1X<"
			"Aran 3x1><R"
			"Aran 3x1<R"

Module group	Module Symbol View	Module Fabric View	Label
			"Aran 3x1>R"

III. Use the modules from the "Module Explorer of Database".

1. Open the "Module Explorer of Database" via "Module" / "Module Explorer of Database...".
2. Select the module groups "Stoll" / "Default" / "Structures" and "Ribs".



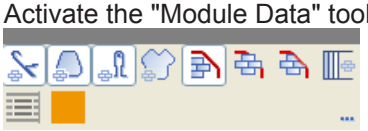
Module group	Module Symbol View	Module Fabric View	Label
"Structures"			"1X1 half cardigan"
"Ribs"			"2x2 RL rib"

3. Create motif with "Structure" module and "Rib" module.

IV. Adopt stitch length:

i	Stitch lengths according to the knitting mode are allocated to the Stoll default modules in the "Module Explorer of Database".

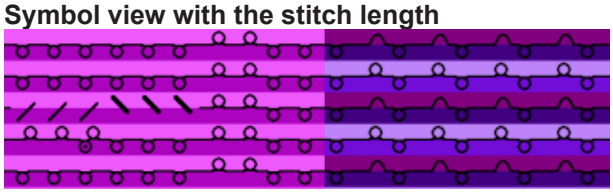
1. Activate the "Module Data" toolbar.



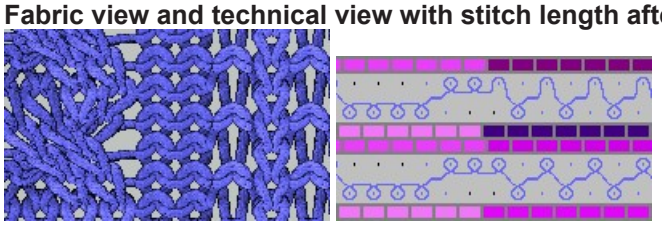
2. Activate the  button and draw-in the module.

▶ The stitch lengths available in the module will be applied to the pattern.

Symbol view with the stitch length



Fabric view and technical view with stitch length after expanding



i	A pattern row contains different stitch lengths now.

13.2 Change stitch lengths

Use different stitch lengths within one stitch row (PTS):

1. Select the pattern area, in which another stitch length is to be used.

i	If the area is created via the column selection, it will be necessary to take into account that the stitch length is not changed in the start.

2. Allocate another (or a new) stitch length from the stitch length table to the selection.

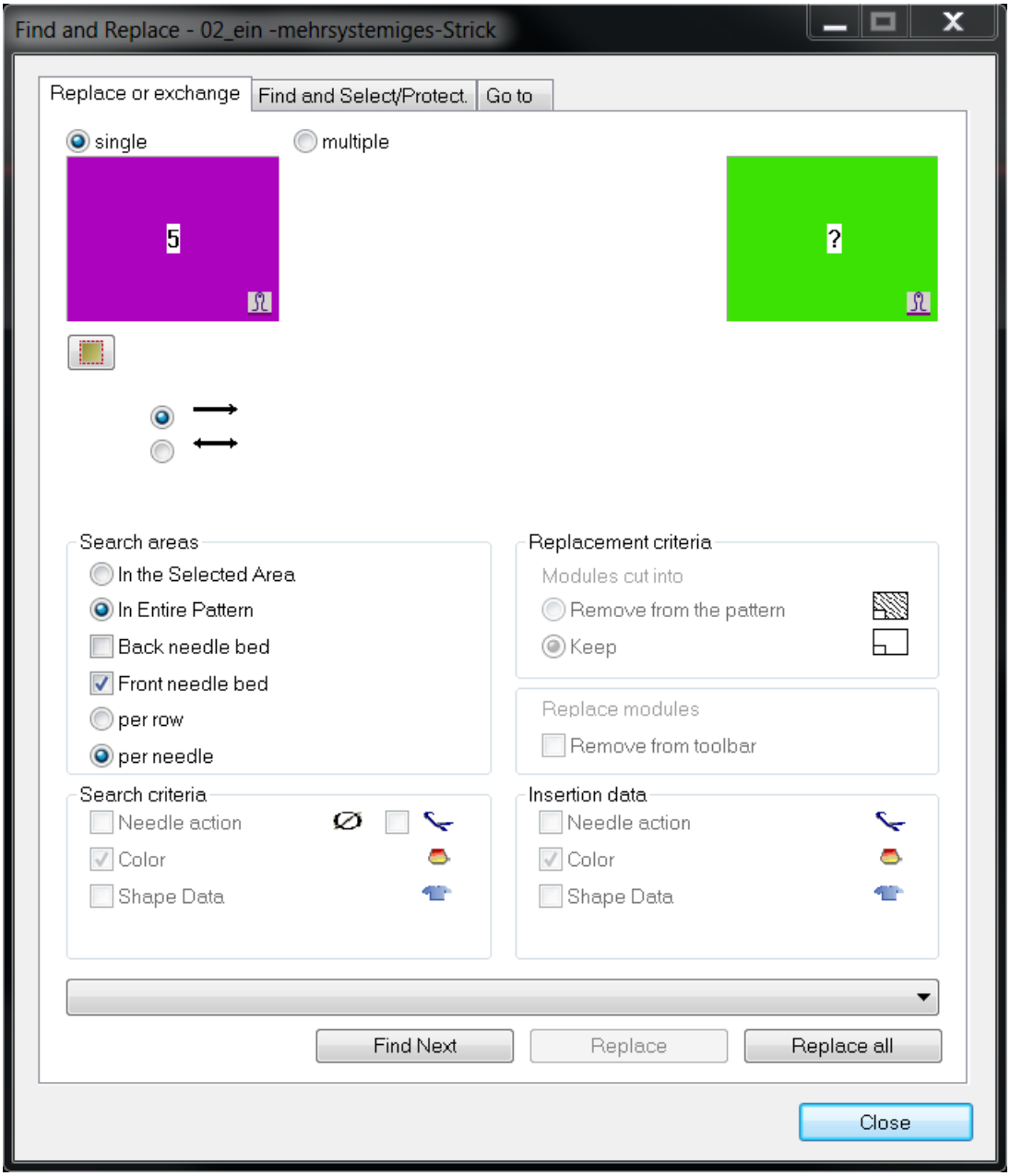
- Select a not used entry in the stitch length table, adapt the specifications and apply to the pattern.

Used / Favorites | Default | k&w

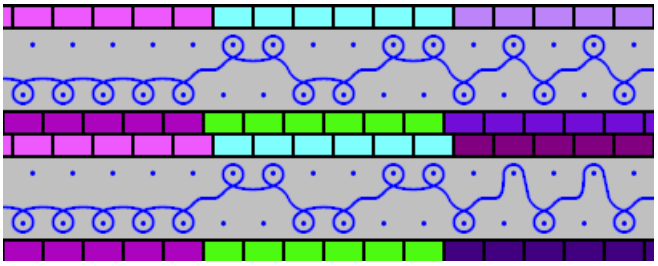
No		NP	PTS	NP EB (8)	Description [English]	Grp	F	U	M	S	G
1		1	=	9.0	Net	-	☐	X			X
2		2	=	10.0	Tubular Net	-	☐	X			X
4		3	=	10.5	2x1/2x2-Cycle	-	☐	X			X
9		4	=	11.5	Transition	-	☐	X			X
48		5	=	12.5	Intarsia Col. 1 front	-	☐	X	X		X
49		6	=	12.5	Intarsia Col. 1 back	-	☐	X	X		X
33		7	=	12.5	Color 2 front	-	☐	X	X		X
38		8	=	12.5	Color 2 back	-	☐	X	X		X
43		9	=	13.0	Intarsia NPJ Col. 2 front	-	☐	X	X		X
44		10	=	13.0	Intarsia NPJ Col. 2 back	-	☐	X	X		X
70		11	=	12.5	saftey rows	-	☐	X	X		X
68		12	=	11.5	Default front	-	☐	X	X		X
23		20	=	9.0	Start1	-	☐	X			X
24		21	=	10.0	Start2	-	☐	X			X
25		22	=	11.0	Start3	-	☐	X			X
27		24	=	12.0	Start5	-	☐	X			X
29		25	=	17.0	Comb Thread	-	☐	X	X		X

- Insert a new value in the stitch length table and define the stitch tension.

3. Replace the stitch lengths via the  drawing tool.



Result:



4. Delete the selection with .
5. Open the "Configuration" dialog box via the "Pattern Parameters" / "Configuration..." menu.

6. Activate the "Different stitch lengths per technical row" checkbox in the "Additional Settings" tab under "Variable stitch length".
7. Confirm setting with "OK".

13.3 Complete the Pattern

Complete the pattern:

1. Start the technical processing with .

▶ The query "Generate MC Program" appears.

2. Confirm the query with "OK".
3. Call up the "Sintral Check" by .

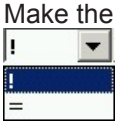
13.4 Power Tension Setting - PTS

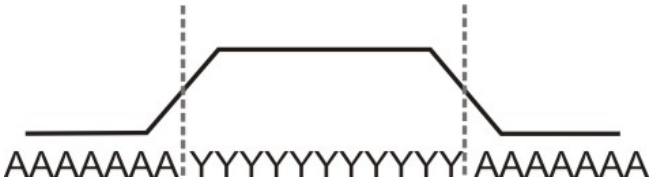
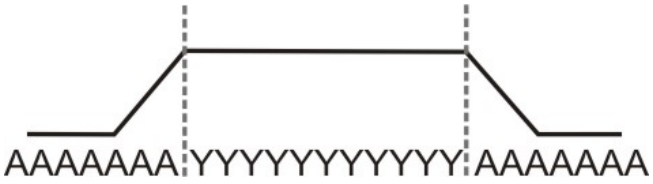
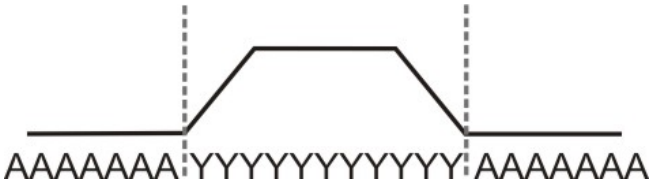
Adjust the behavior with Power Tension Settings (PTS):

1. Call up the "Stitch Length..." menu via the "Pattern parameters" menu bar.

▶ The stitch length table gets open.

2. Make the desired setting in the **PTS** column.



Setting	Presentation	Meaning
=		Stitch tension change in both areas
! on **Y** area		Stitch tension change in the **A** area
! on the **A** area		Stitch tension change in the **Y** area

■ The default carriage speed in the area of the stitch tension change is MSEC=1.0.

- With the Sintral command MSECNPJ, the carriage speed can be changed in the area of PTS / NPJ.
  Call up the "Further Settings" tab via "Pattern Parameters" / "Configuration…" and activate the ☑ "Carriage Speed with NPJ (MSECNPJ)" checkbox.

Carriage Speed and adjustment values

MSECNPJ	1.0		0.9		0.8		0.7		0.6		0.5	
	y	x	y	x	y	x	y	x	y	x	y	x
E 3	1.3	1.2	1.2	1.1	1	1	0.9	0.8	0.8	0.7	0.7	0.6
E 3,5	1.6	1.3	1.4	1.2	1.3	1	1.1	0.9	1	0.8	0.8	0.7
E 5 (2,5.2)	1.5	1.7	1.4	1.5	1.2	1.4	1	1.2	0.9	1	0.8	0.9
E 7 (3,5.2)	2.1	2.1	1.9	1.9	1.7	1.7	1.5	1.5	1.3	1.3	1.1	1.1
E 8	2.4	2.3	2.2	2.1	1.9	1.8	1.7	1.6	1.4	1.4	1.2	1.2
E 10 (5.2)	3	2.8	2.7	2.5	2.4	2.2	2.1	2	1.8	1.7	1.5	1.4
E 12 (6.2)	3.6	3.3	3.2	3	2.9	2.6	2.5	2.3	2.2	2	1.8	1.7
E 14 (7.2)	4.2	3.7	3.8	3.3	3.4	3	2.9	2.6	2.5	2.2	2.1	1.9
E 16 (8.2)	4.8	4.2	4.3	3.8	3.8	3.4	3.4	2.9	2.9	2.5	2.4	2.1
E 18 (9.2)	5.4	4.6	4.9	4.1	4.3	3.7	3.8	3.2	3.2	2.8	2.7	2.3

y = Number of needles for changing the stitch tension by one value
x = Number of needles for the idle time between the stitch tension change

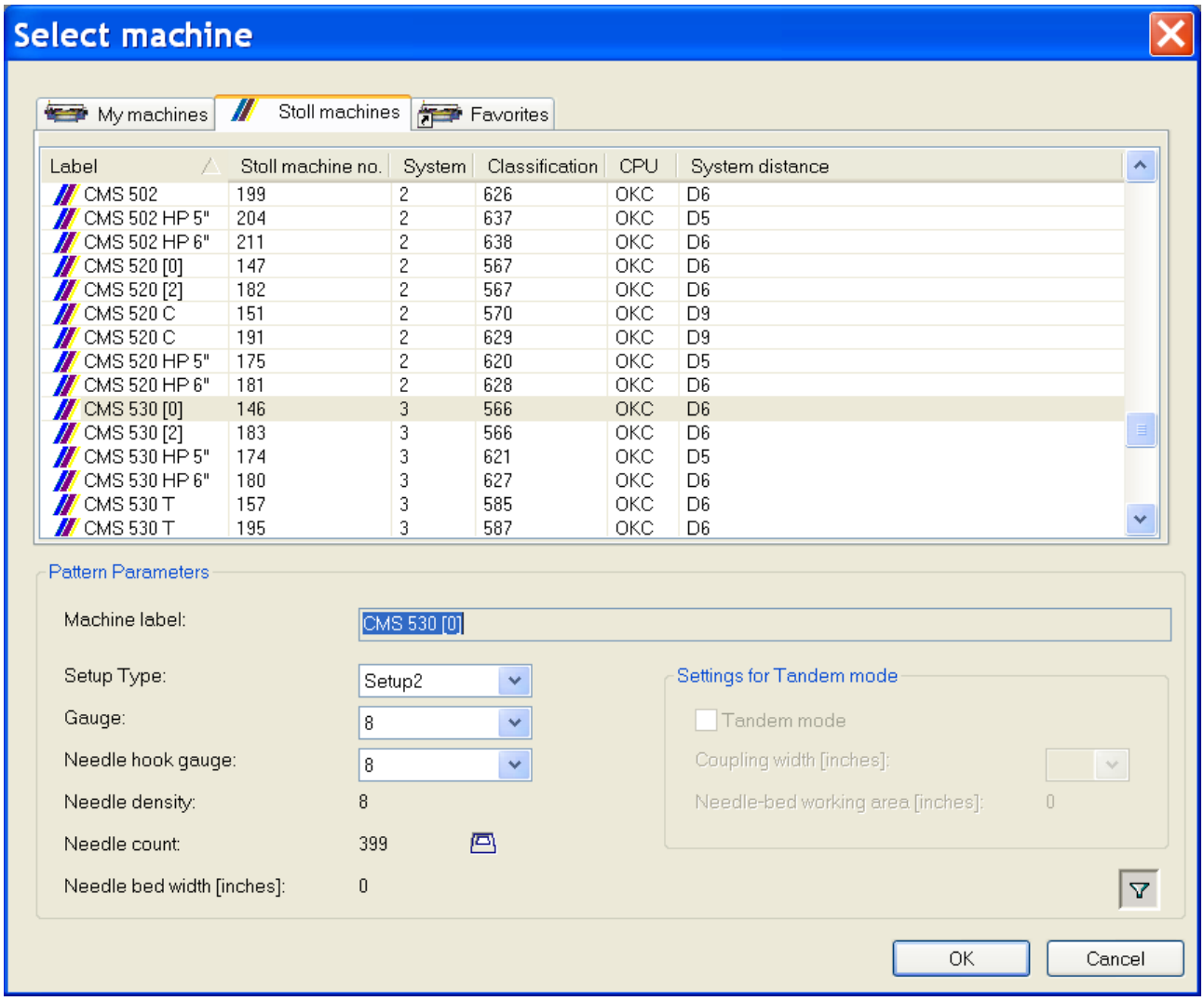
i	Observe the motif distances and the idle periods so that the machine can process the change of the stitch length.

14 Change Machine Type / Replace Start

I. Change the used machine type:

✓ An existing pattern is open.

1. Call up the "Select machine" dialog box with the "Pattern Parameters" / "Change Machine / Gauge / Setup type..." menu.



2. Select the desired machine type from the corresponding tab:

- My machines
- Stoll machines
- Favorites

3. In the "Select machine" dialog box under "Pattern Parameters" define:

- Setup Type
- Gauge
- Needle hook gauge

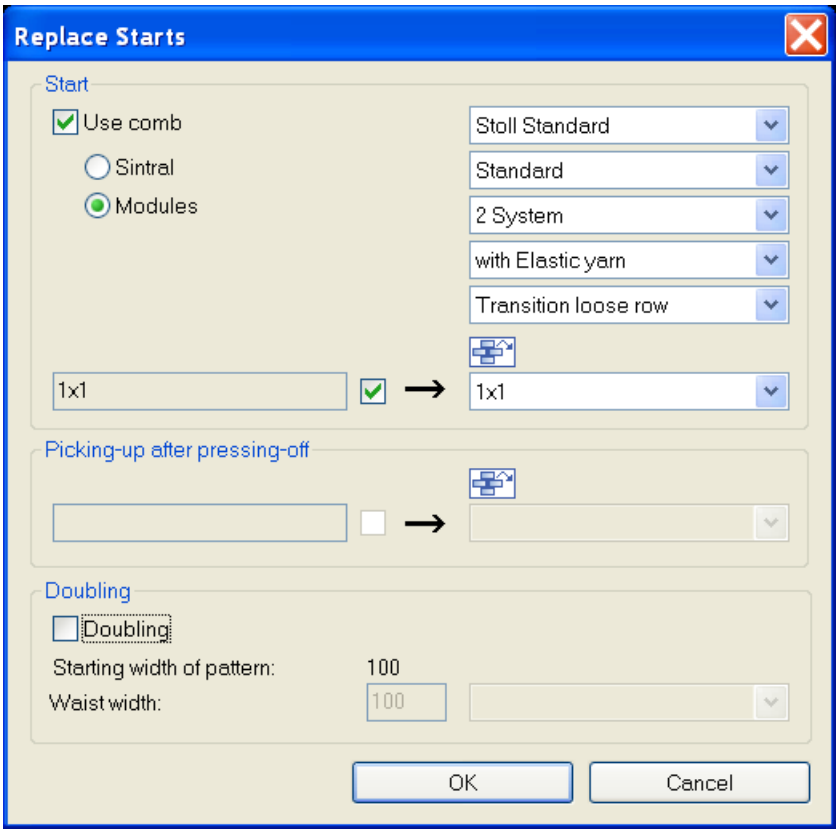
4. When selecting the machine type **Tandem** set the desired specifications under "Settings for Tandem mode" .
5. Confirm with "OK".

i	Due to changes of the machine type, it can be necessary to change the start as well. The M1plus opens automatically the "Replace Starts" dialog box.

II. Replace, insert or remove start:

1. Via the "Edit" menu call up "Replace starts...".

▶ The "Replace starts" dialog box is opened.



2. Select the desired "Start".

i	Define the "Picking-up after pressing-off" function with machines without comb.

3. Confirm with "OK".

	You can also make these changes in the pattern state "Expanded Pattern".

14.1 Complete the Pattern

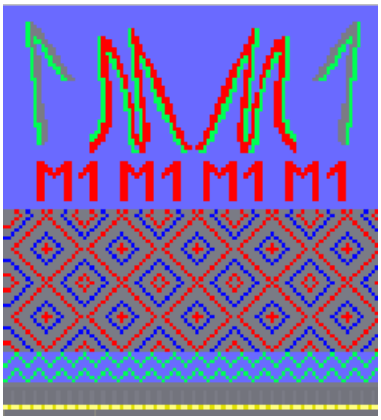
Complete the pattern:

1. Start the technical processing with  .

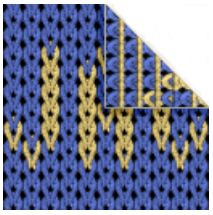
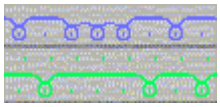
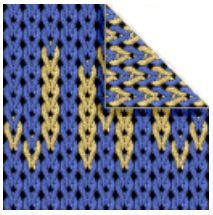
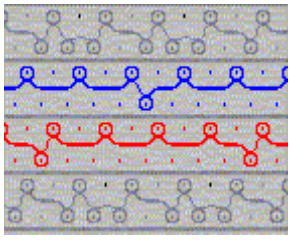
▶ The query "Generate MC Program" appears.

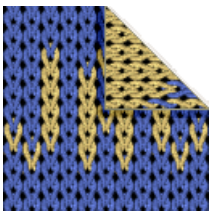
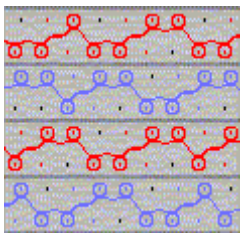
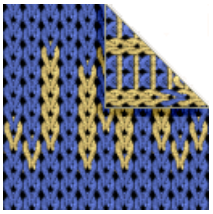
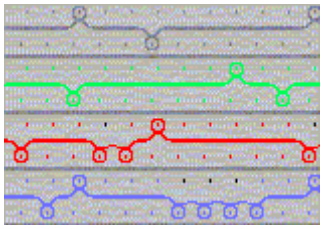
2. Confirm the query with "OK".
3. Call up the "Sintral Check" by  .

15 Colored jacquards with different reverse sides



Pattern name	04_Farbjac_versch_Rückseiten.mdv		
Pattern size	**Gauge**	E 3,5.2	E 7.2
	Width:	150	250
	Height:	200	300
Machine type	◆ CMS 530 HP 5” ◆ CMS 530 HP 6”		
Setup Type	Setup2		
Start	Tubular start		
Basic Pattern:	Front Stitch with Transfer		
Knitting Technique	Jacquard with different reverse sides		
Pattern description	Color Jacquard bordering with 2, 3 and 4 colors and different Jacquard reverse sides:		

Used Jacquards		
	Image	Stitch line
Jacquard with float		
Jacquard with twill back		

Used Jacquards		
	Image	Stitch line
Jacquard with ladder back (Cross-tubular)		
Jacquard with ladder back 1x2		

15.1 Create Pattern

Create a new pattern:

1. Select "File" / "New" from the menu bar.
   - or -
   Click on the  symbol.
2. Enter a pattern name.
3. Select the machine type and the desired setup type.
4. Select **Basic pattern (pattern without shape)** and "Design Pattern".

5. Define the pattern size and the basic knitting mode.
6. Select a start.

> **i** A start can also be inserted after drawing the basic pattern.

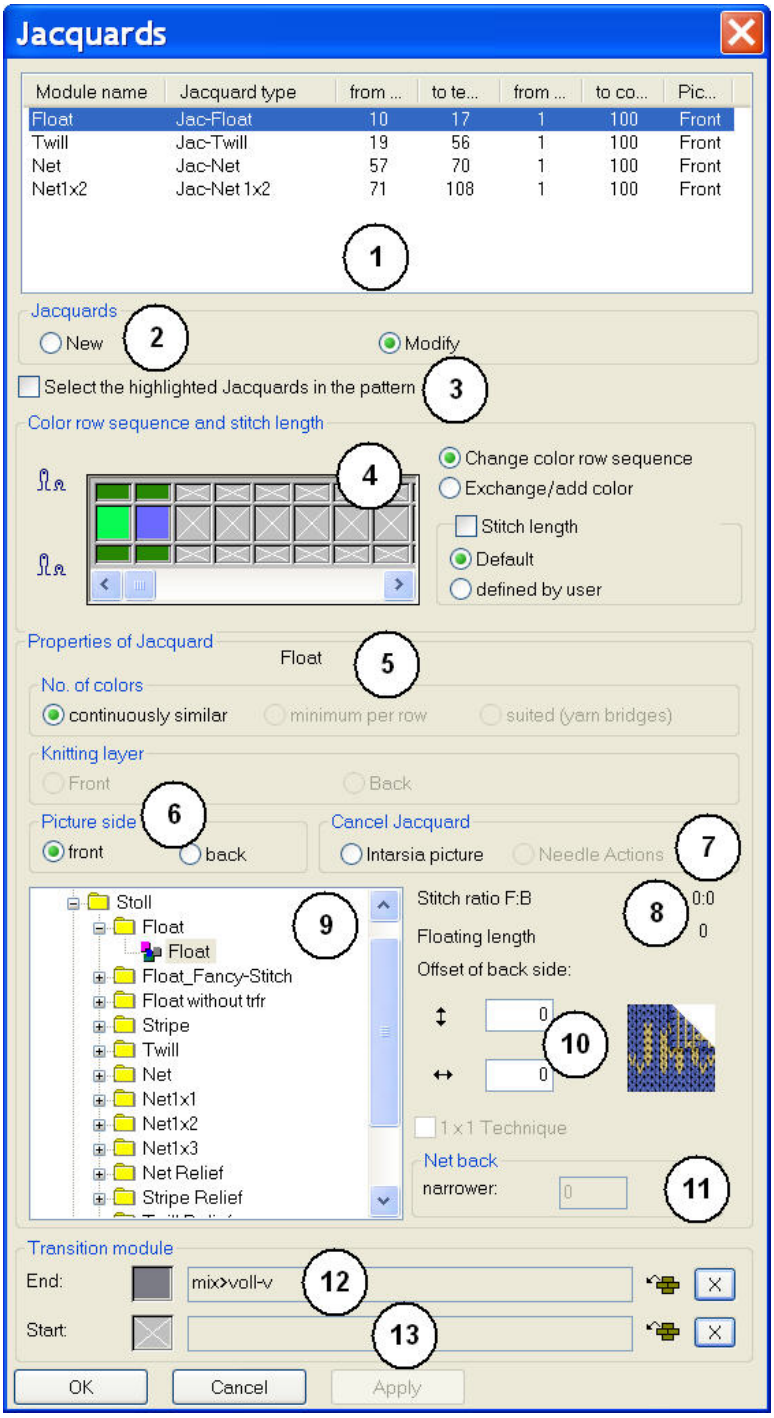
7. Confirm the settings with "Generate Design Pattern".

▶ The "Symbol view [Basic]" will be opened.

15.2 Draw color jacquard with different reverse sides

Draw the Jacquard motif:

1. Draw different multi-color motifs with **Yarn** or **Yarn carrier colors**
   - or -
   Select pattern elements in the Module Explorer under "Stoll" / "Pattern elements" / "MT-Jacquard" and insert them.
2. Select the rows above the area of the Jacquard.
3. Call up the "Jacquards" dialog box via the "Edit" / "Generate or Edit Jacquard..." menu.



No.	Meaning	
1	List of the inserted Jacquard generators	
2	"New"	Insert a new Jacquard generator into an area.
	"Modify"	Change the inserted Jacquard generator
3		The Jacquard selected in the list (1) will not be displayed as selection in the pattern.

No.	Meaning	
	☑	The Jacquard selected in the list (1) will be displayed as selection in the pattern.
4	Change of the color sequence and stitch length	
5	"Properties of Jacquard"	
	continuously similar	All colors of the selection will be knitted uniformly according to the color sequence.
	minimum per row	Only the colors, which are present in the respective row will be processed.
	suited (yarn bridges)	Insert of yarn bridges with Intarsia
6	Select Jacquard picture side front or back	
7	"Cancel Jacquard"	
	Intarsia picture	Remove the Jacquard generator. Display motif as color picture
	Needle Actions	Remove the Jacquard generator. Display motif with needle actions. **i**: **Not in the Design Mode**
8	◆ Stitch ratio (front : back) ◆ maximum floating length of the Jacquard generator	
9	Pick list of the Jacquard generators	
10	Shift the starting point of the Jacquard back **i**: The jacquard generator is placed in the first pattern row after the start and in the first column at the left border by default.	
11	Narrow the width of the ladder back of the selected jacquard area. **i**: The edge is replaced by a jacquard float (yarn bridges).	
12	End module for the transition at the end of a Jacquard	
13	Start module for the transition at the beginning of a Jacquard	

4. Select the desired Jacquard generator and insert it via "Apply".
5. Proceed in the same way in the other Jacquard areas.
6. Close the dialog box with "OK".

i Module Support

You can open the Module Support for the selected Jacquard module with the "?" button.

15.3 Modifications within Color Jacquard Areas

I. Change Jacquard backs in a Color Jacquard area:

✓ An existing Color Jacquard pattern is loaded as basic pattern .

1. Call up the "Jacquards" dialog box via the "Edit" / "Generate or Edit Jacquard..." menu.
2. Select the Jacquard to be changed from the list ((1)) of the inserted Jacquard generators.
3. Select the "Modify" option under "Jacquards".
4. Activate the "select the highlighted Jacquards in the fabric" checkbox.

▶ The Jacquard area will be displayed as selection in the pattern.

5. Select the desired Jacquard generator in the selection menu of the Jacquard generators ((9)).
6. Press the "Apply" key.

▶ The change is applied to the pattern.

7. Close the dialog box with "OK".

II. Change or add a color in a Color Jacquard area:

✓ An existing Color Jacquard pattern is loaded as basic pattern .

1. Select the Jacquard to be changed from the list ((1)) of the inserted Jacquard generators.
2. Select the "Modify" option under "Jacquards".
3. Activate the "select the highlighted Jacquards in the fabric" checkbox.

▶ The Jacquard area will be displayed as selection in the pattern.

4. Select the "Exchange/add color" option under "Color Sequence and Stitch Length".
5. Select a yarn or yarn carrier color in the "Pattern Colors" toolbar.
6. Click on the color to be exchanged in the display.

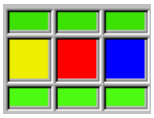
▶ The color will be overwritten in the display.

- or -

7. Left-click on an undefined display field.

▶ The color will be added in the display field and knitted as additional color on the back side of the Jacquard.

Example

before	afterward
	

III. Change the color sequence in a Color Jacquard area:

✓ An existing Color Jacquard pattern is loaded as basic pattern .

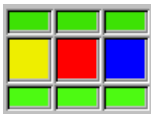
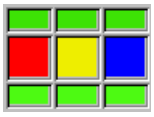
1. Call up the "Jacquards" dialog box via "Edit" / "Generate or Edit Jacquard..."
2. Select the Jacquard to be changed from the list ((1)) of the inserted Jacquard generators.
3. Select the "Modify" option under "Jacquards".
4. Activate the "select the highlighted Jacquards in the fabric" checkbox.

▶ The Jacquard area will be displayed as selection in the pattern.

5. Select the " "Change color sequence option under "Color Sequence and Stitch Length".
6. Move the colors in the display with the left mouse button pressed.

▶ A black bar appears for moving.

Example

before	afterward
	

7. Press the "Apply" key.

▶ The changes will be applied to the pattern.

8. Close the dialog box with "OK".

IV. Additional possible changes:

- Change the picture side of the Jacquard.
- Use different stitch lengths.

15.4 Complete the Pattern

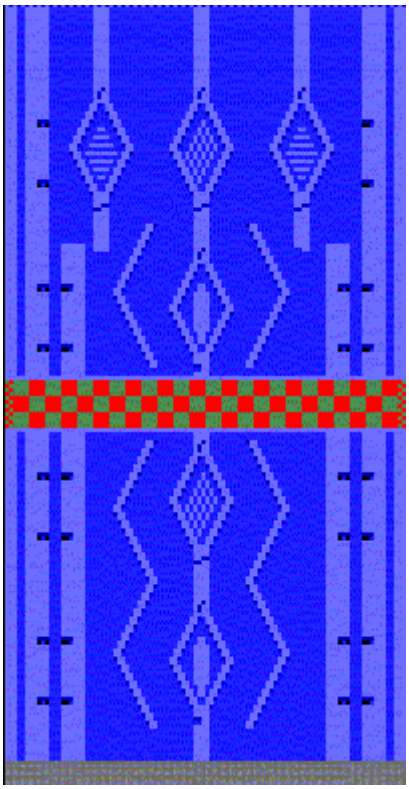
Complete the pattern:

1. Start the technical processing with the icon.

▶ The query "Generate MC Program" appears.

2. Confirm the query with "OK".
3. Run the "Sintral Check" via the Steps of Processing toolbar.

16 Structure with color jacquard



Pattern name	05_Struktur-Jac.mdv		
Pattern size	**Gauge**	E 3,5.2	E 7.2
	Width:	150	250
	Height:	200	300
Machine type:	◆ CMS 530 HP 5’’ ◆ CMS 530 HP 6’’		
Setup Type	Setup2		
Start	1x1		
Basic Pattern	Front Stitch with Transfer		
Knitting Technique	Structure pattern with cable, aran and with color jacquard bordering		
Pattern description	**Module Arrangement** for adjusting the transferring cycles of the different structure modules in a technical row.		

16.1 Create Pattern

Create a new pattern:

1. Select "File" / "New" from the menu bar.
   - or -
   Click on the  symbol.
2. Enter a pattern name.
3. Select the machine type and the setup type.
4. Select **Basic pattern (pattern without shape)** and "Design Pattern".

5. Define the pattern size and the basic knitting mode.
6. Select a start.

---

i A start can also be inserted after drawing the basic pattern.

---

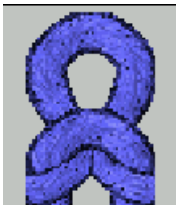
7. Confirm the settings with the "Generate Design Pattern" button.

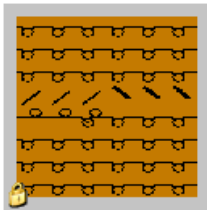
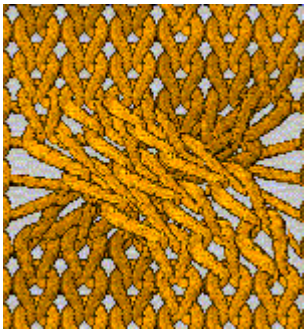
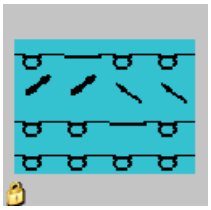
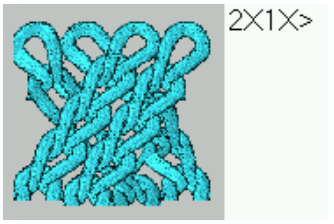
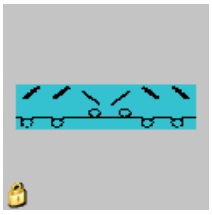
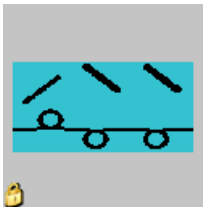
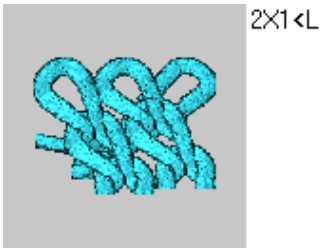
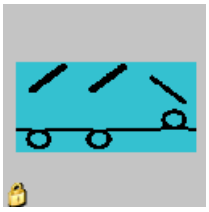
▶ The Symbol view [Basic] will be opened.

16.2 Drawing the Structure and the Jacquard Bordering

I. Generate structure pattern:

1. Select modules from "Module" or "Module Explorer of Database..." toolbar and create motif.

Module group	Module Symbol View	Module Fabric View
"Rear stitch with transfer"		

Module group	Module Symbol View	Module Fabric View
"Cable 3X3<"		
"Aran Crossing 2X1X>"		
"Aran End 2X1><"		
"Aran 2X1<L"		
"Aran 2X1>L"		

You can select and insert structure pattern elements from the "Module Explorer" as well.
The structure pattern elements are saved under:
Stoll / "Pattern elements" / "MT Standard" / "MT Aran".
The Multi-Copy tool can be helpful.

i	Draw the structure pattern with pattern elements only; otherwise no Module Arrangement can be generated.

II. Create a color jacquard bordering:

1. Insert rows.
2. Draw the motif for the color jacquard bordering into the structure pattern.
3. Create a row selection in the area of the jacquard.
4. Call up the "Jacquard" dialog box via the "Edit" / "Generate or Edit Jacquard..." menu.
5. Select a Jacquard generator for ladder back and insert it via "Apply".
   - or -
   Insert another jacquard generator.

III. Influence the start and end module:

A module for net setup and for net end will be inserted under "Transition module" at "Start" and "End". If necessary, the module color can be changed.

1. Select the inserted Jacquard from the list of Jacquard generators.
2. Select the desired yarn / yarn carrier color and click in the color field of the start and end module.

   - or -
   Allocate another start or end module from the "Module Explorer of Database" with drag & drop.

i	Modules are contained in the "Module Explorer of Database" under "Technical" / "Net pick-up_block" / "…".

3. Press the "Apply" key.

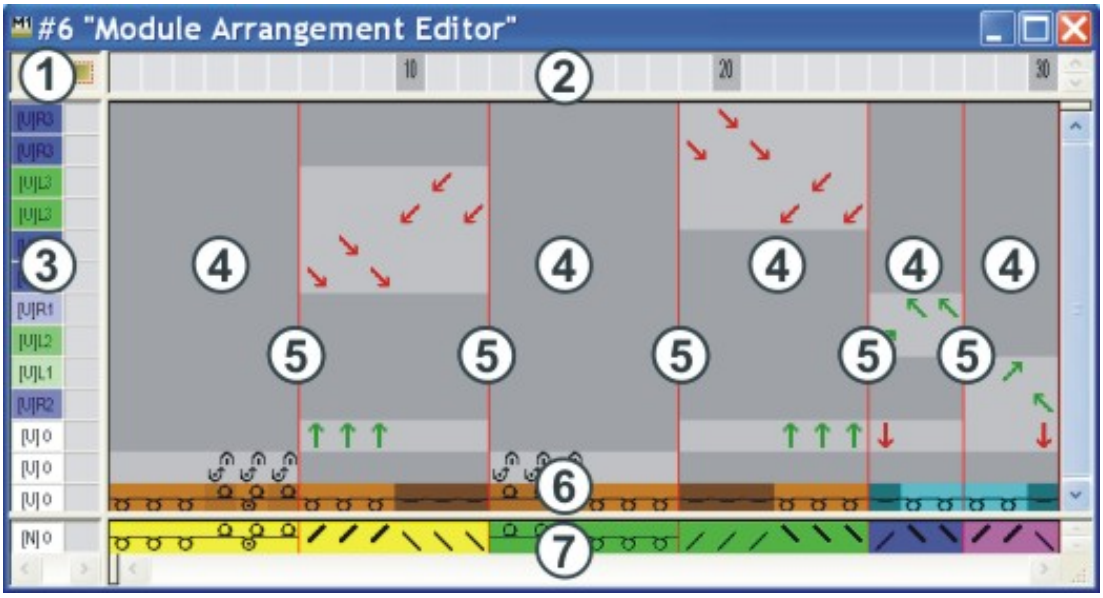
▶ The changes will be applied to the pattern.

4. Close the dialog box with the "OK" button.

■ Create Pattern [🗋 21]

16.3 Module Arrangement Editor

With a Module Arrangement you can influence the transfer sequences of modules that are side by side on the same row.



1	Header of the control columns All control columns are available		
2	Column bar		
3	Row bar with control columns		
Processing Area		**Search Area**	
4	Reference columns in the processing area for needle actions	**7**	Row with the search colors (module colors)
5	Module separation lines		
6	Row with the yarn colors of the module		

Designations of rows and columns in the "Module Arrangement Editor" (MA).

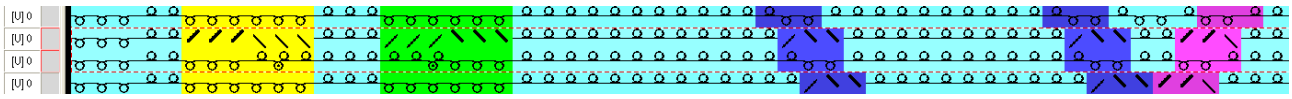
16.4 Generate a Module Arrangement

Structure modules, which are drawn-in next to each other generally, contain different transfer processes. When expanding the modules, these transfer processes will be automatically split into a sequence of technical rows. This sequence may cause an undesirable stitch distortion because of large racking courses.
The stitch distortion can be avoided arranging the transfer processes strategically.

I. Generate a Module Arrangement from a selection:

✓ New pattern is generated as "Design Pattern".

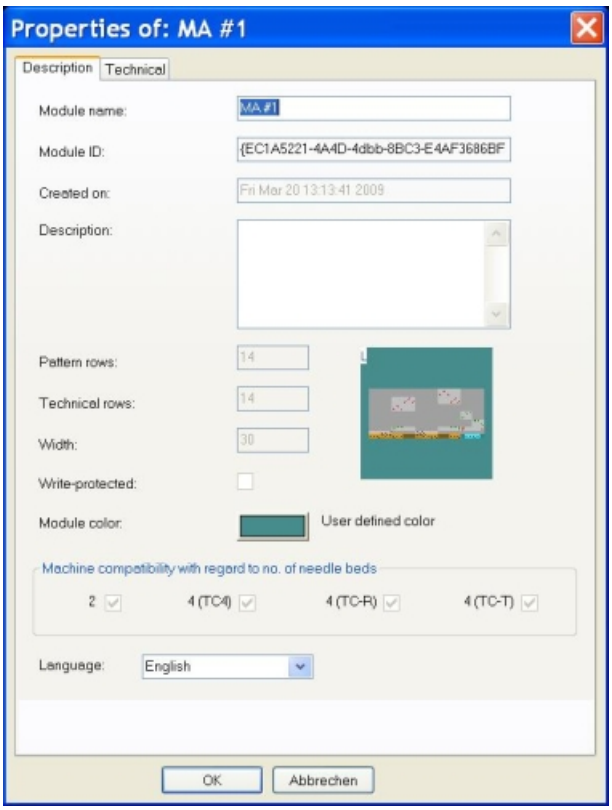
1. Select the rows in which you want the modules to be arranged.



> Only modules of the same knitting row can be arranged to each other.

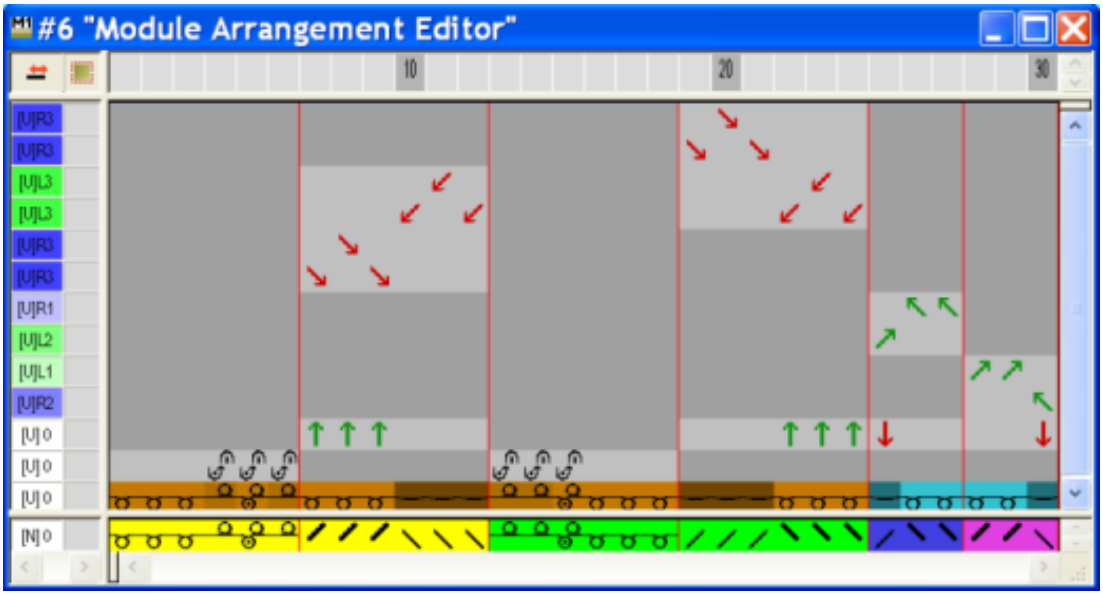
2. Click the  icon in the "Default" toolbar.
   - or -
   Call up the "Module" / "Generate from Selection" / "Module Arrangement" menu.

▶ The "Properties of: MA #1" dialog box appears.



3. If necessary, change the module name and the module color.
4. Close the dialog box with "OK".

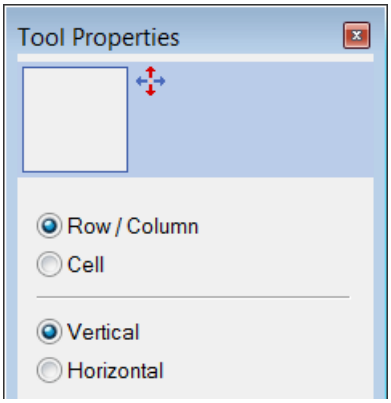
▶ All modules existing in the selection are displayed in the "Module Arrangement Editor".



i	The settings in the "Module" / "Insert Modules (Settings)" menu, initially determine the racking priority in the Module Arrangement. These settings will be ignored if a Module Arrangement is used.

II. Modify the transfer cycle in the Module Arrangement Editor:

1. Click the **Aligning** icon in the "Drawing tools" toolbar.
2. Select the desired options in the "Tool Properties" dialog box.



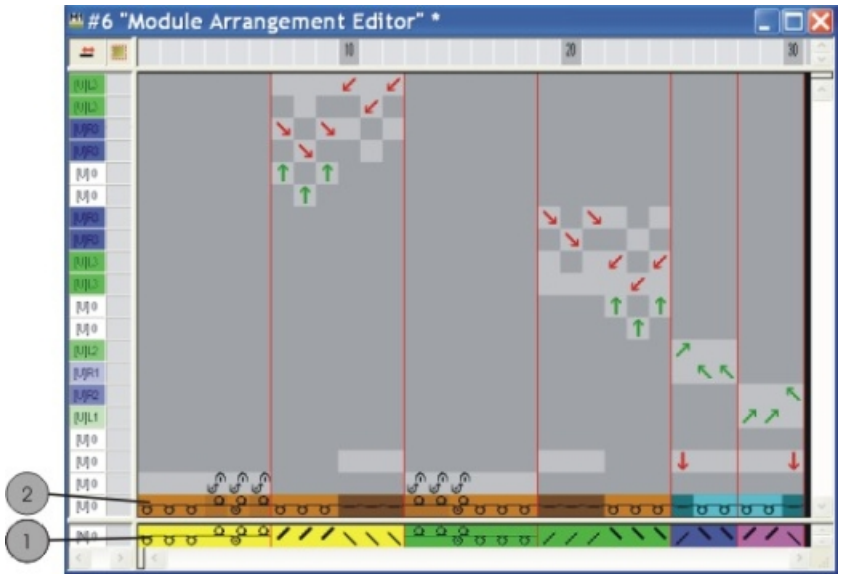
Setting	Function	Meaning
Row / Column	Move the transfer cycles of a technical row of a segment.	The transfer in the selected row can be moved to another technical row. However, only if an eventual racking matches or is feasible.
Cell	Move the transfer cycle of one individual needle (cell)	The transfer in a selection can be moved to another technical row. However, only if an eventual racking matches or is feasible.
Vertically	Move a row / column or a cell vertically	

Setting	Function	Meaning
Horizontally	Move a row / column or a cell horizontally	

3. Click on the desired element and move the selection in the selected direction with the left mouse button pressed.
   - or -
   Activate the desired option in the "Tool Properties" dialog box and move the selection with the left mouse button pressed.

Cursor when moving	Meaning
Red dashed frame	Selection ◆ Of a row within a segment ◆ Of a cell
Yellow bar	The selection is moved between two rows onto a newly inserted row.
Yellow frame	Move the selection to an existing row. **i**. Only with matching racking positions.
Yellow frame with red X	The selection can not be moved to the existing row. **i**: Racking positions do not match.

4. Repeat the procedure for all desired transfer processes.

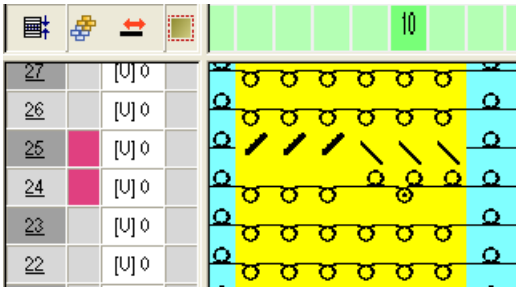


	Function
1	Module color = search color from of the "Module Color as Background / Symbol" presentation **i**: The module ID will be searched.
2	Original yarn color of the module

5. Select the empty rows resulted by the modifications and delete them with the "DEL" key.

6. Close "MA editor" with .
7. Confirm the query "Save the modified module?" with "Yes".

▶ The color marking of the Module Arrangement will automatically be entered in the control column of the selected pattern area.



i	The Module Arrangement will be saved with the pattern and can be selected in the "Local Module Arrangements" tab of the "Module " toolbar.

III. Expand the Selected Area:

✓ Rows are selected.

1. Expand the area with the Module Arrangement via of the "Steps of Processing" toolbar.

▶ The selected area is displayed in the "Symbol View (Preview)".

2. Close the preview with .

IV. Select in the Module Arrangement Editor:

Selection	Function
Row selection via the row bar	Move the content of a selected row to another technical row.
Selected with	Move the content of a selection to one or several other technical rows.

V. Behavior of Structure Modules:

Before the processing step Expanding:

If you modify the structure modules in use after generating a Module Arrangements, these modification will be applied to the basic pattern but not to the existing Module Arrangement.

i	A new Module ID will be created with the modification.

1. Modify the existing Module Arrangement manually.
   - or -
   Generate a new Module Arrangement.

After the processing step Expanding:

If you modify a structure module in use after the expanding, a copy of the module will be generated.

---

i The changes will not be applied to the pattern.

---

1. Activate the "Basic Pattern" state of pattern.
2. Replace the original module by the changed module.
3. Modify the existing Module Arrangement manually.
   - or -
   Generate a new Module Arrangement.

16.5 Complete the Pattern

Complete the pattern:

1. Start the technical processing with  .

▶ The query "Generate MC Program" appears.

2. Confirm the query with "OK".
3. Call-up "Sintral Check" via the "MC Program / Conduct Sintral Check..." menu.
   - or -
   Click in the Steps of Processing  toolbar.

17 Pattern elements, Modules and Co.

The modules are the basis of the M1plus. A great number of modules is available in the module database. Modules can be changed or newly generated.

The different ways to generate pattern elements and modules:

- **Generate pattern element**
  Selecting and copying a knitting sequence in the Symbol View [Basic] and using it for drawing.
  You can save pattern elements as local pattern element or in the "Module Explorer of Database"
- **Generate a new module from a selection**
  Selecting and copying a knitting sequence from the Symbol View [Basic] and saving it as module.
  You can save modules locally (within the pattern) or into the module database.
  A locally generated module only is available for the active pattern.
  A module saved in the "Module Explorer of Database" is available for further patterns.
- **Generate a new module**
  Generate a knitting sequence with needle actions in the "Module Editor".
  The module will be saved into the module database and will be available for further pattern.

17.1 Pattern element

I. Generate a temporary pattern element:

A temporary pattern element results from a selection, which is copied or cut-out.

1. Select drawing tool.
2. Select a pattern area in the "Symbol View [Basic]".
3. Copy the selection with  .
   - or -
   Cut-out the selection with  .

▶ The temporary pattern element is at the cursor

4. Draw pattern.

i	A temporary pattern element is not displayed in the "Modules" toolbar nor saved in the module database.

II. Generate pattern element and save locally in the pattern:

1. Select pattern area.
2. Call up the "Module" menu and select "Generate from Selection" / "Pattern Element".

▶ The pattern element will be saved as "Local pattern element" in the "Modules" toolbar under local modules  .

i	Local pattern elements will be saved in the mdv file.

Marking	
	Symbol for pattern element Positioning at the bottom right
L	Symbol for **L**ocal pattern element Positioning at the top left

III. Save a local pattern element in the data base:

1. Select a local pattern element in the "Modules" toolbar under "Local Modules" .
2. Call up the context menu with the right mouse button and select "Save to database".

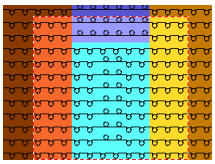
▶ The pattern element will be saved in the "User/<User name>/Pattern elements" module group within the module database.

i	Pattern elements saved in the data base are available for further patterns. The L marking is no longer present.

17.2 Modules

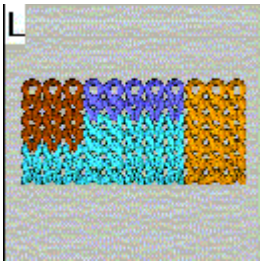
I. Generate a new module from a selection:

1. Select a pattern area in the "Symbol View [Basic]".



2. Call up the "Module" / "Generate from Selection" / "Module " menu.
   - or -
   Click on the icon in the "Default" toolbar.

▶ The "Module Editor" appears with the contents of the selection.



3. Close the Module Editor with .

▶ The new module will be saved as Local module in the "Modules" toolbar under "Local Modules" .

Marking	Meaning
L	Symbol for **L**ocal module

II. Save a local module in the data base:

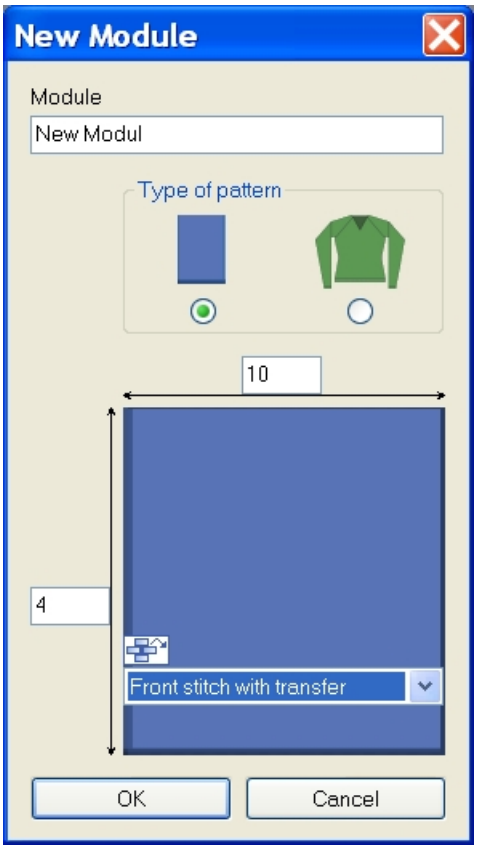
1. Select a local module in the "Modules" toolbar under local modules .
2. Call up the context menu with the right mouse button and select "Save to database".

▶ The module is saved to the "New Modules" module group of the "Module explorer of database".

i	Modules saved in the data base are available for further patterns. The L marking is no longer present.

III. Generate new module.

1. Call up the "New Module" dialog box via the "Module" / "New" / "Module..." menu.



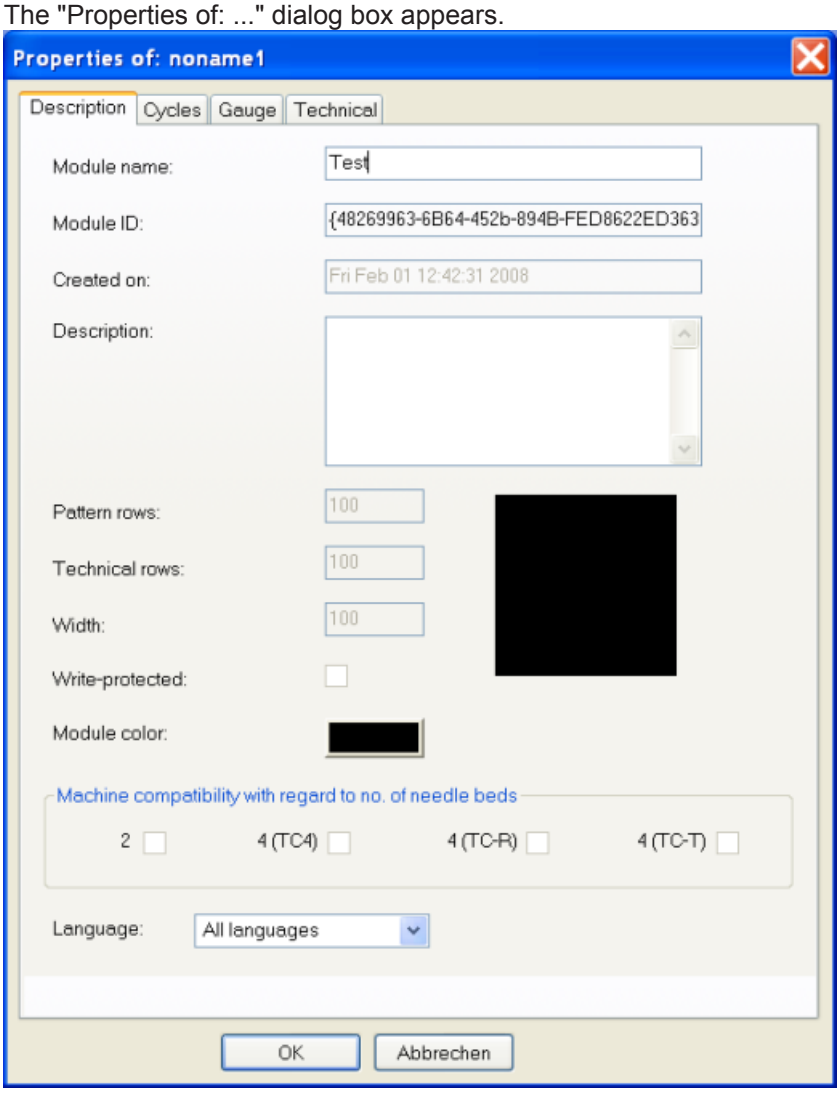
2. Enter a name under "Module name".
   - or -
   Enter the module name in the "Properties" dialog box in the "Description" tab.
3. Enter the width and the height for the module.
4. Select the specification of the needle action for the new module.

■ "Stitch ^ with transfer"

- "Stitch v with transfer"
- "Stitch-Stitch"
- "Not"

5. Confirm the entry with "OK" button.

▶ The "Properties of: ..." dialog box appears.



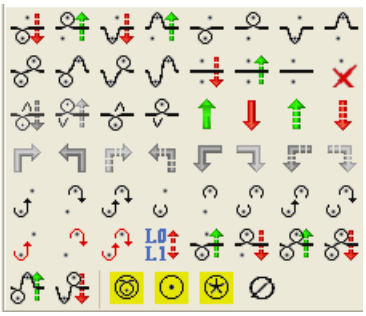
i	Default settings are already given in the "Description", "Cycles", "Gauge" and "Technique" tabs.

6. Confirm the dialog box with "OK" and close it.

▶ The "Module Editor" is opened.

7. Draw the desired knitting sequence with "Needle actions" in the "Module Editor".

Needle actions toolbar



> **i** When drawing with "Needle actions", no parameters will be entered in the control columns.

8. Specify parameters in the module:

- Stitch Length

Entry	Meaning
Color entry	Allocation of a stitch length **i**: With , the stitch length from the module will be applied to pattern.
Transparent	= dark grey entry The stitch length of the pattern will be kept when inserting the module.
Not	= light grey entry The **Not** stitch length will be applied together with the module. **i**: The technical processing will replace the **Not** by a free stitch length of the stitch length table.

- Fabric Take-down
- Carriage speed, etc.

9. Group pattern rows if necessary.
10. Close the "Module Editor" with .

▶ The module is saved in the "Module Explorer of Database" under "New Modules".

11. Select a module for drawing and activate the following module data if necessary:

- The icon in the "Module Data" toolbar
  The stitch length of the used module will be applied.

- The  icon in the "Module Data" toolbar
  The data selected in the "Module/Pattern Element: Data transfer" dialog box of the used module is transferred to the pattern.

IV.IV. Delete modules and module links:

1. Select the module in the "Modules" toolbar under local modules  and call up the context menu with the right mouse button.
2. Call up the "Delete module" function.
   - or -
   Select the module in the "Module Explorer of Database" and call up "Delete module" in the context menu.

▶ The module is deleted from the module group following a safety prompt.

i	Modules without link (=original) will be deleted once and for all from the data base and from the "Modules" toolbar. Only the selected link of modules with several links will be deleted.

17.3 Pattern Rows in the Module

When multiple technical rows build a pattern row, then you have group them.

This means:

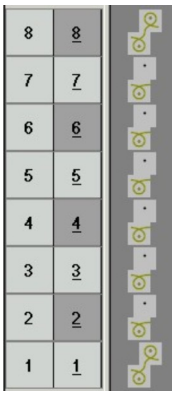
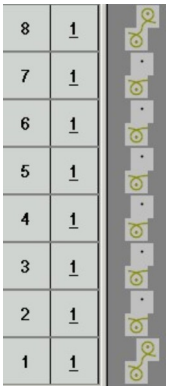
- Knitting and transferring rows will be grouped to one pattern row.
- Several knitting rows, forming one pattern row, will be grouped.

I. Group pattern rows:

1. Select the technical rows that have to be grouped in the "Module Editor".
2. Call up the "Selection" / "Group" / "Group to one Pattern Row" menu.

▶ The selected technical rows are grouped into a pattern row.

Examples	Module	Grouping / Effect
	"Cable 2x2<"	Knitting and transfer rows are grouped **Effect:** At the insert the transferring rows are inserted additionally.

Examples	Module	Grouping / Effect
	"Wave"	Ungrouped knitting rows **Effect:** 8 existing pattern rows are overwritten by the insert.
	"Wave"	Knitting rows grouped **Effect:** 1 existing pattern rows is overwritten and 7 additional rows are inserted by the insert.

II. Ungroup grouped pattern rows:

1. Select grouped rows in the "Module Editor".
2. Open the "Selection" / "Group" / "Cancel Grouping" menu.

▶ The grouping of pattern rows is separated into technical rows.

17.4 Behavior when Inserting Pattern Elements or Modules

I. Insert a pattern element:

1. Select the **Pattern name** in the "Module" toolbar and select the pattern element under **Local modules** .
   - or -
   Select a pattern element in the "Module Explorer of Pattern" in the "Pattern Modules / <Pattern name>" module group.
2. Insert the pattern element with the "Insert" function into the pattern.

II. Insert module in the pattern with the Adopt Stitch Length function:

✓ The basic pattern is loaded.

1. Activate the "Adopt stitch length" mode with the  icon in the "Module data" toolbar.
2. Select the desired drawing tool.
3. Select a module or pattern element in the "Modules" toolbar.
4. Insert a module or pattern element into the pattern.

▶ The stitch lengths of the knitting rows defined in the module are inserted in the pattern.

III. Apply data to the control columns when inserting module or pattern elements:

i Data transfer

The data transfer refers to knitting rows!
Data for the transfer rows will be applied by the "Expanding" step of processing.

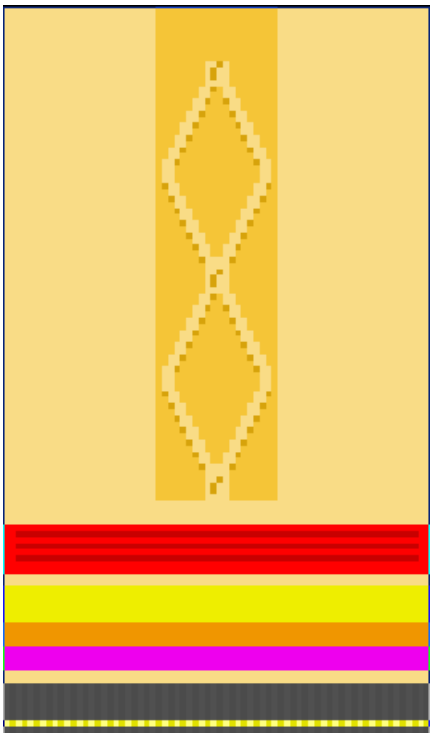
✓ The basic pattern is loaded.

1. Open the "Module/Pattern element: Data transfer" with  in the "Module Data" toolbar.
2. In the "Module / Pattern Element: Data Transfer" dialog box, select the data to be applied when inserting:
3. Confirm the input with "OK".

▶ The dialog box is closed.

4. Draw-in the module.

18 Length control with cycles



Pattern name	06_Längenrapporte.mdv		
Pattern size	**Gauge**	E 3,5.2	E 7.2
	Width:	150	250
	Height:	200	300
Machine type:	◆ CMS 530 HP 5’’ ◆ CMS 530 HP 6’’		
Setup Type	Setup2		
Start	1X1-Rib		
Basic Pattern	Front stitch with transfer		
Knitting Technique	Structure		
Pattern description	Structure pattern with colored stripes and **Cycles for length control**		

18.1 Create and draw a pattern

Create pattern:

1. Generate new pattern.
2. Draw-in the colored stripes with different drawing tools.

3. Draw structure with modules from the "Module" toolbar or from the "Module Explorer of Database".

Structure pattern elements can also be selected and inserted from the "Module Explorer".
The structure pattern elements can be found under:


/ "Pattern elements" / "MT Standard" / "MT Aran".
The  "Multi-Copy" tool can be helpful.

18.2 Define cycles for length control

I. Generate cycles:

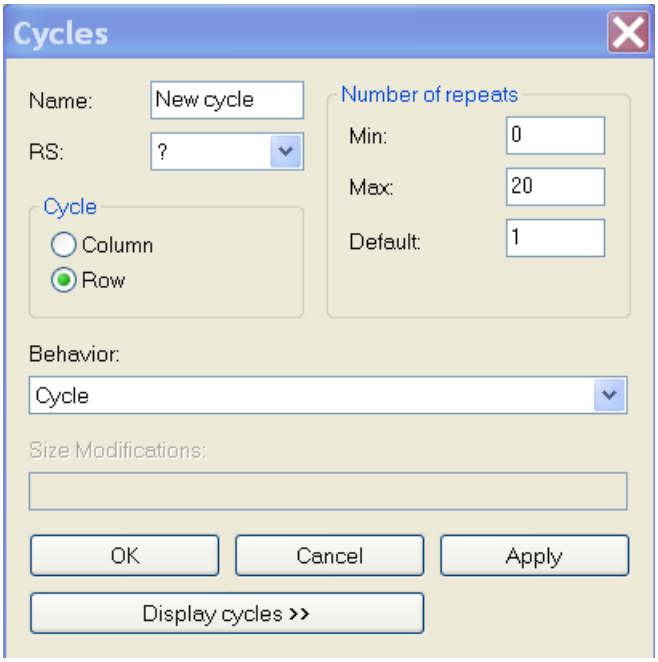
✓ The basic pattern is loaded.

1. Select rows, which are to build a cycle.

The height of a cycle has to contain a repeatable rhythm of knitting.

2. Call up the "Cycles" dialog box with the "Pattern Parameters" / "Cycles..." menu.
   - or -
   Press the key combination "Ctrl" + "R".

▶ The "Cycles" dialog box is opened.



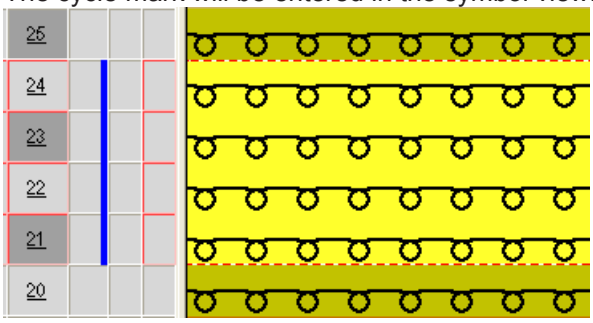
Element	Function	Default
"Name"	Enter a designation	New Cycle
"RS"	Used cycle counter	?
Cycle		
"Column"	Width cycle	
"Row"	Length cycle	"Row"
Number of repeats		
"Min:"	Minimum repetition	0
"Max:"	Maximum repetition	20
"Default"	Repetition factor	1
Behavior		
Selection list	Type of Cycle	Cycle

3. Make settings in the "Cycles" dialog box.

▶ The option "Row" is automatically specified under "Cycle" and "Cycle" is specified under **Behavior** in the selection list.

4. Specify a name (designation) for the cycle.
5. Enter settings for "Min:", "Max:" and "Default".
6. Select settings for "RS" (cycle counter).
7. Click on the "Apply" key.

▶ The cycle mark will be entered in the symbol view.



8. Open the "Cycle table" via "Display cycles >>".

▶ All cycles of the pattern are listed.

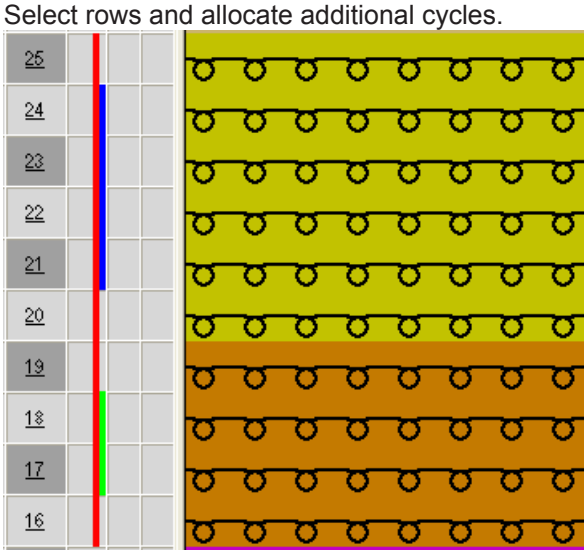
9. Close the window.

10. Delete the selection with  .

II. Generate a nested cycle:

A cycle may contain further cycles. As a result, the cycles are nested in one another.

1. Select rows and allocate additional cycles.



18.3 Length adjustment with switchable cycles

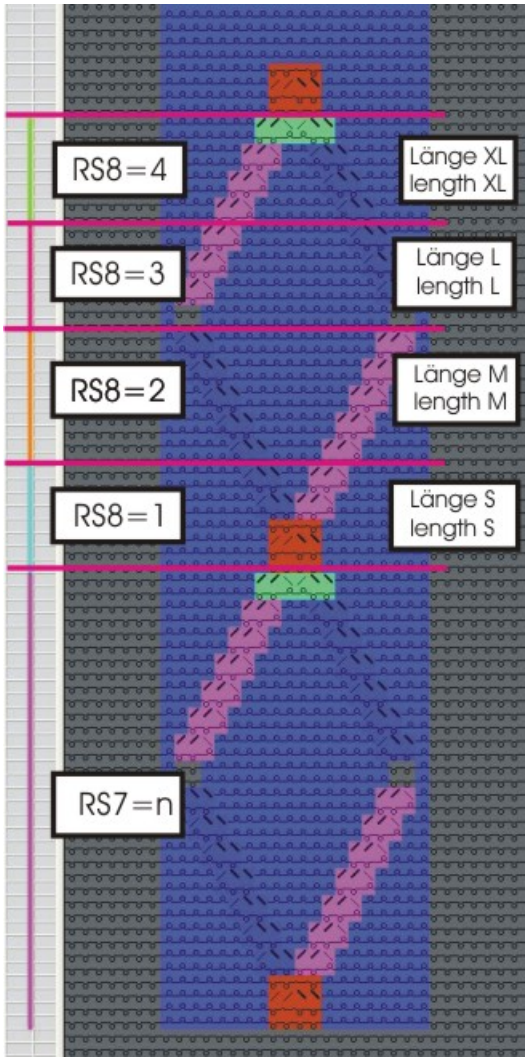
A pattern can contain different types of cycles for adjusting the length.

- Set **Cycle** under behavior for the **pattern repetition** in the "Cycles" dialog box.
- Set **Switchable Cycle** under behavior for the **length control** in the "Cycles" dialog box.

I. Example for cycles with pattern repetition and length control.

For the following example applies:

- RS7 = Cycle for pattern repetition.
- RS8 = specifies the position, where the pattern will end (cycle for the length control).



RS	Setting	Function
RS7	n	RS7 will be knitted n times.
RS8	0	Length S, M, L, XL will be not knitted.
RS8	1	Length S will be knitted.
RS8	2	Length S and M will be knitted.
RS8	3	Length S, M, and L will be knitted.
RS8	4	Length S, M, L, and XL will be knitted.
RS8	5 or more	Length S, M, L, XL will be not knitted.

II. Define pattern areas for switchable cycles:

i	The height of a switchable cycle has to contain a repeatable rhythm of knitting.

1. Select the first pattern area via a row selection.

2. Allocate RS cycle counters. (Example: RS8)
3. Insert the **Min.** and **Max.** values.

RS	Name	Type	Min	Max	Default	Behavior
RS7	Pattern cycle	Row	1	20	5	Repetition cycle for the motif
RS8	**S (Length)**	**Row**	**1**	**4**	**-1**	**1. Cycle for length control**
RS8	**M (Length)**	**Row**	**2**	**4**	**-1**	**Second cycle for length control**
RS8	**L (Length)**	**Row**	**3**	**4**	**-1**	**Third cycle for length control**
RS8	**XL (Length)**	**Row**	**4**	**4**	**-1**	**4. Cycle for length control**

4. Proceed in the same way with the other areas.

▶ You can determine the different fabric lengths using RS8=0 up to RS8=4.

i	You can define the switchable cycles differently in the height. RS must be allocated to all switchable cycles.

18.4 Length adjustment with multiple switchable cycles

The M1plus supports the creation of switchable cycles.
Several switchable cycles are automatically generated within a selected area.

I. Generate cycle for length control:

1. Select the pattern rows in the symbol view, which shall be used for length control.
   Example: Select an area of 34 pattern rows.

	Select an even number of rows.

i	The height of a multiple switchable cycle has to contain a repeatable rhythm of knitting.

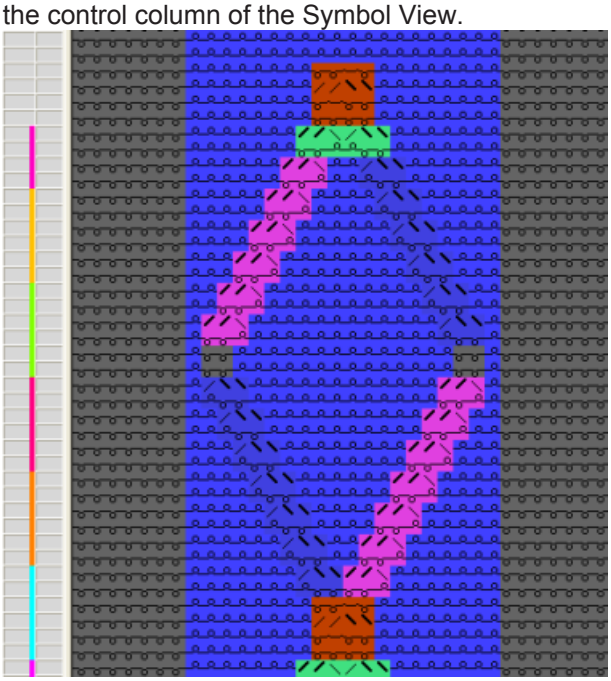
2. Call up the "Cycles" dialog box and carry out the corresponding settings.
3. Designate the cycle under "Name".
4. Allocate a cycle counter or a counter under "RS".
5. Set **Multiple switchable cycle** under "Behavior".
6. Define the number of pattern rows, which are to build the switchable cycles under "Number of repeats" at "Min".
   Example: Enter the number **6**.
7. Enter **0** for the "Max." value under "Number of repetitions".

▶ The selected area will be divided into equal cycles with 6 rows.

i	A rest with less than 6 rows can result depending on the selection height.

8. Confirm settings with "Apply".

▶ The selected area will be divided into cycles with 6 pattern rows and will be displayed in the control column of the Symbol View.



9. Call up the Cycle table via "Display cycles >>".

▶ The determined cycles are listed in the table.

i	You can modify the specifications in the cycle table by clicking on it, if necessary.

10. Close the "Cycles" dialog box with "OK".
11. Close the cycle table with .

▶ The changes are applied without prompt.

18.5 Settings for Cycles

Specifications for the entry of cycles in Sintral:

Under "Tools" / "Program settings..." / "Sintral" you can make the desired settings:

■ Used with Setup2

Element	Meaning
Cycle counters in Sintral with Setup2	
"Before START"	Cycle counters are entered as direct command before START.
"after START"	Cycle counters are entered as direct command after START.
"As Comment"	Cycle counters are entered as comment.
" in Setup2"	Cycle counters are entered in Setup2 Editor.

Element	Meaning
	i: No comment in Sintral concerning the cycle counters.

18.6 Complete the Pattern

Complete the pattern:

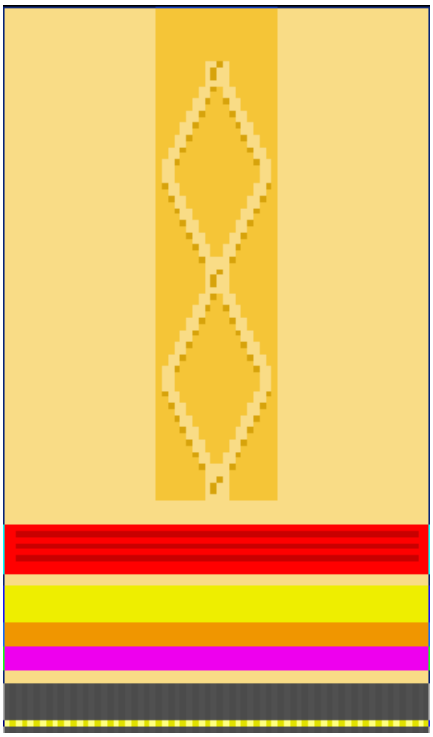
1. Start the technical processing with  .

▶ The query "Generate MC Program" appears.

2. Confirm the query with "OK".

3. Call up the "Sintral Check" by  .
   - or -
   Call-up "Sintral Check" via the "MC Program / Conduct Sintral Check..." menu.

19 Regulation of the width with cycles



Pattern name	06_Längen-Breitenrapporte.mdv		
Pattern size	**Gauge**	E 3,5.2	E 7.2
	Width:	150	250
	Height:	200	300
Machine type:	◆ CMS 530 HP 5'' ◆ CMS 530 HP 6''		
Setup Type	Setup2		
Start	1X1-Rib		
Basic Pattern	Front stitch with transfer		
Knitting Technique	Structure		
Pattern description	Structure pattern with colored stripes and **Cycles for width control**		

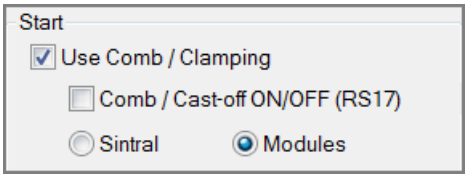
19.1 Define cycles for different widths (Sizes)

You can create different sizes with different elements for width control.

I. Define pattern cycles for different widths:

Width cycles with machines with comb:

Under start with selection "Use comb" the option "Sintral" has to be selected.



i	Result: Thereby the starting rows Casting-off and Comb thread will be inserted as a Sintral function.

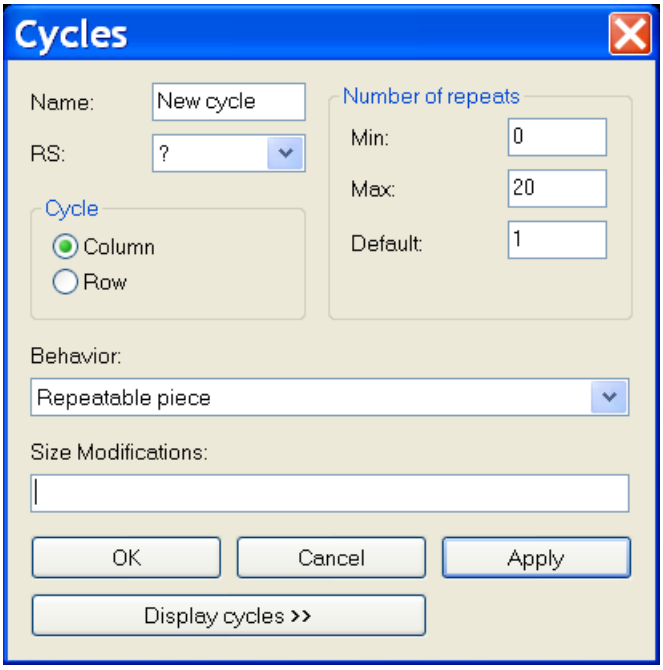
1. Save existing pattern under a new name and delete the length cycles.
   - or -
   Generate new pattern.
2. Select the columns for the width control in the column bar of the symbol view.

Watch out the following points with width cycles:

- Cycle width of the start:
  - 1x1 rib: 2 needles
  - 2x1 rib: 3 needles
  - 2x2 rib: 4 needles
- Cycle of the draw thread
- Structure of the pattern (Cable / Aran)

	The "Coordinate Display of needle bed center" can be activated as a help in the column bar of the symbol view.

3. Open the "Cycles" dialog box via "Pattern Parameters" / "Cycle...".



Section:	Element:	Function:
	Name	Name cycle
	RS	Used cycle counter
Cycle		
	Column:	Width cycle
	Row:	Length cycle
Number of repeats		
	Min:	Use for the specified size
	Max:	Use for the specified size
	Default	Repetition factor
Behavior		
Entry in the selection list	Repeatable piece	Pattern area with the possibility of repeats Multiple use with repetition factor
	Middle piece	Center of motif Will be used only once. e.g. for Fully Fashion V-neck.
	Connecting part	Left / right fabric selvedge Each will be used only once. e.g. pattern edge or for Fully Fashion in the narrowing area of the sleeve.

4. Enter the designation of the cycle under "Name".
5. Allocate a cycle counter or a counter under "RS".

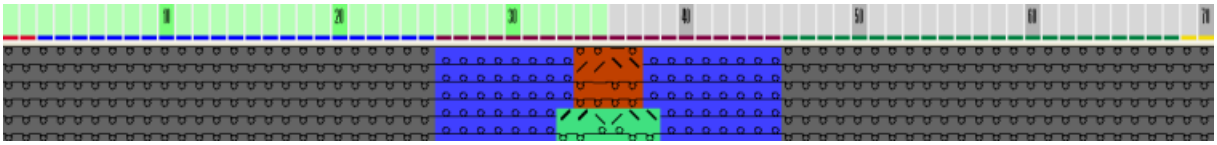
i If you do not enter anything in the RS field, the setting from the "Configuration" dialog box will be automatically used. (Default RS16)
The option "Column" under "Cycle" is preset by the selected columns.

6. Set the column type under behavior:
- Repeatable piece
- Middle piece
- Connecting part

7. Enter under "Number of repeats"
- the smallest size (number) for which the defined part is defined at "Min".
- the biggest size (number) for which the defined part is defined at "Max".
- the repetition factor for the repeatable part type at "Default".

8. Confirm the settings with "Apply".
9. Call up the context menu in the column bar and activate "Cycles".

▶ The inserted cycles are displayed colored in the column bar.



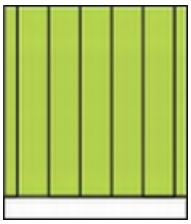
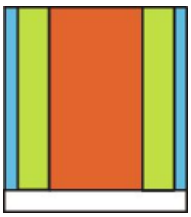
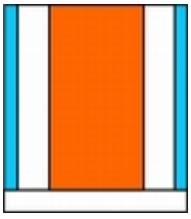
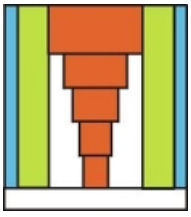
10. Open cycle table via "Display cycles >>" if necessary.

▶ The inserted column cycles are listed.

11. Change the specifications in the cycle table by clicking, if necessary.
    - or -
    Call-up the context menu to carry out changes in the cycle table.

II. Different possibilities for width control:

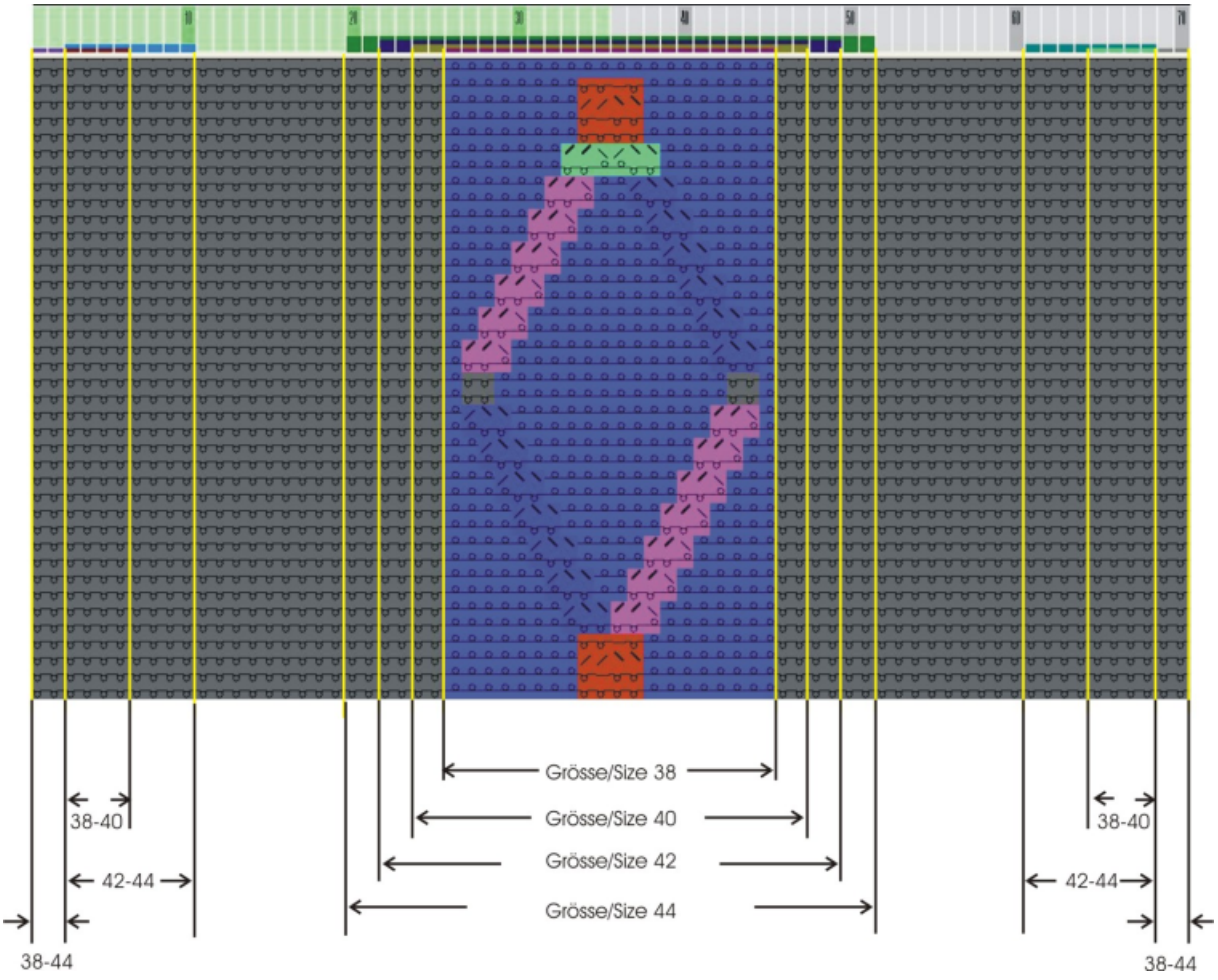
Color Presentation	Short Name	Function	Possibilities for use
	AT	Connecting part	Without repetition factor
	WT	Repeatable piece	With / without repetition factor
	MT	Middle piece	With / without size correction switch

Possible sequence of the parts	
Only WT	
AT / WT / MT / WT / AT	
AT / MT / AT	
AT / WT / different T / WT / AT	

Possibilities	CMSWith Comb (FF-Mode)	CMSWithout Comb (no FF - Mode)
AT / WT / AT	Not possible	Not possible
WT / MT / WT	possible	possible
AT / MT / AT	possible	possible
Only MT	possible	possible
Only AT	Not possible	Not possible
AT / WT / MT / WT / AT	possible	possible

III. Example for different knitting sizes (= Size table)

- **Connecting parts** for the left and the right edge
- Different **Repeatable parts** for the width adaption
- Different **Center parts** for the motif center



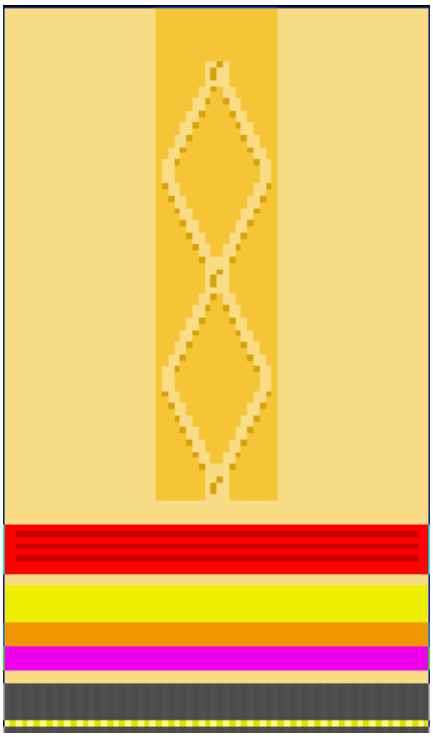
Generating connecting parts
Edges at the left and right for the sizes 38-44

Generating connecting parts		
Name:	**Edge left**	**Edge right**
RS:	16	16
Behavior:	**Connecting part**	
Min.:	38	38
Max:	44	44

Generating left repeatable parts		
Different repeatable parts at left for sizes 38 - 44		
	Size 38 + 40	**Size 42 + 44**
Name:	**Width regulation left**	
RS:	16	16
Behavior:	**Repeatable piece**	
Min:	38	42
Max:	40	44
Standard:	2 Place the repeatable piece two times	3 Place the repeatable piece three times
Create different repeatable parts for the right accordingly		

Generating center part				
Different center parts for sizes 38 - 44				
Name:	**Size 38**	**Size 40**	**Size 42**	**Size 44**
RS:	16	16	16	16
Behavior:	**Middle piece**			
Min:	38	40	42	44
Max:	38 Center part for size 40 only	40 Center part for size 40 only	42 Center part for size 42 only	44 Center part for size 44 only

20 Combine width and length control



Pattern name	06_Längen-Breitenrapporte.mdv
Pattern description	Structured pattern with colored stripes **Cycles for length control combined with cycles for width control**

20.1 Combine cycles for length and width:

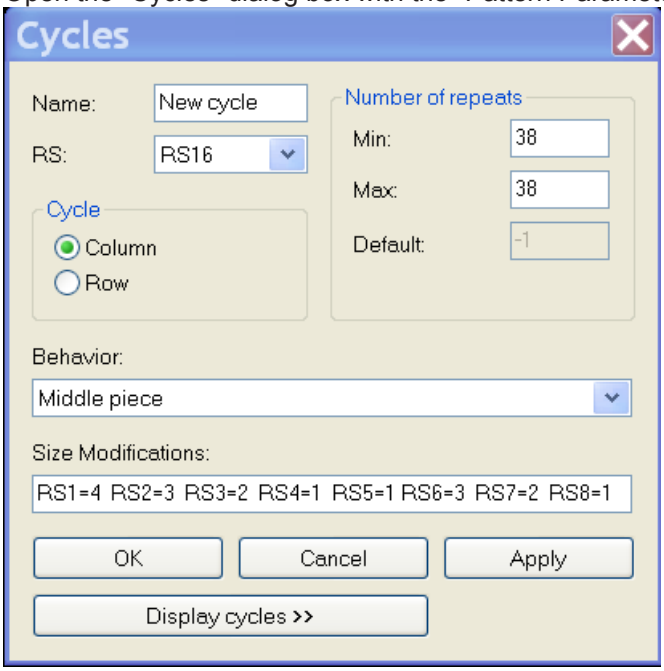
Usually the length of a fabric changes when changing the width.
Therefore it is beneficial to combine the width and length cycles.

Generate cycle combination:

- ✓ The length cycles are generated.
- ✓ The width cycles are generated.

Combine cycles for length and width:

1. Open the "Cycles" dialog box with the "Pattern Parameters" / "Cycle..." menu.



> **i** You can define the length cycles with the desired repeats together with defining the width cycles for the corresponding sizes in the "Cycles" dialog box under Size Modifications.

2. Open cycle table via the "Display cycles >>" button.

▶ All defined length and width cycles are displayed in the table.

3. Define the length cycles with the required repetition corresponding to the defined center parts in the "Size Modifications" column.
   - or -
   Define them directly when defining the repeatable parts in the "Cycles" dialog box.

		RS	Description	Type	Min	Max	Default	From	To	Behavior	Size Modifications
1		RS16	Kante links/ Edge left	Columns	38	44	-	1	2	Connecting piece	
2		RS16	WT-L Größe /Size 42+44	Columns	42	44	4	3	10	Repeatable piece	
3		RS16	WT-L Größe /Size 38+44	Columns	38	40	3	3	6	Repeatable piece	
4		RS16	MT Größe Sitze44	Columns	44	44	-	20	51	Middle piece	RS1=7 RS2=4 RS3=5 RS4=5 RS5=1 RS6=3 RS7=2 RS8=4
5		RS16	MT Größe / Sitze42	Columns	42	42	-	22	49	Middle piece	RS1=7 RS2=4 RS3=5 RS4=5 RS5=1 RS6=3 RS7=2 RS8=3
6		RS16	MT Größe /Sitze40	Columns	40	40	-	24	47	Middle piece	RS1=5 RS2=3 RS3=5 RS4=5 RS5=1 RS6=3 RS7=2 RS8=2
7		RS16	MT Größe / Sitze38	Columns	38	38	-	26	45	Middle piece	RS1=4 RS2=3 RS3=5 RS4=5 RS5=1 RS6=3 RS7=2 RS8=1
8		RS16	WT-R Größe /Size42+44	Columns	42	44	4	61	68	Repeatable piece	
9		RS16	WT-R Größe /Size38+40	Columns	38	40	3	65	68	Repeatable piece	
10		RS16	Kante rechts / Edge right	Columns	38	44	-	69	70	Connecting piece	
11		RS1	1x1 Cycle	Rows	0	20	5	4	7	Cycle	
12		RS2	Länge 1 Lenght 1	Rows	0	999	5	13	14	Cycle	
13		RS5	Geschachtelt /Nested RS3+RS4	Rows	0	999	2	16	25	Cycle	
14		RS3	Länge 2 /Lenght 2	Rows	0	999	3	17	18	Cycle	
15		RS4	Länge 3 / Lenght 3	Rows	0	999	6	21	24	Cycle	
16		RS6	Länge 4/ Lenght 4	Rows	0	999	2	30	33	Cycle	
17		RS7	Aran	Rows	0	999	2	40	71	Cycle	
18		RS8	Länge1 / Lenght1	Rows	1	4	0	72	79	Switchable cycle	
19		RS8	Länge2 / Lenght3	Rows	2	4	0	80	87	Switchable cycle	
20		RS8	Länge3 / Lenght3	Rows	3	4	0	88	95	Switchable cycle	
21		RS8	Länge4 / Lenght4	Rows	4	4	0	96	103	Switchable cycle	

> **i** Settings under **Size Modifications** can be entered with width cycles only.

21 Intarsia pattern

Pattern name	07_Intarsia-Einstellungen.mdv		
Pattern size	**Gauge**	E 3,5.2	E 7.2
	Width:	150	250
	Height:	200	300
Machine type:	◆ CMS 530 HP 5'' ◆ CMS 530 HP 6''		
Setup Type	Setup2		
Start	1X1 Rib		
Basic Pattern:	Front stitch with transfer		
Knitting Technique	Single jersey Intarsia		
Pattern description	Setting with Intarsia pattern		

21.1 Global settings in configuration:

I. Make global settings for Intarsia in the "GlobalParameters" dialog box:

✓ No pattern may be open.

1. Open the "GlobalParameters" dialog box with the "Pattern Parameters" / "Global Pattern Parameters..." menu.
2. Select the desired template for creating your one file under "Stoll templates".
3. Select another machine type and / or gauge if necessary.
4. Enter new file name if necessary.
5. Select the saved file under "User-defined Files".
6. Open the file by the "Open user-defined file" button.

▶ The "GlobalParameters..." dialog box appears.

7. Click the "Default" button under "Configuration".

▶ The "Configuration" dialog box will be opened.

8. Make the desired settings in the "Intarsia" tab.
9. Confirm the settings as default with "Apply" or "OK".
10. Close the "GlobalParameters" dialog box with  .

▶ The specifications will be saved and displayed as pattern related settings in the "Configuration" dialog box.

i	The file is saved to the Private folder under D:/Stoll/M1plus/<Version>/ConfigData/Private. The file saved to the Private folder will be used when creating a pattern.

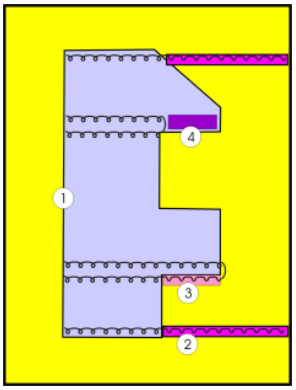
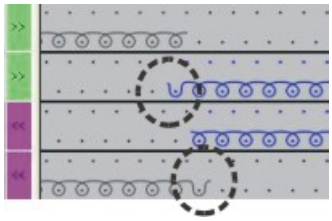
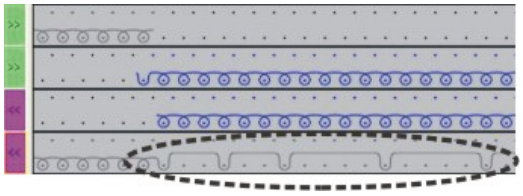
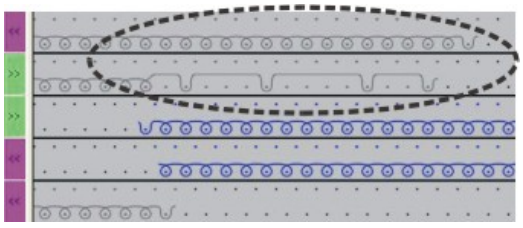
Setting options in the Intarsia tab:

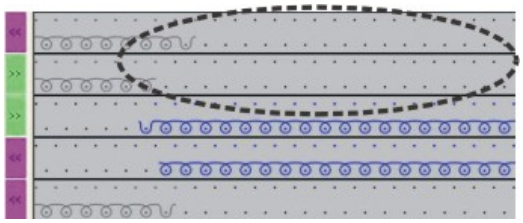
Section		Function
Knitting out with a number of pattern rows of		
	List field	Enter the number of pattern rows from which the knitting-out is to be carried out. i: In case of an inferior row number, the yarn carrier remains in the pattern.
Knitting in with a number of pattern rows of		
	List field	Enter the number of needles, from which the knitting-in is to be carried out. i: With an inferior needle number the yarn carrier remains in the pattern.
Intarsia / gore binding		
		The binding will be generated after knitting. In the stroke from right to left the binding therefore appears on the left side.

Section		Function
		The binding will be generated before knitting. In the stroke from right to left the binding therefore appears on the right-hand side.
	List field	Select a module from the "Technical / Intarsia border processing / Binding" module group.
Border Processing		
	Feed	If the step on the edge of a color area from one row to the next is greater than specified in the "Allowed steps" input field, the thread is brought to the start of the following color row by the selected feeding module.
	Reduce	The stepping at the edge of the color area (from one row to the next) is reduced to the "Allowed stepping", if necessary.
	Allowed Stepping	Number of needles by which the color area on the edge may be graded. **i**: No feeding nor reducing takes place within the stepping. Standard: 1
Valuate braking distances for Intarsia yarn carriers		
"Generate adjusting program"	☐	Adjusting program will not be included as function in to Sintral.
	☑	Adjusting program will be included as function in to Sintral.
		i: An adjusting program matching the pattern will be automatically generated and entered in Sintral. An ornamental stitch line is knitted with each of the Intarsia yarn carriers used in the pattern to check and adjust the correct parking position quickly and easily.
	List field	◆ "Braking distance determination Setup1" ◆ "Braking distance determination Setup2"
Knitting-in		Make the desired settings for knitting-in the Intarsia yarn carriers
Knitting-out		Make the desired settings for knitting-out the Intarsia yarn carriers
Use only normal yarn carriers		
	☑	The Intarsia programs are knitted with normal yarn carriers.
	☐	The Intarsia programs are knitted with Intarsia yarn carriers.
Tuck structure with float jacquards above a distance of (needles)		
	List field	Specification of the maximum distance in needles when knitting a float Jacquard **i**: A tuck binding is automatically carried out above the specified distance.
Net Pick-up		

Section		Function	
List field		Selection of the module for net pick-up	
Starting before Jacquard (rows)		Specification of the quantity of rows for inserting the selected module (net pick-up)	
"Suppress Picking-up a Single Needle"		☐	If the pattern requires a net pick-up of one needle only, this is carried out.
		☑	If the pattern requires a net pick-up of one needle only, this is not carried out .
multi gauge transition coarse/fine			
	List field	Select module from the "Technical / MG-Transition coarse-fine" module group.	
Knitting-in / Knitting-out			
	With knot	A knot as binding is used.	
	Binding	A module from the "Technique / Intarsia Knit-in / Binding" module group is selected.	
	Feeding	A module from the "Technique / Intarsia Knit-in / Feeding" module group is selected.	

II. Effect of the settings when creating an Intarsia pattern:

	No.	Section	Presentation
	**1**	**Intarsia / gore binding**	
	2	**Knitting-in**	
	3	**Border Pro-cessing** "Feed"	

	No.	Section	Presentation
	4	**Border Processing** " Reduce"	

21.2 Create and expand intarsia pattern

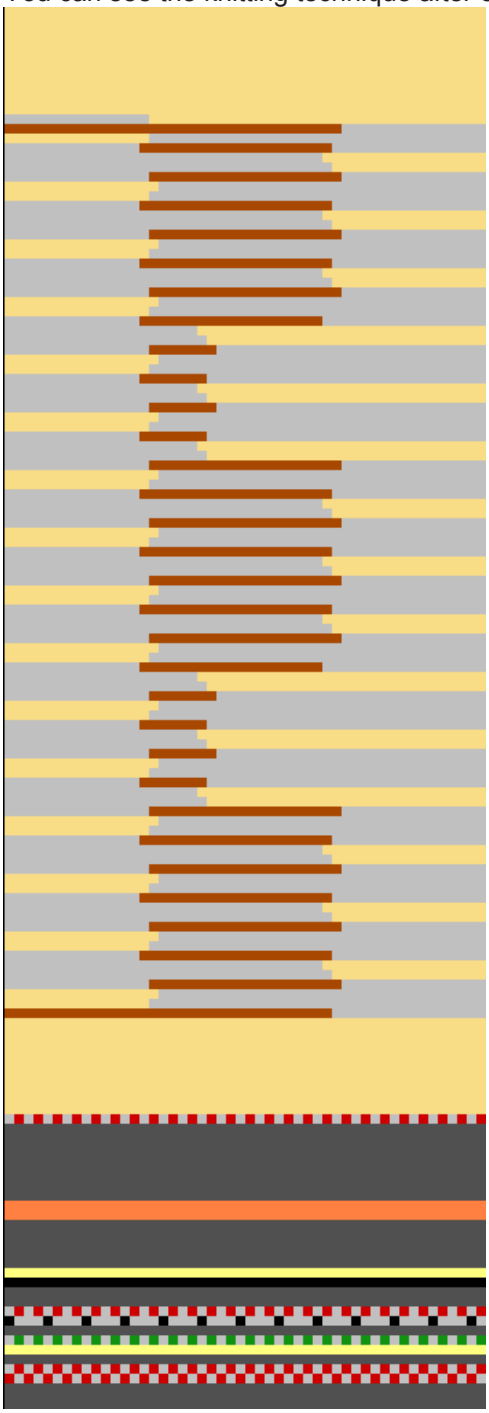
I. Generate the pattern:

1. Generate a new pattern.
2. Select **Pattern without shape** and "Design Pattern".
3. Draw intarsia motif with the desired yarn colors.

II. Expand pattern or display preview:

1. Expand the pattern with  of the "Steps of Processing" toolbar.

▶ You can see the knitting technique after expanding the pattern.



i	Check the processing and evaluate whether a correction or optimization is required. You can make pattern related settings in the yarn field allocation dialog box, if necessary.

III. Requirements for pattern related changes:

✓ Pattern is loaded into the **Basic Pattern** state of pattern.

1. Call up the Yarn Field Allocation" dialog box with ".
2. Select the desired yarn field.
3. Make the settings for the selected yarn field.
4. Confirm the settings in the "Yarn Field Allocation" dialog box with "OK".

▶ The settings will affect the current pattern during the processing step **Expand**.

21.3 Pattern related settings in the configuration

Make settings referring to the pattern for Intarsia:

- These settings refer to the pattern.
- The settings are applied to all color fields of the actual pattern.
- The settings are saved in the mdv file.

1. Call up the "Intarsia" tab with the "Pattern Parameters" / "Configuration..." menu.
2. Make the desired settings.

Options for knitting-in or knitting-out:

Element		Meaning
Section: Knitting out with a number of pattern rows of		
List field		Enter the number of pattern rows from which the knitting-out is to be carried out. In case of an inferior row number, the yarn carrier remains in the pattern.
Section: Knitting in with a number of needles of		
List field		Enter the number of needles, from which the knitting-in is to be carried out. With an inferior needle number the yarn carrier remains in the pattern.
Valuate braking distances for Intarsia yarn carriers		
"Generate adjusting program"	☐	Adjusting program will not be included as function in to Sintral.
	☑	Adjusting program will be included as function in to Sintral.
	List field	◆ "Braking distance determination Setup1" ◆ "Braking distance determination Setup2"
	Knitting-in	Make the desired settings for knitting-in the Intarsia yarn carriers
	Knitting-out	Make the desired settings for knitting-out the Intarsia yarn carriers

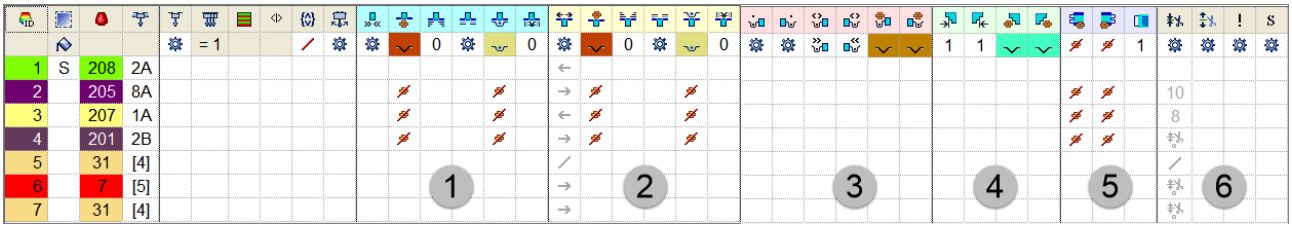
21.4 Yarn field table in the Yarn Field Allocation dialog box

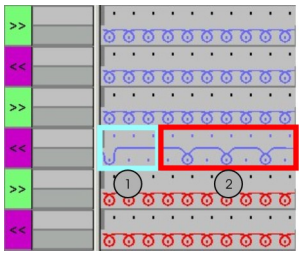
Structure and columns of the yarn field table

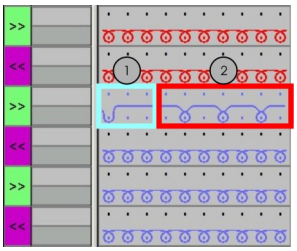
Table header:

- 1st row: all the symbols for identification of the table columns
- 2nd row: Default settings for the respective column (settings from globalparameters.mdv)

> **i** The **default settings** are used for all **Yarn fields without specifications**.



No.	Icon	Function	Meaning
Knit-in section			
1		**Starting Direction**	Definition of the knitting direction for the first row of a color field
		Module for Knitting-in	Definition of the knitting mode for the knit-in row (2)  **i**: Allocation of any desired modules with Drag & Drop possible.
		Prioritize Knitting-in	Specify the order of knitting in of the yarn carriers with simultaneously starting yarn fields **i**; The higher the value the lower the priority.
		Row-offset for Knitting-in	Knitting-in of the yarn carrier by x rows before the beginning of the yarn field ◆ referring to pattern rows (default setting) ◆ referring to technical rows
		Binding or Knot at the Start	Definition of the knitting mode for the binding at the yarn field border when knitting-in (1)

No.	Icon	Function	Meaning
		Column-offset for Knitting-in with a Knot	Move the position of a knot (module) when knitting-in by x columns to the left or right
Knitting out section			
2		**Direction of Knitting-out**	Definition of the knit-out direction of a yarn carrier at the end of a yarn field
		Module for Knitting-out	Definition of the knitting mode for the knit-out row (2)  : Allocation of any desired modules with Drag & Drop possible.
		Prioritize Knitting-out	Specify the order of knitting out of the yarn carriers with simultaneously ending yarn fields
		Row-offset for Knitting-out	Knitting-out of the yarn carrier by x rows after the end of the yarn field ◆ referring to pattern rows (default setting) ◆ referring to technical rows
		Binding or knot at the end	Definition of the knitting mode for the binding at the yarn field border when knitting-out (1)
		Column-offset for Knitting-out with a Knot	Move the position of a knot (module) when knitting-out by x columns to the left or right
Section Binding			
3		**Intarsia Binding at the Left**	Definition of a binding or no binding at the left border of the yarn field
		Intarsia Binding at the Right	Definition of a binding or no binding at the right border of the yarn field
		Direction of the Intarsia Binding at the Left	Specification for inserting the module Binding at the left yarn field border depending on the carriage direction ◆ Binding at the left at the beginning of a knitting row ◆ Binding at the left at the end of a knitting row
		Direction of the Intarsia Binding at the Right	Specification for inserting the module Binding at the right yarn field border depending on the carriage direction ◆ Binding at the right at the beginning of a knitting row ◆ Binding at the right at the end of a knitting row

No.	Icon	Function	Meaning
		**Module for Intarsia Binding at the Left**	Definition of the knitting mode for the binding at the left yarn field border
		**Module for Intarsia Binding at the Right**	Definition of the knitting mode for the binding at the right yarn field border
Section Intarsia Border Processing			
4		**Allowed Stepping for Border Processing at the Left**	Maximum number of needles when widening at the left yarn field border without automatic border processing. **i**: No module is inserted.
		**Allowed Stepping for Border Processing at the Right**	Maximum number of needles when widening at the right yarn field border without automatic border processing. **i**: No module is inserted.
		**Module for Border Processing at the Left**	Definition of the knitting mode for the border processing (feeding) in case of large widenings (stepping) of the yarn field **i**: Stepping greater than specifications in columns **Allowed steps Border processing left or right**.
		**Module for Border Processing at the Right**	Definition of the knitting mode for the border processing (feeding) in case of large widenings (stepping) of the yarn field **i**: Stepping greater than specifications in columns **Allowed steps Border processing left or right**.
Section Border fixation			
5		**Module for border fixation at the left**	Selecting the desired module for border fixation at the left fabric selvedge
		**Module for border fixation at the right**	Selecting the desired module for border fixation at the right fabric selvedge
		i: Modules for border fixation can be inserted into 'unlocked' rows only. Rows can be locked in the "Border Fixation"  control column to avoid the insertion.	
		**Number of rows between border fixations**	Setting of the distance between border fixations
Miscellaneous section			
6		**Clamp Yarn Carrier**	Specification for the yarn carrier, when it is to be clamped and cut after knitting its yarn field.
		**Open clamp after ...**	Specification for the yarn carrier, after how many pattern rows the yarn can be released from the clamp.
		**SEN Edge and Waiting Position**	Specifications for positioning the yarn carrier during the knitting ◆ Stop at the SEN edge

No.	Icon	Function	Meaning
			◆ Parking (waiting position) at the fabric selvedge with an additional distance (needles).
	S	**Allocate Yarn Carrier to one System**	Selection of a knitting system for the selected yarn field i: The yarn carrier is knitted always in the same system, i.e. the system specification changes depending on the carriage stroke direction.

Additional columns for pattern creation with M1plus version 5.2 and previous:

Symbol	Function	Meaning
	**Yarn carrier correction left not swiveled (Ka)**	Yarn carrier correction at the left yarn field border for normal yarn carriers and un-swiveled Intarsia yarn carriers
	**Yarn carrier correction right not swiveled (Kb)**	Yarn carrier correction at the right yarn field border for normal yarn carriers and un-swiveled Intarsia yarn carriers
	**Yarn carrier correction left swiveled (K<I>a)**	Yarn carrier correction at the left yarn field border for normal yarn carriers and swiveled Intarsia yarn carriers
	**Yarn carrier correction right swiveled (K<I>b)**	Yarn carrier correction at the right yarn field border for normal yarn carriers and swiveled Intarsia yarn carriers

i Change the sorting of the columns:

You can change the sorting of all columns.
In the table header of the desired column click on the symbol for the identification of the column and the arrangement will be changed. The arrangement will be changed again by clicking once more.

21.4.1 Selecting in the Yarn Field Allocation dialog box

Select several yarn fields with the "Ctrl" key:

1. Select a yarn field in the yarn field view.
   - or -
   Select a yarn field via the  column in the yarn field table.

i In the yarn field view you can identify a selected yarn field by a circulatory frame and the double hatch lines.
All yarn fields marked by simple diagonal hatch lines are allocated to the same yarn carrier number.

2. Select additional yarn fields with the "Ctrl" key pressed.

▶ All the selected rows are marked with light blue.

3. Make changes via the context menu of the desired column.
4. Allocate the change with  .
   - or -
   Click the cell of the desired column.

Select several yarn fields with the "Ctrl" + "Shift" key:

1. Double-click a yarn field of the yarn field view with the "Ctrl" + "Shift" keys pressed.
   - or -
   Double-click on a yarn carrier symbol with the "Ctrl" + "Shift" keys pressed.

▶ All yarn fields with the same settings or specifications will be selected in the yarn field list.

2. Make changes via the context menu of the desired column.
3. Allocate the change with  .
   - or -
   Click the cell of the desired column.

---

i With the "Esc" key you can cancel the selections.

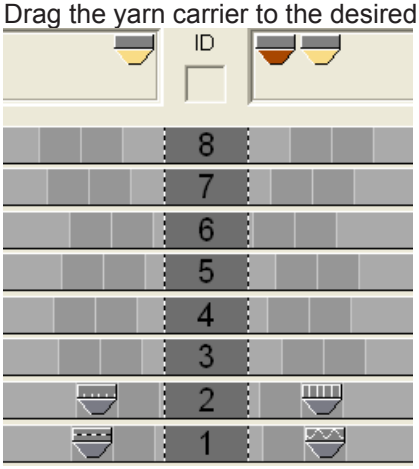
21.5 Pattern related settings in the Yarn Field Allocation dialog box

Options for correcting and optimizing:

- Direction of knitting-in or out
- Module for knitting-in or knitting-out
- Feeding or reducing
- Allowed steps
- Binding or knot

21.5.1 Influence the Knitting-in Direction of a Yarn Carrier

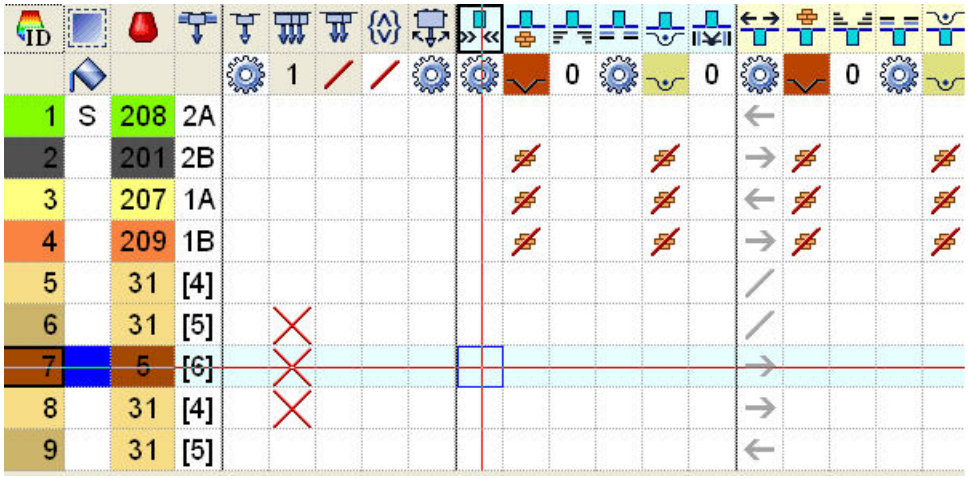
1. Drag the yarn carrier from the **undefined** field (at the left or right) to the desired side by Drag & Drop.
   - or -
   Drag the yarn carrier to the desired yarn carrier rail.



21.5.2 Change the Starting Direction of a Yarn Field

i	The setting at start direction is independent of the knitting-in direction. This setting affects the carriage direction of the first knitting row of a yarn field.

1. Select the desired yarn field.



2. Place the cursor in the start direction  column and select the start direction "<<" or ">>" via the context menu.
3. Insert the selection in the cell of the selected row.

21.5.3 Change the Settings for Knitting-in and Knitting-out

1. Select the desired yarn field in the yarn field view.
   - or -

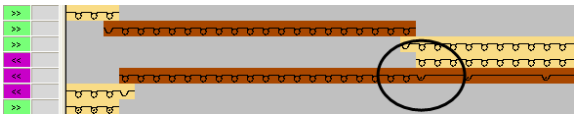
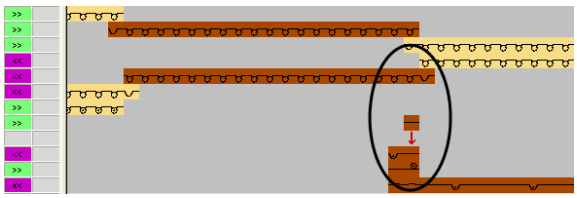
   Select the yarn field in the  column of the yarn field table.
2. Place the cursor in the selected row in the cell of the  column.
3. Call up the context menu and select the desired **Module for knitting-in**
4. Insert the selection in the cell of the selected row.

> **i** In the same way make the settings for **Knitting-out** in the  column.

21.5.4 Change Binding and Knot at the Start or End of a Yarn Field

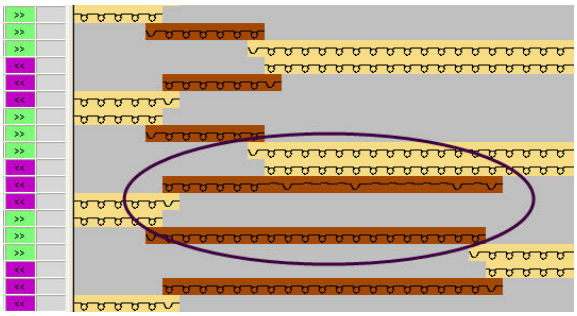
1. Select the desired yarn field in the yarn field view.
   - or -

   Select the yarn field in the  column of the yarn field table.
2. Place the cursor in the selected row in the cell of the  column.
3. Call up the context menu and select the desired module.
4. Insert the selection in the cell of the selected row.

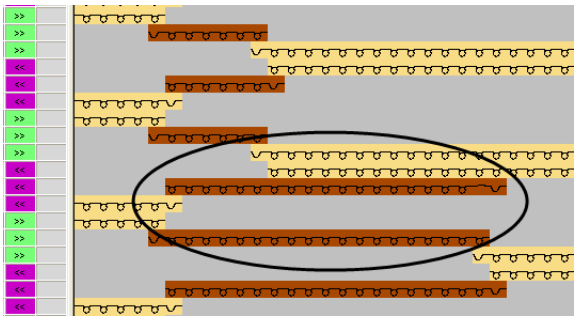
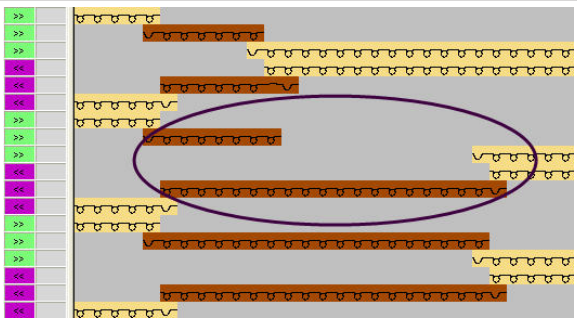
Setting	Function
Binding	
Knots	

> **i** In the same way make the setting for **Knitting-out** in the  column.

21.5.5 Change the Settings for the Border Processing Feeding or Reducing

Default	Function
Feeding (default)	

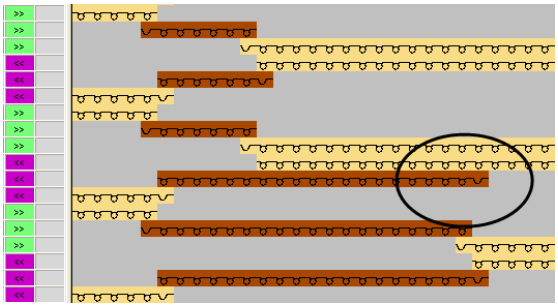
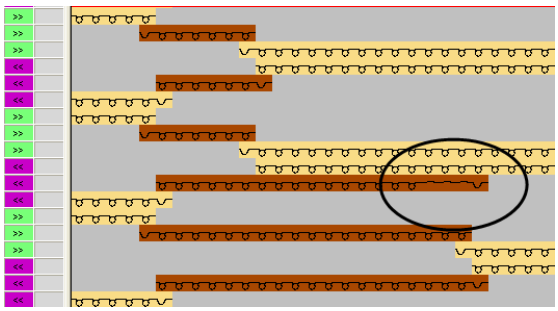
1. Select the desired yarn field in the yarn field view.
   - or -
   Select the yarn field in the  column of the yarn field table.
2. Place the cursor in the selected row in the cell of the "Module for Border Processing at the Right"  column.
3. Call up the context menu and select the desired "Stitch {1} (Border processing)" module.
   - or -
   Select the module for "Reducing".
4. Insert the selection in the selected cell of the column.
5. Make the setting for the border processing at the left  according to the same procedure.

Setting	Function
Feed (with stitch)	
Reduce	

i	if necessary make the changes for the other color fields in the same way.

21.5.6 Set the Allowed Stepping for Border Processing

1. Select the desired yarn field in the yarn field view.
   - or -
   Select the yarn field in the  column of the yarn field table.
2. Place the cursor in the cell of the selected row in the **Allowed Stepping for Border Processing at the Right**  column.
3. Call up the context menu and select the desired stepping  .
4. Insert the selection in the cell of the table.
5. Make the setting for the **allowed stepping for border processing at the left**  according to the same procedure.

Examples	Result
Stepping 0	
Stepping 3	

21.5.7 Further Options

Function	Column
"Yarn Carrier Type"	
Knitting-in	
"Column-offset for Knitting-in with Knots"	
"Row-offset for Knitting-in"	

Function	Column
"Priority when knitting-in"	
Knitting-out	
"Column-offset for Knitting-out with Knots"	
"Row-offset for Knitting-out"	
"Priority when knitting-out"	

21.6 Pattern Related Settings in the Control Columns

Possible settings for Intarsia in the control columns:

- Yarn Carrier Distance to Fabric Selvedge YDI 
- Swiveling Yarn Carriers 
- Intarsia binding 
- No Knitting-out 

I. Index (YDI) for the yarn carrier distance to the fabric selvedge:

i In the control column  the YD index is entered by the M1plus for the entire pattern by default.
This YD index contains a predefined table with default values for the staggering process of the yarn carriers at the fabric selvedge.

✓ The pattern is loaded into the basic  pattern state.

1. Display the control column  in the symbol view.
2. Click the control column by the "RMT".

▶ The context menu appears.

Yarn carrier distance from the fabric selvedge		
	**YDI**	20 indirect tables for the yarn carrier staggering process (index) are possible at the fabric selvedge ◆ **YD**: Use the default values for the yarn carrier staggering. **i**: Tables in use will be set back. ◆ **YDIn** : n = 1-20 **i**: In each table there can be defined other values for the staggering process of the yarn carriers. ◆ **Undetermined**: Delete any YD index from the control column. **i**: The control column contains **no** longer a YD index. ◆ **Edit...**: Open "Setup2 Editor".

3. Select the desired index (color).
4. Enter the selected index (color) in the desired area of the control column  .

i	Enter different indices (colors) in to areas of the control column if different distance tables are necessary in the pattern.

5. Complete the pattern.

▶ For the different areas in the pattern, tables with Don’t Care (without values) are entered in the "Setup2 Editor".

II. Enter values for a YDI index in the table:

1. Place the cursor on the YDI index to be edited in the control column  .
2. Open the context menu with the "RMB".
3. Call up the "Edit..." function.

▶ The "Setup2 Editor" appears with opened YDI tab.

4. Edit the table of the YDI index.

i	Enter values only for the yarn carriers which have to get another distance to the fabric selvedge.

III. Influence the swiveling of yarn carriers for an entire pattern row:

i	The settings in the control column has a higher priority than the settings of the "Yarn Field Allocation" dialog box. In the "Yarn Field Allocation" dialog box "Swiveling: automatically" is active for the Intarsia yarn carrier.

✓ The pattern is loaded into the basic pattern state.

1. Display the control column in the symbol view.
2. Click the control column by the "RMT".

▶ The context menu appears.

	Function	Target
	Swivel	Allow swiveling to the left or right
	Do Not Swivel	Do not allow swiveling.
	Undetermined	Delete the entry from the control column

3. For example select "Do not swivel".
4. Draw-in in the desired pattern rows.

▶ In the pattern rows with the entry all the used Intarsia yarn carriers are **not swiveled**.

IV. Influence the Intarsia binding for an entire pattern row:

i	The information in the control column has a higher priority than the specifications from the "Yarn Field Allocation" dialog box. In the "Yarn Field Allocation" dialog box the Intarsia binding left / right is active and the type of binding (Module) is allocated.

✓ The pattern is loaded into the basic pattern state.

1. Display the control column in the symbol view.
2. Click the control column by the "RMT".

▶ The context menu appears.

	Function	Target
	" Intarsia binding on"	Allow Intarsia binding i: The type of binding is determined in the "Yarn Field Allocation" dialog box.

	Function	Target
	" Intarsia binding off"	Do not allow Intarsia binding.
	"Undetermined"	Delete the entry from the control column

3. Select "Intarsia binding off" , for example.
4. Draw-in in the desired pattern rows.

▶ In the pattern rows with the entry **no Intarsia binding** is entered in all the yarn fields.

V. Influence No knitting-out for an entire pattern row:

✓ The pattern is loaded into the basic pattern state.

1. Display the control column in the symbol view.
2. Click the control column by the "RMT".

▶ The context menu appears.

		Function
	No knitting-out	Do not allow knitting-out.
	Undetermined	Delete the entry from the control column

3. For example select "No knitting-out" .
4. Draw-in in the desired pattern row.

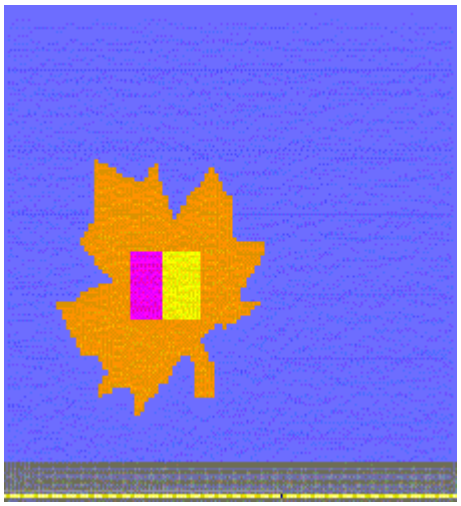
▶ In these marked pattern rows the yarn carriers will not be knitted-out.

21.7 Complete the Pattern

Complete the pattern:

1. Start the technical processing with .
   ▷ The query "Generate MC Program" appears.
2. Confirm the query with "OK".
3. Call up the "Sintral Check" by .

22 Intarsia with ladder back



Pattern name	08_Intarsia-Jac.mdv		
Pattern size	**Gauge**	E 3,5.2	E 7.2
	Width:	150	250
	Height:	200	300
Machine type:	◆ CMS 530 HP 5’’ ◆ CMS 530 HP 6’’		
Setup Type	Setup2		
Start	2x1 rib		
Basic Pattern:	Front stitch with transfer		
Knitting Technique	Intarsia with ladder back		
Pattern description	Intarsia pattern with positioned Jacquard back (Net 1x1) with yarn bridges		

22.1 Create Intarsia Pattern

Create pattern:

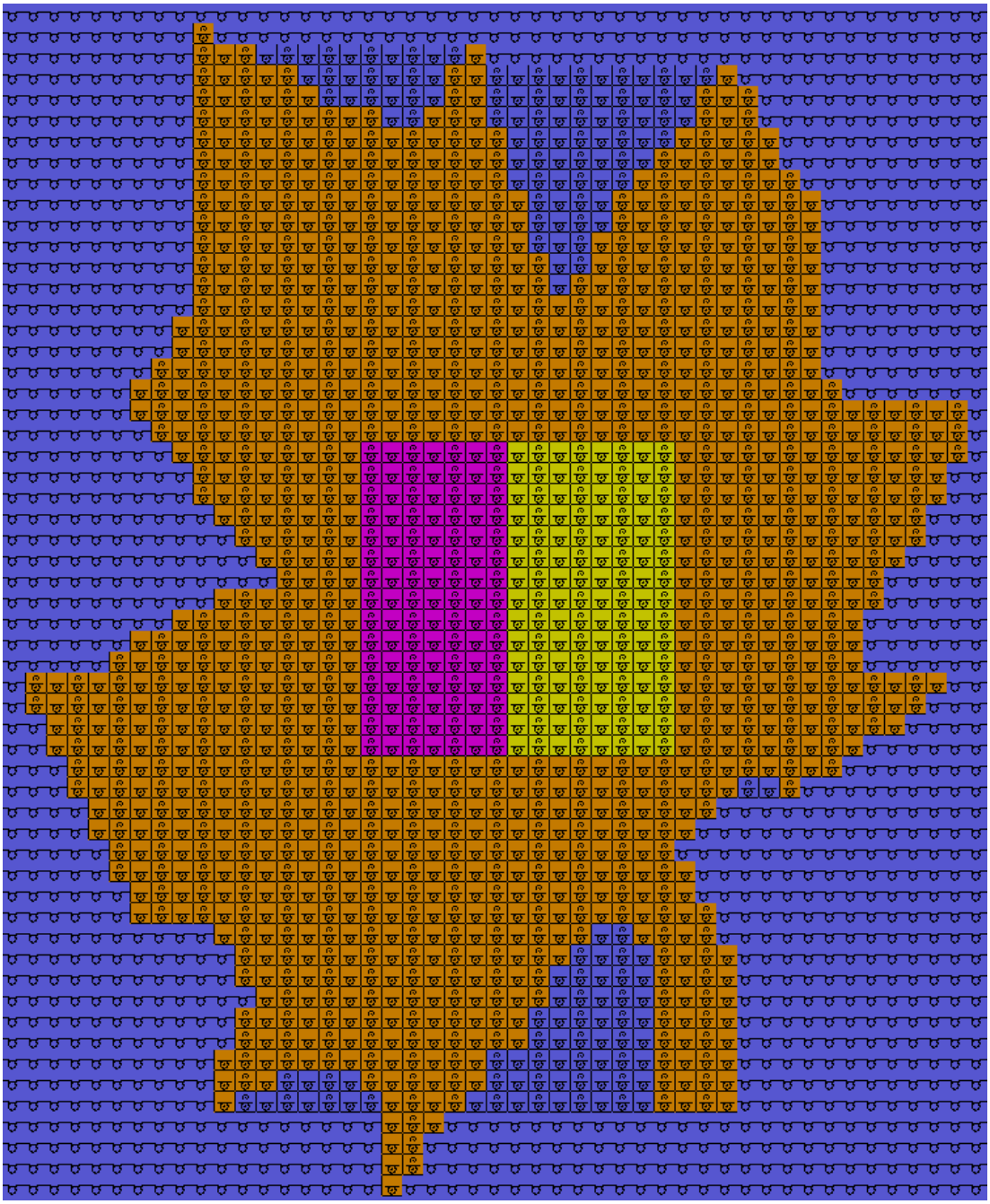
1. Generate a new pattern.
2. Select **Pattern without shape** and "Design Pattern".
3. Draw Intarsia motif.

22.2 Insert Jacquard Back and Make Further Settings

I. Generate jacquard back:

1. Carry out a row selection in the area of the motif.
2. Open the "Jacquards" dialog box via the "Edit" / "Generate or Edit Jacquard..." menu.
3. Activate the  "suited (yarn bridges)" option in the "Properties of Jacquard No. of colors" section.
4. Select the desired jacquard generator (back) from the module tree.
5. Enter the desired number of needles in the edit box under "Net back" to get the ladder back of the selected area narrower in the width regarding the face of the Jacquard.
6. Confirm setting with "Apply" or "OK".

▶ Jacquard back (yarn bridges) will be inserted.



II. Make settings in the Yarn Field Allocation:

1. Call up the "Yarn Field Allocation" dialog box by  .
2. Make the desired settings:

- Allocate a yarn carrier from the pattern to the start.
- Change the knitting-in direction of the yarn fields.

III. Make settings in the Configuration:

1. Call up the "Configuration" dialog box with the "Pattern Parameters" / "Configuration..." menu.
2. Call up the "Intarsia" tab.
3. Make the desired settings under the "Net Pick-up" section.

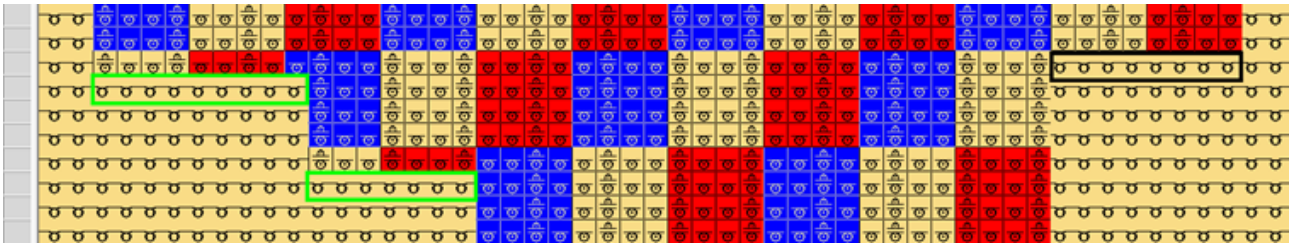
- Select the type of net pick-up (module):
  - "1-row with pattern tension"
  - "3-row_without_transfer"
- At **Starting before Jacquard (rows)** select how many rows before the beginning of the Jacquard, the "Net pick-up" module is to be inserted:
  - 2 rows (standard)
  - 1 row
- Suppress Picking-up a Single Needle:
  - ☑: The module for Net pick-up is not entered in case of changing the jacquard back by only one needle.
  - ☐: The module for Net pick-up is also entered in case of changing the jacquard back by only one needle.

22.3 Border Processing Jacquard / Net-end

I. The ways of border processing with adapted Jacquards (yarn bridges):

> **i** Border Processing
>
> Due to the drawing and the inserted, fitted jacquard back, adjustments to the back of the jacquard may be necessary at the border regarding the carriage direction.

Example:

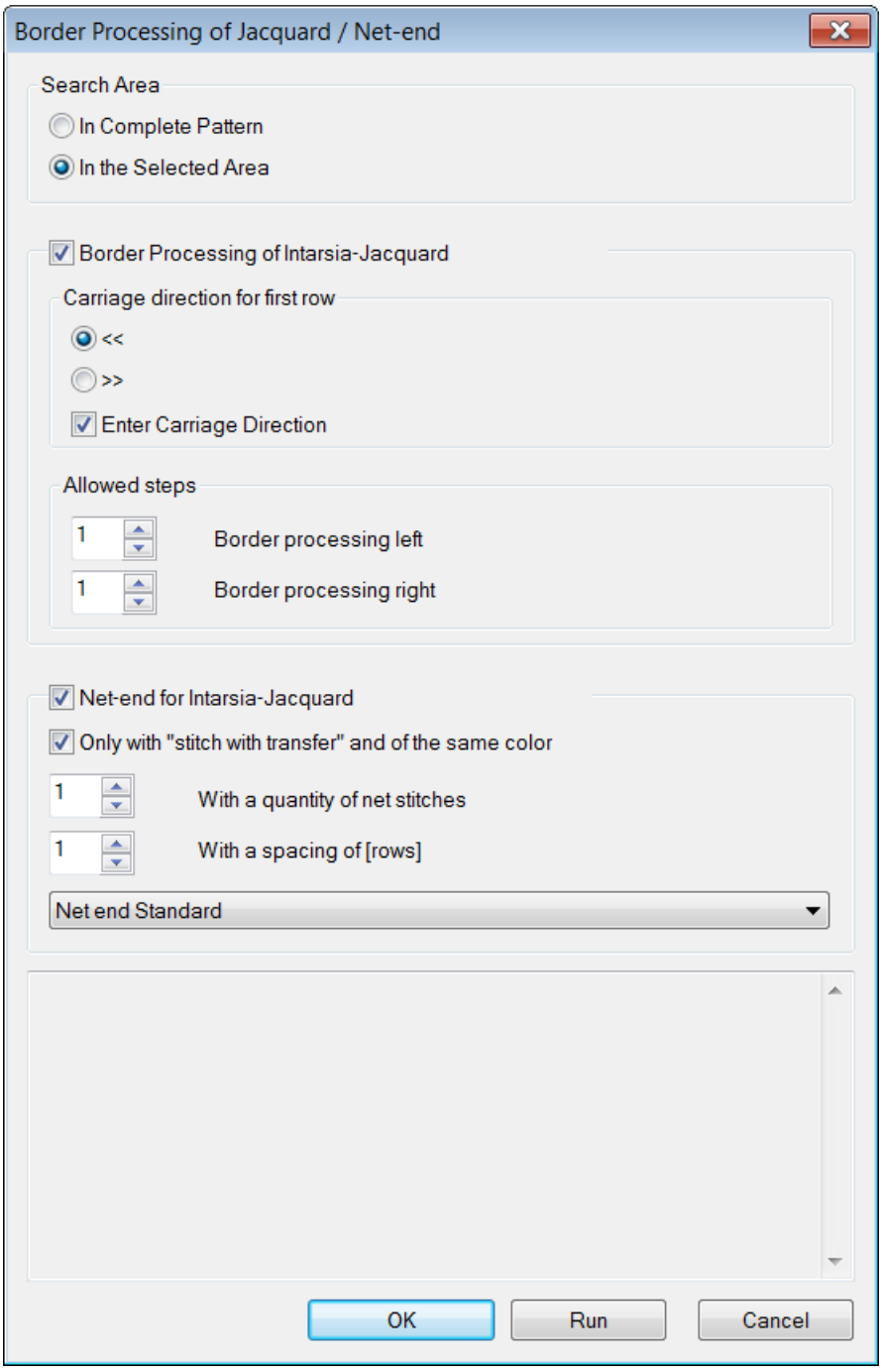


- Border processing depends on the carriage direction
- The borders of the left and right will be corrected according to the carriage direction.
- The module of the jacquard back is repeatedly inserted up to the quantity of needles, which is entered under allowed stepping.

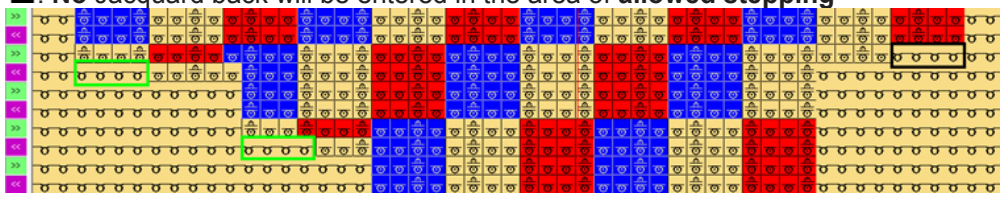
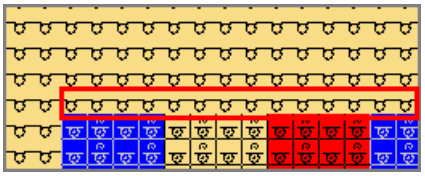
1. Open the "Border Processing Jacquard / Net-end" dialog box via the "Edit" menu.

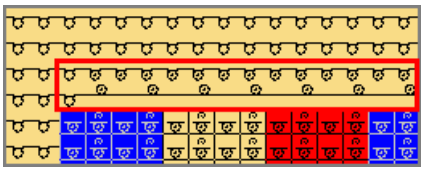
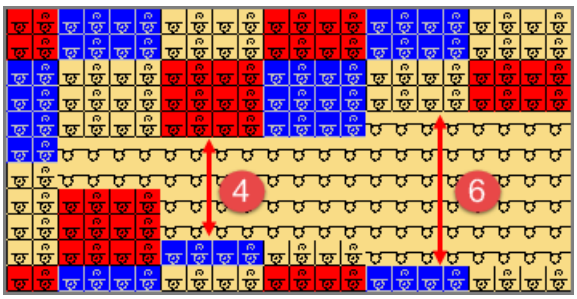
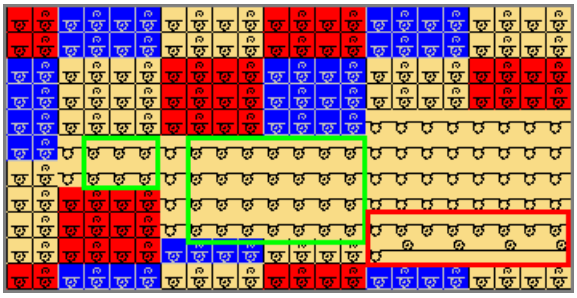
▶ The dialog box appears.

i	We recommend to do the border processing and the net end following each other as the pattern will be modified by the border processing. These modification may or may not require inserting a "Net end" module.



	Function
Jacquard Border Processing	
Search Area	

			Function
	◉	In complete pattern	Edit the border processing of the Jacquard fields within the whole pattern.
	◉	Within the selected area	Border processing only of the Jacquard fields within the selected area. ℹ: Multiple selection is possible.
☑ **Intarsia Jacquard Border Processing**			
	Carriage direction for first row		
	◉ **<<**		Carriage direction to the left for the first row of the Jacquard field
	◉ **>>**		Carriage direction to the right for the first row of the Jacquard field
	☑ Enter Carriage Direction		Switching carriage directions for the left and right border will be inserted into the pattern.
	Allowed Stepping		
	4.0	Border processing left	Setting for allowed stepping by needles at the left border
	4.0	Border processing right	Setting for allowed stepping by needles at the right border
	ℹ: **No** Jacquard back will be entered in the area of **allowed stepping** 		
Processing of the net end			
☑ **Net-end for Intarsia Jacquard**			
☑ **Only with stitch with transfer and same color**			The following requirements have to be fulfilled: ◆ First SJ row following the Jacquard must contain one color only. ◆ First SJ row following the Jacquard must be filled with "Stitch with transfer" needle action. ℹ: **Net-end will not** be placed if one of these conditions is not met. 

			Function
			
	1	With a quantity of net stitches	Specify the quantity of net stitches at the Jacquard back from which the selected module is to be inserted. i: **Net-end will not** be placed with less stitches at the ending row of the Jacquard.
	1	With a spacing of [rows]	Quantity of SJ rows interrupting the Jacquard (space) ◆ The net-end will be placed if the actual quantity of rows is equal to or greater than the value set. ◆ Net-end will not be placed if the actual quantity of rows is less. ◆ Stitch with transfer is automatically replaced by Stitch without transfer within the spacing in order to prevent the net stitches from auto transferring to the front. The net back is knitted in the following Jacquard area again. i: Recommendation: Avoid the entry of the net end only for small spaces!!! **Example:** without net-end  **Example:**Setting 5 [rows]  ◆ With a spacing of 6 rows, the net back is completed.

			Function
			◆ With a spacing of 2 and 4 rows, the net back is not interrupted. i: "Stitch with transfer" will be replaced by "Stitch without transfer". With it, the stitch of the Jacquard back will not be transferred.
			Selection of the module for net end ◆ Net end Standard ◆ Net end 1x1 Technique

2. Make the desired settings under " Intarsia Jacquard Border Processing".
3. Deactivating the "Net-end for Intarsia Jacquard" function.
4. Confirm the settings with the "Apply" button.

▶ The dialog box will not be closed.

5. Deactivating the "Intarsia Jacquard Border Processing" function.
6. Make the desired settings under "Net-end for Intarsia Jacquard" then.
7. Confirm the settings with the "OK" button.

▶ The dialog box is closed.

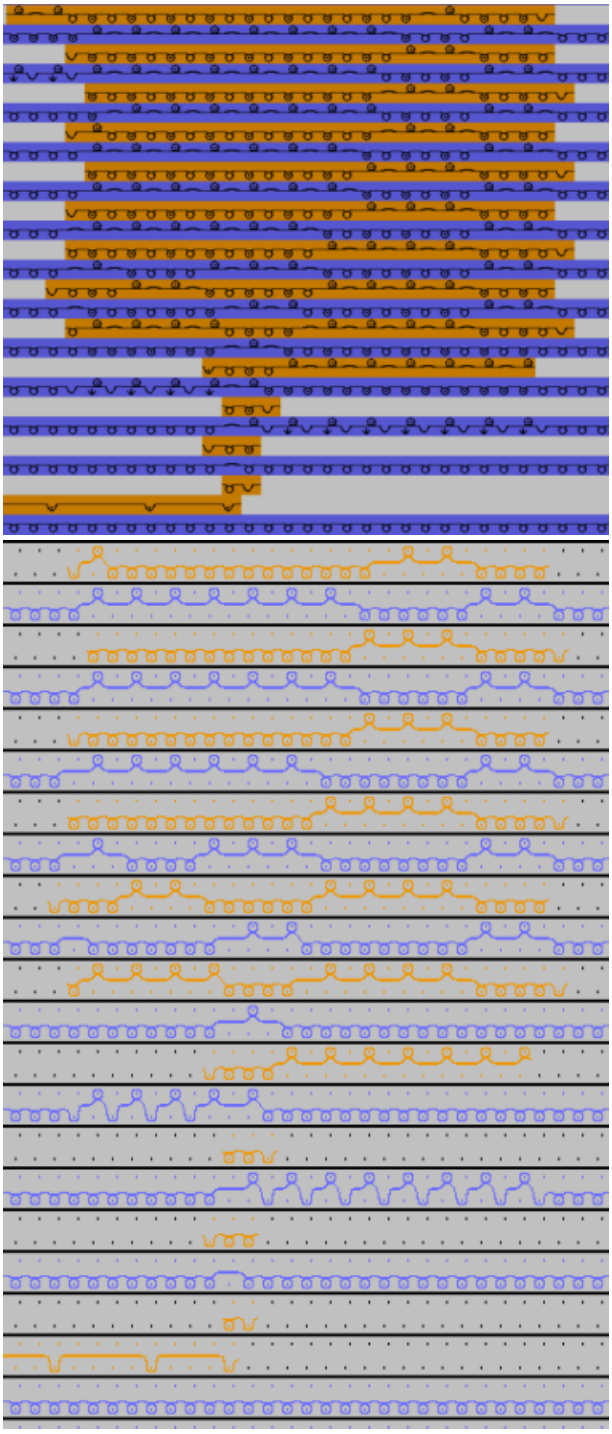
i	By inserting the module for the net end, the transferred stitches do no longer shine through.

22.4 Complete the Pattern

Complete the pattern:

1. Expand the pattern with of the "Steps of Processing" toolbar.

▶ Pattern in expanded "Symbol and Technical view".



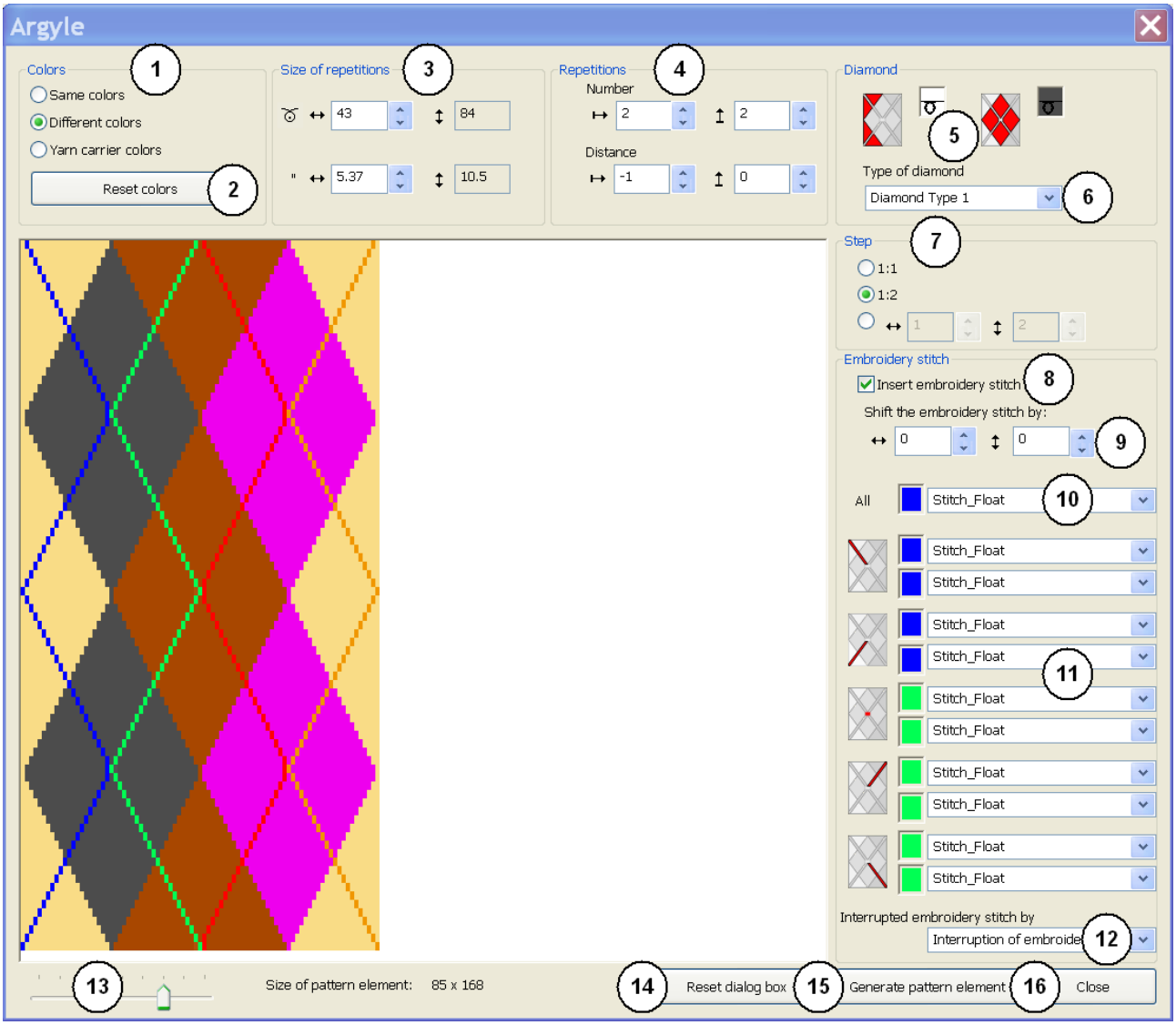
2. Start the technical processing with .
▶ The query "Generate MC Program" appears.
3. Confirm the query with "OK".
4. Call up the "Sintral Check" by .

23 Drawing tool Argyle

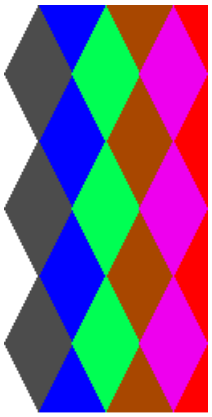
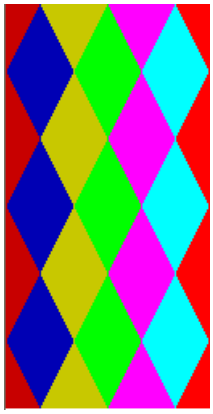
I. Generate diamond for Argyle pattern:

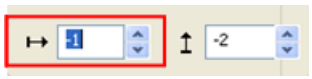
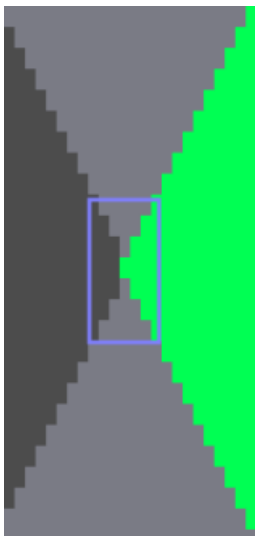
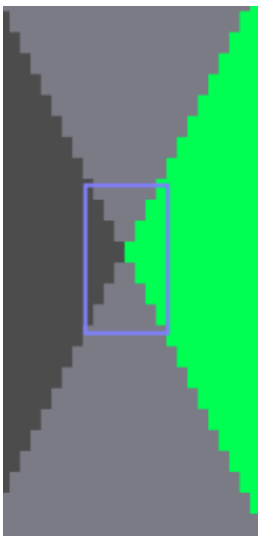
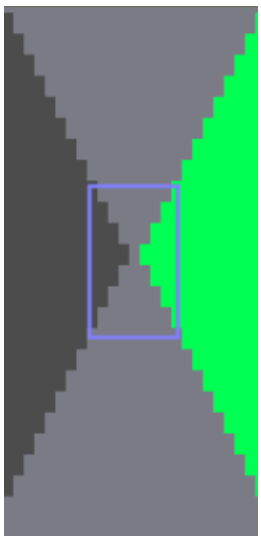
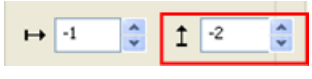
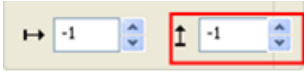
➔ Click the  "Argyle" icon of the "Drawing Tools" toolbar.

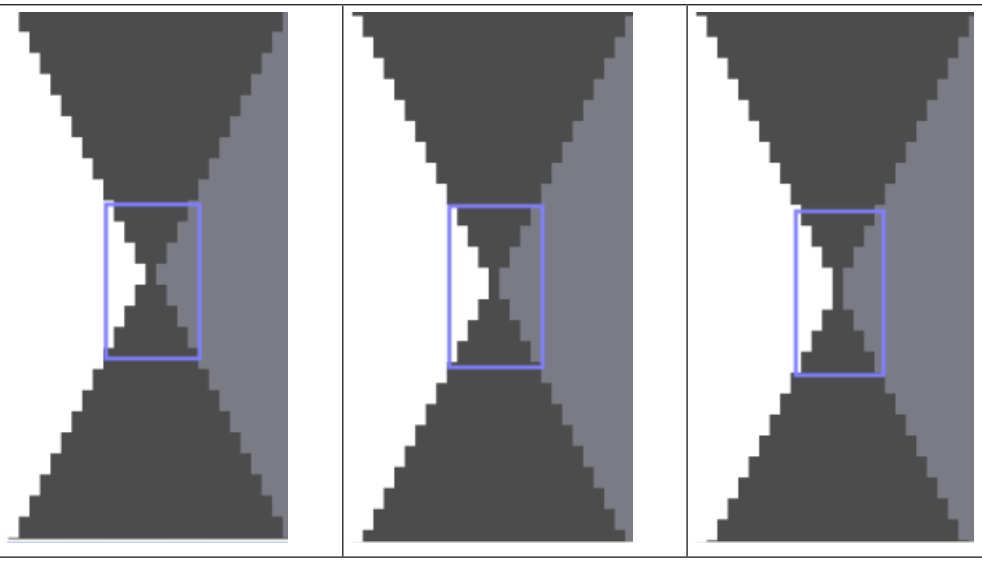
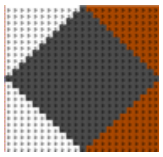
▶ The "Argyle" dialog box appears.

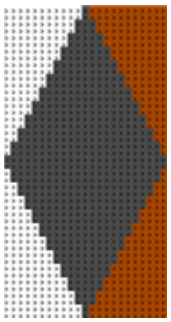
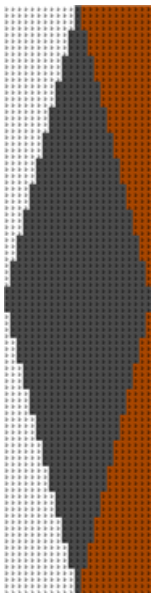


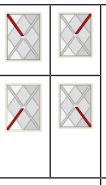
No.	Function
1	**Colors**

No.	Function		
	Same colors	Display diamonds and surrounding area with the same colors from the **Yarn color palette**	
	Different colors	Display diamonds and surrounding area with different colors from the **Yarn color palette**	
	Yarn carrier colors	Display diamonds and surrounding area with different colors from the **Yarn carrier color palette** and select the desired Color Arrangement in the list field **i**: Only possible with a diamond width of at least 6,2 inches and for a specific number of yarn carrier colors.	
2	"Reset colors"	Only possible with the **Same colors** or **Different colors** selection: **i**: Manual changes in the preview will be reset to the original state.	
	List field	Only possible with the **Yarn carrier colors:** selection List field appears in order to select the desired Color Arrangement: ◆ **Argyle with embroidery stitch**: – CA 1 stroke per pattern row >6.2" – CA 2 strokes per pattern row >6,2“	

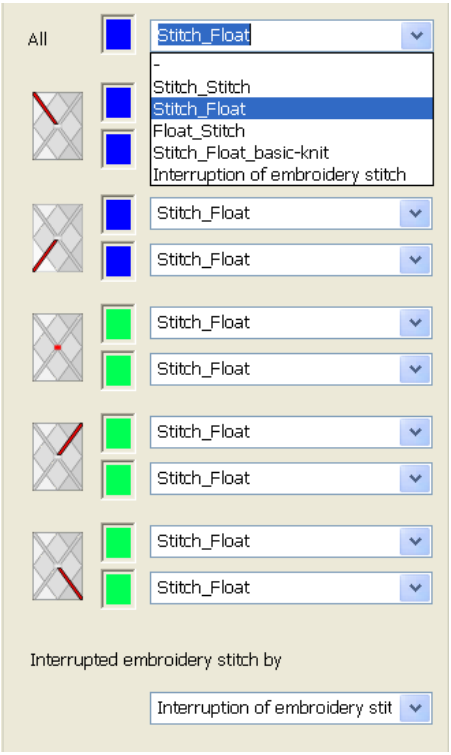
<table>
<tr><td>No.</td><td colspan="3">Function</td></tr>
<tr><td></td><td></td><td colspan="2">– CA embroidery stitch with opposite direction 3,2“ – 6,2“
◆ Argyle without embroidery stitch:
– CA 1 stroke per pattern row >4.2"
i: Selected CA will be applied together with the pattern element to the pattern.</td></tr>
<tr><td>3</td><td colspan="3">Size of repetitions
Define the width of the diamond
i: The height results automatically from the stepping.</td></tr>
<tr><td></td><td></td><td colspan="2">In stitches</td></tr>
<tr><td></td><td>”</td><td colspan="2">In inches</td></tr>
<tr><td>4</td><td colspan="3">Repetitions</td></tr>
<tr><td></td><td>Number</td><td>↦</td><td>Define the number of diamonds in the width</td></tr>
<tr><td></td><td></td><td>↥</td><td>Define the number of diamonds in the height</td></tr>
<tr><td></td><td>Dis-tance</td><td colspan="2">Define the distance between the diamonds in width and height</td></tr>
<tr><td></td><td colspan="3">Distance in width ↦
 
Standard setting
 
 
  </td></tr>
<tr><td></td><td colspan="3">Distance in height ↥
 
 
 
Standard setting</td></tr>
</table>

No.	Function		
			
5	**Diamond**		
			Define color and needle action for the surrounding of the diamond
			Define color and needle action for the diamond
6	List field for "Type of diamond" i: A changed diamond type can require different repetition settings.		
	Diamond Type 1 (Default)	◆ The distance between the diamonds is 1 needle ◆ Widening of the color fields at the same height **Result:**Each diamond is knitted completely in width.	
	Diamond Type 1 asymmetrical	◆ Widening of the color fields shifted by one row	
	Diamond Type 2	◆ No distance between the diamonds ◆ Widening of the color fields at the same height **Result:**The second diamond is not knitted completely in width.	
	Diamond Type 2 asymmetrical	◆ Widening of the color fields shifted by one row	
7	Definition of the **stepping** at a **width : height** ratio by stitches		
	"1: 1"	Stepping at a **ratio of 1 : 1**	

No.	Function		
	"1: 2"	Stepping at a **ratio of 1 : 2**	
	↔ ↕	Specification of any desired stepping	
8	**Embroidery stitch**		
	☑	An embroidery stitch (diagonal) is inserted	
	☐	No embroidery stitch is inserted.	
9	**Shift the embroidery stitch (diagonal)**		
	↔	Shifting in width (horizontally) by x needles	
	↕	Shifting in height (vertically) by x rows	
10	The setting is valid for all the embroidery stitch elements		
		Possibilities: ◆ Yarn color and Jacquard (in the list field) ◆ Yarn color and needle action ◆ No specification: i.e. the basic color knits – **i**: This specification deactivates the jacquard specified in the list field. – **Result:**In the preview the embroidery stitch elements are displayed transparent.	
	List field	Select a Jacquard	

No.	Function	
11		Specification for the individual embroidery stitch elements: ◆ Yarn color and Jacquard (in the list field) ◆ Yarn color and needle action ◆ No specification: i.e. the basic color knits
		Specification for embroidery stitch cross-over (= continuous ornamental stitch)
12	Specify the interruption of the ornamental stitch color (= not continuous embroidery stitch)	
	List field	Select a Jacquard **i**: Modules of the "Float_Fancy Stitch" module group
13	Linear regulator for zooming the preview	
14	Resetting to Stoll defaults: ◆ All settings ◆ Changes in the preview	
15	Generate pattern element without closing the dialog box **Result:** The pattern element is saved under **local modules and pattern elements**  .	
16	Close dialog box	

II. Selection possibilities for embroidery stitch elements and interruption embroidery stitch

	Selection	Symbolism	Knitting sequence
	--	No jacquard is inserted i: The pattern element contains only colors.	
	" Stitch_Stitch"		
	" Stitch_Float"		
	" Float_Stitch"		
	" Stitch_Float_basic-knit"		
	"Interruption embroidery stitch"		
	"Float_Stitch_Basic_knitting_mode"		

23.1 Exchange Colors of the Rhombuses

Exchange the colors of the diamonds in the preview of the "Argyle" dialog box.

✓ The "Yarn Carrier Colors" option may not be active.

1. Define the rhombuses.
   i: Select temporarily a small size of the rhombus (e.g. 15) in order to recolor the embroidery stitches easier.
2. Select the replacing color in the "Pattern Color" palette.
3. Click the color to be replaced in the preview.
   i: You can adjust the zoom level with the slider to select the desired color.

▶ The original color is replaced by the selected color.

4. Set up the rhombus size if necessary.
5. Generate pattern element.

With "Ctrl" and click on a color you can replace this color in the entire pattern element.
You can restore the rhombus as defined by "Reset colors".

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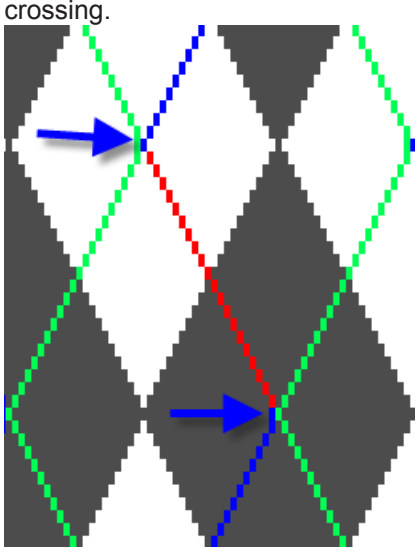
i The color of the ornamental stitch legs will be replaced from crossing to crossing.



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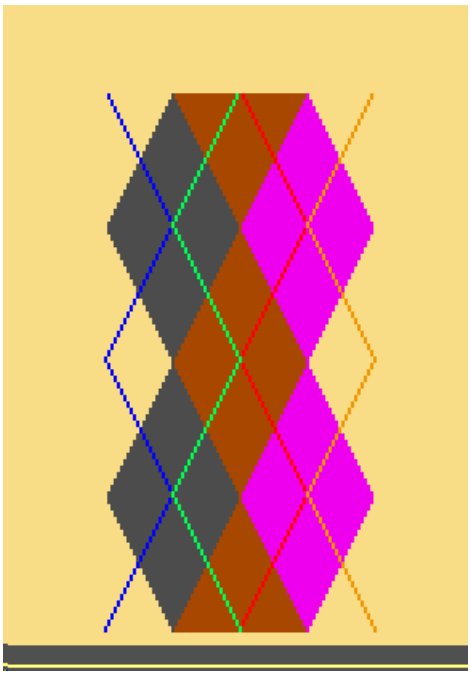
24 Intarsia with yarn bridges



Pattern name	09_Intarsia_Garnbrücken.mdv	
Pattern size	**Gauge**	E 7.2
	Width:	250
	Height:	300
Machine type:	◆ CMS 530 HP 5''	
Setup Type	Setup2	
Start	2x1 rib	
Basic Pattern:	Front stitch with transfer	
Knitting Technique	Intarsia	
Pattern description	Intarsia with float jacquard as yarn bridges	

24.1 Create Intarsia Pattern

Create pattern:

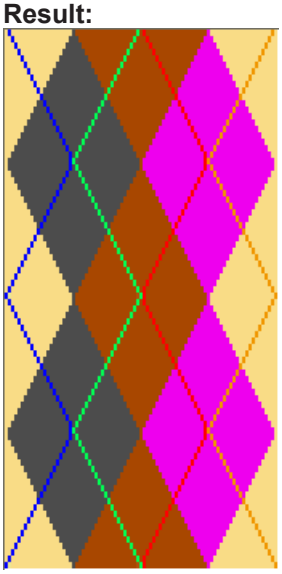
1. Generate a new pattern.
2. Select **Pattern without shape** and "Design Pattern".
3. Click the "Argyle" icon of the "Drawing Tools" toolbar.

▶ The "Argyle" dialog box appears.

4. Make for example the following settings in the "Argyle" dialog box for the motif:

- In the section "colors" select the setting "Different colors".
- For the "repetition size" under enter the value **43** for the diamond width.
  : With symmetrical diamonds the width has to be odd-numbered.
- Under "repetition":
  - With "Number": 2 + 3
  - With "Distance": -1 + 0
- Select **Diamond Type1** in the "Diamond type" list box under "Diamond".
- Select the **1:2 ratio** under "Stepping".
- In the "Embroidery stitch" section:
  - Activate "Insert ornamental stitch".
  - Select the "Stitch_Float" jacquard under "All"
  - Select the "Interruption of ornamental stitch" jacquard at "Interrupted ornamental stitch by"
- Replace the colors #1 (left side) and #9 (right-hand side) by the basic color #31 in the preview pane.

Result:



5. Press the "Create pattern element" key.

▷ The pattern element is created and sticks to the cursor.

6. Draw-in the pattern element into the basic pattern.

▶ The pattern element will be saved in the "Module" toolbar under "Local modules and pattern elements" in the "Module Explorer of Pattern".

24.2 Possible settings in the Yarn Field Allocation dialog box

- Multi-system knitting in specific areas of the pattern
- Change the yarn carrier type if necessary
- Define the module for knitting-in the yarn carriers
  - "Knot Split" module
  - "Knot Split Interruption of embroidery stitch" module (= the embroidery stitch does not start in the first knitting row)
- Define the module for knitting-out the yarn carriers
- Change the Intarsia binding at the border of the yarn fields

II. Make settings:

1. Call up the  Yarn Field Allocation" dialog box with ".
2. Make settings for the Intarsia pattern.
3. Confirm the specifications with "OK".

▶ The specifications are carried out during the processing step Expanding.

24.3 Complete the Pattern

Complete the pattern:

i	With the specification in the "Argyle" dialog box, a "Table Jacquard" module with yarn bridges is automatically entered behind the embroidery stitches.

1. Start the technical processing with the  icon.

▶ With the specification in the "Argyle" dialog box, a "Table Jacquard" module with yarn bridges is automatically entered behind the embroidery stitches.

▶ The query "Generate MC Program" appears.

2. Confirm the query with "OK".
3. Run the "Sintral Check" via the "Steps of Processing"  toolbar.

24.4 Evaluation of Braking Values for Intarsia Yarn Carriers

i Correct stop motion of the I-yarn carriers at the color field edge

For the production it is necessary that the mechanical differences between the individual I yarn carriers are compensated with the help of the evaluation of the braking value.

Activate the adjustment program for evaluating the braking values:

i By means of the adjustment program you can determine the braking values for all the intarsia yarn carriers knitting in the pattern.

✓ The pattern is loaded into the basic  pattern state.

1. Open the "Pattern Parameters / Configuration..." menu.
   ▷ The "Configuration" dialog box will be displayed.
2. Select the "Intarsia" tab.
3. Activate  "Generate adjusting program" under "Valuate braking values for Intarsia yarn carriers".
4. Select the desired program in the list box:

- **Valuation of Braking Value Setup1** (RS18)
- **Valuation of Braking Value Setup2** (RS39)
- No selection = no adjusting program is inserted.

5. Make the desired settings under "Knitting-in" and "Knitting-out".
6. Close the "Configuration" dialog box with the "OK" button.

▶ The corresponding knitting rows are inserted below the start with expanding.

i You start the adjusting program at the machine with the cycle counters RS18 = 1 (Setup1) or RS39 = 1 (Setup2) before you start to knit the pattern.

24.5 Correct Intarsia Yarn Carriers with YCI

i After evaluating the braking values (correction related to the machine) sometimes an additional yarn carrier correction (correction related to the pattern) is necessary.

I. Commands

- Y-3A: KI n-m: Correction for Intarsia yarn carrier 3A un-swiveled
- Y-3A: K<I> n-m: Correction for Intarsia yarn carrier 3A swiveled

II. Enter the yarn carrier correction YCI in the control column:

i	In the control column the **YC** index is entered in the entire pattern by default. This YC index contains a table with all the yarn carriers used in the pattern **without a correction value**.

✓ The pattern is loaded in the basic pattern state.

1. Display the control column in the symbol view.
2. Place the cursor in the control column and call up the context menu with the "RMB".

Yarn carrier correction index		
	YCI	20 indirect correction tables (index) are possible ◆ YC: Table with all intarsia yarn carriers without correction values used in the pattern. i: You can delete existing correction values with it. ◆ YCIn: n = 1-20 i: You can define corrections for all 32 yarn carriers in each table. ◆ "Edit...": The "Setup2 Editor" appears.

3. Select the desired index (color).
4. Enter the selected index (color) in the desired area of the control column .

i	Enter different indices (colors) in to areas of the control column if different correction tables are necessary in the pattern.

5. Complete the pattern.

▶ The yarn carriers are allocated to the rails.
Tables with Don’t Care (without correction values) are entered for each index in the "Setup2 Editor".

i	You evaluate the correction values for intarsia yarn carriers on the machine and enter them in the "Setup2 Editor" under the corresponding YCIn.

25 Combine Yarn Carriers and Set the Order

The knitting sequence can be influenced with an intarsia pattern before the "Expanding" step of processing to increase the production.

Possibilities:

- Configuration dialog: Combine the yarn carriers automatically
- Yarn Field Allocation dialog box: Combine the yarn carriers automatically
- Yarn Field Allocation dialog box: Combine selected yarn carriers
- Yarn Field Allocation dialog box: Combine Yarn Carriers and Set the Order

25.1 Configuration dialog: Combine the yarn carriers automatically

Several yarn carriers can be combined in one system by the technical processing (knitting sequence) to optimize the production time.

i	The yarn carriers will be combined only if this is possible based on the field distances. The result is visible in the "Symbol View" after the technical processing.

➔ Activate the "Combine Yarn Carriers" function via "Pattern Parameters" / "Configuration..." in the "Additional settings" tab in the "Yarn carrier" section.

Methods of combining the yarn carriers		
"Default"	Combining the yarn carriers automatically. **i**: Result can not be influenced.	Shortest run time. **i**: Problems with the tuck structure for Intarsia possible.
"Secure yarn insertion at color widening"	Automatic, uniform and optimized combining of the yarn carriers with Intarsia. With an optimized knitting process for secure yarn insertion of the tuck binding. **i**: Steady Intarsia binding will be achieved.	Average run time. **i**: No problems with the Intarsia binding.

Distance of the yarn carrier correction		
"Additional yarn carrier distance for corrections on the machine" 0	Adjust the safety distance in order to make corrections on the machine.	You can specify a shorter yarn carrier distance especially with coarser gauges. Standard setting: 0

25.2 Yarn Field Allocation dialog box: Combine all the yarn carriers automatically

i	The **default settings** for combining are defined in the "Global pattern parameters" dialog box. The **default settings** are used for all **Yarn fields without specifications**.

Example: All the used yarn carriers are to be combined.

1. Call up the "Yarn Field Allocation" dialog box with in the "Pattern presentations" toolbar.
2. Call up the context menu in the column of the 2nd table row (**default settings**) of the yarn field table.

Entry		Function
	"Combine Yarn Carriers"	Combine the yarn carriers if possible. **i**: Not possible if knitting sequences or Color Arrangements are defined in this area.
	"Combine yarn carriers before"	Combine the yarn carrier with the previous if possible. **i**: Not possible if knitting sequences or Color Arrangements are defined in this area.
	"Combine yarn carriers after-wards"	Combine the yarn carrier with the following if possible. **i**: Not possible if knitting sequences or Color Arrangements are defined in this area.
	"Do Not Combine Yarn Carriers"	Yarn carriers will not be combined within one system.
	"Undetermined"	Empty cell **i**: The default value from the second table row will be applied.

3. Select "Combine yarn carriers".

25.3 Yarn Field Allocation dialog box: Combine selected yarn carriers

Example:The yarn carriers of the diagonals shall be combined only.

1. Call up the "Yarn Field Allocation" dialog box with in the "Pattern presentations" toolbar.

✓ In the 2nd table row (**default settings**) of the yarn field table is entered "Do not combine yarn carriers" .

2. Select the yarn fields of the diagonals in the "Yarn Field View".
   - or -
   Select the yarn fields of the diagonals in the column of the yarn field table.

3. Place the cursor in one of the selected cells of the  column.
4. Call up the context menu and select  "Combine yarn carriers (=)".
5. Fill the selection with  in the selected cells.

The yarn carriers of the diagonals will be combined only if this is possible based on the field distances in this example.

25.4 Yarn Field Allocation dialog box: Combine Yarn Carriers and Set the Order:

Example: Combine yarn carriers of the diagonals and set the order of knitting:

1. Call up the "Yarn Field Allocation" dialog box with  in the "Pattern presentations" toolbar.

✓  "Combine yarn carriers" is activated in the 2nd table row (**default settings**) of the yarn field table.

2. Select the yarn fields of the diagonals in the Yarn Field View.
   - or -
   Select the yarn fields of the diagonals in the  column of the yarn field table.
3. Place the cursor in one of the selected cells of the  column.
4. Call up the context menu and select the desired combining:

-  "Combine yarn carriers before"
-  "Combine yarn carriers afterwards"

5. Fill the selection with  in the selected cells.

In this example, the yarn carriers of the diagonals are combined **before** or **afterwards** and will be knitted therefore in the previous or following carriage stroke.
Select "Do not combine yarn carriers" if you want to undo the combining.

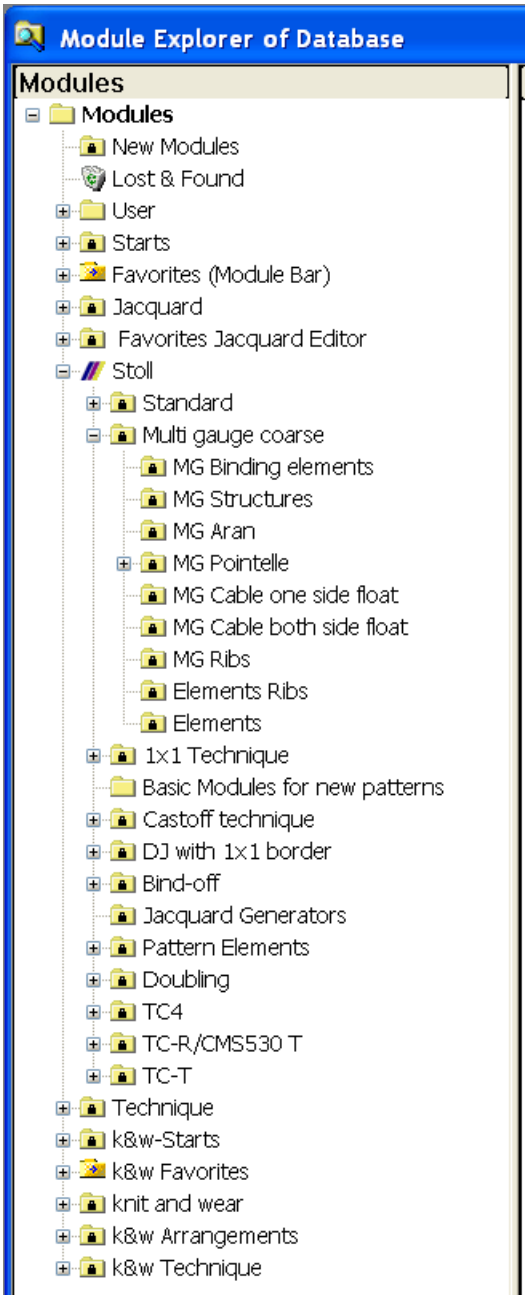
26 The Module Explorers of the M1plus

There are two Module Explorers within the M1plus:

- "Module Explorer of Database"
  - Managing all Stoll modules
  - Managing the modules of one's own
- "Module Explorer of Pattern"
  - Managing all the modules used in the pattern

26.1 The Module Explorer of Database

You call up the "Module Explorer of Database" in the "Module" / "Module Explorer of Database..." menu.

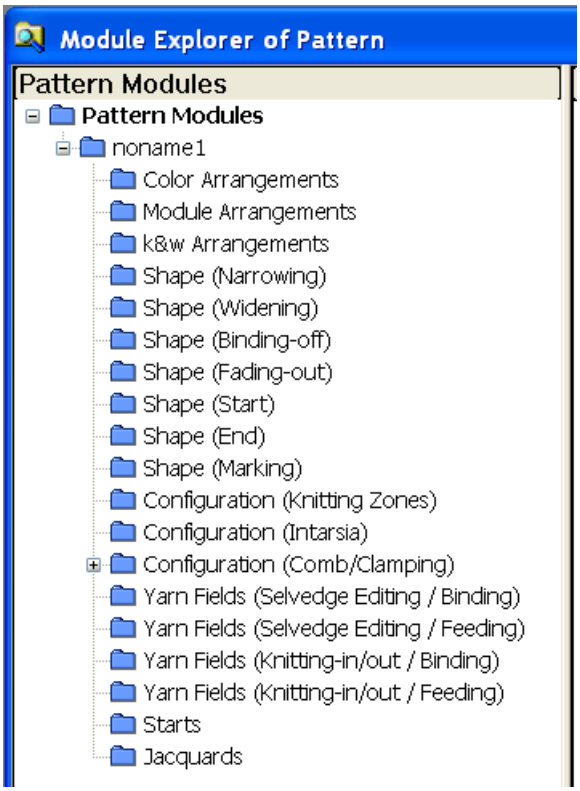


- The modules are organized in module groups.
- The module groups are displayed in the module tree on the left side.
- Modules of a selected sub-group are displayed on the right-hand side of the explorer.
- All Stoll modules are **write protected** .
- Modules of your own are **not write protected**.
- Changes of modules in the "Module Explorer of Database" do **not** affect an existing pattern.

- Changes of modules in the "Module Explorer of Database" will affect a newly generated pattern only.
- Use modules of the Stoll folder for drawing:
  - Select the modules directly in the "Module Explorer Database" and draw them in the motif.
- The modules of the Technical folder are inserted automatically by the technical processing  according to the allocation in different dialog boxes (Configuration, Shape Attributes, ...).
  - These modules cannot be drawn-in manually in the pattern.

26.2 The Module Explorer of Pattern

You call up the "Module Explorer of Pattern" via the "Module" / "Module Explorer of Pattern..." menu.



- All the modules used in the pattern are organized in module groups and will be displayed in the module tree.
- In the "Module Explorer of Pattern" you can edit all the modules directly.
- All changes that are made to these modules affect immediately the "Configuration" and "Shape Attributes" dialog boxes in which these modules appear.
- You can open and edit the elements of a container module.
  It will **not** be saved as copy.
- All the modules contained in the "Module Explorer of Pattern" will be saved with the pattern (.mdv file).

i	The changes of the modules of the "Module Explorer of Pattern" do not affect the modules of the "Module Explorer of Database".

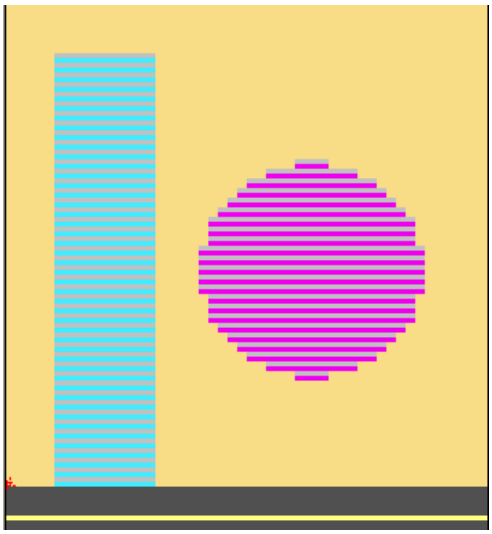
Behavior of structure modules:

- All modules of the "Module Explorer of Database", inserted by the user into the pattern, will be saved as local module (copies) in the "Module Explorer of Pattern".
  - These modules are marked with an L.
  - Modules are **not write protected**.

Behavior of Technical Modules:

- All **Stoll Technical Modules** used in the pattern, which are inserted by the technical processing or with the shape are saved as originals in the "Module Explorer of Pattern".
  - Original Stoll technical modules are **not** marked with an L.
  - A Stoll technical module is marked with an L if you edit it.
    It is a local module then.
- All **technical modules** of your own, used in the pattern, inserted by the technical processing or with the shape are saved as local modules (copies) in the "Module Explorer of Pattern".
  - These modules are marked with an L.
  - Modules are **not write protected**.

27 Multi Gauge



Pattern name	10_Multi-Gauges.mdv		
Pattern size	**Gauge**	E 3,5.2	E 7.2
	Width:	150	250
	Height:	200	300
Machine type:	◆ CMS 530 HP 5’’ ◆ CMS 530 HP 6’’		
Setup Type	Setup2		
Start	1X1 Rib		
Basic Pattern	Front stitch with transfer		
Knitting Technique	Multi Gauge - Knitting technique		
Pattern description	Pattern with coarse and fine areas		

27.1 Create a pattern with multi gauge modules

I. Preparations for generating patterns:

➔ Open the required module group "MG Binding elements" of the "Module Explorer of Database" under "Stoll" / "multi gauge coarse" and make it available.
- or -
Move the module group "MG Binding elements" to "Favorites" (tab of the"Modules" toolbar).

II. Make pattern and machine related settings:

The transition from the coarse to the fine knitting area at the motif end can be carried out in different ways.

1. Make the desired setting in "Configuration" dialog box under the "Intarsia" / "multi gauge transitions coarse / fine" tab:

- "Pickup coarse Split"
  i: When selecting the "Pick-up split coarse" module it is recommended to mount the split cams.
- "Pick-up Stitch Fine"

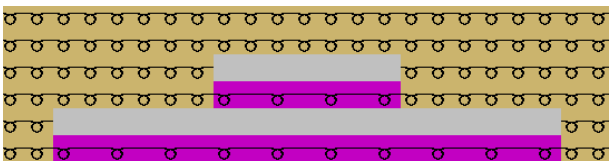
III. Create pattern:

1. Draw a multi gauge motif with the modules of the module group "multi gauge coarse".

Module	Module for the right edge
 "MG_Stitch v Compound"	"mg_Edge_Stitch v" is contained in this combination module.
 "MG_Stitch v with transfer"	 "MG_Edge stitch v"

2. Switch-over to multi gauge to select the yarn colors in the "Pattern Colors" toolbar.
3. Select yarn colors with the marking .
4. Create the motif with the drawing tool and the "MG_Stitch v Compound" module.
5. When using the drawing tool and the "MG_Stitch v with transfer" module, draw in "MG_selvedge stitch v" at the right motif edge.

With the Multi-Gauge knitting technique, a stitch ratio between coarse and fine of 1:2 stitches results.



If several coarse areas are positioned neighboring, it is recommended to place the "MG" modules at the same height for production reasons.

27.2 Complete the Pattern

Complete the pattern:

> **i** Technical Processing
>
> For the technical processing at the M1plus, it is no longer necessary to make "Machine specific settings" in the "Machine Explorer".
> During the technical processing, a query is carried out.

1. Start the technical processing with  .

▶ The query "Generate MC Program" appears.

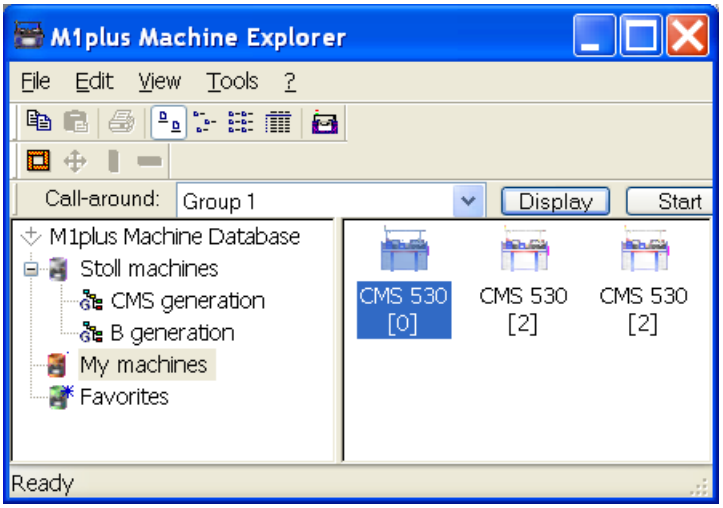
2. Confirm the query with "OK".
3. Call up the "Sintral Check" by  .

28 M1plus Machine Explorer

i	For knitting programs with split-stitch technique, the machine being used should be equipped with split cams in the knitting systems.

I. Make machine specific settings in the "M1plus Machine Explorer":

1. M1plushard disk.
2. Open the "M1plus Machine Explorer" dialog box by the "Tools" / "Machine Explorer" menu.
3. Select the desired machine in the "My Machines" directory.



4. Set the specifications for split in the "System functions" tab via the "Properties" context menu.
5. Select the knitting system for split.

6. Activate the setting "Take Split" under **Cam functions**
7. Confirm the entry with "Apply" or "OK".

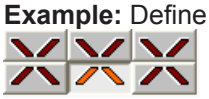
▶ The machine related settings will be saved.

i	If the machine with the defined properties is used when generating the program, the specifications will be considered when generating the program.

II. Make pattern specific settings in the "MC Attributes" dialog box:

1. Generate new pattern.
2. Call up the "MC Attributes" dialog box via the "Pattern Parameters" / "Machine Attributes..." menu.
3. Select the "System functions" tab.

4. Under "Knitting system" and "Cam functions" activate the setting "Take Split".
   Example: Define splitting



5. Confirm the entry with "Apply" or "OK".

▶ These settings will automatically be saved with the pattern.

i	The pattern related settings are only active for the pattern, which is currently being processed.

III. Generate your own machine in the "M1plus Machine Explorer".

With the "Generate own machine" function you can add a machine from the Stoll machine database to your own machine pool.

1. M1plushard disk.
2. Open the "M1plus Machine Explorer" dialog box in the "Tools" / "Machine Explorer" menu.
3. In the "Stoll Machines" directory open the "CMS Generation" subgroup.
4. Select the desired machine.
5. Call up the context menu with the right mouse button and select "Generate own machine".

▶ The "Set up new my machine" dialog box appears.

6. In the "Set up new my machine" dialog box specify the machine label, the "Setup Type" and the gauge.
7. Confirm entries with "OK".

▶ The newly generated machine is displayed in the "My Machines" directory.

i	You can adjust the properties of **My Machines** via the settings.

IV. Create favorites in the "M1plus Machine Explorer":

Links to the machines of the "Stoll machines" and "My machines" group can be created in the "Favorites" directory. This is advantageous for machines, which are used to set-up the pattern or by which you often change settings (e.g. yarn carrier specifications).

1. Select the desired machine in "Stoll machines" or "My machines"
2. Drag with drag & drop to the "Favorite" directory.

V. Change the machine properties:

i	You can change the properties of **your own machines** only in the "My Machines" directory and under "Favorites".

1. M1plushard disk.
2. Open the "M1plus Machine Explorer" dialog box in the "Tools" / "Machine Explorer" menu.

3. Select a machine in the "My machine" or "Favorites" directory.
4. Call up the context menu with the right mouse button and select "Properties".

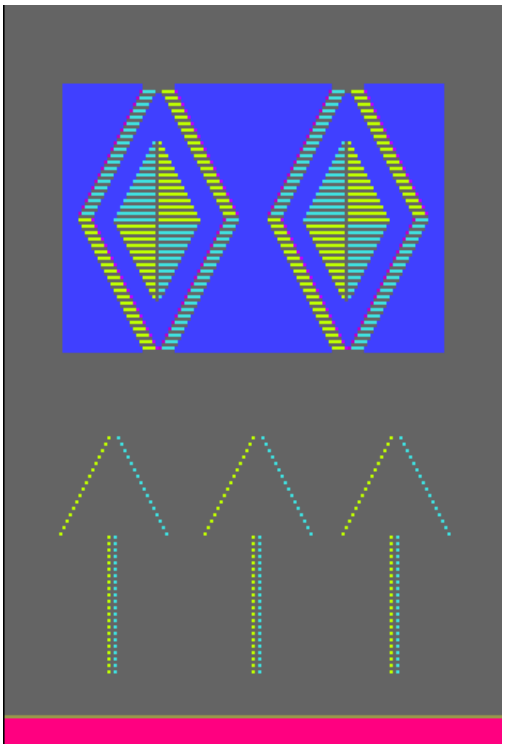
▶ The "<Machine name> Properties" dialog box is opened.

5. Make changes in the corresponding tab:

tab	Function
"In general"	Properties of the machine (e.g. Setup Type, Gauge)
" System Functions"	Allocate knitting functions to the systems
"Optional Features"	List of optional devices and yarn carrier specifications
"Tandem Mode"	Settings for tandem operation
"Online Parameters"	Settings for online connection
"Machine Data"	Display of the machine data with online query
"Data security"	Select data record lock or assuming of possession of a data record

6. Confirm the entry with "Apply" or "OK".

29 Petinet and Split Technique with Empty Rows



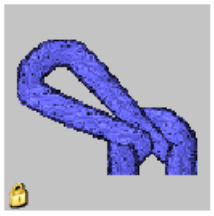
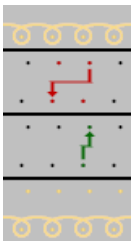
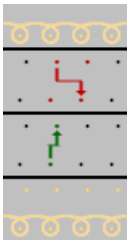
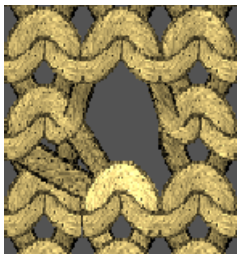
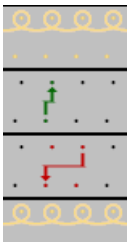
Pattern name	11_Petinet-Split-m-Leer.mdv		
Pattern size	**Gauge**	E 3,5.2	E 7.2
	Width:	150	250
	Height:	200	300
Machine Type	◆ CMS 530 HP 5’’ ◆ CMS 530 HP 6’’		
Setup Type	Setup2		
Start	2x2 Rib		
Basic Pattern	Front Stitch with Transfer		
Knitting Technique	◆ Petinet Technique ◆ Split-stitch technique		
Pattern description	Knitting technique **with empty rows**		

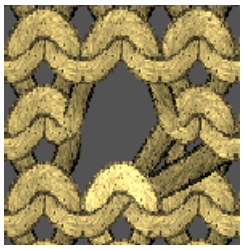
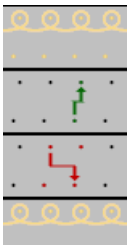
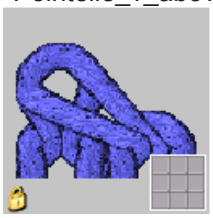
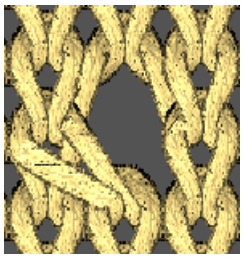
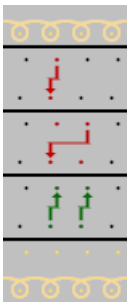
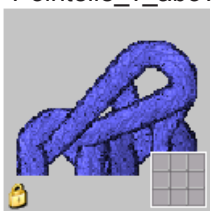
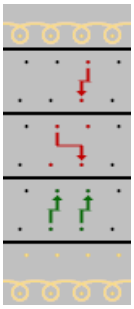
29.1 Create and draw a pattern

I. Create and draw a pattern:

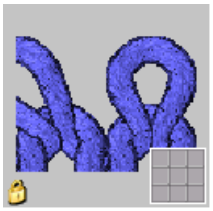
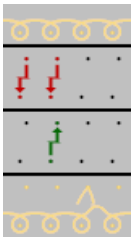
1. Generate a new pattern via "File" / "New pattern...".
   - or -
   Click the  icon.
2. Open "Module Explorer of Database".
3. Select and draw the pattern with the pointelle modules from the directory "Modules / Stoll / Standard / Pointelle".

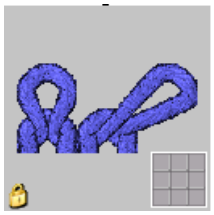
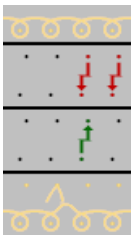
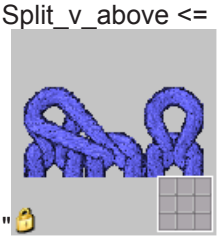
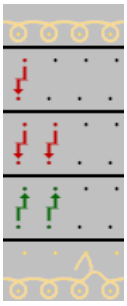
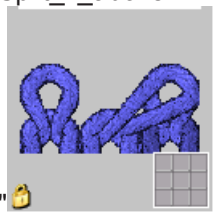
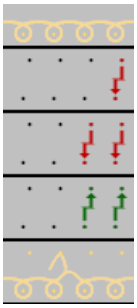
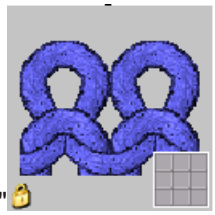
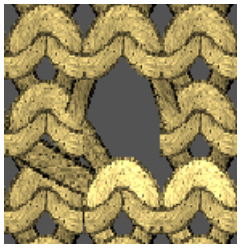
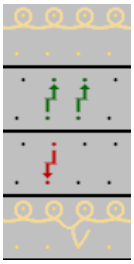
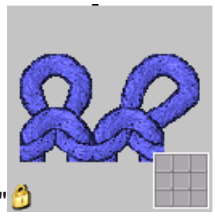
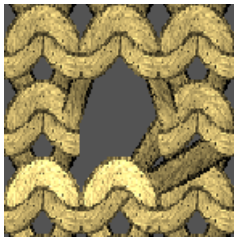
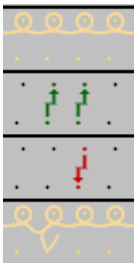
i	**Attention:** Tuck and R-R are not allowed in the same technical row when you use split!

Modules in use and their presentations			
	Module Name	**Fabric View**	**Technical view**
Pointelle (stitch underneath)	"Pointelle_v_Repeat <=" 		
	"Pointelle_v_Repeat =>" 		
	"Pointelle_^_Repeat <=" 		

Modules in use and their presentations			
	"Pointelle_^_Repeat => " 		
Pointelle (Stitch above)	"Pointelle_v_above <=" 		
	"Pointelle_v_above =>" 		

4. Select and draw the pattern with the pointelle with split modules from the directory "Modules / Stoll / Standard / Pointelle Closing/Split".

Modules in use and their presentations			
	Module Name	**Fabric View**	**Technical view**
Pointelle with Split	"Pointelle Split_v_underneath <=" 		

Modules in use and their presentations			
	" Pointelle Split_v_underneath =>" 		
	" Pointelle Split_v_above <= 		
	" Pointelle Split_v_above => 		
	" Pointelle Split_^_ above => 		
	" Pointelle Split_^_ above => 		

You will find further modules in the "Module Explorer of Database" under "Standard / Pointelle Closing/Split".

29.2 Complete the Pattern

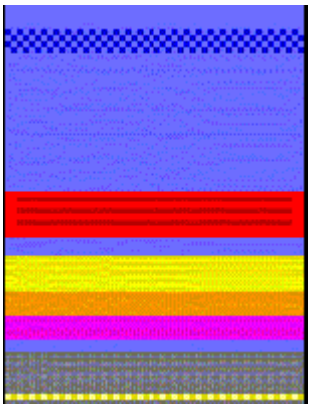
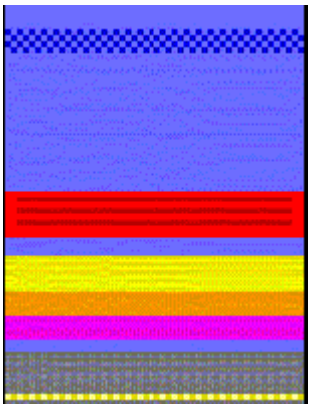
Complete the pattern:

1. Start the technical processing with  .

▶ The query "Generate MC Program" appears.

2. Confirm the query with "OK".
3. Call up the "Sintral Check" by  .

30 Multi-Piece Knitting

Pattern name	12_Mehrteiliges Stricken.mdv
Machine Type	◆ **Machines with comb** – Knitting with comb – Knitting without comb ◆ **Machines without comb**
Knitting Technique	Structure with colored stripe
Pattern description	**Knitting two or more parts of the same pattern side by side on the machine.**

30.1 Multi-piece knitting on machines with comb

Rules for two-piece knitting with comb:

- For the start "Use comb" is to be selected.
  - Modules
  - Sintral
- Do not use width cycles within the pattern
- Consider the total width and the distance between the fabrics
- The pattern must have a start

Create two piece pattern:

1. Generate new pattern.
   - or -
   Load the existing pattern as basic pattern .

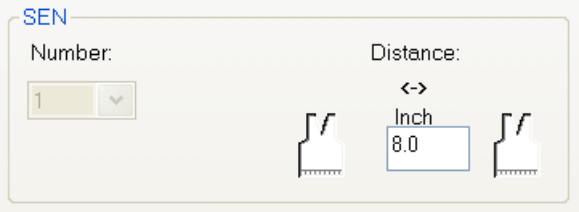
---

i Watch out the number of yarn carriers used!

---

2. Expand the pattern with the button of the "Steps of Processing" toolbar.

3. Open the "Configuration" dialog box via the "Pattern Parameters" / "Configuration..." menu.
4. Select the "Knitting Areas" tab.
5. Enter the desired "Distance" under "SEN" by inches.



Machine type	Number of SEN areas	Distance between the SEN areas
CMSWith Comb	No entry possible. i: SEN = needle bed	Standard: 11 inch i: The distance depends upon the number of yarn carriers.

6. Confirm input with "OK".

▶ The "Configuration" dialog box is closed.

---

i The specifications in the configuration can also be set in the **Basic Pattern**.

---

7. Carry out the technical processing for two pieces with the button.

▶ The "Yarn field allocation" dialog box appears.
The yarn carriers for the second piece are automatically allocated to the yarn carrier tracks as far as possible.

- Yarn carriers for the left fabric piece on the left side of the machine
- Yarn carriers for the right piece on the right-hand side of the machine
- **Exception:**
  The yarn carrier for the comb thread is used for both pieces.

8. Allocate the yarn carriers not yet allocated automatically to the yarn carrier rails manually.

---

i Two pieces will be displayed with the specified distance in the view presented.

---

9. Call up the "Sintral Check" by .

30.2 Multi-piece knitting on machines without comb

I. Create and complete a pattern:

1. Generate new pattern.
   - or -
   Load the existing pattern as basic pattern .

2. Open the "Configuration" dialog box via the "Pattern Parameters" / "Configuration..." menu.
3. Select the "Knitting Areas" tab.
4. Under "SEN" enter the number of SEN areas and the desired "Distance" by inches.

5. Confirm input with "OK".

▶ The "Configuration" dialog box is closed.

Machine type	Number of SEN areas	Distance between the SEN areas
CMSWithout Comb	1SEN 2SEN SEN 3 SEN 4	Standard: 11 inch i: The distance depends upon the number of yarn carriers.

6. Start the technical processing with  .

▶ The query "Generate MC Program" appears.

7. Confirm the query with "OK".
8. Call up the "Sintral Check" by  .

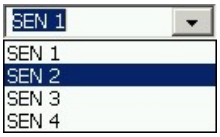
i	YG and SEN will be displayed in the Sintral according to "Configuration".

II. Use different yarn carrier home positions in the different SEN areas:

i	In case of multi-piece knitting on machines without comb, the same yarn carrier home position is automatically calculated for all SEN areas.

✓ Pattern is load in the state of  **Processed Pattern**.

1. Call up the "Yarn Field Allocation" dialog box by  .
2. Under "Yarn Carrier Allocation" select the desiredSEN.



3. Position the yarn carrier anew on the yarn carrier rails.

i	Proceed according to the same sequence for the other SEN areas, if necessary.

4. Close the "Yarn Field Allocation" dialog box with "OK".
5. Call up the "MC Program" / "Generate MC Program" menu.

▶ The query "Generate MC Program" appears.

6. Confirm the query with "OK".
7. Call up the "Sintral Check" by  .

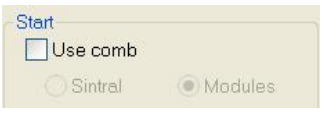
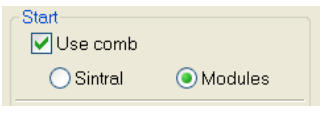
30.3 Multi-piece knitting with CMS 822

Overview of the operating modes with CMS 822:

Possibilities of the operating modes		
Operating Mode	**Using the comb**	**Number of possible fabric pieces**
Without tandem:	Without comb	1 - 4
	With comb	1 or 2
With tandem	Without comb	1-4 per carriage
	With comb	2

I. Without Tandem - Multi-piece knitting with and without comb:

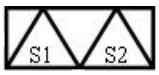
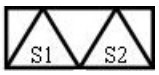
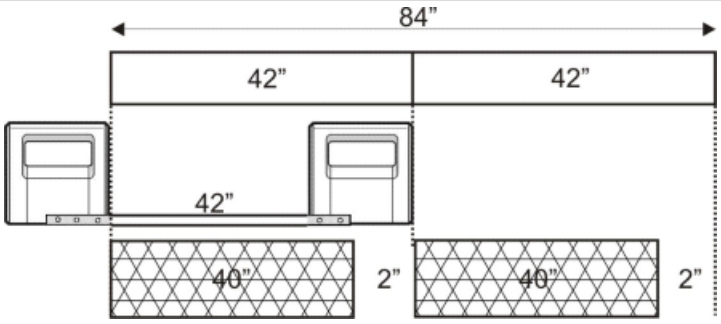
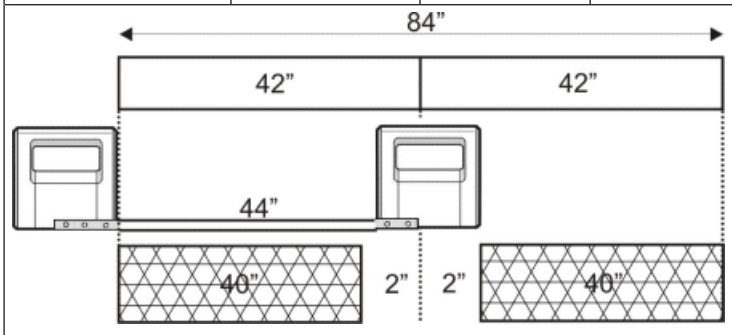
> **i** The editing steps have been described in the previous chapter.

Possibilities with normal operation (without tandem)			
System allocation per knitting area			
Start		"Configuration": **Number of SEN areas**	**processing**
Without comb		1 - 4 SEN = 1 - 4 pieces	
With comb		1 SEN = 2 Fabrics	 **i**: Coupling width 0

II. With tandem - Generate multi-piece pattern without comb:

i	The workflow of the CMS 822 corresponds to the workflow of CMS 933/922/422TC/433TC as tandem. The knitting program is generated for the left carriage with knitting systems S1 and S2. The needle selection is calculated internally for the left fabric and is transferred to the right fabric with the knitting systems S3 and S4.

1. Generate new pattern.
   - or -
   Load the existing pattern as basic pattern .
2. Activate the ☑ "Tandem operation" checkbox and select the coupling width under "Settings for tandem operation" when selecting the machine.

Tandem operation without comb			
System allocation			
Start	Coupling width	Working width	processing
Without comb	**42 "**	42 "	
			
Start	Coupling width	Working width	processing
Without comb	**44 "**	40 "	
			

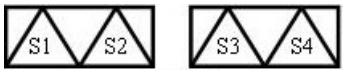
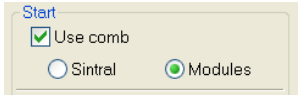
i	The distance of both the knitting areas must be enough to place the yarn carriers in use. Take note of the double assignments of yarn carrier rails.

3. Open the "Knitting Areas" tab of the "Configuration" dialog box via the "Pattern Parameters" / "Configuration..." menu.
4. Position the "Start Position SEN1" to the left  with a great working width.
5. Set the "Number of SEN" in the "Knitting Areas" tab to 1.
6. Start the technical processing with  .

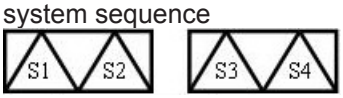
▶ The query "Generate MC Program" appears.

7. Confirm the query with "OK".
8. Call up the "Sintral Check" by  .

III. With tandem - Generate multi-piece pattern with comb:

Possibilities with normal operation (with tandem)				
System allocation per knitting area				
Start		"Configuration": **Number of SEN areas**	**pro-cessing**	**Possible coupling widths:**
With comb		1 SEN = 2 Fab-rics		◆ 42'' ◆ 44''

The two carriages function as one carriage with wide space between **S2** and **S3** with the system sequence



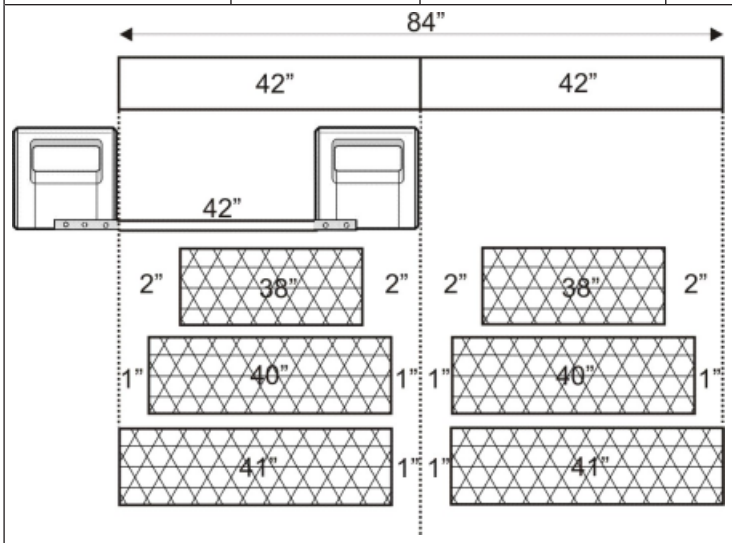
i	The machine works as a compact machine with comb but with wide coupled carriages. This type of operation is called Sintral TANDEM-CCC.

1. Generate new pattern.
   - or -
   Load the existing pattern as basic pattern .

i	The  "Tandem operation" checkbox may **not** be active when selecting the machine under "Settings for tandem operation".

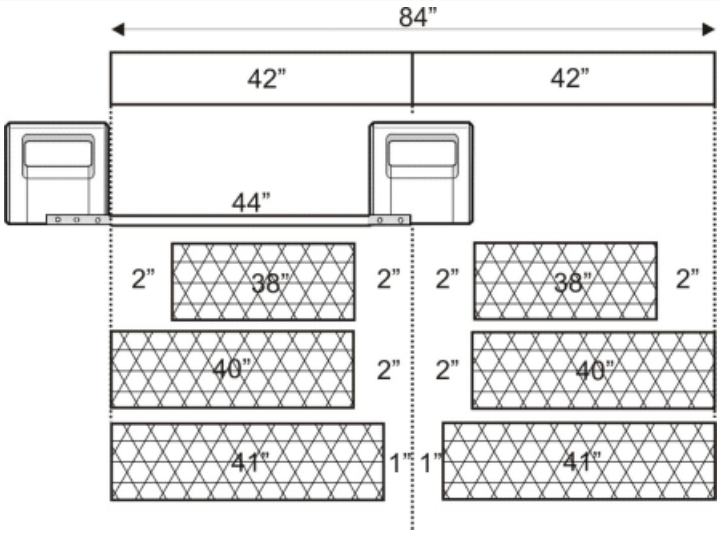
Tandem operation with comb	
System allocation	

Tandem operation with comb			
Start	Coupling width	Working width	processing
With comb	**42 "**	42 "	



Possible positions of the working width and the intermediate space

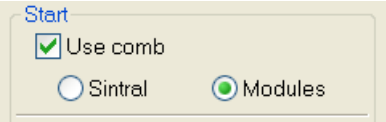
Start	Coupling width	Working width	processing
With comb	**44 "**	40 "	



Possible positions of the working width and the intermediate space

The maximum knitting width corresponds to the coupling width minus one needle!

2. Select "Use comb" and "Module" when selecting the start.



3. Open the "Knitting Areas" tab of the "Configuration" dialog box via the "Pattern Parameters" / "Configuration..." menu.
4. Position the "Start Position SEN1" to the left  with a great working width.
5. Set the "Number of SEN" in the "Knitting Areas" tab to 1.
6. Confirm input with "OK".
7. Start the technical processing for two pieces with .

▶ The "Coupling width" dialog box appears.

8. Select the desired coupling width.
9. Close the dialog box with "OK".

▶ The technical processing for 2 pieces is carried out and the prompt "Generate MC Program" appears.

10. Confirm the query with "OK".

▶ In the opened views are shown 2 pieces.

i	All yarn carriers, even for comb thread, draw thread and elastic thread will be doubled with the processing for two pieces.

11. Call up the "Sintral Check" by .

31 Module Explorer of Pattern: Modify the inserted start

Task:	Edit the start
Machine type:	◆ CMSWith Comb ◆ CMSWithout Comb
M1plus working technique	**Modify the start used in the pattern.**

i	You can find the start inserted in the pattern in the "Module Explorer of Pattern" and modify it if desired.

I. Modify the start inserted in the pattern:

✓ The pattern is loaded as basic pattern.

1. Open the Module Explorer via the "Module" / "Module Explorer of Pattern..." menu.
2. Open the desired directory with the corresponding **pattern name** .
3. Open the "Start" Directory with a double-click.

▶ The container module of the inserted start is displayed.

i	The displayed module is a copy of the original from the "Module Explorer Database" and has no L marking.

4. Open the container module of the inserted start double-clicking.

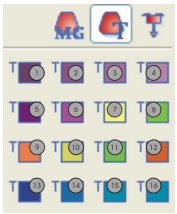
▶ The container with the write-protected elements is displayed.

5. Place the cursor on the element in the container to be changed and open it double-clicking.

Changes for example in the:

- "Start" element
- "Transition" element

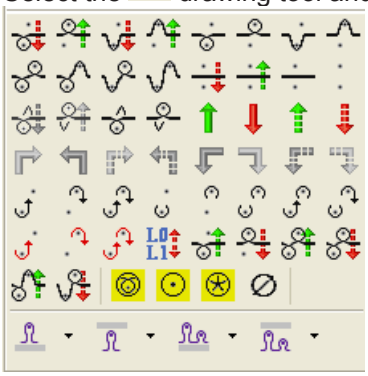
6. In the "Pattern colors" toolbar switch to the "Yarn Colors" (technical yarns) color palette and select the technical colors needed for drawing.



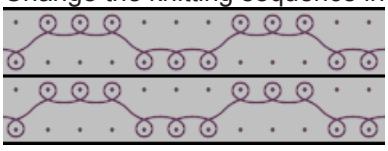
No.	Function	Color number
1	Rib thread 1	201
2	Rib thread 2	202

No.	Function	Color number
3	Rib thread 3	203
4	Rib thread 4	204
5	Protection thread 1	205
6	Protection thread 2	206
7	Draw thread 1	207
8	Comb thread 1	208
9	Elastic yarn 1	209
10	Draw thread 2	210
11	Comb thread 2	211
12	Elastic yarn 2	212
13	Rib thread 5	213
14	Rib thread 6	214
15	Rib thread 7	215
16	Rib thread 8	216

7. Select the  drawing tool and the desired needle actions.



8. Change the knitting sequence in the element.



Watch out when modifying:

- Adapt the length cycles contained in the start
- When changing the row number, "Clamping and cutting after x rows" has to be adapted if necessary.

9. Close the "Module Editor" with  .
10. Confirm the "Apply Modifications?" query with "Yes".

▶ Changes are saved, the element is marked with an L and displayed in the container.

11. Close the Container module with "OK".

▶ The container module is marked with an L, displayed in the Module Explorer of Pattern and applied to the basic pattern.

32 Module Explorer of Database: Modify the Stoll start

Task:	Generate a start of your own
Machine type:	◆ CMSWith Comb ◆ CMSWithout Comb
M1plus working technique	**Modify the existing start from Stoll and save it as your own.**

i You can use the starts from Stoll contained in the "Module Explorer of Database" as basis for your own ones.

How to modify a Stoll start (overview):

1. In the "Module Explorer of Database" under "Starts" / "Stoll with protection yarn..." or "Stoll coarse gauge with protection yarn" select a **Container Module** of a Stoll start, copy it, rename it and save it under the "Starts" / "Private..." path.

▶ The container module and all the contained elements are copied and displayed.

2. Rename the copied elements and save them under the "Private...".
3. Change the knitting process:

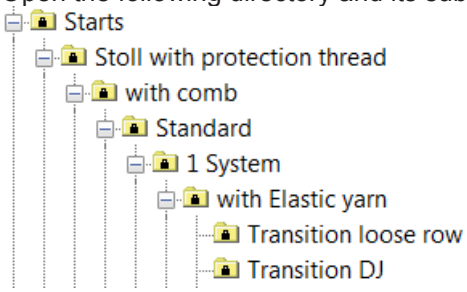
■ In the start element.
■ In the transition element.

4. Save changes.

32.1 Copy and Rename a Stoll Start:

Copy and rename a Stoll start:

1. Call up the "Module" / "Module Explorer of Database..." menu.
2. Open the following directory and its sub-directories in the "Module Explorer of Database".



3. In the "Transition loose row" or "Transition RR" module group select and copy a **Technical container module** of the desired Stoll start.
4. In the dialog box "Properties of: <module-name>" enter a new **module-name** and confirm it with "OK".

▶ The **container module** and the contained elements are copied and displayed.

32.2 Rename and allocate the modules and elements:

Rename the elements and save them in the "Private" module group:

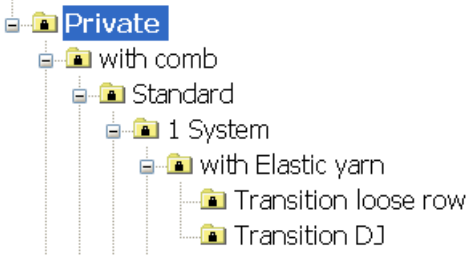
	By a different name you can distinguish these modules more easily from their origine.

1. Select and rename the automatically generated copies of the elements:

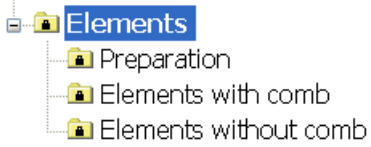
	For better overview you can save the copied start and its elements in the "Private" module group.

2. Drag and drop the **Technical container module** and the renamed **elements** from the Stoll module group to the respective module group.

- Save the **Technical container module** to "Private":



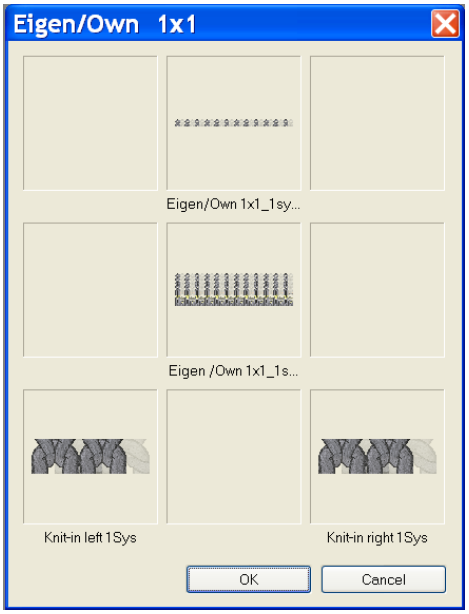
- Save the elements to the corresponding subdirectory of the "Elements" directory.



32.3 Modify the Knitting Procedure of the Start

Modify the knitting procedure of the start element:

1. Select and open the copied and renamed **Start Container Module** by double-click in the "Private" module group.



2. Open the element for the start "Private" / "Own 1X1_1sys_G" by double-Click in the container.
3. Switch to the "Yarn Colors (technical yarns)" color palette in the Pattern Colors dialog box and select the necessary technical colors.
4. Select the drawing tool and the desired needle actions.
5. Change the knitting sequence.

When changing pay attention to:

- Adapt the length cycles contained in the start
- When changing the row number, Clamping and cutting after x rows has to be adapted if necessary.

6. Close the "Module Editor" with .

▶ The question: The "Do you want to save the changed module data?" query appears.

7. Close the dialog box with "Yes".

▶ The Container Module for the start will be saved.

8. Generate a new pattern and select your own start in the "Start" selection list under **Private**.

▶ The start will be inserted into the new pattern.