INSTRUCTION MANUAL

DESIGN SYSTEM
CARTRIDGE

CONTENTS

CARTRIDGE

● CARTRIDGE

All the program for the design system is contained in this cartridge. Insert the cartridge into the cartridge slot of the pattern programming device body.

Stitch pattern data and block data are memorized in this cartridge and the battery saves the data about five years.
♣When 5 years have passed from purchasing the cartridge, ask a dealer to change the battery.

● ATTENTION

- You can knit according to the data programmed by the design system only when using the CK-35. Do not use other knitting machines.

- Do not use or leave the machine in a hot, humid, or dusty place.

- Always use the AC adapter included with the pattern programming device.

- Do not insert or remove the cartridge while the power switch of the pattern programming device or the knitter is in the ON position.

- While the screen shows "WAIT...", do not turn off the power switch of the pattern programming device and floppy disc drive.

- While the access lamp of the floppy disc drive is lit, do not turn off the power switch of the pattern programming device and floppy disc drive.

HOW TO USE THE DESIGN SYSTEM

FUNCTION OF THE DESIGN SYSTEM

Program the data for knitting such as stitch pattern, where to position the pattern in the knitting, and so on, using this system.
Transmit the data to the knitter (option) and knit according to the data you entered.

---

① PATTERN CREATION   MAIN MENU 1 (See page 6)

● Create all the pattern necessary for your garment.

(ex.)

903

Pattern No. 901

902

---
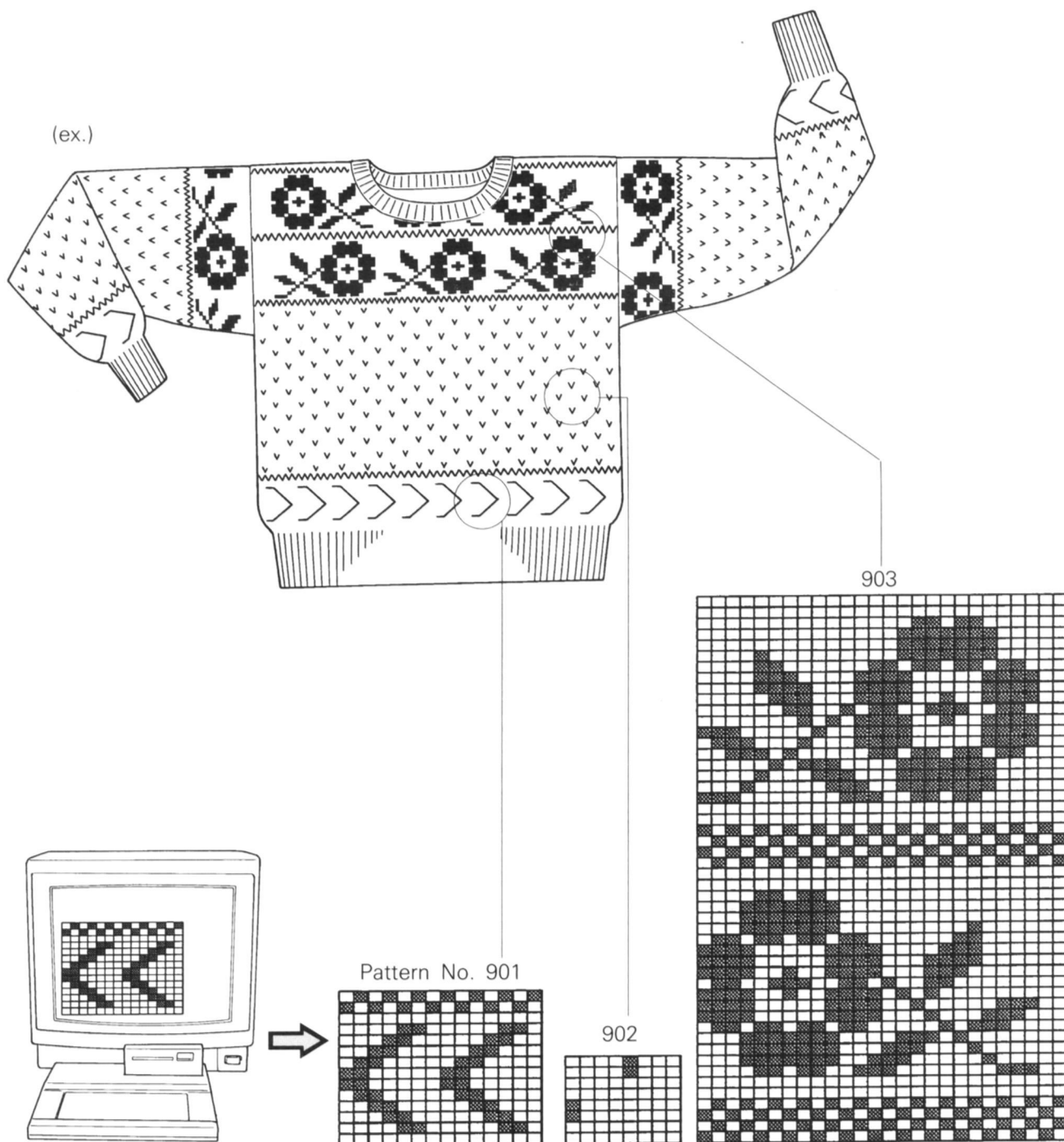
② PROGRAM THE BLOCK DATA   MAIN MENU 2 (See page 51)

- Each part, which is knitted separately according to the different knitting data such as tension gauge, bodice, or sleeve, is called block.
- It is necessary to program block data to knit the created patterns.

(Block data)

(ex.) Tension gauge   <Block No. 1>

903 —   60 rows   903

902 —   60 rows   902

Pattern No. 901 —   60 rows   901

                                                   0
                        Left 30 sts.   Right 30 sts.
                              (Knitting range)

(ex.) Front body   <Block No. 2>

                                      56 rows   903

                                      90 rows   902

                                                       901
                        14 rows   0
                        Left 86 sts.   Right 86 sts.

(ex.) Sleeve   <Block No. 3>

                                      31 rows   903

                                     110 rows   902

                                                       901
                        14 rows   0
                        Left 38 sts.   Right 38 sts.
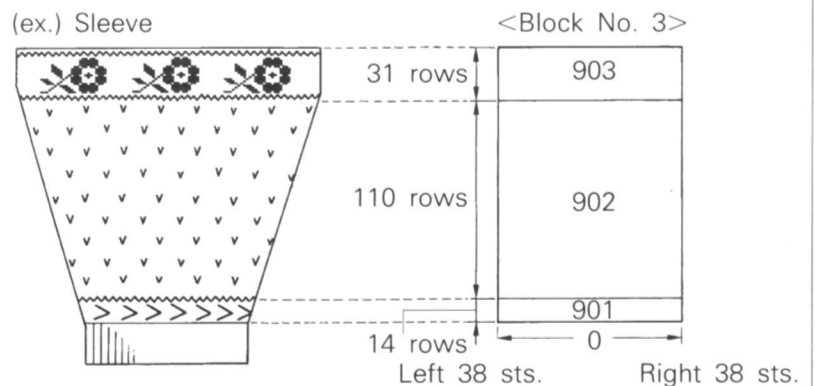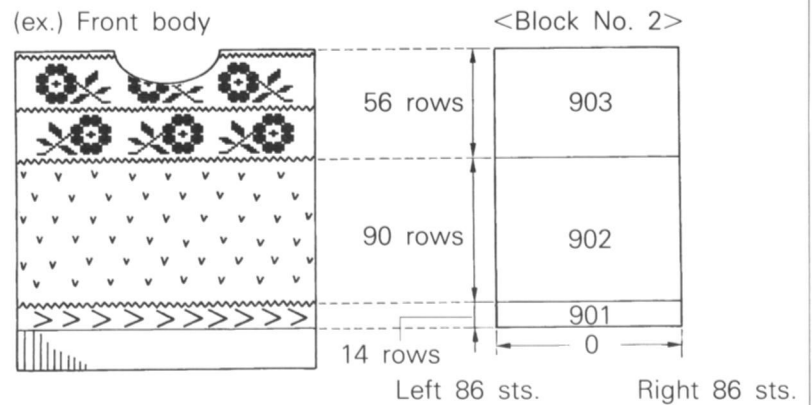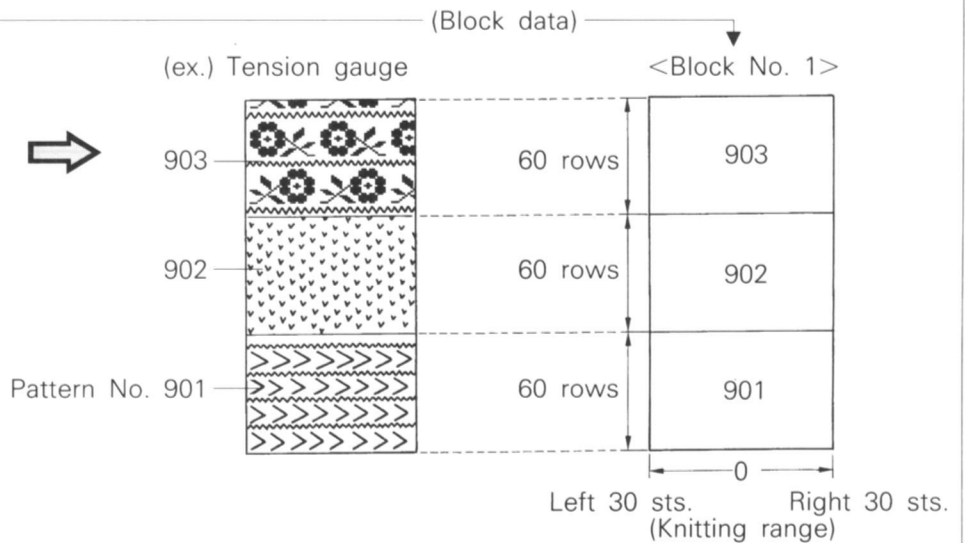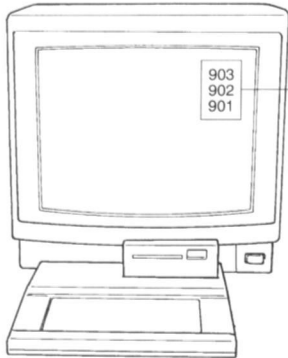
PREPARATION

● BEFORE SWITCHING ON THE POWER

See page 1 – 4 (NAME AND FUNCTION, CONNECTING PATTERN PROGRAMMING DEVICE AND TV SET) of the PPD110 instruction manual.

**① ** Insert the cartridge into the slot after making sure that the power switch of the pattern programming device is off.

Cartridge

Slot
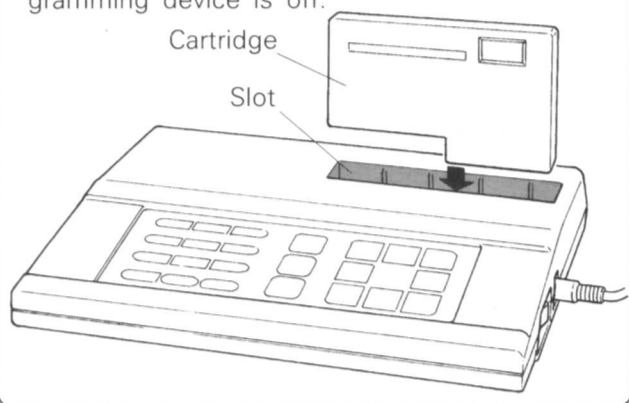
**② ** Turn on the power switch to the pattern programming device and TV set.

ON

OFF ON
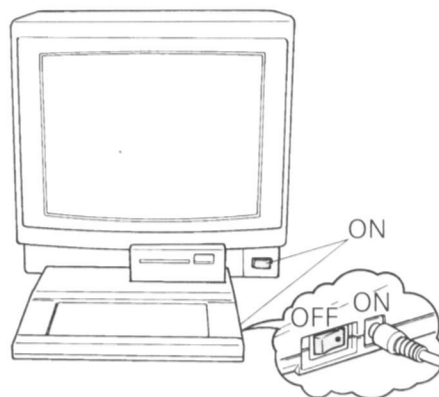
**③ ** Set the TV set channel to the same number as the channel selector setting of the pattern programming device. Message as below appears on the screen.

PPD
PATTERN
PROGRAMMING
DEVICE
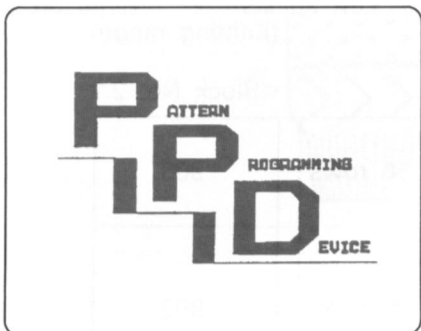
♥ If the message does not appear on the screen...

● Confirm that the pattern programming device and TV set are connected correctly and that power switch of the pattern programming device is on.
● If your TV set has a manual fine tune dial, adjust the picture, referring to the instruction book of the TV.

**④ ** Push the STEP key.
MAIN MENU appears on the screen.

```
        - MAIN MENU -

  1. PATTERN CREATION

  2. BLOCK FOR KNIT

  3. OPERATION FOR FDD

  4. PRINT OUT


  *  SELECT  1 – 4 = ■
```
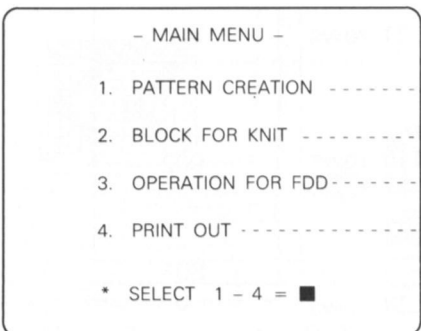
MAIN MENU

Use this option to create your own original patterns. You can also modify or delete the created pattern (see page 6).
Use this option to enter the knitting data for the block. You can also modify or delete the block data (see page 51).
Use this option to save data you created on disc, or to load the data from the disc to the cartridge with the floppy disc drive unit (option) (see page 73).
Use this option to print out on the printer (option) patterns or data (see page 74).

PATTERN CREATION (MAIN MENU 1)

```
- MAIN MENU -

1. PATTERN CREATION

2. BLOCK FOR KNIT

3. OPERATION FOR FDD

4. PRINT OUT

*  SELECT  1 - 4 = ■
```
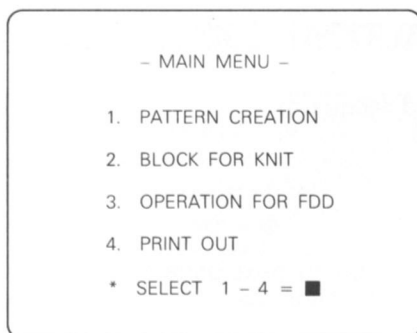
(1) Select option 1 from the MAIN MENU.

```
1
```

> **♥C key**
> If you make a mistake, push the C key to clear the number you entered, and enter the correct number.

Push the STEP key.

```
( STEP )
```

> **♥HELP key**
> Push the HELP key to return to the previous screen.

```
- PATTERN CREATION -

1. CREATE NEW PATTERN ------

2. EDIT PATTERN ------------

3. DELETE PATTERN ----------

4. INPUT MEMO DATA ---------

5. REVERSE PATTERN ---------

*  SELECT  1 - 5 = ■
```
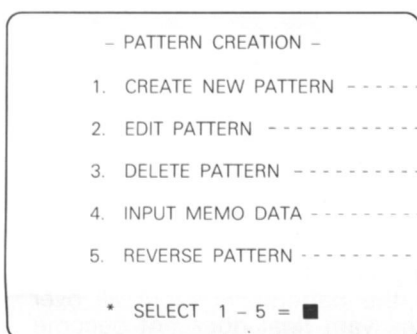
(2) The display shows the PATTERN CREATION MENU.

Use this option to create a new pattern (see page 6).
Use this option to modify patterns you created (see page 31).
Use this option to delete an unnecessary pattern, or all the patterns you created (see page 32).
Use this option to enter memo data with information for pattern knitting, or to modify the memo data already entered (see page 33).
Use this option to reverse the created pattern (see page 49).

♥When you want to go back to the MAIN MENU, push the HELP key.

◀◀◀ CREATE NEW PATTERN (PATTERN CREATION MENU 1) ▶▶▶

● Use this option to create a new pattern.

```
- PATTERN CREATION -

1. CREATE NEW PATTERN

2. EDIT PATTERN

3. DELETE PATTERN

4. INPUT MEMO DATA

5. REVERSE PATTERN

*  SELECT  1 - 5 = ■
```
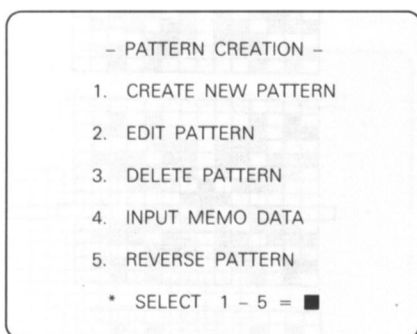
(1) Select option 1 from the PATTERN CREATION MENU and push the STEP key.

```
1   ·   ( STEP )
```

```
- SET PATTERN MODE -
PATTERN No. 901 ----------

1. S.B JACQUARD (MULTI-COLOUR)

2. D.B JACQUARD (2 COLOURS/ROW)

3. D.B JACQUARD (3 COLOURS/ROW)

4. D.B JACQUARD (4 COLOURS/ROW)

5. OTHERS

*  SELECT  1 - 5 = ■
```

(2) The display shows the screen of the "SET PATTERN MODE".

Your pattern is given a number by the computer (use this number as a reference on your design sheet to avoid confusion).

♣The computer allocates number 901 for your first pattern, number 902 for your second pattern, and so on automatically.

③ Select the stitch pattern mode according to the pattern you will create.

(ex. 4-colour double bed jacquard)

Push the STEP key.

[4) · (STEP)

STITCH PATTERN MODE
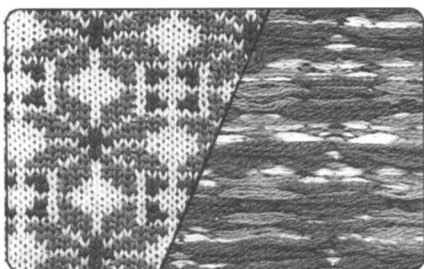
● **SINGLE BED JACQUARD** ...... When you create single bed jacquard, use this mode.
You can use up to six colours in one row. - - - - - - - - - - - - - -

♣If you use two colours in one row, there is another way: create the pattern using the pattern mode 5 (others) and knit in fairisle pattern.
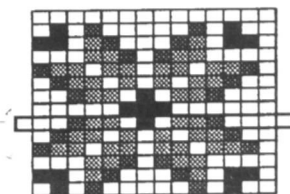
<ATTENTION>: When you knit single bed jacquard, both end needles must be in D position every row (see page 58).
If you knit single bed jacquard in motif, the yarn float becomes long and this is not good.
But, if you place the patterns in motif all over the knitting and the yarn float does not become long, you can knit single bed jacquard in motif (see page 61).
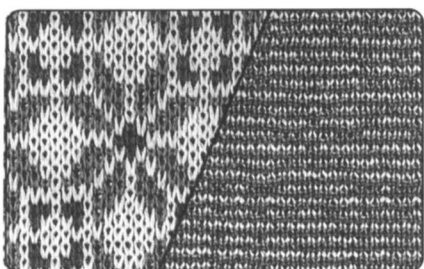
● **DOUBLE BED JACQUARD** .... When you create double bed jacquard, use 2 – 4.
Select proper mode according to the number of colours in one row.

● Double bed jacquard (2 colours/row)

Two colours are used in one row. (☐ ▓) - - - - - - - - - -
You can use up to six colours in one pattern.
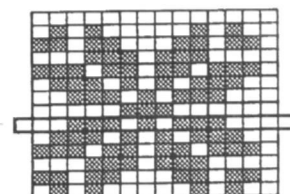
● Double bed jacquard (3 colours/row)

Three colours are used in one row. (☐ ▓ ■) - - - - - - - - -
You can use up to six colours in one pattern.
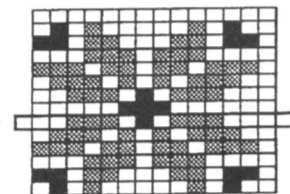
● Double bed jacquard (4 colours/row)

Four colours are used in one row. (☐ ▓ ▓ ■) - - - - - - - -
You can use up to six colours in one pattern.

(ex. Double bed jacquard (3 colours/row))
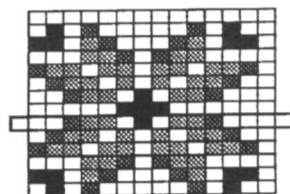
● **OTHERS** .... When you create other than double bed jacquard and single bed jacquard, use this mode.

☐ DOUBLE BED JACQUARD, SINGLE BED JACQUARD (PATTERN MODE 1 – 4)

```
- STITCH-ROW SET UP -

PATTERN No. 901

HOW MANY STITCHES

    STITCHES = ■
```

① Enter the number of stitches and push the STEP key.
(You can enter up to 200 stitches).

(ex. 14 stitches)
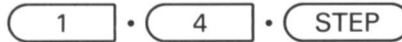
(1) · (4) · (STEP)

♥ If you knit the pattern in motif, enter the number of stitches which is the required number of stitches plus 1 (see page 11).
(ex. If the pattern has 14 stitches, enter 15.)
(motif ... see page 61.)

```
- STITCH-ROW SET UP -

PATTERN No. 901

HOW MANY STITCHES

    STITCHES = 14

MAXIMUM ROWS : 3729 ◀- - - -

HOW MANY ROWS

    ROWS = ■
```
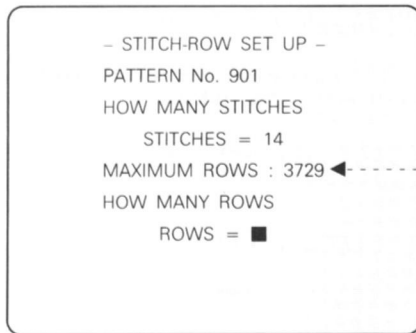
② Enter the number of rows and push the STEP key.

The display shows the maximum number of rows available for your pattern.
(You can use up to 3729 rows.)

(ex. 14 rows)
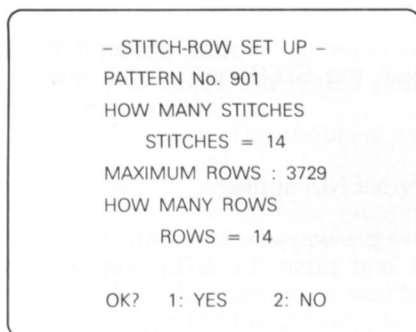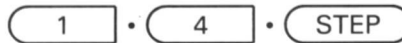
(1) · (4) · (STEP)

```
- STITCH-ROW SET UP -

PATTERN No. 901

HOW MANY STITCHES

    STITCHES = 14

MAXIMUM ROWS : 3729

HOW MANY ROWS

    ROWS = 14


OK?   1: YES     2: NO
```

③ Check the number of stitches and rows.

● If the number of stitches and rows are correct, select 1.
The screen will advance to the next step.
● If you want to change the number of stitches or rows, select 2.
The screen will return to ①.

Pattern creating screen

Pattern area

(1,1)   1☐ 2▦ 3▨ 4■ 5▨ 6☐

Stitch Row
number number
Cursor pointer
Cursor

Yarn number

Yarn holder keeper

6 5 4 3 2 1

Left-side colour changer
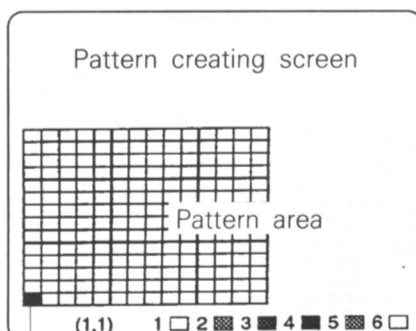
④ The pattern creating screen appears.

● PATTERN CREATING SCREEN
There are 40 stitches and 40 rows on the screen.
● PATTERN AREA
This area has the number of stitches and rows you entered. You can draw a picture in this area.
● CURSOR
The cursor shows the current location. You colour the square where the cursor is by pushing the numeral key which represents your necessary colour.
● CURSOR POINTER
The cursor pointer shows the location of the cursor by stitch number and row number.

6 yarn colours are displayed at the bottom of the screen and each number indicates the yarn number. The whole pattern area is coloured with colour 1 (yarn number 1) automatically.

♣ At first, 6 yarn colours are set automatically. You can change the colours by using the option "CHANGE YARN COLOUR" of the HELP MENU.
♣ The yarn number corresponds to the yarn holder keeper number, therefore set the yarn in the yarn holder keeper which has the same number as the yarn has.

– 8 –

1 □ 2 ▨ 3 ▨ 4 ■ 5 ▨ 6 □
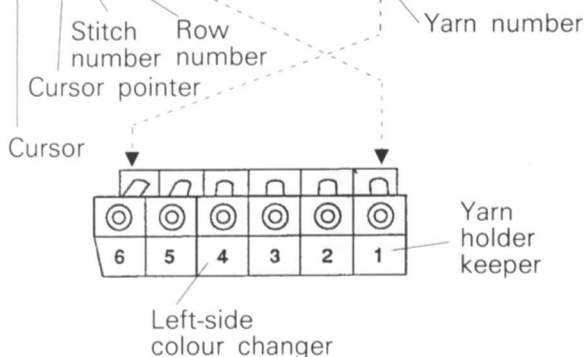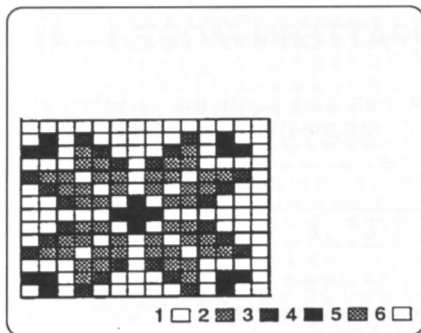
♥Keep the yarn number on the memo to remember easily when you thread the colour changer.

Yarn 1 ... Gray
Yarn 2 ... Yellow
Yarn 3 ... Brown
Yarn 4 ... gre

```
        – HELP MENU –
       PATTERN No. 901
   1.  END CREATION
   2.  TRANSFER CURSOR
   4.  CHANGE YARN COLOUR
   5.  REDUCTION
   6.  ERASE PART OF PATTERN
   7.  LOAD STORED PATTERN
   8.  VARIATIONS
   9.  TRANSFER PATTERN
  10.  CHANGE PATTERN AREA
  11.  CHANGE PATTERN MODE

   *  SELECT  1 – 11 = ■
```
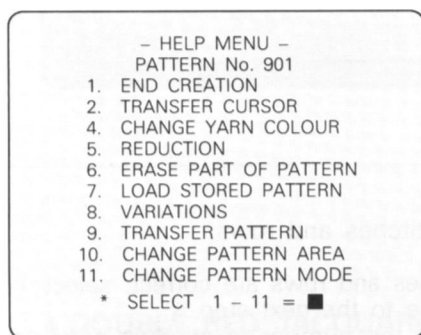
⑤ Draw the picture using 6 colours at the bottom of the screen (see "DRAWING METHOD").

Created pattern and knitting
• One square represents one stitch.
• Pattern area represents one pattern repeat. If you knit in all over pattern, you can knit the pattern all over the garment.
• When you view the knitting from the plain side, the pattern direction is different from the direction of the pattern on the screen. (You can reverse the created pattern. See page 49.)

♣When you knit the pattern in motif, see page 11.

♣See page 8 of the PPD110 instruction manual to move the cursor and page 10 to roll the screen.

♣When you use the sub-functions of the HELP MENU such as changing pattern area, see page 12.

♥When you want to stop drawing temporarily, see page 24.

⑥ When you finish drawing, push the HELP key.

HELP

The HELP MENU appears on the screen.

⑦ When you want to finish drawing, choose option 1 from the HELP MENU and push the STEP key.

1 • STEP

The PATTERN CREATION MENU appears.

♣You cannot return to the previous screen with the HELP key when you enter 1 and push the STEP key in this step.

♥When the error message appears, see page 80.

• When you enter the block data, push the HELP key. The MAIN MENU appears. See page 51.

DRAWING METHOD (STITCH BY STITCH)
① Move the cursor where you want to colour.

Cursor keys

(4,1) 1 □ 2 ▨ 3 ▨ 4 ■

Cursor
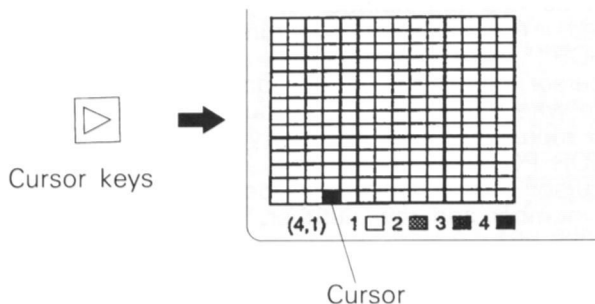
② Enter the yarn number with which you want to colour the stitch. (ex. yarn number 2)

2

You can check that the stitch is coloured with the specified colour.

(4,1) 1 □ 2 ▨ 3 ▨ 4 ■
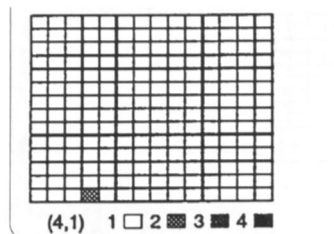
♥If you make a mistake, re-enter the correct yarn number.

♣If you want to colour the straight line, keep on pushing the cursor key and yarn number key simultaneously.

DRAWING METHOD (LARGE PART)

Frame the part you want to draw and specify the yarn number for changing.

① Push the DRAW key. Cross line is displayed where the cursor is.

| DRAW | ➡ |

(2,6) SET CORNER 1: ALL 3: R
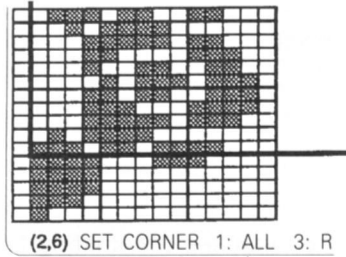
② Frame the part you want to change the colour.

(1) With the cursor keys move the cross line to the lower left corner of the area you want to draw.

Cursor keys ➡
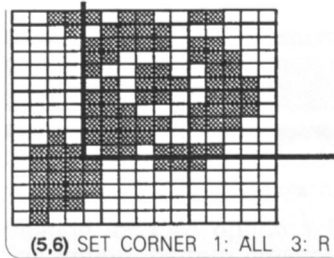
(5,6) SET CORNER 1: ALL 3: R

♥ If you check the whole pattern by reducing the pattern...
  ① Select 3. The reduced pattern appears on the screen.
    ♣ If you want to see another part of pattern on the pattern creating screen, move the white frame with cursor keys.
    ♣ If the pattern exceeds 200 rows, you can roll the screen up or down by selecting 1 or 2.
  ② Push the STEP key. The screen returns to the pattern creating screen.

(2) Push the STEP key.
Cross line is changed into a white frame of square.

(STEP) ➡

(5,6) 1 × 1 FRAME 3: RE
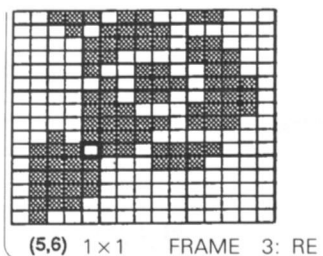
(3) Frame the area you want to change the colour with the cursor keys.

Cursor keys ➡

(5,6) 10 × 10 FRAME 3: RE
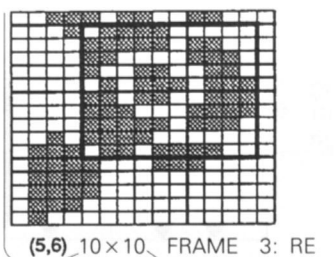
(Number of stitches)   (Number of rows)

♣ These numbers show how many stitches and rows the framed area has.

(4) After framing push the STEP key.

(STEP) ➡

ORIGINAL =   1 ☐ 2 ▨ 3 ▩
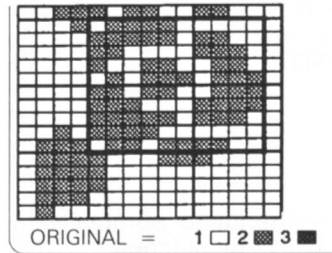
③ Enter the yarn number to be changed to another colour.

(ex. The part of yarn No. 2 is replaced by another colour.)

| 2 | ➡ |

Entered yarn number colour is displayed. - - - - -

ORIGINAL = ▨   1 ☐ 2 ▨ 3 ▩
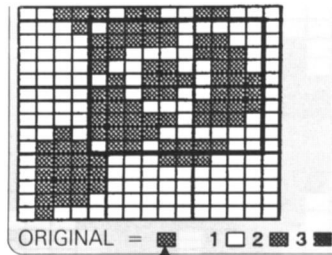
♥ If you make a mistake, re-enter the correct yarn number.

④ Push the STEP key.

(STEP)

⑤ Enter the yarn number with which you want to colour the specified part.

(ex. yarn No. 3)

| 3 | ➡ |

Entered yarn number colour is displayed. - - - - -

NEW = ▩   1 ☐ 2 ▨ 3 ▩
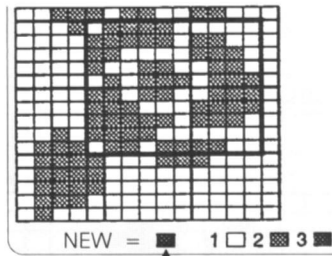
♥ If you make a mistake, re-enter the correct yarn number.

⑥ Push the STEP key.

(STEP) ➡

The framed part is coloured with the specified colour.

(5,6)   1 ☐ 2 ▨ 3 ▩
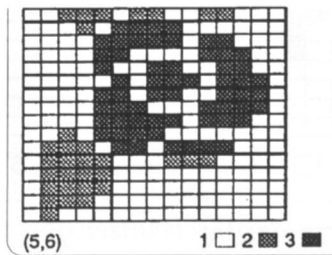
When you knit the pattern in motif.....

If you knit single/double bed jacquard in motif, note the following points when creating the pattern.
① When setting the pattern area, enter the number of stitches which is the required number of stitches plus one.
② Draw the pattern leaving right edge stitches empty.
③ Right edge stitches you leave represents background colour.
Colour the right edge stitches with the background colour.

<NOTE>: You use several colours for single/double bed jacquard. The computer cannot decide which colour is background, therefore you need to specify the background colour using the spare right edge stitches.
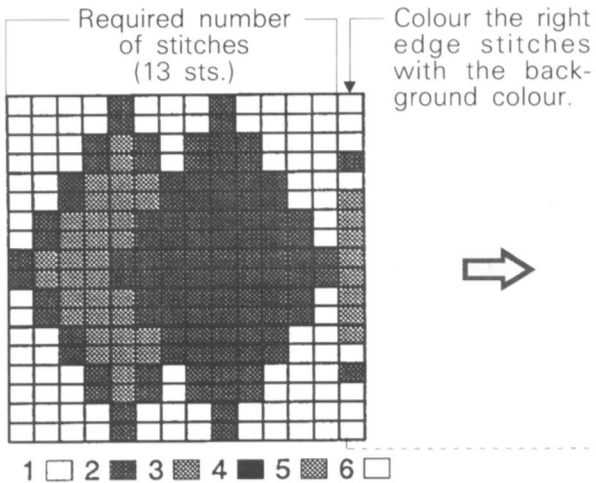
♣ When you see the knitting from the right side, the pattern on the screen appears with right and left reversed.

Required number of stitches (13 sts.)

Colour the right edge stitches with the background colour.

1 □ 2 ■ 3 ▓ 4 ■ 5 ▨ 6 □

(Right side) <One pattern repeat>

(Right side) <Two pattern repeats>

└─ 13 sts. ─┴─ 13 sts. ─┘

Required number of stitches (13 sts.)

Colour the right edge stitches with the background colour.

1 □ 2 ■ 3 ▓ 4 ■ 5 ▨ 6 □

(Right side) <One pattern repeat>
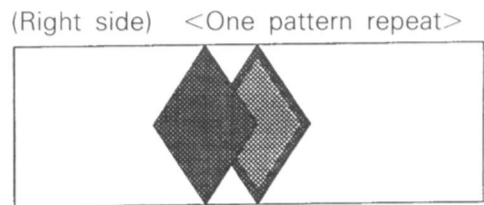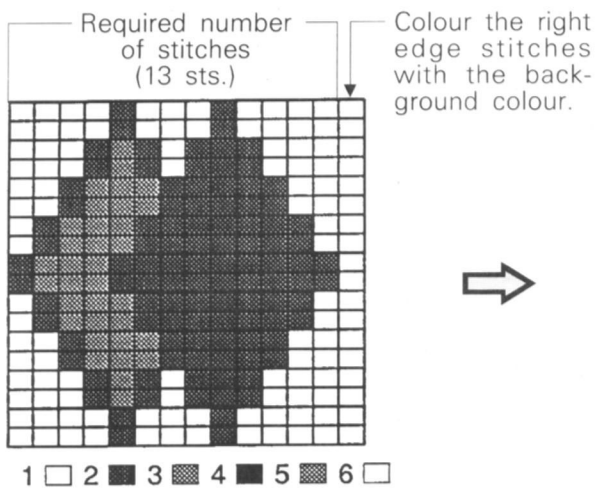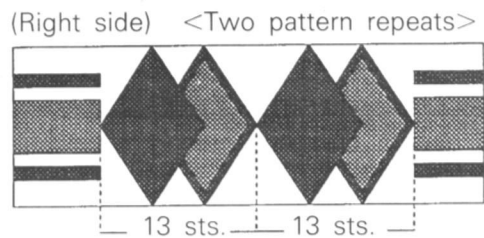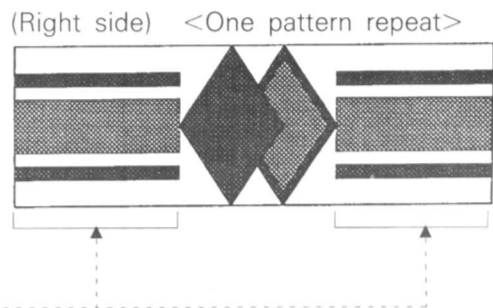
ATTENTION

• If you knit the pattern which is created for motif knitting and of which right edge stitches are coloured for background, in all over patterning, right edge stitch becomes only part of the one pattern repeat.

(Right side) <All over patterning>

└─ 14 sts. ─┘
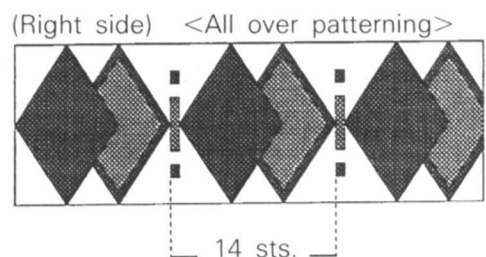
HELP MENU FOR THE DOUBLE BED JACQUARD AND SINGLE BED JACQUARD MODE

```
– HELP MENU –
PATTERN No. 901
1.  END CREATION
2.  TRANSFER CURSOR
4.  CHANGE YARN COLOUR
5.  REDUCTION
6.  ERASE PART OF PATTERN
7.  LOAD STORED PATTERN
8.  VARIATIONS
9.  TRANSFER PATTERN
10. CHANGE PATTERN AREA
11. CHANGE PATTERN MODE
  * SELECT 1 – 11 = ■
```

- The HELP MENU has sub-functions you can use when working with PATTERN CREATION MENU 1 (CREATE NEW PATTERN) or 2 (EDIT PATTERN) and selecting the double bed jacquard or single bed jacquard mode.

- Push the HELP key while the pattern creating screen is displayed and the HELP MENU will appear.

♣ The HELP MENU does not have the option 3.

♦♦♦ 1. END CREATION (HELP MENU 1) ♦♦♦

- To finish pattern creation, choose option 1 from the HELP MENU, and push the STEP key. If you do not work with this option, pattern creation does not finish. You cannot use an unfinished pattern for the block.

```
  1    · ( STEP )
```

The screen returns to the PATTERN CREATION MENU and you have finished pattern creation. If the error message appears, see page 80.
- To create another pattern, repeat the steps from page 6.
- When you input the memo data, see page 33.
- When you enter the block data, push the HELP key. The MAIN MENU appears on the screen. See page 51.
- When you finish programming with the design system, turn off the power switch of the pattern programming device and TV set. Created patterns are stored in the memory of the design system.

♦♦♦ 2. TRANSFER CURSOR (HELP MENU 2) ♦♦♦

(ex.) Cursor
Row number (35)
(38,35) 1 □ 2 ▨ 3 ▩ 4 ■ 5 ▨ 6 □
Stitch number (38)

- You can move the cursor without using cursor keys.

  Specify the stitch number and row number, and the cursor moves to the specified position directly.

  This function is useful when you move the cursor long distances.

- See page 12 on the PPD110 instruction manual to use this function.

◆◆◆ 4. CHANGE YARN COLOUR (HELP MENU 4) ◆◆◆

- You can change the six yarn colours at the bottom of the screen.
- When you change one yarn colour, all the part coloured in the same yarn colour is changed automatically.
  (ex. Change the colour of yarn No. 2 from green (colour No. 13) to orange (colour No. 9).)
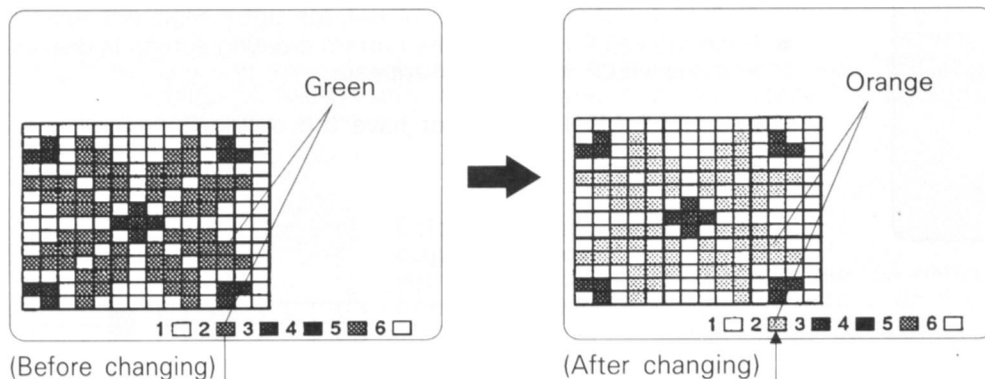
Green → Orange

1☐ 2▩ 3■ 4■ 5▩ 6☐   1☐ 2▩ 3■ 4■ 5▩ 6☐

(Before changing)   (After changing)

```
         - HELP MENU -
         PATTERN No. 901
    1.  END CREATION
    2.  TRANSFER CURSOR
    4.  CHANGE YARN COLOUR
    5.  REDUCTION
    6.  ERASE PART OF PATTERN
    7.  LOAD STORED PATTERN
    8.  VARIATIONS
    9.  TRANSFER PATTERN
   10.  CHANGE PATTERN AREA
   11.  CHANGE PATTERN MODE
       * SELECT 1 – 11 = ■
```

① Choose option 4 from the HELP MENU and push the STEP key.

[4] • (STEP)

```
      - CHANGE YARN COLOUR -
          YARN No. = ■

      1    2    3    4    5    6
     ☐    ■    ■    ■    ■    ☐

     1 2 3 4 5 6 7 8 9 1011121314 15
```
Yarn number

② Enter the yarn number you want to change and push the STEP key.

(ex. .... Yarn No. 2)

[2] • (STEP)

```
      - CHANGE YARN COLOUR -
          YARN No. = 2
          COLOUR No. = ■

      1    2    3    4    5    6
     ☐    ■    ■    ■    ■    ☐

     1 2 3 4 5 6 7 8 9 1011121314 15
```
Colour number

Colour palette

③ Choose the new colour from the colour palette by entering the colour number and push the STEP key.

(ex. .... Colour No. 9)

[9] • (STEP)

♥ If you make a mistake, push the HELP key. Enter the correct colour number and push the STEP key.

```
- CHANGE YARN COLOUR -
    YARN No. = 2
    COLOUR No. = 9

  1   2   3   4   5   6
 □   ▨   ■   ■   ▨   □

1 2 3 4 5 6 7 8 9 10111213 1415
[brightness bar]
   BRIGHTNESS LEVEL

OK? STEP: YES      3: REDUCE
```
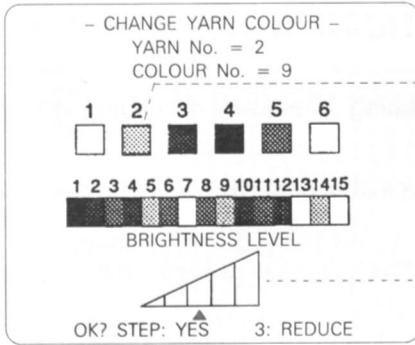
Colour
gauge

④ The yarn colour has been changed as you specified and the display shows the colour gauge. Now you can adjust the brightness of the colour you have just changed.

● When you use the colour on the colour palette as it is, push the STEP key and go to the step ⑤.

● If you check the whole pattern by reducing the pattern...

① Select 3. The reduced pattern appears on the screen.
  ♣ If the pattern exceeds .200 rows, you can roll the screen up or down by selecting 1 or 2.
② Push the STEP key.
  The screen returns to the colour gauge.

● When you change the brightness using the colour gauge....

```
- CHANGE YARN COLOUR -
    YARN No. = 2
    COLOUR No. = 9

  1   2   3   4   5   6
 □   ▨   ■   ■   ▨   □

1 2 3 4 5 6 7 8 9 10111213 1415
[brightness bar]
   BRIGHTNESS LEVEL

OK? STEP: YES      3: REDUCE
```

Push the ◁ key, the colour of the selected number gets deep. Push the ▷ key, the colour of the selected number gets light.

Deep ←——— ▲ ———→ Light

♣ ◁ or ▷ key moves the ▲ mark which shows the brightness now on the colour palette.

♣ When using colour number 1 (black) and 15 (white), you cannot adjust the brightness and the colour gauge does not appear.

♣ When you change the brightness of the colour using the colour gauge, the brightness of every part in the pattern coloured in the same colour is changed automatically.

```
- CHANGE YARN COLOUR -
    YARN No. = ■

  1   2   3   4   5   6
 □   ▨   ■   ■   ▨   □

1 2 3 4 5 6 7 8 9 10111213 1415
[brightness bar]
```

⑤ Push the STEP key, after adjusting the brightness. The screen returns to step ②.

[STEP]

● If you want to change the colour of another yarn number, repeat operation steps ② – ④.

● When you finish changing the yarn colour, push the STEP key.
The pattern creating screen appears.

◆◆◆ 5. REDUCTION (HELP MENU 5) ◆◆◆

- You can check the whole pattern by reducing it while you are creating a pattern exceeding 40 stitches and/or 40 rows.

  ◆ See page 19 of the PPD110 instruction manual about how to reduce the pattern.

(ex.)
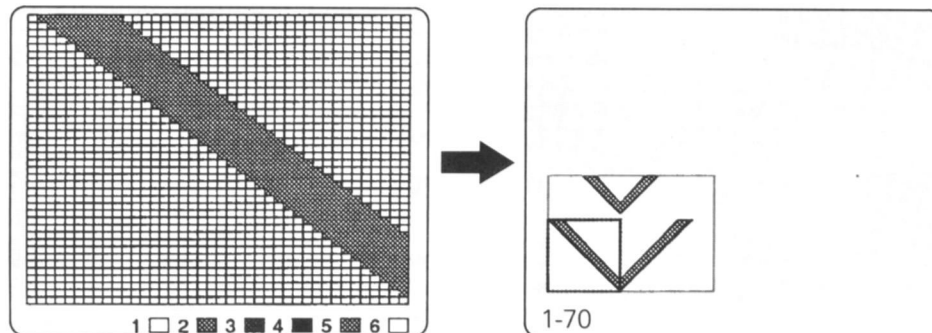
(ex.) Pattern area
Number of stitches:
  90 stitches
Number of rows:
  70 rows

◆◆◆ 6. ERASE PART OF PATTERN (HELP MENU 6) ◆◆◆

- You can erase a part of the pattern by framing the part.
  Erased part is coloured with yarn number 1.

  ◆ See page 20 of the PPD110 instruction manual about how to erase part of pattern.

(ex.)
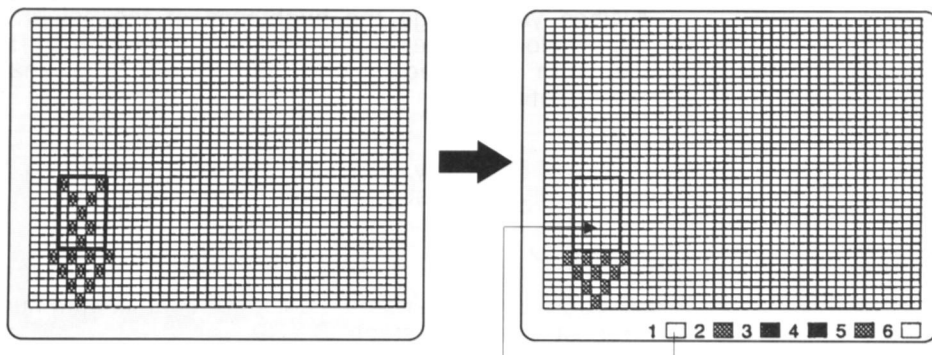
◆◆◆ 7. LOAD STORED PATTERN (HELP MENU 7) ◆◆◆

(1) FROM BUILT-IN PATTERN

- You can load the created pattern stored in the design system and modify or combine them in order to create a new pattern. You can load the pattern that you are creating now. (You can load any pattern in disregard of its pattern mode.)
  Also you can load the pattern which is stored in the design system with the pattern number 1 – 555.
  ♣The pattern book "STITCH WORLD", which has the photos and diagrams of these 555 patterns, is available as option.

- If the pattern you are going to load has memo data, that data will not be loaded.

COLOURING OF THE LOADED PATTERN

When you choose the single bed jacquard or double bed jacquard, it appears on the screen with the colouring as you specified. Other created patterns and 555 built-in patterns appear on the screen automatically coloured with the colours of yarn number 1 and 2. Colour the pattern to be loaded, with the six yarn colours on the pattern creating screen (ex. 1).
If you cancel a colour of the pattern to be loaded, the part of the canceled colour will not be loaded to the pattern creating screen (ex. 2 & 3).

◆See the following pages for the step-by-step operation.

1☐ 2■ 3▩ 4■ 5▩ 6☐
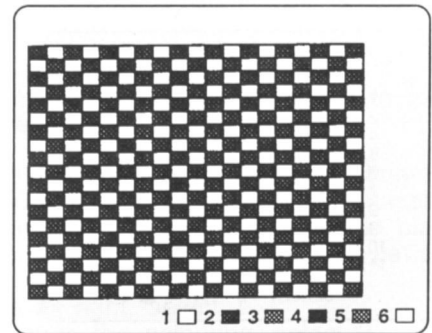
(Before loading)
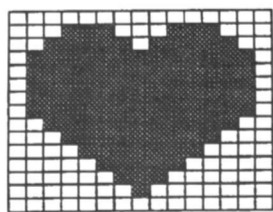
(Pattern to be loaded)
Background ... 1 ☐
Heart .... 2 ■
Yarn number

(ex. 1)
Load both the heart and background
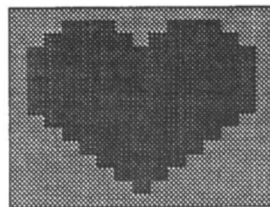
Background ... ☐ → 3 ▩
Heart .... ■ → 2 ■

1☐ 2■ 3▩ 4■ 5▩ 6☐
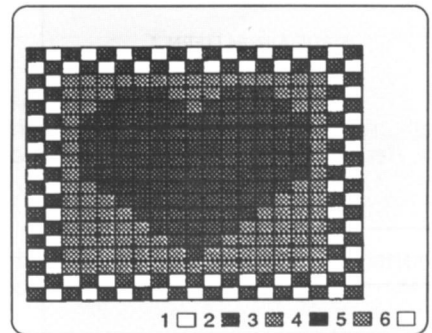
(ex. 2)
Load only heart
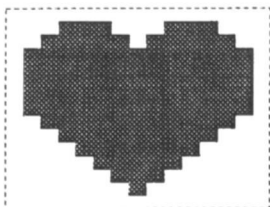
Background ... ☐ → Cancel
Heart .... ■ → 2 ■

1☐ 2■ 3▩ 4■ 5▩ 6☐

(ex. 3)
Load only background
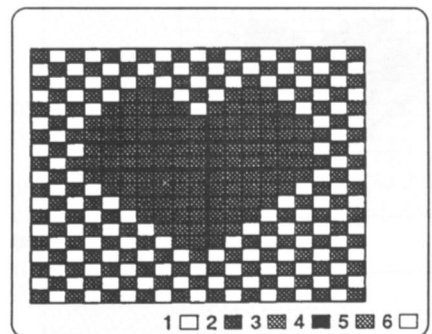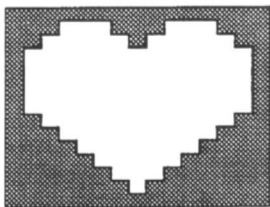
Background ... ☐ → 3 ▩
Heart .... ■ → Cancel

1☐ 2■ 3▩ 4■ 5▩ 6☐
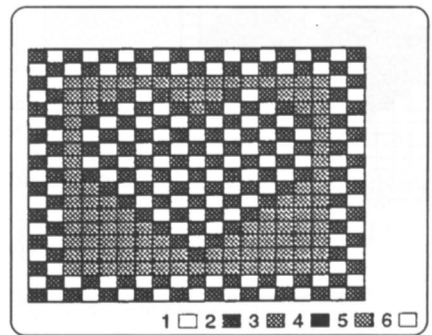
● LOADING PATTERN

Following instruction explains example 3 on the previous page.
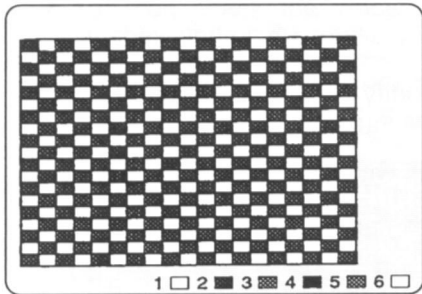
① Draw the pattern as shown left.
Refer to page 6 – 9 ⑤.
Select 3 (double jacquard 3 colours/row) for the pattern mode and enter the pattern area as below.

> **Pattern area (ex. 3)**
> Number of stitches : 19 stitches
> Number of rows   : 19 rows

When you finish drawing, push the HELP key.

1☐ 2■ 3▨ 4■ 5▨ 6☐

- HELP MENU -
PATTERN No. 901
1. END CREATION
2. TRANSFER CURSOR
4. CHANGE YARN COLOUR
5. REDUCTION
6. ERASE PART OF PATTERN
7. LOAD STORED PATTERN
8. VARIATIONS
9. TRANSFER PATTERN
10. CHANGE PATTERN AREA
11. CHANGE PATTERN MODE

* SELECT 1 – 11 = ■

② Choose option 7 from the HELP MENU, and push the STEP key.

[7] · (STEP)

③ Choose option 1 from the LOAD STORED PATTERN menu, and push the STEP key.

[1] · (STEP)

- LOAD STORED PATTERN -

* BUILT-IN PATTERN *
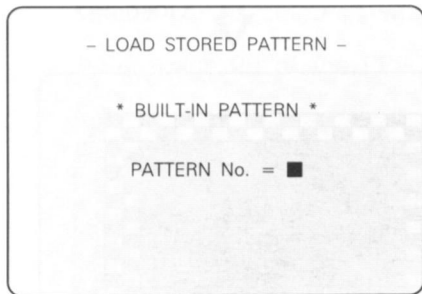
PATTERN No. = ■

④ Choose the pattern that you want to use from your created patterns or 555 built-in patterns stored in the design system. Enter the pattern number with the numeral keys. Push the STEP key.

(ex. 902)

[9] · (0) · [2] · (STEP)

♥ If the number disappears when being entered, that pattern number is not stored in the design system.

(1,1) SET CORNER 1:ALL 3: REDUCE
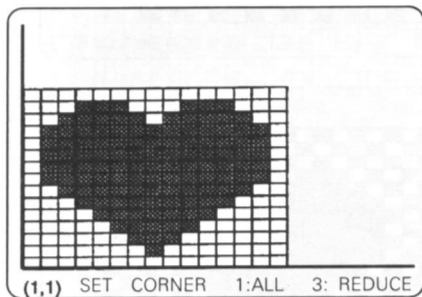
⑤ The selected pattern appears on the screen.
(When you select the pattern from the 555 built-in patterns or other patterns than single/double bed jacquard, it appears coloured with yarn number 1 and 2.)
Frame the part of the pattern you want to use.
• Refer to "FRAMING A PART OF A PATTERN" on page 41 of the PPD110 instruction manual.
• If you want to use the whole pattern push the 1 key and advance to ⑥.

(In this example, push the 1 key to use the whole pattern.)

CHANGE ☐→■E:E 1☐ 2■ 3▨ 4■ 5▨ 6☐ 7:R

(ERASE key)   (REDUCTION)
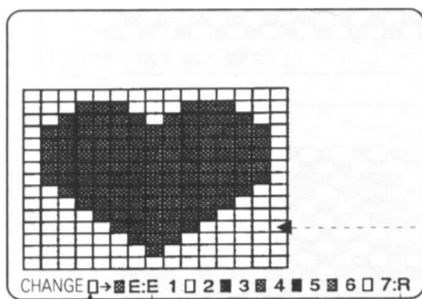
⑥ The screen displays the framed pattern and 6 yarn colours. All the colours used in the framed patterns are displayed one by one at the left bottom of the screen. If some colour in the framed pattern is not included in the 6 yarn colours, the screen suggests new colour. Change them using 6 yarn colours at the right bottom of the screen, if necessary.
① With the numeral key, enter the new yarn number for the colour displayed at the left bottom of the screen.
(ex. ....Use yarn number 3 for the background.)
Select 3 and push the STEP key.
• When you use the suggested colour as it is or do not change the colour, push only STEP key.
• When you erase the portion of the specified colour, push the ERASE key and then STEP key.

♥ If you check the whole pattern by reducing the pattern, select 7.

② The colour changes as you entered.
(ex. .... The background colour changes into yarn number 3.)

♣ When you erased the portion in the previous step, it is erased.

③ Enter the new yarn number for the second colour.
(ex. .... In this example, push the ERASE key because you do not use the portion of the heart.)

④ Push the STEP key. The colour changes as you entered.
(ex. .... The portion of heart is erased.)

♣ Change the rest of colours the screen displays, in the same manner.

CHANGE ■→E E:E 1□ 2■ 3▨ 4■ 5▨ 6□ 7:R

E appears when you push the ERASE key.

⑤ Make sure that the colouring is all right.
(The pattern now on the screen will be loaded to the pattern creating screen.)

♣ If you colour some part in black, you cannot distinguish between the black-coloured part and the canceled part. It is recommended to colour the part in black after loading the framed pattern onto the pattern creating screen.
● If the colouring is all right, select 1.
● If you want to change the colouring, select 2.
   The screen goes back to previous one. If you want it to go back farther, push the HELP key.
● If you want to check the whole pattern by reducing, select 3.

OK? 1:YES 2:NO 3:REDUCE
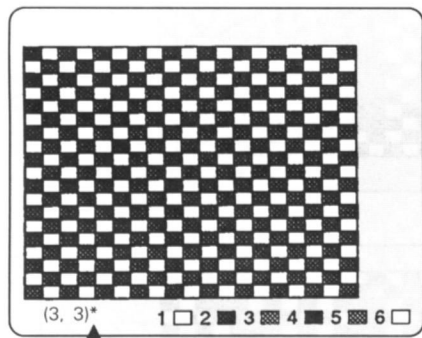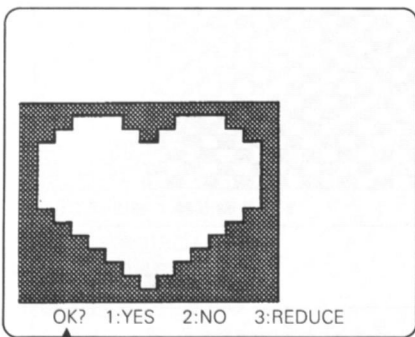
⑦ The pattern creating screen appears.
Move the cursor to the lower left corner of the position where you want to put the framed pattern. Push the STEP key.

♥ This mark indicates that the loaded and framed pattern is ready to appear on the screen.

(3, 3)*   1□ 2■ 3▨ 4■ 5▨ 6□
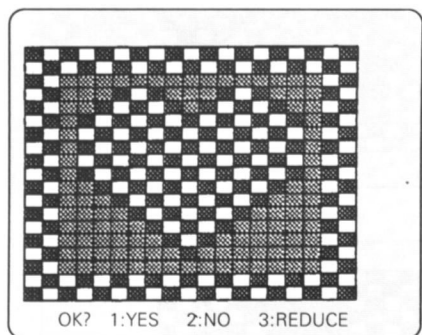
⑧ The framed pattern appears on the screen. Check the position of the pattern.

● When the position of the pattern is correct, select 1.
● When you want to change the position of the pattern, select 2. The screen goes back to step ⑦.
● If you want to check the whole pattern by reducing the pattern, select 3.

OK? 1:YES 2:NO 3:REDUCE

If you want to put the same pattern in several places...
Whenever "*" is on the bottom left of the screen, the loaded and framed pattern is ready to appear on the screen. Repeat operation steps ⑦ – ⑧.
● The framed pattern does not change until you choose another pattern or choose option "END CREATION".

◆◆◆ 7. LOAD STORED PATTERN (HELP MENU 7) ◆◆◆

② SELECT CHARACTER

- You can create a pattern by combining the characters (alphabet, number and so on) that are built into the design system.
  (See the diagram of character on page 64 of the PPD110 instruction manual.)

COLOURING OF THE LOADED CHARACTER

When you choose the character, it appears on the screen automatically coloured with yarn number 1 and 2. Colour the pattern to be loaded, with the 6 yarn colours on the pattern creating screen (ex. 1).

If you cancel a colour of the pattern to be loaded, the part of the canceled colour will not be loaded to the pattern creating screen (ex. 2 & ex. 3).

1☐ 2■ 3▨ 4■ 5▨ 6☐
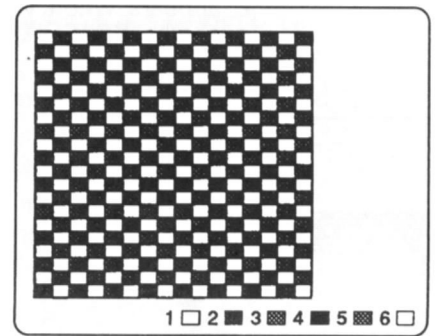
(Before loading)
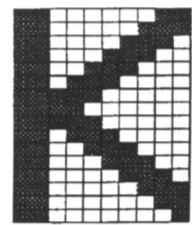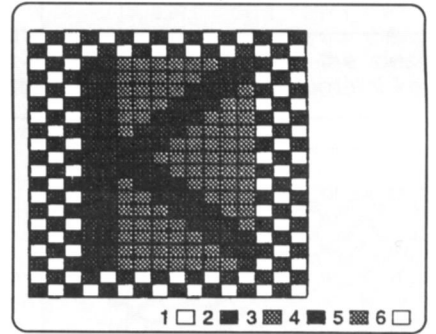
(Character to be loaded)
Background .... 1 ☐
Character .... 2 ■

Yarn number

(ex. 1)
Load both the character and background
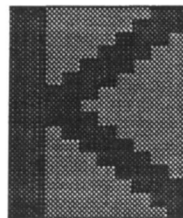
Background .... ☐ → 3 ▨
Character .... ■ → 2 ■

1☐ 2■ 3▨ 4■ 5▨ 6☐

(ex. 2)
Load only character
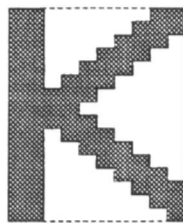
Background .... ☐ → Cancel
Character .... ■ → 3 ▨

1☐ 2■ 3▨ 4■ 5▨ 6☐

(ex. 3)
Load only background
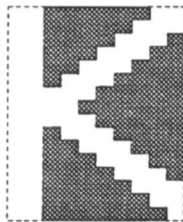
Background .... ☐ → 3 ▨
Character .... ■ → Cancel

1☐ 2■ 3▨ 4■ 5▨ 6☐
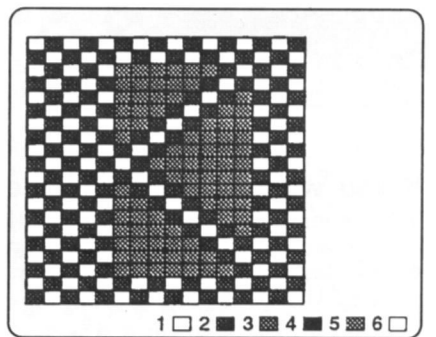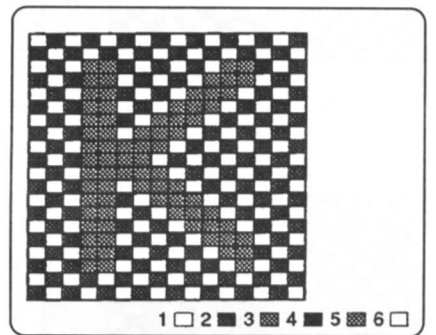
● LOADING THE CHARACTER

Following instruction explains example 2 on the previous page.
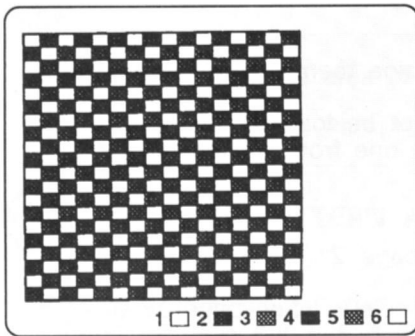
① Draw the pattern as shown left.
Refer to page 6 – 9 ⑤.
Select 3 (double bed jacquard 3 colours/row) for the pattern mode and enter the pattern area as below.

> **Pattern area (ex. 2)**
> Number of stitches: 16 stitches
> Number of rows   : 20 rows

When you finish drawing, push the HELP key.

1□ 2■ 3▧ 4■ 5▧ 6□

---
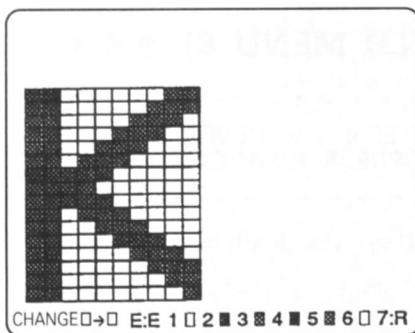
② Select the character "K" referring to the steps of the PPD110 instruction manual (from step ② on page 24 to step ④ on page 25).

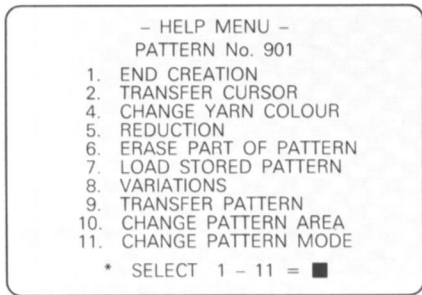**③** The selected character appears on the screen coloured with yarn number 1 and 2.

CHANGE□→□ E:E 1□ 2■ 3▧ 4■ 5▧ 6□ 7:R

---
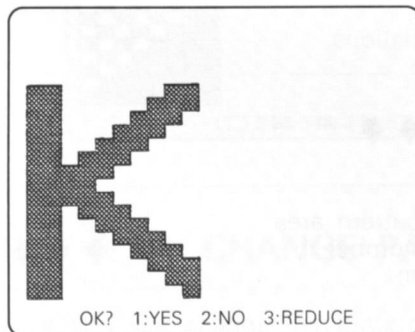
④ Change the colours of the character and the background using 6 yarn colours, if necessary.
(Refer to step ⑥ – ① – ⑤ on page 17.)

Background .... 1 □ → E (Erase the background with the ERASE key)

Character .... 2 ■ → 3 ▧ (Enter yarn number 3)

OK? 1:YES 2:NO 3:REDUCE

---
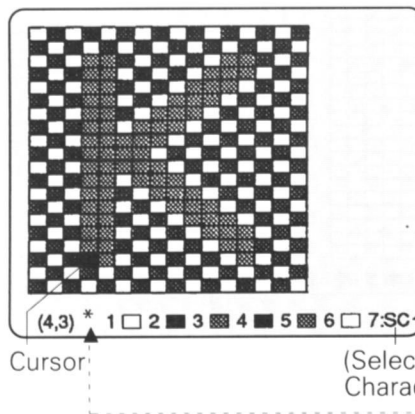
⑤ The screen returns to the pattern creating screen.
Move the cursor to the lower left corner of the position where you want to put the character. Push the STEP key.

⑥ The character appears on the screen. Check the position of the character.
- When the position of the character is correct, select 1.
- When you want to change the position of the character, select 2. The screen will return to ⑤.
- If you check the whole pattern by reducing the pattern, select 3.
- When you select another character, select 7. Characters appear on the screen.
- ♥ This mark indicates that the selected character is ready to appear on the screen.

(4,3) * 1□ 2■ 3▧ 4■ 5▧ 6□ 7:SC♥

Cursor   (Select Character)

If you want to put the same character in several places...
Whenever "*" is on the bottom left of the screen, the selected character is ready to appear on the screen. Repeat operation steps ⑤ – ⑥ on this page.
- The character does not change until you choose another character or pattern or you choose the option 1 of HELP MENU (END CREATION).

◆◆◆ 7. LOAD STORED PATTERN (HELP MENU 7) ◆◆◆

③ FROM PATTERN DISC

- You can load all the patterns stored on the disc and modify or combine them in order to create a new pattern.
- If the pattern you are going to load has memo data, the data will not be loaded.
- The colouring of the loaded pattern from the disc is as same as the one from the built-in pattern. See page 16.

♣LOADING THE PATTERN
  ① Choose the pattern you want to use from the disc referring to page 27 & 28 of the PPD110 instruction manual.
  ② Load the pattern to the pattern creating screen after changing its colour. See page 17 ⑤ – 18 of this instruction manual.

◆◆◆ 8. VARIATIONS FOR LOADED PATTERN (HELP MENU 8) ◆◆◆

You can vary the pattern you chose by option 7 (LOAD STORED PATTERN) into REVERSE, UPSIDE DOWN, DOUBLE WIDTH, DOUBLE LENGTH, SPREAD (HORIZONTAL), SPREAD (VERTICAL).
(There is no "SUBSTITUTION" and "NEGATIVE" function.)

- Variation setting remains unchanged until you set it again. Any pattern you load using option 7 will be changed according to variation setting.
  (When you choose option "END CREATION", all functions are set to OFF.)
  ♣When any variation function is on, "V" appears at the right of "*".
- Variation setting does not change the picture drawn by the numeral key or the pattern you loaded on the pattern creating screen before you set the variation function.
- You can combine the 6 functions freely.
  See pages 33 – 36 of the PPD110 instruction manual to use the variations.

◆◆◆ 9. TRANSFER PATTERN (HELP MENU 9) ◆◆◆

- You can move a part of the pattern by framing the part within the pattern area.
- Empty part where you transferred the pattern is coloured with yarn number 1.
- ◆See page 37 of the PPD110 instruction manual to transfer the pattern.
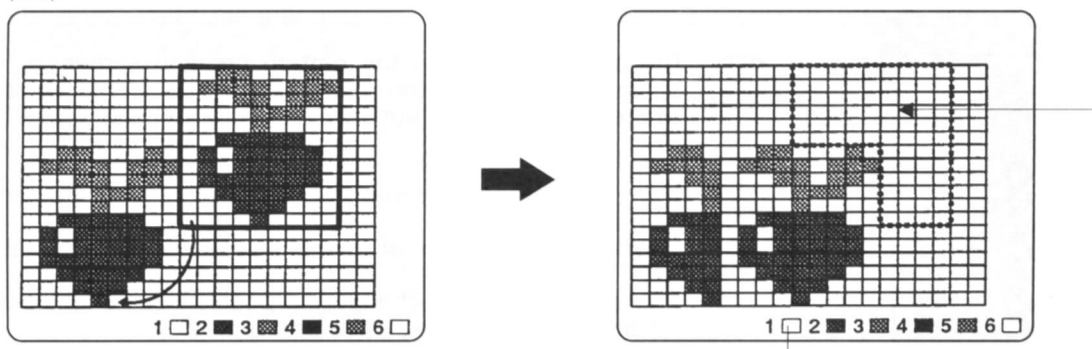
(ex.)

◆◆◆ 10. CHANGE PATTERN AREA (HELP MENU 10) ◆◆◆

① REDUCE PATTERN AREA

- You can reduce the area of the pattern you are creating now. Frame the necessary part.
- ◆ See page 38 of the PPD110 instruction manual to reduce the pattern area.

② INCREASE PATTERN AREA

- You can increase the area of the pattern you are creating now.
  Enter the new number of stitches and rows.
- Pattern area is spread upward and rightward.
- The part which is spread will be coloured with yarn number 1.
  <ATTENTION>: If the racking position is entered in the section "RACK" on the memo input screen, the same racking position as the one at the last row is automatically entered for the spreaded part. Change these racking positions using the option "INPUT MEMO DATA", if necessary.

- ◆ See page 39 of the PPD110 instruction manual to increase the pattern area.
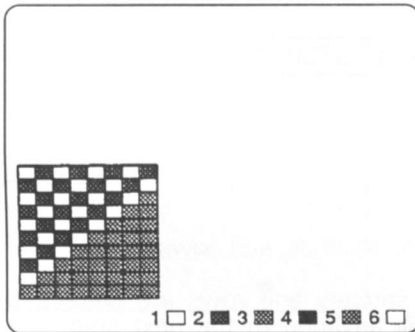
(ex.)
Increase the pattern
area to 12 stitches
x 20 rows.

1□ 2■ 3▨ 4■ 5▨ 6□

1□ 2■ 3▨ 4■ 5▨ 6□
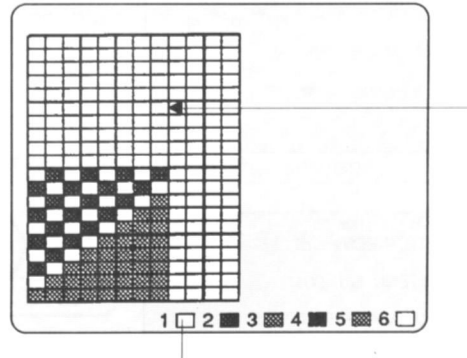
◆◆◆ 11. CHANGE PATTERN MODE (HELP MENU 11) ◆◆◆

- You can change the pattern mode of the pattern you are now creating. You cannot change the pattern mode 1 – 4 to 5.

```
        – HELP MENU –

        PATTERN No. 901

  1.  END CREATION
  2.  TRANSFER CURSOR
  4.  CHANGE YARN COLOUR
  5.  REDUCTION
  6.  ERASE PART OF PATTERN
  7.  LOAD STORED PATTERN
  8.  VARIATIONS
  9.  TRANSFER PATTERN
  10. CHANGE PATTERN AREA
  11. CHANGE PATTERN MODE

   *  SELECT  1 – 11 = ■
```
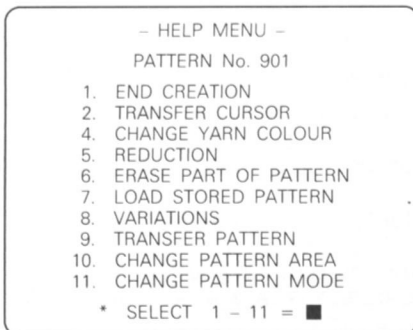
① Choose option 11 from the HELP MENU, and push the STEP key.

[1] • [1] • [STEP]

```
     – CHANGE PATTERN MODE –

  1.  S.B JACQUARD (MULTI-COLOUR)
  2.  D.B JACQUARD (2 COLOURS/ROW)
  3.  D.B JACQUARD (3 COLOURS/ROW)
  4.  D.B JACQUARD (4 COLOURS/ROW)

  *  CURRENT MODE = 3 COLOURS/ROW

     *  SELECT  1 – 4 = ■
```
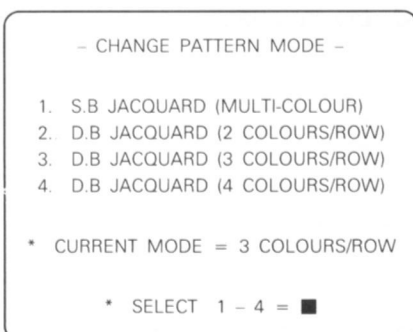
② Choose the pattern mode and push the STEP key.

(ex. ...Choose mode 4)

[4] • [STEP]

③ The pattern creating screen appears on the screen.

♥ If the error message appears, see page 80.

☐ OTHERS (PATTERN MODE 5)

```
- STITCH-ROW SET UP -

PATTERN No. 901

HOW MANY STITCHES

   STITCHES = ■
```

① Enter the number of stitches.
(You can enter up to 200 stitches.)

(ex.... 8 stitches)

`8`

Push the STEP key.

(STEP)

♣ When you create the pattern for motif with pattern mode 5, you do not have to add 1 stitch as you do for all over pattern.

```
- STITCH-ROW SET UP -

PATTERN No. 901

HOW MANY STITCHES

   STITCHES = 8

MAXIMUM ROWS : 9999 ◄- - - - - -

HOW MANY ROWS

   ROWS = ■
```
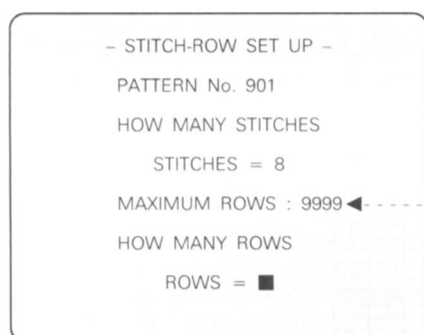
② Enter the number of rows.

The display shows the maximum number of rows available for your pattern.
(You can use up to 9999 rows in this example.)

(ex... 10 rows)
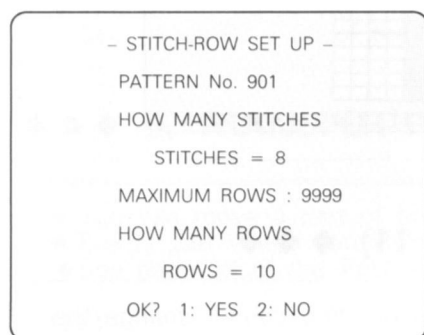
(1) · (0) · (STEP)

```
- STITCH-ROW SET UP -

PATTERN No. 901

HOW MANY STITCHES

   STITCHES = 8

MAXIMUM ROWS : 9999

HOW MANY ROWS

   ROWS = 10

OK? 1: YES  2: NO
```

③ Check the number of stitches and rows.

- If the number of stitches and rows are correct, select 1. The screen will advance to the next step.
- If you want to change the number of stitches or rows, select 2.
  The screen will return to ①.

Pattern creating screen
Pattern area

Cursor

☐ (1,1)
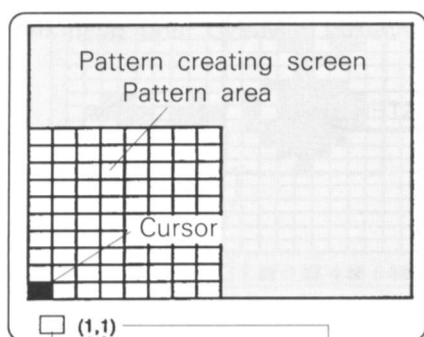
Stitch   Row   Cursor pointer
number   number

This shows whether the cursor-located square is black or white.

④ The pattern creating screen appears.

- PATTERN CREATING SCREEN
  There are 48 stitches and 50 rows on the screen.
- PATTERN AREA
  This area has the number of stitches and rows you entered.
  You can draw a picture in this area.
- CURSOR
  The cursor shows the current location. You fill in the square where the cursor is by pushing the DRAW key.
- CURSOR POINTER
  The cursor pointer shows the location of the cursor by stitch number and row number.
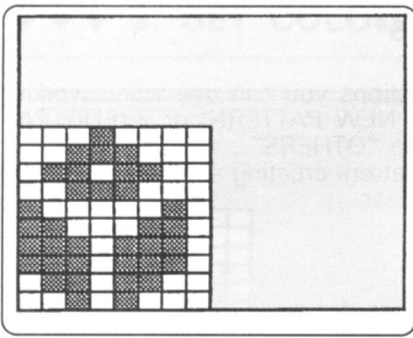
(5) Draw a picture using the DRAW key and ERASE key. See the following pages of the PPD110 instruction manual to draw a picture.

- Page 8 ... MOVING THE CURSOR
- Page 9 ... DRAWING A PICTURE ON THE SCREEN
- Page 10 ... ROLLING THE SCREEN
- Page 10 ... CREATED PATTERN AND NEEDLE SELECTION

<ATTENTION>
- When you select the pattern mode 5 (others), create the pattern both for all over pattern and motif in the same way (you do not have to make the stitches for background as you do when selecting the mode 1 – 4).
- When you view the knitting from the plain side, the pattern direction is different from the direction of the pattern on the screen. (You can reverse the created pattern. See page 49.)

♣When you use the sub-function of the HELP MENU, such as colouring, see the next page.

```
        – HELP MENU –

      PATTERN No. 901

 1.  END CREATION
 2.  TRANSFER CURSOR
 3.  SET COLOUR
 4.  CHANGE COLOUR
 5.  REDUCTION
 6.  ERASE PART OF PATTERN
 7.  LOAD STORED PATTERN
 8.  VARIATIONS
 9.  TRANSFER PATTERN
 10. CHANGE PATTERN AREA

   *  SELECT  1 – 10 = ■
```

(6) When you finish drawing, push the HELP key.

[HELP]

The HELP MENU appears on the screen.

(7) When you want to finish creation, choose option 1 from the HELP MENU and push the STEP key.

(1) · (STEP)

The PATTERN CREATION MENU appears.

♣You cannot return to the previous screen with the HELP key when you enter 1 and push the STEP key in this step.

♥When the error message appears, see page for error message (80 – 87).

- When you enter the block data, push the HELP key. The MAIN MENU appears on the screen. See page 51.

♥When you want to stop pattern creation temporarily...

① Push the HELP key when the display shows the pattern creating screen.
② Turn off the power of the pattern programming device and TV set when the display shows the HELP MENU.

- To continue pattern creation
① Turn on the power of the pattern programming device and TV set.
② Push the STEP key.
③ Choose option 1 (PATTERN CREATION) from the MAIN MENU and push the STEP key.
④ Choose option 2 (EDIT PATTERN) from the PATTERN CREATION MENU and push the STEP key. Select the pattern and continue drawing.

HELP MENU FOR THE MODE "OTHERS"

```
            - HELP MENU -
           PATTERN No. 901
    1.  END CREATION
    2.  TRANSFER CURSOR
    3.  SET COLOUR
    4.  CHANGE COLOUR
    5.  REDUCTION
    6.  ERASE PART OF PATTERN
    7.  LOAD STORED PATTERN
    8.  VARIATIONS
    9.  TRANSFER PATTERN
   10.  CHANGE PATTERN AREA
       *  SELECT  1 - 10  =  ■
```

- The HELP MENU has sub-functions you can use when working with MAIN MENU 1 (CREATE NEW PATTERN) or 2 (EDIT PATTERN) and selecting the mode "OTHERS".
- Push the HELP key while the pattern creating screen is displayed and the HELP MENU will appear.

◆◆◆ 1. END CREATION (HELP MENU 1) ◆◆◆

- To finish pattern creation, choose option 1 from the HELP MENU, and push the STEP key. If you do not work with this option, pattern creation does not finish. You cannot use an unfinished pattern for the block.

$$\boxed{1} \cdot \boxed{STEP}$$

The screen returns to the PATTERN CREATION MENU and you have finished pattern creation. (When the error message appears, see pages for error message (80 – 87).)
- To create another pattern, repeat the steps from page 6.
- When you input the memo data, see page 33.
- When you enter the block data, push the HELP key. The MAIN MENU appears on the screen. See page 51.
- When you finish programming with the design system, turn off the power switch of the pattern programming device and TV set. Created patterns are stored in the memory of the design system.

◆◆◆ 2. TRANSFER CURSOR (HELP MENU 2) ◆◆◆

(ex.)   Cursor

Row number (45)

Stitch number (46)

□(46,45)

- You can move the cursor without using cursor keys.

  Specify the stitch number and row number, and the cursor moves to the specified position directly.

  This function is useful when you move the cursor long distances.

- ◆ See page 12 on the PPD110 instruction manual to use this function.

♦♦♦ 3. SET COLOUR (HELP MENU 3) ♦♦♦

— Red

— Green
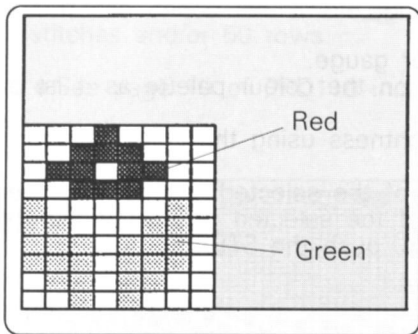
- You can colour the pattern and see the colour contrast of the pattern.
- You can colour both the main yarn and contrast yarn.
- You can set the new colour on the row where you already set the colour.

COLOURING OF CONTRAST YARN AND MEMO DATA

- When you colour the pattern using option "SET COLOUR", colour data of the contrast yarn will automatically convert to number 2 – 9 and be stored in the design system as memo data (number 1 as memo data represents main yarn). If you use the option "INPUT MEMO DATA", these numbers are displayed at the section "NOTE" on the memo-input screen.
 (If you set only one colour on the contrast yarn from the 1st row to the last row of the pattern area, colour data of the contrast yarn will not stored in the design system.)
 <REMARK>: If you colour the pattern using option "SET COLOUR", all the data you entered in the section "HOLDER" and all the * marks you put in the section "CAM" will be deleted. If necessary, program them again.
- You cannot use more than 8 colours for the contrast yarn.
- Colour data of the main yarn will not be stored in the design system as memo data. If you change the main yarn while knitting, enter the number which represents the main yarn as your reminder at the proper row of the section "NOTE" using the option "MEMO INPUT".

—(ex.) When you colour contrast yarn as below... ——————————————————

Colour No. 10 ...... Red

Colour No. 13 ...... Green

Colour No. 14 ...... Dark green

- Each colour is given number 2, 3, 4,... from the bottom (the number represents contrast yarn).

Memo display   Memo data (NOTE)   (Memo-input screen)

ROW	NOTE	HOLDER	CAM	STOP	RACK
10	4				
9	4				
8	4				
7	4				
6	3				
5	3				
4	3				
3	3				
2	2				
1	2				
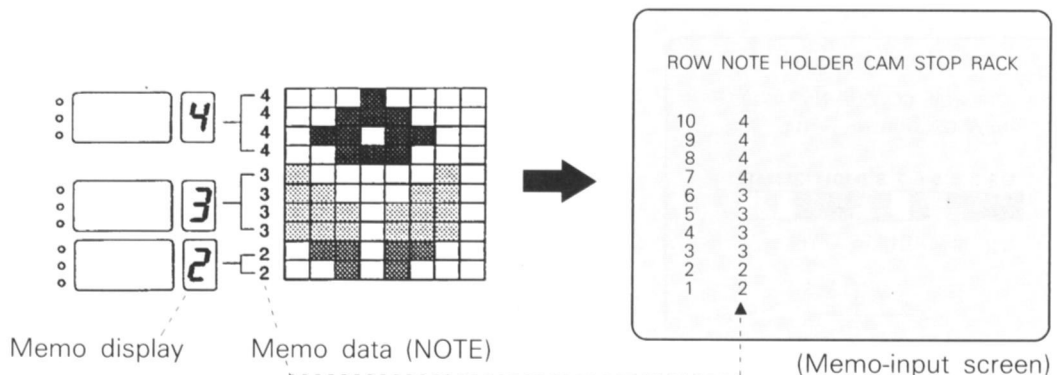
- Memo data will be shown on the memo display of the knitter while you knit.

 ♣If you use the motor drive, it is recommended to put the mark * at the row where the yarn will be changed, in the section "STOP" using the option "INPUT MEMO DATA" so as that the motor drive automatically stops knitting for yarn changing (see page 40).

● COLOURING

See page 13 of PPD110 instruction manual about how to set colour, but this design system can adjust the brightness of the colour.
Therefore at steps ④ & ⑨ select the brightness using the colour gauge.

```
- SET COLOUR -

CONTRAST YARN
COLOUR No. = 13

1 2 3 4 5 6 7 8 9 101112131415
██▓▓░░██░░▓▓██░░██
BRIGHTNESS LEVEL         ▲

        ◢◤◤◤◤◤
           ▲
    OK?  STEP: YES
```

♣The colour palette of the design system has different colour as explained in the PPD110 instruction manual.

The display shows the colour gauge.
● When you use the colour on the colour palette as it is, push the STEP key.
● When you change the brightness using the colour gauge ......

Push the ◁ key, the colour of the selected number gets deep.
Push the ▷ key, the colour of the selected number gets light.
After adjusting the brightness, push the STEP key.

Deep ←————— ▲ —————→ Light

♣ ◁ or ▷ key moves the ▲ mark which shows the brightness now on the colour palette.

♣When using colour number 1 (black) and 15 (white), you cannot adjust the brightness and the colour gauge does not appear.

♣When you change the brightness of the colour using the colour gauge, the brightness of every part in the pattern coloured in the same colour is changed automatically.

♣When "1: TC" (Transfer Cursor) appears at the bottom of the screen, you can transfer the cursor without using cursor keys. Push 1 key and specify the stitch number and row number (see page 25).

◆◆◆ 4. CHANGE COLOUR (HELP MENU 4) ◆◆◆

(ex.) You change red into pink.

(Before changing) → (After changing)

Red → Pink
Green → Green
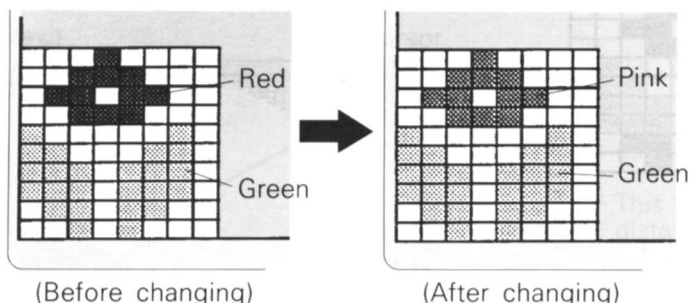
● You can change the colour of the pattern.

It is convenient to use this option when there are many rows of colour you want to change or stripes, etc.

♣You cannot use this option for the pattern which was not coloured with option 3 (SET COLOUR) of the HELP MENU.

```
- CHANGE COLOUR -

ORIGINAL COLOUR No. = 10
NEW COLOUR No. = 11

1 2 3 4 5 6 7 8 9 101112131415
██▓▓░░██░░▓▓██░░██
BRIGHTNESS LEVEL

        ◢◤◤◤◤◤
           ▲
 OK? STEP: YES    3: REDUCE
```
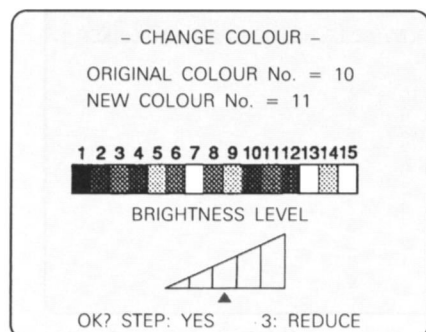
◆See page 17 of the PPD110 instruction manual about how to change colour, but this design system can adjust the brightness of the colour you newly specify.
Therefore at step ③ select the brightness using the colour gauge (see "COLOURING" on this page). The screen returns to the colour gauge.

♥If you check the whole pattern by reducing the pattern...

① Select 3. The reduced pattern appears on the screen.

• If the pattern exceeds 200 rows, you can roll the screen up or down by selecting 1 or 2.

② Push the STEP key. The screen returns to the colour gauge.

◆◆◆ 5. REDUCTION (HELP MENU 5) ◆◆◆

- You can check the whole pattern by reducing it while you are creating a pattern exceeding 48 stitches and/or 50 rows.

  ◆ See page 19 of PPD110 instruction manual about how to reduce the pattern.
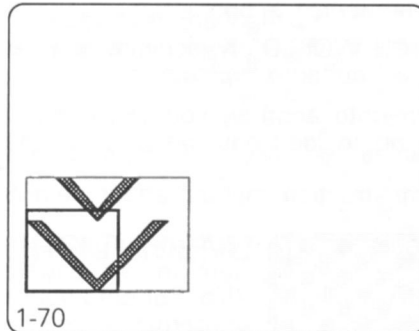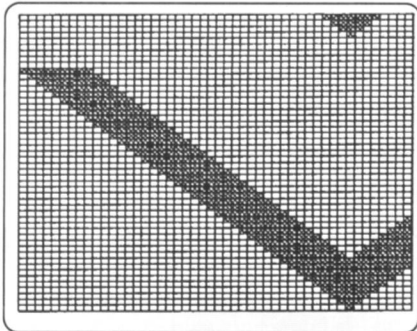
(ex.)

Pattern area
Number of stitches:
 90 stitches
Number of rows:
 70 rows

1-70

◆◆◆ 6. ERASE PART OF PATTERN (HELP MENU 6) ◆◆◆

- You can erase a part of the pattern by framing the part.

  ◆ See page 20 of PPD110 instruction manual about how to erase the part of the pattern.

(ex.)
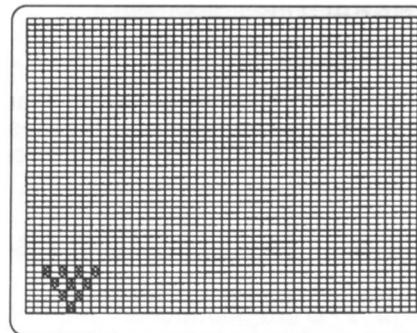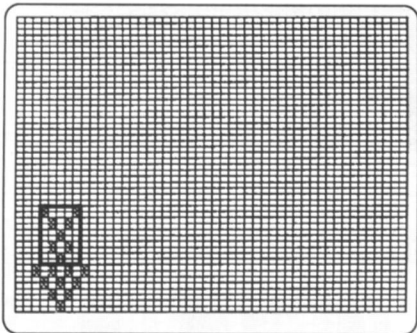
◆◆◆ 7. LOAD STORED PATTERN (HELP MENU 7) ◆◆◆

① FROM BUILT-IN PATTERN

- You can load the created pattern stored in the design system and modify or combine them in order to create a new pattern. You can load the pattern that you are creating now. (You cannot load the pattern of pattern mode 1 – 4.) Also you can load the pattern which is stored in the design system with the pattern number 1 – 555.

  ♣ The pattern book "STITCH WORLD", which has the photos and diagrams of these 555 patterns, is available as option.

- If you overlay one pattern onto another, you can create an overlapped pattern.
- If the pattern you are going to load has memo data, that data will not be loaded.

◆ See page 21 of PPD110 instruction manual about detailed steps.
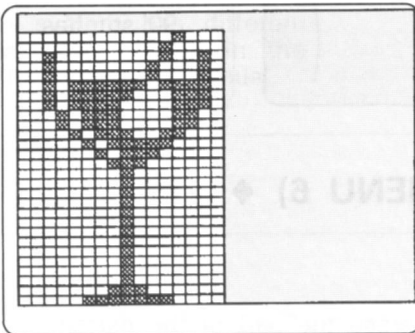
(ex.) When you overlay the pattern in the pattern book (No. 55) onto your original pattern...
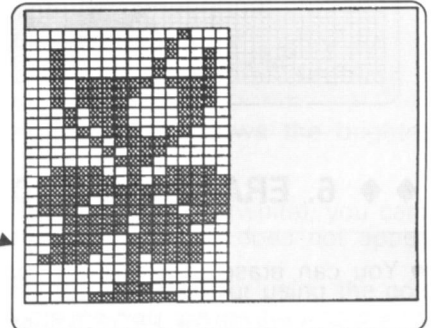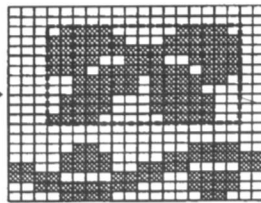
② SELECT CHARACTER

- You can create a pattern by combining the characters (alphabet, number and so on) that are built into the design system.
- If you overlay one character onto another, you can create an overlapped pattern.

  (See the diagram of character on page 64 of the PPD110 instruction manual.)

◆ See page 24 of PPD110 instruction manual about detailed steps.

(ex.)
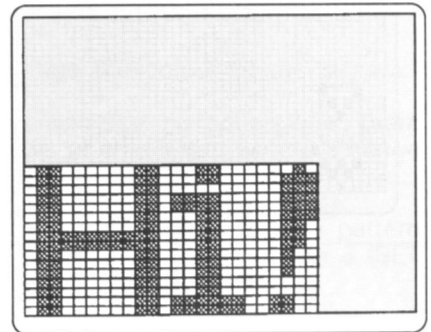
③ FROM PATTERN DISC

- You can load patterns stored on the disc and modify or combine them in order to create a new pattern. (You cannot load the pattern of pattern mode 1 – 4.)
- If you overlay one pattern onto another, you can create an overlapped pattern.
- If the pattern you are going to load has memo data, the data will not be loaded.

(ex.) Create the "nibbled apple" pattern using the "apple" pattern stored on the disc.
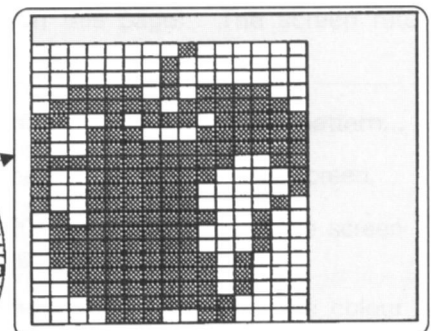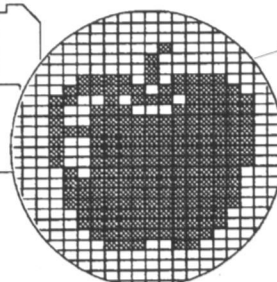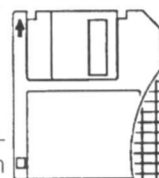
◆ See page 27 of PPD110 instruction manual about detailed steps.

◆◆◆ 8. VARIATIONS FOR LOADED PATTERN (HELP MENU 8) ◆◆◆

You can vary the pattern you chose by option 7 (LOAD STORED PATTERN) into REVERSE, UPSIDE DOWN, DOUBLE WIDTH, DOUBLE LENGTH, SUBSTITUTION, SPREAD (HORIZONTAL), SPREAD (VERTICAL), NEGATIVE.

- Variation setting remains unchanged until you set it again.
  Any pattern you load using option 7 will be changed according to variation setting.
  (When you choose option "END CREATION", all-functions are set to OFF.)
  ♣When any variation function is on, "V" appears at the right of "*".
- Variation setting does not change the picture drawn by the DRAW key or the pattern you loaded on the pattern creating screen before you set the variation function.
- You can combine the 8 functions freely.

◆See pages 33 – 36 of the PPD110 instruction manual to use the variations.

◆◆◆ 9. TRANSFER PATTERN (HELP MENU 9) ◆◆◆

- You can move a part of the pattern by framing the part within the pattern area.
- If the transferred pattern has colours, the colours change according to the colours on the position where you want to put the pattern.

◆See page 37 of the PPD110 instruction manual to transfer the pattern.
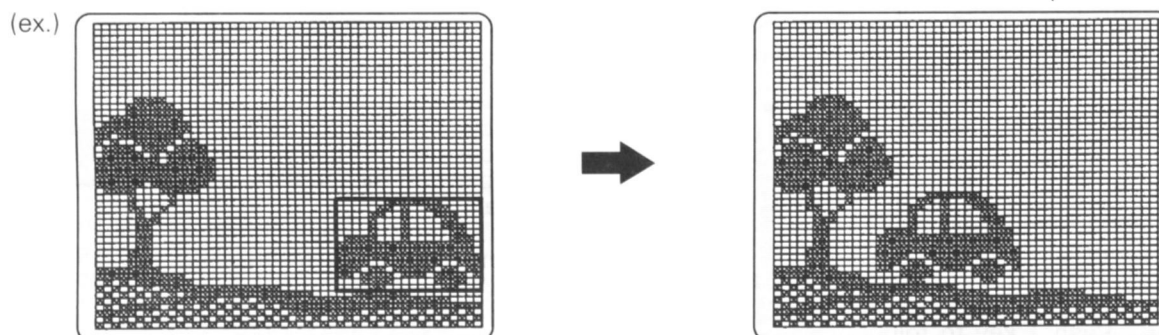
(ex.)

◆◆◆ 10. CHANGE PATTERN AREA (HELP MENU 10) ◆◆◆

① REDUCE PATTERN AREA

- You can reduce the area of the pattern you are creating now.
  Frame the necessary part.

◆See page 38 of the PPD110 instruction manual to reduce the pattern area.

② INCREASE PATTERN AREA

- You can increase the area of the pattern you are creating now. Enter the new number of stitches and rows.

◆See page 39 of the PPD110 instruction manual to increase the pattern area.
  <ATTENTION>: If the number is entered in the section "NOTE" or "RACK" on the memo-input screen, the same number as the one at the last row is automatically entered for the spreaded part.
  Change these numbers using the option "INPUT MEMO DATA", if necessary.

◄◄◄ EDIT PATTERN (PATTERN CREATION MENU 2) ►►►

- You can modify the pattern you created or you temporarily stop creating in the middle.
- You can use HELP MENU functions when you work with EDIT PATTERN as you do with CREATE NEW PATTERN (PATTERN CREATION MENU 1).

  <REMARK>: If you edit the double bed jacquard pattern after changing the memo data (yarn number) in section "HOLDER", changed data returns to the former one which the computer specifies first. Change the memo data again, if necessary.

```
        - PATTERN CREATION -

    1.  CREATE NEW PATTERN
    2.  EDIT PATTERN
    3.  DELETE PATTERN
    4.  INPUT MEMO DATA
    5.  REVERSE PATTERN


    *  SELECT 1 - 5 = ■
```

① Select option 2 from the PATTERN CREATION MENU, and push the STEP key.

| 2 | · (STEP) |

♥ If the screen does not change, it means that there is no created pattern in the memory.

```
            - EDIT PATTERN -
    PATTERN No.    STITCHES    ROWS
        905          20        30 (M)
        903          41        32 (2)
        904          90        86 (2)
        901          14        14 (3)
    ►   902          54        36 (3)
        906          30        40 (4)
        907          24        60 (4)*
        908          62        80 (0)
        909          35        48 (0)  X

              ◄1: FORWARD
```

This mark shows that there are more patterns. Push 1 key to roll the screen.

② The list of patterns you created is displayed on the screen.
Using the cursor keys (△ • ▽), move the cursor "►" to the pattern you want to edit.

(M) .... Single bed jacquard
(2) .... Double bed jacquard (2 colours/row)
(3) .... Double bed jacquard (3 colours/row)
(4) .... Double bed jacquard (4 colours/row)
(0) .... Others
* .... This pattern is not finished.
X .... Memo-input of this pattern is not finished.

```
        - EDIT PATTERN -
      PATTERN No. = 902
   * NOT BEING USED FOR BLOCKS




      OK?    1: YES    2: NO
```
(ex. 1)

③ Push the STEP key.

(STEP)

The screen shows that the chosen pattern is used for a block or not.

The chosen pattern is not used for any blocks.

The chosen pattern is used for following blocks.
If you edit the pattern, pattern in the block will change as you edit, but entered number for the "KNITTING ROWS" and pattern position will not change. Change the entering for blocks, if necessary.

④ Confirm the pattern number you chose.

- When the pattern number is correct, select 1.
- When you want to change the pattern number, select 2. The screen returns to ②.

```
        - EDIT PATTERN -
      PATTERN No. = 903
   * USED IN FOLLOWING BLOCKS
   BLOCK: 1




      OK?    1: YES    2: NO
```
(ex. 2)

⑤ The pattern you chose appears on the screen.

- Edit the pattern using the same procedure as "CREATE NEW PATTERN".

♣ When you load the pattern created in the pattern mode 5 (others), the pattern on the screen has no colour on it, but memo data for the colour remains in the memory as it is, if the pattern was coloured with option "SET COLOUR".

◄◄◄ DELETE PATTERN (PATTERN CREATION MENU 3) ►►►

● You can delete an unnecessary created pattern or all created patterns.

```
        - PATTERN CREATION -

  1.  CREATE NEW PATTERN
  2.  EDIT PATTERN
  3   DELETE PATTERN
  4   INPUT MEMO DATA
  5   REVERSE PATTERN


     *  SELECT 1 - 5 = ■
```

① Select option 3 from the PATTERN CREATION MENU, and push the STEP key.

[3] · (STEP)

```
             - DELETE PATTERN -
  PATTERN No.    STITCHES     ROWS
    ALL OF THE PATTERNS:       10  ◄- - - -
      905          20          30 (M)
      903          41          32 (2)
   ► 904           90          86 (2)
      901          14          14 (3)
      902          54          36 (3)
      906          30          40 (4)
      907          24          60 (4)*
      908          62          80 (0) X

           ▼1: FORWARD
```

This mark shows that there are more patterns. Push 1 key to roll the screen.

② The list of patterns you created is displayed on the screen.

The number of all the pattern.

Using the cursor keys (△ · ▽), move the cursor "►" to the pattern number which you want to delete.

♥When you want to delete all the created patterns, move the cursor "►" to the item "ALL OF THE PATTERNS".

These marks are explained in step ② of page 31.

```
          - DELETE PATTERN -
        PATTERN No. = 902
   *  NOT BEING USED FOR BLOCKS - - -




   OK? 1: YES  2: NO  3: REDUCE
```

```
          - DELETE PATTERN -
        PATTERN No. = 903
   *  USED IN FOLLOWING BLOCKS  - -
  FOLLOWING BLOCKS WILL BE DELETED !!
  BLOCK: 1



   OK? 1: YES  2: NO  3: REDUCE
```

③ Push the STEP key.

(STEP)

The screen shows that the chosen pattern is used for a block or not.

(ex. 1) The chosen pattern is not used for any blocks.

(ex. 2) The chosen pattern is used for following blocks.
　<CAUTION> If you delete the pattern, all the blocks which uses the deleted pattern will be deleted.

④ Confirm the pattern number.

♥If you want to see the pattern on the screen...

① Select 3. The reduced pattern appears on the screen. Check the pattern.

♣If the pattern exceeds 200 rows, you can roll the screen up or down by selecting 1 or 2.

② Push the STEP key. The screen returns to the previous screen.

● When the pattern number is correct, select 1. The pattern that you chose is deleted and the PATTERN CREATION MENU will appear on the screen.
● When you want to change the pattern number, select 2. The screen returns to ②.

◀◀◀ INPUT MEMO DATA (PATTERN CREATION MENU 4) ▶▶▶

- You can enter memos with information for knitting such as yarn changing, cam setting, and so on.
  For example, if you use the motor drive, program the item "STOP" to have the motor drive stop knitting at the specified row.
- Memo has a variety of items and the available item depends on the pattern mode you use.

\<MEMO-INPUT SCREEN\>

ROW	HOLDER				STOP	RACK

ROW	HOLDER				STOP	RACK

ROW	NOTE	HOLDER	CAM	STOP	RACK

DRAW: F mark   ERASE: N mark

- **Pattern mode 1 (single bed jacquard)**

  ○ STOP .... Put the mark * at the row number where the motor drive should stop knitting (see page 40).

  ○ RACK .... Enter the racking position when you use the racking handle (see page 44).

  ♣ Yarn number (yarn holder keeper number), which is decided by the computer, appears on the section "HOLDER". You cannot change or delete the number on this section (see page 35).

- **Pattern mode 2 – 4 (double bed jacquard)**

  ○ HOLDER .. Yarn number (yarn holder keeper number), which is decided by the computer, appears on the section "HOLDER". You can change the yarn number which is not framed. The yarn number cannot be deleted (see page 35).

  ○ STOP .... Put the mark * at the row number where the motor drive should stop knitting (see page 40).

  ○ RACK .... Enter the racking position when you use the racking handle (see page 44).

- **Pattern mode 5 (others)**

  ○ NOTE .... You can enter the information using the numbers 1 – 9 and N, F as you like, and they will be shown in the memo display of the knitter while knitting (see page 38).

  ○ HOLDER .. When you use the colour changer, enter the new yarn number (1 – 6) at the yarn changing row of the section "HOLDER" (see page 37).

  ○ CAM .... Put the mark * at the row number where the cam lever of the R carriage should be set to S. The cam lever of the R carriage will be automatically set to S at the * – marked row while knitting (see page 41).

  ○ STOP .... Put the mark *at the row number where the motor drive should stop knitting (see page 40).

  ○ RACK .... Enter the racking position when you use the racking handle (see page 44).

● INPUTTING MEMO DATA

```
        - PATTERN CREATION -

     1.  CREATE NEW PATTERN
     2.  EDIT PATTERN
     3.  DELETE PATTERN
     4.  INPUT MEMO DATA
     5.  REVERSE PATTERN


        *  SELECT  1 - 5 = ■
```

① Select option 4 from PATTERN CREATION MENU and push the STEP key.

[4] · (STEP)

♥ If the screen does not change, it means that there is no created pattern in the memory.

```
          - INPUT MEMO DATA -

     PATTERN No.    STITCHES    ROWS
    ▶905              20        30 (M)
     903              41        32 (2)
     904              90        86 (2)
     901              14        14 (3)
     902              54        36 (3)
     906              30        40 (4)
     907              24        60 (4)* ◀
     908              62        80 (0)
     909              35        48 (0)  ×


          ▶ 1:  FORWARD
```

This mark shows that there are more patterns. Push 1 key to roll the screen.

② The list of patterns you created is displayed on the screen.

Using the cursor keys (△ · ▽), move the cursor "▶" to the pattern number where you want to input the memo data.

You cannot input the memo data for the pattern of which creation is not finished. Select option 1 (END CREATION) from the HELP MENU to finish the pattern.

These marks are explained in step ② of page 31.

```
        - INPUT MEMO DATA -

     PATTERN No. = 902
   *  NOT BEING USED FOR BLOCKS  - - -  (ex. 1)




     OK?   1: YES   2: NO
```
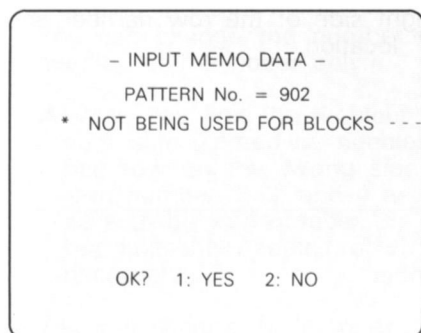
③ Push the STEP key.

(STEP)

The screen shows that the chosen pattern is used for a block or not.

The chosen pattern is not used for any blocks.

The chosen pattern is used for following blocks. When you enter the memo for some pattern, the pattern in these block has the same memo as you enter.
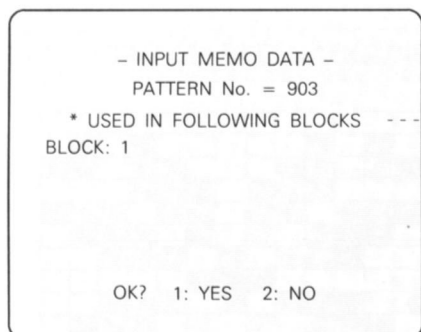
```
        - INPUT MEMO DATA -
     PATTERN No. = 903

   *  USED IN FOLLOWING BLOCKS   - - -
   BLOCK: 1                             (ex. 2)




     OK?   1: YES   2: NO
```

④ Confirm the pattern number.

● When the pattern number is correct, select 1.
● When you want to change the pattern number, select 2. The screen returns to ②.

```
   ROW NOTE HOLDER CAM STOP RACK
    20 ←→ ▶
    19
    18
     ·
     ·
      Cursor
```

- -
♣ The memo-input screen displays memo-data for 20 rows. When the pattern has more than 20 rows, move the cursor "▶" to the 20th row using the △ key and push the △ key again. Then the screen rolls and shows memo-data for next 20 rows.
- -
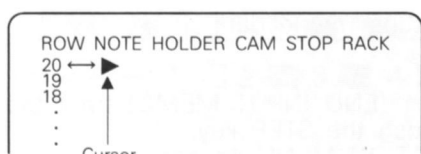
⑤ The memo-input screen appears.

♣ This screen differs according to the pattern mode of the pattern. The same item has same procedure even if it belongs to the different pattern mode. (Instruction for each item is explained in following pages.)

♣ Items on one screen can be programmed at the same time.

☐ HOLDER (Pattern created with mode 1 – 4 (single bed jacquard, double bed jacquard))

● This item is displayed for the pattern created with the pattern mode 1 – 4 (single bed jacquard & double bed jacquard).
The screen displays in the section "HOLDER" which yarn numbers are used for each row.

```
ROW    HOLDER    STOP    RACK

10   1   2   3   4
 9   1   2   3   4
 8   1   2   3   4
 7   1   4   2   3
 6   1   2   3   4
 5   1   2   3   4
 4   1   2   3   4
 3   1   2   3   4 ◄----
 2   1   2   3   4
 1   1   3   4   2 ◄----
```

The number which can be changed

Changing the yarn numbers in the section "HOLDER"

In case of double bed jacquard, you can change the number which is not framed.
In case of single bed jacquard, you cannot change or delete the number.
See page 36 for detail.

<NOTE> If you use the option 2 (EDIT PATTERN) of the PATTERN CREATION MENU after changing the yarn number in the section "HOLDER", changed numbers return to the former ones which the computer specified (but if you stop the operation of editing in the step ④ of page 31 by selecting 2, changed numbers remain as it is).

● Changing the number in the section "HOLDER"

```
ROW    HOLDER    STOP    RACK

10   1   2   3   4
 9   1   2   3   4
 8   1   2   3   4
 7   1   4   2   3
 6   1   2   3   4
 5 ↔ 1   2   3   4
 4   1   2   3   4
 3   1   2   3   4
 2   1   2   3   4
 1   1   3   4   2
```
—— Cursor

① Using the cursor keys (▷ • ◁ • △ • ▽), move the cursor "▶" to the yarn number which you want to change.

(ex. Change the yarn number 4 on 5th row into 5)

♣ ←→ appears at the right side of the row number and shows the cursor "▶" location.

```
ROW    HOLDER    STOP    RACK

10   1   2   3   4
 9   1   2   3   4
 8   1   2   3   4
 7   1   4   2   3
 6   1   2   3   4
 5 ↔ 1   2   3 ▶ 5
 4   1   2   3   4
 3   1   2   3   4
 2   1   2   3   4
 1   1   3   4   2
```

② Enter the new yarn number.

(ex. 5)

```
        - HELP MENU -

        PATTERN No. 906

    1.  END INPUT MEMO
    2.  TRANSFER CURSOR
    3.  RECALL MEMO DATA
    4.  PATTERN SCREEN
    5.  REDUCTION

    *  SELECT 1 – 5 = ■
```

③ Repeat the steps ① – ②.

● If you want to use the HELP MENU of the memo-input, push the HELP key and see page 46.
● When you finish inputting memo data,

① Push the HELP key.
② Choose the option 1 (END INPUT MEMO) from the HELP MENU and push the STEP key.
The PATTERN CREATION MENU appears.

DOUBLE BED JACQUARD/SINGLE BED JACQUARD AND MEMO DATA

When you create the double bed jacquard or single bed jacquard, the computer memorizes the used yarn numbers as the memo data. You can see, on the memo-input screen, which yarn numbers are used for each row.

DOUBLE BED JACQUARD

(ex. Double bed jacquard (4 colours/row))
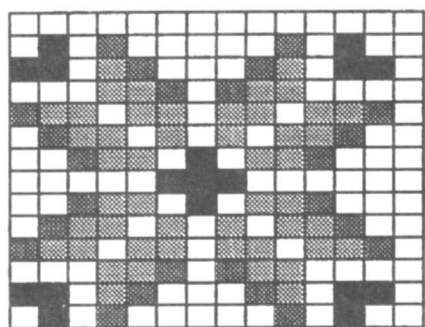
Yarn number → 1 □ 2 ▧ 3 ▨ 4 ■

ROW	HOLDER				STOP	RACK
14	1	2	3	4		
13	1	3	4	2		
12	1	2	3	[4]		
11	1	2	3	4		
10	1	2	3	4		
9	1	2	3	4		
8	2	2	3	[4]		
7	1	4	2	3		
6	1	2	3	[4]		
5	1	2	3	4		
4	1	2	3	4		
3	1	2	3	4 ◄		
2	1	2	3	[4]		
1 ↔ ▶	1	2	3	2 ◄		

Yarn number — You can change the number which is not framed.

- In this example 4-colour double bed jacquard is illustrated, therefore 4 yarns are used for each row and 4 yarn numbers are displayed for each row in the section "HOLDER".
- You cannot erase the yarn number in the section "HOLDER".
- Horizontal direction order of the yarn numbers does not correspond with the knitting order.

<Changing the yarn number>
You can change the number which is not framed. (The yarn number which is not framed knits the needles of the ribber only.)

♣ When you knit the 4-colour double bed jacquard, only two or three yarn appears in one row on the right side (knitted by needles of the knitter) according to the pattern, but four yarns are all knitted in one row on the wrong side (knitted by needles of the ribber). As for the 1st row of the example, yarn number 1, 3, and 4 are used, 4th yarn knits the needles of the ribber only, therefore it does not have to be yarn number 2. It may be 5 or 6. The yarn which does not knit the needles of the knitter but knit the needles of the ribber only, affects the real knitting so change that yarn number if necessary.

You can change the number into the yarn number 1 – 6, which is not used for the row.
(In the above example, yarn number "2" at the 1st row can be changed into 5 or 6.)

SINGLE BED JACQUARD
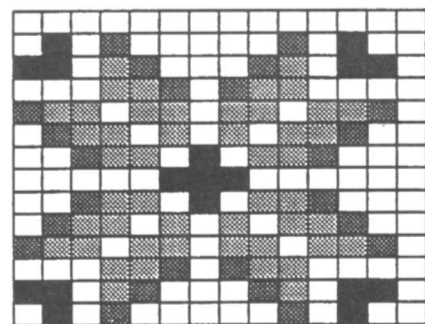
Yarn number → 1 □ 2 ▧ 3 ■ 4 ■

ROW	HOLDER				STOP	RACK
14	1					
13	1	3	4			
12	1	2	3	4		
11	1	2	3			
10	1	2	3			
9	1	2	3			
8	1	2	3	4		
7	1	4				
6	1	2	3	4		
5	1	2	3			
4	1	2	3			
3	1	2	3			
2	1	2	3	4		
1 ↔ ▶	1	2	3	4		

Yarn number

- The memo-input screen displays which yarn numbers are used for each row, in the section "HOLDER".
- You cannot change nor erase the yarn number in the section "HOLDER".
- Horizontal direction order of the yarn numbers does not correspond with the knitting order.

☐ HOLDER (Pattern created with mode 5 (others))

- When you use the colour changer, enter the yarn number (yarn holder keeper number) at the yarn changing row in the section "HOLDER". The yarn is changed automatically at the specified row.
- You enter the number 1 – 6 because the colour changer holds six yarns. (Other numeral keys does not work.)

ROW	NOTE	HOLDER	CAM	STOP	RACK
10					
9					
8					
7					
6					
5					
4					
3					
2					
1		1 ◄			
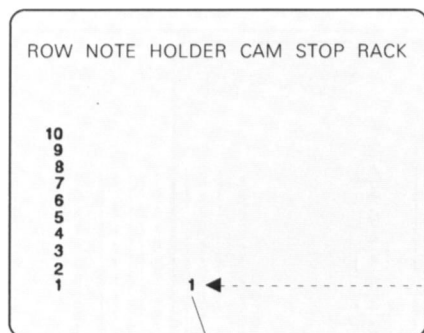
Yarn number

● When using only one yarn

Enter the yarn number (yarn holder keeper number) you use, at the first row of the section "HOLDER".

(ex.) When you use yarn number 1
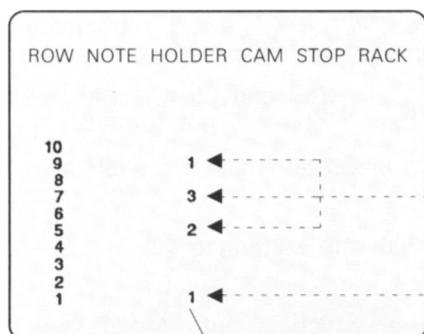
● When using more than one yarn

ROW	NOTE	HOLDER	CAM	STOP	RACK
10					
9		1 ◄			
8					
7		3 ◄			
6					
5		2 ◄			
4					
3					
2					
1		1 ◄			

Yarn number

Enter the yarn number (yarn holder keeper number) at the yarn changing row of the section "HOLDER".

When you enter the yarn number at any row of the section "HOLDER", do not fail to enter the yarn number you use at the first row of the section "HOLDER".

(ex.)

1
3
2

1
↑
Yarn No.
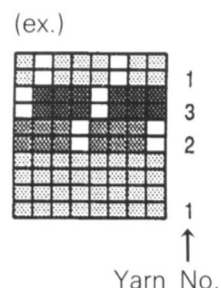
CARRIAGE MOVEMENT WHILE KNITTING

When using the motor drive, the motor drive moves the carriage to the colour changer to set the specified yarn to the carriage at the specified row in the section "HOLDER".

If the required yarn is set in the colour changer opposite side to the carriage....
① The yarn in the carriage returns to the colour changer and the carriage stops. All the needles are aligned at B position. (If the end needle is in D position, push it back to B position by hand.)
② Push both the PART buttons of the K carriage to move the carriage to other side without dropping the stitches of the knitting.
③ Push the S/S switch of the motor drive. The motor drive moves the carriage one row.
When using the ribber, the cam lever of the R carriage is automatically set to S as soon as the carriage begins to move.
④ Reset the cam buttons of the K carriage according to the pattern.
Push the S/S switch of the motor drive. The carriage moves and the required yarn is set to the carriage. The motor drive continues knitting.
♣When using the ribber, the cam lever of the R carriage is automatically set to N as soon as the carriage begins to move.

- See page 39 about how to enter the data in the section "HOLDER".

☐ NOTE

- This item can be programmed only for the pattern created with the pattern mode 5 (others).
- Use the numeral keys 1 – 9 and the DRAW and ERASE keys to enter the information. These information will be shown in the memo display of the knitter while you knit.

\<INDICATION IN THE DISPLAY>

- When you enter pattern knitting information using keys 1 – 9:

  [3] ➡ :[*3*]

  Memo display

- When you enter pattern knitting information using the DRAW and ERASE keys, you can use it to show which lace change lever setting to use, etc.

  ☐ ➡ N ➡ :[*ﬂ*] ── Set the lace change lever to N.

  ■ ➡ F ➡ :[*u*] ── Set the lace change lever to F.

  Display at the section "NOTE" on the memo-input screen

  (Memo display)
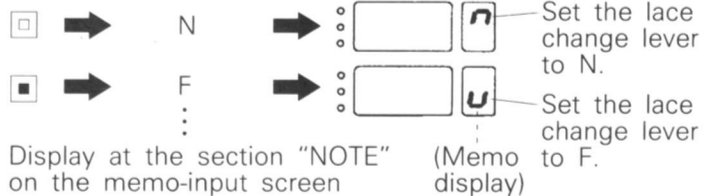
- What information can be programmed using the item "NOTE"?

① YARN NUMBER ....

ROW	NOTE HOLDER CAM STOP RACK
10	3
9	3
8	3
7	3
6	3
5	3
4	2
3	2
2	2
1	2

Yarn number

When you change the yarn while knitting but do not use the colour changer, enter the yarn number as your reminder. For example, use this item for fairisle pattern.
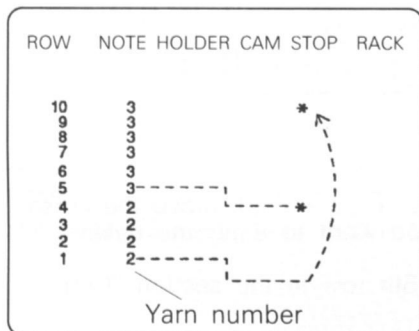
If you colour the pattern using the option 3 (SET COLOUR) of the HELP MENU, colour data of the contrast yarn is converted to yarn number and displayed in the section "NOTE" on the memo-input screen (see page 26). You can change or delete these yarn numbers on the memo-input screen. When you change the main yarn, enter the yarn number at the proper row for your reminder.

♣ When using the motor drive, put * in the section "STOP" to stop the motor drive automatically for yarn changing (see page 40).

② OTHER NOTES ....

ROW	NOTE HOLDER CAM STOP RACK
10	
9	9------┐
8	└----*
7	
6	
5	8------┐
4	└----*
3	
2	
1	

Number as a reminder

For example, if your knitting needs some manual work, enter the number, N or F at the proper row as a reminder for it.
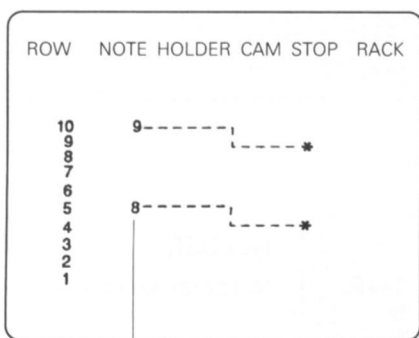
♣ If you use the motor drive, put the mark * at the row one row before the row which requires manual work, in the section "STOP" so as that the motor drive automatically stops knitting for manual work. (see page 40).

ROW	NOTE HOLDER CAM STOP RACK
10	2
9	F
8	F
7	N
6	N
5	N
4	2
3	F
2	N
1	N

\<When knitting lace pattern>
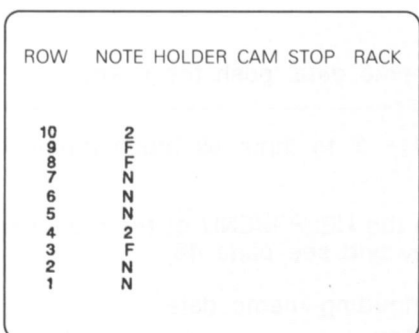
When you knit the lace pattern with the L carriage (option), enter the number of rows to be knitted by the K carriage. When you knit lace and fine lace mixed pattern, enter N and F to show which lace change lever to use.

2..... The number of rows to be knitted by the K carriage (ex. 2 rows)
F..... Set the lace change lever to F
N..... Set the lace change lever .to N

- See page 39 to enter the data in the section "NOTE".

● Entering the data in the sections "NOTE" and "HOLDER"

Relation between two items "NOTE" and "HOLDER"

(ex.)

ROW	NOTE HOLDER	CAM STOP RACK
·	·	·
6	9 ⟶ ◌	
5	8 ⟶ ◌	
4	◌ ⟵ 2	
3	9 ⟶ ◌	
2	8 ⟶ ◌	
1	◌ ⟵ 1	
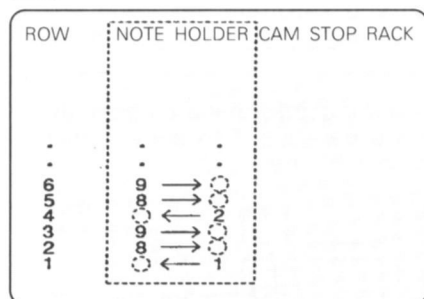
● The data of the item "NOTE" and the data of the item "HOLDER" is stored in the same place, therefore you can enter the data only either of the section "NOTE" or "HOLDER" at the same row.

If you enter the data in the section "NOTE" at the row where the data is already entered in the section "HOLDER", the data in the section "HOLDER" is deleted, and vice versa.

ROW NOTE HOLDER CAM STOP RACK

10
9
8
7
6
5
4
3
2
1 ↔ ▶

DRAW: F mark   ERASE: N mark
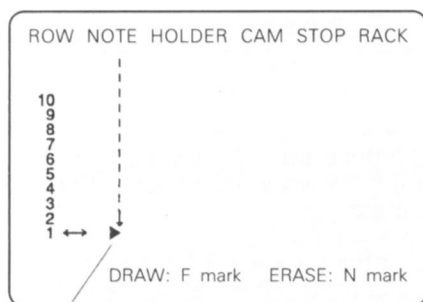
Cursor

① Using the cursor keys (◁ • ▷), move the cursor "▶" to the item you want to program.

ROW NOTE HOLDER CAM STOP RACK

10
9
8
7
6
5 ↔ ▶
4
3
2
1

DRAW: F mark   ERASE: N mark
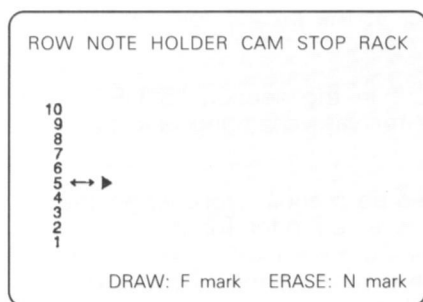
② Using the cursor keys (△ • ▽), move the cursor "▶" to the row where you want to enter the data.

(ex. Input 8 on the 5th row in the section "NOTE".)

♣ ↔ appears at the right side of the row number and shows the cursor "▶" location.

ROW NOTE HOLDER CAM STOP RACK

10
9
8
7
6
5 ↔ ▶ 8
4
3
2
1

DRAW: F mark   ERASE: N mark
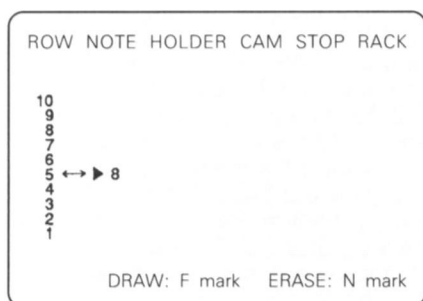
③ Enter the memo data.

NOTE	HOLDER
Numeral keys ⟶ 1~9	Numeral keys ⟶ 1~6
ERASE key ⟶ N	
DRAW key ⟶ F	

● If you make a mistake, push the correct key to rewrite the data.

● If you clear the memo data, push the C key.

– HELP MENU –

PATTERN No. 908

1. END INPUT MEMO
2. TRANSFER CURSOR
3. RECALL MEMO DATA
4. PATTERN SCREEN
5. REDUCTION

* SELECT 1 – 5 = ■
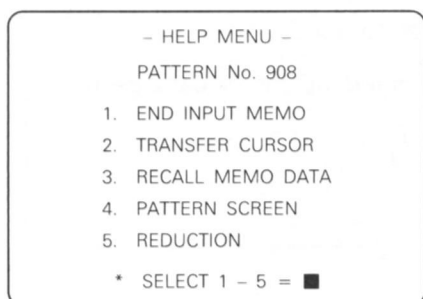
④ Repeat the steps ② – ③ to input as much memo data as you want.

● If you want to use the HELP MENU of the memo-input, push the HELP key and see page 46.

● When you finish inputting memo data,
  ① Push the HELP key.
  ② Choose the option 1 (END INPUT MEMO) from the HELP MENU and push the STEP key.
    The PATTERN CREATION MENU appears.

□ STOP

```
ROW    NOTE HOLDER CAM STOP RACK


  10     3
   9     3
   8     3                        *
   7     3
   6     3 ◄------------.
   5     3               '------*------'
   4     2
   3     2
   2     2
   1     2
```
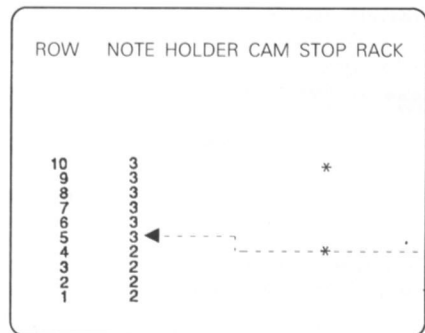
- When you put the mark * at a certain row of the section "STOP", the motor drive automatically stops knitting after completing that row.

(ex.1)
The motor drive stops knitting after completing 4th row.
The memo display shows 3 which is entered at 5th row in the section "NOTE".

```
ROW       HOLDER          STOP RACK


  10   1   2   3
   9   1   2   3
   8   1   2   3   4
   7   1   4   3
   6   1   2   3   4
   5   1   2   3
   4↔  1   2   3 ----------*
   3   1   2   3
   2   1   2   3   4
   1   1   3   4
```

(ex.2)
The motor drive stops knitting after completing 4th row.

♣ In case of the single bed jacquard, several times of carriage movement completes one row of the pattern.
The motor drive stops knitting after completing this one row of the pattern.

☐ CAM

● This item can be used only when you knit the pattern created in pattern mode 5 (others) using the colour changer.

***

*-marked row in the section "CAM"

***

*-marked row in the section "CAM" is knitted as follows:

● In case of pattern knitted with the ribber
The cam lever of the R carriage will be automatically set to S.

• If you enter the yarn number in the section "HOLDER" at the *-marked row in the section "CAM", the specified yarn is set to the carriage and knit only the needles of the knitter. .... (ex. 1)

• If you do not enter the yarn number in the section "HOLDER" at the *-marked row in the section "CAM", the carriage moves without yarn (the stitches of the ribber do not drop). .... (ex. 2)

● In case of pattern knitted without the ribber

• The carriage moves without yarn. .... (ex. 2)

<ATTENTION>:Do not fail to enter the yarn number (yarn holder keeper number) in the section "HOLDER" at the next row of the *-marked row in the section "CAM", because the yarn should be set to the carriage.

(ex. 1) MOVING THE CARRIAGE WITH YARN (KNITTING THE NEEDLES OF THE KNITTER)
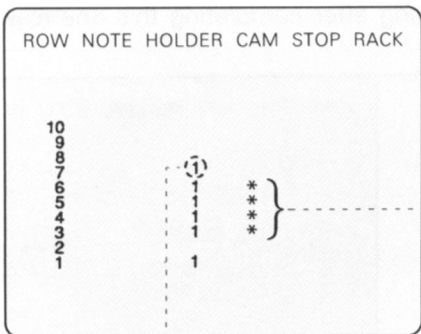
Put the mark in the section "CAM" at the row knitted only with the knitter.
Enter the yarn number (yarn holder keeper number) at the same row of the section "HOLDER".

ROW	NOTE	HOLDER	CAM	STOP	RACK
10					
9					
8					
7		(1)			
6		1	*		
5		1	*		
4		1	*		
3		1	*		
2					
1		1			

- Rows knitted only with the knitter

At the next row of the *-marked row in the section "CAM", enter yarn number in the section "HOLDER".

(ex. 2) MOVING THE CARRIAGE WITHOUT YARN

For example, while knitting, if the required yarn is in the opposite side colour changer to the carriage, the carriage automatically stops and you need to push the part button of the K carriage so as to move the carriage to the opposite side without knitting. In this case, to knit continuously, pay attention to the following points when creating the pattern and program the item "CAM".

♣Only in the case of pattern knitted with both part/tuck buttons pushed, can you use this method.

● CREATING PATTERN

Imagine the direction of the carriage movement and yarn setting in the colour changer. Make one row to move the carriage to the opposite side without knitting, when the required yarn is in the opposite side colour changer to the carriage. On this row, the needles of the knitter must be aligned in B position and * must be put in the section "CAM".

(Stitch pattern)

Row No.   Carriage movement   Yarn movement

Row No.   Yarn No.

ROW NOTE HOLDER CAM STOP RACK
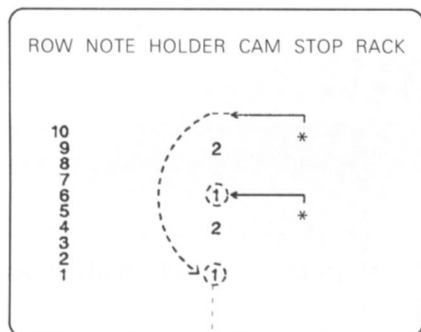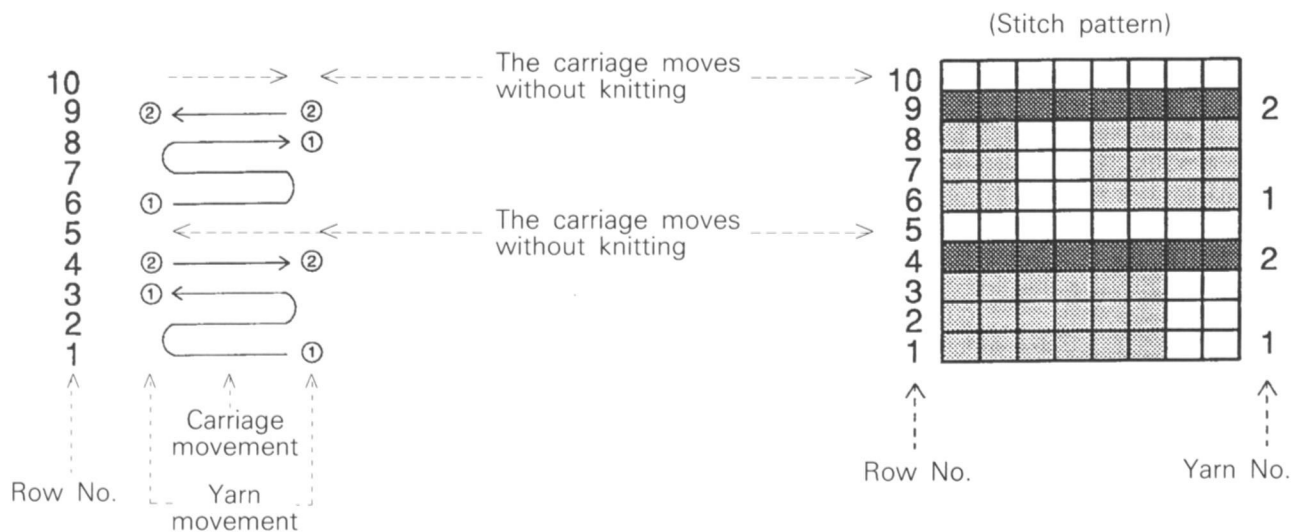
At the next row of the *-marked row in the section "CAM", enter the yarn number in the section "HOLDER".

● **Yarn and carriage movement at the row number where you put the mark * in the section "CAM".**
 ① When finishing the row before the *-marked row (in the section "CAM") the carriage moves to the colour changer and gives back the yarn to the changer.
 ② Carriage turns and the cam lever (R carriage) of the moving direction is automatically set to S. Carriage moves to the opposite side without yarn.
 ③ Carriage turns and the cam lever is set back to N.
 ④ The carriage holds the yarn which is specified in the section "HOLDER" at the next row of the *-marked row in the section "CAM".

●

● Putting the mark * in the section "CAM" and "STOP"

```
ROW NOTE HOLDER CAM STOP RACK



8
7
6
5
4
3
2
1 ←→              ▶

    DRAW: * ON      ERASE: * OFF
```
Cursor
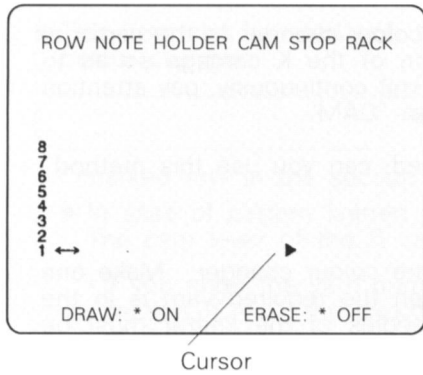
① Using the cursor keys (◁ • ▷), move the cursor "▶" to the section where you want to put or delete the mark *

```
ROW NOTE HOLDER CAM STOP RACK




8
7
6
5 ←→              ▶
4
3
2
1
    DRAW: * ON      ERASE: * OFF
```
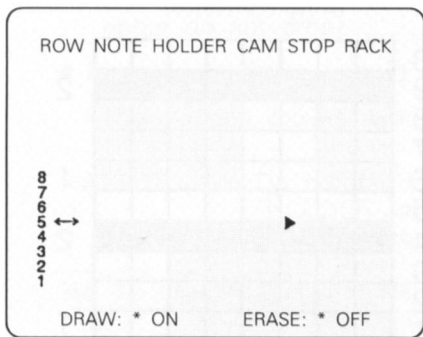
② Using the cursor keys (△ • ▽), move the cursor "▶" to the row where you want to put or delete the mark *.

(ex. Put * at the 5th row in the section "STOP".)

♣←→ appears at the right side of the row number and shows the cursor "▶" location.

```
ROW NOTE HOLDER CAM STOP RACK




8
7
6
5 ←→            ▶ *
4
3
2
1
    DRAW: * ON      ERASE: * OFF
```
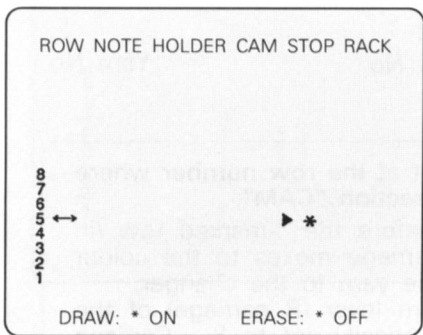
③ Push the DRAW key to put the mark *.
Push the ERASE key to erase the mark *.

```
      – HELP MENU –

PATTERN No. 908

  1.  END INPUT MEMO

  2.  TRANSFER CURSOR

  3.  RECALL MEMO DATA

  4.  PATTERN SCREEN

  5.  REDUCTION

  *  SELECT 1 – 5 = ■
```
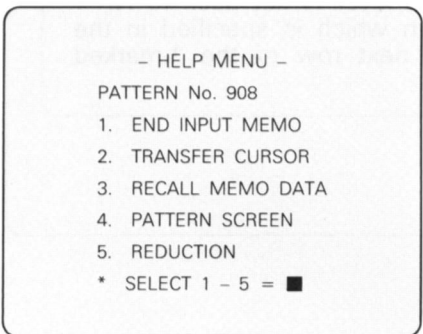
④ Repeat the steps ① – ③ to put as much marks * as you want.

● If you want to use the HELP MENU of the memo-input, push the HELP key and see page 46.

● When you finish inputting memo data,
  ① Push the HELP key.
  ② Choose the option 1 (END INPUT MEMO) from the HELP MENU and push the STEP key.
  The PATTERN CREATION MENU appears.

□RACK

- Use this item when you knit racking pattern.
  Enter the racking position for your reminder. Racking position will appear in the display of the knitter.
  - When using the motor drive...
    The carriage automatically stops at the row you have to shift the racking handle.
    The display of the knitter shows the racking position.
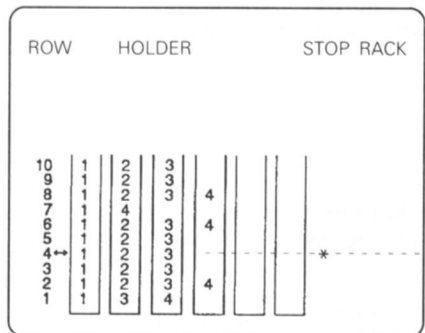
  ROW NOTE HOLDER CAM STOP RACK

  Display of the knitter

  ▶ ○○○ | r- 5 | E |

  ▶ ○○○ | r- 3 | E |
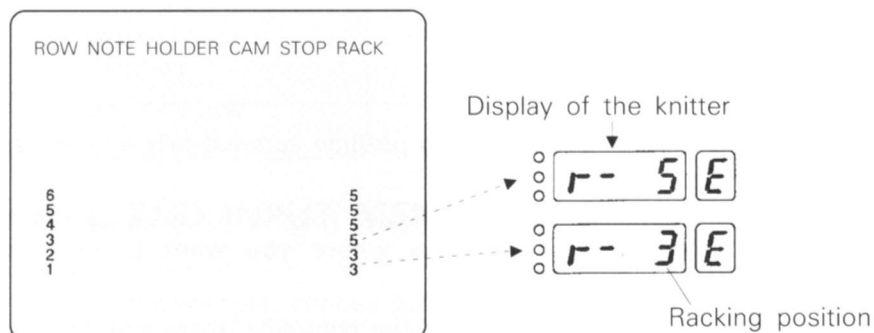
  Racking position

  ♣Even if the lamp of "BLOCK" or "PATT" is lit, the display shows the racking position when the carriage stops.

  - When operating the carriage by hand...
    Select "RACKING" for the display indication. The display shows the racking position at every row.

  RACKING ○○⊗ | 3 |

  Racking position

- Entering the racking position
  <ATTENTION>: • You can enter the number 0 – 10 only, because the racking position ranges from 0 to 10.
  • You can shift the racking handle within 2 pitches, therefore you can enter the number which is within the range of ±2 of the number one row below and above.

  ROW NOTE HOLDER CAM STOP RACK

  Cursor

  ① Using the cursor keys (◁ • ▷), move the cursor "▶" to the section "RACK".
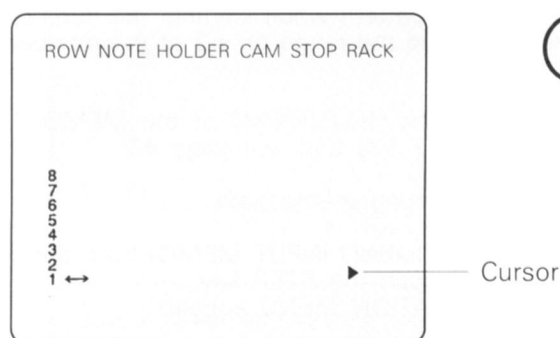
  ROW NOTE HOLDER CAM STOP RACK
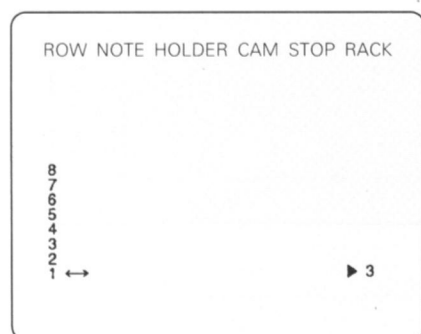
  ② Enter the racking position.

  (ex. 1st row..... 3)

  | 3)

  - When you make a mistake, overwrite the correct number.

    ♥If you enter 0 to change 1 to 0, the number becomes "10". Enter 0 again.

  - You cannot erase the racking position number with the C key.
    If you want to erase it, use the option 3 (RECALL MEMO DATA) of the HELP MENU (see page 47).

```
ROW NOTE HOLDER CAM STOP RACK


  8                                    3
  7                                    3
  6                                    3
  5                                    3
  4                                    3
  3                                    3
  2 ←→                              ▶  3
  1                                    3
```
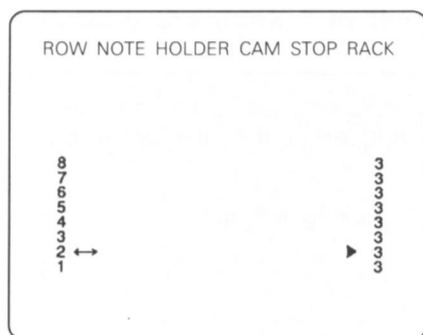
(3) Push the cursor key (△).

As soon as the cursor moves upward, the same number as you entered in the step ② is entered on all the row.

♣ In the section "RACK", when you push the cursor key (△ • ▽ • ▷ • ◁) or HELP key after entering the racking position for the first time, that racking position number is entered for all the row.

```
ROW NOTE HOLDER CAM STOP RACK


  8                                    3
  7                                    3
  6                                    3
  5                                    3
  4                                    3
  3 ←→                              ▶  5
  2                                    5
  1                                    3
```
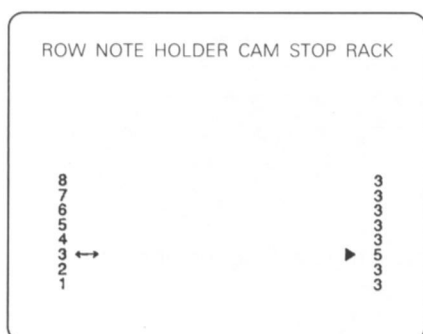
(4) Change the racking position automatically entered, as you like.

① Using the cursor keys (△ • ▽), move the cursor "▶" to the row where you want to change the number.

♣ ←→ appears at the right side of the row number and shows the cursor "▶" location.

② Enter the racking position.

(ex. 3rd row..... 5)

5

• When you enter the racking position for the 2nd row in this example, you can enter 1 – 5 (within the range of 3 ±2).

● If you make a mistake, overwrite the correct number (see step ② on page 44).

```
       – HELP MENU –

PATTERN No. 908

  1.  END INPUT MEMO

  2.  TRANSFER CURSOR

  3.  RECALL MEMO DATA

  4.  PATTERN SCREEN

  5.  REDUCTION

  *   SELECT 1 – 5 = ■
```
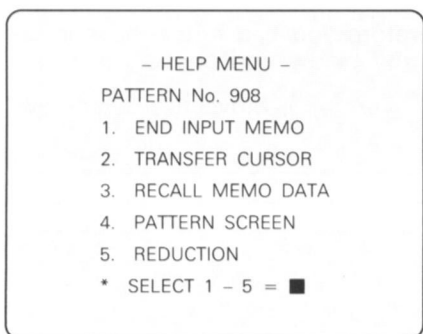
(5) Repeat steps ④ ① – ②.

♣ When you repeat the pattern when knitting, the number at the 1st row is within the range of ±2 of the number at the last row.

● If you want to use the HELP MENU of the MEMO-INPUT, push the HELP key and see page 46.

● When you finish inputting memo data.....
① Push the HELP key.
② Choose the option 1 (END INPUT MEMO) from the HELP MENU and push the STEP key.
The PATTERN CREATION MENU appears.

HELP MENU of the MEMO-INPUT

```
      – HELP MENU –

PATTERN No. 901

1.  END INPUT MEMO
2.  TRANSFER CURSOR
3.  RECALL MEMO DATA
4.  PATTERN SCREEN
5.  REDUCTION

* SELECT 1 – 5 = ■
```

- Push the HELP key while the memo-input screen is displayed and the HELP MENU will appear.

◆ ◆ ◆ 1. END INPUT MEMO (HELP MENU [MEMO-INPUT] 1) ◆ ◆ ◆

- To finish memo-input, choose option 1 from the HELP MENU, and push the STEP key. The screen returns to the PATTERN CREATION MENU, and you have finished memo-input.

[1] · (STEP)

If you do not use this option, the memo-input is not finished and you cannot use the pattern in the block data.

After that...
- When you program the block data, push the HELP key.
  The MAIN MENU appears on the screen. See page 51.
- When you finish programming with the design system, turn off the power switch of the pattern programming device and the TV set. Created patterns and entered memo data is stored in the memory of the design system.

◆ ◆ ◆ 2. TRANSFER CURSOR (HELP MENU [MEMO-INPUT] 2) ◆ ◆ ◆

```
ROW NOTE HOLDER CAM STOP RACK

   60
   59
   58 ←——
   57
   56
   55
   54
   .
   .
                          Cursor

ROW NOTE HOLDER CAM STOP RACK



   .
   .
   7
   6
   5
   4
   3
   2
   1 ←——          ▶
```
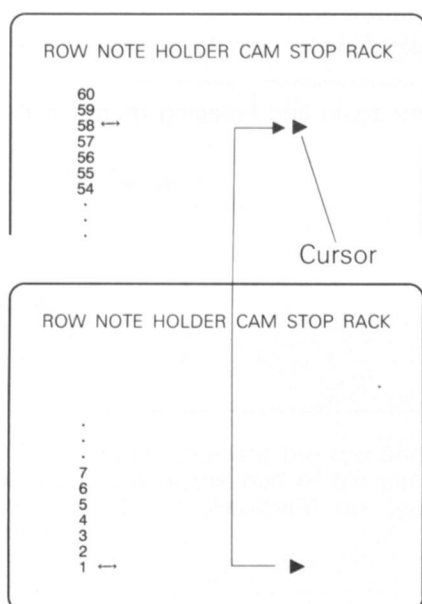
- You can move the cursor in the vertical direction without using the cursor keys. Specify the row number, and the cursor moves to the specified position directly. This function is useful when you move the cursor long distance.

TRANSFERRING THE CURSOR

You can transfer the cursor in any location with the same method.

① Choose option 2 from the HELP MENU, and push the STEP key.

[2] · (STEP)

② Enter the row number where you want to put the cursor. You can move the cursor within the pattern area. Maximum row number is displayed. Enter a row number within the limit and push the STEP key.

(ex. Row number.... 58)

[5] · [8] · (STEP)

③ The memo-input screen appears, and you can see the cursor which is positioned where you specified.

◆ ◆ ◆ 3. RECALL MEMO DATA (HELP MENU [MEMO-INPUT] 3) ◆ ◆ ◆

- You can return the changed memo data to the former condition using this option (item "HOLDER" of the single bed/double bed jacquard – the changed memo data returns to the former one which the computer specifies at first, other items – entered memo data is deleted) – this operation is called "recall". You can recall memo data item by item, or recall all the memo data at once.

- The memo-recall screen differs according to the pattern mode as following.

The memo-recall screen

- Single bed jacquard
  (Pattern mode 1)

```
- RECALL MEMO DATA -

    1.  STOP

    2.  RACK

    3.  ALL

*  SELECT 1 - 3 = ■
```

- Double bed jacquard
  (Pattern mode 2 – 4)

```
- RECALL MEMO DATA -

    1.  HOLDER
    2.  STOP
    3.  RACK
    4.  ALL

*  SELECT 1 - 4 = ■
```

- Others
  (Pattern mode 5)

```
- RECALL MEMO DATA -

    1.  NOTE
    2.  HOLDER
    3.  CAM
    4.  STOP
    5.  RACK
    6.  ALL
*  SELECT 1 - 6 = ■
```

RECALLING MEMO DATA

① Choose option 3 from the HELP MENU, and push the STEP key.

     [3] · (STEP)

② • The memo-recall screen appears.
  Choose the item you want to recall and push the STEP key.

  • If you want to recall all the memo data, choose "ALL" and push the STEP key.

③ Confirm the item you specified.

  - When the specified item is correct, select 1.
  - When you want to change the item, select 2.
    The screen returns to step ②.

④ The memo-input screen appears again and recalling memo data has been finished.

◆◆◆ 4. PATTERN SCREEN (HELP MENU [MEMO-INPUT] 4) ◆◆◆

● You can check the pattern on the screen while you input memo data.

(ex.)
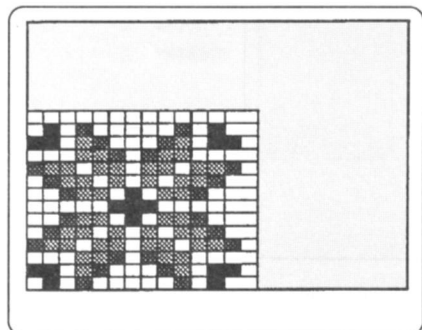
Checking the pattern

① Choose option 4 from the HELP MENU and push the STEP key.

[4] • (STEP)

② You can see the pattern of which memo data you are now inputting.
 • If the pattern exceeds one screen, you can roll the screen up/down or right/left using the cursor keys (△ • ▽ • ◁ • ▷).
  ♣ If it is necessary to move the cursor long distance, move the white frame to the part you want to check using the option 5 (REDUCTION) of the HELP MENU.
   (1) Push the HELP key.
   (2) Choose the option 5 and push the STEP key.
   (3) Using the cursor keys (△ • ▽ • ◁ • ▷), move the white frame to the part you want to check.
   (4) Push the HELP key.
   (5) Choose the option 4 and push the STEP key.

③ Push the STEP key after checking.

(STEP)

The memo-input screen appears and the cursor "▶" is located on the row number where the cursor "■" was on the pattern screen.

◆◆◆ 5. REDUCTION (HELP MENU [MEMO-INPUT] 5) ◆◆◆

● You can check the whole pattern by reducing it while you input memo data.

White frame
Green frame
---- Row 70
---- Row 1
1-70
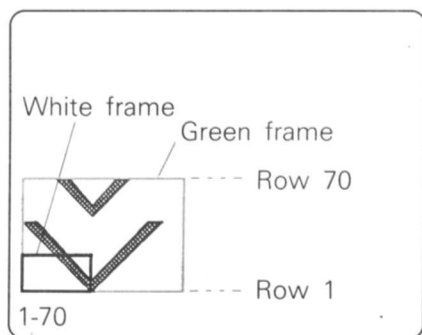
The numbers indicate the top and bottom row of the part of the pattern which is displayed on the screen.

Checking the reduced pattern

① Choose option 5 from the HELP MENU and push the STEP key.

[5] • (STEP)

② The reduced pattern appears.
 ♣ Reduced pattern area
  • There are 200 stitches and 200 rows on the screen.
  • The green frame of square which is shown on the screen indicates the whole pattern area.
  • The white frame of square (40 sts. ×20 rows in case of single/double bed jacquard, 48 sts. ×20 rows in other case) indicates the range of row number that is displayed on the memo-input screen. When you want to see other row numbers of the pattern on the memo-input screen, move the white frame with the cursor key (△ • ▽).
  • If you are creating a pattern exceeding 200 rows, you can roll the screen up or down by 200 rows by selecting 1 or 2.
③ Push the STEP key. The memo-input screen appears.

(STEP)

◀◀◀ REVERSE PATTERN (PATTERN CREATION MENU 5) ▶▶▶

- You can reverse right and left of the created pattern.
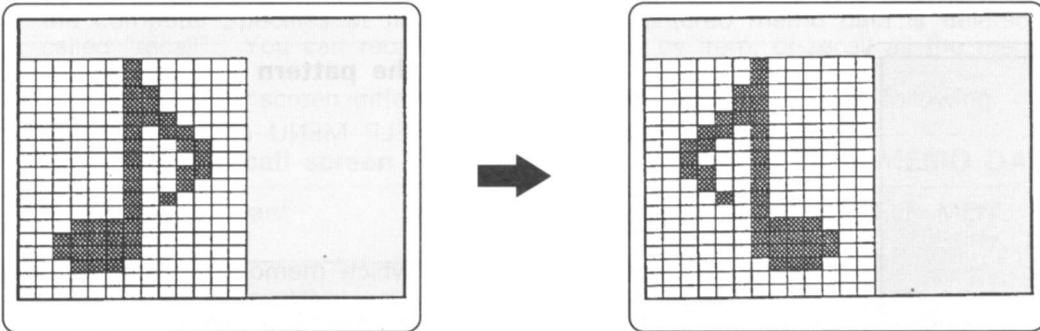
```
        - PATTERN CREATION -

  1.  CREATE NEW PATTERN

  2.  EDIT PATTERN

  3.  DELETE PATTERN

  4.  INPUT MEMO DATA

  5.  REVERSE PATTERN

     *  SELECT 1 – 5 = ■
```

① Select option 5 from the PATTERN CREATION MENU and push the STEP key.

[5] · (STEP)

♥ If the screen does not change, it means that there is no created pattern in the memory.

```
          - REVERSE PATTERN -
   PATTERN No.   STITCHES    ROWS
       905          20       30 (M)
       903          41       32 (2)
       904          90       86 (2)
       901          14       14 (3)
       902          14       18 (3)
       906          30       40 (4)
       907          24       60 (4)*
   ▶   908          13       18 (0)
       909          35       48 (0) ×

      1:  FORWARD
```

② The list of patterns you created is displayed on the screen. Using the cursor keys (▽ · △), move the cursor "▶" to the pattern number of which right and left you want to reverse.

- - - - - These marks are explained in step ② of page 31.

- - - - This mark shows that there are more patterns.
Push 1 key to roll the screen.

```
          - REVERSE PATTERN -
        PATTERN No. = 908

   * NOT BEING USED FOR BLOCKS ◀ - - - -






   OK? 1: YES  2: NO  3: REDUCE
```

③ Push the STEP key.

(STEP)

- - - - - The screen shows that the chosen pattern is used for block or not.

④ Confirm the pattern number.

♥ If you want to see the pattern on the screen, select 3 (see step ④ on page 32).

- When the pattern number is correct, select 1.
  ◆ If you are using pattern mode 1 – 4, go to step ⑤.
  ◆ If you are using pattern mode 5, go to step ⑥.

- When you want to change the pattern number, select 2. The screen returns to ②.

```
- REVERSE PATTERN -

PATTERN No. 904

   1.  ALL OVER
   2.  MOTIF
   3.  REDUCE

*  SELECT 1 – 3 = ■
```

⑤ When you are using pattern mode 1 – 4, decide whether you knit this pattern in all over patterning*, or in motif*.

◆ See page 57 – 59 for detailed explanation of the all over patterning and motif.

♥ If you want to see the pattern on the screen, select 3 and push the STEP key (see step ④ on page 32).

● When you knit the pattern in all over patterning, select 1 and push the STEP key.

● When you knit the pattern in motif, select 2 and push the STEP key.

Your selection in this step affects the reversed pattern as follows:

● When you select 1 (all over patterning), whole pattern is reversed.

(ex.)
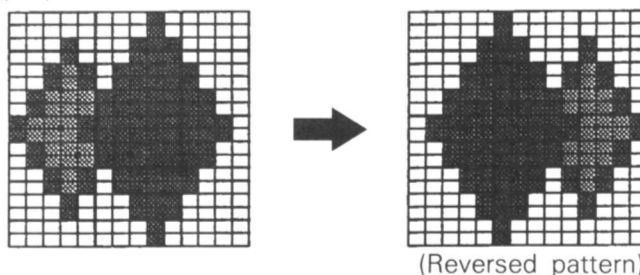
(Reversed pattern)

● When you select 2 (motif), the part except right edge stitches is reversed. (The right edge stitches are for background colours .... see page 11.)
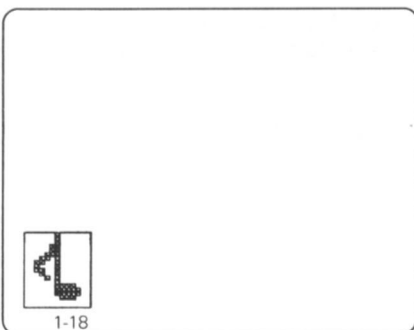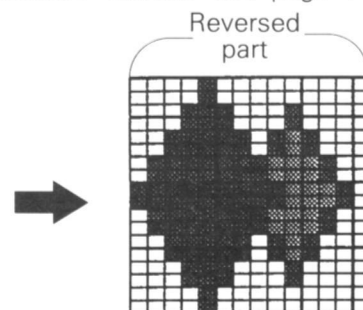
Reversed part

⑥ The reduced pattern appears. The pattern is reversed.

Push the STEP key.

(STEP)

The PATTERN CREATION MENU appears.

```
1-18
```

PROGRAMMING THE BLOCK DATA

● BLOCK DATA

- Each part, which is knitted separately according to the knitting data, such as tension gauge, bodice, or sleeve is called <u>block.</u>
  Each block has its knitting data (block data) which is given the data number such as block number 1, 2, 3....etc.
- You need to program the pattern number to be used, pattern positioning, operation range, and so on, as the block data.
  The computer controls needle selection, carriage movement, yarn changing, and all the function of the knitter according to this block data.

Begin the programming of the block data.

(ex.)

```
          - CREATE NEW BLOCK -

              BLOCK No. 1
              TOTAL ROWS: 70

  PATTERN No.      : 901
   STITCHES/ROWS : 14/14
   START ROW      : 1

  KNITTING ROWS            (70)      +901
  END NEEDLE SELECTION (FREE)

  ARRANGE              (ALL OVER)
                       R/L NEEDLE No.
  PATTERN POSITION   (L)  (7)


  * FORWARD
```

Program the data for the pattern knitting (see page 53).

One pattern repeat (14 stitches)

5 pattern repeats (70 rows = 14 rows × 5)
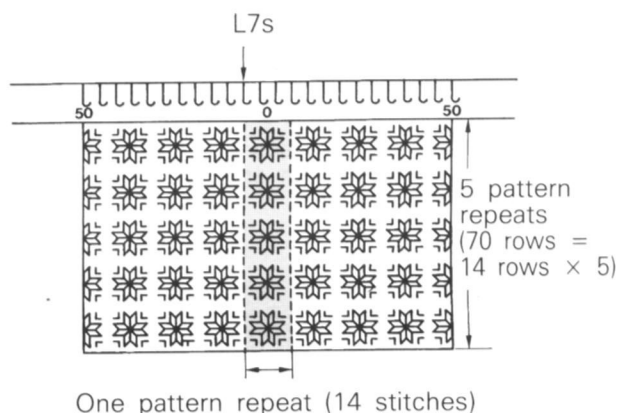
(SET HOLDER POSITION (See page 66.))

When you knit using the colour changer and want to set the position (right or left) of each yarn holder, use this function.

(SET KNITTING RANGE (See page 67.))

Entered needle number in this function is controlled with the command of "END NEEDLE SELECTION" (see page 58).
The operation range of the motor drive is controlled by the data in this function.

(SET STOP POSITION (See page 70.))

When you knit using the motor drive, you can program the stopping of it in advance.

You have completed programming the block data.

BLOCK FOR KNIT (MAIN MENU 2)

```
- MAIN MENU -


1.  PATTERN CREATION
2.  BLOCK FOR KNIT
3.  OPERATION FOR FDD
4.  PRINT OUT


*  SELECT 1 - 4 = ■
```
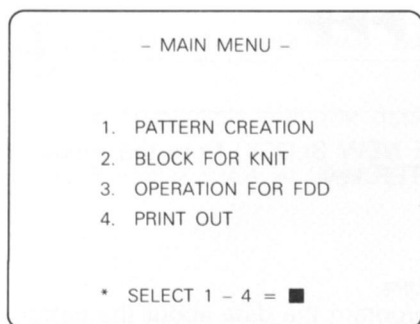
① Select option 2 (BLOCK FOR KNIT) from the MAIN MENU and push the STEP key.

| 2 | · (STEP)

```
- BLOCK FOR KNIT -


1.  CREATE NEW BLOCK - - - - - - - - - - - -
2.  EDIT BLOCK - - - - - - - - - - - -
3.  DELETE BLOCK - - - - - - - - - - -


*  SELECT 1 - 3 = ■
```
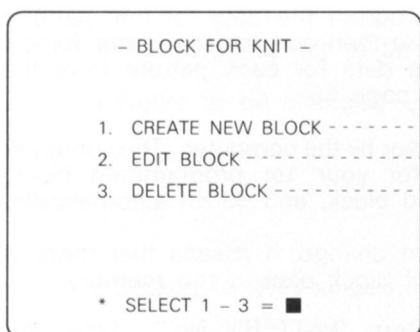
② The display shows the menu of block.

Use this option to program new block data. (See page 53.)

Use this option to modify the data you programmed. (See page 71.)

Use this option to delete unnecessary data, or all the data you programmed. (See page 72.)

♥When you returns to the MAIN MENU, push the HELP key.

◄◄◄ CREATE NEW BLOCK (MENU OF BLOCK 1) ►►►

● Use this option to program new block data.

```
        - CREATE NEW BLOCK -
           BLOCK No. 1
           TOTAL ROWS: 0
PATTERN No.       : ■
  STITCHES/ROWS   :    /
  START ROW       :

KNITTING ROWS            (    )
END NEEDLE SELECTION     (    )    +

ARRANGE                  (    )
                     R/L   NEEDLE No.
PATTERN POSITION    ( )   (    )
```
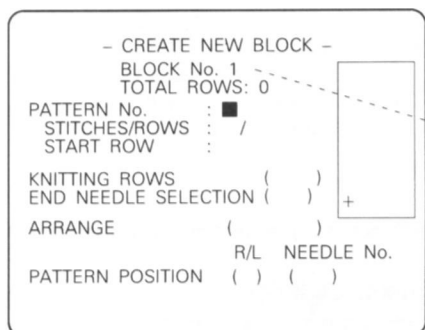
① Select option 1 (CREATE NEW BLOCK) from the menu of BLOCK and push the STEP key.

[1] · (STEP)

The screen as left appears.
On this screen you will program the data about the pattern such as knitting rows, pattern positioning, and so on.

♣ On one screen you program the data for one pattern. When a block has more than one pattern in the vertical direction, program the data for each pattern from the first knitted one (See page 55).

♣ The block is given number by the computer. The computer allocates number 1 for your 1st programmed block, number 2 for your 2nd block, and so on automatically.

♥ If the screen does not change, it means that there is no created pattern nor block data in the memory.

② Cursor "■" is on the item "PATTERN No." Enter the pattern number you will knit first.

(ex. pattern number 901)

[9] · (0] · (1] · (STEP)

♥ If the entered pattern number disappears, it means that there is not that pattern number in the memory or that pattern is not completed yet.

♥ You cannot use the pattern number 1 – 555, which is built in the memory for loading.

```
        - CREATE NEW BLOCK -
           BLOCK No. 1
           TOTAL ROWS: 14
PATTERN No.       : 901
STITCHES/ROWS     : 14/14
START ROW         : 1

KNITTING ROWS            (14   )
END NEEDLE SELECTION     (FREE)   +901

ARRANGE              (ALL OVER)
                     R/L   NEEDLE No.
PATTERN POSITION    (L)   (7    )

* FORWARD
```

    Cursor   Pattern number display

③ Entered pattern number is displayed in the frame at upper right screen (pattern number display).
The computer calculates the figure supposing that the specified pattern is knit in ★ all over pattern and displays these figures on each item.

★ .... ALL OVER PATTERN .... See page 59.

◆ See page 56 for the meaning of calculated figures on each item.

④ Confirm the data about pattern knitting on the screen.

- If you knit with the data calculated by the computer, ... Advance to step ⑤.

- If you want to change the figure or setting on some item, ... You can change the figure or setting on which the cursor is located.
(Change "KNITTING ROWS" to 70 for the example on page 51.)

ENTERING THE DATA

- Figure/setting not to be changed .... Push the STEP key. The cursor moves to the next item.
- Figure to be changed .... ① Enter the figure.
  ♥ If you make a mistake, re-enter the correct figure after erasing the mistake with the C key.
  ② Push the STEP key. The cursor moves to the next item.
  (If you do not push the STEP key, entered figure will not be stored.)
- Setting to be changed .... ① Change the setting with the 1 key. ("1: CHANGE" appears at the bottom of the screen.)
  ② Push the STEP key. The cursor moves to the next item.
- To move the cursor .... Use the cursor keys (△ • ▽ • ◁ • ▷).

♥ If you want to use sub-functions of the HELP MENU, see page 64.

⑤
- If you use only one pattern (including stocking stitch) in the block, advance to step ⑥.

- If you use more than one pattern (including stocking stitch) in the block in the vertical direction, program the data about next pattern. (See page 55.)

⑥ After programming the data about patterning, program the data for the setting as below, if necessary.

- Holder setting .... See page 66.
- Knitting range setting ... See page 67.
- Stop position setting .... See page 70.

Example on page 51
Enter the knitting range as below.

	L SIDE	R SIDE	START
	R/L NEEDLE	R/L NEEDLE	ROW
No.1 (L)	(50)	(R) (50)	(1)

⑦ When you finish programming the block data, push the HELP key.
Select option 1 (END BLOCK) from the HELP MENU and push the STEP key.
The screen returns to the menu of BLOCK.

And then....
- If you knit according to the block data, turn off the power switch of the pattern programming device and TV set, and then see page 29 of CK35 instruction manual.

If you knit more than 1 pattern in the block in the vertical direction.

(ex.)

Pattern No. 904

Pattern No. 903
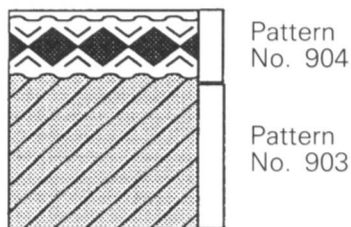
● You can program the data for up to 9 patterns in one block. Program the data from the first knitting pattern (the lowest pattern in the knitting) in the knitting order.
(In the example, program the data for the pattern number 903 first, and next, roll the screen and program the data for the pattern number 904.)

Pattern No. 902

Pattern No. 902

Pattern No. 902
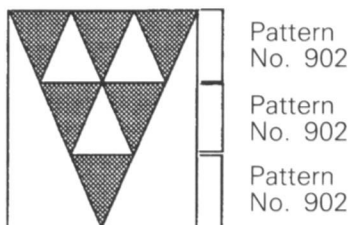
● If you knit the same pattern number both in motif and in all over pattern knitting in one block, pattern number in motif and pattern number in all over pattern knitting must be programmed respectively.

Rolling the screen

* FORWARD

Cursor

- CREATE NEW BLOCK -

BLOCK No. 1
TOTAL ROWS: 156
PATTERN No.   : 904
  STITCHES/ROWS : 40/34
  START ROW   : 123
KNITTING ROWS   (34)   +904
                             903
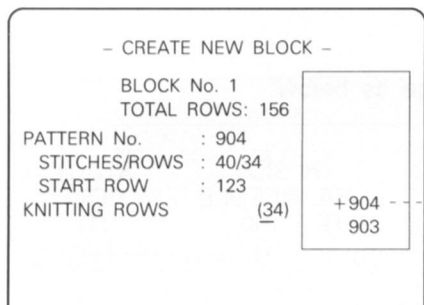
① When you finish programming the data for the first pattern, move the cursor "–" to "* FORWARD" using the cursor key (▽).

② Push the STEP key. The screen changes. On this screen you will program the data for the next pattern.

③ Enter the next pattern number.

(ex. pattern number 904)
Push the STEP key.

(9) · (0) · (4) · (STEP)

Entered pattern number is added to the pattern number display. The computer calculates the figures supposing that the specified pattern is knit in all over pattern and displays these figures on each item.
Confirm the data on the screen and change them, if necessary as you do with the first pattern.

♥ If you want to see the screen for the former pattern...

① Move the cursor "–" to "* BACKWARD" using the cursor key (▽).

② Push the STEP key. The screen changes.

* FORWARD
* BACKWARD

Cursor

SCREEN DISPLAY AND PROGRAMMING

Figures except ③ (PATTERN No.) is calculated by the computer and displayed.

You can change the figure/ setting calculated by the computer.

⑩ Pattern number display

```
             – CREATE NEW BLOCK –
①  ------------------- BLOCK No. 1
②  ------------------- TOTAL ROWS: 14
③  -- PATTERN No.      : 901
④  --- STITCHES/ROWS  : 14/14
⑤  --- START ROW       : 1

⑥  -- KNITTING ROWS           (14  )
⑦  -- END NEEDLE SELECTION (FREE)  +901

⑧  -- ARRANGE           (ALL OVER)
                         R/L NEEDLE No.
      PATTERN POSITION   (L)     (7  )

⑨  --- * FORWARD
```

① BLOCK No. : The block is given a number by the computer. The computer allocates number 1 for your 1st programmed block, number 2 for your 2nd block, and so on automatically. (When you knit the block, you need to enter this block no. into the knitter, therefore memorize it.)

♣ If you delete a block data, the lowest vacant block number is given when you program the block data next.

② TOTAL ROWS : The computer automatically calculates and displays the number of all the rows necessary for the block, total figure of the KNITTING ROWS (⑥) of each pattern.

③ PATTERN No. : Enter the pattern no. to be used for the block.
When you enter the pattern number, that number is displayed in the frame at upper right screen (pattern number display).
The computer calculates the figure supposing that the specified pattern is knit in all over pattern and displays these figures on each item. These figures can be changed (see the explanation for each item).

♥ If you use more than one pattern (including stocking stitch) in the vertical direction, see page 55.

♥ If you entered a wrong pattern number.....

● When the cursor "■" or "–" is on the item "PATTERN No."

• In case of cursor "■"
Erase the number with the C key and enter the correct number.

• In case of cursor "–"
Overwrite the correct number.

● When the cursor is on the other items.....

• You can change the pattern number only placed at the top of the pattern number display. In other words, when the mark + is on the pattern number placed at the top of the pattern number display, move the cursor to the item "PATTERN No." with the cursor key (△) and overwrite the correct number.

(ex.)

```
► + 905
    904
    903
    901
```

• You cannot change the pattern number except above case. You cannot move the cursor to the item "PATTERN NUMBER". Push the HELP key and select option 3 (DELETE PATTERN IN BLOCK) to delete the pattern (see page 65). Then, enter the correct pattern number using the option 2 (INSERT PATTERN) (see page 64).

```
      905
      904
►  {+903
      901
```

④ STITCHES/ROWS: It displays the number of stitches and rows for the entered pattern.

⑤ START ROW: It displays from which row in the block the entered pattern starts.

(ex.)
If you enter the pattern number 901 as the first pattern in the block, start row is "1".

If you enter the pattern number 902 as the second pattern in the block, start row is "41" which is the next row number of the last one for the first pattern.

(ex.)

903	50 rows
902	60 rows
901	40 rows

101st row

41st row

1st row

$\left(\begin{array}{c}\text{Start row for}\\\text{each pattern}\end{array}\right)\left(\begin{array}{c}\text{Number of rows}\\\text{for each pattern}\end{array}\right)$
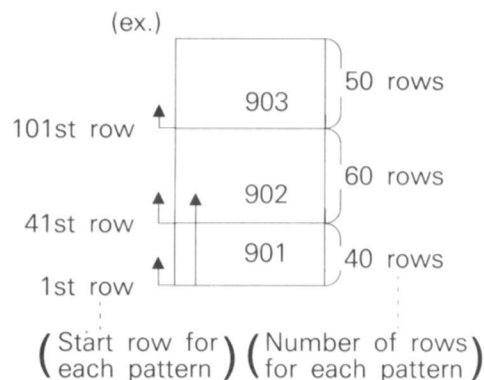
⑥ KNITTING ROWS: When you enter the pattern number, the computer calculates the required number of rows for the pattern supposing that you knit only one pattern repeat and displays it on the item "KNITTING ROWS".
You can change knitting rows with the numeral keys.

(ex. 1) If you knit three pattern repeats, enter 60 for the knitting rows.

20 rows × 3 = 60 rows

20 rows (Pattern) → (In the block) 60 rows
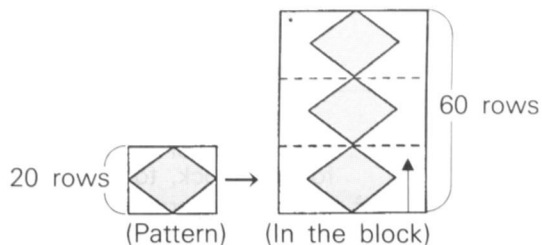
(ex. 2) If you knit only 15 rows, enter 15 for the knitting rows.

20 rows (Pattern) → (In the block) 15 rows
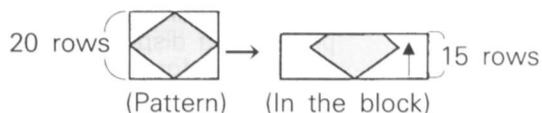
♣You cannot enter the number (KNITTING ROWS) which makes the total rows more than 9999 rows.

<NOTE>: You can finish the pattern at any rows, but the pattern always begins from the first row. Therefore, if you want to begin the pattern from the middle, change the row number in the display using the up key after selecting the block.

⑦ END NEEDLE SELECTION: [FREE], [ON] and [OFF] appears in turn when you push the 1 key.

> END NEEDLE SELECTION PROGRAMMED BY THE DESIGN SYSTEM

The program of END NEEDLE SELECTION" controls both end needles entered using the option "SET KNITTING RANGE". K carriage has also end needle selection mechanism and you choose between two functions; [ON] and [FREE].

End needle selection programmed by the design system and end needle selection mechanism work as follows.

★a) "SET KNITTING RANGE" ..... See page 67.
★b) End needle selection mechanism ..... See page 75 of CK35 instruction manual.

● When knitting range programmed with the option "SET KNITTING RANGE" is equal to the actual knitting needles...

> End needle selection mechanism of the K carriage is set to [FREE].
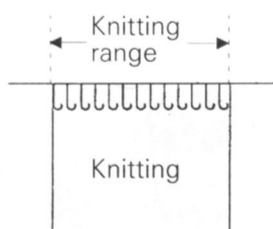
Knitting range

Knitting

Needle selection of the design system

↓

Knitting range

(ex.) Pattern data

ON ....End needles are brought to D position at every row in disregard of the pattern data.
(When the pattern data requires all the needles in B position, end needles remain in B position as well as other needles.)

B position
D position
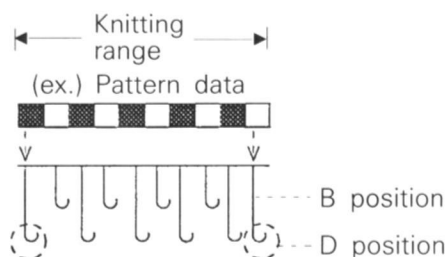
OFF ....End needles remain in B position at every row in disregard of the pattern data.

FREE ......End needles are selected to B and D position according to the pattern data.
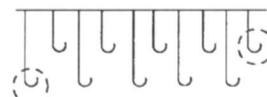
> End needle selection mechanism of the K carriage is set to [ON].

End needle selection mechanism of the K carriage has priority over that of design system, therefore end needles are brought to D position at every row in disregard of the end needle selection programmed by the design system.
(Even when the pattern data requires all the needles in B position, end needles are brought to D position.)

Knitting range

(ex.) Pattern data

B position
D position
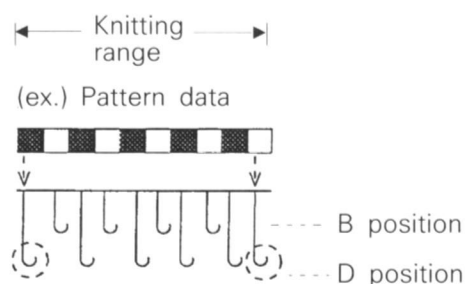
● When knitting range programmed with the option "SET KNITTING RANGE" is bigger than the actual knitting needles....

Knitting range
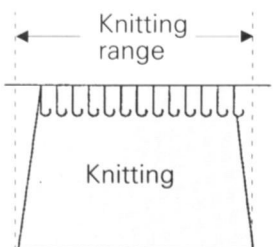
Knitting

The end needles of the knitting range are in A or E position and end needle selection of the design system is no use. End needles of the actual knitting is controlled only by the end needle selection mechanism of the K carriage.

⑧ARRANGE: Enter whether you knit the specified pattern in all over patterning or in motif. The display shows "ALL OVER" and "MOTIF" alternately when you push the 1 key. Select either one and push the STEP key.

● ALL OVER PATTERNING

When you knit the pattern in all over patterning, select "ALL OVER". All over means the pattern runs from the left edge of the knitting to the right.

PATTERN POSITION* set automatically by the computer

When you select "ALL OVER", the computer automatically place the pattern repeat over the center of the needlebed, and shows the left end needle number of the pattern repeat placed over the center. (If you change the position of pattern repeat, see page 60.)

PATTERN POSITION..... The pattern repeat in this case is 20 stitches, this means that the centre pattern repeat will have 10 stitches to left of "0" and 10 stitches to the right.

(ex.)
ONE PATTERN REPEAT

10   0   10

20 stitches

20 stitches

When you are knitting, the wrong side of the fabric is showing.

Center

(FRONT SIDE)
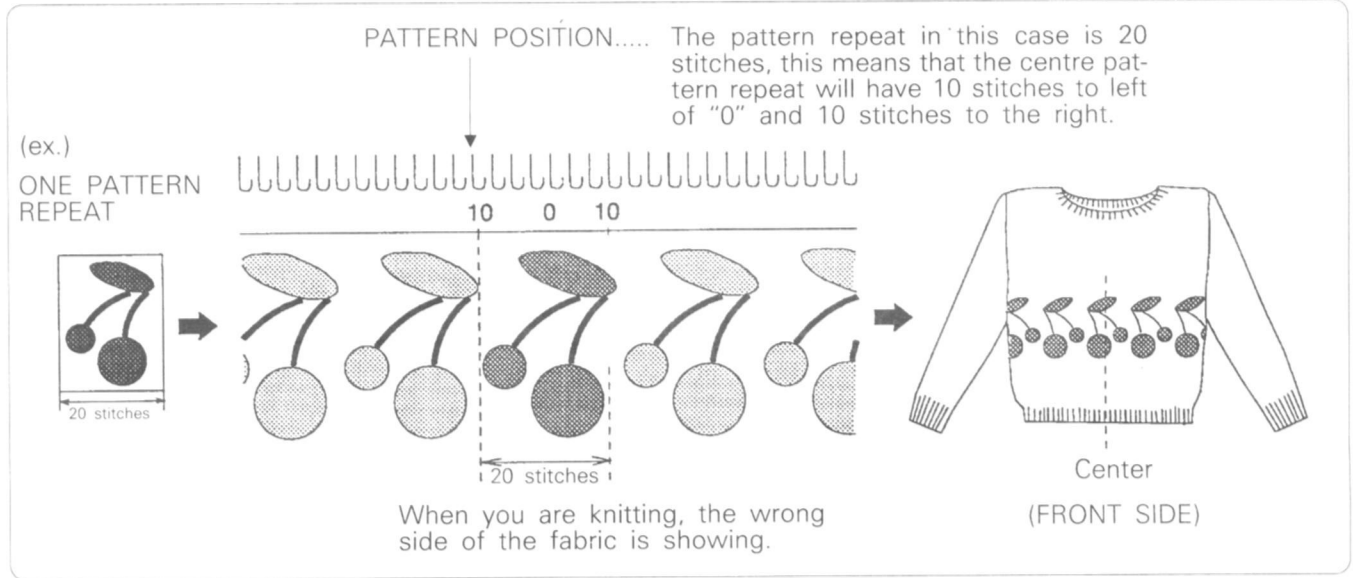
PATTERN POSITION

- The position of the pattern repeat is determined by the left end needle of that pattern repeat.

- When one pattern repeat consists of an odd number of stitches, the centre needle is automatically placed on R1.

(ex.)   PATTERN POSITION Left 7

7   01   8

15 stitches
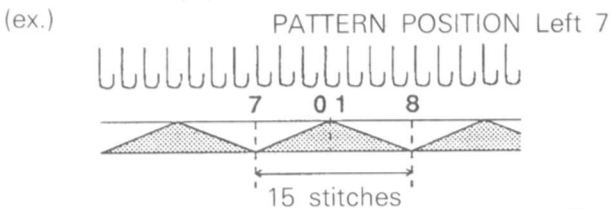
INDICATION OF THE PATTERN POSITION

The needlebed is divided into two halves, the left being referred to as L and the right being referred to as R.

<L><15>   <R><20>

15   10   5   0   5   10   15   20
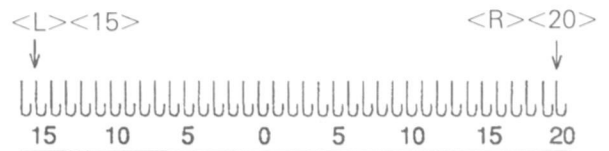
PATTERN POSITION SET BY YOU

Change the pattern position automatically set by the computer, as you like.

Example: Change the pattern position to Left 15 from Left 10.

Pattern Position – Change left end needle
position to Left 15 (L15)

ONE PATTERN
REPEAT

└└
15 10   0

20 stitches
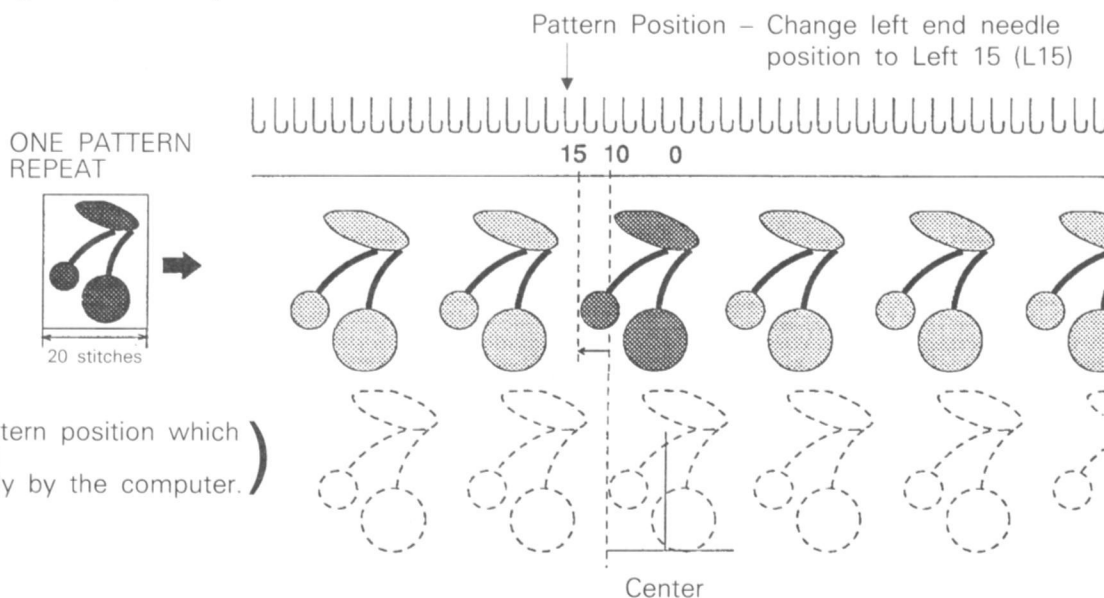
(Original pattern position which
was placed
automatically by the computer.)

Center

● Changing the pattern position

You can change the pattern position within the limit L299 – R100.

<R/L>

ARRANGE   (ALL OVER)
                R/L NEEDLE No.
PATTERN POSITION (L)   (10)

* FORWARD
* BACKWARD

(1) "L" and "R" alternately appears when you push the 1 key.
Select "L" when the needle is placed at the left of the needlebed. Select "R" when the needle is at the right.

(2) Push the STEP key. (The cursor moves to the next item.)

<NEEDLE No.>

ARRANGE   (ALL OVER)
                R/L NEEDLE No.
PATTERN POSITION (L)   (15)

* FORWARD
* BACKWARD

(1) Enter the needle number with the numeral keys.

(ex. needle number 15)

   1   ·   5

(2) Push the STEP key. (The cursor remains as it is because this is the last item.)

(STEP)

<NOTE>: If you change the "ARRANGE" from "ALL OVER" to "MOTIF" after changing the pattern position of all over patterning, the changed pattern position is erased. Therefore, if you return the selection of "ARRANGE" to "ALL OVER" again, the computer places the pattern repeat over the center.

● MOTIF

A motif can consist of one pattern repeat (SINGLE PATTERN REPEAT) or several repeats of the same pattern (MULTIPLE PATTERN REPEAT). Even though the pattern is repeated more than once, the group of needles forming these patterns still make a motif.
You can knit up to six motives.

(ex.)

1 motif

During knitting the reverse side of your work is facing you.

Pattern position <L·10>

10 0

Motif

2 motif

Motif   Motif

Pattern position <L·50>   Pattern position <R·20>

50   0   20

Motif   Motif

3 motif

Motif | Motif
Motif

Pattern position <L·80>   Pattern Position <L·10>   Pattern Position <R·35>

80   10   0   35

Motif   Motif   Motif
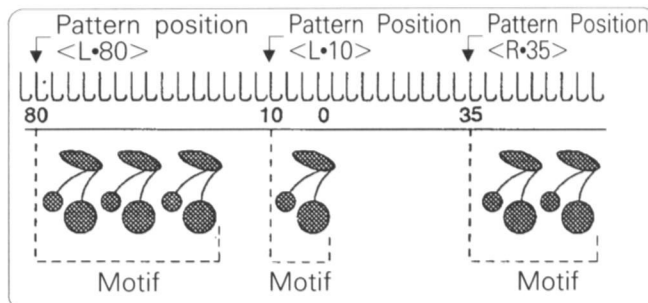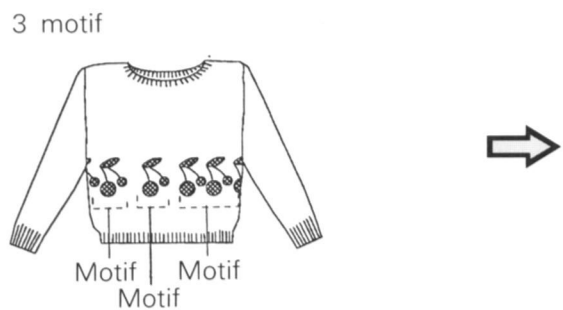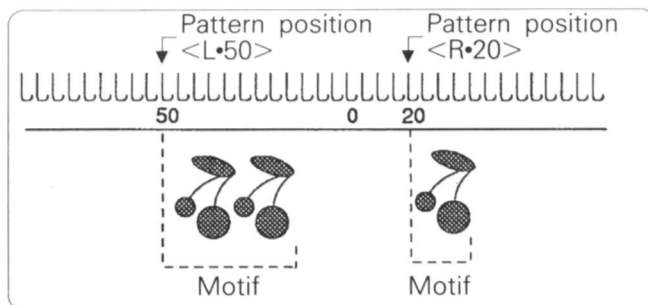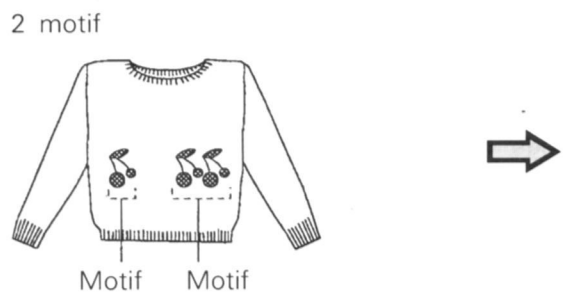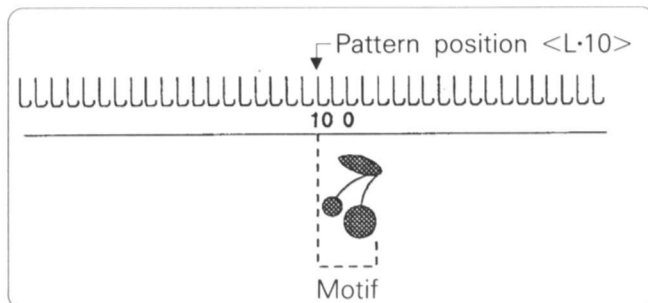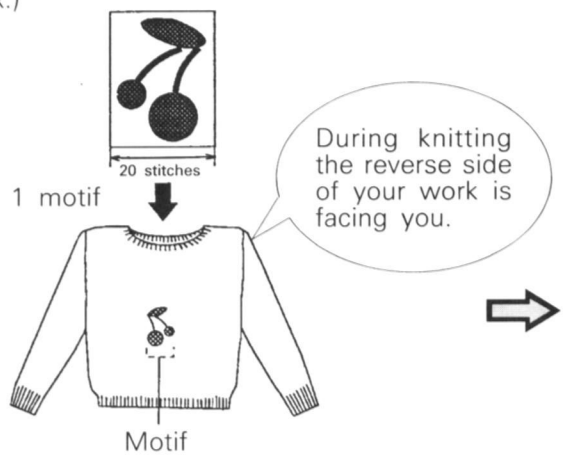
OVERLAPPED PATTERN

● When you knit the pattern created with the pattern mode 5 (others), you can overlay one motif over another.

When you knit the pattern created with the pattern mode 1 – 4, do not overlay one motif over another.

Pattern position <L·30>
Pattern position <L·18>

30   18   0

Motif   Motif
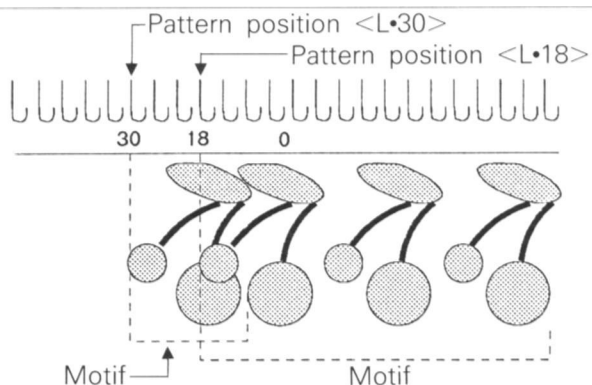
● Programming for motif knitting

ex.

Pattern position
<L•80>

Pattern position
<L•10>

Pattern position
<R•35>

```
LLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLL
80              10  0          35
```

Motif   Motif   Motif

```
ARRANGE              (MOTIF      )
        QUANTITY   R/L   NEEDLE No.
► No. 1   (2    )   (R)    ( 35 )
► No. 2   (1    )   (L)    ( 10 )
► No. 3   (3    )   (L)    ( 80 )
  No. 4   (     )   ( )    (    )
   .        .       .        .
   .        .       .        .
   .        .       .        .
* FORWARD
* BACKWARD
```

● For each motif, enter the number of pattern repeats and the pattern position.

● You can assign numbers 1 – 6 to any motif as you like and program in the order you like.

● Unless all three of "QUANTITY", "R/L" and "NEEDLE No." are filled out, programming for one motif is not completed and the computer does not memorize incomplete motif.

```
ARRANGE              (MOTIF      )
        QUANTITY   R/L   NEEDLE No.
No. 1   (2    )   (■)    (    )
No. 2   (     )   ( )    (    )
No. 3   (     )   ( )    (    )
No. 4   (     )   ( )    (    )
   .        .       .        .
   .        .       .        .
   .        .       .        .
```

<QUANTITY> You can enter 1 – 100 for the "QUANTITY".

① Enter the number of pattern repeat for the motif with the numeral key.

(ex. 2)

    [2]

② Push the STEP key. (The cursor moves to the next item.)

    (STEP)

```
ARRANGE              (MOTIF      )
        QUANTITY   R/L   NEEDLE No.
No. 1   (2    )   (R)    (■   )
No. 2   (     )   ( )    (    )
No. 3   (     )   ( )    (    )
No. 4   (     )   ( )    (    )
   .        .       .        .
   .        .       .        .
   .        .       .        .
```

<R/L>

① "L", "R" and "■" alternately appears when you push the 1 key. Select "L" when the needle is placed at the left of the needlebed. Select "R" when the needle is at the right.

♥ When you want to erase "L" or "R", change the setting to "■".

(ex. R)

② Push the STEP key. (The cursor moves to the next item.)

    (STEP)

```
ARRANGE              (MOTIF      )
        QUANTITY   R/L   NEEDLE No.
No. 1   (2    )   (R)    (35  )
No. 2   (■    )   ( )    (    )
No. 3   (     )   ( )    (    )
No. 4   (     )   ( )    (    )
   .        .       .        .
   .        .       .        .
   .        .       .        .
```

<NEEDLE No. > Enter the left end needle number of the motif in the same way as you enter the quantity (the number of pattern repeats for a motif).
(ex. 35)

<NOTE>: If you change the "ARRANGE" from "MOTIF" to "ALL OVER" after programming the data for the motif, all the data for the motif is erased. Therefore, if you return the section of "ARRANGE" to "MOTIF" again, the display does not show any data for the motif.

⑨ * FORWARD/* BACKWARD: When you program more than one pattern is one block, move the cursor here and push the STEP key to roll the screen for the next/ former pattern (see page 55).

⑩ Pattern number display: When you· enter the pattern number, the entered pattern number appears here. When you program more than one pattern in one block, the new pattern number is added on the previous one. The data of the "+" marked number is now on the screen.

(ex.) Even if the same pattern number is programmed several times, you can distinguish which pattern is now on the screen, thanks to the "+" mark.

```
            - CREATE NEW BLOCK - ·

                  BLOCK No. X
                  TOTAL ROWS : XX

        PATTERN No.    : 902
         STITCHES/ROWS : XX/XX          902
         START ROW    : XX              903
        KNITTING ROWS        (X )      +902        Same pattern
        END NEEDLE SELECTION (X )       901         number

        ARRANGE              (XXX)
                       R/L NEEDLE No.
        PATTERN POSITION  (X)   (X)
        * FORWARD
        * BACKWARD
```
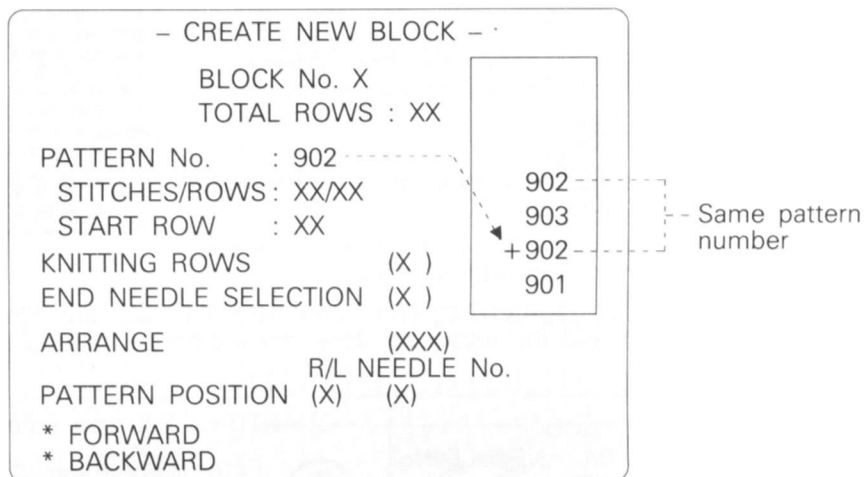
HELP MENU OF "BLOCK FOR KNIT"

```
        – HELP MENU –
        BLOCK No. 1
  1.  END BLOCK
  2.  INSERT PATTERN
  3.  DELETE PATTERN IN BLOCK
  4.  REDUCTION
  5.  SET HOLDER POSITION
  6.  SET KNITTING RANGE
  7.  SET STOP POSITION
     *  SELECT 1 – 7 = ■
```

- The HELP MENU has sub-functions you can use when working with the option 1 (CREATE NEW BLOCK) or 2 (EDIT BLOCK) of the menu of BLOCK FOR KNIT.

- Push the HELP key while the screen programming for the pattern is displayed, and then the HELP MENU will appear.

◆◆◆ 1. END BLOCK (HELP MENU 1) ◆◆◆

- To finish block data programming, choose option 1 from the HELP MENU, and push the STEP key. If you do not work with this option, block data programming does not finish. You cannot knit the unfinished block data.

```
  1   ·  STEP
```

The screen returns to the menu of BLOCK FOR KNIT and you have finished programming block data.

After that .....
- If you program another block data, repeat the steps from page 53.
- When you knit according to the block data, turn off the power switch of the pattern programming device and the TV set and transfer the data from the design system to the knitter (see the CK35 instruction manual).

◆◆◆ 2. INSERT PATTERN (HELP MENU 2) ◆◆◆

(ex.)

```
        – INSERT PATTERN –

        BLOCK No. 1




903 >                 905
                      ■  ◄------
                      902
                      901
```

```
        – INSERT PATTERN –

        BLOCK No. 1




                  905
                  903 ■ ◄------
                  902

                  901
```

- When you want to insert a pattern between the pattern already programmed, insert a pattern and enter necessary data for the inserted pattern using this option.

INSERTING

① Select the option 2 from the HELP MENU and push the STEP key. All the pattern number used for the block are displayed.

② Using the cursor keys (△ • ▽), move the cursor "■" to the position you want to insert the pattern.

③ Enter the pattern number.
(ex. Pattern number 903)

④ Push the STEP key. The screen for programming the inserted pattern appears.

   ♥ If the entered pattern number disappears, it means that this pattern is not in the design system memory or it is not completed yet.

◆◆◆ 3. DELETE PATTERN IN BLOCK (HELP MENU 3) ◆◆◆

(ex.) Delete the pattern 902.

```
+904
 903
 902  ──────────▶   904
 901              +903
                   901
```

(Pattern number display)

- You can delete an unnecessary pattern in the block. Pattern number and the programmed data for that pattern will be erased.

```
- DELETE PATTERN IN BLOCK -

     BLOCK No. 1

          904
          903
       ▶902
Cursor    901
```

DELETING

① Select the option 3 from the HELP MENU and push the STEP key. All the patterns in the block are displayed.

② Using the cursor keys (△ • ▽), move the cursor "▶" to the pattern you want to delete.

③ Push the STEP key.

```
- CREATE NEW BLOCK -
.................
.................
PATTERN No. : 903        904
.................       +903
.................        901
.................
```

④ Confirm the pattern number.

- When the pattern number is correct, select 1.
  The specified pattern will be deleted. The screen for the pattern which was programmed above the deleted pattern will appear. You can confirm that the specified pattern is erased in the pattern number display.

- When you want to change the pattern number, select 2. The screen returns to step ②.

◆◆◆ 4. REDUCTION (HELP MENU 4) ◆◆◆

(ex.)

```
1 - 148
```

It shows the screen displays from which row to which in the block.

If the stop position is set using the option 7 (SET STOP POSITION) of the HELP MENU, the mark "–" is displayed at the stop position.

- You can see the layout of the pattern in the block using this option.

  <NOTE>: When you view the knitting from the plain side, the pattern direction is different from that of the layout screen.

REDUCTION

① Select the option 4 from the HELP MENU and push the STEP key. The layout of the pattern in the block appears.

- Layout screen
  - The layout screen has always 200 stitches.
  - The layout screen has 200 rows. If the block has more than 200 rows, roll the screen using the 1 key or 2 key.
    1 key... UPWARD
    2 key... DOWNWARD
  - The pattern is coloured with the center colour of the colour gauge.

② After checking the layout screen, push the STEP key. The screen for the former pattern will reappear.

◆◆◆ 5. SET HOLDER POSITION (HELP MENU 5) ◆◆◆

● When using the colour changer, the yarns set in the colour changer are automatically arranged to right or left colour changer before knitting (the yarn number (yarn holder number) 1, 3, and 5 — to the right changer, the yarn number (yarn holder number) 2, 4, and 6 — to the left changer).
If you want to change this automatic arrangement, use this option.

SETTING HOLDER POSITION

```
      – SET HOLDER POSITION –
           BLOCK No. 1
HOLDER No.          POSITION
▶No. 1            LEFT    *RIGHT
  No. 2           *LEFT    RIGHT
  No. 3            LEFT    *RIGHT
  No. 4           *LEFT    RIGHT
  No. 5            LEFT    *RIGHT
  No. 6           *LEFT    RIGHT
       HELP: HELP MENU
```

(1) Select the option 5 from the HELP MENU and push the STEP key.

| 5 | · (STEP) |

The screen for setting holder position appears. The yarn in each holder is set to be arranged to the *-marked changer.

```
      – SET HOLDER POSITION –
           BLOCK No. 1
HOLDER No.          POSITION
  No. 1            LEFT    *RIGHT
  No. 2           *LEFT    RIGHT
  No. 3            LEFT    *RIGHT
▶No. 4           *LEFT    RIGHT◀
  No. 5            LEFT    *RIGHT
  No. 6           *LEFT    RIGHT
       HELP: HELP MENU
```

(2) Using the cursor keys (▽ · △), move the cursor "▶" to the holder No. of which arrangement you want to change.

- - - - - - - - - (ex. You want to put the yarn of holder no. 4 to the right colour changer.)

```
      – SET HOLDER POSITION –
           BLOCK No. 1
HOLDER No.          POSITION
  No. 1            LEFT    *RIGHT
  No. 2           *LEFT    RIGHT
  No. 3            LEFT    *RIGHT
▶No. 4            LEFT    *RIGHT
  No. 5            LEFT    *RIGHT
  No. 6           *LEFT    RIGHT
       HELP: HELP MENU
```

(3) Using the cursor keys (▷ · ◁), move the * to "LEFT" or "RIGHT".

(4) Repeat the steps ② – ③ until you finish your arrangement.

♣In case of the holder which has no yarn, it does not matter if * is on "RIGHT" or "LEFT".

(5) When your arrangement is finished, push the HELP key. The HELP MENU appears.

◆◆◆ 6. SET KNITTING RANGE (HELP MENU 6) ◆◆◆

L75   R75
|←——Knitting range——→|

75 ⊔⊔⊔⊔⊔⊔⊔⊔⊔⊔⊔⊔⊔0⊔⊔⊔⊔⊔⊔⊔⊔⊔⊔⊔⊔⊔ 75
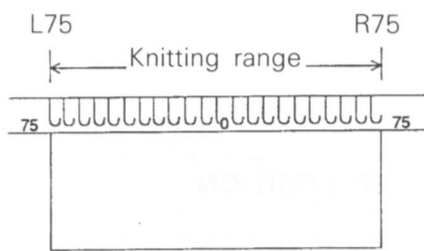
- Enter the knitting range with the needle number.

  ♣If you do not set the knitting range with this option, the computer automatically set L100 – R100 as the knitting range.

LIMIT OF THE ENTERED NEEDLE NUMBER

● When not using the motor drive...
  There is no limit when setting the knitting range.
  Enter the needle number according to the knitting width.

● When using the motor drive...
  Knitting range controls the operation range of the motor drive.
  Pay attention to the following points.

  - Do not enter the knitting range which is smaller than the actual knitting.
    (If you do so, the carriage turns before finishing one row and stops at that point.)

  - Enter the knitting range so as that the carriage passes the center of the knitter at every row.

Left end

Left end must be within L100 – R24 (including L100 and R24).

Center

K carriage

$\left(\begin{array}{l}\text{Carriage moves as the arrow shows}\\ \text{when you enter R24 for the left end.}\end{array}\right)$

<L100>   <R24>

⊔⊔⊔⊔⊔⊔⊔⊔⊔⊔⊔⊔⊔⊔⊔⊔⊔⊔⊔⊔⊔0⊔⊔⊔⊔⊔⊔⊔⊔⊔⊔⊔⊔⊔⊔⊔⊔
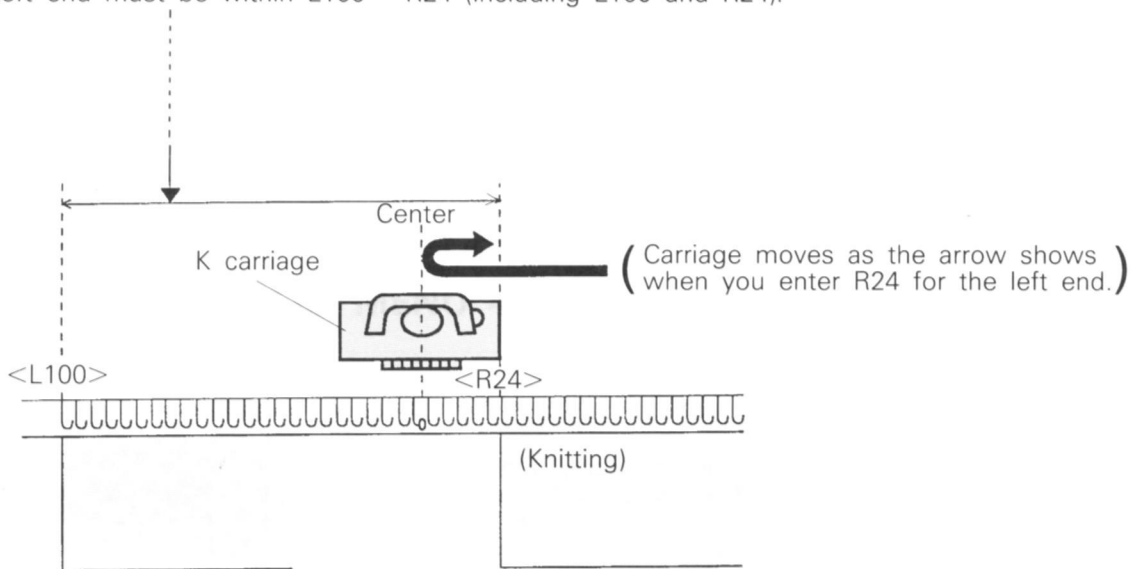
(Knitting)

Right end

Right end must be within L24 – R100 (including L24 and R100).

● The computer controls following operation of the knitter and the motor drive according to the knitting range.

CARRIAGE MOVEMENT WHEN USING THE MOTOR DRIVE

● When using the colour changer

<L100> <L60>   <R60> <R100>
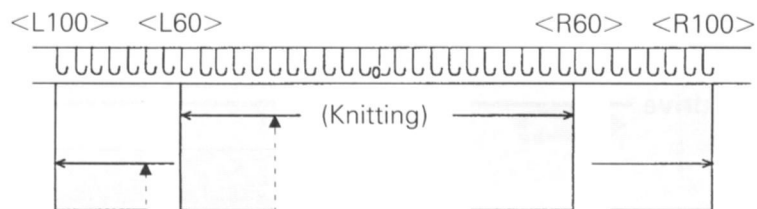
(Knitting)

● If the left end is within L60 – R24...
● If the right end is within L24 – R60...
  The carriage turns after knitting the end needle.

● If the left end is within L61 – L100...
● If the right end is within R61 – R100...
  The carriage moves to the colour changer over the entered end needle at every row.

● When not using the colour changer
  The carriage turns after knitting the entered end needle.

END NEEDLE SELECTION OF THE DESIGN SYSTEM

● End needle selection you set when you program the pattern in the block, works on the needle number entered using this option (see page 58).

INDICATION OF THE KNITTING RANGE

● When you select knitting range for the display on the knitter, indication in the display is the knitting range set with this option (see page 44 of the CK35 instruction manual).

ex. Enter the knitting range as follows:

  Left end...L70   Right end...R65

<Indication in the display (Knitter)>

DISPLAY / DISPLAY

70 / 65

(yellow) ●RANGE○ / ○RANGE● (green)

(Left end) / (Right end)

EXAMPLE

(ex.) <L75>   <R75>
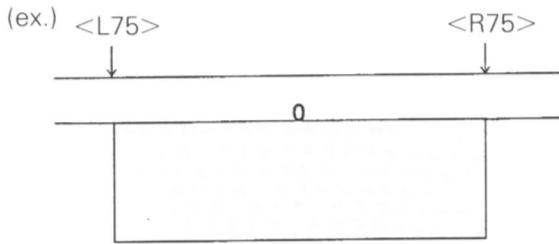
When you do not increase/decrease the stitch, enter the end needle numbers of real knitting.

```
        – SET KNITTING RANGE –
BLOCK No. 1              TOTAL ROWS: 32

        L SIDE      R SIDE      START
        R/L NEEDLE  R/L NEEDLE  ROW
No. 1   (L)  (75)   (R)   (75)    (1)
No. 2   ( )  ( )    ( )   ( )     ( )
No. 3   ( )  ( )    ( )   ( )     ( )
No. 4   ( )  ( )    ( )   ( )     ( )

            1: CHANGE
        HELP: HELP MENU
```

● Only in case that you use the motor drive

(ex.)

<L68>   <R77>
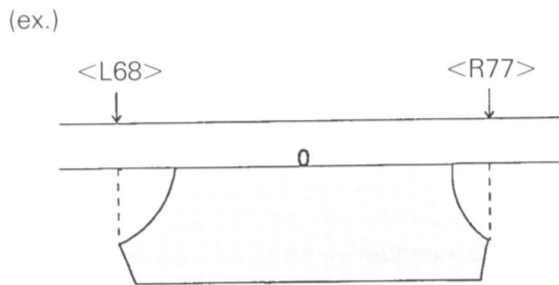
When you increase/decrease the stitch, enter the end needle numbers of the largest part of the knitting.

```
        – SET KNITTING RANGE –
BLOCK No. 2              TOTAL ROWS: 82

        L SIDE      R SIDE      START
        R/L NEEDLE  R/L NEEDLE  ROW
No. 1   (L)  (68)   (R)   (77)    (1)
No. 2   ( )  ( )    ( )   ( )     ( )
No. 3   ( )  ( )    ( )   ( )     ( )
No. 4   ( )  ( )    ( )   ( )     ( )

            1: CHANGE
        HELP: HELP MENU
```

(ex.)
No. 1
No. 2
No. 3

<L80><L45><L15>   <R40><R60><R80>

0

61st row
31st row
1st row
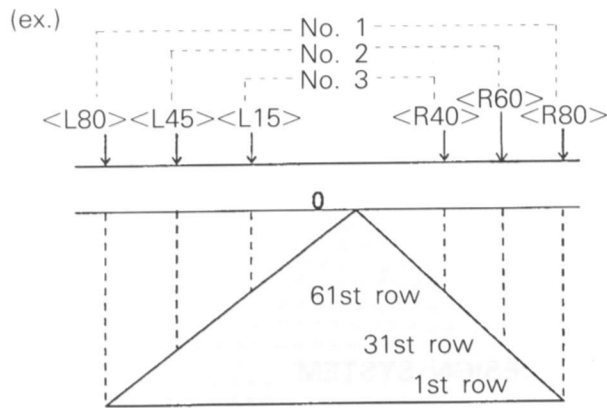
When the motor drive moves without knitting long distance because you enter the end needle numbers of the largest part of the knitting, you can enter up to 4 knitting ranges.

```
        – SET KNITTING RANGE –
BLOCK No. 3              TOTAL ROWS: 90

        L SIDE      R SIDE      START
        R/L NEEDLE  R/L NEEDLE  ROW
No. 1   (L)  (80)   (R)   (80)    (1)
No. 2   (L)  (45)   (R)   (60)   (31)
No. 3   (L)  (15)   (R)   (40)   (61)
No. 4   ( )  ( )    ( )   ( )     ( )

            1: CHANGE
        HELP: HELP MENU
```

♣When you enter more than one knitting range, the motor drive stops before the knitting range changes. Now, you can see the new knitting range in the display by selecting the display of the knitter.

SETTING

Enter the needle number for both end of the knitting.

<R/L> .... ① "L", "R" and "■" alternately appears when you push 1 key.
Select "L" when the needle is placed at the left of the needlebed. Select "R" when the needle is at the right.
♥ When you want to erase "L" or "R", change it to "■".
② Push the STEP key.

<NEEDLE> .... Enter the needle number and push the STEP key.

<START ROW> ..START ROW of No. 1 is set to 1 automatically. When setting START ROW of No. 2 – 4, enter the row number and push the STEP key.
♣If you enter the bigger number than total rows, it is ineffective.
• When you finish setting knitting range, push the HELP key.
The HELP MENU appears.

◆◆◆ 7. SET STOP POSITION (HELP MENU 7) ◆◆◆

● When you use the motor drive and have it stop at the specified position automatically, set the stop position beforehand.
The motor drive stops automatically after finishing the specified row as the stop position.

```
                                    - SET STOP POSITION -
                              120th row
                                    BLOCK   No. 1   TOTAL ROWS : 170
                                    (20  )  (120 )  (    )     (    )
                                    (    )  (    )  (    )     (    )
                                    (    )  (    )  (    )     (    )
                              20th row  .       .       .         .
                                        .       .       .         .
                                        .       .       .         .
        (Block)                     *ALL DELETE     HELP: HELP MENU
                Stop position
```
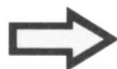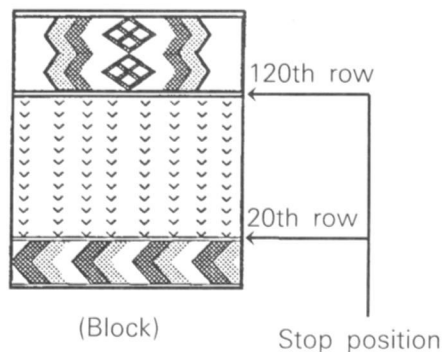
```
        - SET STOP POSITION -

  BLOCK   No. 1   TOTAL ROWS : 170
  (20  )  ( ■ )  (    )     (    )
  (    )  (    )  (    )     (    )
  (    )  (    )  (    )     (    )
     .       .       .         .
     .       .       .         .
     .       .       .         .

  *ALL DELETE     HELP: HELP MENU
  ▲
```

SETTING

① Enter the row number where you stop knitting.

(ex. 20th row)

```
┌─────┐   ┌───────┐
│  2  │ · │   0   │
└─────┘   └───────┘
```

② Push the STEP key (Cursor moves to the next parenthesis).

③ Repeat steps ① – ② until you set as much as required.

♣You do not have to enter from the smaller number. And it does not matter if there is an empty parenthesis between the entered numbers. The computer sorts the numbers after you finish setting.

♣If you enter the bigger number than total rows, it is ineffective.

♥If you cancel all the stop position, move the cursor to "ALL DELETE" and push the STEP key.

④ When you finish setting stop position, push the HELP key. The HELP MENU appears.

◀◀◀ EDIT BLOCK (MENU OF BLOCK 2) ▶▶▶

- You can modify the block data you programmed or you temporarily stop programming in the middle.
- You can use HELP MENU functions when you work with EDIT BLOCK as you do with CREATE NEW BLOCK (menu of BLOCK 1).

```
        - BLOCK FOR KNIT -

    1. CREATE NEW BLOCK

    2. EDIT BLOCK

    3. DELETE BLOCK

    * SELECT 1 - 3 = ■
```

① Select option 2 from the menu of BLOCK and push the STEP key.

  [2] · (STEP)

♥If the screen does not change, it means that there is no block data in the memory.

```
           - EDIT BLOCK -
   BLOCK No.   PATTERNS   ROWS
       1          1         60
     ▶2          2         82 *
       3          4        120
       4          1        120
       5          1         60
       6          2         78
       7          3        116   X
       8          1        116
       9          1         86
            1: FORWARD
```

This mark shows that there are more blocks.
Push 1 key to roll the screen.

② The list of block data you programmed is displayed on the screen. Using the cursor keys (▽ · △), move the cursor "▶" to the block number you want to edit.

Programming of this block is not finished.

This block contains an unfinished pattern.

♣X is displayed when editing of the pattern in the block has not been finished or, memo-input of the pattern has not been finished yet. You cannot knit according to the X-marked block data. Finish the editing or memo-input of the incomplete pattern.

```
          - EDIT BLOCK -
          BLOCK No. X
.........................
PATTERN No.    : 903
.........................       ┌──────┐
.........................       │      │
.........................       │      │
.........................       │ 904  │
.........................       │+903  │
.........................       └──────┘
.........................
.........................
.........................
* FORWARD
```
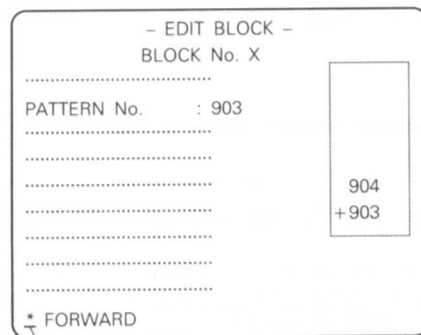
Cursor

③ Push the STEP key.

  (STEP)

The screen for programming appears.

◆Edit the pattern using the same procedure as "CREATE NEW BLOCK".

◄◄◄ DELETE BLOCK (MENU OF BLOCK 3) ►►►

- You can delete an unnecessary block data or all the block data.

  ♣Even if you delete the block data, patterns used for the deleted block will not be deleted.

```
      - BLOCK FOR KNIT -

   1. CREATE NEW BLOCK

   2. EDIT BLOCK

   3. DELETE BLOCK

   * SELECT 1 – 3 = ■
```

① Select option 3 from the menu of BLOCK and push the STEP key.

| 3 | · | STEP |

♥If the screen does not change, it means that there is no block data in the memory.

```
         - DELETE BLOCK -
   BLOCK No.    PATTERNS   ROWS
     ALL OF THE BLOCKS: 16 ◄ - - - - -
        1         1        60
        2         2        82 * ◄ - - - -
      ►3          4       120
        4         1       120
        5         1        60
        6         2        78
        7         3       116 × ◄ - - - -
        8         1       116
            1: FORWARD
                ▲
```

This mark shows that there are more blocks.
Push 1 key to roll the screen.

② The list of block data you programmed is displayed on the screen.

The number of all the block data

Using the cursor keys (▽ · △), move the cursor "►" to the block number you want to delete.

♥When you want to delete all the block data, move the cursor "►" to the item "ALL OF THE BLOCKS".

These marks are explained in step ② of page 71.

```
      - DELETE BLOCK -



      BLOCK No. = 3



   OK? 1: YES   2: NO   3: REDUCE
```

③ Push the STEP key.

| STEP |

The screen shows the chosen block number.

♥If you want to see reduced layout screen of the block...

  ① Select 3. The reduced screen appears.

  ♣If the block has more than 200 rows, you can roll the screen up or down by selecting 1 or 2.

  ② Push the STEP key. The screen returns to the previous screen.

- When the block number is correct, select 1.
  The block you chose is deleted and the menu of BLOCK will appear on the screen.

- When you want to change the block number, select 2.
  The screen returns to ②.

OPERATION FOR FDD (MAIN MENU 3)

- If you use the floppy disc drive (option), you can save created patterns or block data on the disc, or load patterns/block data from the disc to the design system.

  ♣ Use only 1D, 2D, 1DD or 2DD discs.
  (Each disc has the same memory capacity when it saves the data of the design system.)

```
- OPERATION FOR FDD -

1. FORMAT DISC

2. SAVE CREATED DATA

3. LOAD CREATED DATA

4. DELETE CREATED DATA

  * SELECT 1 – 4 = ■
```

◆ See page 45 of PPD110 instruction manual to connect pattern programming device and floppy disc drive unit.

① Select option 3 from the MAIN MENU and push the STEP key.

[3] · (STEP)

② Check that the drive unit is connected to the pattern programming device correctly and the power switch of the drive unit is turned on. Then push the STEP key.

(STEP)

③ The menu of OPERATION FOR FDD appears on the screen.

MENU OF OPERATION FOR FDD

1. FORMAT DISC .... Choose this option when you use a new disc. Formatting is the procedure to make a new disc ready to accept your data.

   <REMARK>: If you format a disc that has pattern data or block data already on it, these data will be erased.

   ◆ See page 46 of PPD110 instruction manual to format a disc.

   ♣ It takes about 3 – 4 minutes for the drive unit to finish formatting.

2. SAVE CREATED DATA .... You can save on a disc the pattern or block data stored in the design system. Disc has two tracks and one track is used to save all the data in the design system.

   ◆ See steps ① ② ③ ⑤ ⑥ on pages 47 – 48 of PPD110 instruction manual to save the data.

3. LOAD CREATED DATA .... You can load the pattern or block data which are saved on one track of disc into the design system.
   When loading the data into the design system all the pattern and block data in the memory of the design system will be deleted. If you need those data, save them in the disc first.

   ◆ See steps ① – ③ on pages 48 – 49 of PPD110 instruction manual to load the data.

4. DELETE CREATED DATA .... The saved pattern or block data stored on a disc can be deleted one track at a time.

   ♣ If you want to delete all the data stored on a disc, carry out the formatting procedure.
   This will erase all the data.

   ◆ See page 50 of PPD110 instruction manual to delete the data.

PRINT OUT (MAIN MENU 4)

● You can print out the pattern or block data with the optional printer.

♣It is recommended to use a Brother 9-pin dot matrix printer.

Printer

Printer cable

Pattern programming device
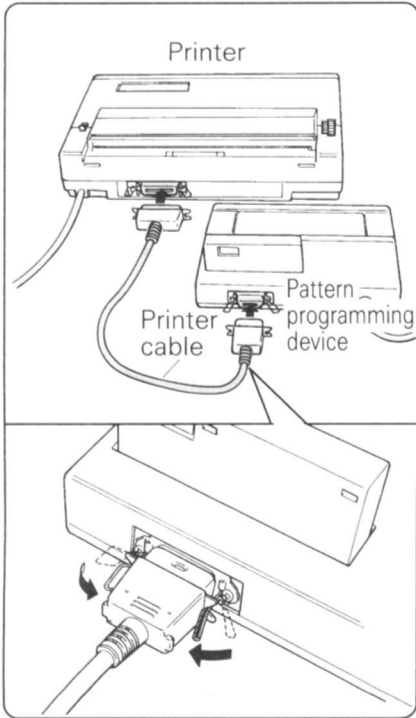
● Preparations for the printer

Please read the instruction book accompanying the printer before you use it.
① Turn off the power of the pattern programming device and the printer.
② Connect the printer to the pattern programming device with the printer cable.
③ Switch on the power of the pattern programming device and the printer.

Paper size

Select the paper size according to your printer.

♣The printing size (number of stitches and rows) of the pattern depends on the paper size.

● approx. 21 cm × 30 cm (8" × 12")

70 rows

40 stitches

● approx. 38 cm × 30 cm (15" × 12")

70 rows

80 stitches
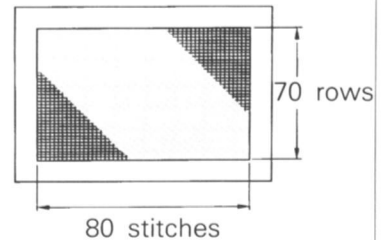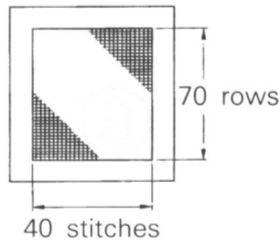
♣Both paper sizes have up to 45 lines of the block data on one paper.

```
        - PRINT OUT -
  No.   PAT(S)/STS   ROWS
► 1          1        60
  2          2        82
  3          4       120   *
  4          1       120      X
  901       40        32(M)
  902       46        82(2)
  904       30        46(3)*
  905       26        30(4)
  906       52        80(0)   X

  1: FORWARD
```

This mark shows that there are more blocks/patterns. Push 1 key to roll the screen.

① Select option 4 from the MAIN MENU and push the STEP key.

[4] ・ (STEP)

② The list of created patterns and block data is displayed on the screen.
Using the cursor keys (▽ ・ △), move the cursor "►" to the created pattern or block you want to print out.

These marks are explained in step ② on page 31 and step ② on page 71.
Push the STEP key.

(STEP)

After that.....
● When you print out created patterns....
See steps ③ – ⑨ on page 51 – 53 of PPD110 instruction manual.
● When you print out block data....
Go to step ③ below.

1 - 148

③ Reduced layout screen of the specified block appears.

♣This reduced screen is as same as that of option 4 of HELP MENU (BLOCK). See page 65 "4. REDUCTION" for the detail.
● When the block is correct, push the STEP key and go to step ④.
● When you change the block, push the HELP key. The screen returns to step ②.

```
        - PRINT OUT -

         * INDEX *

       DISC No. = ■

  IF YOU DO NOT NEED DISC No.,

       PUSH STEP KEY !!
```
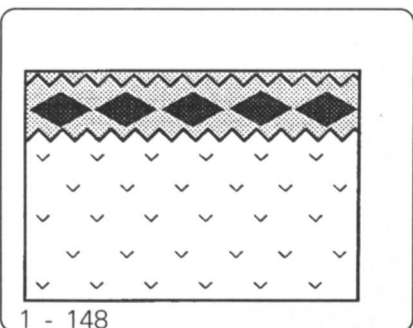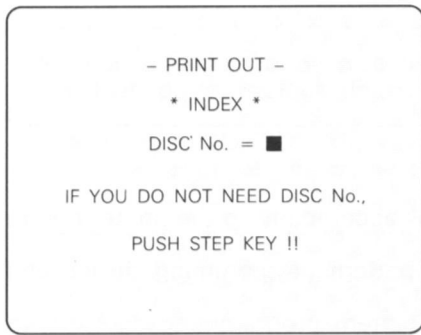
④ When you print out the block stored in the disc, enter the disc number as a reference, and the disc number will also be printed out.

(ex. disc number....1)

[1] · (STEP)

♥ If you do not need to print out the disc number, push the STEP key only.

```
        - PRINT OUT -

         * INDEX *

       DISC No. = 1

      TRACK No. = ■

  IF YOU DO NOT NEED TRACK No.,

       PUSH STEP KEY !!
```
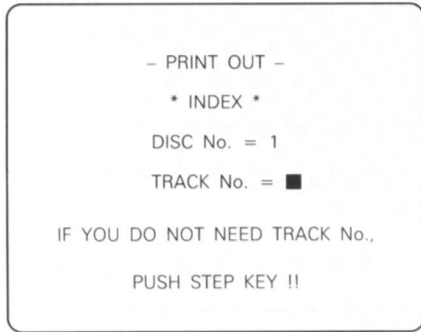
⑤ If you enter the track number as a reference, the track number will also be printed out.

(ex. track number....1)

[1] · (STEP)

♥ If you do not need to print out the track number, push the STEP key only.

```
        - PRINT OUT -



       PRINTER READY ?



       PUSH STEP KEY !!
```
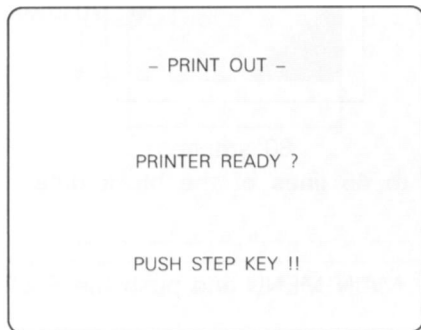
⑥ Insert a paper into the printer and turn on the printer online lamp.
Push the STEP key.

(STEP)

```
        - PRINT OUT -



       PRINTING WAIT !!
```

⑦ Printing out begins.
♥ 45 lines can be printed out on one paper.
In the case where the block data exceeds 45 lines, the screen returns to ⑥ when the printer finishes printing out one paper, then repeat step ⑥.

⑧ When the MAIN MENU appears on the screen, printing will soon be finished.

DATA PRINTED OUT ON THE PAPER

- (PATTERN NOT COMPLETED) .... You have not finished creating or editing the pattern. Select option 1 (END CREATION) from the HELP MENU for PATTERN.

- (MEMO NOT COMPLETED) .... You have not finished inputting the memo data.
Select option 1 (END INPUT MEMO) from the HELP MENU for MEMO.

- (BLOCK NOT COMPLETED) .... You have not finished programming block data.
Select option 1 (END BLOCK) from the HELP MENU for BLOCK.

- (CONTAINS INCOMPLETE .... Block has the pattern of which creating/ editing is not finished,
  PATTERN)   in it. Block has the pattern of which memo inputting is not finished, in it.

- The ▶ -marked row has some error. Check this row and neighboring rows to find error.

Kinds of error

- Items of the memo input
- Too much colours in one row (in case of creating the pattern with pattern mode 1 – 4)

♥ If you cannot find the error, load the pattern on the screen for editing/ memo-input and select option 1 (END CREATION/ END INPUT MEMO) from each HELP MENU. Then, the error message appears on the screen to tell the cause of error.

● In case of the pattern created in pattern mode 2 – 4, the number as shown in the illustration are the yarn number which knits the ribber needles only.
This number is the same one, which is not framed, of the section "HOLDER" on the memo-input screen (see page 36).


```
DISC No. =            TRACK No. =
STITCHES = 10         ROWS = 10
OTHERS (PATTERN NOT COMPLETED)
   N H C S    R
              2
              1
              2
              1
              10
              1
              2
              10
              2
              1
```



```
DISC No. =            TRACK No. =
STITCHES = 14         ROWS = 14
DOUBLE JACQUARD (4 COLOURS/ROW)
```

HOLDER	1	2	3	4	5	6
MARK	□	▧	▤	▨		

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TO KNIT STRIPE PATTERN

● The motor drive is used and yarns are changed automatically in the following examples.
You can use the following methods for stocking stitch and rib.

● When changing the yarn every even-number of rows

● PATTERN CREATION

(ex.)

One pattern repeat (8 rows)

Yarn 3
Yarn 2
Yarn 1

⟹

One pattern repeat (8 rows)
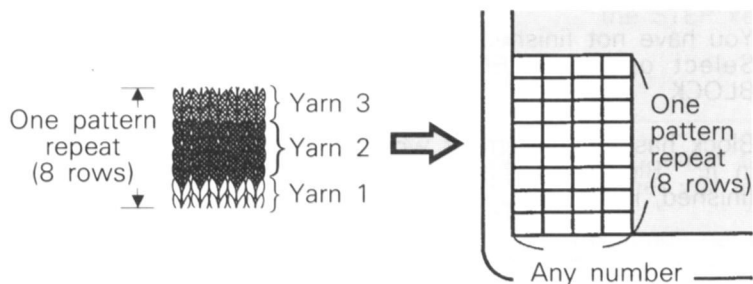
Any number

● Pattern mode
  5 (others)
● Pattern area
  Number of stitches:
    Any number is OK
  Number of rows:
    One pattern repeat
● Pattern drawing
  Needle selection is not necessary, so you do not have to draw.

♣When you want to see the colour contrast of the stripe, use option 3 (SET COLOUR) of the HELP MENU and colour the main yarn (see page 26).

● MEMO INPUT FOR YARN CHANGE

```
ROW NOTE HOLDER CAM STOP RACK

8
7 .................. 3
6
5
4
3 .................. 2
2
1 .................. 1
```
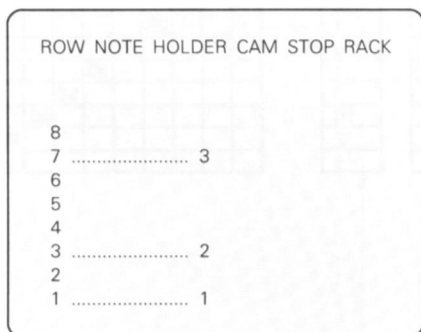
● Enter the yarn number in the section "HOLDER" at the yarn changing row (see page 35).

● SET HOLDER POSITION

```
      - SET HOLDER POSITION -
           BLOCK No. 1
HOLDER No.          POSITION

No. 1           LEFT *RIGHT
No. 2           LEFT *RIGHT
No. 3           LEFT *RIGHT
No. 4           LEFT *RIGHT
No. 5           LEFT *RIGHT
No. 6           LEFT *RIGHT
      HELP:  HELP MENU
```

● Put * marks of all the yarn holders to be used on RIGHT only or LEFT only.
(In case of the holder which has no yarn, it does not matter if * is "RIGHT" or "LEFT".)

● CARRIAGE SETTING
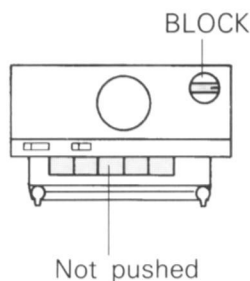
<Stocking stitch>
BLOCK

Not pushed

<Rib>
BLOCK

Not pushed

N   N

N   N

● Attach the connecting arm to the K carriage when knitting stocking stitch because the colour changer is used.

● Set the carriages as shown left.

● When changing the yarn after knitting odd number of rows

Method 1)   When the pattern requires yarn changing after knitting odd number of rows, the necessary yarn may be opposite side to the carriage.   In this method, carriage is automatically moved to the opposite side without knitting in order to get the yarn, and all the needles of the knitter are selected to D position every row.

● PATTERN CREATION

(ex.)

One pattern repeat (8 rows)

Yarn 3
Yarn 2
Yarn 1
Yarn 2
Yarn 1

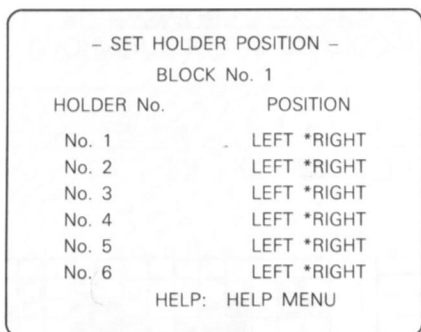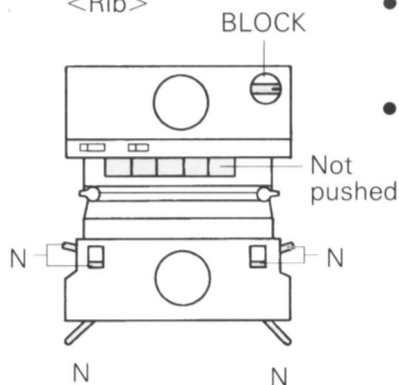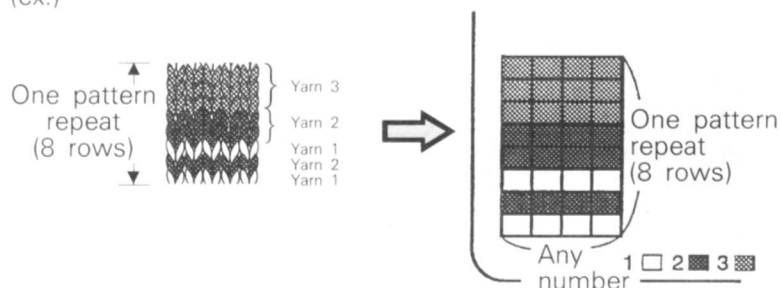One pattern repeat (8 rows)

Any number

1 □ 2 ■ 3 ▒

- Pattern mode
  1 (single bed jacquard)
- Pattern area
  Number of stitches:
  　　　Any number is OK.
  Number of rows:
  　　　One pattern repeat
- Pattern drawing
  Draw stripe using 6 colours at the bottom of the screen.

♣ You do not have to input the memo data for yarn changing.

● CARRIAGE SETTING
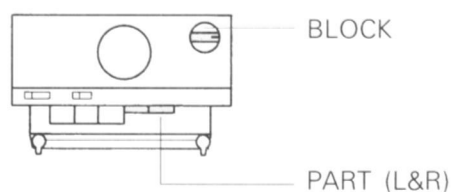
<Stocking stitch>

BLOCK

PART (L&R)

<Rib>

BLOCK

PART (L&R)

N

N

N   N

- Attach the connecting arm to the K carriage when knitting stocking stitch, because the colour changer is used.

- Push the both part buttons of the K carriage both in stocking stitch and rib.
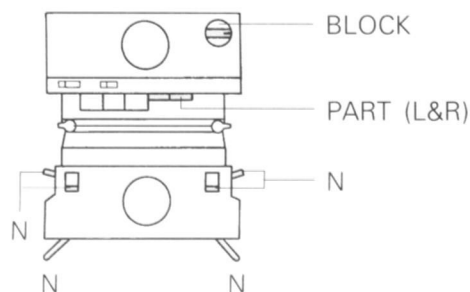
<Needle selection>
All the needles of the knitter are brought to D position every row because the pattern mode 1 is used. However, at the row where the carriage moves without knitting, all the needles of the knitter are aligned to B position.   (Carriage movement does not drop the stitches because the part button is pushed.)

♣ In case of rib, cam lever of the R carriage is automatically set to S when the carriage moves without knitting, and it returns to N when the carriage catches the yarn.

Method 2)   In this method, the needles are not brought to D position, and the carriage automatically stops when the necessary yarn is opposite side to the carriage.

● PATTERN CREATION
- Create the pattern and input the memo data using the same method on previous page.   You do not have to set the holder position.

● KNITTING
① Set the carriage for stocking stitch or rib (see "CARRIAGE SETTING" on page 77).   Start knitting.
② Carriage automatically stops when the necessary yarn is opposite side to the carriage.   Push both part buttons of the K carriage and press S/S switch of the motor drive.
③ Carriage stops after moving one row.   Release the part buttons of the K carriage.   Push the S/S switch and continue knitting.   Repeat steps ② – ③.
　(In case of rib, the cam lever of the R carriage is automatically set to S or N.)

WHEN USING THE DISC ON WHICH THE DATA OF THE PPD110 STITCH PATTERN CARTRIDGE IS SAVED

● When loading the pattern from that disc to the design system cartridge....

Use option 7 (LOAD STORED PATTERN) from the HELP MENU of the PATTERN CREATION and select 3 (FROM PATTERN DISC) (see page 21 or 29).

♣You cannot use the option 3 (OPERATION FOR FDD) of MAIN MENU.
The disc must be formatted with the design system to transfer the data from/to the design system using this option.

HINT: You can change the disc for the stitch pattern cartridge into the disc for the design system by formatting it. However, if you format the disc, all the pattern in the disc will be deleted.

● You cannot load the pattern from the disc on which the data of the design system is saved, to the PPD110 stitch pattern cartridge.

IN THE FOLLOWING CASES

If the following error message appears on the screen....

● **ERROR MESSAGE 1**

```
*** ERROR MESSAGE 1 ***

TOO MANY COLOURS USED !!
(CORRECT COLOURING)
ROW : 2  4  7  8  50




PUSH STEP KEY !!
```

● Pattern creating screen

White frame

1 ☐ 2 ■ 3 ▨ 4

● Reduced screen

White line

1-50
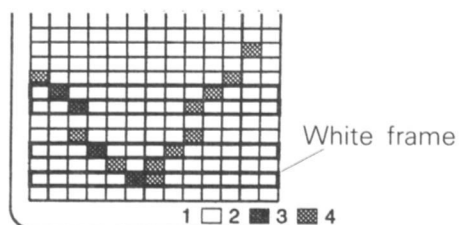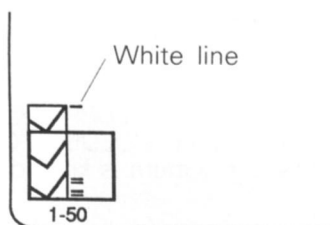
Cause

There are too many colours in one row of the double bed jacquard pattern you have created.

Suggested action

● When you do not change the pattern mode....
  ① Memo the row which caused error, if necessary.
  ② Push the STEP key. The pattern creating screen appears.
  ③ The white-framed row has too many colours. Correct the colouring according to the pattern mode. (The white line shows the row which causes error on the reduced screen of the HELP MENU 5 "REDUCTION".)
  In the example, row number 2, 4, 7, 8, and 50 cause error.

● When you change the pattern mode....
  ① Push the HELP key. The HELP MENU appears.
  ② Change the pattern mode using the option 11 (CHANGE PATTERN MODE) of the HELP MENU.

  After carrying above action, select option 1 (END CREATION) of the HELP MENU. If the error remains not corrected, the same error message appears. Repeat above action.
  The white frame on the pattern creating screen and the white line on the reduced screen disappears after following operations:

  • ERASE PART OF PATTERN (HELP MENU 6)
  • LOAD STORED PATTERN (HELP MENU 7)
  • TRANSFER PATTERN (HELP MENU 9)
  • CHANGE PATTERN AREA (HELP MENU 10)
  • By changing the pattern mode (HELP MENU 11) all the error is corrected.

● ERROR MESSAGE 2

```
     *** ERROR MESSAGE 2 ***

FINISH PATTERN CREATION,
THEN YOU CAN INPUT MEMO DATA !!




          PUSH STEP KEY !!
```

Cause

You cannot use the option 4 (INPUT MEMO DATA) of the PATTERN CREATION MENU for the pattern you have not finished creating/editing.

Suggested action

① Push the STEP key.   The PATTERN CREATION MENU appears.
② Select the option 2 (EDIT PATTERN) and choose the pattern which has error (see page 31).
③ Select the option 1 (END CREATION) from the HELP MENU (see page 12).
④ (If another error message appears, see the corresponding page.)
When the PATTERN CREATION MENU appears after step ③, now you can use the option 4 (INPUT MEMO DATA) for the pattern.

● ERROR MESSAGE 3

```
     *** ERROR MESSAGE 3 ***

IF YOU INPUT 'HOLDER' OR 'CAM',
INPUT 'HOLDER' AT 1ST ROW !!
ROW : 2  5



          PUSH STEP KEY !!
```

Cause

When you enter the memo data in the section "HOLDER" or "CAM" of the pattern created with pattern mode 5 (others), you have to enter the data at the first row of the section "HOLDER".
But you have not entered it yet.
(The reason why the first row of the section "HOLDER" requires data is that entering the data in the section "HOLDER"/"CAM" makes the computer understand that the pattern is knitted with the colour changer.)

Suggested action

① Memo the row on the screen, if necessary.   Displayed row No. is the row which has memo data in the section "HOLDER" or "CAM" (in the example, 2nd and 5th row).
② Push the STEP key.   The memo-input screen appears.
③ If the pattern is knitted with the colour changer, enter the data at the first row of the section "HOLDER".
If the pattern is not knitted with the colour changer, delete the data in the section "HOLDER" and "CAM".

● ERROR MESSAGE 4

```
        *** ERROR MESSAGE 4 ***

    IF YOU INPUT 'CAM'
    INPUT 'HOLDER' AT NEXT ROW !!

    ROW : 10



            PUSH STEP KEY !!
```
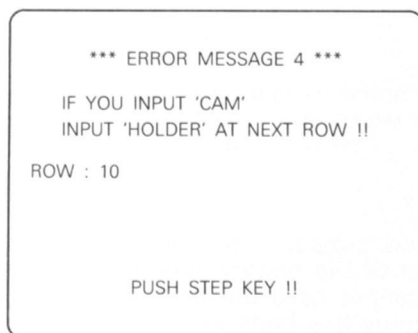
Cause

When you put * in the section "CAM" and do not put * at the next row in the same section, you have to enter the data at the next row of the section "HOLDER".
But you have not entered it yet.
(The reason why the next row of the section "HOLDER" requires data is that the computer have to know the yarn number the carriage catches at the next row (see page 41).)

Suggested action

① Memo the row on the screen, if necessary.
  Displayed row number is the row of which section "HOLDER" requires the data (in the example, the section "HOLDER" of the 10th row requires the data).
② Push the STEP key. The memo-input screen appears.
③ Enter the data at the corresponding row of the section "HOLDER".
  Or, delete * in the section "CAM", if it is not necessary.

● ERROR MESSAGE 5

```
        *** ERROR MESSAGE 5 ***

    CAN NOT INPUT "RACK"
    MORE THAN 2 PITCHES !!

    ROW : 5 10



            PUSH STEP KEY !!
```
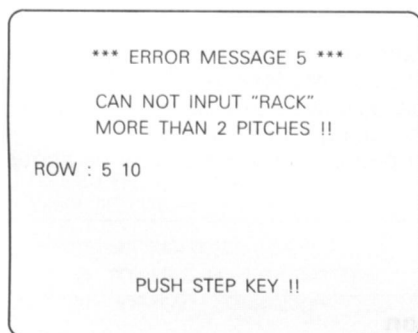
Cause

There is limit when you enter the racking position. (You can shift the racking handle within 2 pitches, therefore you can enter the racking position which is within the range of ± 2 of the position one row below.) You have entered the racking position over this limit.

Suggested action

① Memo the row on the screen, if necessary. Displayed row number is the row of which section "RACK" has the number over the limit (in the example, the section "RACK" of the 5th and 10th row has the number over the limit).
② Push the STEP key. The memo-input screen appears.
③ Correct the racking position at the corresponding row within the limit.
  Or, recall the racking position using the option 3 (RECALL MEMO DATA) of the HELP MENU, if it is not necessary (see page 47).

● ERROR MESSAGE 6

```
*** ERROR MESSAGE 6 ***

CREATED DATA IS DAMAGED.




        PUSH STEP KEY !!
```

Cause

Stored data is damaged for some reason, for example, the battery to keep the pattern is used up.

Suggested action

You can create the pattern and program the block data after deleting the damaged data, but of the battery energy has been used up, the design system cannot save the data.
Make sure that the battery energy has been used up following the steps below.

① Push the STEP key (damaged data will be deleted).
② Choose option 1 (CREATE NEW PATTERN) from the PATTERN CREATION MENU and enter the pattern area (any pattern mode, any pattern area is OK and you do not have to draw the pattern) (see page 6 – 8).
③ When the pattern creating screen appears, push the HELP key and choose option 1 (END CREATION).
④ The PATTERN CREATION MENU appears.
Turn off the power switch of the pattern programming device.
⑤ Wait for a few minutes and turn on the power again.

- If the screen appears as shown in step ③ on page 5, the battery is all right. Continue operation.
- If the same error message appears, the battery has been used up. Ask a dealer to change the battery.
- If another error message appears, see the instructions about that message.

● ERROR MESSAGE 7

```
*** ERROR MESSAGE 7 ***

THERE IS SOME DEFECT

IN THE CARTRIDGE/MAIN BODY.

IT MUST BE REPAIRED.



        PUSH STEP KEY !!
```

Cause and suggested action

The design system cartridge or the pattern programming device itself has some defects. Ask the dealer to check them.

● ERROR MESSAGE 8

```
*** ERROR MESSAGE 8 ***


THIS DISC IS WRITE-PROTECTED.


PUSH STEP KEY !!
```

Cause

The disc is write-protected.

Check the position of the shutter.

When the shutter is open, the disc is write-protected.
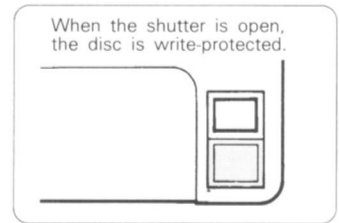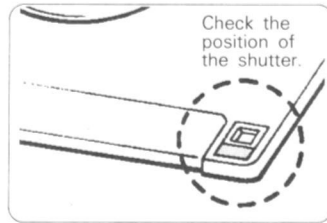
Suggested action

① Push the STEP key.
② Remove the disc from the unit. After confirming whether it is all right to cancel the write-protect setting of the disc, cancel it.
③ Replace the disc into the unit and push the STEP key. The computer starts the program again.

When the shutter is closed, the disc is not write-protected.

Shutter

● ERROR MESSAGE 9

```
*** ERROR MESSAGE 9 ***

TO FIND ERROR OF FDD,
CHECK FOLLOWING POINTS.

   (1)  SETTING PLACE
   (2)  POWER SUPPLY OR BATTERY
   (3)  INTERFACE CONNECTOR


TURN OFF SWITCH OF PPD,
SWITCH ON AND START ALL OVER AGAIN.
```
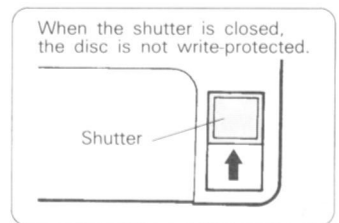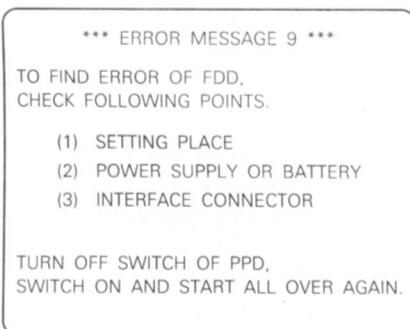
Cause

● Floppy disc drive unit is placed too near the TV set.
● Power switch of the drive unit is not turned on.
● The drive unit and the pattern programming device is not connected correctly with the interface cable.
● The AC adapter of the drive unit is not plugged in or the battery of the unit has been used up.

Suggested action

① Turn off the power of the pattern programming device and the drive unit.
② Check the above point.
③ Turn on the power of the pattern programming device and the drive unit.
④ Start all over again.

● ERROR MESSAGE 10

```
*** ERROR MESSAGE 10 ***

DATA IS NOT SAVED
ON THE TRACK NUMBER
YOU PROGRAMMED.


PUSH STEP KEY !!
```

Cause

Data is not saved on the track you entered.

Suggested action

① Push the STEP key.
② Check the disc and the track number.

● ERROR MESSAGE 11

```
   *** ERROR MESSAGE 11 ***

TO FIND ERROR OF FDD OR DISC,
CHECK FOLLOWING POINTS.

   (1)  SETTING PLACE
   (2)  DISC UNFORMATTED
   (3)  DISC DEFECTIVE

       PUSH STEP KEY !!
```

Cause

- Floppy disc drive unit is placed too near the TV set.
- The disc is defective.
- The disc is not formatted.

Suggested action

If the disc is not formatted, format it.

① Push the STEP key, and then HELP key.
② See page 71 and format the disc.

Except above case, follow the steps below.

① Remove the disc from the unit and check it.
② Insert the disc into the unit and place the unit in front of the TV set and keep it enough from the TV set.
③ Turn off the unit and turn on it again.
④ Turn off the pattern programming device and turn on it again. Start all over again.

- If the same error message appears again....

<Error message appears while formatting the disc....>
The disc has some defects on it and you cannot use it. Use another disc.

<Error message appears while saving the data....>
The disc has some defects on it and you cannot save the data on it any more. It may be possible to load the data which has already saved on the disc.

<Error message appears while loading/deleting the track....>
The track you specified has some defects on it and you cannot save the data on the track nor load/delete the track.

● ERROR MESSAGE 12

```
*** ERROR MESSAGE 12 ***


DISC TYPE IS WRONG !!



PUSH STEP KEY !!
```

Cause

The disc type is determined by which cartridge was used to format the disc. This screen indicates that the disc type of the disc in the drive unit does not correspond to the design system cartridge you are now using.
This disc cannot work with option 3 (OPERATION FOR FDD) of the MAIN MENU.

Suggested action 1

If you set the wrong disc in the unit...

① Change the disc to the correct one.
② Push the STEP key.
③ The computer starts the program again.

Suggested action 2

If you want to use a pattern in the disc of which disc type is wrong...
Use the function of HELP MENU (PATTERN CREATION) 7.

① Push the STEP key.
② Select option 1 or 2 from the PATTERN CREATION MENU and prepare the pattern creating screen.
③ Push the HELP key and select option 7.
  Load the necessary pattern.
  • When using pattern mode 1 – 4 .... see page 21.
  • When using pattern mode 5 .... see page 29.

● ERROR MESSAGE 13

```
*** ERROR MESSAGE 13 ***

THERE IS NO SPACE ON THIS
DISC TO SAVE CREATED DATA.



PUSH STEP KEY !!
```

Cause

One disc has two tracks, and both are used to save the data.

Suggested action 1

① Insert another disc which has space to save the data on it.
② Push the STEP key.
③ Continue operation.

Suggested action 2

Delete an unnecessary track.

① Push the STEP key.
② Push the HELP key. The menu of FDD appears.
③ Select option 4 (DELETE CREATED DATA) and delete an unnecessary track (see page 32).
④ Start all over again.

● ERROR MESSAGE 14

```
      *** ERROR MESSAGE 14 ***

    DATA IS NOT SAVED
    ONTO THE FOLLOWING TRACK
    COMPLETELY.
    CAN NOT SAVE
    TILL YOU DELETE THIS TRACK.

          TRACK No. = 1

       PUSH STEP KEY !!
```

Cause

The data is not saved completely on the displayed track because the power of the pattern programming device or the floppy disc drive unit was cut off while saving or deleting the data on the disc.

Suggested action

Delete the displayed track.

① Push the STEP key.
② Select option 4 (DELETE CREATED PATTERN) from the menu of FDD and delete the track. Start all over again.

● ERROR MESSAGE 15

```
      *** ERROR MESSAGE 15 ***

    DATA IS NOT SAVED
    ONTO THE FOLLOWING TRACK
    COMPLETELY.
    CAN NOT LOAD THIS TRACK.


          TRACK No.  = 1

       PUSH STEP KEY !!
```

If the following warning message appears on the screen....

● WARNING 1

```
      *** WARNING 1 ***

    DATA IN THE 'HOLDER' AND
    'CAM' WERE DELETED !!
    RE-ENTER THE DATA AGAIN,
    IF NECESSARY.



       PUSH STEP KEY !!
```

Meaning

This message appears when you colour the pattern (pattern mode 5), using the option 3 (SET COLOUR) of the HELP MENU, which has the memo data in the section "HOLDER" or "CAM".
If you did so, the colour data entered with the option 3 (SET COLOUR) was converted into the memo data in the section "NOTE" and already entered memo data in the section "HOLDER" and "CAM" was all deleted (see page 39).

① Push the STEP key.
   The PATTERN CREATION MENU appears.
② Input memo data for the item "HOLDER" and "CAM", if necessary.

● WARNING 2

```
        *** WARNING 2 ***


MEMO DATA MAY BE BROKEN !!
CHECK MEMO DATA !!
CAN NOT USE THIS PATTERN
WITHOUT CHECKING !!


        PUSH STEP KEY !!
```

Meaning

This message appears when you change the pattern area of the pattern (PATTERN MODE 5) which has the memo data in the section "HOLDER" or "CAM".
If you do so, it may cause error in the section "HOLDER" or "CAM".
For example...
Memo data at the first row of the section "HOLDER" is deleted by reducing the pattern area. Or, memo data at the last row of the section "CAM" requires the memo data at the next row of the section "HOLDER" because pattern area is increased.
Therefore, the computer understands that memo-input of this pattern is not finished (and displays X on the screen of step ②, page 31).

① Push the STEP key. The PATTERN CREATION MENU appears.
② Select option 4 (INPUT MEMO DATA).
③ Check the memo data in the section "HOLDER" and "CAM".

● WARNING 3

```
        *** WARNING 3 ***


THIS BLOCK HAS RACKING PATTERN !!
CHECK THE DATA IN THE 'RACK',
BEFORE KNITTING.



        PUSH STEP KEY !!
```

Meaning

This message appears when you end programming the block which contains the racking pattern in it.
You can shift the racking handle only within 2 pitches, therefore patterns must be connected each other so that the racking is done well. You should check the racking position in the block (pay attention to the knitting rows of each pattern).

① Push the STEP key. The menu of BLOCK appears.
② If you check the racking position, select option 4 (INPUT MEMO DATA) from the PATTERN CREATION MENU.

● WARNING 4

```
DISC No. =                        TRACK No. =
STITCHES  =  10                   ROWS  =  10
OTHERS (PATTERN NOT COMPLETED)

** WARNING 4 ** DATA IN THE 'HOLDER' AND 'CAM' WERE DELETED!!   ◄ - -   This message is printed out on the paper.
```

N	H	C	S		R
3					5
3			*		3
3					1
2					0
2					1
2			*		3
2					5
2			*		4
2					3
2			*		1
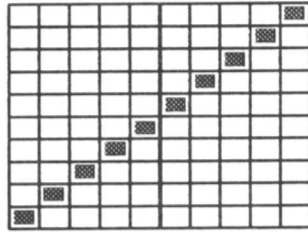
Meaning

If you colour the pattern (pattern mode 5), using the option 3 (SET COLOUR) of the HELP MENU, which has the memo data in the section "HOLDER" or "CAM", the colour data entered with the option 3 (SET COLOUR) is converted into the memo data in the section "NOTE" and already entered memo data in the section "HOLDER" and "CAM" is all deleted (see page 39).

① Select option 2 (EDIT PATTERN) from the PATTERN CREATION MENU and choose the pattern. Select option 1 (END CREATION) from the HELP MENU.
② Input memo data for the item "HOLDER" and "CAM", if necessary.

● WARNING 5

```
*** WARNING 5 ***

MEMORY IS COMPLETELY FULL !
DELETE SOME DATA !



PUSH STEP KEY !!
```
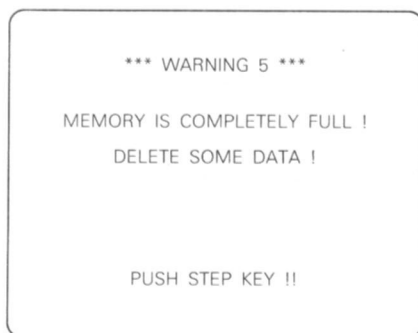
● If this warning message appears when you select option 1 (CREATE NEW PATTERN) from PATTERN CREATION MENU....

Meaning

Memory is full and you cannot create the pattern any more. You cannot increase pattern area, neither.
However, you can work with option 2 (EDIT PATTERN) of PATTERN CREATION MENU and option 2 (EDIT BLOCK) of menu of BLOCK. You can also program one more block data when this message appears for the first time.

①Push the STEP key. The PATTERN CREATION MENU appears.
②If you want to create new pattern, you have to delete an unnecessary pattern (PATTERN CREATION MENU 3) or an unnecessary block (menu of BLOCK 3).
Or, save the data in the design system onto the disc using the floppy disc drive unit (option).

● If this warning message appears when you select option 1 (CREATE NEW BLOCK) from the menu of BLOCK....

Meaning

Memory is full and you cannot create the pattern nor block any more.
You cannot increase pattern area, neither. However, you can work with option 2 (EDIT PATTERN) of PATTERN CREATION MENU. Some block can be edited, but others cannot (menu of BLOCK 2).

①Push the STEP key. The menu of BLOCK appears.
②If you want to create new block you have to delete an unnecessary pattern (PATTERN CREATION MENU 3) or an unnecessary block (menu of BLOCK 3).
Or, save the data in the design system onto the disc using the floppy disc drive unit (option).
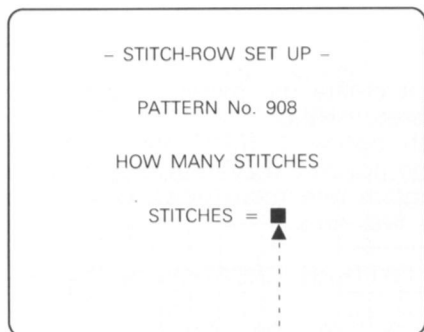
If you cannot enter number of stitches or number of rows when specifying the pattern area for option "CREATE NEW PATTERN"....

```
- STITCH-ROW SET UP -

PATTERN No. 908

HOW MANY STITCHES

    STITCHES = ■
             ▲
```

Entered number disappears.

Cause

There is not enough memory for the entered number of stitches or rows.

Suggested action 1

Number of stitches .... Enter a smaller number of stitches than you entered before.
Number of rows .... Enter a smaller number of rows than the "MAXIMUM ROWS" or the same number as the "MAXIMUM ROWS".

Suggested action 2

Delete an unnecessary pattern or block.
① Push the HELP key two or three times. The PATTERN CREATION MENU appears.
② Delete an unnecessary pattern or block.

If you cannot enter new number for stitches while increasing the pattern area...

```
- INCREASE PATTERN AREA -

CURRENT STITCHES = 8

CURRENT ROWS = 10

INPUT NEW STITCHES

    STITCHES = 14 ■
               ▲
```
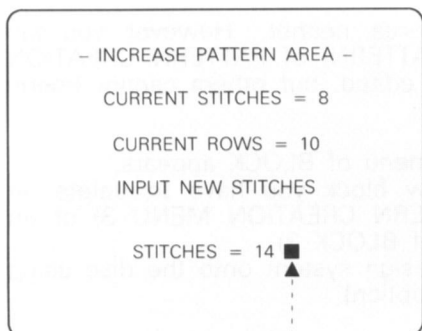
The screen returns to previous one when you push the STEP key.

Cause

There is not enough memory for the entered number of stitches.

Suggested action 1

Enter a smaller number of stitches than you entered before, and push the STEP key.

Suggested action 2

Delete an unnecessary pattern or block.
Or, reduce the pattern area.

If the pattern on the screen is disturbed or indicates that something is wrong, or any key does not function...

Cause

The pattern data in the pattern programming device is damaged. (It may happen if you insert or pull out the program cartridge while the power switch of the pattern programming device is on, or if you touch the connectors.)

Suggested action

Delete the damaged pattern data.

① Turn off the power switch of the pattern programming device, then switch on the power.
② • If the error message appears, see the corresponding page.
  • If the error message does not appear, follow the steps below.
   1) Select option 1 (PATTERN CREATION) from the MAIN MENU.
   2) Select option 3 (DELETE PATTERN) and delete all of the pattern. (All the data in the design system is deleted.)
③ Start all over again.

♣ If more than 5 years have passed since you purchased the pattern programming device, the battery may be used up. Please ask your dealer for advice.

When the printer does not work

Cause 1

No paper is inserted into the printer, or online lamp of the printer is not turned on.

Suggested action

① Insert paper into the printer.
② Turn on the online lamp of the printer.

Cause 2

Power switch of the printer is not turned on or the printer is not connected to the pattern programming device.

Suggested action

① Turn off the power switch of the pattern programming device and the printer.
② Check that the pattern programming device and the printer are connected correctly.
③ Switch on the power of the pattern programming device and the printer.
④ Turn on the online lamp of the printer.
⑤ Start all over again for printing operation.

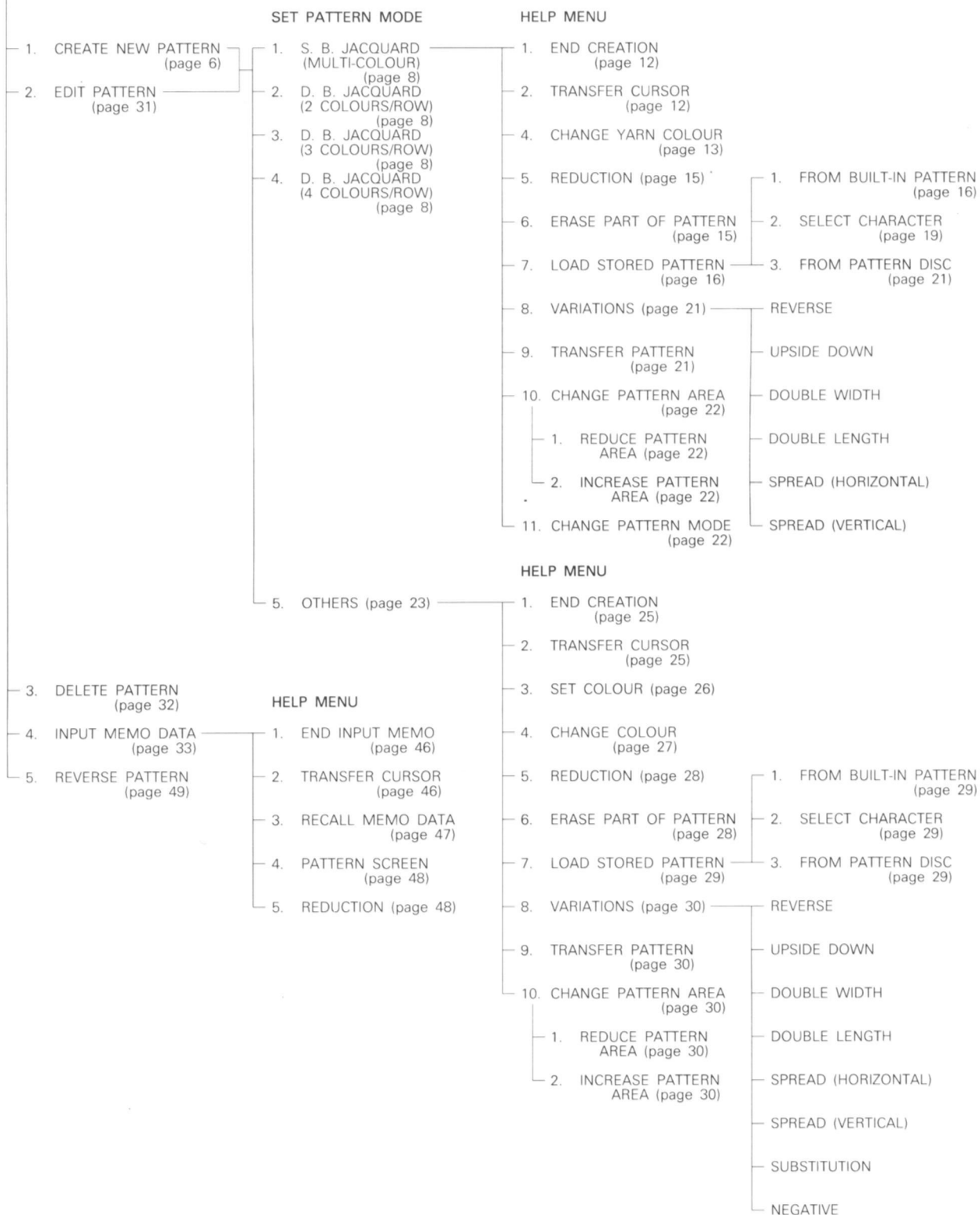## If the pattern is not printed out normally...

Cause

The DIP switch of the printer is not set correctly.

Suggested action

Referring to the instruction manual of your printer, set the DIP switch "Control Mode" or "Emulation Mode" to Epson FX Compatible and the DIP switch "Auto Line Feed" to "CR + LF" (or "with LF").

MENU

MAIN MENU

1. PATTERN CREATION (page 6)

	SET PATTERN MODE	HELP MENU	
1. CREATE NEW PATTERN (page 6)	1. S. B. JACQUARD (MULTI-COLOUR) (page 8)	1. END CREATION (page 12)	
2. EDIT PATTERN (page 31)	2. D. B. JACQUARD (2 COLOURS/ROW) (page 8)	2. TRANSFER CURSOR (page 12)	
	3. D. B. JACQUARD (3 COLOURS/ROW) (page 8)	4. CHANGE YARN COLOUR (page 13)	
	4. D. B. JACQUARD (4 COLOURS/ROW) (page 8)	5. REDUCTION (page 15)	1. FROM BUILT-IN PATTERN (page 16)
		6. ERASE PART OF PATTERN (page 15)	2. SELECT CHARACTER (page 19)
		7. LOAD STORED PATTERN (page 16)	3. FROM PATTERN DISC (page 21)
		8. VARIATIONS (page 21)	REVERSE
		9. TRANSFER PATTERN (page 21)	UPSIDE DOWN
		10. CHANGE PATTERN AREA (page 22)	DOUBLE WIDTH
		1. REDUCE PATTERN AREA (page 22)	DOUBLE LENGTH
		2. INCREASE PATTERN AREA (page 22)	SPREAD (HORIZONTAL)
		11. CHANGE PATTERN MODE (page 22)	SPREAD (VERTICAL)

		HELP MENU	
	5. OTHERS (page 23)	1. END CREATION (page 25)	
		2. TRANSFER CURSOR (page 25)	
3. DELETE PATTERN (page 32)	HELP MENU	3. SET COLOUR (page 26)	
4. INPUT MEMO DATA (page 33)	1. END INPUT MEMO (page 46)	4. CHANGE COLOUR (page 27)	
5. REVERSE PATTERN (page 49)	2. TRANSFER CURSOR (page 46)	5. REDUCTION (page 28)	1. FROM BUILT-IN PATTERN (page 29)
	3. RECALL MEMO DATA (page 47)	6. ERASE PART OF PATTERN (page 28)	2. SELECT CHARACTER (page 29)
	4. PATTERN SCREEN (page 48)	7. LOAD STORED PATTERN (page 29)	3. FROM PATTERN DISC (page 29)
	5. REDUCTION (page 48)	8. VARIATIONS (page 30)	REVERSE
		9. TRANSFER PATTERN (page 30)	UPSIDE DOWN
		10. CHANGE PATTERN AREA (page 30)	DOUBLE WIDTH
		1. REDUCE PATTERN AREA (page 30)	DOUBLE LENGTH
		2. INCREASE PATTERN AREA (page 30)	SPREAD (HORIZONTAL)
			SPREAD (VERTICAL)
			SUBSTITUTION
			NEGATIVE

MAIN MENU

(**2. BLOCK FOR KNIT**)　(page 52)

MAIN MENU

(**3. OPERATION FOR FDD**)　(page 73)

MAIN MENU

(**4. PRINT OUT**)　(page 74)