

## JACQUARD CONTROLLER - JC5

### INSTRUCTION MANUAL



# DOCUMENT REVISIONS

- F14036304 A: Original version of document, applicable as from version F39261901J of the software.
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- F14036304 C: Version applicable as from version F39261901K of the software.
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- F14036304M: Version applicable as from version F39261902R of the software.
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# 1 - BEFORE STARTING-UP

The purpose of this manual is to permit the weaving personnel to use the Jacquard controller in a logical way.

This manual provides a sequence of operations for the users. Its instructions must be followed to the letter as must the order in which they have been written.

## 1.1 - WORKING SAFETY ON THE JC5

Operations on the JC5 must conform to the safety rules in force in the country concerned.

These operations must only be carried out by authorised and skilled persons.

All the adjustment, verification and maintenance operations mentioned in this manual must be carried out when the weaving machine is stopped.

The qualified operator must cut off all power to the weaving machine before carrying out any operation on the JC5. He must ensure that the machine cannot start inadvertently.



People operating on the electronics of the JC5 must be equipped with anti-static bracelets. To do this the spare boards are delivered with disposable bracelets.

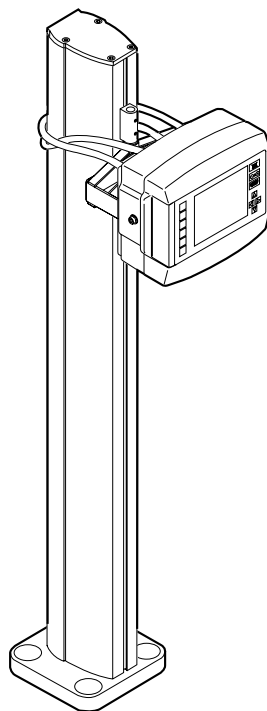
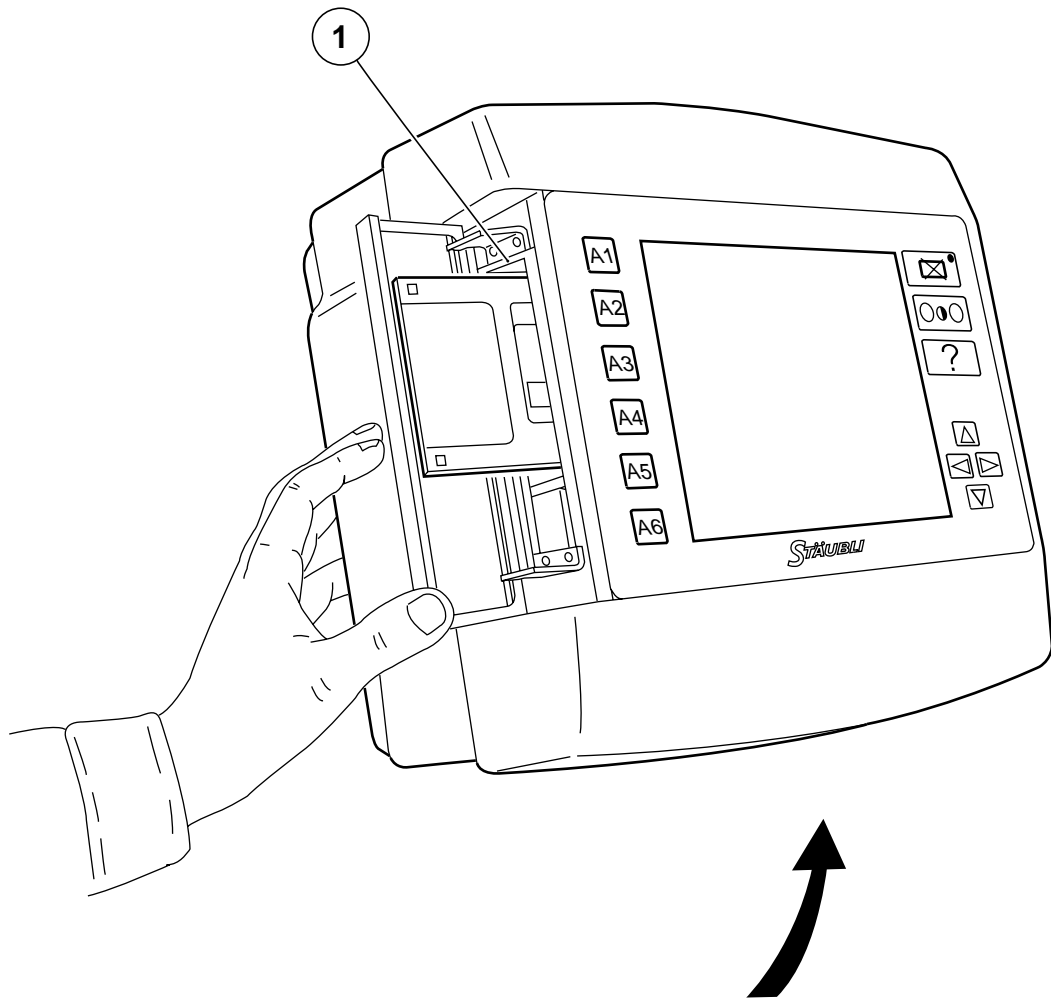
### CAUTION

If problems occur when the Jacquard controller is in operation and no solution is provided in this manual, or if you require further information, please contact the STÄUBLI after sales service.

### NOTE

This manual is not a contractual document and STÄUBLI reserves the right to modify it without notice.

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## 2 - GENERAL PRESENTATION

The Jacquard machine controller must be installed near the weaving machine so that it can be accessed easily by the weaving personnel during the different operations.

The function of the controller is to replace the cylinder and perforated paper of a traditional Jacquard machine.

The controller manages, prepares and transmits the designs to the hook control card located inside the Jacquard machines.

It also dialogues with the weaving machine and with a central computer in the case of machines hooked up in a network.

### 2.1 - THE DIFFERENT ELEMENTS

*The controller is composed of the following elements:*

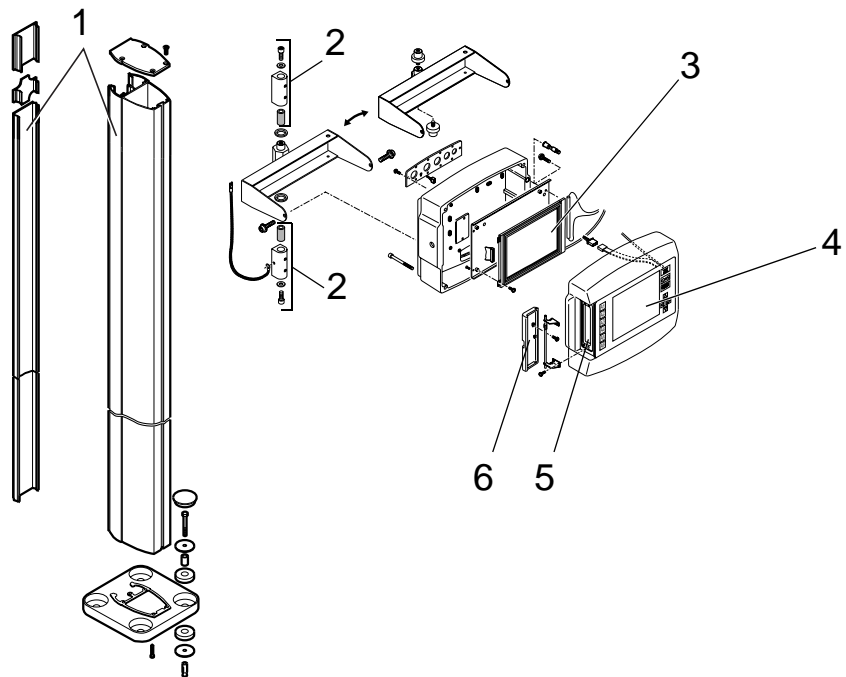
- A CPU microprocessor card for controlling all the operations, by using appropriate software.
- A power supply that provides +5, +12, +24 Volts for the different cards and peripherals.
- A hard disk of at least 2 Gigabytes (10 million picks in 1536 format) for storing an unlimited number of designs.

#### **CAUTION**

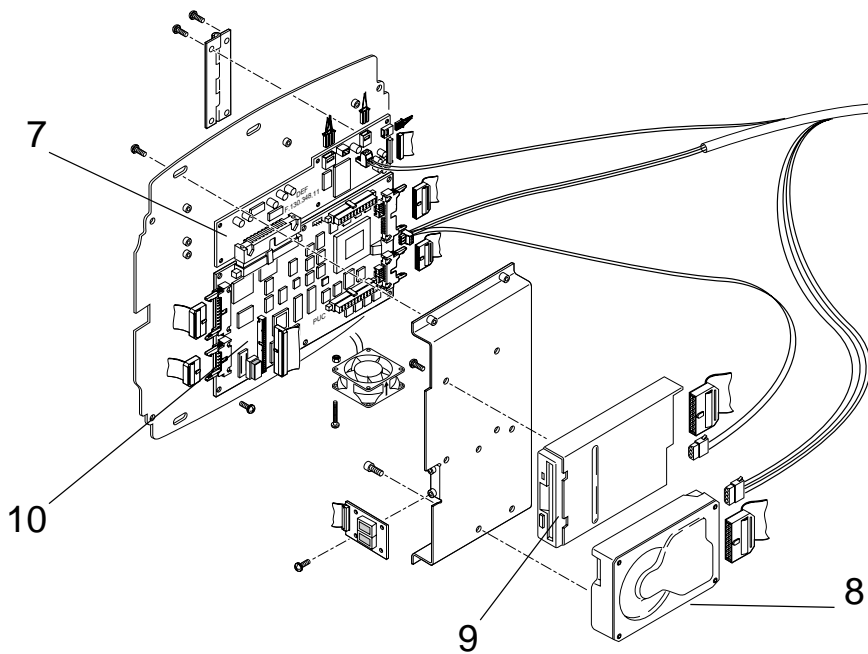
STÄUBLI can in no way be held responsible for losses of information that may occur on the controller's main memory or on a floppy disk.

- A universal 3"1/2 floppy disk drive (JC3, JC4, CGS) with a capacity of 1.44 Mb (8,700 picks in 1344 format) for reading or saving patterns on floppy disk. The maximum number of files per floppy disk is 224 in DOS format, 136 in JC4 format, 36 in CGS format and 1 in JC3 format.
- A touch screen and 6 programmable function keys, for dialogue with the operator.
- An input/output card and a adaptation card that can be varied according to the weaving machine. It permits the electric control of the weft selector and associated functions.
- On option is an ETHERNET network coupling card for dialogue with a central computer.

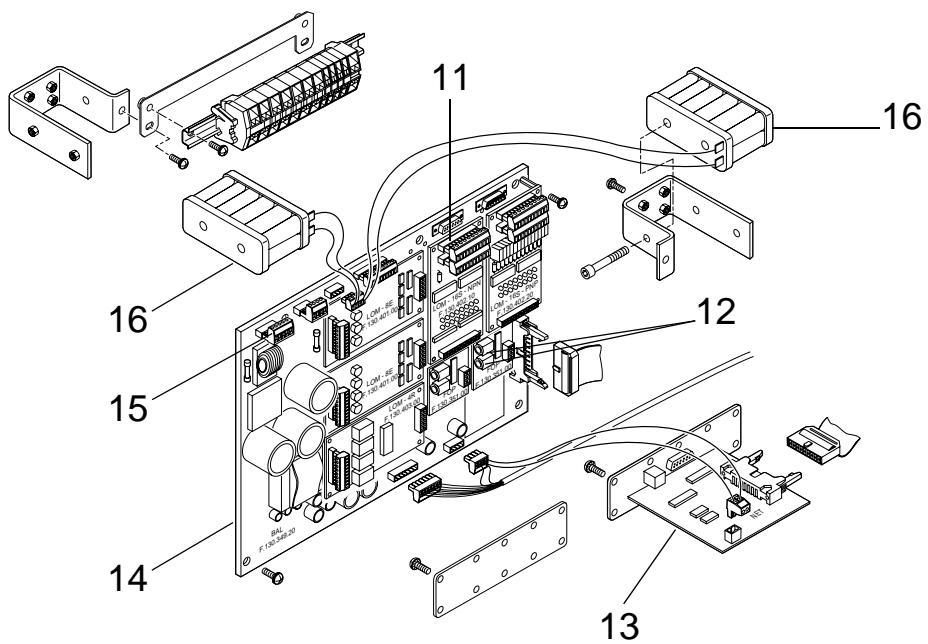
**A**



**B**



**C**



## 2.1.1 - THE DIFFERENT COMPONENTS OF THE JC5

### **Drawing A: Overall view**

- 1 JC5 Controller stand,
- 2 JC5 height adjustment system,
- 3 640 x 480 liquid crystal screen,
- 4 Touch screen,
- 5 Alphanumeric display for error messages concerning the controller.  
The interpretation of these messages is given at the end of this manual.
- 6 Disk drive cover.

### **Drawing B: View of the CPU board**

- 7 Liquid crystal screen interface,
- 8 Hard disk of at least 2 Gigabytes,
- 9 Disk driver,
- 10 CPU card.

### **Drawing C: View of the power supply board**

- 11 Weaving machine adaptation card,
- 12 Optical fiber connector,
- 13 Network board (optional),
- 14 Power supply board,
- 15 Input voltage 33 volts,
- 16 Batteries.



## 2.2 - COMPOSITION OF THE FRONT PANEL

The front panel of the JC5 is composed of a touch screen (6) and surrounded by several keys (1, 2, 3 and 4).

### 2.2.1 - USING THE TOUCH SCREEN

The screen that equips the JC5 is tactile, i.e. it is touch sensitive. This is a user-friendly feature since you simply press the desired icon or text to activate it. However, you must take care to press on the screen without sliding your finger from one zone to another.

To prevent permanent display from leaving definitive marks on the screen, the latter changes status after five minutes without handling: the screen goes black and the lamp (5) at the top right flashes.

Touching the slab (i.e. the zone constituting the screen and the keys surrounding it) restores the image to the screen, but it is not taken into account by the JC5. Only the following commands are.

### CAUTION

You must use the pen supplied by STÄUBLI with the JC5 for pressing on the touch screen.

### 2.2.2 - DESCRIPTION OF THE SURROUNDING KEYS

#### Crossed touch screen (1)

This permits switching off touch screen mode (e.g., when cleaning the screen).

- Pressing this key causes the lamp (5) to light. The touch slab is then deactivated and no further operation is possible on the screen.
- Deactivate this function by pressing this key again.

#### Contrast adjustment (2)

- Press - or + to darken or lighten the screen.

#### Horizontal and vertical arrows (3)

- These keys move the cursor within a list.

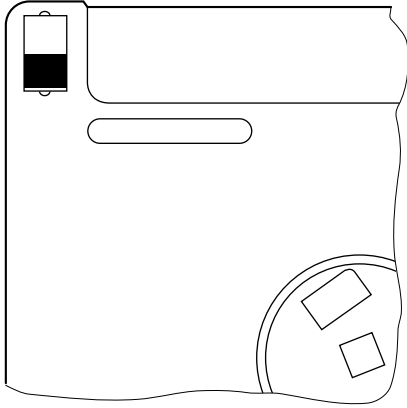
#### Keys A1 A6 (4)

These keys are associated with a pre-programmed function (see configuration for modifications).

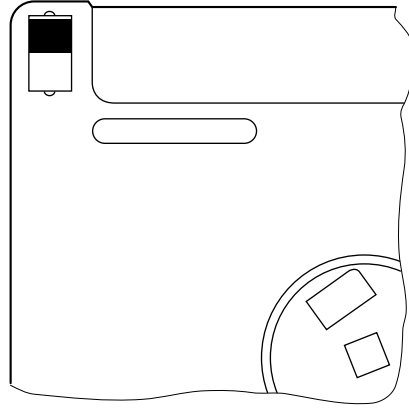
- Factory configuration:
  - A1: Import of a JC4 design from a floppy disk.
  - A2: Import of a JC4 design from a floppy disk and weaving it.
  - A3: Non-assigned key.
  - A4: Non-assigned key.
  - A5: Archiving spy files.
  - A6: Non-assigned key.

The keys can be associated with other functions according to user needs (see chapter "User interface configuration").

Reading and  
writing possible  
window closed



Reading possible  
writing impossible  
window open



**2.3 - THE FLOPPY DISK**

This information medium must correspond to the following specifications:

<b>Type</b>	→	3.5 D.S. HD (double sided, high density)
<b>Format</b>	→	3.5 inches
<b>Capacity</b>	→	1.44 Megabytes

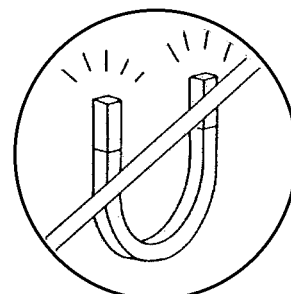
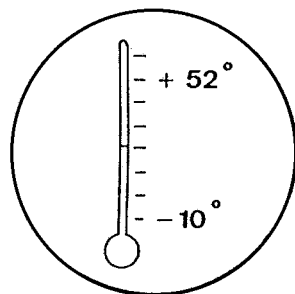
**CAUTION**

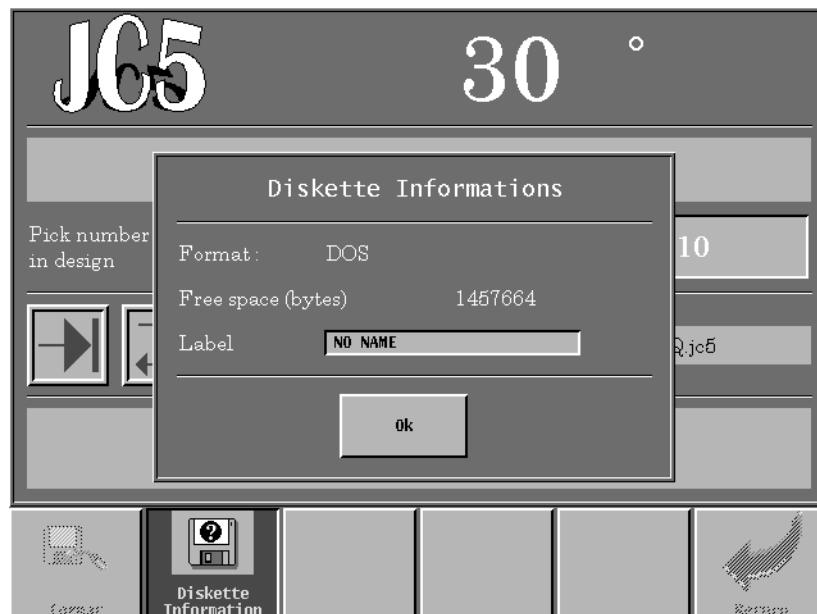
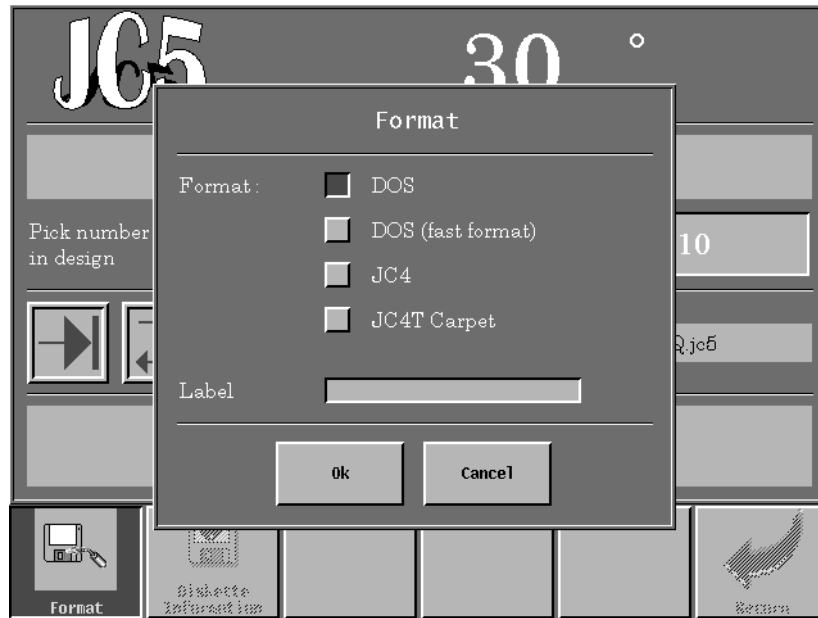
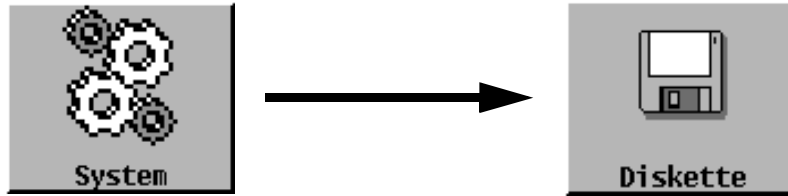
Double sided, double density (D.S., D.D.) floppy disks are incompatible.  
 We recommend making backup copies of all designs.  
 STÄUBLI can in no way be held responsible for any loss of information that may occur in the controller's main memory or on a floppy disk.

STÄUBLI recommends the following floppy disks: 3M 3.5 D.S.-HD  
 MAXELL RD MF 2-HD.

**Use of floppy disks**

They are equipped with a write protection device and must be used under the following conditions (due to sensitivity to magnetic fields and temperatures):







### 2.3.1 - FORMATTING A FLOPPY DISK

Formatting entails preparing a blank floppy disk so that it can be used for storing and calling up information. It can also be used to erase the content of a floppy disk in order to write new data.

This operation can be carried out by pressing on the SYSTEM ICON, then choosing FLOPPY DISK.

- Insert the floppy disk in the disk drive.
- Press on "Format".
- A window is displayed.

#### **Formatting:**

- Choose "DOS" if the floppy disk is intended for a PC type computer or JC5.
- The "Fast DOS format" can only be used for disks already formatted in "DOS" format. This option in fact only erases the data. The floppy disks can be used on a PC computer or on the JC5.
- Choose "JC4" if the floppy disk is intended for a JC4 or JC4B.
- Choose "JC4T" if the floppy disk is intended for a JC4T.

### 2.3.2 - DISKETTE INFORMATION

This function displays:

- diskette format (DOS, JC4 ...),
- free disk space,
- and the label.

If the diskette has not yet been assigned a Label, "NO NAME" appears in the Label field. It is then possible to create a name by pressing on this field (see chapter "The different fields").

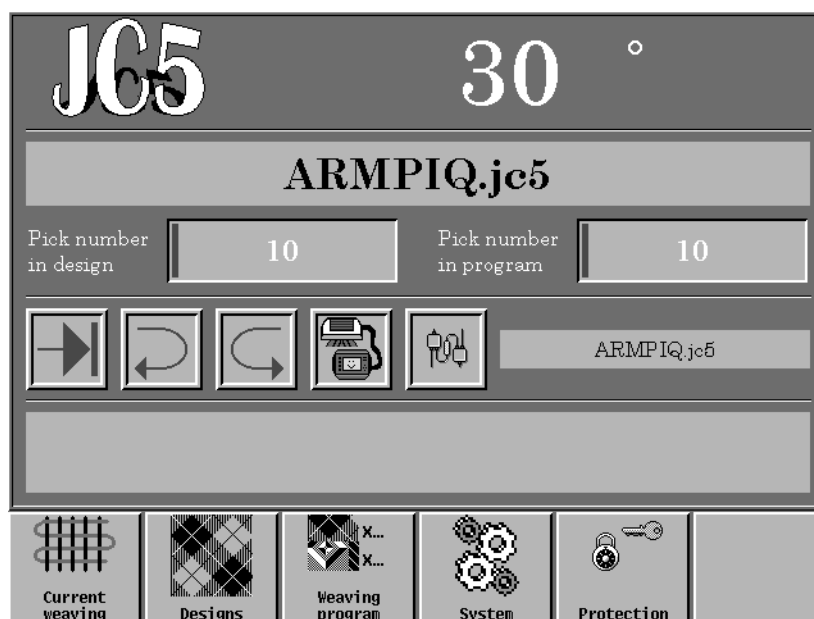


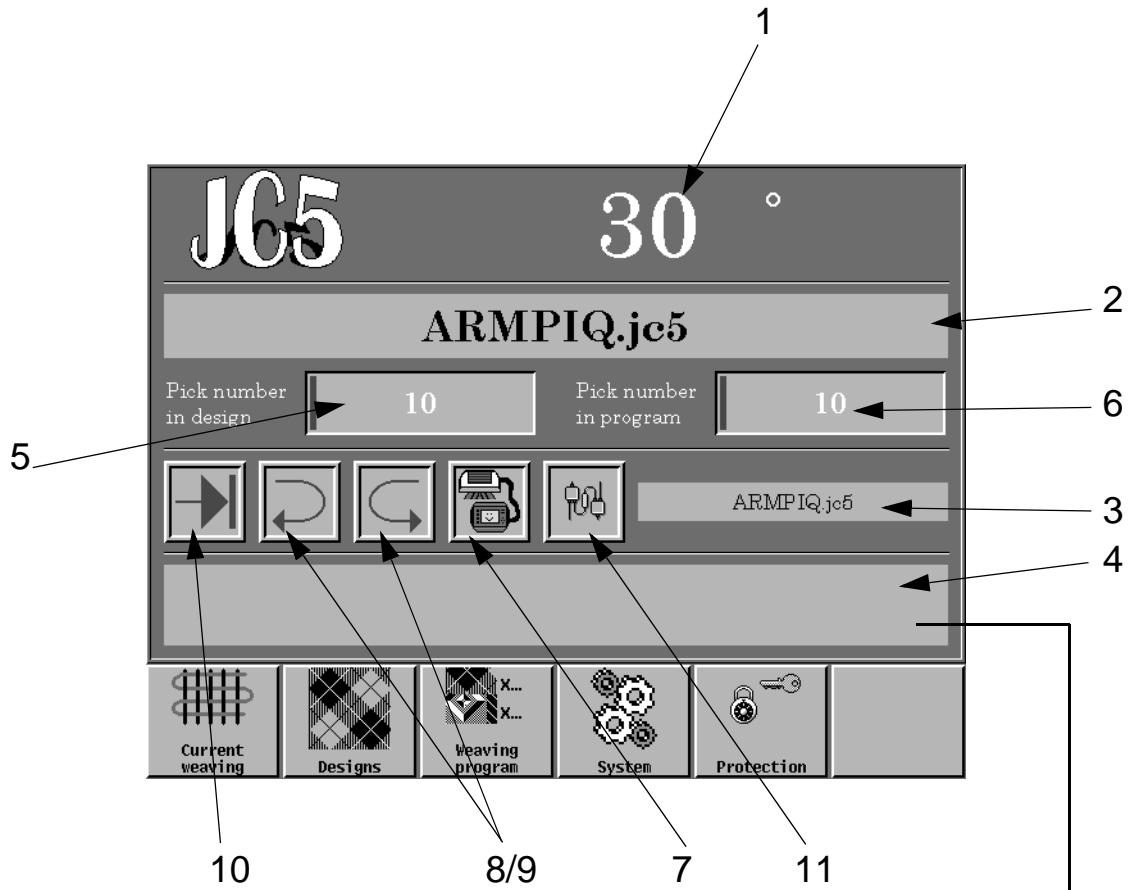
### 3 - DESCRIPTION OF THE MAIN SCREEN AND BASIC FUNCTIONS

If this is the first time you have used a JC5 controller, this chapter is particularly useful. It explains the different techniques that must be learnt to get the best out of the machine.

#### 3.1 - THE MAIN SCREEN

This is the screen displayed when the controller is powered up. It permits displaying different information concerning the weaving machine and weaving and gives access to 5 main functions (represented by the icons at the bottom of the screen). It is composed of different text and numeric zones known as fields (see the following chapter for more information on this subject).





### 3.1.1 - DESCRIPTION OF THE MAIN SCREEN

- Angular value or speed of the weaving machine (1):  
It indicates the stopping angle of the machine when at standstill.  
This indicates the speed (in picks per minute) of the weaving machine when running.
- Field (2): Indicates the name of the current design or weaving program.
- Field (3): It permits visualizing (in the editor) the design during weaving though only the ZOOM and FILE functions are available. To quit the screen, touch the FILE icon, then QUIT. Refer to chapters "Changing the weaving design" and "Edit a design", for more details on the different functions available and on the description of the screen.
- Field (4): Displays errors coming from the JC5. Click on to access the background (history) of the errors. It is possible to erase the messages by pressing on the icon




- Fields (5) and (6): Field (5) gives the number of the current pick in relation to the total number of picks of the design.  
Field (6) gives the number of the current pick in relation to the total number of picks of the weaving.
- Icon (7): It indicates whether the machine is synchronized with the JC5 or not.



Machine  
Synchronized



Machine not  
Synchronized

- The icon (7) may be displayed alternately with the icon  when a Jacquard maintenance operation is pending (see chapter "Jacquard maintenance program").
- Icons (8) and (9): These indicate the change(s) of direction allowed on the Jacquard machine.



Change  
FOR → BACK allowed



Change  
BACK → FOR allowed

If either one of these two symbols is barred when the machine is not running, it means that the direction of rotation must not be changed and within a certain range. You can however override this prohibition by pressing on the symbol concerned in order to cancel this function.

- Icon (10): This indicates whether the Jacquard machine is running or at standstill.



Running  
forwards



Running  
backwards



Stopped  
Machine  
forwards



Stopped  
Machine  
backwards

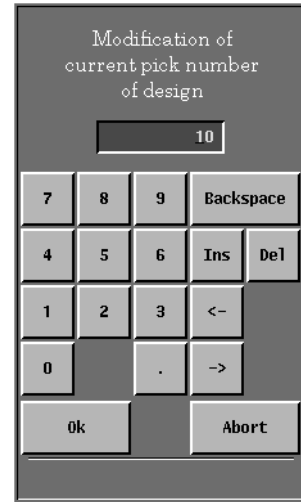
When the weaving machine is locked, the icon changes to :



- Icon (11): This indicates an active network connection. It is only present during a JC5-network dialogue.



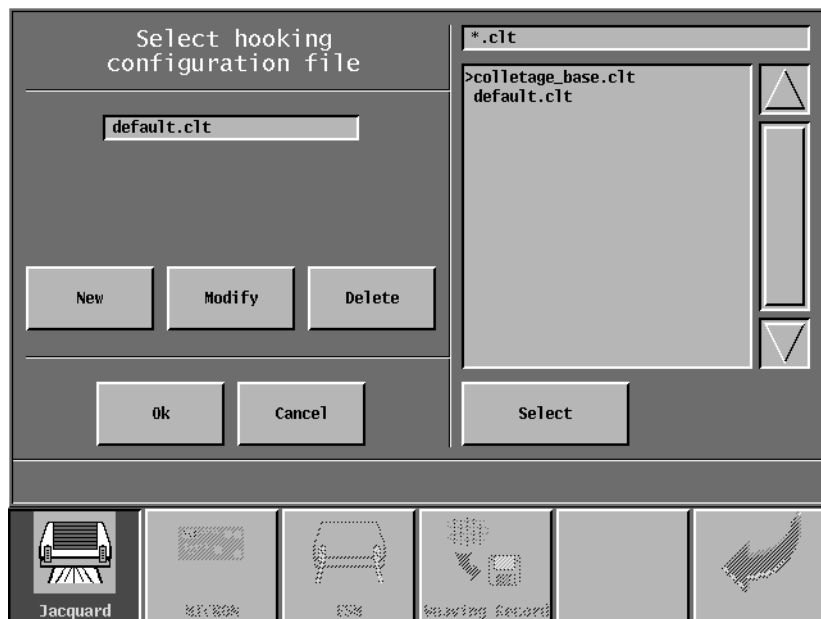
1



2



3



4

Different tools for modifying a field

## 3.2 - THE DIFFERENT FIELDS

A field is any text or numeric zone whose value can be modified. If the zone already contains a text (or numeric value), the latter is automatically replaced by the text you type.

To do this, simply press on the desired field. The modification is made via an alphanumeric keyboard ① (if the selected field is text), or via a numeric keypad ② (if the selected field is a numeric value), or via an options list ③ (if the selected field takes its value from a predefined group), or via a selection list ④.

### - Using the alphanumeric keyboard:

This permits entering a string of characters and is used in the same way as a traditional keyboard.

#### Special keys

Backspace: Deletes the character to the left of the cursor.

Ins: Inserts a character under the cursor.

Del: Deletes the character located under the cursor.

➡ : Moves the cursor to the right.

⬅ : Moves the cursor to the left.

Shift: Changes from lower case to upper case letters.

Confirm: Confirms the modifications then closes the keyboard.

Abort: Closes the keyboard without taking into account the modifications.

### - Using the numeric keyboard:

This permits entering a numeric value. The functions of the Return, Ins, and Del keys, etc. are the same as on an alphanumeric keyboard.

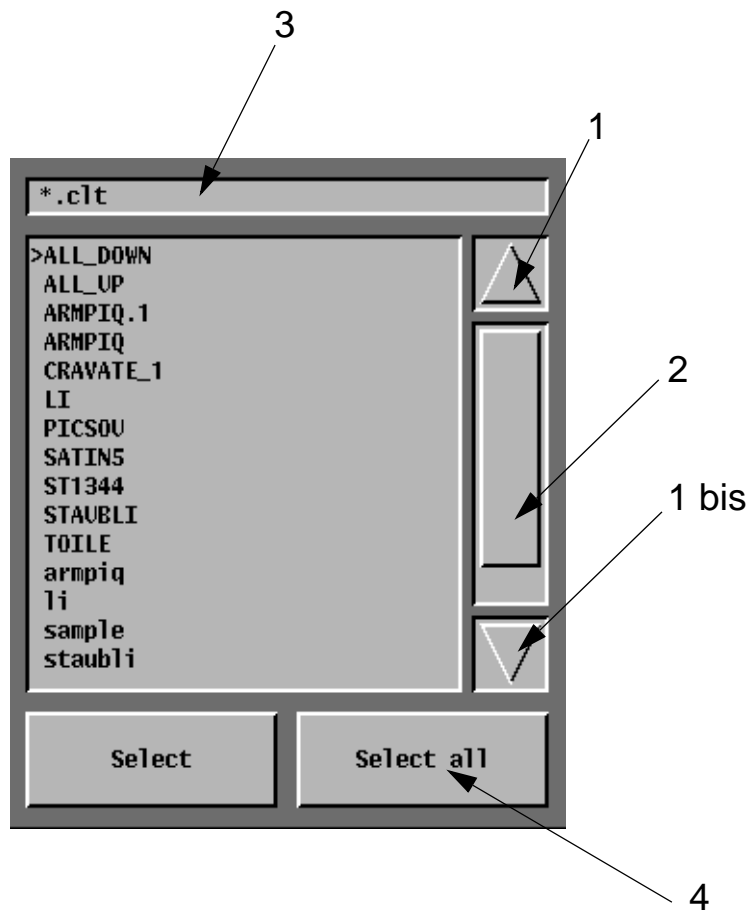
### - Using a selection list:

This is a zone that displays a list of choices. Generally, you cannot choose more than one heading at a time. This principle applies when selecting files and each time there are several possibilities of filling a field.

Refer to the following page on how to use this selection mode, with the example of files.

### - Using an option list:

This permits choosing a value from a predefined group. The option selected is that for which the button is pressed.





### 3.3 - SELECTION OF ONE OR MORE FILES

The principle for selecting one or more files is the same each time a list appears in a JC5 menu. A list permits selecting several files if the "Select all" button (4) is present. It is possible to proceed in different ways.

#### 1 - Press directly on the desired filename in the list

- The ">" symbol moves and places itself in front of the name.
- Select the file.
- Restart the operation to select another design.
- Confirm.

#### 2 - Using the selection list arrows (1 and 1 bis)

The procedure is the same as described above, except that here the cursor ">" is moved from file to file until reaching the name desired.

In the case of a long list of names, the list is scrolled by pressing directly on the lift located to the right of the list between the arrows (2).

#### 3 - Using the arrows on the front panel

Move the cursor from file to file until reaching the name desired.

### 3.4 - SELECTING THE FILE TYPE

- Different types of file:
  - \*.jc5: designates a file containing a design.
  - \*.prg: designates a file containing a weaving program.
  - \*.clt: designates a file containing a hooking plan.
  - \*.ifc: designates a file containing an import filter.
  - \*.efc: designates a file containing an export filter.
  - \*.tst: designates a file containing a design test.
  - \*.tfc: designates a file containing a design conversion configuration filter.

" \* " replaces any name in the form of an alphanumeric sequence.

#### 1 - To list all types of file:

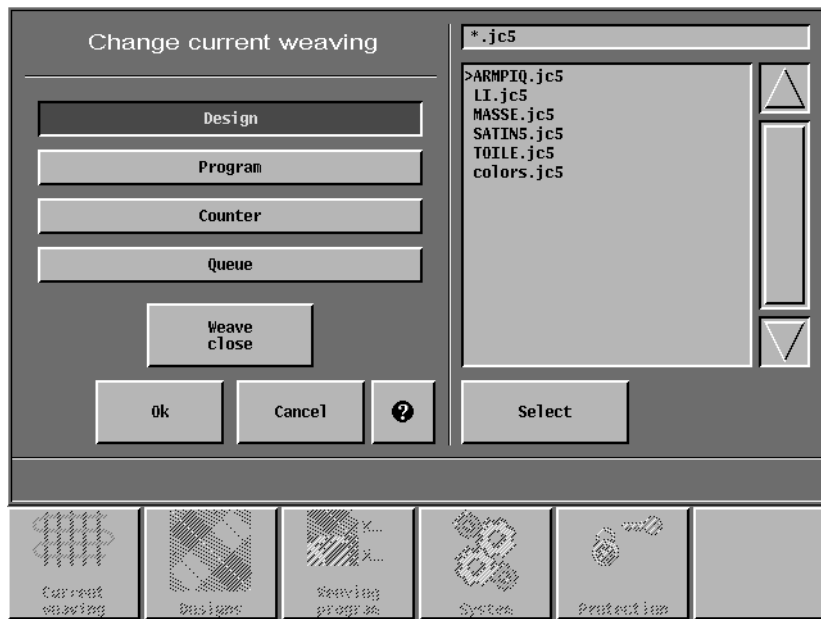
- Fill field (3) with indication "\*.\*".
- Press on "Shift" to obtain the symbol "\*\*".
- Confirm.

#### 2 - To list all the files starting with the same letter:

- Fill field (3) by indicating your letter followed by ".\*" and the desired tag. (e.g., S\*.jc5).
- Upper case letters are available by using the "Shift" command.
- Confirm.

#### 3 - To list all the files whose tags are different from jc5:

- Fill field (3) by typing symbol ".\*" followed by the three letters of the tag.
- Confirm.



### 3.5 - CHANGING THE WEAVING DESIGN


By pointing at filed (2) of the main screen (described in Chapter "The main screen") it is possible to modify the pattern or the weaving program. The operation is not authorised during weaving.

- Select "Design", "Program" in order to access the list of all the corresponding files available on the hard disk (".jc5" for the designs and ".prg" for the programs). For more details on these files, refer to chapter "Weaving program".
- Select the desired file (see chapter "Selection of one or more files").
- Confirm.
- After a few moments, the main screen is redisplayed with the name of the corresponding file.

The JC5 features the "Weaving list" option (see the chapter entitled "Weaving list").

The "Close weaving" option permits initialising fields (2) and (3) of the main screen by deselecting the files during weaving.

### 3.6 - CONSULT THE CHARACTERISTICS OF A JC5 PATTERN

The  button is present in certain screens where it is possible to select a JC5 pattern. It enables all of the characteristics of the pattern to be viewed:

- ① the characteristics of the pattern: name, number of picks, number of executions, number of picks per cycle, file size and date, etc ...
- ② the description of each of the patten's zones.
- ③ an additional free text zone stored in the pattern.



### 3.7 - THE DIFFERENT FUNCTIONS OF THE JC5

They are grouped at the bottom of the screen and represented by the icons of the page on the left.

#### - WEAVING IN PROGRESS

This permits selecting or changing a weaving design, and visualising the parameters of the weaving in progress. It also permits, when the machine is stopped, determining the design and the pick on which the weaving machine should start when resuming operation.

**Main functions:**

- Change the design to be woven.
- Display the status of the weaving in progress.

#### - DESIGNS

This permits a large number of operations on the designs.

In the "EDIT" part, you can modify the design binding points (copy picks, hooks, zone, etc.).

The "Design management" part permits transforming the files of different formats (CGS, JC3, JC4 and others) to JC5 format and vice-versa. It also gives access to Copy, Delete and Rename functions for the files contained on the hard disk or floppy disk. The patterns may be compressed to storage on diskette.

The "Transform designs" icon permits access to predefined conversions to modify a design. Most of them are only applicable for a given weaving loom.

**Main functions:**

- Modify designs.
- Export/import designs in JC5 format.
- Classify and manage the files.

#### - WEAVING PROGRAM

This permits creating programs by combining several already existing designs. It is possible to form groups which are subprograms.

These programs permit repeating portions of design without the picks being duplicated in the design.

**Main functions:**

- Create and modify the weaving programs.

#### - SYSTEM

This permits configuring the Jacquard machine, carrying out certain tests, backing-up configurations so they can be copied in other JC5s and managing the files.

**Main functions:**

- Configuring the Jacquard machine.
- Testing different parts of the JC5.
- Customising part of the controller.
- Exporting and importing configuration files.

#### - SECURITY

This permits determining access rights to the different JC5 menus according to the user's position (4 security levels are possible).

**Main functions:**

- Protecting certain JC5 menus.



## 4 - NOTIONS INTRODUCED BY THE JC5

The aim of this chapter is to familiarize you with the new features provided by the controller and which will be used in different chapters.

### 4.1 - NOTION OF HOOKING / HOOKING PLAN

This is a user-friendly feature providing greater simplicity in comparison to the JC4. The design becomes independent of the machine's hooking and so can be used on different Jacquard machines without modification.

The hooking plan permits describing how the information of the design file is distributed to the machine hooks. They can be assigned, for example, to electric functions, False Selvedge Movement, or serial link. Overall, you simply have to define a creation zone (selvedge, ground, etc.), its type, (modules, 2 positions, 3 positions, VDI function, etc.), the range of threads used, the collars for which it is intended and possibly the type of interlacing wanted. You can also use the hooking plan specific to the machine delivered, which is preconfigured in the factory.

### 4.2 - JC5 DESIGNS

These are grouped in the files with tag ".jc5". Creating a design requires defining several elements vital for interpreting these files.

- The design name.
- The total number of picks in the design as well as the number of picks to be woven.
- The number of the starting pick. This is the number of the first pick of the file (default value 1).
- The number of picks per cycle (default value 1).
- The number of runs (the default value is 0, meaning an infinite number of runs).
- The description of the weaving, i.e. whether a carpet, satin or other loom is necessary.
- The loom configuration (according to the corresponding descriptions).
- A text that can be entered as desired to complete the information concerning the design.

### 4.3 - WEAVING PROGRAMS

These are grouped in files including the tag ".prg" and contain a chain of designs to be woven. Creating a program requires defining several elements vital for interpreting these files.

- The nature of the part(s) of the program: DESIGN or GROUP.
- The number of executions of the part being created: either in relation to the number of picks or the number of executions.
- The number of times the program runs before weaving stops.

### 4.4 - AUTOMATIC NUMBERING FILES (OPTION F39261160)

They are placed in files having the extension ".cnt". Creating a file of this type requires that several elements, indispensable to the interpretation of these files, be defined.

- Name of the pattern.

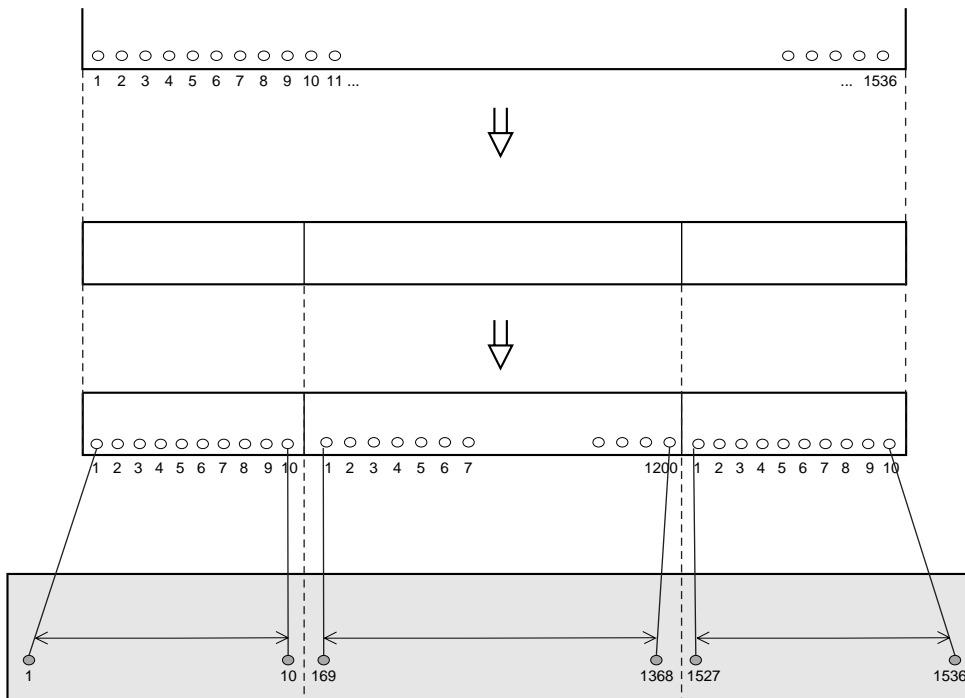




- The number of times the pattern runs before weaving stops.
- The definition of the various counters.

#### **4.5 - WEAVING LIST**

This function enables the programmer to select a list of pattern files which will be weaved sequentially without stopping the weaving machine (the principle resembles that of a printer's printing queue).



#### 4.6 - NOTION OF IMPORT/EXPORT FILTER

The JC5 controller is capable of reading design files of types JC3, JC4, CGS, BMP and those of other companies. To do this, you must use an import filter (already in existence or to be created), in order to permit the conversion of data into JC5 format.

The purpose of the export filters is to carry out the same operation but in reverse, e.g., by converting a JC5 file into a JC4 file.

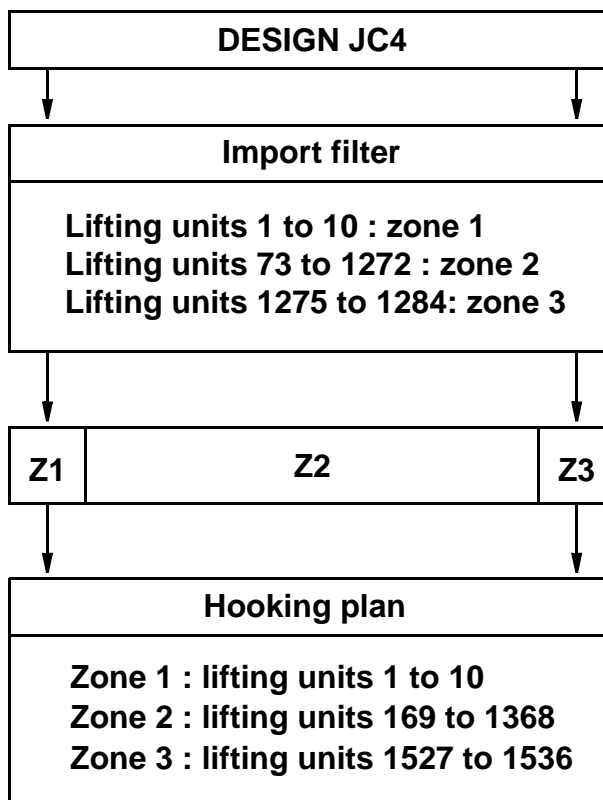
Although a JC4 design is always defined in a single zone (i.e. a ground zone cannot be distinguished from a selvedge zone, for example), the JC5 design can be either in one or several zones (possibility of separating colours, selvages, functions and ground weave).

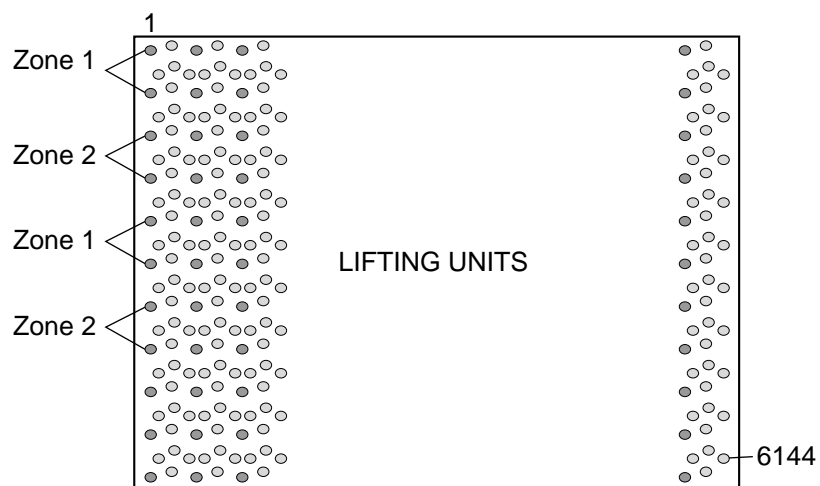


Left selvedge: zone 1 (Z1)      Ground: zone 2 (Z2)      Right selvedge: zone 3 (Z3)

It is therefore necessary to create a filter that permits definition of which lifting units of the JC4 will be in zones Z1 to Z3 of the JC5.

**EXAMPLE:**





### 4.7 - NOTION OF INTERLACING

Interlacing permits managing two types of different information on one range of threads. It is generally used in the case of velvet fabric (to separate 2 position modules from 3 position modules) or for Terry towel (display the pile threads separate from the ground threads).

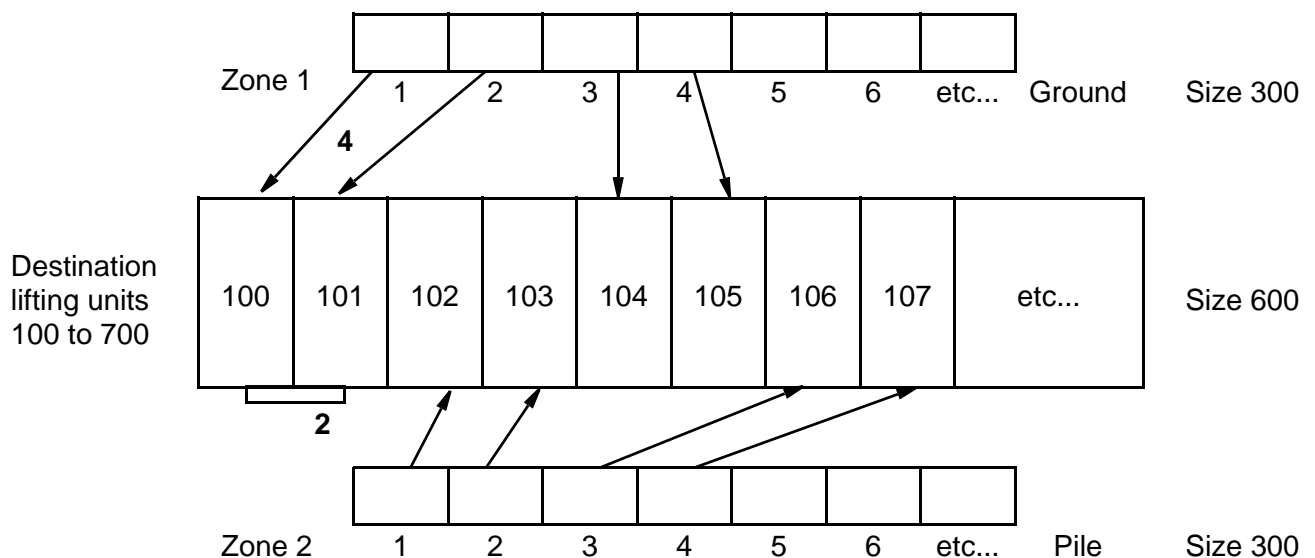
Example: case of Terry towel.

- Take a range defined on threads 1 to 600.
- On this range, 2 ground threads are alternated with 2 pile threads.

thread range: 1 to 300 (for the 2 zones)

destination lifting units zone 1: 100 to 698

destination lifting units zone 2: 102 to 700



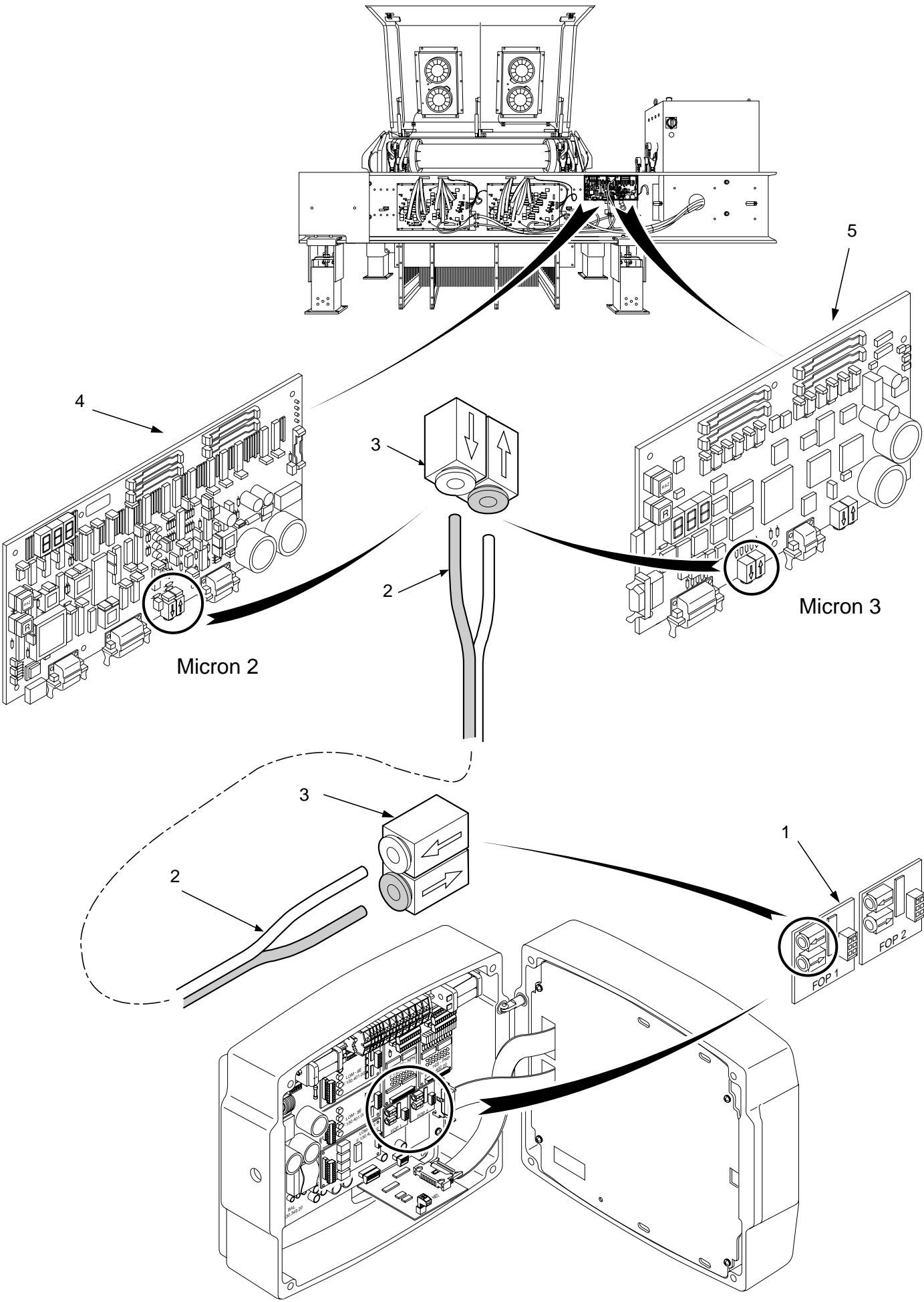
The interlacing here is 2/4.

For these two zones, the range of threads is the same, but the first destination lifting unit is shifted by the value of the first number of 2/4 interlacing.

### 4.8 - FILENAME RESTRICTIONS

Filenames may consist of 256 characters on the JC5 hard drive. However, pattern names, weaving program names and hooking filenames must be limited to 22 characters, file extension included.

The "/" character is prohibited in filenames stored on the hard drive and JC3, JC4, JC4T, JC4B and CGS diskettes. The "-" character must not be the first character in the name. The " \* < > / ? : | + ; = [ ] . ' , " characters must not be used in filenames stored on JC5 diskettes.



## 5 - STARTING-UP

This chapter presents the different electric connections of the JC5 controller with its environment as well as the different steps required for its configuration.

### 5.1 - INSTALLATION OF THE CARDAN SHAFT

Before connecting the jacquard machine to the weaving machine, make sure that the emergency shut-down lockout on the weaving machine has been deactivated (see the weaving machine's operating manual and wiring diagrams).

### 5.2 - CONNECTIONS

This chapter presents the main connections. For more details about this, you can refer to the cabling diagram delivered with the controller.

#### 5.2.1 - CONNECTION OF OPTICAL FIBRE CABLES

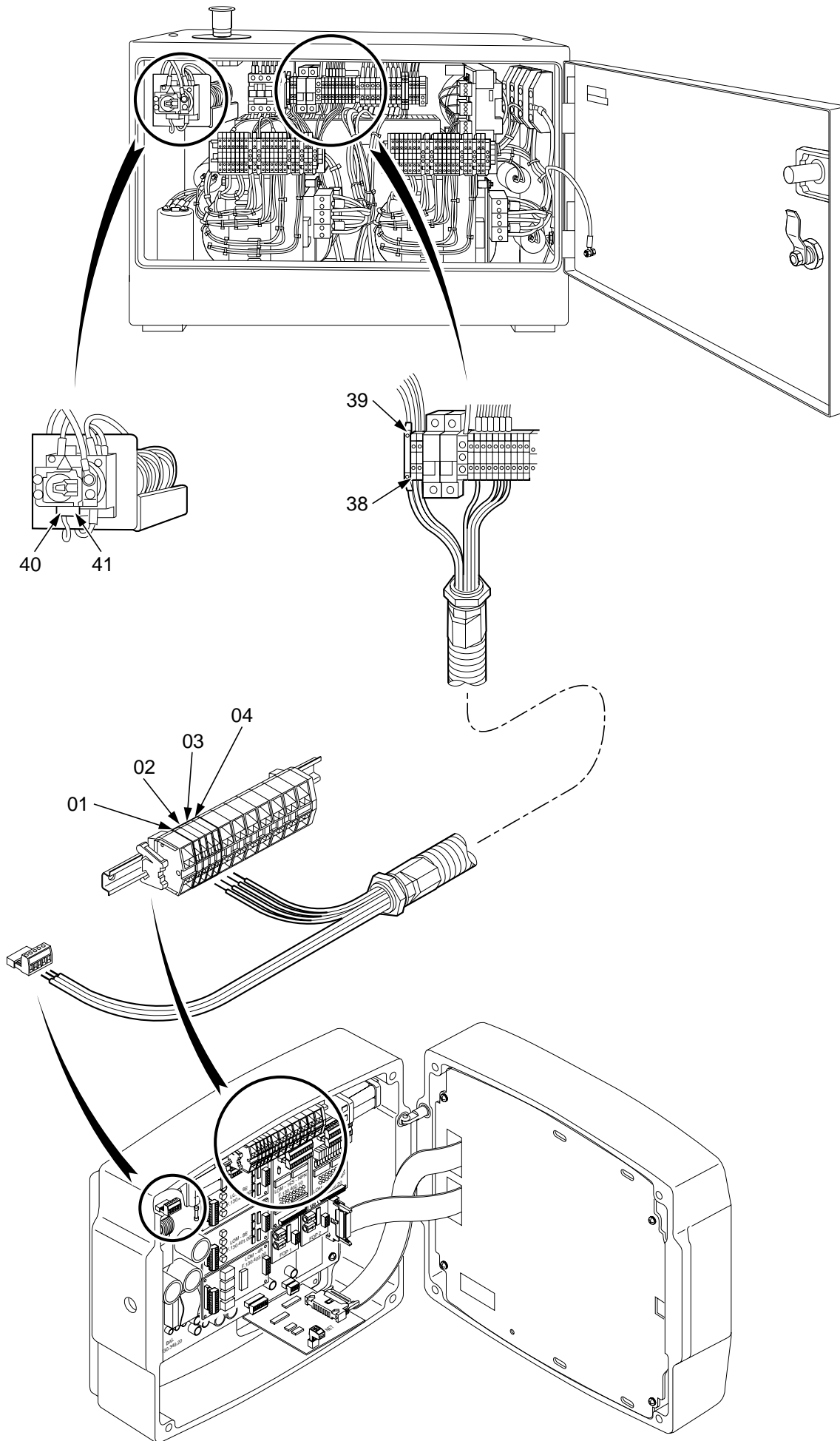
The optical fibre (2) and its connectors (3) are high technology components that must be handled with great care. The connection is used to route information between the JC5 (FOP board, item 1) and the Jacquard machine which is equipped with a micron 2 board (item 4) or a micron 3 board (item 5).

Introduce one of the strands of the optical fibre in the white socket on the micron board side and in the black socket, on the controller side. Carry out the operation in reverse for the remaining strand.

If you wish to cut the optical fibre (to separate the two wires or to shorten it), use the knife delivered with the controller.

#### **CAUTION**

The optical fibre must never be curved with a radius less than 30 mm.





### 5.2.2 - WIRING TO THE MAINS

Before performing this operation, make sure that all emergency shut-down circuits have been connected to the weaving machine.

### 5.2.3 - SUPPLY VOLTAGE

The JC5 is powered by a voltage of 33V (+/- 15%), delivered by the supply box of the Jacquard machine (terminals marked 38/39). Batteries inside the controller are provided to protect data in the case of power failure, for example.

#### **CAUTION**

**Before turning the installation's power back on, make sure that the connection on the primary winding of the Jacquard machine's power supply unit transformer corresponds to the mains voltage.**

### 5.2.4 - EMERGENCY SHUTDOWN

This permits immediate stopping of all actions whatever the mushroom button activated on the Jacquard machine.

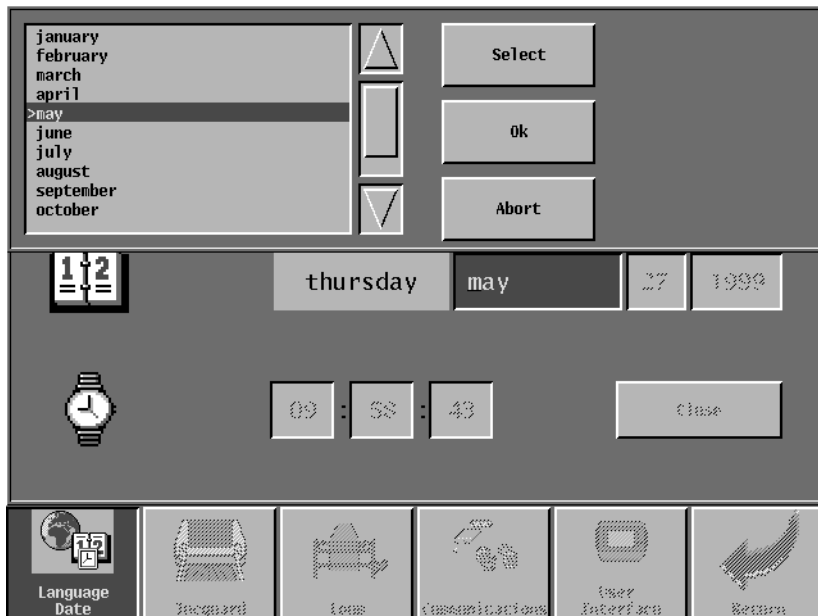
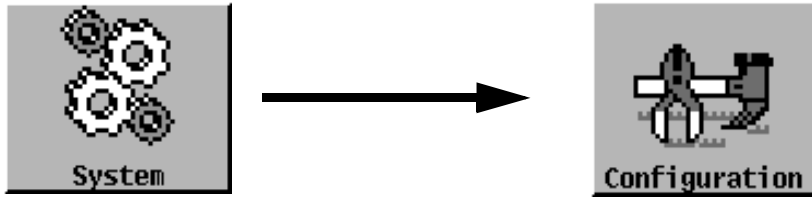
All the signals are grouped in the box of the Jacquard machine then sent to the terminals 03/04 of the controller.

### 5.2.5 - REMOTE CONTROL

The voltage supply of the remote control of the Jacquard machine switches is supplied by the weaving machine from the terminals marked 01 and 02 on the JC5.

#### **ATTENTION**

**Prior to beginning servicing or maintenance operations, shut off and padlock breakers.**



### **5.3 - JC5 CONFIGURATION**

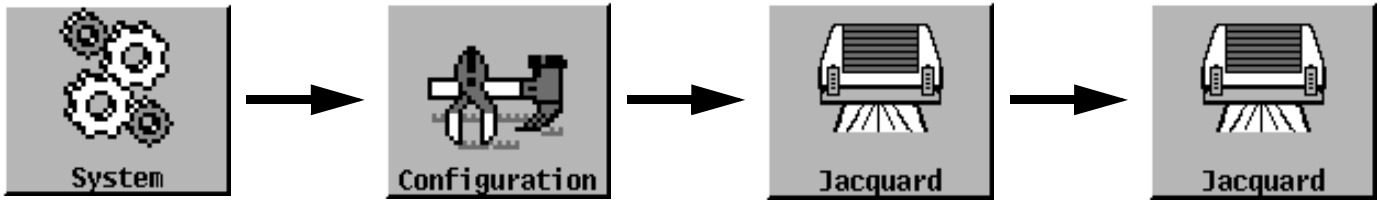
This is done before the device is used for the first time, in order to make it conform to the characteristics of the weaving machine it is to control. This operation only needs doing once, on reception of the product. Possible power failures and cut-offs do not affect the configuration.

This operation is done by using the different functions grouped by the SYSTEM icon of the main screen. Note that preconfiguration has already been carried out in the factory but customisation is possible (e.g., time or hooking plan).

#### **5.3.1 - CHANGING LANGUAGE AND DATE**

This permits choosing the language for the controller menu and setting the time and date. Theoretically, this is done in the factory.

- Language:  
Fill in the corresponding field by selected the desired language.
- Date:  
Fill in the day, month and year fields.
- Time:  
Fill in the hour, minute and second fields by using the numeric keypad.



**Jacquard configuration**

Number of optical fibers

> 1 : 1536 hooks depth 16 (Normal)

**Module arrangement in depth**

Modules 2 positions first row  number

Modules 3 positions first row  number

Nb picks/cycle

Hooking configuration file

**Jacquard configuration**

Number of optical fibers

> 1 : 1536 hooks depth 16 (Normal)

Jacquard Orientation

Drawing-in

640 hooks depth 16  
896 hooks depth 16  
1280 hooks depth 16  
1344 hooks depth 14  
1408 hooks depth 16  
> 1536 hooks depth 16  
2688 hooks depth 14  
2688 hooks depth 16  
3072 hooks depth 16  
4032 hooks depth 14  
4096 hooks depth 16

>Normal  
Reverse

>Default value for the format  
Straight  
Skip draw

### 5.3.2 - CONFIGURATION OF THE JACQUARD MACHINE

This permits informing the controller of the type of Jacquard machine(s) associated. To access this function from the main screen, proceed by successively touching the icons, as shown on the opposite page. You will then access the configuration screen.

#### 5.3.2.1 - "Jacquard configuration" (A)

##### **Number of optical fibres:**

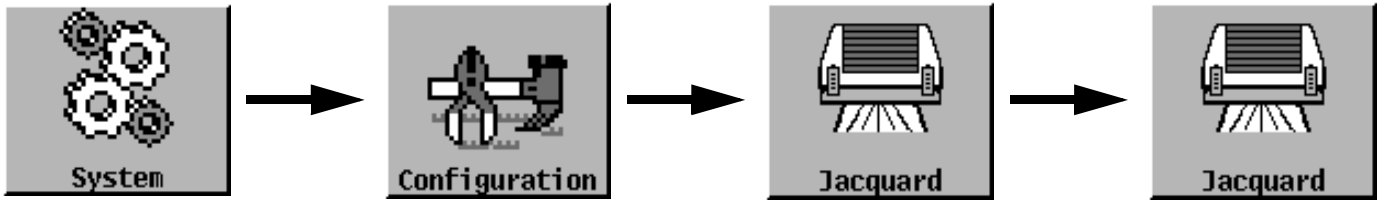
This depends on the number of optical fibres linked to the controller. The authorized values are 1, 2 or 3.

##### **Mechanical format:**

This defines the exact type of Jacquard machine, its orientation (normal or inverted) and the drawing-in system used.

This operation is done in the factory but verification is recommended.

- Press on the "Mechanical format" icon.
- Select the format appropriate for the Jacquard machine.
- Fill in the "Jacquard direction" field:  
Choose "Normal" if the electronics are located on the weaver side and "Reversed" if the electronics are situated on the loom roller side.  
This is necessary so that first collet is always located in the top left corner of the machine, as seen by the weaver.
- Complete the "Drawing-in" field:  
The possible values are "Straight", "Skip draw" or "Default value for the format". The last value equals an Skip draw drawing-in for 32 (depth) machine and a Straight drawing-in for other machine formats.



**Jacquard configuration**

Number of optical fibers

> 1 : 1536 hooks depth 16 (Normal)

**Module arrangement in depth**

Modules 2 positions	first row	<input type="text" value="1"/>	number	<input type="text" value="0"/>
Modules 3 positions	first row	<input type="text" value="1"/>	number	<input type="text" value="32"/>

Nb picks/cycle

Hooking configuration file

**B**

**C** →

### **5.3.2.2 - "Module arrangement in depth" (B)**

#### **2 position modules:**

By using fields "First" and "Number", you can determine the number of rows of modules and the position of the first row in the direction of the depth.

- Fill in the "First" field by giving the position of the first line.
- Confirm.
- Fill in the "Number" field by giving the number of ranges of 2 position modules.
- Confirm.

Generally, the value in the "first row" field is 1, and the value in the "number" field is equal to the total number of lines on the machine.

#### **3 position modules:**

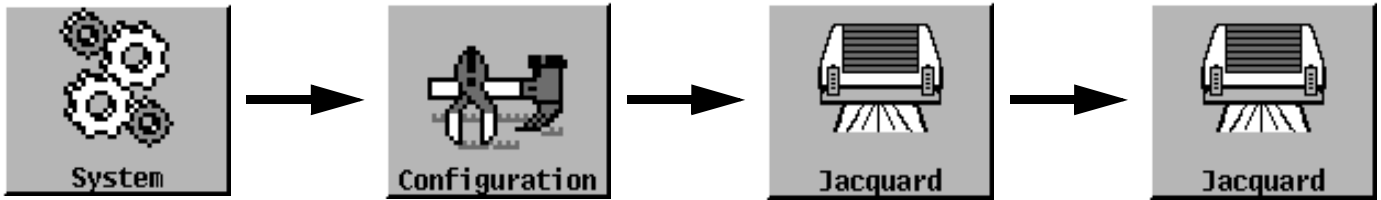
- Fill in this field only if the jacquard machine is equipped with a 3-position module.
- In this case, the sum of the lines for the 2-position modules and the 3-position modules must equal the total number of lines on the machine, without overlapping.

### **NOTE**

Line no. 1 is always on the loom roller side.

### **5.3.2.3 - "Number of picks per cycle"**

This field must be filled with the number of picks per cycle of the weaving machine.



**Jacquard configuration**

Number of optical fibers

> 1 : 1536 hooks depth 16 (Normal)

**Module arrangement in depth**

Modules 2 positions first row  number

Modules 3 positions first row  number

Nb picks/cycle

Hooking configuration file

**Select hooking configuration file**

\*.clt

- 12288-3pos.clt
- 144.clt
- 6144-3pm.clt
- colletage\_base.clt
- > default.clt
- essai.clt
- jc5n.clt



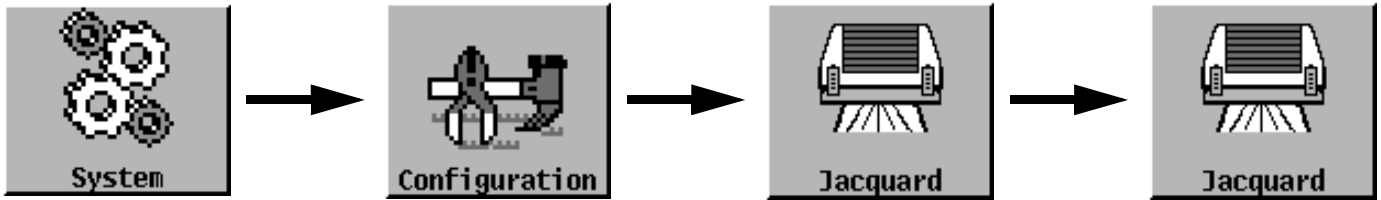
#### 5.3.2.4 - "Hooking configuration file"

This zone permits choosing the file describing the Jacquard machine's hooking. For more information on this new feature provided by the JC5, refer to chapter "Notion of hooking / hooking plan". Two files are already present in the memory. The first of them ("default.clt") is only a base file that can be modified to take into account the different elements, such as the VDI type serial link or the False Selvedge movements.

- **"default.clt" is the file useful to you.**
- **"hooking\_base.clt" reflects the mechanics of the machine and is not useful except for possible use by the after sales service.**

To select a configuration file:

- Fill in the "Hooking configuration file" field.
- Select a file already existing in the list offered.
- Confirm.
- If necessary, create a new hooking plan (see "Notion of hooking / hooking plan").
- Press on "confirm" to save the new configuration.



Select hooking configuration file

default.clt

New Modify Delete

Ok Cancel Select

12288-3pos.clt  
144.clt  
6144-3pm.clt  
colletage\_base.clt  
>default.clt  
essai.clt  
jc5n.clt

%. Cancel

New

Hooking definition

> 1 : Zone 1 1 yarn(s) starting at 1

Add Delete

Zone number 1

Allocation Collets - Modules 2 positions Direction Normal

Design hooks first hook 1 # of hook 1

Machine collets from 1 to 1

Collet interlacing Number 1 Repetend 1

Name

Save Save as ... Close

%. Cancel

>Collets - Modules 2 positions  
Collets - Modules 3 positions  
Electrical functions  
VDI functions  
CAN functions  
ESM functions

Select

Ok

Abort

### 5.3.2.5 - Editing and modifying a hooking plan"

The hooking plan permits defining how the data in the design file are distributed on the hooks of the Jacquard machine. For further information on this new feature provided by the JC5, refer to chapter "Notion of hooking / hooking plan".

#### **Editing:**

- Press on "New".
- A window called "Define hooking" is displayed.
- The symbol ">1 :" represents the first range.

Threads part of this first range are located in "zone 1".  
It is possible to edit several ranges within each zone.

#### **Editing the first range of the first zone:**

"Zone number":

Enter the number of the zone in which the range being editing is located ("1" here). The number of zones must be compatible with that used in the export filter.

"Assign":

This determines the type of the range (2 position module, 3 position module, electric functions, VDI functions for the serial link, False Selvage Movements). It should correlate with the nature of the area that has been chosen.

The electric function option permits carrying out one or more controller outputs (limited to a maximum of 40) on one or more hooks of the machine. For example, this can be used in the case of colour selection or for speed control.

"Mode":

This determines whether the range is assigned to the hooks from left to right ("Cont.") mode or from right to left ("Return") mode.

"Thread range":

This determines which threads of the design are selected in this range.

- "First": number of the thread corresponding to the beginning of the range.
- "Number": length of this range in number of threads.

"Destination lifting units":

This determines the lifting units to which the range of threads is associated.

"Lifting unit interlacing":

This determines the type of interlacing if any (see paragraph "Notion of interlacing").

"Name":

This permits giving a name to the range being created.

Hooking definition

1	:	Zone	1	1344	yarn(s)	starting	at	1
> 2	:	Zone	1	1	yarn(s)	starting	at	1

Zone number

Allocation 
 Direction

Design hooks first hook  # of hook

Machine collets from  to

Collet interlacing Number  Repetend

Name

Add

Save  
as ...

Name of hooking configuration file

\*.clt

- >144.clt
- 6144-3pn.clt
- colletage\_base.clt
- default.clt
- essai.clt
- jc5n.clt

Select hooking configuration file

\*.clt

- 12288-3pos.clt
- 144.clt
- 6144-3pn.clt
- colletage\_base.clt
- >default.clt
- essai.clt
- jc5n.clt

Modify

### 5.3.2.6 - "Editing and modifying a hooking plan" (cont.)

#### **Edit the second range**

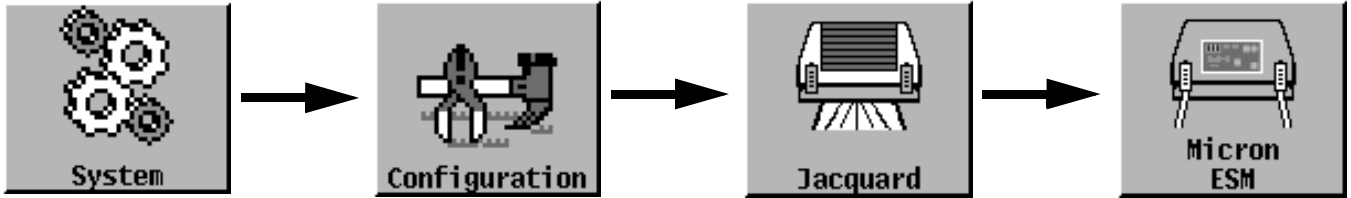
- Press on "Add": symbol ">2 :'" is displayed.
- Proceed in the same way as for the first range.
- Press on "Zone number" and determine whether this range is in the first zone or in the second.
- Once all the zones are defined, press on "Save as".
- Enter a name by using the alphanumeric keyboard.
- Confirm.

#### **Modify:**

- Select a hooking plan.
- Press on "Modify".
- Proceed in the same way as for creating.

#### **Note**

An error imputable to the overlapping of machine collet ranges, or to an electric output number which exceeds the maximum allowed value, triggers an error message and prevents the hooking plan from being saved.



Jacquard machine operations configuration

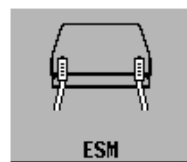
MC card test

Fan detection test

ESM in use

Magnet energizing angle

MICRON ESM



Electronic Selvages Motion movement configuration

Number of Electronic Selvedge Motions 1

Number	Shed	Phase diffe	Design
# 1	45 mm	+ 0 °	1/1
# 2	45 esp	+ 0 °	Inactive
# 3	45 esp	+ 0 °	Inactive
# 4	45 esp	+ 0 °	Inactive
# 5	45 esp	+ 0 °	Inactive
# 6	45 esp	+ 0 °	Inactive

MICRON ESM

> 45 mm

50 mm

55 mm

60 mm

65 mm

70 mm

75 mm

80 mm

85 mm

Inactive

> 1/1

2/2

3/3

4/4

5/5

6/6

Design

### 5.3.2.7 - "Micron board"

This option (initialized in the factory) permits or does not permit:

- Using Electronic False Selvage Movements (EFSM).
- The CIEL board error-troubleshooting test by the micron board.
- Testing the presence of fans on the Jacquard machine.
- The power supply period of the electromagnets.

### 5.3.2.8 - "EFSM"

Access to the different fields is only possible if the "EFSM Utilisation" line (in the Micron board) has been activated previously. The micron board will then automatically detect the number of EFSM and permit access to the corresponding fields.

From here, you can modify the values of the shed, phase jump and weave.

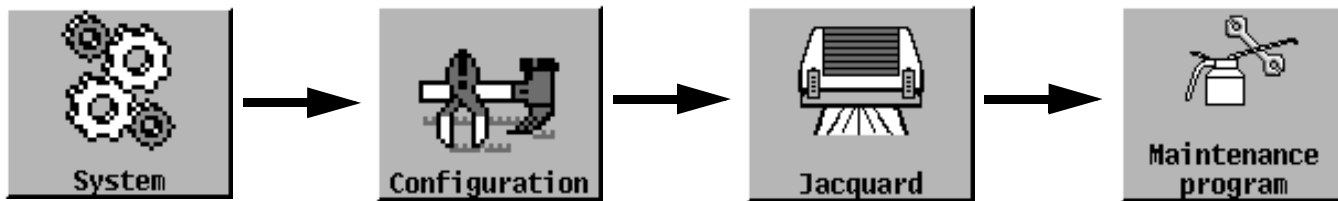
The following are available:

- 16 shed values by 5 mm steps (from 45 mm to 120 mm).  
Phase jump in relation to the cross-weaving from - 60° to + 60°.
- 7 types of standard weave 1/1, 2/2, 3/3, 4/4, 5/5, 6/6 and design.

The programming of the EFSM is then done automatically after pressing on Apply.

**CAUTION**

When selecting the "Design" weave, you must have activated an EFSM zone in the hooking file (see corresponding paragraph).








Maintenance of jacquard machine

---

Jacquard machine type:

Machine environment:

---

 Jacquard	 Nicomp ES4	 Maintenance program	 Saving security	 Return
---	---	--	--	---

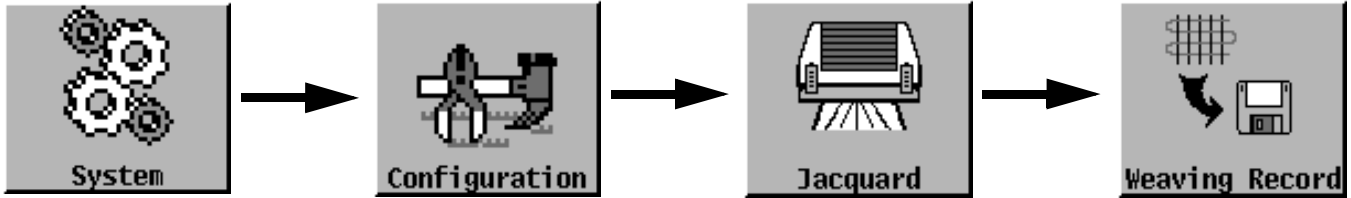


### **5.3.2.9 - "Jacquard maintenance"**

This configuration screen is only available if the Jacquard's maintenance program follow-up option is installed on the controller (see chapter "Maintenance of the JC5 controller").

This option allows you to select the type of Jacquard machine controlled by the JC5 as well as its operating environment. If your Jacquard is not indicated in the list of machine types, this means that its maintenance program is not yet available on the JC5. In this case, select the "Maintenance program deactivated" option.

The machine's operating environment influences the filter changing and cleaning periods.



Weaving record configuration

Record on hard-disk

Record using TELNET protocol

Record using STÄUBLI protocol

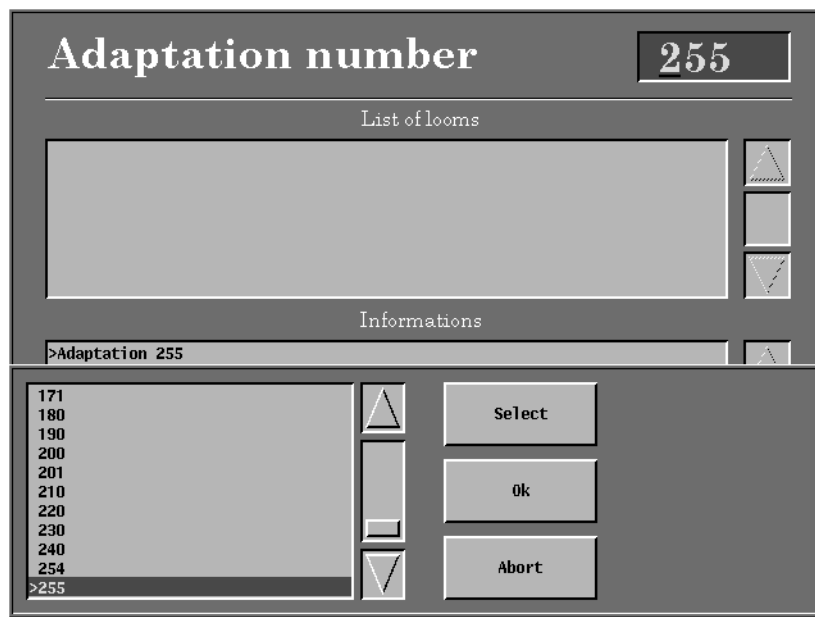
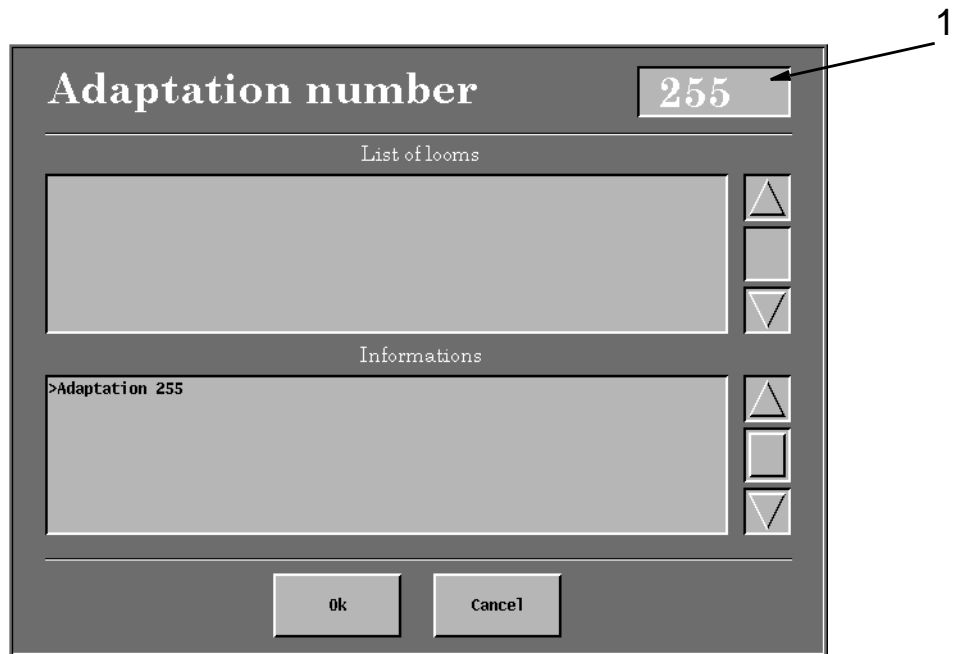
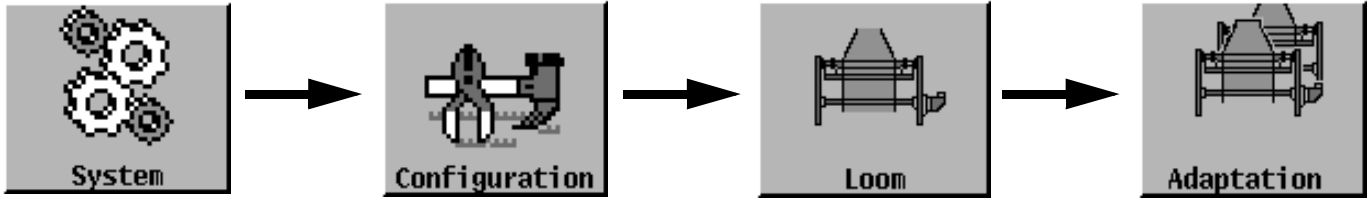
STÄUBLI protocol connection port number

---

**5.3.2.10 - "Weaving record"**

This option permits you to choose the method for transmitting production follow-up information to the network server. The method depends on the network server and must be provided by its supplier. If there is no server, all the options must be invalidated.

By default, no option is selected ex-works.



### 5.3.3 - WEAVING MACHINE CONFIGURATION

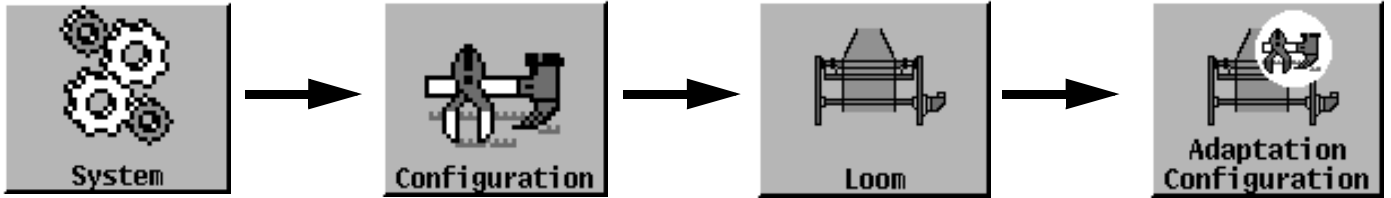
This allows you to adapt the functions of the JC5 to the weaving machine. Select the Loom icon in the Configuration option menu, then Adaptation.

- **"Adaptation" (preconfigured in the factory).**

This permits determining what type of weaving machine is associated with the Jacquard machine.

- Fill in field (1).
- Select the adaptation desired according to the weaving machine.
- Confirm.

The adaptation number is written on the wiring diagram provided with the JC5.



P7200

DA status : UNUSED

Cycle : NORMAL 0 / 0 rounds

Open shed : Forward  Reverse

Close shed : Forward  Reverse

Inputs

Run	Emerg..	DA	Reset	Open	Close	Forwar	Reverse	Brake
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Outputs

DA forward	DA reverse	JM ready	Open	Close	Normal
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

①

IWAMA

DA status : UNUSED

Cycle : NORMAL

Inputs

Run	Slow motion	DA	Forward pickfinding	Reverse pickfinding
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Outputs

DA forward	DA reverse	DA ON	Forward lock	JM ready
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

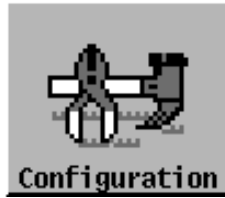
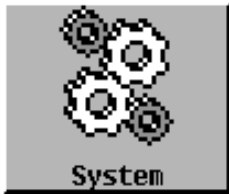
②

### **5.3.4 - ADAPTATION CONFIGURATION**

The "Adaptation configuration" key is only present in the JC5 menu if the weaving machine is equipped with a DA40 aid device controlled by the JC5.

The "Adaptation configuration" function permits visualizing and modifying the status of the aid device for the adaptation of number 053 (screen 1).

The "Adaptation configuration" function permits visualizing only the status of the aid device for the adaptation of number 133 (screen 2).



Serial ports Configuration

Terminal rate : 38400 bauds

---

Network Configuration

IP Addresses

Controller : 192 100 100 140 Server : 192 100 100 131

Username : staubli

Password : \_\_\_\_\_

Login prompt : login:

Password prompt : Password:

Filename filter :  on controller  on server

Apply Abort

---

Language Date | Parquette | Loop | **Communications** | User Interface | Return



### 5.3.5 - SERIAL LINK / NETWORK CONFIGURATION

This option allows you to operate the controller on the network and provide it with information required for the correct operation of the serial link.

- **"Serial link configuration"**

This initialises the transmission speed of the serial link between the terminal and the JC5.

- Fill in each field with the transmission speeds proposed.
- Confirm.

- **"Network configuration"**

Controller:	Enter the controller's IP address on the ETHERNET network.
Server:	Enter the IP address corresponding to the server on the ETHERNET network.
Username:	Enter the username defined on the server.
Password:	Enter the user password defined on the server.
Login prompt:	A string of characters sent by the server during a connection request.

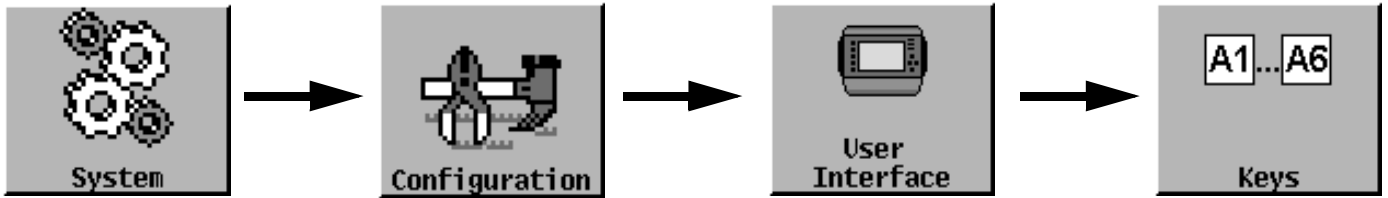
The controller answers with a string of characters specified on the Username line.

Password prompt: A string of characters sent by the server during a password request.

The controller responds with a string of characters specified on the Password line.

Filenames can be filtered on the controller (default value) or on the server if allowed.

These parameters must be defined in collaboration with the network server supplier.



Configuration of A1-A6 keys

A1	S802 Mise en route de l'enregistreur d'événements dalle
A2	S801 Arrêt de l'enregistreur d'événements dalle
A3	S803 Rejoue un enregistrement d'événements dalle.
A4	Key not assigned
A5	Key not assigned
A6	S800 Hard copy of screen into a BMP file

Configuration of key A6

Select function :

S021 Import all JC4 designs from diskette.	<input type="button" value="Up"/> <input type="button" value="Down"/>
S022 Calculator	
S023 Assembly of two JC5 designs.	
>S800 Hard copy of screen into a BMP file	
S801 Arrêt de l'enregistreur d'événements dalle	
S802 Mise en route de l'enregistreur d'événements dalle	
S803 Rejoue un enregistrement d'événements dalle.	

Detailed description :

Hard copy of screen into a BMP file

### 5.3.6 - USER INTERFACE CONFIGURATION

This permits customising the function keys (located on the left of the screen) as well as the screen size, if necessary.

- **"Keys A1 ➔ A6":**

This function enables the user to assign a function to each key (A1, A2, A3, A4, A5, A6) to fit his/her own specific needs.

- All 6 keys are displayed on the touch pad.
- Press on the key of your choice to allocate it a function.
- Select the function desired.
- Confirm.
- Press "Save" to confirm the modification.

The "Factory configuration" keypad permits restoring the initial function (ex-works) of each key.

- **"Panel calibration":**

This function allows you to readjust the touch screen's position in relation to the display.

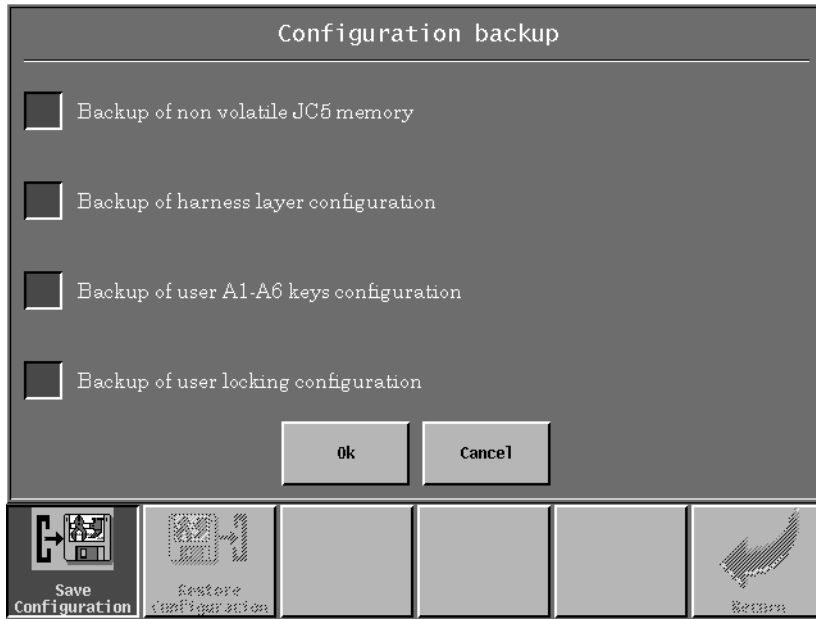
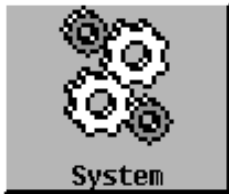
This operation must be done in case of replacing the CPU board and on reception.

- Press "Panel calibration".
- The screen goes black and a target appears in each corner.
- Using the STAUBLI stylus supplied with the JC5, press precisely on each the black dots located in the centre of the whites circles.

Doing so will recentre the screen in relation to the coordinates of the four impact points.

- **"Screen background":**

This function allows you to choose a screen background from a list of ".bmp" files. This screen is displayed instead of the main screen. This file must be in BMP format, 640 pixels wide by 480 pixels high and 16 levels of grey.



### **5.3.7 - BACK-UP / RESTORE OF CONFIGURATION**

You can back-up the previous configuration parameters (on floppy disk) in order to retrieve them later if necessary (e.g., when changing the CPU board).

This function is accessed via the MAINTENANCE icon, then the CONFIGURATION DISK.

You can then retrieve this backup.

We strongly recommend making this backup as soon as the configuration is satisfactory.



**Current weaving status**

Loom	Forward stopped	0	Rpm
Program	default.prg		
Execution	1 / ∞		
Pick	1 / 379	Cycle	1
Design	ARMPIQ.jc5	<input type="button" value="View"/>	
Execution	1 / 1		
Pick	1 / 379	in cycle :	1
Cycle	1 / 379	( 1	picks / cycle )

Current weaving

Designs

Weaving program

System

Protection

- 5
- 4
- 3
- 2
- 1

**Change current weaving**

\*.prg

```
>Selvedge.prg
default.prg
default1.prg
kein-Name.prg
kein-Name2.prg
```

Current weaving

Designs

Weaving program

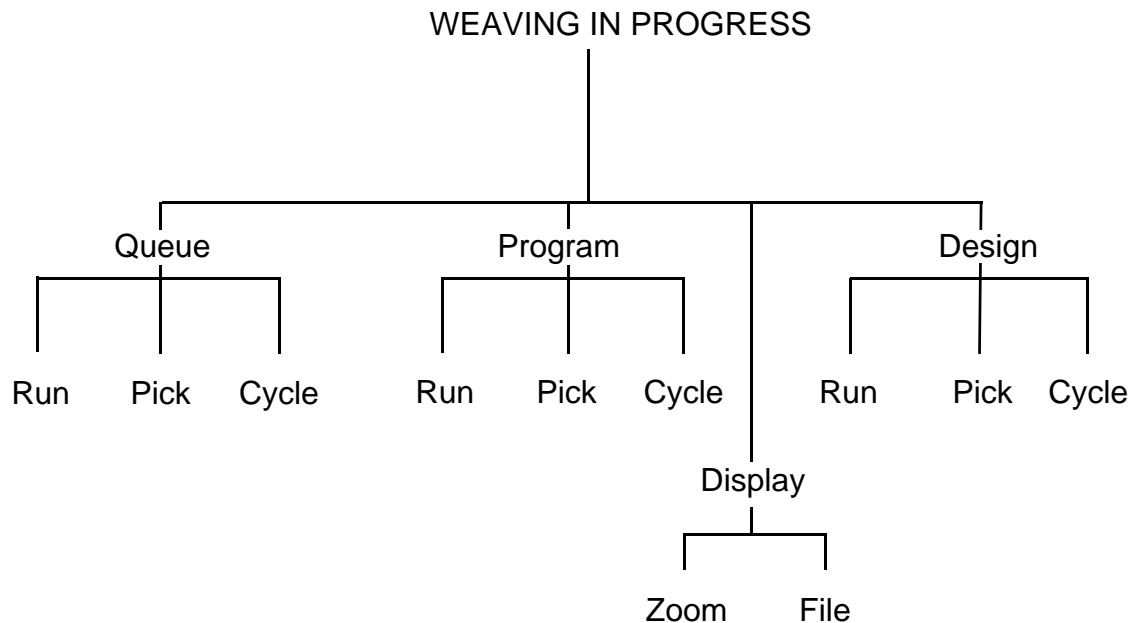
System

Protection

## 6 - WEAVING IN PROGRESS

This permits more detailed display of the design or weaving program in progress.

### 6.1 - STRUCTURE

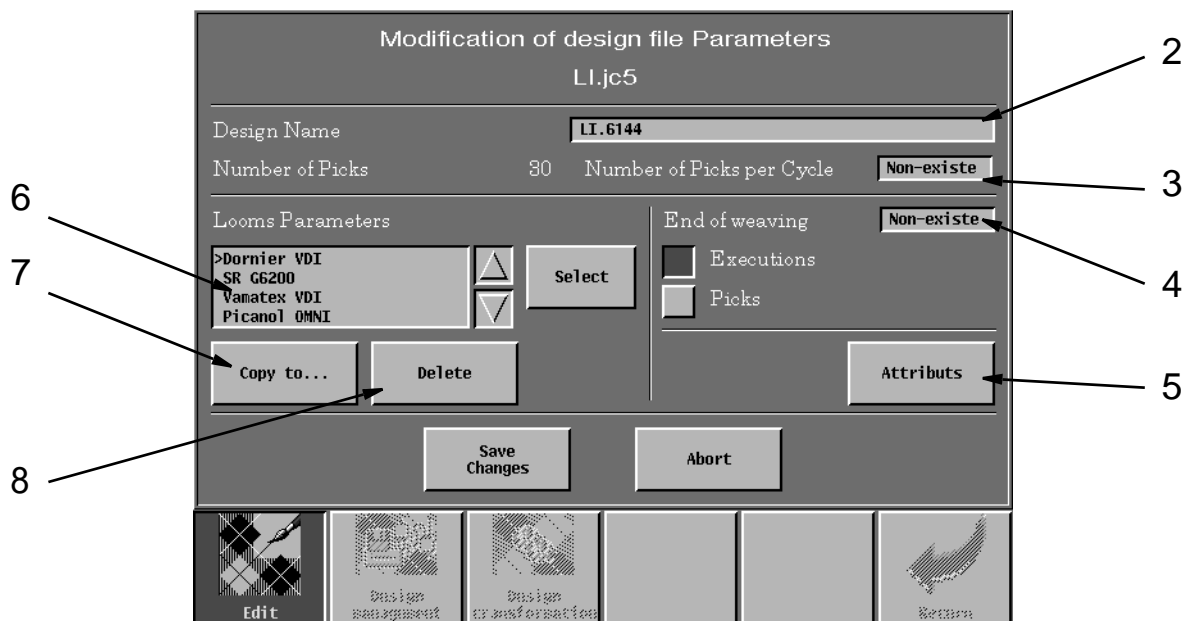
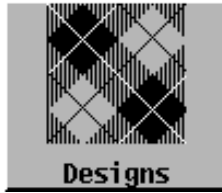


### 6.2 - DESCRIPTION

- Loom line:** gives the machine's status and its speed.
- Program line:** gives the name of the program of the current weave. You can modify it by filling in the field and selecting a file from the list offered. This is only possible when the weaving loom is stopped.
- Run line:** gives the number of the run in progress out of the total number of runs.
- Pick line:** gives the number of the pick in progress out of the total number of picks in a run.
- Design line:** gives the name of the design in progress out of the weaving program in progress.
- Cycle line:** gives the number of the cycle in progress out of the total number of cycles and the number of picks per cycle.
- See:** permits visualising the design during weaving. Only the ZOOM and FILE functions are available. The QUIT option is under the FILE icon (see chapter "Edit a design").

The values in fields 1, 2, 3, 4 and 5 can be changed provided that their values correspond so that the weave is resumed at a specific point.

The "Reset" button enables weaving to be started from the beginning: first pick of the first execution. Resetting is not possible in list mode.





## 7 - MODIFY/EDIT A DESIGN

These operations permit visualising and modifying binding points and the parameters of a design file. They are grouped under the EDIT icon of the DESIGN function. To do this, select a design in the list (1) offered.

### 7.1 - PARAMETERS

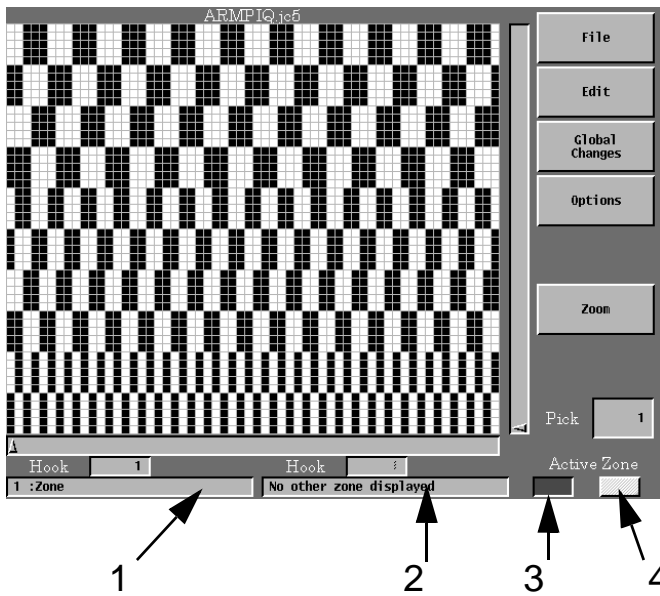
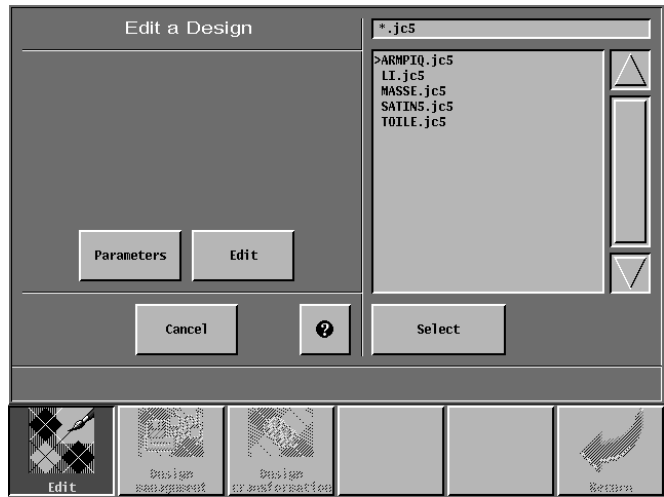
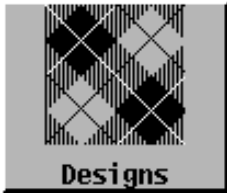
- Field (2): Design name.
  - Indicates the name of the design file and its format.
  - The name can be changed by pressing on it.
  
- Field (3): Number of Picks per Cycle.
  - Indicates the number of picks per cycle, either as the number of picks or as the number of executions.
  - This field is primarily used for weaving Terry towel.

The "Number of Picks" line displays the total number of picks in the design and cannot be modified from this menu. All of these parameters define the characteristics of the "current weaving" of this design.

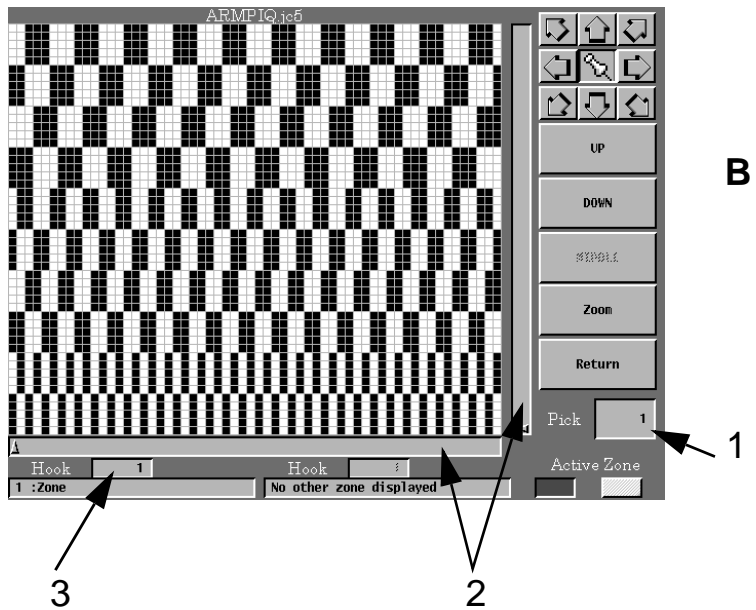
- Field (4): End of weaving.
  - Allows you to program automatic shutdown into the design file, either after a certain number of picks, or after a certain number of executions.
  - First, select "Executions" or "Picks".
  - Enter the desired value.
  - Confirm.

Button (5) 'Attributes' allows you to display and modify pattern attributes (number of rapiers, ...). List (6) presents the weaving machine parameters in the pattern. These parameters are intended for the weaving machine and contain information relative to the density, warp tension or end of weaving information.

Buttons (7) and (8) respectively allow selected parameters to be copied to another pattern or to deleted from the current pattern.



A



B

## 7.2 - EDIT A DESIGN

This permits visualising and carrying out different operations on a selected design. You can then modify the binding points from time to time via the Edit icon.

The "Global Changes" option permits bigger changes regarding picks, hooks and zones.

### - DEFINITION OF THE ACTIVE ZONE (A)

- A JC5 design can be defined in several zones.
- The editor permits the display of two of these zones at the same time.
- At the bottom of the touch screen, two fields (1) and (2) display the name of the corresponding zone.

To display two zones:

- Fill in field (2).
- The list of zones composing the design being edited is displayed.
- Confirm your choice.
- The screen is split into two to display the two different zones.
- Keys (3) and (4) permit activating the left and right zone respectively.

The modifications (except those concerning the picks) and the direction of the cursor only apply to the active zone.

### - ZOOM

This permits editing the design in the three different formats:

1st zoom: 232 hooks per 200 picks

2nd zoom: 29 hooks per 25 picks

3rd zoom: 58 hooks per 50 picks

Specific modifications are not possible in the first zoom.

When zooming, the window is always centred in relation to the cursor position.

### - EDITION (B)

This permits modifying the binding points of a design.

If you are working in a zone with a 2 position module, use the UP and DOWN keys to make the specific modifications. In the case of a 3 position module zone, you can use the additional MIDDLE key.

The directional keypad permits automatic movement of the cursor in the direction chosen, after modification of the point. The central key permits you to cancel this effect.

Other modes of moving the cursor:

- 1) By touching the screen at the place desired.
- 2) By pressing on the cursor movement zones (2) located at the bottom right of the design.
- 3) By filling in the "Pick" (1) and "Hook" (3) fields.

## 7.2.1 - MODIFYING A DESIGN

Different modification possibilities regarding picks, hooks and zones are accessible under the "Global Change" icon of the "Edit" function.

The changes only concern the active zone of the design, except of course the modifications regarding the picks. They must be saved by using functions (Save, Save as) in the FILE menu.

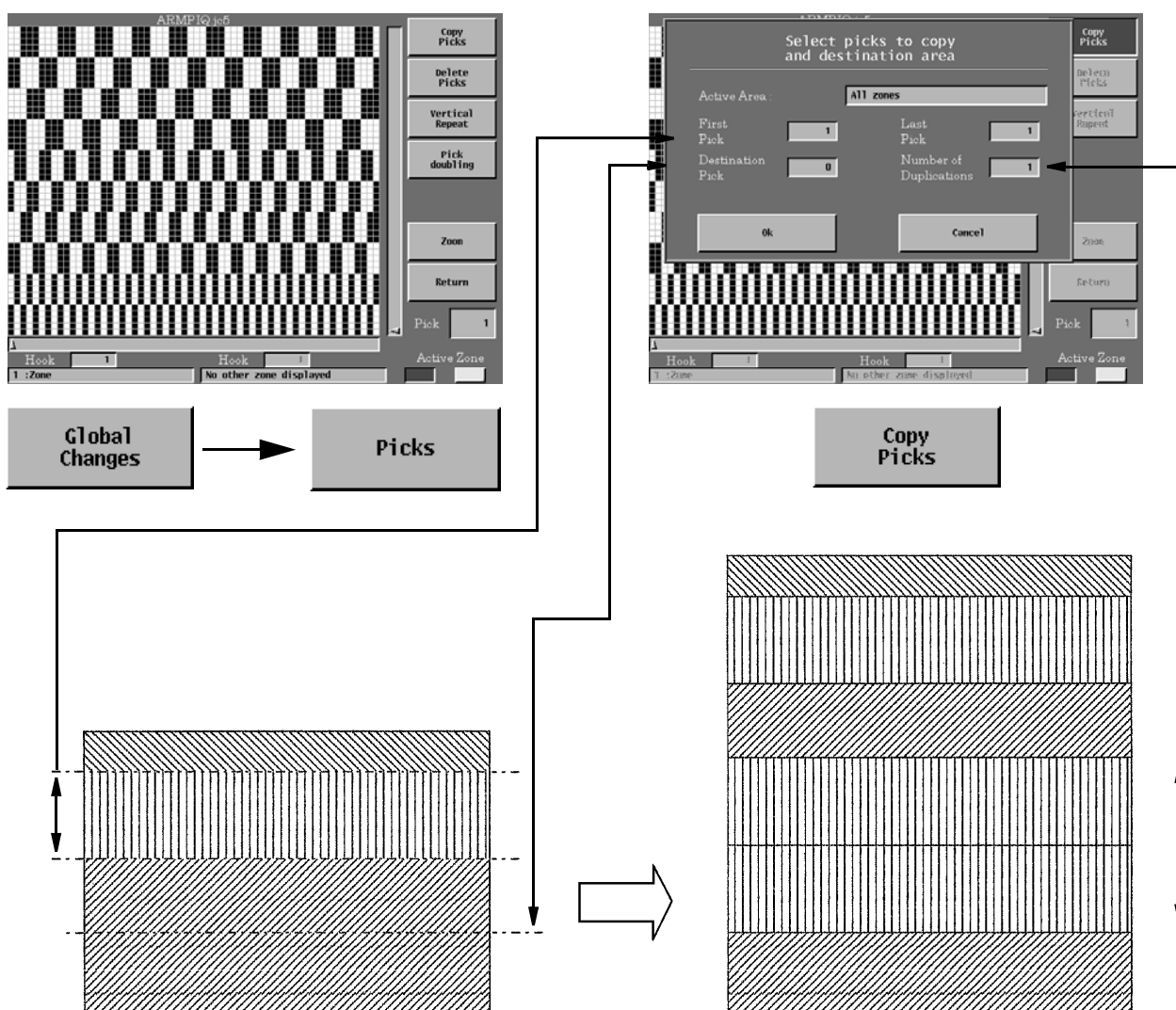
- **Picks:**
  - Copy picks (see page 77)
  - Delete picks (see page 78)
  - Vertical repetition (see page 79)
  - Pick duplication (see page 80)
- **Hooks:**
  - Copy hooks (see page 81)
  - Delete hooks (see page 82)
  - Insert hooks (see page 83)
  - Hook positioning (see page 84)
  - Switching hooks (see page 85)
- **Zones:**
  - Copy zone (see page 86)
  - Delete zone (see page 87)
  - Create zone (see page 88)
- **Inversions:**
  - Invert Heavy/Light (see page 89)
  - Invert Left/Right (see page 90)
  - Invert Top/Bottom (see page 91)

All these modifications take into account the type of machine modules (2 or 3 positions).

### 7.2.1.1 - Copy picks

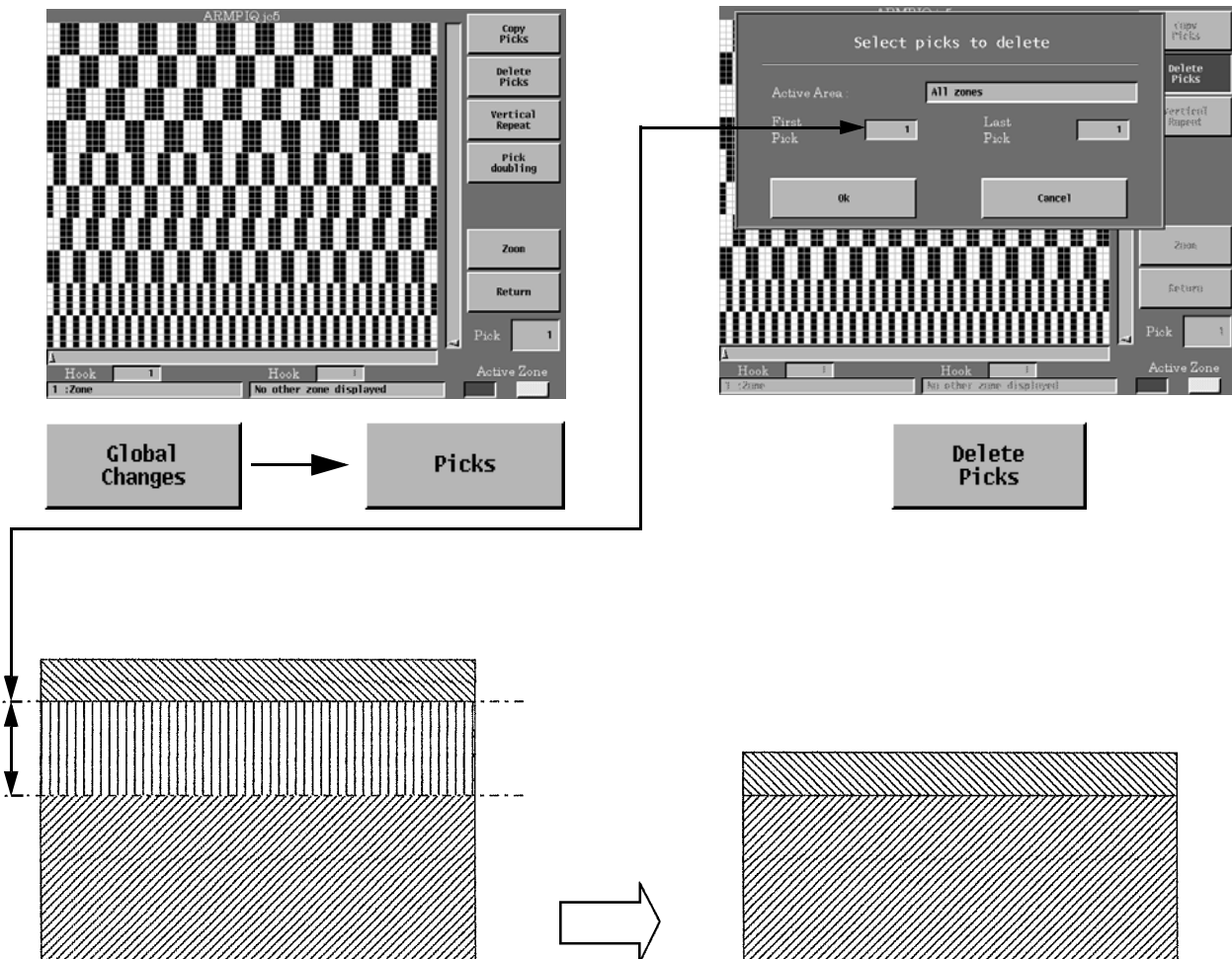
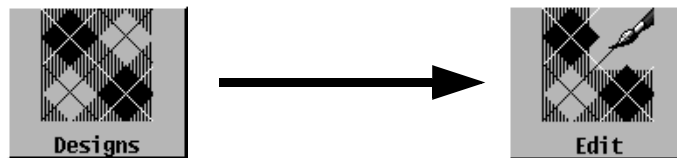
This permits copying the binding points of one or more picks of the design by multiplying them, if required.

The changes concerning the picks occur in all the zones of the design whatever the active zone on the screen. They must be saved by using functions (Save, Save as) in the FILE menu.



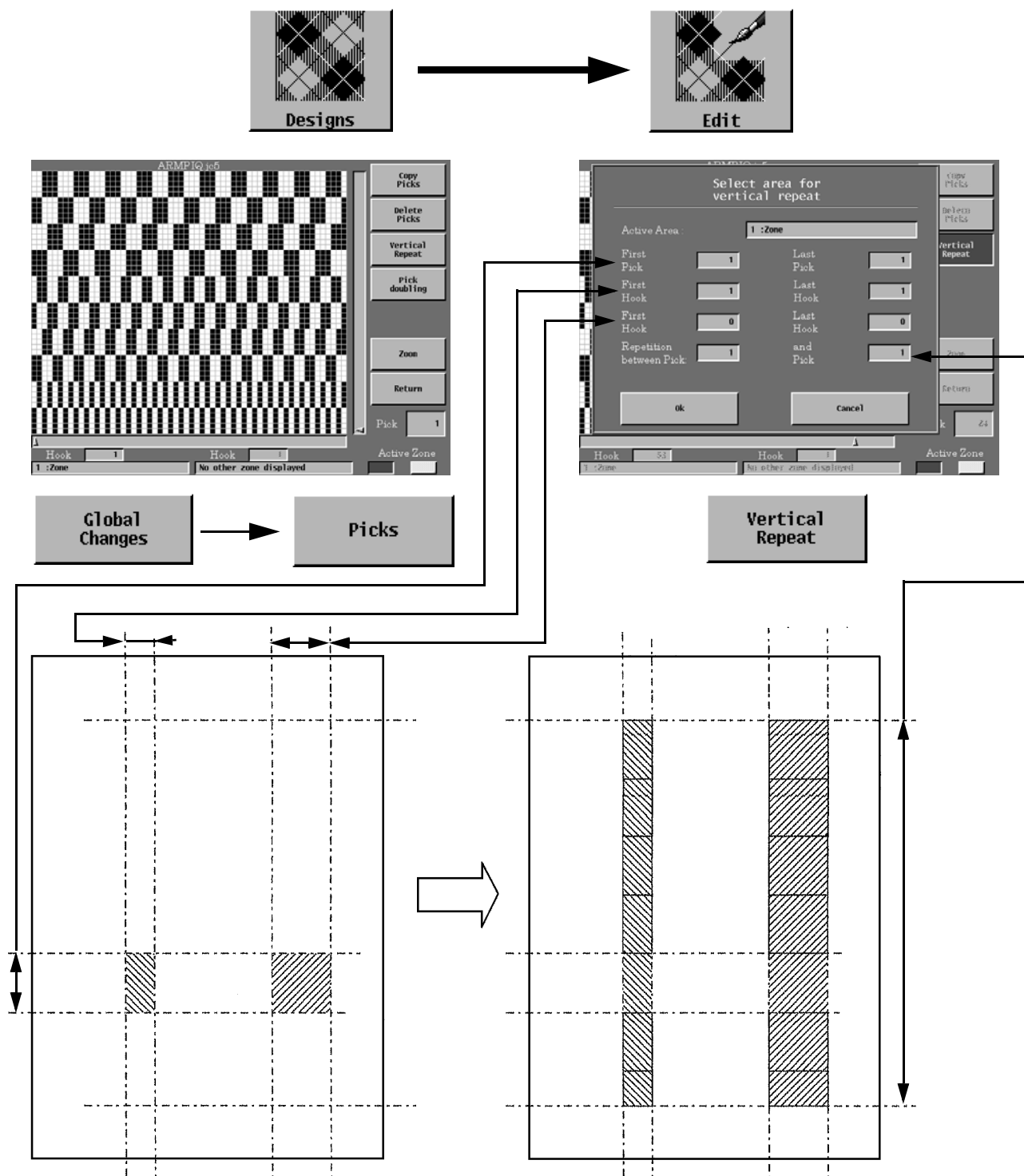
### 7.2.1.2 - Delete picks

This permits deleting the binding points of one or more picks of a design.  
The changes concerning the picks occur in all the zones of the design whatever the active zone on the screen. They must be saved by using functions (Save, Save as) in the FILE menu.



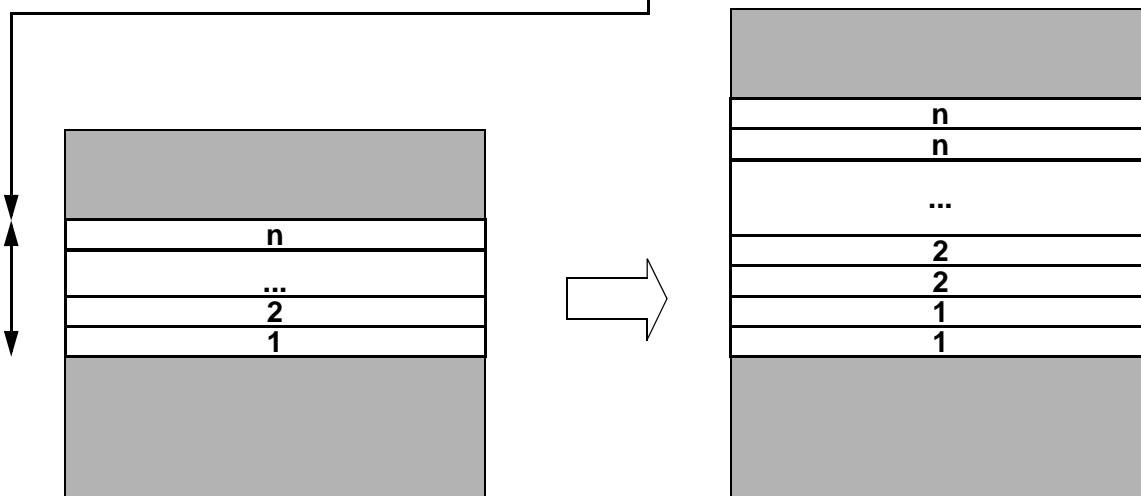
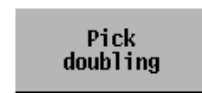
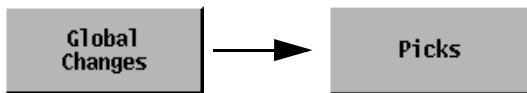
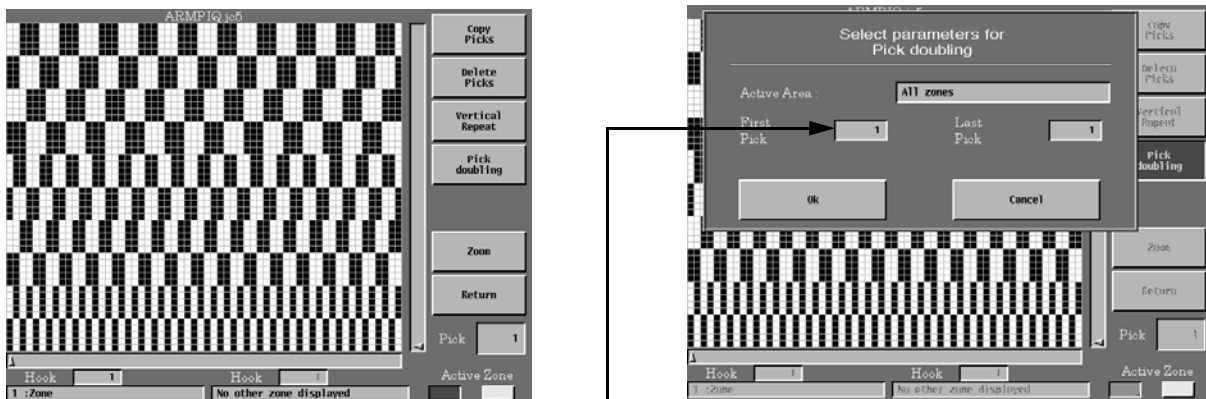
### 7.2.1.3 - Vertical repetition

This permits multiplying part of the pattern in the direction of the weft. These changes occur in the active zone. The modifications must be saved by using functions (Save, Save as) in the FILE menu.



### 7.2.1.4 - Pick duplication

Pick duplication allows you to double one or more picks of the design. These changes take place at active zone level. The modifications must be saved by using functions (Save, Save as) in the FILE menu.

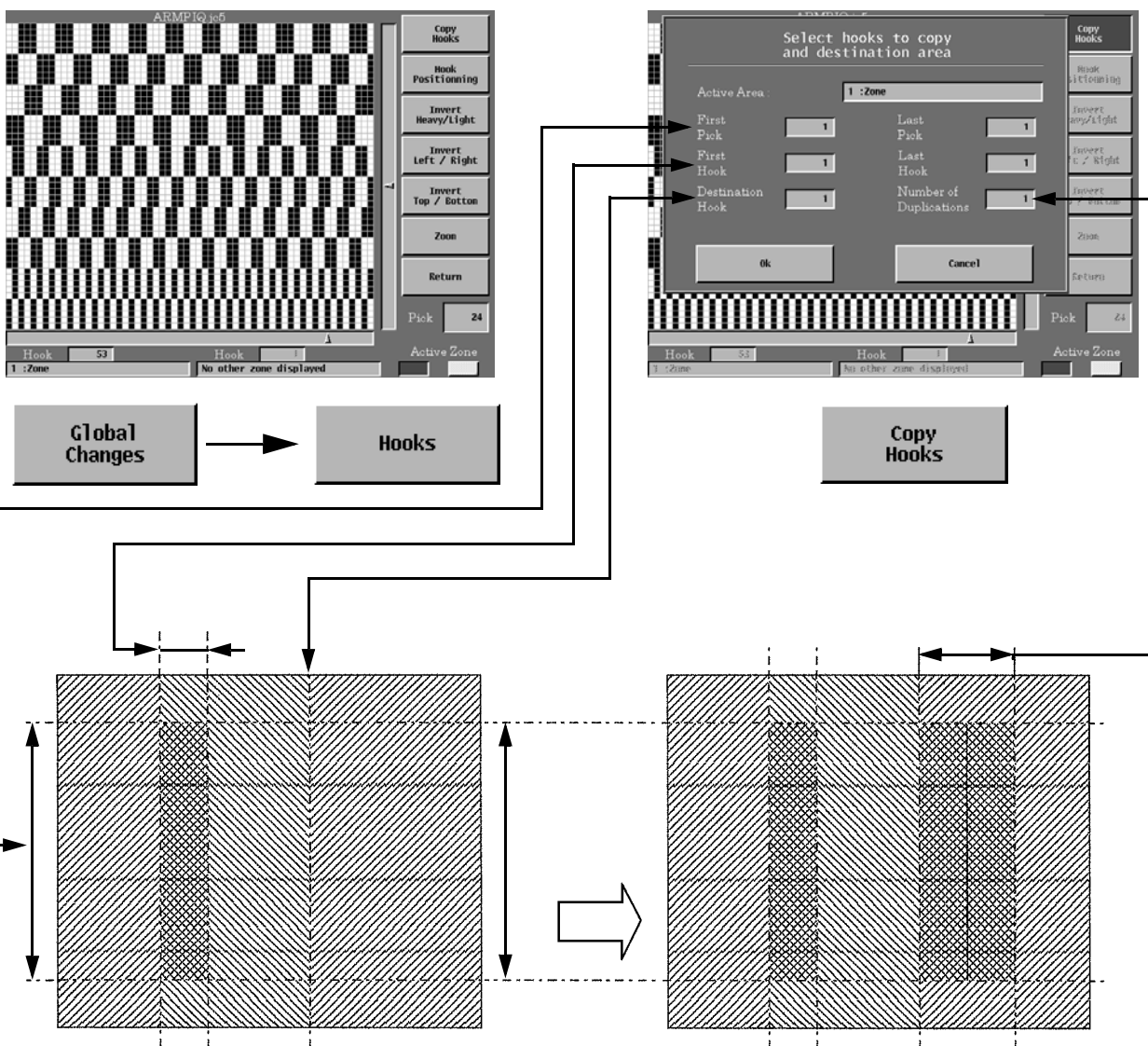




### 7.2.1.5 - Copy hooks

This permits copying the binding points of a hook or a group of hooks to another hook or group of hooks of a design, if required.

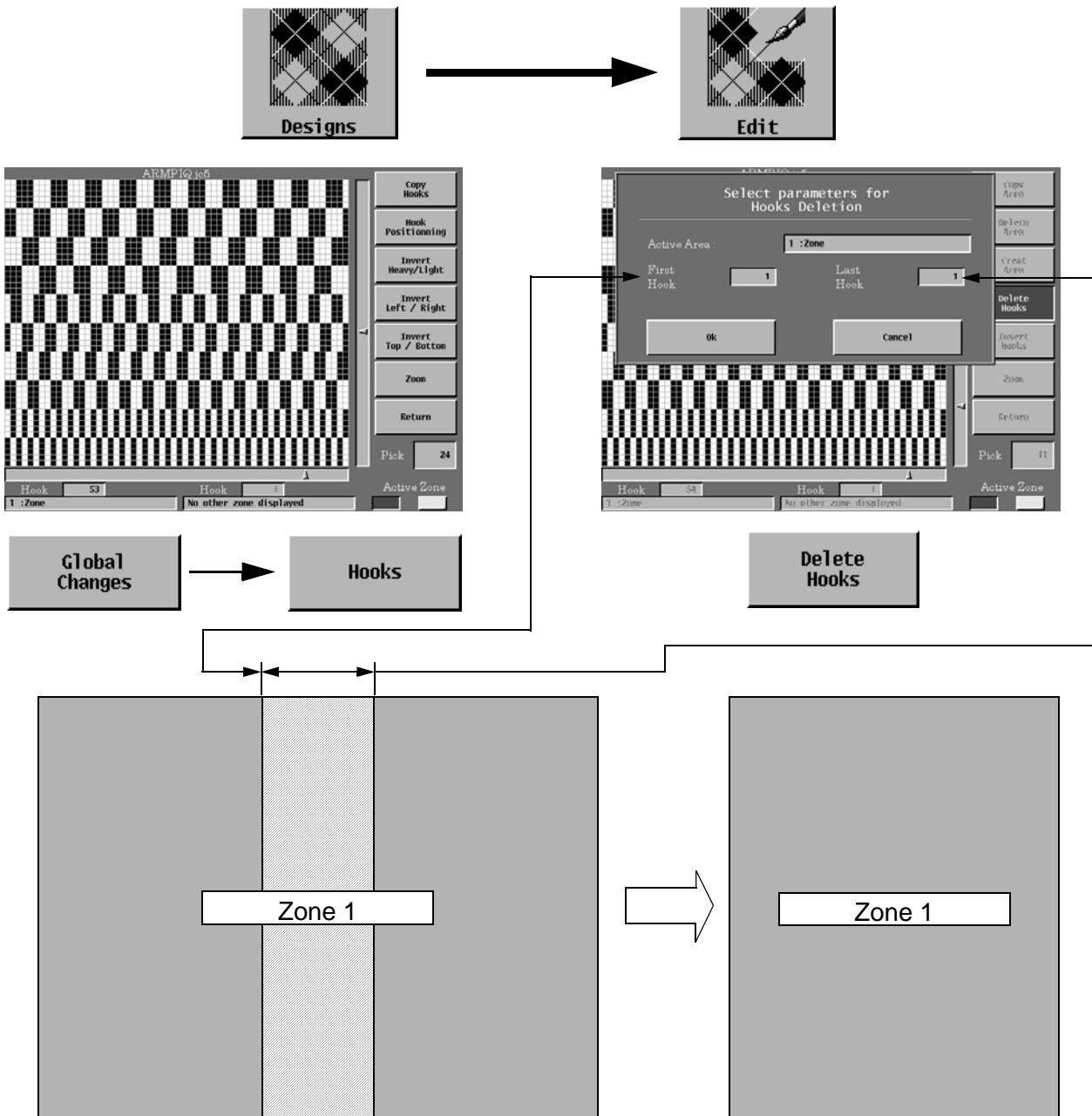
The changes made concerning the hooks are made in the active zone of the pattern. They must be saved by using functions (Save, Save as) in the FILE menu.



### 7.2.1.6 - Delete hooks

This permits deleting one or more hooks in a design. Deletion is done in the active zone. Deletion of all the hooks in a zone is not authorised (if necessary, use delete zone).

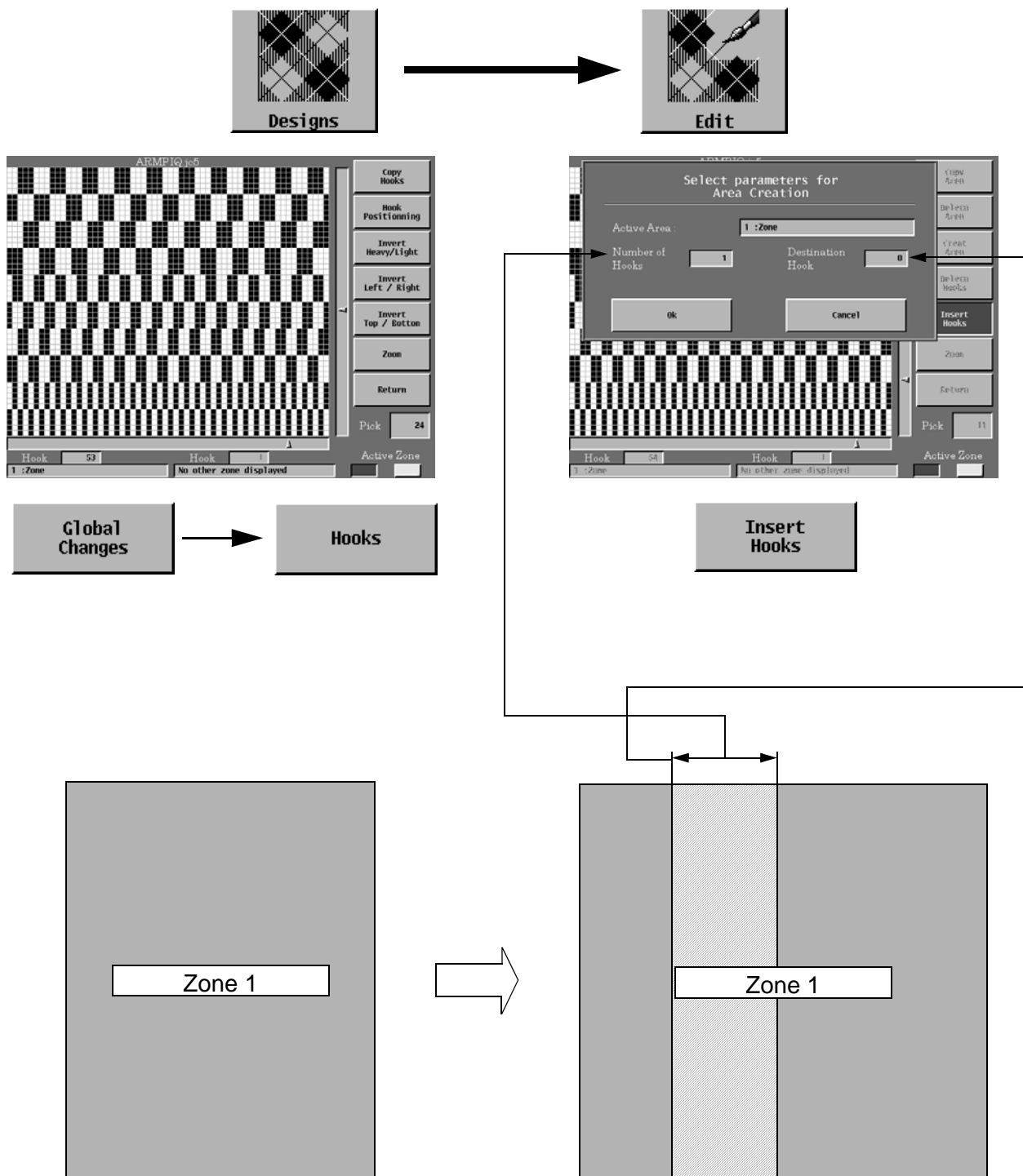
The changes must be saved by using functions (Save, Save as) in the FILE menu.



### 7.2.1.7 - Insert hooks

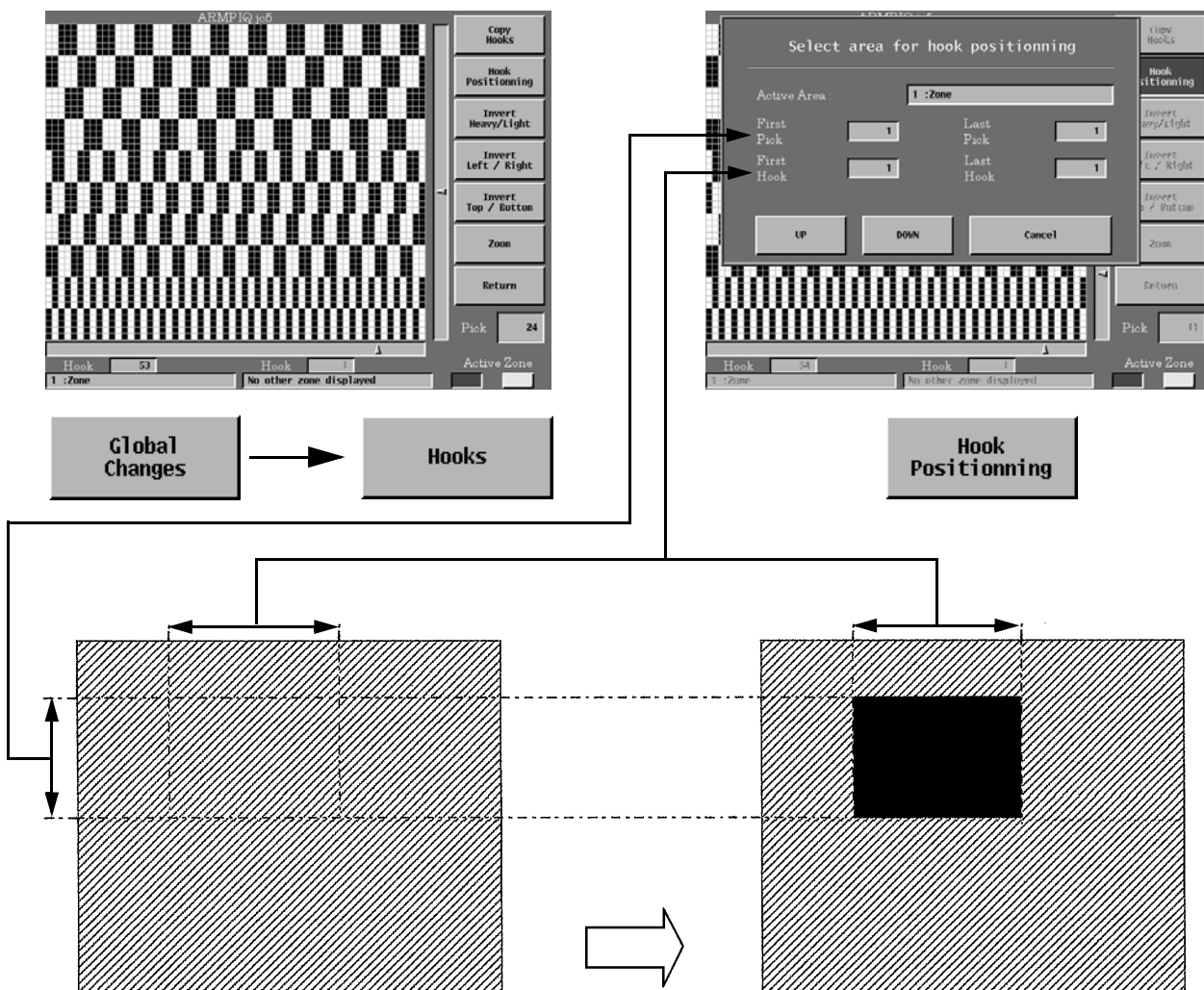
This permits inserting one or more hooks in a design. Insertion is done in the active zone.

The changes must be saved by using functions (Save, Save as) in the FILE menu.



### 7.2.1.8 - Hook positioning

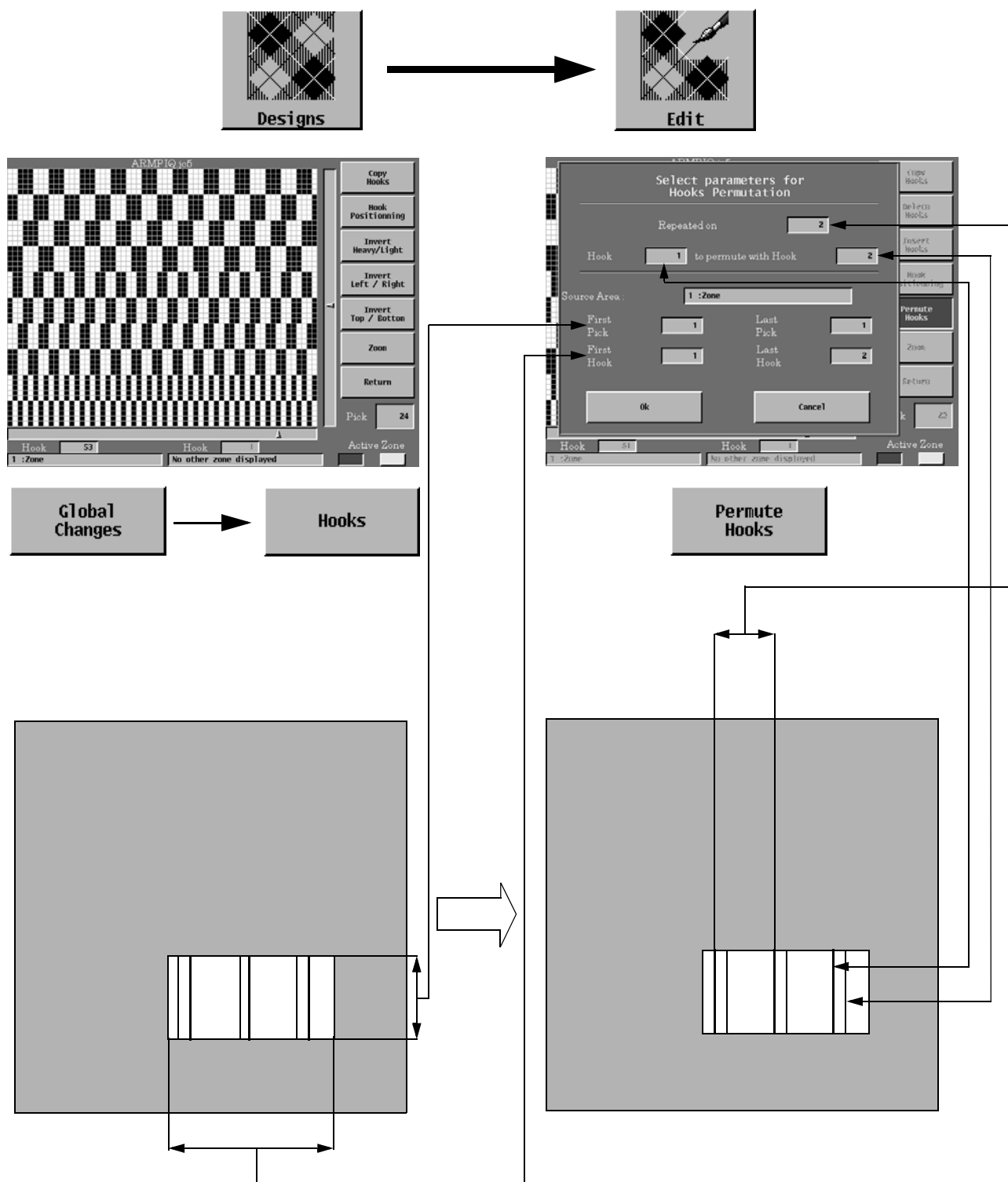
This permits modifying the binding points of part of a pattern. The changes concerning the hooks are made in the active zone of the pattern. They must be saved by using the (Save, Save as) functions of the FILE Menu.



### 7.2.1.9 - Switching hooks

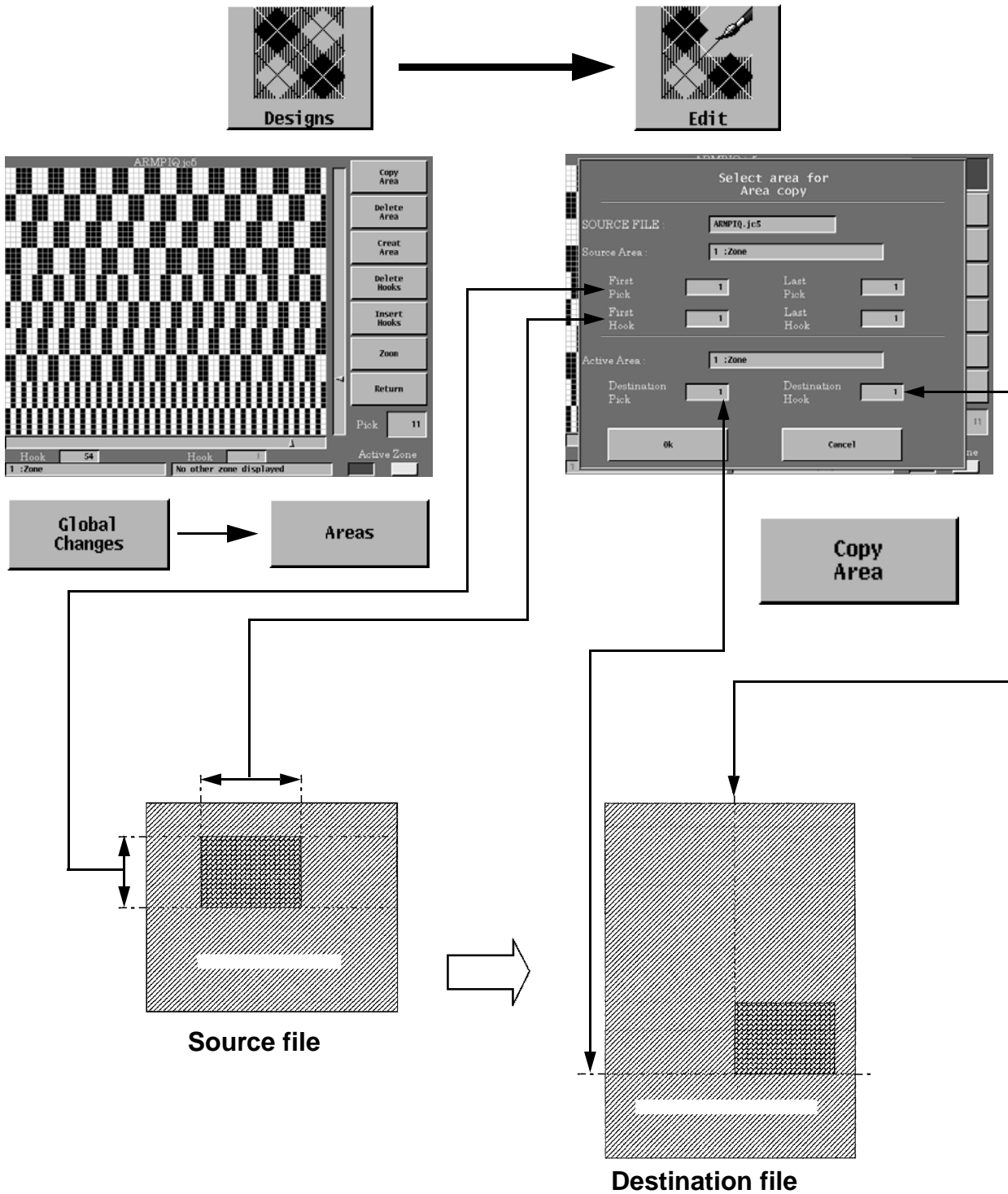
This permits switching pairs, with a repeat period, two binding points of part of a pattern.

These changes are made in the active zone. The modifications must be saved by using functions (Save, Save as) in the FILE menu.



### 7.2.1.10 - Copy zone

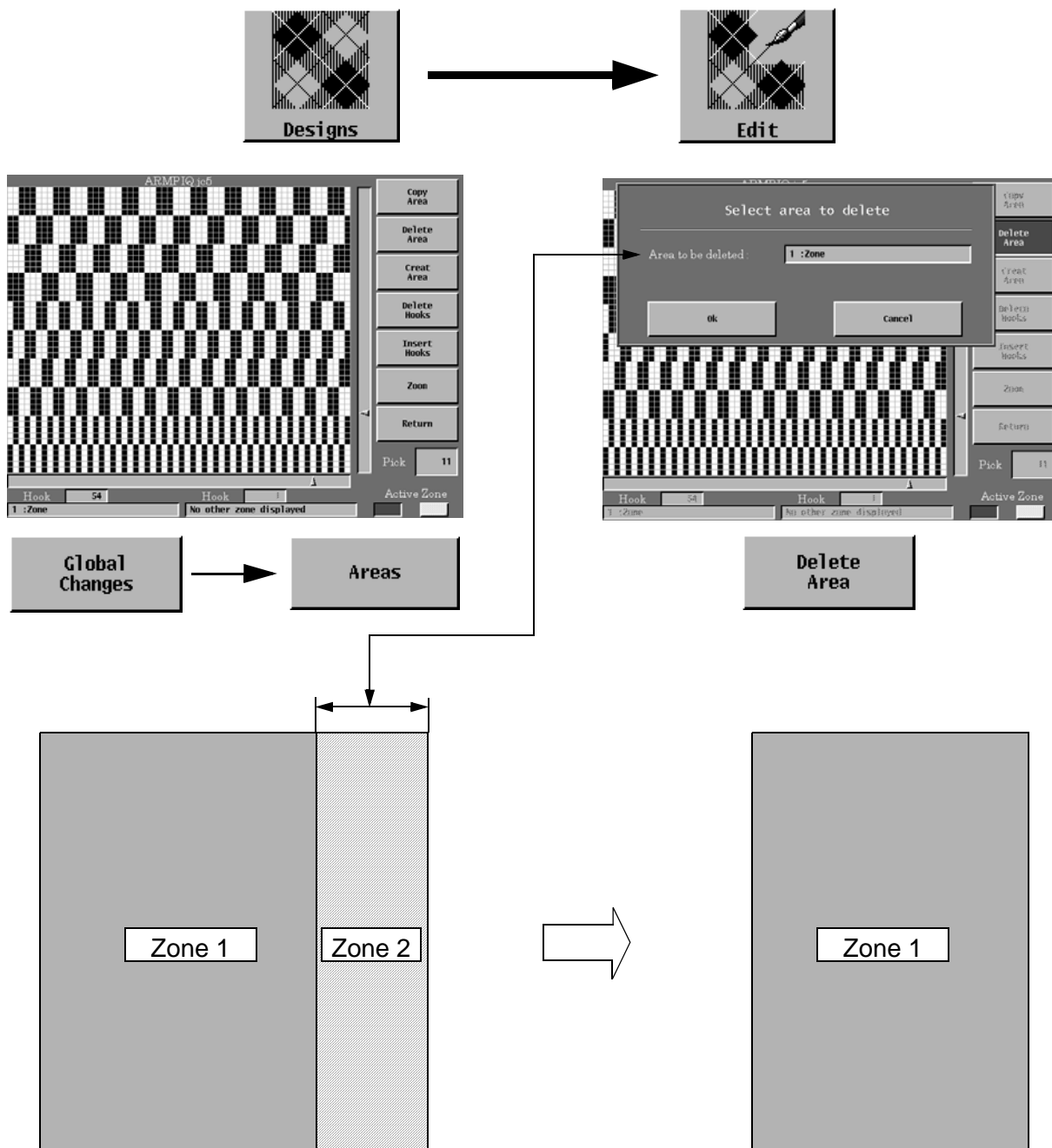
This permits copying the binding points of a design zone into another design. The changes concerning the hooks occur in the active zone of the design. They must be saved by using functions (Save, Save as) in the FILE menu.



### 7.2.1.11 - Delete zone

This permits deleting a zone in a design. Select the zone to be deleted by filling in the corresponding field.

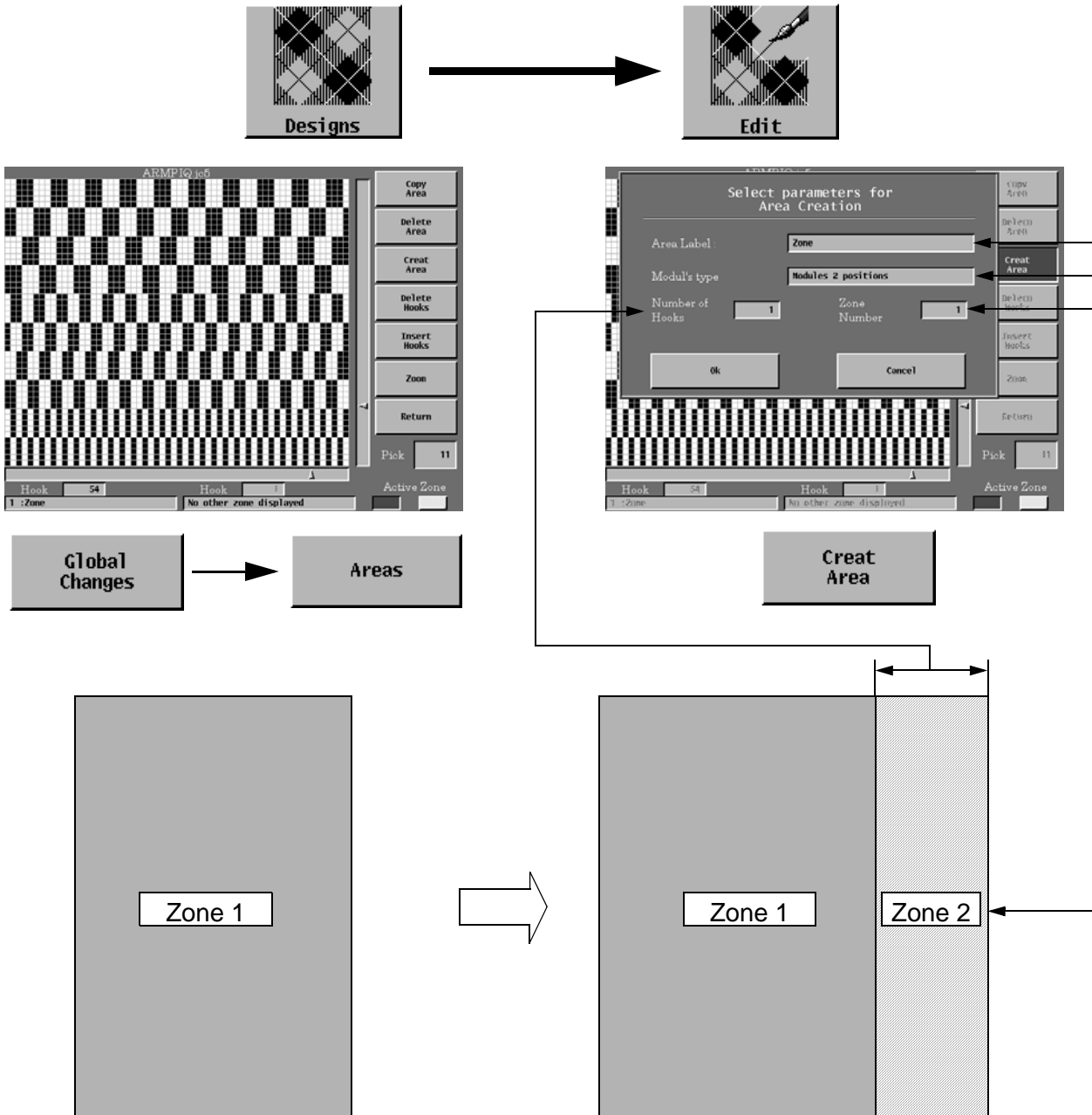
The changes must be saved by using functions (Save, Save as) in the FILE menu.



### 7.2.1.12 - Create zone

Permits creating a zone in a design, specifying the number of hooks, the zone no. and the type of modules (2 or 3 positions).

The changes must be saved by using functions (Save, Save as) in the FILE menu.

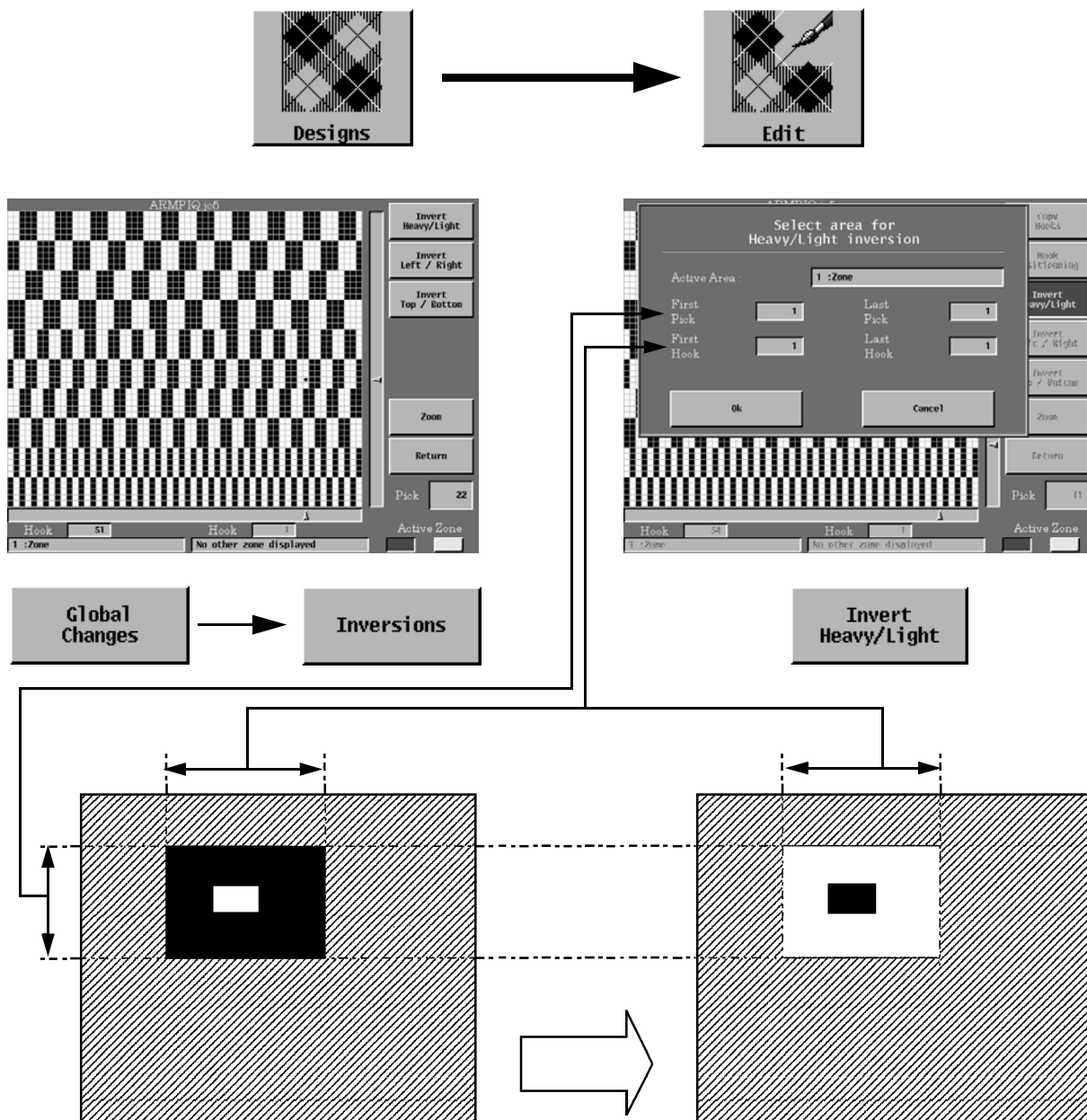




### 7.2.1.13 - Invert Heavy/Light

This permits modifying the binding points of part of a pattern by transforming the raised hooks into lowered hooks and vice-versa.

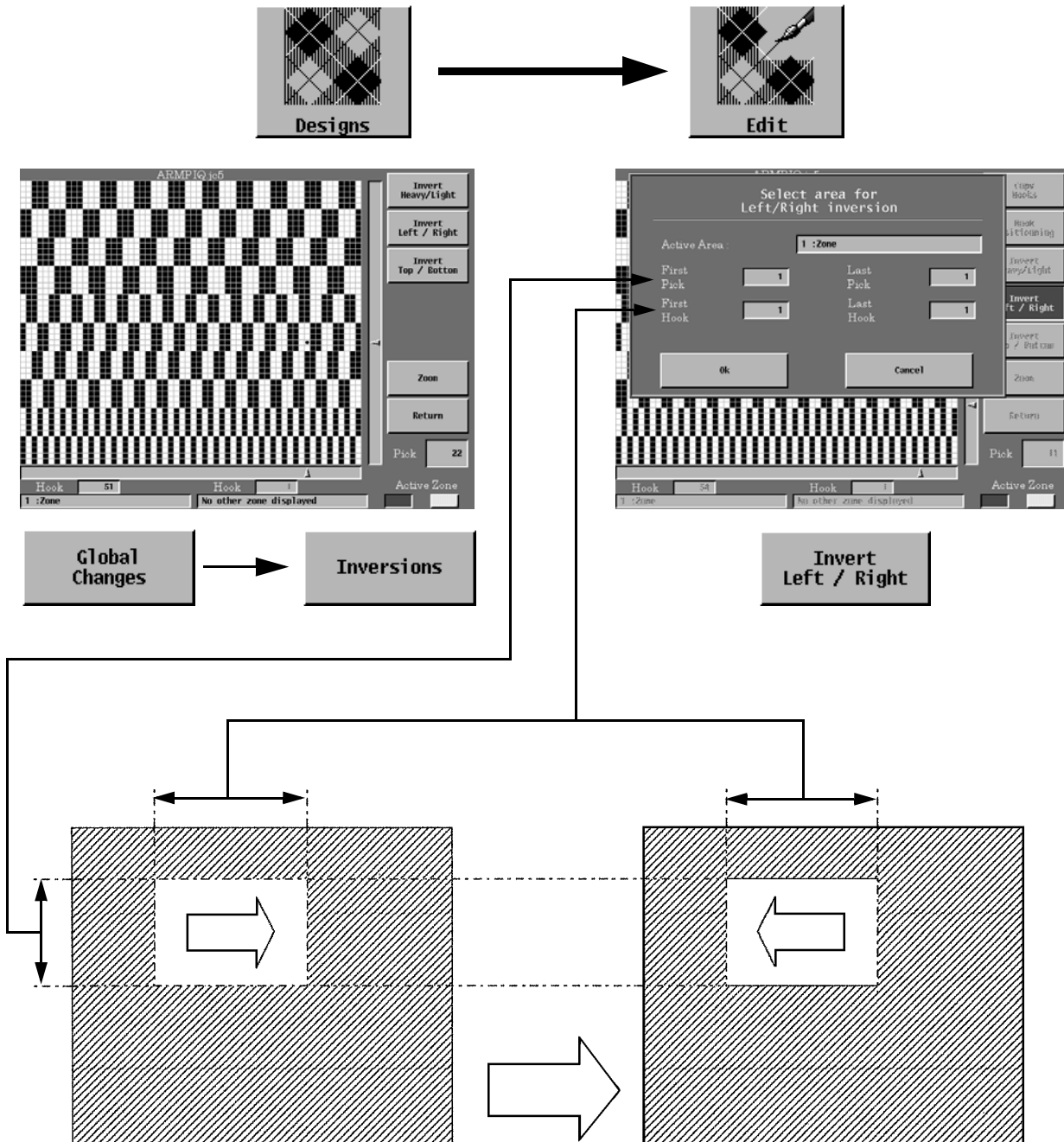
The changes concerning the hooks occur in the active zone of the design. They must be saved by using the functions (Save, Save as) in the FILE menu.



### 7.2.1.14 - Invert Left/Right

This permits modifying the binding points of part of a pattern in order to obtain symmetry around a vertical, central axis of the zone.

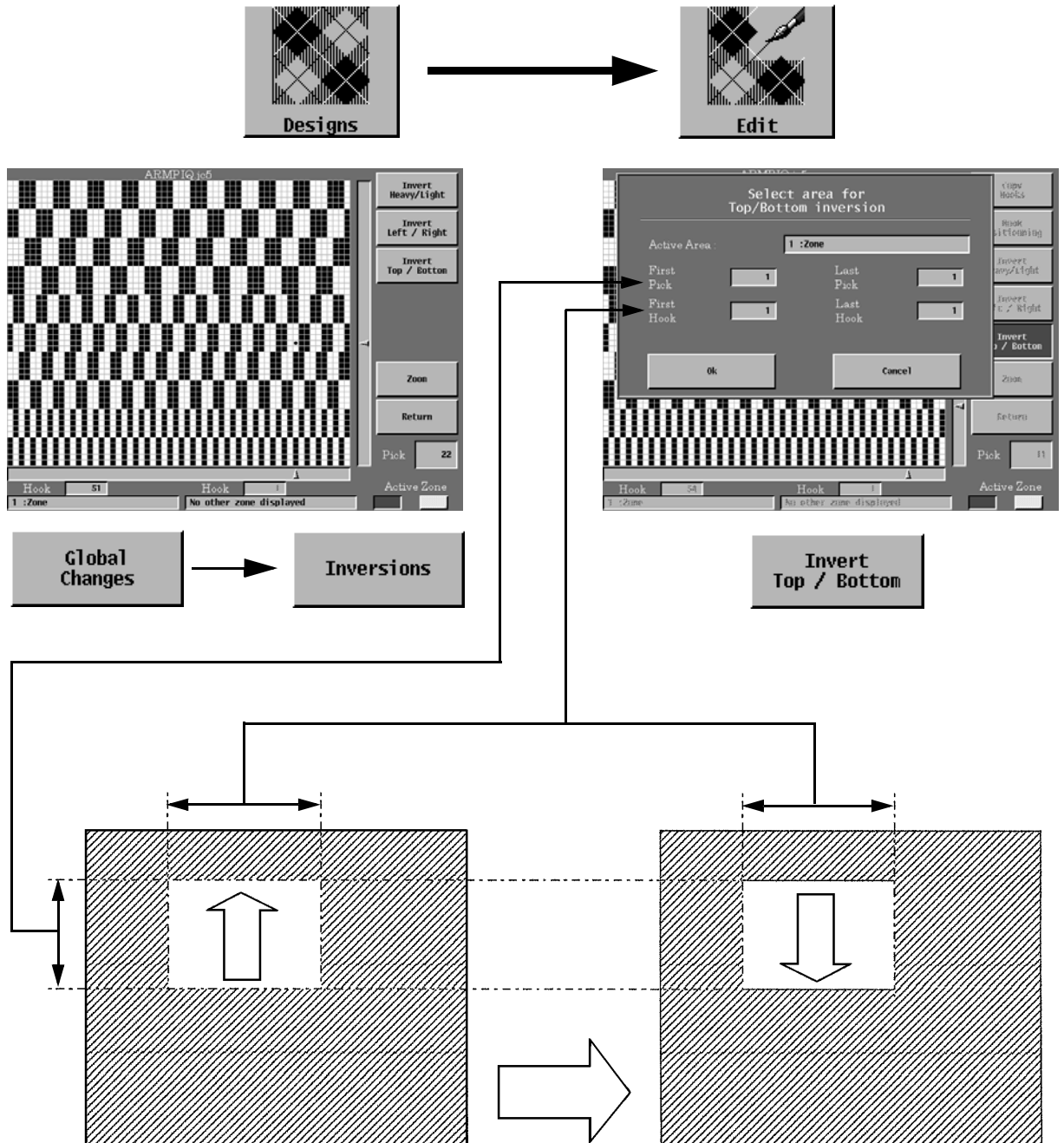
The changes concerning the hooks occur in the active zone of the design. They must be saved by using functions (Save, Save as) in the FILE menu.

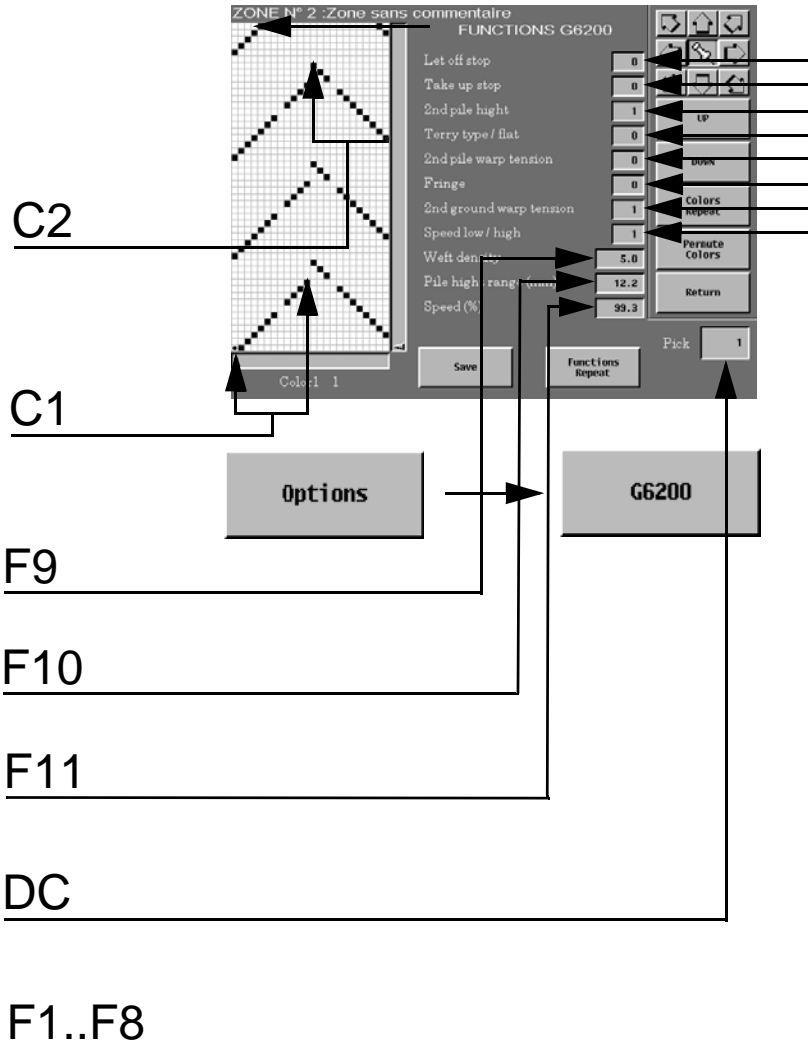


### 7.2.1.15 - Invert Top/Bottom

This permits modifying the binding points of part of a pattern in order to obtain symmetry around a horizontal, central axis of the zone.

The changes concerning the hooks occur in the active zone of the design. They must be saved by using functions (Save, Save as) in the FILE menu.





## 7.2.2 - SPECIAL EDITORS (OPTIONS)

This key allows special interpretation of a zone for a given weaving machine.

### IMPORTANT

These editors must only be used with specific weaving machines.

**Before opening this special editor, all modifications currently in progress must first be saved.**

### 7.2.2.1 - G6200

This option can only be used if the active zone is 32 or 48 function zone.

#### - GENERAL INFORMATION ON THE REPRESENTATION

In order to represent this zone, the screen has been divided into two sections:

One section represents the two colours "C1" and "C2" selected for a pick ("C1" being the first insertion, "C2" being the second in the case of a dual insertion).

The other section represents the 8 general functions ("F1..F8") the density in terms of picks per centimetre ("F9"), the height of the loop in millimetres ("F10") and the relative speed in relation to the weaving machine's nominal speed ("F11"). All of these functions are displayed for the current pick ("DC").

In the case of a 32-function zone, the height of the loop and the relative speed cannot be modified as they are not considered part of the data.

#### - COLOUR MODIFICATION

Use the HIGH and LOW keys and the cursor arrow keys as with a normal editor (see "- EDITION (B)", page 75).

As far as the HIGH key is concerned, the controls concerning the colours (see "- SAVE", page 97) are assigned as and when required.

#### - MODIFICATION OF FUNCTIONS "F1..F8"

Press the key located to the right of the text; the function shifts from 0 to 1 or vice versa.

#### - MODIFICATION OF FUNCTIONS "F9" to "F11"

Press the key located to the right of the text, then use the keyboard to enter a number and press the "Validate" key.

**- REPETITION OF COLOURS**

Allows WEFT direction repetition of either colour "C1" or colour "C2" or colours "C1" and "C2" of the source picks (on the basis of which buttons are selected) between two destination picks.



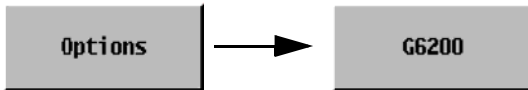
ZONE N° 2 :Zone sans commentaire  
FUNCTIONS G6200

Let off stop: 0  
Take up stop: 0  
2nd pile height: 1  
Terry type / flat: 0  
2nd pile warp tension: 0  
Fringe: 0  
2nd ground warp tension: 1  
Speed low / high: 1  
Weft density: 5.0  
Pile height range (mm): 12.2  
Speed (%): 99.3

Buttons: UP, DOWN, Colors Repeat, Permute Colors, Return

Color 1

Save Functions Repeat Pick 1



Select parameters for Colors Repeat

Active Area: 2 :Zone sans commentaire

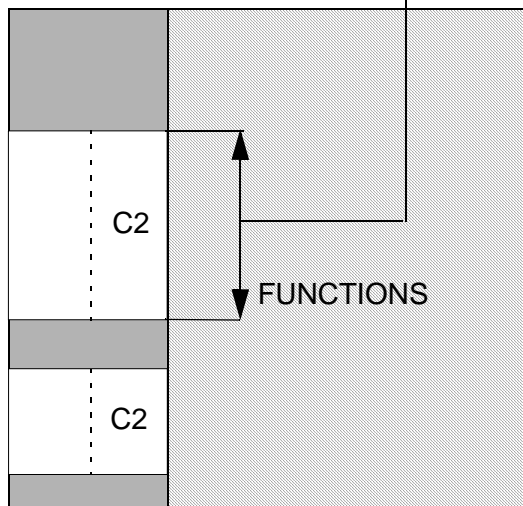
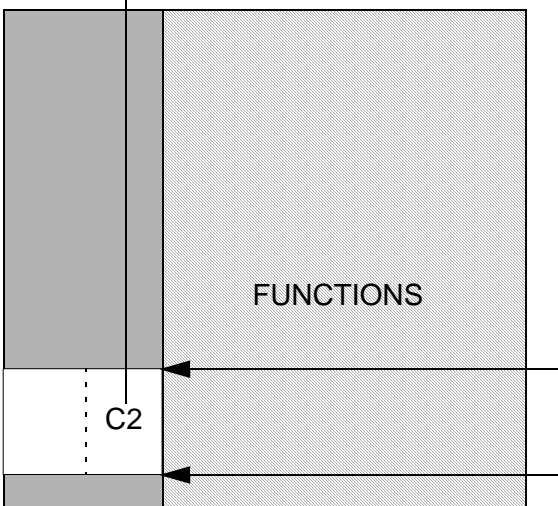
Color1: [ ] Color2: [ ]

First Pick: 2 Last Pick: 5  
Repetition between Pick: 200 and Pick: 250

Buttons: Ok, Cancel

Color 1

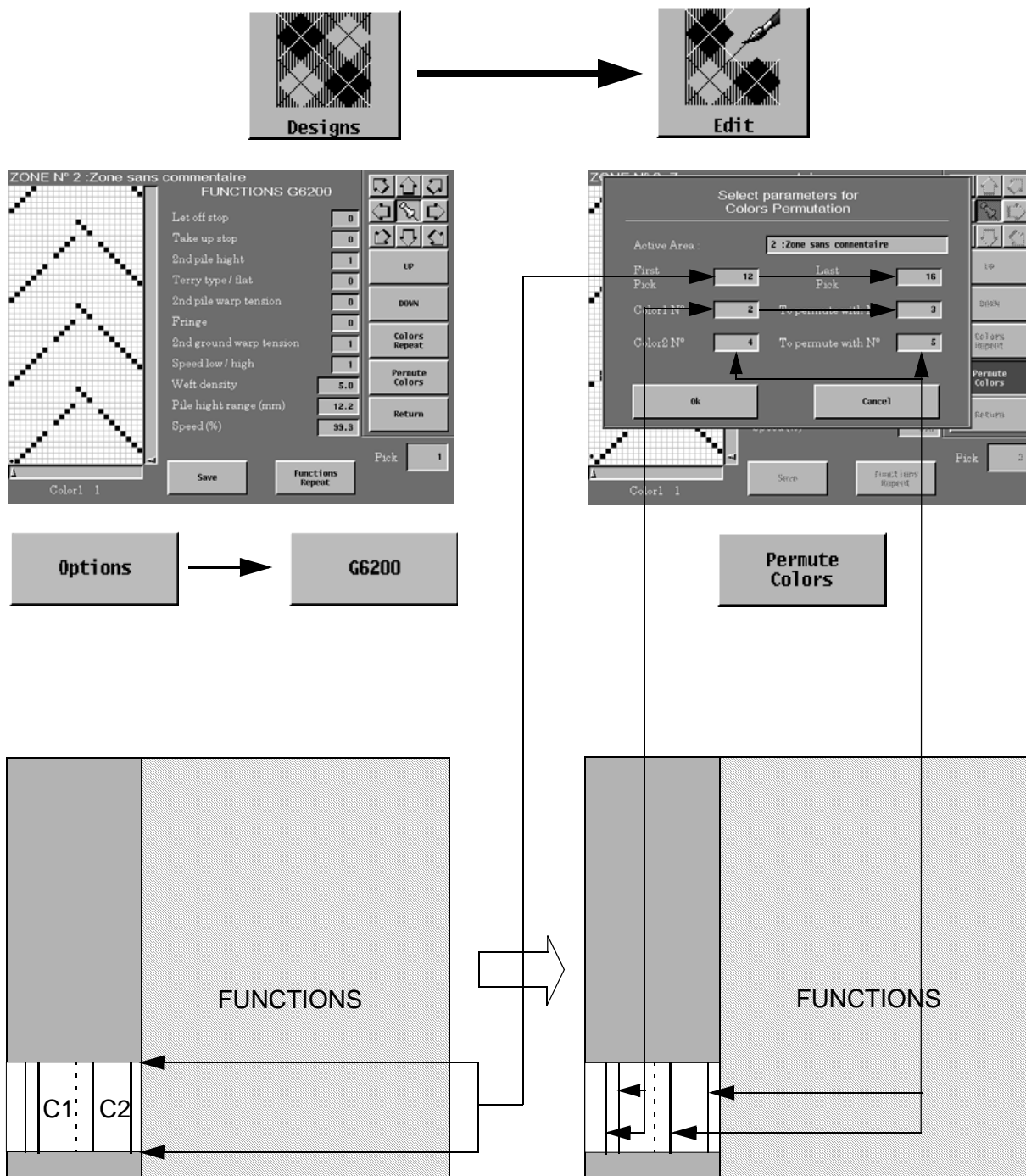
Save Functions Repeat Pick 2



**- PERMUTATION OF COLOURS**

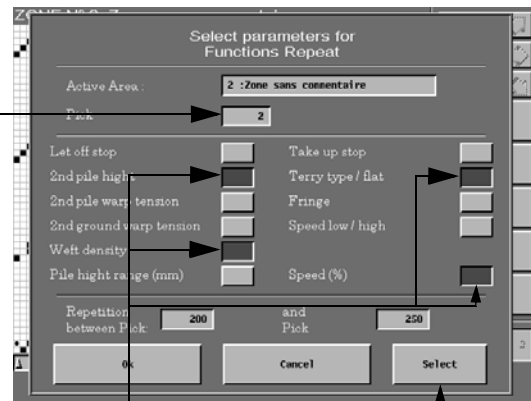
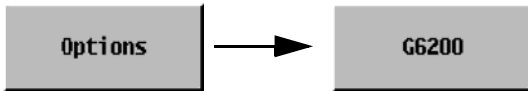
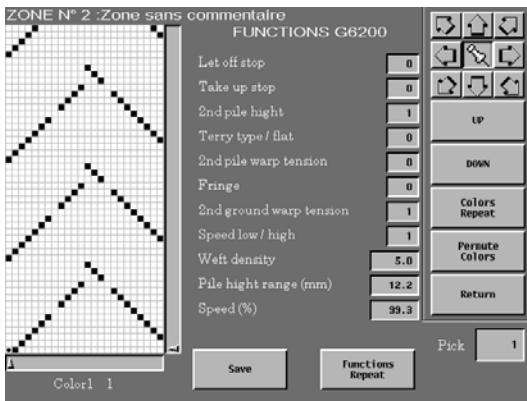
Enables two "C1" colours or two "C2" colours or two "C1" and two "C2" colours to be swapped between the start and end picks.

If one of the fields of one colour is 0 or if both fields are identical, the field is not swapped.



**- REPETITIONS OF FUNCTIONS**

Enables one or several functions of a current pick ("DC") to be repeated between the two destination picks.



Current pick

Functions to be repeated are selected by pressing on their respective button.

For selecting or deselecting all.



**NOTE**

For all general modifications (Repetition or swapping of colours and the repetition of functions), the validity of source data and the result of the modification is checked throughout the operation.

If the result is not correct, an error message indicates the faulty pick.

**- SAVE**

This key has two effects: it checks the validity of the data of the zone for all picks and saves all of the modifications carried out in this mode.

Checks performed: For each pick, it checks

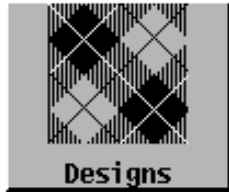
- that the colours "C1" and "C2" are between 1 and 12,
- that the colours "C1" and "C2" are different.
- that the density is equal to 0 or between 5 and 307.1 picks per centimetre.
- that the loop height is between 0 and 20 millimetres.
- that the relative speed is equal to 0 or between 50% and 100%.

**- RETURN**

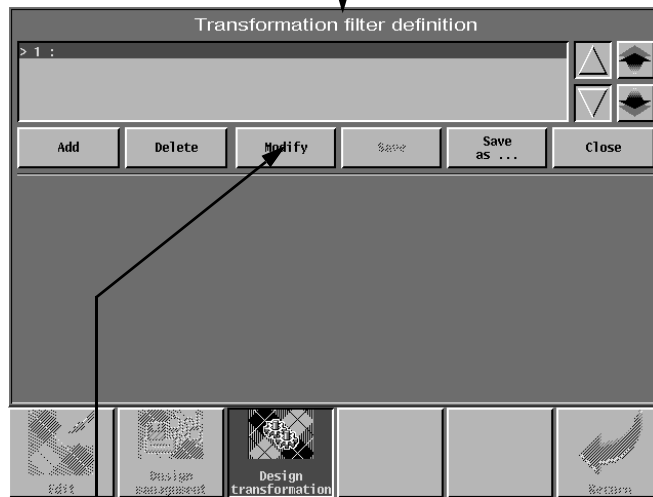
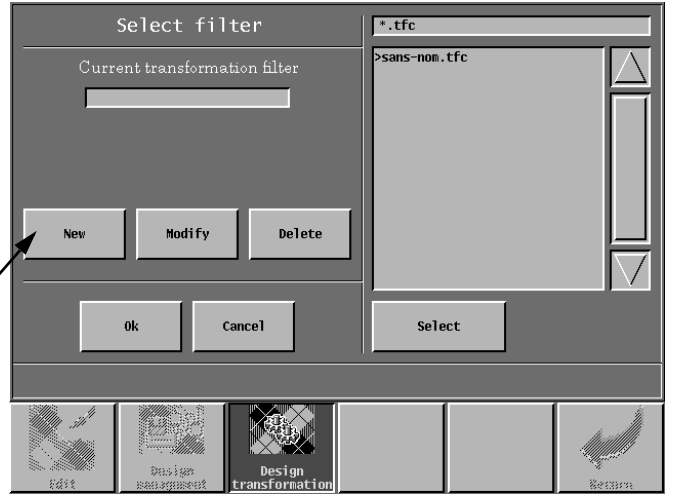
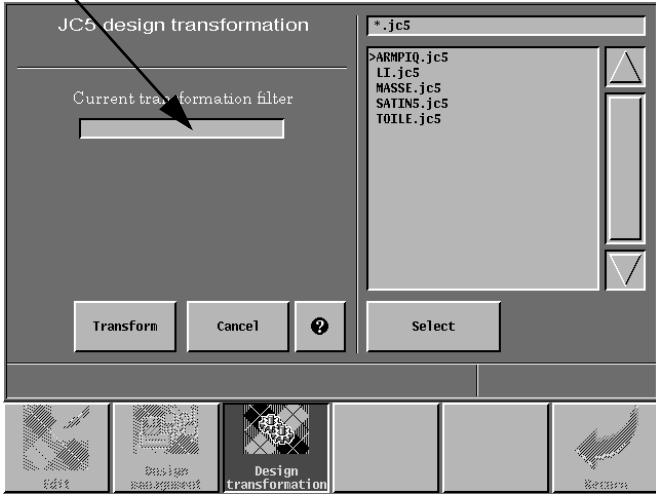
Returns you to the normal editor.

**IMPORTANT**

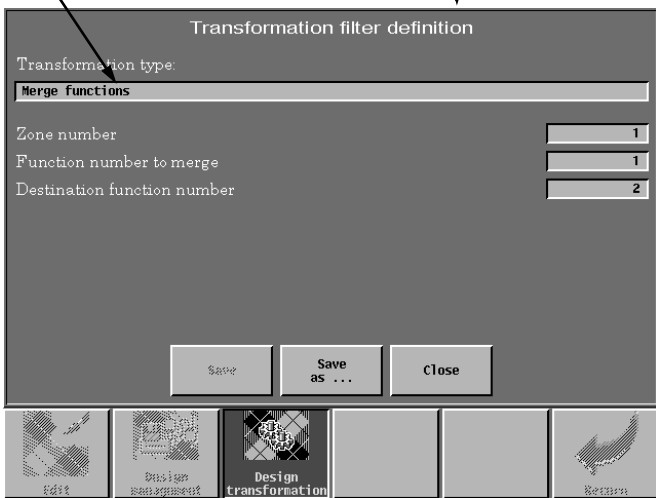
**Before returning to the normal editor, all modifications in progress must be saved OTHERWISE THEY WILL BE LOST.**



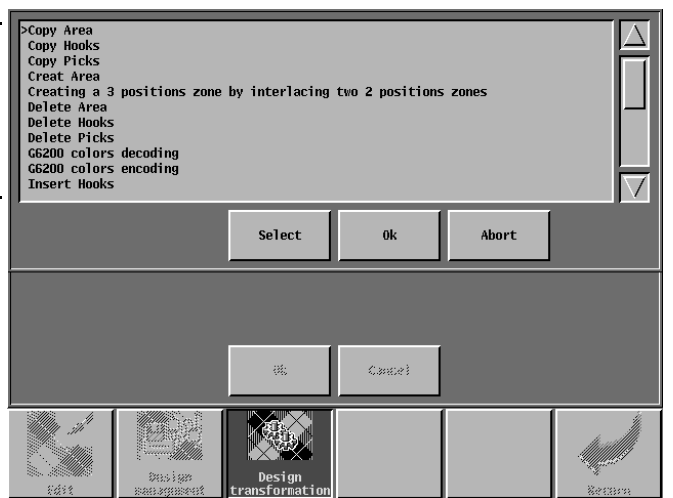
1



2



A



### 7.3 - CONVERTING A DESIGN

This permits transforming designs by using several types of available conversions. Each type requires the definition of different fields in order to constitute the conversion filter. This same transformation filter allows several transformations to be performed one after the other.

Once the filter has been defined, you can use it on the design of your choice.

#### - **The types of conversion available (A)**

All of the pattern editor's overall modifications are available as transformation (See the "Modifying a design" paragraph in the "Modify/edit a design" chapter).

Some transformations are specific to a given type of weaving machine. They enable the colours in accordance with specific formats to be encoded or decoded.

The other transformations are general and are applicable to all types of weaving machines:

- Doubling functions permits duplication of colours from one function to another, so as to use two bobbins of thread alternatively.  
The separation of functions allows a function to be distributed over several functions (between two and six).
- Merging functions is the opposite operation of doubling, regrouping is the opposite of separation.
- A three-position module zone is created by interlacing two two-position module zones. Each thread of the resulting zone consists of a bit taken from the first two-position module zone and a bit taken from the second zone. Both two-position module zones must be exactly the same size. The three-position module zone replaces the first of the two source zones in the pattern; the second zone is deleted.

#### - **Creating a conversion filter**

- If no filter has been defined, point to field (1) then to the "New" icon.
- Edit the definition of the transformation using the "Modify" button.
- Complete the field (2) using the transformation types proposed in the list, then enter the information required to define the filter.
- "Validate" to close the definition screen.

**Caution:** The information must correlate with that defining the design in order to avoid errors.

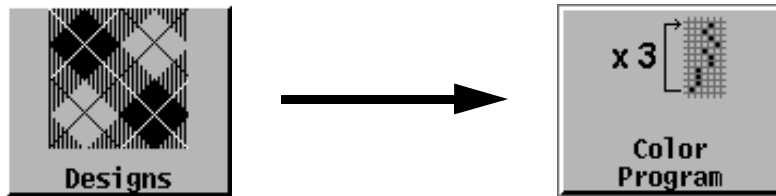
- The "Add" button allows an additional transformation to be created in the filter.
- Save your file with the "Save as" function, then "Close".
- Select the newly defined filter then confirm.

#### - **Using a conversion filter**

- Point to field (1) and select the filter in the list proposed.
- Confirm your choice.
- Select the design file to be converted.
- Press on "Convert" to run the programming.

#### - **Modify an existing conversion filter**

- Fill in field (1) and select the filter to be modified in the list proposed.
- Press on "Modify" then proceed in the same way as for creating a filter.
- Confirm.



**A**

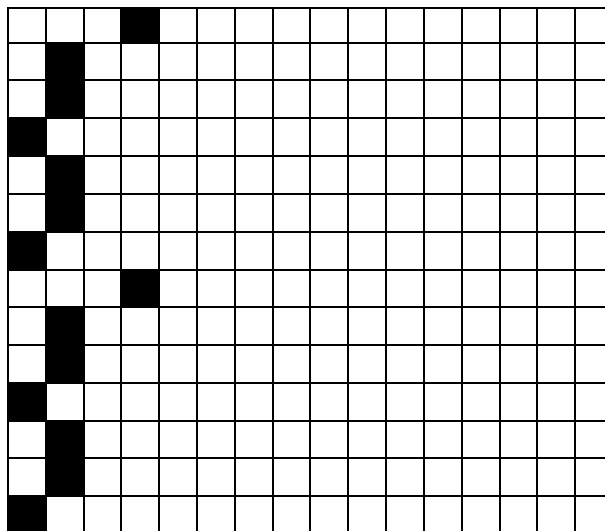
Color programming

1 : color	1 x	1 times	▲	▲
2 : color	2 x	2 times	▼	▼
3 : Repeat from line	1 x	2 times	▲	▲
4 : color	4 x	1 times	▼	▼
> 5 : Repeat from line	1 x	2 times		

color  X  times  
 Repeat from line  X  times

Destination file name

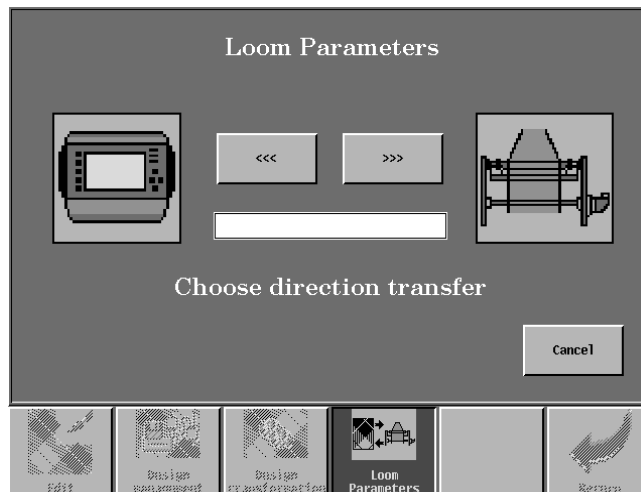
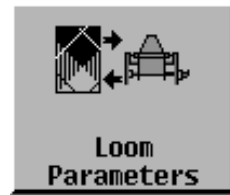
**B**



## 7.4 - COLOUR COMPOSITION

The composition of colours allows a design to be created having one single zone of 16 hooks. This design is described as a series of colour repetitions (identified by a number ranging from 1 to 16) or groups of colours. The repetitions may be nested without limitation.

The composition example of screen **(A)** will produce the design **(B)**.



## 7.5 - WEAVING MACHINE PARAMETERS

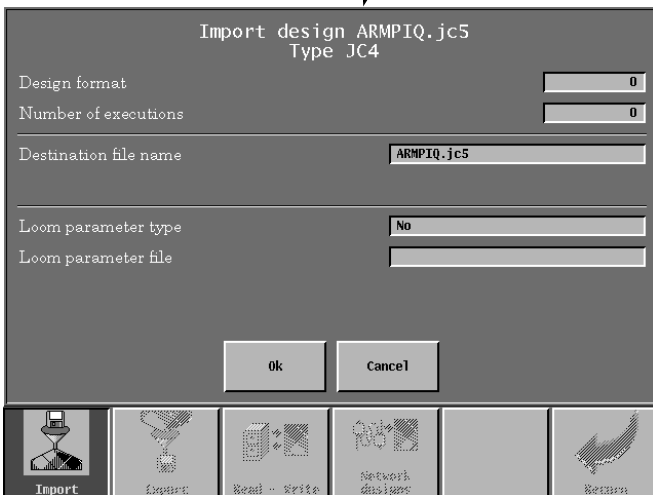
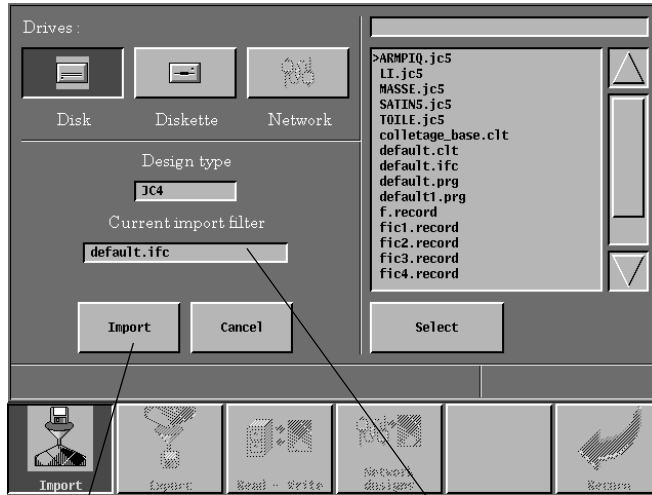
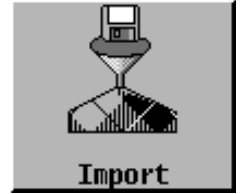
The JC5 patterns can contain parameters intended for the weaving machine, such as data on density, warp tension and end of weaving. When present, these parameters are automatically transmitted to the weaving machine at the moment when weaving of the pattern starts. This possibility only exists for weaving machines equipped with a serial link.

According to the type of weaving machine, "Weaving parameters" permits transferring and/or rereading these parameters.

- The ">>>" key permits manual transmission of the parameters contained in the pattern being woven to the weaving machine. This function is only authorized for adaptation numbers 005, 006, 054 and 055.
- The "<<<" key permits linking the current parameters of the weaving machine and it saves them in the pattern being woven.

**WARNING** : If the pattern already contains parameters, these latter will be erased.  
This function is only available for adaptation numbers 005, 006, 021, 054, 055, 073, 074 and 076.

The "Weaving parameters" key is not displayed in the JC5 menu unless the adaptation selected provides one of the two previous functions.





## 8 - DESIGN MANAGEMENT

This icon gives access to different functions that permit you to manipulate the design files:

- Import files in JC3, JC4 CGS, BMP formats and those of other companies.
- Export JC5 files to other controllers.
- Copy and erase files.
- Read designs on a network server.

### 8.1 - IMPORT A FILE

By using a filter, this function enables you to convert a JC3, JC4 CGS, BMP type design file or others into a JC5 type file. For more information, see chapter "Notion of import/export filter".

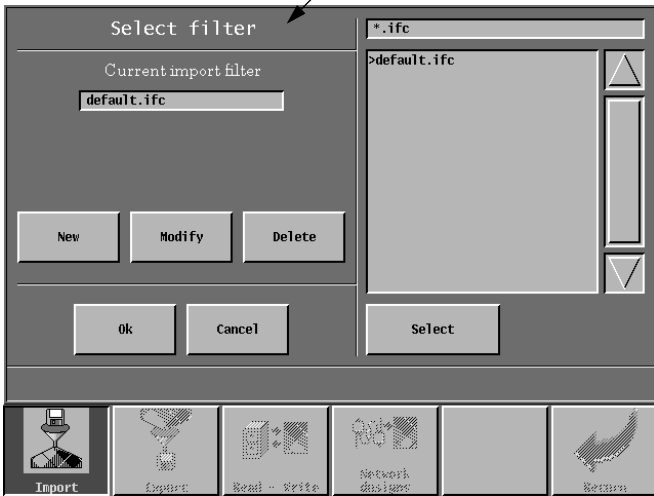
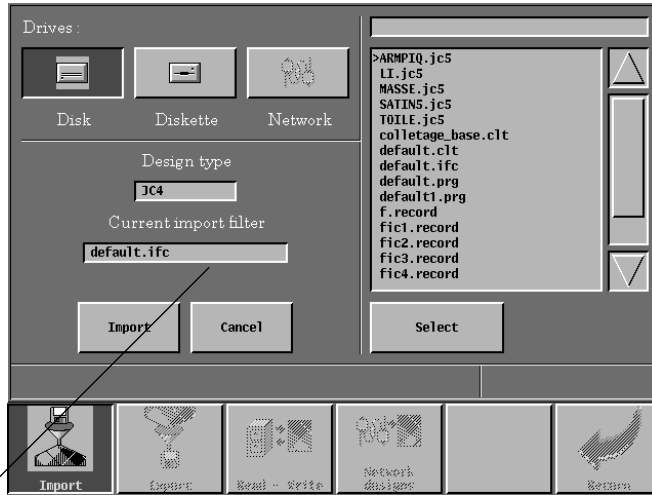
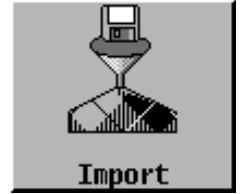
- Select the drive ("Disk" or "Diskette") where the file to be imported is located.
- Fill-in fields "Type of designs" and "Import filter used" (the latter permits selecting and modifying an existing filter or creating a new one).
- Select one of the design files proposed.
- Press "import", a window is displayed.

This function allows you to select the format of the design to be imported, the number of executions and the weaving machine's parameters (Fill in these different fields by using the lists proposed). It also enables the name of file to be imported to be kept or changed.

If the file is imported from a JC3, JC4, JC4B or CGS diskette, the format and the number of executions cannot be modified.

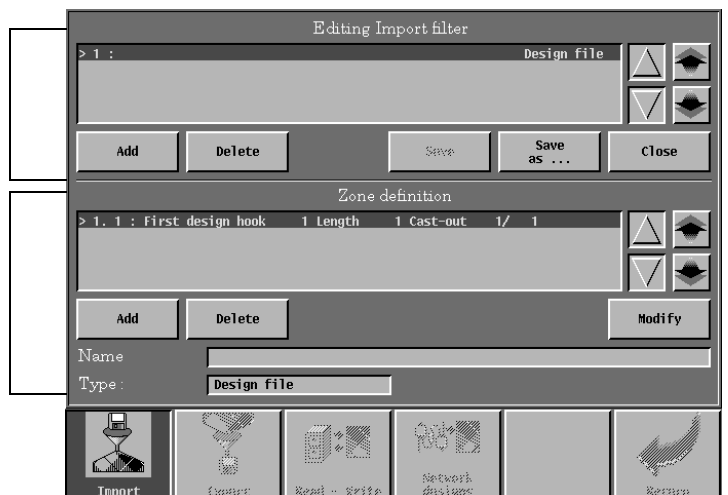
#### **CAUTION**

The import filter used must be compatible with the information contained in the file to be converted (number of collets, number of zones to be created).



A

B



## 8.2 - CREATING AN IMPORT FILTER

This function is accessed via the NEW icon. The screen has two parts:

- First section (**A**): displays the various zones created.
- Second section (**B**): displays the various ranges which make up the visible zones in section (**A**).

Creating these zones allows you to isolate the various components of the design file (selvedges, functions, designs) or to copy part of the source file (JC4, CGS, etc.) into the destination file (JC5).

### 8.2.1 - ZONES

- Fill-in field "Type" to determine whether the zone is of design type (ground, loop, selvedge) or function type (import of file .32 or .48).
- Fill in the "Name" field to give a name or a comment to the zone being created.

### 8.2.2 - RANGES

- Define the values of the first range of the first zone with the MODIFY key.
- Fill in fields "First thread" and "Length" in order to determine the position of the first thread of the range and the number of threads in the range.
- Fill-in the "Mode" field to indicate whether the threads are imported from the left to the right ("Cont." mode) or from the right to the left ("Return mode").
- Fill in fields "Hooks taken" and "Repeat period" to define the interlacing, see chapter "Notions introduced by the JC5").

Modify

Range definition

First design hoo 
Length 
Direction

Cast-out definition

# of working hooks 
Repeated on

Apply

Abort


> 1. 1 : First design hook 1 Length 1344 Cast-out 1/ 1 (->)


Add


Delete


Modify


Name   
Type:

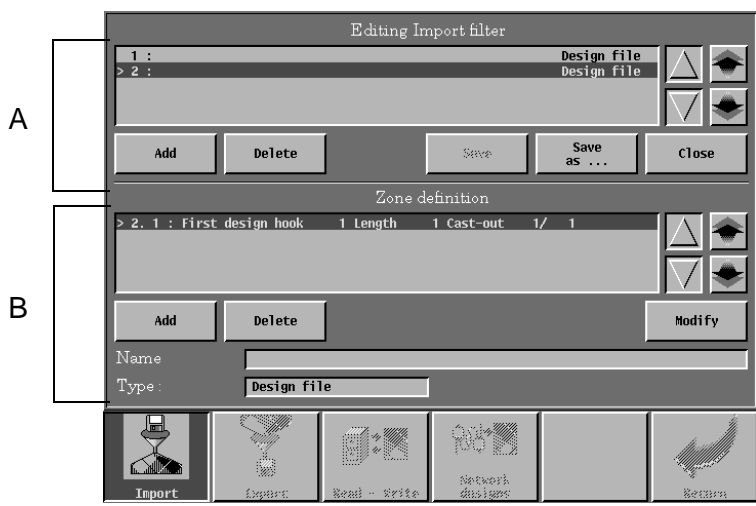
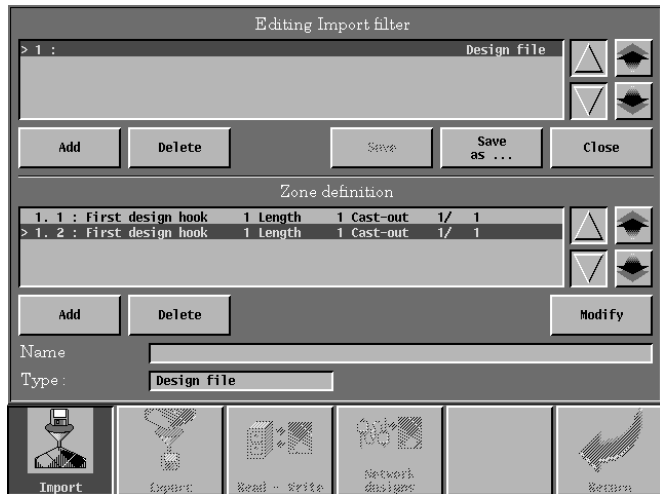
  
 Import

  
 Export

  
 Read - Write

  
 Network design

  
 Return

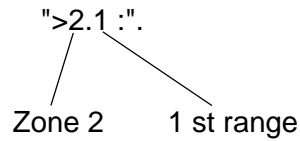


### 8.2.3 - CREATING ANOTHER RANGE IN THE FIRST ZONE

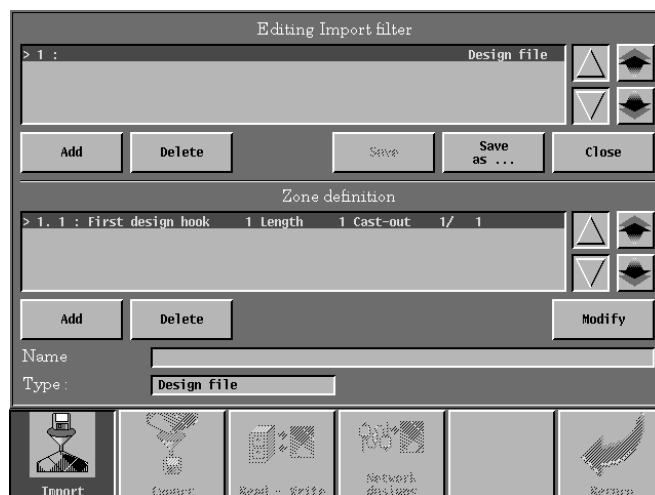
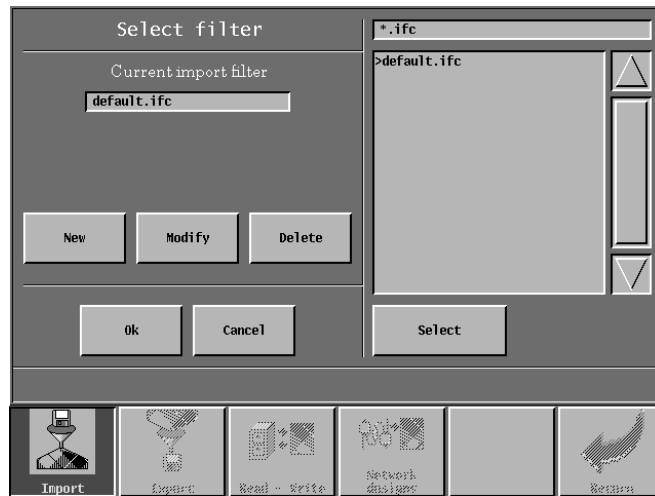
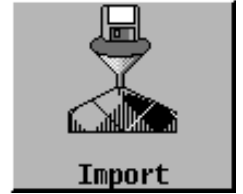
- The values given in the "First" and "Length" fields for the first range appear in section (B).
- To create a second range, press "Add" in section (B).
- Fill in the range noted ">1.2:" in the same way as before.
- Perform this operation for each new range.

### 8.2.4 - CREATING A NEW ZONE

- To create a new zone, press on "Add" in part (A).
- A new zone noted ">2:" appears and the ranges related to the first zone in part (B) disappear, replaced by ">2.1 :".





- Creating this range is the same as for the first.
- Use "Save as" to give a name to the filter before confirming.











### 8.3 - MODIFY AN IMPORT FILTER

It is possible to modify a filter that exists already.





- Select a filter name from the list proposed.
- Press on "Modify".
- Place yourself in the zone and range to modified by using the arrows.
- MODIFY, ADD or DELETE new zones or new ranges.





Two invert two ranges or two zones, place the cursor on the zone or the range to be moved, and press on the  key to place it above or on  to place it below the following zone (see drawing below).

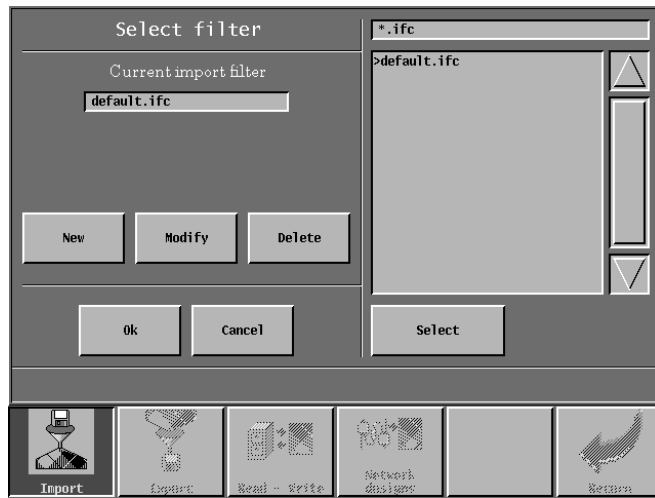
2. 1 : First design hook	1	Length	100	Cast-out	1/	1	   
> 2. 2 : First design hook	100	Length	200	Cast-out	1/	1	
2. 3 : First design hook	400	Length	100	Cast-out	1/	1	

2. 1 : First design hook	1	Length	100	Cast-out	1/	1	   
> 2. 2 : First design hook	100	Length	200	Cast-out	1/	1	
2. 3 : First design hook	400	Length	100	Cast-out	1/	1	



> 2. 1 : First design hook	100	Length	200	Cast-out	1/	1	   
2. 2 : First design hook	1	Length	100	Cast-out	1/	1	
2. 3 : First design hook	400	Length	100	Cast-out	1/	1	

2. 1 : First design hook	1	Length	100	Cast-out	1/	1	   
> 2. 2 : First design hook	400	Length	100	Cast-out	1/	1	
2. 3 : First design hook	100	Length	200	Cast-out	1/	1	



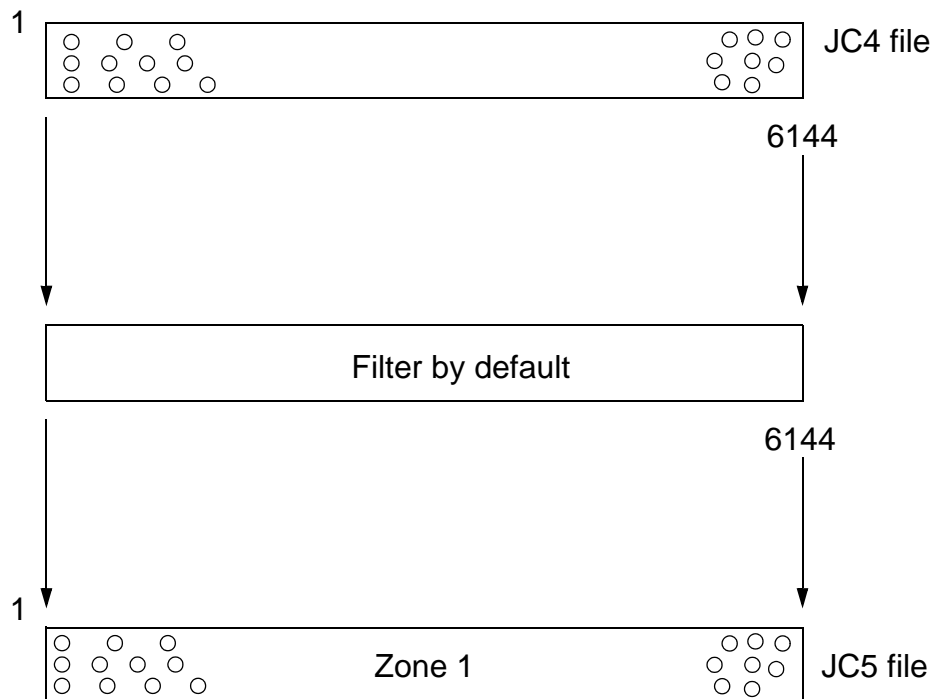


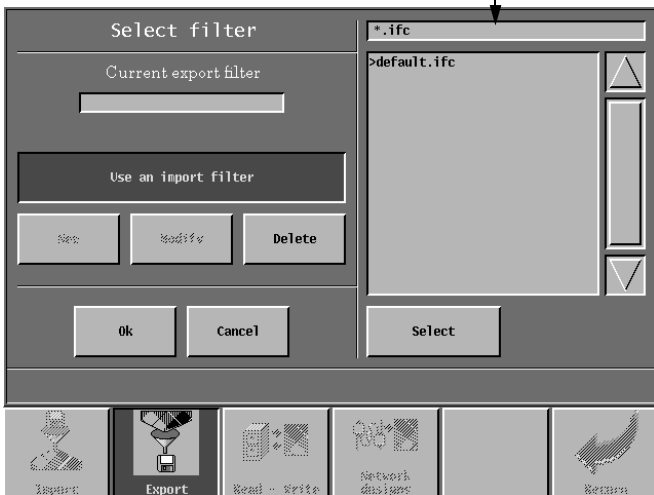
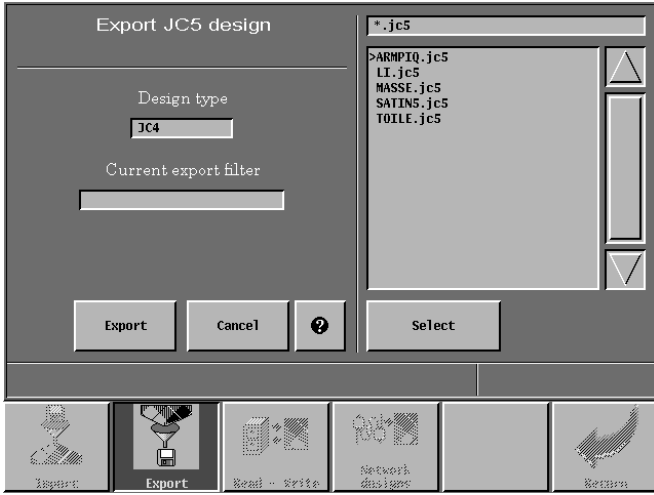
**8.3.1 - DELETE**

- The "Delete" key permits you to delete a filter following a previous selection or a wrong choice.

**CAUTION**

If no filter has been selected, the JC5 selects a filter by default which transfers every reading-in point from the source file into a file containing one single zone and one single range.





## 8.4 - EXPORT A DESIGN

This function allows you to convert a JC5 design file into a JC4-compatible file. If you want to "export" a JC5 design to another JC5 you must use the "Copy" command described on page 119.

- Select the design to be exported.
- Fill in field "Type of design" according to the depth of the machine.
- Field "Export filter used" proposes two solutions:
  - Use an import filter in reverse direction.
  - Create an export filter.

In both cases, the filter and the design must be compatible regarding the number of zones and their content.

### USE AN IMPORT FILTER

Select your import file by using key "Use an import filter", from the list proposed.

### CREATE AN EXPORT FILTER

Use the "New" key to define your filter's parameters. The construction is the same as that for a hooking file.

- The "Zone number" field displays the number of the zone from which the data will be taken.
- The mode field permits determining the direction of assigning the data in the destination file: the "Cont." mode permits an assignment from the left to the right, whereas the "Return" mode permits assignment from the right to the left.
- The "Destination" field permits selecting the "Design file" for the harness threads intended for a design or the "Function file" for harness threads intended for associated commands.
- Fill in the "Source threads" field to determine which threads of the zone selected previously will be exported.
- Field "Destination thread" gives the position of the first thread in the destination file and field "to" is calculated automatically from the data in the "Source thread" field.
- Field "Interlacing destination" permits taking data from a starting zone which uses interlacing.

Use "Add" to create a new range of threads and fill in all the fields again. Once the filter has been completed, save it by using the "Save as" function.

Return to the main screen via the "Close" command, so you can select the design to be exported.



1

Once the design has been selected, simply fill-in the different fields on the screen (1) to export it.

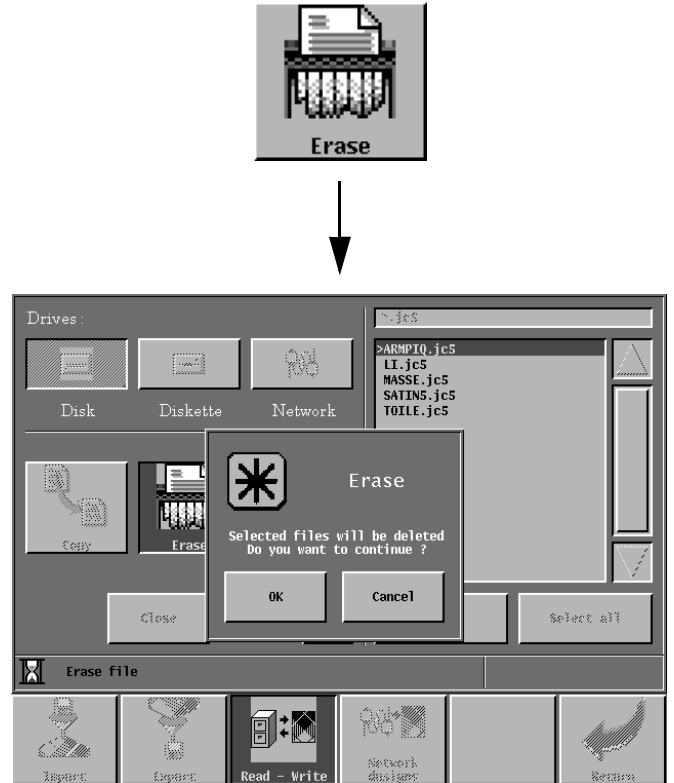
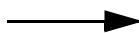
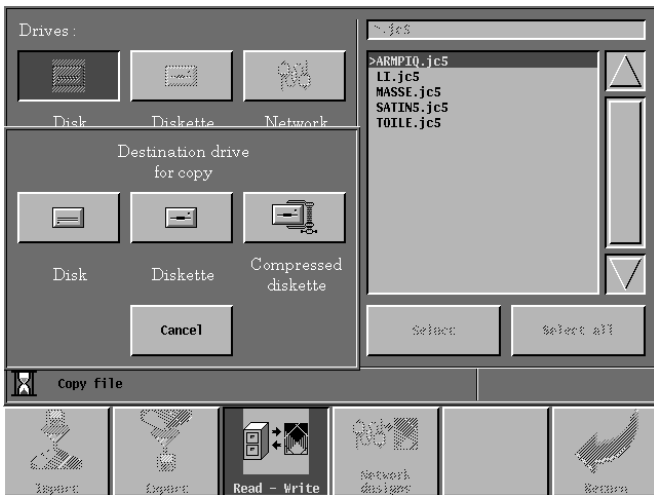
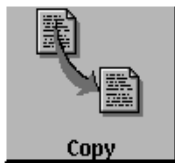
Field "Destination drive" permits choosing the medium to which the file will be sent.

If choosing "Floppy disk", make sure that it is formatted in JC4 format (see chapter "Formatting a floppy disk").

Field "Format of design to be exported" permits selecting the appropriate format to the Jacquard machine.

For the "Number of runs" field, value "0" corresponds to a infinite number of runs for the design.

The last field is to be filled in for certain weaving looms that need to associate data concerning electric or serial link data to the design.



## 8.5 - COPY/RENAME/DELETE A DESIGN FILE

These functions are available under the READ/WRITE icon. By selecting a file and by pressing on the question mark, you can visualise the data concerning the design.

### **COPY:**

This permits copying a file from the hard disk to a floppy disk and vice versa. When the diskette contains compressed patterns, they are automatically decompressed when copied onto the hard drive.

- Select the source drive (hard disk or floppy disk).
- Select one or more files from the list proposed (see chapter "Selection of one or more files").
- Press on "Copy": a window is displayed.
- Select the destination drive; the copy on the diskette may be compressed or not.

### **DELETE:**

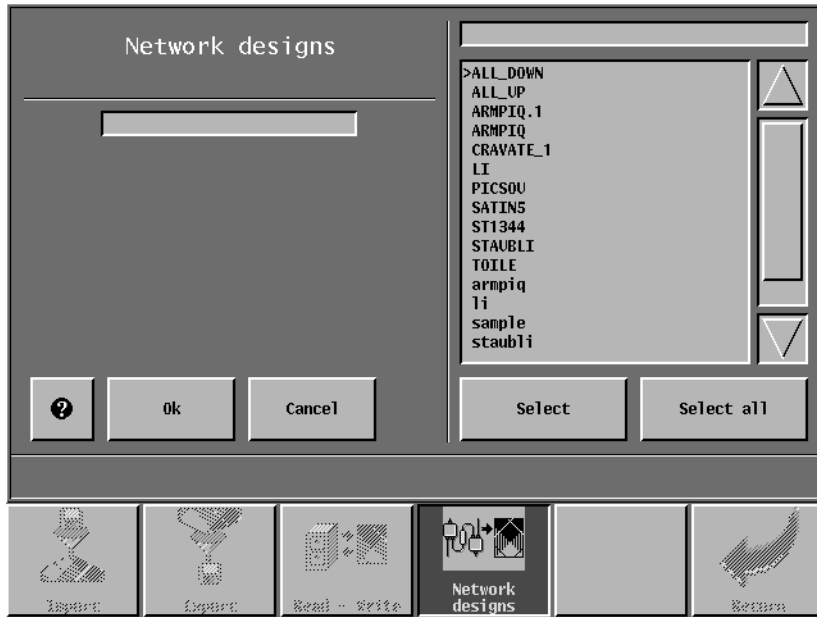
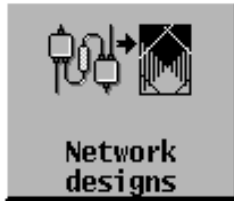
This permits deleting one or more files on the hard disk or on a floppy disk.

- Select the drive on which the file must be deleted.
- Select one or more names in the list proposed (see chapter "Selection of one or more files").
- "Delete" the file.

### **RENAME**

This permits changing the name of a file.

- Choose the drive (hard disk or floppy disk).
- Select one or more names in the list proposed (see chapter "Selection of one or more files").
- "Rename" the old file.



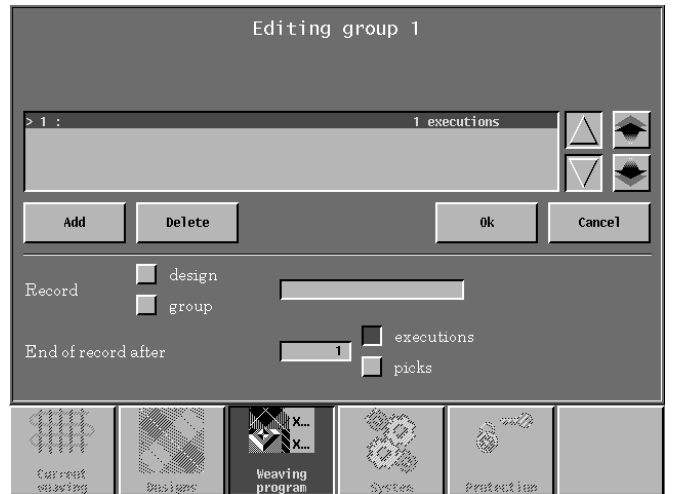
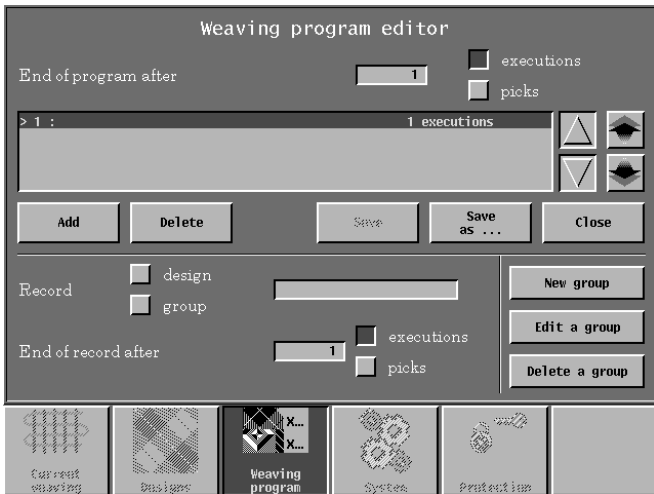


## **8.6 - READING DESIGNS ON THE NETWORK SERVER**

This permits the JC5 to read designs on a network server provided that the latter is equipped with software specific to this type of transfer. Your server supplier will inform you if this possibility exists.

In the list, you must choose the name or names of the designs to be sent to the JC5. The "?" key permits reading data on the design (provided that the network server supplies these data). The "Confirm" key permits starting the transfer.

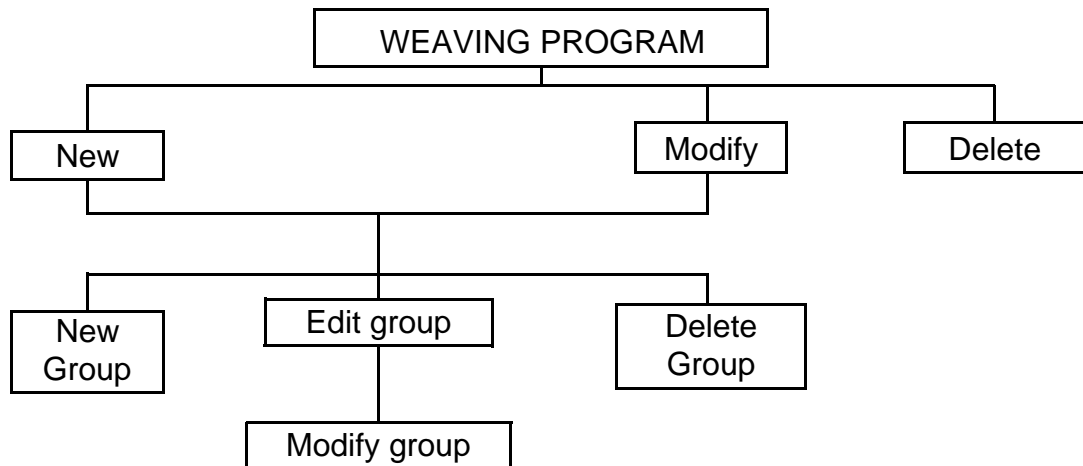
The filter on the pattern names provides a partial list of the patterns available on the server. For example, filter 'A\*' retains only the patterns whose name begins with the letter A. This filter can be applied to the JC5 or to the server.



## 9 - WEAVING PROGRAM

This permits creating or modifying a weaving program. For more details on this feature, refer to chapter "Notions introduced by the JC5".

### 9.1 - STRUCTURE OF THE FUNCTION



### 9.2 - CREATE/MODIFY A WEAVING PROGRAM

*NEW*

**Element:**

- Select "Design" or "Group" to define the nature of the first part of the program.
- For a pattern, a list of patterns on the JC5 disk is proposed. For a group, the list of groups created previously (see "Edit/create a new group") is proposed. Select your element from the list proposed.

**Starting picks:**

This parameter only exists for a pattern type element. It permits indicating that the weaving of the pattern starts on a pick other than the first.

**End of element after:**

This permits defining the end of weaving of an element being created. This end of weaving can be expressed as a number of picks or a number of runs for a pattern. It is expressed as a number of runs for a group.

**Add:**

Permits creating a 2nd part of the program (the symbol ">2:" is displayed).

- Choose the type of element and define the associated parameters.
- Repeat the operation to create the number of parts desired.

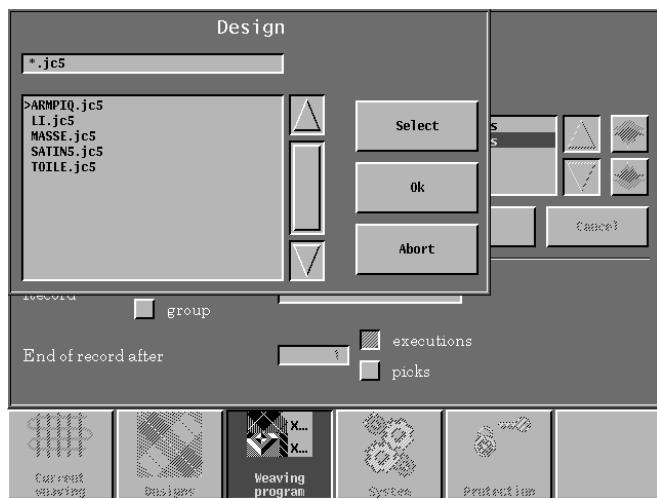
**End of program after:**

This permits stopping weaving after a certain number of program runs.

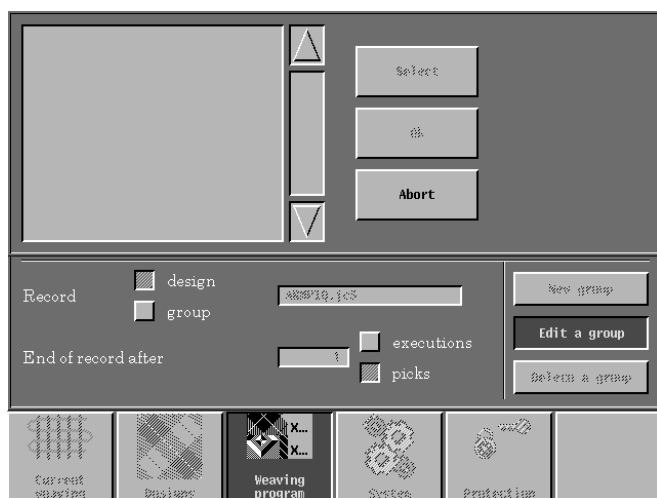
- Press on "Save as" to save.



**New group**



**Edit a group**



*MODIFY*

- Select the weaving program to be modified.
- Proceed in the same way as for creating a program in order to fill in the different fields.
- Press "Save" to save the modifications.

**9.2.1 - EDIT/CREATE A NEW GROUP**

This permits creating a group on the basis of existing designs (in fact a sub-program) and visualise (or modify) its parameters.

*NEW GROUP***Element:**

- Defines the nature (Design or Group) of the first part of the group. It is possible to include a group in the composition of another group.
- Select the name of the design or the number of the group desired.
- Enter the parameters associated with the element in the same way as in the weaving program.
- Press on "Add" to insert new designs or groups.

*EDIT GROUP*

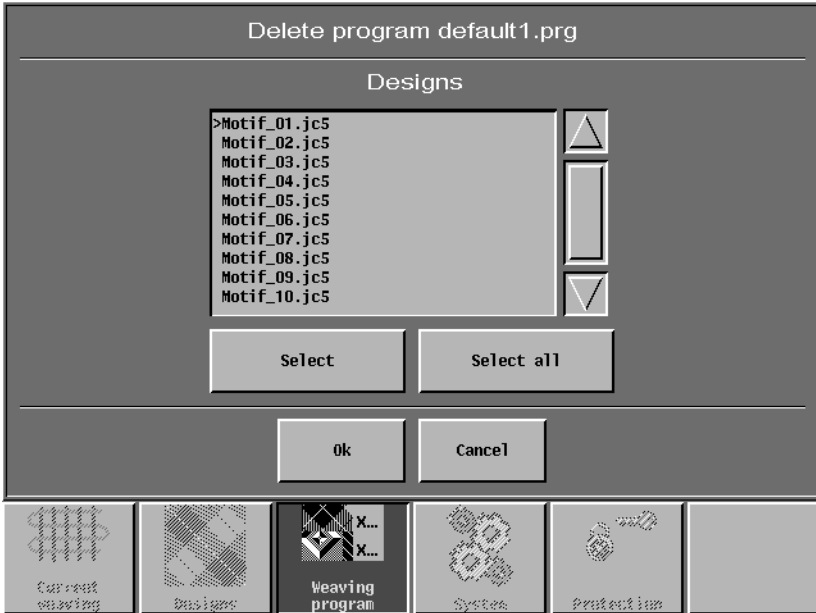
- Select one of the groups in the existing list.
- Position the cursor on the part to be modified and proceed in the same way as for creating a program.

To change one of the parts of the group:

- Position the cursor in the part desired and point above it.
- A groups or designs list is displayed.
- Select the name desired.

*DELETE A GROUP*

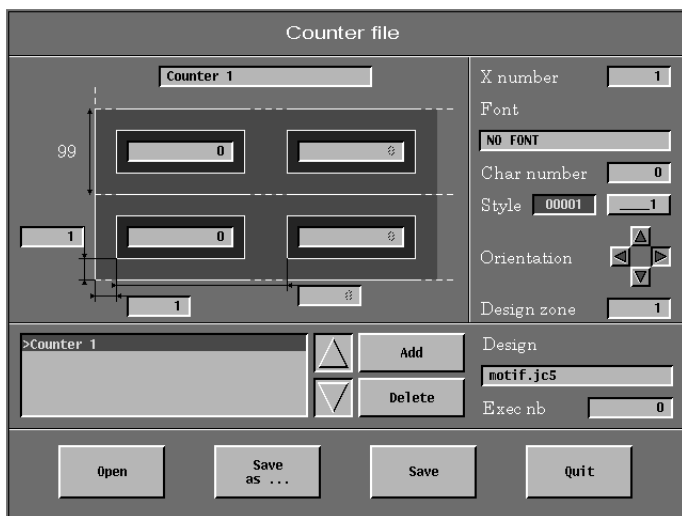
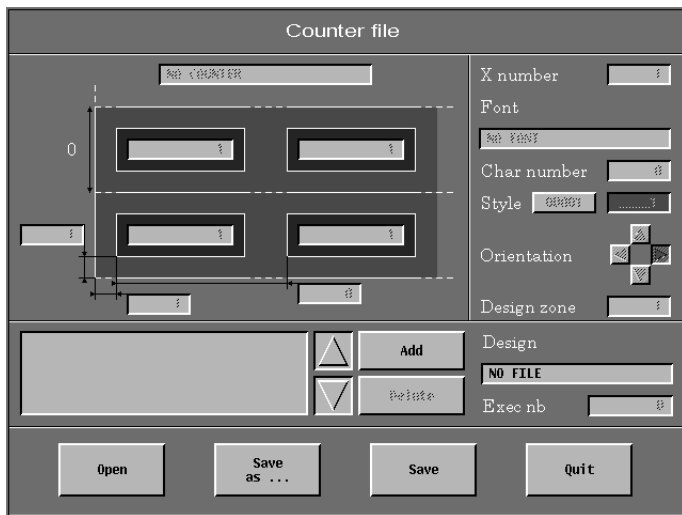
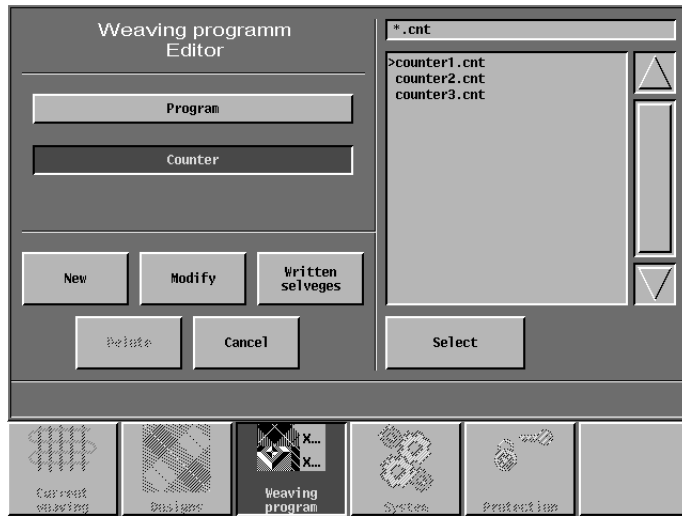
This permits deleting an existing group by selecting it in the list proposed.



### **9.3 - DELETE A WEAVING PROGRAM**

Allows you to delete a weaving program and the designs associated with it.

- Select the various designs in the list proposed.
- Validate deletion of the weaving program and designs.
- Confirm by pressing the 'Yes' key.

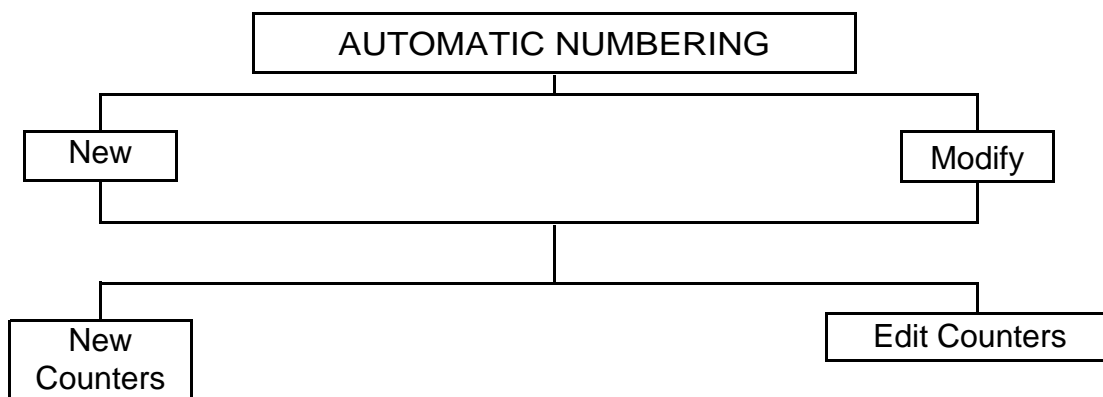




## 10 - AUTOMATIC NUMBERING FILE (OPTION F39261160)

Enables an automatic numbering file to be created or modified.  
An automatic numbering file allows various independent counters to be defined to identify items in a pattern. Each counter has its own incrementation rules.

### 10.1 - FUNCTION STRUCTURE



### 10.2 - CREATE/MODIFY AN AUTOMATIC NUMBERING FILE

#### *PATTERN*

##### **Pattern (1):**

- Select the pattern to be woven.

##### **Nbr Exec (2):**

- Enter the number of pattern executions (0 corresponds to an infinite execution number).

#### *ADD/DELETE*

##### **Add:**

- Add a counter.

##### **Delete:**

- Deletes the counter selected.



1

2

3

4

5

6

7

8

9

Counter file counter4.cnt

Counter 1

99

2

1

1

1

X number 1

Font font1.fnt

Char number 0

Style 00001 1

Orientation

Design zone 1

Design motif.jc5

Exec nb 0

Add

Delete

Open Save as ... Save Quit

Fichiers de compteurs counter4.cnt

Counter 2

99

101

201

11

100

200

21

800

X number 2

Font font1.fnt

Char number 3

Style 00001 1

Orientation

Design zone 2

Design motif.jc5

Exec nb 0

Add

Delete

Open Save as ... Save Quit

## COUNTER

### **Counter name (1):**

Enables the name of the counter to be defined. When a counter is created, the default name is "counter x".

### **Number in X:**

Allows the counter's repetition number to be defined in the width of the pattern.

### **Font:**

Allows the font used for this counter to be selected. If "NO FONT" is selected, the "default.fnt" font will be used during weaving.

### **Nbr characters:**

This is used to define the number of characters used for the weaving of this counter. If its value is 0, the "Style" field is not used and the number of characters will be determined by the value of the counter. If the value of the "Number of characters" field is less than the number of characters of the counter, the counter will be truncated to the value of the "Number of characters" field. For example, the value 1004 with the "Number of characters" field initialised at 3, number "004" will be woven whether the style is space or zero.

### **Style:**

Allows to define if spaces or 0 (zeros) are inserted to complete the counter to the number of characters defined in the "Number of characters" field, if it is other than 0.

### **Orientation:**

Enables the write direction of the counter to be defined.

### **Pattern zone:**

This allows you to define the zone of the pattern where the counter will be inserted. The hook number information of the counter's definition is related to the hooks in this zone.

### **Counter position and values:**

- Field (7) is used to define the counter's initial value.
- If the "Number in X" field (9) is greater than 1, field (8) allows you to define the second value of the counter in the pattern width. The increment between fields (8) and (9) is used for the X counter repetitions in the pattern's width.
- Field (2) defines the value of the counter during the second execution of the pattern. The increment between fields (5) and (2) is used for each pattern execution.
- Field (6) defines the hook of the zone considered in the pattern (10) used as the first hook of the counter.
- If the "Number in X" field (9) is greater than 1, field (7) allows you to define an offset in hooks between 2 counters in the pattern width.
- Field (4) defines the pick of the pattern used as the first pick of the counter.
- Field (3) indicates the number of picks in the pattern.



Font creation

Font name: font3.fnt  
Design: number.jc5 Zone: 1

	First Hook	Hooks Nb	First Pick	Picks Nb
0.jc5	5	10	11	14
1.jc5	15	10	11	14
2.jc5	25	10	11	14
3.jc5	35	10	11	14
4.jc5	45	10	11	14
5.jc5	55	10	11	14
6.jc5	65	10	11	14
7.jc5	75	10	11	14
8.jc5	85	10	11	14
9.jc5	95	10	11	14
space.jc5	105	10	11	14

Buttons: Reset, Ok, Cancel

Font select

File list: \*.fnt, >default.fnt, font1.fnt, font2.fnt

Buttons: New, Delete, View, Ok, Cancel, Select

Font display

font3.fnt

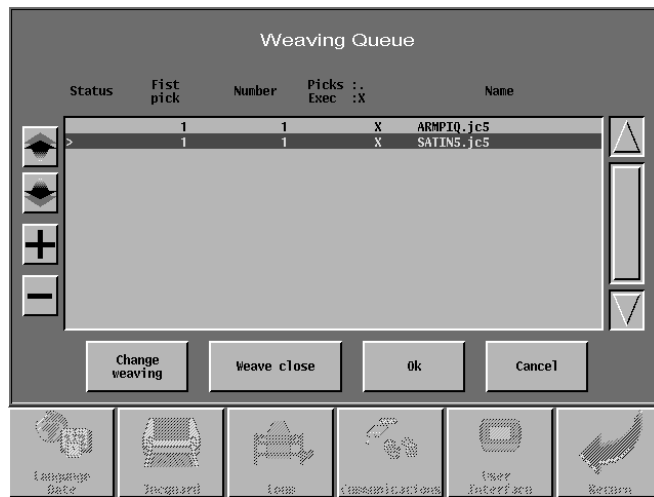
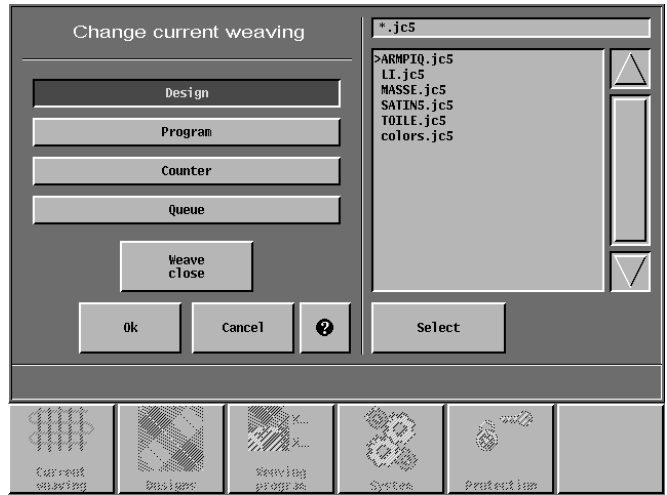
0.jc5	1.jc5	2.jc5	3.jc5	4.jc5
5.jc5	6.jc5	7.jc5	8.jc5	9.jc5
space.jc5				

Button: Quit

**FONTS:**

The font selection screen also allows you to create, delete and view a font.

When creating a font, the positions and sizes of the font's various patterns are saved. In the creation screen, simply select an existing font and the position and size values are recovered. In order to create a new font, the name of the font and the name of the pattern from where the font will be extracted must be modified.



# 11 - WEAVING LIST

This weaving option is added to the pattern and program modes.

Access is gained only via the weaving change function.

## **Procedure:**

Select the list button (1) and the Weaving List screen appears.

Complete list management is controlled via this screen.

The required information is as follows:

- The filename.
- The operating mode:
  - pick (a defined quantity of picks will be woven).
  - execution (execution of a whole number of repetitions of the file).
- The number of executions or picks programmed.
- The starting pick in the pattern.

The above parameters are displayed as well as a file status indicator (free or locked).

The list may be modified at any time by either adding, deleting or swapping patterns.

## **11.1 - ADD AN ELEMENT TO THE LIST**

### **+ key**

A selection screen appears.

### **select the following parameters:**

- The pattern to be inserted.
- The operating mode: pick or execution.
- The number of executions or picks.
- The starting pick.

Confirm or cancel using the Validate or Cancel keys.

## **11.2 - DELETE AN ELEMENT**

### **- key**

- Select the pattern to be deleted with the cursor.
- Delete the element with the key.

## **11.3 - SWAP TWO ELEMENTS**

### **Use the selection arrows (2)**

- the swap is made between the selected pattern and the preceding or the following pattern.

Weaving Queue

Status	Fist pick	Number	Picks : Exec :X	Name
> X	1	1	X	ARMPIQ.jc5
	1	1	X	SATINS.jc5



**11.4 - CLOSE WEAVING**

Deselection of files currently being weaved.

**11.5 - WEAVING CHANGE**

Return to the program or pattern modes.

**11.6 - VALIDATE**

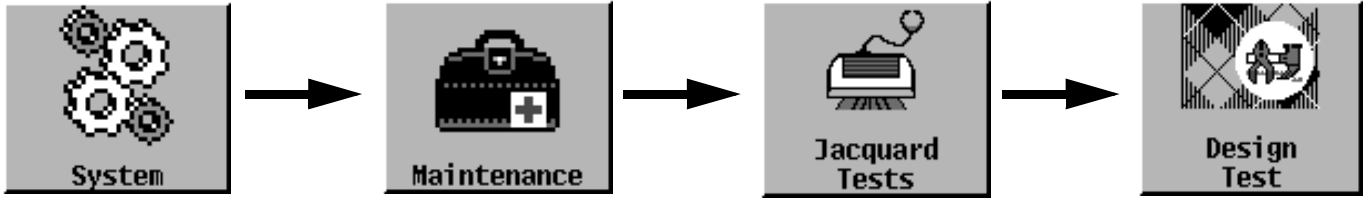
This key activates the list mode.  
It is available only when in list mode  
(the key is present if the list mode is not validated).

**11.7 - CANCEL**

This key allows you to leave the application without changing the weaving mode  
(the key is present if the list mode is not validated).

**11.8 - CLOSE**

This key allows you to leave the list screen  
(key present if the list mode is validated).



**MICRON test design**

sans-nom.tst

00695	00723	00751	00779
00681	00709	00737	00765

Module 93    UP    DOWN

Ribbon 7    UP    DOWN

Line 9    UP    DOWN

CICO << 1    CICO >>    UP    DOWN  
 MICRON << 1    MICRON >>    UP    DOWN

Quit    Save    Weaving

Callout 1 points to the grid area. Callout 2 points to the code boxes. Callout 3 points to the CICO/MICRON controls.

## 12 - MAINTENANCE OF THE JC5 CONTROLLER



It permits carrying out tests on the different devices of the Jacquard machine, to check its correct operation, and to access the controller configuration.

### 12.1 - CREATING A DESIGN TEST

The pick of this design test replaces the pick of the weaving in progress, when pressing the weaving key. This file is interpreted as a design file of a single pick by the machine but it is not woven. This permits detecting and localizing breakdowns in the operation of the hooks by activating them one by one.

Normal weaving is restarted on quitting the application.

- Description of the screen and functions:
  - The plan of the modules appears in the upper left-hand corner of the screen (1).
  - By default, the module selected is the first module of the first line.
  - Window (2) is a zoom of the module selected and the eight boxes correspond to the module's eight harness cords.
  - To displace the selection frame (3), press directly on the module desired or use the direction arrows on the front panel.
  - Window (2) changes to reflect the new frame selected.
  - The maximum number of ribbons which can be displayed on the screen is 12.
  - The maximum number of lines is 32.




The  and  keys allow you to display the modules controlled by the various CICOs.

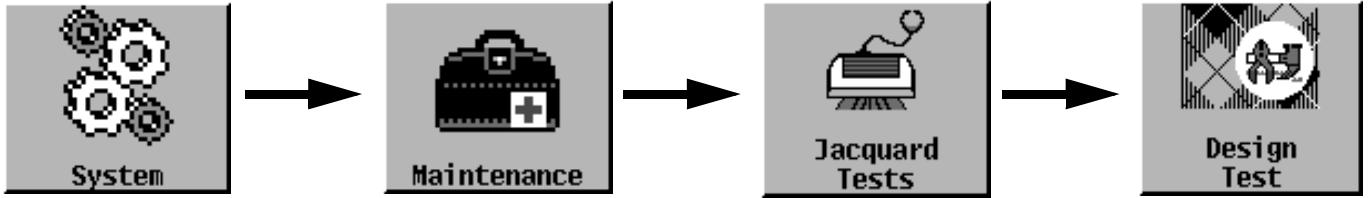
A CICO board controls a maximum of 12 ribbons on 32 modules lines.

- Example:

Jacquard machine configuration: 10240 hooks by 32 (in depth). By default, window (1) displays the ribbons controlled by CICO 1 (harness cords 1 through 3072).

Press .

- The window displays the ribbons controlled by CICO no. 2 (harness cords 3073 to 6144).
- Pressing  again displays the next and so on.
- The keys  and  are used when the JC5 is connected to several Jacquard machines.



MICRON test design

sans-non.tst

00695	00723	00751	00779
00681	00709	00737	00765

Module 93 UP DOWN

Ribbon 7 UP DOWN

Line 9 UP DOWN

Quit Save Weaving

CICO << 1 CICO >> UP DOWN

MICRON << 1 MICRON >> UP DOWN

1, 2, 3

Weaving test choice

no-name.tst

\* .tst

Ok Cancel Select

MICRON << 1 MICRON >> UP DOWN Quit Save Weaving

- Creating a design test:
  - assign the upper or lower position,
  - either to lines,
  - either to the ribbons,
  - either to the modules,
  - either to the harness cords of the module, by pressing directly in the window (1),
  - either to all modules controlled by a CICO,
  - or to the entire machine (3).
  - The module's number as well as the number of the line and the ribbon where it is located is defined by the position of the selection frame (2).
  - Next Confirm your design test; then start with the Weaving program.



1

2

Jacquard temperature

Jacquard	Actual temperature	Maximum
1	73 °F	80 °F (04/29/1999 18:00)

Temperature unit

°C

°F

Review Close

3

4

Since 10/13/1998

Design Test Temperature Measure Return

Detailed description: This is a screenshot of a control panel interface. At the top, the title "Jacquard temperature" is centered. Below it, a table displays data for Jacquard 1, showing an actual temperature of 73 °F and a maximum temperature of 80 °F recorded on 04/29/1999 at 18:00. A date range "Since 10/13/1998" is shown in a text box above the maximum value. Below the table, there are two radio buttons for "Temperature unit", with "°F" selected. At the bottom of the main panel are two buttons: "Review" and "Close". Below the main panel is a row of five icons: "Design Test", "Temperature Measure" (highlighted), and "Return". Four numbered arrows point to specific elements: arrow 1 points to the Jacquard ID "1", arrow 2 points to the maximum temperature value, arrow 3 points to the "Temperature Measure" icon in the bottom bar, and arrow 4 points to the "Return" icon in the bottom bar.

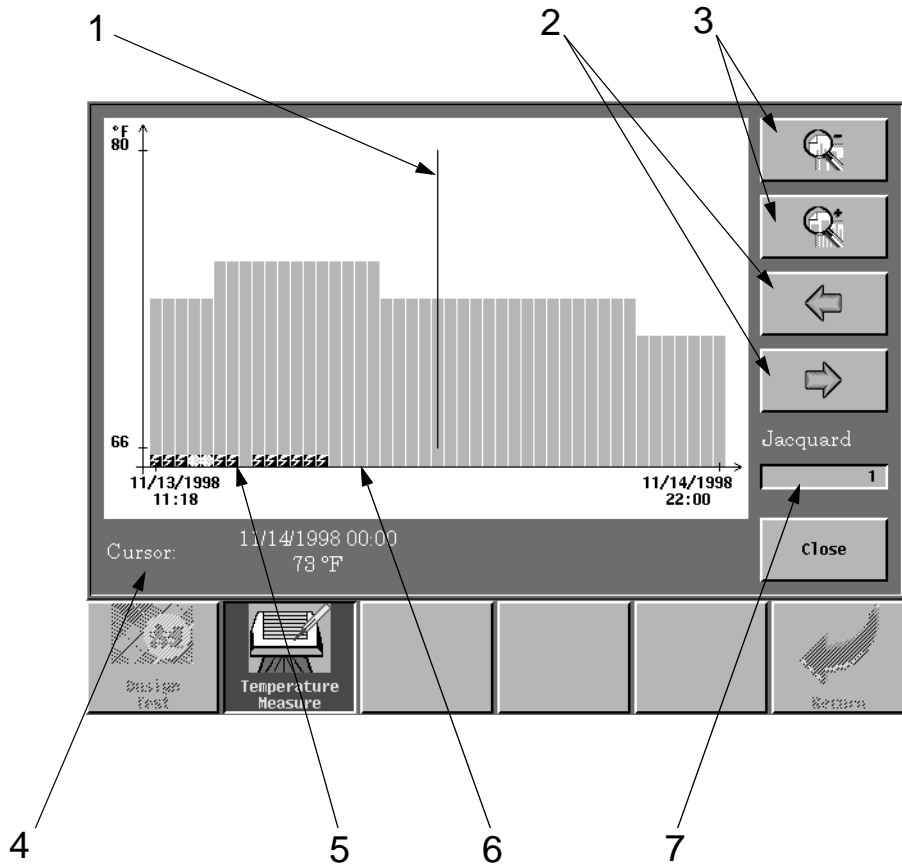
## **12.2 - TEMPERATURE MEASUREMENT IN THE JACQUARD MACHINE**

Certain Jacquard machines are equipped with a temperature sensor. The screen permits displaying the results of measurements made periodically (one per hour).

The first screen presents, for each of the Jacquard machines connected to the JC5:

- the current temperature (1),
- the maximum temperature (4). The calculation period for the maximum temperature is chosen in field (2). This period can extend to one week, a month or to the entire measurement capacity of the JC5.

The History (3) key permits visualisation of all the measurement archives.





This screen presents the temperature measurement history. The keys (3) permit modifying the value of the zoom on the time scale. The values possible are:

- a sample per hour (value displayed when entering the screen),
- a sample per day (the value displayed is the maximum temperature of the day),
- a sample per month (the value displayed is the maximum temperature for the month).

The <next page> and <previous page> keys (2) permit moving in the pages of the history. The arrows external to the screen permit moving the cursor (1). The value of the sample under the cursor is displayed below the curve (4).

The small symbols on the curve indicate the restoring of power to the JC5 (symbol 6) and the resetting of the time of the JC5 (symbol 5).

Field (7) permits choosing the Jacquard machine for which you want to visualise the history.



### 12.3 - TESTING THE JC5

This permits testing the Inputs/Outputs board as well as the disk drive.

- Inputs/Outputs test:
  - A window is displayed with squares symbolising the inputs and outputs.
  - A small lamp inside a square corresponds to an active signal.
  - The outputs can be forced to zero or one, by pressing directly on the corresponding square.

**Caution:** the test leaves the outputs in their modified status.

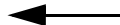
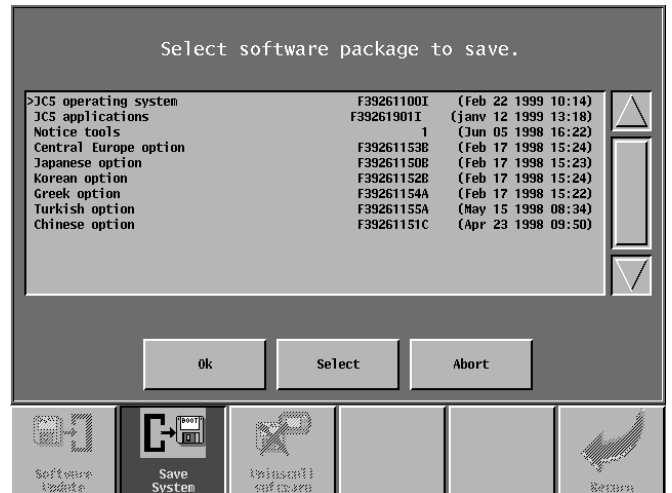
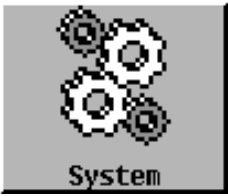
- Floppy disk test:

This permits testing the floppy disk drive.

- Insert the floppy disk.
- Press on "Floppy disk test".
- Confirm the test by pressing on "Yes".

**CAUTION**

All the data on the floppy disk are erased during this test.



## 12.4 - SYSTEM DISK

This permits loading, reinitialising, saving and deletion of a software version.

- Updating the software:

This permits loading a new version of the software or rebooting the controller after an incident. This function also permits loading optional software modules. Updating the software takes about forty seconds. Wait until returning to the main screen before using the touch screen.

- System backup:

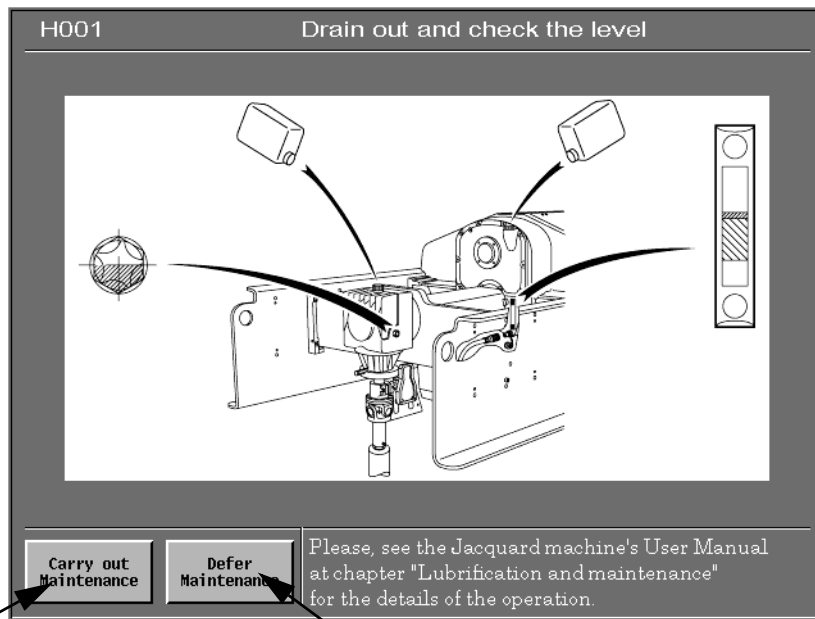
This permits creating a system disk to backup the microprocessor software. Choose the file to be saved from the list proposed. Note that this operation can take several minutes.

- Software deletion:

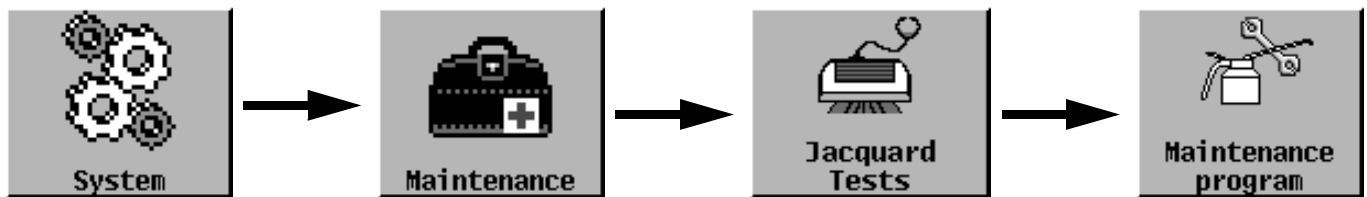
This permits deleting a software module. Only the optional modules can be deleted.

## 12.5 - VERSION

This informs you of the version of the softwares installed in the JC5, with the possibility of seeing the modifications and saving them.



2 → 1



LX3201 - Clean conditions

08/14/2001 16:48      68 Woven picks      0 Running time (Hr)

Completed operations	Detail	Woven picks	Running time (Hr)

Scheduled operations	Detail	Woven picks	Running time (Hr)
>N001 Scheduled	: 04/13/2001 16:44		
H001 Scheduled	:		500
G001 Scheduled	:		200
F001 Scheduled	: 07/14/2001 16:44		

Close      Save on diskette

5  
3  
4

## 13 - JACQUARD MAINTENANCE PROGRAM

The JC5 can automatically manage the Jacquard machine's maintenance program. This maintenance program is optional and is not available on all Jacquard machines.

When a maintenance operation must be performed on the Jacquard, an information screen appears on the JC5. This screen provides a graphic representation of what operation is to be performed. The user then has the choice of performing the operation at a later date (1) or to carry it out immediately (2). In the latter case, the user must identify himself in the maintenance program's history record.

When a maintenance operation is postponed, the consequences are as follows:

- an icon flashes on the JC5's main screen alternately with the JC5 and Jacquard machine synchronisation icon. Pressing this icon displays the description of the maintenance operation to be performed.  
When no maintenance operations are scheduled, pressing this icon will display the maintenance program's history record.
- the maintenance operation description screen is displayed each time the JC5 is powered up and following each weaving machine shutdown lasting more than 5 minutes.
- the weaving machine cannot restart while the maintenance operation description screen is displayed.

### 13.1 - MAINTENANCE PROGRAM HISTORY RECORD

The maintenance program history provides a list of the operations already performed (3) and a list of future operations (4) to be conducted. For both lists, the "Detail" button allows you to view the description of the operation selected. For the list of future operations, a maintenance operation can thus be anticipated and performed before its deadline.

The following information is provided for each operation carried out:

- the date on which the operation was scheduled as well as the number of picks and corresponding operating hours.
- the date on which the operation was actually performed as well as the number of picks and corresponding operation hours.
- the name of the person who performed the maintenance operation.

The list of future operations indicates the foreseen deadline of each operation. This deadline may be expressed as a date, the number of picks woven, the number of operating hours or as a combination of these three elements. The current date as well as pick and operating hour meters are indicated at the top of the history screen (5).

The maintenance program history may be saved to a diskette in the form of a tabulated text file.





## 14 - UTILITIES

This permits managing files (copy, rename, etc.), using the calculator and converting the controller into a terminal.

### 14.1 - TERMINAL

A maintenance terminal is displayed on the JC5 screen. This terminal must only be used by qualified Stäubli personnel.

### 14.2 - SERVER TERMINAL

Here, the JC5 is used as a terminal of the server network. Ask your network supplier for advice to determine whether the server can use this function.

### 14.3 - FILE MANAGEMENT

This permits carrying out write, read, erase and rename operations for files on the hard disk or floppy disk and the network to read the server files.

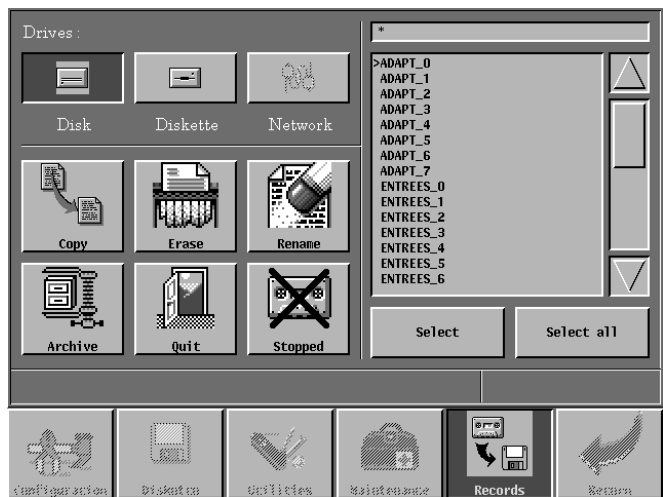
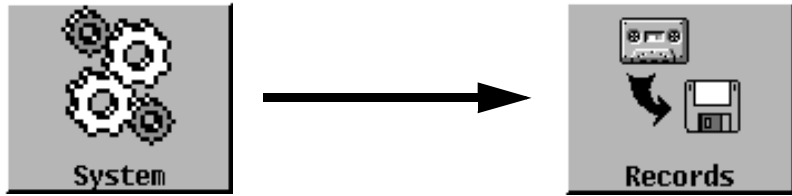
- **Copy**
  - Choose the home drive.
  - Select the file(s) to be copied in the list presented.
  - Choose the destination drive by using the COPY icon.
- **Erase (only hard disk and floppy disk)**
  - Select the drive containing the file to be erased.
  - Select the name(s) to be erased and point to "Erase".
  - Confirm your request.
- **Rename (only hard disk and floppy disk)**
  - Choose the home drive.
  - Select the name(s) to be renamed in the list presented.
  - "Rename" them by using the alphanumeric keyboard.

### 14.4 - CALCULATOR

This gives access to a four operation calculator comprising different basic functions:

- **A few basic functions:**

BS key (Backspace):	This permits erasing the last character typed.
STO key (Store):	This permits memorising a result or a figure. The contents of the memory are displayed opposite "Memory".
RCL key (Recall):	This permits recalling the contents of the memory to the screen.
DEL key (Delete):	This permits erasing a character after selecting it with the arrows.



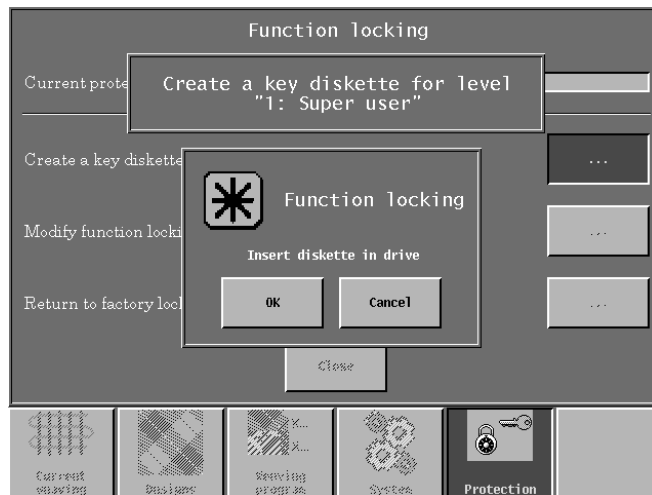
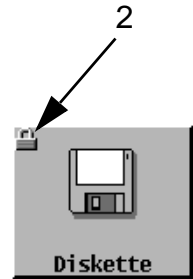
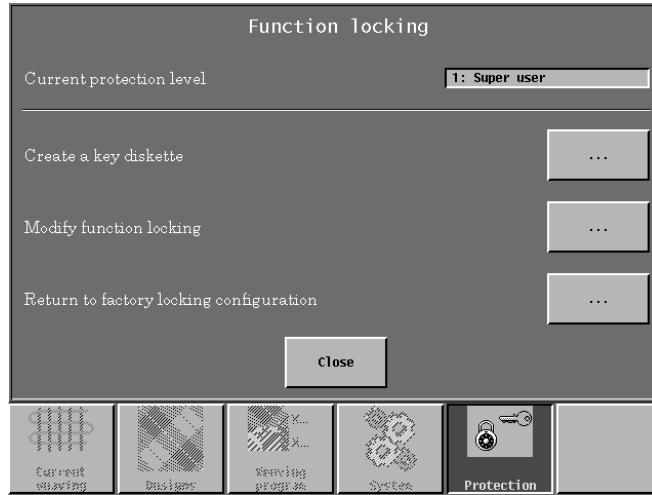
## 15 - SPY

This option permits archiving different files that reflect events occurring during weaving, for example, on the serial link or on inputs. These files are permanently updated, as soon as an event occurs. It is thus possible to save them on a floppy disk when a weaving problem happens, in order to facilitate finding the problem. This operation must be done immediately after a fault is detected, since, when the machine is running, the recordings are made constantly, with the old data being replaced by the most recent.

- Select the spy file(s) to be archived. This operation is optional.
- "Archive" (Start this step if you want to archive all the files).
- Select file "record.gz".
- Copy it on a floppy disk.
- Send the floppy disk to STÄUBLI Faverges.

In the factory configuration, key A5 (located on the front panel), permits direct access to this function (see chapter "Configuration") and saving all the spy files on the hard disk (compressed in file "Record.gz"), then on a floppy disk.

By pressing on the "Current" button, you can stop the spy monitoring function. The button changes to "Stop" status. You simply need to press this key again or cut off the power to the JC5 to reactivate the function.



## 16 - SECURITY

This menu permits customising access rights to different functions, according to one of the four security levels. Thus, according to your choice, you can limit, in varying degrees, the possibilities for modifying the different fields of each function. Pressing on a non-authorized function icon or field (identified by a padlock (2)) will therefore have no effect.

### 16.1 - CHOICE OF SECURITY LEVEL

Fill in field "Current Security Level", by choosing the level:

- 1 - Super user
- 2 - Modification
- 3 - Save
- 4 - Weaving

**CAUTION**

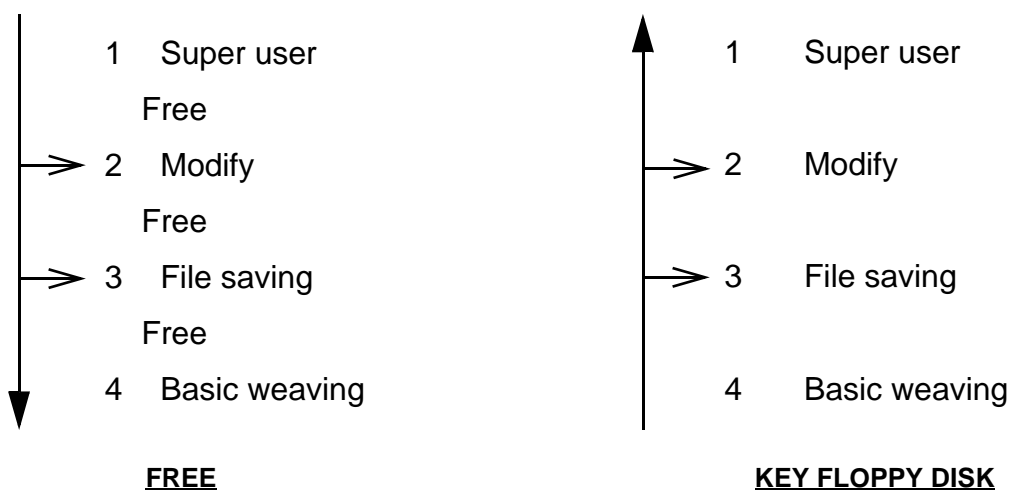
Before any change of level, make a "super user" level floppy disk (see next chapter).

This key disk will permit retrieving all the access authorisation when you want to change from a lower security level to a higher one.

The number of prohibited functions increases the further down the list from "Super user".

The prohibited functions are marked by a small padlock (2).

Level changes may be made freely from Super User to Basic weaving. However, a system disk is required to advance to the next higher level in the opposite direction.





Function locking

Current protection level: Create a key diskette for level "1: Super user"

Create a key diskette: [...]

Modify function locks: [...]

Return to factory locks: [...]

Function locking

Insert diskette in drive

[OK] [Cancel]

[Close]

Current weaving | Designs | Weaving program | System | **Protection**

Locking configuration

Select a protection level for each object which has a little "Key" attached. Object without "Key" cannot be protected.

The "Ok" key will save your modifications, the "Cancel" key will cancel all your modifications.

[Ok] [Cancel] [Main Screen]

Current weaving | Designs | Weaving program | System | **Protection**

Object is available from level:

- 1. Super user
- 2. Design modifications
- 3. File saving
- 4. Basic weaving

[Continue] [Back]

Current weaving | Designs | Weaving program | System | **Protection**

Current weaving status

Loom Forward stopped 0 Rpm

Design:  [View]

Execution: [1] / [ ]

Pick: [10] / [379] in cycle: [1]

Cycle: [10] / [379] ( 1 picks / cycle )

[Close]

Current weaving | Designs | Weaving program | System | **Protection**

## 16.2 - CREATE A KEY FLOPPY DISK

Creating a key floppy disk is needed to change from a lower security level to a higher one. This disk is very important since it will be requested for each change of level (from a lower level to "Super user" level).

### CAUTION

Before any operation, make a "super user" level floppy disk.

#### To do this:

- Make sure that "Super user" appears in frame 1.
- Insert a blank floppy disk.
- Generate a key floppy disk.

#### To generate a key floppy disk in other security levels:

- Change the current security level.
- Proceed as above.

## 16.3 - MODIFY SCREEN SECURITY

This permits limiting access to the different fields of each function, to avoid, for example, undesired modifications.

The fields which can be protected are identified by a small key. To modify a field's protection level:

- Select the field in question. A protection level selection screen associated with the field appears.
- Select the protection level to be associated with the field.
- Select "Continue" to modify the protection level and to run the function associated with the field. Select "Return" to modify the protection level only.

The "Main Menu" button allows you to modify the protection level of the fields on the main screen, that is to say, to limit access to the parameters of the current weaving operation in progress (weaving name, current pick number, deletion of errors, ...).

## 16.4 - RETURN TO FACTORY LOCKING CONFIGURATION

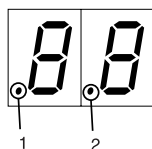
This function allows you to restore the original factory configuration. Return to the factory configuration can only be done at "Super user" level.





## 17 - LIST OF JC5 DISPLAY MESSAGES

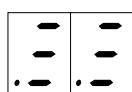
This readout module is situated directly underneath the diskette drive, behind the protective cover.



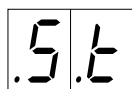
The first dot (1) on the left-hand side indicates the activity of the hard disk drive (dot on = disk working).

The second dot (2) beats steadily when the controller is active.

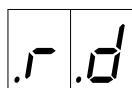
### LIST OF NORMAL ACTIVITY CODES



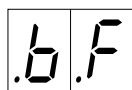
Normal status



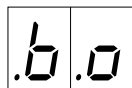
Running test program



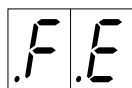
Normal code displayed during the loading of the boot program on the diskette



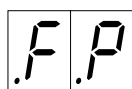
Normal code displayed during the execution of the boot program on the diskette



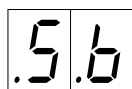
Normal code displayed during the execution of the program FLASH\_PROG



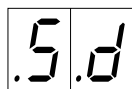
FLASH memory erasure



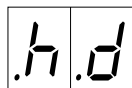
FLASH memory programming



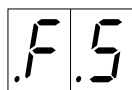
SCSI BUS initialisation



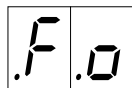
SCSI BUS checking



HDD request (at JC5 startup)



Diskette driver configuration



End of diskette driver configuration



## LIST OF ERROR CODES

	HALT status, software problem
	Identity problem on the CPU. Conflict between the software version and the hardware
	Error displayed during the execution of init.exe program
	Error during the execution of the program Stdlib: - Reload the book disk
	Version conflict error between the software and the CPU - Load a more recent software version
	Memory allocation error
	Error lost of program
	Error during the execution of the record program
	Error memory management problem
	RAM test failed
	FLASH memory write error
	FLASH memory compare error
	HDD not responding - Check the connection to the hard disk drive
	Hard disk problem

The majority of these problems may originate from the CPU.  
In case of doubt, please contact our Technical Department.





